

## ENERGY AND INDUSTRIAL ENGINEERING

- ENCLOSURES
- MCBS, RCCBS, RCBS
- CONTROL- AND SIGNALLING DEVICES, ACCESSORIES, DIN RAIL MOUNTING
- SURGE, LIGHTNING ARRESTERS
- FUSE- AND BUSBAR SYSTEMS
- TERMINALS
- RELAYS
- TRANSFORMERS, POWER SUPPLY UNITS
- MEASURING INSTRUMENTS
- MCCBS, ACBS, LOAD-BREAK SWITCHES
- CONTACTORS, MOTOR PROTECTION SWITCHES, THERMAL OVERLOAD RELAYS
- MAIN- AND CONTROL SWITCHES, COMMAND- AND SIGNALLING DEVICES

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### INCL. AVAILABILITY INFORMATION



EX STOCK

# GENERAL INFORMATION

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## GENERAL INFORMATION

- All **dimensioned drawings** are displayed within the confines of available space on the page and are only intended as a guide.
- All **circuit diagrams** are schematic wiring diagrams which are intended to allow better understanding of the function, and will need to be edited/added to during the course of project planning.
- All **images** represent samples of the product and are intended for information purposes only.

Unless otherwise stipulated, the current version of the General Terms of Delivery issued by The Association of the Austrian Electrical and Electronics Industries "FEEI" shall apply. You can find a copy of these at the end of this catalogue.

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The user information contained in this catalogue reflect the opinion of the company at the time of writing. The information contained in it was assembled on the basis of published norms, specialist industry presentations, specialist literature and in-house expertise. The content is for informational purposes only and has no validity in law.

## PRODUCT AVAILABILITY SYMBOL



**INCL. AVAILABILITY INFORMATION**

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Order no. blue: on stock, usually ready for delivery on the day of order!

Unmarked products may have longer delivery times.

For urgent needs, please contact your Schrack customer representative.

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## TOP-TECHNIC



/// CONSUMER DISTRIBUTION  
BOARDS



/// WALL-MOUNTING ENCLOSURES



/// FLOOR-STANDING ENCLOSURES



/// MODUL 400TT –  
TYPE TESTED ENCLOSURES



/// ENCLOSURES ACCESSORIES



/// BRANCH ENCLOSURES

*“Technology is the effort made  
to save making efforts.”*

Baltasar Gracián y Morales, writer

# ENCLOSURES

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## CONSUMER ENCLOSURES WALL-MOUNTED, WITH STEEL DOOR



BK003022

### SCHRACK-INFO

- Degree of protection IP30 with rear panel
- Incl. PE- and N terminals
- Frame made from plastic
- Door: Sheet steel, to be ordered separately

### CERTIFICATIONS

DIN VDE 0603, protection class II

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 12 modules	300x245x106	9004840532470		<b>BK003021</b>
2-row, 24 modules	300x370x106	9004840532487		<b>BK003022</b>
3-row, 36 modules	300x495x106	9004840532494		<b>BK003023</b>
4-row, 48 modules	300x620x106	9004840532500		<b>BK003024</b>
Sheet steel door for BK003021	298x189x9	9004840532517		<b>BK003001</b>
Sheet steel door for BK003022	298x314x9	9004840532524		<b>BK003002</b>
Sheet steel door for BK003023	298x439x9	9004840532531		<b>BK003003</b>
Sheet steel door for BK003024	298x564x9	9004840532548		<b>BK003004</b>
Lock, two keys		9004840533262		<b>BK003005</b>

## CONSUMER ENCLOSURES WALL-MOUNTED, WITH PLASTIC DOOR



BK080152

### SCHRACK-INFO

- Degree of protection IP 40
- Incl. PE- and N terminals
- Frame and door made from plastic
- Colour: white

### CERTIFICATIONS

EN 60670-1, IEC 60670-24

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 4+4 modules	215x263x112	9004840521320		<b>BK080150</b>
1-row, 12 modules	287x236x112	9004840493351		<b>BK080151</b>
1-row, 18 modules	396x236x112	9004840527391		<b>BK080154</b>
2-row, 24 modules	287x361x112	9004840493368		<b>BK080152</b>
2-row, 36 modules	396x361x112	9004840668025		<b>BK080156</b>
3-row, 36 modules	287x482x112	9004840493375		<b>BK080153</b>
4-row, 48 modules	287x651x112	9004840614930		<b>BK080155</b>

## CONSUMER ENCLOSURES WALL-MOUNTED, WITH PLASTIC DOOR, B-TYPE



BK080111

### SCHRACK-INFO

- Degree of protection IP 40
- Incl. PE- and N terminals
- Frame and door made from plastic
- Colour: white

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 18 modules	396x210x108	9004840466577		<b>BK080111</b>





## CONSUMER ENCLOSURES WALL-MOUNTED, WITH TRANSPARENT DOOR



BK080102

### SCHRACK-INFO

- Degree of protection IP 40
- Incl. PE- and N terminals
- Frame and door made from plastic
- Colour: white

### CERTIFICATIONS

EN 60670-1, IEC 60670-24

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 4+4 modules	215x263x112	9004840521313		<b>BK080100</b>
1-row, 12 modules	287x236x112	9004840466720		<b>BK080101</b>
1-row, 18 modules	396x236x112	9004840527407		<b>BK080104</b>
2-row, 24 modules	287x361x112	9004840466737		<b>BK080102</b>
2-row, 36 modules	396x361x112	9004840668018		<b>BK080106</b>
3-row, 36 modules	287x482x112	9004840466751		<b>BK080103</b>
4-row, 48 modules	287x651x112	9004840614923		<b>BK080105</b>

## CONSUMER ENCLOSURES WALL-MOUNTED, WITH TRANSPARENT DOOR, B-TYPE



BK080121

### SCHRACK-INFO

- Degree of protection IP 40
- Incl. PE- and N terminals
- Frame and door made from plastic
- Colour: white

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 18 modules	396x210x108	9004840493382		<b>BK080121</b>

## CONSUMER ENCLOSURES FLUSH-MOUNTED, WITH PLASTIC DOOR



BK080052

### SCHRACK-INFO

- Degree of protection IP 40
- Incl. PE- and N terminals
- Frame and door made from plastic
- Colour: white

### CERTIFICATIONS

EN 60670-1, IEC 60670-24

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 4+4 modules	211x232x70	9004840521306		<b>BK080050</b>
1-row, 12 modules	283x232x70	9004840493320		<b>BK080051</b>
1-row, 18 modules	392x232x110	9004840614916		<b>BK080054</b>
2-row, 24 modules	283x375x70	9004840493337		<b>BK080052</b>
2-row, 36 modules	396x357x70	9004840669121		<b>BK080056</b>
3-row, 36 modules	283x482x70	9004840493344		<b>BK080053</b>



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## CONSUMER ENCLOSURES FLUSH-MOUNTED, WITH TRANSPARENT DOOR



BK080001

### SCHRACK-INFO

- Degree of protection IP 40
- Incl. PE- and N terminals
- Frame and door made from plastic
- Colour: white

### CERTIFICATIONS

EN 60670-1, IEC 60670-24

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 4+4 modules	211x232x70	9004840000047		<b>BK080000</b>
1-row, 12 modules	283x232x70	9004840466768		<b>BK080001</b>
1-row, 18 modules	396x232x70	9004840590579		<b>BK080004</b>
2-row, 24 modules	283x375x70	9004840466775		<b>BK080002</b>
2-row, 36 modules	396x357x70	9004840669114		<b>BK080006</b>
3-row, 36 modules	283x482x70	9004840466782		<b>BK080003</b>

## ACCESSORIES FOR CONSUMER ENCLOSURES

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
PE/N terminal 2x8 add	9004840588279		BK080097
PE/N terminal 2x15 add	9004840537215		<b>BK080098</b>
Half Cylinder Lock for BK08, plastic	9004840521443		<b>BK080099</b>
Half Cylinder Lock for BK08, metal	9004840615005		<b>BK080096</b>



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## CONSUMER ENCLOSURES DIN FLUSH-MOUNTED AND HOLLOW WALL, WITH STEEL DOOR



FLUSH-MOUNTED ENCLOSURES

### SCHRACK-INFO

- IP 30 degree of protection plus polysterene trough, glow-wire tested, low on halogens
- Incl. PE- and N terminals
- Frame and doors from sheet steel- coated, colour: white
- Same order no. also available with viewing doors, with DT at end
- Door lock assembly and twist lock enclosed

### CERTIFICATIONS

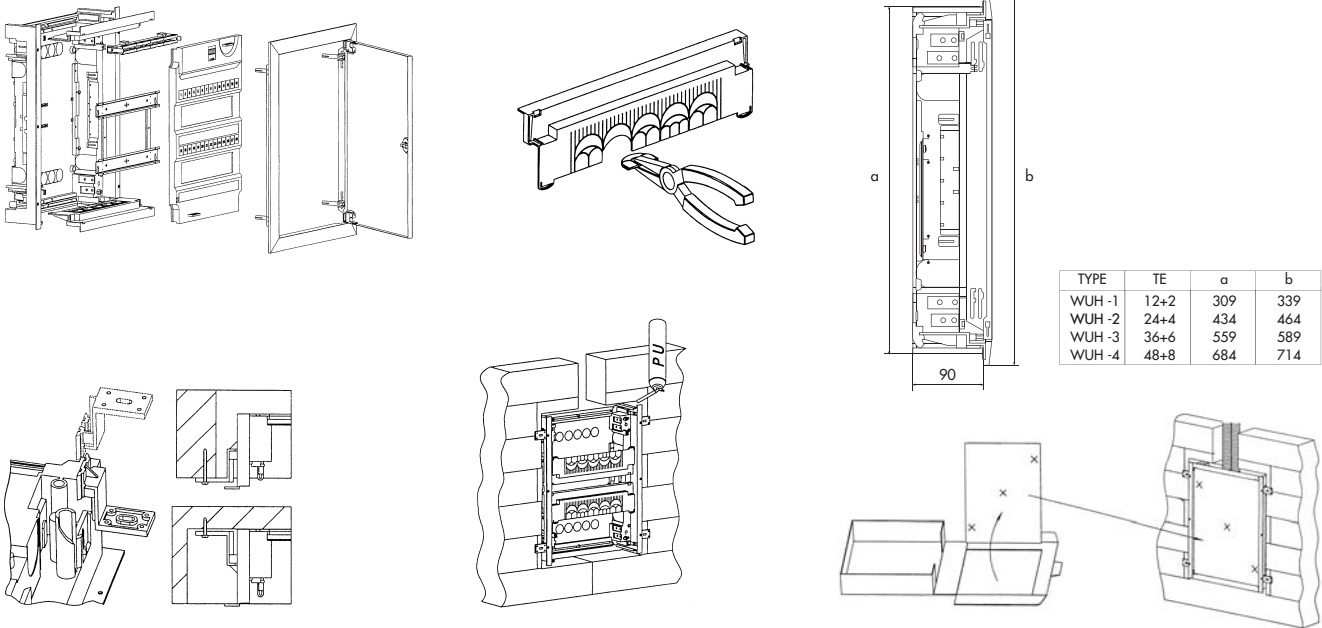
EN 60439-3, protection class II

### RANGE OF APPLICATION

The solid construction reliably prevents distortion through being packed in plastic foam or through walling in. As an additional protection, the side flanges are hidden in the central enclosure area during delivery. Given its flat design and neutral colour, the domestic enclosure fits well in the wall plaster surface. As an additional advantage, the flush-mounted enclosure (incl.cover) are packed separately from the parts that are later visible. Thus ensuring that these parts remainprotected until installation.

### INCLUDED IN DELIVERY

Enclosure, device carrier, anti-dirt- device cover, neutral- and protective earth conductor terminal, assembly instructions, fixing material for hollow wall mounting, mounting angles and self-adhesive labels with graphical symbols (pictograms)



TYPE	TE	a	b
WUH -1	12+2	309	339
WUH -2	24+4	434	464
WUH -3	36+6	559	589
WUH -4	48+8	684	714

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 12/14 modules, wall box	CO*=325x315x91	9004840376944		<b>BK070001-A</b>
2-row, 24/28 modules, wall box	CO*=325x440x91	9004840376951		<b>BK070002-A</b>
3-row, 36/42 modules, wall box	CO*=325x565x91	9004840376968		<b>BK070003-A</b>
4-row, 48/56 modules, wall box	CO*=325x690x91	9004840376975		<b>BK070004-A</b>
1-row, 12/14 modules, complete	359x339	9004840149340		<b>BK070001</b>
2-row, 24/28 modules, complete	359x464	9004840149357		<b>BK070002</b>
3-row, 36/42 modules, complete	359x589	9004840149364		<b>BK070003</b>
4-row, 48/56 modules, complete	359x714	9004840149371		<b>BK070004</b>
1-row, 12/14 modules, doors and insert	-	9004840376982		<b>BK070101</b>
2-row, 24/28 modules, doors and insert	-	9004840376999		<b>BK070102</b>
3-row, 36/42 modules, doors and insert	-	9004840377002		<b>BK070103</b>
4-row, 48/56 modules, doors and insert	-	9004840377019		<b>BK070104</b>

CO\*= hollow wall cut-out

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## ACCESSORIES FOR CONSUMER ENCLOSURES DIN FLUSH-MOUNTED AND HOLLOW WALL ENCLOSURES

### SCHRACK-INFO

- An accurate cut-out in the hollow wall opening is no longer required
- The FM enclosure contains a cable fastening bar
- Tested clip technology for intuitive fastening
- Generous wiring space
- Easily retractable mounting rail structure
- Stops on DIN rails to position devices
- Quick-fastening locks for device covers
- Finger-proof terminal carrier
- Two different mounting levels, terminal blocks can be mounted on side. Sufficient space is available for additional PE- and N terminals

### MOUNTING VARIANTS

- Fastening angle for hollow wall (wall thickness up to 30 mm)
- Dovetail mounting angle for front and rear panel fastening

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Lock set	9004840256765		<b>BK077004</b>
Twist lock, complete, white	9004840197112		<b>BK077005</b>




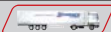
## BLANK STRIPS FOR CONSUMER ENCLOSURES DIN FLUSH-MOUNTED AND HOLLOW WALL ENCLOSURES



IL900112-F

### SCHRACK-INFO

- Plastic strips to cover unused areas of device cutouts

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
Lead-sealable cover plate, cannot be released from front	175x50x8	9004840258837		<b>IL900112-F</b>
Blank strips, ribbed (12 modules) white	220x50x8	9004840633054		<b>BK004101</b>
Blank strips, smooth grey	1000x50x8	9004840037531		<b>IL900251</b>
Blank strips, smooth white	1000x50x8	9004840509564		<b>IL900251-W</b>



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## DIN RAIL MOUNTED HOUSING WITH DOORS



IM008151

### SCHRACK-INFO

- Housing with transparent viewing door
- Fully double-insulated
- Degree of protection: IP 55, lead-sealable
- Colour: RAL 7035
- Inc. NL and PE terminals

Series CT 12NS, 24NS, 36NS with EN/IEC certificate meeting EN 60439-3

MODULE WIDTHS	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
3 modules - 1 row with drop lid	83x175x111	9004840040135		<a href="#">IM009019</a>
5 modules - 1 row with drop lid	125x175x111	9004840040340		<a href="#">IM009020</a>
8 modules - 1 row with drop lid	215x175x111	9004840040357		<a href="#">IM009021</a>
13 modules - 1 row with drop lid	286x200x119	9004840040364		<a href="#">IM009022</a>
12 modules - 1 row with door	285x250x136	9004840039269		<a href="#">IM008150</a>
24 modules - 2 row with door	285x375x136	9004840039276		<a href="#">IM008151</a>
36 modules - 3 row with door	285x500x136	9004840039283		<a href="#">IM008152</a>

## CONSUMER ENCLOSURES WALL-MOUNTED, WITH TRANSPARENT DOOR IP65



BK080121

### SCHRACK-INFO

- Degree of protection IP 65
- Incl. PE- and N terminals
- Frame and door made from plastic
- Colour: white

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
1-row, 4 modules	127x200x120	9004840614947		<a href="#">BK080200</a>
1-row, 8 modules	200x200x120	9004840614954		<a href="#">BK080201</a>
1-row, 12 modules	318x258x142	9004840614961		<a href="#">BK080202</a>
2-row, 24 modules	318x383x142	9004840614978		<a href="#">BK080203</a>
3-row, 36 modules	318x507x142	9004840614985		<a href="#">BK080204</a>
Half Cylinder Lock for BK08, IP65		9004840614992		<a href="#">BK080095</a>

## DIN RAIL MOUNTED HOUSING WITHOUT DOORS



IM009016

### SCHRACK-INFO

- Housing without door
- Fully double-insulated
- Degree of protection: IP 40, lead-sealable
- Colour: RAL 7035
- Inc. NL and PE terminals

MODULE WIDTHS	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
2 modules - 1 row	51x131x60	9004840040319		<a href="#">IM009010</a>
4 modules - 1 row	88x131x60	9004840040326		<a href="#">IM009011</a>
8 modules - 1 row	198x200x72	9004840651911		<a href="#">BD900014-A</a>
12 +1 modules - 1 row (not lead-sealable)	283x165x90	9004840040333		<a href="#">IM009016</a>

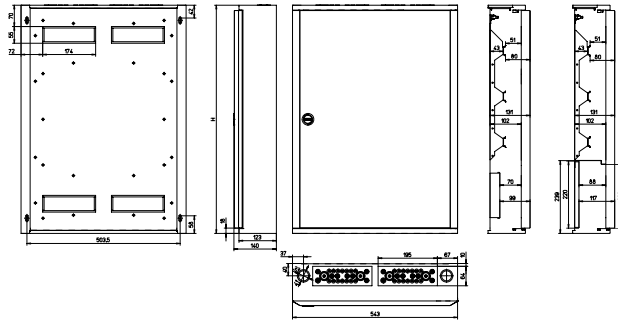


Order no. blue: on stock, usually ready for delivery on the day of order!

## MODUL 160 COMPACT WALL MOUNTING OPEN ENCLOSURES



ILC2A324



### SCHRACK-INFO

- Wall mounting, open enclosure RAL 1016
- $I_n = 160$  A
- With front plates (dist. 150 mm) and rail frame
- PE rail
- Earthed front plates

NO. OF ROWS	N-TERMINALS	PE-TERMINALS	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
<b>WALL MOUNTING FRAME WITHOUT DOOR, 24 MODULES</b>						
2	11	29	545x450x124+16	9004840416428		<a href="#">ILC2A224</a>
3	11	29	545x605x124+16	9004840416435		<a href="#">ILC2A324</a>
4	11	45	545x755x124+16	9004840416459		<a href="#">ILC2A424</a>
5	11	60	545x905x124+16	9004840416466		<a href="#">ILC2A524</a>
6	11	60	545x1055x124+16	9004840416473		<a href="#">ILC2A624</a>
<b>WALL MOUNTING FRAME WITHOUT DOOR, 33 MODULES</b>						
4	11	60	705x755x124+16	9004840416480		<a href="#">ILC3A433</a>
5	11	76	705x905x124+16	9004840416497		<a href="#">ILC3A533</a>
6	11	76	705x1055x124+16	9004840416503		<a href="#">ILC3A633</a>
<b>METAL DOOR FOR 24 MODULES, TURNING BOLT "WS"</b>						
2	11	29	545x450x124+16	9004840416510		<a href="#">ILC2T224</a>
3	11	29	545x605x124+16	9004840416527		<a href="#">ILC2T324</a>
4	11	45	545x755x124+16	9004840416534		<a href="#">ILC2T424</a>
5	11	60	545x905x124+16	9004840416541		<a href="#">ILC2T524</a>
6	11	60	545x1055x124+16	9004840416558		<a href="#">ILC2T624</a>
<b>METAL DOOR FOR 33 MODULES, TURNING BOLT "WS"</b>						
4	11	60	705x755x124+16	9004840416565		ILC3T433
5	11	76	705x905x124+16	9004840416572		<a href="#">ILC3T533</a>
6	11	76	705x1055x124+16	9004840416589		<a href="#">ILC3T633</a>
<b>METAL DOOR HIGH FOR 24 MODULES, ZYLINDER LOCK "RONIS"</b>						
2	11	29	545x450x124+16	9004840416596		ILC2H224
3	11	29	545x605x124+16	9004840416602		<a href="#">ILC2H324</a>
4	11	45	545x755x124+16	9004840416619		<a href="#">ILC2H424</a>
5	11	60	545x905x124+16	9004840416626		<a href="#">ILC2H524</a>
6	11	60	545x1055x124+16	9004840416633		<a href="#">ILC2H624</a>
<b>METAL DOOR HIGH FOR 33 MODULES, ZYLINDER LOCK "RONIS"</b>						
4	11	60	705x755x124+16	9004840416640		ILC3H433
5	11	76	705x905x124+16	9004840416657		<a href="#">ILC3H533</a>
6	11	76	705x1055x124+16	9004840416664		<a href="#">ILC3H633</a>
<b>GLAZED DOOR FOR 24 MODULES</b>						
2	11	29	545x450x124+16	9004840416671		<a href="#">ILC2F224</a>
3	11	29	545x605x124+16	9004840416688		<a href="#">ILC2F324</a>
4	11	45	545x755x124+16	9004840416695		<a href="#">ILC2F424</a>
5	11	60	545x905x124+16	9004840416701		ILC2F524
6	11	60	545x1055x124+16	9004840416718		<a href="#">ILC2F624</a>
<b>GLAZED DOOR FOR 33 MODULES</b>						
4	11	60	705x755x124+16	9004840416725		ILC3F433
5	11	76	705x905x124+16	9004840416732		ILC3F533
6	11	76	705x1055x124+16	9004840416749		ILC3F633



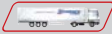


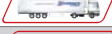
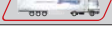
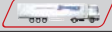


## MODUL 160 COMPACT FLUSH MOUNTED ENCLOSURES




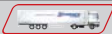
ILC2U324

### SCHRACK-INFO

- Flush mounted enclosure, RAL 1016
- $I_n = 160$  A
- With front plates (dist. 150 mm) and rail frame
- PE rail
- Earthed front plates

NO. OF ROWS	PE-TERMINALS	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
<b>FLUSH MOUNTING FRAME INCL. METAL DOOR FOR 24 MODULES</b>					
2	11	29	500/590x430/470x135	9004840416770 	<a href="#">ILC2U224</a>
3	11	29	500/590x580/620x135	9004840416787 	<a href="#">ILC2U324</a>
4	11	45	500/590x730/770x135	9004840416794 	<a href="#">ILC2U424</a>
5	11	60	500/590x880/920x135	9004840416800 	<a href="#">ILC2U524</a>
6	11	60	500/590x1030/1070x135	9004840416817 	<a href="#">ILC2U624</a>
<b>FLUSH MOUNTING FRAME INCL. METAL DOOR FOR 33 MODULES</b>					
4	11	45	660/750x730/770x135	9004840416879 	<a href="#">ILC3U433</a>
5	11	60	660/750x880/920x135	9004840416886 	<a href="#">ILC3U533</a>
6	11	60	660/750x1030/1070x135	9004840416893 	<a href="#">ILC3U633</a>
<b>FLUSH MOUNTING FRAME INCL. GLAZED DOOR FOR 24 MODULES</b>					
2	11	29	500/590x430/470x135	9004840416824	ILC2U224F
3	11	29	500/590x580/620x135	9004840416831	ILC2U324F
4	11	45	500/590x730/770x135	9004840416848	ILC2U424F
5	11	60	500/590x880/920x135	9004840416855	ILC2U524F
6	11	60	500/590x1030/1070x135	9004840416862	ILC2U624F
<b>FLUSH MOUNTING FRAME INCL. DOOR FOR 33 MODULES</b>					
4	11	45	660/750x730/770x135	9004840416985	ILC3U433F
5	11	60	660/750x880/920x135	9004840416992	ILC3U533F
6	11	60	660/750x1030/1070x135	9004840417005	ILC3U633F

## ACCESSORIES FOR MODUL 160 COMPACT

NO. OF ROWS	PE-TERMINALS	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
<b>TERMINAL 16 mm<sup>2</sup></b>					
Use for ILCXX224, ILCXX324	29	-	9004840418354		ILCNK029
Use for ILCXX424	45	-	9004840418361		ILCNK045
Use for ILCXX524, ILCXX624, ILCXX433	60	-	9004840418378		ILCNK060
Use for ILCXX533, ILCXX633	76	-	9004840418385		ILCNK076
<b>ZYLINDER LOCK</b>					
Mini Zylinder lock set 2233X "WS"	-	-	9004840256765		<a href="#">BK077004</a>
<b>MODUL 160 COMPACT PRE-PUNCHED MOUNTING PLATES WITH SEPARATING PLATES</b>					
Width 2, wall mounting	-	220x430x15	9004840417012		ILCAMPT2
Width 2, flush mounting	-	220x430x15	9004840417029		ILCUMPT2
<b>MODUL 160 COMPACT MOUNTING PLATES WITH FRONT PLATES</b>					
Width 2, wall mounting, MC1	-	-	9004840417050		<a href="#">ILCAMCF2</a>
Width 3, wall mounting, MC1	-	-	9004840417067		ILCAMCF3



Order no. blue: on stock, usually ready for delivery on the day of order!

## WSM SHEET STEEL ENCLOSURES WITH MOUNTING PLATE FOR WALL MOUNTING



WSM

### SCHRACK-INFO

- Delivery contents:  
Complete enclosure with mounting plate and fixing material, Blank flange with gasket and screws. Nylon washers for sealing the wall-fastening holes 2 door-mounting profiles (from size WSM6040210, plastic key DIN 5mm.  
Wall-fastening flaps WSMWB004 – are not included – please order separately.
- Degree of protection: single door IP 66 NEMA 4, 12 and 13, double door IP 55
- Shock resistance: IK10 according to IEC 60529  
Surface: Powder-structure coating, grey RAL 7035

### TECHNICAL DATA

**Body:** single door: 1.2mm / 1.4mm WSM6060210 and above / 1.5mm WSM108260 and above, and 400mm depth.  
Double door: 1.4mm WSM6080302 / 1.5mm WSM1010302 and above mild steel enclosures folded and seam welded.  
Cable entry is reached by a maximum gland opening, which is placed in the most far back position of the enclosure frame.  
To allow for air circulation around the rear and for wall fixing, four 20.4mm diameter x 2mm deep depressions are pressed out with an 8.5mm diameter hole.. All parts are pre-treated with iron phosphate, demineralised and protected with a epoxy polyester powder paint RAL 7035 with structured finish.

**Door:** single door 1.2mm mild steel / 1.4mm WSM6060210 and above / 1.8mm WSM1060260 and above.

Double door: 1.4mm mild steel / 1.8mm WSM8012302 and above.

Surface mounted with 130° opening. Concealed removable hinges with captive pin. Hinges can be mounted to allow left or right hand opening. From height 300mm and above there are studs to mount door profiles WSMTP..., and from height 600 and above the profiles are included as standard. Sealing is ensured by an injected one piece polyurethane gasket.

**Lock:** Customized lock with double grip for easy opening of the door. Double-bit 5mm insert and 90° movement. 1000mm high enclosures and above have espagnolette three point locking. Other inserts are available as an accessory. Double door have espagnolette three point locking..

**Mounting plate:** The mounting plate is marked vertically at 10mm intervals for easy horizontal positioning of equipment. On the top and bottom there are holes to facilitate cable fixing. Fixed onto M8 press welded studs to the rear of the enclosure. All sides from 800mm and above are strengthened by folded edges. By using the WSMAMG accessory the mounting plate position can be adjusted to any depth.

**Gland Plate** 1.4mm mild steel.

-Opening: Situated at the far rear of the enclosure to make cabling onto the mounting plate easier.

**Protection:** The enclosure offers maximum protection to the user and equipment by a protection degree IP66 according to IEC 60529 and IEC\_50102 (IP 55 - IK 10 for enclosures with double door and enclosures with glazed door). When using an inner door, modular framework or 19" swing frame, protection degree IP20 is guaranteed within the enclosure. Omplying with NEMA 4, 12 and 13.

**Finish:** RAL 7035 structure powder coating.

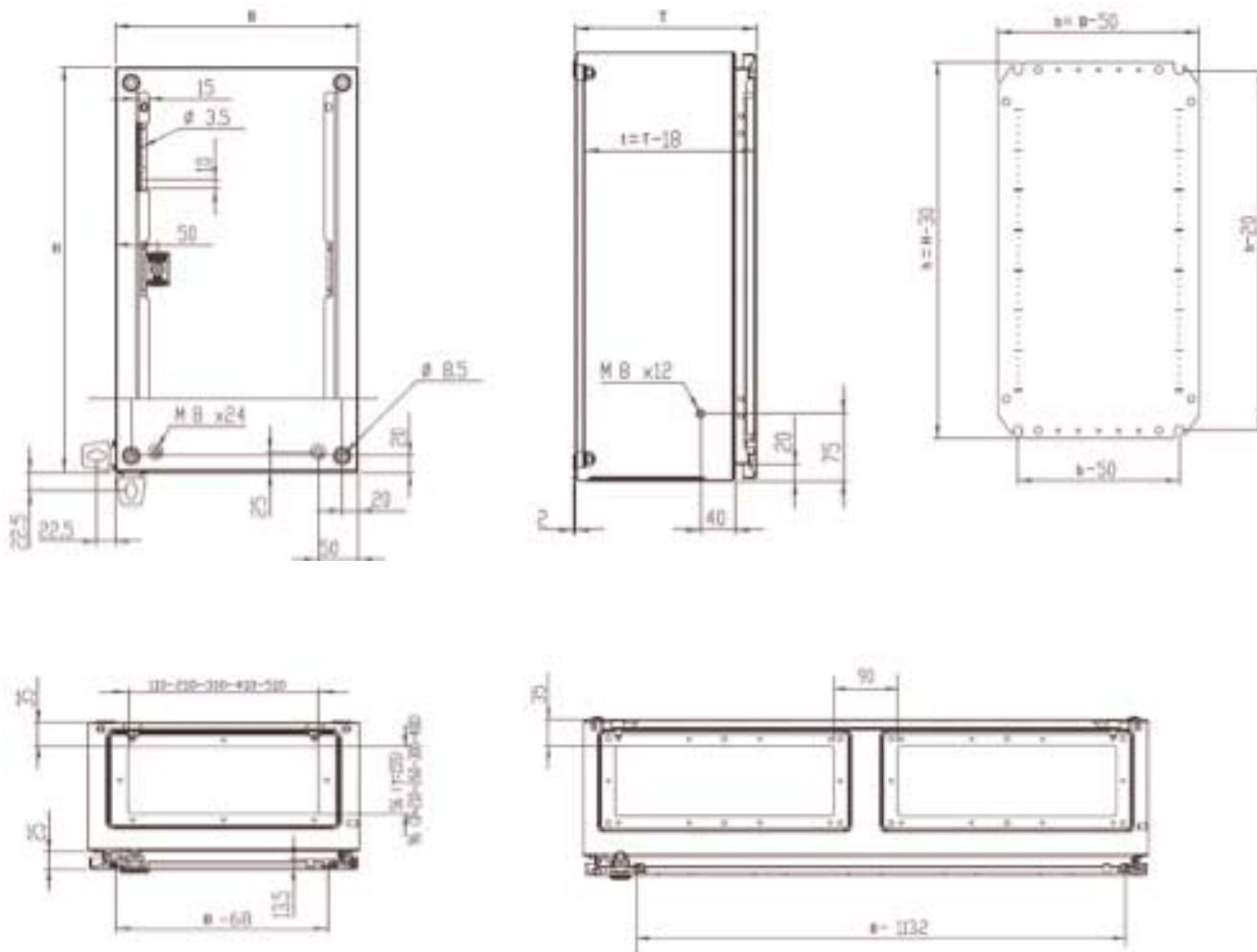
**Mounting:** The enclosure is secured to the wall using: bolts, directly through the rear wall and protected inside with plastic washers, or wall mounting brackets WSMWB004 at the rear screwed from the enclosure. In both cases the IP / NEMA degrees are guaranteed.



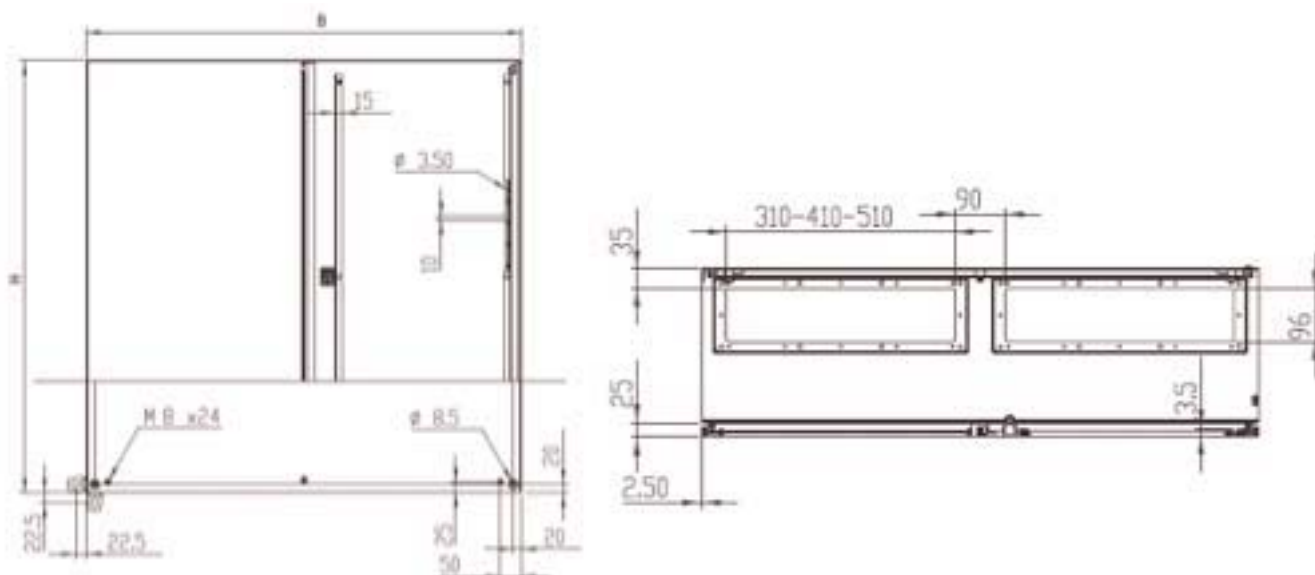
## WSM SHEET STEEL ENCLOSURES WITH MOUNTING PLATE FOR WALL MOUNTING – continued

### DIMENSIONS

SINGLE DOOR:



SINGLE DOOR:



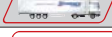





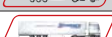














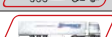













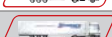






## WSM SHEET STEEL ENCLOSURES WITH MOUNTING PLATE FOR WALL MOUNTING – continued

### TYPES

<p>200</p> <p>WSM2020150</p>	<p>200</p> <p>WSM2520150</p>	<p>250</p> <p>WSM2525150</p>	<p>250</p> <p>WSM3025150 WSM3025210</p>	<p>300</p> <p>WSM3030150 WSM3030210</p>		
<p>250</p> <p>WSM3525150</p>	<p>300</p> <p>WSM4030150 WSM4030210</p>	<p>400</p> <p>WSM4040210</p>	<p>500</p> <p>WSM4050210</p>	<p>600</p> <p>WSM4060210</p>		
<p>300</p> <p>WSM5030210</p>	<p>400</p> <p>WSM5040150 WSM5040210 WSM5040260 WSM5040300</p>	<p>500</p> <p>WSM5050210 WSM5050300</p>	<p>400</p> <p>WSM6040150 WSM6040210 WSM6040260 WSM6040300</p>	<p>500</p> <p>WSM6050150 WSM6050210 WSM6050260 WSM6050300</p>	<p>600</p> <p>WSM6060210 WSM6060300</p>	<p>800</p> <p>WSM6080300</p>
<p>500</p> <p>WSM7050210 WSM7050260</p>	<p>400</p> <p>WSM8040300</p>	<p>600</p> <p>WSM8060210 WSM8060260</p>	<p>600</p> <p>WSM8060210 WSM8060260 WSM8060300 WSM8060400</p>	<p>800</p> <p>WSM8080210 WSM8080300 WSM8080400</p>		
<p>600</p> <p>WSM1006260 WSM1006300</p>	<p>800</p> <p>WSM1008260 WSM1008300 WSM1008400</p>	<p>600</p> <p>WSM1206300</p>	<p>800</p> <p>WSM1208300 WSM1208400</p>			
<p>800</p> <p>WSM6080302</p>	<p>1200</p> <p>WSM0812302</p>	<p>1200</p> <p>WSM0812402</p>	<p>1000</p> <p>WSM1010302</p>	<p>1000</p> <p>WSM1210302</p>	<p>1200</p> <p>WSM1212302 WSM1212402</p>	<p>1000</p> <p>WSM1410302</p>



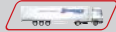

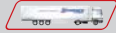

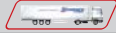

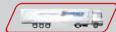




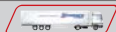

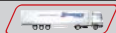
## WSM SHEET STEEL ENCLOSURES WITH MOUNTING PLATE FOR WALL MOUNTING – continued

DIM. (HxWxD) mm	MOUNTING PLATE (HxW) mm	INSTALLATION DEPTH (D) mm	FLANGE OPENING (WxD) mm / SIZE	LOCK	EAN CODE	AVAILABLE	ORDER NO.
<b>MILD STEEL SINGLE DOOR ENCLOSURES</b>							
200x200x155	170x150	137	110x56 / 00	1	9004840374278		<a href="#">WSM2020150</a>
250x200x155	220x150	137	110x56 / 00	1	9004840374285		<a href="#">WSM2520150</a>
250x250x155	220x200	137	110x56 / 00	1	9004840374292		<a href="#">WSM2525150</a>
300x250x155	270x200	137	110x56 / 00	1	9004840374308		<a href="#">WSM3025150</a>
300x250x210	270x200	192	110x56 / 00	1	9004840374315		<a href="#">WSM3025210</a>
300x300x155	270x250	137	210x56 / A0	1	9004840374322		<a href="#">WSM3030150</a>
300x300x210	270x250	192	210x96 / A	1	9004840374339		<a href="#">WSM3030210</a>
350x250x155	320x200	137	110x56 / 00	1	9004840374346		<a href="#">WSM3525150</a>
400x300x155	370x250	137	210x56 / A0	1	9004840374353		<a href="#">WSM4030150</a>
400x300x210	370x250	192	210x96 / A	1	9004840374360		<a href="#">WSM4030210</a>
400x400x210	370x350	192	310x96 / B	1	9004840374377		<a href="#">WSM4040210</a>
400x500x210	370x450	192	410x96 / C	1	9004840374384		<a href="#">WSM4050210</a>
400x600x210	370x550	192	510x96 / D	1	9004840374391		<a href="#">WSM4060210</a>
500x300x210	470x250	192	210x96 / A	1	9004840422603		<a href="#">WSM5030210</a>
500x400x155	470x350	137	310x56 / B0	1	9004840374407		<a href="#">WSM5040150</a>
500x400x210	470x350	192	310x96 / B	1	9004840374414		<a href="#">WSM5040210</a>
500x400x260	470x350	224	310x96 / B	1	9004840374421		<a href="#">WSM5040260</a>
500x400x300	470x350	282	310x96 / B	1	9004840374438		<a href="#">WSM5040300</a>
500x500x210	470x450	192	410x96 / C	1	9004840374445		<a href="#">WSM5050210</a>
500x500x300	470x450	282	410x96 / C	1	9004840374452		<a href="#">WSM5050300</a>
600x400x155	570x350	137	310x56 / B0	2	9004840374469		<a href="#">WSM6040150</a>
600x400x210	570x350	192	310x96 / B	2	9004840374476		<a href="#">WSM6040210</a>
600x400x260	570x350	224	310x96 / B	2	9004840374483		<a href="#">WSM6040260</a>
600x400x300	570x350	282	310x96 / B	2	9004840374490		<a href="#">WSM6040300</a>
600x500x155	570x450	137	410x56 / C0	2	9004840374506		<a href="#">WSM6050150</a>
600x500x210	570x450	192	410x96 / C	2	9004840374513		<a href="#">WSM6050210</a>
600x500x260	570x450	224	410x96 / C	2	9004840374520		<a href="#">WSM6050260</a>
600x500x300	570x450	282	410x96 / C	2	9004840374537		<a href="#">WSM6050300</a>
600x600x210	570x550	192	510x96 / D	2	9004840374544		<a href="#">WSM6060210</a>
600x600x300	570x550	282	510x96 / D	2	9004840374551		<a href="#">WSM6060300</a>
600x600x400	570x550	382	510x96 / D	2	9004840374568		<a href="#">WSM6060400</a>
600x800x300	570x750	282	2x310x96 / B	2	9004840374575		<a href="#">WSM6080300</a>
700x500x210	670x450	192	410x96 / C	2	9004840374582		<a href="#">WSM7050210</a>
700x500x260	670x450	224	410x96 / C	2	9004840374582		<a href="#">WSM7050210</a>
800x400x300	770x350	282	310x96 / B	2	9004840374605		<a href="#">WSM8040300</a>
800x600x210	770x550	192	510x96 / D	2	9004840374612		<a href="#">WSM8060210</a>
800x600x260	770x550	224	510x96 / D	2	9004840374629		<a href="#">WSM8060260</a>
800x600x300	770x550	282	510x96 / D	2	9004840374636		<a href="#">WSM8060300</a>
800x600x400	770x550	382	510x96 / D	2	9004840374643		<a href="#">WSM8060400</a>
800x800x210	770x750	192	2x310x96 / B	2	9004840374650		<a href="#">WSM8080210</a>
800x800x300	770x750	282	2x310x96 / B	2	9004840374667		<a href="#">WSM8080300</a>
800x800x400	770x750	382	2x310x96 / B	2	9004840374674		<a href="#">WSM8080400</a>



Order no. blue: on stock, usually ready for delivery on the day of order!

## WSM SHEET STEEL ENCLOSURES WITH MOUNTING PLATE FOR WALL MOUNTING – continued

DIM. (HxWxD) mm	MOUNTING PLATE (HxW) mm	INSTALLATION DEPTH (D) mm	FLANGE OPENING (WxD) mm / SIZE	LOCK	EAN CODE	AVAILABLE	ORDER NO.
<b>MILD STEEL SINGLE DOOR ENCLOSURES</b>							
1000x600x260	970x550	224	510x96 / D	3 pt.	9004840374681		<a href="#">WSM1006260</a>
1000x600x300	970x550	282	510x96 / D	3 pt.	9004840374698		<a href="#">WSM1006300</a>
1000x800x260	970x750	224	2x310x96 / B	3 pt.	9004840374704		<a href="#">WSM1008260</a>
1000x800x300	970x750	282	2x310x96 / B	3 pt.	9004840374711		<a href="#">WSM1008300</a>
1000x800x400	970x750	382	2x310x96 / B	3 pt.	9004840374728		<a href="#">WSM1008400</a>
1200x600x300	1170x550	282	510x96 / D	3 pt.	9004840374735		<a href="#">WSM1206300</a>
1200x800x300	1170x750	282	2x310x96 / B	3 pt.	9004840374742		<a href="#">WSM1208300</a>
1200x800x400	1170x750	382	2x310x96 / B	3 pt.	9004840374759		<a href="#">WSM1208400</a>
<b>MILD STEEL DOUBLE DOOR ENCLOSURES</b>							
600x800x300	570x750	282	2x310x96 / B	3 pt.	9004840374766		<a href="#">WSM6080302</a>
800x1200x300	770x1150	282	2x510x96 / D	3 pt.	9004840374773		<a href="#">WSM8012302</a>
800x1200x400	770x1150	382	2x510x96 / D	3 pt.	9004840374780		WSM8012402
1000x1000x300	970x950	282	2x410x96 / C	3 pt.	9004840374797		<a href="#">WSM1010302</a>
1200x1000x300	1170x950	282	2x410x96 / C	3 pt.	9004840374803		<a href="#">WSM1210302</a>
1200x1200x300	1170x1150	282	2x510x96 / D	3 pt.	9004840374810		<a href="#">WSM1212302</a>
1200x1200x400	1170x1150	382	2x510x96 / D	3 pt.	9004840374827		<a href="#">WSM1212402</a>
1400x1000x300	1370x950	282	2x410x96 / C	3 pt.	9004840374834		<a href="#">WSM1410302</a>
Wall-fastening flaps, galvanized					9004840379150		<a href="#">WSMWB004</a>

## MODULAR CHASSIS WSMIE



WSMIE03025


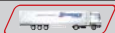





### SCHRACK-INFO

- Used for easy mounting of DIN-rail components with a maximum height of 68mm. Distance between rows 125mm. If required, the standard enclosure door can be replaced with a glazed door. Usable depth between front cover and external door: 35mm. Adjustable depth position with AMG accessory. In stainless steel enclosure machining is required.

**Material:** DIN-rails PP0735 made of 1.20mm galvanized steel, vertical profiles 1.5mm mild steel, and front cover 1.5mm mild steel.

**Finish:** RAL 7035 structure powder coating.

**Pack quantity:** Slotted front panel, two vertical profiles, top and bottom blank panels, one DIN-rail per row, and mounting accessories.

FOR EQUIPMENT CABINETS (HxW) mm	ROWS	MODULES	EAN CODE	AVAILABLE	ORDER NO.
300x250	2	16	9004840381443		<a href="#">WSMIE03025</a>
400x300	3	33	9004840381450		<a href="#">WSMIE04030</a>
500x400	3	48	9004840381467		<a href="#">WSMIE05040</a>
600x400	4	64	9004840381474		<a href="#">WSMIE06040</a>
600x600	4	108	9004840381481		<a href="#">WSMIE06060</a>
700x500	5	110	9004840381498		<a href="#">WSMIE07050</a>
800x600	6	162	9004840381504		<a href="#">WSMIE08060</a>



### VENTILATED GLAND PLATE



#### SCHRACK-INFO

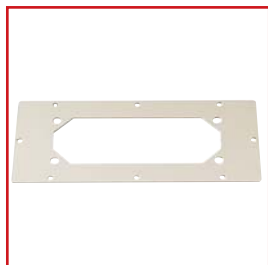
**Material:** 1.4mm mild steel

**Finish:** RAL 7035 structure powder coating

**Protection:** Complies with IP 23, in bottom or vertical position

DESCRIPTION/DIM. (WxD) mm	TYPE	EAN CODE	AVAILABLE	ORDER NO.
210x96	A	9004840235852		<a href="#">WSVF0001</a>
310x96	B	9004840235869		<a href="#">WSVF0002</a>
410x96	C	9004840235876		WSVF0003
510x96	D	9004840381955		WSVF0004

### CONNECTION GLAND PLATE



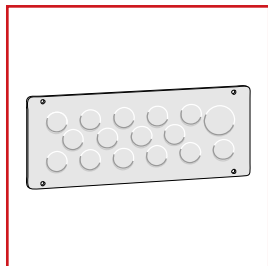
#### SCHRACK-INFO

**Material:** 1.4mm mild steel

**Finish:** RAL 7035 structure powder coating

DESCRIPTION/DIM. (WxD) mm	TYPE	EAN CODE	AVAILABLE	ORDER NO.
210x96	A	9004840235913		WSVBF001
310x96	B	9004840235920		WSVBF002
410x96	C	9004840235937		WSVBF003
510x96	D	9004840381887		WSVBF004

### GLAND PLATE WITH KNOCK OUTS



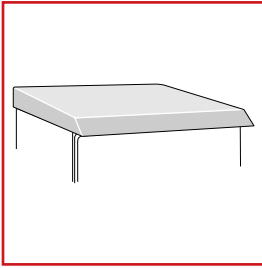
#### SCHRACK-INFO

**Material:** 1.4mm mild steel

**Finish:** RAL 7035 structure powder coating

DESCRIPTION/DIM. (WxD) mm	TYPE	EAN CODE	AVAILABLE	ORDER NO.
210x56 – 4xM16, 3xM20A0		9004840235883		<a href="#">WSFA0001</a>
210x96 – 4xM16, 5xM20, 2xM25, 2xM32	A	9004840381917		WSFA0011
210x96 – 12xM16, 1xM25, 1xM32	A	9004840381900		WSFA0012
310x56 – 6xM16, 3xM20, 1xM25	B0	9004840381931		WSFA0021
310x96 – 9xM16, 4xM20, 2xM25, 2xM32	B	9004840235890		<a href="#">WSFA0002</a>
310x96 – 21xM16, 1xM32, 1xM25	B	9004840264098		<a href="#">WSFA0022</a>
410x56 – 9xM16, 4xM20, 1xM25	C	9004840381924		WSFA0031
410x96 – 18xM16, 5xM20, 4xM25, 2xM32	C	9004840235906		<a href="#">WSFA0003</a>
410x96 – 21xM16, 10xM20	C	9004840264104		<a href="#">WSFA0032</a>
510x96 – 27xM16, 5xM20, 4xM25, 2xM32	D	9004840381894		<a href="#">WSFA0004</a>
510x96 – 18xM16, 14xM20, 3xM25, 1xM32	D	9004840381948		<a href="#">WSFA0042</a>

## RAIN HOOD FOR WSM ENCLOSURES



### SCHRACK-INFO

**Material:** 1.5mm mild steel

**Finish:** RAL 7035 structure powder coating

DESCRIPTION/DIM. (WxD) mm	EAN CODE	AVAILABLE	ORDER NO.
250x155	9004840381528		WSMD2515
250x210	9004840381535		WSMD2521
300x155	9004840381511		WSMD3015
300x210	9004840381542		WSMD3021
400x155	9004840381559		WSMD4015
400x210	9004840381566		<b>WSMD4021</b>
400x260	9004840381573		WSMD4026
400x300	9004840381580		WSMD4030
500x155	9004840381597		WSMD5015
500x210	9004840381603		WSMD5021
500x260	9004840381610		WSMD5026
500x300	9004840381627		WSMD5030
600x210	9004840381634		WSMD6021
600x260	9004840381641		<b>WSMD6026</b>
600x300	9004840381658		<b>WSMD6030</b>
600x400	9004840381665		WSMD6040
800x210	9004840381672		WSMD8021
800x260	9004840381689		WSMD8026
800x300	9004840381696		<b>WSMD8030</b>
800x400	9004840381702		WSMD8040
1000x300	9004840381719		<b>WSMD1030</b>
1200x300	9004840381726		WSMD1230
1200x400	9004840381733		WSMD1240



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## TRANSPARENT DOORS



WSMF3025AC

### SCHRACK-INFO

**Description:** To replace the standard door, it provides a clear view of the components installed inside the enclosure. Allows all the options of the locking program.

**Material:** 1.2mm mild steel / 1.4mm WSMF6060AC and above / 1.8mm WSMF1060AC and above, and 3mm transparent acrylic glass.

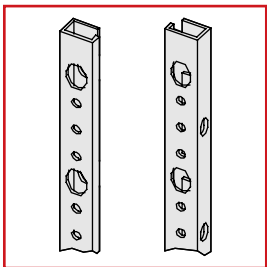
**Finish:** RAL 7035 structure powder coating

**Protection:** Complies with IP 55

**Pack quantity:** 1 door

VIEWING AREA	DIM. (HxW) mm	EAN CODE	AVAILABLE	ORDER NO.
159x93	300x250	9004840381740		WSMF3025AC
159x143	300x300	9004840381757		WSMF3030AC
259x143	400x300	9004840381764		WSMF4030AC
259x243	400x400	9004840381771		WSMF4040AC
359x243	500x400	9004840381788		WSMF5040AC
459x243	600x400	9004840381795		WSMF6040AC
459x343	600x500	9004840381801		WSMF6050AC
459x443	600x600	9004840381818		WSMF6060AC
559x343	700x500	9004840381825		WSMF7050AC
659x443	800x600	9004840381832		WSMF8060AC
859x427	1000x600	9004840381849		WSMF1060AC
859x627	1000x800	9004840381856		WSMF1080AC
1059x427	1200x600	9004840381863		WSMF1260AC
1059x627	1200x800	9004840381870		WSMF1280AC

## DOOR MOUNTING PROFILES





### SCHRACK-INFO

**Description:** To strengthen the door, mounted on the inside of the door on the M6 welded studs. equipped with 10mm hole pattern.

**Material:** 1.4mm galvanized steel

**Dimension:** 15x14 mm

HEIGHT mm	EAN CODE	AVAILABLE	ORDER NO.
500	9004840382051		WSMTP050
600	9004840382068		WSMTP060
700	9004840382075		WSMTP070
800	9004840382082		WSMTP080
1000	9004840382099		<b>WSMTP100</b>
1200	9004840382105		<b>WSMTP120</b>
1400	9004840382112		WSMTP140



Order no. blue: on stock, usually ready for delivery on the day of order!

## LOCKS AND INSERTS



## SCHRACK-INFO

**Description:** Inserts to replace the standard double-bit 3mm insert in the standard polyamide lock.

**Material:** Polyamide

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Standard DIN 5mm insert	9004840236149		<b>WSSL3532</b>
Alternative handles to replace the standard lock	9004840459135		<b>WSMLT561</b>
Swing Handle for WSM	9004840423006		<b>WSSL1107</b>
Cylinder Sash Lock	9004840236156		<b>WSSL3844</b>
DIN 3mm insert	9004840236217		WSSL3530
DIN 5mm insert	9004840236224		WSSL3535
Tri 8mm insert	9004840236170		WSSL3515
Sqr 7mm insert	9004840236194		WSSL3520
Sqr 8mm insert	9004840236200		WSSL3525
Key 333 for Halfcylinderlock DV900333	9004840409222		<b>DV900334</b>
Door Stop for WSM Enclosures	9004840459128		<b>WSMDSTP2</b>
Turnbuckle for halfcyl. lock - WSM w/o punching	9004840654974		<b>IU001925</b>



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## MINIPOL POLYESTER ENCLOSURES



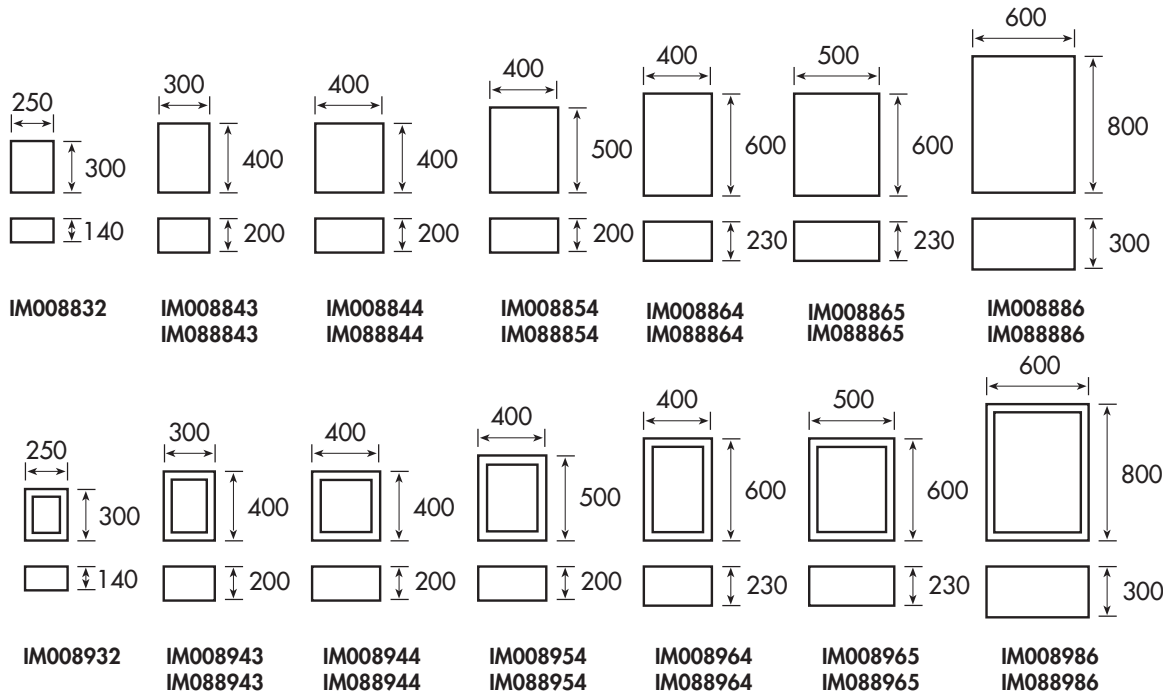
MINIPOL

### SCHRACK-INFO

- Hot pressed, fibreglass-reinforced polyester, colour grey RAL 7035
- Free of halogens
- Degree of protection IP 66 according to EN 60529
- Double insulated according to EN 60439-1
- Self-extinguishing
- Weather-resistant
- High shock resistance
- Water-resistant
- Temperature range: -50° C to 150° C
- With flaps for fastening to wall
- With swing handle w/o cylinder insert
- UV-resistant
- UL, CSA, NEMKO, LGAI and KEMA certified
- Many areas of use and combinations

VW = viewing window

3P = 3-point rod lock with swing handle w/o semicylinder insert (otherwise 2x double tongue fastener)

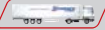







DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
<b>POLYESTER MINIPOL WALL ENCLOSURE</b>				
Pol. wall enclosure	300x250x140	9004840234664		<a href="#">IM008832</a>
Pol. wall enclosure	400x300x200	9004840234671		<a href="#">IM008843</a>
Pol. wall enclosure	400x400x200	9004840234688		<a href="#">IM008844</a>
Pol. wall enclosure	500x400x200	9004840234695		<a href="#">IM008854</a>
Pol. wall enclosure	600x400x230	9004840234701		<a href="#">IM008864</a>
Pol. wall enclosure	600x500x230	9004840234718		<a href="#">IM008865</a>
Pol. wall enclosure	800x600x300	9004840234725		<a href="#">IM008886</a>
Pol. wall enclosure VW	300x250x140	9004840234732		<a href="#">IM008932</a>
Pol. wall enclosure VW	400x300x200	9004840234749		<a href="#">IM008943</a>
Pol. wall enclosure VW	400x400x200	9004840234756		<a href="#">IM008944</a>
Pol. wall enclosure VW	500x400x200	9004840234763		<a href="#">IM008954</a>
Pol. wall enclosure VW	600x400x230	9004840234770		<a href="#">IM008964</a>
Pol. wall enclosure VW	600x500x230	9004840234787		<a href="#">IM008965</a>
Pol. wall enclosure VW	800x600x300	9004840234794		<a href="#">IM008986</a>






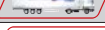



Order no. blue: on stock, usually ready for delivery on the day of order!

## MINIPOL POLYESTER ENCLOSURES – continued

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
<b>POLYESTER MINIPOL WALL ENCLOSURE</b>				
Pol. wall enclosure 3P	400x300x200	9004840234800		<a href="#">IM088843</a>
Pol. wall enclosure 3P	400x400x200	9004840234817		<a href="#">IM088844</a>
Pol. wall enclosure 3P	500x400x200	9004840234824		<a href="#">IM088854</a>
Pol. wall enclosure 3P	600x400x230	9004840234831		<a href="#">IM088864</a>
Pol. wall enclosure 3P	600x500x230	9004840234848		<a href="#">IM088865</a>
Pol. wall enclosure 3P	800x600x300	9004840234855		<a href="#">IM088886</a>
Pol. wall enclosure 3P/VW	400x300x200	9004840234862		IM088943
Pol. wall enclosure 3P/VW	400x400x200	9004840234879		IM088944
Pol. wall enclosure 3P/VW	500x400x200	9004840234886		IM088954
Pol. wall enclosure 3P/VW	600x400x230	9004840234893		IM088964
Pol. wall enclosure 3P/VW	600x500x230	9004840234909		IM088965
Pol. wall enclosure 3P/VW	800x600x300	9004840234916		IM088986








## POLYESTER MOUNTING PLATE



DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
Polyester mounting plate, Minipol	268x216x4	9004840234923		<a href="#">IMMP0032</a>
Polyester mounting plate, Minipol	358x260x4	9004840234930		<a href="#">IMMP0043</a>
Polyester mounting plate, Minipol	358x360x4	9004840234947		<a href="#">IMMP0044</a>
Polyester mounting plate, Minipol	458x360x4	9004840234954		<a href="#">IMMP0054</a>
Polyester mounting plate, Minipol	558x360x4	9004840234961		<a href="#">IMMP0064</a>
Polyester mounting plate, Minipol	558x460x4	9004840234978		<a href="#">IMMP0065</a>
Polyester mounting plate, Minipol	754x556x4	9004840234985		<a href="#">IMMP0086</a>







## METALL MOUNTING PLATE



DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
Metal mounting plate, Minipol	268x216x2	9004840234992		<a href="#">IMMM0032</a>
Metal mounting plate, Minipol	358x260x2	9004840235005		<a href="#">IMMM0043</a>
Metal mounting plate, Minipol	358x360x2	9004840235012		<a href="#">IMMM0044</a>
Metal mounting plate, Minipol	458x360x2	9004840235029		<a href="#">IMMM0054</a>
Metal mounting plate, Minipol	558x360x2	9004840235036		<a href="#">IMMM0064</a>
Metal mounting plate, Minipol	558x460x2	9004840235043		<a href="#">IMMM0065</a>
Metal mounting plate, Minipol	754x556x2	9004840235050		<a href="#">IMMM0086</a>

## INSTALLATION INSERT FOR MINIPOL



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Installation insert for 400x300 2x12 MW	9004840235159		<b>IMCH0043</b>
Installation insert for 400x400 2x18 MW	9004840235166		<b>IMCH0044</b>
Installation insert for 500x400 3x18 MW	9004840235173		<b>IMCH0054</b>
Installation insert for 600x400 3x18 MW	9004840235180		<b>IMCH0064</b>
Installation insert for 600x500 3x23 MW	9004840235197		<b>IMCH0065</b>
Installation insert for 800x600 4x29 MW	9004840235203		<b>IMCH0086</b>
Installation insert for 800x600 5x29 MW	9004840235326		IMCH0586

## MINIPOL INTERIOR DOORS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Interior doors 400 x 400	9004840376890		IMPI0044
Interior doors 500 x 400	9004840376906		IMPI0054
Interior doors 600 x 400	9004840376913		IMPI0064
Interior doors 600 x 500	9004840376920		IMPI0065
Interior doors 800 x 600	9004840376937		IMPI0086



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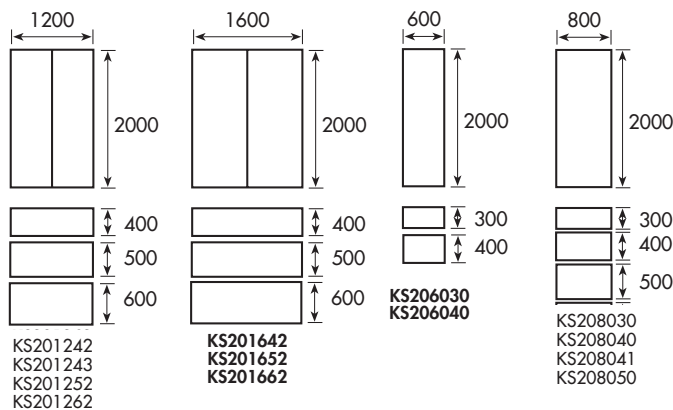
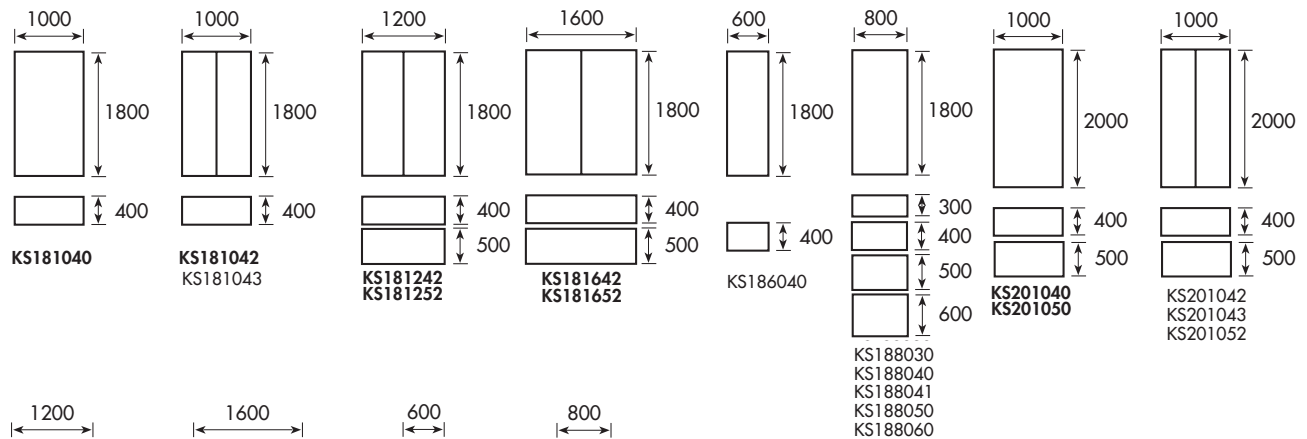
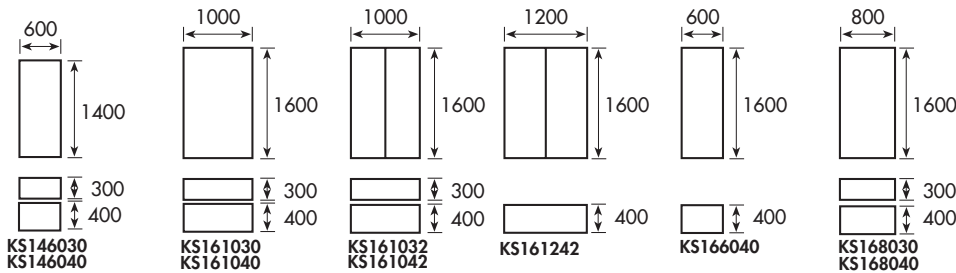
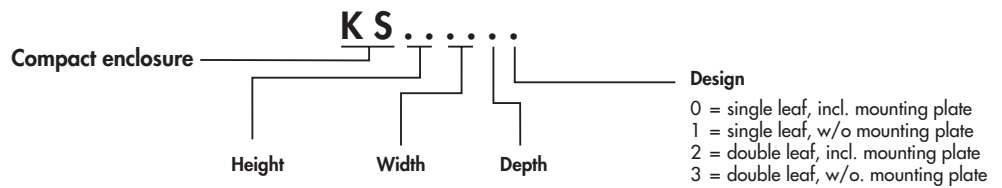
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## KS FLOOR-MOUNTED ENCLOSURES



KS








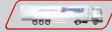



















### Type key



## SCHRACK-INFO

- Material:
  - Frame: Sheet steel 1.5 mm
  - Doors: Sheet steel 2 mm
  - Rear panel: Sheet steel 1.5 mm
  - Roof: Sheet steel 1.5 mm
  - Mounting plate: Sheet steel, galvanised 3 mm
  - Frame: Rounded profile, seam-welded
  - Doors: Hinges can be attached on left or right, reinforced frame
  - Rear panel: Removable
  - Lock: Self-positioning 4 point rod lock for single doors and 3 point rod lock for double doors
- 5 mm double-bit insert comes as standard
- Mounting plate: Double-folded profile. Depth can be adjusted in 25 mm steps. Enclosures 1600 mm in width are supplied with two mounting plates.
- Surface: powder-coated RAL 7035
- Degree of protection: single door: IP 66 / NEMA 4  
double door: IP 55 / NEMA 12
- Included in delivery: Enclosure with pre-fitted doors with 5 mm semicylinder two-way lock and reinforced profiles, roof, cable entry plates, rear panel and mounting plate, earthing bolts, keys and assembly instructions

## KS FLOOR-MOUNTED ENCLOSURES – continued

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
<b>SINGLE DOOR WITH MOUNTING PLATE</b>				
single door	1400x600x300	9004840535839		KS146030-5
single door	1400x600x400	9004840535822		<b>KS146040-5</b>
single door	1600x600x400	9004840535884		<b>KS166040-5</b>
single door	1600x800x300	9004840535877		<b>KS168030-5</b>
single door	1600x800x400	9004840535860		<b>KS168040-5</b>
single door	1600x1000x300	9004840535815		<b>KS161030-5</b>
single door	1600x1000x400	9004840535853		<b>KS161040-5</b>
single door	1800x600x400	9004840535983		<b>KS186040-5</b>
single door	1800x800x300	9004840536010		<b>KS188030-5</b>
single door	1800x800x400	9004840536003		<b>KS188040-5</b>
single door	1800x800x500	9004840536027		KS188050-5
single door	1800x1000x400	9004840535907		<b>KS181040-5</b>
single door	2000x600x300	9004840586022		<b>KS206030-5</b>
single door	2000x600x400	9004840536287		<b>KS206040-5</b>
single door	2000x800x300	9004840536270		<b>KS208030-5</b>
single door	2000x800x400	9004840536263		<b>KS208040-5</b>
single door	2000x800x500	9004840536249		<b>KS208050-5</b>
single door	2000x1000x400	9004840536072		<b>KS201040-5</b>
single door	2000x1000x500	9004840536041		KS201050-5
<b>SINGLE DOOR WITHOUT MOUNTING PLATE</b>				
single door without MPL	1600x800x400	9004840535914		KS168041-5
single door without MPL	1800x800x400	9004840535990		KS188041-5
single door without MPL	1800x800x600	9004840536034		KS188060-5
single door without MPL	2000x800x400	9004840536256		<b>KS208041-5</b>
<b>DOUBLE DOOR WITH MOUNTING PLATE</b>				
double door	1600x1000x300	9004840535808		KS161032-5
double door	1600x1000x400	9004840535846		KS161042-5
double door	1600x1200x400	9004840535891		<b>KS161242-5</b>
double door	1800x1000x400	9004840535938		<b>KS181042-5</b>
double door	1800x1200x400	9004840535945		<b>KS181242-5</b>
double door	1800x1200x500	9004840535952		KS181252-5
double door	1800x1600x400	9004840535969		<b>KS181642-5</b>
double door	1800x1600x500	9004840535976		KS181652-5
double door	2000x1000x400	9004840536065		<b>KS201042-5</b>
double door	2000x1000x500	9004840536089		KS201052-5
double door	2000x1200x400	9004840536096		<b>KS201242-5</b>
double door	2000x1600x400	9004840536126		<b>KS201642-5</b>
double door	2000x1200x500	9004840536119		<b>KS201252-5</b>
double door	2000x1600x500	9004840536133		<b>KS201652-5</b>
double door	2000x1600x600	9004840536140		KS201662-5
<b>DOUBLE DOOR WITHOUT MOUNTING PLATE</b>				
double door without MPL	1800x1000x400	9004840535921		KS181043-5
double door without MPL	2000x1000x400	9004840536058		<b>KS201043-5</b>
double door without MPL	2000x1200x400	9004840536102		KS201243-5



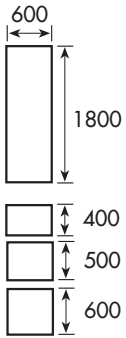
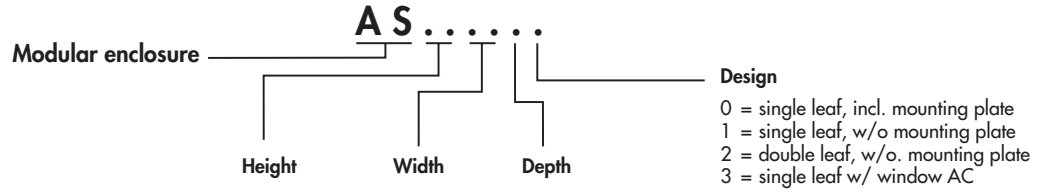
Order no. blue: on stock, usually ready for delivery on the day of order!

## AS MODULAR ENCLOSURES

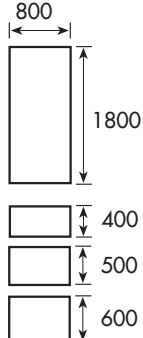


AS

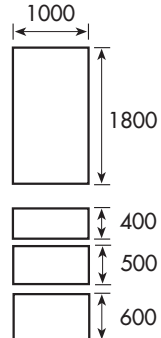
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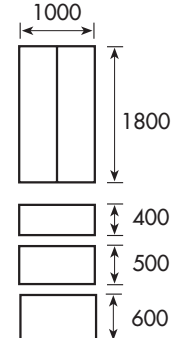
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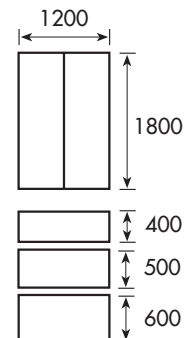
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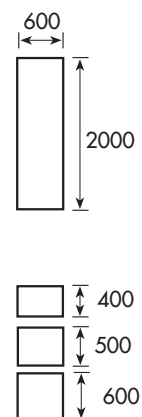
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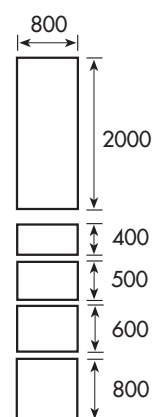
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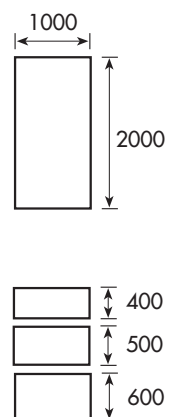
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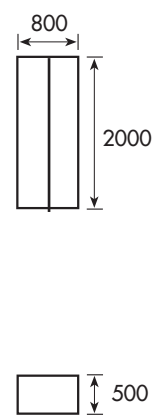
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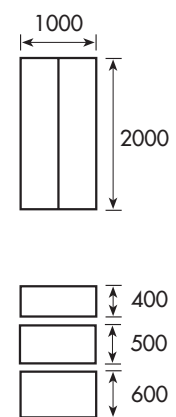
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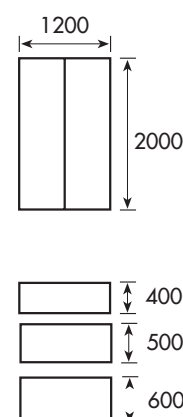
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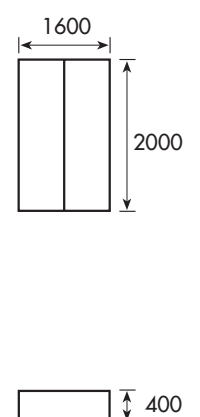
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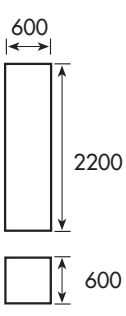
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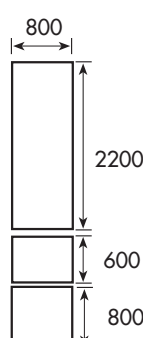
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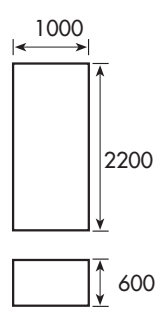
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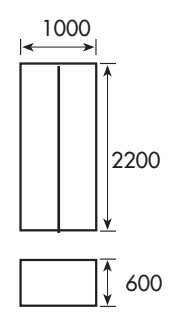
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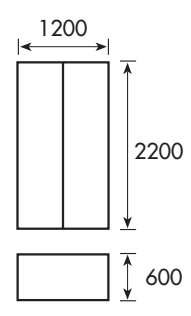
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AS221060



AS22162

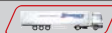








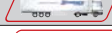



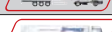

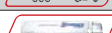



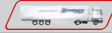


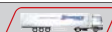


AS221262

## AS MODULAR ENCLOSURES – continued

### SCHRACK-INFO












- Material:
  - Frame: Sheet steel 1.75 mm
  - Doors: Sheet steel 2 mm / Single door 1.75 mm
  - Rear panel: Sheet steel 1.35 mm
  - Roof: Sheet steel 1.35 mm
  - Mounting plate: Sheet steel, galvanised, 2.7 mm
  - Frame: 8x bevelled and laser-welded profile with 25 mm hole matrix and cable entry in floor
  - Doors: Hinges can be attached on left or right, reinforced frame
  - Rear panel: Removable. Can be replaced with rear doors
  - Lock: Self-positioning 4 point rod lock for single doors and 3 point rod lock for double doors
  - Comes as standard with swing handle lock with 5mm double-bit insert, replaceable
  - Mounting plate: Double-bevelled, depth can be adjusted at 25 mm intervals
  - Surface: powder-coated RAL 7035
  - Degree of protection: IP 56 / NEMA 4 for single door-, IP 55 / NEMA 12 for double door models
  - Included in delivery: Housing with doors with swing handle insert, 5mm double-bit insert, removable roof, cable entry plates, rear panel and mounting plate and earthing studs, keys and assembly instructions

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
<b>SINGLE DOOR WITH MOUNTING PLATE</b>				
single door	1800x600x400	9004840533514		<b>AS186040-5</b>
single door	1800x600x500	9004840533569		AS186050-5
single door	1800x600x600	9004840533552		<b>AS186060-5</b>
single door	1800x800x400	9004840533545		<b>AS188040-5</b>
single door	1800x800x500	9004840533521		<b>AS188050-5</b>
single door	1800x800x600	9004840533576		<b>AS188060-5</b>
single door	1800x1000x400	9004840533392		<b>AS181040-5</b>
single door	1800x1000x500	9004840533460		AS181050-5
single door	1800x1000x600	9004840533446		AS181060-5
single door	2000x600x400	9004840533712		<b>AS206040-5</b>
single door	2000x600x500	9004840533736		<b>AS206050-5</b>
single door	2000x600x600	9004840533743		<b>AS206060-5</b>
single door	2000x800x400	9004840533774		<b>AS208040-5</b>
single door	2000x800x500	9004840533750		<b>AS208050-5</b>
single door	2000x800x600	9004840533859		<b>AS208060-5</b>
single door	2000x800x800	9004840533835		<b>AS208080-5</b>
single door	2000x1000x400	9004840533637		<b>AS201040-5</b>
single door	2000x1000x500	9004840533606		<b>AS201050-5</b>
single door	2000x1000x600	9004840533583		<b>AS201060-5</b>
single door	2200x600x600	9004840533798		<b>AS226060-5</b>
single door	2200x800x600	9004840533866		<b>AS228060-5</b>
single door	2200x800x800	9004840533873		AS228080-5
single door	2200x1000x600	9004840533828		AS221060-5
<b>SINGLE DOOR WITHOUT MOUNTING PLATE</b>				
single door without MPL	1800x600x400	9004840533507		<b>AS186041-5</b>
single door without MPL	1800x800x400	9004840533538		AS188041-5
single door without MPL	1800x800x600	9004840533644		AS188061-5
single door without MPL	2000x600x400	9004840533729		AS206041-5
single door without MPL	2000x600x600	9004840533781		<b>AS206061-5</b>
single door without MPL	2000x800x400	9004840533767		<b>AS208041-5</b>
single door without MPL	2000x800x600	9004840533842		<b>AS208061-5</b>
single door without MPL	2000x1000x400	9004840552553		AS201041-5
single door without MPL	2000x400x400	9004840548945		<b>AS204041-5</b>



Order no. blue: on stock, usually ready for delivery on the day of order!

## AS MODULAR ENCLOSURES WITH MOUNTING PLATE – continued




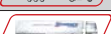



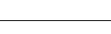
DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
<b>DOUBLE DOOR WITH MOUNTING PLATE</b>				
double door	1800x1000x400	9004840533422		<a href="#">AS181042-5</a>
double door	1800x1000x500	9004840533453		AS181052-5
double door	1800x1000x600	9004840533439		AS181062-5
double door	1800x1200x400	9004840533491		<a href="#">AS181242-5</a>
double door	1800x1200x500	9004840533484		<a href="#">AS181252-5</a>
double door	1800x1200x600	9004840533477		AS181262-5
double door	2000x1000x400	9004840533620		<a href="#">AS201042-5</a>
double door	2000x1000x500	9004840533590		<a href="#">AS201052-5</a>
double door	2000x1000x600	9004840533699		<a href="#">AS201062-5</a>
double door	2000x1600x400	9004840533705		<a href="#">AS201642-5</a>
double door	2000x1200x400	9004840533682		<a href="#">AS201242-5</a>
double door	2000x1200x500	9004840533668		<a href="#">AS201252-5</a>
double door	2000x1200x600	9004840533651		<a href="#">AS201262-5</a>
double door	2200x1000x600	9004840533811		AS221062-5
double door	2200x1200x600	9004840533804		AS221262-5
<b>DOUBLE DOOR WITHOUT MOUNTING PLATE</b>				
double door without MPL	2000x1000x400	9004840533613		<a href="#">AS201043-5</a>
double door without MPL	2000x1200x400	9004840533675		AS201243-5

## AS MODULAR ENCLOSURES SIDE PANELS



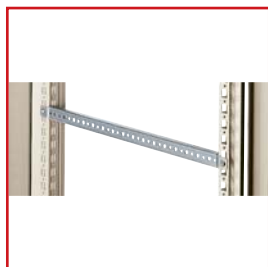
### SCHRACK-INFO

- Each unit comes as sold with 2 side panels

DESCRIPTION	DIM. (DxH) mm	EAN CODE	AVAILABLE	ORDER NO.
Sidepanel, 1 pair	400x1800	9004840536201		<a href="#">ASSW1804-5</a>
Sidepanel, 1 pair	500x1800	9004840536300		<a href="#">ASSW1805-5</a>
Sidepanel, 1 pair	600x1800	9004840536195		<a href="#">ASSW1806-5</a>
Sidepanel, 1 pair	400x2000	9004840536188		<a href="#">ASSW2004-5</a>
Sidepanel, 1 pair	500x2000	9004840536317		<a href="#">ASSW2005-5</a>
Sidepanel, 1 pair	600x2000	9004840536171		<a href="#">ASSW2006-5</a>
Sidepanel, 1 pair	800x2000	9004840536164		<a href="#">ASSW2008-5</a>
Sidepanel, 1 pair	600x2200	9004840536157		<a href="#">ASSW2206-5</a>
Sidepanel, 1 pair	800x2200	9004840536294		ASSW2208-5



## ■ SIDE MOUNTING BAR FOR AS AND KS ENCLOSURES



### ■ SCHRACK-INFO

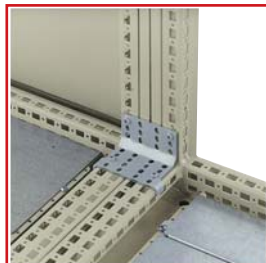
For fixing cables, cable guides, etc. in the depth or the width of an enclosure.  
Material: 2mm zinc plated steel.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Side mounting bar for 400 w/d	9004840243468		<b>ASCMB400</b>
Side mounting bar for 500 w/d	9004840243475		<b>ASCMB500</b>
Side mounting bar for 600 w/d	9004840243482		<b>ASCMB600</b>
Side mounting bar for 800 w/d	9004840243499		ASCMB800

## ■ AS MODULAR ENCLOSURES CONNECTION KITS



ASCC1060



ASCCM040

### ■ SCHRACK-INFO

- Connecting angle for aligning AS enclosures next to one another
- Material: 3 mm galvanized steel, incl. fixing material

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Cable entry gasket 30x25	9004840245677		<b>ASBG0001</b>
EMC Cable entry gasket	9004840390162		<b>ASBGE001</b>
Internal corner baying Kit	9004840240931		<b>ASCCM040</b>
Internal baying brackets	9004840240917		<b>ASCCI060</b>
Internal connection	9004840240894		ASCCCS06
Connection set encl. w/partition	9004840240924		<b>ASCCJ120</b>
Ext. auto spacer comb. kit	9004840240900		<b>ASCCE060</b>
Extrudelite screws M6	9004840243741		<b>ASCNT006</b>
Mounting plate bracket	9004840244304		<b>ASMPA006</b>
Mounting plate depth-adjustment bracket	9004840244298		<b>ASMPD002</b>
Mounting plate fixing bracket f. middle fixing	9004840395945		ASMPE002
Door mounting set single door	9004840244854		<b>ASDMK001</b>
Door mounting set double door	9004840625394		ASDMK002
Adjustable 180 degree hinge	9004840244861		ASDH0180



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## SEPARATION PLATES FOR AS ENCLOSURES



### SCHRACK-INFO

- Separates two bayed enclosures
- Can also be used for partial depth/height separation
- To be fixed with combining kit ASCCJ120
- To achieve IP 43, a neoprene gasket ASSPDG01 must be fixed to the plate
- Material: 1.5mm zinc plated steel

HxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
	9004840253030		ASTW1804
1800x500	9004840261585		ASTW1805
2000x400	9004840261592		<b>ASTW2004</b>
2000x500	9004840261608		ASTW2005
2000x800	9004840261615		ASTW2008
2200x600	9004840261622		ASTW2206
2200x800	9004840261639		ASTW2208
Neoprene Gasket 6m, IP43 for AS sidepanel	9004840650778		ASSPDG01

## FLOOR STANDING ENCLOSURES GLAZED DOORS



### SCHRACK-INFO

- IP 55/IK 10
- Standard door with clear glass window to view the equipment inside
- Fitted with safety glass, double-bit 3mm lock and door frame
- Material: Frame: 2mm steel plate
- Viewing area: 4mm clear safety glass
- RAL 7035 structured powder coating
- Complies with IP 55, NEMA 12, IK 10.


HxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
1800x600	9004840535211		ASKG1806-5
1800x800	9004840535266		ASKG1808-5
2000x600	9004840535259		ASKG2006-5
2000x800	9004840535273		ASKG2008-5
2200x800	9004840535457		ASKG2208-5

## DOOR SWITCH



### SCHRACK-INFO

- Activates any electrical device (lighting, coolers, etc).
- Can be fitted after installing the enclosure thereby keeping the door opening free
- Switch capacity: 6A-230VAC




DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Door switch	9004840245097		<b>ASDSW010</b>

## UNIVERSAL CONDUIT HOLDER



### SCHRACK-INFO

- Bracket to mount ASCON onto the door frame and the frame of the enclosure or accessory
- Can be mounted horizontally or vertically on any 25 mm hole pattern of the door frame, enclosure frame or accessory profile
- Material: Polycarbonate



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Conduit holder 16	9004840252309		<b>ASCONH16</b>
Conduit holder 29	9004840252316		<b>ASCONH29</b>
Conduit holder 36	9004840252323		<b>ASCONH36</b>
Conduit holder 48	9004840252330		ASCONH48

## CABLE CONDUIT



### SCHRACK-INFO

- For protecting and covering cables between the door and the inside of the enclosure or swing frame
- Material: Polyethylene

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Cable conduit D=16 mm	9004840250497		ASCON016
Cable conduit D=29 mm	9004840250503		<b>ASCON029</b>
Cable conduit D=36 mm	9004840250510		<b>ASCON036</b>
Cable conduit D=48 mm	9004840250527		ASCON048



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## WIDTH SECTION FOR PLINTH



ASSOB

### SCHRACK-INFO

- Width sections for standard bases
- Allows cable to be installed between enclosure rows free of obstruction. Meets VDE 0133 standard, secured through use of 4 corner pieces
- The width sections have no actual bearing function. Instead they keep cables from sight, even though their double-bevelled construction means they are very rigid.
- The corner parts are equipped with plastic covers which offer external access to mounting screws
- 200 mm height models have a simple plate for the front, a split plate for the rear - Cables can be managed from the rear by omitting a half
- Material: Corner sections 2.5 mm galvanized steel, closed at ends, base plates 2 mm steel, powder-coated according to RAL 7022
- Each package contains: 4x corner sections, 2x width sections incl. fixing material

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Width section for plinth 400/100	9004840240542		<a href="#">ASSOB041</a>
Width section for plinth 600/100	9004840240559		<a href="#">ASSOB061</a>
Width section for plinth 800/100	9004840240566		<a href="#">ASSOB081</a>
Width section for plinth 1000/100	9004840240573		<a href="#">ASSOB101</a>
Width section for plinth 1200/100	9004840240580		<a href="#">ASSOB121</a>
Width section for plinth 400/200	9004840240597		<a href="#">ASSOB042</a>
Width section for plinth 600/200	9004840240603		<a href="#">ASSOB062</a>
Width section for plinth 800/200	9004840240610		<a href="#">ASSOB082</a>
Width section for plinth 1000/200	9004840240627		<a href="#">ASSOB102</a>
Width section for plinth 1200/200	9004840240634		<a href="#">ASSOB122</a>

## DEPTH SECTION FOR PLINTH



ASSOT

### SCHRACK-INFO

- Depth sections for standard bases, especially rigid structure due to its double-bevelled construction
- Material: 2 mm steel, powder-coated accord. to RAL 7022
- Each package contains 2 pieces incl. fixing material

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Depth section for plinth 300/100	9004840248937		<a href="#">ASSOT031</a>
Depth section for plinth 400/100	9004840240641		<a href="#">ASSOT041</a>
Depth section for plinth 500/100	9004840240658		<a href="#">ASSOT051</a>
Depth section for plinth 600/100	9004840240665		<a href="#">ASSOT061</a>
Depth section for plinth 800/100	9004840240672		<a href="#">ASSOT081</a>
Depth section for plinth 300/200	9004840248944		<a href="#">ASSOT032</a>
Depth section for plinth 400/200	9004840240696		<a href="#">ASSOT042</a>
Depth section for plinth 500/200	9004840240702		<a href="#">ASSOT052</a>
Depth section for plinth 600/200	9004840240719		<a href="#">ASSOT062</a>
Depth section for plinth 800/200	9004840240726		<a href="#">ASSOT082</a>

## /// MULTI COMBINATION OF FUNCTIONAL AREAS AND BUSBAR ACCORDING TO IEC/EN 60439

### /// SCHRACK-INFO

Product Features:

- IEC/EN 60439-1 type-tested assembly
- TTA, PTTA, form 2b to form 4b
- TTCalc software for easy configuration, partlist and all projections plans
- Fully type-tested assemblies (TTA)

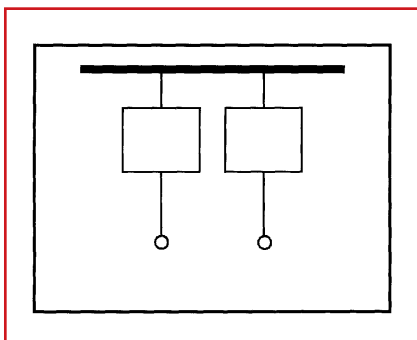


## /// MODUL 4000 TT AVAILABLE IN FORM 1, 2B OR 4B ONCE TYPE TESTED IEC/EN 60439-1

This system enables a high density by 38 x 50 mm fixed modules per one selection. Partlist automatically calculate by SCHRACK TTCALC.

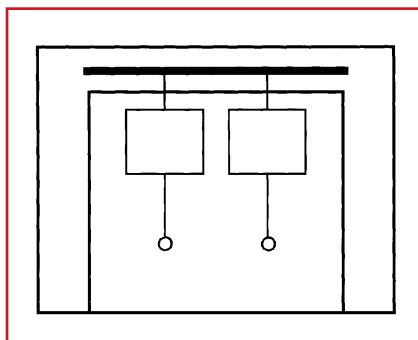
### FORM 1

No partition.



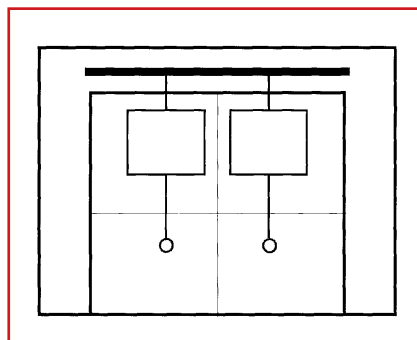
### FORM 2b

Separation of busbar from functional unit.  
Partition between busbar and unit.

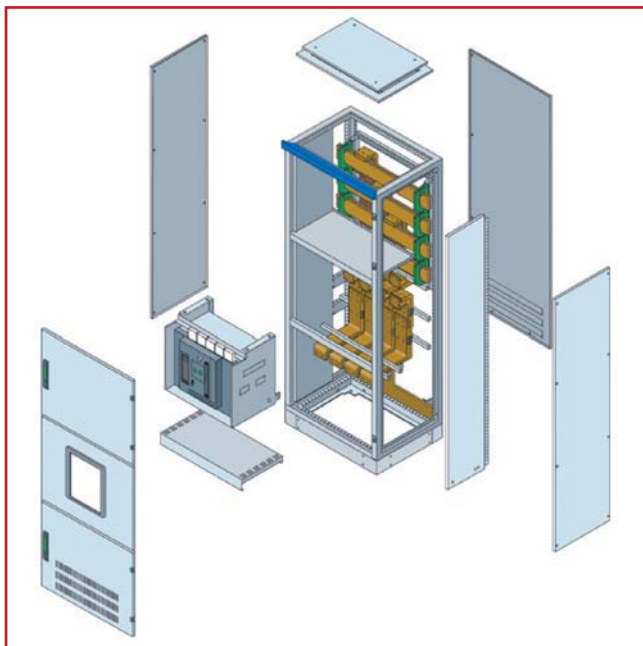


### FORM 4b

Separation of busbar from functional unit.  
Separation of functional unit from another.  
Separation of terminals associated with functional and other units.



## MODUL 4000 TT PHILOSOPHY – SCHRACK COMPONENTS WILL BE COMBINED TO FORM ONE TECHNICAL AND ECONOMIC UNIT



- Clear and symmetrical construction with one circuit breaker per section reduces the variety of busbars and the assembly time
- Partitions up to form 4 increase protection of persons and boards
- Functionally packed in elements and delivered as flat pack
- High flexibility in the power connection through three alternatives: Cable connection, cable lugs or busbar trunking connectors

## DECLARATION OF CONFORMITY FOR THE MODUL 4000 TT MODULE SYSTEM

**KONFORMITÄTSERKLÄRUNG**  
DECLARATION OF CONFORMITY

**SCHRACK TECHNIK GMBH**  
A-1230 Wien / Vienna, Seybelgasse 13  
Tel. (-Fax) : +43-1-866 85 (-1560)

erklärt in alleiniger Verantwortung, dass das/die Produkt/e  
declares under sole responsibility that the product/s

**MODUL4000TT** Geleistetes, modulares und typgeprüftes  
Niederspannungsverteilungssystem für den Bau von  
Schaltanlagen nach SCHRACK-Montage- und  
Bauanweisungen bis Ie=4000A und Ue=690VAC

Listed, modular and type tested low voltage distribution  
system for assembling of switchgears according to  
SCHRACK-mounting and installing instructions up to  
Ie=4000A and Ue=690VAC

auf das/die sich diese Erklärung bezieht, mit der(n) folgenden Norm(en) oder normativen  
Dokument(en) übereinstimmt / to which this declaration relates, is in conformity with the following  
standard(s) or other normative document(s):

<b>EN 60439-1</b> IEC 60439-1 DIN VDE0660 Teil 500	<b>Niederspannungs-Schaltgerätekombinationen</b> Low voltage switchgear and controlgear assemblies <b>Typgeprüfte oder partiell typgeprüfte Kombination</b>
--	---

Gemäß den Bestimmungen der Richtlinie / following the provisions of directive

<b>73/23/EWG (+93/68/EWG) - Niederspannungsrichtlinie / Low Voltage Directive</b>	
<b>89/336/EWG (+91/263/EWG +92/31/EWG +93/68/EWG +93/97/EWG) - Elektromagnetische Verträglichkeit / EMC directive</b>	

Josef Gattermayer  
 Bereichsleiter Produktmanagement & Einkauf  
 Head of product management & purchasing

René Kollner  
 Produktmanager  
 Product manager

ausgestellt am / issued at: 23. 10. 2007

- MODUL 4000 TT has passed the type tests TTA acc. to IEC/EN 60439-1
- SCHRACK confirms this to the panel builder with the declaration of conformity for the MODUL 4000 TT module system

## HOW TO ORDER

- Ask us for the design software.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Modul 4000TT			on request

## THERMOSTATS AND HUMIDISTATS



IUK08561



IUK08562



IUK08564

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Thermostat 10 - 60° C, th. comp. 0.5K, 1 CO	9004840461626		<a href="#">IUK08561</a>
Heating thermostat N/C switch, red	9004840461602		<a href="#">IUK08565</a>
Twin Thermostat	9004840543469		<a href="#">IUK08563</a>
Ventilation thermostat N/O switch, blue (UL)	9004840461619		<a href="#">IUK08566</a>
Humidistat 50 - 100% rF, 1 CO	9004840461633		<a href="#">IUK08562</a>
Hygrostat - Thermostat 0 - 60° C, 40-90% rF, 1 CO - 8 A (AC240)	9004840543452		<a href="#">IUK08564</a>
Electrical moisture and temperature control 0 - 60° C, 40-90% rF, 1 CO - 8A (AC240)	9004840464313		<a href="#">IU008560-A</a>

## FAN WITH FILTER, QUICK-FASTENING



### SCHRACK-INFO

- Easy, screw-free mounting
- Quick-fastening, click in
- Voltage 230V, 50-60Hz
- Plastic heat resistance (-15° C bis +55° C), self-extinguishing according to UL 94 V0
- Flat design: Dimensions of cover grille max. 6,5 mm
- Certifications: UL, CSA
- Degree of protection IP 54 (EN 60529)
- Toolless fixing
- RAL 7035

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
Filter fan	105x105x52	9004840539356		<a href="#">IUKNF1523A</a>
Filter fan	150x150x72	9004840539349		<a href="#">IUKNF2523A</a>
Filter fan	202x202x72	9004840539295		<a href="#">IUKNF3523A</a>
Filter fan	250x250x111	9004840539288		<a href="#">IUKNF4523A</a>
Filter fan	250x250x121	9004840539332		<a href="#">IUKNF5523A</a>
Filter fan	320x320x150	9004840539325		<a href="#">IUKNF6523A</a>
Filter fan	320x320x150	9004840539271		<a href="#">IUKNF7523A</a>
Filter fan	320x320x150	9004840539318		<a href="#">IUKNF8523A</a>
Exhaust filter	105x105x14	9004840543216		<a href="#">IUKNE150</a>
Exhaust filter	150x150x31	9004840545838		<a href="#">IUKNE250</a>
Exhaust filter	202x202x34	9004840543209		<a href="#">IUKNE350</a>
Exhaust filter	250x250x36	9004840543193		<a href="#">IUKNE450</a>
Exhaust filter	320x320x39	9004840543186		<a href="#">IUKNE550</a>
Pressure compensating plug IP55	∅ 66	9004840054125		<a href="#">IU008563</a>
Spare filter for filter fan IP54	109x109	9004840587708		<a href="#">IUKM4510</a>
Spare filter for filter fan IP54	145x145	9004840587715		<a href="#">IUKM4610</a>
Spare filter for filter fan IP54	202x202	9004840587074		<a href="#">IUKM4710</a>
Spare filter for filter fan IP54	252x252	9004840587722		<a href="#">IUKM4810</a>
Spare filter for filter fan IP54	320x320	9004840587739		<a href="#">IUKM4910</a>
Spare filter for filter fan IP55	145x145	9004840587746		<a href="#">IUKM4620</a>
Spare filter for filter fan IP55	202x202	9004840587753		<a href="#">IUKM4720</a>
Spare filter for filter fan IP55	252x252	9004840587760		<a href="#">IUKM4820</a>
Spare filter for filter fan IP55	320x320	9004840587777		<a href="#">IUKM4920</a>



Order no. blue: on stock, usually ready for delivery on the day of order!

## EQUIPMENT CABINET HEATING SYSTEMS



HEATING SYSTEMS

### SCHRACK-INFO

- Voltage range AC/DC 110 V - 250 V
- Self-regulating, PTC
- Self-limiting surface temperature
- Reduced energy consumption through power readjustment in accordance with dissipated heat
- No noise suppression required
- Dynamic heating behaviour
- Tropic-proof
- IP20
- Anodized surface, large effective heating surface, natural convection
- Can be mounted at different heights according to needs
- Fastening clips can be rotated 90° for top-hat mounting
- VDE, SEV, UL approved
- Protection class I
- 3 connector model
- Terminal connection

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
10 W/80 °C Terminal connection	9004840461510		<a href="#">IUK08364-A</a>
15 W/80 °C Terminal connection	9004840461527		<a href="#">IUK08346</a>
30 W/100 °C Terminal connection	9004840461534		<a href="#">IUK08341</a>
45 W/120 °C Terminal connection	9004840461541		<a href="#">IUK08342</a>
60 W/160 °C Terminal connection	9004840461558		<a href="#">IUK08343</a>
100 W/160 °C Terminal connection	9004840461565		<a href="#">IUK08344</a>
150 W/160 °C Terminal connection	9004840461572		<a href="#">IUK08345</a>
250 W/75 °C Terminal connection	9004840461589		<a href="#">IUK08250</a>
400 W/85 °C Terminal connection	9004840461596		<a href="#">IUK08400</a>

## SMALL HEATERS



### SCHRACK-INFO

- Voltage range AC/DC 110 - 250 V, max. 265 V
- Heating element: (PTC) thermistor, self-regulating
- Heating unit: Anodized aluminium profile
- Protection class II, IP54
- Connecting lead: Silicon cable 0,3 m long 2 x 0,75 mm<sup>2</sup>
- Fastenings: Clip for 35 mm DIN rail EN 60715

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
15 W 9-36V AC/DC	9004840091823		<a href="#">IU008346-A</a>
30 W 9-36V AC/DC	9004840091830		<a href="#">IU008347-A</a>
60 W 9-36V AC/DC	9004840091854		IU008349-A
110-250V, 10 W + cable 1 m	9004840543421		<a href="#">IUK08351</a>
110-250V, 20 W + cable 1 m	9004840543445		<a href="#">IUK08352</a>
110-250V, 30 W + cable 1 m	9004840543438		<a href="#">IUK08353</a>



## LIGHTS FOR EQUIPMENT CABINETS



IU008508



IU008517

### SCHRACK-INFO IU008508, IU008513, IU008509

- Operating voltage: 230V, 50-60Hz with on/off switch for lamp
- Output: 11 W (~ 75 W bulb)
- Light intensity: 900 lm
- Service life: 5000 h
- RI suppression: meets VDE 0712 IEC 82
- Degree of protection: IP 20
- Plug connection: 230 V AC, 16 A earthed
- Connection: Terminal 3 x 2,5 mm<sup>2</sup> with cable relief
- Magnetic fastener: approx. 20 kg for 2 mm steel plates
- Housing: Plastic, shock-resistant, UL 94 V0

### SCHRACK-INFO IU008515 - IU008517

- Operating voltage: 220 - 240V/ 50-60Hz
- Lamp: Energy-saving lamp, base E27
- Power consumption: 20 W (~ 100 W bulb)
- Light intensity: 1000 lm
- Light colour: Daylight, white
- Service life: 10.000 hours
- Housing: Plastic, shock-proof
- Degree of protection: IP 20
- Protection class: II

### SCHRACK-INFO IU008523 - IU008525

- Wide voltage range
- Integrated power unit
- Daisy chain
- Long-lived and maintenance-free by LED technology
- Magnet fixing
- On/off switch

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
Dual light with one-off press switch/6-pole screw terminal 2,5 mm <sup>2</sup> f. mains connection, 2 lamps in parallel output and external door contact switches	396x100x67	9004840128352		<a href="#">IU008515</a>
Hand lamp with light holder, hook/mains lead a. plug	337x84x68	9004840128406		<a href="#">IU008517</a>
Compact light with magnetic fastening/with earthed plug	65x351x62	9004840053968		<a href="#">IU008508</a>
Compact light with pin-earth/CH	65x351x62	9004840054026		<a href="#">IU008513</a>
Compact light without magnetic fastening/with earthed plug	65x351x62	9004840053975		<a href="#">IU008509</a>
LED enclosure lamp	351x39x34	9004840675993		<a href="#">IU008523</a>
Connection cable (2,0m)		9004840676006		<a href="#">IU008524</a>
Extension cable (1,0m)		9004840676013		<a href="#">IU008525</a>

## POCKET FOR A4 CIRCUIT DIAGRAMS



ASDRA400

### SCHRACK-INFO

- Self-adhesive pocket for circuit diagrams in DIN A4 format
- Up to depth: 30 mm
- Colour grey
- Material: Thermoplastic
- Each package contains 1x incl. fixing material

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Pocket for A4 circuit diagram, grey	9004840248418		<a href="#">ASDRA400</a>
Pocket for A4 circuit diagramm, PVC, magnetic	9004840038743		<a href="#">IL900373</a>
Pocket for A5 circuit diagramm, grey	9004840554892		<a href="#">ASDRA500</a>

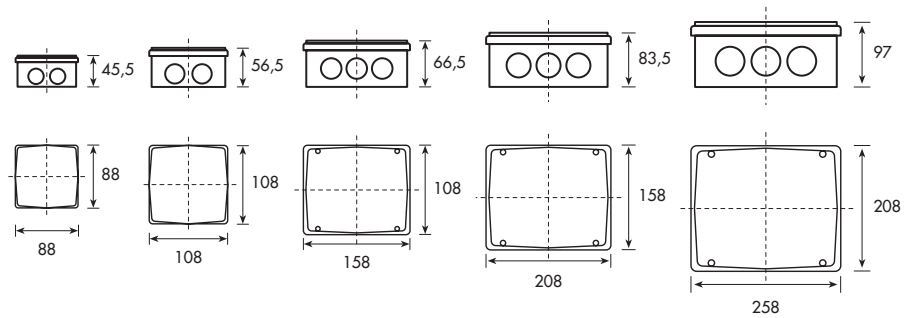


Order no. blue: on stock, usually ready for delivery on the day of order!

## TERMINAL BOXES










IG311511




## SCHRACK-INFO

- Material: Polycarbonate, self-extinguishing
- Embossed openings on all sides
- Colour: RAL 7035
- Degree of protection: IP 55 (IEC-529)
- Diagonal fins for a variety of devices with tapping screws

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
Branch socket, IP44	80x80x40	9004840248517		<b>IG310808</b>
Branch socket	100x100x50	9004840248524		<b>IG311010</b>
Branch socket	150x110x70	9004840248531		<b>IG311511</b>
Branch socket	150x 75x50	9004840248548		<b>IG311275</b>
Branch socket	190x145x70	9004840248555		<b>IG311914</b>
Branch socket	240x190x110	9004840248562		<b>IG312419</b>
Branch socket	300x220x120	9004840248579		<b>IG313022</b>
Terminal box	120x122x65	9004840019698		IG704008
Terminal box	90x160x120	9004840019711		IG704010
Terminal box	120x200x75	9004840019674		IG704011
Terminal box	80x160x65	9004840019834		IG704036
Terminal box	95x122x120	9004840019858		IG704039
Terminal box	160x240x90	9004840019865		IG704045

## CABLE ENTRIES FOR TERMINAL BOXES

DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
PG 9-PG 11	∅ 25x13	9004840073874		IG390001
PG 9-PG 16	∅ 33x20	9004840073881		IG390002
PG 9-PG 21	∅ 43x22	9004840073898		IG390003
PG 21-PG 48	∅ 70x20	9004840073904		IG390004
PG 21-PG 48	∅ 98x23	9004840073911		<b>IG390005</b>



## BS PLASTIC CONSUMER UNITS WITH METALL DIN-RAIL



### SCHRACK-INFO

- According to IEC/EN 60439-3
- Degree of protection IP 40
- Protection class I
- Available in 4, 8, 12, 14 and 20 modules
- Material:
 

Base:	Polystyrene RAL 9010
Pan Assambly:	Polyamide
Terminal Support:	Polyamide
Cover:	Polystyrene RAL 9010
Door:	Polystyrene RAL 9010
Busbar:	Copper 2 mm

OUTGOING WAYS	MODULES	ISOLATOR 100 A MAIN SWITCH	RCD 40 A/30 mA	RCD 63 A/30 mA	RCD 80 A/30 mA	AVAILABLE	ORDER NO.
<b>2 POLE 100 A MAIN SWITCH CONTROLLED</b>							
2	4	BZ900202	-	-	-	upon request	BKCU0210
6	8	BZ900202	-	-	-	upon request	BKCU0610
10	12	BZ900202	-	-	-	upon request	BKCU1010
12	14	BZ900202	-	-	-	upon request	BKCU1210
18	20	BZ900202	-	-	-	upon request	BKCU1810
<b>2 POLE RCD CONTROLLED</b>							
2	4	-	BC604203	-	-	upon request	BKCU0204
2	8	-	-	BC606203	-	upon request	BKCU0206
6	12	-	-	BC606203	-	upon request	BKCU0606
10	14	-	-	-	BC008203	upon request	BKCU1008
12	20	-	-	-	BC008203	upon request	BKCU1208
18	20	-	-	-	BC008203	upon request	BKCU1808
<b>SPLIT LOAD - 2 POLE RCD / 100 A MAIN SWITCH CONTROLLED</b>							
8	4	BZ900202	-	BC006203	-	upon request	BKCU0816
10	8	BZ900202	-	BC006203	-	upon request	BKCU1016
8	12	BZ900202	-	-	BC038203	upon request	BKCU0818
10	14	BZ900202	-	-	BC038203	upon request	BKCU1018
16	20	BZ900202	-	-	BC038203	upon request	BKCU1618



## I KNOW WHERE TO FIND IT!

### WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

## TPN DISTRIBUTION BOARDS



ILDB0600FM

### SCHRACK-INFO

- Available in 4, 6, 8, 12, 16, 18 and 24 TPN ways
- Reversible door. Can be mounted to open from left to right or vice – a – verse
- Enclosures have an ingress protection rating of IP 40 and comply with BS EN 60439-3
- Additional bolt-on extension box and incoming spreader box
- Busbar system rated to 200A
- One piece copper busbar to eliminate potential hot spots
- Shrouded busbar for increased safety
- Neutral & Earth terminals provided on both sides
- Compact pan assembly providing generous wiring space
- Removable pan assemblies with key hole fixings to easy installation
- Easy fit, DIN-rail mounting, incoming and outgoing devices simply slot into place
- Combination incomer possible. TP main switch, four pole RCD and MCCB c/w Spreader box
- Heavy gauge removable gland plates are provided at the top and bottom with knockouts
- Generous cabling space
- Flush mounting and surface mounting options available

### TECHNICAL DATA

- Applicable Standard: BS EN 60439-3
- Number of TPN ways: 4, 6, 8, 12, 16, 18 and 24
- Busbar Nominal Rating: 200 A
- Rated Voltage: 415V AC, 50/60 Hz
- Maximum Incomer Rating: 200 A
- Maximum Outgoing Device: SP/TP-125 A SP/TP  
63 A (only in extensionbox)
- Incomer Devices: 3P/4P Isolator, 4P RCD, 3P/4P MCB or TP Isolator + 4P RCD, 200 A MCCB
- Outgoing Devices: SP and TP MCB, RCBo's

OUTGOING WAYS	DIM. (WxHxD) mm	AVAILABLE	ORDER NO.
<b>FLUSH MOUNTING VERSION</b>			
4 way TPN	420x519x106,2	upon request	ILDB0400FM
6 way TPN	420x574x106,2	upon request	ILDB0600FM
8 way TPN	420x629x106,2	upon request	ILDB0800FM
12 way TPN	420x739x106,2	upon request	ILDB1200FM
16 way TPN	420x849x106,2	upon request	ILDB1600FM
24 way TPN	420x904x106,2	upon request	ILDB1800FM
<b>WALL MOUNTING VERSION</b>			
4 way TPN	400x499x106,2	upon request	ILDB0400WM
6 way TPN	400x554x106,2	upon request	ILDB0600WM
8 way TPN	400x609x106,2	upon request	ILDB0800WM
12 way TPN	400x719x106,2	upon request	ILDB1200WM
16 way TPN	400x774x106,2	upon request	ILDB1600WM
18 way TPN	400x829x106,2	upon request	ILDB1800WM
24 way TPN	400x884x106,2	upon request	ILDB2400WM

## ■ DISTRIBUTION BOARDS WITHOUT INCOMER AND OUTGOING MCCB'S



### ■ SCHRACK-INFO

- Busbar rating options for 250A, 400A and 630A
- Incoming MCCB's or switch disconnectors from 160A to 630A
- Outgoing ways from 20A to 300A, 3 pole
- High quality steel-plate enclosures to IP40
- Metering available on request

NO OF WAYS / BUSBAR RATING	INCOMER MCCB's	OUTGOING MCCB's	DIM. (WxHxD) mm	AVAILABLE	ORDER NO.
<b>DISTRIBUTION BOARDS 250A</b>					
4 / 250A	MC2 up to 250A	BZM1 up to 125A	650x800x174	upon request	ILMC0420WM
6 / 250A	MC2 up to 250A	BZM1 up to 125A	650x890x174	upon request	ILMC0620WM
8 / 250A	MC2 up to 250A	BZM1 up to 125A	650x980x174	upon request	ILMC0820WM
10 / 250A	MC2 up to 250A	BZM1 up to 125A	650x1070x174	upon request	ILMC1020WM
12 / 250A	MC2 up to 250A	BZM1 up to 125A	650x1160x174	upon request	ILMC1220WM
14 / 250A	MC2 up to 250A	BZM1 up to 125A	650x1250x174	upon request	ILMC1420WM
16 / 250A	MC2 up to 250A	BZM1 up to 125A	650x1340x174	upon request	ILMC1620WM
<b>DISTRIBUTION BOARDS 400A</b>					
4 / 400A	MC2 up to 250A	MC1 up to 160A	650x800x174	upon request	ILMC0421WM
6 / 400A	MC2 up to 250A	MC1 up to 160A	650x890x174	upon request	ILMC0621WM
8 / 400A	MC2 up to 250A	MC1 up to 160A	650x980x174	upon request	ILMC0821WM
10 / 400A	MC2 up to 250A	MC1 up to 160A	650x1070x174	upon request	ILMC1021WM
12 / 400A	MC2 up to 250A	MC1 up to 160A	650x1160x174	upon request	ILMC1221WM
14 / 400A	MC2 up to 250A	MC1 up to 160A	650x1250x174	upon request	ILMC1421WM
16 / 400A	MC2 up to 250A	MC1 up to 160A	650x1340x174	upon request	ILMC1621WM
<b>DISTRIBUTION BOARDS 630A</b>					
4 / 630A	MC3 up to 400A	MC2 up to 300A	750x1025x174	upon request	ILMC0462WM
6 / 630A	MC3 up to 400A	MC2 up to 300A	750x1130x174	upon request	ILMC0662WM
8 / 630A	MC3 up to 400A	MC2 up to 300A	750x1235x174	upon request	ILMC0862WM
10 / 630A	MC3 up to 400A	MC2 up to 300A	750x1340x174	upon request	ILMC1062WM
12 / 630A	MC3 up to 400A	MC2 up to 300A	750x1445x174	upon request	ILMC1262WM
14 / 630A	MC3 up to 400A	MC2 up to 300A	750x1550x174	upon request	ILMC1462WM
16 / 630A	MC3 up to 400A	MC2 up to 300A	750x1655x174	upon request	ILMC1662WM



## TOP-TECHNIC



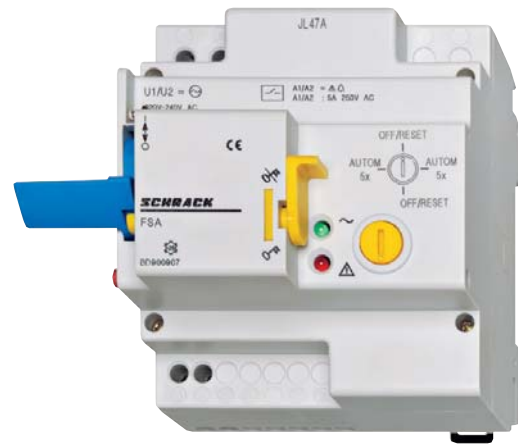
LINE CIRCUIT BREAKER WITH RC RELEASE, SERIES BOLF



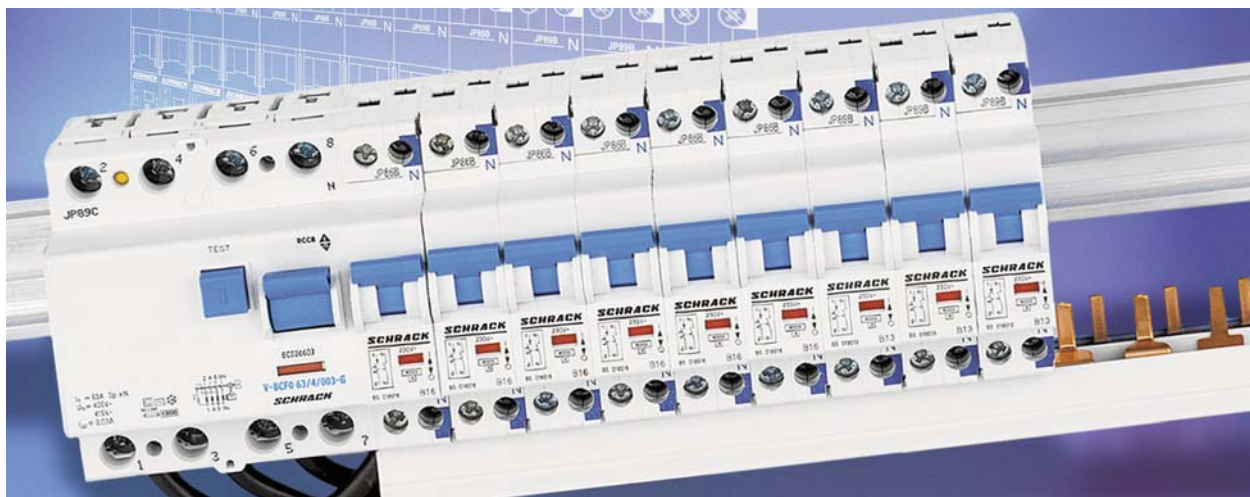
MCB SERIES BMS0



RCCB PRIORI



AUTOMATIC REMOTE SWITCHING UNIT, TYPE FSA



SMALL CONNECT RAIL SET

*“Energy is eternal delight.”*

William Blake, English poet, mystic and painter

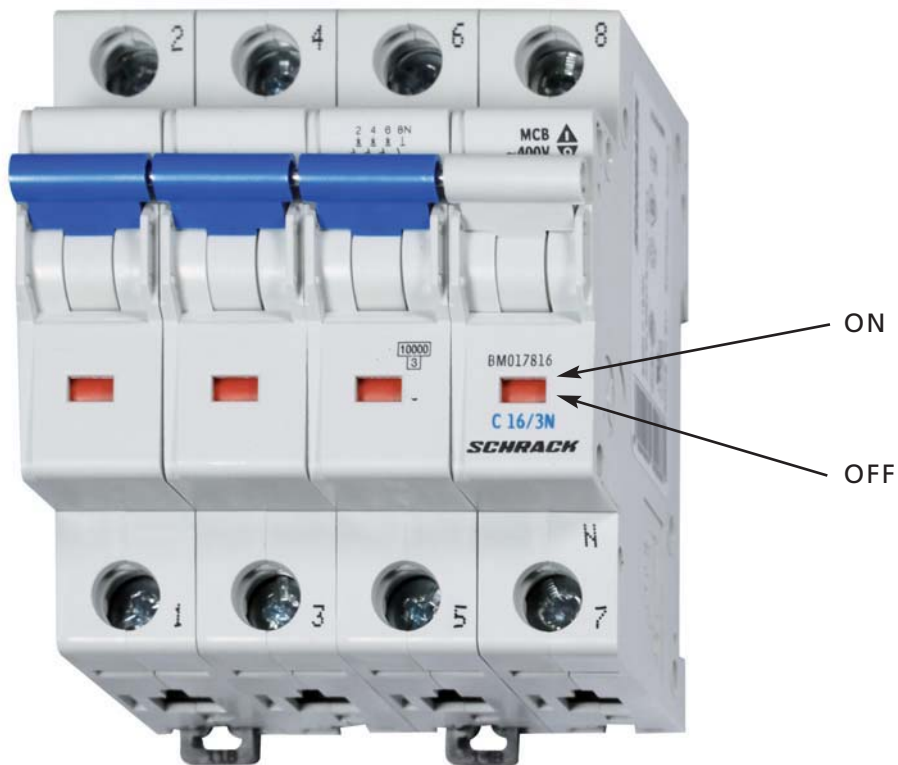
## MCBS, RCCBS, RCBOS

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BUSBARS .....	Page 176
MOTOR PROTECTIVE DEVICES .....	Page 206
REMOTE SWITCHING UNITS.....	Page 212

## MCB, SERIES BMS, BMS0-H, BMS0-DC, SI-E

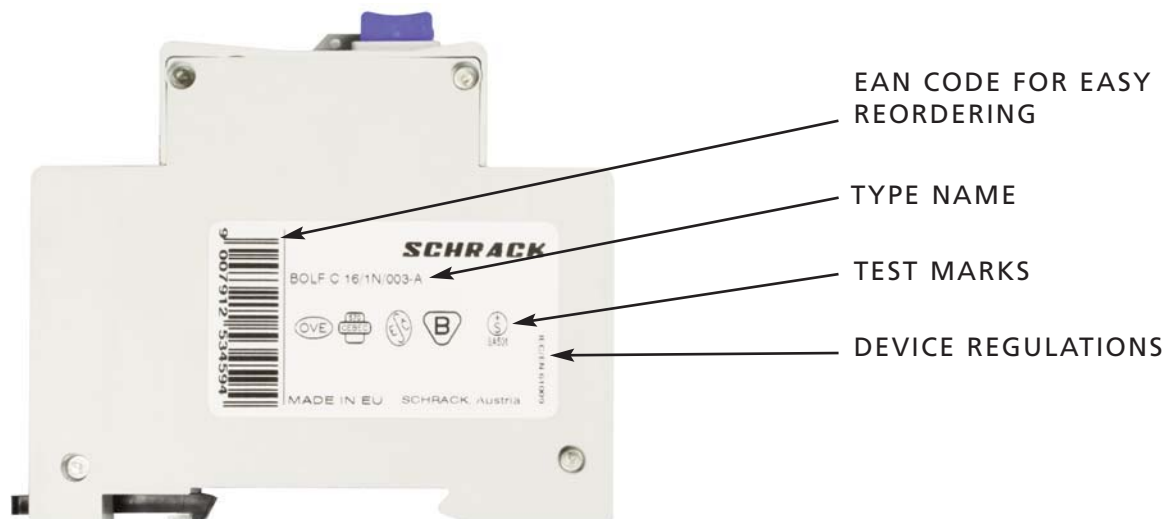
### CONTACT POSITION INDICATOR RED/GREEN POSITIVELY DRIVEN



### SEALABLE IN ON AND OFF POSITION



### ADDITIONAL INFORMATION



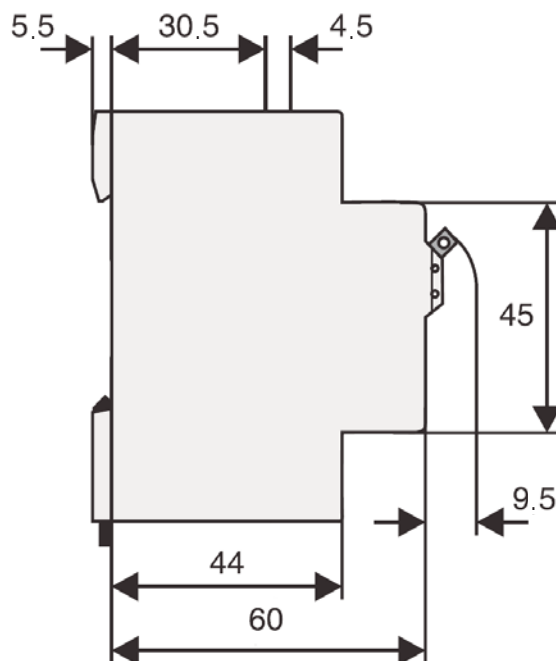


MCB, SERIES BMS, BMS0-H, BMS0-DC

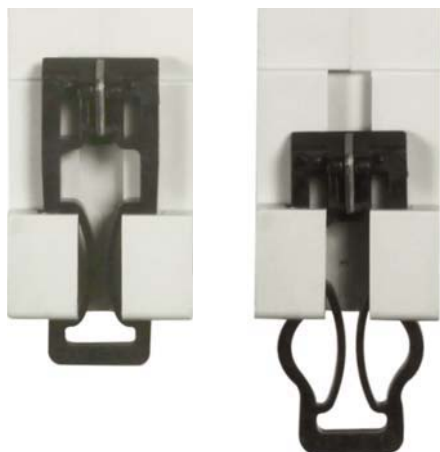
GUIDE FOR SECURE TERMINAL CONNECTION PREVENTS MISSING THE TERMINAL WHEN INTRODUCING THE WIRE



80 mm BASE DIMENSIONS – SPACE-SAVING AND FULLY COMPATIBLE WITH PREDECESSOR SERIES BS



EASY SNAP-ON TO DIN RAIL BY METAL INSERT IN LATCHING SLIDE



SNAP-ON ACCESSORIES

EASY SNAP-ON

MAX. 2 CAN BE USED ON ONE MCB



## MCB 4.5 kA, SERIES BMS4 – GENERAL INFORMATION



BM018110



BM018210



BM018310



BM017410

### SCHRACK-INFO

- Insulated terminal guide for secure connection
- Lift and clamp terminals on both sides
- High selectivity by low let-through energies
- Window with positively-driven contact position indicator for each pole
- Terminal cross-section: 1 mm<sup>2</sup> – 25 mm<sup>2</sup>
- Meets the requirements for insulation coordination, contact gap 4 mm
- Mains power connection selectable (top/bottom)
- Installation not dependent on position
- Special latching snap-on mounting for DIN rail EN 50 022

### TIPS & TRICKS

NEW: Improved busbar connection by clamp terminals on both sides (top and bottom). No mismatching of conductors when connecting thanks to effective terminal guide. No removal of busbar during replacement due to latching snap-on mounting.

### ACCESSORIES

Housings, covers  
 Remote release  
 Undervoltage release  
 Auxiliary contact  
 Automatic remote switching unit (FSA)  
 Busbar

### NOTE

Other rated currents on request  
 For higher rated currents, see series BR

### TECHNICAL DATA

Rated voltage/frequency:	230 V/400 V AC, 50/60 Hz
Rated breaking capacity DC (per pole with release):	max. 48 V DC
Tripping temperature:	-5 °C to +40 °C
Operating temperature:	-40 °C to +75 °C
Permissible back-up fuse:	125 A gG max, >10 kA
Selectivity class:	3
Rated breaking capacity:	4.5 kA acc. to IEC/EN 60898
Degree of protection:	IP 20
Tripping characteristics:	B, C
Endurance:	≥ 8.000 operating cycles (mechanical ≥ 20.000)
Finger and hand touch safe:	acc. to ÖVE EN 6, BGV A3
Terminals:	Double clamp / lift terminal
Terminal cross-section:	1 - 25 mm <sup>2</sup> (except 1P+N on 1MW)
Terminal width 1 MW:	17.8 mm
Terminal tightening torque:	2 - 2.4 Nm
Mounting:	on DIN rail by latching snap-on mounting

**MCB 4.5 kA, SERIES BMS4, SINGLE POLE, 1 MW**



BM018110



CIRCUIT DIAGRAM

**SCHRACK-INFO**

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- End cap 3-pole BS900116
- Busbar 10 mm<sup>2</sup>/1-pole BS900140

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
---------------	----	----	------	----------	-----------	-----------

**CHARACTERISTIC CURVE B / CAL. TEMP 30°C**

6 A	1	12	BMS4 B 6/1	9004840390919		<b>BM418106</b>
10 A	1	12	BMS4 B 10/1	9004840390926		BM418110
16 A	1	12	BMS4 B 16/1	9004840390933		BM418116
20 A	1	12	BMS4 B 20/1	9004840390940		<b>BM418120</b>
25 A	1	12	BMS4 B 25/1	9004840390957		BM418125
32 A	1	12	BMS4 B 32/1	9004840390964		BM418132
40 A	1	12	BMS4 B 40/1	9004840390971		BM418140

**CHARACTERISTIC CURVE C / CAL. TEMP 30°C**

2 A	1	12	BMS4 C 2/1	9004840456295		<b>BM417102</b>
4 A	1	12	BMS4 C 4/1	9004840456301		BM417104
6 A	1	12	BMS4 C 6/1	9004840390230		<b>BM417106</b>
10 A	1	12	BMS4 C 10/1	9004840390247		<b>BM417110</b>
16 A	1	12	BMS4 C 16/1	9004840390353		<b>BM417116</b>
20 A	1	12	BMS4 C 20/1	9004840390360		<b>BM417120</b>
25 A	1	12	BMS4 C 25/1	9004840390377		<b>BM417125</b>
32 A	1	12	BMS4 C 32/1	9004840390421		<b>BM417132</b>
40 A	1	12	BMS4 C 40/1	9004840390438		<b>BM417140</b>
50 A	1	12	BMS4 C 50/1	9004840456318		<b>BM417150</b>
63 A	1	12	BMS4 C 63/1	9004840456325		<b>BM417163</b>



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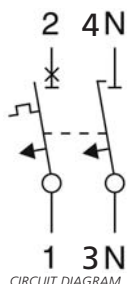
**Order no. blue:** on stock, usually ready for delivery on the day of order!



## MCB 4.5 kA, SERIES BMS4, SINGLE POLE WITH SWITCHABLE N-CONDUCTOR, 2 MW



BM018610



CIRCUIT DIAGRAM

### SCHRACK-INFO

Most common accessories:

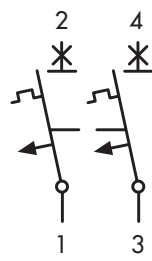
- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 10 mm<sup>2</sup>/N-conductor BS990115
- Busbar 16 mm<sup>2</sup>/1N, 2N, 3N BS900123
- Busbar end cap 4-pole BS900117

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
6 A	2	6	BMS4 C 6/1N	9004840390599		<a href="#">BM417606</a>
10 A	2	6	BMS4 C 10/1N	9004840390582		<a href="#">BM417610</a>
16 A	2	6	BMS4 C 16/1N	9004840390605		<a href="#">BM417616</a>
20 A	2	6	BMS4 C 20/1N	9004840390612		<a href="#">BM417620</a>
25 A	2	6	BMS4 C 25/1N	9004840390629		<a href="#">BM417625</a>
32 A	2	6	BMS4 C 32/1N	9004840390636		<a href="#">BM417632</a>
40 A	2	6	BMS4 C 40/1N	9004840390643		<a href="#">BM417640</a>
50 A	2	6	BMS4 C 50/1N	9004840509007		BM417650
63 A	2	6	BMS4 C 63/1N	9004840509014		BM417663

## MCB 4.5 kA, SERIES BMS4, DOUBLE POLE, 2 MW



BM018210



CIRCUIT DIAGRAM

### SCHRACK-INFO

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/2-pole BS900111
- Busbar end cap 2-pole BS900118

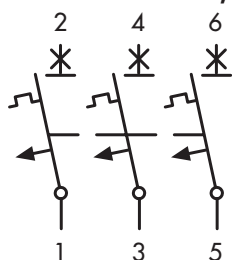
RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 30°C</b>						
6 A	2	6	BMS4 B 6/2	9004840394276		BM418206
10 A	2	6	BMS4 B 10/2	9004840394283		BM418210
16 A	2	6	BMS4 B 16/2	9004840394337		BM418216
20 A	2	6	BMS4 B 20/2	9004840394344		BM418220
25 A	2	6	BMS4 B 25/2	9004840394351		BM418225
32 A	2	6	BMS4 B 32/2	9004840394368		BM418232
40 A	2	6	BMS4 B 40/2	9004840394375		BM418240
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
6 A	2	6	BMS4 C 6/2	9004840393293		<a href="#">BM417206</a>
10 A	2	6	BMS4 C 10/2	9004840390445		<a href="#">BM417210</a>
16 A	2	6	BMS4 C 16/2	9004840390452		<a href="#">BM417216</a>
20 A	2	6	BMS4 C 20/2	9004840390469		<a href="#">BM417220</a>
25 A	2	6	BMS4 C 25/2	9004840390476		<a href="#">BM417225</a>
32 A	2	6	BMS4 C 32/2	9004840390490		<a href="#">BM417232</a>
40 A	2	6	BMS4 C 40/2	9004840390506		<a href="#">BM417240</a>
50 A	2	6	BMS4 C 50/2	9004840508987		BM417250
63 A	2	6	BMS4 C 63/2	9004840508994		<a href="#">BM417263</a>



**MCB 4.5 kA, SERIES BMS4, TRIPLE POLE, 3 MW**



BM018310



CIRCUIT DIAGRAM

**SCHRACK-INFO**

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 16 mm<sup>2</sup>/3-pole BS990114
- Busbar end cap 3-pole BS900116

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
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**CHARACTERISTIC CURVE B / CAL. TEMP 30°C**

6 A	3	4	BMS4 B 6/3	9004840394382		BM418306
10 A	3	4	BMS4 B 10/3	9004840394399		BM418310
16 A	3	4	BMS4 B 16/3	9004840394443		BM418316
20 A	3	4	BMS4 B 20/3	9004840394405		BM418320
25 A	3	4	BMS4 B 25/3	9004840394412		BM418325
32 A	3	4	BMS4 B 32/3	9004840394429		BM418332
40 A	3	4	BMS4 B 40/3	9004840394436		BM418340

**CHARACTERISTIC CURVE C / CAL. TEMP 30°C**

6 A	3	4	BMS4 C 6/3	9004840390834		<b>BM417306</b>
10 A	3	4	BMS4 C 10/3	9004840390513		<b>BM417310</b>
16 A	3	4	BMS4 C 16/3	9004840390520		<b>BM417316</b>
20 A	3	4	BMS4 C 20/3	9004840390544		<b>BM417320</b>
25 A	3	4	BMS4 C 25/3	9004840390551		<b>BM417325</b>
32 A	3	4	BMS4 C 32/3	9004840390568		<b>BM417332</b>
40 A	3	4	BMS4 C 40/3	9004840390575		<b>BM417340</b>
50 A	3	4	BMS4 C 50/3	9004840456332		<b>BM417350</b>
63 A	3	4	BMS4 C 63/3	9004840456349		<b>BM417363</b>



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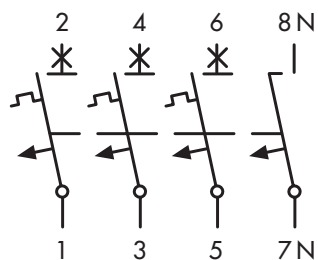
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## MCB 4.5 kA, SERIES BMS4, TRIPLE POLE WITH SWITCHABLE N-CONDUCTOR, 4 MW



BM018810



CIRCUIT DIAGRAM

### SCHRACK-INFO

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 16 mm<sup>2</sup>/3-pole BS990114
- Busbar 10 mm<sup>2</sup>/N-conductor BS990115
- Busbar 16 mm<sup>2</sup>/N-conductor BS900127
- Busbar end cap 4-pole BS900117

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
6 A	4	3	BMS4 C 6/3N	9004840390841		BM417806
10 A	4	3	BMS4 C 10/3N	9004840390858		<b>BM417810</b>
16 A	4	3	BMS4 C 16/3N	9004840390865		<b>BM417816</b>
20 A	4	3	BMS4 C 20/3N	9004840390872		<b>BM417820</b>
25 A	4	3	BMS4 C 25/3N	9004840390889		<b>BM417825</b>
32 A	4	3	BMS4 C 32/3N	9004840390896		<b>BM417832</b>
40 A	4	3	BMS4 C 40/3N	9004840390902		<b>BM417840</b>
50 A	4	3	BMS4 C 50/3N	9004840509021		<b>BM417850</b>
63 A	4	3	BMS4 C 63/3N	9004840509038		<b>BM417863</b>



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## MCB 6 kA, SERIES BMS6 – GENERAL INFORMATION



BM018110



BM018210



BM018310



BM017410

### SCHRACK-INFO

- Insulated terminal guide for secure connection
- Lift and clamp terminals on both sides
- High selectivity by low let-through energies
- Window with positively-driven contact position indicator for each pole
- Terminal cross-section: 1 mm<sup>2</sup> – 25 mm<sup>2</sup>
- Meets the requirements for insulation coordination, contact gap 4 mm
- Mains power connection selectable (top/bottom)
- Installation not dependent on position
- Special latching snap-on mounting for DIN rail EN 50 022

### TIPS & TRICKS

NEW: Improved busbar connection by clamp terminals on both sides (top and bottom). No mismatching of conductors when connecting thanks to effective terminal guide. No removal of busbar during replacement due to latching snap-on mounting.

### ACCESSORIES

Housings, covers  
 Remote release  
 Undervoltage release  
 Auxiliary contact  
 Automatic remote switching unit (FSA)  
 Busbar

### NOTE

Other rated currents on request  
 For higher rated currents, see series BR

### TECHNICAL DATA

Rated voltage/frequency:	230 V/400 V AC, 50/60 Hz
Rated breaking capacity DC (per pole with release):	max. 48 V DC
Tripping temperature:	-5 °C to +40 °C
Operating temperature:	-40 °C to +75 °C
Permissible back-up fuse:	125 A gG max, >10 kA
Selectivity class:	3
Rated breaking capacity:	6 kA acc. to IEC/EN 60898, 10 kA acc. to IEC/EN 60947-2
Degree of protection:	IP 20
Tripping characteristics:	B, C
Endurance:	≥ 8.000 operating cycles (mechanical ≥ 20.000)
Finger and hand touch safe:	acc. to ÖVE EN 6, BGV A3
Terminals:	Double clamp / lift terminal
Terminal cross-section:	1 - 25 mm <sup>2</sup> (except 1P+N on 1MW)
Terminal width 1 MW:	17.8 mm
Terminal tightening torque:	2 - 2.4 Nm
Mounting:	on DIN rail by latching snap-on mounting

## MCB 6 kA, SERIES BMS6, SINGLE POLE, 1 MW



BM018110



CIRCUIT DIAGRAM

### SCHRACK-INFO

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- End cap 3-pole BS900116
- Busbar 10 mm<sup>2</sup>/1-pole BS900140

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
---------------	----	----	------	----------	-----------	-----------

#### CHARACTERISTIC CURVE B / CAL. TEMP 30°C

2 A	1	12	BMS6 B 2/1	9004840449594		<b>BM618102</b>
4 A	1	12	BMS6 B 4/1	9004840449600		<b>BM618104</b>
6 A	1	12	BMS6 B 6/1	9004840396126		<b>BM618106</b>
10 A	1	12	BMS6 B 10/1	9004840396133		<b>BM618110</b>
13 A	1	12	BMS6 B 13/1	9004840396140		<b>BM618113</b>
16 A	1	12	BMS6 B 16/1	9004840396157		<b>BM618116</b>
20 A	1	12	BMS6 B 20/1	9004840396164		<b>BM618120</b>
25 A	1	12	BMS6 B 25/1	9004840396171		<b>BM618125</b>
32 A	1	12	BMS6 B 32/1	9004840396188		<b>BM618132</b>
40 A	1	12	BMS6 B 40/1	9004840396195		<b>BM618140</b>
50 A	1	12	BMS6 B 50/1	9004840396201		<b>BM618150</b>
63 A	1	12	BMS6 B 63/1	9004840396218		<b>BM618163</b>

#### CHARACTERISTIC CURVE B / CAL. TEMP 40°C

6 A	1	12	BMS6 B 6/1 ME	9004840547108		BM618106ME
10 A	1	12	BMS6 B 10/1 ME	9004840547092		<b>BM618110ME</b>
16 A	1	12	BMS6 B 16/1 ME	9004840552393		<b>BM618116ME</b>
20 A	1	12	BMS6 B 20/1 ME	9004840552409		BM618120ME
25 A	1	12	BMS6 B 25/1 ME	9004840552416		BM618125ME
32 A	1	12	BMS6 B 32/1 ME	9004840591361		BM618132ME
40 A	1	12	BMS6 B 40/1 ME	9004840591378		BM618140ME
50 A	1	12	BMS6 B 50/1 ME	9004840591385		BM618150ME
63 A	1	12	BMS6 B 63/1 ME	9004840591392		BM618163ME









#### CHARACTERISTIC CURVE C / CAL. TEMP 30°C

2 A	1	12	BMS6 C 2/1	9004840395839		<b>BM617102</b>
4 A	1	12	BMS6 C 4/1	9004840395846		<b>BM617104</b>
6 A	1	12	BMS6 C 6/1	9004840395822		<b>BM617106</b>
10 A	1	12	BMS6 C 10/1	9004840395853		<b>BM617110</b>
13 A	1	12	BMS6 C 13/1	9004840395860		<b>BM617113</b>
16 A	1	12	BMS6 C 16/1	9004840395877		<b>BM617116</b>
20 A	1	12	BMS6 C 20/1	9004840395884		<b>BM617120</b>
25 A	1	12	BMS6 C 25/1	9004840395891		<b>BM617125</b>
32 A	1	12	BMS6 C 32/1	9004840395907		<b>BM617132</b>
40 A	1	12	BMS6 C 40/1	9004840395914		<b>BM617140</b>
50 A	1	12	BMS6 C 50/1	9004840395921		<b>BM617150</b>
63 A	1	12	BMS6 C 63/1	9004840395938		<b>BM617163</b>





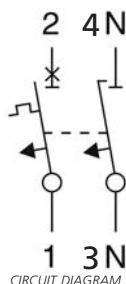
**MCB 6 kA, SERIES BMS6, SINGLE POLE, 1 MW – continued**

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	1	12	BMS6 C 2/1 ME	9004840526790		<b>BM617102ME</b>
4 A	1	12	BMS6 C 4/1 ME	9004840526806		BM617104ME
6 A	1	12	BMS6 C 6/1 ME	9004840526813		<b>BM617106ME</b>
10 A	1	12	BMS6 C 10/1 ME	9004840526820		<b>BM617110ME</b>
16 A	1	12	BMS6 C 16/1 ME	9004840526837		<b>BM617116ME</b>
20 A	1	12	BMS6 C 20/1 ME	9004840526844		<b>BM617120ME</b>
25 A	1	12	BMS6 C 25/1 ME	9004840526851		<b>BM617125ME</b>
32 A	1	12	BMS6 C 32/1 ME	9004840526868		<b>BM617132ME</b>
40 A	1	12	BMS6 C 40/1 ME	9004840526875		<b>BM617140ME</b>
50 A	1	12	BMS6 C 50/1 ME	9004840526882		BM617150ME
63 A	1	12	BMS6 C 63/1 ME	9004840526899		BM617163ME

**MCB 6 kA, SERIES BMS6, SINGLE POLE WITH SWITCHABLE N-CONDUCTOR, 2 MW**






BM018610







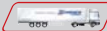


**SCHRACK-INFO**

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 10 mm<sup>2</sup>/N-conductor BS990115
- Busbar 16 mm<sup>2</sup>/1N, 2N, 3N BS900123
- Busbar end cap 4-pole BS900117

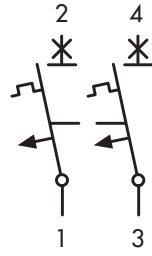
RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 30°C</b>						
6 A	2	6	BMS6 B 6/1N	9004840397239		<b>BM618606</b>
10 A	2	6	BMS6 B 10/1N	9004840397246		<b>BM618610</b>
13 A	2	6	BMS6 B 13/1N	9004840397253		BM618613
16 A	2	6	BMS6 B 16/1N	9004840397260		<b>BM618616</b>
20 A	2	6	BMS6 B 20/1N	9004840397277		BM618620
25 A	2	6	BMS6 B 25/1N	9004840397284		BM618625
32 A	2	6	BMS6 B 32/1N	9004840397291		BM618632
40 A	2	6	BMS6 B 40/1N	9004840397307		BM618640

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
2 A	2	6	BMS6 C 2/1N	9004840509045		BM617602
4 A	2	6	BMS6 C 4/1N	9004840509052		<b>BM617604</b>
6 A	2	6	BMS6 C 6/1N	9004840397314		<b>BM617606</b>
10 A	2	6	BMS6 C 10/1N	9004840397321		<b>BM617610</b>
13 A	2	6	BMS6 C 13/1N	9004840397338		BM617613
16 A	2	6	BMS6 C 16/1N	9004840397345		<b>BM617616</b>
20 A	2	6	BMS6 C 20/1N	9004840397352		<b>BM617620</b>
25 A	2	6	BMS6 C 25/1N	9004840397369		<b>BM617625</b>
32 A	2	6	BMS6 C 32/1N	9004840397376		<b>BM617632</b>
40 A	2	6	BMS6 C 40/1N	9004840397383		BM617640
50 A	2	6	BMS6 C 50/1N	9004840509069		BM617650
63 A	2	6	BMS6 C 63/1N	9004840509076		BM617663

## MCB 6 kA, SERIES BMS6, DOUBLE POLE, 2 MW



BM018210



CIRCUIT DIAGRAM

### SCHRACK-INFO

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/2-pole BS900111
- Busbar end cap 2-pole BS900118

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 30°C</b>						
6 A	2	6	BMS6 B 6/2	9004840396225		<b>BM618206</b>
10 A	2	6	BMS6 B 10/2	9004840396232		<b>BM618210</b>
13 A	2	6	BMS6 B 13/2	9004840396249		<b>BM618213</b>
16 A	2	6	BMS6 B 16/2	9004840396256		<b>BM618216</b>
20 A	2	6	BMS6 B 20/2	9004840396263		<b>BM618220</b>
25 A	2	6	BMS6 B 25/2	9004840396270		<b>BM618225</b>
32 A	2	6	BMS6 B 32/2	9004840396287		<b>BM618232</b>
40 A	2	6	BMS6 B 40/2	9004840396294		BM618240
50 A	2	6	BMS6 B 50/2	9004840396300		BM618250
63 A	2	6	BMS6 B 63/2	9004840396317		BM618263

<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
2 A	2	6	BMS6 C 2/2	9004840396829		<b>BM617202</b>
4 A	2	6	BMS6 C 4/2	9004840396836		<b>BM617204</b>
6 A	2	6	BMS6 C 6/2	9004840396843		<b>BM617206</b>
10 A	2	6	BMS6 C 10/2	9004840396850		<b>BM617210</b>
13 A	2	6	BMS6 C 13/2	9004840396867		BM617213
16 A	2	6	BMS6 C 16/2	9004840396874		<b>BM617216</b>
20 A	2	6	BMS6 C 20/2	9004840396881		<b>BM617220</b>
25 A	2	6	BMS6 C 25/2	9004840396898		<b>BM617225</b>
32 A	2	6	BMS6 C 32/2	9004840396904		<b>BM617232</b>
40 A	2	6	BMS6 C 40/2	9004840396911		<b>BM617240</b>
50 A	2	6	BMS6 C 50/2	9004840396928		<b>BM617250</b>
63 A	2	6	BMS6 C 63/2	9004840396935		<b>BM617263</b>

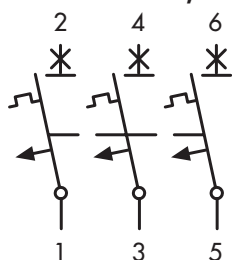
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	2	6	BMS6 C 2/2 ME	9004840526905		BM617202ME
4 A	2	6	BMS6 C 4/2 ME	9004840526912		BM617204ME
6 A	2	6	BMS6 C 6/2 ME	9004840526929		<b>BM617206ME</b>
10 A	2	6	BMS6 C 10/2 ME	9004840526936		<b>BM617210ME</b>
16 A	2	6	BMS6 C 16/2 ME	9004840526943		<b>BM617216ME</b>
20 A	2	6	BMS6 C 20/2 ME	9004840526950		<b>BM617220ME</b>
25 A	2	6	BMS6 C 25/2 ME	9004840526967		<b>BM617225ME</b>
32 A	2	6	BMS6 C 32/2 ME	9004840527384		<b>BM617232ME</b>
40 A	2	6	BMS6 C 40/2 ME	9004840526974		<b>BM617240ME</b>
50 A	2	6	BMS6 C 50/2 ME	9004840526981		BM617250ME
63 A	2	6	BMS6 C 63/2 ME	9004840526998		BM617263ME



**MCB 6 kA, SERIES BMS6, TRIPLE POLE, 3 MW**



BM018310



CIRCUIT DIAGRAM

**SCHRACK-INFO**

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 16 mm<sup>2</sup>/3-pole BS990114
- Busbar end cap 3-pole BS900116

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
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**CHARACTERISTIC CURVE B / CAL. TEMP 30°C**

6 A	3	4	BMS6 B 6/3	9004840397017		<b>BM618306</b>
10 A	3	4	BMS6 B 10/3	9004840397024		<b>BM618310</b>
13 A	3	4	BMS6 B 13/3	9004840397031		<b>BM618313</b>
16 A	3	4	BMS6 B 16/3	9004840397048		<b>BM618316</b>
20 A	3	4	BMS6 B 20/3	9004840397055		<b>BM618320</b>
25 A	3	4	BMS6 B 25/3	9004840397062		<b>BM618325</b>
32 A	3	4	BMS6 B 32/3	9004840397079		<b>BM618332</b>
40 A	3	4	BMS6 B 40/3	9004840397086		<b>BM618340</b>
50 A	3	4	BMS6 B 50/3	9004840397093		<b>BM618350</b>
63 A	3	4	BMS6 B 63/3	9004840397109		<b>BM618363</b>

**CHARACTERISTIC CURVE B / CAL. TEMP 40°C**

6 A	3	4	BMS6 B 6/3 ME	9004840591644		BM618306ME
10 A	3	4	BMS6 B 10/3 ME	9004840591651		BM618310ME
16 A	3	4	BMS6 B 16/3 ME	9004840591668		BM618316ME
20 A	3	4	BMS6 B 20/3 ME	9004840591675		BM618320ME
25 A	3	4	BMS6 B 25/3 ME	9004840591682		BM618325ME
32 A	3	4	BMS6 B 32/3 ME	9004840552478		BM618332ME
40 A	3	4	BMS6 B 40/3 ME	9004840552485		BM618340ME
50 A	3	4	BMS6 B 50/3 ME	9004840591705		BM618350ME
63 A	3	4	BMS6 B 63/3 ME	9004840552492		BM618363ME

**CHARACTERISTIC CURVE C / CAL. TEMP 30°C**

2 A	3	4	BMS6 C 2/3	9004840397116		<b>BM617302</b>
4 A	3	4	BMS6 C 4/3	9004840397123		<b>BM617304</b>
6 A	3	4	BMS6 C 6/3	9004840397130		<b>BM617306</b>
10 A	3	4	BMS6 C 10/3	9004840397147		<b>BM617310</b>
13 A	3	4	BMS6 C 13/3	9004840397154		<b>BM617313</b>
16 A	3	4	BMS6 C 16/3	9004840397161		<b>BM617316</b>
20 A	3	4	BMS6 C 20/3	9004840397178		<b>BM617320</b>
25 A	3	4	BMS6 C 25/3	9004840397185		<b>BM617325</b>
32 A	3	4	BMS6 C 32/3	9004840397192		<b>BM617332</b>
40 A	3	4	BMS6 C 40/3	9004840397208		<b>BM617340</b>
50 A	3	4	BMS6 C 50/3	9004840397215		<b>BM617350</b>
63 A	3	4	BMS6 C 63/3	9004840397222		<b>BM617363</b>



**Order no. blue:** on stock, usually ready for delivery on the day of order!

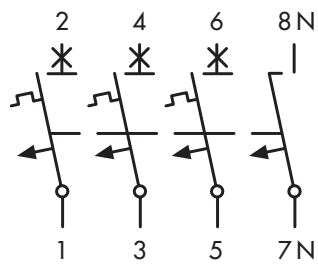
## MCB 6 kA, SERIES BMS6, TRIPLE POLE, 3 MW – continued

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	3	4	BMS6 C 2/3 ME	9004840529029		BM617302ME
4 A	3	4	BMS6 C 4/3 ME	9004840529036		BM617304ME
6 A	3	4	BMS6 C 6/3 ME	9004840527001		<b>BM617306ME</b>
10 A	3	4	BMS6 C 10/3 ME	9004840527018		<b>BM617310ME</b>
16 A	3	4	BMS6 C 16/3 ME	9004840527025		<b>BM617316ME</b>
20 A	3	4	BMS6 C 20/3 ME	9004840527032		<b>BM617320ME</b>
25 A	3	4	BMS6 C 25/3 ME	9004840527049		<b>BM617325ME</b>
32 A	3	4	BMS6 C 32/3 ME	9004840527056		<b>BM617332ME</b>
40 A	3	4	BMS6 C 40/3 ME	9004840527063		<b>BM617340ME</b>
50 A	3	4	BMS6 C 50/3 ME	9004840527070		<b>BM617350ME</b>
63 A	3	4	BMS6 C 63/3 ME	9004840527087		<b>BM617363ME</b>

## MCB 6 kA, SERIES BMS6, TRIPLE POLE WITH SWITCHABLE N-CONDUCTOR, 4 MW



BM018810



CIRCUIT DIAGRAM

### SCHRACK-INFO

Most common accessories:





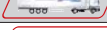



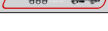


- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 16 mm<sup>2</sup>/3-pole BS990114
- Busbar 10 mm<sup>2</sup>/N-conductor BS990115
- Busbar 16 mm<sup>2</sup>/N-conductor BS900127
- Busbar end cap 4-pole BS900117

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 30°C</b>						
6 A	4	3	BMS6 B 6/3N	9004840397390		<b>BM618806</b>
10 A	4	3	BMS6 B 10/3N	9004840397406		<b>BM618810</b>
13 A	4	3	BMS6 B 13/3N	9004840397413		BM618813
16 A	4	3	BMS6 B 16/3N	9004840397420		<b>BM618816</b>
20 A	4	3	BMS6 B 20/3N	9004840397437		<b>BM618820</b>
25 A	4	3	BMS6 B 25/3N	9004840397444		<b>BM618825</b>
32 A	4	3	BMS6 B 32/3N	9004840397451		<b>BM618832</b>
40 A	4	3	BMS6 B 40/3N	9004840397468		<b>BM618840</b>
50 A	4	3	BMS6 B 50/3N	9004840397475		BM618850
63 A	4	3	BMS6 B 63/3N	9004840397482		BM618863

### CHARACTERISTIC CURVE B / CAL. TEMP 40°C

6 A	4	3	BMS6 B 6/3N ME	9004840591712		BM618806ME
10 A	4	3	BMS6 B 10/3N ME	9004840591729		BM618810ME
16 A	4	3	BMS6 B 16/3N ME	9004840591736		BM618816ME
20 A	4	3	BMS6 B 20/3N ME	9004840591743		BM618820ME
25 A	4	3	BMS6 B 25/3N ME	9004840591750		BM618825ME
32 A	4	3	BMS6 B 32/3N ME	9004840591767		BM618832ME
40 A	4	3	BMS6 B 40/3N ME	9004840591774		BM618840ME
50 A	4	3	BMS6 B 50/3N ME	9004840591781		BM618850ME
63 A	4	3	BMS6 B 63/3N ME	9004840591798		BM618863ME

**MCB 6 kA, SERIES BMS6, TRIPLE POLE WITH SWITCHABLE N-CONDUCTOR, 4 MW – continued**

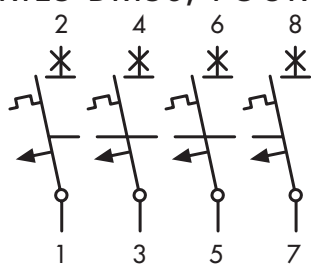
RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
2 A	4	3	BMS6 C 2/3N	9004840397499		BM617802
4 A	4	3	BMS6 C 4/3N	9004840397505		BM617804
6 A	4	3	BMS6 C 6/3N	9004840397512		<b>BM617806</b>
10 A	4	3	BMS6 C 10/3N	9004840397529		<b>BM617810</b>
16 A	4	3	BMS6 C 16/3N	9004840397543		<b>BM617816</b>
20 A	4	3	BMS6 C 20/3N	9004840397550		<b>BM617820</b>
25 A	4	3	BMS6 C 25/3N	9004840397567		<b>BM617825</b>
32 A	4	3	BMS6 C 32/3N	9004840397574		<b>BM617832</b>
40 A	4	3	BMS6 C 40/3N	9004840397581		<b>BM617840</b>
50 A	4	3	BMS6 C 50/3N	9004840397598		<b>BM617850</b>
63 A	4	3	BMS6 C 63/3N	9004840397604		<b>BM617863</b>

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	4	3	BMS6 C 2/3N ME	9004840528855		BM617802ME
4 A	4	3	BMS6 C 4/3N ME	9004840528862		BM617804ME
6 A	4	3	BMS6 C 6/3N ME	9004840528879		BM617806ME
10 A	4	3	BMS6 C 10/3N ME	9004840528886		BM617810ME
16 A	4	3	BMS6 C 16/3N ME	9004840528916		BM617816ME
20 A	4	3	BMS6 C 20/3N ME	9004840528923		BM617820ME
25 A	4	3	BMS6 C 25/3N ME	9004840529005		BM617825ME
32 A	4	3	BMS6 C 32/3N ME	9004840528978		BM617832ME
40 A	4	3	BMS6 C 40/3N ME	9004840528985		BM617840ME
50 A	4	3	BMS6 C 50/3N ME	9004840528992		BM617850ME
63 A	4	3	BMS6 C 63/3N ME	9004840529012		BM617863ME

**MCB 6 kA, SERIES BMS6, FOUR POLE, 4 MW**



BM017410



CIRCUIT DIAGRAM

**SCHRACK-INFO**

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/4-pole BS990121
- Busbar 16 mm<sup>2</sup>/4-pole BS990122
- Busbar end cap 4-pole BS900117

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 30°C</b>						
6 A	4	3	BMS6 B 6/4	9004840547795		BM618406
10 A	4	3	BMS6 B 10/4	9004840547801		BM618410
16 A	4	3	BMS6 B 16/4	9004840547818		BM618416
20 A	4	3	BMS6 B 20/4	9004840547825		BM618420
25 A	4	3	BMS6 B 25/4	9004840547832		BM618425
32 A	4	3	BMS6 B 32/4	9004840547849		BM618432
40 A	4	3	BMS6 B 40/4	9004840547856		BM618440
50 A	4	3	BMS6 B 50/4	9004840547863		BM618450
63 A	4	3	BMS6 B 63/4	9004840547870		BM618463

## MCB 6 kA, SERIES BMS6, FOUR POLE, 4 MW – continued

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 40°C</b>						
6 A	4	3	BMS6 B 6/4 ME	9004840545166		BM618406ME
10 A	4	3	BMS6 B 10/4 ME	9004840545173		BM618410ME
16 A	4	3	BMS6 B 16/4 ME	9004840545180		BM618416ME
20 A	4	3	BMS6 B 20/4 ME	9004840545197		BM618420ME
25 A	4	3	BMS6 B 25/4 ME	9004840545203		BM618425ME
32 A	4	3	BMS6 B 32/4 ME	9004840545210		BM618432ME
40 A	4	3	BMS6 B 40/4 ME	9004840545227		BM618440ME
50 A	4	3	BMS6 B 50/4 ME	9004840545234		BM618450ME
63 A	4	3	BMS6 B 63/4 ME	9004840545241		BM618463ME

<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
6 A	4	3	BMS6 C 6/4	9004840547702		BM617406
10 A	4	3	BMS6 C 10/4	9004840547719		BM617410
16 A	4	3	BMS6 C 16/4	9004840547726		BM617416
20 A	4	3	BMS6 C 20/4	9004840547733		BM617420
25 A	4	3	BMS6 C 25/4	9004840547740		BM617425
32 A	4	3	BMS6 C 32/4	9004840547757		BM617432
40 A	4	3	BMS6 C 40/4	9004840547764		BM617440
50 A	4	3	BMS6 C 50/4	9004840547788		BM617450
63 A	4	3	BMS6 C 63/4	9004840547771		BM617463

<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	4	3	BMS6 C 2/4 ME	9004840545050		BM617402ME
4 A	4	3	BMS6 C 4/4 ME	9004840545067		BM617404ME
6 A	4	3	BMS6 C 6/4 ME	9004840545074		BM617406ME
10 A	4	3	BMS6 C 10/4 ME	9004840545081		BM617410ME
16 A	4	3	BMS6 C 16/4 ME	9004840545098		BM617416ME
20 A	4	3	BMS6 C 20/4 ME	9004840545104		BM617420ME
25 A	4	3	BMS6 C 25/4 ME	9004840545111		BM617425ME
32 A	4	3	BMS6 C 32/4 ME	9004840545128		BM617432ME
40 A	4	3	BMS6 C 40/4 ME	9004840545135		BM617440ME
50 A	4	3	BMS6 C 50/4 ME	9004840545142		BM617450ME
63 A	4	3	BMS6 C 63/4 ME	9004840545159		BM617463ME



### I KNOW WHERE TO FIND IT!

WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

## MCB 10 kA, SERIES BMS0 – GENERAL INFORMATION



BM018110



BM018210



BM018310



BM017410

### SCHRACK-INFO

- Insulated terminal guide for secure connection
- Lift and clamp terminals on both sides
- High selectivity by low let-through energies
- Window with positively-driven contact position indicator for each pole
- Terminal cross-section: 1 mm<sup>2</sup> – 25 mm<sup>2</sup>
- Meets the requirements for insulation coordination, contact gap 4 mm
- Mains power connection selectable (top/bottom)
- Installation not dependent on position
- Special latching snap-on mounting for DIN rail EN 50 022

### TIPS & TRICKS

NEW: Improved busbar connection by clamp terminals on both sides (top and bottom). No mismatching of conductors when connecting thanks to effective terminal guide. No removal of busbar during replacement due to latching snap-on mounting.

### ACCESSORIES

Housings, covers  
 Remote release  
 Undervoltage release  
 Auxiliary contact  
 Automatic remote switching unit (FSA)  
 Busbar

### NOTE

Other rated currents on request  
 For higher rated currents, see series BR

### TECHNICAL DATA

Rated voltage/frequency:	230 V/400 V AC, 50/60 Hz
Rated breaking capacity DC (per pole with release):	max. 48 V DC
Tripping temperature:	-5 °C to +40 °C
Operating temperature:	-40 °C to +75 °C
Permissible back-up fuse:	125 A gG max, >10 kA
Selectivity class:	3
Rated breaking capacity:	10 kA acc. to IEC/EN 60898, 15 kA acc. to IEC/EN 60947-2
Degree of protection:	IP 20
Tripping characteristics:	B, C, D
Endurance:	≥ 8.000 operating cycles (mechanical ≥ 20.000)
Finger and hand touch safe:	acc. to ÖVE EN 6, BGV A3
Terminals:	Double clamp / lift terminal
Terminal cross-section:	1 - 25 mm <sup>2</sup> (except 1P+N on 1MW)
Terminal width 1 MW:	17.8 mm
Terminal tightening torque:	2 - 2.4 Nm
Mounting:	on DIN rail by latching snap-on mounting

## MCB 10 kA, SERIES BMS0, SINGLE POLE, 1 MW



BM018110



CIRCUIT DIAGRAM

### SCHRACK-INFO

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- End cap 3-pole BS900116
- Busbar 10 mm<sup>2</sup>/1-pole BS990140

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 30°C</b>						
2 A	1	12	BMS0 B 2/1	9004840392739		<b>BM018102</b>
4 A	1	12	BMS0 B 4/1	9004840392746		<b>BM018104</b>
6 A	1	12	BMS0 B 6/1	9004840392753		<b>BM018106</b>
10 A	1	12	BMS0 B 10/1	9004840392760		<b>BM018110</b>
13 A	1	12	BMS0 B 13/1	9004840392777		<b>BM018113</b>
16 A	1	12	BMS0 B 16/1	9004840392784		<b>BM018116</b>
20 A	1	12	BMS0 B 20/1	9004840392791		<b>BM018120</b>
25 A	1	12	BMS0 B 25/1	9004840392807		<b>BM018125</b>
32 A	1	12	BMS0 B 32/1	9004840392814		<b>BM018132</b>
40 A	1	12	BMS0 B 40/1	9004840392821		<b>BM018140</b>
50 A	1	12	BMS0 B 50/1	9004840392838		<b>BM018150</b>
63 A	1	12	BMS0 B 63/1	9004840392845		<b>BM018163</b>

<b>CHARACTERISTIC CURVE B / CAL. TEMP 40°C</b>						
2 A	1	12	BMS0 B 2/1 ME	9004840628142		BM018102ME
4 A	1	12	BMS0 B 4/1 ME	9004840628159		BM018104ME
6 A	1	12	BMS0 B 6/1 ME	9004840591330		BM018106ME
10 A	1	12	BMS0 B 10/1 ME	9004840591347		BM018110ME
16 A	1	12	BMS0 B 16/1 ME	9004840591354		BM018116ME
20 A	1	12	BMS0 B 20/1 ME	9004840591439		BM018120ME
25 A	1	12	BMS0 B 25/1 ME	9004840591446		BM018125ME
32 A	1	12	BMS0 B 32/1 ME	9004840591453		BM018132ME
40 A	1	12	BMS0 B 40/1 ME	9004840591460		BM018140ME
50 A	1	12	BMS0 B 50/1 ME	9004840591477		BM018150ME
63 A	1	12	BMS0 B 63/1 ME	9004840591484		BM018163ME



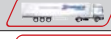


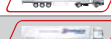
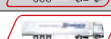


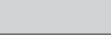
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
0.5 A	1	12	BMS0 C 0.5/1	9004840391688		<b>BM0171005</b>
1 A	1	12	BMS0 C 1/1	9004840391671		<b>BM017101</b>
2 A	1	12	BMS0 C 2/1	9004840391695		<b>BM017102</b>
4 A	1	12	BMS0 C 4/1	9004840391725		<b>BM017104</b>
6 A	1	12	BMS0 C 6/1	9004840391718		<b>BM017106</b>
10 A	1	12	BMS0 C 10/1	9004840391732		<b>BM017110</b>
13 A	1	12	BMS0 C 13/1	9004840391749		<b>BM017113</b>
16 A	1	12	BMS0 C 16/1	9004840391756		<b>BM017116</b>
20 A	1	12	BMS0 C 20/1	9004840391763		<b>BM017120</b>
25 A	1	12	BMS0 C 25/1	9004840391770		<b>BM017125</b>
32 A	1	12	BMS0 C 32/1	9004840391787		<b>BM017132</b>
40 A	1	12	BMS0 C 40/1	9004840391794		<b>BM017140</b>
50 A	1	12	BMS0 C 50/1	9004840391800		<b>BM017150</b>
63 A	1	12	BMS0 C 63/1	9004840391817		<b>BM017163</b>





**MCB 10 kA, SERIES BMS0, SINGLE POLE, 1 MW – continued**

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	1	12	BMS0 C 2/1 ME	9004840591231		BM017102ME
4 A	1	12	BMS0 C 4/1 ME	9004840591248		BM017104ME
6 A	1	12	BMS0 C 6/1 ME	9004840527094		BM017106ME
10 A	1	12	BMS0 C 10/1 ME	9004840527100		BM017110ME
16 A	1	12	BMS0 C 16/1 ME	9004840527117		BM017116ME
20 A	1	12	BMS0 C 20/1 ME	9004840527124		BM017120ME
25 A	1	12	BMS0 C 25/1 ME	9004840527131		BM017125ME
32 A	1	12	BMS0 C 32/1 ME	9004840527148		BM017132ME
40 A	1	12	BMS0 C 40/1 ME	9004840527155		BM017140ME
50 A	1	12	BMS0 C 50/1 ME	9004840527162		BM017150ME
63 A	1	12	BMS0 C 63/1 ME	9004840527179		BM017163ME

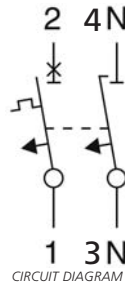
<b>CHARACTERISTIC CURVE D / CAL. TEMP 30°C</b>						
2 A	1	12	BMS0 D 2/1	9004840398151		<b>BM019102</b>
4 A	1	12	BMS0 D 4/1	9004840398168		<b>BM019104</b>
6 A	1	12	BMS0 D 6/1	9004840398175		<b>BM019106</b>
10 A	1	12	BMS0 D 10/1	9004840398182		<b>BM019110</b>
13 A	1	12	BMS0 D 13/1	9004840398199		<b>BM019113</b>
16 A	1	12	BMS0 D 16/1	9004840398205		<b>BM019116</b>
20 A	1	12	BMS0 D 20/1	9004840398212		<b>BM019120</b>
25 A	1	12	BMS0 D 25/1	9004840398229		<b>BM019125</b>
32 A	1	12	BMS0 D 32/1	9004840398236		<b>BM019132</b>
40 A	1	12	BMS0 D 40/1	9004840398243		<b>BM019140</b>
50 A acc. to EN 60947-2	1	12	BMS0 D 50/1	9004840562170		BM019150
63 A acc. to EN 60947-2	1	12	BMS0 D 63/1	9004840562187		BM019163

<b>CHARACTERISTIC CURVE D / CAL. TEMP 40°C</b>						
2 A	1	12	BMS0 D 2/1 ME	9004840622409		BM019102ME
4 A	1	12	BMS0 D 4/1 ME	9004840622416		BM019104ME
6 A	1	12	BMS0 D 6/1 ME	9004840622423		BM019106ME
10 A	1	12	BMS0 D 10/1 ME	9004840622430		BM019110ME
16 A	1	12	BMS0 D 16/1 ME	9004840622447		BM019116ME
20 A	1	12	BMS0 D 20/1 ME	9004840622454		BM019120ME
25 A	1	12	BMS0 D 25/1 ME	9004840622461		BM019125ME
32 A	1	12	BMS0 D 32/1 ME	9004840622478		BM019132ME
40 A	1	12	BMS0 D 40/1 ME	9004840622485		BM019140ME
50 A acc. to EN 60947-2	1	12	BMS0 D 50/1 ME	9004840622492		BM019150ME
63 A acc. to EN 60947-2	1	12	BMS0 D 63/1 ME	9004840622508		BM019163ME

## MCB 10 kA, SERIES BMS0, SINGLE POLE WITH SWITCHABLE N-CONDUCTOR, 2 MW



BM018610



### SCHRACK-INFO

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 10 mm<sup>2</sup>/N-conductor BS990115
- Busbar 16 mm<sup>2</sup>/1N, 2N, 3N BS900123
- Busbar end cap 4-pole BS900117

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 30°C</b>						
2 A	2	6	BMS0 B 2/1N	9004840393071		<b>BM018602</b>
4 A	2	6	BMS0 B 4/1N	9004840393088		<b>BM018604</b>
6 A	2	6	BMS0 B 6/1N	9004840393095		<b>BM018606</b>
10 A	2	6	BMS0 B 10/1N	9004840393101		<b>BM018610</b>
13 A	2	6	BMS0 B 13/1N	9004840393118		<b>BM018613</b>
16 A	2	6	BMS0 B 16/1N	9004840393125		<b>BM018616</b>
20 A	2	6	BMS0 B 20/1N	9004840393132		<b>BM018620</b>
25 A	2	6	BMS0 B 25/1N	9004840393149		<b>BM018625</b>
32 A	2	6	BMS0 B 32/1N	9004840393156		BM018632
40 A	2	6	BMS0 B 40/1N	9004840393163		BM018640
50 A	2	6	BMS0 B 50/1N	9004840393170		BM018650
63 A	2	6	BMS0 B 63/1N	9004840393187		BM018663

<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
2 A	2	6	BMS0 C 2/1N	9004840392470		<b>BM017602</b>
4 A	2	6	BMS0 C 4/1N	9004840392494		<b>BM017604</b>
6 A	2	6	BMS0 C 6/1N	9004840392500		<b>BM017606</b>
10 A	2	6	BMS0 C 10/1N	9004840392517		<b>BM017610</b>
13 A	2	6	BMS0 C 13/1N	9004840392524		<b>BM017613</b>
16 A	2	6	BMS0 C 16/1N	9004840392531		<b>BM017616</b>
20 A	2	6	BMS0 C 20/1N	9004840392548		<b>BM017620</b>
25 A	2	6	BMS0 C 25/1N	9004840392555		<b>BM017625</b>
32 A	2	6	BMS0 C 32/1N	9004840392562		<b>BM017632</b>
40 A	2	6	BMS0 C 40/1N	9004840392579		BM017640
50 A	2	6	BMS0 C 50/1N	9004840392586		BM017650
63 A	2	6	BMS0 C 63/1N	9004840392593		BM017663

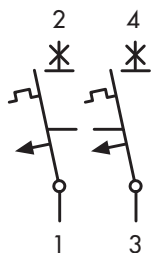
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	2	6	BMS0 C 2/1N ME	9004840622843		BM017602ME
6 A	2	6	BMS0 C 6/1N ME	9004840619003		BM017606ME
10 A	2	6	BMS0 C 10/1N ME	9004840619041		BM017610ME
16 A	2	6	BMS0 C 16/1N ME	9004840619058		BM017616ME
20 A	2	6	BMS0 C 20/1N ME	9004840619065		BM017620ME
25 A	2	6	BMS0 C 25/1N ME	9004840619072		BM017625ME
32 A	2	6	BMS0 C 32/1N ME	9004840619089		BM017632ME
40 A	2	6	BMS0 C 40/1N ME	9004840619096		BM017640ME
50 A	2	6	BMS0 C 50/1N ME	9004840619102		BM017650ME
63 A	2	6	BMS0 C 63/1N ME	9004840619119		BM017663ME



**MCB 10 kA, SERIES BMS0, DOUBLE POLE, 2 MW**



BM018210



CIRCUIT DIAGRAM

**SCHRACK-INFO**

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/2-pole BS900111
- Busbar end cap 2-pole BS900118









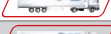
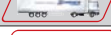
RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 30°C</b>						
6 A	2	6	BMS0 B 6/2	9004840392852		<b>BM018206</b>
10 A	2	6	BMS0 B 10/2	9004840392869		<b>BM018210</b>
13 A	2	6	BMS0 B 13/2	9004840392876		<b>BM018213</b>
16 A	2	6	BMS0 B 16/2	9004840392883		<b>BM018216</b>
20 A	2	6	BMS0 B 20/2	9004840392890		<b>BM018220</b>
25 A	2	6	BMS0 B 25/2	9004840392906		<b>BM018225</b>
32 A	2	6	BMS0 B 32/2	9004840392913		<b>BM018232</b>
40 A	2	6	BMS0 B 40/2	9004840392920		BM018240
50 A	2	6	BMS0 B 50/2	9004840392937		BM018250
63 A	2	6	BMS0 B 63/2	9004840392944		BM018263

<b>CHARACTERISTIC CURVE B / CAL. TEMP 40°C</b>						
2 A	2	6	BMS0 B 2/2 ME	9004840626568		BM018202ME
4 A	2	6	BMS0 B 4/2 ME	9004840626575		BM018204ME
6 A	2	6	BMS0 B 6/2 ME	9004840623789		BM018206ME
10 A	2	6	BMS0 B 10/2 ME	9004840623796		BM018210ME
16 A	2	6	BMS0 B 16/2 ME	9004840623802		BM018216ME
20 A	2	6	BMS0 B 20/2 ME	9004840623819		BM018220ME
25 A	2	6	BMS0 B 25/2 ME	9004840623826		BM018225ME
32 A	2	6	BMS0 B 32/2 ME	9004840623833		BM018232ME
40 A	2	6	BMS0 B 40/2 ME	9004840623840		BM018240ME
50 A	2	6	BMS0 B 50/2 ME	9004840623857		BM018250ME
63 A	2	6	BMS0 B 63/2 ME	9004840623864		BM018263ME

<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
0.5 A	2	6	BMS0 C 0.5/2	9004840391824		BM0172005
1 A	2	6	BMS0 C 1/2	9004840449617		<b>BM017201</b>
2 A	2	6	BMS0 C 2/2	9004840391831		<b>BM017202</b>
4 A	2	6	BMS0 C 4/2	9004840391848		<b>BM017204</b>
6 A	2	6	BMS0 C 6/2	9004840391855		<b>BM017206</b>
10 A	2	6	BMS0 C 10/2	9004840391862		<b>BM017210</b>
13 A	2	6	BMS0 C 13/2	9004840391879		<b>BM017213</b>
16 A	2	6	BMS0 C 16/2	9004840391886		<b>BM017216</b>
20 A	2	6	BMS0 C 20/2	9004840391893		<b>BM017220</b>
25 A	2	6	BMS0 C 25/2	9004840391909		<b>BM017225</b>
32 A	2	6	BMS0 C 32/2	9004840391916		<b>BM017232</b>
40 A	2	6	BMS0 C 40/2	9004840391923		<b>BM017240</b>
50 A	2	6	BMS0 C 50/2	9004840391930		<b>BM017250</b>
63 A	2	6	BMS0 C 63/2	9004840391947		<b>BM017263</b>

## MCB 10 kA, SERIES BMS0, DOUBLE POLE, 2 MW – continued

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	2	6	BMS0 C 2/2 ME	9004840591255		BM017202ME
4 A	2	6	BMS0 C 4/2 ME	9004840591262		BM017204ME
6 A	2	6	BMS0 C 6/2 ME	9004840590111		BM017206ME
10 A	2	6	BMS0 C 10/2 ME	9004840590128		BM017210ME
16 A	2	6	BMS0 C 16/2 ME	9004840590135		BM017216ME
20 A	2	6	BMS0 C 20/2 ME	9004840590142		BM017220ME
25 A	2	6	BMS0 C 25/2 ME	9004840591279		BM017225ME
32 A	2	6	BMS0 C 32/2 ME	9004840527186		BM017232ME
40 A	2	6	BMS0 C 40/2 ME	9004840527193		BM017240ME
50 A	2	6	BMS0 C 50/2 ME	9004840590159		BM017250ME
63 A	2	6	BMS0 C 63/2 ME	9004840590166		BM017263ME

<b>CHARACTERISTIC CURVE D / CAL. TEMP 30°C</b>						
2 A	2	6	BMS0 D 2/2	9004840398250		<b>BM019202</b>
4 A	2	6	BMS0 D 4/2	9004840398267		<b>BM019204</b>
6 A	2	6	BMS0 D 6/2	9004840398274		<b>BM019206</b>
10 A	2	6	BMS0 D 10/2	9004840398281		<b>BM019210</b>
13 A	2	6	BMS0 D 13/2	9004840398298		<b>BM019213</b>
16 A	2	6	BMS0 D 16/2	9004840398304		<b>BM019216</b>
20 A	2	6	BMS0 D 20/2	9004840398311		<b>BM019220</b>
25 A	2	6	BMS0 D 25/2	9004840398328		<b>BM019225</b>
32 A	2	6	BMS0 D 32/2	9004840398335		<b>BM019232</b>
40 A	2	6	BMS0 D 40/2	9004840398342		<b>BM019240</b>



### I KNOW WHERE TO FIND IT!

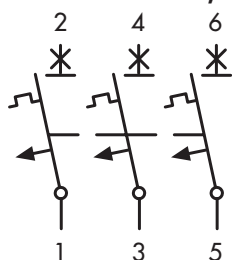
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**MCB 10 kA, SERIES BMS0, TRIPLE POLE, 3 MW**



BM018310



CIRCUIT DIAGRAM

**SCHRACK-INFO**

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 16 mm<sup>2</sup>/3-pole BS990114
- Busbar end cap 3-pole BS900116

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
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**CHARACTERISTIC CURVE B / CAL. TEMP 30°C**

2 A	3	4	BMS0 B 2/3	9004840392951		<b>BM018302</b>
4 A	3	4	BMS0 B 4/3	9004840392968		<b>BM018304</b>
6 A	3	4	BMS0 B 6/3	9004840392975		<b>BM018306</b>
10 A	3	4	BMS0 B 10/3	9004840392982		<b>BM018310</b>
13 A	3	4	BMS0 B 13/3	9004840392999		<b>BM018313</b>
16 A	3	4	BMS0 B 16/3	9004840393002		<b>BM018316</b>
20 A	3	4	BMS0 B 20/3	9004840393019		<b>BM018320</b>
25 A	3	4	BMS0 B 25/3	9004840393026		<b>BM018325</b>
32 A	3	4	BMS0 B 32/3	9004840393064		<b>BM018332</b>
40 A	3	4	BMS0 B 40/3	9004840393033		<b>BM018340</b>
50 A	3	4	BMS0 B 50/3	9004840393040		<b>BM018350</b>
63 A	3	4	BMS0 B 63/3	9004840393057		<b>BM018363</b>

**CHARACTERISTIC CURVE B / CAL. TEMP 40°C**

2 A	3	4	BMS0 B 2/3 ME	9004840628166		BM018302ME
4 A	3	4	BMS0 B 4/3 ME	9004840628173		BM018304ME
6 A	3	4	BMS0 B 6/3 ME	9004840591491		BM018306ME
10 A	3	4	BMS0 B 10/3 ME	9004840591507		BM018310ME
16 A	3	4	BMS0 B 16/3 ME	9004840591514		BM018316ME
20 A	3	4	BMS0 B 20/3 ME	9004840591521		BM018320ME
25 A	3	4	BMS0 B 25/3 ME	9004840591538		BM018325ME
32 A	3	4	BMS0 B 32/3 ME	9004840591545		BM018332ME
40 A	3	4	BMS0 B 40/3 ME	9004840591552		BM018340ME
50 A	3	4	BMS0 B 50/3 ME	9004840591569		BM018350ME
63 A	3	4	BMS0 B 63/3 ME	9004840591576		BM018363ME

**CHARACTERISTIC CURVE C / CAL. TEMP 30°C**



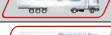






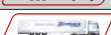


2 A	3	4	BMS0 C 2/3	9004840391954		<b>BM017302</b>
4 A	3	4	BMS0 C 4/3	9004840391961		<b>BM017304</b>
6 A	3	4	BMS0 C 6/3	9004840391978		<b>BM017306</b>
10 A	3	4	BMS0 C 10/3	9004840391985		<b>BM017310</b>
13 A	3	4	BMS0 C 13/3	9004840391992		<b>BM017313</b>
16 A	3	4	BMS0 C 16/3	9004840392005		<b>BM017316</b>
20 A	3	4	BMS0 C 20/3	9004840392012		<b>BM017320</b>
25 A	3	4	BMS0 C 25/3	9004840392029		<b>BM017325</b>
32 A	3	4	BMS0 C 32/3	9004840392036		<b>BM017332</b>
40 A	3	4	BMS0 C 40/3	9004840392043		<b>BM017340</b>
50 A	3	4	BMS0 C 50/3	9004840392050		<b>BM017350</b>
63 A	3	4	BMS0 C 63/3	9004840392067		<b>BM017363</b>



Order no. blue: on stock, usually ready for delivery on the day of order!

## MCB 10 kA, SERIES BMS0, TRIPLE POLE, 3 MW – continued

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	3	4	BMS0 C 2/3 ME	9004840591286		BM017302ME
4 A	3	4	BMS0 C 4/3 ME	9004840591293		BM017304ME
6 A	3	4	BMS0 C 6/3 ME	9004840527209		BM017306ME
10 A	3	4	BMS0 C 10/3 ME	9004840527216		BM017310ME
16 A	3	4	BMS0 C 16/3 ME	9004840527230		BM017316ME
20 A	3	4	BMS0 C 20/3 ME	9004840527247		BM017320ME
25 A	3	4	BMS0 C 25/3 ME	9004840527254		BM017325ME
32 A	3	4	BMS0 C 32/3 ME	9004840527261		BM017332ME
40 A	3	4	BMS0 C 40/3 ME	9004840527278		BM017340ME
50 A	3	4	BMS0 C 50/3 ME	9004840527285		BM017350ME
63 A	3	4	BMS0 C 63/3 ME	9004840527292		BM017363ME

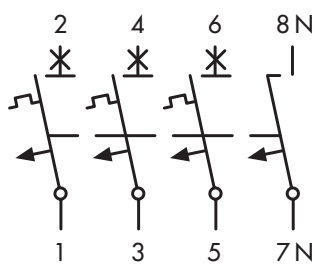
<b>CHARACTERISTIC CURVE D / CAL. TEMP 30°C</b>						
2 A	3	4	BMS0 D 2/3	9004840398359		<b>BM019302</b>
4 A	3	4	BMS0 D 4/3	9004840398366		<b>BM019304</b>
6 A	3	4	BMS0 D 6/3	9004840398373		<b>BM019306</b>
10 A	3	4	BMS0 D 10/3	9004840398380		<b>BM019310</b>
13 A	3	4	BMS0 D 13/3	9004840398397		<b>BM019313</b>
16 A	3	4	BMS0 D 16/3	9004840398403		<b>BM019316</b>
20 A	3	4	BMS0 D 20/3	9004840398410		<b>BM019320</b>
25 A	3	4	BMS0 D 25/3	9004840398427		<b>BM019325</b>
32 A	3	4	BMS0 D 32/3	9004840398434		<b>BM019332</b>
40 A	3	4	BMS0 D 40/3	9004840398441		<b>BM019340</b>
50 A acc. to EN 60947-2	3	4	BMS0 D 50/3	9004840562194		<b>BM019350</b>
63 A acc. to EN 60947-2	3	4	BMS0 D 63/3	9004840562200		<b>BM019363</b>

<b>CHARACTERISTIC CURVE D / CAL. TEMP 40°C</b>						
2 A	3	4	BMS0 D 2/3 ME	9004840622515		BM019302ME
4 A	3	4	BMS0 D 4/3 ME	9004840622522		BM019304ME
6 A	3	4	BMS0 D 6/3 ME	9004840622539		BM019306ME
10 A	3	4	BMS0 D 10/3 ME	9004840622546		BM019310ME
16 A	3	4	BMS0 D 16/3 ME	9004840622553		BM019316ME
20 A	3	4	BMS0 D 20/3 ME	9004840622560		BM019320ME
25 A	3	4	BMS0 D 25/3 ME	9004840622577		BM019325ME
32 A	3	4	BMS0 D 32/3 ME	9004840622584		BM019332ME
40 A	3	4	BMS0 D 40/3 ME	9004840622591		BM019340ME
50 A acc. to EN 60947-2	3	4	BMS0 D 50/3 ME	9004840622607		BM019350ME
63 A acc. to EN 60947-2	3	4	BMS0 D 63/3 ME	9004840622614		BM019363ME

**MCB 10 kA, SERIES BMS0, TRIPLE POLE WITH SWITCHABLE N-CONDUCTOR, 4 MW**



BM018810



CIRCUIT DIAGRAM

**SCHRACK-INFO**

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/3-pole BS990113
- Busbar 16 mm<sup>2</sup>/3-pole BS990114
- Busbar 10 mm<sup>2</sup>/N-conductor BS990115
- Busbar 16 mm<sup>2</sup>/N-conductor BS900127
- Busbar end cap 4-pole BS900117

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B</b>						
6 A	4	3	BMS0 B 6/3N	9004840393194		<b>BM018806</b>
10 A	4	3	BMS0 B 10/3N	9004840393200		<b>BM018810</b>
13 A	4	3	BMS0 B 13/3N	9004840393217		<b>BM018813</b>
16 A	4	3	BMS0 B 16/3N	9004840393224		<b>BM018816</b>
20 A	4	3	BMS0 B 20/3N	9004840393231		<b>BM018820</b>
25 A	4	3	BMS0 B 25/3N	9004840393248		<b>BM018825</b>
32 A	4	3	BMS0 B 32/3N	9004840393255		<b>BM018832</b>
40 A	4	3	BMS0 B 40/3N	9004840393262		<b>BM018840</b>
50 A	4	3	BMS0 B 50/3N	9004840393279		<b>BM018850</b>
63 A	4	3	BMS0 B 63/3N	9004840393286		<b>BM018863</b>
<b>CHARACTERISTIC CURVE C</b>						
1 A	4	3	BMS0 C 1/3N	9004840392609		<b>BM017801</b>
2 A	4	3	BMS0 C 2/3N	9004840392616		<b>BM017802</b>
4 A	4	3	BMS0 C 4/3N	9004840392623		<b>BM017804</b>
6 A	4	3	BMS0 C 6/3N	9004840392630		<b>BM017806</b>
10 A	4	3	BMS0 C 10/3N	9004840392647		<b>BM017810</b>
13 A	4	3	BMS0 C 13/3N	9004840392654		<b>BM017813</b>
16 A	4	3	BMS0 C 16/3N	9004840392661		<b>BM017816</b>
20 A	4	3	BMS0 C 20/3N	9004840392678		<b>BM017820</b>
25 A	4	3	BMS0 C 25/3N	9004840392685		<b>BM017825</b>
32 A	4	3	BMS0 C 32/3N	9004840392692		<b>BM017832</b>
40 A	4	3	BMS0 C 40/3N	9004840392708		<b>BM017840</b>
50 A	4	3	BMS0 C 50/3N	9004840392715		<b>BM017850</b>
63 A	4	3	BMS0 C 63/3N	9004840392722		<b>BM017863</b>
<b>CHARACTERISTIC CURVE D</b>						
6 A	4	3	BMS0 D 6/3N	9004840398472		<b>BM019806</b>
10 A	4	3	BMS0 D 10/3N	9004840398489		<b>BM019810</b>
16 A	4	3	BMS0 D 16/3N	9004840398502		<b>BM019816</b>
20 A	4	3	BMS0 D 20/3N	9004840398519		<b>BM019820</b>
25 A	4	3	BMS0 D 25/3N	9004840398526		<b>BM019825</b>
32 A	4	3	BMS0 D 32/3N	9004840398533		<b>BM019832</b>
40 A	4	3	BMS0 D 40/3N	9004840398540		<b>BM019840</b>
50 A acc. to EN 60947-2	4	3	BMS0 D 50/3N	9004840562217		BM019850
63 A acc. to EN 60947-2	4	3	BMS0 D 63/3N	9004840562224		BM019863



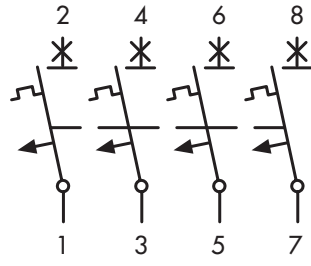
Order no. blue: on stock, usually ready for delivery on the day of order!



## MCB 10 kA, SERIES BMS0, FOUR POLE, 4 MW



BM017410



CIRCUIT DIAGRAM

### SCHRACK-INFO

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900001
- Busbar 10 mm<sup>2</sup>/4-pole BS990121
- Busbar 16 mm<sup>2</sup>/4-pole BS990122
- Busbar end cap 4-pole BS900117

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
6 A	4	3	BMS0 C 6/4	9004840392371		<b>BM017406</b>
10 A	4	3	BMS0 C 10/4	9004840392388		<b>BM017410</b>
13 A	4	3	BMS0 C 13/4	9004840392395		BM017413
16 A	4	3	BMS0 C 16/4	9004840392401		<b>BM017416</b>
20 A	4	3	BMS0 C 20/4	9004840392418		<b>BM017420</b>
25 A	4	3	BMS0 C 25/4	9004840392425		<b>BM017425</b>
32 A	4	3	BMS0 C 32/4	9004840392432		<b>BM017432</b>
40 A	4	3	BMS0 C 40/4	9004840392449		<b>BM017440</b>
50 A	4	3	BMS0 C 50/4	9004840392456		<b>BM017450</b>
63 A	4	3	BMS0 C 63/4	9004840392463		<b>BM017463</b>

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	4	3	BMS0 C 2/4 ME	9004840622850		BM017402ME
4 A	4	3	BMS0 C 4/4 ME	9004840624717		BM017404ME
6 A	4	3	BMS0 C 6/4 ME	9004840591309		BM017406ME
10 A	4	3	BMS0 C 10/4 ME	9004840591316		BM017410ME
16 A	4	3	BMS0 C 16/4 ME	9004840590173		BM017416ME
20 A	4	3	BMS0 C 20/4 ME	9004840590180		BM017420ME
25 A	4	3	BMS0 C 25/4 ME	9004840591323		BM017425ME
32 A	4	3	BMS0 C 32/4 ME	9004840590197		BM017432ME
40 A	4	3	BMS0 C 40/4 ME	9004840590203		BM017440ME
50 A	4	3	BMS0 C 50/4 ME	9004840590210		BM017450ME
63 A	4	3	BMS0 C 63/4 ME	9004840590227		BM017463ME



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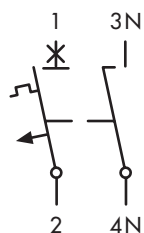




## MCB 4.5 kA, SERIES SI-E, SINGLE POLE WITH SWITCHABLE N-CONDUCTOR, 1 MW



BS018506



CIRCUIT DIAGRAM

### SCHRACK-INFO

Thanks to the slim overall width (1 MW, 17.5 mm), attachments and installations can be implemented requiring minimum space.

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900006
- Tongue busbar 4 mm L1, L2, L3 16 mm<sup>2</sup> BS990152
- Tongue busbar 4 m N, 16 mm<sup>2</sup> BS990153
- End cap 4-pole BS900117

### REGULATIONS

ÖVE-EN 60 898

### TECHNICAL DATA

Single pole with switchable N-conductor, 1 MW, width 17.5 mm

Rated voltage/frequency:	230 V AC, 50/60 Hz
Rated breaking capacity:	4.5 kA acc. to EN/IEC 60 898
Rated breaking capacity DC:	max. 48 V DC
Selectivity class:	3
Back-up fuse max.:	100 A gG
Connection cross-section:	1 – 16 mm <sup>2</sup>
Tripping characteristic curves:	C
Mounting system:	Special snap-on mounting for DIN rail EN 50 022
Endurance:	≥ 8000 operating cycles
Cap/base dimensions:	45 mm / 80 mm

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C</b>						
2 A	1	12	SI-E-2/1N/C	9004840278125		<b>BS417502</b>
4 A	1	12	SI-E-4/1N/C	9004840278132		<b>BS417504</b>
6 A	1	12	SI-E-6/1N/C	9004840277968		<b>BS417506</b>
10 A	1	12	SI-E-10/1N/C	9004840277975		<b>BS417510</b>
13 A	1	12	SI-E-13/1N/C	9004840277982		BS417513
16 A	1	12	SI-E-16/1N/C	9004840277999		<b>BS417516</b>
20 A	1	12	SI-E-20/1N/C	9004840278002		<b>BS417520</b>
25 A	1	12	SI-E-25/1N/C	9004840278019		<b>BS417525</b>
32 A	1	12	SI-E-32/1N/C	9004840278026		<b>BS417532</b>
40 A	1	12	SI-E-40/1N/C	9004840278033		<b>BS417540</b>



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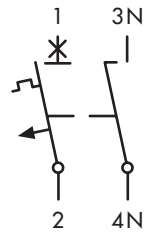
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## MCB 6 kA, SERIES SI-E, SINGLE POLE WITH SWITCHABLE N-CONDUCTOR, 1 MW



BS018506



CIRCUIT DIAGRAM

### SCHRACK-INFO

Thanks to the slim overall width (1 MW, 17.5 mm), attachments and installations can be implemented requiring minimum space.

Most common accessories:

- Auxiliary contact 1 NO / 1 NC BM900006
- Tongue busbar 4 mm L1, L2, L3 16 mm<sup>2</sup> BS990152
- Tongue busbar 4 m N, 16 mm<sup>2</sup> BS990153
- End cap 4-pole BS900117

### REGULATIONS

ÖVE-EN 60 898

### TECHNICAL DATA

Single pole with switchable N-conductor, 1 MW, width 17.5 mm

Rated voltage/frequency:	230 V AC, 50/60 Hz
Rated breaking capacity:	6 kA acc. to EN/IEC 60 898
Rated breaking capacity DC:	max. 48 V DC
Selectivity class:	3
Back-up fuse max.:	100 A gG
Connection cross-section:	1 – 16 mm <sup>2</sup>
Tripping characteristic curves:	B, C
Mounting system:	Special snap-on mounting for DIN rail EN 50 022
Endurance:	≥ 8000 operating cycles
Cap/base dimensions:	45 mm / 80 mm

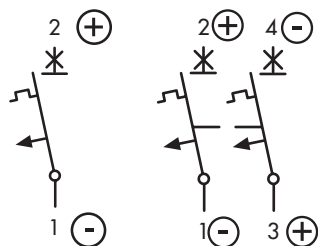
RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B</b>						
6 A	1	12	SI-E-6/1N/B	9004840210187		<a href="#">BS018506</a>
10 A	1	12	SI-E-10/1N/B	9004840210194		<a href="#">BS018510</a>
13 A	1	12	SI-E-13/1N/B	9004840210200		<a href="#">BS018513</a>
16 A	1	12	SI-E-20/1N/B	9004840210224		BS018520
25 A	1	12	SI-E-25/1N/B	9004840210231		BS018525
<b>CHARACTERISTIC CURVE C</b>						
2 A	1	12	SI-E-2/1N/C	9004840210279		<a href="#">BS017502</a>
4 A	1	12	SI-E-4/1N/C	9004840210286		<a href="#">BS017504</a>
6 A	1	12	SI-E-6/1N/C	9004840210262		<a href="#">BS017506</a>
10 A	1	12	SI-E-10/1N/C	9004840210293		<a href="#">BS017510</a>
13 A	1	12	SI-E-13/1N/C	9004840210309		<a href="#">BS017513</a>
16 A	1	12	SI-E-16/1N/C	9004840210316		<a href="#">BS017516</a>
20 A	1	12	SI-E-20/1N/C	9004840210323		<a href="#">BS017520</a>
25 A	1	12	SI-E-25/1N/C	9004840210330		<a href="#">BS017525</a>
32 A	1	12	SI-E-32/1N/C	9004840210347		BS017532



**MCB SERIES BMS0-DC**



BM015110/BM015225



CIRCUIT DIAGRAMS

**SCHRACK-INFO**

For use in DC power systems.

**NOTE**

Observe polarity when connecting!

**ACCESSORIES**

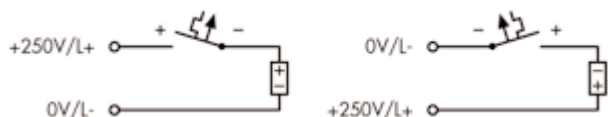
- Auxiliary contact
- Signal contact
- Remote release
- Busbar
- Automatic remote switching unit (FSA)

**TECHNICAL DATA**

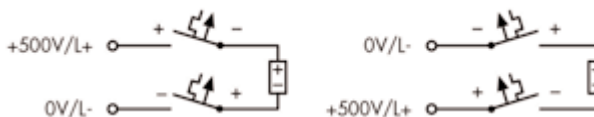
Type:	According to IEC/EN 60 947-2
Characteristic:	According to ÖVE-EN 60 898 ( C )
Poles:	1- or 2-pole
Rated voltage:	250 V DC (1-pole), 500 V DC (2-pole)
Rated insulation voltage: 500 V DC	
Surge voltage protection $U_{imp}$ :	6000 V
Tripping characteristics: Non-tripping current:	$I_{nt} = 1.13 I_n$
Tripping current:	$I_t = 1.45 I_n$
Calibration temperature:	30 °C
Temperature factor:	0.5 % / K
Tripping current, non-delayed:	Characteristic B & C, according to EN 60898
Rated breaking capacity:	$I_{cs}$ 7.5 kA, $I_{cn}$ 10 kA
Back-up fuse:	100 A gG max.
Selectivity class:	According to Class 3
Mechanical endurance:	> 20.000 operating cycles
Electrical endurance:	> 8.000 operating cycles
Climatic conditions:	According to IEC 68-2 (25 ... 55 ... 95 °C/90% RH)
Dimensions (WxHxD): 1-pole:	17.7 x 80 x 60 mm
2-pole:	35.4 x 80 x 60 mm
Cap dimension:	45 mm
Weight: 1-pole:	0.12 kg
2-pole:	0.24 kg
Terminals:	Double lift terminal
Terminal cross-section:	1 - 25 mm <sup>2</sup>
Terminal screw:	Pozidriv PZ2
Terminal screw torque:	Max. 2.4 Nm
Terminal protection:	Finger and hand touch safe, ÖVE-EN 6, BGV A3
Degree of protection:	IP20 (IP40 installed)
Mounting:	Tristable latch slide for DIN rail according to EN 50022
Contact position indicator:	Red / green

**WIRING DIAGRAMS**

Connection example for 250V DC, 1-pole



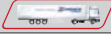

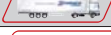


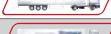
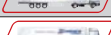

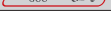



Connection example for 500V DC, 2-pole



## MCB, SERIES BMS0-DC, SINGLE POLE, 1 MW

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 40°C</b>						
2 A	1	12	BMS0 B 2/1 DC ME	9004840592597		BM014102ME
4 A	1	12	BMS0 B 4/1 DC ME	9004840628371		BM014104ME
6 A	1	12	BMS0 B 6/1 DC ME	9004840628388		BM014106ME
10 A	1	12	BMS0 B 10/1 DC ME	9004840628395		BM014110ME
16 A	1	12	BMS0 B 16/1 DC ME	9004840628401		BM014116ME
20 A	1	12	BMS0 B 20/1 DC ME	9004840628418		BM014120ME
25 A	1	12	BMS0 B 25/1 DC ME	9004840628425		BM014125ME
32 A	1	12	BMS0 B 32/1 DC ME	9004840628432		BM014132ME
40 A	1	12	BMS0 B 40/1 DC ME	9004840628449		BM014140ME
50 A	1	12	BMS0 B 50/1 DC ME	9004840628456		BM014150ME

<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
2 A	1	12	BMS0 C 2/1 DC	9004840398557		<b>BM015102</b>
4 A	1	12	BMS0 C 4/1 DC	9004840533361		<b>BM015104</b>
6 A	1	12	BMS0 C 6/1 DC	9004840398564		<b>BM015106</b>
10 A	1	12	BMS0 C 10/1 DC	9004840398571		<b>BM015110</b>
13 A	1	12	BMS0 C 13/1 DC	9004840398588		<b>BM015113</b>
16 A	1	12	BMS0 C 16/1 DC	9004840398595		<b>BM015116</b>
20 A	1	12	BMS0 C 20/1 DC	9004840398601		<b>BM015120</b>
25 A	1	12	BMS0 C 25/1 DC	9004840398618		<b>BM015125</b>
32 A	1	12	BMS0 C 32/1 DC	9004840398625		<b>BM015132</b>
40 A	1	12	BMS0 C 40/1 DC	9004840398632		<b>BM015140</b>
50 A	1	12	BMS0 C 50/1 DC	9004840398649		<b>BM015150</b>

<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	1	12	BMS0 C 2/1 DC ME	9004840622201		BM015102ME
4 A	1	12	BMS0 C 4/1 DC ME	9004840622218		BM015104ME
6 A	1	12	BMS0 C 6/1 DC ME	9004840622225		<b>BM015106ME</b>
10 A	1	12	BMS0 C 10/1 DC ME	9004840622232		BM015110ME
16 A	1	12	BMS0 C 16/1 DC ME	9004840622249		BM015116ME
20 A	1	12	BMS0 C 20/1 DC ME	9004840622256		BM015120ME
25 A	1	12	BMS0 C 25/1 DC ME	9004840622263		BM015125ME
32 A	1	12	BMS0 C 32/1 DC ME	9004840622270		BM015132ME
40 A	1	12	BMS0 C 40/1 DC ME	9004840622287		BM015140ME
50 A	1	12	BMS0 C 50/1 DC ME	9004840622294		BM015150ME





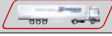

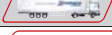


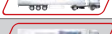
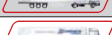

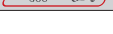
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**MCB, SERIES BMS0-DC, DOUBLE POLE, 2 MW**

RATED CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B / CAL. TEMP 40°C</b>						
2 A	2	6	BMS0 B 2/2 DC ME	9004840628463		BM014202ME
4 A	2	6	BMS0 B 4/2 DC ME	9004840628470		BM014204ME
6 A	2	6	BMS0 B 6/2 DC ME	9004840628487		BM014206ME
10 A	2	6	BMS0 B 10/2 DC ME	9004840628494		BM014210ME
16 A	2	6	BMS0 B 16/2 DC ME	9004840628500		BM014216ME
20 A	2	6	BMS0 B 20/2 DC ME	9004840628517		BM014220ME
25 A	2	6	BMS0 B 25/2 DC ME	9004840628524		BM014225ME
32 A	2	6	BMS0 B 32/2 DC ME	9004840628531		BM014232ME
40 A	2	6	BMS0 B 40/2 DC ME	9004840628548		BM014240ME
50 A	2	6	BMS0 B 50/2 DC ME	9004840628555		BM014250ME

<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
2 A	2	6	BMS0 C 2/2 DC	9004840398656		<b>BM015202</b>
4 A	2	6	BMS0 C 4/2 DC	9004840533378		<b>BM015204</b>
6 A	2	6	BMS0 C 6/2 DC	9004840398663		<b>BM015206</b>
10 A	2	6	BMS0 C 10/2 DC	9004840398670		<b>BM015210</b>
13 A	2	6	BMS0 C 13/2 DC	9004840398687		<b>BM015213</b>
16 A	2	6	BMS0 C 16/2 DC	9004840398694		<b>BM015216</b>
20 A	2	6	BMS0 C 20/2 DC	9004840398700		<b>BM015220</b>
25 A	2	6	BMS0 C 25/2 DC	9004840398717		<b>BM015225</b>
32 A	2	6	BMS0 C 32/2 DC	9004840398724		<b>BM015232</b>
40 A	2	6	BMS0 C 40/2 DC	9004840398731		<b>BM015240</b>
50 A	2	6	BMS0 C 50/2 DC	9004840398748		<b>BM015250</b>

<b>CHARACTERISTIC CURVE C / CAL. TEMP 40°C</b>						
2 A	2	6	BMS0 C 2/2 DC ME	9004840622300		BM015202ME
4 A	2	6	BMS0 C 4/2 DC ME	9004840622317		BM015204ME
6 A	2	6	BMS0 C 6/2 DC ME	9004840622324		<b>BM015206ME</b>
10 A	2	6	BMS0 C 10/2 DC ME	9004840622331		BM015210ME
16 A	2	6	BMS0 C 16/2 DC ME	9004840622348		<b>BM015216ME</b>
20 A	2	6	BMS0 C 20/2 DC ME	9004840622355		BM015220ME
25 A	2	6	BMS0 C 25/2 DC ME	9004840622362		<b>BM015225ME</b>
32 A	2	6	BMS0 C 32/2 DC ME	9004840622379		BM015232ME
40 A	2	6	BMS0 C 40/2 DC ME	9004840622386		BM015240ME
50 A	2	6	BMS0 C 50/2 DC ME	9004840622393		BM015250ME



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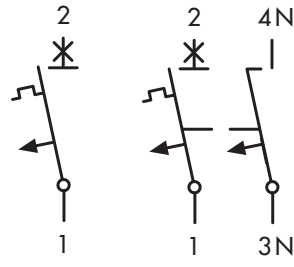
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## MCB 10 kA, SERIES BMS0-H, FOR AC CONTROL CIRCUITS



BM918104



CIRCUIT DIAGRAMS

### SCHRACK-INFO

- Special design with extremely low let-through energy
- For the protection of control circuits
- For short-circuit and overload in control systems, safety circuits, emergency stop circuits (protection against contact welding), etc.
- Triggering response approximately equivalent to a 4 A gG fuse.

### TECHNICAL DATA


see BMS0

### TIPS & TRICKS

Auxiliary switches of switchgear system such as contactors, relays, etc. must be protected against overload and short-circuit in accordance with manufacturer's instructions. IEC 947-5 specifies a maximum back-up fuse for a conditional surge current of 1000 A. The SI-H meets this requirement. "Tapping" the control voltage from the next MCB is therefore not correct – there is a risk of contact welding.

### ACCESSORIES

- Remote release
- Undervoltage release
- Auxiliary contact
- Automatic remote switching unit (FSA)
- Busbar

RATED CURRENT/NUMBER OF POLES	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE B</b>						
4 A/1-pole	1	1	BMS0-H B 4/1	9004840398755		<b>BM918104</b>
4 A/1-pole + switchable N-conductor	2	1	BMS0-H B 4/1N	9004840398762		BM918604



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**AUXILIARY CONTACT MATRIX**

**AUXILIARY SWITCHES**

	BD-H BD 900002	BD-HR BD 900022	H11 BD 900006	B-HSI BM 900001 Snap-on mountable	B-HR BM 900022 Snap-on mountable	DHi 2 BD 900030	BR-H BR 900005
Circuit diagram							
Contacts	1NO+1NC	2W	1NO+1NC	1NO+1NC	2W	1NC+1CO	1NO+1NC
BC	L	R				L	
BMS.		L	L	L	L		
SI-E		L	L				
SI-BR							R
BOLF		L	L	L	L		
MP		L	L	L	L		
A-BS		L	L				
BMA		L	L	L	L		
B-FA			L				
B-HSI				L (1x)			

L mountable on left    R mountable on right



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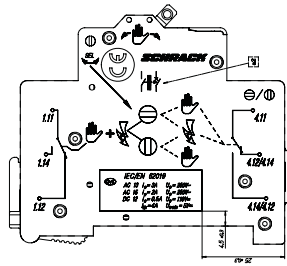
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## SIGNAL/TRIP-INDICATING AUXILIARY CONTACT BD-HR, B-HR WITH TRIP INDICATION



BM900022



FUNCTION

### SCHRACK-INFO

- 1 CO settable from manual switch-off function to electrically-tripped switch-off function
- Retrofittable, mountable on the right for RCCB series BCF0 on the left for MCB series BS, BMS, MP, RCBO series BOLF
- Manual operation (T-handle) for functional simulation
- Test button for electrical tripping
- Indication white/blue for electrical tripping

### TECHNICAL DATA

Thermal rated current $I_{th}$ :	4 A
Rated insulation voltage $U_i$ :	250 V AC
Rated operating voltage $U_e$ :	250 V AC
Minimum operating voltage for each contact $U_{min}$ :	5 V AC/DC
Minimum operating current $I_{min}$ :	10 mA AC/DC
Complies with:	IEC/EN 62019
Utilisation category AC 13:	3 A, 250 V AC
Utilisation category AC 15:	2 A, 250 V AC
Utilisation category DC 12:	110 V/0.5 A; 220 V/0.25 A
Maximum back-up fuse:	4 A gG or SI-H, BMS0-H 4A
2 CO (manual off or trip function) or 1 CO (manual off or trip function) + 1 CO (trip function only)	
Terminal cross-section:	0.5–2.5 mm <sup>2</sup>

### “ELECTRICAL TRIP” FUNCTIONAL TEST

The contact function of the changeover switch 95-96/98 can be checked by pressing the test button “T”. In this case, the colour of the trip indication changes from white to blue, just like after a “real” electrical trip. A manual off operation does not modify the trip indication in the “SEL position is perpendicular to DIN rail”.

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
2 CO, toggable, snap-on mounting	0.5	10	BM-HR	9004840408218		<b>BM900022</b>
2 CO, toggable, screw mounting	0.5	10	BD-HR	9004840201888		<b>BD900022</b>



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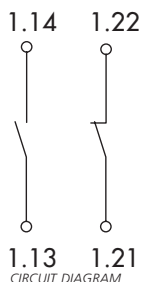
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## AUXILIARY CONTACT H11 FOR SERIES MP, A, FA, BMS, B0LF, BMA, B-FA



BM900006



CIRCUIT DIAGRAM

### SCHRACK-INFO

- B-HSI BM900001
- 2 auxiliary contacts, snap-on mounting in parallel

### TECHNICAL DATA

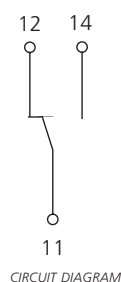
	H11	B-HSI
Rated insulation voltage $U_i$ :	250 V AC	250 V AC
Minimum voltage for each switching section $U_{min}$ :	5 V AC/DC	5 V DC
Minimum operating current $I_{min}$ :	10 mA AC/DC	10 mA DC
Thermal rated current $I_B$ :	4 A	4 A
Conditional surge current $I_K$ :	1000 A with BMS0-H	
Utilisation category AC 15:	2 A / 250 V AC	2 A / 250 V AC
Utilisation category AC 13:	3 A / 250 V AC	3 A / 250 V AC
Utilisation category DC 12:	110 V/0.5 A ; 250 V/0.1 A	110 V/0.5 A
Maximum permitted back-up fuse for short-circuit protection:	6A gG or BMS0-H	6A gG or BMS0-H
Contact function:	1 NO + 1 NC	1 NO + 1 NC
Complies with:	IEC/EN 62019	IEC/EN 62019
Retrofittable:	left screw mountable	left snap-on mountable
Terminal cross-section:	0.5–2.5 mm <sup>2</sup>	

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 NO + 1 NC snap-on	0.5	10	B-HSI	9004840408225		<b>BM900001</b>
1 NO + 1 NC screw	0.5	4	H11	9004840222586		<b>BD900006</b>

## AUXILIARY CONTACT H



BM900099ME



CIRCUIT DIAGRAM

### TECHNICAL DATA

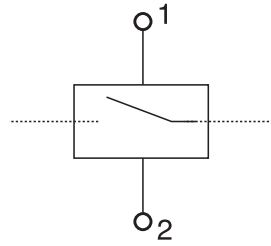
	H
Rated insulation voltage $U_i$ :	250 V AC
Minimum voltage for each switching section $U_{min}$ :	5 V AC/DC
Minimum operating current $I_{min}$ :	10 mA AC/DC, 10 mA DC
Conditional surge current $I_K$ :	1000 A with BMS0-H
Utilisation category AC 15:	2 A / 250 V AC
Utilisation category AC 13:	3 A / 250 V AC
Utilisation category DC 12:	110 V/0.5 A
Maximum permitted back-up fuse for short-circuit protection:	6A gG or BMS0-H
Contact function:	1 CO
Complies with:	IEC/EN 62019
Retrofittable:	left snap-on mountable
Terminal cross-section:	0.5–2.5 mm <sup>2</sup>

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
1 CO snap on	9004840615777		<b>BM900099ME</b>

## SHUNT RELEASE FA, B-FA, 1 MW FOR BMS, BOLF AND BE4 (MP)



BS900006



CIRCUIT DIAGRAM

### SCHRACK-INFO

- Remote release for subsequent installation on MCB, RCBO, A, MP
- Module width 1 MW
- Additional installation of standard auxiliary switch possible
- Position indicator red/green
- Type B-FA snap-on mounting possible

### TECHNICAL DATA

	B-FA	B-FA
<b>Electrical</b>		
Mountable on	MCB, RCBO: Accessories:	BMSO, BMS6, BMS4, BOLF BMA
Operating voltage range	12-60V AC 12-60V DC	BMSO, BMS6, BMS4, BOLF BMA
Frequency	50/60 Hz	110-415V AC 110-220V DC
Possible standard auxiliary switch	B-HR	50/60 Hz
<b>Mechanical</b>		
Cap installation dimension	45 mm	B-HR
Device base dimension	80 mm	45 mm
Installation width	17.5 mm (1TE)	80 mm
	Quick fastening on DIN rail EN 50022	
Degree of protection (built-in)	IP40	17.5 mm (1TE)
Terminal protection	IP40	
Terminals	Contact protection according to BGV A3, Ö VE-EN 6	
Terminal cross-section	Clamp/lift terminals + protection against mismatching	Clamp/lift terminals + protection against mismatching
	1-25 mm <sup>2</sup>	1-25 mm <sup>2</sup>

RATED VOLTAGE RANGE	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
12 - 60 V AC snap-on	1	7	B-FA-24	9004840408249		<b>BM900005</b>
110 - 220 V AC snap-on	1	7	B-FA-230	9004840408232		<b>BM900006</b>



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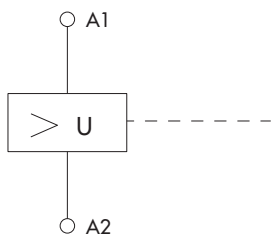
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## UNDERVOLTAGE RELEASE BS-UA, NON-DELAYED



BS900008



CIRCUIT DIAGRAM

### SCHRACK-INFO

- Remote release for subsequent installation on MCB, BMS0, BMS6, BMS4, BMA, A, MP
- Module width 1 MW, left screw mounting
- Indication blue tripped, white voltage present

### TECHNICAL DATA

- Conductor cross-section 1 - 2x2.5 mm<sup>2</sup>
- Clamp/lift terminals
- Quick fastening for DIN rail EN 50022
- Service button for no-voltage switching for test purposes
- Activation from typically 80% of rated voltage
- Tripping typically below 50% of rated voltage
- Other voltages and delayed tripping on request

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
230 V AC, non-delayed	1	7	BS-UA 230-U	9004840266542		<b>BS900008</b>
400 V AC, non-delayed	1	7	BS-UA 400-U	9004840266559		<b>BS900009</b>

## NEUTRAL CONDUCTOR DUCT, 1 MW



BS900004



BS900024



BS900010

### SCHRACK-INFO

- Rated current: 63 A, 80 A
- Terminal capacity: 1-25 mm<sup>2</sup> (80 A bottom 2.5-50 mm<sup>2</sup>)
- Rated voltage: 230/400 VAC
- 1 MW wide

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
N-duct 63 A	1	12	ND-8S	9004840266603		<b>BS900004</b>
N-duct 80 A	1	12	ND 80	9004840154160		<b>BS900024</b>
N-duct with test terminal	1	12	NDP-8S	9004840266610		<b>BS900010</b>

## BLIND MODULE, 0.5 MW



BS900026



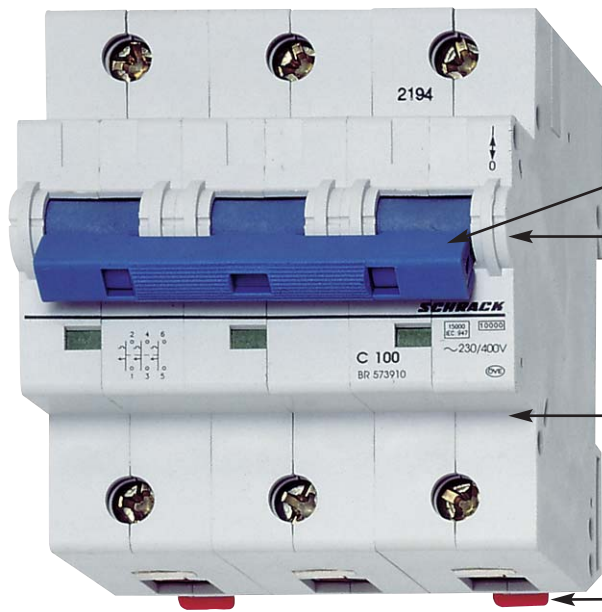
FOR USE ON BUSBAR

### SCHRACK-INFO

- Space holder to confirm a auxiliary contact to 1 MW

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Cap dimension 45 mm, width 9 mm, snap-on	0.5	1	BLIND MODULE	9004840013245		<b>BS900026</b>

## HIGH CURRENT MCB



RUGGED T-HANDLE

SEALABLE

MODULE WIDTH 27 mm

STURDY LATCH SLIDE



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## HIGH CURRENT MCB 10 kA, SERIES BR – GENERAL INFORMATION



BR561200



BR572910



BR573910



BR578910

### SCHRACK-INFO

- In commercial and industrial facilities with high continuous currents
- Mounting system: Special snap-on mounting for DIN rail EN 50 022
- Positively guided position indicator
- Rated currents: 80, 100, 125 A

### ACCESSORIES

Remote release  
Auxiliary contact  
Busbar

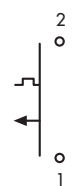
### TECHNICAL DATA

Type:	According to IEC/EN 60947-2
Characteristic:	C, according to En 60898
Rated voltage/frequency:	230/400 V AC, 50/60 Hz
Tripping temperature:	-5°C to +40°C
Max. back-up fuse:	200 A gG (> 20 kA)
Selectivity class:	According to Class 3
Rated breaking capacity:	According to IEC/EN 60947-2
Characteristic C      In = 80-125 A	10 kA
Rated breaking capacity DC:	Max. 60 V per pole with release
Rated insulation voltage:	440 V
Surge voltage protection U <sub>imp</sub> :	4000 V
Connection cross-section:	2.5 – 50 mm <sup>2</sup>
Switching contact:	Double break, snap-action behaviour
Endurance:	≥ 20,000 operating cycles
Contact position indicator:	For each pole (red/green)
Isolating characteristics:	4 mm contact gap
Cap installation dimension:	45 mm
Device base dimension:	90 mm
Installation width:	27 mm (1.5 MW) for each pole
Mounting:	Quick mounting with 2 latching positions for DIN rail EN50022
Degree of protection (built in):	IP20 (IP40)
Terminals:	Top and bottom lift terminals
Terminal protection:	Finger and hand touch safe, BGV A3, ÖVE-EN 6
Terminal cross-section:	2.5 – 50 mm <sup>2</sup>

## HIGH CURRENT MCB 10 kA, SERIES BR, SINGLE POLE, CHARACTERISTIC C



BR561200



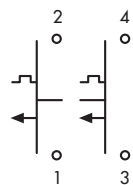
SINGLE POLE

RATED CURRENT	DIM. (BXHXT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
80 A	27x90x80,5	12	C 80/1	9004840507096		BR971800
100 A	27x90x80,5	12	C 100/1	9004840507089		BR971910
125 A	27x90x80,5	12	C 125/1	9004840545333		BR971912

## HIGH CURRENT MCB 10 kA, SERIES BR, DOUBLE POLE, CHARACTERISTIC C



BR572910



DOUBLE POLE

RATED CURRENT	DIM. (BXHXT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
80 A	54x90x80,5	6	C 80/2	9004840545340		BR972800
100 A	54x90x80,5	6	C 100/2	9004840545357		BR972910
125 A	54x90x80,5	6	C 125/2	9004840587623		BR972912



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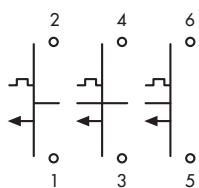
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**HIGH CURRENT MCB 10 kA, SERIES BR, TRIPPLE POLE, CHARACTERISTIC C**



BR573910



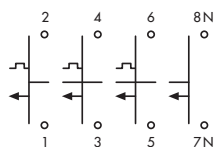
TRIPPLE POLE

RATED CURRENT	DIM. (BXHXT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
80 A	81x90x80,5	4	C 80/3	9004840507065		<b>BR973800</b>
100 A	81x90x80,5	4	C 100/3	9004840507072		<b>BR973910</b>
125 A	81x90x80,5	4	C 125/3	9004840545395		<b>BR973912</b>

**HIGH CURRENT MCB 10 kA, SERIES BR, FOUR POLE, CHARACTERISTIC C**



BR578910



TRIPPLE POLE + NEUTRAL

RATED CURRENT	DIM. (BXHXT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C / CAL. TEMP 30°C</b>						
80 A	108x90x80,5	3	C 80/3N	9004840545371		<b>BR974800</b>
100 A	108x90x80,5	3	C 100/3N	9004840545388		<b>BR974910</b>
125 A	108x90x80,5	3	C 125/3N	9004840545401		<b>BR974912</b>



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## HIGH CURRENT MCB 15-25 kA, SERIES BR – GENERAL INFORMATION



BR561200



BR572910



BR573910



BR578910

### SCHRACK-INFO

- In commercial and industrial facilities with high continuous currents
- Mounting system: Special snap-on mounting for DIN rail EN 50 022
- Positively guided position indicator
- Rated currents up to 125 A
- Rated breaking capacity up to 25 kA according to EN 60947-2

### ACCESSORIES

Remote release  
Auxiliary contact  
Busbar

### TECHNICAL DATA

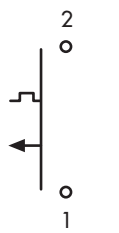
Type:	According to IEC/EN 60947-2	
Characteristic:	C, D, according to En 60898	
Rated voltage/frequency:	230/400 V AC, 50/60 Hz	
Tripping temperature:	-5°C to +40°C	
Max. back-up fuse:	200 A gG (> 20 kA)	
Selectivity class:	According to Class 3	
Rated breaking capacity:	According to IEC/EN 60947-2	
Characteristic C	In = 20-63 A	25 kA
	In = 80-100 A	20 kA
	In = 125 A	15 kA
Characteristic D	In = 63 A	25 kA
	In = 80 A	20 kA
	In = 100 A	15 kA
Rated breaking capacity DC:	Max. 60 V per pole with release	
Rated insulation voltage:	440 V	
Surge voltage protection $U_{imp}$ :	4000 V	
Connection cross-section:	2.5 – 50 mm <sup>2</sup>	
Switching contact:	Double break, snap-action behaviour	
Endurance:	≥ 20,000 operating cycles	
Contact position indicator:	For each pole (red/green)	
Isolating characteristics:	4 mm contact gap	
Cap installation dimension:	45 mm	
Device base dimension:	90 mm	
Installation width:	27 mm (1.5 MW) for each pole	
Mounting:	Quick mounting with 2 latching positions for DIN rail EN50022	
Degree of protection (built in):	IP20 (IP40)	
Terminals:	Top and bottom lift terminals	
Terminal protection:	Finger and hand touch safe, BGV A3, ÖVE-EN 6	
Terminal cross-section:	2.5 – 50 mm <sup>2</sup>	



## HIGH CURRENT MCB, SERIES BR, SINGLE POLE



BR571910



CIRCUIT DIAGRAM

RATED CURRENT	DIM. (BXHXT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
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### CHARACTERISTIC C

20 A	27x90x77.9	12	BR-C 20/1	9004840266665		BR571200
25 A	27x90x77.9	12	BR-C 25/1	9004840266672		<b>BR571250</b>
40 A	27x90x77.9	12	BR-C 40/1	9004840266696		BR571400
50 A	27x90x77.9	12	BR-C 50/1	9004840266702		<b>BR571500</b>
63 A	27x90x77.9	12	BR-C 63/1	9004840266719		<b>BR571630</b>
80 A	27x90x77.9	12	BR-C 80/1	9004840266726		<b>BR571800</b>
100 A	27x90x77.9	12	BR-C 100/1	9004840266733		<b>BR571910</b>
125 A	27x90x77.9	12	BR-C 125/1	9004840266740		<b>BR571912</b>

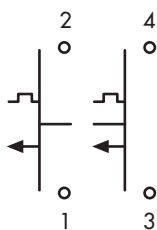
### CHARACTERISTIC D

63 A	27x90x77.9	12	BR-D 63/1	9004840266634		BR591630
80 A	27x90x77.9	12	BR-D 80/1	9004840266641		<b>BR591800</b>
100 A	27x90x77.9	12	BR-D 100/1	9004840266658		BR591910

## HIGH CURRENT MCB, SERIES BR, DOUBLE POLE



BR572910



CIRCUIT DIAGRAM

RATED CURRENT	DIM. (BxHxT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
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### CHARACTERISTIC C

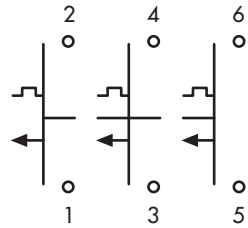
25 A	54x90x80.5	6	BR-C 25/2	9004840266801		BR572250
32 A	54x90x80.5	6	BR-C 32/2	9004840266818		BR572320
40 A	54x90x80.5	6	BR-C 40/2	9004840266825		BR572400
50 A	54x90x80.5	6	BR-C 50/2	9004840266832		BR572500
63 A	54x90x80.5	6	BR-C 63/2	9004840266849		BR572630
125 A	54x90x80.5	6	BR-C 125/2	9004840266870		<b>BR572912</b>



## HIGH CURRENT MCB, SERIES BR, TRIPLE POLE



BR573910



CIRCUIT DIAGRAM

RATED CURRENT	DIM. (BxHxT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC C</b>						
20 A	81x90x80.5	4	BR-C 20/3	9004840266924		<b>BR573200</b>
25 A	81x90x80.5	4	BR-C 25/3	9004840266931		<b>BR573250</b>
32 A	81x90x80.5	4	BR-C 32/3	9004840266948		<b>BR573320</b>
40 A	81x90x80.5	4	BR-C 40/3	9004840266955		<b>BR573400</b>
50 A	81x90x80.5	4	BR-C 50/3	9004840266962		<b>BR573500</b>
63 A	81x90x80.5	4	BR-C 63/3	9004840266979		<b>BR573630</b>
80 A	81x90x80.5	4	BR-C 80/3	9004840266986		<b>BR573800</b>
100 A	81x90x80.5	4	BR-C 100/3	9004840266993		<b>BR573910</b>
125 A	81x90x80.5	4	BR-C 125/3	9004840267006		<b>BR573912</b>
<b>CHARACTERISTIC CURVE D</b>						
50 A	81x90x80.5	4	BR-D 50/3	9004840266887		<b>BR593500</b>
63 A	81x90x80.5	4	BR-D 63/3	9004840266894		<b>BR593630</b>
80 A	81x90x80.5	4	BR-D 80/3	9004840266900		<b>BR593800</b>
100 A	81x90x80.5	4	BR-D 100/3	9004840266917		<b>BR593910</b>



### I KNOW WHERE TO FIND IT!

THE SCHRACK TECHNIK WEB SHOP WITH NAVIGATOR  
[WWW.SCHRACK.COM](http://WWW.SCHRACK.COM)

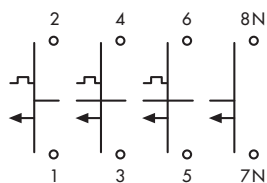
- Finding product information made easy
- Buying products around the clock
- Quick access customer service



## HIGH CURRENT MCB, SERIES BR, TRIPLE POLE + SWITCHABLE N-CONDUCTOR



BR578910



CIRCUIT DIAGRAM

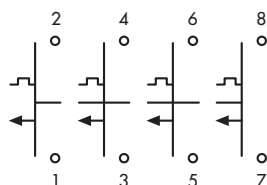
RATED CURRENT	DIM. (BxHxT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC CURVE C</b>						
20 A	108x90x80.5	3	BR-C 20/3N	9004840264289		BR578200
25 A	108x90x80.5	3	BR-C 25/3N	9004840267044		BR578250
32 A	108x90x80.5	3	BR-C 32/3N	9004840267051		BR578320
40 A	108x90x80.5	3	BR-C 40/3N	9004840267068		BR578400
50 A	108x90x80.5	3	BR-C 50/3N	9004840267075		BR578500
63 A	108x90x80.5	3	BR-C 63/3N	9004840267082		<b>BR578630</b>
80 A	108x90x80.5	3	BR-C 80/3N	9004840267099		<b>BR578800</b>
100 A	108x90x80.5	3	BR-C 100/3N	9004840267105		<b>BR578910</b>
125 A	108x90x80.5	3	BR-C 125/3N	9004840267112		BR578912

<b>CHARACTERISTIC CURVE D</b>						
63 A	108x90x80.5	3	BR-D 63/3N	9004840267013		<b>BR598630</b>
80 A	108x90x80.5	3	BR-D 80/3N	9004840267020		<b>BR598800</b>
100 A	108x90x80.5	3	BR-D 100/3N	9004840267037		BR598910

## HIGH CURRENT MCB, SERIES BR, FOUR POLE



BR578910



CIRCUIT DIAGRAM

### SCHRACK-INFO

- All four poles equipped with thermal and magnetic release

RATED CURRENT	DIM. (BxHxT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC C</b>						
80 A	108x90x80.5	3	BR-C 80/4	9004840267181		<b>BR574800</b>



### I KNOW WHERE TO FIND IT!

WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

## REMOTE RELEASE FOR SERIES BR



BR900003

### SCHRACK-INFO

For MCB series BR

Make sure there is sufficient capacity of the power supply (at least 90 VA).

### TECHNICAL DATA

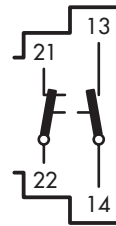
- Remote release (shunt release)
- Width 27 mm
- Switch position indicator red/green
- Additional installation of a signal contact possible

NOMINAL VOLTAGE/ NOMINAL CURRENT	DIM. (BxHxT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
110-415 VAC; 110-230V DC, max. 3.6 A	39.1x90x80.5	6	BR-FA 230	9004840267242		<b>BR900003</b>
12-60 V AC/DC, max. 44 A	39.1x90x80.5	6	BR-FA 24	9004840267259		<b>BR900004</b>

## AUXILIARY CONTACT FOR SERIES BR 0.5 MW



BR900005



CIRCUIT DIAGRAM

### SCHRACK-INFO

For high-current miniature circuit breakers, series BR  
Auxiliary contact for control purposes

### TECHNICAL DATA

- 1 NC + 1 NO
- Width 0.5 MW (9 mm)
- I therm.= 8 A
- AC 13: 6 A, 250 V, 2 A/400 V
- DC 13: 4 A/ 60 V, 2 A/110 V, 0.5 A /230 V
- Maximum permissible back-up fuse against short circuit and overload: 4 A gG or BMS0-H
- Minimum operating voltage for each path: 24 V
- Minimum operating current for each path: 0.5 A
- According to EN 60947-5-1

DESCRIPTION	DIM. (BxHxT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 NC +1 NO	9x90x65.5	8	BR-H	9004840267266		<b>BR900005</b>

## PROTECTIVE CAP IP 20 FOR SERIES BR



BS900030

### SCHRACK-INFO

- Terminal screw cover for one screw of each pole

DESCRIPTION	DIM. (BXHXT) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Cover	17x19x10.5	100	IP20/BS	9004840196450		BR900030



## ON/OFF SWITCH PROTECTION FOR SERIES BR



BS900001



BS900002

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Off switch protector	150	9004840210385		<b>BR900001</b>
On/Off switch protector	150	9004840210392		<b>BR900002</b>



### I KNOW WHERE TO FIND IT!

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- Buying products around the clock
- Quick access customer service

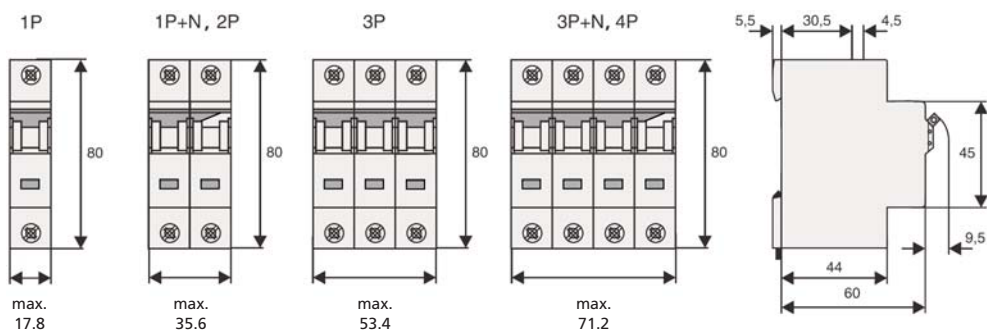


**Order no. blue:** on stock, usually ready for delivery on the day of order!

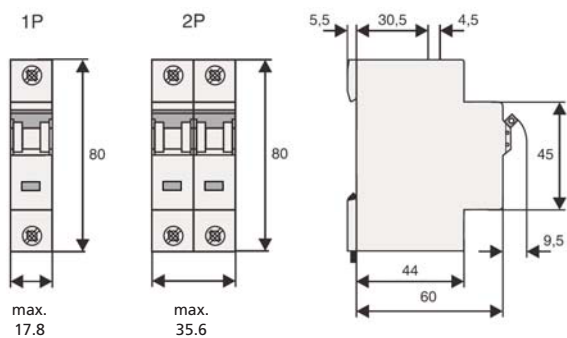
## TECHNICAL DATA OF MCB

### DIMENSIONS

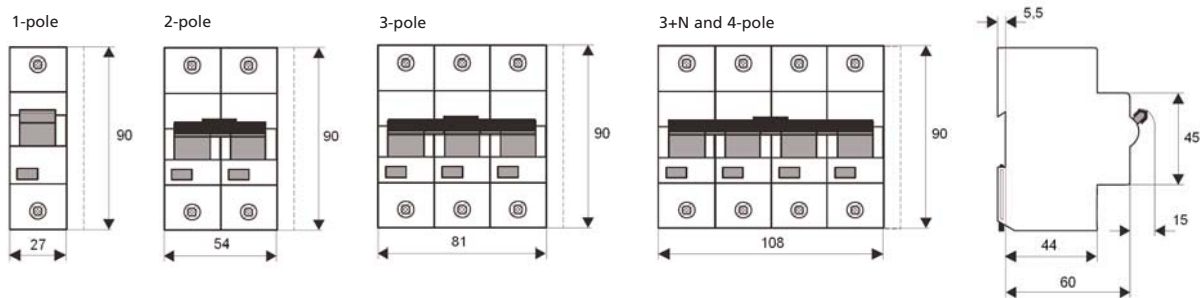
#### MCB, series BMS0, BMS6, BMS4



#### MCB for DC, series BMS0-DC



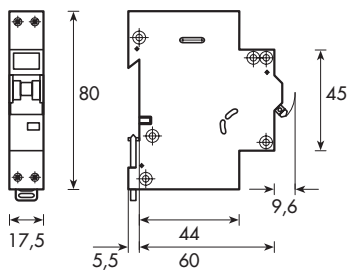
#### High-current MCB, series BR



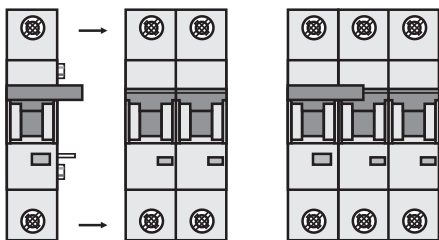
Side view of all types

**DIMENSIONS**

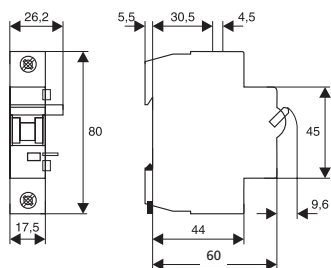
**MCB, series SI-E**



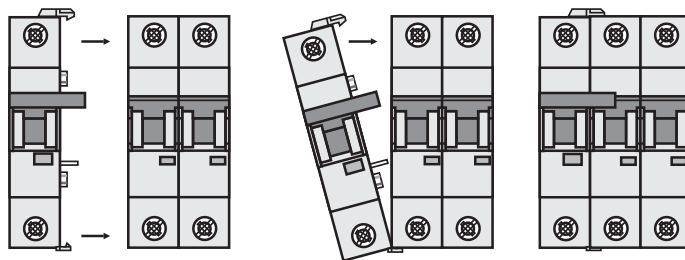
Example: FA + BMS0, BMS6, BMS4



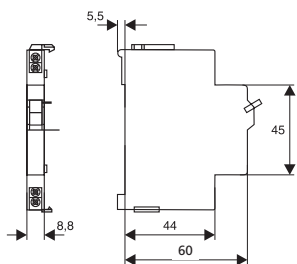
**Shunt release B-FA**



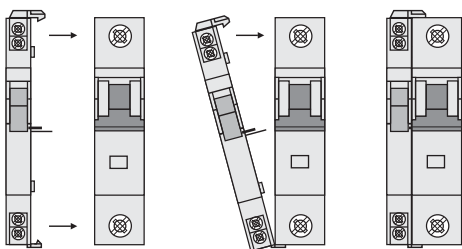
Example: B-FA + BMS0, BMS6, BMS4



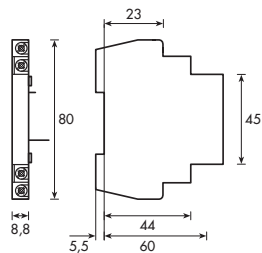
**Auxiliary switch BI-HSI**



Snap-on example: B-HSI + BMS0, BMS6, BMS4, BOLF, MP

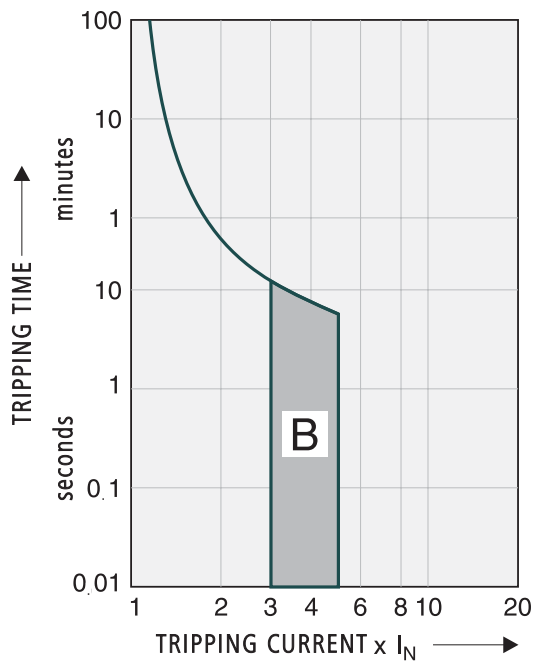


**Auxiliary switch for series BR**

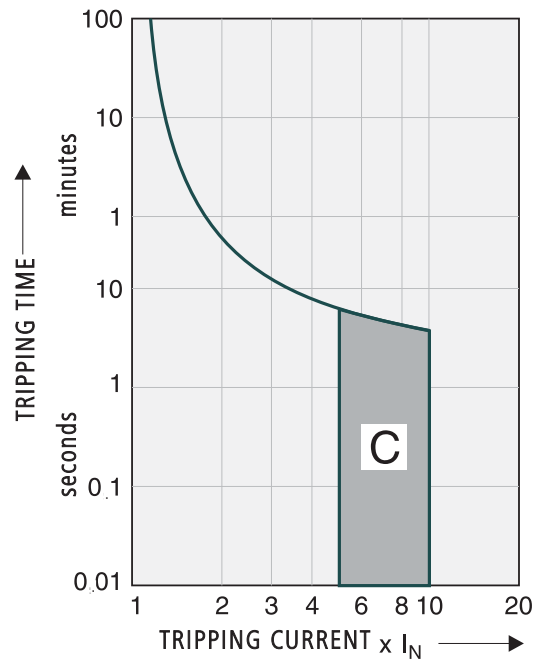


## TRIPPING CHARACTERISTIC CURVES ACCORDING TO IEC/EN 60898

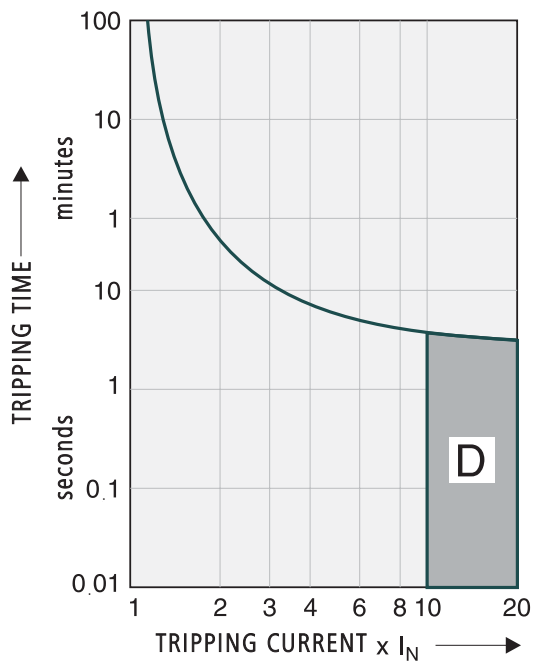
Characteristic curve B



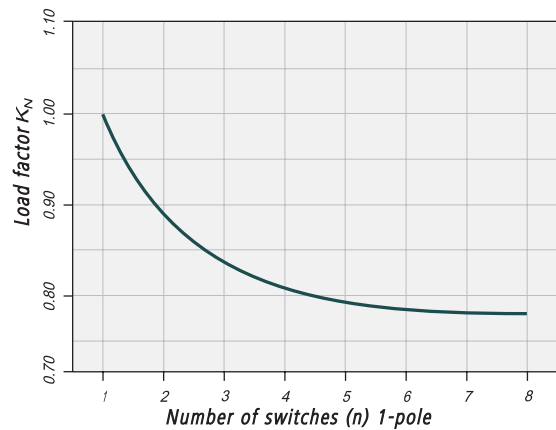
Characteristic curve C



Characteristic curve D



## CAPACITY WITH BLOCK MOUNTING

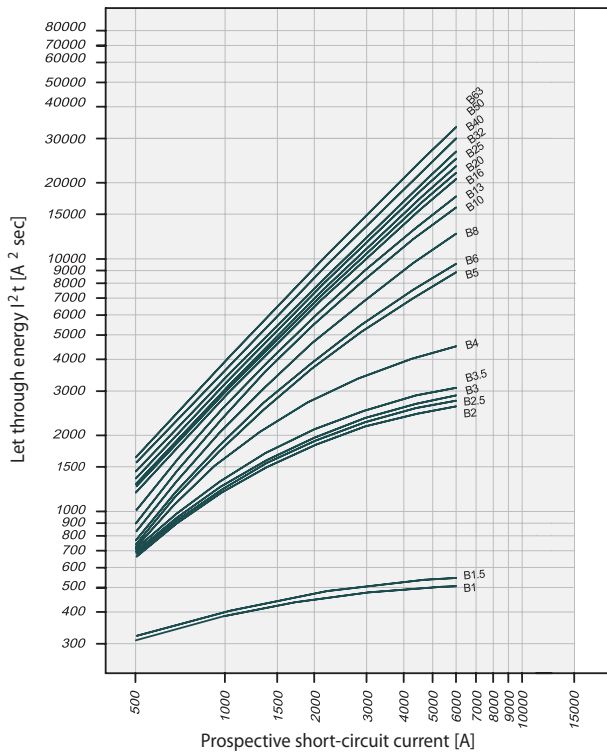




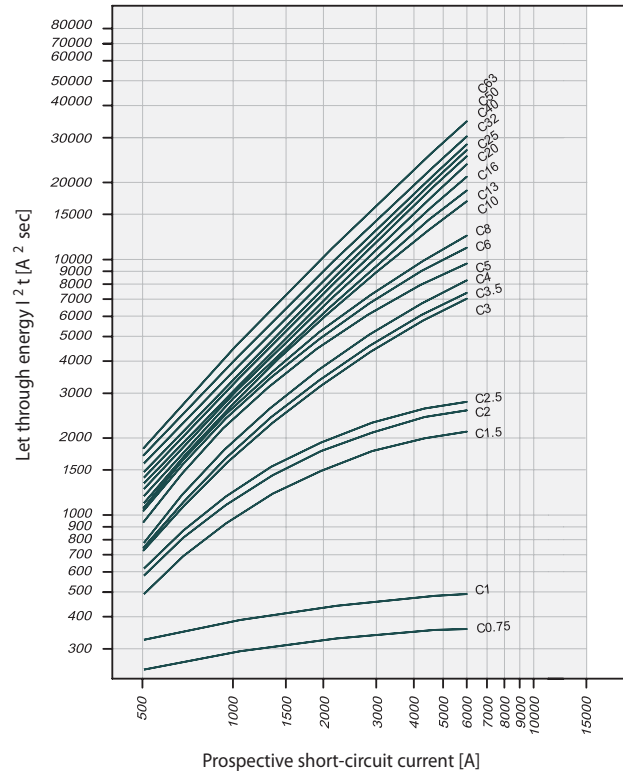


## LET-THROUGH ENERGY DIAGRAM, SERIES BMS6

Let-through energy BM6, characteristic B, 1-pole



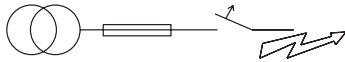
Let-through energy BM6, characteristic C, 1-pole



## SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS6 FOR DIAZED D-FUSES

In case of short circuit, there is selectivity between the miniature circuit breakers BM6 and the upstream fuses up to the specified values of the selectivity limit current  $I_s$  [kA] (i.e. in case of short-circuit currents  $I_{ks}$  under  $I_s$ , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

\*) basically in accordance with EN 60898 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **DIAZED\***

BMS6	DIAZED DII-DIV gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5 <sup>1)</sup>	1.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	1.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.6	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.4	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.3	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	3.6	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.9	2.0	3.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.6	0.9	1.8	3.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
8		<0.5 <sup>1)</sup>	0.5	0.8	1.6	2.6	5.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
10			0.5	0.8	1.4	2.2	3.9	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
13			0.5	0.7	1.3	2.0	3.6	5.4	6.0 <sup>2)</sup>
16				0.6	1.2	1.9	3.2	4.6	6.0 <sup>2)</sup>
20					1.2	1.8	3.1	4.4	6.0 <sup>2)</sup>
25					1.2	1.8	3.0	4.2	6.0 <sup>2)</sup>
32						1.7	2.8	3.9	6.0 <sup>2)</sup>
40							2.7	3.8	6.0 <sup>2)</sup>
50							2.5	3.5	5.7
63									5.3

Short circuit selectivity **characteristic C** towards fuse link **DIAZED\***

BMS6	DIAZED DII-DIV gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
0.75	1.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.0	<0.5 <sup>1)</sup>	1.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.0	2.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.6	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.4	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	0.9	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.9	2.2	4.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.8	1.8	3.6	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.7	1.5	2.7	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.5	0.6	1.4	2.4	5.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
8		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.3	2.2	4.7	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
10			<0.5 <sup>1)</sup>	0.6	1.3	2.0	3.6	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
13					1.3	1.9	3.3	5.0	6.0 <sup>2)</sup>
16					1.2	1.8	3.2	4.4	6.0 <sup>2)</sup>
20					1.2	1.8	3.1	4.1	6.0 <sup>2)</sup>
25						1.7	2.8	3.8	6.0 <sup>2)</sup>
32							2.7	3.7	6.0 <sup>2)</sup>
40								3.5	5.9
50									5.5
63									

1) Selectivity limit current  $I_s$  under 0.5 kA

2) Selectivity limit current  $I_s$  = rated breaking capacity  $I_{cn}$  of the MCB

no selectivity

## SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS6 FOR NEOZED D0-FUSES

In case of short circuit, there is selectivity between the miniature circuit breakers BM6 and the upstream fuses up to the specified values of the selectivity limit current  $I_s$  [kA] (i. e. in case of short-circuit currents  $I_{ks}$  under  $I_s$ , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

\*) basically in accordance with EN 60898 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **NEOZED\***

BMS6	NEOZED D01-D03 gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5 <sup>1)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	4.1	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	1.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.9	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.9	2.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
5		<0.5 <sup>1)</sup>	0.5	0.8	1.7	4.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.5	0.8	1.6	3.6	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
8			0.5	0.8	1.4	2.8	4.3	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
10			0.5	0.7	1.3	2.4	3.4	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
13			<0.5 <sup>1)</sup>	0.7	1.2	2.3	3.2	5.3	6.0 <sup>2)</sup>
16				0.6	1.1	2.2	2.9	4.6	6.0 <sup>2)</sup>
20					1.1	2.1	2.8	4.4	6.0 <sup>2)</sup>
25					1.1	2.0	2.7	4.2	6.0 <sup>2)</sup>
32						2.0	2.6	4.0	6.0 <sup>2)</sup>
40							2.5	3.8	6.0 <sup>2)</sup>
50							2.3	3.4	6.0 <sup>2)</sup>
63									6.0 <sup>2)</sup>

<sup>1)</sup> Selectivity limit current  $I_s$  under 0.5 kA

<sup>2)</sup> Selectivity limit current  $I_s$  = rated breaking capacity  $I_{cn}$  of the MCB

no selectivity

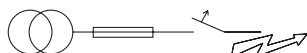
Short circuit selectivity **characteristic C** towards fuse link **NEOZED\***

BMS6	NEOZED D01-D03 gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
0.75	<0.5 <sup>1)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.0	<0.5 <sup>1)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	0.5	0.6	0.9	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.7	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.7	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.9	5.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.8	4.7	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.6	4.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
5		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	1.3	3.1	5.7	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.2	2.7	4.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
8		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.2	2.5	4.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
10			<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.2	2.3	3.1	5.4	6.0 <sup>2)</sup>
13					1.1	2.2	3.0	4.9	6.0 <sup>2)</sup>
16					1.1	2.1	2.8	4.4	6.0 <sup>2)</sup>
20					1.0	2.0	2.6	4.0	6.0 <sup>2)</sup>
25						1.9	2.5	3.8	6.0 <sup>2)</sup>
32							2.5	3.7	6.0 <sup>2)</sup>
40								3.5	6.0 <sup>2)</sup>
50									6.0 <sup>2)</sup>
63									

## SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS6 FOR HRC SIZE 00 FUSES

In case of short circuit, there is selectivity between the miniature circuit breakers BM6 and the upstream fuses up to the specified values of the selectivity limit current  $I_s$  [kA] (i. e. in case of short-circuit currents  $I_{ks}$  under  $I_s$ , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

\*) basically in accordance with EN 60898 D.5.2.b



Short circuit selectivity **characteristic B** towards fuse link **NH-00\***

BMS6	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
1.0	0.9	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.5	0.8	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	0.5	1.0	2.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	0.5	1.0	2.3	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	0.5	0.9	2.1	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	0.5	0.9	1.8	5.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.3	2.3	4.3	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.1	1.6	2.2	3.6	4.8	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
6	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.1	1.5	2.0	3.3	4.3	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
8	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	1.3	1.7	2.6	3.3	5.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
10		<0.5 <sup>1)</sup>	0.6	0.9	1.2	1.5	2.2	2.7	4.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
13		<0.5 <sup>1)</sup>	0.6	0.8	1.1	1.4	2.1	2.6	3.8	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
16			0.5	0.7	1.0	1.3	1.9	2.4	3.4	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
20				0.7	1.0	1.3	1.9	2.4	3.3	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
25					0.7	1.0	1.3	1.8	2.3	3.2	5.7	6.0 <sup>2)</sup>
32						0.9	1.2	1.7	2.2	3.1	5.4	6.0 <sup>2)</sup>
40									2.1	3.0	5.1	6.0 <sup>2)</sup>
50									1.9	2.8	4.7	6.0 <sup>2)</sup>
63										4.4	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>

<sup>1)</sup> Selectivity limit current  $I_s$  under 0.5 kA

<sup>2)</sup> Selectivity limit current  $I_s$  = rated breaking capacity  $I_{cn}$  of the MCB

no selectivity

Short circuit selectivity **characteristic C** towards fuse link **NH-00\***

BMS6	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.75	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.0	0.9	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	0.6	1.3	4.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	0.6	1.0	2.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	0.5	1.0	2.1	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.2	1.8	2.6	4.7	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.1	1.7	2.4	4.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.0	1.5	2.1	3.6	5.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.8	1.2	1.7	2.8	3.8	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
6	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.8	1.2	1.5	2.5	3.3	5.7	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
8	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.8	1.1	1.5	2.3	2.9	4.9	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
10			0.5	0.7	1.0	1.4	2.0	2.5	3.8	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
13					1.0	1.3	1.9	2.4	3.6	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
16					1.0	1.3	1.8	2.3	3.3	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
20					1.0	1.2	1.7	2.2	3.2	5.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
25						1.6	2.1	3.0	5.2	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
32								2.1	2.9	5.0	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
40									2.8	4.8	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
50										4.5	6.0 <sup>2)</sup>	6.0 <sup>2)</sup>
63											5.9	6.0 <sup>2)</sup>

<sup>1)</sup> Selectivity limit current  $I_s$  under 0.5 kA

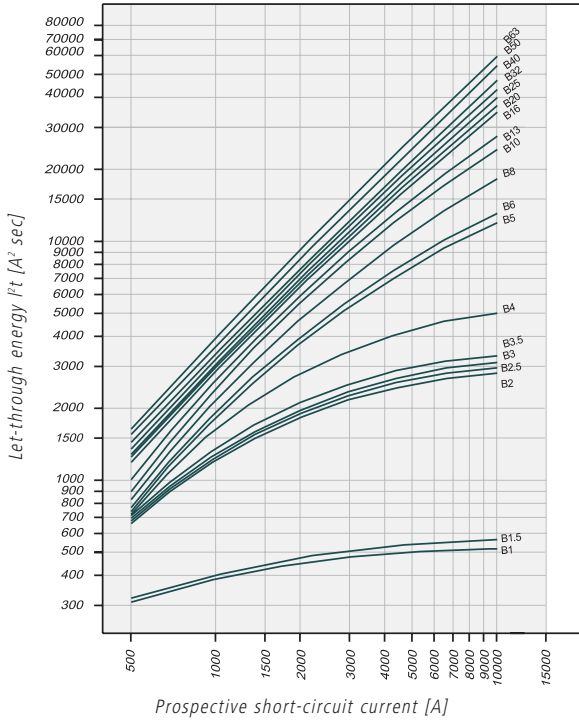
<sup>2)</sup> Selectivity limit current  $I_s$  = rated breaking capacity  $I_{cn}$  of the MCB

no selectivity

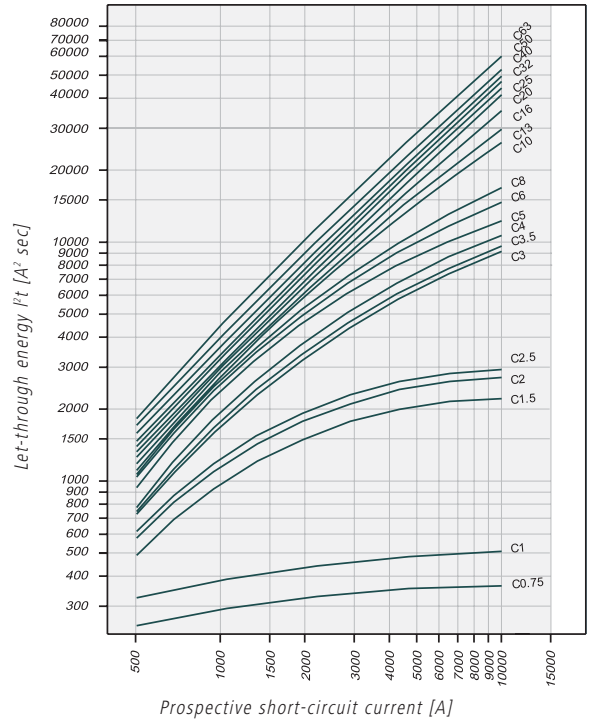
## LET-THROUGH ENERGY DIAGRAM, SERIES BMS0

### Let-through energy BMS0

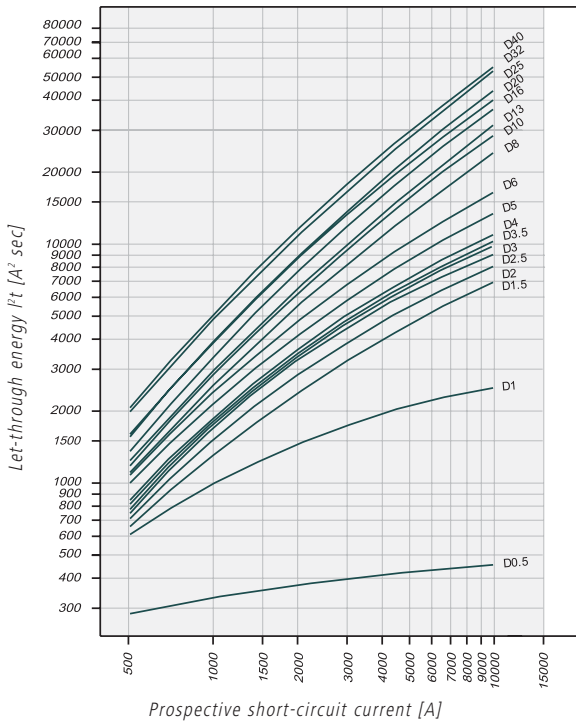
Let-through energy BMS0 characteristic B, 1-pole



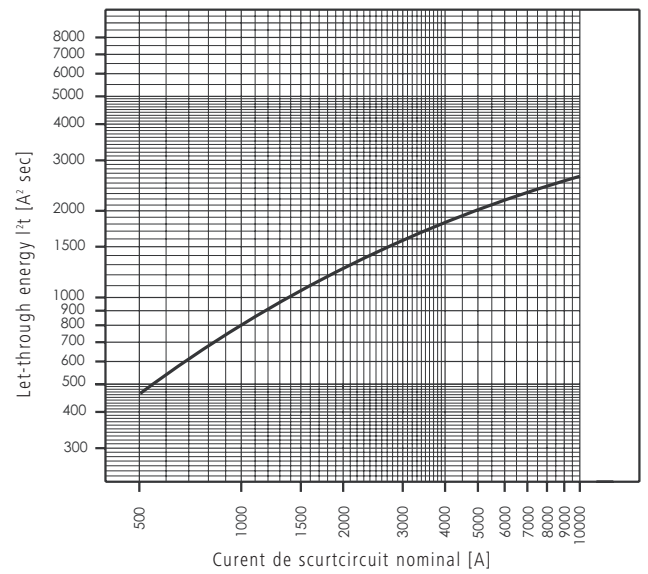
Let-through energy BMS0 characteristic C, 1-pole



Let-through energy BMS0 characteristic D, 1-pole



Let-through energy BMS0 - H - B4



**INFLUENCE OF AMBIENT TEMPERATURE ON THE THERMAL TRIGGERING BEHAVIOUR OF MCB, SERIES BMS0, BMS6 AND BMS4 EXPECT ME TYPE**

Corrected values of the rated current as a function of the ambient temperature

I <sub>n</sub> [A]	Ambient temperature T (°C)												
	-25	-20	-10	0	10	20	30	35	40	45	50	55	60
0.16	0.20	0.19	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14
0.25	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.24	0.24	0.23	0.23	0.22
0.5	0.61	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.48	0.47	0.46	0.45	0.44
0.75	0.92	0.90	0.87	0.84	0.81	0.78	0.75	0.74	0.73	0.71	0.69	0.68	0.66
1	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.99	0.97	0.95	0.93	0.90	0.89
1.5	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3
1.6	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4
2	2.4	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8
2.5	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2
3	3.7	3.6	3.5	3.4	3.3	3.1	3.0	3.0	2.9	2.8	2.8	2.7	2.7
3.5	4.3	4.2	4.1	3.9	3.8	3.7	3.5	3.4	3.4	3.3	3.2	3.2	3.1
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9	3.8	3.7	3.6	3.5
5	6.1	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.7	4.6	4.5	4.4
6	7.3	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3
8	9.8	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7	7.6	7.4	7.2	7.1
10	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9.0	8.9
12	15	14	14	13	13	13	12	12	12	11	11	11	11
13	16	16	15	15	14	14	13	13	13	12	12	12	12
15	18	18	17	17	16	16	15	15	15	14	14	14	13
16	20	19	19	18	17	17	16	16	15	15	15	14	14
20	24	24	23	22	22	21	20	20	19	19	19	18	18
25	31	30	29	28	27	26	25	25	24	24	23	23	22
32	39	38	37	36	35	33	32	32	31	30	30	29	28
40	49	48	47	45	43	42	40	39	39	38	37	36	35
50	61	60	58	56	54	52	50	49	48	47	46	45	44
63	77	76	73	71	68	66	63	62	61	60	58	57	56

**INFLUENCE OF POWER FREQUENCY ON MCB, SERIES BMS0, BMS6 AND BMS4**

Influence of the mains frequency on the I<sub>MA</sub> tripping behaviour of the instantaneous release

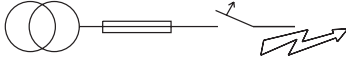
	Mains frequency f [Hz]						
	16 <sup>2</sup> / <sub>3</sub>	50	60	100	200	300	400
I <sub>MA</sub> (f)/I <sub>MA</sub> (50Hz) [%]	91	100	101	106	115	134	141

## SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS0 FOR NEOZED D0-FUSES

### Short-circuit selectivity BMS0 for NEOZED D0-fuses

If a short circuit occurs, selectivity exists between the miniature circuit breaker BMS0 and the fuses in front up to the specified values of the selectivity limit current  $I_S$  [kA] (i.e., for short-circuit currents  $I_{KS}$  below  $I_S$ , only the line circuit breaker trips, for short-circuit currents above, both protective devices trip).

\*) according to EN 60898 D.5.2.b



Short-circuit selectivity **Characteristic B** of fuse insert **NEOZED\***)

BMS0	NEOZED D01-D03 gL/gG									
	$I_n$ [A]	10	16	20	25	35	50	63	80	100
1.0	<0.5 <sup>1)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	4.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	1.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.9	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.9	2.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5		<0.5 <sup>1)</sup>	0.5	0.8	1.7	4.0	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.5	0.8	1.6	3.6	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8			0.5	0.8	1.4	2.8	4.3	8.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.5	0.7	1.3	2.4	3.4	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13			<0.5 <sup>1)</sup>	0.7	1.2	2.3	3.2	5.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16				0.6	1.1	2.2	2.9	4.6	10.0	10.0
20					1.1	2.1	2.8	4.4	9.3	9.3
25					1.1	2.0	2.7	4.2	8.7	8.7
32						2.0	2.6	4.0	8.0	8.0
40							2.5	3.8	7.5	7.5
50							2.3	3.4	6.7	6.7
63									6.2	6.2

Short-circuit selectivity **Characteristic C** of fuse insert **NEOZED\***)

BMS0	NEOZED D01-D03 gL/gG									
	$I_n$ [A]	10	16	20	25	35	50	63	80	100
0.75	<0.5 <sup>1)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.0	<0.5 <sup>1)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	0.5	0.6	0.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.9	5.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.8	4.7	9.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.6	4.0	7.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	1.3	3.1	5.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.2	2.7	4.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.2	2.5	4.0	8.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.2	2.3	3.1	5.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13					1.1	2.2	3.0	4.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16					1.1	2.1	2.8	4.4	9.5	9.5
20					1.0	2.0	2.6	4.0	8.3	8.3
25						1.9	2.5	3.8	7.8	7.8
32							2.5	3.7	7.3	7.3
40								3.5	7.0	7.0
50									6.5	6.5
63										

Short-circuit selectivity **Characteristic D** of fuse insert **NEOZED\***)

BMS0	NEOZED D01-D03 gL/gG									
	$I_n$ [A]	10	16	20	25	35	50	63	80	100
0.5	<0.5 <sup>1)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.9	2.8	9.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.8	2.2	6.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.7	1.9	5.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.7	1.8	4.8	9.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.7	1.7	4.7	8.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4		<0.5 <sup>1)</sup>	0.5	0.7	1.7	4.6	7.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.5	3.5	5.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6			<0.5 <sup>1)</sup>	0.5	1.3	2.9	4.5	9.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8			<0.5 <sup>1)</sup>	0.5	1.2	2.4	3.5	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10				0.5	1.1	2.2	3.0	5.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13					1.1	2.1	2.9	4.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16						1.9	2.6	3.9	9.0	9.0
20						1.7	2.3	3.5	8.0	8.0
25							2.2	3.4	7.5	7.5
32								2.9	6.0	6.0
40									5.7	5.7

1) Selectivity limit current  $I_S$  is less than 0.5 kA.

2) Selectivity limit current  $I_S$  = Rated breaking capacity  $I_{cn}$  of the line circuit breaker.

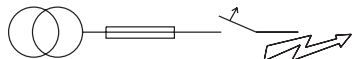
No selectivity

**SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS0 FOR DIAZED D-FUSES**

**Short-circuit selectivity BMS0 for DIAZED D-fuses**

If a short circuit occurs, selectivity exists between the miniature circuit breaker BMS0 and the fuses in front up to the specified values of the selectivity limit current  $I_S$  [kA] (i.e., for short-circuit currents  $I_{kS}$  below  $I_S$ , only the line circuit breaker trips, for short-circuit currents above, both protective devices trip).

\*) according to EN 60898 D.5.2.b



Short-circuit selectivity **Characteristic B** of fuse insert **DIAZED\***

BMS0	DIAZED DII-DIV gL/gG									
$I_n$ [A]	10	16	20	25	35	50	63	80	100	
1.0	<0.5 <sup>1)</sup>	1.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	1.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	3.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.9	2.0	3.5	8.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.6	0.9	1.8	3.2	7.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8		<0.5 <sup>1)</sup>	0.5	0.8	1.6	2.6	5.2	8.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.5	0.8	1.4	2.2	3.9	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13			0.5	0.7	1.3	2.0	3.6	5.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16				0.6	1.2	1.9	3.2	4.6	8.4	8.4
20					1.2	1.8	3.1	4.4	7.8	7.8
25					1.2	1.8	3.0	4.2	7.3	7.3
32						1.7	2.8	3.9	6.8	6.8
40							2.7	3.8	6.5	6.5
50							2.5	3.5	5.7	5.7
63									5.3	5.3

Short-circuit selectivity **Characteristic C** of fuse insert **DIAZED\***

BMS0	DIAZED DII-DIV gL/gG									
$I_n$ [A]	10	16	20	25	35	50	63	80	100	
0.75	1.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.0	<0.5 <sup>1)</sup>	1.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.0	2.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	0.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.9	2.2	4.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.8	1.8	3.6	9.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.7	1.5	2.7	7.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.5	0.6	1.4	2.4	5.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.3	2.2	4.7	8.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			<0.5 <sup>1)</sup>	0.6	1.3	2.0	3.6	5.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13					1.3	1.9	3.3	5.0	9.4	9.4
16					1.2	1.8	3.2	4.4	8.0	8.0
20					1.2	1.8	3.1	4.1	7.0	7.0
25						1.7	2.8	3.8	6.5	6.5
32							2.7	3.7	6.2	6.2
40								3.5	5.9	5.9
50									5.5	5.5
63										

Short-circuit selectivity **Characteristic D** of fuse insert **DIAZED\***

BMS0	DIAZED DII-DIV gL/gG									
$I_n$ [A]	10	16	20	25	35	50	63	80	100	
0.5	0.5	3.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.0	2.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.2	3.5	7.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	2.8	5.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.4	2.3	4.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.9	2.3	4.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.9	2.1	4.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4		<0.5 <sup>1)</sup>	0.6	0.9	2.0	3.8	9.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5		<0.5 <sup>1)</sup>	0.5	0.7	1.7	3.1	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6			0.5	0.7	1.5	2.6	5.3	9.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8			<0.5 <sup>1)</sup>	0.7	1.4	2.2	3.9	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10				0.7	1.2	1.9	3.4	5.0	9.5	9.5
13					1.2	1.8	3.2	4.6	8.6	8.6
16						1.6	2.7	4.0	7.4	7.4
20						1.5	2.5	3.5	6.7	6.7
25							2.4	3.4	6.2	6.2
32								2.8	5.0	5.0
40									4.8	4.8

- 1) Selectivity limit current  $I_S$  is less than 0.5 kA.
- 2) Selectivity limit current  $I_S$  = Rated breaking capacity  $I_{cn}$  of the line circuit breaker.

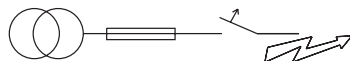
■ No selectivity

## SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS0 FOR HRC SIZE 00 FUSES

### Short-circuit selectivity BMS0 for HRC size 00 fuses

If a short circuit occurs, selectivity exists between the miniature circuit breaker BMS0 and the fuses in front up to the specified values of the selectivity limit current  $I_S$  [kA] (i.e., for short-circuit currents  $I_{KS}$  below  $I_S$ , only the line circuit breaker trips, for short-circuit currents above, both protective devices trip).

\*) according to EN 60898 D.5.2.b



Short-circuit selectivity **Characteristic B** of fuse insert **NH-00\***

BMS0	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
1.0	0.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	0.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	0.5	1.0	2.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	0.5	1.0	2.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	0.5	0.9	2.1	8.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	0.5	0.9	1.8	5.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.3	2.3	4.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.1	1.6	2.2	3.6	4.8	8.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.1	1.5	2.0	3.3	4.3	7.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.0	1.3	1.7	2.6	3.3	5.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10		<0.5 <sup>1)</sup>	0.6	0.9	1.2	1.5	2.2	2.7	4.0	9.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13		<0.5 <sup>1)</sup>	0.6	0.8	1.1	1.4	2.1	2.6	3.8	7.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16			0.5	0.7	1.0	1.3	1.9	2.4	3.4	6.4	9.3	10.0 <sup>2)</sup>
20				0.7	1.0	1.3	1.9	2.4	3.3	6.0	8.7	10.0 <sup>2)</sup>
25				0.7	1.0	1.3	1.8	2.3	3.2	5.7	8.0	10.0 <sup>2)</sup>
32					0.9	1.2	1.7	2.2	3.1	5.4	7.6	10.0 <sup>2)</sup>
40								2.1	3.0	5.1	7.2	10.0 <sup>2)</sup>
50								1.9	2.8	4.7	6.6	9.5
63									4.4	6.3	8.6	

Short-circuit selectivity **Characteristic C** of fuse insert **NH-00\***

BMS0	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.75	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.0	0.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	0.6	1.3	4.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	0.6	1.0	2.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	0.5	1.0	2.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.2	1.8	2.6	4.7	6.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.1	1.7	2.4	4.2	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.0	1.5	2.1	3.6	5.0	10.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.8	1.2	1.7	2.8	3.8	8.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.8	1.2	1.5	2.5	3.3	5.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.5	0.8	1.1	1.5	2.3	2.9	4.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.5	0.7	1.0	1.4	2.0	2.5	3.8	8.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13					1.0	1.3	1.9	2.4	3.6	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16					1.0	1.3	1.8	2.3	3.3	6.0	8.8	10.0 <sup>2)</sup>
20					1.0	1.2	1.7	2.2	3.2	5.5	7.7	10.0 <sup>2)</sup>
25						1.6	2.1	3.0	5.2	7.3	10.0 <sup>2)</sup>	
32							2.1	2.9	5.0	7.0	10.0 <sup>2)</sup>	
40								2.8	4.8	6.7	10.0	
50									4.5	6.3	9.5	
63										5.9	8.4	

Short-circuit selectivity **Characteristic D** of fuse insert **NH-00\***

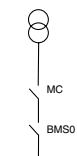
BMS0	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
0.5	2.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.0	<0.5 <sup>1)</sup>	0.6	1.4	4.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
1.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.9	1.6	2.7	4.0	8.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.3	2.1	3.1	6.0	8.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
2.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.2	1.8	2.6	4.8	6.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.0	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.1	1.7	2.4	4.3	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
3.5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.1	1.7	2.4	4.2	5.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.0	1.6	2.2	3.8	5.2	10.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5		<0.5 <sup>1)</sup>	0.6	0.9	1.4	1.9	3.2	4.1	7.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.5	0.8	1.2	1.6	2.6	3.3	5.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8			0.5	0.8	1.1	1.5	2.2	2.7	4.1	8.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.5	0.7	1.0	1.3	1.9	2.5	3.6	7.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13					1.0	1.3	1.9	2.3	3.4	6.5	9.5	10.0 <sup>2)</sup>
16						1.1	1.6	2.0	3.0	5.5	8.0	10.0 <sup>2)</sup>
20							1.4	1.8	2.8	5.0	7.5	10.0 <sup>2)</sup>
25								1.8	2.7	4.8	7.0	10.0 <sup>2)</sup>
32									2.4	4.1	6.2	9.3
40										4.0	6.0	9.0

- 1) Selectivity limit current  $I_S$  is less than 0.5 kA.
- 2) Selectivity limit current  $I_S$  = Rated breaking capacity  $I_{cn}$  of the line circuit breaker.

No selectivity



SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS0-B.. FOR MC1 AND MC2



Selectivity limit current  $I_S$  [kA] for selectivity between BMS0-B..and MC...  
(set overload and short-circuit release MC to max. value)

BMS0-B..	MC...1-A... $I_{cu} = 25 (50) \text{ kA}$						MC...2-A... $I_{cu} = 25 (50)(100)(150) \text{ kA}$								
	40	50	63	80	100	125	40	50	63	80	100	125	160	200	250
1	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
2	2	15	15	15	15	15	3	15	15	15	15	15	15	15	15
3	1.2	2	3	3	10	15	1.5	1.5	3	5	15	15	15	15	15
4	1.2	2	3	3	8	15	1.2	1.5	3	4	15	15	15	15	15
6	1.2	2	2.5	3	5	10	1.2	1.5	2.5	3	15	15	15	15	15
10	1.2	1.5	2	2	4	10	1	1.5	2.5	3	10	10	10	10	10
13	1	1.5	2	2	4	10	1	1.2	2	3	10	10	10	10	10
16	1	1.2	1.5	2	3	8	1	1.2	1.5	2.5	10	10	10	10	10
20	0.8	1.2	1.5	1.5	3	8	1	1.2	1.5	1.5	10	10	10	10	10
25	0.7	1.2	1.5	1.5	3	7	0.8	1	1.5	2	10	10	10	10	10
32	-	1.2	1	1.5	2	6	-	1	1.5	2	8	8	8	8	10
40	-	-	1	1.5	2	5	-	-	1.2	1.5	7	7	7	7	10
50	-	-	-	1.2	1.5	4	-	-	-	1.5	6	6	6	6	10
63	-	-	-	-	1.5	3	-	-	-	-	6	6	6	6	10

SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS0-C.. FOR MC1 AND MC2



Selectivity limit current  $I_S$  [kA] for selectivity between BMS0-B..and MC...  
(set overload and short-circuit release MC to max. value)

BMS0-C..	MC...1-A... $I_{cu} = 25 (50) \text{ kA}$						MC...2-A... $I_{cu} = 25 (50)(100)(150) \text{ kA}$								
	40	50	63	80	100	125	40	50	63	80	100	125	160	200	250
0.5	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
1	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
2	2	15	15	15	15	15	3	15	15	15	15	15	15	15	15
3	1.2	2	3	3	10	15	1.5	1.5	3	5	15	15	15	15	15
4	1.2	2	3	3	8	15	1.2	1.5	3	4	15	15	15	15	15
6	1.2	2	2.5	3	5	10	1.2	1.5	2.5	3	15	15	15	15	15
10	1.2	1.5	2	2	4	10	1	1.5	2.5	3	10	10	10	10	10
13	1	1.5	2	2	4	10	1	1.2	2	3	10	10	10	10	10
16	1	1.2	1.5	2	3	8	1	1.2	1.5	2.5	10	10	10	10	10
20	0.8	1.2	1.5	1.5	3	8	1	1.2	1.5	1.5	10	10	10	10	10
25	0.7	1.2	1.5	1.5	3	7	0.8	1	1.5	2	10	10	10	10	10
32	-	1.2	1	1.5	2	6	-	1	1.5	2	8	8	8	8	10
40	-	-	1	1.5	2	5	-	-	1.2	1.5	7	7	7	7	10
50	-	-	-	1.2	1.5	4	-	-	-	1.5	6	6	6	6	10
63	-	-	-	-	1.5	3	-	-	-	-	6	6	6	6	10

SHORT-CIRCUIT SELECTIVITY OF MCB, SERIES BMS0-D.. FOR MC1 AND MC2



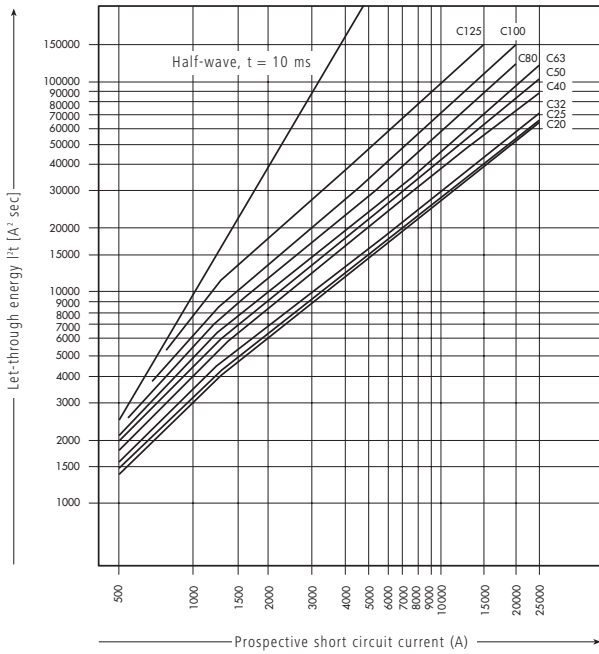
Selectivity limit current  $I_S$  [kA] for selectivity between BMS0-B..and MC...  
(set overload and short-circuit release MC to max. value)

BMS0-D..	MC...1-A... $I_{cu} = 25 (50) \text{ kA}$						MC...2-A... $I_{cu} = 25 (50)(100)(150) \text{ kA}$								
	40	50	63	80	100	125	40	50	63	80	100	125	160	200	250
0.5	9	15	15	15	15	15	9	15	15	15	15	15	15	15	15
1	0.5	0.7	1.1	1.9	4.2	15	0.5	0.7	1.1	1.9	4.2	15	15	15	15
1.5	0.3	0.6	0.8	1.1	1.6	2.6	0.3	0.6	0.8	1.1	1.6	2.6	5	15	15
2	0.3	0.5	0.75	0.95	1.4	2.4	0.3	0.5	0.75	0.95	1.4	2.4	4.5	10	15
2.5	0.3	0.5	0.75	0.95	1.3	2.3	0.3	0.5	0.75	0.95	1.3	2.3	4.2	9	15
3	0.3	0.5	0.7	0.9	1.3	2.1	0.3	0.5	0.7	0.9	1.3	2.1	3.6	7	15
3.5	0.3	0.5	0.7	0.9	1.3	2	0.3	0.5	0.7	0.9	1.3	2	3.3	5.6	10
4	0.3	0.5	0.7	0.9	1.3	1.9	0.3	0.5	0.7	0.9	1.3	1.9	3	4.7	8
5	0.3	0.5	0.7	0.9	1.3	1.9	0.3	0.5	0.7	0.9	1.3	1.9	3	4.4	7
6	0.3	0.5	0.6	0.9	1.3	1.8	0.3	0.5	0.6	0.9	1.3	1.8	2.8	4	6
8	0.3	0.3	0.6	0.75	1	1.3	0.3	0.3	0.6	0.75	1	1.3	1.8	2.7	4
10	0.3	0.3	0.6	0.75	0.95	1.2	0.3	0.3	0.6	0.75	0.95	1.2	1.7	2.4	3.6
13	0.3	0.3	0.5	0.7	0.9	1.1	0.3	0.3	0.5	0.7	0.9	1.1	1.6	2.2	3.2
16	-	0.3	0.5	0.65	0.8	1.1	-	0.3	0.5	0.65	0.8	1.1	1.5	2.1	3
20	-	-	0.5	0.65	0.8	1.1	-	-	0.5	0.65	0.8	1.1	1.4	2.1	3
25	-	-	0.5	0.65	0.8	1.1	-	-	0.5	0.65	0.8	1.1	1.4	1.9	2.7
32	-	-	-	-	0.8	1.1	-	-	-	-	0.8	1.1	1.4	1.9	2.7
40	-	-	-	-	-	1	-	-	-	-	-	1	1.4	1.8	2.6

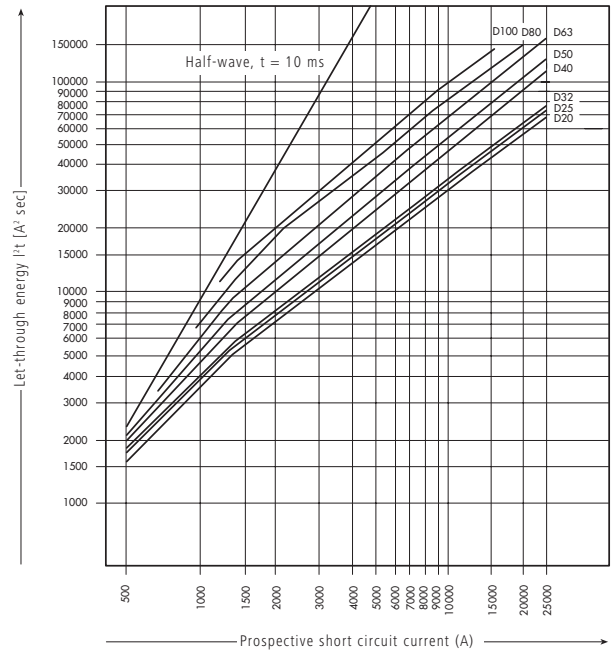
## LET-THROUGH ENERGY DIAGRAM FOR HIGH-CURRENT MCB, SERIES BR

- Determined according to EN 60898

Maximum let-through energy, series BR, characteristic C, 1-pole



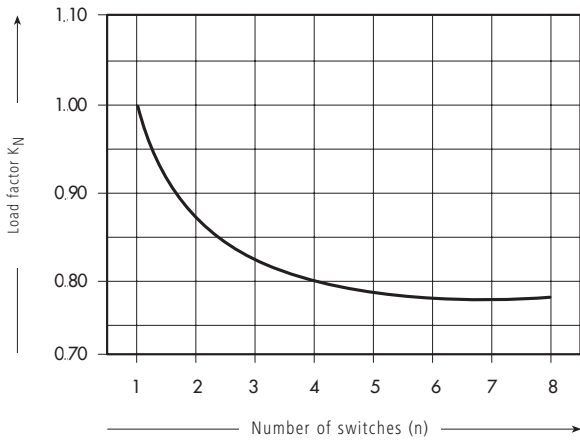
Maximum let-through energy, series BR, characteristic D, 1-pole



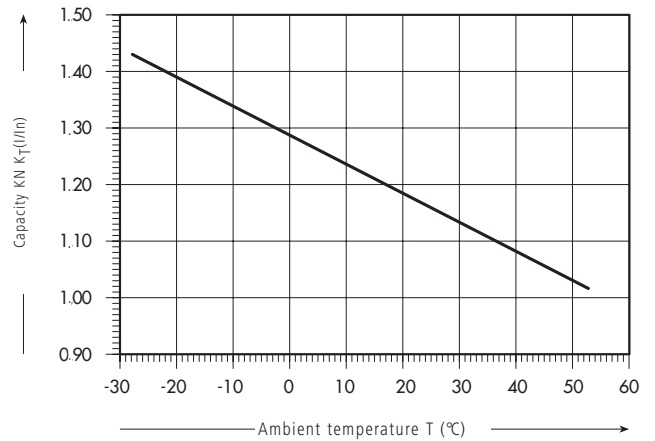
## LOAD CAPACITY OF HIGH-CURRENT MCB, SERIES BR

- Valid for 1-pole switches, series BR
- Reliable continuous load at ambient temperature T (°C) and n switches:  $I_{DL} = I_n K_T(T) K_N(N)$

Capacity with block mounting



Influence of ambient temperature



**SHORT-CIRCUIT SELECTIVITY OF HIGH-CURRENT MCB, SERIES BR FOR BACK-UP FUSES D01, D02, D03**

Rated current $i_n$ A*)		Rated current of back-up fuse in A gG					
		25	35	50	63	80	100
<b>C</b> characteristic	20	0.5	1.0	2.0	2.9	3.9	7.6
	25		1.0	1.9	2.8	3.8	7.3
	32		1.0	1.8	2.7	3.6	7.0
	40			1.6	2.2	3.0	5.6
	50				2.1	2.8	5.2
	63					2.7	4.8
	80						4.3
	100						
	125						
<b>D</b> characteristic	20	0.5	0.9	1.7	2.5	3.4	6.7
	25		0.9	1.6	2.3	3.2	6.2
	32		0.9	1.5	2.3	3.0	6.0
	40			1.4	2.0	2.6	4.7
	50				1.8	2.3	4.3
	63					2.1	3.7
	80						3.1
	100						
	125						

**SHORT-CIRCUIT SELECTIVITY OF HIGH-CURRENT MCB, SERIES BR FOR BACK-UP FUSES HRC SIZE 00**

Rated current $i_n$ A*)		Rated current of back-up fuse in A gG									
		25	35	40	50	63	80	100	125	160	200
<b>C</b> characteristic	20	0.5	1.0	1.3	1.9	2.7	3.7	6.7	17.0		
	25		0.9	1.3	1.8	2.6	3.5	6.5	17.0	25.0	
	32		0.9	1.2	1.7	2.4	3.3	6.0	15.0	23.0	
	40				1.4	2.1	2.9	4.8	12.0	18.0	
	50					1.9	2.7	4.5	11.0	17.0	
	63							4.2	10.0	15.0	
	80							3.8	8.5	12.0	
	100								7.0	10.0	
	125									7.5	
<b>D</b> characteristic	20	<0.5	0.8	1.1	1.5	2.3	3.1	5.6	16.0	25.0	
	25		0.7	1.0	1.4	2.1	3.0	5.3	14.0	23.0	
	32		0.7	1.0	1.3	2.1	2.9	5.0	13.0	22.0	
	40				1.1	1.8	2.5	4.2	10.0	15.0	25.0
	50					1.6	2.3	3.8	8.5	13.0	22.0
	63						2.1	3.2	7.0	10.5	18.0
	80							2.8	5.5	8.4	15.0
	100								4.8	7.5	12.5
	125										

• Short-circuit selectivity (in kA) for connected fuse D0 or NH, class gG

• **1,4** ... Selectivity up to 1.4 kA;  ... No selectivity

\*) Partial export rated values. Available stock types on request

## TOTAL POWER DISSIPATION FOR $I_n$ BMS0

### B characteristic

	1p	1pN	2p	3p	3pN*
$I_n$ [A]	P [W]	P [W]	P [W]	P [W]	P [W]
1	1.6	1.7	3.1	4.7	4.8
1.5	2.3	2.5	4.6	6.9	7.2
1.6	2.5	2.7	4.9	7.4	7.6
2	1.4	1.5	2.8	4.1	4.3
2.5	1.5	1.7	3.1	4.6	4.7
3	2.5	2.7	5.0	7.6	7.8
3.5	2.5	2.8	5.1	7.8	8.0
4	1.4	1.6	2.9	4.4	4.5
5	1.9	2.1	3.8	5.8	6.0
6	1.8	2.0	3.6	5.5	5.6
8	2.1	2.3	4.1	6.3	6.5
10	1.9	2.1	3.9	5.9	6.1
12	2.8	3.2	5.9	8.7	9.0
13	2.5	2.9	5.3	7.8	8.1
15	2.1	2.4	4.4	6.5	6.7
16	2.2	2.6	4.7	6.9	7.2
20	3.2	3.6	6.6	9.8	10.1
25	3.0	3.5	6.4	9.4	9.7
32	3.7	4.4	8.1	12.1	12.5
40	3.4	4.1	7.5	11.2	11.5
50	4.5	5.4	9.9	14.9	15.3
63	5.2	6.3	11.5	17.2	17.7

\* Symmetrical load

### C characteristic

	1p	1pN	2p	3p	3pN*
$I_n$ [A]	P [W]	P [W]	P [W]	P [W]	P [W]
0.16	2.2	2.4	4.4	6.7	6.9
0.25	2.0	2.2	4.0	6.1	6.3
0.5	1.2	1.3	2.4	3.5	3.7
0.75	1.3	1.4	2.6	3.9	4.1
1	1.6	1.7	3.1	4.7	4.8
1.5	1.5	1.6	2.9	4.4	4.6
1.6	1.6	1.7	3.1	4.7	4.9
2	1.4	1.5	2.8	4.1	4.3
2.5	1.5	1.7	3.1	4.6	4.7
3	1.2	1.3	2.4	3.6	3.7
3.5	1.3	1.4	2.6	3.9	4.0
4	1.4	1.6	2.9	4.4	4.5
5	1.9	2.1	3.8	5.8	6.0
6	1.5	1.6	2.9	4.4	4.6
8	2.1	2.3	4.1	6.3	6.5
10	1.5	1.7	3.0	4.6	4.7
12	2.1	2.4	4.4	6.5	6.8
13	2.5	2.9	5.3	7.8	8.1
15	2.1	2.4	4.4	6.5	6.7
16	2.2	2.6	4.7	6.9	7.2
20	3.2	3.6	6.6	9.8	10.1
25	3.0	3.5	6.4	9.4	9.7
32	3.7	4.4	8.1	12.1	12.5
40	3.4	4.1	7.5	11.2	11.5
50	4.5	5.4	9.9	14.9	15.3
63	5.2	6.3	11.5	17.2	17.7

\* Symmetrical load

### D characteristic

	1p	1pN	2p	3p	3pN*
$I_n$ [A]	P [W]	P [W]	P [W]	P [W]	P [W]
0.5	1.2	1.3	2.4	3.5	3.7
1	0.8	0.9	1.6	2.4	2.5
1.5	1.2	1.3	2.3	3.5	3.6
1.6	1.3	1.4	2.5	3.8	3.9
2	1.0	1.1	2.0	3.0	3.1
2.5	1.0	1.1	1.9	2.9	3.0
3	1.2	1.3	2.4	3.6	3.7
3.5	1.3	1.4	2.6	3.9	4.0
4	1.4	1.6	2.9	4.4	4.5
5	1.7	1.8	3.3	5.1	5.3
6	1.5	1.6	2.9	4.4	4.6
8	1.3	1.5	2.6	4.0	4.2
10	1.5	1.7	3.0	4.6	4.7
12	1.7	2.0	3.6	5.3	5.4
13	1.9	2.2	4.0	5.9	6.1
15	2.1	2.4	4.4	6.5	6.7
16	2.2	2.6	4.7	6.9	7.2
20	2.0	2.2	4.1	6.1	6.2
25	2.5	2.9	5.2	7.7	7.9
32	3.4	4.0	7.4	11.1	11.4
40	3.2	3.8	7.0	10.4	10.7

\* Symmetrical load

**POSSIBLE CONNECTION**

**25 mm<sup>2</sup> terminal BMS0, BMS6, BMS4, BOLF**

Conductor cross-section	Number of single conductors, rigid, single-wire Cu conductors					
[mm <sup>2</sup> ]	1	2	3	4	5	6
1,5	+	+	+	+	+	-
2,5	+	+	+	-	-	-
4	+	+	+	-	-	-
6	+	+	+	-	-	-
10	+	+	-	-	-	-
16	+	-	-	-	-	-
25	+	-	-	-	-	-

Conductor cross-section	Number of single conductors, rigid, multi-wire Cu conductors					
[mm <sup>2</sup> ]	1	2	3	4	5	6
10	+	+	-	-	-	-
16	+	-	-	-	-	-
25	+	-	-	-	-	-

Conductor cross-section	Number of single-conductors, flexible Cu conductors					
[mm <sup>2</sup> ]	1**	2*	3*	4*	5*	6*
1,5	+	-	-	+	+	-
2,5	+	-	+	-	-	-
4	+	+	+	-	-	-
6	+	+	+	-	-	-
10	+	+	-	-	-	-
16	+	-	-	-	-	-
25	+	-	-	-	-	-

\*) Only without wire end and sleeve  
 \*\*) Only with wire end and sleeve

Conductor cross-section	Combinations of different cross-sections of flexible Cu conductors with each other						
[mm <sup>2</sup> ]	Permissible variations (without wire end sleeves)						
1,5	+	-	-	-	-	-	-
2,5	+	+	-	-	+	-	-
4	-	+	+	-	-	+	-
6	-	-	+	+	+	-	+
10	-	-	-	+	-	+	-
16	-	-	-	-	-	-	+
25	-	-	-	-	-	-	-

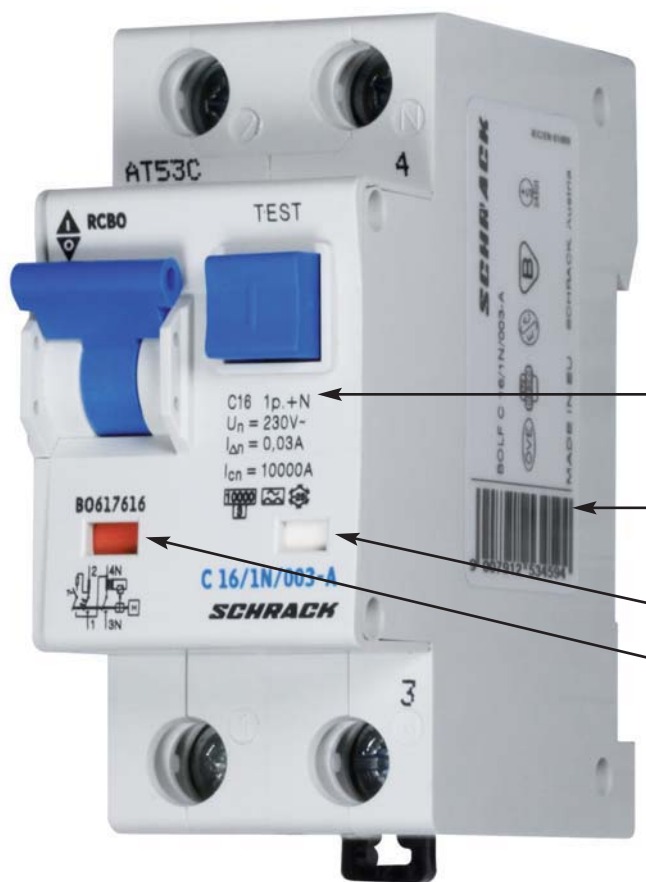
+ Permissible  
 - Not permissible

**No combinations are permissible for rigid single- and multi-wire Cu conductors!**

# COMBINATION CIRCUIT BREAKERS RCBO

## COMBINED MCB AND RCCB , SERIES BOLF

### CONTACT POSITION INDICATOR



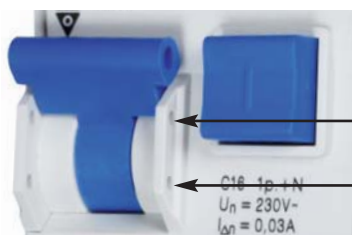
TYPE

EAN CODE  
FOR QUICK ORDERING

TRIP INDICATOR WHITE/BLUE

CONTACT POSITION INDICATOR  
RED/GREEN

### SEALABLE IN ON AND OFF POSITION



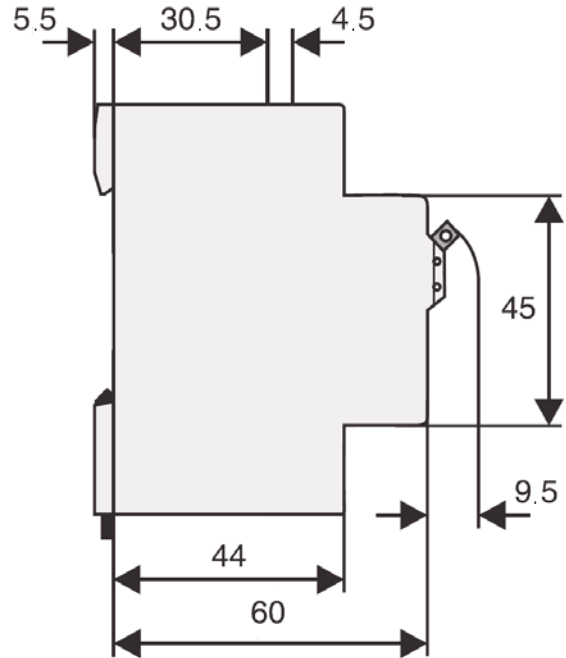
SEALABLE

COMBINED MCB AND RCCB , SERIES BOLF

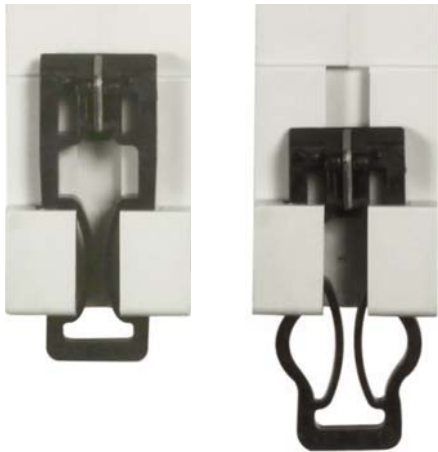
GUIDE FOR SECURE TERMINAL CONNECTION PREVENTS WIRED FROM BEING INSERTED INCORRECTLY



80 mm BASE DIMENSIONS – SPACE-SAVING AND FULLY COMPATIBLE WITH PREDECESSOR SERIES BS



EASY SNAP-ON TO DIN RAIL BY METAL INSERT IN LATCHING SLIDE



SNAP-ON ACCESSORIES

EASY SNAP-ON MOUNTING



SIMPLE REMOVAL



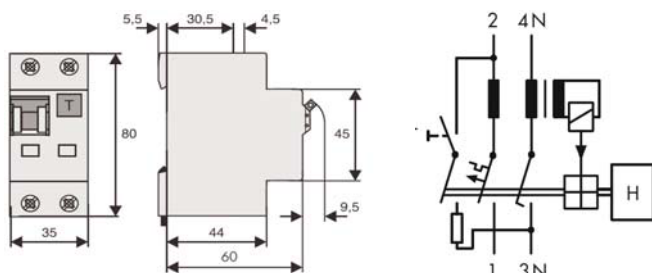
## RCBO – COMBINED MCB AND RCCB SERIES BOLF 6 kA, 1+N – GENERAL INFORMATION



### SCHRACK-INFO

- Tripping independent of line voltage
- Power connection directional
- Double terminal on the top and on the bottom with guide for secure terminal connection
- Indicator: blue: switch off default, white: switch off manual
- Contact position colour indicator (red/green)
- Sensitivity: AC and pulse current sensitive (type A)


### DIMENSIONS AND WIRING DIAGRAMS

















### TECHNICAL DATA


Standards:	IEC/EN 61009
Rated voltage:	230 V/50 Hz
Rated residual current:	30 mA, 300 mA
Endurance:	electrical: $\geq 4.000$ operating cycles mechanical: $\geq 20.000$ operating cycles
Number of poles:	1+N
Voltage limits:	196 - 253 V (necessary for the test button)
Rated breaking capacity:	6kA
Charakteristic:	B and C
Selectivity class:	3
Tripping temperature:	-25 °C up to +40 °C
Climatic conditions:	in according to IEC 68-2 (25...55°C / 90...95% RH)
Max. back up fuse:	100 A gL (>10 kA)
Terminal capacity:	1-25 mm <sup>2</sup>
Finger and hand touch safe:	in according to VBG 4 / ÖVE EN 6, BGV A3
Special snap-on mounting:	for DIN rails EN 50 022
Degree of protection:	IP 20 built in cover IP40
Terminal:	Multi-purpose terminal (lift/open mouthed) Guide for secure terminal connection
Terminal capacity:	1 - 25 mm <sup>2</sup>
Torque of terminals:	2 - 2,4 Nm



**RCBO – COMBINED MCB AND RCCB SERIES BOLF 6 kA, 1+N,  
AC-SENSITIV, TYPE AC, 30 mA, 2 MW** 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
6 A	2	1	BOLF6 B 6/1N/003	9004840395471		<b>BO668506</b>
10 A	2	1	BOLF6 B 10/1N/003	9004840395488		<b>BO668510</b>
16 A	2	1	BOLF6 B 16/1N/003	9004840395495		<b>BO668516</b>
20 A	2	1	BOLF6 B 20/1N/003	9004840395501		<b>BO668520</b>
25 A	2	1	BOLF6 B 25/1N/003	9004840395518		<b>BO668525</b>
32 A	2	1	BOLF6 B 32/1N/003	9004840395525		<b>BO668532</b>
40 A	2	1	BOLF6 B 40/1N/003	9004840395532		<b>BO668540</b>
<b>CHARACTERISTIC C</b>						
6 A	2	1	BOLF6 C 6/1N/003	9004840395549		<b>BO667506</b>
10 A	2	1	BOLF6 C 10/1N/003	9004840395556		<b>BO667510</b>
16 A	2	1	BOLF6 C 16/1N/003	9004840395563		<b>BO667516</b>
20 A	2	1	BOLF6 C 20/1N/003	9004840395570		<b>BO667520</b>
25 A	2	1	BOLF6 C 25/1N/003	9004840395587		<b>BO667525</b>
32 A	2	1	BOLF6 C 32/1N/003	9004840395594		<b>BO667532</b>
40 A	2	1	BOLF6 C 40/1N/003	9004840395600		<b>BO667540</b>

**RCBO – COMBINED MCB AND RCCB SERIES BOLF 6 kA, 1+N,  
AC-SENSITIVE, TYPE AC, 300 mA, 2 MW** 



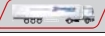




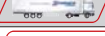



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC C</b>						
6 A	2	1	BOLF6 C 6/1N/03	9004840616897		BO867506
10 A	2	1	BOLF6 C 10/1N/03	9004840616903		BO867510
16 A	2	1	BOLF6 C 16/1N/03	9004840616910		BO867516
20 A	2	1	BOLF6 C 20/1N/03	9004840616927		BO867520
25 A	2	1	BOLF6 C 25/1N/03	9004840616934		BO867525
32 A	2	1	BOLF6 C 32/1N/03	9004840616941		BO867532
40 A	2	1	BOLF6 C 40/1N/03	9004840616958		BO867540



Order no. blue: on stock, usually ready for delivery on the day of order!

## RCBO – COMBINED MCB AND RCCB SERIES BOLF 6 kA, 1+N, PULSE CURRENT SENSITIVE, TYPE A, 30 mA, 2 MW



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
6 A	2	1	BOLF6 B 6/1N/003-A	9004840506563		<b>BO668606</b>
10 A	2	1	BOLF6 B 10/1N/003-A	9004840506570		<b>BO668610</b>
16 A	2	1	BOLF6 B 16/1N/003-A	9004840506587		<b>BO668616</b>
25 A	2	1	BOLF6 B 25/1N/003-A	9004840506624		BO668625
32 A	2	1	BOLF6 B 32/1N/003-A	9004840506631		BO668632
40 A	2	1	BOLF6 B 40/1N/003-A	9004840506648		BO668640
<b>CHARACTERISTIC C</b>						
6 A	2	1	BOLF6 C 6/1N/003-A	9004840506655		<b>BO667606</b>
10 A	2	1	BOLF6 C 10/1N/003-A	9004840506662		<b>BO667610</b>
13 A	2	1	BOLF6 C 13/1N/003-A	9004840548822		<b>BO667613</b>
16 A	2	1	BOLF6 C 16/1N/003-A	9004840506679		<b>BO667616</b>
20 A	2	1	BOLF6 C 20/1N/003-A	9004840506686		<b>BO667620</b>
25 A	2	1	BOLF6 C 25/1N/003-A	9004840506693		<b>BO667625</b>
32 A	2	1	BOLF6 C 32/1N/003-A	9004840506709		BO667632
40 A	2	1	BOLF6 C 40/1N/003-A	9004840506716		BO667640



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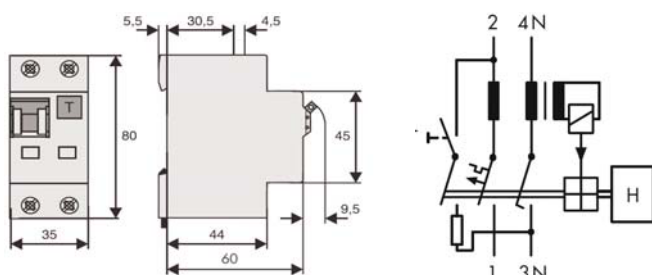
## RCBO – COMBINED MCB AND RCCB SERIES BOLF 10 kA, 1+N – GENERAL INFORMATION



### SCHRACK-INFO

- Tripping independent of line voltage
- Power connection directional
- Double terminal on the top and on the bottom with guide for secure terminal connection
- Indicator: blue: switch off default, white: switch off manual
- Contact position colour indicator (red/green)
- Sensitivity: AC and pulse current sensitive (type A)
- Option: 10 ms tripping delay type G

### DIMENSIONS AND WIRING DIAGRAMS





### TECHNICAL DATA

Standards:	IEC/EN 61009
Rated voltage:	230 V/50 Hz
Rated residual current:	10 mA, 30 mA, 100 mA, 300 mA
Endurance:	electrical: $\geq 4.000$ operating cycles mechanical: $\geq 20.000$ operating cycles
Number of poles:	1+N
Voltage limits:	196 - 253 V (necessary for the test button)
Rated breaking capacity:	10 kA
Characteristic:	B and C
Selectivity class:	3
Tripping temperature:	-25 °C up to +40 °C
Climatic conditions:	in according to IEC 68-2 (25...55°C / 90...95% RH)
Max. back up fuse:	100 A gL (>10 kA)
Terminal capacity:	1-25 mm <sup>2</sup>
Finger and hand touch safe:	in according to VBG 4 / ÖVE EN 6, BGV A3
Special snap-on mounting:	for DIN rails EN 50 022
Degree of protection:	IP 20 built in cover IP40
Terminal:	Multi-purpose terminal (lift/open mouthed) Guide for secure terminal connection
Terminal capacity:	1 - 25 mm <sup>2</sup>
Torque of terminals:	2 - 2,4 Nm





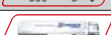
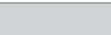



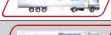




**RCBO – COMBINED MCB AND RCCB SERIES BOLF 10 kA, 1+N, PULSE CURRENT SENSITIVE, TYPE A, 10 mA, 2 MW** 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC C</b>						
16 A	2	1	BOLF C 16/001-A	9004840467659		<b>BO517616</b>

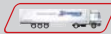

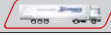


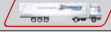


**RCBO – COMBINED MCB AND RCCB SERIES BOLF 10 kA, 1+N, AC-SENSITIVE, TYPE AC, 30 mA, 2 MW** 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
6 A	2	1	BOLF B 6/003	9004840394597		<b>BO618506</b>
10 A	2	1	BOLF B 10/003	9004840394603		<b>BO618510</b>
13 A	2	1	BOLF B 13/003	9004840394610		<b>BO618513</b>
16 A	2	1	BOLF B 16/003	9004840394627		<b>BO618516</b>
20 A	2	1	BOLF B 20/003	9004840394634		<b>BO618520</b>
25 A	2	1	BOLF B 25/003	9004840394641		<b>BO618525</b>
32 A	2	1	BOLF B 32/003	9004840394658		BO618532
40 A	2	1	BOLF B 40/003	9004840394665		BO618540
<b>CHARACTERISTIC C</b>						
6 A	2	1	BOLF C 6/003	9004840394672		<b>BO617506</b>
10 A	2	1	BOLF C 10/003	9004840394689		<b>BO617510</b>
13 A	2	1	BOLF C 13/003	9004840394696		<b>BO617513</b>
16 A	2	1	BOLF C 16/003	9004840394702		<b>BO617516</b>
20 A	2	1	BOLF C 20/003	9004840394719		<b>BO617520</b>
25 A	2	1	BOLF C 25/003	9004840394726		<b>BO617525</b>
32 A	2	1	BOLF C 32/003	9004840394733		<b>BO617532</b>
40 A	2	1	BOLF C 40/003	9004840394740		<b>BO617540</b>


RCBO – COMBINED MCB AND RCCB SERIES BOLF 10 kA, 1+N,  
SHORT TIME DELAY, AC-SENSITIVE, TYPE AC, DELAY-TYPE G, 30 mA, 2 MW,  
SURGE-CURRENT-PROOF 3 kA 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
13 A	2	1	BOLF B 13/003-G	9004840395297		<b>BO218513</b>
16 A	2	1	BOLF B 16/003-G	9004840395303		<b>BO218516</b>
25 A	2	1	BOLF B 25/003-G	9004840395396		<b>BO218525</b>
<b>CHARACTERISTIC C</b>						
13 A	2	1	BOLF C 13/003-G	9004840395419		<b>BO217513</b>
16 A	2	1	BOLF C 16/003-G	9004840395426		<b>BO217516</b>
20 A	2	1	BOLF C 20/003-G	9004840395433		<b>BO217520</b>
25 A	2	1	BOLF C 25/003-G	9004840395440		<b>BO217525</b>
32 A	2	1	BOLF C 32/003-G	9004840395457		<b>BO217532</b>

RCBO – COMBINED MCB AND RCCB SERIES BOLF 10 kA, 1+N,  
AC-SENSITIVE, TYPE AC, 100 mA, 2 MW 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
13 A	2	1	BOLF B 13/01	9004840394924		BO718513
16 A	2	1	BOLF B 16/01	9004840394931		BO718516
<b>CHARACTERISTIC C</b>						
10 A	2	1	BOLF C 10/01	9004840394948		BO717510
16 A	2	1	BOLF C 16/01	9004840394955		<b>BO717516</b>
20 A	2	1	BOLF C 20/01	9004840394962		BO717520
25 A	2	1	BOLF C 25/01	9004840394979		BO717525
32 A	2	1	BOLF C 32/01	9004840394986		BO717532
40 A	2	1	BOLF C 40/01	9004840394993		BO717540





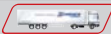




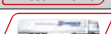
## RCBO – COMBINED MCB AND RCCB SERIES BOLF 10 kA, 1+N, AC-SENSITIVE, TYPE AC, 300 mA, 2 MW




RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC C</b>						
6 A	2	1	BOLF C 6/03	9004840589313		BO817506
10 A	2	1	BOLF C 10/03	9004840589320		BO817510
16 A	2	1	BOLF C 16/03	9004840589337		BO817516
20 A	2	1	BOLF C 20/03	9004840589344		BO817520
25 A	2	1	BOLF C 25/03	9004840589351		BO817525
32 A	2	1	BOLF C 32/03	9004840589368		BO817532
40 A	2	1	BOLF C 40/03	9004840589375		BO817540

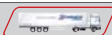



## RCBO – COMBINED MCB AND RCCB SERIES BOLF 10 kA, 1+N, PULSE CURRENT SENSITIVE, TYPE A, 30 mA, 2 MW



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
6 A	2	1	BOLF B 6/003-A	9004840395006		BO618606
10 A	2	1	BOLF B 10/003-A	9004840395013		BO618610
13 A	2	1	BOLF B 13/003-A	9004840395020		BO618613
16 A	2	1	BOLF B 16/003-A	9004840395037		<b>BO618616</b>
20 A	2	1	BOLF B 20/003-A	9004840395044		BO618620
25 A	2	1	BOLF B 25/003-A	9004840395051		<b>BO618625</b>
32 A	2	1	BOLF B 32/003-A	9004840395068		BO618632
40 A	2	1	BOLF B 40/003-A	9004840395075		BO618640
<b>CHARACTERISTIC C</b>						
6 A	2	1	BOLF C 6/003-A	9004840395082		<b>BO617606</b>
10 A	2	1	BOLF C 10/003-A	9004840395099		<b>BO617610</b>
13 A	2	1	BOLF C 13/003-A	9004840395105		<b>BO617613</b>
16 A	2	1	BOLF C 16/003-A	9004840395112		<b>BO617616</b>
20 A	2	1	BOLF C 20/003-A	9004840395129		<b>BO617620</b>
25 A	2	1	BOLF C 25/003-A	9004840395136		<b>BO617625</b>
32 A	2	1	BOLF C 32/003-A	9004840395143		BO617632
40 A	2	1	BOLF C 40/003-A	9004840395150		BO617640

**RCBO – COMBINED MCB AND RCCB SERIES BOLF 10 kA, 1+N,  
PULSE CURRENT SENSITIVE, TYPE A, 300 mA, 2 MW** 



RATED CURRENT	MW	PU	TYPE E	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC C</b>						
6 A	2	1	BOLF C 6/03-A	9004840395198		<b>BO817606</b>
10 A	2	1	BOLF C 10/03-A	9004840395204		<b>BO817610</b>
16 A	2	1	BOLF C 16/03-A	9004840395211		<b>BO817616</b>
20 A	2	1	BOLF C 20/03-A	9004840395228		<b>BO817620</b>
25 A	2	1	BOLF C 25/03-A	9004840395235		BO817625



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## TECHNICAL DATA OF RCBO – COMBINED MCB AND RCCB SERIES BOLF 1+N

### TOTAL POWER LOSS AT $I_n$ BOLF-../1N/

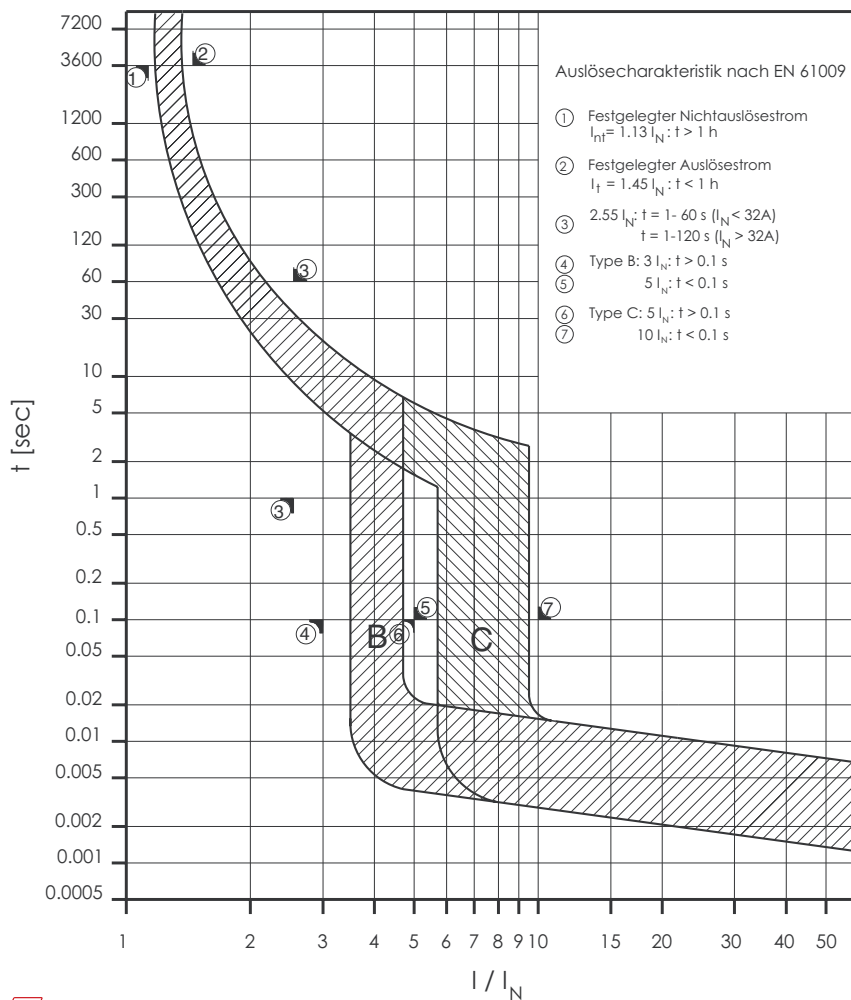
Characteristic B

BOLF	
$I_n$ [A]	P [W]
2	1.4
4	1.5
5	2.0
6	1.7
8	2.4
10	2.3
12	3.1
13	3.4
15	3.4
16	3.6
20	5.4
25	5.0
32	6.1
40	8.2

Characteristic C

BOLF	
$I_n$ [A]	P [W]
2	1.4
4	1.5
5	2.0
6	1.7
8	2.4
10	2.3
12	3.1
13	3.4
15	3.4
16	3.6
20	5.4
25	5.0
32	6.1
40	8.2

### TRIPPING CHARACTERISTIC CURVE BOLF-../1N/ TYPES B, C



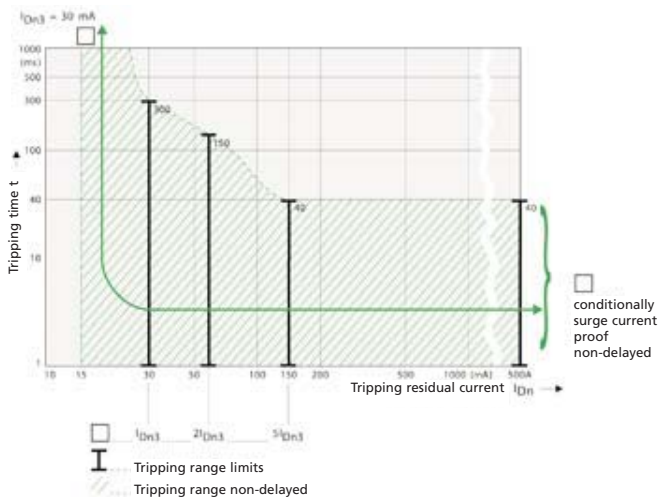


/// INFLUENCE OF AMBIENT TEMPERATURE ON CAPACITIES BOLF-../1N/.. (MCB-PART)

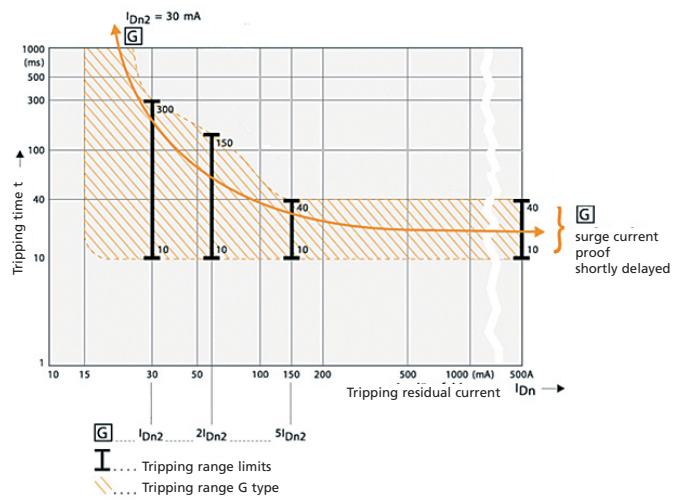
I <sub>n</sub> [A]	Ambient temperature T (°C)																	
	-40	-30	-25	-20	-10	0	10	20	30	35	40	45	50	55	60	65	70	75
2	2.6	2.5	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7
4	5.1	5.0	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9	3.8	3.7	3.6	3.5	3.5	3.4	3.3
5	6.4	6.2	6.2	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1
6	7.7	7.5	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3	5.2	5.1	5.0
8	10.2	9.9	9.9	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7	7.6	7.4	7.2	7.1	6.9	6.8	6.6
10	13	12	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9.0	8.9	8.7	8.5	8.3
12	15	15	15	14	14	13	13	13	12	12	12	11	11	11	11	10	10	10
13	17	16	16	16	15	15	14	14	13	13	13	12	12	12	12	11	11	11
15	19	19	19	18	17	17	16	16	15	15	15	14	14	14	13	13	13	12
16	20	20	20	19	19	18	17	17	16	16	15	15	15	14	14	14	14	13
20	26	25	25	24	23	22	22	21	20	20	19	19	19	18	18	17	17	17
25	32	31	31	30	29	28	27	26	25	25	24	24	23	23	22	22	21	21
32	41	40	40	38	37	36	35	33	32	32	31	30	30	29	28	28	27	26
40	51	50	49	48	47	45	43	42	40	39	39	38	37	36	35	35	34	33

/// TRIPPING CURRENT RCBO – SERIES BOLF (RCCB-PART)

Standard



Delay type G



## SHORT-CIRCUIT SELECTIVITIES



### Short-circuit selectivity, BOLF-..., 10 kA/1N-B to D-fuse gL/gG

In the case of short circuit between LS-FI BOLF-.../1N/ to the back up fuses D. The values are the selectivity-limit-current  $I_s$  [kA]. It means if the short-circuit current  $I_{KS}$  under  $I_s$  only the RCBO tripping. If the short circuit higher it is possible that both fuses are tripping.

\*) nach EN 60898 D.5.2.b

BOLF	DIAZED DII-DIV gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
2	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	2.2	8.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.7	1.2	3.7	10.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		< 0.5 <sup>1)</sup>	0.7	1.0	2.9	6.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8		< 0.5 <sup>1)</sup>	0.6	1.0	2.4	5.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.6	0.9	1.9	3.3	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13			0.5	0.7	1.6	2.8	5.7	9.0	10.0 <sup>2)</sup>
16				0.7	1.4	2.4	4.4	7.0	10.0 <sup>2)</sup>
20					1.3	2.2	4.0	6.3	10.0 <sup>2)</sup>
25					1.3	2.1	3.8	5.8	10.0 <sup>2)</sup>
32						2.0	3.5	5.2	9.5
40							3.1	4.5	8.1

<sup>1)</sup> Selectivity-limit-current  $I_s$  is under 0.5 kA.

<sup>2)</sup> Selectivity-limit-current  $I_s$  = rated breaking capacity  $I_{cn}$  of RCBO  
shaded areas: no selectivity



### Short-circuit selectivity, BOLF-..., 10 kA/1N-C to D-fuse gL/gG

In the case of short circuit between LS-FI BOLF-.../1N/ to the back up fuses D. The values are the selectivity-limit-current  $I_s$  [kA]. It means if the short-circuit current  $I_{KS}$  under  $I_s$  only the RCBO tripping. If the short circuit higher it is possible that both fuses are tripping.

\*) nach EN 60898 D.5.2.b

BOLF	DIAZED DII-DIV gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
2	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	1.7	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.7	1.3	4.2	8.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.6	1.1	3.6	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		< 0.5 <sup>1)</sup>	0.6	1.0	2.9	5.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8		< 0.5 <sup>1)</sup>	< 0.5	0.9	2.5	4.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			< 0.5	0.7	1.5	2.6	5.3	9.0	10.0 <sup>2)</sup>
13					1.4	2.3	4.6	7.6	10.0 <sup>2)</sup>
16					1.2	1.8	3.4	5.5	10.0 <sup>2)</sup>
20					1.2	1.7	3.1	5.0	10.0 <sup>2)</sup>
25						1.6	2.9	4.6	10.0 <sup>2)</sup>
32							2.3	3.4	7.7
40								2.9	6.2

<sup>1)</sup> Selectivity-limit-current  $I_s$  is under 0.5 kA.

<sup>2)</sup> Selectivity-limit-current  $I_s$  = rated breaking capacity  $I_{cn}$  of RCBO  
shaded areas: no selectivity



### Short-circuit selectivity, BOLF-..., 10 kA/1N-B to D0-fuse gL/gG

In the case of short circuit between LS-FI BOLF-.../1N/ to the back up fuses D0.  
The values are the selectivity-limit-current  $I_S$  [kA].

It means if the short-circuit current  $I_{KS}$  under  $I_S$  only the RCBO tripping.  
If the short circuit higher it is possible that both fuses are tripping.

\*) nach EN 60898 D.5.2.b

BOLF	NEOZED D01-D03 gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
2	< 0.5 <sup>1)</sup>	0.7	1.6	3.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.6	0.9	2.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		< 0.5 <sup>1)</sup>	0.5	0.8	2.4	8.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8			0.6	0.8	2.0	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.5	0.8	1.6	3.7	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13			0.5	0.7	1.4	3.0	4.7	9.0	10.0 <sup>2)</sup>
16				0.6	1.2	2.6	3.9	7.0	10.0 <sup>2)</sup>
20					1.2	2.5	3.6	6.2	10.0 <sup>2)</sup>
25					1.2	2.3	3.3	5.7	10.0 <sup>2)</sup>
32						2.3	3.1	5.1	10.0 <sup>2)</sup>
40							2.8	4.5	9.5

<sup>1)</sup> Selectivity-limit-current  $I_S$  is under 0.5 kA.

<sup>2)</sup> Selectivity-limit-current  $I_S$  = rated breaking capacity  $I_{cn}$  of RCBO  
shaded areas: no selectivity



### Short-circuit selectivity, BOLF-..., 10 kA/1N-C to D0-fuse gL/gG

In the case of short circuit between LS-FI BOLF-.../1N/ to the back up fuses D0.  
The values are the selectivity-limit-current  $I_S$  [kA].

It means if the short-circuit current  $I_{KS}$  under  $I_S$  only the RCBO tripping.  
If the short circuit higher it is possible that both fuses are tripping.

\*) nach EN 60898 D.5.2.b

BOLF	Neozed gL/gG D01-D03								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
2	< 0.5 <sup>1)</sup>	0.5	0.5	2.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.9	3.4	9.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5		< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.9	2.9	8.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.8	2.3	6.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8			< 0.5 <sup>1)</sup>	0.7	2.1	5.5	9.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			< 0.5 <sup>1)</sup>	0.6	1.3	2.9	4.5	8.9	10.0 <sup>2)</sup>
13					1.2	2.5	3.9	7.6	10.0 <sup>2)</sup>
16					1.0	2.1	3.0	5.5	10.0 <sup>2)</sup>
20					1.0	2.0	2.7	5.0	10.0 <sup>2)</sup>
25						1.9	2.6	4.5	10.0 <sup>2)</sup>
32							2.1	3.4	10.0 <sup>2)</sup>
40								3.0	8.7

<sup>1)</sup> Selectivity-limit-current  $I_S$  is under 0.5 kA.

<sup>2)</sup> Selectivity-limit-current  $I_S$  = rated breaking capacity  $I_{cn}$  of RCBO  
shaded areas: no selectivity



## Short-circuit selectivity, BOLF-..., 10 kA/1N-B to HRC-fuse NH-00 quick-blow fuse insert gL/gG

In the case of short circuit between LS-FI BOLF-.../1N/ to the back up HRC-fuses.

The values are the selectivity-limit-current  $I_s$  [kA].

It means if the short-circuit current  $I_{KS}$  under  $I_s$  only the RCBO tripping.

If the short circuit higher it is possible that both fuses are tripping.

\*) nach EN 60898 D.5.2.b

BOLF	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	< 0.5 <sup>1)</sup>	1.1	3.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	< 0.5 <sup>1)</sup>	0.5	0.9	1.6	2.8	4.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6	< 0.5 <sup>1)</sup>	0.5	0.8	1.4	2.2	3.3	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.7	1.0	1.9	2.8	5.3	7.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10		< 0.5 <sup>1)</sup>	0.7	0.9	1.5	2.1	3.4	4.3	7.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13		< 0.5 <sup>1)</sup>	0.6	0.8	1.4	1.8	2.8	3.6	5.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16			0.6	0.7	1.2	1.5	2.4	3.0	4.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
20				0.7	1.1	1.5	2.2	2.8	4.2	9.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
25				0.7	1.1	1.4	2.1	2.6	4.0	8.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
32					1.0	1.4	2.0	2.5	3.7	7.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
40								2.3	3.4	6.2	8.8	10.0 <sup>2)</sup>

<sup>1)</sup> Selectivity-limit-current  $I_s$  is under 0.5 kA.

<sup>2)</sup> Selectivity-limit-current  $I_s$  = rated breaking capacity  $I_{cn}$  of RCBO  
shaded areas: no selectivity

## Short-circuit selectivity, BOLF-..., 10 kA/1N-C to HRC-fuse NH-00 quick-blow fuse insert gL/gG

In the case of short circuit between LS-FI BOLF-.../1N/ to the back up HRC-fuses.

The values are the selectivity-limit-current  $I_s$  [kA].

It means if the short-circuit current  $I_{KS}$  under  $I_s$  only the RCBO tripping.

If the short circuit higher it is possible that both fuses are tripping.

\*) nach EN 60898 D.5.2.b

BOLF	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	< 0.5 <sup>1)</sup>	0.6	2.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.9	1.8	3.2	4.8	8.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.8	1.6	2.7	4.1	7.2	9.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.7	1.3	2.2	3.3	5.9	8.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8	< 0.5 <sup>1)</sup>	< 0.5 <sup>1)</sup>	0.6	1.1	1.9	2.8	5.0	6.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10		0.5	0.8	1.2	1.7	2.7	3.4	5.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13				1.1	1.5	2.3	2.9	4.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16				1.0	1.3	1.8	2.3	3.7	8.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
20				0.9	1.1	1.7	2.2	3.4	8.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
25					1.6	2.1	3.2	7.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
32						1.7	2.6	5.3	9.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
40							2.4	4.5	7.5	10.0	10.0	10.0

<sup>1)</sup> Selectivity-limit-current  $I_s$  is under 0.5 kA.

<sup>2)</sup> Selectivity-limit-current  $I_s$  = rated breaking capacity  $I_{cn}$  of RCBO  
shaded areas: no selectivity

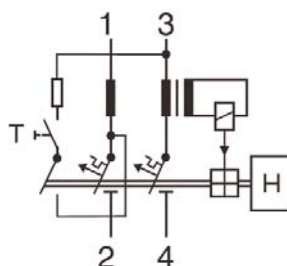
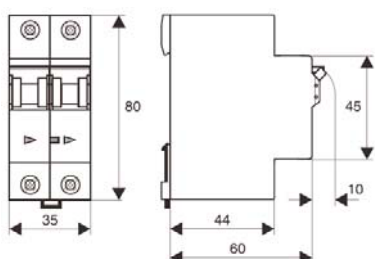
## COMBINED RCCB/MCB DEVICES SERIES BOLF, 2-POLE – GENERAL INFORMATION



### SCHRACK-INFO

- Combined RCCB/MCB device
- Type-A: Protects against special forms of residual pulsating DC which have not been smoothed
- Line voltage-independent tripping
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Twin-purpose terminal (lift/open-mouthed) above and below
- Guide for secure terminal connection
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Compatible with standard busbar
- Comprehensive range of accessories suitable for subsequent installation

### DIMENSIONS AND WIRING DIAGRAMS



### TECHNICAL DATA

Design according to	IEC/EN 61009
Current test marks as printed onto the device	
Tripping	line voltage-independent instantaneous 250A (8/20µs) surge current-proof
Rated voltage $U_e$	230/400 V; 50 Hz
Operational voltage range	196-253 V
Rated tripping current $I_{\Delta n}$	30, 100, 300 mA
Rated non-tripping current $I_{\Delta no}$	0.5 $I_{\Delta n}$
Sensitivity	AC and pulsating DC
Selectivity class	3
Rated breaking capacity	BOx6 6kA, BOx1 10kA
Rated current	6 - 40 A
Rated peak withstand voltage	$U_{imp}$ 4 kV (1.2/50µs)
Characteristic	B, C
Maximum back-up fuse (short circuit) 10 kA type	100 A gL (>10 kA)
Endurance	electrical comp. $\geq$ 4.000 operating cycles mechanical comp. $\geq$ 20.000 operating cycles
<b>MECHANICAL</b>	
Frame size	45 mm
Device height	80 mm
Device width	35 mm (2 MW)
Mounting	3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals	open mouthed/lift terminals
Terminal protection	finger and hand touch safe, BGV A3, ÖVE-EN 6
Terminal capacity	1 - 25 mm <sup>2</sup>
Busbar thickness	0.8 - 2 mm
Degree of protection switch	IP20
Degree of protection, built-in	IP40
Tripping temperature	-25°C to +40°C
Resistance to climatic conditions	acc. to IEC/EN 61009

## RCBO – COMBINED RCCB/MCB, SERIES BOLF, 2-POLE, PULSE CURRENT SENSITIVE, TYPE A, 30 mA, 2 MW



### SCHRACK-INFO

- 10 kA, according to EN 61009

RATED CURRENT/CAPACITY	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
10A / 10kA	2	1	BOLF B10/2/003-A	9004840619928		BO618210
13A / 10kA	2	1	BOLF B13/2/003-A	9004840619959		BO618213
16A / 10kA	2	1	BOLF B16/2/003-A	9004840619973		BO618216
20A / 10kA	2	1	BOLF B20/2/003-A	9004840619980		BO618220
25A / 6kA	2	1	BOLF B25/2/003-A	9004840619997		BO668225
32A / 6kA	2	1	BOLF B32/2/003-A	9004840620009		BO668232
40A / 6kA	2	1	BOLF B40/2/003-A	9004840620016		BO668240
<b>CHARACTERISTIC C</b>						
10A / 10kA	2	1	BOLF C10/2/003-A	9004840620023		BO617210
13A / 10kA	2	1	BOLF C13/2/003-A	9004840620030		BO617213
16A / 10kA	2	1	BOLF C16/2/003-A	9004840620054		BO617216
20A / 10kA	2	1	BOLF C20/2/003-A	9004840620061		BO617220
25A / 6kA	2	1	BOLF C25/2/003-A	9004840620108		BO667225
32A / 6kA	2	1	BOLF C32/2/003-A	9004840620122		BO667232
40A / 6kA	2	1	BOLF C40/2/003-A	9004840620146		BO667240



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## RCBO – COMBINED RCCB/MCB, SERIES BOLF, 2-POLE, PULSE CURRENT SENSITIVE, TYPE A, 100 mA, 2 MW



RATED CURRENT/CAPACITY	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
10A / 10kA	2	1	BOLF B10/2/01-A	9004840620207		BO718210
13A / 10kA	2	1	BOLF B13/2/01-A	9004840620214		BO718213
16A / 10kA	2	1	BOLF B16/2/01-A	9004840620221		BO718216
20A / 10kA	2	1	BOLF B20/2/01-A	9004840620238		BO718220
25A / 6kA	2	1	BOLF B25/2/01-A	9004840620245		BO768225
32A / 6kA	2	1	BOLF B32/2/01-A	9004840620368		BO768232
40A / 6kA	2	1	BOLF B40/2/01-A	9004840620405		BO768240
<b>CHARACTERISTIC C</b>						
10A / 10kA	2	1	BOLF C10/2/01-A	9004840620467		BO717210
13A / 10kA	2	1	BOLF C13/2/01-A	9004840620504		BO717213
16A / 10kA	2	1	BOLF C16/2/01-A	9004840620528		BO717216
20A / 10kA	2	1	BOLF C20/2/01-A	9004840620542		BO717220
25A / 6kA	2	1	BOLF C25/2/01-A	9004840620610		BO767225
32A / 6kA	2	1	BOLF C32/2/01-A	9004840620672		BO767232
40A / 6kA	2	1	BOLF C40/2/01-A	9004840620689		BO767240



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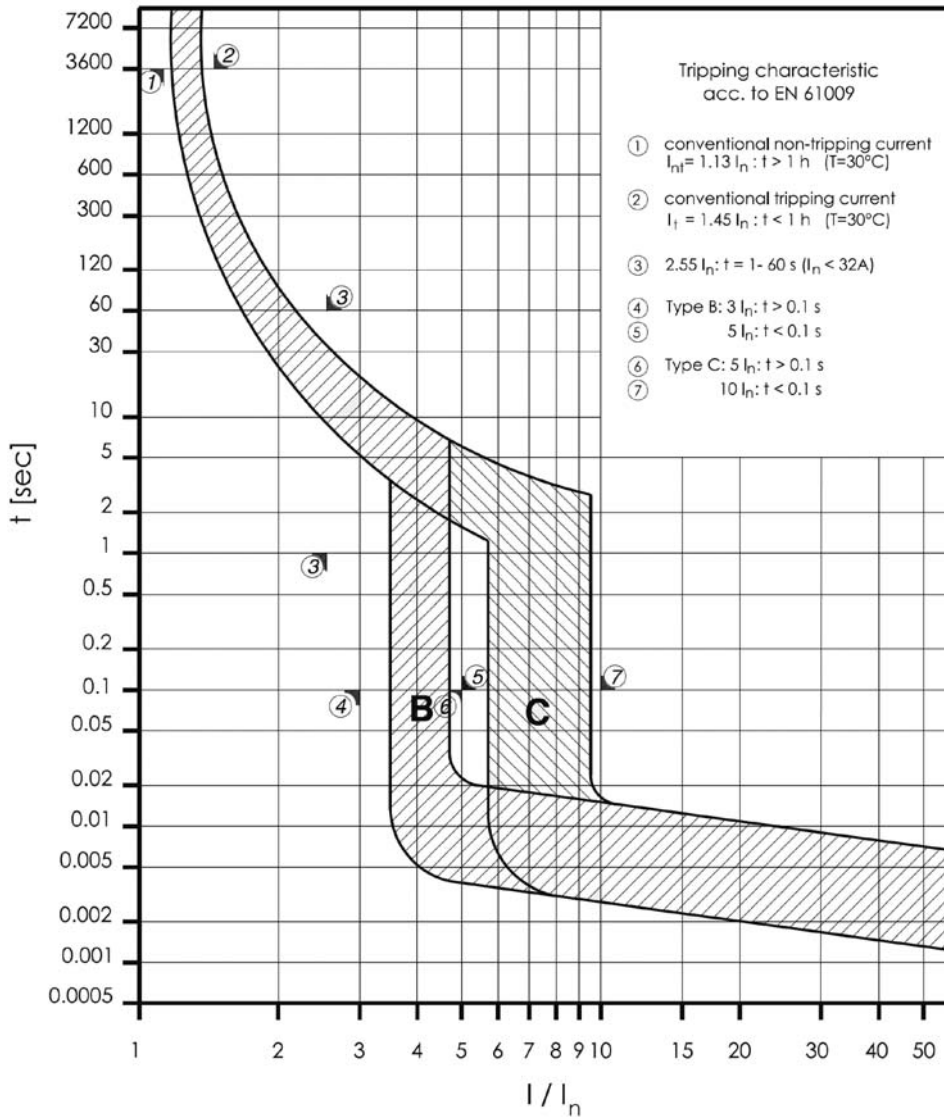
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## TECHNICAL DATA OF COMBINED RCCB/MCB DEVICES SERIES BOLF, 2-POLE

### TRIPPING CHARACTERISTIC, CHARACTERISTICS B AND C





## INFLUENCE OF AMBIENT TEMPERATURE ON LOAD CARRYING CAPACITY OF BO21...., BO61.... AND BO71....

- o Values = max. allowed current in Ampere at the specific temperature
- o Temperature factor (%/K) = 0,5

Ambient temperature / °C										
In (A)	-40	-30	-25	-20	-10	0	10	20	<b>30</b>	40
6	8,1	7,8	7,7	7,5	7,2	6,9	6,6	6,3	<b>6</b>	5,7
10	13,5	13	12,8	12,5	12	11,5	11	10,5	<b>10</b>	9,5
13	17,6	16,9	16,6	16,3	15,6	15	14,3	13,7	<b>13</b>	12,4
16	21,6	20,8	20,4	20	19,2	18,4	17,6	16,8	<b>16</b>	15,2
20	27	26	25,5	25	24	23	22	21	<b>20</b>	19

## INFLUENCE OF AMBIENT TEMPERATURE ON LOAD CARRYING CAPACITY OF BO66...., BO67....

- o Values = max. allowed current in Ampere at the specific temperature
- o Temperature factor (%/K) = 0,5

Ambient temperature / °C										
In (A)	-40	-30	-25	-20	-10	0	10	20	<b>30</b>	40
6	8,1	7,8	7,7	7,5	7,2	6,9	6,6	6,3	<b>6</b>	5,7
10	13,5	13	12,8	12,5	12	11,5	11	10,5	<b>10</b>	9,5
13	17,6	16,9	16,6	16,3	15,6	15	14,3	13,7	<b>13</b>	12,4
16	21,6	20,8	20,4	20	19,2	18,4	17,6	16,8	<b>16</b>	15,2
20	27	26	25,5	25	24	23	22	21	<b>20</b>	19
25	33,8	32,5	31,9	31,3	30	28,8	27,5	26,3	<b>25</b>	23,8
32	43,2	41,6	40,8	40	38,4	36,8	35,2	33,6	<b>32</b>	30,4
40	54	52	51	50	48	46	44	42	<b>40</b>	38

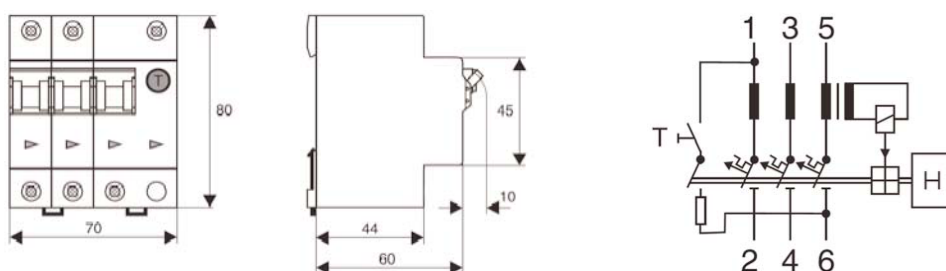
## COMBINED RCCB/MCB DEVICES SERIES BOLF, 3-POLE – GENERAL INFORMATION



### SCHRACK-INFO

- Combined RCCB/MCB device
- Type-A: Protects against special forms of residual pulsating DC which have not been smoothed
- Line voltage-independent tripping
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Twin-purpose terminal (lift/open-mouthed) above and below
- Guide for secure terminal connection
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Compatible with standard busbar
- Comprehensive range of accessories suitable for subsequent installation

### DIMENSIONS AND WIRING DIAGRAMS



### TECHNICAL DATA

Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping	line voltage-independent	instantaneous 250A (8/20 $\mu$ s) surge current-proof
Rated voltage $U_e$		230/400 V; 50 Hz
Rated tripping current $I_{\Delta n}$		30, 100 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		A (pulsating DC)
Selectivity class		3
Rated breaking capacity		10kA
Rated current		10 - 20 A
Rated peak withstand voltage		$U_{imp}$ 4 kV (1.2/50 $\mu$ s)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>10 kA)
Endurance	electrical comp. mechanical comp.	$\geq$ 2.000 operating cycles $\geq$ 10.000 operating cycles
<b>MECHANICAL</b>		
Frame size		45 mm
Device height		80 mm
Device width		70 mm (4 MW)
Mounting		3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals		open mouthed/lift terminals
Terminal protection		finger and hand touch safe, BGV A3, ÖVE-EN 6
Terminal capacity		1 – 25 mm <sup>2</sup>
Busbar thickness		0.8 – 2 mm
Degree of protection switch		IP20
Degree of protection, built-in		IP40
Tripping temperature		-25°C to +40°C
Resistance to climatic conditions		acc. to IEC/EN 61009

**RCBO – COMBINED RCCB/MCB, SERIES BOLF, 10 kA, 3-POLE, PULSE CURRENT SENSITIVE, TYPE A, 30 mA, 4 MW** 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
10A	4	1	BOLF B10/3/003-A	9004840619867		BO618310
13A	4	1	BOLF B13/3/003-A	9004840619874		BO618313
16A	4	1	BOLF B16/3/003-A	9004840619881		BO618316
20A	4	1	BOLF B20/3/003-A	9004840619898		BO618320
<b>CHARACTERISTIC C</b>						
10A	4	1	BOLF C10/3/003-A	9004840619904		BO617310
13A	4	1	BOLF C13/3/003-A	9004840619911		BO617313
16A	4	1	BOLF C16/3/003-A	9004840619935		BO617316

**RCBO – COMBINED RCCB/MCB, SERIES BOLF, 10 kA, 3-POLE, PULSE CURRENT SENSITIVE, TYPE A/G, 30 mA, 4 MW, 10 ms TRIPPING DELAY, VERSION G** 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
10A	4	1	BOLF B10/3/003-G/A	9004840620160		BO218310
13A	4	1	BOLF B13/3/003-G/A	9004840620177		BO218313
16A	4	1	BOLF B16/3/003-G/A	9004840620184		BO218316
20A	4	1	BOLF B20/3/003-G/A	9004840620191		BO218320
<b>CHARACTERISTIC C</b>						
10A	4	1	BOLF C10/3/003-G/A	9004840620511		BO217310
13A	4	1	BOLF C13/3/003-G/A	9004840620535		BO217313
16A	4	1	BOLF C16/3/003-G/A	9004840620559		BO217316
20A	4	1	BOLF C20/3/003-G/A	9004840620566		BO217320

**RCBO – COMBINED RCCB/MCB, SERIES BOLF, 10 kA, 3-POLE, PULSE CURRENT SENSITIVE, TYPE A, 100 mA, 4 MW** 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
10A	4	1	BOLF B10/3/01-A	9004840619966		BO718310
13A	4	1	BOLF B13/3/01-A	9004840620047		BO718313
16A	4	1	BOLF B16/3/01-A	9004840620085		BO718316
20A	4	1	BOLF B20/3/01-A	9004840620078		BO718320
<b>CHARACTERISTIC C</b>						
10A	4	1	BOLF C10/3/01-A	9004840620092		BO717310
13A	4	1	BOLF C13/3/01-A	9004840620115		BO717313
16A	4	1	BOLF C16/3/01-A	9004840620139		BO717316
20A	4	1	BOLF C20/3/01-A	9004840620153		BO717320

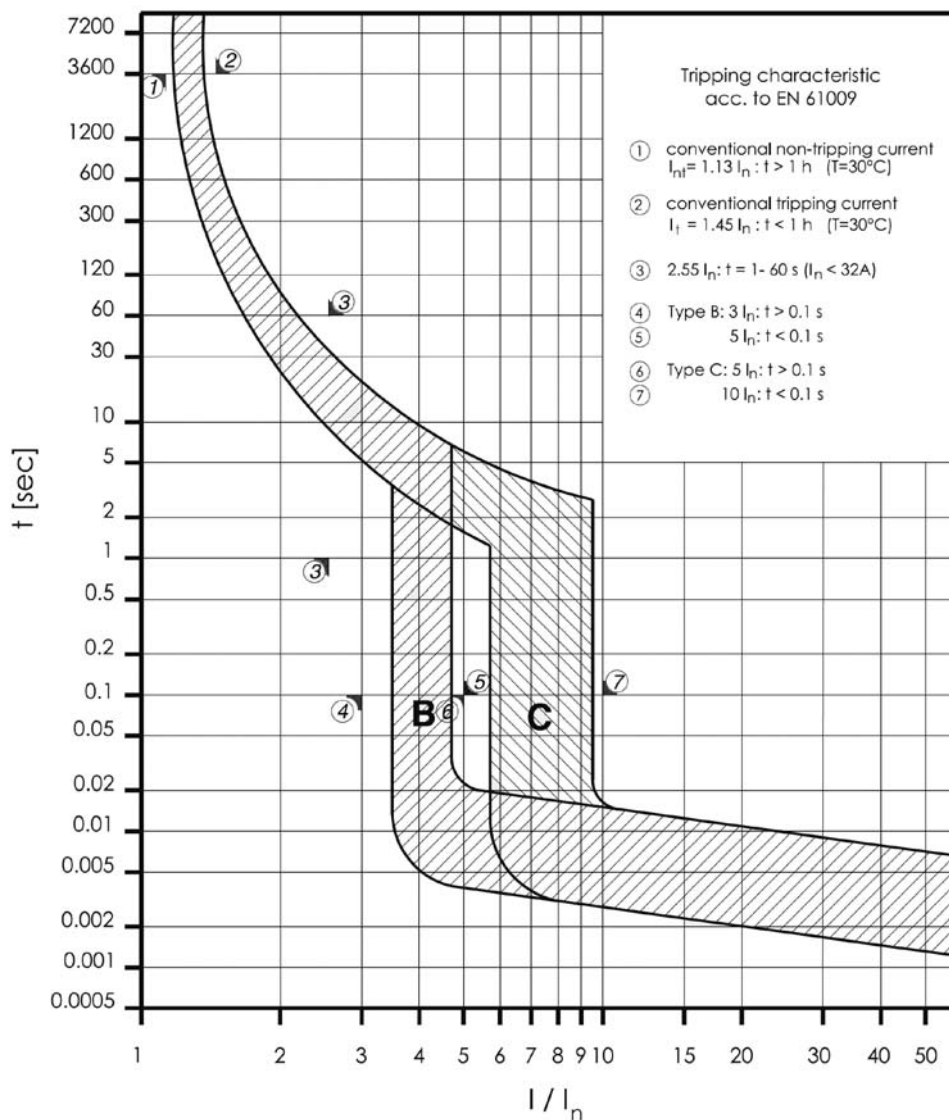
**RCBO – COMBINED RCCB/MCB, SERIES BOLF, 10 kA, 3-POLE, PULSE CURRENT SENSITIVE, TYPE A/G, 100 mA, 4 MW, 10 ms TRIPPING DELAY, VERSION G** 



RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
10A	4	1	BOLF B10/3/01-G/A	9004840620580		BO318310
13A	4	1	BOLF B13/3/01-G/A	9004840620597		BO318313
16A	4	1	BOLF B16/3/01-G/A	9004840620603		BO318316
20A	4	1	BOLF B20/3/01-G/A	9004840620627		BO318320
<b>CHARACTERISTIC C</b>						
10A	4	1	BOLF C10/3/01-G/A	9004840620634		BO317310
13A	4	1	BOLF C13/3/01-G/A	9004840620641		BO317313
16A	4	1	BOLF C16/3/01-G/A	9004840620658		BO317316
20A	4	1	BOLF C20/3/01-G/A	9004840620665		BO317320

TECHNICAL DATA OF COMBINED RCCB/MCB DEVICES SERIES BOLF, 3-POLE

TRIPPING CHARACTERISTIC, CHARACTERISTICS B AND C



INFLUENCE OF AMBIENT TEMPERATURE ON LOAD CARRYING CAPACITY

- o Values = max. allowed current in Ampere at the specific temperature
- o Temperature factor (%/K) = 0,5

In (A)	Ambient temperature / °C									
	-40	-30	-25	-20	-10	0	10	20	30	40
6	8,1	7,8	7,7	7,5	7,2	6,9	6,6	6,3	<b>6</b>	5,7
10	13,5	13	12,8	12,5	12	11,5	11	10,5	<b>10</b>	9,5
13	17,6	16,9	16,6	16,3	15,6	15	14,3	13,7	<b>13</b>	12,4
16	21,6	20,8	20,4	20	19,2	18,4	17,6	16,8	<b>16</b>	15,2
20	27	26	25,5	25	24	23	22	21	<b>20</b>	19

## RCBO – COMBINED RCCB/MCB, SERIES BOLF, 3-POLE, SWITCHABLE WITH N-CONDUCTOR, 4 MW – GENERAL INFORMATION



BO617316

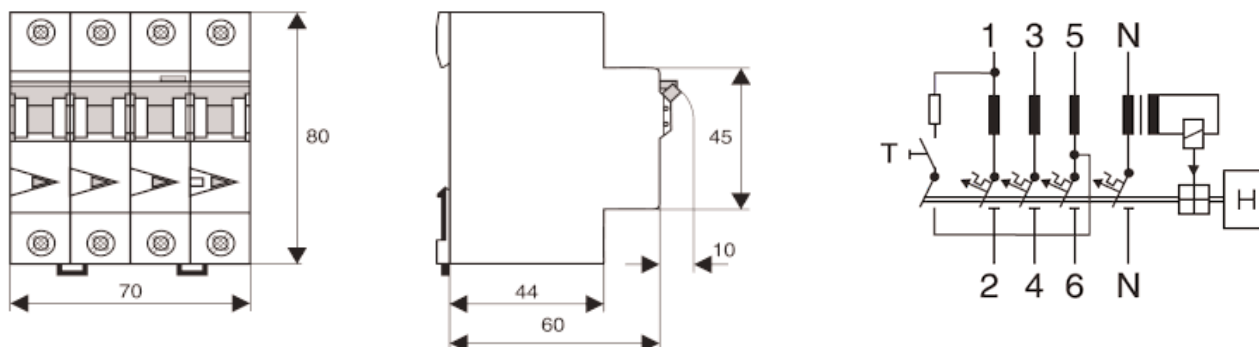
### SCHRACK-INFO


- Type A: Pulse-current sensitive
- Connection independent of current direction
- Independent of mains voltage
- Lift and clamp terminals in both sides
- Insulated protection against incorrect insertion
- Window with trip indicator (white – blue)
- Window with colour (red/green) positively-driven contact position indicator

### TECHNICAL DATA

Regulations:	according to IEC/EN 61009
Rated voltage:	$U_e$ 230/400 V; 50 Hz
No. of poles:	three-pole with switchable N-conductor
Limits of the operating voltage:	196 - 253 V
Rated breaking capacity:	6 kA
Max. back-up fuse (short circuit):	100 A gG
Characteristics:	B, C and D
Rated current:	6 - 16 A
Selectivity class:	3
Type:	A (pulse-current sensitive)
Tripping:	independent of mains voltage, non-delayed 250A (8/20 $\mu$ s), surge current proof
Rated surge voltage protection:	$U_{imp}$ 4 kV (1.2/50 $\mu$ s)
Rated residual currents:	$I_{\Delta n}$ 30 mA, 100 mA or 300 mA
Rated fault non-tripping current:	$I_{\Delta no}$ 0.5 $I_{\Delta n}$
Mounting:	special snap-on mounting for DIN rail EN 50 022
Terminals:	top and bottom clamp/lift terminals
Connection cross-section:	1-25 mm <sup>2</sup>
Protection against incorrect insertion:	insulated on all terminals
Terminal protection:	finger and hand touch safe: according to BGV A3, ÖVE-EN 6
Degree of protection:	switch IP20, IP40 installed
Ambient temperature:	-25 °C to +40 °C
Climatic proofing:	according to IEC 68-2 (25 .. 55 °C / 90 .. 95% RH)






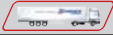
### DIMENSIONS AND WIRING DIAGRAMS



**RCBO – COMBINED RCCB/MCB, SERIES BOLF, 6 kA, 3+N-POLE,  
PULSE CURRENT SENSITIVE, TYPE A, 30 mA, 4 MW** 



BO667816

RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
13 A	4	1	B13 / 3N / 003-A	9004840623109		<b>BO668813</b>
16 A	4	1	B16 / 3N / 003-A	9004840626179		<b>BO668816</b>
<b>CHARACTERISTIC C</b>						
6 A	4	1	C6 / 3N / 003-A	9004840626223		BO667806
10 A	4	1	C10 / 3N / 003-A	9004840626230		<b>BO667810</b>
13 A	4	1	C13 / 3N / 003-A	9004840626247		<b>BO667813</b>
16 A	4	1	C16 / 3N / 003-A	9004840626254		<b>BO667816</b>
<b>CHARACTERISTIC D</b>						
16 A	4	1	D16 / 3N / 003-A	9004840626377		<b>BO669816</b>




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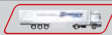

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**RCBO – COMBINED RCCB/MCB, SERIES BOLF, 6 kA, 3+N-POLE, PULSE CURRENT SENSITIVE, TYPE A, 100 mA** 



BO767816

RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
13 A	4	1	B13 / 3N / 01-A	9004840626186		<b>BO768813</b>
16 A	4	1	B16 / 3N / 01-A	9004840626193		BO768816
<b>CHARACTERISTIC C</b>						
6 A	4	1	C6 / 3N / 01-A	9004840626261		BO767806
10 A	4	1	C10 / 3N / 01-A	9004840626278		BO767810
13 A	4	1	C13 / 3N / 01-A	9004840626285		BO767813
16 A	4	1	C16 / 3N / 01-A	9004840626292		<b>BO767816</b>
<b>CHARACTERISTIC D</b>						
6 A	4	1	D6 / 3N / 01-A	9004840626384		BO769806
10 A	4	1	D10 / 3N / 01-A	9004840626391		BO769810
13 A	4	1	D13 / 3N / 01-A	9004840626407		BO769813
16 A	4	1	D16 / 3N / 01-A	9004840626414		BO769816

**RCBO – COMBINED RCCB/MCB, SERIES BOLF, 6 kA, 3+N-POLE, PULSE CURRENT SENSITIVE, TYPE A, 300 mA** 



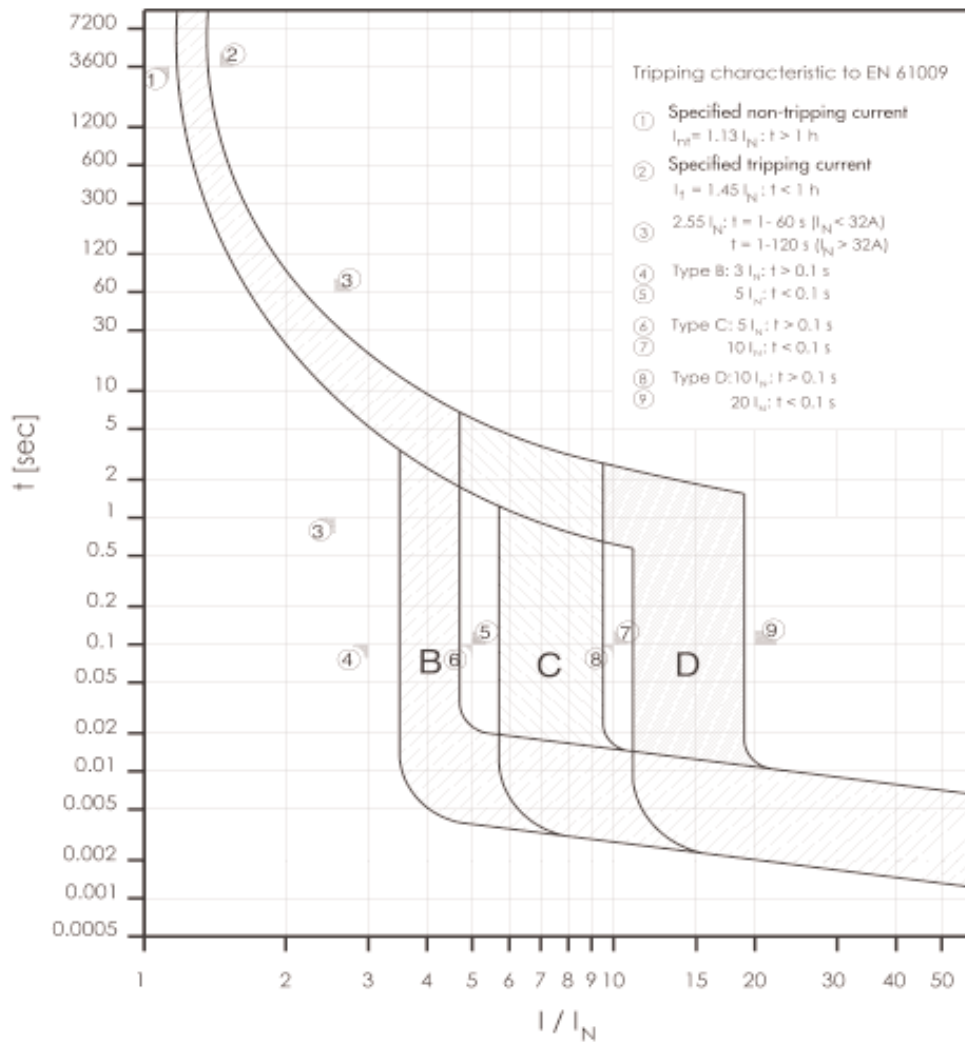
BO867813

RATED CURRENT	MW	PU	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>						
13 A	4	1	B13 / 3N / 03-A	9004840626209		BO868813
16 A	4	1	B16 / 3N / 03-A	9004840626216		BO868816
<b>CHARACTERISTIC C</b>						
6 A	4	1	C6 / 3N / 03-A	9004840626308		BO867806
10 A	4	1	C10 / 3N / 03-A	9004840626315		BO867810
13 A	4	1	C13 / 3N / 03-A	9004840626322		BO867813
16 A	4	1	C16 / 3N / 03-A	9004840626339		BO867816

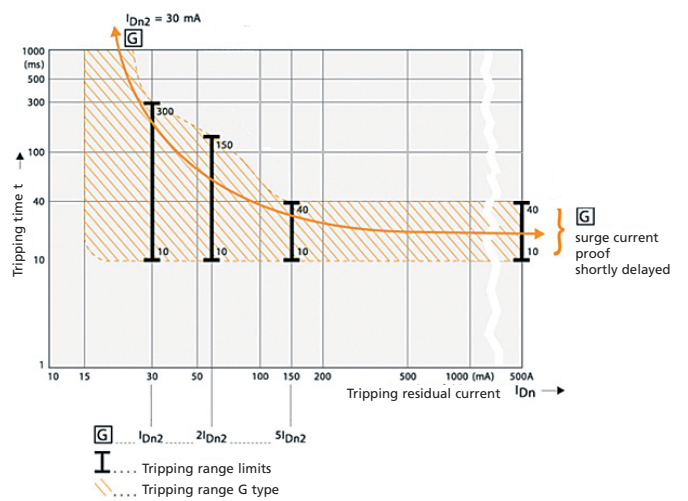
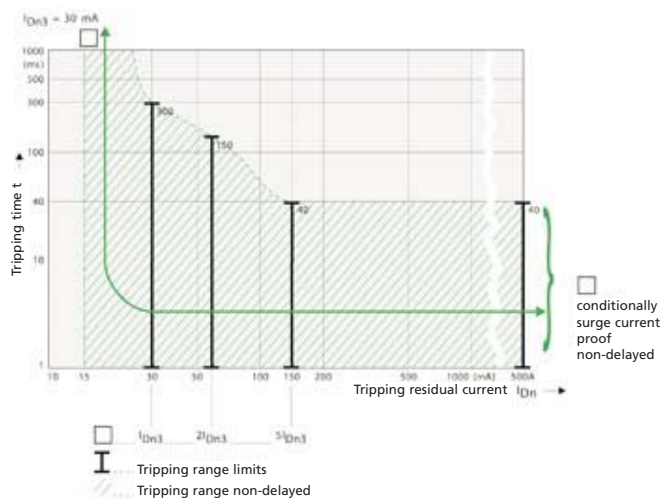


TECHNICAL DATA OF RCBO SERIES BOLF

TRIPPING CHARACTERISTIC CURVE RCBO – SERIES BOLF

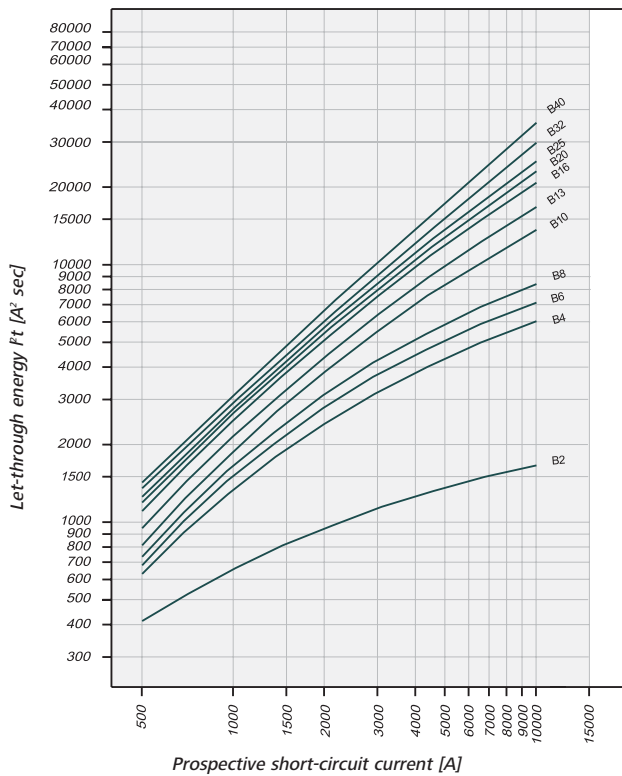


TRIPPING CHARACTERISTICS RCBO – SERIES BOLF

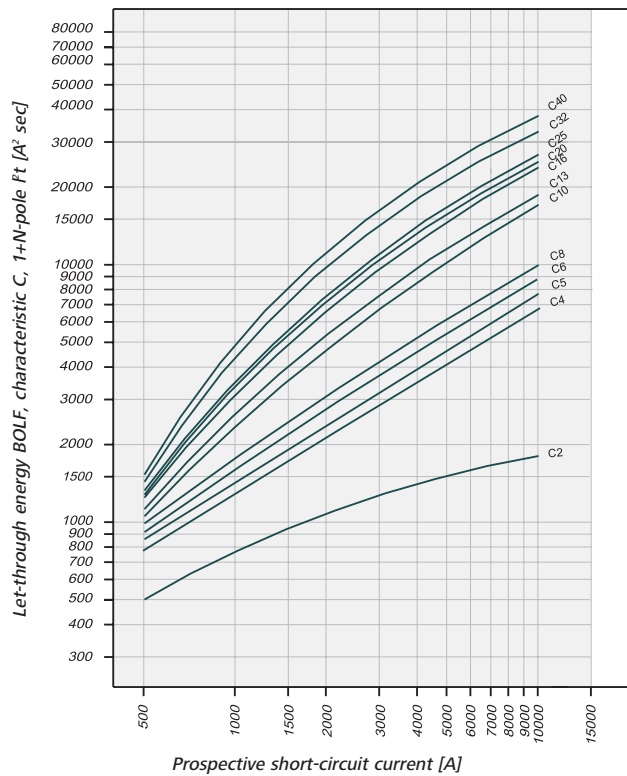


## LET-THROUGH ENERGY DIAGRAM FOR RCBO – SERIES BOLF, 10 kA

Let-through energy BOLF, characteristic B, 1+N-pole



Let-through energy BOLF, characteristic C, 1+N-pole



## SHORT-CIRCUIT SELECTIVITY FOR RCBO – SERIES ../1N/FOR DIAZED, D-FUSE, 10 kA

If a short circuit occurs, selectivity exists between the LS/FI breakers BOLF ../1N/ and the fuses in front up to the specified values of the selectivity limit current  $I_S$  [kA] (i.e., for short-circuit currents  $I_{kS}$  below  $I_S$ , only the line circuit breaker trips, for short-circuit currents above, both protective devices trip).

\*) according to EN 60898 D.5.2.b

Short-circuit selectivity **characteristic B** for fuse insert **DIAZED\***

BOLF	DIAZED DII-DIV gL/gG									
$I_n$ [A]	10	16	20	25	35	50	63	80	100	
2	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	2.2	8.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.2	3.7	10.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.7	1.0	2.9	6.9	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8		<0.5 <sup>1)</sup>	0.6	1.0	2.4	5.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.6	0.9	1.9	3.3	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13			0.5	0.7	1.6	2.8	5.7	9.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16				0.7	1.4	2.4	4.4	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
20					1.3	2.2	4.0	6.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
25					1.3	2.1	3.8	5.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
32						2.0	3.5	5.2	9.5	10.0 <sup>2)</sup>
40							3.1	4.5	8.1	10.0 <sup>2)</sup>

Short-circuit selectivity **characteristic C** for fuse insert **DIAZED\***

BOLF	DIAZED DII-DIV gL/gG									
$I_n$ [A]	10	16	20	25	35	50	63	80	100	
2	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	1.7	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.3	4.2	8.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.1	3.6	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.6	1.0	2.9	5.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8		<0.5 <sup>1)</sup>	<0.5	0.9	2.5	4.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			<0.5	0.7	1.5	2.6	5.3	9.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13					1.4	2.3	4.6	7.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16					1.2	1.8	3.4	5.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
20					1.2	1.7	3.1	5.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
25						1.6	2.9	4.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
32							2.3	3.4	7.7	10.0 <sup>2)</sup>
40								2.9	6.2	10.0 <sup>2)</sup>

1) Selectivity limit current  $I_S$  is less than 0.5 kA.

2) Selectivity limit current  $I_S$  = Rated breaking capacity  $I_{cn}$  of RCBO.

Darker areas: no selectivity

**SHORT-CIRCUIT SELECTIVITY FOR RCBO – SERIES ../1N/FOR NEOZED, D0-FUSE, 10 kA**

If a short circuit occurs, selectivity exists between the LS/FI breakers BOLF ../1N/ and the fuses in front up to the specified values of the selectivity limit current  $I_S$  [kA] (i.e., for short-circuit currents  $I_{KS}$  below  $I_S$ , only the line circuit breaker trips, for short-circuit currents above, both protective devices trip).

\*) according to EN 60898 D.5.2.b

Short-circuit selectivity **characteristic B** for fuse insert **NEOZED\***

BOLF	NEOZED D01-D03 gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
2	<0.5 <sup>1)</sup>	0.7	1.6	3.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	0.9	2.9	10.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	0.5	0.8	2.4	8.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8			0.6	0.8	2.0	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.5	0.8	1.6	3.7	6.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13			0.6	0.7	1.4	3.0	4.7	9.0	10.0 <sup>2)</sup>
16				0.6	1.2	2.6	3.9	7.0	10.0 <sup>2)</sup>
20					1.2	2.5	3.6	6.2	10.0 <sup>2)</sup>
25					1.2	2.3	3.3	5.7	10.0 <sup>2)</sup>
32						2.3	3.1	5.1	10.0 <sup>2)</sup>
40							2.8	4.5	9.5

Short-circuit selectivity **characteristic D** for fuse insert **NEOZED\***

BOLF	NEOZED D01-D03 gL/gG								
$I_n$ [A]	10	16	20	25	35	50	63	80	100
2	<0.5 <sup>1)</sup>	0.5	0.5	2.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.9	3.4	9.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.9	2.9	8.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6		<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	2.3	6.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8			<0.5	0.7	2.1	5.5	9.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			<0.5	0.6	1.3	2.9	4.5	8.9	10.0 <sup>2)</sup>
13					1.2	2.5	3.9	7.6	10.0 <sup>2)</sup>
16					1.0	2.1	3.0	5.5	10.0 <sup>2)</sup>
20					1.0	2.0	2.7	5.0	10.0 <sup>2)</sup>
25						1.9	2.6	4.5	10.0 <sup>2)</sup>
32							2.1	3.4	10.0 <sup>2)</sup>
40								3.0	8.7

**SHORT-CIRCUIT SELECTIVITY FOR RCBO – SERIES ../1N/FOR HRC-SIZE 00 FUSE, 10 kA**

If a short circuit occurs, selectivity exists between the LS/FI breakers BOLF ../1N/ and the fuses in front up to the specified values of the selectivity limit current  $I_S$  [kA] (i.e., for short-circuit currents  $I_{KS}$  below  $I_S$ , only the line circuit breaker trips, for short-circuit currents above, both protective devices trip).

\*) according to EN 60898 D.5.2.b

Short-circuit selectivity **characteristic B** for fuse insert **NH-00\***

BOLF	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5 <sup>1)</sup>	1.1	3.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	0.5	0.9	1.6	2.8	4.4	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6	<0.5 <sup>1)</sup>	0.5	0.8	1.4	2.2	3.3	7.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.0	1.9	2.8	5.3	7.8	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10		<0.5 <sup>1)</sup>	0.7	0.9	1.5	2.1	3.4	4.3	7.3	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13		<0.5 <sup>1)</sup>	0.6	0.8	1.4	1.8	2.8	3.6	5.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16			0.6	0.7	1.2	1.5	2.4	3.0	4.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
20				0.7	1.1	1.5	2.2	2.8	4.2	9.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
25				0.7	1.1	1.4	2.1	2.6	4.0	8.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
32					1.0	1.4	2.0	2.5	3.7	7.1	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
40								2.3	3.4	6.2	8.8	10.0 <sup>2)</sup>

Short-circuit selectivity **characteristic C** for fuse insert **NH-00\***

BOLF	NH-00 gL/gG											
$I_n$ [A]	16	20	25	32	35	40	50	63	80	100	125	160
2	<0.5 <sup>1)</sup>	0.6	2.6	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
4	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.9	1.8	3.2	4.8	8.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
5	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.8	1.6	2.7	4.1	7.2	9.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
6	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.7	1.3	2.2	3.3	5.9	8.0	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
8	<0.5 <sup>1)</sup>	<0.5 <sup>1)</sup>	0.6	1.1	1.9	2.8	5.0	6.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
10			0.5	0.8	1.2	1.7	2.7	3.4	5.5	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
13					1.1	1.5	2.3	2.9	4.7	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
16						1.0	1.3	1.8	2.3	3.7	8.7	10.0 <sup>2)</sup>
20						0.9	1.1	1.7	2.2	3.4	8.0	10.0 <sup>2)</sup>
25							1.6	2.1	3.2	7.2	10.0 <sup>2)</sup>	10.0 <sup>2)</sup>
32								1.7	2.6	5.3	9.0	10.0 <sup>2)</sup>
40									2.4	4.5	7.5	10.0

- 1) Selectivity limit current  $I_S$  is less than 0.5 kA.
  - 2) Selectivity limit current  $I_S$  = Rated breaking capacity  $I_{CN}$  of RCBO.
- Darker areas: no selectivity

## SHORT-CIRCUIT SELECTIVITY FOR RCBO – SERIES BOLF 3N, 6 kA

BO.6....	Fuse D01, D02, DQ3 (Neozed) characteristic gG, nominal voltage: AC 400 V					
	16 A	20 A	25 A	32 A	35 A	40 A
B13	<0.5	0.5	0.8	1.7	1.9	3
B16	n.s.	0.5	0.7	1.5	1.7	2.4
C10	<0.5	0.5	0.8	1.7	1.9	3
C13	<0.5	0.5	0.7	1.6	1.8	2.8
C16	n.s.	<0.5	0.7	1.3	1.5	2.2

BO.6....	Fuse DM, Dill, DIV (Diazed), characteristic gG, nominal voltage: AC 500 V					
	16 A	20 A	25 A	32 A	35 A	50 A
B13	<0.5	0.5	0.8	1.5	2.4	4.5
B16	n.s.	0.5	0.8	1.3	2	3.4
C10	<0.5	0.5	0.8	1.5	2.4	4.4
C13	<0.5	0.5	0.8	1.4	2.3	4.2
C16	n.s.	<0.5	0.7	1.2	1.9	3.2

BO.6....	Fuse NH 000, 00, characteristic gG, nominal voltage: AC 500 V					
	16 A	20 A	25 A	32 A	35 A	40 A
B13	<0.5	<0.5	0.8	1.3	1.9	2.7
B16	n.s.	<0.5	0.7	1.1	1.6	2.2
C10	<0.5	<0.5	0.7	1.3	1.9	2.7
C13	<0.5	<0.5	0.7	1.2	1.8	2.5
C16	n.s.	<0.5	0.6	1	1.5	2

▀ TOTAL POWER DISSIPATION FOR I<sub>n</sub> SERIES BOLF .. / 1N / ..

Characteristic B

BOLF	
I <sub>n</sub> [A]	P [W]
2	1.4
4	1.5
5	2.0
6	1.7
8	2.4
10	2.3
12	3.1
13	3.4
15	3.4
16	3.6
20	5.4
25	5.0
32	6.1
40	8.2

Characteristic C

BOLF	
I <sub>n</sub> [A]	P [W]
2	1.4
4	1.5
5	2.0
6	1.7
8	2.4
10	2.3
12	3.1
13	3.4
15	3.4
16	3.6
20	5.4
25	5.0
32	6.1
40	8.2

Characteristic D

BOLF	
I <sub>n</sub> [A]	P [W]
2	1.0
4	1.5
5	1.8
6	1.7
8	1.7
10	2.3
12	2.7
13	2.9
15	3.3
16	3.5
20	4.3

## POWER DISSIPATION OF RCBO SERIES BOLF 3N

	Characteristic B	Characteristic C	Characteristic D
6A	-	2.4 W	4.8 W
10A	-	8.2 W	7.8 W
13A	10.2 W	9.4 W	7.7 W
16A	11.6 W	10.9 W	11.2 W

## INFLUENCE OF AMBIENT TEMPERATURE ON THE LOAD CAPACITY OF SERIES BOLF ../1N / .. (CB PART)

I <sub>n</sub> [A]	Ambient temperature T (°C)																	
	-40	-30	-25	-20	-10	0	10	20	30	35	40	45	50	55	60	65	70	75
2	2.6	2.5	2.5	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7
4	5.1	5.0	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9	3.8	3.7	3.6	3.5	3.5	3.4	3.3
5	6.4	6.2	6.2	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1
6	7.7	7.5	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3	5.2	5.1	5.0
8	10.2	9.9	9.9	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7	7.6	7.4	7.2	7.1	6.9	6.8	6.6
10	13	12	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9.0	8.9	8.7	8.5	8.3
12	15	15	15	14	14	13	13	13	12	12	12	11	11	11	11	10	10	10
13	17	16	16	16	15	15	14	14	13	13	13	12	12	12	12	11	11	11
15	19	19	19	18	17	17	16	16	15	15	15	14	14	14	13	13	13	12
16	20	20	20	19	19	18	17	17	16	16	15	15	15	14	14	14	14	13
20	26	25	25	24	23	22	22	21	20	20	19	19	19	18	18	17	17	17
25	32	31	31	30	29	28	27	26	25	25	24	24	23	23	22	22	21	21
32	41	40	40	38	37	36	35	33	32	32	31	30	30	29	28	28	27	26
40	51	50	49	48	47	45	43	42	40	39	39	38	37	36	35	35	34	33

## INFLUENCE OF AMBIENT TEMPERATURE ON THE LOAD CAPACITY OF SERIES BOLF ../3N

	Ambient temperature																	
	-40	-30	-25	-20	-10	0	10	20	30	35	40	45	50	55	60	65	70	75
6	7.7	7.5	7.4	7.2	7	6.7	6.5	6.3	6	5.9	5.8	5.7	5.6	5.4	5.3	5.2	5.1	5
10	13	12	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9	8.9	8.7	8.5	8.3
13	17	16	16	16	15	15	14	14	13	13	13	12	12	12	12	11	11	11
16	20	20	20	19	19	18	17	17	16	16	15	15	15	14	14	14	14	13

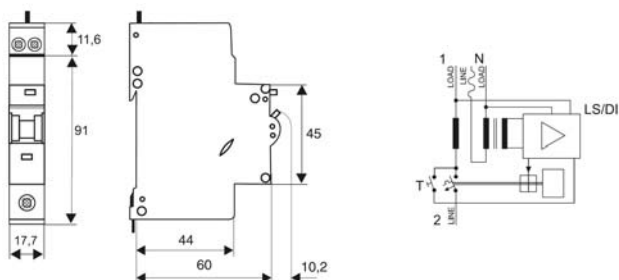
## RCBO – SINGLE MODULE RCBO SERIES LS-DI/PT – GENERAL INFORMATION



### SCHRACK-INFO

- Tripping dependent of line voltage
- Permanently connected neutral conductor
- Can be connected to standard busbar at the lower side
- Contact position colour indicator (red/green)
- Sensitivity: AC 6 kA or 10 kA

## DIMENSIONS AND WIRING DIAGRAMS



## TECHNICAL DATA

Standards:	IEC/EN 61009
Rated voltage:	240 V/50 Hz
Rated residual current:	10 mA, 30 mA, 100 mA, 300 mA
Endurance:	electrical: $\geq 4.000$ operating cycles mechanical: $\geq 20.000$ operating cycles
Number of poles:	1+N, pole switched, N led through (solid neutral)
Voltage limits:	184 - 264 V (necessary for the test button)
Rated breaking capacity:	6kA and 10 kA
Charakteristic:	B and C
Selectivity class:	3
Tripping temperature:	-25 °C up to +40 °C
Climatic conditions:	in according to IEC 68-2 (25...55°C / 90...95% RH)
Max. back up fuse:	100 A gL (>10 kA)
Finger and hand touch safe:	in according to VBG 4 / ÖVE EN 6, BGV A3
Special snap-on mounting:	for DIN rails EN 50 022
Degree of protection:	IP 20 built in cover IP40
Lower terminals:	Multi-purpose terminal (lift/open mouthed)
Upper terminals:	Lift terminals
Terminal capacity:	1 - 25 mm <sup>2</sup>
Torque of terminals:	2 - 2,4 Nm

## ■ SINGLE MODULE RCBO SERIES LS-DI/PT 10 kA, 1+N, AC-SENSITIVE, TYPE AC, 30 mA, 1 MW



RATED CURRENT / PIGTAIL COLOR	MW	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC C</b>					
6 A / black	1	PT-C 6/003	9004840683844		BI057506CM
10 A / black	1	PT-C 10/003	9004840683851		BI057510CM
16 A / black	1	PT-C 16/003	9004840683868		BI057516CM
20 A / black	1	PT-C 20/003	9004840683875		BI057520CM
25 A / black	1	PT-C 25/003	9004840683882		BI057525CM
32 A / black	1	PT-C 32/003	9004840683899		BI057532CM

## ■ SINGLE MODULE RCBO SERIES LS-DI/PT 6 kA, 1+N, AC-SENSITIVE, TYPE AC, 30 mA, 1 MW



RATED CURRENT / PIGTAIL COLOR	MW	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC B</b>					
6 A / blue	1	PT-B 6/003	9004840683776		BI658506CM
10 A / blue	1	PT-B 10/003	9004840683783		BI658510CM
16 A / blue	1	PT-B 16/003	9004840683790		BI658516CM
20 A / blue	1	PT-B 20/003	9004840683806		BI658520CM
25 A / blue	1	PT-B 25/003	9004840683813		BI658525CM
32 A / blue	1	PT-B 32/003	9004840683820		BI658532CM
40 A / blue	1	PT-B 40/003	9004840683837		BI658540CM
<b>CHARACTERISTIC C</b>					
6 A / blue	1	PT-C 6/003	9004840683684		BI657506CM
10 A / blue	1	PT-C 10/003	9004840683691		BI657510CM
16 A / blue	1	PT-C 16/003	9004840683707		BI657516CM
20 A / blue	1	PT-C 20/003	9004840683714		BI657520CM
25 A / blue	1	PT-C 25/003	9004840683721		BI657525CM
32 A / blue	1	PT-C 32/003	9004840683738		BI657532CM
40 A / blue	1	PT-C 40/003	9004840683745		BI657540CM



/// SINGLE MODULE RCBO SERIES LS-DI/PT 6 kA1+N,  
AC-SENSITIVE, TYPE AC, 100 mA, 1 MW 



RATED CURRENT / PIGTAIL COLOR	MW	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>CHARACTERISTIC C</b>					
32 A	1	PT-C 32/03	9004840683752		BI757532CM
40 A	1	PT-C 40/03	9004840683769		BI757540CM



## I KNOW WHERE TO FIND IT!

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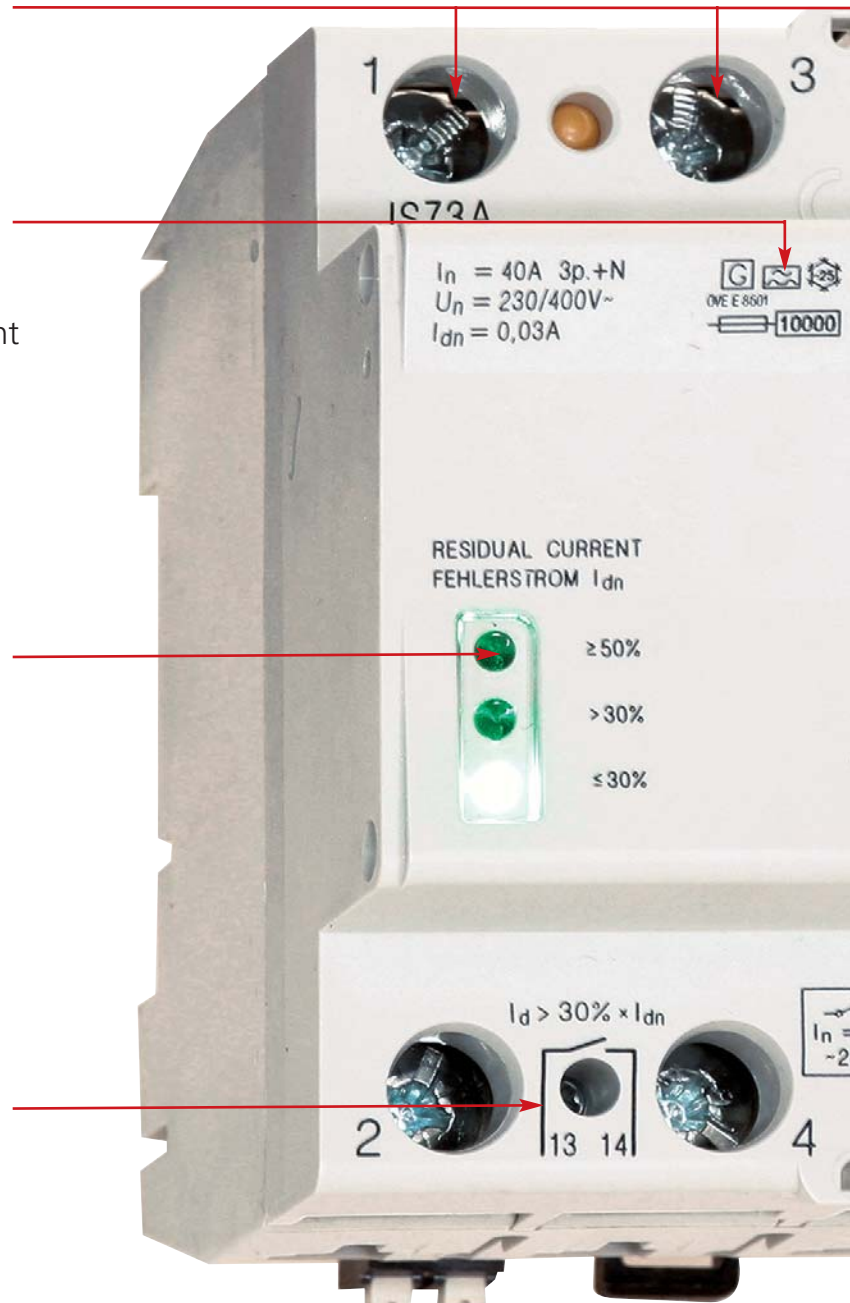
- Finding product information made easy
- Buying products around the clock
- Quick access customer service



**Order no. blue:** on stock, usually ready for delivery on the day of order!

# SCHRACK RCCBS

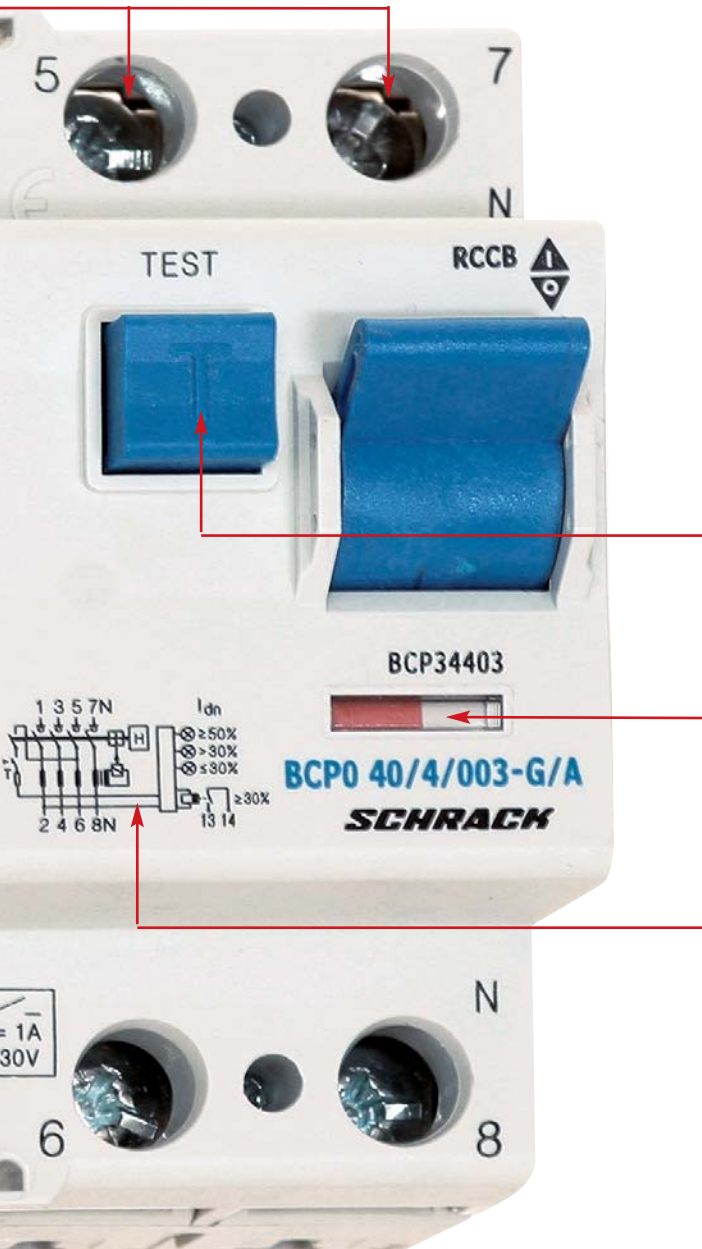
- ▀ Double comfort terminal 35 mm<sup>2</sup>, on both sides
  
- ▀ Pulse current-sensitive residual current detection offers more protection, the maximum thermal back-up fuse corresponds to the printed rated current
  
- ▀ Visual residual current detection alerts you of residual currents already during operation, that may be caused by a defective device
  
- ▀ Information for increased residual current via built-in, potential-free contact



# PRIORI – TOP PRIORITY

## THE INNOVATIVE GENERATION THE RCCB

These RCCBs independent of the mains voltage can be used as fault and additional protection according to construction standards and regulations. They are fully compatible with the proven SCHRACK range of DIN rail mounted products, which allows a large selection of accessories available.



■ Test button now only needs to be pushed once a year

■ In addition to the contact position indicator, there is a new "trip" indicator (blue/white) which detects whether an electrical fault or manual switch-off has occurred

■ High-precision tripping avoids nuisance tripping

## RCCB, SERIES PRIORI

### SCHRACK RCCB PRIORI INDICATED RESIDUAL CURRENTS EVEN BEFORE TRIPPING

#### RESIDUAL CURRENT INDICATION BY LED DISPLAY



**Green:** Normal operation  
Residual current  $\leq 30\% I_{\Delta n}$



**Yellow:** Prior information notice  
Residual current  $> 30\%$  and  $\leq 50\% I_{\Delta n}$



**Red:** Risk of tripping  
Residual current  $> 50\% I_{\Delta n}$

### SCHRACK RCCB PRIORI ALLOW YOU TO INTERVENE IN TIME

#### POTENTIAL-FREE RELAY FOR TRIPPING WARNING



If the residual current circuit breaker is greater than 30%, the potential-free relay NO contact notifies up to 250 V AC, 1 A (terminal cross-section 0.25 - 1.5 mm<sup>2</sup> / quick-connect spring-clamp terminals)

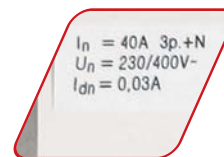
### SCHRACK RCCB PRIORI ALWAYS PROVIDES TOP INFORMATION



Contact position indicator (green/red) and indication of electr. tripping (white/blue)



Any mains connection



The thermal back-up fuse (gG) matches the rated current printed on the device



Annual test interval instead of monthly interval

## RCCB, SERIES PRIORI – GENERAL INFORMATION

### TECHNICAL DATA

Rated voltage:	230/400 V AC, 50 Hz	
Regulations:	IEC/EN 61008, design G acc. to ÖVE E 8601	
Sensitivity:	Pulse current sensitive (type A)	
Rated residual currents $I_{\Delta n}$ :	30 mA, 100 mA, 300 mA	
Tripping times:	Delayed at least 10 ms (design G), delayed at least 40 ms delay (design S), selectively switching off	
Max. permissible back-up fuse:	Overload:	Short circuit:
$I_n = 40A$	40A gG	63 A gG
$I_n = 63 A$	63A gG	63 A gG
$I_n = 80A$	80A gG	80A gG
Short circuit resistance $I_{nc}$ :	10 kA	
Surge current proof:	>3 kA (8/20 $\mu$ s) version G, >5 kA (8/20 $\mu$ s) version S	
Rated surge voltage protection $U_{imp}$ :	4 kV (1.2/50 $\mu$ s)	
Rated voltage $U_n$ :	230/400 and 240/415 V AC, 50/60 Hz	
Operating voltage for electronics:	50 – 254 V AC	
Operating voltage test circuit:	184 – 440V AC	
Endurance:	Electrical $\geq 4.000$ operating cycles, mechanical $\geq 20.000$ operating cycles	
Lamp strength:	Max. 20 electronic ballasts per phase, max. 60 per RCCB (typical, commercially available)	
Contact position indicator:	red / green	
Trip indicator:	white / blue	
Max. permissible ambient temperature:	-25 °C to +40 °C	
Climatic proofing:	According to IEC/EN 61008	
Finger and hand touch safe:	According to BGV A3, ÖVE-EN 6	
Terminal type:	Clamp -and-lift terminals on both sides	
Terminal cross-section:	1-35 mm <sup>2</sup> solid, 2x16 mm <sup>2</sup> stranded	
Terminal screws:	Pozidriv PZ2	
Tightening torque for terminal screws:	2 - 2.4 Nm	

### NOTE

Operate test button of PRIORI circuit breaker 1x annually. A further test is necessary if the red and yellow LEDs light up simultaneously. The switch should trip immediately. The system operator is responsible for this test! Under non-household-type conditions (e.g. humid or dusty environment), it is recommended to carry out the test at shorter intervals. Pressing the test button "T" only tests the function of the residual current (RC) circuit breaker. This test does not replace the earthing resistance measurement (RE) nor the proper protective conductor test that must be performed separately.



## I KNOW WHERE TO FIND IT!

### WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

## RCCB SERIES PRIORI, PULSE CURRENT SENSITIVE (TYPE A), SURGE CURRENT PROOF 3 kA (8/20 μS), 10 ms DELAYED, CHARACTERISTIC G



BCP34403

### SCHRACK-INFO

- Detects also pulsating DC residual currents in addition to sinusoidal AC residual currents
- Any power supply
- Installation not dependent on position

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT/VERSION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40 A 4-pole 30 mA, type A, version G, back-up fuse proof	4	1	V-BCP0 40/4/003-G/A	9004840616743		<b>BCP34403</b>
63 A 4-pole 30 mA, type A, version G, back-up fuse proof	4	1	V-BCP0 63/4/003-G/A	9004840616750		<b>BCP36603</b>
80 A 4-pole 30 mA, type A, version G, back-up fuse proof	4	1	V-BCP0 80/4/003-G/A	9004840616767		<b>BCP38803</b>
63 A 4-pole 300 mA, type A, version G, back-up fuse proof	4	1	V-BCP0 63/4/03-G/A	9004840616774		BCP36630
80 A 4-pole 300 mA, type A, version G, back-up fuse proof	4	1	V-BCP0 80/4/03-G/A	9004840616781		BCP38830

## RCCB SERIES PRIORI, PULSE CURRENT SENSITIVE (TYPE A), SURGE CURRENT PROOF 3 kA (8/20 μS), CHARACTERISTIC R, (X-RAY)



BCP34403

### SCHRACK-INFO

- Detects also pulsating DC residual currents in addition to sinusoidal AC residual currents
- Any power supply
- Installation not dependent on position
- Avoids nuisance tripping caused by X-ray equipment

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT/VERSION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
63 A 4-pole 30 mA, type A, back-up fuse proof, X-ray proof	4	1	V-BCP0 63/4/003-R	9004840616828		BCPR6603



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- Quick access customer service

## RCCB SERIES PRIORI, PULSE CURRENT SENSITIVE (TYPE A), SURGE CURRENT PROOF 5 kA (8/20 $\mu$ s), 40 ms DELAYED, CHARACTERISTIC S



BCP34403

### SCHRACK-INFO

- Detects also pulsating DC residual currents in addition to sinusoidal AC residual currents
- Any power supply
- Installation not dependent on position

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT/VERSION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40 A 4-pole 300 mA, type A, version G, back-up fuse proof	4	1	V-BCP0 40/4/03-S/A	9004840616798		BCP64430
63 A 4-pole 300 mA, type A, version G, back-up fuse proof	4	1	V-BCP0 63/4/03-S/A	9004840616804		BCP66630
80 A 4-pole 300 mA, type A, version G, back-up fuse proof	4	1	V-BCP0 80/4/03-S/A	9004840616811		BCP68830





## RCCB SERIES PRIORI, PULSE CURRENT SENSITIVE, DELAYED, FREQUENCY CONVERTER PROOF CHARACTERISTIC G: SURGE CURRENT PROOF 3 kA (8/20 $\mu$ S), 10 ms DELAYED CHARACTERISTIC S: SURGE CURRENT PROOF 5 kA (8/20 $\mu$ S), 40 ms DELAYED



BCP34403

### SCHRACK-INFO

- Detects also pulsating DC residual currents in addition to sinusoidal residual currents
- Any power supply
- Installation not dependent on position
- Frequency-converter proof type

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT/VERSION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40A 4-p. 30 mA, type A, version G, Back-up fuse-/frequency converter proof	4	1	V-BCP0 U-40/4/003-G/A	9004840616835		<b>BCP94403</b>
63 A 4-p. 30 mA, type A, version G, Back-up fuse-/frequency converter proof	4	1	V-BCP0 U-63/4/003-G/A	9004840616842		<b>BCP96603</b>
40A 4-p. 300 mA, type A, version S, Back-up fuse-/frequency converter proof	4	1	V-BCP0 U-40/4/03-S/A	9004840616859		<b>BCP94430</b>
63 A 4-p. 300 mA, type A, version S, Back-up fuse-/frequency converter proof	4	1	V-BCP0 U-63/4/03-S/A	9004840616866		BCP96630
80A 4-p. 300 mA, type A, version S, Back-up fuse-/frequency converter proof	4	1	V-BCP0 U-80/4/03-S/A	9004840616873		<b>BCP98830</b>



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## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0 AND BCF6, 25-63 A



BC004103

### SCHRACK-INFO

- Contact position indicator, trip-indicator \*\*)
- Sensitivity: AC and pulse current sensitive (type A)
- Not dependent on position
- Any power supply

When using V-FIs or FI-Hs, the thermal back-up fuse matches the rated current printed on the device.

### TIPS & TRICKS

- When using 4-pole switches with 3-phase or 1-phase wiring, follow the mounting instructions for the connection.
- The test button "T" must be operated once a month (enclosed information sticker).
- Pressing the test button "T" only tests the function of the residual current (RC) circuit breaker. This test does not replace the earthing resistance measurement (RE) nor the proper protective conductor test that must be performed separately.

### REGULATIONS

IEC/EN 61008, version G acc. to ÖVE E 8601

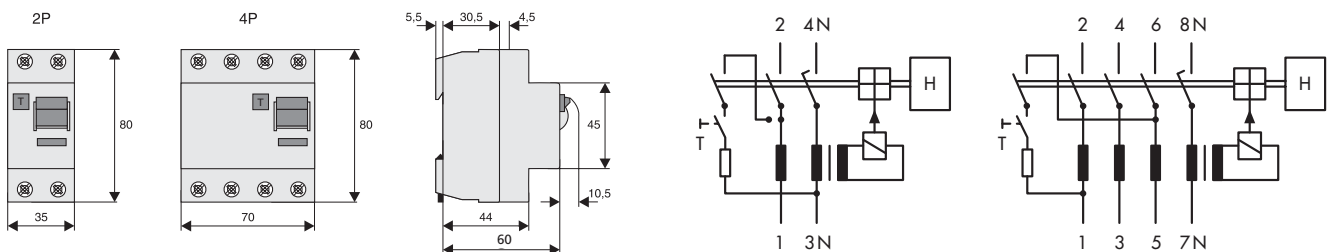
### ACCESSORIES

- Auxiliary contact
- Signal contact
- Automatic remote switching unit (FSA)
- Busbar
- Terminal cover

### TECHNICAL DATA

Rated voltage:	230/400 V AC 4-pole, 230 V AC 2-pole, 50 Hz		
Permissible ambient temperature:	-25 °C to +40 °C		
Max. permissible back-up fuse	$I_n = 25-40 \text{ A}$	Overload: 25 A gG	Short circuit: 63 A gG
	$I_n = 63 \text{ A}$	40 A gG	63 A gG
Short-circuit resistance:	6 kA with back-up fuse 63 A gG, see label		
Terminals:	2/4-pole, clamp and lift terminals on both sides, 1-35 mm <sup>2</sup> solid, 2x16 mm <sup>2</sup> stranded		
Finger and hand touch safe:	According to BGV A3, ÖVE-EN 6		
Rated residual current:	30 mA, 100 mA, 300 mA (others available on request)		
Endurance:	Electrical $\geq 4.000$ operating cycles, mechanical $\geq 20.000$ operating cycles		
Lamp strength:	Max. 20 electronic ballasts per phase, max. 60 per RCCB (typical, commercially available)		
Special snap-on mounting:	For DIN rail EN 50 022		
Surge current proof:	$>250 \text{ A (8/20 } \mu\text{s)}$		
Tripping times:	Non-delayed		
Degree of protection:	IP20 or IP40 covered		

### DIMENSIONS AND WIRING DIAGRAMS


















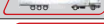
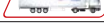


## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF6, 6 kA, AC SENSITIVE, TYPE AC, SURGE CURRENT PROOF 250 A (8/20 $\mu$ s)



### SCHRACK-INFO

Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002





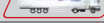

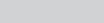

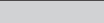


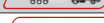
RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
25 A/2/0.03 A	2	1	BCF6 25/2/003	9004840394023		<b>BC602203</b>
25 A/2/0.1 A	2	1	BCF6 25/2/01	9004840451467		<b>BC602210</b>
25 A/2/0.3 A	2	1	BCF6 25/2/03	9004840394030		<b>BC602230</b>
40 A/2/0.03 A	2	1	BCF6 40/2/003	9004840394061		<b>BC604203</b>
40 A/2/0.1 A	2	1	BCF6 40/2/01	9004840451474		<b>BC604210</b>
40 A/2/0.3 A	2	1	BCF6 40/2/03	9004840394078		<b>BC604230</b>
63 A/2/0.03 A	2	1	BCF6 63/2/003	9004840394108		<b>BC606203</b>
63 A/2/0.3 A	2	1	BCF6 63/2/03	9004840394115		<b>BC606230</b>
25 A/4/0.03 A	4	1	BCF6 25/4/003	9004840394153		<b>BC602103</b>
25 A/4/0.1 A	4	1	BCF6 25/4/01	9004840451511		<b>BC602110</b>
25 A/4/0.3 A	4	1	BCF6 25/4/03	9004840394160		<b>BC602130</b>
40 A/4/0.03 A	4	1	BCF6 40/4/003	9004840394191		<b>BC604103</b>
40 A/4/0.1 A	4	1	BCF6 40/4/01	9004840451528		<b>BC604110</b>
40 A/4/0.3 A	4	1	BCF6 40/4/03	9004840394207		<b>BC604130</b>
63 A/4/0.03 A	4	1	BCF6 63/4/003	9004840394238		<b>BC606103</b>
63 A/4/0.1 A	4	1	BCF6 63/4/01	9004840451610		<b>BC606110</b>
63 A/4/0.3 A	4	1	BCF6 63/4/03	9004840394245		<b>BC606130</b>

## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF6, 6 kA, PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF 250 A (8/20 $\mu$ s)



### SCHRACK-INFO

- For protection in specific forms of non-smoothed DC residual currents
- Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
25 A/2/0.03 A	2	1	BCF6 25/2/003-A	9004840394009		<b>BC652203</b>
25 A/2/0.3 A	2	1	BCF6 25/2/03-A	9004840394016		BC652230
40 A/2/0.03 A	2	1	BCF6 40/2/003-A	9004840394047		<b>BC654203</b>
40 A/2/0.3 A	2	1	BCF6 40/2/03-A	9004840394054		<b>BC654230</b>
63 A/2/0.03 A	2	1	BCF6 63/2/003-A	9004840394085		<b>BC656203</b>
63 A/2/0.3 A	2	1	BCF6 63/2/03-A	9004840394092		BC656230
25 A/4/0.03 A	4	1	BCF6 25/4/003-A	9004840394122		<b>BC652103</b>
25 A/4/0.3 A	4	1	BCF6 25/4/03-A	9004840394139		BC652130
40 A/4/0.03 A	4	1	BCF6 40/4/003-A	9004840394177		<b>BC654103</b>
40 A/4/0.3 A	4	1	BCF6 40/4/03-A	9004840394184		<b>BC654130</b>
63 A/4/0.03 A	4	1	BCF6 63/4/003-A	9004840394214		<b>BC656103</b>
63 A/4/0.3 A	4	1	BCF6 63/4/03-A	9004840394221		<b>BC656130</b>



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## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0, 25-100 A



BC004103

### SCHRACK-INFO

- Contact position indicator, trip-indicator \*\*)
- Sensitivity: AC and pulse current sensitive (type A)
- Not dependent on position
- Any power supply

When using V-FIs or FI-Hs, the thermal back-up fuse matches the rated current printed on the device.

### TIPS & TRICKS

- When using 4-pole switches with 3-phase or 1-phase wiring, follow the mounting instructions for the connection.
- The test button "T" must be operated once a month (enclosed information sticker).
- Pressing the test button "T" only tests the function of the residual current (RC) circuit breaker. This test does not replace the earthing resistance measurement (RE) nor the proper protective conductor test that must be performed separately.

### REGULATIONS

IEC/EN 61008, version G acc. to ÖVE E 8601

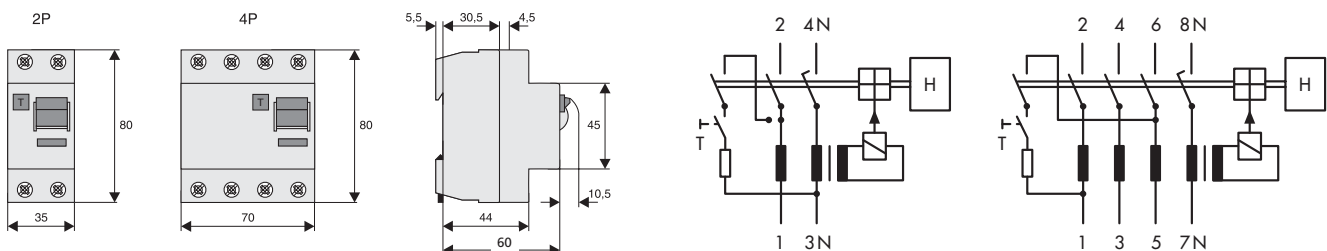
### ACCESSORIES

- Auxiliary contact
- Signal contact
- Automatic remote switching unit (FSA)
- Busbar
- Terminal cover

### TECHNICAL DATA

Rated voltage:	230/400 V AC 4-pole, 230 V AC 2-pole, 50 Hz		
Permissible ambient temperature:	-25 °C to +40 °C		
Max. permissible back-up fuse	$I_n = 16$ A	Overload: 10 A gG	Short circuit: 63 A gG
	$I_n = 25-40$ A	25 A gG	63 A gG
	$I_n = 63$ A	40 A gG	63 A gG
	$I_n = 80$ A	50 A gG	80 A gG
	$I_n = 100$ A	63 A gG	100 A gG
Back-up fuse proof BCF0-VF	$I_n = 40$ A	40 A gG	80 A gG
	$I_n = 63$ A	63 A gG	80 A gG
Short-circuit resistance:	10 kA with back-up fuse 63 A gG, see label		
Terminals:	2/4-pole, clamp and lift terminals on both sides, 1-35 mm <sup>2</sup> solid, 2x16 mm <sup>2</sup> stranded		
Finger and hand touch safe:	According to BGV A3, ÖVE-EN 6		
Rated residual current:	30 mA, 100 mA, 300 mA (others available on request)		
Endurance:	Electrical $\geq 4.000$ operating cycles, mechanical $\geq 20.000$ operating cycles		
Lamp strength:	Max. 20 electronic ballasts per phase, max. 60 per RCCB (typical, commercially available)		
Special snap-on mounting:	For DIN rail EN 50 022		
Surge current proof:	>250 A (8/20 $\mu$ s) >3 kA (8/20 $\mu$ s) type G >5 kA (8/20 $\mu$ s) type S		
Tripping times:	Non-delayed At least 10 ms delayed (characteristik G) At least 40 ms delayed (type S), selectively tripping		
Degree of protection:	IP20 or IP40 covered		

### DIMENSIONS AND WIRING DIAGRAMS









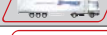



## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0, 10 kA, AC SENSITIVE, TYPE AC, SURGE CURRENT PROOF 250 A (8/20 $\mu$ s)



BC004103

### SCHRACK-INFO

Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
25 A/2/0.03 A	2	1	BCF0 25/2/003	9004840393514		<b>BC002203</b>
25 A/2/0.1 A	2	1	BCF0 25/2/01	9004840393521		<b>BC002210</b>
25 A/2/0.3 A	2	1	BCF0 25/2/03	9004840393545		<b>BC002230</b>
40 A/2/0.03 A	2	1	BCF0 40/2/003	9004840393583		<b>BC004203</b>
40 A/2/0.1 A	2	1	BCF0 40/2/01	9004840393590		<b>BC004210</b>
40 A/2/0.3 A	2	1	BCF0 40/2/03	9004840393606		<b>BC004230</b>
63 A/2/0.03 A	2	1	BCF0 63/2/003	9004840393644		<b>BC006203</b>
63 A/2/0.3 A	2	1	BCF0 63/2/03	9004840393668		<b>BC006230</b>
25 A/4/0.03 A	4	1	BCF0 25/4/003	9004840393484		<b>BC002103</b>
25 A/4/0.1 A	4	1	BCF0 25/4/01	9004840393491		<b>BC002110</b>
25 A/4/0.3 A	4	1	BCF0 25/4/03	9004840393507		<b>BC002130</b>
40 A/4/0.03 A	4	1	BCF0 40/4/003	9004840393552		<b>BC004103</b>
40 A/4/0.03 A back-up fuse proof	4	1	V-BCF0 40/4/003	9004840395709		<b>BC004403</b>
40 A/4/0.1 A	4	1	BCF0 40/4/01	9004840393569		<b>BC004110</b>
40 A/4/0.1 A back-up fuse proof	4	1	V-BCF0 40/4/01	9004840395716		<b>BC004410</b>
40 A/4/0.3 A	4	1	BCF0 40/4/03	9004840393576		<b>BC004130</b>
63 A/4/0.03 A	4	1	BCF0 63/4/003	9004840393613		<b>BC006103</b>
63 A/4/0.03 A back-up fuse proof	4	1	V-BCF0 63/4/003	9004840409543		<b>BC006603</b>
63 A/4/0.1 A	4	1	BCF0 63/4/01	9004840393620		<b>BC006110</b>
63 A/4/0.1 A back-up fuse proof	4	1	V-BCF0 63/4/01	9004840409550		<b>BC006610</b>
63 A/4/0.3 A	4	1	BCF0 63/4/03	9004840393637		<b>BC006130</b>
80 A/4/0.03 A	4	1	BCF0 80/4/003	9004840422856		<b>BC008103</b>
80 A/4/0.1	4	1	BCF0 80/4/01	9004840422863		<b>BC008110</b>
80 A/4/0.3 A	4	1	BCF0 80/4/03	9004840422870		<b>BC008130</b>
100 A/4/0.03 A	4	1	BCF0 100/4/003	9004840422399		<b>BC000103</b>
100 A/4/0.1 A	4	1	BCF0 100/4/01	9004840422405		<b>BC000110</b>
100 A/4/0.3 A	4	1	BCF0 100/4/03	9004840422412		<b>BC000130</b>



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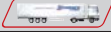
## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0-ME, 10 kA, AC SENSITIVE, TYPE AC, SURGE CURRENT PROOF 250 A (8/20 μs)



BC004103ME

### SCHRACK-INFO

Special version for standard temperature 40°C.

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW PU	EAN CODE	AVAILABLE	ORDER NO.
25 A/2/0,03 A	2 1	9004840618990		BC002203ME
25 A/4/0,03 A	4 1	9004840526509		BC002103ME
40 A/2/0,03 A	2 1	9004840526547		BC004203ME
40 A/4/0,03 A	4 1	9004840526516		<b>BC004103ME</b>
40 A/2/0,1 A	2 1	9004840526554		BC004210ME
40 A/4/0,1 A	4 1	9004840526523		BC004110ME
40 A/2/0,3 A	2 1	9004840526561		BC004230ME
40 A/4/0,3 A	4 1	9004840526530		BC004130ME
63 A/2/0,03 A	2 1	9004840526578		BC006203ME
63 A/4/0,03 A	4 1	9004840527353		BC006103ME
63 A/2/0,1 A	2 1	9004840526585		BC006210ME
63 A/4/0,1 A	4 1	9004840527360		BC006110ME
63 A/2/0,3 A	2 1	9004840526592		BC006230ME
63 A/4/0,3 A	4 1	9004840527377		BC006130ME
100 A/2/0,3 A	2 1	9004840529098		BC000230ME



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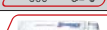


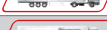
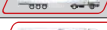
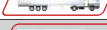
## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0, 10 kA, AC SENSITIVE, TYPE AC, SURGE CURRENT PROOF 3 kA (8/20 $\mu$ s), 10 ms DELAY, CHARACTERISTIC G



BC024103

### SCHRACK-INFO

According to ÖVE ÖNORM 8001-1, paragraph 12.1.6 mandatory for circuits with potential damage to property and persons in case of nuisance tripping. Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
25 A/2/0.03 A	2	1	BCF0 25/2/003-G	9004840393675		<a href="#">BC022203</a>
25 A/2/0.1 A	2	1	BCF0 25/2/01-G	9004840393682		<a href="#">BC022210</a>
40 A/2/0.03 A	2	1	BCF0 40/2/003-G	9004840393712		<a href="#">BC024203</a>
40 A/2/0.1 A	2	1	BCF0 40/2/01-G	9004840393729		<a href="#">BC024210</a>
40 A/4/0.03 A	4	1	BCF0 40/4/003-G	9004840393699		<a href="#">BC024103</a>
40 A/4/0.03 A back-up fuse proof	4	1	V-BCF040/4/003-G	9004840407969		<a href="#">BC024403</a>
40 A/4/0.1 A	4	1	BCF0 40/4/01-G	9004840393705		<a href="#">BC024110</a>
40 A/4/0.1 A back-up fuse proof	4	1	V-BCF040/0/01-G	9004840407983		<a href="#">BC024410</a>
63 A/4/0.03 A	4	1	BCF0 63/4/003-G	9004840393736		<a href="#">BC026103</a>
63 A/4/0.03 A back-up fuse proof	4	1	V-BCF0 63/4/003-G	9004840455069		<a href="#">BC026603</a>
63 A/4/0.1 A	4	1	BCF0 63/4/01-G	9004840393743		<a href="#">BC026110</a>
80 A/4/0.03 A	4	1	BCF0 80/4/003-G	9004840410167		<a href="#">BC026610</a>
63 A/4/0.1 A back-up fuse proof	4	1	V-BCF0 63/4/01-G	9004840449587		<a href="#">BC028103</a>
100 A/4/0.03 A	4	1	BCF0 100/4/003-G	9004840448719		<a href="#">BC020103</a>








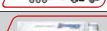



## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0, 10 kA, PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF 250 A (8/20 $\mu$ s)



BC052103

### SCHRACK-INFO

- For protection in specific forms of non-smoothed DC residual currents
- Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
25 A/4/0.03 A	4	1	1BCF0 25/4/003-A	9004840393781		<a href="#">BC052103</a>
40 A/2/0.03 A	2	1	BCF0 40/2/003-A	9004840393873		<a href="#">BC054203</a>
40 A/4/0.03 A	4	1	BCF0 40/4/003-A	9004840393842		<a href="#">BC054103</a>
40 A/4/0.1 A	4	1	BCF0 40/4/01-A	9004840393859		<a href="#">BC054110</a>
63 A/4/0.03 A	4	1	BCF0 63/4/003-A	9004840393897		<a href="#">BC056103</a>
63 A/4/0.1 A	4	1	BCF0 63/4/01-A	9004840393903		<a href="#">BC056110</a>
80 A/4/0.03 A	4	1	BCF0 80/4/003-A	9004840422887		<a href="#">BC058103</a>
80 A/4/0.3 A	4	1	BCF0 80/4/03-A	9004840422900		<a href="#">BC058130</a>
100 A/4/0.03 A	4	1	BCF0 100/4/003-A	9004840422436		<a href="#">BC050103</a>
100 A/4/0.1 A	4	1	BCF0 100/4/01-A	9004840422443		<a href="#">BC050110</a>
100 A/4/0.3 A	4	1	BCF0 100/4/03-A	9004840422450		<a href="#">BC050130</a>



Order no. blue: on stock, usually ready for delivery on the day of order!






## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0, 10 kA, PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF 3 kA (8/20 μs), CHARACTERISTIC G, 10 ms DELAYED



BC034103

### SCHRACK-INFO

- Pulse current sensitive version type G/A
- Also protects in specific forms of non-smoothed DC residual currents
- Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40 A/4/0.03 A	4	1	BCF0 40-4-003-GA	9004840395730		<b>BC034103</b>
40 A/4/0.03 A back-up fuse proof	4	1	BCF040-4-003VF-GA	9004840407976		<b>BC034403</b>
63 A/4/0.03 A	4	1	BCF0 63-4-003-GA	9004840395723		<b>BC036103</b>
80 A/4/0.03 A	4	1	BCF0 80/4/003-GA	9004840448757		<b>BC038103</b>
100 A/4/0.03 A	4	1	BCF0 100/4/003-GA	9004840448733		<b>BC030103</b>
100 A/4/0.3 A	4	1	BCF0 100/4/03-GA	9004840448740		BC030130


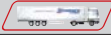





## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0, 10 kA, SELECTIVELY PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF 5 kA (8/20 μs), CHARACTERISTIC S



BC064110

### SCHRACK-INFO

- Preferably as "main RCCB", selectively for following RCCB if IdeltaN 1/3, 40 ms delayed tripping
- For protection in specific forms of non-smoothed DC residual currents
- Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40 A/4/0.1 A	4	1	BCF0 40/4/01-S/A	9004840393927		<b>BC064110</b>
40 A/4/0.1 A back-up fuse proof	4	1	V-BCF0 40/4/01-S/A	9004840395693		<b>BC064410</b>
40 A/4/0.3 A	4	1	BCF0 40/4/03-S/A	9004840393934		<b>BC064130</b>
63 A/4/0.1 A	4	1	BCF0 63/4/01-S/A	9004840393941		<b>BC066110</b>
63 A/4/0.3 A	4	1	BCF0 63/4/03-S/A	9004840393958		<b>BC066130</b>
80 A/4/0.3 A	4	1	BCF0 80/4/003-S/A	9004840448917		<b>BC068130</b>
100 A/4/0.3 A	4	1	BCF0 100/4/03-S/A	9004840422467		<b>BC060130</b>

## /// FREQUENCY CONVERTER-PROOF RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0-U, 10 kA, 25-100 A – GENERAL INFORMATION



BC064110

### /// SCHRACK-INFO

For use in systems with frequency converters. Avoids nuisance tripping by characteristic curve specially tuned to frequency converters. The currents ( $I_F$ ) flowing through the filter cause that the total of the currents through the RCCB is not exactly zero, and thus an unwanted shut-down occurs.

- Contact position indicator (red/green)
- Sensitivity: AC and pulse current sensitive (type A)
- Not dependent on position
- Any power supply
- Optional auxiliary contact DHi2 (BD900030)

### /// TIPS & TRICKS

Frequency converters are used in many systems that require a variable speed. For example, lifts, escalators, conveyor belts, large-scale washing machines. These application often encounter problems of nuisance tripping when conventional residual current circuit breakers are being used. This has the following technical reason: fast switching operations of high voltages cause high levels of interference that propagate both over wires and as electromagnetic radiation. To eliminate this problem, a mains-side filter (also called input or EMC filter) is connected between the RCCB and the frequency converter. The interference suppression capacitors in the filter produce drainage currents to earth, which can result in unwanted false tripping of the RCCBs due to apparent residual currents. The same behaviour results if an output-side filter is connected between the frequency converter and the AC motor.

#### Characteristic curve description

The pattern of the characteristic curve of a 10 or 300 mA RCCB shows the following: In the range around the 50 Hz, the RCCBs trip properly (50-100% of specified  $I_{\Delta N}$ ). In the range of approx. 100 to 300 Hz, there are frequent false tripping occurrences due to the use of frequency converters. Since converter-proof residual current circuit breakers are much less sensitive here than in the 50/60 Hz range, the system reliability is increased enormously. Therefore, we recommend the use of converter-proof types!

### /// REGULATIONS

IEC/EN 61008

### /// NOTE

- When using 4-pole switches with 3-phase or 2-phase wiring, follow the mounting instructions for the connection.
- The test button "T" must be operated once a month (enclosed information sticker).
- Pressing the test button "T" only tests the function of the residual current (RC) circuit breaker. This test does not replace the earthing resistance measurement (RE) nor the proper protective conductor test that must be performed separately.

### /// TECHNICAL DATA

see residual current circuit breaker 25-100 A, BCF0



## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0, 10 kA, PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF 3 kA (8/20 μs), CHARACTERISTIC G, 10 ms DELAYED



BC034103

### SCHRACK-INFO

- Pulse current sensitive version type G/A
- Also protects in specific forms of non-smoothed DC residual currents
- Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40 A/4/0.03 A	4	1	BCF0 U-40/4/003-G/A	9004840506518		<a href="#">BC094103</a>
63 A/4/0.03 A	4	1	BCF0 U-63/4/003-G/A	9004840506525		<a href="#">BC096103</a>







## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0, 10 kA, PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF 5 kA (8/20 μs), CHARACTERISTIC S



BC064110

### SCHRACK-INFO

- Preferably as "main RCCB", selectively for following RCCB if IdeltaN 1/3, 40 ms delayed tripping
- For protection in specific forms of non-smoothed DC residual currents
- Most common accessories: Auxiliary contact 1 NO / 1 NC BD900002

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40 A/4/0.1 A	4	1	BCF0 U-40/4/01-S/A	9004840393965		<a href="#">BC094110</a>
40 A/4/0.3 A	4	1	BCF0 U-40/4/03-S/A	9004840393972		<a href="#">BC094130</a>
63 A/4/0.1 A	4	1	BCF0 U-63/4/01-S/A	9004840393989		<a href="#">BC096110</a>
63 A/4/0.3 A	4	1	BCF0 U-63/4/03-S/A	9004840393996		<a href="#">BC096130</a>
80 A/4/0.3 A	4	1	BCF0 U-80/4/03-S/A	9004840422474		<a href="#">BC098130</a>
100 A/4/0.3 A	4	1	BCF0 U-100/4/03-S/A	9004840422481		<a href="#">BC090130</a>



## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES FI-D 125 A – GENERAL INFORMATION



BD037110

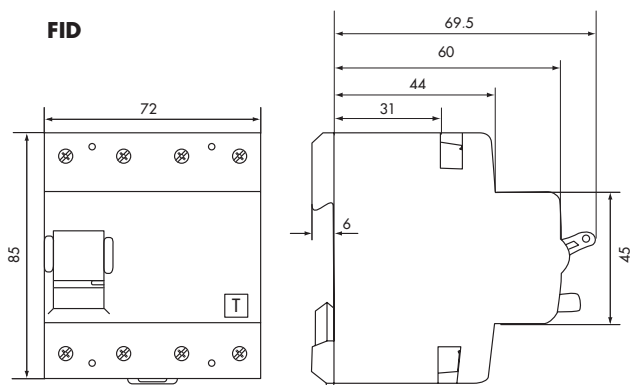
### SCHRACK-INFO

- Installation width 72 mm (4 MW)
- "Tripped" position indicator
- Installation in any position
- Base plate only 85 mm

### TECHNICAL DATA

No. of poles:	4-pole
Nominal voltage:	230 V AC/ 400 V AC
Frequency:	50 Hz
Max. operating voltage:	Un + 10%
Max. back-up fuse as short-circuit protection:	125 A gG
Max. back-up fuse for overload protection:	80 A gG
Rated short-circuit current Inc:	10 kA with back-up fuse
Working voltage range of the test device:	185 - 440 V AC
Surge current proof:	200 A ring-wave test 0.5µs/100 kHz, type S 300 A (8/20µs)
Ambient temperature:	-25 °C .. +40 °C
Climate resistance:	According to DIN IEC 68 Part 2-30: Humidity, heat cyclic (25 °C/55 °C, 93% / 97% RH, 28 cycles)
Shock resistance:	20g/20 ms duration
Vibration resistance:	>5g (f " 80 Hz, duration >30 min)
Degree of protection:	IP 40 (after DIN rail mounting)
Terminals:	Solid and stranded 1x1.5-50 mm <sup>2</sup> , finely stranded up to 1x1.5-35 mm <sup>2</sup> ; 2x1.5-16 mm <sup>2</sup> (2-conductor connection)
Endurance:	≥ 5.000 operating cycles mechanical, ≥ 2.000 operating cycles electrical
Design specifications:	IEC/EN 61008
Power dissipation Pv/max:	28 W
Tightening torque of terminal screws:	3 Nm
Finger and hand touch safe:	Acc. to BGV A3, ÖVE EN6

### DIMENSIONS






## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES FI-D, 125 A, AC SENSITIVE, TYPE AC



BD037110

### SCHRACK-INFO

Most common accessories: Auxiliary contact 1 CO + 1 NC BD900030

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
125 A/4/0.03 A	4	1	FID4/125/003-AC	9004840229387		<b>BD037103-A</b>
125 A/4/0.1 A	4	1	FID4/125/01-AC	9004840229394		<b>BD037110-A</b>
125 A/4/0.3 A	4	1	FID4/125/03-AC	9004840229400		<b>BD037130-A</b>

## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES FI-D, 125 A, PULSE CURRENT SENSITIVE, TYPE A




BD057130

### SCHRACK-INFO

Also protects in specific forms of non-smoothed DC residual currents.

Most common accessories: Auxiliary contact 1 CO + 1 NC BD900030

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
125 A/4/0.03 A	4	1	FID4/125/003-A	9004840229417		BD057103-A
125 A/4/0.3 A	4	1	FID4/125/03-A	9004840229431		<b>BD057130-A</b>

## RESIDUAL CURRENT CIRCUIT BREAKER, SERIES FI-D, 125 A, PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF 3 kA, CHARACTERISTIC S



BD067130

### SCHRACK-INFO

Preferably, as "main RCCB", selectively for following RCCB if  $I_{\Delta N}^{1/3}$ , 40 ms delayed tripping

RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
125 A/4/0.3 A	4	1	FID4/125/03-SA	9004840229448		<b>BD067130-A</b>

## AC/DC SENSITIVE RESIDUAL CURRENT CIRCUIT BREAKER, SERIES FID-B AND FID-B/S, TYPE B



BD874130

### SCHRACK-INFO

- Identification of DC and AC residual currents up to 100 kHz!
- For installations with electronic equipment, according to VDE 0160/EN 50178, such as frequency converters, UPS systems, switching power supplies or high-frequency power converters.
- Small installation size: 4 MW for all rated currents
- High insensitivity to transient leakage and residual currents by surge current strength > 5 kA
- High electromagnetic compatibility in accordance with VDE 0664 Part 30 and VDE 0839 Part 6-2 (immunity for industrial environments)
- Most common accessories: Auxiliary contact 1 CO + 1 NC BD900030

### TIPS & TRICKS

- Meets the requirements of VDE 0664 T 100 (E) for circuit breakers of type B

### ACCESSORIES

Auxiliary switches/fault signal switches DHi2 (BD900030)

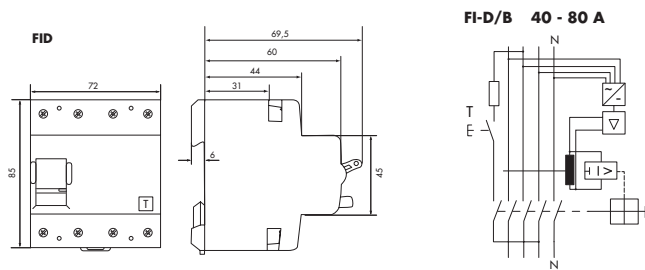
### TECHNICAL DATA

Rated current:	40 A	63 A	80 A
Rated residual current:	0.03 A, 0.1 A, 0.3 A		
Rated voltage:	230 VAC / 400 VAC / 50 Hz		
Max. operating voltage:	$U_n + 10\%$		
Min. operating voltage	0 V (independent of mains voltage) <sup>1)</sup>		
For detection of residual currents, type A:	30 V AC		
For detection of residual currents, type B:	30 V AC		
Own consumption:	max. 3.5 W		
Working voltage range of the test device:	185 V AC - 440 V AC		
No. of poles:	4-pole		
Power dissipation $P_v$ (typ.):	2.9 W	7.2 W	12 W
Max. back-up fuse as short-circuit protection:	100 A gG		
Max. back-up fuse for overload protection circuit:	40 A	63 A	63 A
Tripping times FI-D/B:	$1 \times I_{DN} \leq 300$ ms; $5 \times I_{DN} \leq 40$ ms		
Tripping times FI-D/BS:	$1 \times I_{DN} > 130$ ms; $5 \times I_{DN} > 50$ ms $\leq 150$ ms		
Rated short-circuit current:	10 kA		
Surge current proof:	5 kA, lightning current 8/20 $\mu$ s		
Degree of protection:	IP 40 (after DIN rail mounting)		
Mounting position:	any		
Input side:	Terminals 1, 3, 5, 7, N		
Ambient temperature:	-25 °C to +40 °C		
Terminals			
Solid round conductors:	1 x 1.5 - 50 mm <sup>2</sup> (1-conductor terminal); 2 x 1.5 - 16 mm <sup>2</sup> (2-conductor terminal)		
Stranded:	1 x 1.5 - 50 mm <sup>2</sup> (1-conductor terminal); 2 x 1.5 - 16 mm <sup>2</sup> (2-conductor terminal)		
Finely stranded:	1 x 1.5 - 50 mm <sup>2</sup> (1-conductor terminal); 2 x 1.5 - 16 mm <sup>2</sup> (2-conductor terminal)		
Tightening torque of screws:	3 Nm		
Design specifications:	DIN VDE 0664 T10, E DIN VDE 0664 T100, EN 61008		

<sup>1)</sup> Note: Even at voltages below 30 V AC, tripping by residual current of type AC and A is ensured by an operation that is independent of the mains voltage.

## AC/DC SENSITIVE RESIDUAL CURRENT CIRCUIT BREAKER, SERIES FID-B AND FID-B/S, TYPE B – continued

### DIMENSIONS AND WIRING DIAGRAMS



RATED CURRENT/POLES/ RATED RESIDUAL CURRENT	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>AC/DC SENSITIVE, TYPE B</b>						
40 A/4/0.03 A	4	1	FI-D/B 4/40/003-B/G	9004840528138		<b>BD874103</b>
40 A/4/0.1 A	4	1	FI-D/B 4/40/01-B	9004840421668		<b>BD874110</b>
40 A/4/0.3 A	4	1	FI-D/B 4/40/03-B	9004840421699		<b>BD874130</b>
63 A/4/0.03 A	4	1	FI-D/B 4/63/003-B/G	9004840529852		<b>BD876103</b>
63 A/4/0.1 A	4	1	FI-D/B 4/63/01-B	9004840421675		<b>BD876110</b>
63 A/4/0.3 A	4	1	FI-D/B 4/63/03-B	9004840421705		<b>BD876130</b>
80 A/4/0.03 A	4	1	FI-D/B 4/80/003-B/G	9004840615746		BD878103
80 A/4/0.1 A	4	1	FI-D/B 4/80/01-B	9004840421682		BD878110
<b>SELECTIVELY AC/DC SENSITIVE, TYPE B/S</b>						
40 A/4/0.3 A	4	1	FI-D/B 4/40/03-S/B	9004840421729		BD864130
63 A/4/0.3 A	4	1	FI-D/B 4/63/03-S/B	9004840421736		<b>BD866130</b>



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## RCCB TRIPPING RELAYS, PULSE CURRENT SENSITIVE, SELECTIVE



BC900203



BX900310

### SCHRACK-INFO

Preferably, as "main RCCB", selectively for following RCCB if  $I_{\Delta N}$  1/3, 40 ms delayed tripping.

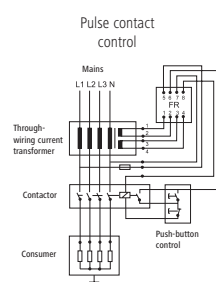
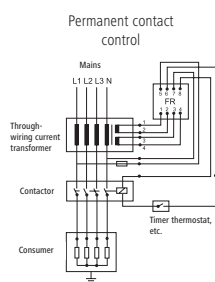
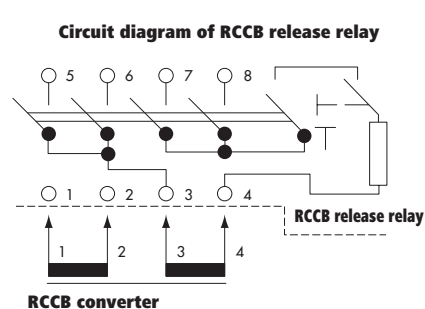
### Selection of residual current relay:

The RCCB release relay is selected based on the rated residual current  $I_{\Delta N}$ . For the BCFR-01/03-S/A type, this can be selected by the number of converter primary windings. If a rated residual current of 0.1 A is required, the lines must be passed through the converter three times.

### BREAKING CAPACITY OF RELAY CONTACTS

Terminals 5 - 6, 7 - 8	25 A
For purely ohmic load	16 A at 230 V
For use of AC 15	10 A at 400 V

### CIRCUIT DIAGRAMS



DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>TRIPPING UNIT</b>						
RCCB release relay 0.3 A f. converter W2/150 A	4	1	BCFR2-03-S/A	9004840395747		<b>BC900203</b>
RCCB release relay 1 A f. converter W2/150 A	4	1	BCFR2-1-S/A	9004840395785		BC900210
RCCB release relay 0.3 A f. converter W3/400 A	4	1	BCFR3-03-S/A	9004840395754		<b>BC900303</b>
<b>CONVERTER</b>						
RCCB converter 150 A f. RCCB release relay BCFR-2	-	1	W2-S/A	9004840182682		<b>BX900210</b>
RCCB converter 400 A f. RCCB release relay FR-3	-	1	W3-S/A	9004840182699		<b>BX900310</b>



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## TRIPPING RELAY, CONVERTER-PROOF, PULSE-CURRENT SENSITIVE, SELECTIVE



BC990015



BX900022

### SCHRACK-INFO

- For use in systems with frequency converters.
- Most common accessories:  
Auxiliary contact 1 CO + 1 NC BD900030

### REGULATIONS





IEC/EN 61008

## TECHNICAL DATA

### Combination options for release relay and converter

Type of release relay	Nominal residual current	Converter type
BCFR2-01/03-U	0.1 / 0.3 A	W2-U, max. 150 A, dia. 60 mm
BCFR3-01/03-U	0.1 / 0.3 A	W3-U, max. 400 A, dia. 130 mm
BCFR2-1-U	1 A	W2-U, max. 150 A, dia. 60 mm
BCFR3-1-U	1 A	W3-U, max. 400 A, dia. 130 mm

- Surge current-proof 5 kA (8/20  $\mu$ s)
- Selective, pulse current sensitive
- Ambient temperatures: -25 °C to +40 °C
- Rated residual current: 100/300 mA, 1 A
- For FR2-01/03-U and FR3-01/03-U, the rated residual current can be selected by the number of converter passes.  
1 converter pass  $I_n = 0.3$  A  
3 converter passes  $I_n = 0.1$  A

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>TRIPPING UNIT</b>						
FI-U relay 0.1/0.3 A	4	1	BCFR2-01/03-U	9004840395761		<b>BC990015</b>
FI-U relay 0.1/0.3 A	4	1	BCFR3-01/03-U	9004840395778		<b>BC990016</b>
FI-U relay 1 A	4	1	BCFR2-1-U	9004840395808		BC990017
FI-U relay 1 A	4	1	BCFR3-1-U	9004840395815		BC990018
<b>CONVERTER</b>						
RCCB converter 150 A f. RCCB release relay BCFR2-U	-	1	W2-U	9004840265668		<b>BX900021</b>
RCCB converter 400 A f. RCCB release relay BCFR3-U	-	1	W3-U	9004840265675		<b>BX900022</b>

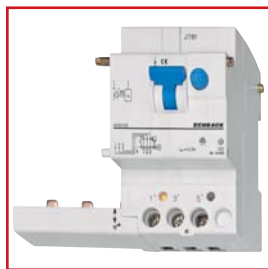


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## RCCBS – RESIDUAL CURRENT ADD-ON BLOCK, SERIES BB – GENERAL INFORMATION



### SCHRACK-INFO

- Line voltage independant tripping
- For subsequent mounting onto all BM series MCBs

### TIPS & TRICKS

- The test button “T” must be operated once a month (enclosed information sticker).
- Pressing the test button “T” only tests the function of the residual current (RC) circuit breaker. This test does not replace the earthing resistance measurement (RE) nor the proper protective conductor test that must be performed separately.

### REGULATIONS

IEC/EN 610080

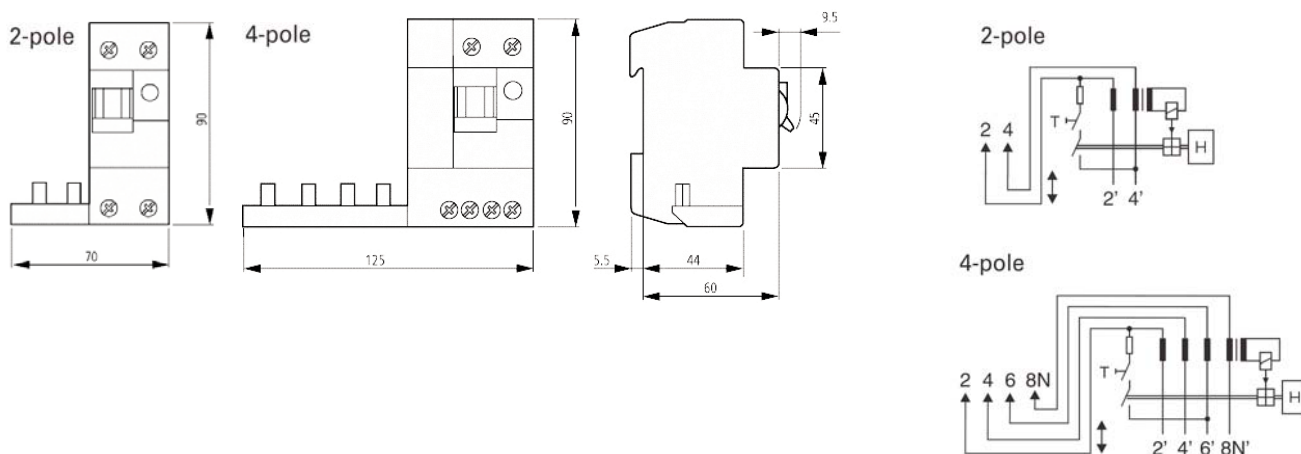
### ACCESSORIES

- Auxiliary contact
- Signal contact
- Automatic remote switching unit (FSA)
- Busbar
- Terminal cover

### TECHNICAL DATA



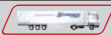
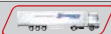

Rated voltage:	230/400 V AC 4-pole, 230 V AC 2-pole, 50 Hz
Permissible ambient temperature:	-25 °C to +40 °C
Rated current:	≤ 40 A, ≤ 63 A
Voltage limits:	196 - 440 V
Short-circuit resistance:	same as connected MCB
Terminals:	lift terminals on both sides, 1-25 mm <sup>2</sup> solid, 1x16 mm <sup>2</sup> stranded
Finger and hand touch safe:	According to BGV A3, ÖVE-EN 6
Rated residual current:	30 mA, 300 mA (others available on request)
Endurance:	Electrical ≥ 4.000 operating cycles, mechanical ≥ 20.000 operating cycles
Lamp strength:	Max. 20 electronic ballasts per phase, max. 60 per RCCB (typical, commercially available)
Special snap-on mounting:	For DIN rail EN 50 022
Surge current proof:	>250 A (8/20 μs) >5 kA (8/20 μs) type S
Tripping times:	Non-delayed At least 40 ms delayed (type S), selectively tripping
Degree of protection:	IP20 or IP40 covered

### DIMENSIONS AND WIRING DIAGRAMS



## RESIDUAL CURRENT ADD-ON BLOCK, SERIES BB, PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF >250 A (8/20 μs)



RATED CURRENT	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
0.03 A	2	402/003-A	9004840268249		<b>BB044203</b>
0.3 A	2	402/03-A	9004840268263		BB044230
0.03 A	2	404/003-A	9004840102512		<b>BB044403</b>
0.3 A	2	404/03-A	9004840102505		<b>BB044430</b>
0.03 A	2	632/003-A	9004840268270		BB046203
0.03 A	2	634/003-A	9004840102529		<b>BB046403</b>
0.3 A	2	634/03-A	9004840102536		<b>BB046430</b>

## RESIDUAL CURRENT ADD-ON BLOCK, SERIES BB, PULSE CURRENT SENSITIVE, TYPE A, SURGE CURRENT PROOF 5 kA (8/20 μs), CHARACTERISTIC S



RATED CURRENT	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
0.3 A	2	402/03-S	9004840151282		BB074230
0.3 A	2	404/03-S	9004840151305		BB074430
0.1 A	2	632/01-S	9004840151312		BB076210
0.3 A	2	632/03-S	9004840151329		BB076230
0.1 A	2	634/1-S	9004840222760		BB076400
0.3 A	2	634/03-S	9004840151343		BB076430



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## AUXILIARY SWITCH BD-H FOR RCCB, SERIES PRIORI, BCF AND BD-H



BD900002

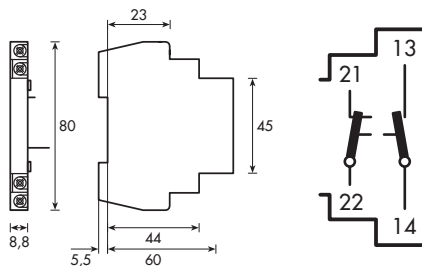
### SCHRACK-INFO

- Version: screwed
- Contacts: 1 NC + 1 NO
- Width: 0.5 MW
- Retrofittable, left mountable
- Not compatible with type B or 125 A

### TECHNICAL DATA

Thermal rated current	8 A
Rated operating voltage $U_e$	440 V
Rated insulation voltage $U_i$	440 V
$U_b$ minimal	For each insulation path 24 V
$I_b$ minimal	For each insulation path 0.5 A
Complies with	IEC / EN 60947-5-1, IEC / EN 62019
Utilisation category AC 13	6 A/250 V 2 A/440 V
Utilisation category DC 13	4 A/60 V 0.5 A/230 V
Maximum permissible back-up fuse	8 A gG or SI-H
Terminal cross-section	0.5–2.5 mm <sup>2</sup>

### DIMENSIONS AND WIRING DIAGRAMS



FOR PROTECTIVE SWITCHGEAR	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
FI-BD, BCFO	0.5	10	BD-H	9004840001334		<b>BD900002</b>



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## TRIP SIGNAL CONTACT BD-HR



BD900022

### SCHRACK-INFO

- Version: screwed
- 1 CO (manual operation and tripped functions) + 1 CO (only tripped function)
- 2 CO (manual operation and tripped functions)
- Retrofittable, mountable on the right for RCCB series BCF0 and BCF6, on the left for series BMS0, BMS6, BMS4, MP, RCBO – BOLF
- Indication white/blue for electrical tripping
- Test button for electrical tripping
- Manual operation (T-handle)
- Width: 0.5 MW

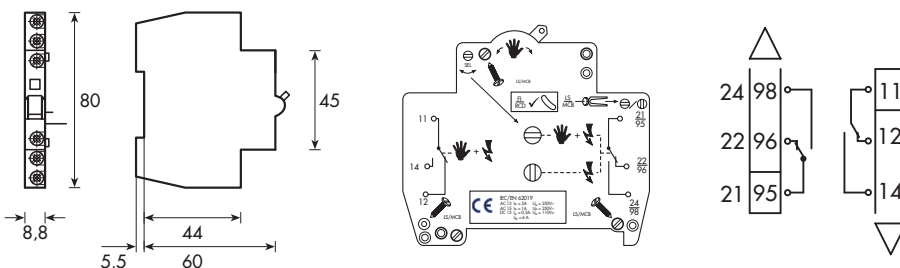
### TECHNICAL DATA

Thermal rated current $I_{th}$	4 A
Rated insulation voltage $U_i$	250 V AC
Rated operating voltage $U_e$	250 V AC
Minimum operating voltage for each contact $U_{min}$	5 V DC
Minimum operating current $I_{min}$	10 mA DC
Complies with	IEC/EN 60947-5-1
Utilisation category AC 13	3 A, 250 V AC
Utilisation category AC 15	2 A, 250 V AC
Utilisation category DC 12	110 V/0.5 A, 220 V/0.25 A
Maximum back-up fuse	4 A gG or SI-H
Terminal cross-section	0.5–2.5 mm <sup>2</sup>

### “ELECTRICAL TRIP” FUNCTIONAL TEST

The contact function of the changeover switch 95-96/98 can be checked by pressing the test button “T”. In this case, the colour of the trip indication changes from white to blue, just like after a “real” electrical trip. A manual off operation does not modify the trip indication in the “SEL position is perpendicular to DIN rail”.

### DIMENSIONS AND WIRING DIAGRAMS



FOR PROTECTIVE SWITCHGEAR	MW PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
RCCB-BD, MCB-BS, RCBO, BOLF, BMS0, BCF0	0.5 10	BD-HR	9004840201888		<b>BD900022</b>



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## AUXILIARY SWITCH, SERIES DHI 2 FOR RCCB BD



BD900030

### SCHRACK-INFO

To facilitate remote monitoring of RCCB circuits and for control purposes. The auxiliary switch does not affect the function of the residual current circuit breaker. The auxiliary switch can be retrofitted by the user and can be mounted on the left. It can be preset as a signaling switch (trip indicator) or an auxiliary switch (on/off indicator). Test function possible.

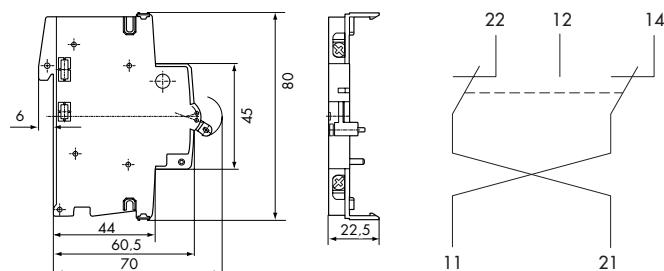
### TIPS & TRICKS


The test function make it possible to switch the auxiliary contacts also without an RCCB, thus testing the operation of the auxiliary switch without interrupting the main circuit. For this, the connecting shaft of the auxiliary switch to the switching handle of the RCCB is pulled out. Then the test function can be triggered through the test slot labelled "Test" on the front of the auxiliary switch using a small screwdriver

### TECHNICAL DATA

- Type DHi 2 auxiliary switch suitable for FI-D 125 A and FI-D/B
- Capacity AC 11: 230 V AC / 6 A  
DC 11: 230 V DC / 1 A
- 1 CO + 1 NC, 1/2 MW
- Terminals up to 2.5 mm<sup>2</sup>
- Mounting on the left side
- Retrofittable

### DIMENSIONS AND WIRING DIAGRAMS



DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 CO + 1 NC suitable for FI-D 125 A and FI-D/B	0.5	1	DHi 2	9004840231137		<b>BD900030</b>



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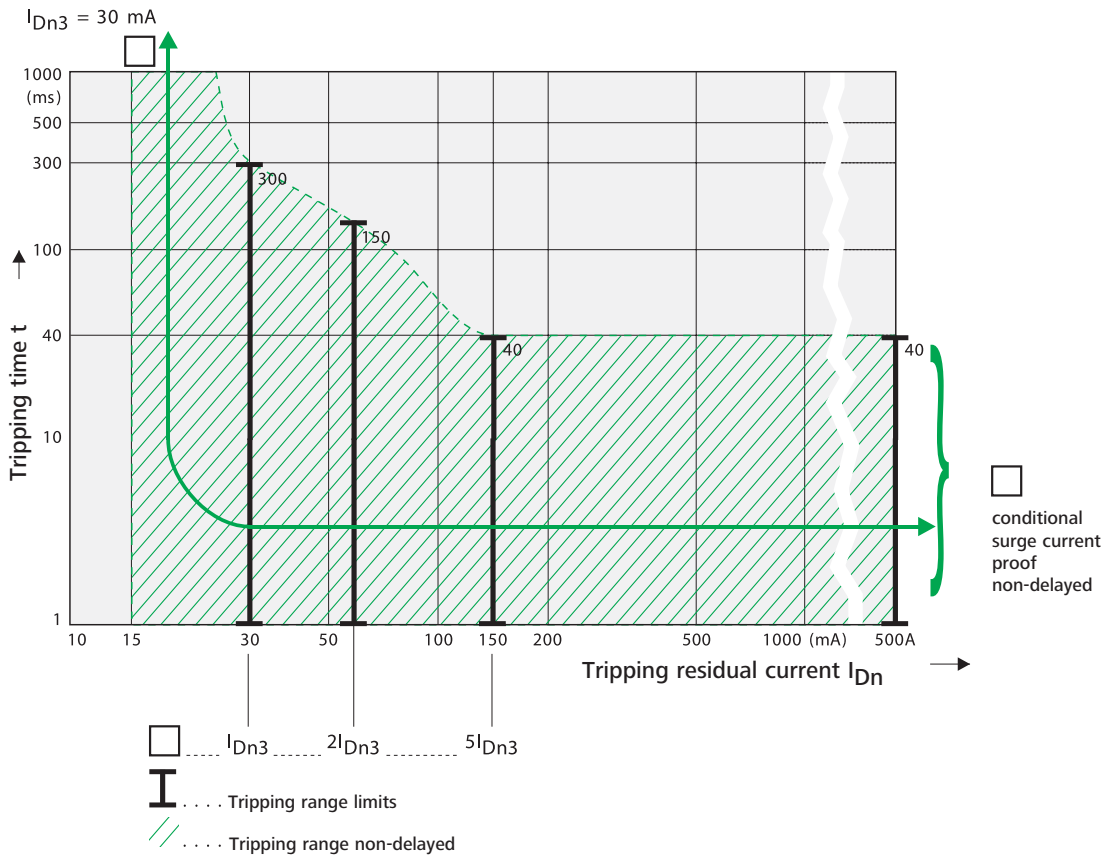
**Order no. blue:** on stock, usually ready for delivery on the day of order!



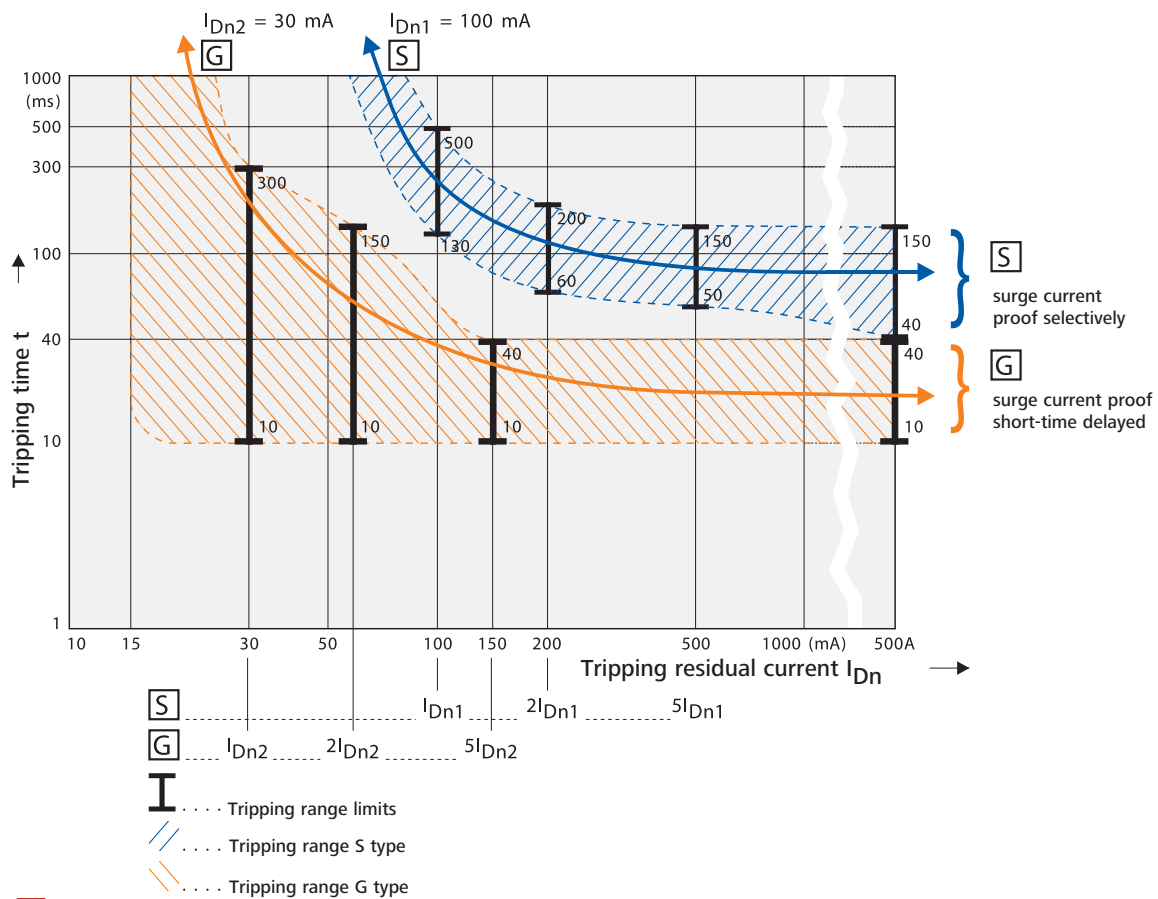
## TECHNICAL DATA FOR RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCF0 AND BCF6

### CHARACTERISTIC CURVES

#### Typical residual current circuit breaker tripping characteristic, non-delayed



#### Typical residual current circuit breaker tripping characteristics [S] [G], delayed



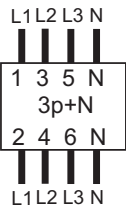
### POWER DISSIPATION SERIES PRIORI

TYPE	ORDER NUMBER	$I_n$ (A)	$I_{\Delta n}$ (mA)	TYPE / VERSION	P (W)
V-BCP0 40/4/003-G/A	BCP34403	40	30	A / G	3.8
V-BCP0 63/4/003-G/A	BCP36603	63	30	A / G	8.5
V-BCP0 80/4/003-G/A	BCP38803	80	30	A / G	12.9
V-BCP0 63/4/03-G/A	BCP36630	63	300	A / G	8.5
V-BCP0 80/4/03-G/A	BCP38830	80	300	A / G	12.9
V-BCP0 63/4/003-R	BCPR6603	63	30	A / R	8.5
V-BCP0 40/4/03-S/A	BCP64430	40	300	A / S	3.8
V-BCP0 63/4/03-S/A	BCP66630	63	300	A / S	8.5
V-BCP0 80/4/03-S/A	BCP68830	80	300	A / S	12.9
V-BCP0 U-40/4/003-G/A	BCP94403	40	30	A / G	3.8

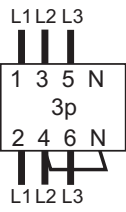
### POWER DISSIPATION, SERIES BCF0 AND BCF6

Type	$I_n$ [A]	$I_{\Delta n}$ [mA]	Type	P [W]
BCFO-25/2/..	25	30	AC	1.3
BCFO-25/2/..	25	100,300,500	AC	2.0
BCFO-25/2/..	25	30	A	1.3
BCFO-25/2/..	25	100,300	A	2.0
BCFO-25/2/..	25	30,100	G	1.3
BCFO-40/2/..	40	30	AC	5.8
BCFO-40/2/..	40	100,300,500	AC	5.4
BCFO-40/2/..	40	30	A	5.8
BCFO-40/2/..	40	100,300,500	A	5.4
BCFO-40/2/..	40	30,100	G	5.8
BCFO-40/2/..	40	100	S	5.8
BCFO-40/2/..	40	300	S	5.4
BCFO-63/2/..	63	30	AC	9.7
BCFO-63/2/..	63	100,300,500	AC	7.2
BCFO-63/2/..	63	30	A	9.7
BCFO-63/2/..	63	100,300,500	A	7.2
BCFO-25/4/..	25	30	AC	3.1
BCFO-25/4/..	25	100,300,500	AC	2.8
BCFO-25/4/..	25	30	A	3.1
BCFO-25/4/..	25	100,300,500	A	2.8
BCFO-25/4/..	25	100,300	S	2.8
BCFO-25/4/..	25	100	S/A	2.8
BCFO-40/4/..	40	30	AC	9.6
BCFO-40/4/..	40	100,300,500,	AC	8.4
BCFO-40/4/..	40	30	A	9.6
BCFO-40/4/..	40	100,300,500,	A	8.4
BCFO-40/4/..	40	30	G	9.6
BCFO-40/4/..	40	100	G	8.4
BCFO-40/4/..	40	30	G/A	9.6
BCFO-40/4/..	40	100,300	S	8.4
BCFO-40/4/..	40	100,300	S/A	8.4
BCFO-63/4/..	63	30	AC	13.4
BCFO-63/4/..	63	100,300,500	AC	10.5
BCFO-63/4/..	63	30,100,300,500	A	10.5
BCFO-63/4/..	63	30	G	13.4
BCFO-63/4/..	63	100	G	10.5
BCFO-63/4/..	63	30	G/A	13.4
BCFO-63/4/..	63	100,300	S	10.5
BCFO-63/4/..	63	100,300	S/A	10.5
BCFO-40/4/..-VF	40	30	AC	5.4
BCFO-40/4/..-VF	40	100	AC	4.2
BCFO-40/4/..-VF	40	30	A	4.2
BCFO-40/4/..-VF	40	30	G	5.4
BCFO-40/4/..-VF	40	30	G/A	5.4
BCFO-40/4/..-VF	40	100,300	S/A	4.2
BCFO-40/4/..-U	40	100,300	U	8.4
BCFO-40/4/..-U/VF	40	100,300	U	4.2
BCFO-40/4/..-U/VF	63	100,300	U	10.5

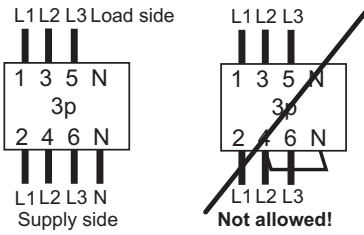
## CIRCUIT DIAGRAMS, SERIES PRIORI



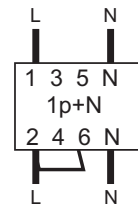
3p+N  
(230/400V)



3phase load without N  
3-phase load without N  
(184 V-254 V AC phase-phase)

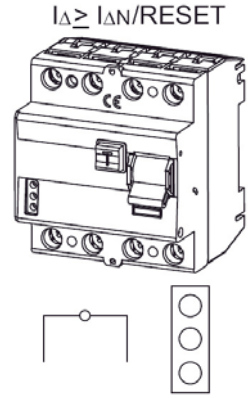
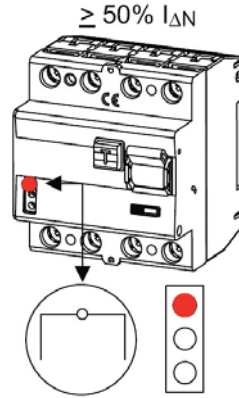
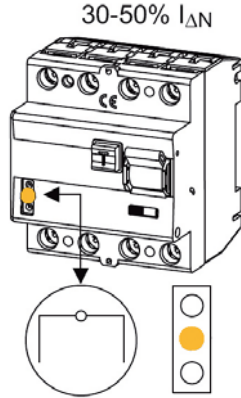
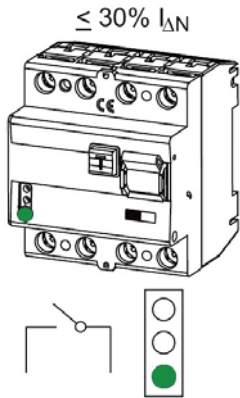


3phase load without N  
3-phase load without N  
(400V CA phase-phase)

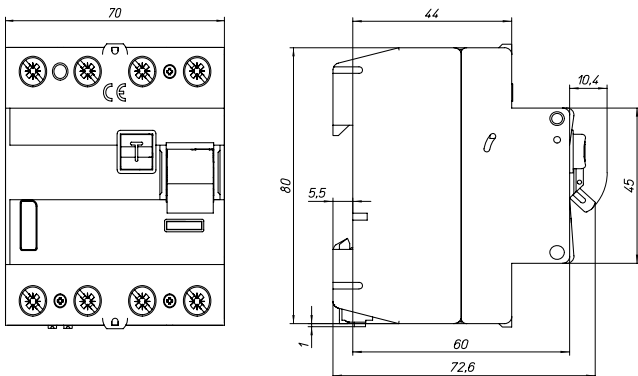


1+N  
(230 V)  
1P+N  
(230 V)

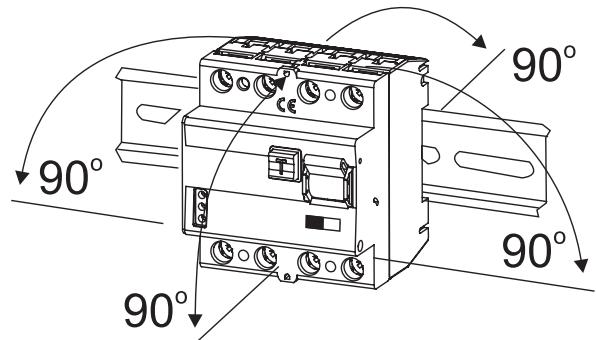
## SIGNALLING AND AUXILIARY CONTACT, SERIES PRIORI



## DIMENSIONS, SERIES PRIORI, BCF0 AND BCF6



## MOUNTING POSITION, SERIES PRIORI, BCF0 AND BCF6



Dimensions W x H x D:	70 mm x 80 mm x 63 mm
Weight:	0.32 kg
Degree of protection:	IP40
Special snap-on mounting:	for DIN rail EN 50 022

## INFLUENCE OF AMBIENT TEMPERATURE ON THE MAXIMUM PERMISSIBLE CONTINUOUS CURRENT (A) – SERIES BCF0 AND BCF6

Ambient temperature	Version											
	16A 2-pole	16A 4-pole	25A 2-pole	25A 4-pole	40A 2-pole	40A 4-pole	63A 2-pole	63A 4-pole	80A 2-pole	80A 4-pole	100A 2-pole	100A 4-pole
40°	16	16	25	25	40	40	63	63	80	80	100	100
45°	14	14	21	22	37	37	59	59	76	76	95	95
50°	11	11	18	19	33	34	55	55	72	72	90	90
55°	9	9	14	16	30	31	50	50	68	68	85	85
60°	-	-	-	-	26	27	45	45	64	64	80	80

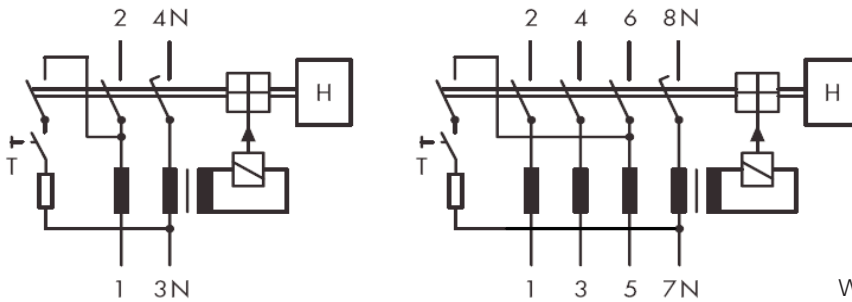
Note: It is important to ensure that these values are not exceeded.

16A and 25A RCCBs cannot be used at 60 °C.

### NOTE

Pressing the test button "T" only tests the function of the residual current (RC) circuit breaker. This test does not replace the earthing resistance measurement (RE) nor the proper protective conductor test that must be performed separately.

### WIRING DIAGRAM SERIES BCF0 AND BCF6



Weight: 2-pole: 0.22 kg, 4-pole 0.32 kg  
Degree of protection: IP20 or IP40 covered

## POSSIBLE CONNECTION FOR SERIES BCF0 AND BCF6

Terminals 35 mm<sup>2</sup>

Conductor cross-section	Number of single conductors, rigid, single-wire Cu conductors					
[mm <sup>2</sup> ]	1	2	3	4	5	6
1.5	+	+	+	+	+	-
2.5	+	+	+	+	-	-
4	+	+	+	+	-	-
6	+	+	+	+	-	-
10	+	+	+	-	-	-
16	+	+	-	-	-	-
25	+	-	-	-	-	-
35	+	-	-	-	-	-

Conductor cross-section	Number of single conductors, rigid, multi-wire Cu conductors					
[mm <sup>2</sup> ]	1	2	3	4	5	6
10	+	+	+	-	-	-
16	+	+	-	-	-	-
25	+	-	-	-	-	-
35	+	-	-	-	-	-

Conductor cross-section	Number of single-conductors, flexible Cu conductors					
[mm <sup>2</sup> ]	1**	2*	3*	4*	5*	6*
1.5	+	-	-	-	+	-
2.5	+	-	+	+	-	-
4	+	+	+	+	-	-
6	+	+	+	+	-	-
10	+	+	-	-	-	-
16	+	+	-	-	-	-
25	+	-	-	-	-	-
35	+	-	-	-	-	-

\*) Only without wire end and sleeve

\*\*\*) Only with wire end and sleeve

Conductor cross-section	Combinations of different cross-sections of flexible Cu conductors with each other									
[mm <sup>2</sup> ]	Permissible variations (without wire end sleeves)									
1.5	+	-	-	-	-	-	-	-	-	-
2.5	+	+	-	-	-	+	-	-	-	-
4	-	+	+	-	-	-	+	-	-	-
6	-	-	+	+	-	+	-	+	-	-
10	-	-	-	+	+	-	+	-	+	-
16	-	-	-	-	+	-	-	-	+	-
25	-	-	-	-	-	-	-	-	-	+
35	-	-	-	-	-	-	-	-	-	-

+ permissible  
- not permissible

No combinations are permissible for rigid single- and multi-wire Cu conductors!



## TECHNICAL DATA FOR RESIDUAL CURRENT CIRCUIT BREAKER, SERIES BCFR

### TECHNICAL DATA

<b>Residual current release relay:</b>	
Tripping:	Selectively switching off, 40 ms delayed
Surge current proof:	5 kA (8/20 $\mu$ s)
Pulse current sensitive	
Max. nominal current:	400 A
Ambient temperatures:	-25 °C to +40 °C
Rated residual current:	(100 mA) 300 mA, 1 A
Rated voltage:	230/400 V, 50 Hz
Rated current of the relay contacts:	25 A/400 V AC 16 A/230 V AC 15
Climate strength:	According to IEC / EN 61008
Degree of protection:	IP 40 in mounted condition
Endurance:	Electrical: 4,000 operating cycles Mechanical: 20,000 operating cycles
Terminals:	Clamp and lift terminals on both sides, 1-35 mm <sup>2</sup> solid
Finger and hand touch safe:	Acc. to VBG4, ÖVE EN6
<b>External converters:</b>	
Maximum cable diameter:	60 mm (type W2, W2-U) 130 mm (type W3, W3-U)
Control cable:	Min. 1.5 mm <sup>2</sup> (W2, W2-U) Max. 2.5 mm <sup>2</sup> (W3, W3-U)

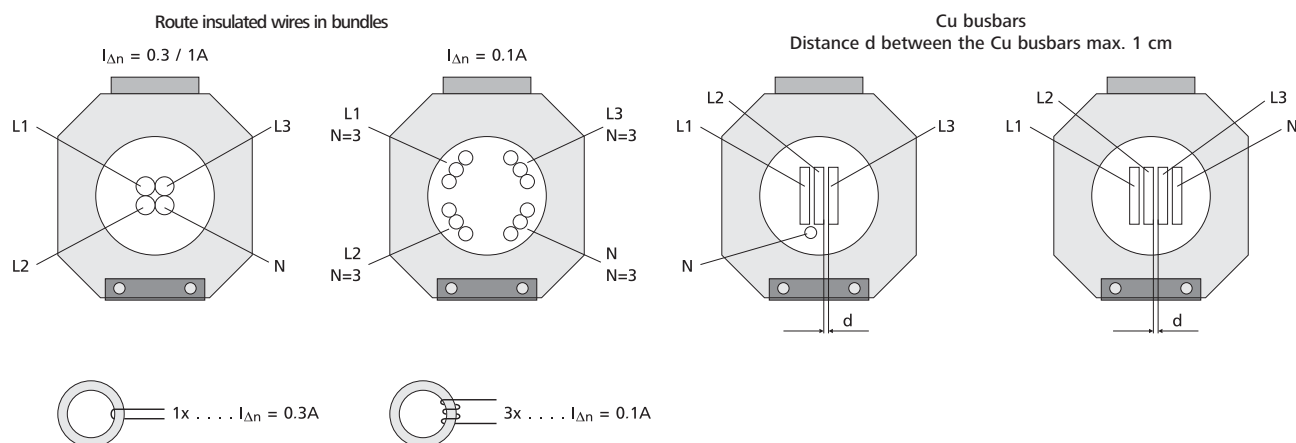
### RATED RESIDUAL CURRENT ADJUSTMENT, SERIES BCFR

Rated residual current adjustment 0.1 or 0.3 A by number of converter primary windings (for BCFR2-03-S/A, BCFR3-03-S/A, BCFR2-03-U and BCFR3-03-U).

Residual current release relay	Converter	Rated residual current $I_{\Delta N}$ (A)	Converter primary windings	Maximum cable diameter (mm)
BCFR2-03-U (S/A)	FR2	0.1	3	60
		0.3	1	60
BCFR3-03-U (S/A)	FR3	0.1	3	130
		0.3	1	130
BCFR2-1-U (S/A)	FR2	1.0	1	60
BCFR3-1-U (S/A)	FR3	1.0	1	130

### ROUTING SCHEME

All of the conductors necessary for operation, L1, L2 and L3, including the neutral conductor N, must be passed through the converter as follows:



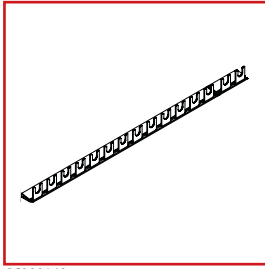
# BUSBARS

## ▀ BUSBAR

- ▀ ONE OF THE TASKS OF BUSBARS IS THE TIME-EFFECTIVE CONNECTION OF SWITCHGEAR SYSTEMS. PROVIDING THIS TIME SAVING IN MOUNTING ELECTRICAL INSTALLATIONS HAS ALWAYS BEEN ONE OF OUR MAIN OBJECTIVES.



## FORK BUSBAR, 1-POLE, NOT POSSIBLE TO BREAK OFF

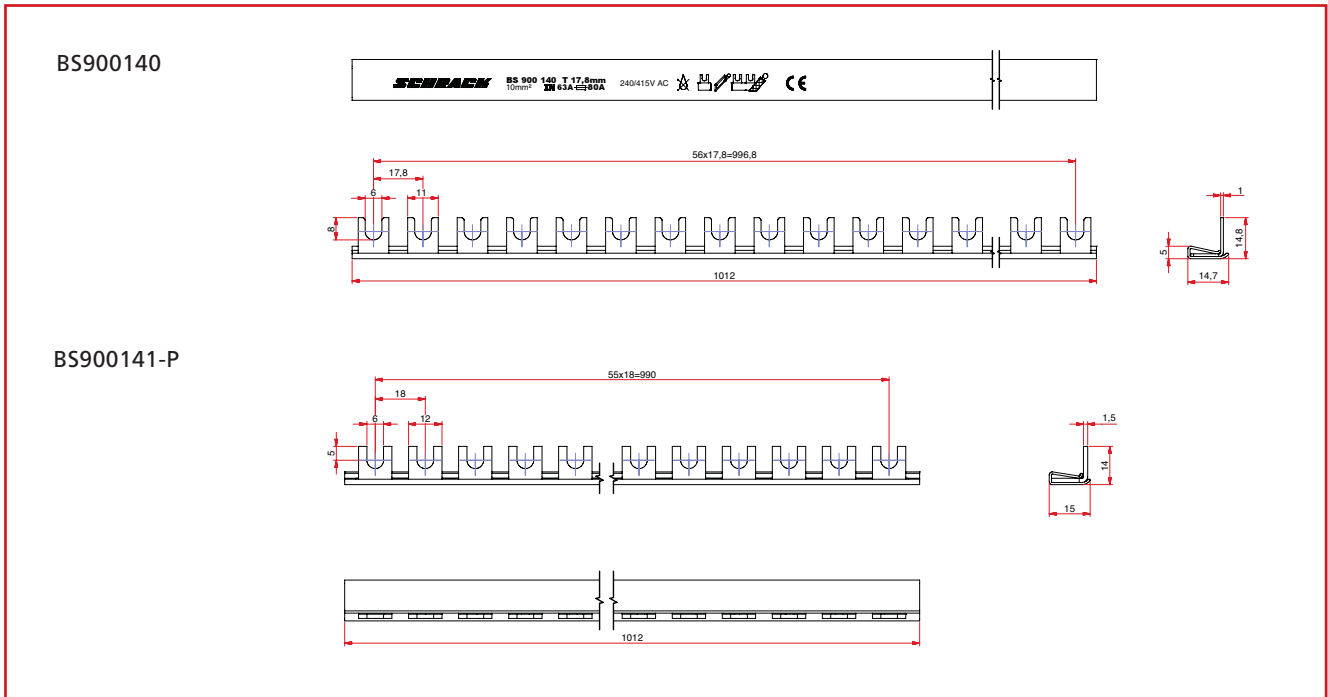


BS900140

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 57 MW

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASES	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	1	63/100	56	1	9004840083019		<b>BS900140</b>
Fork busbar 16 mm <sup>2</sup>	1	90/150	56	10	9004840106671		<b>BS900141-P</b>

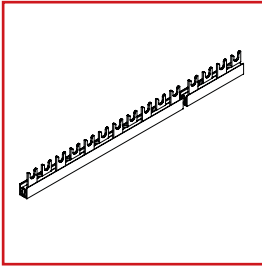


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## FORK BUSBAR, 2-POLE, NOT POSSIBLE TO BREAK OFF



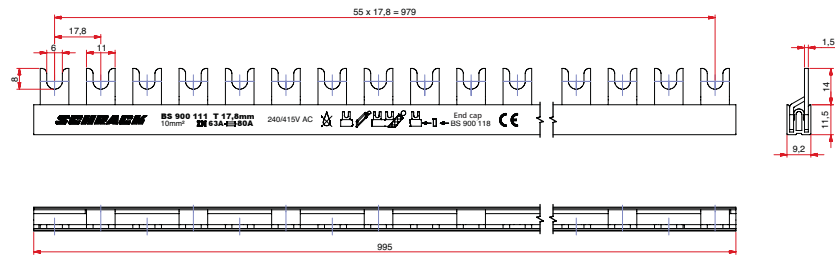
BS900111

### SCHRACK INFO

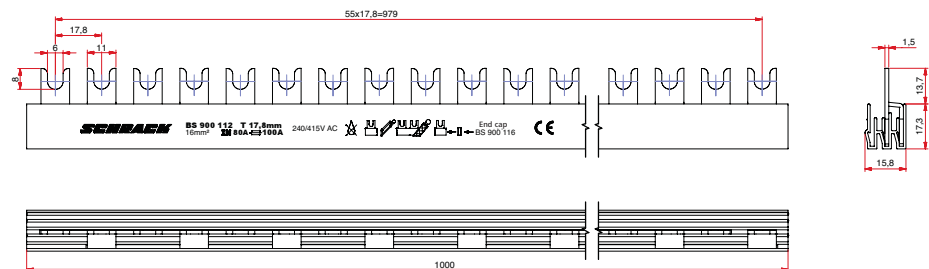
- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 56 MW = 28 x 2 MW
- 28 x MCB 2-pole / MCB 1+N / 2-pole RBCO
- Phase sequence: L, N, L, N, L, ... N / +, -, +, -, +, -, ... +, -

### DIMENSIONS

BS900111



BS900112



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	L, N or +/-	63/100	56	10	9004840013429		<b>BS900111</b>
Fork busbar 16 mm <sup>2</sup>	L, N or +/-	80/120	56	10	9004840013436		<b>BS900112</b>

### ACCESSORIES

End cap for BS900111	1	9004840013498		<b>BS900118</b>
End cap for BS900112	1	9004840013474		<b>BS900116</b>

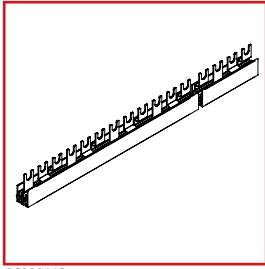


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## FORK BUSBAR, 3-POLE, POSSIBLE TO BREAK OFF

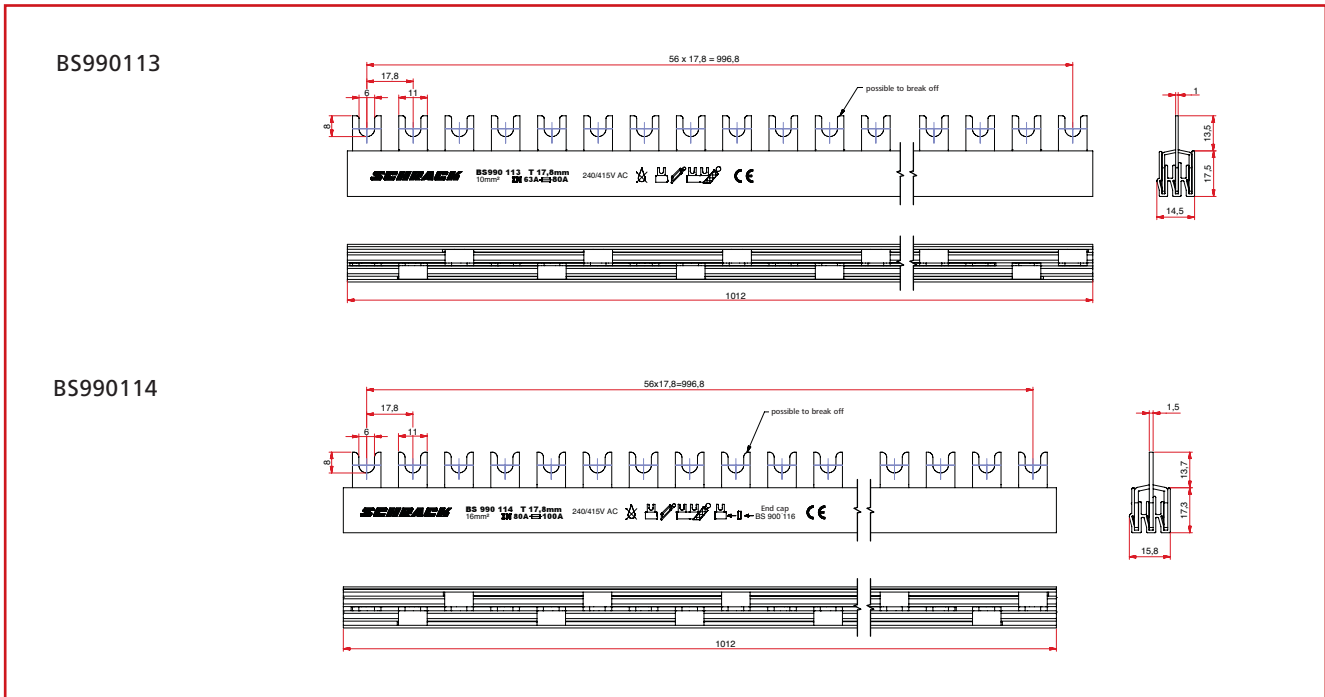


BS990113

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 57 MW = 19 x 3 MW
- 19 x MCB 3-pole / 57 MCB 1-pole
- Phase sequence: L1, L2, L3, L1, L2, ... L1, L2, L3

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	L1, L2, L3	63/100	57	10	9004840186086		<b>BS990113</b>
Fork busbar 16 mm <sup>2</sup>	L1, L2, L3	80/120	57	10	9004840186093		<b>BS990114</b>

### ACCESSORIES

End cap, 3-pole				1	9004840013474		<b>BS900116</b>
End cap, 4-pole, for use of additional-N busbar				1	9004840013481		<b>BS900117</b>

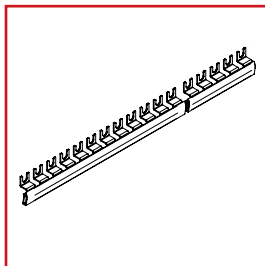


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## N-FORK BUSBAR, 1-POLE, POSSIBLE TO BREAK OFF

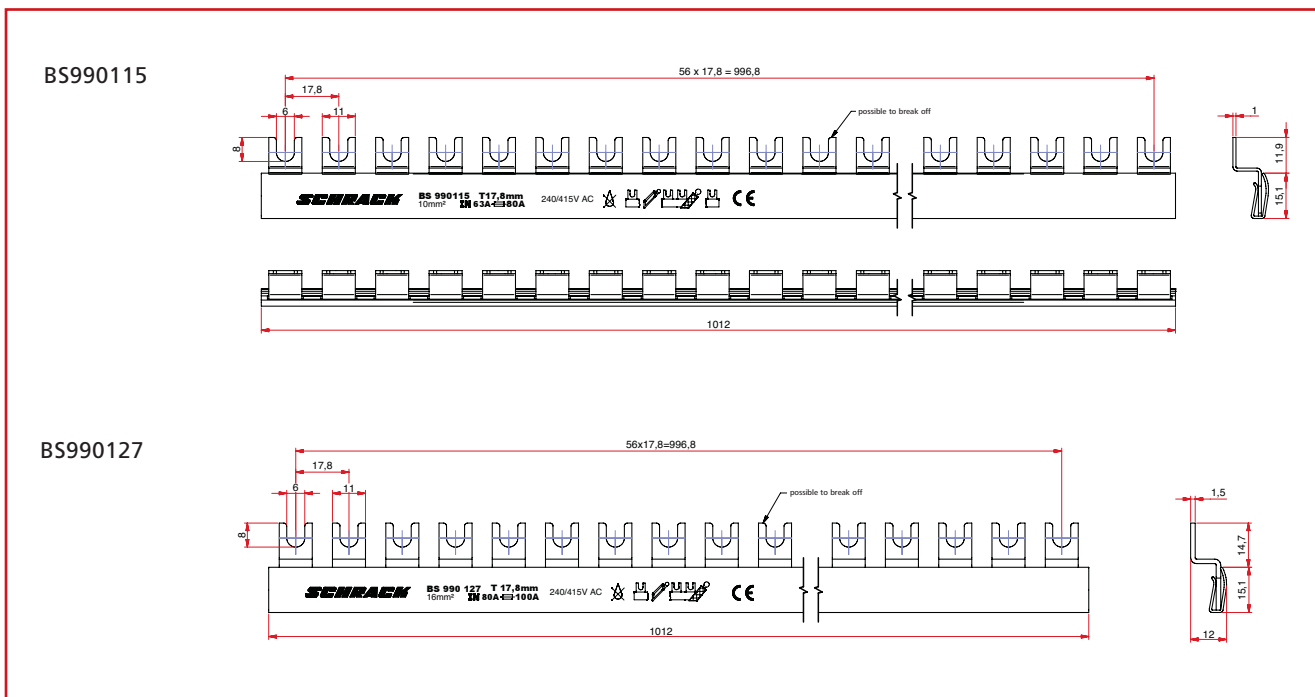


BS990115

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 57 MW

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
N-fork busbar 10 mm <sup>2</sup>	N	63/100	57	10	9004840186109		<a href="#">BS990115</a>
N-fork busbar 16 mm <sup>2</sup>	N	80/120	57	10	9004840186130		<a href="#">BS990127</a>

### ACCESSORIES

End cap, 4-pole				1	9004840013481		<a href="#">BS990117</a>
End cap, 1-pole, blue				1	9004840652437		<a href="#">BS990108</a>

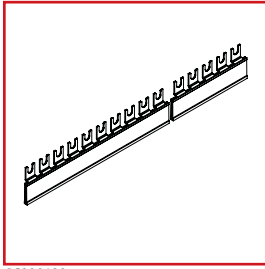


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## FORK BUSBAR, 1 – 4-POLE, POSSIBLE TO BREAK OFF

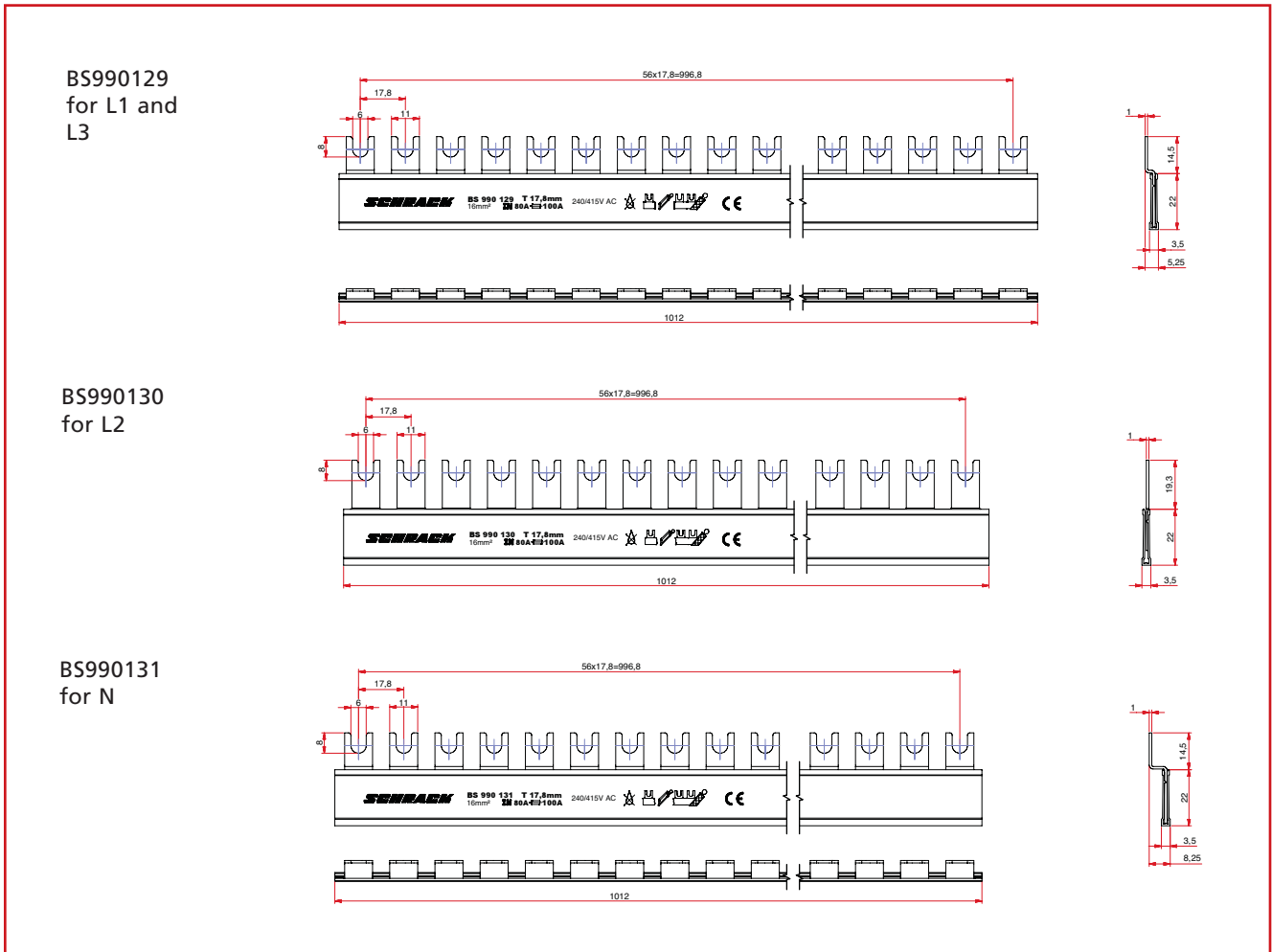


BS990129

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 57 MW = 1 m

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 16 mm <sup>2</sup>	L1/3	80/120	57	25	9004840186147		<b>BS990129</b>
Fork busbar 16 mm <sup>2</sup>	L2	80/120	57	25	9004840186154		<b>BS990130</b>
Fork busbar 16 mm <sup>2</sup>	N	80/120	57	25	9004840186161		<b>BS990131</b>

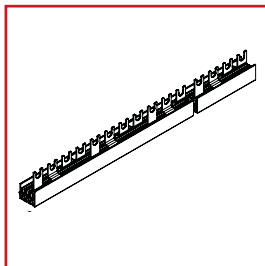
### ACCESSORIES

End cap, 4-pole				1	9004840013481		<b>BS900117</b>
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**Order no. blue:** on stock, usually ready for delivery on the day of order!

## FORK BUSBAR, 4-POLE, NOT POSSIBLE TO BREAK OFF

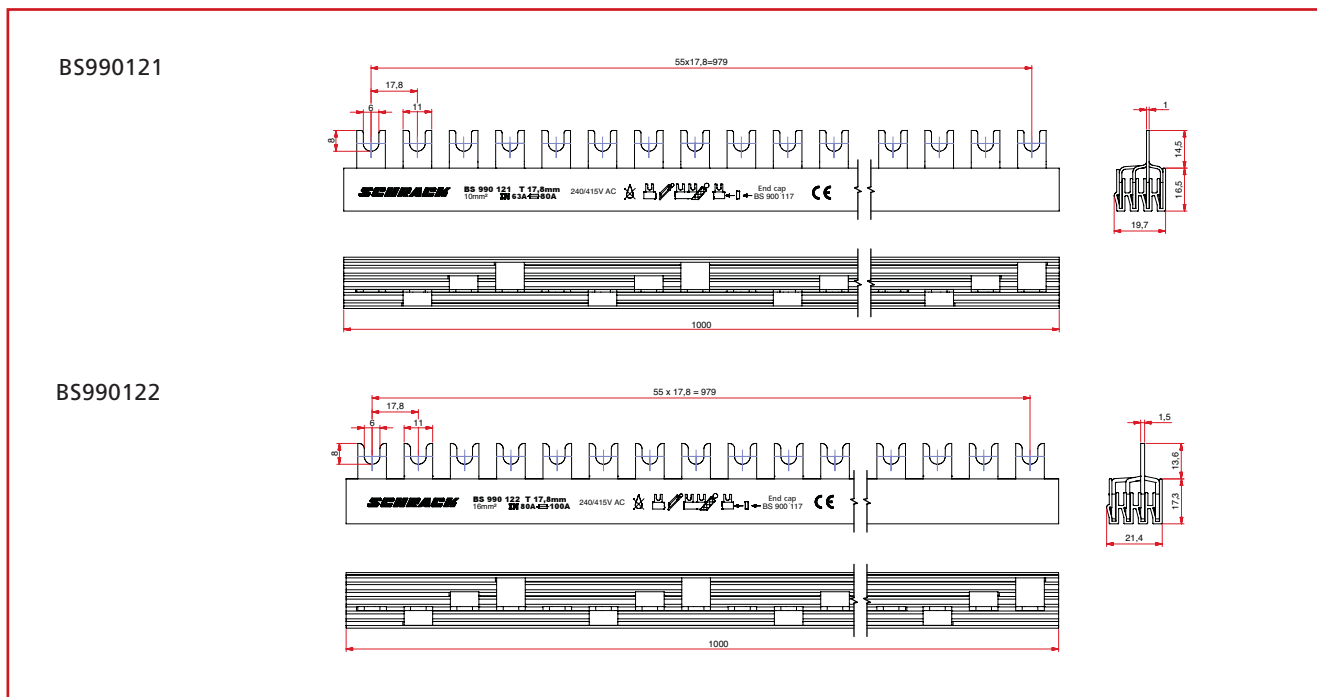


BS990121

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 56 MW
- 14 x RCCB 4-pole / MCB 3+N
- Phase sequence: L1, L2, L3, N, L1, ... L3, N, L1

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	L1, L2, L3, N	63/100	56	10	9004840186116		<a href="#">BS990121</a>
Fork busbar 16 mm <sup>2</sup>	L1, L2, L3, N	80/120	56	10	9004840186123		<a href="#">BS990122</a>

### ACCESSORIES

End cap, 4-pole				1	9004840013481		<a href="#">BS900117</a>
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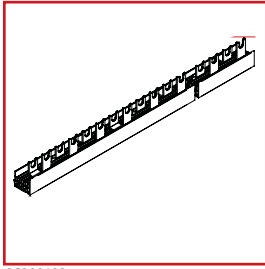
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## **///** FORK BUSBAR, 4-POLE, NOT POSSIBLE TO BREAK OFF

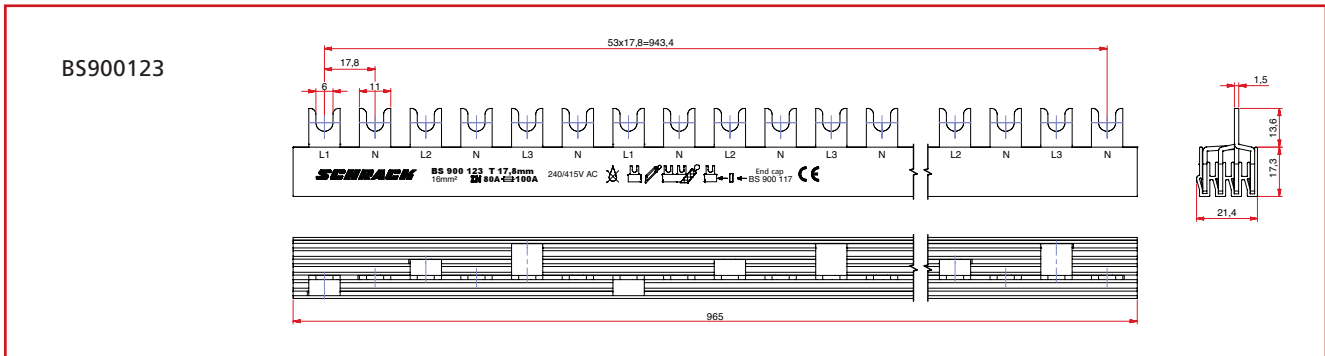


BS900123

### **///** SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 17 x MCB 1+N / RCBO 1+N
- Phase sequence: L1, N, L2, N, L3, N, L1, N, ... L3, N

### **///** DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 16 mm <sup>2</sup>	L1, N, L2, N, L3, N	80/120	1	9004840101591		<b>BS900123</b>

### ACCESSORIES

End cap, 4-pole			1	9004840013481		<b>BS900117</b>
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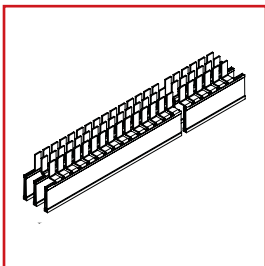


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## PIN BUSBAR, 1-POLE, POSSIBLE TO BREAK OFF

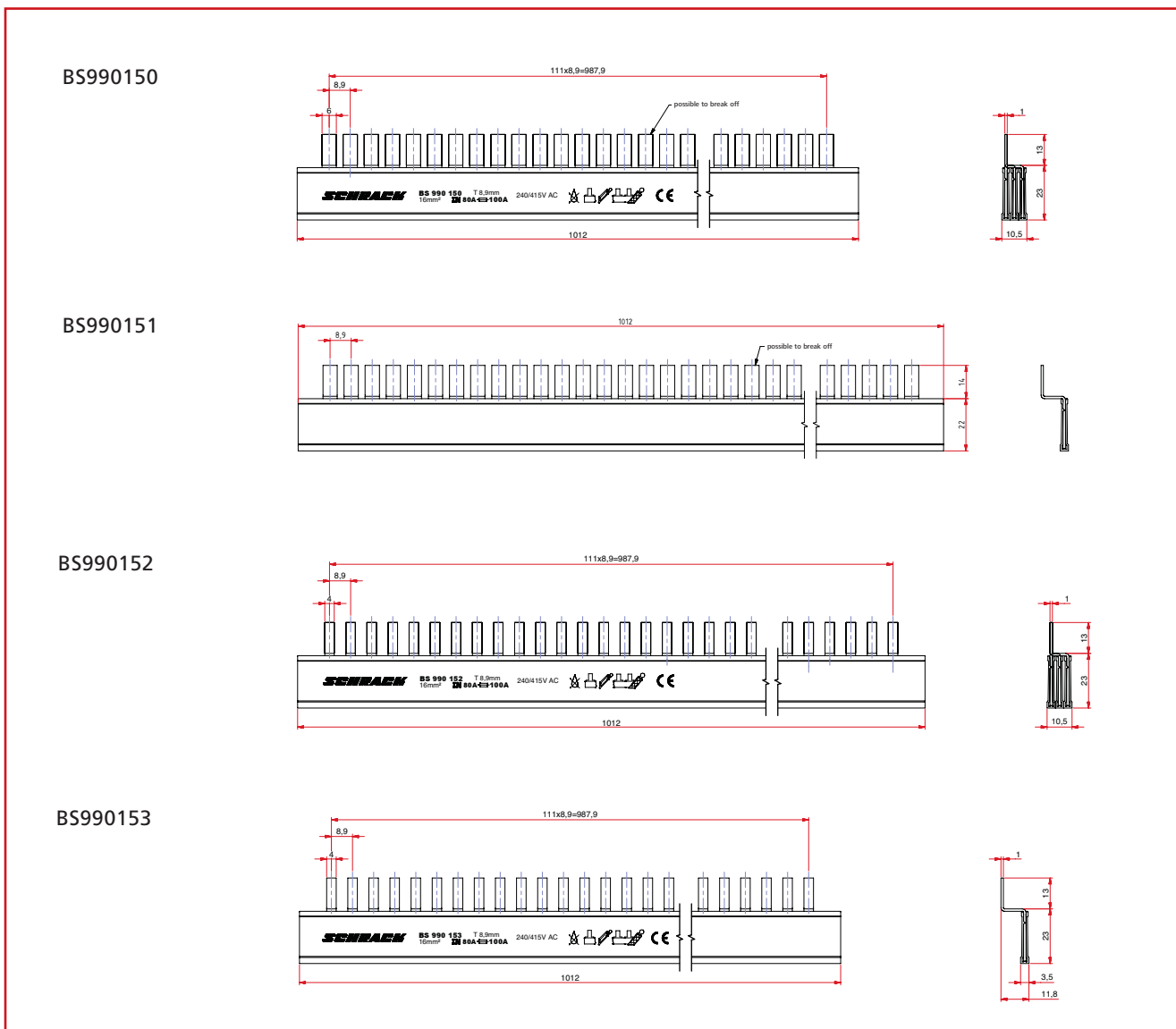


BS990150

### SCHRACK INFO

- Pin busbar for wiring of devices with: box or series terminal, clamp-type terminal
- Pitch 8.9 mm
- 112 MW

### DIMENSIONS



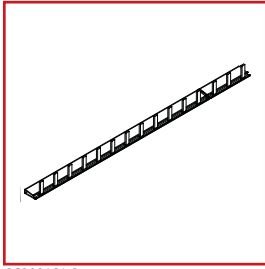
DESCRIPTION/CROSS-SECTION	PHASES	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Pin busbar 10 mm <sup>2</sup>	L1, L2, L3	63/100	112	10	9004840186192		<b>BS990150</b>
Pin busbar 10 mm <sup>2</sup>	N	-	112	25	9004840186208		<b>BS990151</b>
Pin busbar 16 mm <sup>2</sup>	L1, L2, L3	63/100	112	10	9004840186215		<b>BS990152</b>
Pin busbar 16 mm <sup>2</sup>	N	-	112	25	9004840186222		<b>BS990153</b>

### ACCESSORIES

End cap, 4-pole				1	9004840013481		<b>BS900117</b>
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## PIN BUSBAR, 1-POLE, NOT POSSIBLE TO BREAK OFF

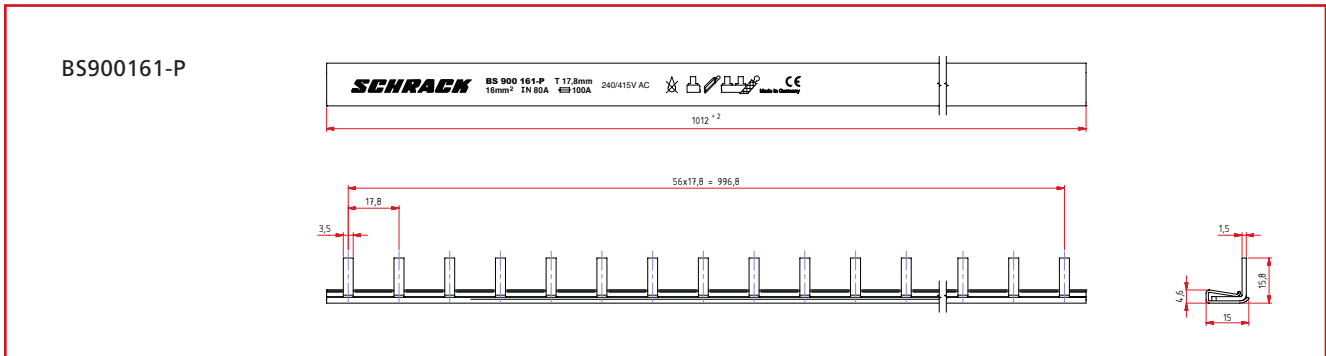


BS900161-P

### SCHRACK INFO

- Pin busbar for wiring of devices with: box or series terminal, clamp-type terminal
- Pitch 17.8 mm
- 57 MW

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASES	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Pin busbar 16 mm <sup>2</sup>	1	63/100	57	25	9004840106664		BS900161-P



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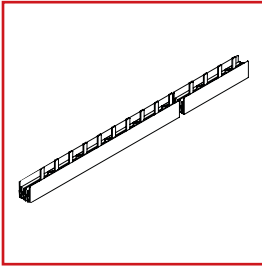
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## PIN BUSBAR, 2-POLE, NOT POSSIBLE TO BREAK OFF

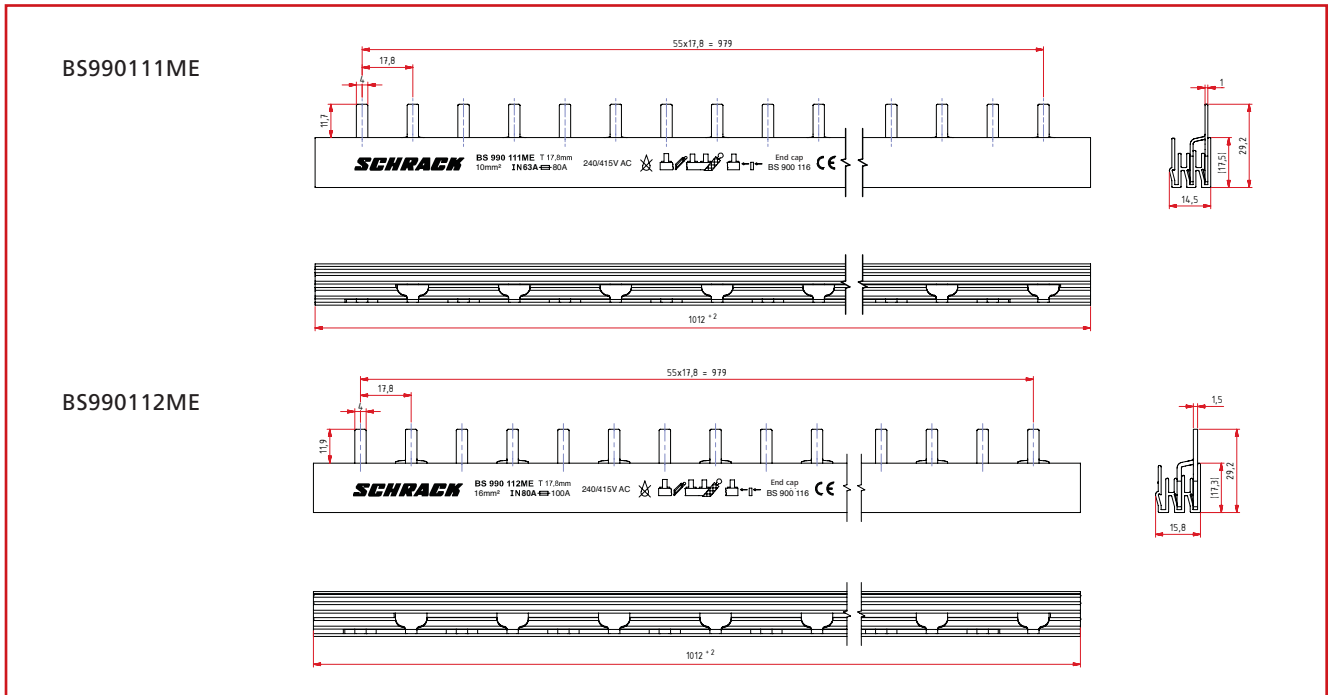


BS990111ME

### SCHRACK INFO

- Pin busbar for wiring of devices with: box or series terminal, clamp-type terminal
- Pitch 17.8 mm
- 56 MW
- Phase sequence: L1, N, L1, N

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Pin busbar 10 mm <sup>2</sup>	L1, N	63/80	56	1	9004840264302		<a href="#">BS990111ME</a>
Pin busbar 16 mm <sup>2</sup>	L1, N	80/100	56	1	9004840264319		BS990112ME

### ACCESSORIES

End cap, 3-pole				1	9004840013474		<a href="#">BS900116</a>
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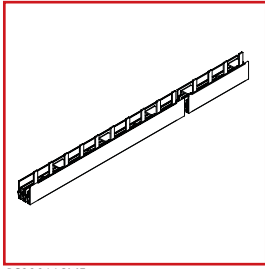


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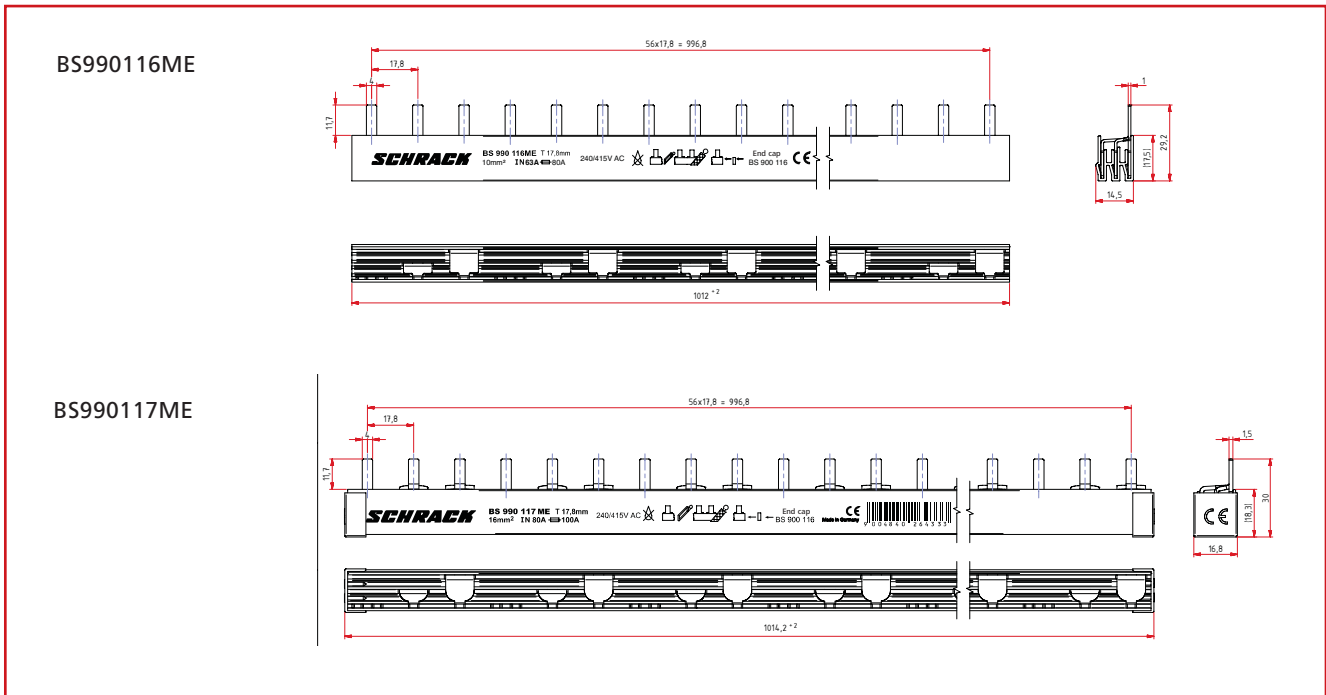


BS990116ME

### SCHRACK INFO

- Pin busbar for wiring of devices with: box or series terminal, clamp-type terminal
- Pitch 17.8 mm
- 57 MW
- Phase sequence: L1, L2, L3, L1, L2, L3

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Pin busbar 10 mm <sup>2</sup>	L1, L2, L3	63/80	57	10	9004840264326		<b>BS990116ME</b>
Pin busbar 16 mm <sup>2</sup>	L1, L2, L3	80/100	57	10	9004840264333		<b>BS990117ME</b>

### ACCESSORIES

End cap, 3-pole				1	9004840013474		<b>BS900116</b>
-----------------	--	--	--	---	---------------	--	-----------------

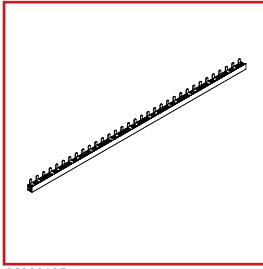


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## **■** PIN BUSBAR, 3-POLE, 30,5 mm, 35 mm<sup>2</sup>, NOT POSSIBLE TO BREAK OFF

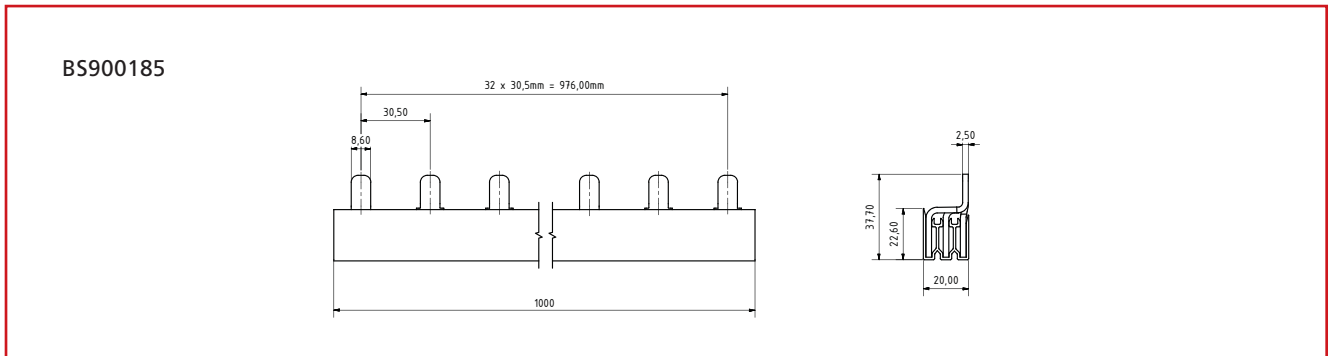


BS900185

### **■** SCHRACK INFO

- LHV busbar
- Phase sequence: L1, L2, L3, L1, L2, L3

### **■** DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	PU	EAN CODE	AVAILABLE	ORDER NO.
Pin busbar 35 mm <sup>2</sup>	L1, L2, L3	20	9004840226805		<b>BS900185</b>

### ACCESSORIES

End cap, 3-pole		100	9004840226799		BS900186
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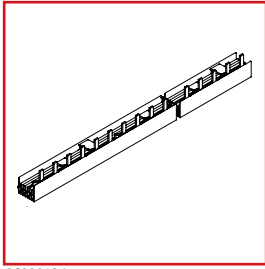


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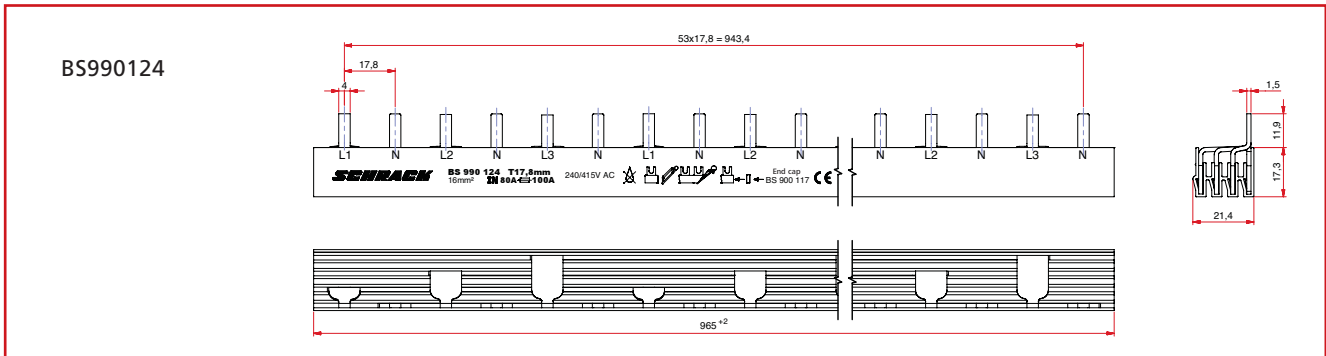


BS990124

### **■** SCHRACK INFO

- Pin busbar for wiring of devices with: box or series terminal, clamp-type terminal
- Pitch 17.8 mm
- 54 MW
- 17 x MCB 1+N / RCBO 1+N
- Phase sequence: L1, N, L2, N, L3, N, L1, N, L2, N, L3, N

### **■** DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Pin busbar 16 mm <sup>2</sup>	L1, N, L2, N, L3, N	80/100	54	10	9004840190236		<b>BS990124</b>

### ACCESSORIES

End cap, 4-pole				1	9004840013481		<b>BS900117</b>
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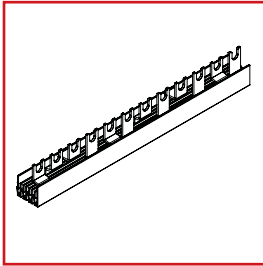
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## COMPACT FORK BUSBAR, 4-POLE, NOT POSSIBLE TO BREAK OFF

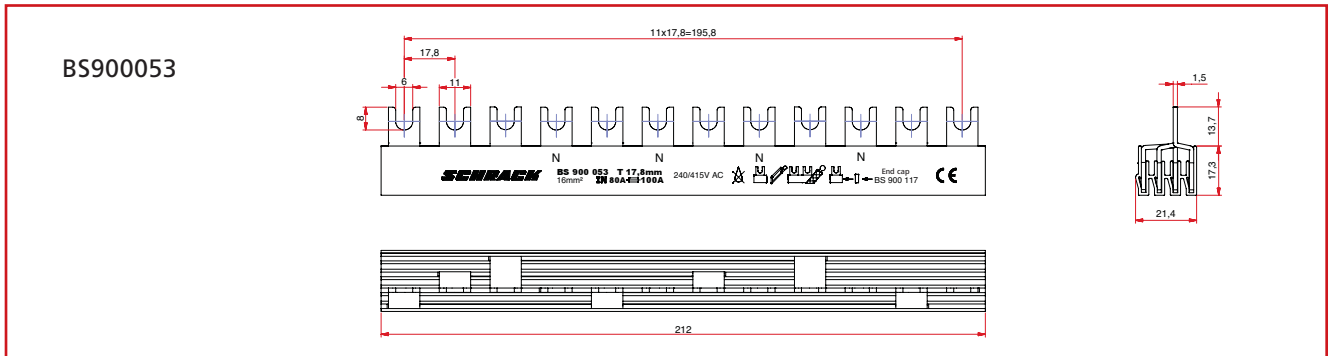


BS900053

### SCHRACK INFO

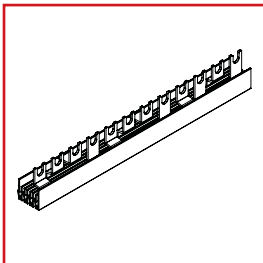
- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 12 MW
- 1 x RCCB 4-pole + 4 x MCB 1+N
- Phase sequence: L1, L2, L3, N, L1, N, L2, N, L3, N, L1, N

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 16 mm <sup>2</sup>	80/120	12	25	9004840076233		<b>BS900053</b>
<b>ACCESSORIES</b>						
End cap, 4-pole			1	9004840013481		<b>BS900117</b>

## COMPACT FORK BUSBAR, 4-POLE, NOT POSSIBLE TO BREAK OFF

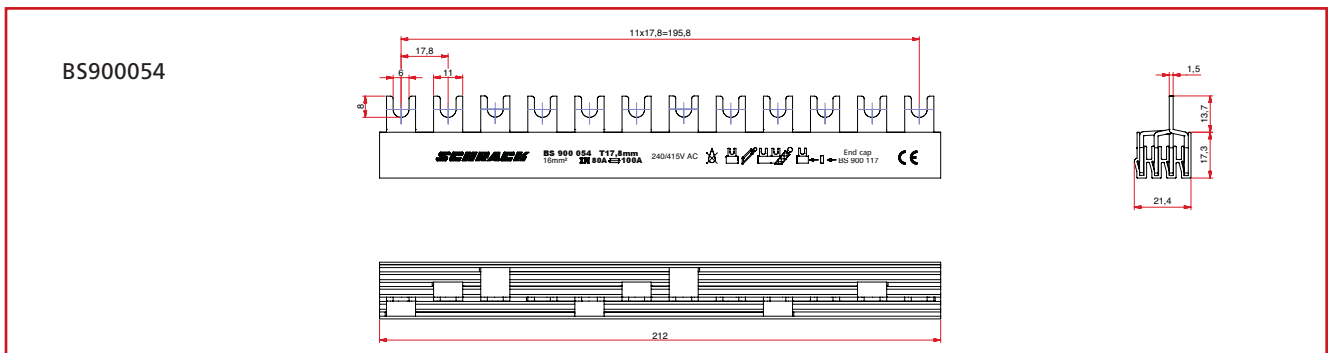


BS900054

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 12 MW
- 1 x RCCB 4-pole + 1 x MCB 3+N + 2 x MCB 1 + N
- Phase sequence: L1, L2, L3, N, L1, L2, L3, N, L1, N, L2, N

### DIMENSIONS

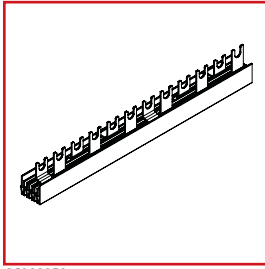


DESCRIPTION/CROSS-SECTION	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 16 mm <sup>2</sup>	80/120	12	25	9004840065978		<b>BS900054</b>
<b>ACCESSORIES</b>						
End cap, 4-pole			1	9004840013481		<b>BS900117</b>





## COMPACT FORK BUSBAR, 4-POLE, NOT POSSIBLE TO BREAK OFF

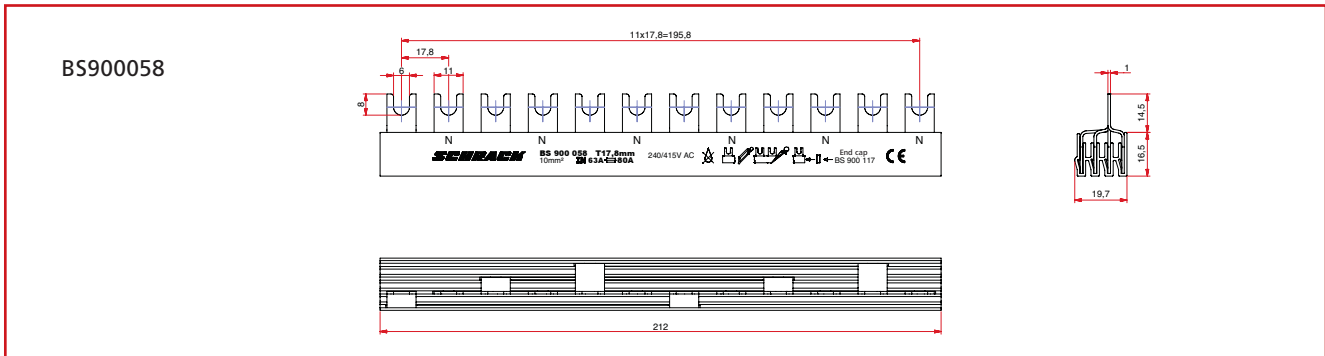


BS900058

### SCHRACK INFO

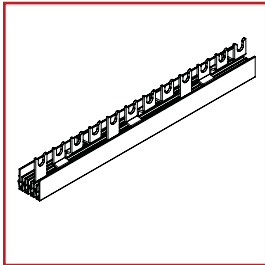
- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 12 MW
- 6 x MCB 1+N or RCBO 1+N
- Phase sequence: L1, N, L2, N, L3, N, L1, N, L2, N, L3, N

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 16 mm <sup>2</sup>	L1, N, L2, N, L3, N	80/120	12	25	9004840013276		<b>BS900058</b>
<b>ACCESSORIES</b>							
End cap, 4-pole				1	9004840013481		<b>BS900117</b>

## COMPACT FORK BUSBAR, 4-POLE, NOT POSSIBLE TO BREAK OFF

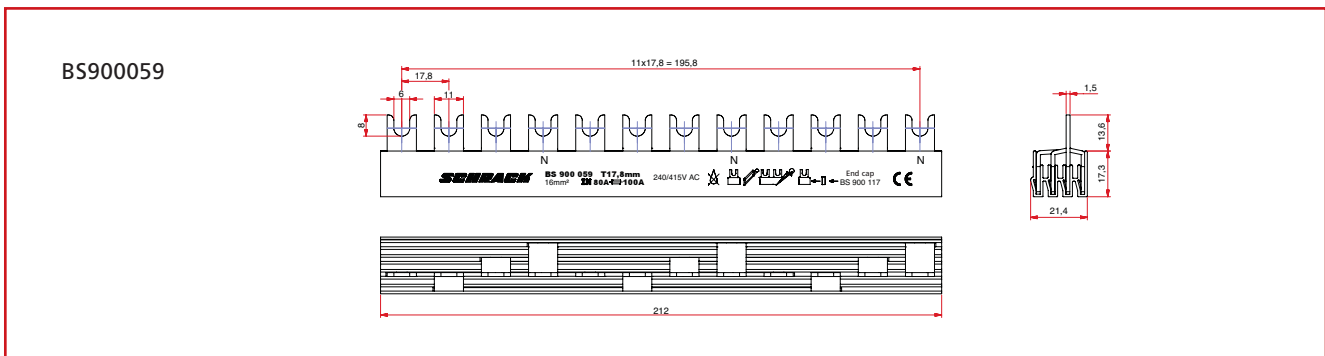


BS900059

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 12 MW
- 1 x RCCB 4-pole + 4 x overload + 1 x MCB 3+N
- Phase sequence: L1, L2, L3, N, L1, L2, L3, N, L1, L2, L3, N

### DIMENSIONS

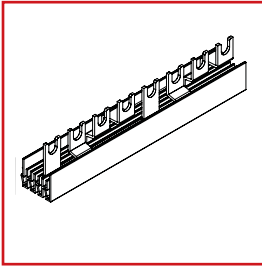


DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 16 mm <sup>2</sup>	L1, L2, L3, N	80/120	12	25	9004840013283		<b>BS900059</b>
<b>ACCESSORIES</b>							
End cap, 4-pole				1	9004840013481		<b>BS900117</b>



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## COMPACT FORK BUSBAR, 4-POLE, NOT POSSIBLE TO BREAK OFF

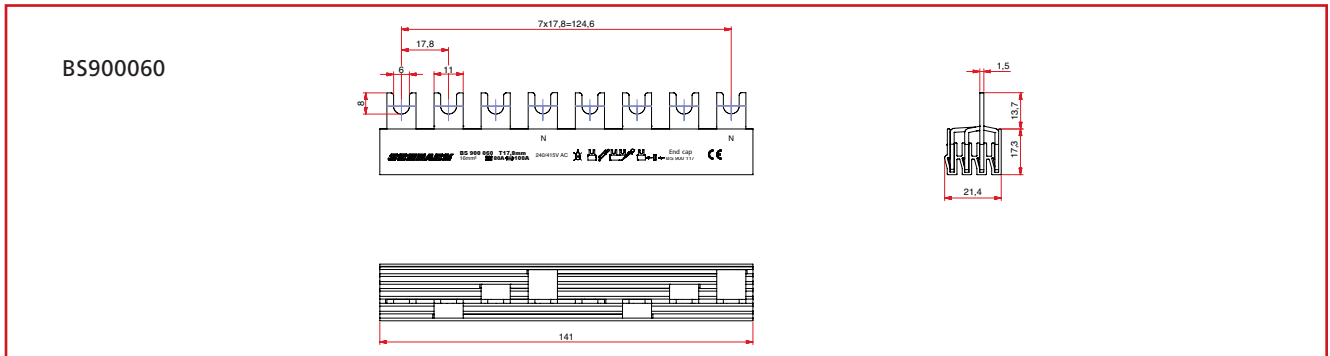


BS900060

### SCHRACK INFO

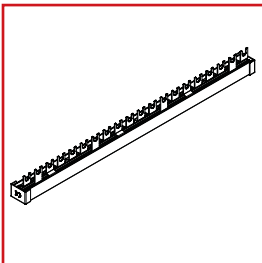
- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 12 MW
- 1 x RCCB 4-pole + 4 x surge protective device or 2 x RCCB 4-pole
- Phase sequence: L1, L2, L3, N, L1, L2, L3, N

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 16 mm <sup>2</sup>	L1, L2, L3, N	80/120	12	25	9004840013290		BS900060
<b>ACCESSORIES</b>							
End cap, 4-pole				1	9004840013481		BS900117

## COMPACT FORK BUSBAR, 4-POLE, 20 MW, NOT POSSIBLE TO BREAK OFF

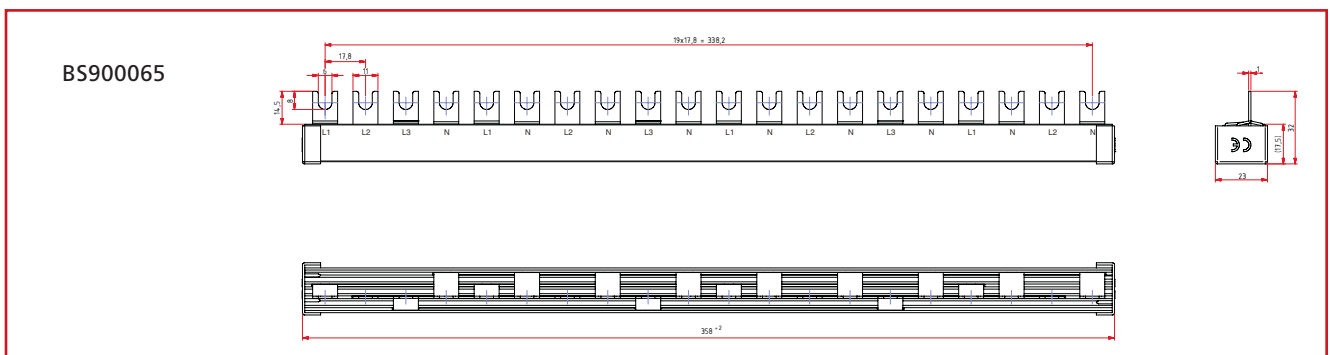


BS900065

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 20 MW
- Phase sequence: L1, L2, L3, N, L1, N, L2, N, L3, N, L1, N, L2, N, L3, N, L1, N, L2, N

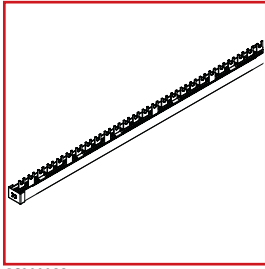
### DIMENSIONS



DESCRIPTION/CROSS-SECTION	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	63/100	20	10	9004840662481		BS900065
<b>ACCESSORIES</b>						
End cap, 4-pole			1	9004840013481		BS900117



## COMPACT FORK BUSBAR, 4-POLE, 26 MW, NOT POSSIBLE TO BREAK OFF

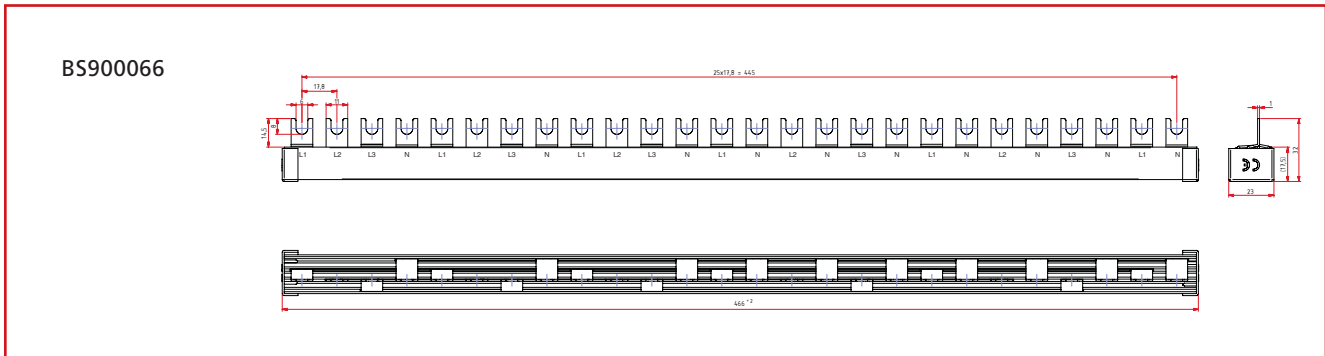


BS900066

### SCHRACK INFO

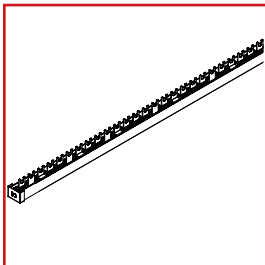
- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 26 MW
- Phase sequence: L1, L2, L3, N, L1, L2, L3, N, L1, L2, L3, N, L1, N, L2, N, L3, N, L1, N, L2, N, L3, N, L1, N

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	63/100	26	10	9004840662498		BS900066
<b>ACCESSORIES</b>						
End cap, 4-pole			1	9004840013481		BS900117

## COMPACT FORK BUSBAR, 4-POLE, 32 MW, NOT POSSIBLE TO BREAK OFF

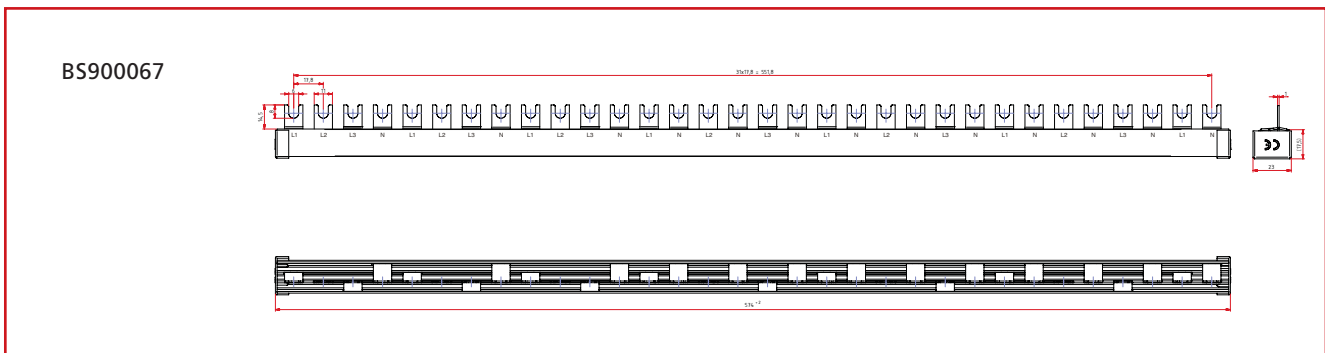


BS900067

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 32 MW
- Phase sequence: L1, L2, L3, N, L1, L2, L3, N, L1, L2, L3, N, L1, N, L2, N, L3, N, L1, N, L2, N, L3, N, L1, N, L2, N, L3, N, L1, N

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	63/100	32	10	9004840662504		BS900067
<b>ACCESSORIES</b>						
End cap, 4-pole			1	9004840013481		BS900117

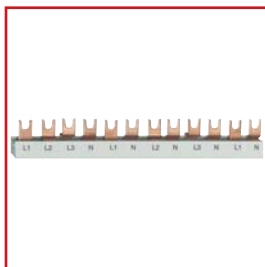


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# BUSBARS

## COMPACT BUSBAR FOR MINIATURE CIRCUIT BREAKERS, SLIM DESIGN, SERIES BS

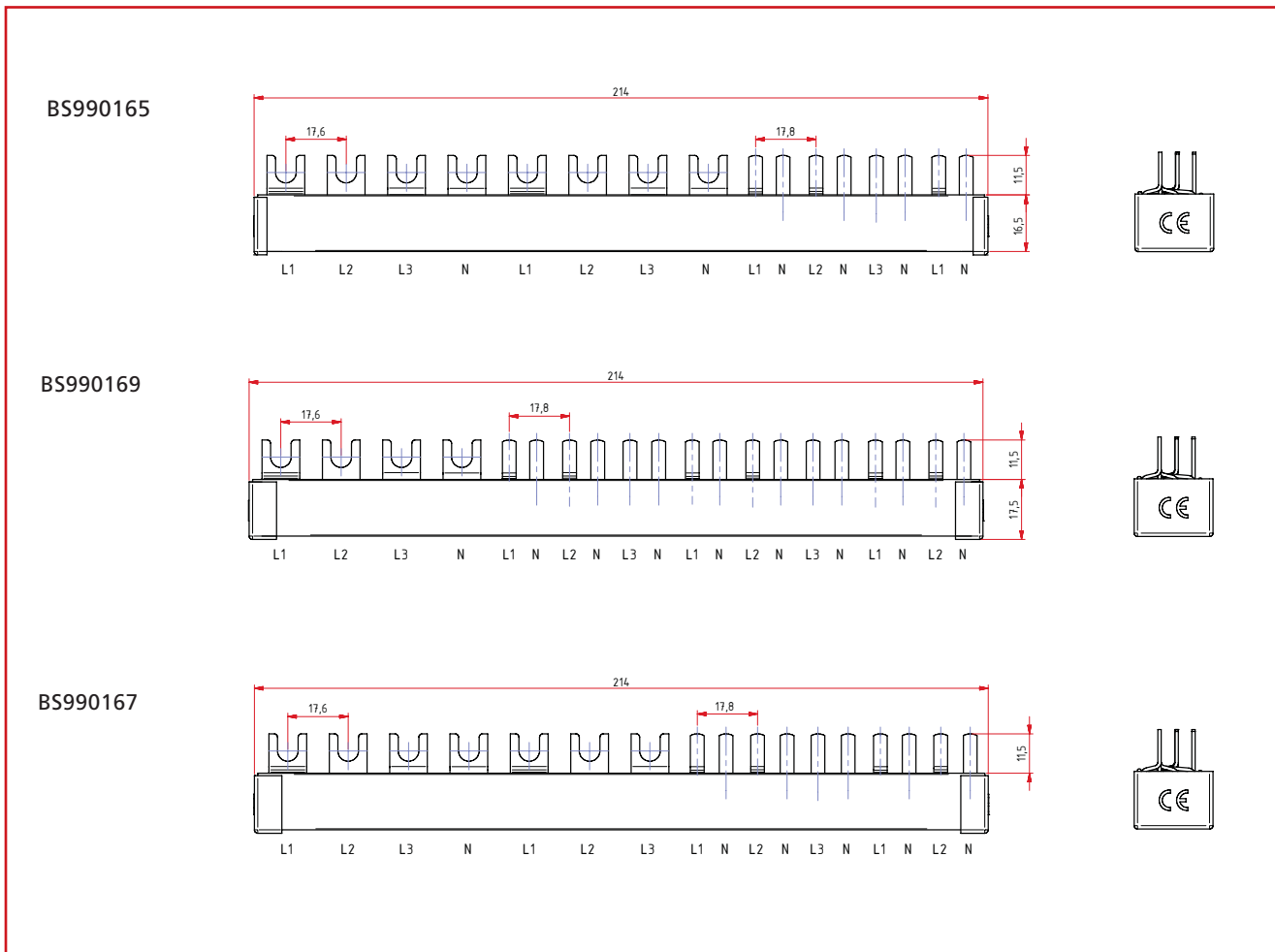


BS900053

### SCHRACK INFO

- For quick and easy busbar connections
- End caps included
- Phase sequence according to the drawing

### DIMENSIONS



DESCRIPTION	DIM. (WxHxD) mm	CU WT. (kg)	EAN CODE	AVAILABLE	ORDER NO.
Busbar 12 MW RCCB 4p / MCB 4p / MCB 1N 1MW, 16 mm <sup>2</sup> /18 + 9	214x31x20.5	220	9004840264739		<b>BS990165</b>
Busbar 12 MW RCCB 4p / MCB 1N 1MW, 16 mm <sup>2</sup> /18 + 9	214x31x20.5	230	9004840264746		<b>BS990169</b>
Busbar 12 MW RCCB 4p / MCB 3p / MCB 1N 1MW, 16 mm <sup>2</sup> /18 + 9	214x31x20.5	230	9004840264722		<b>BS990167</b>



## MODUL-CONNECT, THE UNIVERSAL BUSBAR



MODUL-CONNECT



MODUL-CONNECT

### SCHRACK INFO

The first busbar with which RCCB switches, RCBOs, MCBs, surge protectors, neutral conductor ducts and, e.g., Arrow on D0-fuse-switches can be busbar-connected in phase together.

- Universal busbar
- Push-on in the 9 mm module step
- Any required configuration of the connection flags without breaking off

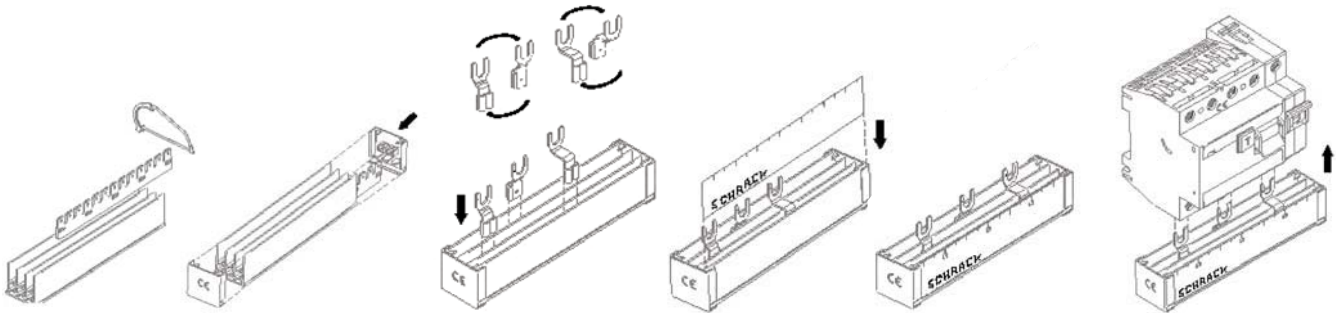
### TECHNICAL DATA

- 240/415 V AC max. operating voltage 500 V
- 16 mm<sup>2</sup>
- I<sub>n</sub> = 80 A
- Short-circuit resistance 25 kA
- Marking tag 100 A gL
- Dielectric strength 36 kV/mm

### NOTE

The connectors may be reinserted up to 6 times to ensure full contact. Bent connectors or connectors that do not positively latch must be replaced with new ones.

### APPLICATION



DESCRIPTION	LENGTH (mm)	PU	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
Busbar 80 A, 1-pole, 16 mm <sup>2</sup> , MW = 9 mm	1000	1	220	9004840419702		<b>ISS90916</b>
Insulation body, 3-pole	1000	1	-	9004840419719		<b>ISS90003</b>
Insulation body, 4-pole	1000	1	-	9004840419726		<b>ISS90004</b>
Connection flag L1/N fork	-	50	9	9004840419733		<b>ISS909G1</b>
Connection flag L2/L3 fork	-	50	9	9004840419740		<b>ISS909G2</b>
End cap for insulation body, 3-pole	-	1	-	9004840419788		<b>ISS900K3</b>
End cap for insulation body, 4-pole	-	1	-	9004840419795		<b>ISS900K4</b>

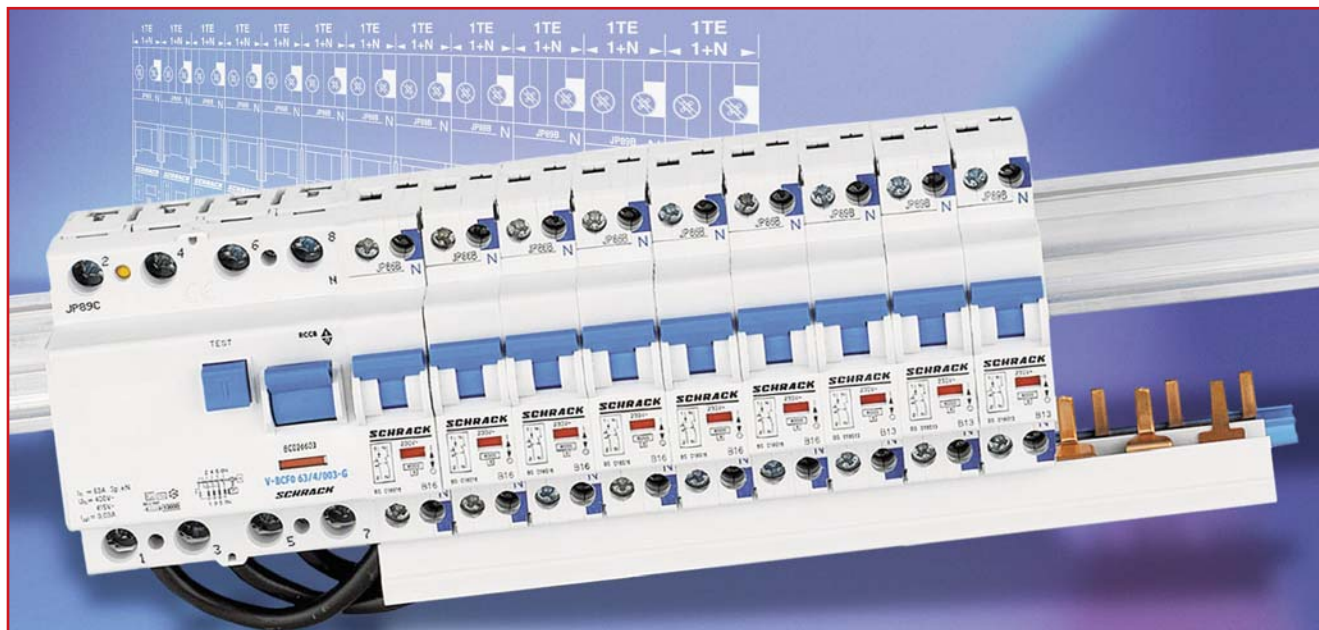


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## SMALL CONNECT



**EXTREMELY COMPATIBLE BUSBAR FOR MINIATURE CIRCUIT BREAKERS TYPE BS 1+N WITH 1 MW**  
By using 1+N line circuit breakers in a pure single-module configuration helps you make the most of limited space with the same levels of safety. For example, when retrofitting during renovation. Small Connect busbars are especially useful for these kinds of applications thanks to its especially compact design.

**FLEXIBLE CONNECTION WIRES WITH ULTRASONIC WELDED ENDS**

These offer the great advantage that they can fit in all terminals irrespective of whether the busbar is attached above or below the miniature circuit breaker. Also independent of the switch producing the supply current.

**COMPLETE SETS OFFER EASE OF USE**

These Small Connect busbar sets for 1-pole + Neutral and 3-pole + Neutral busbar applications have the advantage always receiving the right connection cable for the busbar.



### I KNOW WHERE TO FIND IT!

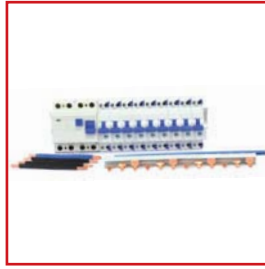
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## SMALL CONNECT SET FOR MINIATURE CIRCUIT BREAKERS 1+N, 1 MW, 10 mm<sup>2</sup>



BS990170



BS990171

### SCHRACK INFO

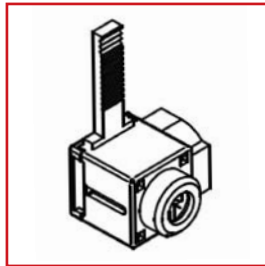
Set includes 1 pc 1-meter busbar 10 mm<sup>2</sup> grey, 1 pc 1-meter busbar 10 mm<sup>2</sup> blue, 3 (version 1-pole+N) or 9 (3-pole+N version) flexible 10 mm<sup>2</sup> wires black with ultrasonically-consolidated ends and 3 in blue. The ultrasonic welded end of the wires have exactly the same fit, which allows them to fit into the terminal of SCHRACK MCBs BS 1+N with 1 MW. Compared to a fixed adapter, they offer the advantage that they can be flexible from the side and from the supply device. The set comes packed in a polybag.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Busbar set 1-pole+N for miniature circuit breakers 1+N, 1 MW, 10 mm <sup>2</sup>	9004840520316		<a href="#">BS990170</a>
Busbar set 3-pole+N for miniature circuit breakers 1+N, 1 MW, 10 mm <sup>2</sup>	9004840520323		<a href="#">BS990171</a>

## CONNECTION TERMINAL 25 mm<sup>2</sup> FOR THE SMALL CONNECT BUSBAR SYSTEM



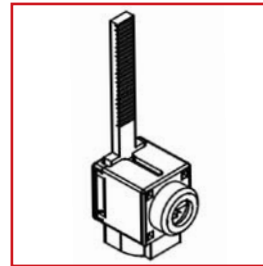
BS990172



BS990172



BS990173



BS990173

### SCHRACK INFO

Side connection model saves vertical space and is thus especially suitable for 1-pole Small Connect busbars.

Straight connection model saves horizontal space and is thus especially suitable for 3-pole Small Connect busbars.

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Connection terminal 25 mm <sup>2</sup> for side connection (fits BS990170)	1	9004840520330		<a href="#">BS990172</a>
Connection terminal 25 mm <sup>2</sup> for straight connection (fits BS990171)	1	9004840520347		<a href="#">BS990173</a>



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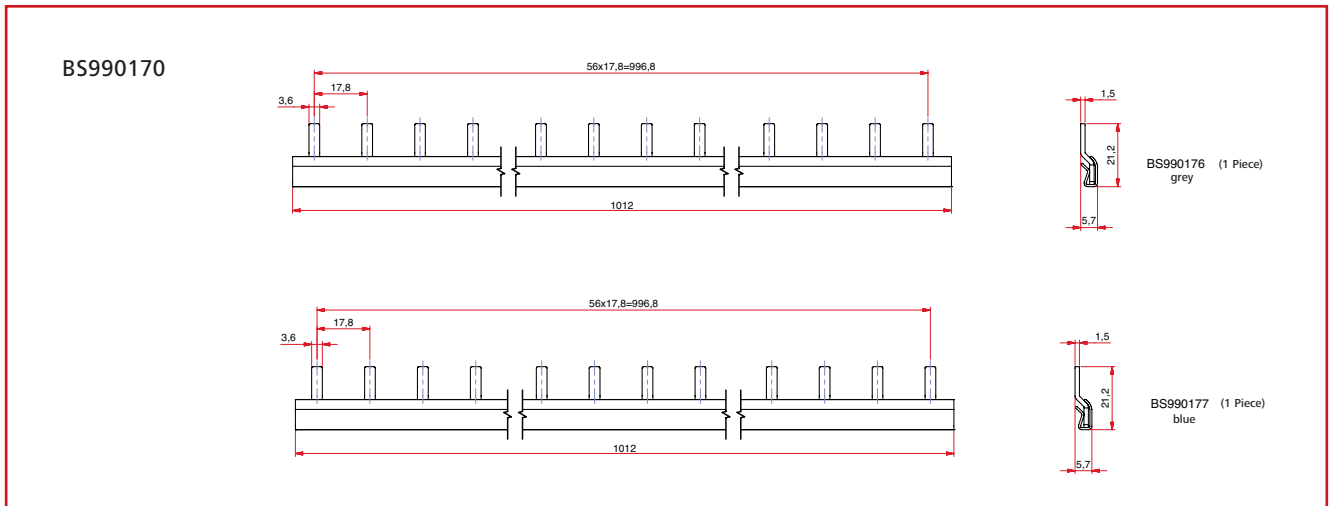
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## SMALL CONNECT BUSBAR, 1-POLE FOR 1+N, 1 MW



BS990170

### DIMENSIONS



DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Busbar set 1-pole+N for miniature circuit breakers 1+N, 1 MW, 10 mm <sup>2</sup> , grey	10	9004840520316		<b>BS990170</b>
Busbar set 1-pole+N for miniature circuit breakers 1+N, 1 MW, 10 mm <sup>2</sup> , blue	50	9004840520385		<b>BS990177</b>

### ACCESSORIES

End cap, 1-pole, grey, for BS990170	1	9004840652444		<b>BS990107</b>
End cap, 1-pole, blue, f. BS990177	1	9004840652437		<b>BS990108</b>



## I KNOW WHERE TO FIND IT!

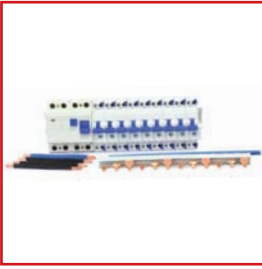
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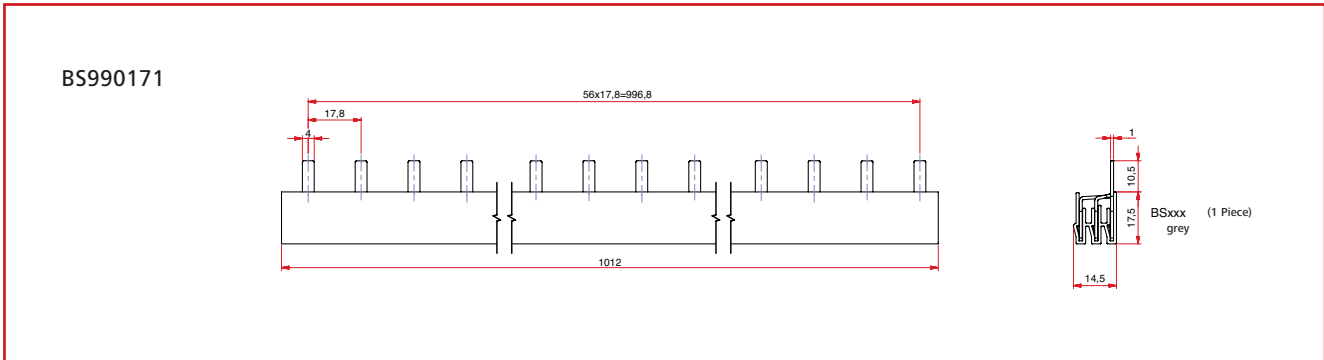


## SMALL CONNECT BUSBAR, 3-POLE FOR 1+N, 1 MW



BS990171

### DIMENSIONS



DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Busbar set 3-pole+N for miniature circuit breakers 1+N, 1 MW, 10 mm <sup>2</sup>	10	9004840520323		<b>BS990171</b>

### ACCESSORIES

End cap, 3-pole	1	9004840013474		<b>BS900116</b>
-----------------	---	---------------	--	-----------------

## CONNECTING WIRE, 1-POLE, 100 mm or 325 mm



BS990177



BS990177

### SCHRACK INFO

Flexible connecting wires, with ultrasonic welded ends, highly compatible with all lift terminals. The 325 mm long connecting wires are used, e.g., for the connection to other distribution panels.

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Connecting wire, black, length 100 mm	1	9004840520354		<b>BS990174</b>
Connecting wire, black, length 325 mm	1	9004840526387		<b>BS990178</b>
Connecting wire, blue, length 100 mm	1	9004840520361		<b>BS990175</b>
Connecting wire, blue, length 325 mm	1	9004840526394		<b>BS990179</b>

### ACCESSORIES

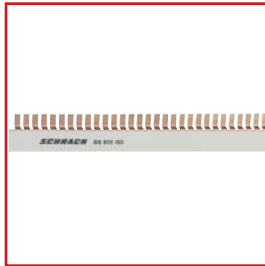
DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Single busbar, 1-pole, grey, length 1000 mm	1	9004840520378		<b>BS990176</b>
Single busbar, 1-pole, blue, length 1000 mm	1	9004840520385		<b>BS990177</b>
End cap for 3-pole busbar	1	9004840013474		<b>BS900116</b>
End cap for 1-pole busbar, blue	1	9004840652437		<b>BS900108</b>



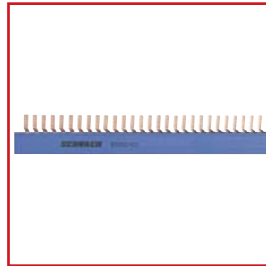
**Order no. blue:** on stock, usually ready for delivery on the day of order!

# BUSBARS

## PACKAGE BUSBAR FOR FREE PHASE SELECTION, 0.5 MW



BS990150

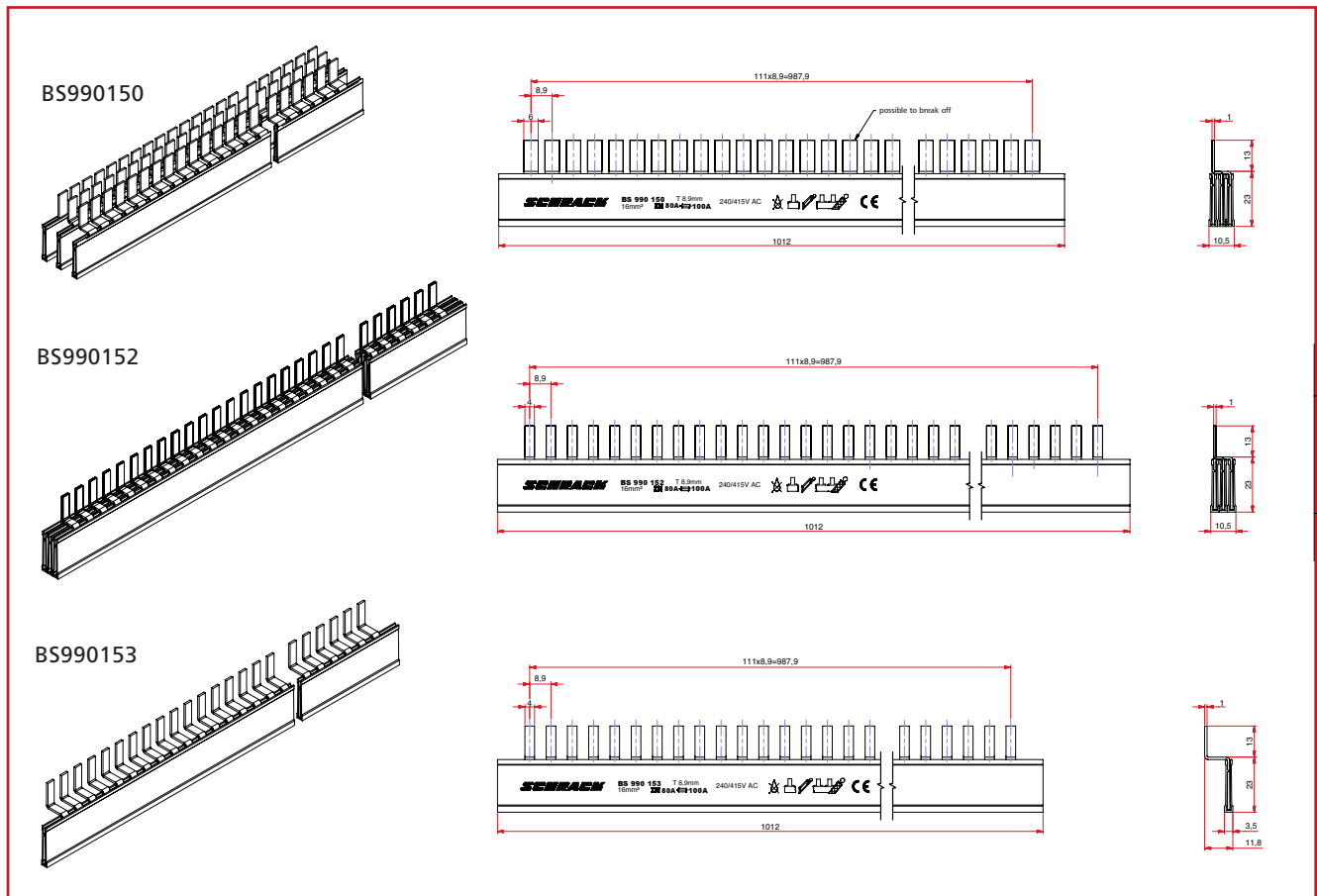


BS990153

### SCHRACK INFO

- Pin busbar for wiring of devices with: Box or series terminal, clamp-type terminal

### DIMENSIONS



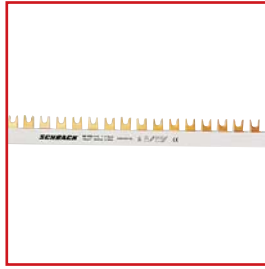
DESCRIPTION	PU	CU WT. (kg)	EAN CODE	AVAILABLE	ORDER NO.
Tongue busbar L1, L2, L3/ Tongue width 6 mm, 16 mm <sup>2</sup> /distance 8,9 mm	10	960	9004840186192		<b>BS990150</b>
Tongue busbar N/ Tongue width 6 mm, 16 mm <sup>2</sup> /distance 8,9 mm	25	320	9004840186208		<b>BS990151</b>
Tongue busbar L1, L2, L3/ Tongue width 4 mm, 16 mm <sup>2</sup> /distance 8,9 mm	10	960	9004840186215		<b>BS990152</b>
Tongue busbar N/ Tongue width 4 mm, 16 mm <sup>2</sup> /distance 8,9 mm	25	320	9004840186222		<b>BS990153</b>
End cap, 4-pole	-	-	9004840013481		<b>BS990117</b>



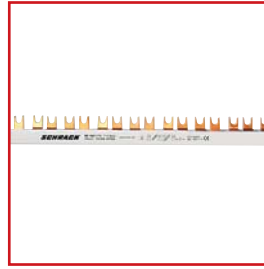
## BUSBAR FOR MOTOR PROTECTIVE DEVICE, SERIES MP, PIN AND FORK



BS900111

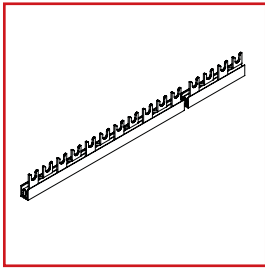


BS990113



BS900120

## FORK BUSBAR FOR MOTOR PROTECTIVE DEVICE, SERIES MP, 2-POLE, NOT POSSIBLE TO BREAK OFF

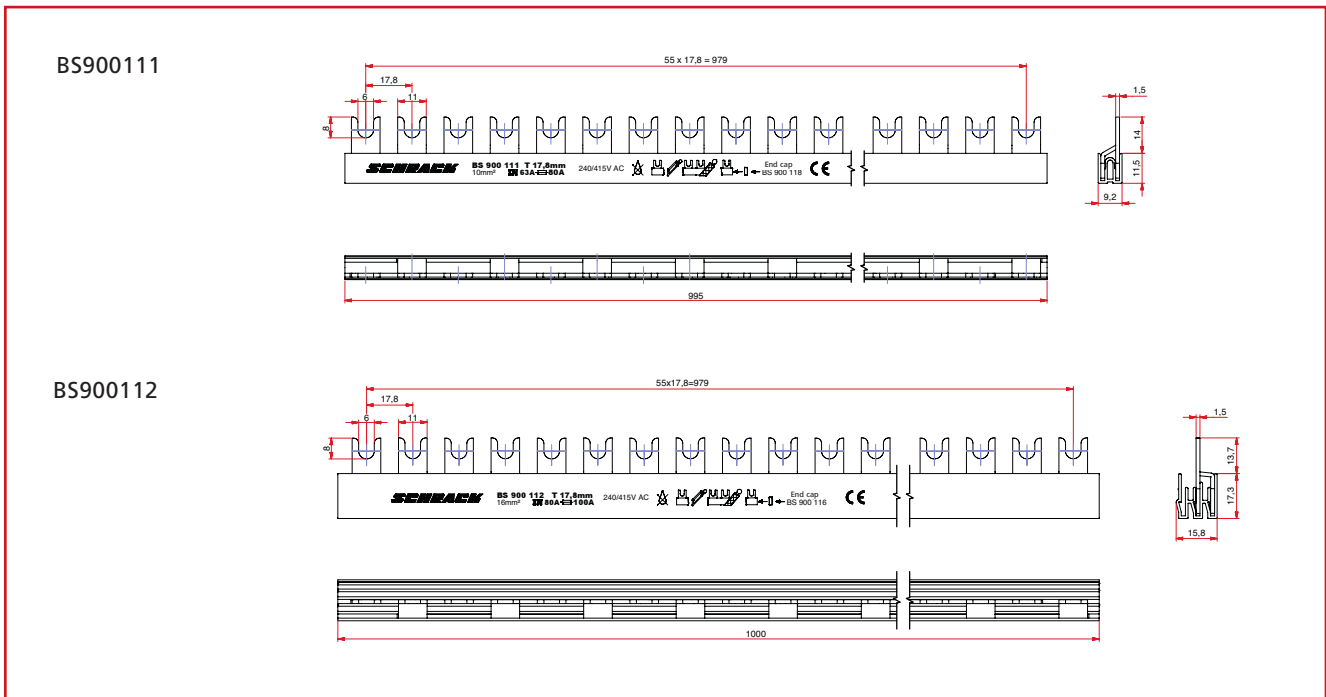


BS900111

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 56 MW = 28 x 2 MW
- 28 x MCB 2-pole / MCB 1+N
- Phase sequence: L, N, L, N, L, ... N / +, -, +, -, +, -, ... +, -

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	L, N	63/100	56	20	9004840013429		<b>BS900111</b>
Fork busbar 16 mm <sup>2</sup>	L, N	80/120	56	10	9004840013436		<b>BS900112</b>

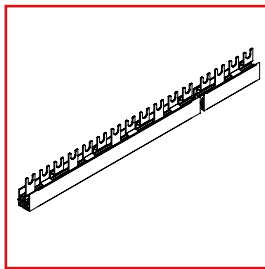
### ACCESSORIES

End cap for BS900117				1	9004840013498		<b>BS900118</b>
End cap for BS900112				1	9004840013474		<b>BS900116</b>



Order no. blue: on stock, usually ready for delivery on the day of order!

## FORK BUSBAR FOR MOTOR PROTECTIVE DEVICE, SERIES MP, 3-POLE, POSSIBLE TO BREAK OFF

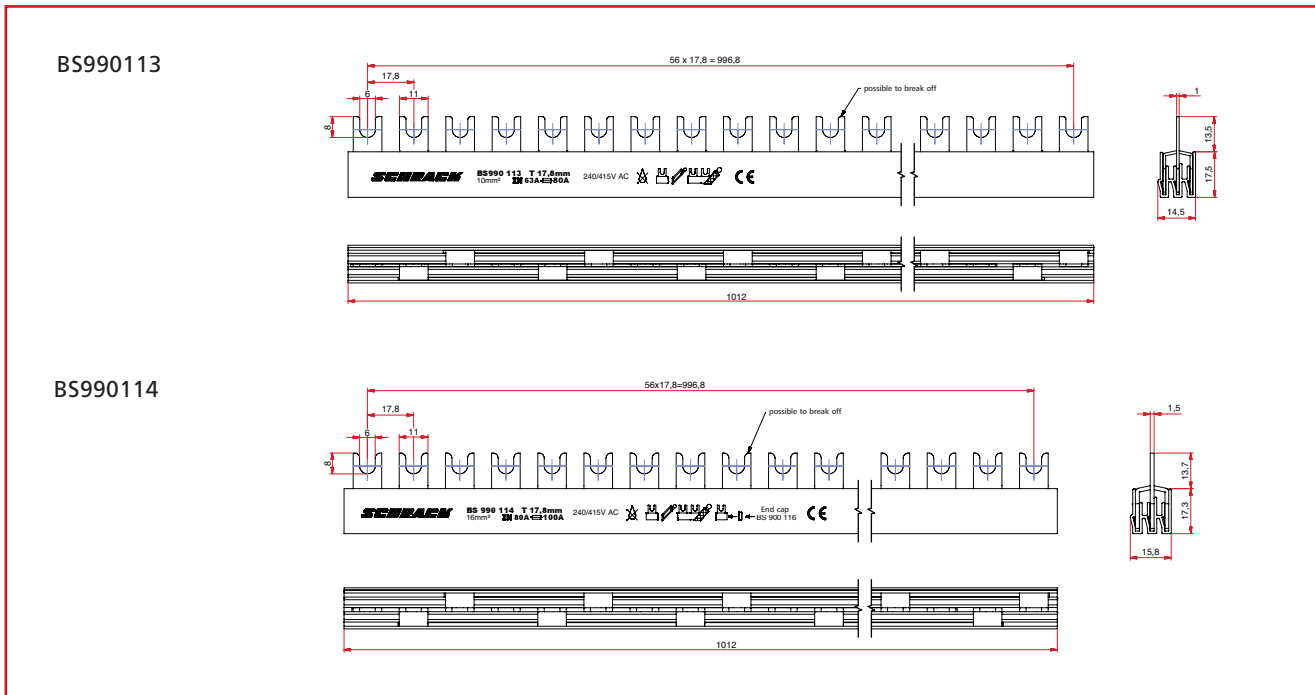


BS990113

### SCHRACK INFO

- Fork busbar for wiring of devices with: Dual-function terminal, screw terminal, screw connection, bracket terminal, flat terminal
- Pitch 17.8 mm
- 57 MW = 19 x 3 MW
- 19 x Motor protective device series MP or MCB 3-pole / 57 MCB 1-pole
- Phase sequence: L1, L2, L3, L1, L2, ... L1, L2, L3

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MAX. A	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork busbar 10 mm <sup>2</sup>	L1, L2, L3	63/100	57	10	9004840186086		<b>BS990113</b>
Fork busbar 16 mm <sup>2</sup>	L1, L2, L3	80/120	57	10	9004840186093		<b>BS990114</b>

### ACCESSORIES

End cap, 3-pole				1	9004840013474		<b>BS900116</b>
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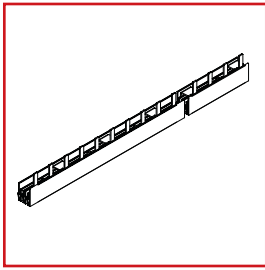
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## PIN BUSBAR FOR MOTOR PROTECTIVE DEVICE, SERIES MP, 3-POLE, NOT POSSIBLE TO BREAK OFF

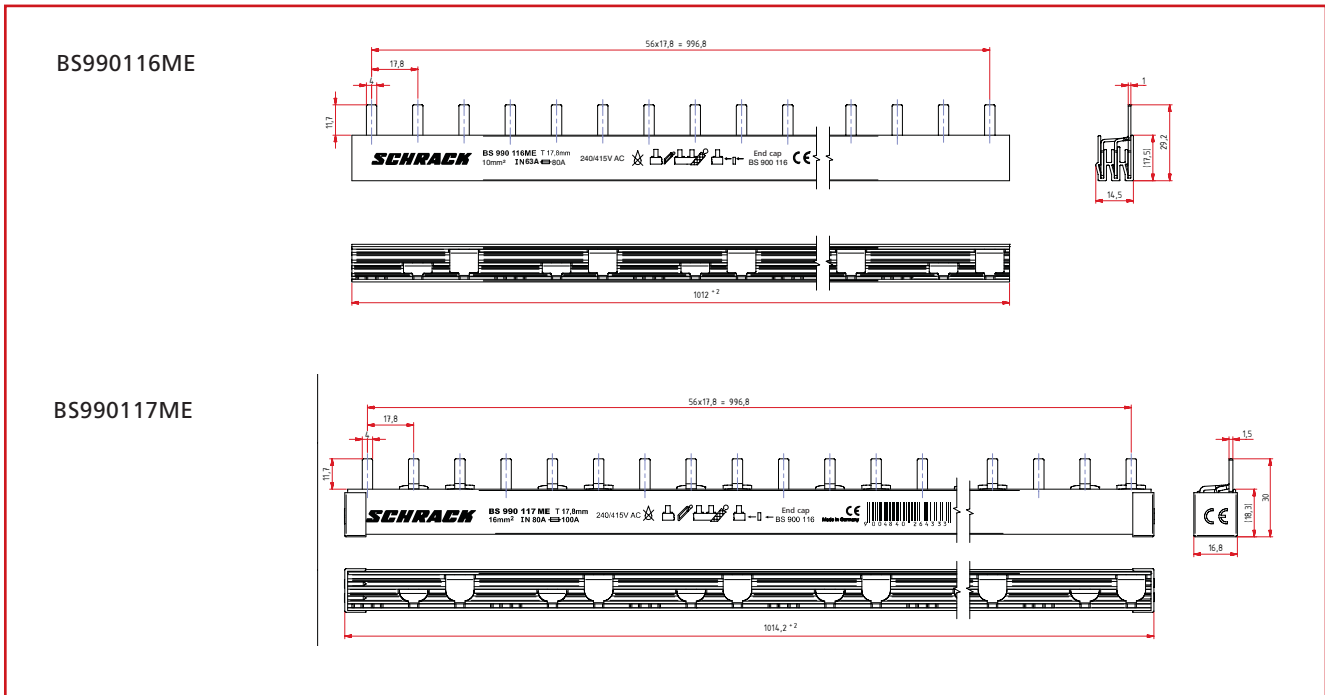


BS990116ME

### SCHRACK INFO

- Pin busbar for wiring of devices with: box or series terminal, clamp-type terminal
- Pitch 17.8 mm
- 57 MW

### DIMENSIONS



DESCRIPTION/CROSS-SECTION	PHASE SEQUENCE	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Pin busbar 10 mm²	L1, L2, L3	57	12	9004840264326		<b>BS990116ME</b>
Pin busbar 16 mm²	L1, L2, L3	57	20	9004840264333		<b>BS990117ME</b>

### ACCESSORIES

End cap, 3-pole			1	9004840013474		<b>BS900116</b>
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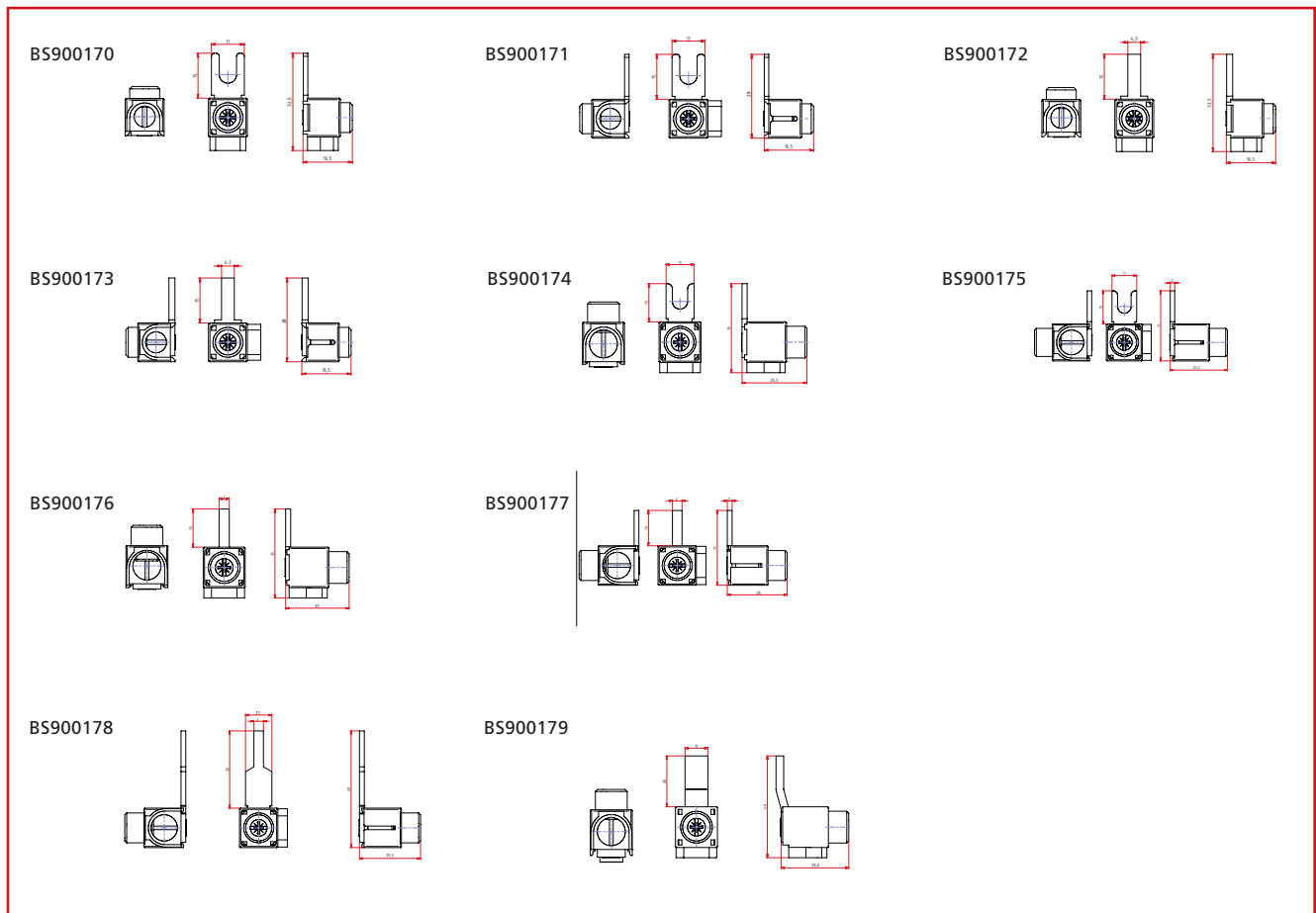
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## CONNECTION TERMINALS



BS900176

## DIMENSIONS



DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Fork, straight, 6-25 mm <sup>2</sup> , short	1	9004840084511		<a href="#">BS900170</a>
Fork, cross-wise, 6-25 mm <sup>2</sup> , short	1	9004840084528		<a href="#">BS900171</a>
Pin, straight, 6-25 mm <sup>2</sup> , short	1	9004840084535		<a href="#">BS900172</a>
Pin, cross-wise, 6-25 mm <sup>2</sup> , short	1	9004840084542		<a href="#">BS900173</a>
Pin, cross-wise, 6-25 mm <sup>2</sup> , long	1	9004840106961		<a href="#">BS900178</a>
Pin, straight 25 mm/2 screws without insulation	1	9004840021851		<a href="#">IK020019</a>
Fork, straight, 50 mm <sup>2</sup> , short	1	9004840084559		<a href="#">BS900174</a>
Fork, cross-wise, 50 mm <sup>2</sup> , short	1	9004840084566		<a href="#">BS900175</a>
Pin, straight, 50 mm <sup>2</sup> , short	1	9004840084573		<a href="#">BS900176</a>
Pin, cross-wise, 50 mm <sup>2</sup> , short	1	9004840084580		<a href="#">BS900177</a>
Pin, cross-wise, 50 mm <sup>2</sup>	1	9004840166934		BS900199
Pin, straight, 50 mm <sup>2</sup> Tytan feed terminal	1	9004840146691		<a href="#">BS900179</a>






## CABLE BRIDGES



KB002506

### SCHRACK INFO

- Pre-assembled cables with multicore cable end or cable lug
- Flexible, partially inherently stable
- Cross-sections: 6, 10 mm<sup>2</sup>
- On request manufactured according to customer requirements

DESCRIPTION	LENGTH (mm)	PU	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
Green/yellow, 4 mm <sup>2</sup>	200	1	65	9004840072891		<b>KB012004-G</b>
Insulated wire, multicore cable end at either end						
12 mm, blue, 10 mm <sup>2</sup>	250	1	26	9004840072822		<b>KB002510-B</b>
Insulated wire, multicore cable end at either end						
12 mm, black, 10 mm <sup>2</sup>	250	1	26	9004840072655		<b>KB002510</b>
Insulated wire, multicore cable end at either end						
12 mm, blue, 6 mm <sup>2</sup>	250	1	16	9004840072648		<b>KB002506-B</b>
Insulated wire, multicore cable end at either end						
12 mm, black, 6 mm <sup>2</sup>	250	1	16	9004840072631		<b>KB002506</b>



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## MOTOR PROTECTIVE DEVICE, SERIES MP



BE400206



BE400306

### SCHRACK INFO

- Inherently stable without back-up fuse up to 4 A at 400 V AC, > 4 A main back-up fuse 100 A gL
- Thermal and magnetic release
- Terminal and accessory compatible for miniature circuit breakers and ON-OFF switches, RCCBs series BD, RCBO, LS-DI
- Phase failure protection
- Remote control and automatic operation with FSE is possible

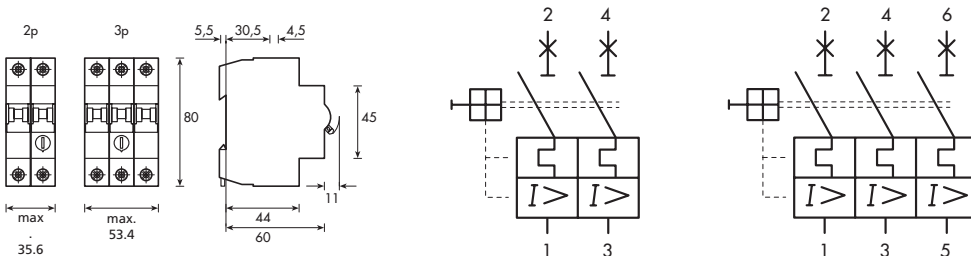
Most common accessories:

- Auxiliary contact 1 NO / 1 NC           BM900001
- Auxiliary contact 2 CO                    BM900022
- Busbar 16 mm<sup>2</sup>/2-pole                 BS900112
- End cap, 2-pole                            BS900118
- Busbar 16 mm<sup>2</sup>/3-pole                 BS990114
- End cap 3-pole                             BS900116

### TECHNICAL DATA

Rated voltage:	400 V, 50 Hz
Rated insulation voltage:	440 V AC
Rated operating current:	max. 40 A, adjustable
Terminal cross-section:	1-25 mm <sup>2</sup>
Temperature compensation:	-25 °C to +40 °C

### DIMENSIONS AND WIRING DIAGRAMS



SETTING RANGE	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>2-POLE</b>						
0.10 - 0.16 A	2	4	MP 0.16/2	9004840266054		<b>BE400201</b>
0.16 - 0.25 A	2	4	MP 0.25/2	9004840266061		<b>BE400202</b>
0.25 - 0.40 A	2	4	MP 0.40/2	9004840266078		<b>BE400203</b>
0.40 - 0.63 A	2	4	MP 0.63/2	9004840266085		<b>BE400204</b>
0.63 - 1.0 A	2	4	MP 1.0/2	9004840266092		<b>BE400205</b>
1.0 - 1.6 A	2	4	MP 1.6/2	9004840266108		<b>BE400206</b>
1.6 - 2.5 A	2	4	MP 2.5/2	9004840266115		<b>BE400207</b>
2.5 - 4.0 A	2	4	MP 4.0/2	9004840266122		<b>BE400208</b>
4.0 - 6.3 A	2	4	MP 6.3/2	9004840266139		<b>BE400209</b>
6.3 - 10.0 A	2	4	MP 10.0/2	9004840266146		<b>BE400210</b>
10.0 - 16.0 A	2	4	MP 16.0/2	9004840266153		<b>BE400211</b>
16.0 - 25.0 A	2	4	MP 25.0/2	9004840266160		<b>BE400212</b>
25.0 - 40.0 A	2	4	MP 40.0/2	9004840266177		<b>BE400213</b>



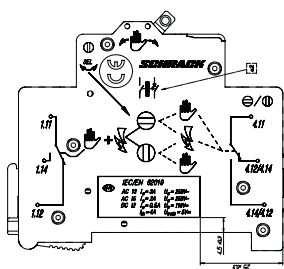
## MOTOR PROTECTIVE DEVICE, SERIES MP – continued

SETTING RANGE	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE</b>						
0.10 - 0.16 A	3	4	MP 0.16/3	9004840266184		<b>BE400301</b>
0.16-0.25	3	4	MP 0.25/3	9004840266191		<b>BE400302</b>
0.25 - 0.40 A	3	4	MP 0.40/3	9004840266207		<b>BE400303</b>
0.40 - 0.63 A	3	4	MP 0.63/3	9004840266214		<b>BE400304</b>
0.63 - 1.0 A	3	4	MP 1.0/3	9004840266221		<b>BE400305</b>
1.0 - 1.6 A	3	4	MP 1.6/3	9004840266238		<b>BE400306</b>
1.6 - 2.5 A	3	4	MP 2.5/3	9004840266245		<b>BE400307</b>
2.5 - 4.0 A	3	4	MP 4.0/3	9004840266252		<b>BE400308</b>
4.0 - 6.3 A	3	4	MP 6.3/3	9004840266269		<b>BE400309</b>
6.3 - 10.0 A	3	4	MP 10.0/3	9004840266276		<b>BE400310</b>
10.0 - 16.0 A	3	4	MP 16.0/3	9004840266283		<b>BE400311</b>
16.0 - 25.0 A	3	4	MP 25.0/3	9004840266290		<b>BE400312</b>
25.0 - 40.0 A	3	1	MP 40.0/3	9004840266306		<b>BE400313</b>

## SIGNAL/TRIP-INDICATING AUXILIARY CONTACT BD-HR, B-HR WITH TRIP INDICATION



BM900022



MASSBILD

### SCHRACK INFO

- 1 CO settable from manual switch-off function to electrically-tripped switch-off function
- Retrofittable, mountable on the right for RCCB's series BC on the left for MCB series BM, MP and RCBO's
- Manual operation (T-handle) for functional simulation
- Test button for electrical tripping
- Indication white/blue for electrical tripping

### TECHNICAL DATA

Thermal rated current $I_{th}$ :	4 A
Rated insulation voltage $U_i$ :	250 V AC
Rated operating voltage $U_e$ :	250 V AC
Minimum operating voltage for each contact $U_{min}$ :	5 V AC/DC
Minimum operating current $I_{min}$ :	10 mA AC/DC
Complies with:	IEC/EN 62019
Utilisation category AC 13:	3 A, 250 V AC
Utilisation category AC 15:	2 A, 250 V AC
Utilisation category DC 12:	110 V/0.5 A; 220 V/0.25 A
Maximum back-up fuse:	4 A gL or SI-H, BMS0-H 4A
2 CO (manual off or trip function) or	
1 CO (manual off or trip function) + 1 CO (trip function only)	
Terminal cross-section:	0.5–2.5 mm <sup>2</sup>

### "ELECTRICAL TRIP" FUNCTIONAL TEST

The contact function of the changeover switch 95-96/98 can be checked by pressing the test button "T". In this case, the colour of the trip indication changes from white to blue, just like after a "real" electrical trip. A manual off operation does not modify the trip indication in the "SEL position is perpendicular to DIN rail".

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
2 CO, toggable, snap-on type	0.5	10	BM-HR	9004840408218		<b>BM900022</b>
2 CO, toggable, screw-on type	0.5	10	BM-HR	9004840201888		<b>BD900022</b>

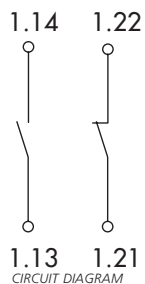


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## AUXILIARY CONTACT H11 FOR RCCB'S BC, MCB'S BMS, RCBO BO, MP (BE4)



BM900006



### SCHRACK INFO

- B-HSI BM900001  
2 auxiliary contacts, snap-on mounting in parallel

### TECHNICAL DATA

	H11	B-HSI
Rated insulation voltage $U_i$ :	250 V AC	250 V AC
Minimum voltage for each switching section $U_{min}$ :	5 V AC/DC	5 V DC
Minimum operating current $I_{min}$ :	10 mA AC/DC	10 mA DC
Thermal rated current $I_B$ :	4 A	4 A
Conditional surge current $I_K$ :	1000 A with BMS0-H	
Utilisation category AC 15:	2 A / 250 V AC	2 A / 250 V AC
Utilisation category AC 13:	3 A / 250 V AC	3 A / 250 V AC
Utilisation category DC 12:	110 V/0.5 A ; 250 V/0.1 A	110 V/0.5 A
Maximum permitted back-up fuse for short-circuit protection:	6A gL or BMS0-H	6A gL or BMS0-H
Contact function:	1 NO + 1 NC	1 NO + 1 NC
Complies with:	IEC/EN 62019	IEC/EN 62019
Retrofittable:	left screw mountable	left snap-on mountable
Terminal cross-section:	0.5–2.5 mm <sup>2</sup>	

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 NO + 1 NC snap-on type	0.5	10	B-HSI	9004840408225		<b>BM900001</b>
1 NO + 1 NC screw-on type	0.5	4	H11	9004840222586		<b>BD900006</b>



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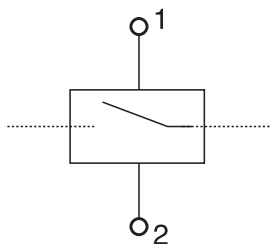
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## SHUNT RELEASE FA, B-FA, 1 MW



BS900006



CIRCUIT DIAGRAM

### SCHRACK INFO

- Remote release for subsequent installation on MCB, RCBO, MP
- Module width 1 MW
- Additional installation of standard auxiliary switch possible
- Position indicator red/green
- Type B-FA snap-on mounting possible

### TECHNICAL DATA

	B-FA – 24	B-FA – 230
<b>Electrical</b>		
Mountable on MCB, RCBO: Accessories:	BMSO, BMS6, BMS4, BOLF, MP BMA	BMSO, BMS6, BMS4, BOLF, MP BMA
Operating voltage range	12-60V AC 12-60V DC	110-415V AC 110-220V DC
Frequency	50/60 Hz	50/60 Hz
Possible standard auxiliary switch	B-HR	B-HR
<b>Mechanical</b>		
Cap installation dimension	45 mm	45 mm
Device base dimension	80 mm	80 mm
Installation width	17.5 mm (1TE)	17.5 mm (1TE)
Mounting	Quick fastening on DIN rail EN 50022	
Degree of protection (built-in)	IP40	IP40
Terminal protection	Contact protection according to BGV A2, OVE-EN 6	
Terminals	Clamp/lift terminals + protection against mismatching	Clamp/lift terminals + protection against mismatching
Terminal cross-section	1-25 mm <sup>2</sup>	1-25 mm <sup>2</sup>

OPERATING VOLTAGE RANGE	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
12 - 60 V AC snap-on type	1	7	B-FA-24	9004840408249		<b>BM900005</b>
110 - 220 V AC snap-on type	1	7	B-FA-230	9004840408232		<b>BM900006</b>



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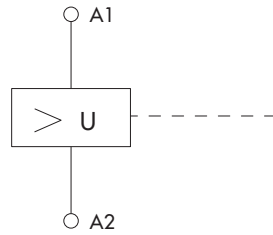


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## UNDervOLTAGE RELEASE BS-UA, NON-DELAYED



BS900008



CIRCUIT DIAGRAM

### SCHRACK INFO

- Remote release for subsequent installation on MCB's, MP
- Module width 1 MW, left screw mounting
- Indication blue tripped, white voltage present

### TECHNICAL DATA

- Conductor cross-section 1 - 2x2.5 mm<sup>2</sup>
- Clamp/lift terminals
- Quick fastening for DIN rail EN50022
- Service button for no-voltage switching for test purposes
- Activation from typically 80% of rated voltage
- Tripping typically below 50% of rated voltage
- Other voltages and delayed tripping on request

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
230 V AC, non-delayed	1	7	BS-UA 230-U	9004840266542		<b>BS900008</b>
400 V AC, non-delayed	1	7	BS-UA 400-U	9004840266559		<b>BS900009</b>

## HOUSING FOR MOTOR PROTECTION SWITCH WITH ROTARY DRIVE, SERIES MP

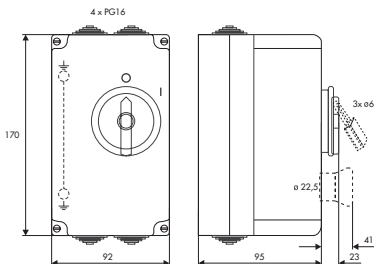


BE400001



BE400003

### DIMENSIONS



### SCHRACK INFO

- Suitable for motor safety switch series MP, 2- or 3-pole
- IP 54, shock-proof
- Max. installation width 4 MW
- PE conductor railed
- Terminal cross-section N/PE max. 16 mm<sup>2</sup>
- 4 lead-in options
- Possible to block the twist grip with max. 3 padlocks (max. Ø 6 mm)
- Lid 2x sealable

### TIPS & TRICKS

To provide the emergency stop function, an undervoltage release BS-UA, e.g., BS 900008 must be installed on the MP and connected to the emergency stop button and power source.

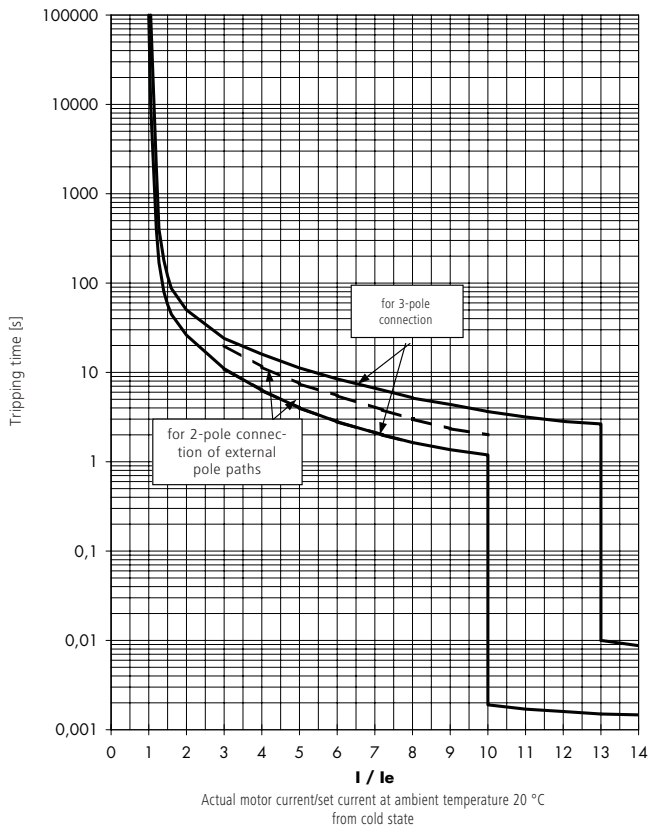
DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Housing for series MP, IP54	92x170x120	1	MP-MFG	9004840165418		<b>BE400001</b>
Housing for series MP, IP54, with N-conductor	92x170x120	1	MP-MFG/NL	9004840165425		<b>BE400002</b>
Housing for series MP, IP54, with emergency stop button	92x170x136	1	MP-MFG/NOT	9004840165432		<b>BE400003</b>



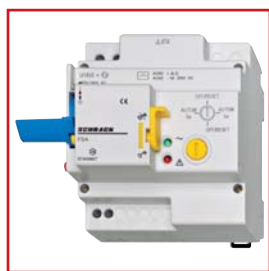
## TECHNICAL DATA FOR MOTOR PROTECTION SWITCHES SERIES MP (BE4)

### CHARACTERISTIC CURVES

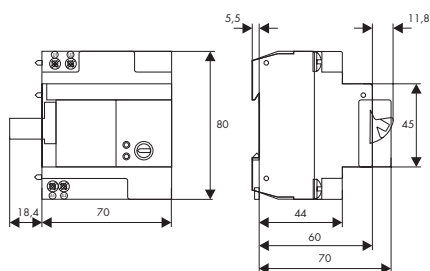
Tripping characteristics of motor protective device series MP, 3-pole



## AUTOMATIC REMOTE SWITCHING UNIT TYPE FSA AND REMOTE SWITCHING UNIT TYPE FSE – GENERAL INFORMATION



BD900907



### SCHRACK INFO

Mechanical device with motor drive and gear with electronic controls for the automatic restarting of (safety) switches series MP, A, BMS0, BMS6, BMS4, BCF0.

### TIPS & TRICKS

For unmanned switching stations, weekend houses and breakdown-critical industrial plants (e.g., cooling + heating). For quick, but not uninterrupted re-supply of industrial current circuits, for the reliable availability of electric power supply even in extreme situations and in which accidental releases cannot be ruled out. As an interface for building control systems and bus installations.

- Additional mechanical blocking by means of sealable blocking lever
- Fixed automatic 5-time restarting
- Staggered restarting periods
- Alarm contact operation on A1/A2 using pulse contact for release and permanent contact after the 5th attempt to switch on (approx. 72 minutes)
- No malfunction if the supply voltage fails

### TECHNICAL DATA

Rated operating voltage U1/U2:	230-250 V AC
Relay output for alarm A1/A2:	5 A, 250 V AC
Permissible ambient conditions:	indoor mounting, European normal climates
Max. permissible ambient temperature:	-25 to +40 °C
Mechanical/electrical endurance:	20.000 On/Off switchings
Typical/maximum restarting periods:	instant/10 s; 10/20 s; 60/70 s; 10/10 min; 1/1 h
Switching delay period from command:	40 s after switching on the operating voltage
Minimum distance for switching commands:	20 s
Max. current consumption:	2 A AC
Own consumption:	5 W
<b>Mechanical</b>	
Switching capacity:	up to RCCB 63/4 or MCB 63 / 4
Terminals:	2x1.5 mm <sup>2</sup> or 1x2.5 mm <sup>2</sup>
Terminal torque:	0.4 Nm

### NOTE

Caution! Uncontrolled starting of machines is possible!

### MAXIMUM COMBINATION OPTIONS

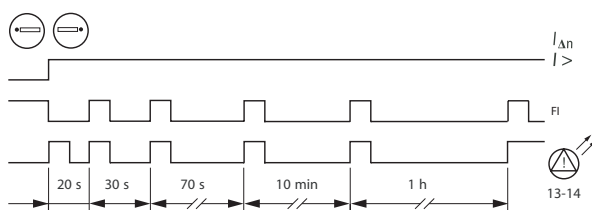
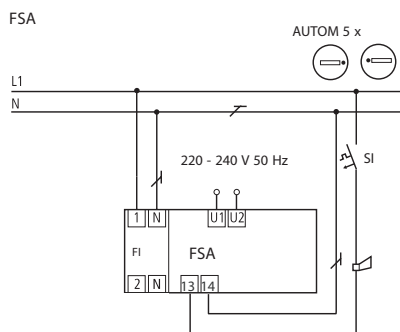
BD-H	B-HSI, B-HR B-HSI	MCB series BMS	Remote test modules	RCCB series BC	Series MP	FSA FSE	FSM (*)	BD-HR
		•				•	•	•
	•	•				•	•	•
		•				•	•	•
	•					•	•	•
				•		•	•	•
•			•	•		•	•	•
•	•			•		•	•	•
	•				•	•	•	•
					•	•	•	•

(• = Mountable)

## AUTOMATIC REMOTE SWITCHING UNIT, TYPE FSA

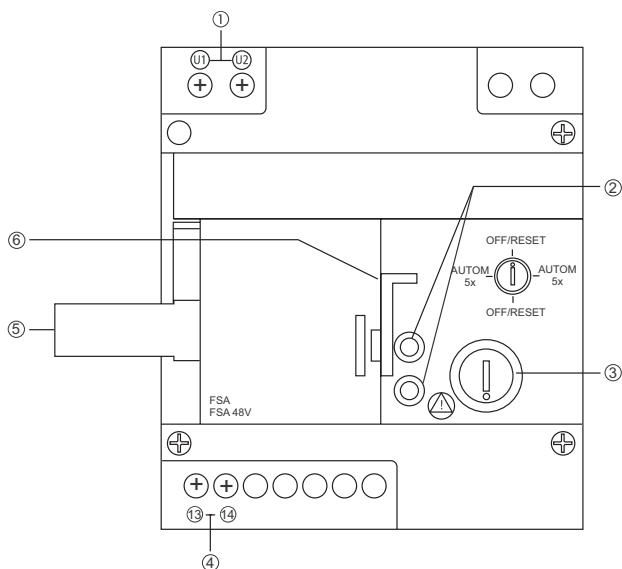
### WIRING EXAMPLES

Automatic restarting



The "OFF" remote control is used to reset the FSA after 5 unsuccessful restarting attempts and a fault message if the reset is not done on site by hand. Operating the OFF switch during normal operation leads to power off and immediate restarting by the FSA.

### OPERATING FEATURES



- ① Power supply
- ② LED green: operating status  
LED red: alarm
- ③ Function selector switch
- ④ Alarm relay output
- ⑤ Operating lever
- ⑥ Blocking lever
- ⑦ Coupling connector
- ⑧ Relay output for RCCB release test
- ⑨ Input On, Off/Reset
- ⑩ Input Test

#### FSA

- ① U1-U2 220 - 240 V~, 50Hz
- ④ 13-14 5 A/250 V~

#### FSM

- ⑧ P1 P2 400V~ max.
- ⑨ ON-C-OFF 24 - 240 V AC DC
- ⑩ T1 T2 24 - 240 V AC DC

FUNCTIONS	MWDIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Automatic remote switching unit 230 V AC	5 88.4x80x60	1	FSA	9004840417111		<b>BD900907-A</b>



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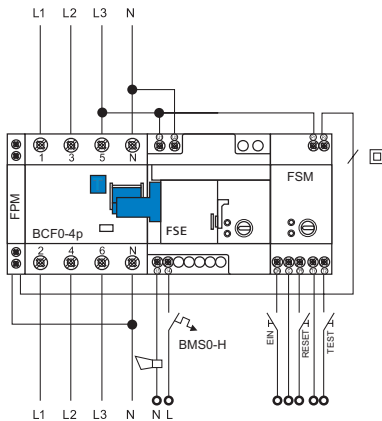
## REMOTE SWITCHING UNIT, TYPE FSE

### SCHRACK INFO

Works only in conjunction with remote switching module FSM!

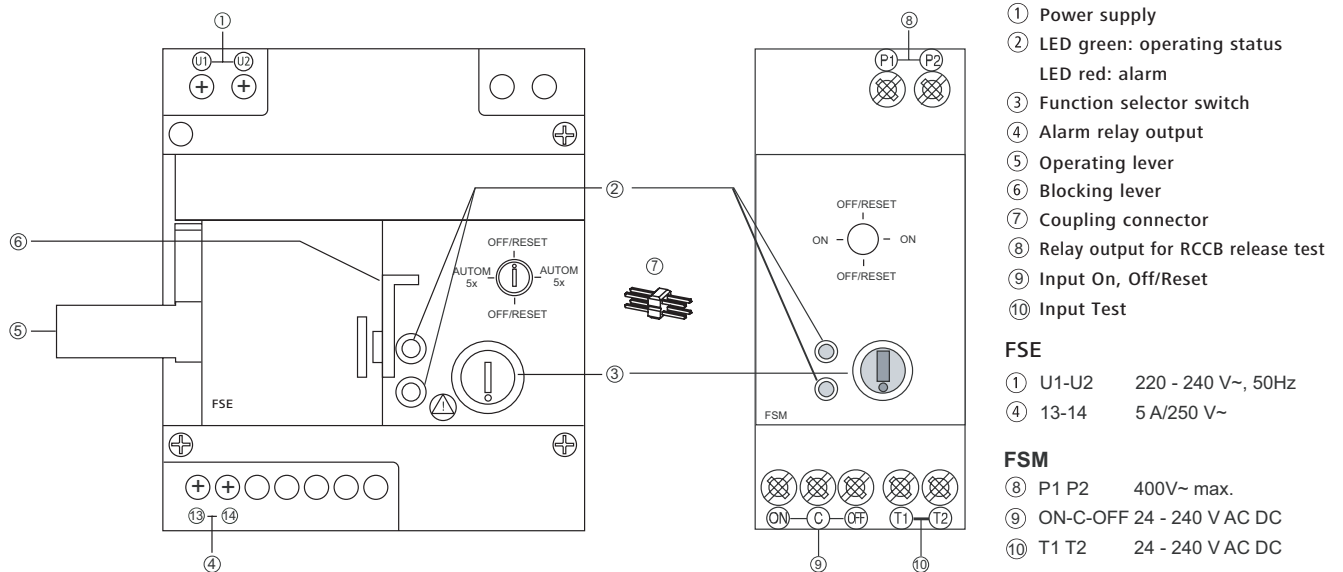
### WIRING EXAMPLES

FSE + FSM remote release test, schematic diagram



The "OFF" remote control is used to reset the FSE after unsuccessful restarting attempts and a fault message if the reset is not done on site by hand. Operating the OFF switch during normal operation leads to power-off. Immediate power-on is then possible by ON.

### OPERATING FEATURES



FUNCTIONS	MW	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Remote switching unit 230 V AC	5	88.4x80x60	1	FSE	9004840450118		<b>BD900910</b>



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## REMOTE SWITCHING MODULE, TYPE FSM



BD900908

### SCHRACK INFO

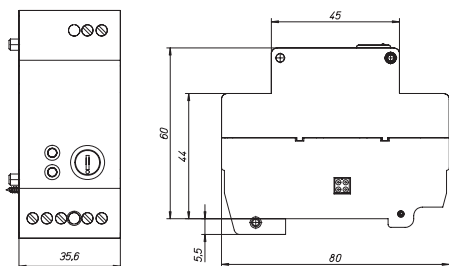
Subsequently installable remote switching module for remote switching of FSA or FSE:

- With additional test module 0.5 MW also remote testing of RCCBs possible
- Remote control ON / RESET / TEST
- Remote control possible via telephone with Communication center II

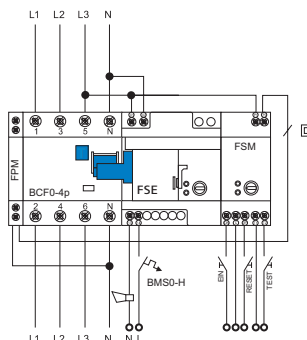
### TECHNICAL DATA

Control voltage for remote control:	24 - 230 V AC/DC
Selector switch:	ON - RESET - OFF
<b>Mechanical</b>	
Switching capacity:	max. RCCB/100/4p or MCB 63/4p
Terminals:	2x2.5 mm <sup>2</sup>
Terminal torque:	0.8 Nm

### DIMENSIONS



### APPLICATION EXAMPLES



FUNCTIONS	MW	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Remote module	2	35x80x60	1	FSM	9004840416275		<b>BD900908</b>

## REMOTE TEST MODULE



BD900903

### SCHRACK INFO

- External test module for regulatory periodic release testing of RCCBs and RCBOs
- Rated voltage 400 V AC
- For RCCBs with rated residual current 30 mA, series BCF0
- Functional range 230-400 V AC +/- 10%
- Usable also without FSA or FSE as remote release module for RCCB series BCF0

DESCRIPTION	MW	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
for FSA 0.03 A	0.5	8.8x80x65.5	8	FTM/30	9004840266511		<b>BD900902</b>



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## TOP-TECHNIK



REMOTE SWITCH FOR DIN RAIL MOUNTING



STAIRCASE TIMER, SERIES TIMON



REG ROTARY DIMMER 1200 UNI FOR DIN RAIL MOUNTING



DIGITAL DAY/WEEK TIMER 1 CO, 16A



DIGITAL PHOTOELECTRIC SWITCH, 1 CO



DIGITAL ASTRO- AND YEAR TIME SWITCH, 4 CO

*“Energy is never lost.”*

Hermann Ludwig Ferdinand von Helmholtz,  
German physician and physicist

## CONTROL- AND SIGNALING DEVICES, ACCESSORIES, DIN RAIL MOUNTING

### ▀ CONTENTS

ON-OFF SWITCHES / DISCONNECTORS .....	Page 218
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MAINS DISCONNECTION RELAY .....	Page 233
COMMAND AND SIGNALLING DEVICES REG .....	Page 235
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DIMMERS FOR DIN RAIL MOUNTING .....	Page 239
TIMERS AND TWILIGHT SWITCHES.....	Page 241

## ON-OFF SWITCH, SERIES A, 40 A, 63 A



BM900011/BM900012/BM900013/BM900018

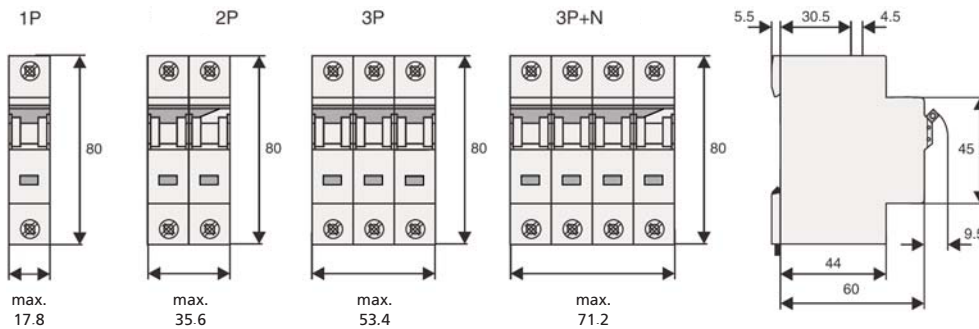
### SCHRACK INFO

- Design complies with IEC/EN 60 947-, -3
- Finger and hand touch safe VBG 4, OVE-EN 6
- Mounting system: Special snap-on mounting for DIN rail EN 50 022
- Contact position indicator with coloured (red/green) window
- Accessories of BMS0/BMS6/BMS4 can be used

### TECHNICAL DATA

Rated voltage/frequency:	230/400 V AC, 50/60 Hz
Rated insulation voltage $U_i$ :	440 V AC
Rated surge voltage $U_{imp}$ :	4 kV (1.2/50 $\mu$ s)
Terminal cross-section:	1-25 mm <sup>2</sup>
Terminal screws:	M5 (Pozidriv)
Terminal tightening torque:	max. 2.4 Nm

### DIMENSIONS



RATED CURRENT/NO. POLES	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40 A/1-pole	1	12	A 40/1	9004840403114		<b>BM900011</b>
40 A/2-pole	2	6	A 40/2	9004840403121		<b>BM900012</b>
40 A/3-pole	3	4	A 40/3	9004840403138		<b>BM900013</b>
40 A/3+N-pole	4	3	A 40/3N	9004840403183		<b>BM900018</b>
63 A/1-pole	1	12	A 63/1	9004840403145		<b>BM900014</b>
63 A/2-pole	2	6	A 63/2	9004840403152		<b>BM900015</b>
63 A/3-pole	3	4	A 63/3	9004840403169		<b>BM900016</b>
63 A/3+N-pole	4	3	A 63/3N	9004840403176		<b>BM900019</b>



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## MAIN LOAD-BREAK SWITCH (ISOLATOR), DIN RAIL-MOUNTED, SERIES IA



BZ900241/BZ900242/BZ900243/BZ900244

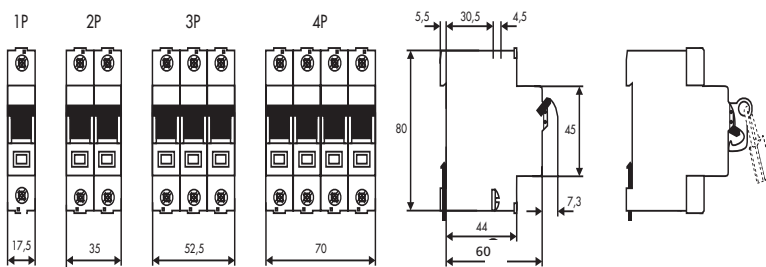
### SCHRACK INFO

- Suitable as main switch with isolating function
- Load-break switch for continuous operation
- Sealing and locking possible with accessories
- Can be used to switch motors and highly inductive loads

### TECHNICAL DATA

Rated voltage/frequency:	230/400 V, 50/60 Hz; 240/415 V AC, 50/60 Hz – ME Version
Rated surge voltage protection $U_{imp}$ :	6 kV
Rated short-time current protection $I_{cw}$ :	2,000 A
Rated short-circuit switching capacity $I_{cm}$ :	2,800 A
Max. permissible back-up fuse:	125 A
High rated isolation voltage:	$U_i = 690$ V
Rated current:	Utilisation category AC 23/40/63/63/63/63 A Utilisation category AC 22/40/63/80/100/125 A
Terminal cross-section:	2.5 – 50 mm <sup>2</sup>
Terminal tightening torque:	2.5 – 5 Nm
Fits rails:	RCCB and MCB

### DIMENSIONS



RATED CURRENT/NO. POLES	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
40 A/1-pole	1	12	IA 1/40	9004840406016		<b>BZ900241</b>
40 A/2-pole	2	6	IA 2/40	9004840406023		<b>BZ900242</b>
40 A/3-pole	3	4	IA 3/40	9004840406030		<b>BZ900243</b>
40 A/4-pole	4	3	IA 4/40	9004840406047		<b>BZ900244</b>
63 A/1-pole	1	12	IA 1/63	9004840406054		<b>BZ900261</b>
63 A/2-pole	2	6	IA 2/63	9004840406061		<b>BZ900262</b>
63 A/3-pole	3	4	IA 3/63	9004840406078		<b>BZ900263</b>
63 A/4-pole	4	3	IA 4/63	9004840406085		<b>BZ900264</b>
80 A/3-pole	3	4	IA 3/80	9004840406115		<b>BZ900283</b>
80 A/4-pole	4	3	IA 4/80	9004840406122		<b>BZ900284</b>
100 A/1-pole	1	12	IA 1/100	9004840406146		<b>BZ900201</b>
100 A/2-pole	2	6	IA 2/100	9004840406153		<b>BZ900202</b>
100 A/3-pole	3	4	IA 3/100	9004840406160		<b>BZ900203</b>
100 A/4-pole	4	3	IA 4/100	9004840406177		<b>BZ900204</b>
125 A/3-pole	3	4	IA 3/125	9004840406207		<b>BZ900223</b>
125 A/4-pole	4	3	IA 4/125	9004840406214		<b>BZ900224</b>
Switch interlock	-	1	-	9004840260892		<b>BS900285</b>



**no. blue:** on stock, usually ready for delivery on the day of order!

## REMOTE SWITCH STELLA



LQ540000

### SCHRACK INFO

- Low switching noise
- Energy saving function 0.5 – 30 minutes
- High switching capacity, 80 A start-up peak
- LED display

### APPLICATIONS

- The ideal solution for cellar lights in multi-family houses

### FEATURES

Electronic remote switch with energy saving function. Pressing a button switches the light on or off. Should the light not be turned off in the set time, it is switched off automatically by the energy saving function. The control input allows the connection of pushbuttons with up to 100 mA glow lamp load and enables the application in 3- or 4-wire circuits.

### TECHNICAL DATA

#### TIME RANGES:

Delay	Adjustment range 0.5 - 30 min
-------	-------------------------------

#### INDICATORS:

Green LED ON	Indication of supply voltage
--------------	------------------------------

Yellow LED ON/OFF	Position of output relay
-------------------	--------------------------

#### MECHANICAL DESIGN:

Housing	Made of self-extinguishing plastic, IP rating IP40
---------	--

Mounting	on DIN rail TS 35 according to EN 60715
----------	---

Shockproof terminal connection according to VBG 4 (PZ1 required)	IP rating IP20
--	----------------

#### TERMINALS:

Tightening torque	Max 1 Nm
-------------------	----------

Terminal capacity	1 x 0.5 to 2.5 mm <sup>2</sup> with/without multicore cable end
	2 x 0.5 to 1.5 mm <sup>2</sup> with/without multicore cable end
	1 x 4 mm <sup>2</sup> without multicore cable end
	2 x 2.5 mm <sup>2</sup> flexible without multicore cable end

#### INPUT CIRCUIT:

Supply voltage	Terminals L - N
----------------	-----------------

Nominal voltage	230 V AC / 50/60 Hz
-----------------	---------------------

Tolerance	-15% to +10%
-----------	--------------

Rated consumption	2 VA (1.0 W)
-------------------	--------------

Nominal frequency	AC 48 to 63 Hz
-------------------	----------------

Duty cycle	100%
------------	------

Reset time	500 ms
------------	--------

Drop-out voltage	>30%
------------------	------

Overvoltage category	III (according to IEC 60664-1)
----------------------	--------------------------------

Rated surge voltage	4 kV
---------------------	------

## TECHNICAL DATA – continued

### OUTPUT:

1 normally open contact	Terminals L - 18
Rated voltage	250 V AC
Switching capacity	10 A continuous current
Switching capacity	16 A continuous current
Start-up peak (20 ms)	80 A
Mechanical life	30 x 10 <sup>6</sup> operations
Electrical life	Resistive load: 10 <sup>5</sup> operations at 16 A 250 V Lamp load: 80,000 operations at 1000 W 250 V

### CONTROL INPUT B1:

Connection not potential-free	Pushbutton B1-N (3-conductor circuit) Pushbutton B1-L (4-conductor circuit)
Glow lamp load	Max. 100 mA parallel to the pushbuttons
Overload protection	Electronic

### ACCURACY:

Base accuracy	±5% of maximum scale value
Adjustment accuracy	<15% of maximum scale value
Repetition accuracy	<2%
Temperature influence	≤1%

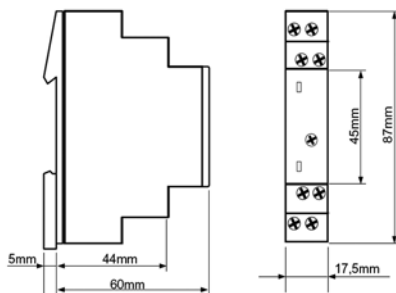
### AMBIENT CONDITIONS:

Ambient temperature	-25 to + 55 °C (complies with IEC 68-1)
Storage temperature	-25 to + 70 °C
Relative humidity	15% to 85% (according to IEC 60721-3-3 class 3K3)
Pollution degree	2, when built-in 3 (according to IEC 60664-1)

### WEIGHT:

Individual packaging	80 g
----------------------	------

## DIMENSIONS



DESCRIPTION	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Remote switch with energy saving function 10 A	1	1	9004840618204		<b>LQ540000</b>



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## REMOTE SWITCH FOR DIN RAIL MOUNTING (IMPULSE SWITCH)



LQ611230



LQ622230

### SCHRACK INFO

The mechanical impulse switches from Schrack Technik provide optimal availability. The use of pushbuttons and pushbuttons with light function allow convenient switching operations. The remote switches are available with rated coil voltages from 8 V AC to 230 V AC and with 12 V DC and 24 V DC. Different contact assignments (NO, NC, CO) can be tailored to your application. In addition, it is possible to order an impulse switch with indication of the switching condition of the coil.

### APPLICATIONS

The remote switches are used primarily in multi-family houses, control technology, and office buildings.

### STANDARDS

- EN 60669-1/99 + A1/02
- EN60669-2-2/97 +A1/97

### ACCESSORIES

Compensation module (required when exceeding the maximum number of illuminated pushbuttons)

### TECHNICAL DATA

#### Control circuit:

Control voltage  $U_s$ :

8, 12, 24, 48, 230 V AC 50 Hz

8, 12, 24, 110 V DC

Functional range:

0.9 - 1.1 x  $U_s$

Attraction power of solenoid coils:

12 VA / 7 W typ.

Minimum command time:

> 200 ms

Duty cycle:

1 MW: 1 hour, unlimited with spacer  
2 MW: max. 1 hour with spacer

**Load circuit:**Rated operating voltage, 1-pole:

250 V AC

Rated operating voltage, 4-pole:

240 / 415 V AC

Minimum operating voltage  $U_{min}$ :

24 V AC/DC

Rated current DC:

24 V  $I_e$  16 A

48 V  $I_e$  12.5 A

230 V  $I_e$  1 A

Rated continuous current  $I_U$ :

16 A AC

Short-circuit current:

10 kA (with 20 A gL/gG fuse)

Endurance, electrical:

40 x 10<sup>2</sup> operating cycles

Endurance, mechanical:

1 x 10<sup>6</sup> operating cycles

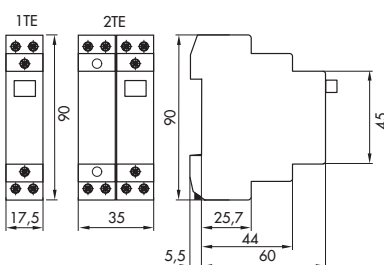
Terminal cross-section:

0.5-10 mm<sup>2</sup> sold and stranded  
0.5-6 mm<sup>2</sup> finely stranded  
with multicore cable end

Temperature range:

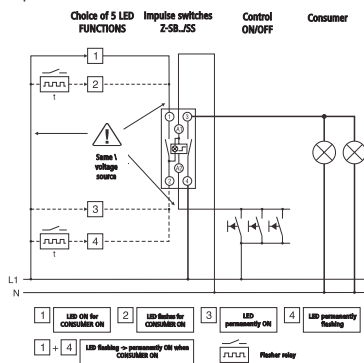
-25 °C to +45 °C

### DIMENSIONS



### APPLICATION EXAMPLE

Impulse switch with switchable LED





## REMOTE SWITCH AND CENTRAL MODULE

### COMPENSATION:

The table below tells you how many compensator modules you need to operate a given number of illuminated pushbuttons in combination with different master modules. Use only with 230 V AC pushbuttons with glow lamps.

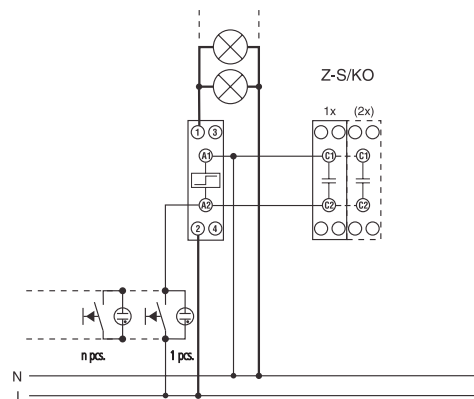
Compensators	Remote switch	
	1P-2P	3P-4P
0	8*	15*
1	23*	X
2	46*	43*

\* Number of 0.6 mA glow lamps

Max. number of parallel illuminated pushbuttons 230 V 0.85 mA typ.

Remote switch (LQ6*)	
without compensation	3 pcs. (1MW, 2MW)
with compensation	13 pcs. (1MW), 6 pcs. (2MW)
with compensation	21 pcs. (1MW), 12 pcs. (2MW)

### Compensation with capacitor bank



DESCRIPTION	MW	EAN CODE	AVAILABLE	ORDER NO.
Remote switch, 1 NO, 8 V AC	1	9004840374957		LQ611008
Remote switch, 1 NO, 12 V AC	1	9004840374940		<a href="#">LQ611012</a>
Remote switch, 1 NO, 24 V AC/12 V DC	1	9004840374933		<a href="#">LQ611024</a>
Remote switch, 1 NO, 48 V AC/24 V DC	1	9004840374926		<a href="#">LQ611048</a>
Remote switch, 1 NO, 230 V AC	1	9004840374902		<a href="#">LQ611230</a>
Remote switch, 2 NO, 12 V AC	1	9004840375008		LQ612012
Remote switch, 2 NO, 24 V AC/12 V DC	1	9004840374995		<a href="#">LQ612024</a>
Remote switch, 2 NO, 48 V AC/24 V DC	1	9004840374988		<a href="#">LQ612048</a>
Remote switch, 2 NO, 110 V AC	1	9004840374971		LQ612110
Remote switch, 2 NO, 230 V AC	1	9004840374964		<a href="#">LQ612230</a>
Remote switch, 1 NO + 1 NC, 24 V AC/12 V DC	2	9004840375053		LQ614024
Remote switch, 1 NO + 1 NC, 48 V AC/24 V DC	2	9004840375046		LQ614048
Remote switch, 1 NO + 1 NC, 110 V AC	2	9004840375039		LQ614110
Remote switch, 1 NO + 1 NC, 230 V AC	2	9004840375022		LQ614230
Remote switch, 2 NO + 2 NC, 24 V AC/12 V DC	3	9004840375220		LQ616024
Remote switch, 2 NO + 2 NC, 48 V AC/24 V DC	3	9004840375213		LQ616048
Remote switch, 2 NO + 2 NC, 110 V AC	3	9004840375206		LQ616110
Remote switch, 2 NO + 2 NC, 230 V AC	3	9004840375190		LQ616230
Remote switch, 1 CO, 8 V AC	1	9004840375138		LQ617008
Remote switch, 1 CO, 12 V AC	1	9004840375121		LQ617012
Remote switch, 1 CO, 24 V AC/12 V DC	1	9004840375114		LQ617024
Remote switch, 1 CO, 48 V AC/24 V DC	1	9004840375107		<a href="#">LQ617048</a>
Remote switch, 1 CO, 230 V DC	1	9004840375084		<a href="#">LQ617230</a>
Remote switch, 2 CO, 230 V AC	2	9004840375251		<a href="#">LQ618230</a>
Remote switch with LED, 2 NO, 24 V AC	1	9004840375176		LQ622024
Remote switch with LED, 2 NO, 230 V AC	1	9004840375169		<a href="#">LQ622230</a>
Remote switch with LED, 2 NO, 24 V DC	1	9004840375183		LQ622D24
Compensator module 230 V AC	-	9004840394313		<a href="#">LQ690001</a>



**no. blue:** on stock, usually ready for delivery on the day of order!

## RAIL MOUNTED CENTRAL REMOTE SWITCH (IMPULSE CURRENT RELAY WITH CENTRAL FUNCTION)



LQ661230

### SCHRACK INFO

Schrack Technik impulse switches with central function offer excellent control possibilities for many applications. Different contact assignment combinations are possible to provide the right solution for each case. The central remote switching units are available with coil voltages from 24 V AC to 230 V AC – with at least 1 NO and up to 3 NO contacts or other contact combinations. The use of illuminated pushbuttons for controlling loads with the central remote switching units requires compensation modules to avoid unwanted switching operations.

### APPLICATIONS

Central remote switching units are used very frequently for lighting control in large and small office buildings and single or multi-family homes to switch on/off several groups simultaneously from a central location. Several group levels can be realized, where larger applications require the use of diode modules.

### STANDARDS

- EN 60669-1/99 + A1/02
- EN60669-2-2/97 +A1/97

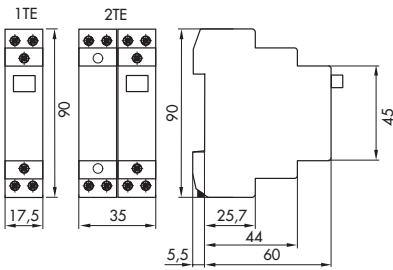
### ACCESSORIES

- Compensation module (required when exceeding the maximum number of illuminated pushbuttons)
- Diode module (required, e.g., in multi-stage group circuits)

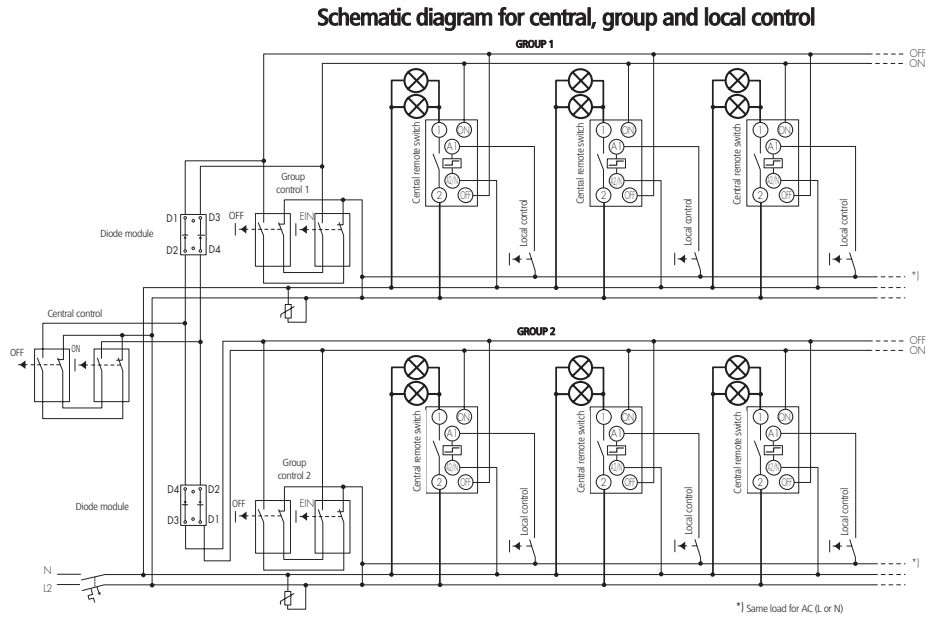
### TECHNICAL DATA

<b>Control circuit:</b>	
Control voltage $U_s$ :	24, 110, 230 V AC, others on request
Rated frequency:	50 Hz 24 V; 50 - 400 Hz 240 V
Functional range:	0.9 - 1.1 x $U_s$
Max. power of solenoid coils: switch on	12 VA / typ. 7 VA
Minimum command time:	> 200 ms
Duty cycle:	1 MW: 100% permanent contact-proof, control by continuous pulse and time switches possible 2 MW: max. 1 hr with spacer
<b>Load circuit:</b>	
Rated operating voltage, 1-pole:	250 V AC; 2 / 3
Rated operating voltage, 3-pole:	240 / 415 V AC
Minimum operating voltage $U_{min}$ :	24 V AC/DC ( $U_s$ 8-110 V)
Rated continuous current $I_U$ :	16 A AC
Rated current DC:	24 V $I_e$ 16 A 48 V $I_e$ 12.5 A 230 V $I_e$ 1 A
Short-circuit current:	10 kA (with 20 A gL/gG fuse)
Endurance, electrical:	40 x 10 <sup>2</sup> operating cycles
Endurance, mechanical:	1 x 10 <sup>3</sup> operating cycles
Terminal cross-section:	0.5-10 mm <sup>2</sup> sold and stranded 0.5-6 mm <sup>2</sup> finely stranded with multicore cable end
Temperature range:	-25 °C to +45 °C

## DIMENSIONS



## APPLICATION EXAMPLE



## REMOTE SWITCH AND CENTRAL MODULE

### COMPENSATION:

The list below tells you how many compensator modules you need to operate a given number of illuminated pushbuttons in combination with different master modules. Use only with 230 V AC pushbuttons with glow lamps.

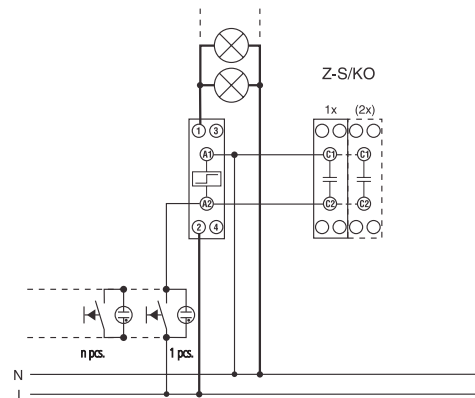
Compensators	Central remote switch	
	1P-2P	3P-4P
0	8*	15*
1	23*	X
2	46*	43*

\* Number of 0.6 mA glow lamps

Max. number of parallel illuminated pushbuttons 230 V 0.85 mA typ.

Remote switch (LQ6*)	
without compensation	3 pcs. (1MW, 2MW)
with compensation	13 pcs. (1MW), 6 pcs. (2MW)
with compensation	21 pcs. (1MW), 12 pcs. (2MW)

### Compensation with capacitor bank



DESCRIPTION	MW	EAN CODE	AVAILABLE	ORDER NO.
Central remote switch, 1 NO, 24 V AC	1	9004840375152		<b>LQ661024</b>
Central remote switch, 3 NO, 110 V AC	1	9004840375329		LQ663110
Central remote switch, 1 NO, 230 V AC	1	9004840375145		<b>LQ661230</b>
Central remote switch, 3 NO, 230 V AC	2	9004840375312		<b>LQ663230</b>
Central remote switch, 2 NO + 1 NC, 230 V AC	2	9004840375350		LQ665230
Central remote switch, 1 NO + 1 CO, 230 V AC	2	9004840375336		LQ669230
Diode module 240 V AC	2	9004840394320		LQ690000
Compensator module 240 V AC	-	9004840394313		<b>LQ690001</b>

## MODULAR RELAY BZ651000

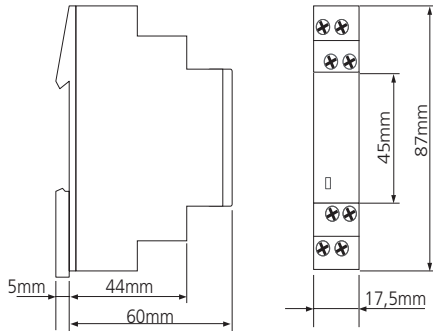


BZ651000

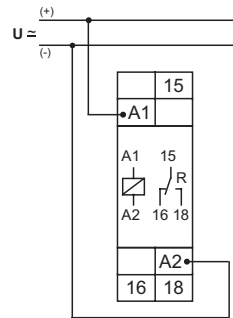
### SCHRACK INFO

- Coupling relay
- 1 CO
- Width 17.5 mm
- Installation design

### DIMENSIONS (mm)




### CIRCUIT DIAGRAM



### TECHNICAL DATA

<b>INPUT CIRCUIT:</b>		
Supply voltage		24 to 240 V AC/DC
Terminals		A1(+)-A2
Tolerance		-15% to +10%
Rated surge voltage		4 kV
<b>OUTPUT CIRCUIT</b>		
1 potential-free changeover switch		
Rated voltage		250 V AC
Switching capacity		2000 VA (8 A / 250 V)
Fuse		8 A fast acting
Switching frequency		Max. 6/min at 1000 VA resistive load (according to IEC 60947-5-1)
Oversvoltage category		III (according to IEC 60664-1)
Rated surge voltage		4 kV
<b>AMBIENT CONDITIONS</b>		
Ambient temperature		-25 to +55 °C
<b>WEIGHT</b>		
Individual packaging		60g

DESCRIPTION	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Modular relay					
1 CO, 24-240 V AC/DC	1	10	9004840557381		<b>BZ651000</b>



## MODULAR RELAY BZ652000

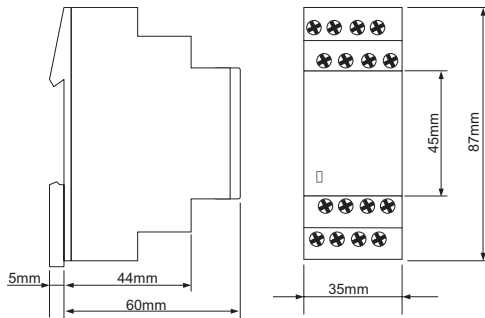


BZ652000

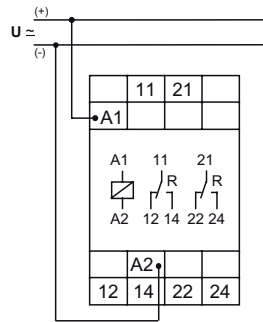
### SCHRACK INFO

- Coupling relay
- 2 CO
- Width 35 mm
- Installation design

### DIMENSIONS (mm)




### CIRCUIT DIAGRAM



### TECHNICAL DATA

<b>INPUT CIRCUIT:</b>		
Supply voltage		12 to 240 V AC/DC
Terminals		A1(+)-A2
Tolerance		-10% to +10%
Rated surge voltage		4 kV
<b>OUTPUT CIRCUIT</b>		
2 potential-free changeover switches		
Rated voltage		250 V AC
Switching capacity		2000 VA (8 A / 250 V)
Fuse		8 A fast acting
Switching frequency		Max. 6/min at 1000 VA resistive load (according to IEC 60947-5-1)
Overtoltage category		III (according to IEC 60664-1)
Rated surge voltage		4 kV
<b>AMBIENT CONDITIONS</b>		
Ambient temperature		-25 to +55 °C
<b>WEIGHT</b>		
Individual packaging		100g

DESCRIPTION	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Modular relay					
2 CO, 12-240 V AC/DC	1	1	9004840557473		<b>BZ652000</b>

## STAIRCASE TIMER, SERIES TIMON



BZ327210-A

### SCHRACK INFO

- Energy saving function
- Time range 0.5 to 30 minutes
- Low switching noise
- High switching capacity, 80 A peak inrush power
- Automatic 3-/4-conductor detection
- Glow lamp load up to 100 mA
- Width 17.5 mm
- Installation design

### FEATURES

Electronic staircase lighting timer with restart function (complies with EN 60669-2-3). The control input allows the connection of pushbuttons with up to 100 mA glow lamp load and enables the application in 3- or 4-wire circuits. After an ON duration of about 5 seconds, a long keypress (>2 s) will switch off the unit (energy saving function).

### TECHNICAL DATA

#### TIME RANGES:

Delay Adjustment range 0.5 - 30 min

#### INDICATORS:

Green LED ON Indication of supply voltage

Yellow LED ON/OFF Position of output relay

#### MECHANICAL DESIGN:

Housing Made of self-extinguishing plastic, IP rating IP40

Mounting on DIN rail TS 35 according to EN 60715

Shockproof terminal connection according to VBG 4 (PZ1 required) IP rating IP20

#### TERMINALS:

Tightening torque Max 1 Nm

Terminal capacity  
 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### INPUT CIRCUIT:

Supply voltage Terminals L - N

Nominal voltage 230 V AC / 50/60 Hz

Tolerance -15% to +10%

Rated consumption 2 VA (1.0 W)

Nominal frequency AC 48 to 63 Hz

Duty cycle 100%

Reset time 500 ms

Drop-out voltage >30%

Overvoltage category III (according to IEC 60664-1)

Rated surge voltage 4 kV

## TECHNICAL DATA – continued

### OUTPUT:

1 normally open contact	Terminals L - 18
Rated voltage	250 V AC
Switching capacity	10 A continuous current
Switching capacity	16 A continuous current
Start-up peak (20 ms)	80 A
Mechanical life	30 x 10 <sup>6</sup> operations
Electrical life	Resistive load: 10 <sup>5</sup> operations at 16 A 250 V Lamp load: 80,000 operations at 1000 W 250 V

### CONTROL INPUT B1:

Connection not potential-free	Pushbutton B1-N (3-conductor circuit) Pushbutton B1-L (4-conductor circuit)
Glow lamp load	Max. 100 mA parallel to the pushbuttons
Overload protection	Electronic

### ACCURACY:

Base accuracy	±5% of maximum scale value
Adjustment accuracy	<15% of maximum scale value
Repetition accuracy	<2%
Temperature influence	≤1%

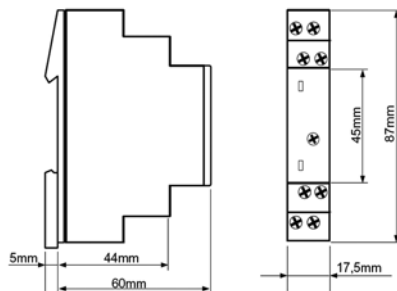
### AMBIENT CONDITIONS:

Ambient temperature	-25 to + 55 °C (complies with IEC 68-1)
Storage temperature	-25 to + 55 °C
Transport temperature	-25 to + 55 °C
Relative humidity	15% to 85% (according to IEC 60721-3-3 class 3K3)
Pollution degree	2, when built-in 3 (according to IEC 60664-1)

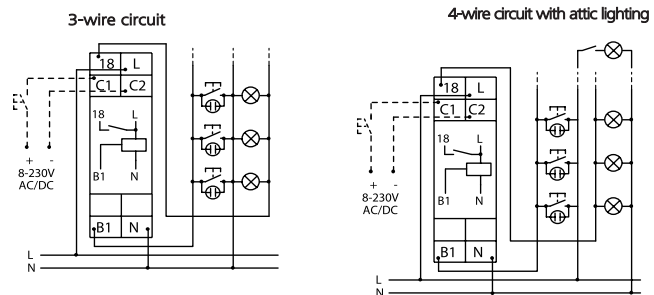
### WEIGHT:

Individual packaging	80 g
----------------------	------

## DIMENSIONS



## CONNECTION DIAGRAMS



DESCRIPTION	MW	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Staircase lighting timer 0.5-30 min. 10 A electronic	1	1	9004840618198		BZ327210-A

## STAIRCASE TIMER, SERIES VOWA



BZ327350

### SCHRACK INFO

- Switch-off warning
- Time delay, long-time function programmable
- Energy saving function
- Impulse switch mode selectable
- Low switching noise
- High switching capacity, 80 A start-up peak
- Automatic 3-/4-conductor detection
- Glow lamp load up to 100 mA
- Width 17.5 mm
- Installation design

### FEATURES

Electronic staircase lighting timer with switch-off warning. The control input allows the connection of pushbuttons with a total of up to 100 mA glow lamp load and enables the application in 3- or 4-wire circuits. The unit can be time-delayed via a connected pushbutton and switched off by a long keypress (energy saving function). By "pumping", the delay can be increased to a multiple of the freely selectable time  $t$ . Depending on the type, the following operating modes can be selected using the controls on the front:

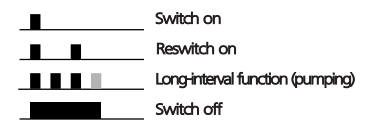
- 0 Off
- 1 Continuous light (ON)
- TW Automatic timer with switch-off warning

#### Only for BZ327360:

- T Automatic timer without switch-off warning
- P Impulse switch mode without time function
- PN Impulse switch mode, power fail latch

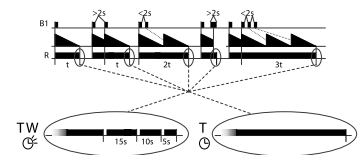
### CONTROL OPTIONS ON B1 IN AUTOMATIC TIMER MODE – MORE FUNCTIONS VOWA PLUS

The additional control input C1-C2 mode allows in T and TW modes the activation of the staircase lighting timer by a voltage of 8 to 230 V AC/DC. This input can be used to start and restart the timing function. Shutdown (energy saving function) and programming of longer times (pumping) is not possible using this input.



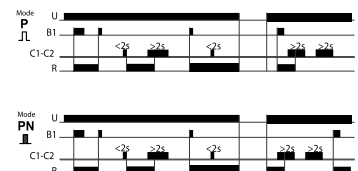
### AUTOMATIC TIMER MODE (T, TW)

After the pushbutton B1 has been pressed, the output relay R (terminals L-18) closes and the set interval  $t$  begins. If the pushbutton is pressed again before the interval  $t$  has expired, the time begins again (restart function complies with EN 60669-2-3). Rapid, multiple pressing the pushbutton adds 2, 3 or more time intervals to extend the time up to 60 min. A long press ( $> 2$  s) aborts the current interval, and the relay switches off (energy saving function). In TW mode, the device provides a switch-off warning (in accordance with DIN 180-158-2) by generating short pulses (flashing) at 30 s, 15 s and 5 s prior to switch-off.



### IMPULSE SWITCH MODE (P), (PN)

In impulse switch mode, every keypress of B1 toggles the output relay R (flip-flop). In function P, the output relay R remains in the off-position, whenever the supply voltage is applied. In function PN, the output relay R immediately switches on after applying the supply voltage U, if the output relay R was in the On position last before the power failure. The output relay R switches On, if a short voltage impulse ( $< 2$  s) is applied to the additional control input (C1-C2). A longer voltage impulse ( $> 2$  s) opens the relay R (central OFF).





## TECHNICAL DATA

### TIME RANGES

Time delay adjustment range	0.5 - 12 min (in function T, TW)
Indicators	Green LED ON supply voltage is applied, yellow LED ON/OFF position of the output relay

### SHOCKPROOF CLAMPING YOKE TERMINALS

Tightening torque	Max 1 Nm
Terminal capacity	1 x 0.5 to 2.5 mm <sup>2</sup> with/without multicore cable end, 2 x 0.5 to 1.5 mm <sup>2</sup> with/without multicore cable end, 1 x 4 mm <sup>2</sup> without multicore cable end, 2 x 2.5 mm <sup>2</sup> flexible without multicore cable end

### INPUT CIRCUIT:

Supply voltage	Terminals L - N
Nominal voltage	230 V AC / 50/60 Hz
Rated consumption	2 VA (1.0 W)
Duty cycle	100%
Reset time	500 ms

### OUTPUT

1 normally open contact	Terminals L - 18
Rated voltage	250 V AC
Switching capacity (distance < mm)	10 A continuous current, start-up peak (20 ms) 80 A
Endurance, electrical, resistive load:	10 <sup>5</sup> operations at 16 A 250 V
Lamp load:	80,000 operations at 1000 W 250 V

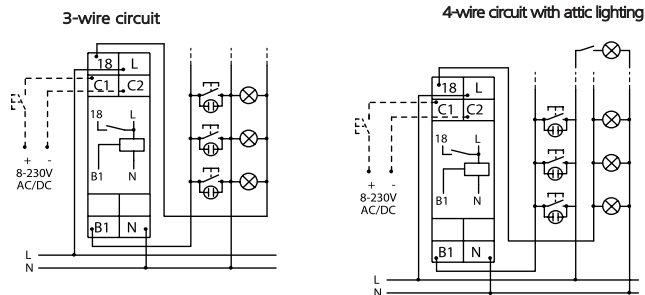
### CONTROL INPUT B1

Connection not potential-free	Pushbutton B1-N (3-conductor circuit), pushbutton B1-L (4-conductor circuit)
Glow lamp load	Max. 100 mA parallel to the pushbuttons, electronic overload protection

### ADDITIONAL CONTROL INPUT BZ327360

Connection	Control voltage at terminals C1 (+) - C2
Control voltage	8 to 230 V AC/DC
Galvanic isolation	Yes, basic insulation
Ambient conditions	Ambient temperature -25 to +55 °C (complies with IEC 68-1)
Dimensions	1 MW

## CONNECTION DIAGRAMS



DESCRIPTION	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Staircase lighting timer VOWA	1	10	9004840450323		<b>BZ327350</b>
Staircase lighting timer VOWA-PLUS	1	10	9004840450330		<b>BZ327360</b>

## STAIRCASE TIMER, SERIES TIMON M



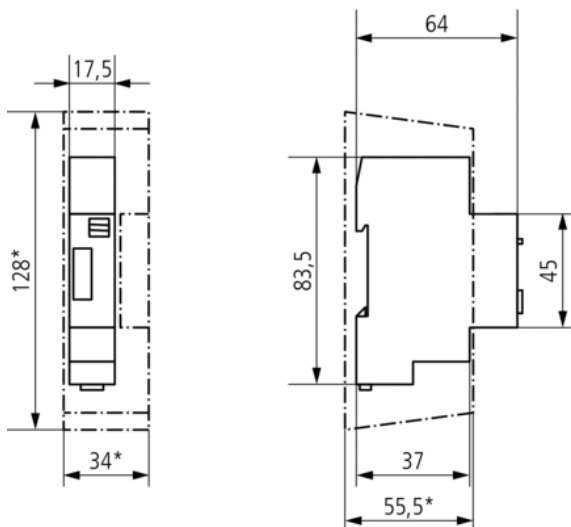
### SCHRACK-INFO

- Staircase time switch, electronic
- 4 conductor with floor lighting connection
- 3 conductor without floor lighting
- Retriggerable
- No closed-circuit current consumption
- Toggle switch for permanent light ON
- Reliable due to synchronous motor drive
- Simplest possible time setting and direct delay time readout on absolute scale
- Precision mechanics and therefore exact switching period
- Very low sensitivity to interference

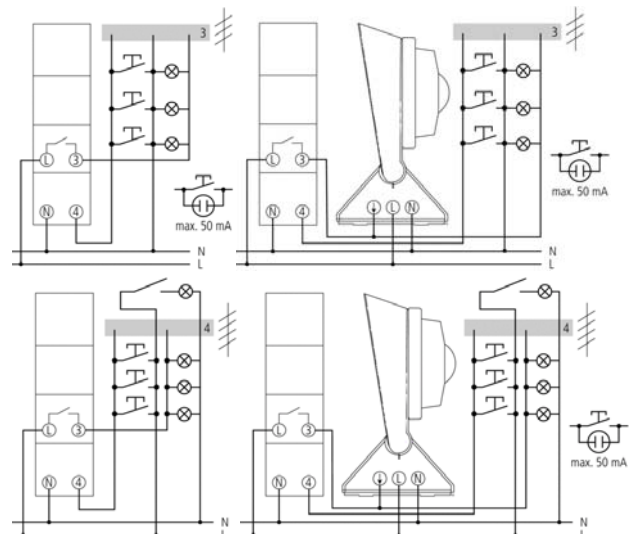
### TECHNICAL DATA

Operating voltage	230 V AC
Frequency	50 Hz
Width	1 module
Installation type	DIN rail
Stand-by consumption	0 W
Glow lamp load	50 mA
Setting range time	1 – 7 min
Type of connection	3-/4-conductor
3/4 conductor	Yes
Secondary switching	After 30 s
Type of contact	NO contact
Opening width	> 3 mm
Switching output	Not potential-free (230 V)
Incandescent/halogen lamp load	2300 W
Fluorescent lamp load (conventional) lead-lag circuit	2300 VA
Fluorescent lamp load (conventional) parallelcorrected	1300 VA, 70 F
Energy saving lamps	9 x 7 W, 6 x 11 W, 5 x 15 W, 5 x 20 W
Fluorescent lamp load (EVG)	300 VA
Fluorescent lamp load (conventional) seriescorrected	2300 VA
Fluorescent lamp load (conventional) not corrected	2300 VA
Switching capacity	10 AX (at 230 V AC, $\cos \phi = 0.3$ ), 16 A (at 230 V AC, $\cos \phi = 1$ )
Switch for permanent light	Toggle switch
Test approval	VDE
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Ambient temperature	-10 °C ... +50 °C
Protection class	II
Type of protection	IP 20

### DIMENSIONS



### CONNECTION EXAMPLE



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
TIMON M – Timers for staircase lighting	9004840667172		<b>BZ926350</b>

## MAINS DISCONNECTION RELAY NAK16 / 3 – GENERAL INFORMATION



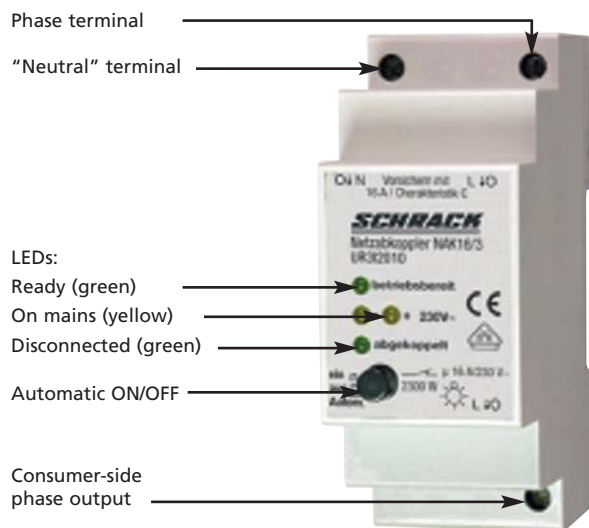
### SCHRACK INFO

- **1-pole disconnection** for optimal personal protection and minimal residual ripple. Cross-couplings are dissipated effectively through a low-resistance output.
- **Monitoring voltage:** Ecologically friendly low-current DC voltage (max. 8 mA / 230 V DC)
- **Residual ripple** (nom./typ./max.) < 2 mV, < 4 mV, < 8 mV
- **Endurance, mechanical:** at least  $15 \times 10^6$  operations
- **Nominal voltage/capacity:** 230 V AC  $\pm 10\%$ , 16 A, 2300 Watt lamp load

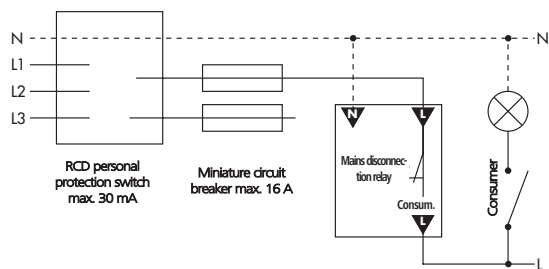
### INNOVATION

Several issued and pending patents impressively document the technical superiority over the state of the art.

### FUNCTIONAL ELEMENTS



### CIRCUIT DIAGRAM



### I KNOW WHERE TO FIND IT!

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- Buying products around the clock
- Quick access customer service

## MAINS DISCONNECTION RELAY



UR312010

### SCHRACK INFO

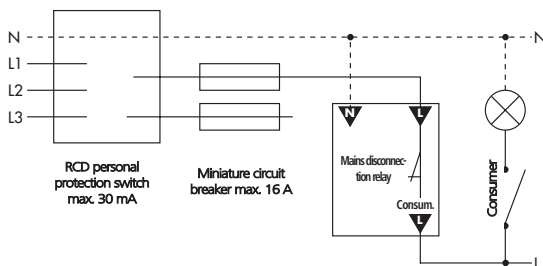
- 1-pole disconnection for optimal personal protection and minimal residual ripple. Cross-couplings are dissipated effectively through a low-resistance output.
- Monitoring voltage: Ecologically friendly low-current DC voltage (max. 8 mA / 230 V DC)
- Residual ripple (nom./typ./max.) < 2 mV, < 4 mV, < 8 mV
- Endurance, mechanical: at least 15 x 10<sup>6</sup> operations
- Nominal voltage/capacity: 230 V AC ± 10%, 16 A, 2300 Watt lamp load
- Cannot be combined with touch dimmer

### TIPS & TRICKS

The use of electricity inevitably generates electric and magnetic fields (electric smog). The "homemade" pollution sources of electric smog such as clock radios or electric heating blankets often cause greater levels of electric smog by alternating electric and magnetic fields than sources that are beyond our control, such as high voltage electricity lines, transformer stations or railway lines or also mobile phone masts. Electrical fields are already caused by the voltages themselves, even if the electrical loads are switched off and a current does not flow. Given this fact, specialists recommend mains disconnection relays (often called "demand switches") as the primary, and most important technical means to reduce alternating electrical and magnetic fields.

The SCHRACK mains disconnection relay was tested according to strictest safety requirements by the VDE.

### CIRCUIT DIAGRAM



DESCRIPTION	MW	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Mains disconnection relay	2	35x70x76	1	NAK 16/3	9004840377200		<b>UR312010</b>



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## MODULAR SWITCH WITH PUSH-BUTTON, WITHOUT SIGNAL LAMP



BZ107020

### SCHRACK INFO

- Design according to IEC 947-3
- Rated voltage/frequency: 230/400 V AC, 50/60 Hz
- Conductor cross-section: 1-10 mm<sup>2</sup>
- Finger and hand touch safe VBG 4, ÖVE-EN 6, BVG A3
- Mounting system: Special snap-on mounting for DIN rail EN 50 022

RATED CURRENT/CONTACTS	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
16 A/1 NO	1	12	BZ A16/1NO	9004840406474		<b>BZ107010</b>
16 A/2 NO	1	12	BZ A16/2NO	9004840406481		<b>BZ107020</b>
16 A/1 NO / 1 NC	1	12	BZ S16/1NO/1NC	9004840406498		<b>BZ107030</b>
16 A/1 CO	1	12	BZ W16/1CO	9004840406504		<b>BZ107050</b>

## MODULAR SWITCH WITH PUSH-BUTTON AND LED, WITHOUT SIGNAL LAMP



BZ127131

### SCHRACK INFO

Light source: LED with a supply voltage of 24 V or 230 V AC/DC

Lift terminals with protection against incorrect insertion

- Design according to EN 60068
- Rated voltage/frequency: 230/400 V AC, 50/60 Hz
- Conductor cross-section: 1-10 mm<sup>2</sup>
- Finger and hand touch safe VBG 4, ÖVE-EN 6
- Mounting system: Special snap-on mounting for DIN rail EN 50 022

RATED CURRENT/CONTACTS	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
16 A/1 NO/1 NC/24 AC/DC	1		BZ SL16/1NO/1NO	9004840406528		<b>BZ127131</b>
16 A/2 NO/24 AC/DC	1		BZ AL16/2NO	9004840406511		<b>BZ127121</b>
16 A/1 NO/1 NC/230 AC/DC	1		BZ SL16/1NO/1NC	9004840406542		<b>BZ117131</b>
16 A/2 NO/230 AC/DC	1		BZ AL16/2NO	9004840406535		<b>BZ117121</b>



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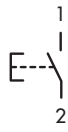


**no. blue:** on stock, usually ready for delivery on the day of order!

## MODULAR PUSH-BUTTON



BZ107430



CIRCUIT DIAGRAM

### SCHRACK INFO

See the label for circuit diagrams of all pushbuttons

Lift terminals with protection against incorrect insertion

- Design according to EN 60068
- Rated voltage/frequency: 230/400 V AC, 50/60 Hz
- Conductor cross-section: 1-10 mm<sup>2</sup>
- Finger and hand touch safe VBG 4, ÖVE-EN 6
- Mounting system: Special snap-on mounting for DIN rail EN 50 022

RATED CURRENT/CONTACTS	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
16 A/1 NO	1	1	BZ T16/1NO	9004840406436		<a href="#">BZ107410</a>
16 A/1 NO/1 NC	1	1	BZ T16/1NO/1NC	9004840406443		<a href="#">BZ107430</a>

## MODULAR PUSH-BUTTON WITH LED



BZ117531

### SCHRACK INFO

Lift terminals with protection against incorrect insertion

- Design according to EN 60068
- Rated voltage/frequency: 230/400 V AC, 50/60 Hz
- Conductor cross-section: 1-10 mm<sup>2</sup>
- Finger and hand touch safe VBG 4, ÖVE-EN 6
- Mounting system: Special snap-on mounting for DIN rail EN 50 022

RATED CURRENT/CONTACTS/VOLTAGE	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
16 A/1 NO/1 NC/24 V AC/DC	1		BZ TS16/1NO/1NC	9004840406450		<a href="#">BZ127531</a>
16 A/1 NO/1 NC/230 V AC/DC	1		BZ TS16/1NO/1NC	9004840406467		<a href="#">BZ117531</a>

## INDICATOR LIGHT-LED



BZ117904



BZ127908

### SCHRACK INFO

- 2 colour LEDs red/green changeable

DESCRIPTION	MW	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Single lamp 12-24 V AC/DC red/green	1	1	BZ LM R/G 24	9004840406566		<a href="#">BZ127904</a>
Single lamp 110-240 V AC/DC red/green	1	1	BZ LM R/G 240	9004840406559		<a href="#">BZ117904</a>
Double lamp 12-24 V AC/DC red/green	1	1	BZ DLM R/G 24	9004840406580		<a href="#">BZ127908</a>
Double lamp 110-240 V AC/DC red/green	1	1	BZ DLM R/G 240	9004840406573		<a href="#">BZ117908</a>



## CONTROL RELAY EASY



### SCHRACK INFO

For easy switching of complex requirements. The control relay EASY makes this is done simply by pressing a button or with the convenient EASY Soft application on a PC. User-friendly menu guidance facilitates the entry. Mounting and wiring cost savings guaranteed.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
24 V DC, 8 digital inputs, 4 relay outputs, LCD display, control buttons	4015082741082		<b>EA274108</b>
24 V DC, 8 digital inputs, 4 relay outputs, display, control buttons, weekly and yearly time switches	4015082741099		<b>EA274109</b>
100-240 V AC, 8 digital inputs, 4 relay outputs, LCD display, control keys	4015082741037		<b>EA274103</b>
100-240 V DC, 8 digital inputs, 4 relay outputs, LCD display, control buttons, weekly and yearly time switches	9004840409895		<b>EA274104</b>
100-240 V DC, 12 digital inputs, 6 relay outputs, LCD display, control buttons, weekly and yearly time switches	9004840409918		<b>EA274115</b>
24 V DC, 12 digital inputs, 8 relay outputs, LCD display, control buttons,	4015082741211		<b>EA274121</b>
Windows software for programming the Easy 400-700	4015082845452		<b>EA284545</b>
EASY memory card 32KB	9004840410891		EA270884
Interface cable RS232/EASY	4015082024093		<b>EA202409</b>
Switched power supply 100-240 V AC / 24 V DC, 1.25 A	9004840199178		EA212319

## MODULAR SOCKET OUTLETS



BZ325000



BZ325001-A



YY4926F



YY494518

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
DIN rail mounted socket outlet with earth	52x76x65	1	REG-SD	9004840198607		<b>BZ325000-A</b>
DIN rail mounted socket outlet with earth with LED		1		9004840662528		<b>BZ325003</b>
DIN rail mounted socket outlet with pin; for CH, CZ, F	44.5x76x65	1	REG-SD/CZ	9004840198614		<b>BZ325001-A</b>
Socket outlet for front-mounting	44.5x76x65	1	SD-E bl.	9004840063509		<b>YY492639</b>
High current socket outlet CEE, DIN rail mounting		1	5x16	9004840409635		<b>YY494518</b>



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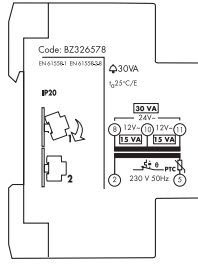
## MODULAR BELL TRANSFORMER



BZ326578



BZ326577



### SCHRACK INFO

- Rated voltage 230 V 50 Hz
- Rated output 8, 15, 24, 30 VA

INPUT/OUTPUT	MW	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
230 V AC prim./4,8,12 V AC sec., 15 VA	2	35x85x58	1	KL-TR/15VA	9004840275216		<a href="#">BZ326577</a>
230 V AC prim./12,12,24 V AC sec., 30 VA	3	52x85x58	1	KL-TR/30VA	9004840275209		<a href="#">BZ326578</a>
230 V AC prim./12,24 V AC sec., 63 VA	6	105x85x65	1	KL-TR/63VA	9004840384796		<a href="#">BZ326579</a>

## DC POWER SUPPLY, INSTALLATION DESIGN TYPE, STABILISED



LP746201

### SCHRACK INFO

- DIN rail mounted power supply unit
- 230 V AC supply
- 24 V DC / 12 V DC output voltage

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Single-pole power supply unit, 230/24 V DC, 1.5 A	9004840556988		<a href="#">LP746201</a>
Single-pole power supply unit, 230/12 V DC, 2 A	9004840556971		<a href="#">LP7432C2</a>

## MODULAR BELL



BZ326338

### SCHRACK INFO

- Continuous load up to 12 hours possible
- Coil voltage: 12, 230 V AC
- Own consumption: 4.5 VA
- Conductor cross-section: 10 mm<sup>2</sup>
- 75 dB

SUPPLY VOLTAGE	MW	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Bell, 230 V AC	1	17.5x86x67	1	066625-SRK	9004840166132		<a href="#">BZ926338</a>
Bell, 12 V AC	1	17.5x86x67	1	066627-SRK	9004840166163		<a href="#">BZ926351</a>



## MODULAR BUZZER



BZ926339

### SCHRACK INFO

- Continuous load up to 12 hours possible
- Coil voltage: 12, 230 V AC
- Own consumption: 4.5 VA
- 77 dB

SUPPLY VOLTAGE	MW	DIM. (WxHxD) mm	PU	EAN CODE	AVAILABLE	ORDER NO.
Buzzer, 230 V AC	1	17.5x86x67	1	9004840166149		<b>BZ926339</b>
Buzzer, 12 V AC	1	17.5x86x67	1	9004840166170		BZ9263453

## MODULAR DIMMER 420 VA FOR DIN RAIL MOUNTING



EHTD420VA

### SCHRACK INFO

Dimming output 10-420 VA, 230 V/50 Hz, 2 MW. Activation by standard pushbutton; central On/Off function; 2 memory queries; leading or trailing edge settable at the front of the unit; with thermal overload, electronic short-circuit protection, overvoltage protection, soft start function, half-wave balancing, and open-circuit monitoring.

DESCRIPTION	MW	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Push button dimmer 420 VA UNI	2	35x86x67	1		9004840614602		<b>EHTD420VA</b>

## MODULAR DIMMER CONTROL UNIT



EHTDSTRG2

### SCHRACK INFO

230 V/50 Hz, 1 MW. Activation by standard pushbutton; central On/Off function; 2 memory queries; 1 MW; max. 10 touch dimmer power units 500 UNI or 1200 UNI connectable. At least one power unit required for functioning.

DESCRIPTION	MW	DIM. (WxHxD) mm	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Push button dimmer control unit	1	17.5x86x67	1		9004840614619		<b>EHTDSTRG2</b>



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## MODULAR DIMMER FOR EHTDSTRG2



EHTDLT500

### SCHRACK INFO

Equipped with thermal overload protection, electronic short-circuit protection, overvoltage protection, soft start function, half-wave balancing, and open-circuit monitoring. Output increase through parallel connection in the PWM circuit. 230 V/50 Hz

Output 500 UNI = 10 VA - 500 VA; 2 MW

Output 1200 UNI = 10 VA - 1200 VA; 4 MW

DESCRIPTION	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Push button dimmer power unit 500 UNI	2	1	9004840614626		<a href="#">EHTDLT500</a>
Push button dimmer power unit 1200 UNI	4	1	9004840614633		<a href="#">EHTDLT1200</a>

## MODULAR REG ROTARY DIMMER 500



EHTDREH500

### SCHRACK INFO

Dimmer with rotary knob control; can be integrated in changeover circuits. Leading or trailing edge settable at the front of the unit; with thermal overload, electronic short-circuit protection, overvoltage protection, soft start function, half-wave balancing, and open-circuit monitoring. 230 V/50 Hz

Output 500 UNI = 10 VA - 500 VA; 2 MW

DESCRIPTION	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Rotary dimmer 500 UNI	2	1	9004840614640		<a href="#">EHDREH500</a>

## MODULAR ROTARY DIMMER 1200



EHTDREH1200

### SCHRACK INFO

Dimmer with rotary knob control; can be integrated in changeover circuits. Leading or trailing edge settable at the front of the unit; with thermal overload, electronic short-circuit protection, overvoltage protection, soft start function, half-wave balancing, and open-circuit monitoring. 230 V/50 Hz

Output 1200 UNI = 10 VA - 1200 VA; 4 MW

DESCRIPTION	MW	PU	EAN CODE	AVAILABLE	ORDER NO.
Rotary dimmer 1200 UNI	4	1	9004840614657		<a href="#">EHDREH1200</a>



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## ANALOG DIN-RAIL TIME SWITCH SYNCHRON, SERIES TEMPUS ANALOG



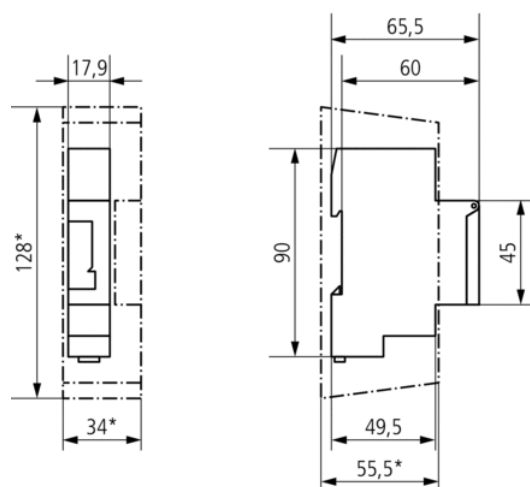
### SCHRACK-INFO

- Analogue time switch
- 1 channel
- Daily program
- Without power reserve
- 96 switching segments
- Synchronised with mains
- Shortest switching time: 15 minutes
- Screw terminals
- Manual switch with 3 positions:  
Permanent ON/AUTO/continuous OFF
- Switching status display

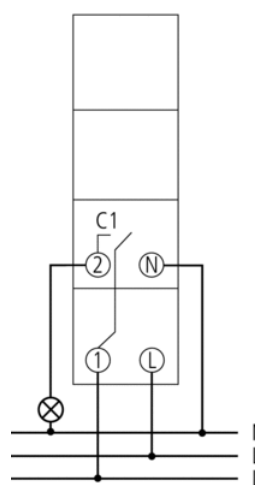
### TECHNICAL DATA

Operating voltage	230 V AC
Frequency	50 Hz
Number of channels	1
Program	Daily program
Width	1 module
Installation type	DIN rail
Type of connection	Screw terminals
Drive	Synchronous motor
Switching capacity at 250 V AC, $\cos \varphi = 1$	16 A
Switching capacity at 250 V AC, $\cos \varphi = 0,6$	4 A
Shortest switching times	15 min
Programmable all	15 min
Time accuracy	Synchronised with mains
Type of contact	NO contact
Switching output	Potential-free and phase-independent
Number of switching segments	96
Stand-by consumption	0,9 W
Test approval	VDE
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Type of protection	IP 20
Protection class	II as per EN 60 730-1
Ambient temperature	-25 °C ... +50 °C

### DIMENSIONS



### CONNECTION EXAMPLE



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Analog din-rail time switch synchron, series Tempus analog	9004840667189		BZ926448

## MECHANICAL TIME SWITCH QUARTZ 1NO, 1TE




### SCHRACK-INFO

- Analogue time switch
- 1 channel
- Daily program
- Wide power reserve (NiMH rechargeable battery)
- 96 switching segments
- Crystal controlled
- Shortest switching time: 15 minutes
- Screw terminals
- Manual switch with 3 positions: Permanent ON/AUTO/continuous OFF
- Switching status display

### TECHNICAL DATA

Operating voltage	230 – 240 V AC
Frequency	50 – 60 Hz
Number of channels	1
Program	Daily program
Width	1 modules
Installation type	DIN rail
Type of connection	Screw terminals
Drive	Quartz-controlled stepper motor
Power reserve	3 days
Switching capacity at 250 V AC, $\cos \varphi = 1$	16 A
Switching capacity at 250 V AC, $\cos \varphi = 0,6$	4 A
Shortest switching times	15 min
Programmable all	15 min
Time accuracy	$\leq \pm 1$ s/Tag (Quartz)
Type of contact	NO contact
Switching output	Potential-free and phase-independent
Number of switching segments	96
Stand-by consumption	0,5 W
Test approval	VDE
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Type of protection	IP 20
Protection class	II as per EN 60 730-1
Ambient temperature	-10 °C ... +50 °C

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Mechanical time switch quartz 1NO, 1TE	9004840680928		<b>BZT26450</b>



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## ANALOG DIN-RAIL TIME SWITCH SYNCHRON, SERIES TEMPUS ANALOG



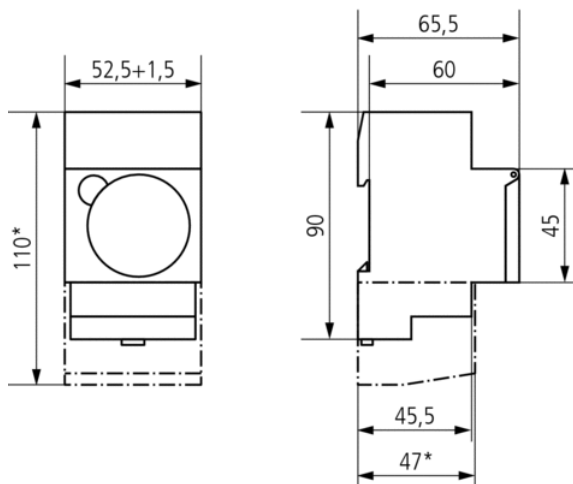
### SCHRACK-INFO

- Analogue time switch
- 1 channel
- Daily program
- Without power reserve
- Synchronised with mains
- Shortest switching time: 30 minutes
- Simple summer/winter time correction
- Time can be changed clockwise or anti-clockwise
- 48 switching segments
- Screw terminals
- Switching preselection
- Permanent ON/OFF switch
- Switching status display
- Operation control display

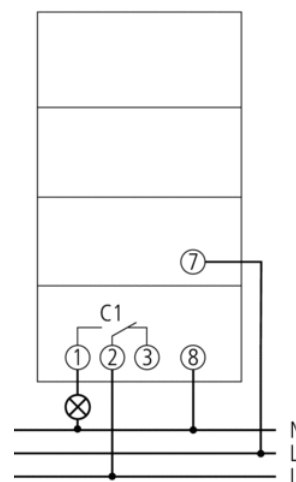
### TECHNICAL DATA

Operating voltage	230 V AC
Frequency	50 Hz
Number of channels	1
Program	Daily program
Width	3 modules
Installation type	DIN rail
Type of connection	Screw terminals
Drive	Synchronous motor
Switching capacity at 250 V AC, $\cos \varphi = 1$	16 A
Switching capacity at 250 V AC, $\cos \varphi = 0,6$	4 A
Shortest switching times	30 min
Programmable all	30 min
Time accuracy	Synchronised with mains
Type of contact	Changeover contact
Switching output	Potential-free and phase-independent
Number of switching segments	48
Stand-by consumption	1 VA
Test approval	VDE
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Type of protection	IP 20
Protection class	II as per EN 60 730-1
Ambient temperature	-20 °C ... +50 °C

### DIMENSIONS



### CONNECTION EXAMPLE



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Analog din-rail time switch synchron, series Tempus analog	9004840667196		BZ927031

## ANALOG DIN-RAIL TIME SWITCH QUARTZ, SERIES TEMPUS ANALOG



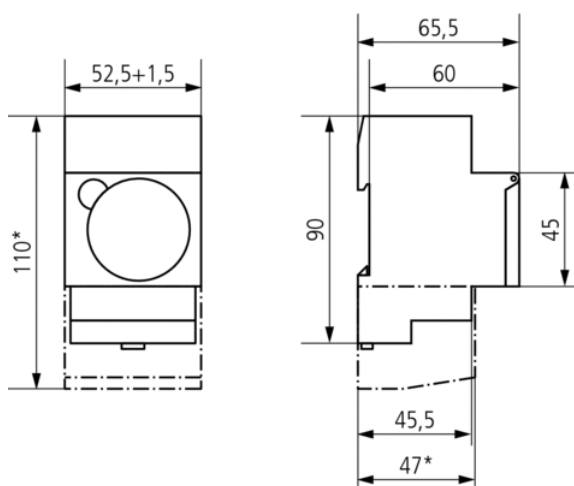
### SCHRACK-INFO

- Analogue time switch
- 1 channel
- Daily program
- With power reserve (NiMH rechargeable battery)
- Synchronised with mains
- Shortest switching time: 30 minutes
- Simple summer/winter time correction
- Time can be changed clockwise or anti-clockwise
- 48 switching segments
- Screw terminals
- Switching preselection
- Permanent ON/OFF switch
- Switching status display
- Operation control display

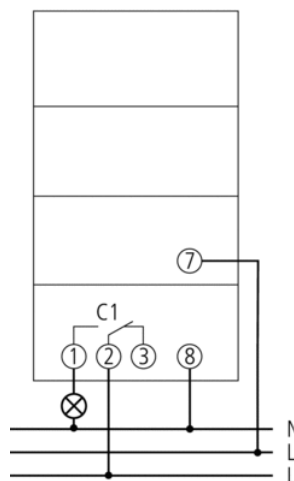
### TECHNICAL DATA

Operating voltage	230 V AC
Frequency	50 – 60 Hz
Number of channels	1
Program	Daily program
Width	3 modules
Installation type	DIN rail
Type of connection	Screw terminals
Drive	Quartz-controlled stepper motor
Power reserve	3 days
Switching capacity at 250 V AC, $\cos \varphi = 1$	16 A
Switching capacity at 250 V AC, $\cos \varphi = 0,6$	4 A
Shortest switching times	30 min
Programmable all	30 min
Time accuracy	$\leq \pm 1$ s/day (quartz)
Type of contact	Changeover contact
Switching output	Potential-free and phase-independent
Number of switching segments	48
Stand-by consumption	0,1 W
Test approval	VDE
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Type of protection	IP 20
Protection class	II as per EN 60 730-1
Ambient temperature	-20 °C ... +50 °C

### DIMENSIONS



### CONNECTION EXAMPLE



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Analog din-rail time switch quartz, series Tempus analog	9004840667202		<b>BZ927131</b>

## DIGITAL WEEKLY TIME SWITCH, 1 CO CONTACT, SMALL



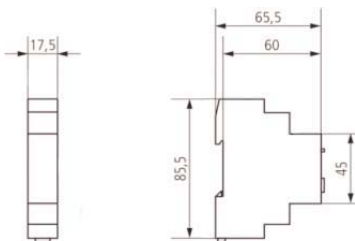
### SCHRACK-INFO

- Digital time switch with weekly program
- Holiday program
- 1 channel
- Display backlight (switchable)
- 56 memory locations
- PIN code
- Duo Fix spring clamp terminals
- Automatic summer time and winter time
- Text-oriented user interface on the display
- Interface for OBELISK top2 memory card (Computer programming)
- 10 year power reserve (lithium battery)
- ON-OFF switching times
- Switching preselection
- Permanent ON / OFF
- Integrated operating hours counter

### TECHNICAL DATA

Operating voltage	230 V AC
Frequency	50 – 60 Hz
Width	1 module
Installation type	DIN-rail
Power reserve	10 years
Switching capacity at 250 V AC, $\cos \varphi = 1$	16 A
Switching capacity at 250 V AC, $\cos \varphi = 0,6$	4 A
Incandescent-/halogen bulb load 230 V	1000 W
Energy-saving lamps 230 V	7 x 7 W, 6 x 11 W, 5 x 15 W, 5 x 20 W, 5 x 23 W
Fluorescent lamp load is not compensated	800 VA
Fluorescent lamp load series compensated	800 VA
Fluorescent lamp load with parallel compensation	200 VA
Shortest switching time	1 s
Time accuracy	$\leq \pm 0,5$ s/day (Quartz)
Stand-by power	0,4 W
Approvals	VDE
Type of protection	IP 20
Protection class	II; EN 60 730-1
Ambient temperature	-25 °C ... +55 °C

### DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Digital weekly time switch, 1 CO contact, small	9004840680904		<b>BZT26440</b>

## ■ DIGITAL DAY/WEEK TIMER 1 CO, 16A



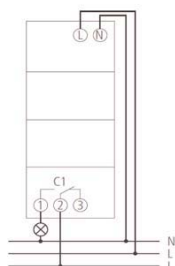
### ■ SCHRACK-INFO

- Digital time switch with daily and weekly program
- 1 Channel
- 28 Memories
- User interface with icons on the display
- Screw terminals
- Automatic summer-/winter time changeover
- Permanent ON/OFF
- ON-OFF switching times

### ■ TECHNICAL DATA

Operating voltage	220 – 230 V AC
Frequency	50 – 60 Hz
Width	2 modules
Installation type	DIN-rail
Power reserve	3 years
Switching capacity at 250 V AC, $\cos \varphi = 1$	16 A
Switching capacity at 250 V AC, $\cos \varphi = 0,6$	6 A
Incandescent-/halogen bulb load 230 V	1400 W
Energy-saving lamps 230 V	13 x 7 W, 13 x 11 W, 10 x 15 W, 8 x 23 W
Fluorescent lamp load is not compensated	1400 VA
Fluorescent lamp load series compensated	1400 VA
Fluorescent lamp load with parallel compensation	220 VA
Shortest switching time	1 s
Time accuracy	$\leq \pm 1$ s/day (Quartz)
Stand-by power	4,5 W
Approvals	VDE
Type of protection	IP 20
Protection class	II; EN 60 730-1
Ambient temperature	-20 °C ... +55 °C

### ■ WIRING EXAMPLE



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Digital day/week timer 1 CO, 16A	9004840681031		<b>BZT28371</b>



## ■ DIGITAL DAY/WEEK TIMER 2 CO, 16A



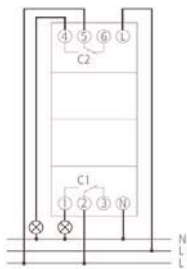
### ■ SCHRACK-INFO

- Digital time switch with daily and weekly program
- 2 Channel
- 56 Memorys
- User interface with icons on the display
- Screw terminals
- Automatic summer-/winter time changeover
- Permanent ON/OFF
- ON-OFF switching times

### ■ TECHNICAL DATA

Operating voltage	220 – 230 V AC
Frequency	50 – 60 Hz
Width	2 modules
Installation type	DIN-rail
Power reserve	3 years
Switching capacity at 250 V AC, $\cos \varphi = 1$	16 A
Switching capacity at 250 V AC, $\cos \varphi = 0,6$	6 A
Incandescent-/halogen bulb load 230 V	1400 W
Energy-saving lamps 230 V	13 x 7 W, 13 x 11 W, 10 x 15 W, 8 x 23 W
Fluorescent lamp load is not compensated	1400 VA
Fluorescent lamp load series compensated	1400 VA
Fluorescent lamp load with parallel compensation	220 VA
Shortest switching time	1 s
Time accuracy	$\leq \pm 1$ s/day (Quartz)
Stand-by power	4,5 W
Approvals	VDE
Type of protection	IP 20
Protection class	II; EN 60 730-1
Ambient temperature	-20 °C ... +55 °C

### ■ WIRING EXAMPLE



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Digital day/week timer 2 CO, 16A	9004840681048		<b>BZT28372</b>

## ■ DIGITAL ASTRO-TIMER 1 CO, 16 A

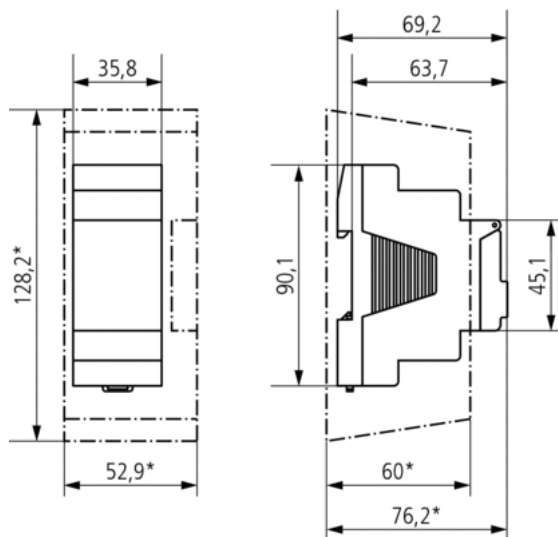


- Position data via coordinates or country/city lists can be programmed
- Fixed ON-OFF switching times can be programmed (e.g. night time interruption)
- Simulation of switching times (calculated astronomical times and programmed ON/OFF switching times)
- Reversible astronomical mode (evenings ON - mornings OFF or evenings OFF - mornings ON) or can be deactivated
- DuoFix spring terminals
  - For 2 conductors each
  - Wire or strand (with or without wire end sleeve)
  - Wire diameter: 0.5 - 2.5 mm<sup>2</sup>
  - Button for releasing plug-in connection
- Text-oriented user guidance in display
  - Preset date and time
  - fully operable without mains connection
- Interface for OBELISK top2 memory card (PC programming)
  - 2. insertable switching program
  - Copying programs
- Storing programs
- 10 year power reserve (lithium battery)
- Zero-cross switching for relay-saving switching and high lamp loads
- Calculated astronomical switching times
- Programmable ON-OFF switching times
- Switching preselection
- Permanent switching ON/OFF
- Integrated operating hour counter
  - Reset option
  - Service function for monitoring maintenance intervals
- Holiday program
- Display back light (can be turned off)
- PIN coding
- Automatic summer/winter time changeover
  - can be deactivated
  - Date rule options are already stored for Europe, the USA and other countries
  - own date rule options or changeover around set dates are available

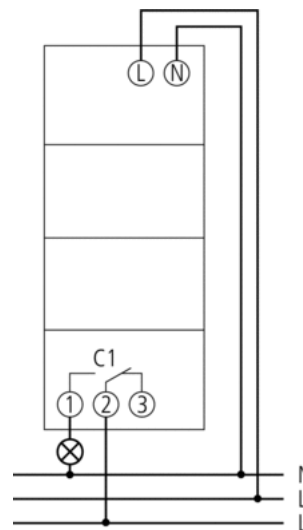
## ■ SCHRACK-INFO

- Astronomical time switch with weekly program
- 1 channel
- 54 memory locations
- Astronomical time switch function (automatic calculation of sunrise and sunset times for the whole year)
  - Offset for adjusting of sunrise and sunset times

## ■ DIMENSIONS



## ■ CONNECTION EXAMPLE



## ■ DIGITAL ASTRO-TIMER 1 CO, 16 A – continued

### ■ TECHNICAL DATA

Operating voltage	230 – 240 V AC
Frequency	50 – 60 Hz
Width	2 modules
Installation type	DIN rail
Type of contact	Changeover contact
Switching output	Potential-free and phase-independent
Opening width	< 3 mm (μ)
Program	Weekly program, Astronomical program
Program functions	ON-OFF
Number of channels	1
Number of memory locations	54
Power reserve	10 years
Switching capacity at 250 V AC, cos φ = 1	16 A
Switching capacity at 250 V AC, cos φ = 0,6	10 A
Incandescent/halogen lamp load 230 V	2600 W
Energy saving lamps 230 V	22 x 7 W, 18 x 11 W, 16 x 15 W, 16 x 20 W, 14 x 23 W
Fluorescent lamp load (conventional) not corrected	2300 VA
Fluorescent lamp load (conventional) series-corrected	2300 VA
Fluorescent lamp load (conventional) parallel-corrected	730 VA
Fluorescent lamp load (electronic ballast)	400 VA
Switching capacity min.	ca. 10 mA
Shortest switching times	1 min
Time accuracy	≤ ± 0.5 s/day (quartz)
Time basis	Quartz
Stand-by consumption	0,8 W
Memory card supplied	–
Test approval	VDE
Type of connection	DuoFix spring terminals
Keyboards	4 touch buttons
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Type of protection	IP 20
Protection class	II as per EN 60 730-1
Ambient temperature	-30 °C ... +55 °C

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Digital Astro-Timer 1 CO, 16 A	9004840681055		<b>BZT28A71</b>

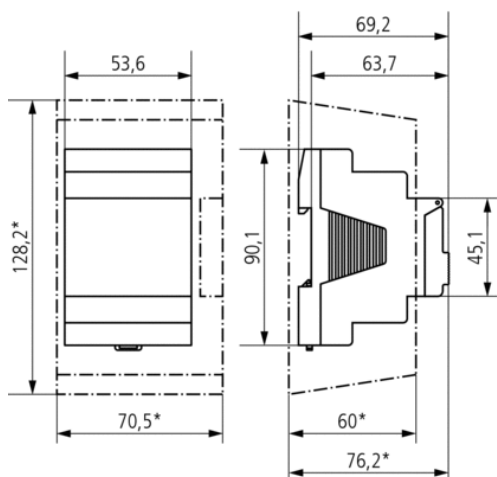
## DIGITAL ASTRO-AND YEAR TIME SWITCH, 2 CO



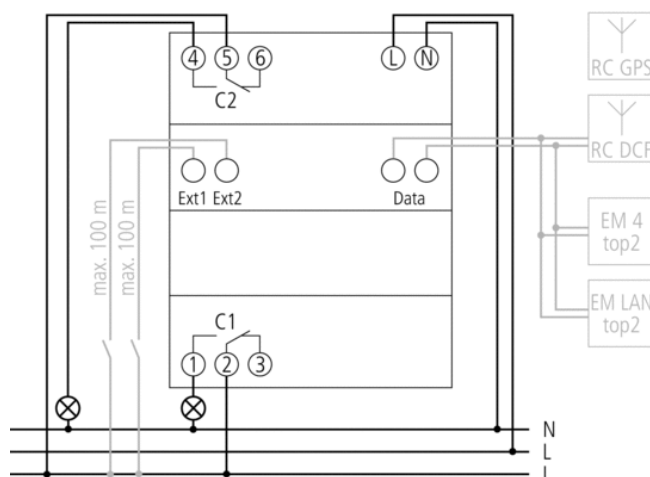
### SCHRACK-INFO

- fully operable without mains connection
- 800 memory locations
- Interface for OBELISK top2 memory card (PC programming)
  - 2. insertable switching program
  - Copying programs
  - Storing programs
- OBELISK memory card included in delivery
- 10 year power reserve (lithium battery)
- Zero-cross switching for leay-saving switching and high lamp loads
- Automatic summer/winter time changeover
  - can be deactivated
  - Date rule options are already stored for Europe, the USA and other countries
  - own date rule options or changeover around set dates are available
- ON-OFF switching times
- Pulse program
- Cycle program
- Extensive yearly clock functions
  - Basic weekly program and 14 different weekly programs with priority levels and date ranges
  - Permanent ON / permanent OFF with highest priority via date range program option
  - fixed and variable public holidays, public holidays dependent on Easter, day and date ranges with serial pattern
  - Public holiday database for Germany including all Federal states, Switzerland, France etc.
- Program simulation on clock display
- Graphic program simulation with 12 month overview for all channels on PC
- Astronomical time switch function (automatic calculation of sunrise and sunset times for the whole year)
  - Offset for adjusting of sunrise and sunset times
  - Position data via coordinates or country/city lists can be programmed
  - Optional production of own city list (favourites) and a table with own astronomical times on PC
  - Fixed ON-OFF switching times can be programmed (e.g. night time interruption)
  - Simulation of astronomical switching times (calculated astronomical times and programmed ON/OFF switching times) for the whole year
  - various astronomical setting options (evening ON - mornings OFF or evenings OFF - mornings ON, astronomical pulse)
- Switching preselection
- Permanent switching ON/OFF
- Count-down timer
- Integrated operating hour counter
  - Reset option
  - Service function for monitoring maintenance intervals
- Holiday program
- 2 random programs
- Display back light (can be turned off)
- PIN coding

### DIMENSIONS




### CONNECTION EXAMPLE



## ■ DIGITAL ASTRO-AND YEAR TIME SWITCH, 2 CO – continued

### ■ TECHNICAL DATA

Operating voltage	110 – 240 V AC
Frequency	50 – 60 Hz
Width	3 modules
Installation type	DIN rail
Type of contact	Changeover contact
Switching output	Phase-independent (Zero-cross switching)
Opening width	< 3 mm
Program	Yearly program, Astronomical program
Program functions	ON-OFF, Pulse, Cycle
Number of channels	2
External inputs	2
Number of memory locations	800
Power reserve	8 years
Switching capacity at 250 V AC, cos φ = 1	16 A
Switching capacity at 250 V AC, cos φ = 0,6	10 A
Incandescent/halogen lamp load 230 V	2600 W
Incandescent/halogen lamp load 120 V	700 W
Energy saving lamps 230 V	37 x 7 W, 30 x 11 W, 26 x 15 W, 26 x 20 W, 11 x 23 W
Energy saving lamps 120 V	18 x 7 W, 15 x 11 W, 13 x 15 W, 13 x 20 W, 11 x 23 W
Switching capacity min.	ca. 10 mA
Shortest switching times	1 s
Time accuracy	≤ ± 0,5 s/day (quartz) or DCF77/GPS
Time basis	Quartz/DCF77/GPS
Stand-by consumption	1,2 W
Memory card supplied	✓
Type of connection	DuoFix spring terminals
Keyboards	4 touch buttons
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Type of protection	IP 20
Protection class	II as per EN 60 730-1
Ambient temperature	-30 °C ... +55 °C

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Digital astro- and year time switch, 2 CO	9004840680959	 AVAILABLE	<b>BZT27662</b>

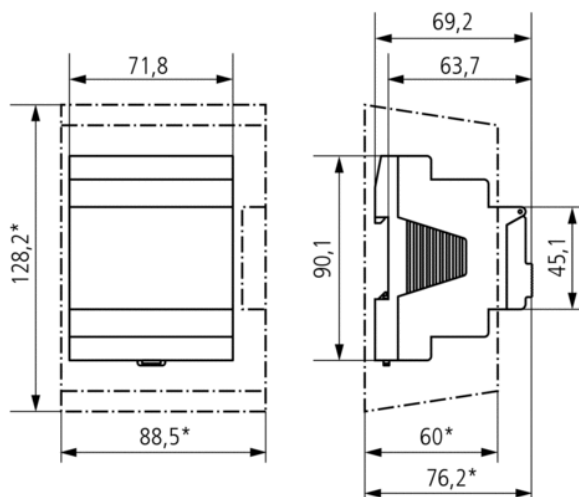
## DIGITAL ASTRO-AND YEAR TIME SWITCH, 4 CO



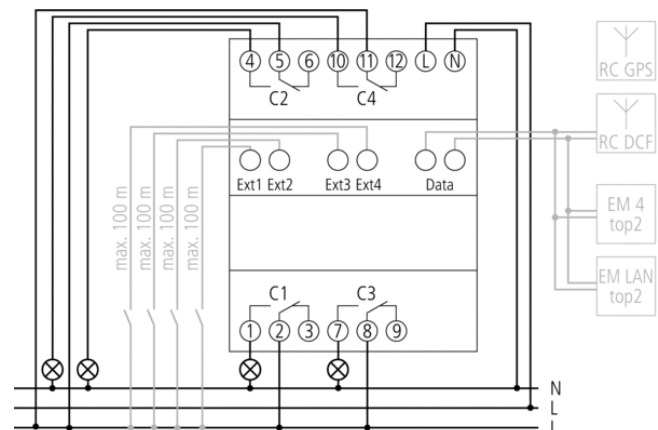
### SCHRACK-INFO

- fully operable without mains connection
- 800 memory locations
- Interface for OBELISK top2 memory card (PC programming)
  - 2. insertable switching program
  - Copying programs
  - Storing programs
- OBELISK memory card included in delivery
- 10 year power reserve (lithium battery)
- Zero-cross switching for leaf-saving switching and high lamp loads
- Automatic summer/winter time changeover
  - can be deactivated
  - Date rule options are already stored for Europe, the USA and other countries
  - own date rule options or changeover around set dates are available
- ON-OFF switching times
- Pulse program
- Cycle program
- Extensive yearly clock functions
  - Basic weekly program and 14 different weekly programs with priority levels and date ranges
  - Permanent ON / permanent OFF with highest priority via date range program option
  - fixed and variable public holidays, public holidays dependent on Easter, day and date ranges with serial pattern
  - Public holiday database for Germany including all Federal states, Switzerland, France etc.
- Program simulation on clock display
- Graphic program simulation with 12 month overview for all channels on PC
- Astronomical time switch function (automatic calculation of sunrise and sunset times for the whole year)
  - Offset for adjusting of sunrise and sunset times
  - Position data via coordinates or country/city lists can be programmed
  - Optional production of own city list (favourites) and a table with own astronomical times on PC
  - Fixed ON-OFF switching times can be programmed (e.g. night time interruption)
  - Simulation of astronomical switching times (calculated astronomical times and programmed ON/OFF switching times) for the whole year
  - various astronomical setting options (evening ON - mornings OFF or evenings OFF - mornings ON, astronomical pulse)
- Switching preselection
- Permanent switching ON/OFF
- Count-down timer
- Integrated operating hour counter
  - Reset option
  - Service function for monitoring maintenance intervals
- Holiday program
- 2 random programs
- Display back light (can be turned off)
- PIN coding

### DIMENSIONS



### CONNECTION EXAMPLE



## DIGITAL ASTRO-AND YEAR TIME SWITCH, 4 CO – continued

### TECHNICAL DATA

Operating voltage	110 – 240 V AC
Frequency	50 – 60 Hz
Width	4 modules
Installation type	DIN rail
Type of contact	Changeover contact
Switching output	Phase-independent (Zero-cross switching)
Opening width	< 3 mm
Program	Yearly program, Astronomical program
Program functions	ON-OFF, Pulse, Cycle
Number of channels	4
External inputs	4
Number of memory locations	800
Power reserve	8 years
Switching capacity at 250 V AC, $\cos \varphi = 1$	16 A
Switching capacity channels 1+3	10 A
Switching capacity at 250 V AC, $\cos \varphi = 0,6$	10 A
Incandescent/halogen lamp load 230 V	2300 W
Incandescent/halogen lamp load 120 V	1150 W
Energy saving lamps 230 V	37 x 7 W, 30 x 11 W, 26 x 15 W, 26 x 20 W, 11 x 23 W
Energy saving lamps 120 V	18 x 7 W, 15 x 11 W, 13 x 15 W, 13 x 20 W, 11 x 23 W
Switching capacity min.	ca. 10 mA
Shortest switching times	1 s
Time accuracy	$\leq \pm 0,5$ s/day (quartz) or DCF77/GPS
Time basis	Quartz/DCF77/GPS
Stand-by consumption	1,3 W
Memory card supplied	✓
Type of connection	DuoFix spring terminals
Keyboards	4 touch buttons
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Type of protection	IP 20
Protection class	II as per EN 60 730-1
Ambient temperature	-30 °C ... +45 °C

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Digital astro- and year time switch, 4 CO	9004840680966		<b>BZT27664</b>

## DIGITAL PHOTOELECTRIC SWITCH, 1 CO



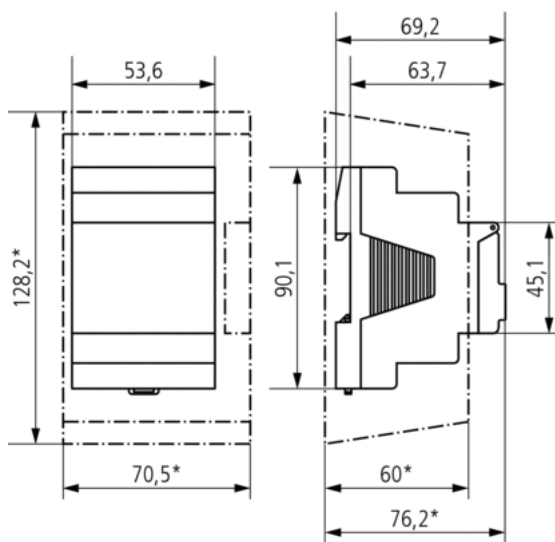
- Analogue adjustable switching brightness
- Adjustable On and Off switching delay
  - to avoid switching errors caused by lightning, car headlights etc. Preset 1 minute
- Switching brightness and switching delay can be set separately for switching On and Off
- Fixed ON and OFF times (e.g. nighttime interruption)
  - can be programmed independent of brightness
- Onscreen display of channel and switching status
- DuoFix spring terminals
  - for 2 conductors per connection terminal
- Zero-cross switching for relay-saving switching and high lamp loads
- Interface for OBELISK top2 memory card (PC programming)
  - 2. insertable switching program
  - Copying programs
  - Storing programs
- Holiday program with yearly function
- Different summer/winter time rules can be selected or freely defined
- Permanent switching ON/OFF
- Test function
  - (Permanent ON) to check the installation independently of set brightness value
- Switching preselection
- Display back light (can be turned off)
- PIN coding
- Operating hours counter (with reminder function)

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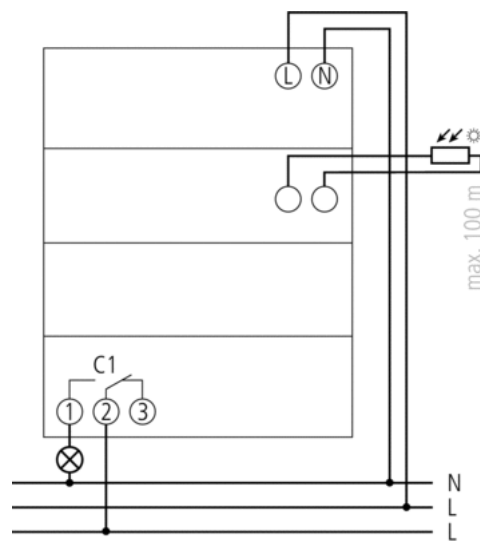
## SCHRACK-INFO

- Twilight switch with integrated weekly timer
- External light sensor included in delivery

## DIMENSIONS



## CONNECTION EXAMPLE






## ■ DIGITAL PHOTOELECTRIC SWITCH, 1 CO – continued

### ■ TECHNICAL DATA

Operating voltage	220 – 240 V AC
Frequency	50 – 60 Hz
Number of channels	1
Number of memory locations	56
Stand-by consumption	1,3 W
Program	Weekly program
Additional program	Holiday program
Time basis	Quartz
Setting range brightness	2 – 2000 lx
Switch-on delay	0 – 59 min
Switch-off delay	0 – 59 min
Type of contact	Changeover contact
Switching output	Potential-free, not for SELV
Width	3 modules
Installation type	DIN rail
Type of connection	DuoFix spring terminals
Keyboards	4 touch buttons, 1 potentiometer
Shortest switching times	1 min
Power reserve	10 years, at 20 °C
Switching capacity	16 A (at 250 V AC, $\cos \varphi = 1$ ), 10 A (at 250 V AC, $\cos \varphi = 0.6$ ), 10 AX (Fluorescent lamp load)
Switching capacity min.	<10 mA
Incandescent lamp load	2600 W
Halogen lamp load	2600 W
Fluorescent lamp load (conventional) not corrected	2300 VA
Fluorescent lamp load (conventional) series-corrected	2300 VA
Fluorescent lamp load (conventional) lead-lag circuit	2300 VA
Fluorescent lamp load (conventional) parallel-corrected	800 VA, 80 $\mu$ F
Energy saving lamps	22 x 7 W, 18 x 11 W, 16 x 15 W, 16 x 20 W, 14 x 23 W
Fluorescent lamp load (electronic ballast)	650 VA
Test approval	VDE
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Ambient temperature	-30 °C ... +55 °C
Type of protection	IP 20, sensor IP 55
Protection class	II, Sensor III
Max. cable length to sensor	100 m

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Digital photoelectric switch, 1 CO	9004840680980		<b>BZT27731</b>

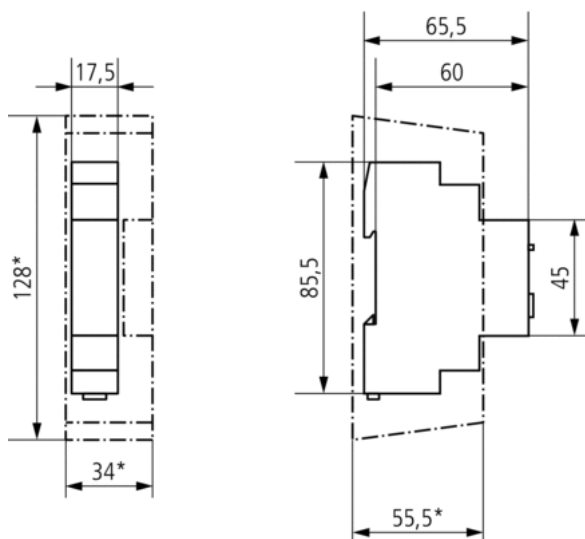
## ANALOGUE PHOTOELECTRIC SWITCH, 1 CO, 1 ME



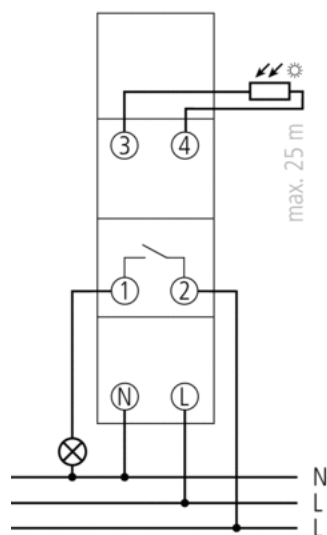
### SCHRACK-INFO

- Analogue twilight switch
- External light sensor included in delivery
- Fixed On and Off switching delay
  - to avoid faulty operation caused by lightning, car headlights etc.
- Display of channel and switching status
- Infinitely adjustable switching brightness

### DIMENSIONS



### CONNECTION EXAMPLE



## ANALOGUE PHOTOELECTRIC SWITCH, 1 CO, 1 ME – continued

### TECHNICAL DATA

Operating voltage	220 – 240 V AC
Frequency	50 – 60 Hz
Number of channels	1
Stand-by consumption	0,8 W
Setting range brightness	2 – 100 lx
Switch-on delay	20 s
Switch-off delay	80 s
Type of contact	NO contact
Switching output	Potential-free
Width	1 modules
Installation type	DIN rail
Type of connection	Screw terminals
Switching capacity	16 A (at 250 V AC, $\cos \varphi = 1$ ), 10 AX (Fluorescent lamp load)
Incandescent lamp load	2300 W
Halogen lamp load	2300 W
Fluorescent lamp load (conventional) not corrected	2300 VA
Fluorescent lamp load (conventional) series-corrected	2300 VA
Fluorescent lamp load (conventional) lead-lag circuit	2300 VA
Fluorescent lamp load (conventional) parallel-corrected	400 VA, 42 $\mu$ F
Energy saving lamps	9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W
Fluorescent lamp load (electronic ballast)	300 VA
Test approval	VDE
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Ambient temperature	-25 °C ... +50 °C
Type of protection	IP 20, sensor IP 54
Protection class	II
Max. cable length to sensor	25 m

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Analogue photoelectric switch, 1 CO, 1 ME	9004840680973		BZT27711



## I KNOW WHERE TO FIND IT!

### WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

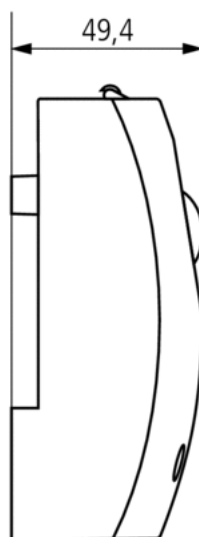
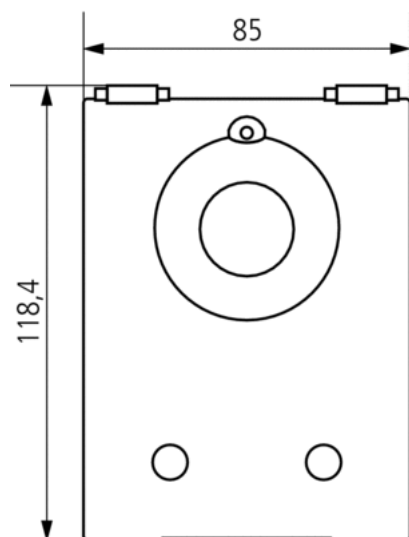
## WALL PHOTOELECTRIC SWITCH WITH INTEGRATED LIGHT SENSOR



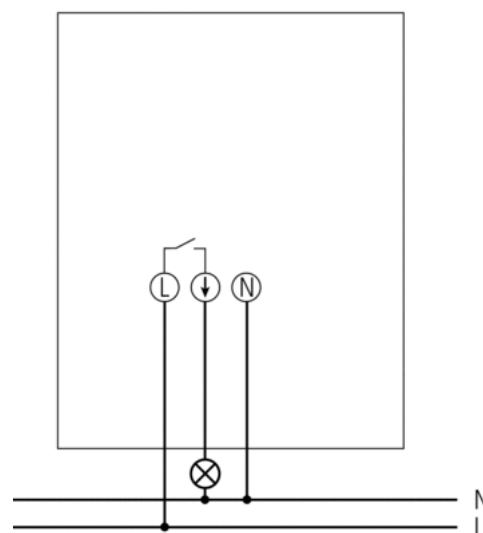
### SCHRACK-INFO

- Twilight switch with integrated light sensor
  - Fixed On and Off switching delay
    - to avoid faulty operation caused by lightning, car headlights etc.
  - Cable feed from the back and from below
    - Cover with snap-on function when opening for the straightforward installation of the device
  - Captive screws
- Large terminal area
  - Brightness value can be set without opening the device
  - Large light exposure angle (approx. 180 degrees)
  - Infinitely adjustable switching brightness
  - Test button
    - for monitoring installation independent of set brightness value. The button can be accessed without opening the device

### DIMENSIONS




### CONNECTION EXAMPLE



## WALL PHOTOELECTRIC SWITCH WITH INTEGRATED LIGHT SENSOR – continued

### TECHNICAL DATA

Operating voltage	220 – 230 V AC
Frequency	50 – 60 Hz
Number of channels	1
Stand-by consumption	0,6 W
Setting range brightness	5 – 200 lx
Preset brightness value	15 lx
Switch-on delay	40 s
Switch-off delay	40 s
Type of contact	NO contact
Switching output	Not potential-free (230 V)
Installation type	Wall installation or mast bracket
Type of connection	Screw terminals
Switching capacity	16 A (at 230 V AC, $\cos \varphi = 1$ ), 10 AX (at 230 V AC, $\cos \varphi = 0.3$ )
Incandescent lamp load	2300 W
Halogen lamp load	2300 W
Fluorescent lamp load (conventional) not corrected	2300 VA
Fluorescent lamp load (conventional) series-corrected	2300 VA
Fluorescent lamp load (conventional) lead-lag circuit	2300 VA
Fluorescent lamp load (conventional) parallel-corrected	400 VA, 42 $\mu$ F
Energy saving lamps	9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W
Test approval	VDE
Housing and insulation material	High-temperature resistant, self-extinguishing thermoplastic
Ambient temperature	-35 °C ... +55 °C
Type of protection	IP 55
Protection class	II

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Wall photoelectric switch with integrated light sensor	9004840680997		<b>BZT27800</b>



### I KNOW WHERE TO FIND IT!

THE SCHRACK TECHNIK WEB SHOP WITH NAVIGATOR  
[WWW.SCHRACK.COM](http://WWW.SCHRACK.COM)

- Finding product information made easy
- Buying products around the clock
- Quick access customer service

## TOP-TECHNIC



PROTEC LIGHTNING & SURGE ARRESTERS ÜBERSpannungsABLEITER



COMBTEC LIGHTNING & SURGE ARRESTERS



VARTEC SURGE ARRESTERS



FINE PROTECTION ELEMENTS



FINE PROTECTION ELEMENTS – FLUSH-MOUNTED SOCKET AND ADAPTER PLUG



DATA LINE PROTECTOR DATEC



DATA LINE PROTECTOR DATEC – F-PORT, TV-PORT



SURGE ARRESTERS FOR PHOTOVOLTAIC SYSTEMS

*“It is energy – the central element of which is will – that produces the miracle that is enthusiasm in all ages.”*

Samuel Smiles, English physician, biographer and social reformer

# SURGE, LIGHTNING ARRESTERS

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## ■ LIGHTNING & SURGE ARRESTERS – GENERAL INFORMATION

### ■ REGULATIONS:



Prerequisite for safe use of lightning and surge arresters is testing of the SPDs according to the current device standard: IEC61643-1, EN 61643-11

The Schrack family of surge protection devices (SPDs) is certified to these standards by an independent testing laboratory and thus legitimate bearer of the ÖVE mark.

### ■ SPDS ARE DIVIDED INTO 3 CLASSES

General designation	Designation according to EN 61643-11	“Old” designation
Lightning arrester	Type 1 (abbreviation: T1)	SPD class “B”
Surge arrester	Type 2 (abbreviation: T2)	SPD class “C”
Fine protection element	Type 3 (abbreviation: T3)	SPD class “D”

### ■ ÖVE/ÖNORM

The use of lightning and surge arresters is usually governed by national regulations for installation, including Austria with the ÖVE/ÖNORM E 8001-1, erection of electrical installations with nominal voltages up to 1000 V<sub>AC</sub> and 1500 V<sub>DC</sub> (specifically for surge arresters ÖVE/ÖNORM 8001-1/A2).

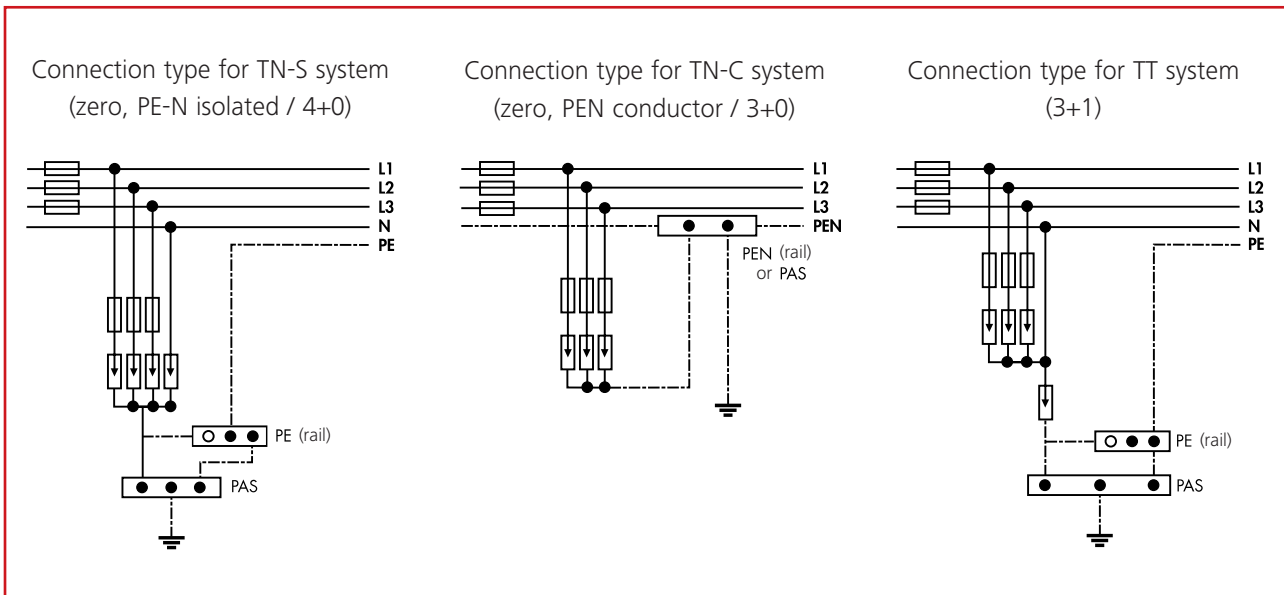
The most important element of the protection philosophy of the ÖVE/ÖNORM E 8001-1/A2 is the main potential equalisation and any additional potential equalisation rails to the extent necessary. The connecting line to the potential equalisation or protective earth conductor rail should be kept as short as possible and without any loops.

According to ÖVE/ÖNORM E 8001-1/A2, the maximum continuous voltage ( $U_c$ ) of SPDs must not exceed  $1.45 \times U_0$  ( $U_0$  = voltage between phase and neutral conductor); it allows a maximum continuous voltage of  $1.1 \times U_0$ , for example:  $230 \text{ V} \times 1.1 = 253 \text{ V}$  → all SPDs having a continuous voltage  $U_c$  of 253 V or more may be used (assuming SPD testing according to IEC61643).

For insulation measurements, the SPDs must be disconnected from mains. To simplify disconnecting the SPDs, the test class 2 SPDs feature a plug-in design which allows them to be disconnected from mains by a simple manual operation.

The proper circuit type per mains system is also defined in the installation regulation. For example, circuit type “4+0” is common for the use of SPDs in TN-S systems, the so-called “3+0” type in TN-C systems with PEN conductors, and “3+1” in TT systems:





Extract from EN 8001-1/A2

## ONE OF THE MAJOR POINTS OF EN 8001-1/A2

“Surge protection devices against indirect lightning strikes must be installed in every consumer system. If central surge protection devices are already installed in the consumer system, an installation of surge protection devices in each individual consumer system is not required, but recommended in areas with elevated and high lightning density.”

“The protection against direct lightning strikes, if required, must be implemented with type 1 surge protection devices and, if necessary, additionally with type 2 and/or type 3 surge protection devices.”

This stipulation requires at least the deployment of type 2 (class C) SPDs in every newly erected or modified electrical installation.

## RELATIONSHIP OF THUNDERSTORM DAYS AND LIGHTNING STRIKE (SOURCE: ALDIS)

Number of thunderstorm days per year	$T_d$	$T_d < 20$	$20 \leq T_d < 25$	$25 \leq T_d < 30$	$30 \leq T_d < 35$	$T_d \geq 35$
Lightning strikes per km <sup>2</sup> and year	$N_g$	$N_g < 1.7$	$1.7 \leq N_g < 2.2$	$2.2 \leq N_g < 2.8$	$2.8 \leq N_g < 3.4$	$N_g \geq 3.4$
Lightning hazard category		Low	Moderate	Elevated	High	Very high

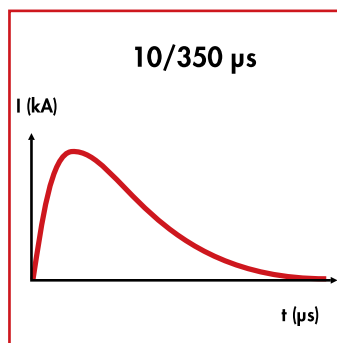
The lightning protection class (risk level) is determined, when at risk of direct lightning strikes, taking account the number of thunderstorm days and recorded lightning strikes. The calculation of the lightning protection class can be found by visiting [www.schrack.com](http://www.schrack.com).

## CLASSIFICATION OF SPDS

### LIGHTNING ARRESTERS **T1 I B**



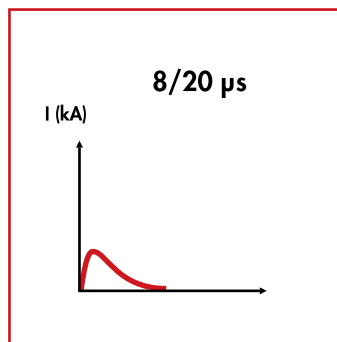
So-called lightning arresters are used against direct lightning strikes. The special feature of these SPDs is their lightning current capacity, which has been tested in accordance with the international standard SPD Class I (IEC61643-1). Unlike other SPD types, these SPDs are tested with the curve form 10/350  $\mu$ s (this curve form meets the requirements for energy and charge). Critical parameters: peak current ( $I_{imp}$ ), specific power, and charge. The comparison shows later that these SPDs can lead many times more energy as opposed to the surge arresters. The Schrack lightning arrester series is tested not only for direct, but also for indirect lightning strikes!

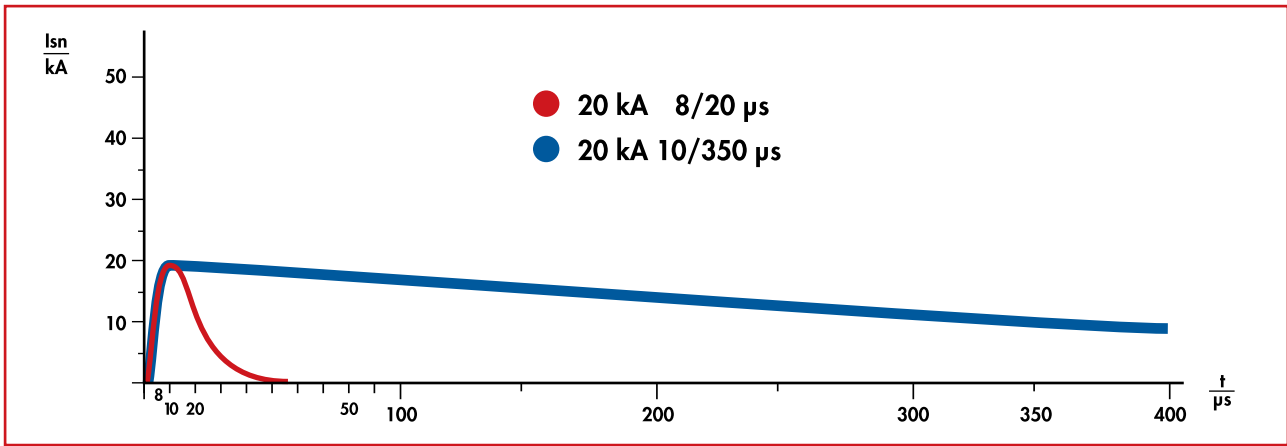


### SURGE ARRESTERS **T2 II C**



SPDs certified for class II (former classification "C") have no lightning current carrying capacity and therefore may not be used against direct lightning strikes. These SPDs are designed to protect consumer systems against remote strikes (indirect lightning strikes) and voltage surges that are caused by switching operations or other events in the electrical system. The test surge wave for class II SPDs is standardised with the time parameter 8/20  $\mu$ s and defined by the peak value. The energy carrying capacity of a surge arrester is many times lower than that of a lightning arrester. The chart (comparison of test class I (10/350) and test class II (8/20) curve forms) shows a comparison, where the areas under the curves represent a measure of the energy content at the same current peak value.





Comparison of test class I (10/350) and test class II (8/20) curve forms

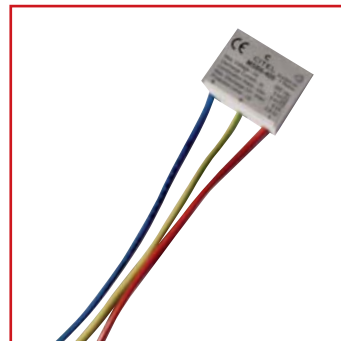
## ■ FINE PROTECTION ELEMENT (EQUIPMENT FINE PROTECTION)



For sensitive end devices, it is necessary to use a coordinated equipment fine protection in addition.

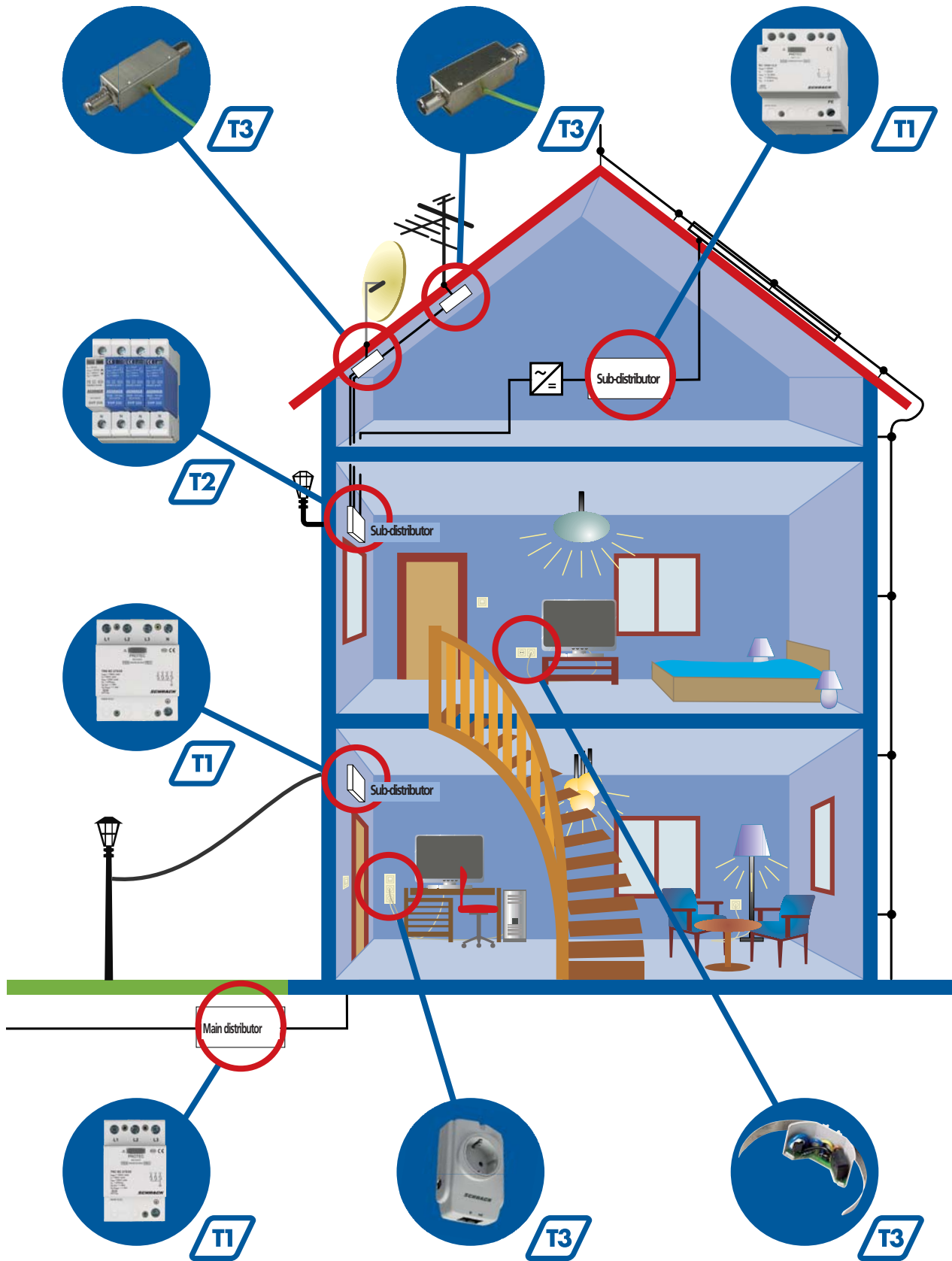
This SPD, marked as T3 or III (former classification "D") is validated by means of a hybrid generator and defined by open-circuit voltage  $V_{oc}$  and short-circuit current  $I_{sc}$ . The very low protection level protects sensitive equipment from damage. It is important when using these devices that the line length to the end equipment to be protected may not to exceed 10 m so that the fine protection element can exert its full protective function.

A combination with test class I or test class II SPDs allows the greatest possible protection against voltage surges at the end device.



# SURGE, LIGHTNING ARRESTERS

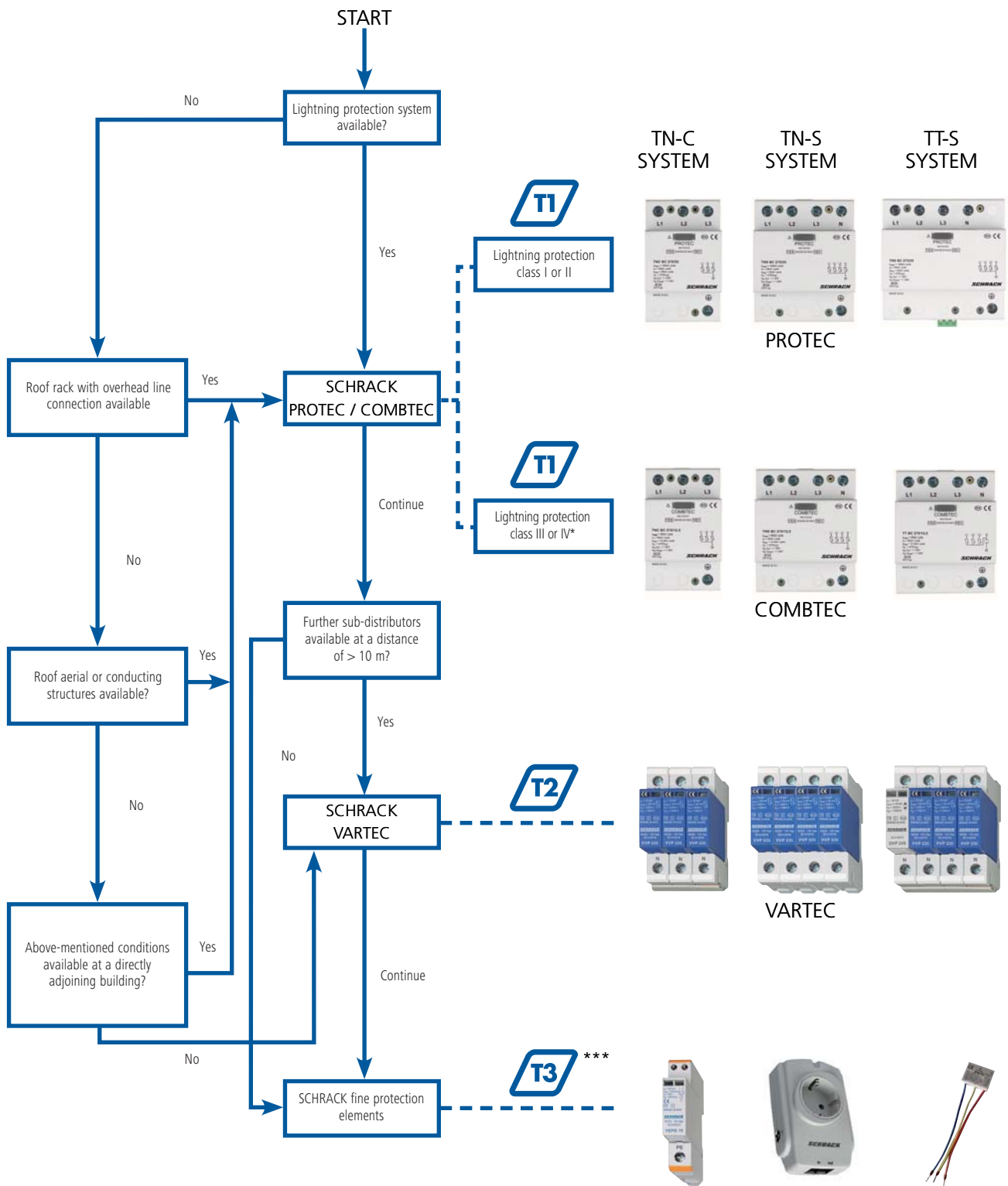
## SELECTION OF POSSIBLE/NECESSARY SPD POSITIONS IN BUILDINGS



# SURGE, LIGHTNING ARRESTERS

## SCHRACK SELECTION MATRIX FOR SURGE ARRESTERS

Choosing the right SPD is one of the most important topics when it comes to protect your consumer system. With the Schrack surge protection device selection matrix it is possible to find the right SPD quickly and easily.



\* not applicable in Austria (ETV), \*\* not applicable in Austria since 31/12/2008, \*\*\* Independent from power system

## PROTEC LIGHTNING & SURGE ARRESTERS



PROTEC

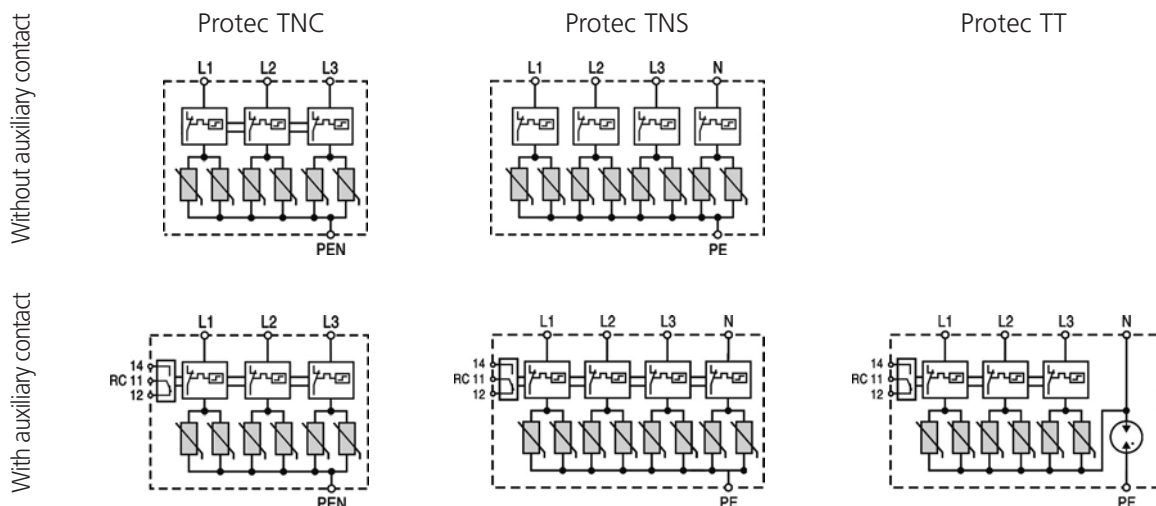
### SCHRACK INFO

The Schrack Protec series is a combination of lightning and surge arresters (TI + TII). This series was tested and certified in accordance with IEC/EN 61643. The use of SCHRACK Protec SPDs is necessary in consumer systems that are classified in lightning protection class (hazard level) I or II (25 kA / 19 kA (10/350) per pole). In indoor mounting not dependent on position the national installation regulations must be followed (Austria: ÖVE/ÖNORM E 8001, ÖVE/ÖNORM 8049, ÖVE/ÖNORM EN 62305). The Protec series has been designed such that there is a complete unit for each network system – interconnecting different devices is not necessary. Special rail mounting systems are available for easy rail connection of the SPDs with the residual current circuit breaker.

### TECHNICAL DATA

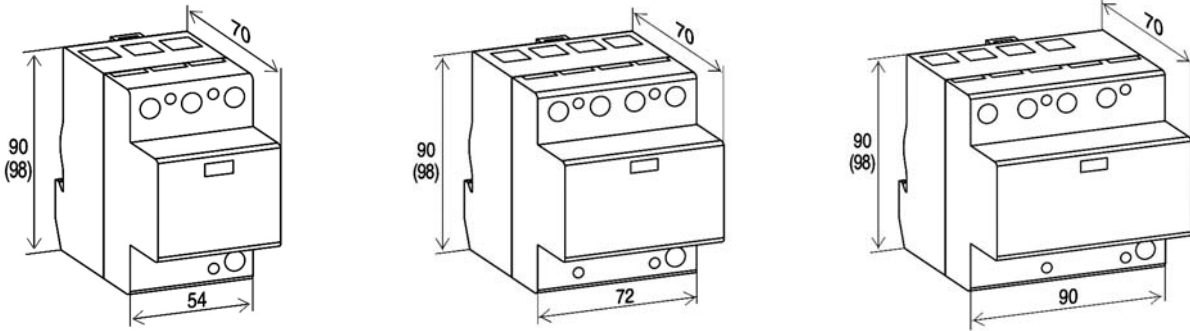
	Protec TNC	Protec TNS	Protec TT
Validated according to	Test class I + II (B + C) IEC61643-1/EN 61643-11		
Max. continuous voltage $U_c$	275 V <sub>AC</sub> (350 V <sub>DC</sub> )	275 V <sub>AC</sub> (350 V <sub>DC</sub> )	275 V <sub>AC</sub> (350 V <sub>DC</sub> )
Impulse current $I_{imp}$	25 kA/Pole	25 kA/Pole	25 kA/Pole - 100 kA(GDT)
Specific power (W/R)	156 kJ/Ω/Pole	156 kJ/Ω/Pole	156 kJ/Ω/Pole - 2.5 MJ/Ω(GDT)
Charge Q	12.5 As/Pole	12.5 As/Pole	12.5 As/Pole - 50 As (GDT)
Max. discharge current $I_{max}$ (8/20)	100 kA/Pole	100 kA/Pole	100 kA/Pole - 100 kA (GDT)
Nominal discharge current $I_n$ (8/20)	25 kA/Pole	25 kA/Pole	25 kA/Pole - 100 kA (GDT)
Protection level $U_p$ (at $I_n$ )	≤1.4 kV	≤1.4 kV	≤1.5 kV
Max. tightening torque	4.5 Nm	4.5 Nm	4.5 Nm
Max. back-up fuse	250 AgL		
Temperature range	-40°C - +80°C		
Terminal cross-section:	35 mm <sup>2</sup> (solid) / 25 mm <sup>2</sup> (finely stranded)		
Mounting	35 mm DIN rail		
Degree of protection	IP20		
Dimensions	54 x 90 x 70	72 x 90 x 70	---
Dimensions with auxiliary contact	54 x 98 x 70	72 x 98 x 70	90 x 98 x 70

### SCHEMATIC DIAGRAM

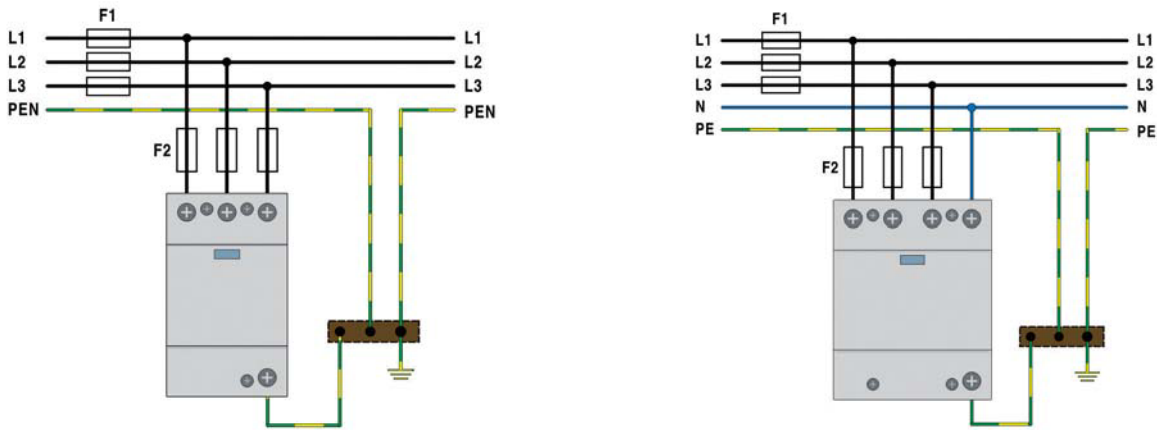


# SURGE, LIGHTNING ARRESTERS

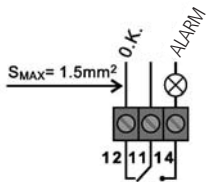
## DIMENSIONS



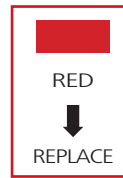
## CONNECTION DIAGRAM



## OTHER



A.C.	250 V / 0.5 A
D.C.	250 V / 0.1 A
	125 V / 0.2 A
	75 V / 0.5 A



For SPDs with auxiliary contact, the product number ends with "1".

If the colour of the viewing window changes to red, the SPD was overloaded and must be replaced.

DESCRIPTION	MW	LIGHTNING PROT.	ARRESTER CLASS	U <sub>c</sub>	EAN CODE	AVAILABLE	ORDER NO.
PROTEC BC TNC 275/25	3	I + II	TI + TI (B + C)	275 V AC	9004840553963		<a href="#">IS211330</a>
PROTEC BC TNC 275/25 + aux. contact	3	I + II	TI + TI (B + C)	275 V AC	9004840553987		<a href="#">IS211331</a>
PROTEC BC TNS 275/25	4	I + II	TI + TI (B + C)	275 V AC	9004840553970		<a href="#">IS211340</a>
PROTEC BC TNS 275/25 + aux. contact	4	I + II	TI + TI (B + C)	275 V AC	9004840553994		<a href="#">IS211341</a>
PROTEC BC TT 275/25 + aux. contact	5	I + II	TI + TI (B + C)	275 V AC	9004840554007		<a href="#">IS211311</a>
Busbar UEA (BC) between RCCB 3-pole	6				9004840557091		<a href="#">IS050019</a>
Busbar UEA (BC) between RCCB 4-pole	8				9004840557084		<a href="#">IS050020</a>



**Order no. blue:** on stock, usually ready for delivery on the day of order!

## COMBTEC LIGHTNING & SURGE ARRESTERS



COMBTEC

### SCHRACK INFO

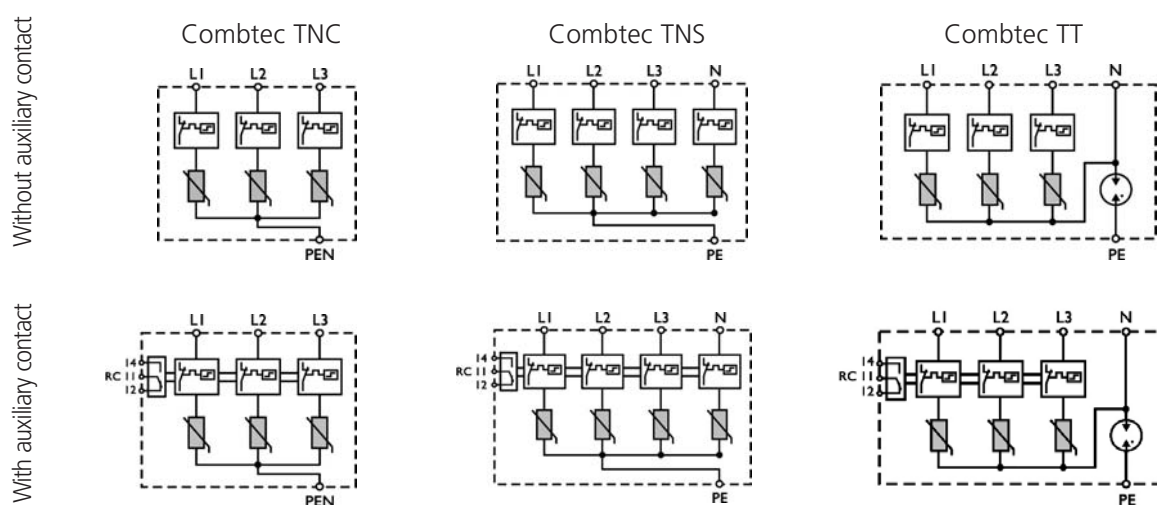
The Schrack Combtec series is a combination of lightning and surge arresters (TI + TII). This series was tested and certified in accordance with IEC/EN 61643. The use of SCHRACK Combtec arresters is necessary in consumer systems that are classified in lightning protection class (hazard level) III or IV (12.5 kA (10/350) per pole). In indoor mounting not dependent on position the national installation regulations must be followed (Austria: ÖVE/ÖNORM E 8001, ÖVE/ÖNORM 8049, ÖVE/ÖNORM EN 62305). The Combtec series has been designed such that there is a complete unit for each network system – interconnecting different devices is not necessary. Special rail mounting systems are available for easy rail connection of the SPDs with the residual current circuit breaker.

### TECHNICAL DATA

	Combtec TNC*	Combtec TNS*	Combtec TT*
Validated according to	Test class I + II + [III] (B + C + [D]) IEC61643-1/EN 61643-11		
Max. continuous voltage	275 V <sub>AC</sub> (350 V <sub>DC</sub> )	275 V <sub>AC</sub> (350 V <sub>DC</sub> )	275 V <sub>AC</sub> (350 V <sub>DC</sub> )
Impulse current I <sub>imp</sub> (10/350)	12,5 kA/Pole	12,5 kA/Pole	12,5 kA/Pole
Specific power (W/R)	39 kJ/Ω/Pole	39 kJ/Ω/Pole	39 kJ/Ω/Pole
Charge Q	6,25 As/Pole	6,25 As/Pole	6,25 As/Pole
Max. discharge current I <sub>max</sub> (8/20)	50 kA/Pole	50 kA/Pole	50 kA/Pole
Nominal discharge current I <sub>n</sub> (8/20)	20 kA/Pole	20 kA/Pole	20 kA/Pole
[Combined surge U <sub>oc</sub> /I <sub>sc</sub> ]	[10 kV/5 kA]	[10 kV/5 kA]	[10 kV/5 kA]
Protection level U <sub>p</sub> (at I <sub>n</sub> )	≤1.5kV	≤1.5kV	≤1.5kV
Max. tightening torque	4,5 Nm	4,5 Nm	4,5 Nm
Max. back-up fuse	250 AgL		
Temperature range	-40 °C -+ 80 °C		
Terminal cross-section	35 mm <sup>2</sup> (solid), 25 mm <sup>2</sup> (finely stranded)		
Mounting	35 mm DIN rail		
Degree of protection	IP20		
Dimensions	54 x 90 x 70	72 x 90 x 70	72 x 90 x 70
Dimensions with auxiliary contact	54 x 98 x 70	72 x 98 x 70	72 x 98 x 70

\* for max. continuous voltage U<sub>c</sub> = 335 V AC versions, charge article code to IS210\*, all other technical data are identical

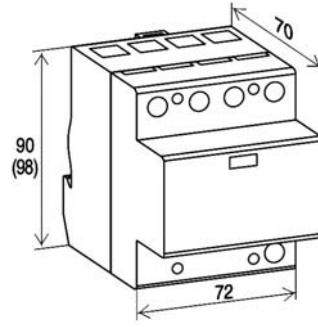
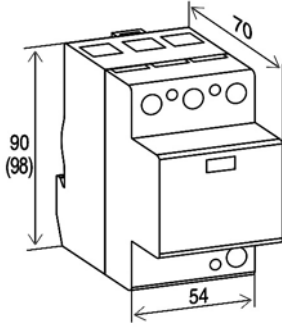
### SCHEMATIC DIAGRAM



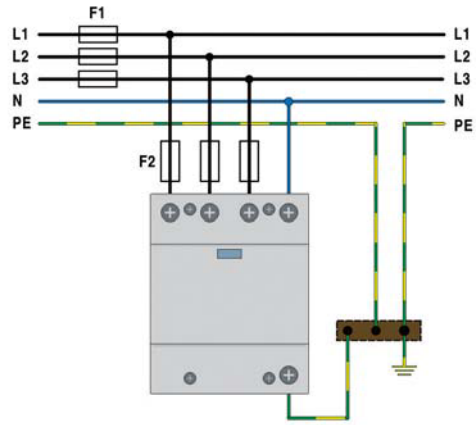
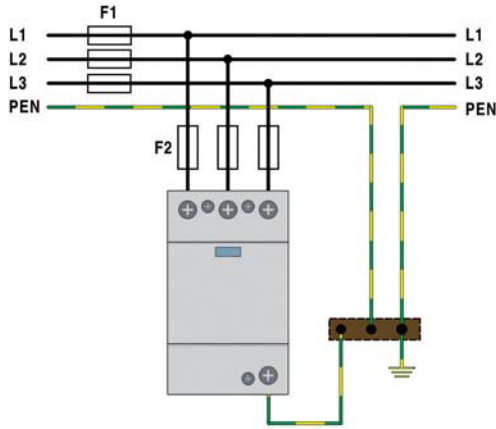


# SURGE, LIGHTNING ARRESTERS

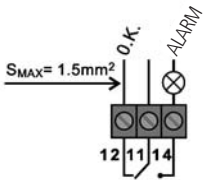
## DIMENSIONS



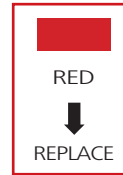
## CONNECTION DIAGRAM



## OTHER



A.C.	250 V / 0.5 A
D.C.	250 V / 0.1 A
	125 V / 0.2 A
	75 V / 0.5 A



For SPDs with auxiliary contact, the product number ends with "1".

If the colour of the viewing window changes to red, the SPD was overloaded and must be replaced.

DESCRIPTION	MV	LIGHTNING PROT.	ARRESTER CLASS	U <sub>c</sub>	EANCODE	AVAILABLE	ORDERNO.
COMBTEC BC TNC 275/12.5	3	III + (IV)	T1 + TII (B+C)	275 V AC	9004840554014		<a href="#">IS211230</a>
COMBTEC BC TNC 275/12.5 + aux. contact	3	III + (IV)	T1 + TII (B+C)	275 V AC	9004840554045		<a href="#">IS211231</a>
COMBTEC BC TNS 275/12.5	4	III + (IV)	T1 + TII (B+C)	275 V AC	9004840554021		<a href="#">IS211240</a>
COMBTEC BC TNS 275/12.5 + aux. contact	4	III + (IV)	T1 + TII (B+C)	275 V AC	9004840554052		<a href="#">IS211241</a>
COMBTEC BC TT 275/12.5	4	III + (IV)	T1 + TII (B+C)	275 V AC	9004840554038		<a href="#">IS211210</a>
COMBTEC BC TT 275/25 + aux. contact	4	III + (IV)	T1 + TII (B+C)	275 V AC	9004840554069		<a href="#">IS211211</a>
COMBTEC BCD TNC 275/12.5 + aux. contact	3	III + (IV)	T1 + TII + TIII (B+C+D)	275 V AC	9004840554076		IS211431
COMBTEC BCD TNS 275/12.5 + aux. contact	4	III + (IV)	T1 + TII + TIII (B+C+D)	275 V AC	9004840554083		<a href="#">IS211441</a>
COMBTEC BCD TT 275/12.5 + aux. contact	4	III + (IV)	T1 + TII + TIII (B+C+D)	275 V AC	9004840554090		IS211411
Busbar UEA (BC) between RCCB 3-pole	6				9004840557091		<a href="#">IS050019</a>
Busbar UEA (BC) between RCCB 4-pole	8				9004840557084		<a href="#">IS050020</a>

## POWERTEC – DRAINS WITH SEPARATION SPARK GAP (B+C)



POWERTEC

### SCHRACK INFO

POWERTEC arrester with a low level of protection is a selective, two-stage constructed T1 + T2 (B + C) arrester, which realizes the protection classes I + II in one device. This eliminates the need for cable lengths under 10m, the decoupling elements required by the use of inert gas-filled, hermetically sealed spark gap, the requirement for a high arresting capacity is achieved at high functional stability. No exhaust port, so no safety distances required.

### TIPS & TRICKS

The first stage (valve-type) leads impulse currents (up to 4kA), without causing line follow currents. When exceeding a surge current to (4kA) takes over the second stage (hermetically sealed, inert gas-filled spark gap), the rare dissipation of energy transient up to 25kA / 60kA (10/350µs) that can occur with near and direct strikes. To signal is optional in case a potential-free alarm contact (R) with plug connector. The V-wiring can be on the unmarked clamp (the device is not connected to the clamp L / N) by means of the optional two-pole comb type busbar is easy.

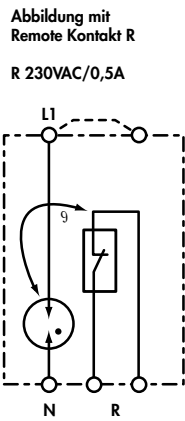
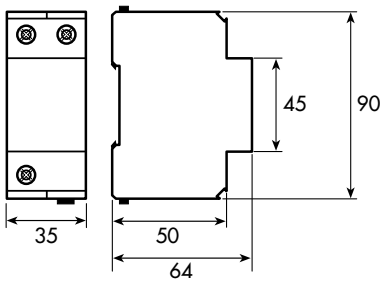
### CERTIFICATIONS

Tested according to E DIN VDE EN61643-11 and after 0675-6-11/98-A1 or IEC61643-1 and OVE ÖNORM E8001-1 classification to Class B / C, I + II, T1, T2.

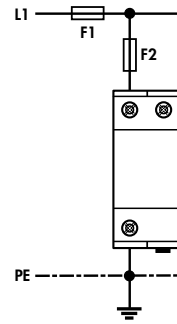
### TECHNICAL DATA

- Protection level: < 2.5 kV
- Output (R): optional
- Lightning current: 25 kA, 60 kA (20/350 µs)
- High insulation resistance of an insulation resistance of > 1010 Ω
- Maximum continuous operating voltage UC: 335 V ~
- Nominal voltage Un: 230V/400V AC 50/60Hz
- Response time: < 50 ns
- Maximum permissible line or fuse F2 on stub wiring: 160A gL
- Maximum permissible line or fuse F3 at V-wiring: 100A gL
- Operating temperature range: -40° C ... +85° C
- Wire strip length: 50 mm<sup>2</sup> stranded / flexible 35 mm<sup>2</sup>
- Material / color: polycarbonate (halogen free) / gray RAL 7035
- Protection: IP20
- Mounting on 35 mm DIN rail: according to EN 50 022

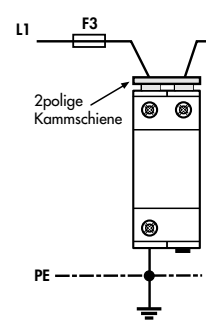
## DIMENSIONS AND CIRCUIT DIAGRAMS



Stichleitungs - Verdrahtung



V - Verdrahtung



Wenn Leitungssicherung (F1)  $\leq$  160 A eingesetzt ist, ist die Vorsicherung (F2) nicht zwingend

DESCRIPTION	MW	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
POWERTEC 25kA Class/II B/C	2	0,19	9004840268058		<b>ISO10111</b>
POWERTEC 25kA+H Class/II B/C	2	0,19	9004840268041		<b>ISO10112</b>
POWERTEC 60kA Class/II B/C	2	0,19	9004840256000		<b>ISO10113</b>
POWERTEC 60kA+H Class/II B/C	2	0,19	9004840268065		ISO10114
Busbar 3-fold, for TN-C system	-	-	9004840277944		<b>ISO10173</b>
Busbar 4-fold, for TN-S, TT system	-	-	9004840277951		<b>ISO10174</b>

## VARTEC SURGE ARRESTERS



VARTEC

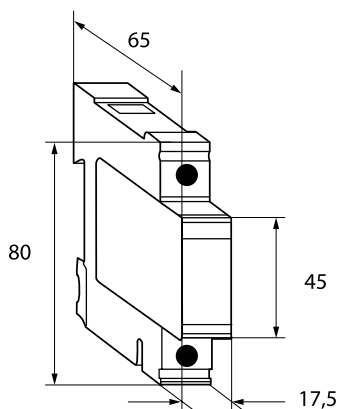
### SCHRACK INFO

The Schrack Vartec series is a pure surge arrester series (TII). This series was tested and certified in accordance with IEC/EN 61643. The use of SCHRACK Vartec arresters is necessary in every consumer installation, which is newly built or significantly altered. In indoor mounting not dependent on position the national installation regulations must be followed (Austria: ÖVE/ÖNORM E 8001). Through their plug-in design, these arresters are very easy to replace in the case of an overload to an arrester.

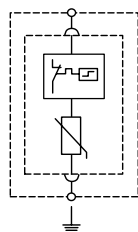
### TECHNICAL DATA

	VVP 255	VVP 335	DVP 255
SPD continuous voltage	255 V <sub>AC</sub>	335 V <sub>AC</sub>	255 V <sub>AC</sub>
Nominal discharge current I <sub>n</sub> (8/20)	15 kA/20 kA	15 kA/20 kA	20 kA
Max. discharge current I <sub>max</sub> (8/20)	30 kA/40 kA	30 kA/40 kA	40 kA
Protection level U <sub>p</sub> (I <sub>a</sub> I <sub>n</sub> )	≤1,3 kV/1,4 kV	≤1,4 kV/1,65 kV	≤1,2 kV
Response time t <sub>s</sub>	<25 ns	<25 ns	<100 ns
Max. permissible ambient temperature	-40 °C ... + 80 °C		
Degree of protection open/installed	IP20 / 40		
Max. permissible back-up fuse	100 A	100 A	-
Max. terminal cross-section	16 / 25 mm <sup>2</sup> (finely stranded)		
Auxiliary switch (optional)	250 V <sub>AC</sub> / 0,5 A, max. 1,5 mm <sup>2</sup>		
DIN-rail mountable	on both sides		
Max. terminal tightening torque	2.5 to 3.0 Nm (main terminal)		

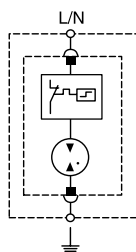
### DIMENSIONS AND CIRCUIT DIAGRAMS



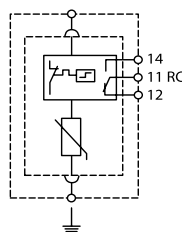
VVP 255/355



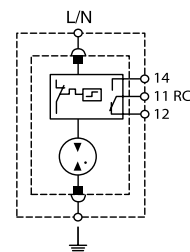
DVP 255



VVP 255/355  
with auxiliary switch



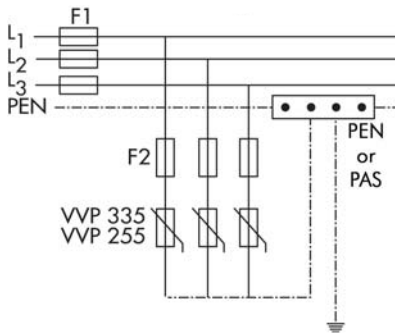
DVP 255  
with auxiliary contact



## CIRCUIT DIAGRAMS

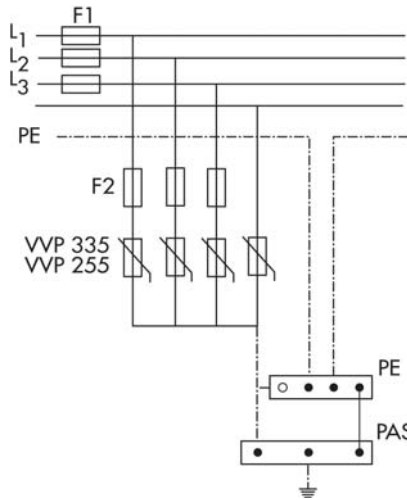
### TN-C MAINS SYSTEM

Zeroing



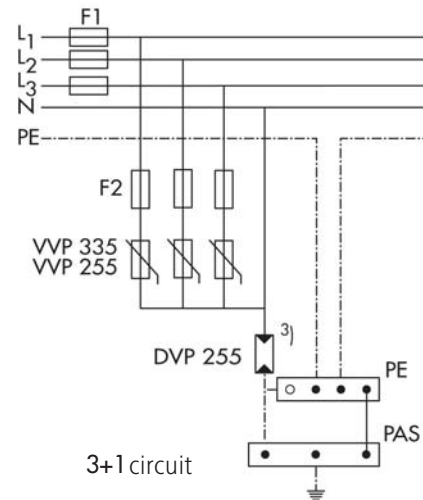
### TN-S MAINS SYSTEM

Zeroing

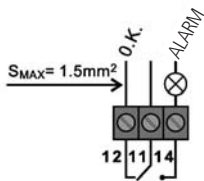


### TN-C/TT-/IT MAINS SYSTEM

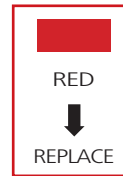
Zeroing  
Residual-current protective circuit  
Insulation monitoring system



## OTHER



A.C.	250 V / 0.5 A
D.C.	250 V / 0.1 A
	125 V / 0.2 A
	75 V / 0.5 A



For SPDs with auxiliary contact, the product number ends with "1".

If the colour of the viewing window changes to red, the SPD was overloaded and must be replaced.

DESCRIPTION	MW	ARRESTER CLASS	U <sub>c</sub>	EAN CODE	AVAILABLE	ORDER NO.
C-arr. module 15 kA VWP255, IEC	1	TII (C)	255 V AC	9004840229707		<b>IS010076</b>
C-arr. module 20 kA VWP255, IEC	1	TI (C)	255 V AC	9004840229608		<b>IS010077</b>
C-arr. module 15 kA VWP335, ÖVE	1	TII (C)	335 V AC	9004840229615		<b>IS010078</b>
C-arr. module 20 kA VWP335, ÖVE	1	TII (C)	335 V AC	9004840239683		<b>IS010079</b>
N-PE arr. module 20 kA DVP255 <sup>1)</sup>	1	TII (C)	255 V AC	9004840229622		<b>IS010075</b>
Base 1-pole for VWP	1	TI (C)	-	9004840382747		<b>IS010071-A</b>
Base 1-pole for VWP + aux. contact	1	TII (C)	-	9004840382723		<b>IS010069-A</b>
Base 1-pole for DVP	1	TI (C)	-	9004840382730		<b>IS010070-A</b>
Base 1-pole for DVP + aux. contact	1	TI (C)	-	9004840382716		<b>IS010068-A</b>
Base 3+1 circuit	4	TII (C)	-	9004840382693		<b>IS010064-A</b>
Base 3+1 circuit + aux. contact	4	TII (C)	-	9004840382709		<b>IS010065-A</b>
Busbar 3-fold, insulated, for TN-C system				9004840135589		<b>IS050103</b>
Busbar 4-fold, insulated, for TN-S, TT System				9004840135596		<b>IS050104</b>

<sup>1)</sup> As stated in ÖVE/ÖNORM E8001-1, the requirement of 20 kA applies to the SPD between the neutral conductor and the main earthing bar (NPE arrester), (PAS) or PE rail without changes, even if overvoltage protection devices with higher nominal discharge current, e.g. 15 kA or 20 kA, are used between the outer conductors and the neutral conductor.

## FINE PROTECTION ELEMENTS



ISO10200

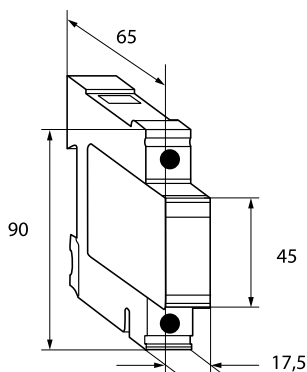
### SCHRACK INFO

Schrack rail-mounted fine protection element (T3) for indoor mounting for the protection of single-phase consumer systems against transient overvoltages. With two protection paths in 1 MW, this Schrack fine protection element is ideal for space-saving installation in small distribution boxes or other DIN rail enclosures. The plug-in design allows easy replacement of the module in case of any overloading of the arrester.

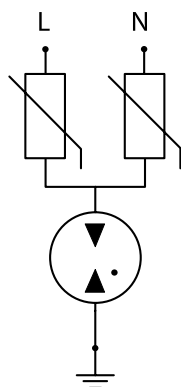
### TECHNICAL DATA

	VMG 275
SPD continuous voltage $U_c$	275 V <sub>AC</sub>
Nominal discharge current $I_n$ (8/20)	3 kA / Pol
$U_{oc}$ (1.2/50)	6 kV / Pol
Protection level $U_p$ (1a $I_n$ )	≤0,9 kV
Response time $t_a$	<100 ns
Max. permissible ambient temperature	-40 °C ...+80 °C
Degree of protection open/installed	IP20 / 40
Max. permissible back-up fuse	63 A
Max. terminal cross-section	L, N = 6 mm <sup>2</sup> ; PE = 25/35 mm <sup>2</sup>
Auxiliary switch (optional)	250 V <sub>AC</sub> / 0,5 A; max. 1.5 mm <sup>2</sup>

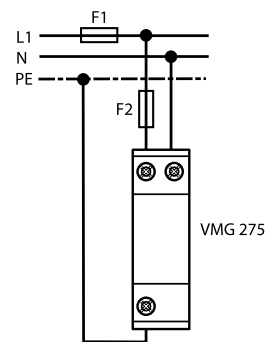
### DIMENSIONS AND CIRCUIT DIAGRAMS



Internal circuit diagram



Schematic diagram



F2 only necessary if F1 > 63 AgL

DESCRIPTION	MW	ARRESTER CLASS	$U_c$	EAN CODE	AVAILABLE	ORDER NO.
D-arr. module 3 kA, VMG	1	TIII (D)	275 VAC	9004840250657		<b>ISO10200</b>
Base 1-pole for VMG / VEPG	1			9004840250664		<b>ISO10201</b>
Base 1-pole + aux. contact for VMG / VEPG	1			9004840250671		<b>ISO10202</b>



## I KNOW WHERE TO FIND IT!

WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily



## FINE PROTECTION ELEMENTS – FLUSH-MOUNTED BOX AND ADAPTER PLUG



IS211450/ISO10002/ISO10003

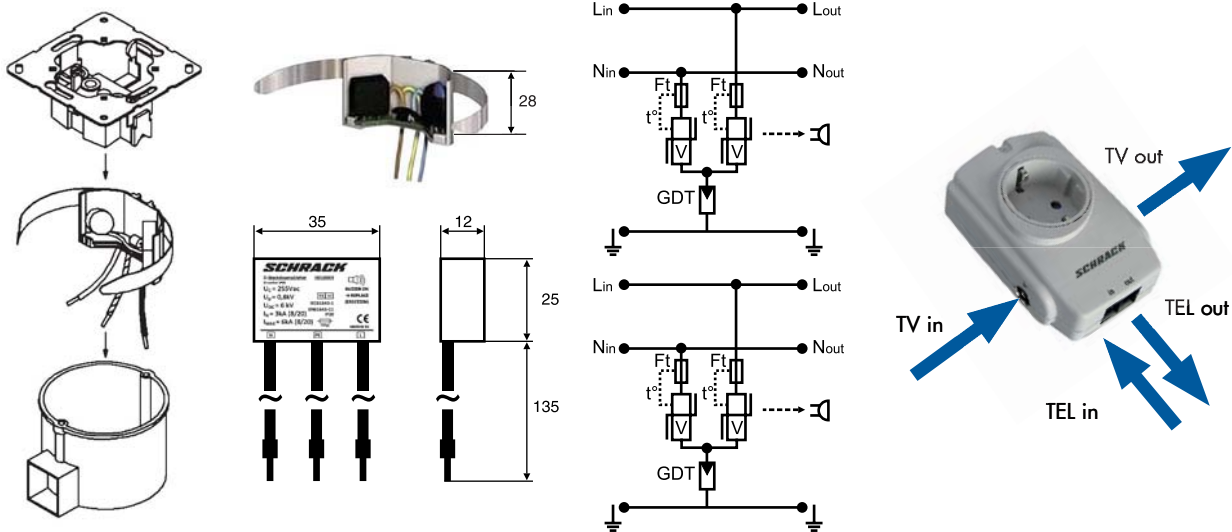
### SCHRACK INFO

Schrack fine protection elements for flush-mounted boxes are suitable for installation of new and retrofitting existing earthed socket outlets. Through-wiring in the ISO10002 enables the connection of additional socket outlets. In case of overload, the built-in signal transmitter signals a defective device. The power supply of end devices is maintained. The Schrack fine protection adapter plug is ideal for retrofitting a test class 3 arrester for sensitive end devices. The combined protection of power lines and data lines with F-port (TV aerial) or telephone line connection (RJ11) protects all important feed lines to TV set or phone line. Installation always in combination with Protec, Combtec or Vartec arresters!

### TECHNICAL DATA

	Flush-mounted box SPD		Adapter plug
	ISO10002	ISO10003	IS211450
Validated according to	Test class III (D) IEC61643-1/EN 61643-11		
Through-wiring	YES	NO	NO
Max. continuous voltage $U_c$	255 V <sub>AC</sub>		275 V <sub>AC</sub>
Combined surge $U_{ov}/I_{sc}$	4 kV / 2,5 kA	6 kV / 3 kA	6 kV / 3 kA
Max. input power	-	-	3500 VA
Protection level $U_p$ (Ia In /L-N)	<0.9 kV	<0.8 kV	<1.25 kV
Max. back-up fuse	16 AgL/gG		
Temperature range	-0 °C - + 40 °C		
Terminal cross-section	2,5 <sup>2</sup>	1,5 <sup>2</sup>	-
Signalling	Buzzer	Buzzer	LED display
Child safety lock	-	-	YES

### MOUNTING / DIMENSIONS / SCHEMATIC MOUNTING – FLUSH-MOUNTED BOX



DESCRIPTION	ARRESTER CLASS	$U_c$	EAN CODE	AVAILABLE	ORDER NO.
Adapter plug 230 VAC /16A	TIII (D)	275 V AC	9004840585919		<b>IS211450</b>
D-Base outlet arrester 2.5 kA, through-wiring	TIII (D)	255 V AC	9004840255911		<b>ISO10002</b>
D-Base outlet arrester 2.5 kA	TIII (D)	255 V AC	9004840532432		<b>ISO10003</b>



# SURGE, LIGHTNING ARRESTERS

## DATEC DATA LINE PROTECTOR



DATEC

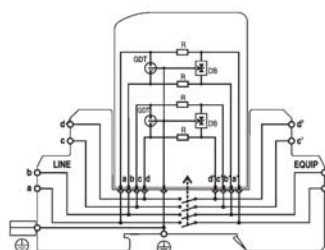
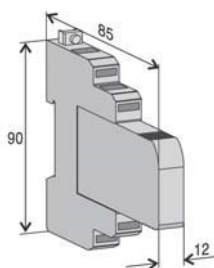
### SCHRACK INFO

The Datec data line protector is used for data lines such as bus cables, control lines, etc. Since the module can be replaced without interruption (the contacts are closed before the module is contactless), the Datec is also suitable for protection of signal processing inputs (equipment). This solution includes a 12 mm wide module and two protection paths. Through direct contact with an earthed DIN rail, no extra earthing line is required to the module.

### TECHNICAL DATA

	IS212405--	IS212412--	IS212424--	IS212430--
Description	DATEC DMOD5V	DATEC DMOD12V	DATEC DMOD24V	DATEC DMOD30V
Validated according to	Test class III IEC61643-2-1			
Number of protected circuits	2x2 (4 wires)			
Nominal voltage $U_N$	5 V <sub>DC</sub>	12 V <sub>DC</sub>	24 V <sub>DC</sub>	30 V <sub>DC</sub>
Max. continuous voltage $U_c$	7 V <sub>DC</sub>	15 V <sub>DC</sub>	28 V <sub>DC</sub>	33 V <sub>DC</sub>
Ignition voltage range (a/b-PG)(a-b)	8 - 10 V	17 - 21 V	31 - 37 V	36 - 44 V
Nominal current $I_n$ at 25°C	1 A			
Nominal discharge current $I_n$ (8/20)	10 kA			
Max. discharge current $I_{max}$ (8/20)	20 kA			
Residual voltage $U_{res}$ at 5 kA (8/20)	≤22 V	≤42 V	≤70 V	≤80 V
Response time $t_A$	≤1 ns			
Thermal separator	Thermo clip			
Insulation resistance	≥5kΩ / 5 V <sub>DC</sub>	≥12MΩ / 12 V <sub>DC</sub>	≥24MΩ / 24 V <sub>DC</sub>	≥30MΩ / 30 V <sub>DC</sub>
Serial impedance R	1.6 - 2.0Ω			
Transverse capacitance C	50 pF			
Cutoff frequency f <sub>G</sub>	30 MHz			
Terminal cross-section	4 mm <sup>2</sup> (finely stranded)			
Degree of protection	IP20			
Housing material	Thermoplastic V-0			
Mounting	35 mm DIN rail			
Dimensions	95 x 90 x 12			

### DIMENSIONS AND CIRCUIT DIAGRAMS



DESCRIPTION	MW	ARRESTER CLASS	$U_c$	EAN CODE	AVAILABLE	ORDER NO.
DATEC bus arrester 5 V DC 1 A, 12 mm	0.5	TII (D)	7 V DC	9004840585926		<b>IS212405</b>
DATEC bus arrester 12 V DC 1 A, 12 mm	0.5	TIII (D)	15 V DC	9004840585933		IS212412
DATEC bus arrester 24 V DC 1 A, 12 mm	0.5	TIII (D)	28 VDC	9004840585940		<b>IS212424</b>
DATEC bus arrester 30 V DC 1 A, 12 mm	0.5	TIII (D)	33 VDC	9004840585957		<b>IS212430</b>





## DATEC DATA LINE PROTECTOR – F-PORT, TV-PORT (MF)



DATEC

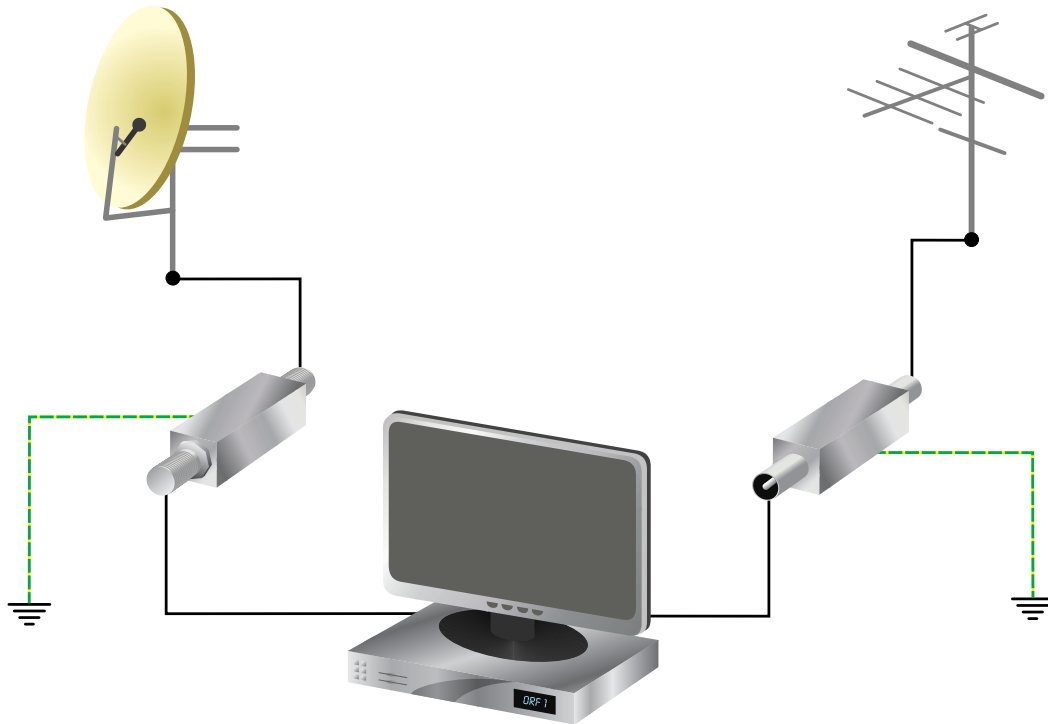
### SCHRACK INFO

Just as power lines, all the data lines need to be protected as well. They are also at risk to carry overvoltages and that may destroy electronic devices. Application areas: Lines from TV aerials or satellite dishes to TV set and receiver station.

### TECHNICAL DATA

	IS211405--	IS210242--
Description	DATEC IEC	DATEC F
Validated according to	Test class III IEC/EN 61643-21	
Coaxial connection	IEC (Connection) 75 Ω	F (Connection) 75 Ω
Insertion loss (47 – 860 MHz)	<0.5 dB	
Maximum continuous voltage	48 V <sub>AC</sub> / 60 V <sub>DC</sub>	
Nominal discharge current I <sub>n</sub> (8/20)	5 kA	
Protection level at I <sub>n</sub>	≤550 V	
Response time	<5 ns	

### CONNECTION DIAGRAM



DESCRIPTION	ARRESTER CLASS	U <sub>c</sub>	EAN CODE	AVAILABLE	ORDER NO.
DATEC coaxial F connector 75 Ω	TIII (D)	60 V DC	9004840585896		<b>IS210424</b>
DATEC coaxial IEC connector 75 Ω	TIII (D)	60 V DC	9004840585902		IS211405



# SURGE, LIGHTNING ARRESTERS

## LIGHTNING- & SURGE ARRESTER FOR PHOTOVOLTAIC SYSTEM



IS011110

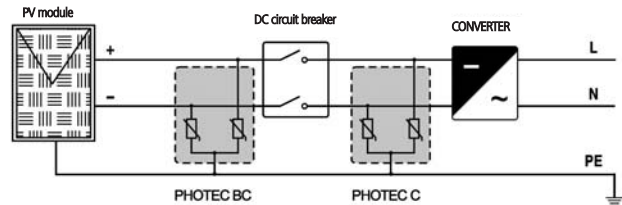
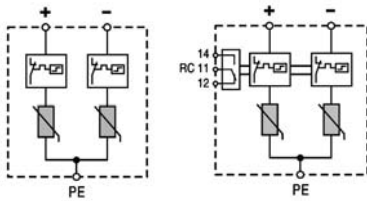
### SCHRACK INFO

The SCHRACK PHOTEC series has been developed specifically for the protection of photovoltaic systems and protects them from direct and indirect lightning strikes and power surges. Through proper installation of these surge arresters, the photovoltaic system is protected in areas of lightning protection class (risk level) III and IV. By using 2 terminals per protected pole, a secure connection of cables and equipment can be implemented with ease. The combination of lightning and surge arrester requires no additional arresters between the photovoltaic panels and inverters.

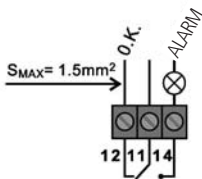
### TECHNICAL DATA

	PHOTEC BC 1000	PHOTEC BC 550
Validated according to	Test class I + II (B + C) IEC61643-1/EN 61643-11	
Max. continuous voltage	1000 V <sub>DC</sub>	550 V <sub>DC</sub>
Impulse current I <sub>imp</sub> (10/350)	12,5 kA/Pole	12,5 kA/Pole
Max. discharge current I <sub>max</sub> (8/20)	40 kA/Pole	40 kA/Pole
Nominal discharge current I <sub>n</sub> (8/20)	20 kA/Pole	20 kA/Pole
Protection level U <sub>p</sub> (at I <sub>n</sub> )	≤2.25 kV	≤2.0 kV
Max. tightening torque	4,5 Nm	4,5 Nm
Max. back-up fuse	250 AgL	
Temperature range	-40 °C - + 80 °C	
Terminal cross-section	35 mm <sup>2</sup> (solid) / 25 mm <sup>2</sup> (finely stranded)	
Mounting	35 mm DIN rail	
Degree of protection	IP20	
Dimensions	72 x 90 x 70	72 x 90 x 70
Dimensions with auxiliary contact	72 x 98 x 70	72 x 98 x 70

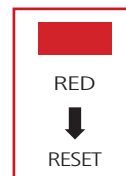
### SCHEMATIC STRUCTURE / SAMPLE APPLICATION



### OTHER



A.C.	250 V / 0.5 A
D.C.	250 V / 0.1 A
	125 V / 0.2 A
	75 V / 0.5 A



For SPDs with auxiliary contact, the product number ends with "1".

If the colour of the viewing window changes to red, the SPD was overloaded and must be replaced.

DESCRIPTION	MW	LIGHTNING PROT.	ARRESTER CLASS	U <sub>c</sub>	EANCODE	AVAILABLE	ORDERNO.
PHOTEC BC 1000/12.5	4	III + IV	TI + TI (B + C)	1000 V DC	9004840547610		<b>IS011110</b>
PHOTEC BC 1000/12.5 + aux. contact	4	III + IV	TI + TI (B + C)	1000 V DC	9004840547627		IS011111
PHOTEC BC 550/12.5	4	III + IV	TI + TI (B + C)	550 V DC	9004840547597		<b>IS011150</b>
PHOTEC BC 550/12.5 + aux. contact	4	II + IV	TI + TI (B + C)	550 V DC	9004840547603		IS011151



## /// SURGE ARRESTER FOR PHOTOVOLTAIC SYSTEMS



IS011252

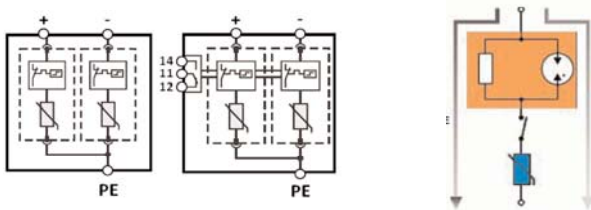
### /// SCHRACK INFO

This SCHRACK PHOTEC series has been developed specifically for the protection of photovoltaic systems and protects them from direct and indirect lightning strikes and power surges. Through proper installation of these surge arresters, the photovoltaic system is protected against transient overvoltages. The plug-in design of the overvoltage protection modules allows easy replacement in case of an overload. The modules must not be replaced under load! Be sure to follow the national installation regulations.

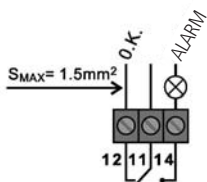
### /// TECHNICAL DATA

	PHOTEC C 1000	PHOTEC C 550
Validated according to	Test class II (C) IEC61643-1/EN 61643-11	
Max. continuous voltage	1000 V <sub>DC</sub>	550 V <sub>DC</sub>
Max. discharge current I <sub>max</sub> (8/20)	40 kA/ Pole	40 kA/ Pole
Nominal discharge current I <sub>n</sub> (8/20)	20 kA/ Pole	20 kA/ Pole
Protection level U <sub>p</sub> (at I <sub>n</sub> )	≤4 kV	≤2,1 kV
Max. tightening torque	4.5 Nm	4.5 Nm
Max. back-up fuse	125 AgL	
Temperature range	-40 °C - + 80 °C	
Terminal cross-section	35 mm <sup>2</sup> (solid) / 25 mm <sup>2</sup> (finely stranded)	
Mounting	35 mm DIN rail	
Degree of protection	IP20	
Dimensions	54 x 90 x 72	36 x 90 x 72
Dimensions with auxiliary contact	54 x 98 x 72	36 x 98 x 72

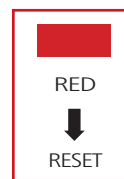
### /// SCHEMATIC STRUCTURE / SAMPLE APPLICATION



### /// OTHER



A.C.	250 V / 0.5 A
D.C.	250 V / 0.1 A
	125 V / 0.2 A
	75 V / 0.5 A



For SPDs with auxiliary contact, the product number ends with "1".

If the colour of the viewing window changes to red, the SPD was overloaded and must be replaced.

DESCRIPTION	MW	ARRESTER CLASS	U <sub>c</sub>	EAN CODE	AVAILABLE	ORDER NO.
PHOTEC C 1000/20	3	TII (C)	1000 V DC	9004840667073		<b>IS011210-A</b>
PHOTEC C 1000/20 + aux. contact	3	TII (C)	1000 V DC	9004840667080		IS011211-A
PHOTEC C 550/20	2	TII (C)	550 V DC	9004840667097		<b>IS011250-A</b>
PHOTEC C 550/20 + aux. contact	2	TI (C)	550 V DC	9004840667103		IS011251-A



**Order no. blue:** on stock, usually ready for delivery on the day of order!

## TOP-TECHNIC



/// FUSE DISCONNECTOR FOR PHOTOVOLTAIC PROTECTION



/// NEOZED D0 FUSE BASES, SERIES SCHRACK



/// NEOZED FUSE BASE, SERIES WR



/// TYTAN TH1 AND HR12 MAIN PROTECTION



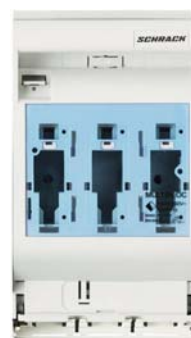
/// TYTAN-II SUPER SHORT CIRCUIT PROTECTION



/// D0 FUSE LOAD DISCONNECTOR ARROW ON



/// MODUL CONNECT, THE UNIVERSAL BUSBAR



/// LOAD BREAK SWITCH ARROW BLOC

*“According to my idea, energy is  
the first and only virtue of man.”*

Wilhelm von Humboldt, German philosopher and philologist

## FUSE- AND BUSBAR SYSTEMS

### ▀ CONTENTS

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DIAZED D-FUSE MATERIAL .....	Page 309
CYLINDRICAL FUSES .....	Page 315
BUSBAR SYSTEMS .....	Page 322

## ■ FUSES – GENERAL INFORMATION

A fuse is an overcurrent protective device that interrupts a circuit in case of overcurrent through the thermal effect of the current, thus providing protection.

### ■ STANDARD

#### Characteristic curves of fuses according to IEC 60269:

NH fuses and DO fuses have been developed in the German-speaking area; therefore, the designations are German.

#### The 1st letter shows the switch-off area of the fuse

**g** = full range protection (German: Ganzbereichsschutz)

These fuses cover not only short-circuit protection, but also trip in case of lower overcurrent after a defined time.

**a** = partial area fuses

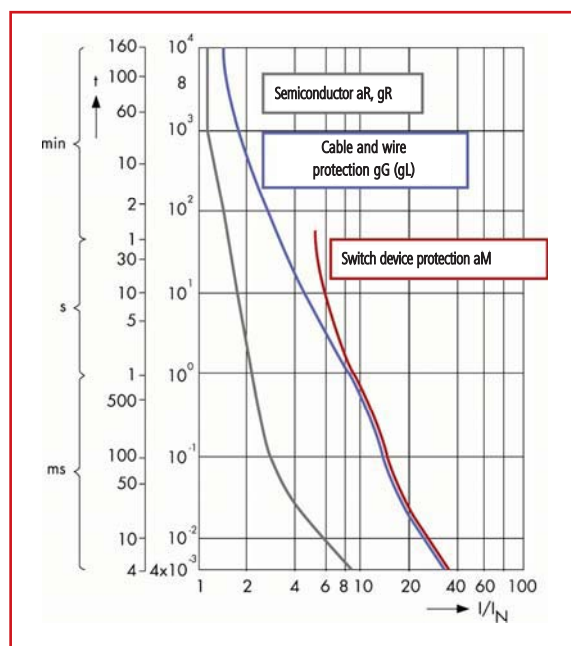
These fuses cover only a partial area depending on the application, e.g., a short-circuit release as a back-up protection for motor circuits.

#### The 2nd letter indicates the characteristic of the fuse

**G** = cable and wire protection (previously L)

**M** = switchgear protection

**R** = semiconductor protection



## ■ CHARACTERISTICS AND THEIR APPLICATIONS

Operating class application (characteristic)	
gG	Full range fuse for general applications, primarily cable and wire protection
aM	Partial range fuse for short-circuit protection of motor circuits
gR	Full range fuse for the protection of semiconductor component (acting faster than gS)
gS	Full range fuses for the protection of semiconductor devices, for increased capacity utilisation
aR	Partial range fuse for short-circuit protection of semiconductor components
gTr	Full range fuses for transformer protection, rated in transformer apparent power (kVA) instead of nominal current (A)
Obsolete designations	
gL	Obsolete VDE operating class replaced by gG
gT	Obsolete VDE operating class (slow) replaced by gG
gF	Obsolete VDE operating class (fast) replaced by gG
gl	Obsolete IEC operating class (slow) replaced by gG
gll	Obsolete IEC operating class (fast) replaced by gG

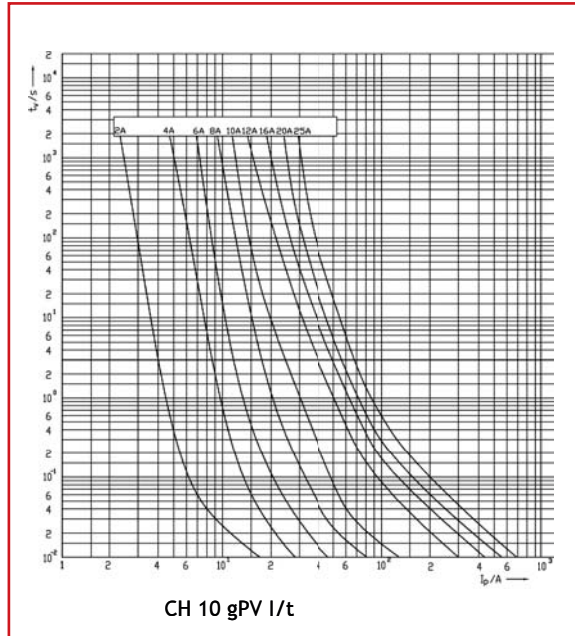
## PHOTOVOLTAIC SYSTEM – GENERAL INFORMATION

Photovoltaic systems have their own characteristic line, since the photovoltaic panels cannot provide the power to trigger (melt) a fuse having a gG characteristic. Therefore, fuses with the characteristic curve gPV have been standardised internationally.

gPV stands for full-range photovoltaic fuse



## CHARACTERISTIC

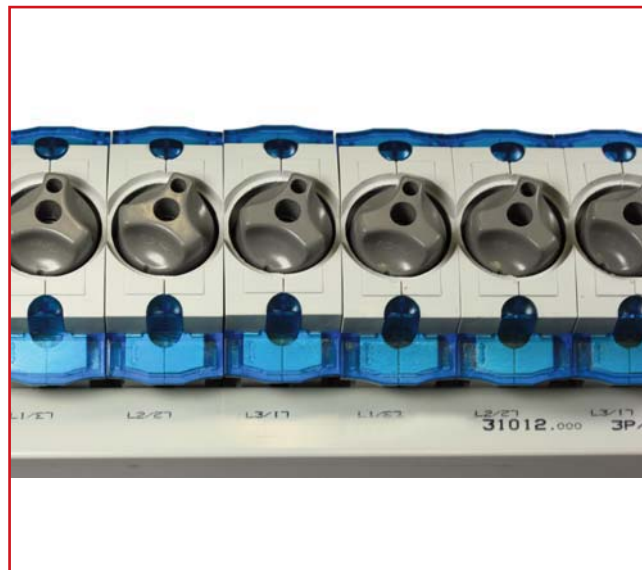


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## ■ D0-FUSE BASE SERIES WR – GENERAL INFORMATION



## ■ SCHRACK INFO

- 1 - and 3-pole
- E14 to 16 A and E18 to 63 A
- Accommodation for label
- Dual-function terminal – simultaneous connection of two wires possible
- Complete protection against contact
- Integrated cover
- Space-saving fuse base
- 45 mm standard field cut-out
- Large terminal range 1.5 to 35 mm<sup>2</sup>
- Convenient connecting conditions



## ■ D0-FUSE BASE UP TO 63 A, SERIES WR



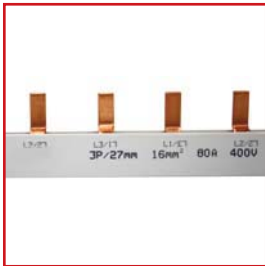
SI313060

### ■ SCHRACK INFO

- DIN 49524, 1- to 3-pole
- For snap-on mounting, division 27 mm
- Including cover
- 400 V AC/250 V DC
- D01 to 16 A, D02 to 63 A
- Fuse-links DIN 49522
- Adjusting sleeves DIN 49523
- D01 two-sided dual-function terminal (1.5-35 mm<sup>2</sup>), Md 4 Nm
- D02 two-sided box terminal (1.5-35 mm<sup>2</sup>), Md 4 Nm
- Series-mountable
- Melt inserts and adjusting sleeves in Chapters D01 and D02 – fuse-links

DESCRIPTION/NOMINAL CURRENT	DIM. (WxHxD) mm	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
D01/E 14/1-pole with cover/16 A	26.8x60x58.2	1	0.076	4021267313012		<b>SI313010</b>
D01/E 14/3-pole with cover/16 A	80.4x60x58.2	1	0.220	4021267313029		<b>SI313020</b>
D02/E 18/1-pole with cover/63 A	26.8x60x58.2	1	0.088	4021267313036		<b>SI313030</b>
D02/E 18/3-pole with cover/63 A	80.4x60x58.2	1	0.256	4021267313067		<b>SI313060</b>
Screw cap plastic, D01 E14/16 A	-	20	0.012	9004840686739		<b>SI310050</b>
Screw cap plastic, D02 E18/63 A	-	20	0.012	9004840686746		<b>SI310060</b>

## ■ BUSBAR DIVISION 27 mm FOR D0-FUSE BASE WR



SI310120

DESCRIPTION/MW	PU	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
Busbar 3-pole pin 16 mm <sup>2</sup> 80 A/27 mm	10	562	4021267310127		<b>SI310120</b>
End cap 3-pole 16 mm <sup>2</sup> for SI310120	50	-	9004840212891		<b>SI310270</b>
Busbar 3-pole pin 35 mm <sup>2</sup> 130 A/27 mm	10	1230	9004840212884		<b>SI310560</b>
End cap 3-pole 35 mm <sup>2</sup> for SI310560	10	-	9004840224498		SI310840



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## ■ D0-FUSE BASE IN ACCORDING TO BGV A3 (VBG 4)/TRITON UP TO 63 A



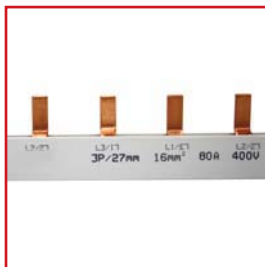
SI312930

### ■ SCHRACK INFO

- DIN 49524, 1- to 3-pole
- 400 V AC/250 V DC
- D01 to 16 A, D02 to 63 A
- Fuse-links DIN 49522
- Adjusting sleeves DIN 49523
- Output box terminal (1.5-35 mm<sup>2</sup>) Md 4 Nm, Input: dual-function terminal
- Contact protection according to DIN VDE 0106
- Serially mountable
- Melt inserts and adjusting sleeves in Chapters D01 and D02 – fuse-links

DESCRIPTION/NOMINAL CURRENT	DIM. (WxHxD) mm	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
D01/1-pole/VBG 4/16 A	26.8x80x54	1	0.127	9004840186390		<b>SI312860</b>
D01/3-pole/VBG 4/16 A	80.4x80x54	1	0.380	9004840186406		<b>SI312880</b>
D02/1-pole/VBG 4/63 A	26.8x80x54	1	0.134	9004840186413		<b>SI312910</b>
D02/3-pole/VBG 4/63 A	80.4x80x54	1	0.402	4021267312930		<b>SI312930</b>
Screw cap, D01 E14/16 A	-	20	0.012	9004840686739		<b>SI310050</b>
Screw cap, D02 E18/63 A	-	20	0.012	9004840686746		<b>SI310060</b>

## ■ BUSBAR DIVISION 27 mm MW FOR TRITON



BS900134

DESCRIPTION/MW	PU	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
Busbar 3-pole pin 16 mm <sup>2</sup> 80 A/27 mm	10	562	4021267310127		<b>SI310120</b>
End cap 3-pole 16 mm <sup>2</sup> for SI310120	50	-	9004840212891		<b>SI310270</b>
Busbar 3-pole pin 35 mm <sup>2</sup> 130 A/27 mm	10	1230	9004840212884		<b>SI310560</b>
End cap 3-pole 35 mm <sup>2</sup> for SI310560	10	-	9004840224498		SI310840



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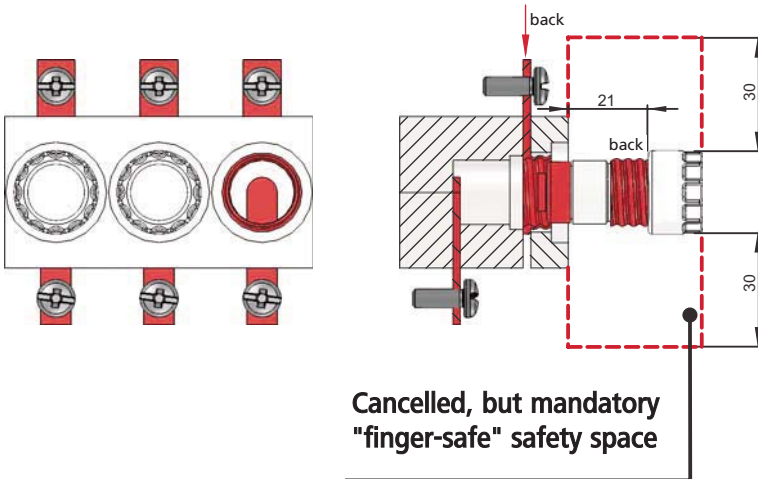
## /// FUSE SWITCH-DISCONNECTORS – GENERAL INFORMATION

When replacing fuse-links in a multi-pole power supply of a consumer, reverse voltage cannot be ruled out. Hence the threaded sleeve of the fuse base becomes live, and the mandatory "finger-safe" protective compartment is eliminated in the necessary operating area of the fused screw cap.

## /// PROTECTION AGAINST ELECTRIC SHOCK

according to DIN VDE 0660 part 514, EN 50274

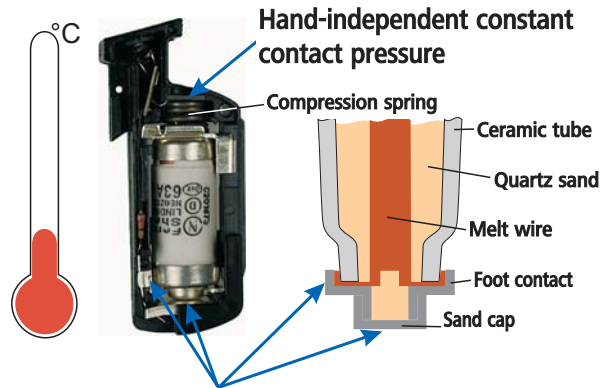
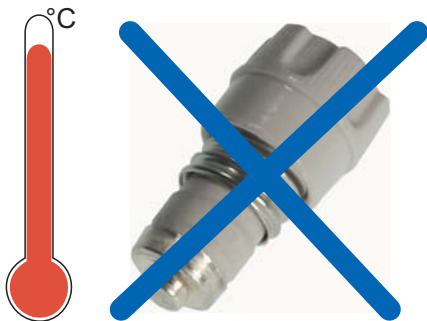
multi-pole fuse system



## /// TEMPERATURE AND POWER LOSS

High losses due to contact loosening or manual operation of, e.g., a screw cap

Minor losses through the fuse plug



**Double contacting saves 0.8 watts per pole.**

## /// FINGER PROTECTION AGAINST HIGH TEMPERATURES

Screw caps can be overheated

The connector is without any difficulty



## ■ D0-FUSE SWITCH-DISCONNECTOR TYTAN T



IS503040

### ■ SCHRACK INFO

- 400 V~, 63 A, 50 kA, AC22B  
with: thermal monitoring, flashing indicator, independent manual operation  
Plug retaining spring, AMP cable lugs
- for: D0 fuses 2...63 A  
Cylindrical fuses 1...32 A  
D02 gauge-pieces 2...50 A

### ■ FEATURES & BENEFITS

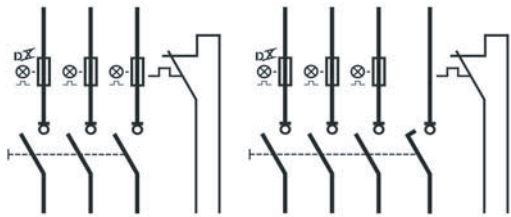
TYTAN T	Features	Benefits
Thermal monitoring VDE 1000 / DIN 31000	Thermal switch trips as auxiliary switch in case of dangerous overheating	Operational reliability and equipment protection
Flashing indicator	Optoelectronic fuse switch-off indicator	Reliable fault detection on site Immediate restart
Independent manual operation DIN VDE 0105	Clearance	Personal protection and operational safety
Fuse connector EN 50110-1	Screw cap-less plug-in design with hand-independent, constant contact pressure	Finger protection, a fuse-link to be replaced can be >100 °C hot! Operational reliability and energy saving
Compact shape DIN 43880	Only 4 MWs (3- and 4-poles) = 71 mm	Compatible with RCCBs

### ■ TECHNICAL DATA

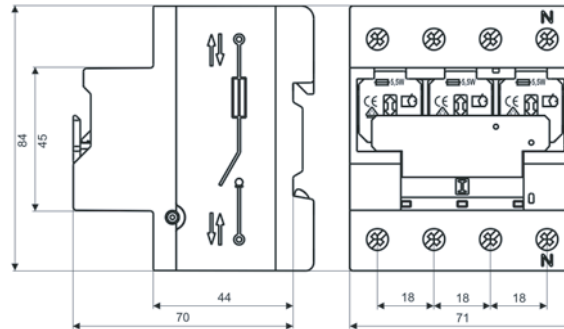
Classification	Switch-disconnector fuses
Standard/regulation	DIN EN 60947-3, IEC 60947-3
Suitable for D0 fuses DIN 49522	D01: 2, 4, 6, 10, 13, 16 A with plug retaining spring D02: 20, 25, 32, 35, 40, 50, 63 A
Suitable for fuse-links	D0 special fuse-links 440 VI
Suitable for cylinder fuses IEC EN 60269-2-1	10x38 mm: 2 ... 32 A with plug retaining spring
Suitable for gauge-pieces DIN 49523	D02: 2, 4, 6, 10, 16, 20, 25, 35, 50 A
Number of poles	3-pole, 3-pole+N
Insulating parts	Plastic, halogen-, phosphorus-, silicone-free
Flame class / comparative tracking index	UL94/V0, glow wire test 960 °C / CTI600
Degree of protection / touch protection	IP 20/40; finger and hand touch safe
Ambient temperature; storage min/max	-25 °C / 60 °C
Rated operational voltage $U_e$	400 V~
Rated operational current $I_e$	63 A
Uninterrupted current $I_u$	63 A
Rated short-circuit breaking capacity $I_{cm}$	50 kA <sub>r-m-s</sub>
Utilization category	AC 22B
Overvoltage category	IV (DIN VDE 0110)
Pollution degree	3 (DIN VDE 0110)
Rated impulse withstand $U_{imp}$	6000 V
Connection type	Stainless steel cage terminal 1.5 ... 25 mm <sup>2</sup>
Tightening torque $M_D$	3.5 Nm
Thermal switch	AC: 1.5 A, 250 V, $\cos\phi$ 0.6; DC 1.2 A, 48 A






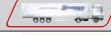

## TYTAN T – continued

### CIRCUIT SYMBOL



all poles



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE VERSION</b>			
D02 switch-disconnector TYTAN T 3-pole	9004840584561		<b>IS503030</b>
D02 switch-disconnector TYTAN T 3-pole with auxiliary contact	9004840584578		IS503031
D02 switch-disconnector TYTAN T 3-pole with fixed 25A gauge-pieces	9004840590104		IS503034
D02 switch-disconnector TYTAN T 3-pole with fixed 50A gauge-pieces	9004840627398		IS503036
<b>ACCESSORIES</b>			
Plug retaining spring for D01 and 10x38 mm fuse-links	9004840419696		<b>ISF90299</b>
Solid links 63A, 3 pcs	9004840651928		IS504859
Busbar 1 metre for TYTAN T 3-pole	9004840587050		BS900145
End cap 3-pole	9004840013474		<b>BS900116</b>
<b>3+N VERSION</b>			
D02 switch-disconnector TYTAN T 3 + N	9004840584585		<b>IS503040</b>
<b>ACCESSORIES</b>			
Plug retaining spring for D01 and 10x38 mm fuse-links	9004840419696		<b>ISF90299</b>
Solid links 63A, 3 pcs	9004840651928		IS504859
Busbar 1 metre 4-pole 16 mm <sup>2</sup>	9004840186123		<b>BS990122</b>
End cap 4-pole	9004840013481		<b>BS900117</b>



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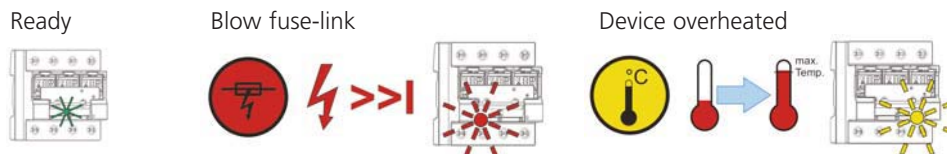
## TYTAN TH1 AND HR12 WITH FUSE MONITORING FOR COLLECTIVE ADVANCE EVALUATION



TH1

### SCHRACK INFO

- D0 switch-disconnector with advanced electronic monitoring
- Monitored functions / visualisation:



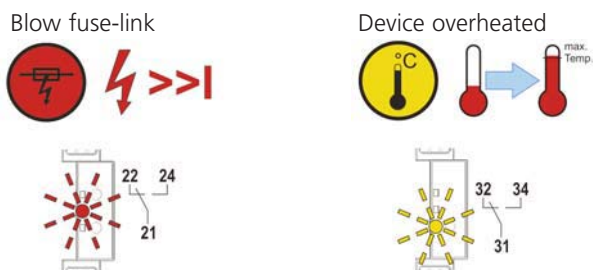
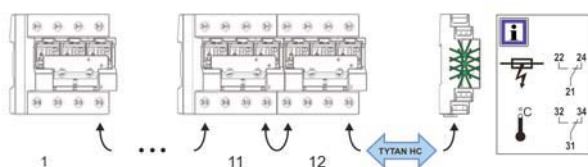
HR12

### Construction:

- The TYTAN main protection consists of 1 ... 12 switch-disconnector TYTAN TH1 and one TYTAN HR12 main protective relay. The links of the main protection components are made with RJ10 connector wires quickly and easily.
- The 12 switch-disconnector can also be mixed TYTAN TH1 and RH1 TYTAN switches (see Chapter busbar fuse switch-disconnector for 60 mm busbar system).

### MAIN PROTECTIVE RELAY TYTAN HR12

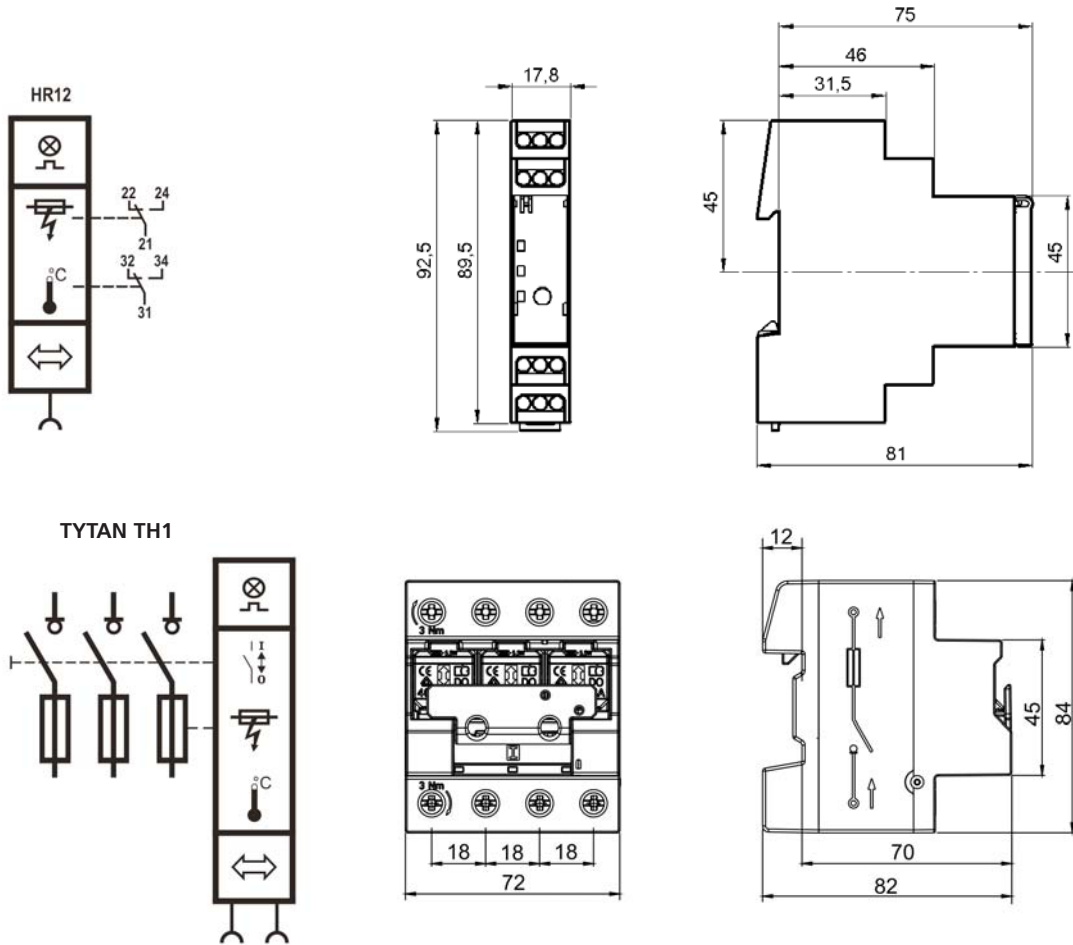
- Monitored functions are output to potential-free relay contacts
- Ready



### TECHNICAL DATA

Standard/regulation	DIN EN 61000 (EMC immunity), IEC/EN 61000-4-2, IEC/EN 61000-4-4, EN 60255	
Rated voltage	24V DC	
Power consumption per TYTAN TH1	Operation 0.4 W / Fault 1.25 W	
TYTAN HR12	0.95 W	
<b>RELAY CONTACTS</b>	for blown fuse-link, overheated device	
Rated operational voltage/current	250 V / 5 A <sub>μ</sub> AC cosφ=1 30 V / 5 A DC 300 V / 0.25 A DC	
Minimum rated operational voltage/current	100 mV / 10m A AC/DC	
Dielectric strength	Coil to contacts	4 kV <sub>r.m.s</sub>
	Open to contact	1 kV <sub>r.m.s</sub>
Rated impulse withstand voltage	4 kV	
Oversvoltage category	III	
<b>GENERAL</b>		
Flame class / comparative tracking index	UL94/V0, glow wire test 960 °C / CTI 600	
Pollution degree	3	
Degree of protection / touch protection	IP 20 / IP 40; finger and hand touch safe	
Temperature range ambience / storage	-25 to +60 °C / -40 to +60 °C	
Connection style	rigid	1x4 mm <sup>2</sup> / 2x1.5 mm <sup>2</sup>
	flexible	1 x 2.5 mm <sup>2</sup>
Tightening torque M <sub>b</sub>	0.5 Nm	

## DIMENSIONS AND WIRING DIAGRAMS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE VERSION</b>			
TYTAN TH1 main protective switch-disconnector D02 with built-in monitoring electronics and LEDs	9004840651256		IS503038
<b>3+N VERSION</b>			
TYTAN TH1 main protective switch-disconnector D02 with built-in monitoring electronics and LEDs	9004840682342		IS503039
<b>ACCESSORIES</b>			
Plug retaining spring for D01 and 10x38 mm fuses	9004840419696		<b>ISF90299</b>
Solid links 63A, 3 pcs	9004840651928		IS504859
Busbar 1 metre for TYTAN T 3-pole	9004840587050		BS900145
End cap 3-pole	9004840013474		<b>BS900116</b>
<b>TYTAN HR12 MAIN PROTECTIVE RELAY FOR COLLECTIVE FAULT EVALUATION</b>			
2 CO contacts 5A / 250 VAC	9004840651317		<b>IS504871</b>
<b>TYTAN HC CONNECTOR WIRES RJ10</b>			
15 cm long	9004840651270		<b>IS504873</b>
100 cm long	9004840651287		<b>IS504877</b>

## TYTAN TH1 AND HR11 WITH FUSE MONITORING – SINGLE EVALUATION



TH1

### SCHRACK INFO

- D0 switch-disconnector with advanced electronic monitoring
- Monitored functions / visualisation:

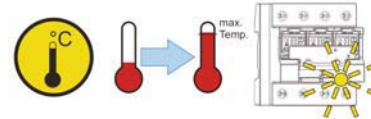
Ready



Blow fuse-link



Device overheated



HR11

### Construction:

The TYTAN main protection consists of one switch-disconnector TYTAN TH1 and one TYTAN HR11 main protective relay. The links of the main protection components are made with RJ10 connector wires quickly and easily.

### MAIN PROTECTIVE RELAY TYTAN HR11

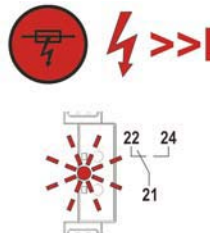
- Monitored functions are output to potential-free relay contacts

Ready

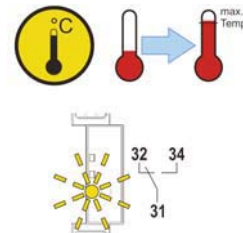
Switch-disconnector ON



Blow fuse-link



Device overheated

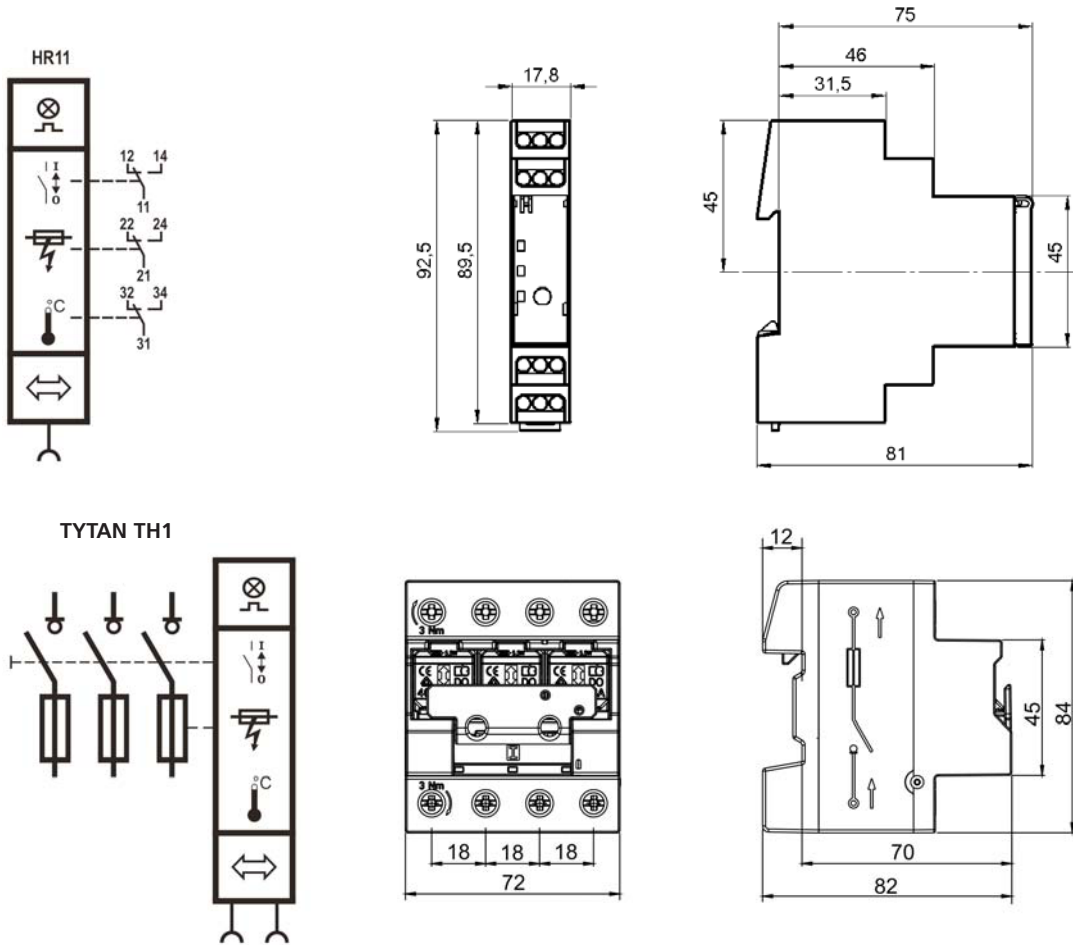


### TECHNICAL DATA

Standard/regulation	DIN EN 61000 (EMC immunity), IEC/EN 61000-4-2, IEC/EN 61000-4-4, EN 60255
Rated voltage	24V DC
Power consumption per TYTAN TH1 TYTAN HR11	Operation 0.4 W / Fault 1.25 W 1.15 W
<b>RELAY CONTACTS</b>	for blown fuse-link, overheated device, load break switched ON/OFF
Rated operational voltage/current	250 V / 5 A <sub>AC</sub> cosφ=1 30 V / 5 A DC 300 V / 0.25 A DC
Minimum rated operational voltage/current	100 mV / 10m A AC/DC
Dielectric strength	Coil to contacts 4 kV <sub>r.m.s</sub> Open to contact 1 kV <sub>r.m.s</sub>
Rated impulse withstand voltage	4 kV
Overvoltage category	III
<b>GENERAL</b>	
Flame class / comparative tracking index	UL94/V0, glow wire test 960 °C / CTI 600
Pollution degree	3
Degree of protection / touch protection	IP 20 / IP 40; finger and hand touch safe
Temperature range ambience / storage	-25 to +60 °C / -40 to +60 °C
Connection style	rigid 1x4 mm <sup>2</sup> / 2x1.5 mm <sup>2</sup> flexible 1 x 2.5 mm <sup>2</sup>
Tightening torque M <sub>b</sub>	0.5 Nm



## DIMENSIONS AND WIRING DIAGRAMS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE VERSION</b>			
TYTAN TH1 main protective switch-disconnector D02 with built-in monitoring electronics and LEDs	9004840651256		IS503038
<b>3+N VERSION</b>			
TYTAN TH1 main protective switch-disconnector D02 with built-in monitoring electronics and LEDs	9004840682342		IS503039
<b>ACCESSORIES</b>			
Plug retaining spring for D01 and 10x38 mm fuses	9004840419696		<b>ISF90299</b>
Solid links 63A, 3 pcs	9004840651928		IS504859
Busbar 1 metre for TYTAN T 3-pole	9004840587050		BS900145
End cap 3-pole	9004840013474		<b>BS900116</b>
<b>TYTAN HR11 MAIN PROTECTIVE RELAY FOR SINGLE EVALUATION</b>			
3 CO contacts 5A / 250 VAC	9004840651263		IS504870
<b>TYTAN HC CONNECTOR WIRES RJ10</b>			
15 cm long	9004840651270		<b>IS504873</b>
100 cm long	9004840651287		<b>IS504877</b>

## TYTAN D0-FUSE SWITCH-DISCONNECTORS TYTAN – GENERAL INFORMATION



TYTAN I

### SCHRACK INFO

- Installation size: 17.5 mm width per pole Tytan I, 27 mm Tytan II
- Integrated flashing indicator
- Supply possible on both ends
- Contact position indicator
- D01 fuse-links from 2 to 16 A can be used with Tytan I
- D02 fuse-links from 2 to 63 A can be used with Tytan II
- AC 400 V, AC 22B
- Breaking capacity 50 kA
- Snap-on mounting, serially installable 25 mm<sup>2</sup> lift terminals for Tytan I, 35 mm<sup>2</sup> lift terminals for Tytan II
- No gauge rings needed

### TIPS & TRICKS

The switch-disconnector TYTAN I is unlocked in the opened state of the switch by pressing the eject lever above the OFF label, marked with an arrow, in the direction of the fuse-link. When inserting the fuse holder, the eject lever must audibly lock in place and return to its home position.

### STANDARDS

DIN VDE 0638, DIN VDE 0660, DIN EN 60947, IEC/EN 60947-3

### TECHNICAL DATA

- Number of poles 1-pole, 2-pole, 3-pole, 1-pole + N, 3-pole + N
- Handling screw cap-less plug-in style, similar to NH style
- Suitable for D0 fuses: 2, 4, 6, 10, 13\*, 16, 20, 25, 32\*, 35, 40\*, 50, 63 A (\* - not standardised)
- Operating temperature min/max °C –25 / +60
- Temperature of receptacle for plug insert °C max +190
- Plastic insulating parts, halogen- and phosphorus-free
- Flame class V0, glow wire test 960 °C
- Leakage current resistance CTI 600
- Degree of protection / touch protection IP 20 / finger and hand touch safe

### Current paths

- Rated operational voltage  $U_e$  AC 230 V 1-pole, 1-pole + N / 400 V 2-pole, 3-pole, 3-pole + N
- Overvoltage category / pollution degree IV/3 (DIN VDE 0110)
- Rated impulse  $U_{imp}$  6000 V
- Rated special voltage AC 440 V only when using special fuse-links 440 V
- Power loss per current path at  $I_e$  0.5 W
- Max. heating at  $I_e$  and room temperature °C approx 25/ handling of fuse plug approx. 30
- Connection style stainless steel cage terminal
- Clampable fixed cross-sections min. 1.5 / max. 25 mm (max. 35 mm<sup>2</sup> Tytan II)
- Locking torque  $M_d$  for Tytan I max. 2.5 Nm, for Tytan II max. 4 Nm

### Breaking capacity

- Rated short-circuit breaking capacity  $I_{cm}$  50 kAeff
- Utilization category AC 22 B, DC 21B

### Special features

- Alarm signalling reliably by optoelectronic flashing indicator
- Restart ability immediately by reserve magazine

## D0-FUSE SWITCH-DISCONNECTOR TYTAN I UP TO 16 A

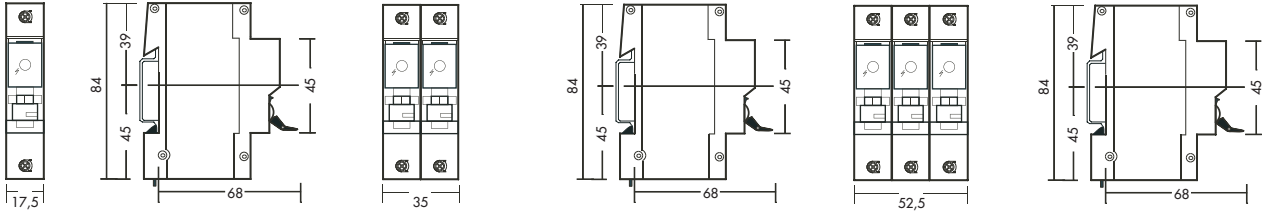


TYTAN I

### SCHRACK INFO

- Up to 16 A, AC 400 V, AC 22 B
- Breaking capacity 50 kA
- Snap-on mounting, serially installable, modular device, 25 mm<sup>2</sup> lift terminals
- Without fuse-links

### DIMENSIONS AND WIRING DIAGRAMS



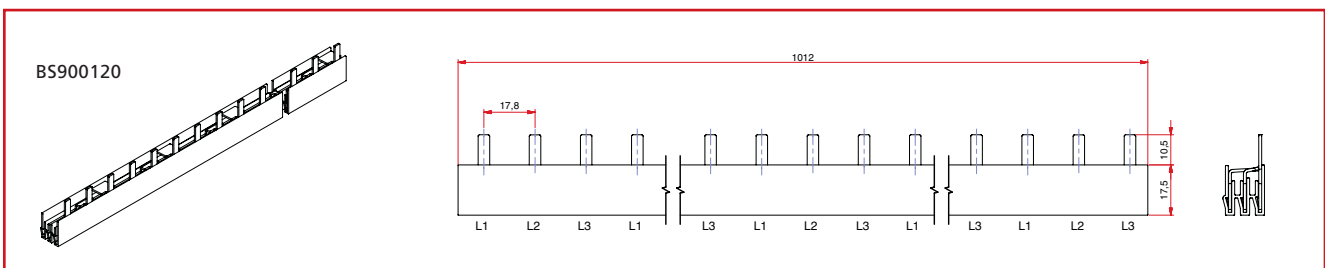
DESCRIPTION	DIM. (WxHxD) mm	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Tytan I/1-pole	17.5x84x68	12	0.022	9004840172980		<b>IS503001</b>
Tytan I/2-pole	35x84x68	6	0.043	9004840173000		IS503002
Tytan I/3-pole	52.5x84x68	4	0.075	9004840173017		IS503003

## BUSBAR DIVISION 16 mm FOR TYTAN I



BS900120

### DIMENSIONS



DESCRIPTION/MW	PU	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
Busbar 3-pole pin 16 mm <sup>2</sup> /18 mm	1	505	9004840013504		<b>BS900120</b>
End cap 3-pole for BS900120	-	-	9004840013474		<b>BS900116</b>

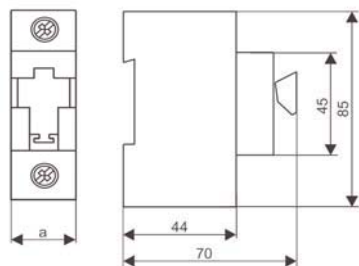


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## ■ D0-FUSE SWITCH-DISCONNECTORS TYTAN II UP TO 63 A – GENERAL INFORMATION



IS504702



### ■ SCHRACK INFO

- Reliable with flashing indicator
- Plug-in style without screw cap
- Full coding through gauge-pieces for each current level
- For D0 fuse-links 2... 63 A
- Breaking capacity 50 kA
- 400 V AC, AC22B, branch terminal
- DIN 49522
- 63 A, 50 kA
- Lockable, sealable, supply possible from both sides

### ■ FEATURES

#### Visible separation point

Removing the fuse connector creates a visible separation point. This means maximum safety for the staff (service and repairs).

#### Visible gauge-pieces

The visible gauge-pieces allows verification without interrupting the operation.

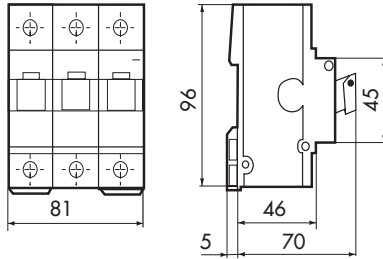
### ■ TECHNICAL DATA

Classification	Fuse switch-disconnector	
Standards	DIN VDE 0660 part 107, EN 60947, IEC 60947-3 / DIN VDE 0636 part 41, IEC 60269-3 / DIN VDE 0638, DIN VDE 43880	
Number of poles	1-pole, 2-pole, 3-pole, 1-pole+N, 3-pole+N	
Handling	plug-in style without screw cap, factory-adjusted contact pressure	
Suitable for fuses gL, gG, aM	D01: 2, 4, 6, 10 and 16; D02: 20, 25, 35, 50 and 63	
Ambient temperature	Storage min/max	-25 °C / +100 °C
	Operating min/max	-25 °C / +60 °C
Insulating parts	Plastic, halogen-, phosphorus-, silicone-free	
Flame class / comparative tracking index	UL94V0, glow wire test 960 °C / CTI 600	
Degree of protection / touch protection	IP 20 / finger and hand touch safe	
<b>CURRENT PATHS</b>		
Rated operational voltage $U_e$	AC	230 / 400 V
Rated operational current $I_e$	63 A	
Uninterrupted current $I_u$	63 A	
Overvoltage category / pollution degree	IV/3 (DIN VDE 0110)	
Rated impulse withstand voltage $U_{imp}$	6000 V	
Rated special voltage	AC 440V only when using fuse-links 440 V	
Heating at $I_u$ and room temperature	handling fuse connector approx. 30 °C.	
Connection style	Stainless steel cage clamp without galvanic surface	
Connecting branch terminal suitable for	a) 1 conductor solid, finely stranded or stranded 1.5 mm <sup>2</sup> ... 35 mm <sup>2</sup> b) top: connection flags of wiring rails underneath: finely stranded with multicore cable end from 6 mm <sup>2</sup> c) 2-conductor finely stranded with multicore cable end each from 2 x 1.5 mm <sup>2</sup> ... 2 x 16 mm <sup>2</sup>	
Torque $M_b$ M6 Pozidriv	4 Nm	
<b>BREAKING CAPACITY</b>		
Rated short-circuit breaking capacity $I_{CM}$	50 kA <sub>eff</sub>	
Utilization category	AC 22B, DC 21B	
<b>SPECIAL FEATURES</b>		
Lockable	With system-specific connectors with key, sealable	
Alarm signalling	Reliably by optoelectronic flashing indicator	
Supply	On both sides	
Quick fastening	DIN rail IEC/EN 60715	

## ■ D0-FUSE SWITCH-DISCONNECTOR TYTAN II UP TO 63 A



IS504702



### ■ SCHRACK INFO

- Up to 63 A, 400 V AC, AC 22 B
- Breaking capacity 50 kA
- Snap-on mounting, serially installable, modular device, 35 mm<sup>2</sup> lift terminals
- Without fuse connector, without gauge-pieces, without fuse-link
- Sealable in ON and OFF state

DESCRIPTION	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
1-pole	27x96x75	0.124	9004840043341		<a href="#">IS504700-A</a>
1-pole + N	54x96x75	0.244	9004840043402		<a href="#">IS504703-A</a>
3-pole	80.5x96x75	0.341	9004840043389		<a href="#">IS504702-A</a>
3-pole + N	108x96x75	0.471	9004840043426		<a href="#">IS504704-A</a>
3-pole fixed gauge-pieces, 25 A	81x96x75	0.270	9004840173697		<a href="#">IS509325</a>
3-pole fixed gauge-pieces, 35 A	81x96x75	0.270	9004840173680		<a href="#">IS509335</a>
3-pole fixed gauge-pieces, 40A	81x96x75	0.270	9004840651935		<a href="#">IS509340</a>
3-pole fixed gauge-pieces, 50A	81x96x75	0.270	9004840412949		<a href="#">IS509350</a>

## ■ FUSE PLUG FOR TYTAN II



IS504715

### ■ SCHRACK INFO

- With flashing indicator
- Plug-in principle, without screw cap, with touch-proof gauge-pieces, D0 fuse, complete (1 set = 3 pieces) in mounting box
- 32 A inserts for CEE socket outlets, 40 A inserts for V-RCCB
- Characteristic gG/gL
- Rated voltage 400 V AC

DESCRIPTION	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
2 A	54x45x75	0.127	9004840043440		<a href="#">IS504710-A</a>
4 A	54x45x75	0.127	9004840043464		<a href="#">IS504711-A</a>
6 A	54x45x75	0.127	9004840043488		<a href="#">IS504712-A</a>
10 A	54x45x75	0.129	9004840043501		<a href="#">IS504713-A</a>
16 A	54x45x75	0.130	9004840043518		<a href="#">IS504714-A</a>
20 A	54x45x75	0.143	9004840043532		<a href="#">IS504715-A</a>
25 A	54x45x75	0.145	9004840043556		<a href="#">IS504716-A</a>
32 A	54x45x75	0.148	9004840449327		<a href="#">IS504726</a>
35 A	54x45x75	0.148	9004840043570		<a href="#">IS504717-A</a>
40 A	54x45x75	0.149	9004840417579		<a href="#">IS504740</a>
50 A	54x45x75	0.149	9004840043594		<a href="#">IS504718-A</a>
63 A	54x45x75	0.152	9004840043617		<a href="#">IS504719-A</a>
Connection bridge	54x45x75	0.200	9004840388046		<a href="#">IS504725</a>
Empty box	54x45x75	0.045	9004840148404		<a href="#">IS504741</a>
With mounting box, plastic lock	54x45x75	0.06	9004840043631		<a href="#">IS504721</a>



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# FUSE- AND BUSBAR SYSTEMS

## ACCESSORIES FOR TYTAN II

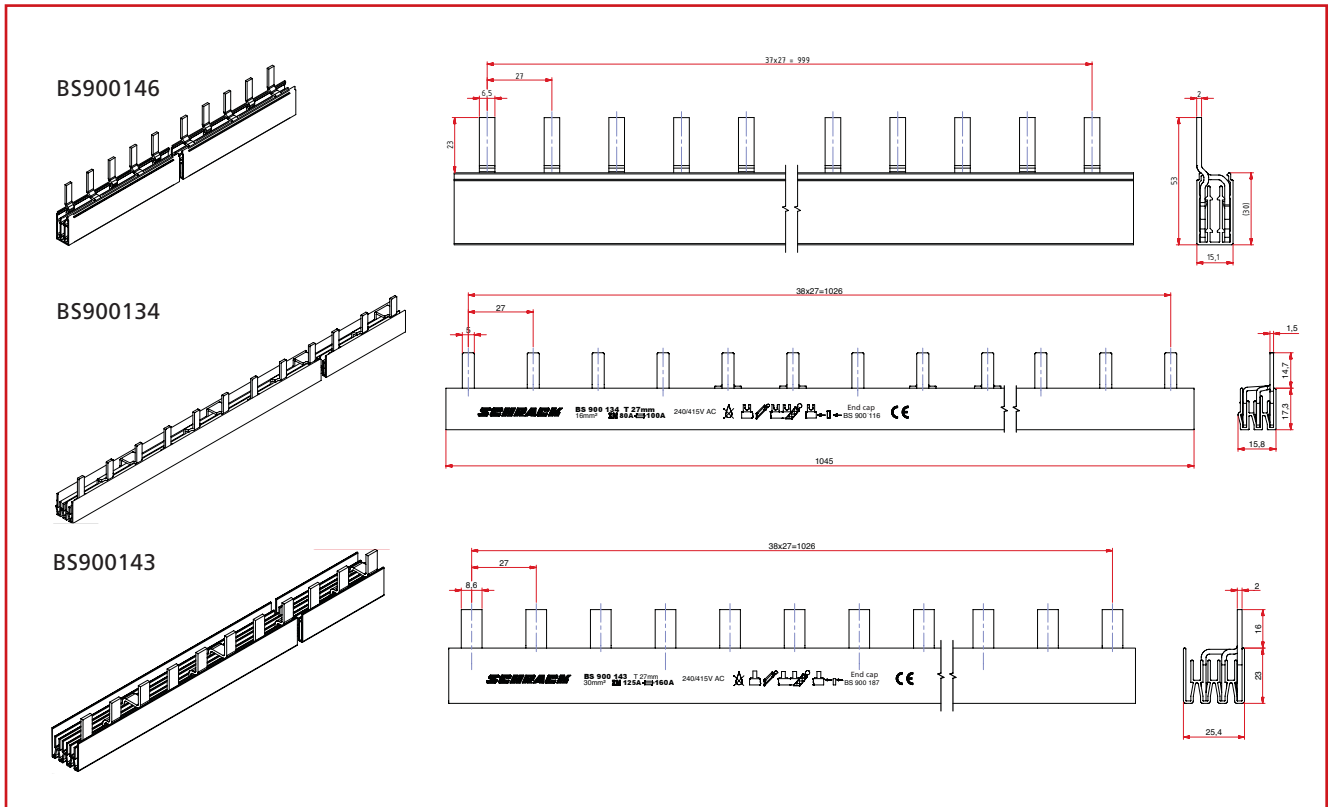


IS504722



BS900134

## DIMENSIONS



DESCRIPTION	DIM. (WxHxD) mm	PU	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
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### CONNECTION TERMINALS

Terminal block 3-pole, 3x2x35 mm <sup>2</sup>	-	1	-	9004840043648		<a href="#">IS504722</a>
Supply terminal 95 mm <sup>2</sup> , 1-pole pin terminal long	-	1	-	9004840153477		<a href="#">IS504724</a>

### THREE-PHASE CURRENT BUSBARS

Busbar 1-pole pin 16 mm <sup>2</sup> /27 mm	1 m	1	190	9004840105650		BS900133
Busbar 3-pole pin 16 mm <sup>2</sup> /27 mm	1 m	1	780	9004840013559		<a href="#">BS900134</a>
End cap 3-pole for BS900134	-	1	-	9004840013474		<a href="#">BS900116</a>
Busbar 2-pole pin 30 mm <sup>2</sup> /27 mm	1 m	1		9004840628562		BS900146
Busbar 3-pole pin 30 mm <sup>2</sup> /27 mm	1 m	1	1670	9004840106657		<a href="#">BS900143</a>
Busbar 4-pole pin 30 mm <sup>2</sup> /27 mm	1 m	1	2450	9004840218756		<a href="#">BS900144</a>
End cap 3/4-pole for BS900143 and BS900144	-	1	-	9004840276855		<a href="#">BS900187</a>



## TYTAN II WITH FUSE MONITORING



IS504705

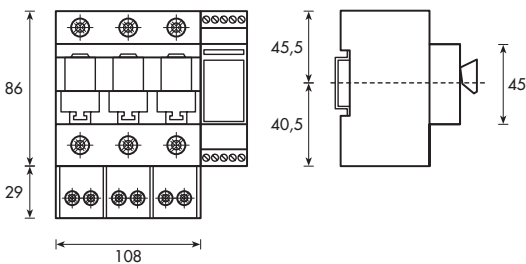
### SCHRACK INFO

- D0-fuse switch-disconnector with advanced fuse monitoring
- Principle:  
When the supply voltage U is applied, the green LED is lit and the two relays are activated – closed-circuit principle – monitoring is active. As a result of the short-circuit, the fuse insert switches off. The energy released during the short-circuit is destroyed efficiently within the fuse body. The contacts of the motor protection are thus protected from burn-off by arcs. If a fuse insert switches off, the electronic monitoring is activated by an optocoupler – the yellow LED flashes – both relays are deenergised.
- The double-relay system gives the user the possibility to use one relay in the control circuit and the other for remote data communication. The alarm signal is maintained even when manually switching the device. Readiness is reached only by replacing the fuse-link and pressing the 'reset' button.
- The short circuit may cause a dreaded two-phase operation. The lower the engine is run with its rated load, the slower react the bimetals of the motor and the longer lasts this fault condition. There is no rotation stability in this case! The main protection also closes this vulnerability and thus completes the engine protection!

### TECHNICAL DATA

Signalling system:	LED lights green = ready for operation LED flashes yellow = short circuit
Auxiliary contact short-circuit:	2 CO 5 A 250 V
Auxiliary switch ON-OFF position:	1 NO 5 A 250 V
Operating voltages:	Switch part AC: 1p, 1p + N 60 V - 230 V AC / 2p, 3p, 3p + N 60 - 400 V AC DC: 1p 60 V - 110 V DC / 2p 60 - 220 V DC Relay part 24 V - 230 V AC/DC (closed-circuit principle)

### DIMENSIONS AND WIRING DIAGRAMS



NOMINAL CURRENT	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>TYTAN II WITHOUT CONNECTABLE NEUTRAL CONDUCTOR</b>					
1 x 63 A	1	HS Tytan	9004840096934		<a href="#">IS504707</a>
2 x 63 A	1	HS Tytan	9004840096927		<a href="#">IS504706</a>
3 x 63 A	1	HS Tytan	9004840066791		<a href="#">IS504705</a>
<b>TYTAN II WITH CONNECTABLE NEUTRAL CONDUCTOR</b>					
1 + N x 63 A	1	HS Tytan	9004840096910		IS504708
3 + N x 63 A	1	HS Tytan	9004840096903		<a href="#">IS504709</a>

## ■ D0-FUSE SWITCH-DISCONNECTORS CORON 2 – GENERAL INFORMATION



IS503103

### ■ SCHRACK INFO

- Lockable by commercially available padlock
- Immediately restartable by reserve magazine
- Easy to handle by plug-in design without screw cap
- Melt inserts and gauge-pieces in chapters D01 and D02 – fuse-links

### ■ STANDARDS

DIN VDE 0638, DIN VDE 0660, DIN VDE 60947, IEC/EN 60947-3

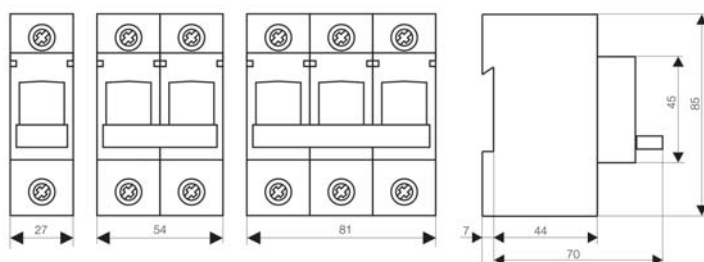
### ■ TECHNICAL DATA

Number of poles:	1-, 2- and 3-pole
Suitable for D01 fuses:	1*, 2, 4, 6, 10, 13*, 16 A (* - not standardised)
D02:	20, 25, 32, 35, 40, 50, 63 A
Ambient temperature:	Storage min/max -50 / +100 °C Operating min/max -25 / +60 °C
Temperature of receptacle for plug-in insert:	Max +190 °C
Plastic insulating parts, halogen- and phosphorus-free	
Flame class:	V0, glow wire test 960 °C
Comparative tracking index:	CTI 600
Degree of protection:	IP 20
Touch protection:	Finger and hand touch safe
Connection style:	Stainless steel cage clamp terminal

### ■ ADVANCED TECHNICAL DATA

Rated operating voltage $U_c$ :	AC 230 V 1-pole, 1-pole + N / 400 V 2-pole, 3-pole, 3-pole + N DC up to 110 V, 1-pole / up to 220 V, 2-pole
Rated operating voltage $U_e$ :	63 A
Rated continuous current $I_c$ :	63 A
Oversvoltage category:	IV
Pollution degree:	3 (DIN VDE 0110)
Rated surge voltage protection $U_{imp}$ :	6000 V
Rated special voltage:	440 V AC, only when using fuse-links 440 V
Current heat loss per current path at $I_c$ :	1.5 W
Max. heat-up at $I_c$ and room temperature:	Approx. 25 °C / handling fuse connector approx. 30 °C
Clampable solid cross-sections:	1.5 mm <sup>2</sup> - 35 mm <sup>2</sup>
Locking torque $M_d$ :	Max 4 Nm
Rated short-circuit breaking capacity $I_{cm}$ :	50 kAeff
Utilization category:	AC 22 B

### ■ DIMENSIONS AND WIRING DIAGRAMS





## D0-FUSE SWITCH-DISCONNECTOR CORON 2



IS503103

### SCHRACK INFO

- New!
- Now also 1-pole + N and 3-pole + N available

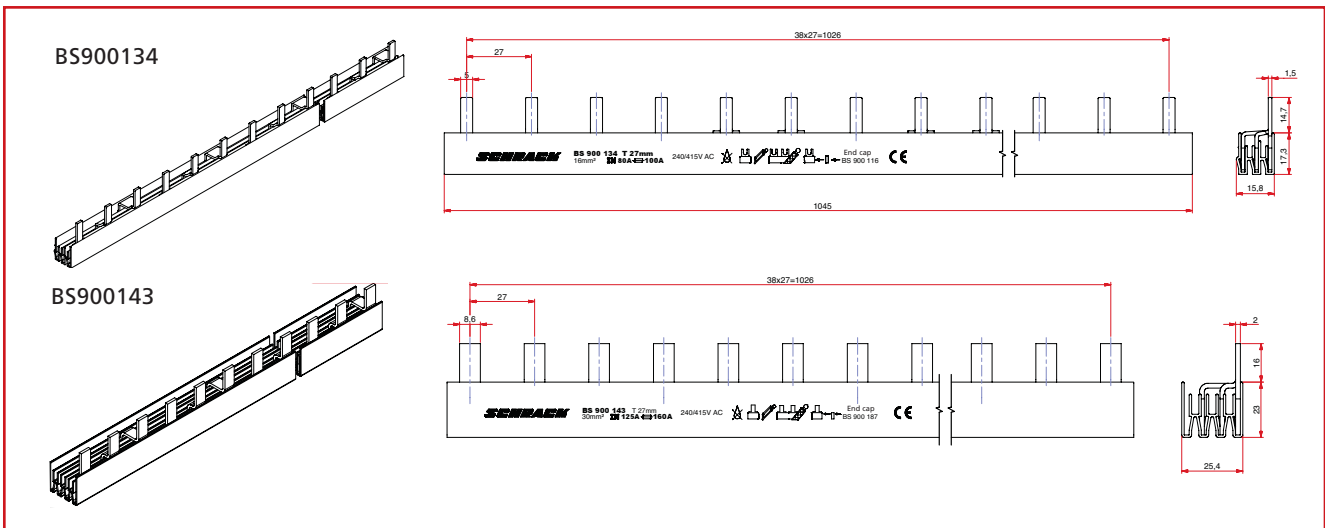
DESCRIPTION	DIM. (WxHxD) mm	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
1-pole	27x86x70	12	0.09	9004840173031		<b>IS503101</b>
1-pole + N	54x86x70	6	0.22	9004840659405		IS503106
3-pole	81x86x70	4	0.36	9004840173055		<b>IS503103</b>
3-pole + N	108x86x70	3	0.45	9004840659412		IS503108
3-pole, 20 A with fixed gauge-pieces	81x86x70	4	0.38	9004840240511		IS503320
3-pole, 25 A with fixed gauge-pieces	81x86x70	4	0.38	9004840203981		<b>IS503325</b>
3-pole, 35 A with fixed gauge-pieces	81x86x70	4	0.38	9004840203998		<b>IS503335</b>

## BUSBAR DIVISION 27 mm FOR CORON 2



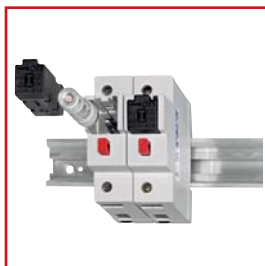
BS900134

### DIMENSIONS



DESCRIPTION/MW	PU	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
Busbar 3-pole pin 16 mm/27 mm	1	780	9004840013559		<b>BS900134</b>
End cap 3-pole for BS900134	1	-	9004840013474		<b>BS900116</b>
Busbar 3-pole pin 30 mm/27 mm	1	1670	9004840106657		<b>BS900143</b>
End cap 3/4-pole for BS900143	1	-	9004840276855		<b>BS900187</b>

## ■ D0-FUSE SWITCH-DISCONNECTOR ARROW ON UP TO 63 A



### ■ SCHRACK INFO

- Safe operation
- Switchable D02 fuse base, 1-pole up to 63 A
- No screw cap, but a connector secured against loosening
- Release via push button
- Coding by gauge-pieces in chapters D01 and D02 – fuse-links
- Supply on both sides
- Rail connection with Connect busbar
- Type ARROW ON / LED with flashing indicator
- Type 10 A sealable

### ■ TECHNICAL DATA

Classification	Fuse switch-disconnector
Standard	EN 60947-3: 1999 + A1: 2001, IEC 60947-3: 2001
Number of poles	1-pole
Handling	Plug-in style without screw cap
suitable for fuses gL, gG, aM	D01: 2, 4, 6, 10 and 16; D02: 20, 25, 35, 50 and 63
Ambient temperature	
Storage min/max	-25 °C/+100 °C
Operating min/max	-25 °C/+60 °C
Temperature of the receptacle for the connector insert	Max +190 °C
Insulating parts	Plastic, halogen-, phosphorus-, silicone-free
Flame class / comparative tracking index	UL94V0, glow wire test 960 °C/ CTI 600
Degree of protection / touch protection	IP 20 / finger and hand touch safe
Rated operational voltage $U_e$	400 V AC
Rated operational current $I_e$	63 A
Uninterrupted current $I_U$	63 A
Overvoltage category / pollution degree	IV/3 (DIN VDE 0110)
Rated impulse withstand voltage $U_{imp}$	4 kV
Rated insulation voltage $U_i$	690 V
max. heat-up at $I_e$ and room temperature	Handling approx. 25K / fuse connector approx. 30K
Connection style	Stainless steel cage clamp
Clampable solid cross-sections	1.5 ... 35 mm <sup>2</sup>
Torque $M_D$ M6 Pozidriv	Max. 4 Nm
Breaking capacity	
Rated short-circuit breaking capacity $I_{cm}$	50 kA <sub>eff</sub>
Utilization category	AC 22 B
Dimensions (WxHxD)	27x65x85 mm
Weight	0.16 kg

DESCRIPTION	DIM. (WxHxD) mm	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Fuse switch-disconnector D02	27x65x85	ARROW ON	9004840418514		ISF53000
Fuse switch-disconnector 10 A, fixed, sealable		ARROW ON 10	9004840651386		<b>ISF53010</b>
Plug retaining spring D01 on D02 Arrow	27x65x85	1	9004840419696		<b>ISF90299</b>

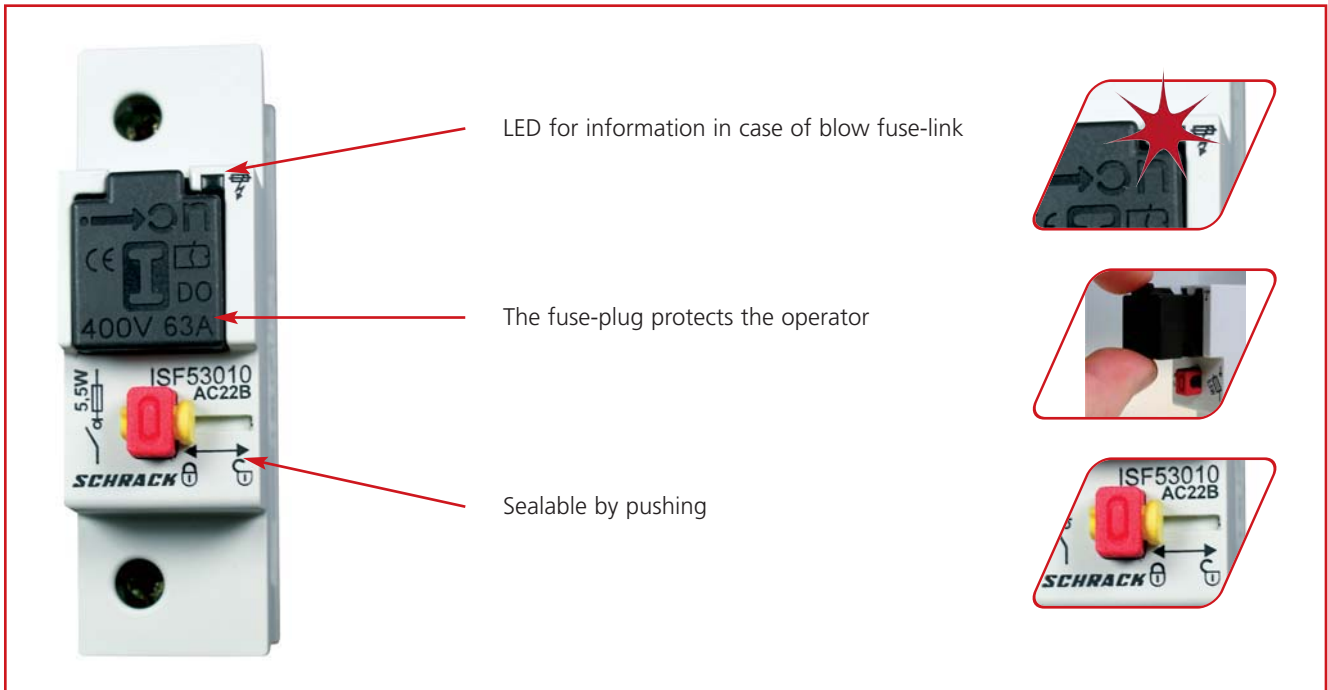
## ■ D0-FUSE SWITCH-DISCONNECTOR ARROW ON



ISF53010

### ■ SCHRACK INFO

- Special control circuit breaker for load switching devices (ripple control devices) in the pre-counter section
- Flashing indicator
- Fuse-plug
- Protection against unintentional disconnection
- Cage terminals
- Recommended by the Upper Austrian distribution system operators



## ■ INSTALLATION EXAMPLE



## MODUL-CONNECT, THE UNIVERSAL BUSBAR, DIVISION 9 mm, 18 mm, 27 mm FOR ARROW ON



ISS90004



MODUL CONNECT

### SCHRACK INFO

MW according to the devices to be rail-connected:

1/2 MW (8.9 mm): e.g., for pin busbar with free phase selection for RCBO. 1 MW (17.8 mm): e.g., for line protection circuit breaker, RCCB, ON-OFF switch, surge arrester, motor protection switch. 1 MW 27 mm for NEOZED fuse bases D01 and D02

- When using switchgear combination, use thermal derating with max. 50 A fuse.
- The first busbar with which Arrow-ON Neozed with RCCBs, RCBOs, surge arresters and motor protection switches can be rail-connected.

### STANDARDS

VDE 0606

### TECHNICAL DATA

	Cross-section selected according to the current load
Rail cross-section:	10 mm <sup>2</sup> , 16 mm <sup>2</sup>
Max. rail current I <sub>s</sub> :	63 A, 80 A
Max supply current I <sub>s</sub> :	125 A for centre supply
Nominal voltage U <sub>n</sub> :	400 V (415 V)
Nominal insulation voltage U <sub>i</sub> :	3000 V
Nominal short-circuit resistance:	25 kA with back-up fuse 100 A gL for switchgear surface mounting 60439

DESCRIPTION	LENGTH (mm)	PU	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
Busbar 80 A, 1-pole, 16 mm <sup>2</sup> , MW = 9 mm	1000	1	220	9004840419702		<b>ISS90916</b>
Insulation body, 3-pole	1000	1	-	9004840419719		<b>ISS90003</b>
Insulation body, 4-pole	1000	1	-	9004840419726		<b>ISS90004</b>
Connection flag L1/N		1	9	9004840419733		<b>ISS909G1</b>
Connection flag L2/L3		1	9	9004840419740		<b>ISS909G2</b>
End cap for insulation body 3-pole		1	-	9004840419788		<b>ISS900K3</b>
End cap for insulation body 4-pole		1	-	9004840419795		<b>ISS900K4</b>

### ACCESSORIES FOR D0



ISS04720

DESCRIPTION	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Solid links Tytan R, Tytan T a. ARROW ON	54x45x75	-	9004840651928		IS504859
Cylinder lock with mounting box	54x45x75	0.080	9004840043624		IS504720
Retaining spring	D01 in D02	0.001	9004840686470		<b>ISS04140</b>
Retaining spring for ARROW ON	D01 in D02	-	9004840419696		<b>ISF90299</b>
Gauge-piece key D01-D03	-	0.017	4086500011186		IS504550
Screw cap plastic, D 01, E 14/16 A	26x29	0.012	9004840686739		<b>SI310050</b>
Screw cap porcelain, D 01, E 14/16 A	26x29	0.012	4021267011031		<b>SI011030</b>
Screw cap plastic, D 02, E 18/63 A	22.5x29.5	0.013	9004840686746		<b>SI310060</b>
Screw cap porcelain, D 02, E 18/63 A	22.5x29.5	0.013	4021267011048		<b>SI011040</b>
Screw cap Neozed D03	M 32	0.075	4086500011377		IS504002

## /// FUSE-LINKS, GAUGE-RINGS – GENERAL INFORMATION

### /// STANDARDS

DIN VDE 0636 part 1, 10, 41, IEC 60269-3, IEC 60269-4

### /// TECHNICAL DATA

Classification:	Fuse system according to DIN VDE 0636 and IEC 60269
Installation size:	D01, D02
Operating classes:	gG (gL)
Rated current I <sub>n</sub> :	2-63 A
Rated voltage U <sub>n</sub> :	250 V DC, 400 V AC
Rated frequency:	45-62 Hz
Rated insulation voltage U <sub>i</sub> :	2500 V
Rated short circuit breaking capacity:	50 kA (AC), 8 kA (DC)

## /// DO MELT INSERTS/FUSE-LINKS



ISS04030

DESCRIPTION	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
D 01 melt insert/2 A	11x36	0.006	9004840686302		<b>ISS04030</b>
D 01 melt insert/4 A	11x36	0.006	9004840686319		<b>ISS04031</b>
D 01 melt insert/6 A	11x36	0.006	9004840686326		<b>ISS04032</b>
D 01 melt insert/10 A	11x36	0.006	9004840686333		<b>ISS04033</b>
D 01 melt insert/16 A	11x36	0.006	9004840686340		<b>ISS04034</b>
D 02 melt insert/20 A	15x36	0.011	9004840686357		<b>ISS04035</b>
D 02 melt insert/25 A	15x36	0.012	9004840686364		<b>ISS04036</b>
D 02 melt insert/35 A	15x36	0.013	9004840686371		<b>ISS04037</b>
D 02 melt insert/50 A	15x36	0.014	9004840686388		<b>ISS04038</b>
D 02 melt insert/63 A	15x36	0.015	9004840686395		<b>ISS04039</b>
D 03 melt insert/80 A	22x43	0.037	9004840686401		<b>ISS04040</b>



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## D0 GAUGE-RINGS



IS504130

DESCRIPTION	DIM. (VxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
D 01 gauge-ring/2 A	12x10	0.04	9004840686418		<b>IS504130</b>
D 01 gauge-ring/4 A	12x10	0.04	9004840686425		<b>IS504131</b>
D 01 gauge-ring/6 A	12x10	0.04	9004840686432		<b>IS504132</b>
D 01 gauge-ring/10 A	12x10	0.04	9004840686449		<b>IS504133</b>
D 02 gauge-ring - D01 in D02/2 A	16x10	0.06	9004840686487		<b>IS504141</b>
D 02 gauge-ring - D01 in D02/4 A	16x10	0.06	9004840686494		<b>IS504142</b>
D 02 gauge-ring - D01 in D02/6 A	16x10	0.06	9004840686500		<b>IS504143</b>
D 02 gauge-ring - D01 in D02/10 A	16x10	0.06	9004840686517		<b>IS504144</b>
D 02 gauge-ring/16 A	16x10	0.06	9004840686524		<b>IS504145</b>
D 02 gauge-ring/20 A	16x10	0.06	4086500010943		<b>IS504134</b>
D 02 gauge-ring/25 A	16x10	0.06	4086500010998		<b>IS504135</b>
D 02 gauge-ring/35 A	16x10	0.06	9004840686456		<b>IS504136</b>
D 02 gauge-ring/50 A	16x10	0.06	9004840686463		<b>IS504137</b>
D 03 gauge-ring/80 A	27x10	0.07	4086500011155		<b>IS504138</b>



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## DIАЗED UP TO 63 A



SI010050

### SCHRACK INFO

- DIN 49510, DIN 49511, 1-/3-pole
- DII up to 25 A, 500 V
- DIII up to 63 A 690 V AC / 600 V DC
- Fuse-links DIN 49515, DIN49367
- Screw adjusting inserts DIN49516
- DII screw M5 with clamping bracket (1.5-6 mm<sup>2</sup>)
- DII screw M6 with clamping bracket (2.5-16 mm<sup>2</sup>)

DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
EZII/6 mm <sup>2</sup> /clamping bracket/clamping bracket/1p	1	DIA-2	0.150	408650005208		<b>IP74068</b>
Cover 45 mm for EZII for IP74068	1	DIA-2	0.010	408650005253		<b>IP74070</b>
Cover for EZII OKA for IP74068	1	DIA-2	0.020	9004840042689		<b>IP74074</b>
EZIII/16 mm <sup>2</sup> /screw/2-screw clamp/1p	1	DIA-3	0.170	408650005277		<b>IP74069</b>
Cover 45 mm for EZIII for IP74069	1	DIA-3	0.020	408650005307		<b>IP74071</b>
Screw cap for base EZII without inspection hole	1	KII	0.036	9004840686531		<b>M141802</b>
Screw cap for base EZIII without inspection hole	1	KIII	0.056	9004840686548		<b>M141803</b>

## DIАЗED ACCORDING TO BGV A2/TRITON UP TO 63 A



SI311740

### SCHRACK INFO

- DIN 49524, 1-/3-pole
- DII up to 25 A, 500 V
- DIII up to 63 A, 690 V AC, 600 V DC
- Fuse-links DIN 49515, DIN 49367
- Screw adjusting inserts DIN 49516
- Two-sided box terminal (1.5-35 mm<sup>2</sup>)
- Contact protection according to DIN VDE 0106
- Serially installable

DESCRIPTION/NOMINAL CURRENT	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
DII/ E27/ 1-pole/25 A	80x40x61.2	31173	0.153	4021267311735		<b>SI311730</b>
DII/ E27/ 3-pole/25 A	150x80x61.2	31174	0.459	4021267311742		<b>SI311740</b>
DIII/ E33/ 1-pole/63 A	80x40x61.2	31175	0.176	4021267311759		<b>SI311750</b>
DIII/ E33/ 3-pole/63 A	150x80x61.2	31176	0.533	9004840182774		SI311760
Screw cap for base EZII without inspection hole	-	KII	0.036	9004840686531		<b>M141802</b>
Screw cap for base EZIII without inspection hole	-	KIII	0.056	9004840686548		<b>M141803</b>



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## DIАЗED D-FUSES FOR BASES EZ II AND EZIII



M142106

DESCRIPTION	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
2 A/fuse EZ II	1	0.026	9004840192407		<a href="#">M142100</a>
4 A/fuse EZ II	1	0.026	9004840192414		<a href="#">M142101</a>
6 A/fuse EZ II	1	0.026	9004840686555		<a href="#">M142102</a>
10 A/fuse EZ II	1	0.026	9004840686562		<a href="#">M142103</a>
16 A/fuse EZ II	1	0.028	9004840686579		<a href="#">M142104</a>
20 A/fuse EZ II	1	0.030	9004840686586		<a href="#">M142105</a>
25 A/fuse EZ II	1	0.031	9004840686593		<a href="#">M142106</a>
35 A/fuse EZ III	1	0.047	9004840686609		<a href="#">M142200</a>
50 A/fuse EZ III	1	0.050	9004840686616		<a href="#">M142201</a>
63 A/fuse EZ III	1	0.051	9004840686623		<a href="#">M142202</a>

## DIАЗED D-FUSE ADJUSTING INSERTS FOR BASES EZ II AND EZIII



M143106

DESCRIPTION	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
2 A/set screw insert for base EZ II	1	0.012	9004840686630		<a href="#">M143000</a>
4 A/fitting screw insert for base EZ II	1	0.012	9004840686647		<a href="#">M143001</a>
6 A/fitting screw insert for base EZ II	1	0.012	9004840686654		<a href="#">M143002</a>
10 A/fitting screw insert for base EZ II	1	0.012	9004840686661		<a href="#">M143003</a>
16 A/fitting screw insert for base EZ II	1	0.012	9004840686678		<a href="#">M143004</a>
20 A/fitting screw insert for base EZ II	1	0.012	9004840686685		<a href="#">M143005</a>
25 A/fitting screw insert for base EZ II	1	0.011	9004840686692		<a href="#">M143006</a>
35 A/fitting screw insert for base EZ III	1	0.022	9004840686708		<a href="#">M143100</a>
50 A/fitting screw insert for base EZ III	1	0.019	9004840686715		<a href="#">M143101</a>
63 A/fitting screw insert for base EZ III	1	0.018	9004840686722		<a href="#">M143102</a>
2 A/gauge ring insert pink EZ II	1	0.005	9004840261707		SI015410
10 A/gauge ring insert red EZ II	1	0.006	9004840261653		SI015440
50 A/gauge ring insert white EZ III	1	0.010	9004840391435		SI015490














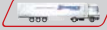

## FUSE LOAD-BREAK DISCONNECTOR FOR CYLINDRICAL FUSES



IS506101



IS506223

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
<b>10 x 38 mm</b>				
1-pole, characteristic gG, 32 A	12	9004840162219		<b>IS506101</b>
1-pole, characteristic gG, 32 A with LED	12	9004840614312		IS506106
2-pole, characteristic gG, 32 A	5	9004840162233		<b>IS506102</b>
3-pole, characteristic gG, 32 A	1	9004840162240		<b>IS506103</b>
3-pole, characteristic gG, 32 A with LED	1	9004840614329		IS506109
1-pole+N, characteristic gG, 32 A	1	9004840162226		<b>IS506104</b>
3-pole+N, characteristic gG, 32 A	1	9004840162257		<b>IS506105</b>
<b>14 x 51 mm</b>				
1-pole, characteristic gG, 50 A	12	9004840162264		<b>IS506141</b>
2-pole, characteristic gG, 50 A	6	9004840162288		<b>IS506142</b>
3-pole, characteristic gG, 50 A	4	9004840162295		<b>IS506143</b>
3-pole, characteristic gG, 50 A with LED	4	9004840614343		IS506149
3-pole+N, characteristic gG, 50 A	4	9004840162301		<b>IS506145</b>
<b>22 x 58 mm</b>				
1-pole, characteristic gG, 100 A		9004840162318		<b>IS506221</b>
2-pole, characteristic gG, 100 A		9004840162332		<b>IS506222</b>
3-pole, characteristic gG, 100 A		9004840162349		<b>IS506223</b>
3-pole, characteristic gG, 100 A with LED		9004840614350		IS506230
1-pole+N, characteristic gG, 100 A		9004840162325		IS506224
1-pole+N, characteristic gG, 100 A		9004840162356		<b>IS506225</b>



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## FUSE SWITCH-DISCONNECTORS 10 x 38 mm TYTAN T – GENERAL INFORMATION



15503040

### SCHRACK INFO

- 400 V~, 63 A, 50 kA, AC22B  
with: Thermal monitoring, flashing indicator, independent manual operation  
Plug retaining spring, AMP cable lugs
- for: Cylindrical fuses 1...32 A, size 10 x 38 mm  
also suitable for D0 fuses

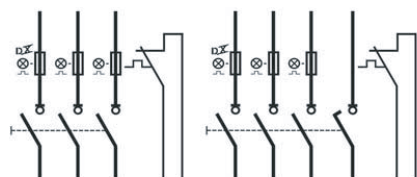
### FEATURES & BENEFITS

TYTAN T	Features	Benefits
Thermal monitoring VDE 1000 / DIN 31000	Thermal switch trips as auxiliary switch in case of dangerous overheating	Operational reliability and equipment protection
Flashing indicator	Optoelectronic fuse switch-off indicator	Reliable fault detection on site Immediate restart
Independent manual operation DIN VDE 0105	Clearance	Personal protection and operational safety
Fuse plug EN 50110-1		
Compact shape DIN 43880	Only 4 MWs (3- and 4-poles)	Compatible with RCCBs

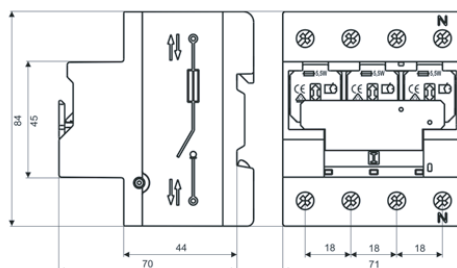
### TECHNICAL DATA

Classification	Switch-disconnector fuse
Standard/regulation	DIN EN 60947-3, IEC 60947-3
Suitable for fuse-links	D0 special fuse-links 440 V~
Suitable for cylindrical fuses IEC EN 60269-2-1	10x38 mm: 2 ... 32 A with plug retaining spring
Number of poles	3-pole, 3-pole+N
Insulating parts	Plastic, halogen-, phosphorus-, silicone-free
Fire classification / Leakage current resistance	UL94/V0, glow wire test 960 °C / CTI600
Degree of protection / touch protection	IP 20/40; finger and hand touch safe
Ambient temperature; storage min/max	-25 °C / 60 °C
Rated operational voltage $U_e$	400 V~
Rated operational current $I_e$	63 A
Uninterrupted current $I_u$	63 A
Rated short-circuit breaking capacity $I_{cm}$	50 kA <sub>R-m-s</sub>
Utilization category	AC 22 B
Overvoltage category	IV (DIN VDE 0110)
Pollution degree	3 (DIN VDE 0110)
Rated impulse withstand $U_{imp}$	6000 V
Connection type	Stainless steel cage terminal 1.5 ... 25 mm <sup>2</sup>
Tightening torque $M_D$	3.5 Nm
Thermal switch	AC: 1.5 A, 250 V, $\cos\phi$ 0.6; DC 1.2 A, 48 A

### CIRCUIT SYMBOL



all poles






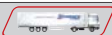
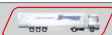

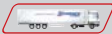
## FUSE SWITCH-DISCONNECTOR 10 x 38 mm TYTAN T



IS503103



ISF90299

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE VERSION</b>			
Fuse switch-disconnector TYTAN T 3-pole	9004840584561		<b>IS503030</b>
Fuse switch-disconnector TYTAN T 3-pole with auxiliary contact	9004840584578		IS503031
<b>ACCESSORIES</b>			
Plug retaining spring for D01 and 10x38 mm fuses	9004840419696		<b>ISF90299</b>
Busbar 1 metre for TYTAN T 3-pole	9004840587050		BS900145
End cap 3-pole	9004840013474		<b>BS900116</b>
<b>3+N VERSION</b>			
D02-fuse switch-disconnector TYTAN T 3 + N	9004840584585		<b>IS503040</b>
<b>ACCESSORIES</b>			
Plug retaining spring for D01 and 10x38 mm fuses	9004840419696		<b>ISF90299</b>
Busbar 1 metre 4-pole 16 mm <sup>2</sup>	9004840186123		<b>BS990122</b>
End cap 4-pole	9004840013481		<b>BS900117</b>



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## FUSE CARRIER FOR CYLINDRICAL PHOTOVOLTAIC FUSES



IS506122

### SCHRACK INFO

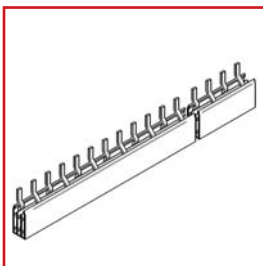
- For the protection of PV modules
- DC rated voltage is 1.2 x the open-circuit voltage of the photovoltaic path
- The rated current of the fuse should be greater than/equal 1.5x the short-circuit current of the photovoltaic module

### TECHNICAL DATA

No. of poles:	1, 2	
Rated current I <sub>n</sub> :	20 A	
Rated operating voltage U <sub>e</sub> :	1000 V DC	
Breaking capacity:	DC-20B	
Own consumption:	3 W	
Fuse size:	10 x 38	
Fuse standard:	IEC 60269, UL284-4	
Disconnecter standard:	IEC 60947-1 Ed. 4.0 EN 60947-1:1999+A1+A2 IEC 60947-3 Ed. 2.1 EN 60947-3:1999+A1:2001	
Terminal cross-section:	0.5 mm <sup>2</sup> – 10 mm <sup>2</sup> AWG 8-20 solid	
Dimensions (WxHxD):	1-pole	17.5 x 83.3 x 64 mm
	2-pole	35.3 x 83.3 x 64 mm
Weight:	1-pole	58 g
	2-pole	120 g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>10 x 38 mm PHOTOVOLTAIC</b>			
PV-fuse carrier 1-pole	9004840619126		<b>IS506121</b>
PV-fuse carrier 2-pole	9004840619133		<b>IS506122</b>

## BUSBAR CARRIER FOR PHOTOVOLTAIC FUSE



BS990066

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
2-pole busbar, 1 m	9004840651324		BS990066
<b>ACCESSORIES</b>			
End cap	9004840651331		<b>BS900119</b>



## ■ CYLINDRICAL FUSE LINKS, CHARACTERISTIC gG



ISZ08006









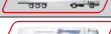

### ■ SCHRACK INFO

- Characteristic curve gG = full range fuse for general applications, mainly cable and wire protection, according to IEC 60269

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>8 x 31 mm</b>			
Characteristic gG, 8x31, 1 A, 400 V	9004840517132		ISZ08001
Characteristic gG, 8x31, 2 A, 400 V	9004840517149		ISZ08002
Characteristic gG, 8x31, 4 A, 400 V	9004840517163		<b>ISZ08004</b>
Characteristic gG, 8x31, 6 A, 400 V	9004840517170		<b>ISZ08006</b>
Characteristic gG, 8x31, 8 A, 400 V	9004840517187		ISZ08008
Characteristic gG, 8x31, 10 A, 400 V	9004840517194		<b>ISZ08010</b>
Characteristic gG, 8x31, 12 A, 400 V	9004840517200		ISZ08012
Characteristic gG, 8x31, 16 A, 400 V	9004840517217		<b>ISZ08016</b>
Characteristic gG, 8x31, 20 A, 400 V	9004840517224		<b>ISZ08020</b>
Characteristic gG, 8x31, 25 A, 400 V	9004840517231		ISZ08025
<b>10 x 38 mm</b>			
Characteristic gG, 10x38, 0.5 A, 500 V	9004840517248		<b>ISZ100005</b>
Characteristic gG, 10x38, 1 A, 500 V	9004840518153		<b>ISZ10001</b>
Characteristic gG, 10x38, 2 A, 500 V	9004840518160		<b>ISZ10002</b>
Characteristic gG, 10x38, 4 A, 500 V	9004840518177		<b>ISZ10004</b>
Characteristic gG, 10x38, 6 A, 500 V	9004840518184		<b>ISZ10006</b>
Characteristic gG, 10x38, 8 A, 500 V	9004840518191		<b>ISZ10008</b>
Characteristic gG, 10x38, 10 A, 500 V	9004840518207		<b>ISZ10010</b>
Characteristic gG, 10x38, 12 A, 500 V	9004840518214		<b>ISZ10012</b>
Characteristic gG, 10x38, 16 A, 500 V	9004840518221		<b>ISZ10016</b>
Characteristic gG, 10x38, 20 A, 500 V	9004840518238		<b>ISZ10020</b>
Characteristic gG, 10x38, 25 A, 500 V	9004840518245		<b>ISZ10025</b>
Characteristic gG, 10x38, 32 A, 400 V	9004840518252		<b>ISZ10032</b>
Characteristic gR, 10x38, 10 A, 660 V	9004840451887		SI312090
Characteristic gR, 10x38, 16 A, 660 V	9004840373844		SI312110
Characteristic gR, 10x38, 20 A, 660 V	9004840226393		SI312120
Characteristic gR, 10x38, 25 A, 660 V	9004840414080		SI312130
Characteristic gR, 10x38, 30 A, 660 V	9004840451757		SI312140
<b>14 x 51 mm</b>			
Characteristic gG, 14x51, 2 A, 690 V	9004840518269		<b>ISZ14002</b>
Characteristic gG, 14x51, 4 A, 690 V	9004840518276		<b>ISZ14004</b>
Characteristic gG, 14x51, 6 A, 690 V	9004840518283		<b>ISZ14006</b>
Characteristic gG, 14x51, 8 A, 690 V	9004840518290		ISZ14008
Characteristic gG, 14x51, 10 A, 690 V	9004840518306		<b>ISZ14010</b>
Characteristic gG, 14x51, 12 A, 690 V	9004840518313		ISZ14012
Characteristic gG, 14x51, 16 A, 690 V	9004840518320		<b>ISZ14016</b>
Characteristic gG, 14x51, 20 A, 690 V	9004840518337		<b>ISZ14020</b>
Characteristic gG, 14x51, 25 A, 690 V	9004840518344		<b>ISZ14025</b>
Characteristic gG, 14x51, 32 A, 690 V	9004840518351		<b>ISZ14032</b>
Characteristic gG, 14x51, 40 A, 500 V	9004840518368		<b>ISZ14040</b>
Characteristic gG, 14x51, 50 A, 500 V	9004840518375		<b>ISZ14050</b>



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DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>22 x 58 mm</b>			
Characteristic gG, 22x58, 16 A, 690 V	9004840518382		<a href="#">ISZ22016</a>
Characteristic gG, 22x58, 20 A, 690 V	9004840518399		<a href="#">ISZ22020</a>
Characteristic gG, 22x58, 25 A, 690 V	9004840518412		<a href="#">ISZ22025</a>
Characteristic gG, 22x58, 32 A, 690 V	9004840518429		<a href="#">ISZ22032</a>
Characteristic gG, 22x58, 40 A, 690 V	9004840518436		<a href="#">ISZ22040</a>
Characteristic gG, 22x58, 50 A, 500 V	9004840518405		<a href="#">ISZ22050</a>
Characteristic gG, 22x58, 63 A, 500 V	9004840518443		<a href="#">ISZ22063</a>
Characteristic gG, 22x58, 80 A, 500 V	9004840518450		<a href="#">ISZ22080</a>
Characteristic gG, 22x58, 100 A, 500 V	9004840518467		<a href="#">ISZ22100</a>
Characteristic gG, 22x58, 125 A, 400 V	9004840618129		<a href="#">ISZ22125</a>

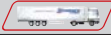






## ■ CYLINDRICAL FUSE LINKS FOR PHOTOVOLTAIC, CHARACTERISTIC gPV



ISV10906

### ■ SCHRACK INFO

- Characteristic curve gPV = full range fuse for photovoltaic fuse
- Voltage up to 1000 V DC, according to IEC 60269

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>10 x 38 mm</b>			
Photovoltaic fuse, characteristic gPV, 10x38, 4 A, 1000 V DC	9004840655391		<a href="#">ISV10004</a>
Photovoltaic fuse, characteristic gPV, 10x38, 6 A, 1000 V DC	9004840655407		<a href="#">ISV10006</a>
Photovoltaic fuse, characteristic gPV, 10x38, 8 A, 1000 V DC	9004840655414		<a href="#">ISV10008</a>
Photovoltaic fuse, characteristic gPV, 10x38, 10 A, 1000 V DC	9004840655421		<a href="#">ISV10010</a>
Photovoltaic fuse, characteristic gPV, 10x38, 12 A, 1000 V DC	9004840655438		<a href="#">ISV10012</a>
Photovoltaic fuse, characteristic gPV, 10x38, 16 A, 1000 V DC	9004840655445		<a href="#">ISV10016</a>
Photovoltaic fuse, characteristic gPV, 10x38, 20 A, 1000 V DC	9004840655452		<a href="#">ISV10020</a>



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## LOAD-BREAK DISCONNECTOR ARROW BLOC – GENERAL INFORMATION



ISA50222

### SCHRACK INFO

- For inserts according to ÖNORM 6020 and DIN 43620
- Easy lid sealing
- Switching lid placement
- Halogen-free, non-flammable plastics
- Three standard connection variants
- Staggered ventilation slots
- Fully insulated, safe to touch
- Reliable voltage verification

### TECHNICAL DATA

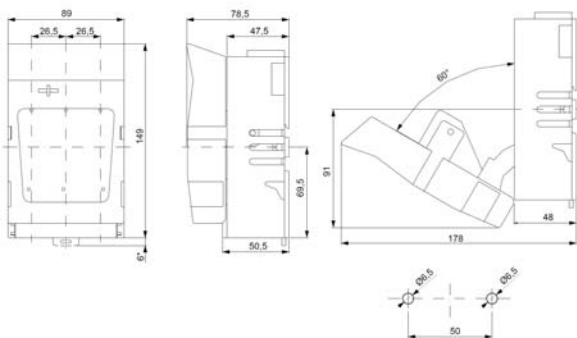
- Features:
  - PROTECTION (with inserted NH fuse-link)
    - Of lines against overload and short circuit
    - Of people and animals against dangerous touch and step voltages
    - Selective isolation of defective equipment parts
    - Device protection
    - Safe shutdown
  - DISCONNECTING
    - Visible large disconnecting distance
  - SWITCHING
    - Safe activation on short circuit (with NH fuse-links)
    - Load-switchable (AC 23, DC 23)

### STANDARDS

IEC 408, VDE 0636, VDE 0660, SEV 1089-1.1983

## ARROW BLOC UP TO 100 A – SIZE 000 (00C), FOR SURFACE MOUNTING

### DIMENSIONS



### TECHNICAL DATA

Installation size:	C00
Nominal operating voltage:	690 V AC/440 V
Nominal current:	160 A
Power loss:	7.5 W according to EN 60947-3
AC 22 B:	400 V/160 A
AC 21 B:	690 V/100 A
DC 21 B:	440 V/100 A
Nominal breaking capacity:	50 kA with NH links
Direct connection:	1.5 - 50 mm <sup>2</sup>

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Size 000 up to 100 A with dips	1	9004840688924		ISA05011



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## ARROW BLOC – SIZE 00, DISCONNECTOR, FOR SURFACE MOUNTING



ISA05222

### TECHNICAL DATA

Technical data according to IEC 947 / EN 60947	
Installation size 00:	one- to four-pole
Conventional thermal current with NH I <sub>TH</sub> :	160 A continuous operation
Rated operating voltage:	400 V AC    500 V AC    690 V AC    220 V DC
Rated operating current:	160 A    160 A    160 A    160 A
Utilisation category:	AC 23B    AC22B    AC21B    DC22B
Rated insulation voltage:	800 V
Surge voltage:	8 kV
Frequency:	50 - 60 Hz
Standard terminal:	M8, Cu max. B.: 20 mm; max 2x70 mm <sup>2</sup> Cu or 2x95 mm <sup>2</sup> AL
Power loss without NH:	7 W / pole
Ambient temperature T <sub>u</sub> :	-25 °C to +55 °C
Degree of protection	IP 20

DESCRIPTION	PU	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
1-pole size 00 - 160 A, M8	1	37	9004840689136		<a href="#">ISA05224</a>
2-pole size 00 - 160 A, M8	1	74	9004840689068		<a href="#">ISA05220</a>
3-pole size 00 - 160 A, M8 + clip	1	111	9004840689075		<a href="#">ISA05221</a>
3-pole size 00 - 160 A, M8 with window lock	1	111	9004840689082		<a href="#">ISA05221F</a>
3-pole size 00 - 160 A, clip	1	111	9004840689099		<a href="#">ISA05222</a>
3-pole size 00 - 160 A, M8 with window lock	1	111	9004840689105		<a href="#">ISA05222F</a>
4-pole size 00 - 160 A, M8	1	148	9004840689143		<a href="#">ISA05225</a>



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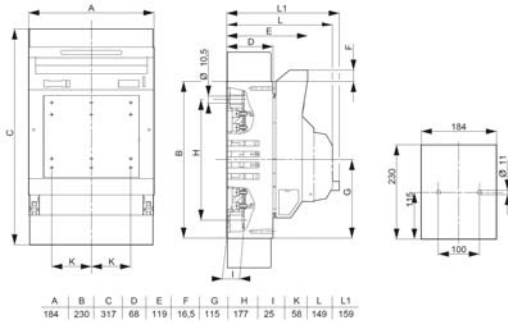
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## ARROW BLOC – SIZE 1, FOR SURFACE MOUNTING



ISA05226



## TECHNICAL DATA FOR SIZE 1, SIZE 2 AND SIZE 3

Technical data according to IEC 947 / EN 60947	
Installation size 1:	one- to four-pole
Installation size 2 and 3:	three-pole
Conventional thermal current with NH I <sub>TH</sub> :	250 A continuous operation
Rated operating voltage:	400 V AC    500 V AC    690 V AC    440 V DC
Rated operating current, size 1:	250 A    250 A    200 A    200 A    50 kA
Rated operating current, size 2:	400 A    400 A    315 A    315 A    80 kA
Rated operating current, size 3:	630 A    630 A    500 A    500 A    80 kA
Utilisation category:	AC 23B    AC22B    AC21B    DC21B
Rated insulation voltage:	800 V
Rated surge voltage:	8 kV
Nominal frequency:	Size 1: 50 - 60 Hz; size 2 und 3: 45 - 62 Hz
Standard terminal, size 1 and 2:	M10; Cu-max. W.: 18 mm; max 2x150 mm <sup>2</sup> Cu or 2x185 mm <sup>2</sup> AL
Standard terminal, size 3: M12; Cu-max. W.:	24 mm; max 2x185 mm <sup>2</sup> Cu or 2x240 mm <sup>2</sup> AL
Power los without NH1:	23 W / pole, size 2 and 3: max. 48 W per device
Ambient temperature T <sub>J</sub> :	-25 °C to +55 °C
Degree of protection:	IP 20

DESCRIPTION	PU	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
1-pole size 1 - 250 A, M 10	1	220	9004840689167		<a href="#">ISA05227</a>
2-pole size 1 - 250 A, M 10	1	441	9004840689174		<a href="#">ISA05228</a>
3-pole size 1 - 250 A, M 10	1	661	9004840689150		<a href="#">ISA05226</a>
4-pole size 1 - 250 A, M 10	1	882	9004840689181		<a href="#">ISA05229</a>



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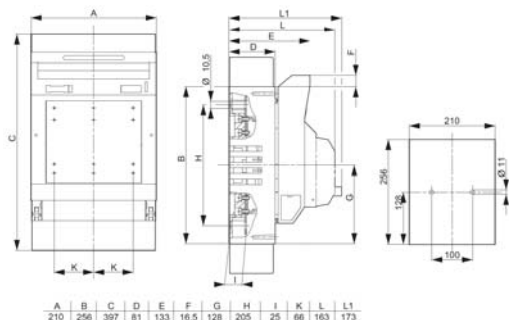
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## ARROW BLOC – SIZE 2, FOR SURFACE MOUNTING



ISA05250

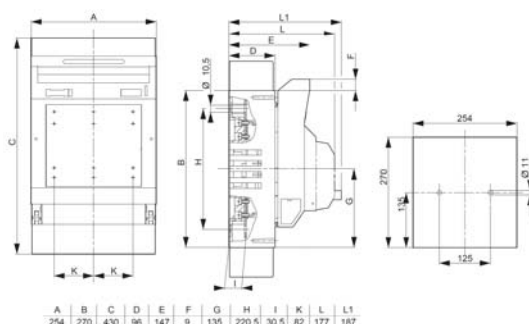


DESCRIPTION	PU	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
3-pole size 2 - 400 A, M 10	1	1046	9004840689198		<a href="#">ISA05250</a>

## ARROW BLOC – SIZE 3, FOR SURFACE MOUNTING



ISA05250



DESCRIPTION	PU	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
3-pole size 3 - 630 A, M 12	1	1855	9004840689242		<a href="#">ISA05295</a>

## ARROW FUSE – BASE, SIZE 00 – 2, 160 A – 400 A



ISS05061



ISS05001

### SCHRACK INFO

- Dimensions according to ÖNORM E6021 and DIN 43.620
- 3-pole version with 2 phase partitions

### STANDARDS

ÖVE-SN40, IEC 269, VDE 0636, SEV 1018

DESCRIPTION	PU	CU WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
1-pole size 00, M8/Bride	1	119	9004840688887		<a href="#">ISA05001</a>
1-pole size 00, V-terminal/Bride	1	119	9004840688894		<a href="#">ISA05003</a>
3-pole size 00, M8/V-terminals	1	119	9004840688955		<a href="#">ISA05037</a>
3-pole size 00, M8 press-in nuts on both ends	1	119	9004840688962		<a href="#">ISA05039</a>
3-pole size 1, M10 hex head bolt, washer and nut on both ends	1	454	9004840689006		<a href="#">ISA05060</a>
3-pole size 2, M12 hex head bolt, washer and nut on both ends	1	508	9004840689013		<a href="#">ISA05061</a>

## ARROW BASE – NEUTRAL CONDUCTOR SUPPORTS, 1-POLE, SIZE 00



IS505007

DESCRIPTION	PU	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
Size 00, M8/Bride	1	90	9004840043693		<a href="#">IS505004</a>
Size 00, Bride/Bride	1	88	9004840688900		<a href="#">ISA05005</a>
Size 00, V-terminal/Bride	1	79	9004840688917		<a href="#">ISA05006</a>
Size 00, 2p, 4 x M8 with detachable PEN link	1	200	9004840142808		<a href="#">IS505007</a>
Size 00, 2p, 6 x M8 with detachable PEN link	1	192	9004840043723		<a href="#">IS505008</a>
Size 00, M8 / V-terminal	1	79	9004840043853		<a href="#">IS505038</a>
Size 00, 2 x M8	1	46	9004840688979		<a href="#">ISA05043</a>
Size 00, 2 outputs, 3 x M8	1	115	9004840044423		IS505091

## ACCESSORIES FOR FUSE BASES



IS505040

DESCRIPTION	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Direct connection terminal for V-shaped connection flags					
VK160 cross-section 35-70 mm <sup>2</sup>	1	VK160	9004840043877		<a href="#">IS505040</a>
Connection flag 2 x M 8 - 1 x V-terminal 2 x 35-70 mm <sup>2</sup>	1	00.V5	9004840044508		<a href="#">IS505099</a>
V-double terminal 2 x 35-70 mm <sup>2</sup>	1	VK160	9004840380125		<a href="#">IS505018</a>
Connection lug M8 - 1 x V-terminal, VK160	1	00.SZSV1	9004840044492		<a href="#">IS505098</a>
Direct connection terminal for V-shaped connection flags					
VK 400 cross-section 35-185 mm <sup>2</sup>	1	VK400	9004840045215		<a href="#">IS505200</a>
Connection lug VK 400 for M 10	1	22.SZSV1	9004840045222		<a href="#">IS505201</a>
Phase partition for size 00 long	1	0.TW5	9004840043952		<a href="#">IS505047</a>
Phase partition for size 1	1	1.TW5	9004840044089		IS505058
Phase partition NHU-00 short	1	00SZTW5	9004840044393		<a href="#">IS505088</a>
Busbar 1 m/20 x 3 mm perforated Ø 8.5 , hole spacing 32 mm (CU weight 540 g)	1	NH-ZU	9004840044515		<a href="#">IS505100</a>
V-double terminal	1	2x35-70SM	9004840380125		<a href="#">IS505018</a>



## 60 mm BUSBAR SYSTEM SERIES WR UP TO 630 A – GENERAL INFORMATION

### SCHRACK INFO

- The 60 mm busbar system offers versatile applications and high flexibility
- Universal usability of the components.
- Compact 3- or 4-pole system design
- If necessary, completely touch-protected

### BUSBAR SUPPORTS, SERIES WR, FOR 60mm SYSTEM



60 mm COMPONENTS

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
2-pole universal busbar support with external connection holes	-	1	01356	0.095	4021267013561		<a href="#">SI013560</a>
3-pole universal busbar support with internal connection holes	20x185x51	1	01495	0.2	4021267014957		<a href="#">SI014950</a>
3-pole universal busbar support with additional external screw holes	20x220x51	1	01500	0.21	4021267015008		<a href="#">SI015000</a>
PE/N busbar support, 1-pole	26x63x51	1	01601	0.059	4021267016012		<a href="#">SI016010</a>
3-pole connection busbar support with integrated terminals 16 mm <sup>2</sup>	20x202x77	1	01484	0.285	9004840156805		<a href="#">SI014840</a>
4-pole universal busbar support with internal terminals	20x245x51	1	01485	0.256	4021267014858		<a href="#">SI014850</a>
5-pole Busbar support up to 30x10 VMS	14x264x61	1	01138	0.167	9004840156492		SI011380
Reducer for SI011380 for 5 mm Cu VMS	-	1	01170	0.001	9004840156515		<a href="#">SI011700</a>
Cover frame VMS	-	1	01139	0.166	9004840156508		<a href="#">SI011390</a>

### END CAP FOR BUSBAR SUPPORT, SERIES WR, FOR 60 mm BUSBAR SYSTEM



SI015730

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
End cap for busbar support SI 015000, SI 014950, SI 014840	5x166x31	1	01573	0.021	4021267015732		<a href="#">SI015730</a>
End cap for busbar support SI 014850	5x226x31	1	01574	0.028	9004840529067		<a href="#">SI011310</a>

## ARROW 60, 60 mm BUSBAR SYSTEM – GENERAL INFORMATION

### SCHRACK INFO

- Halogen-, phosphorus-, silicon-, CFC-free, recyclable
- Compact design
- Use support end cap for lateral touch protection

## ARROW 60, BUSBAR SUPPORT, SERIES SCHRACK, FOR 60 mm SYSTEM



IS502752

### SCHRACK INFO

- Can be built on, high short-circuit protection, UL94-V0
- Temperature resistance: +200 °C, 960 °C glow wire
- Rated operating voltage: 690 V
- Tightening torque for top screws: 3 - 4 Nm

DESCRIPTION	DIM. (WxHxD) mm	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	STORE	ORDER NO.
Busbar support 3p short	18.5x185x45/50	10	0.129	9004840396560			<a href="#">IS502750</a>
Busbar support 3p long	18.5x216x45/50	10	0.134	9004840396584			<a href="#">IS502752</a>
Busbar support 1p pluggable	18.5x60x45/50	20	0.065	9004840396607			IS502754
Busbar support 2p individual	18.5x116x45/50	10	0.080	9004840396614			<a href="#">IS502755</a>
Support end cap 3p	-	10	0.015	9004840396638			<a href="#">IS502757</a>

## COPPER BUSBARS



IS505068

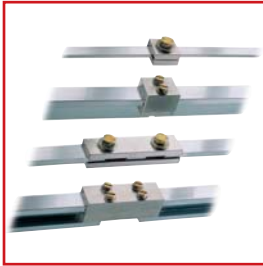
### SCHRACK INFO

- Blank copper busbars with 2000 mm length
- Tin-plated copper busbars with 2400 mm length
- Cranked, blank copper busbars

DESCRIPTION/NOMINAL CURRENT	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	STORE	ORDER NO.
20x5 blank/274 A (320 A)	2000x20x5	1	ECu	2136	9004840044188			<a href="#">IS505068</a>
30x5 blank/379 A (450 A)	2000x30x5	1	ECu	3204	9004840044195			<a href="#">IS505069</a>
30x10 blank/573 A (630 A)	2000x30x10	1	ECu	6408	9004840044386			<a href="#">IS505087</a>
12x5 tin-plated/200 A	2400x12x5	1	01680	1282	9004840211498			<a href="#">SI016180</a>
20x5 tin-plated/320 A	2400x20x5	1	01620	2136	9004840157024			<a href="#">SI016200</a>
30x5 tin-plated/450 A	2400x30x5	1	01622	3204	9004840157031			<a href="#">SI016220</a>
30x10 tin-plated/630 A	2400x30x10	1	01625	6408	9004840157055			<a href="#">SI016250</a>
30x5 cranked, blank for NH-00 disconnecter and Neozed outlets/379 A	L=355+550	1	-	1355	9004840276886			<a href="#">BS900198</a>



## BUSBAR CONNECTION TERMINALS FOR EXTENSION



SI018860

### SCHRACK INFO

- For drill-free connection of equal busbars
- Für busbars 12-30x5/10, or TT profile and TTT profile
- Current carrying capacity 520 A - 2500 A

BUSBAR/CURRENT CARRYING CAPACITY	LENGTH mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
12 – 20 x 5 and 10 / 630 A	55	12	01166	0.192	9004840142433		SI011660
12 – 20 x 5 and 10 / 630 A	150	3	01193	0.524	9004840259490		SI011930
20 – 30 x 5 and 10 / 630 A	40	6	01823	0.252	9004840142440		<b>SI018230</b>
20 – 30 x 5 and 10 / 630 A	95	3	01141	0.544	9004840142426		<b>SI011410</b>
20 – 30 x 5 and 10 / 630 A	150	3	01886	0.866	9004840157239		SI018860
TT profiles / 1600 A	50	6	01827	0.494	4021267018276		SI018270
TT profiles / 1600 A	95	3	01145	0.943	9004840130300		SI011450
TT profiles / 1600 A	150	3	01829	1.461	9004840157208		<b>SI018290</b>
TTT profiles / 2500 A	95	3	01274	1.206	9004840259520		SI012740
TTT profiles / 2500 A	150	3	01275	1.78	9004840200195		SI012750
3-pole set for elastic longitudinal connection of TT profiles / 1600 A	-	1	30322	5.36	9004840157796		SI303220
3-pole set for elastic corner connection of TT profiles / 1600 A	-	1	30473	6.38	9004840186321		SI304730

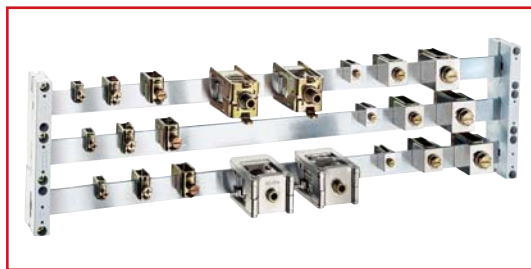


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## TERMINALS FOR BUSBAR SYSTEMS – GENERAL INFORMATION

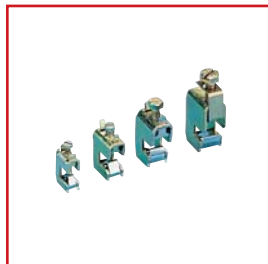


TERMINALS FOR SS60

### SCHRACK INFO

- Connection of conductors 1.5-120 mm<sup>2</sup>
- For 5 or 10 mm thick busbars
- Integrated retaining spring
- Open terminal compartment and captive terminal screw allow easy mounting
- Nominal cross-section and tightening torque indicated on terminal

## UNIVERSAL CONDUCTOR TERMINALS



CONDUCTOR TERMINALS

### SCHRACK INFO

- For 5 and 10 mm thick busbars, as well as special profiles
- Connection of conductors 1.5-120 mm<sup>2</sup>
- Integrated retaining spring
- Open terminal compartment and captive terminal screw allow easy mounting
- Nominal cross-section and tightening torque indicated on terminal

RAIL THICKNESS/ TERMINAL CAPACITY/TYPE OF CONDUCTOR	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
5 mm/1.5-16 mm <sup>2</sup> /re, rm, f, f+ferrule	11.5x22.5x30	1	01284	0.021	4021267012847		<a href="#">SI012840</a>
5 mm/4-35 mm <sup>2</sup> /re, rm, f, f+ferrule, la. Cu 3/6x9x0.8	15.5x29x41	1	01285	0.044	4021267012854		<a href="#">SI012850</a>
5 mm/16-70 mm <sup>2</sup> /rm, f, f+ferrule, 2x la. Cu 3/6x9x0.8/6x13x0.5	20.5x32	1	01287	0.071	4021267012878		<a href="#">SI012870</a>
5 mm/16-120 mm <sup>2</sup> /rm, f, f+ferrule, la. Cu 4/6/10x16x0.8	23.5x36x60	1	01068	0.108	4021267010683		<a href="#">SI010680</a>
10 mm/1.5-16 mm <sup>2</sup> /re, rm, f, f+ferrule, la. Cu 8x6x0.5	11.5x22.5x35	1	01289	0.023	4021267012892		<a href="#">SI012890</a>
10 mm/4-35 mm <sup>2</sup> /re, rm, f, f+ferrule, la. Cu 3/6x9x0.8	15.5x29x45	1	01290	0.047	4021267012908		<a href="#">SI012900</a>
10 mm, T profile/16-70 mm <sup>2</sup> /rm, f, f+ferrule, 2x la. Cu 3/6x9x0.8	20.5x32	1	01292	0.074	4021267012922		<a href="#">SI012920</a>
10 mm, T profile/16-120 mm <sup>2</sup> /rm, f, f+ferrule, la. Cu 10x16x0.8	23.5x36x65	1	01203	0.11	4021267012038		<a href="#">SI012030</a>

## BRACE TERMINALS – CRITO PROFICLIP





CRITO-CLIP

### SCHRACK INFO

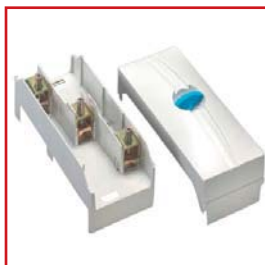
- Connection of Cu and Al conductors 95-300 mm<sup>2</sup> or flexible copper busbars up to 32x20
- Complete gripping by jaw-type terminals
- For busbars 20x5-30x10, or TT-, TTT-, TCC-profile
- Nominal cross-section and tightening torque indicated on terminal

DESCRIPTION/TYPE OF CONDUCTOR	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
95-185 mm <sup>2</sup> /Cu und Al, rm, sm, f, f+ferrule	51x38x70	6	01318	0.237	4021267013189		<a href="#">SI013180</a>
120-300 mm <sup>2</sup> /Cu und Al, rm, sm, f, f+ferrule	51x41x85.5	3	01760	0.371	4021267017606		<a href="#">SI017600</a>
For lam. Cu 3x20x1-10x24x1	51x38x70	6	01319	0.250	9004840156737		<a href="#">SI013190</a>
For lam. Cu 3x20x1-10x32x1	51x41x85.5	3	01759	0.402	4021267017590		<a href="#">SI017590</a>

## CLAMPING YOKE FOR 10x3 COPPER BUSBARS

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Clamping terminal up to 10 mm <sup>2</sup>	BK10	9004840467666		<a href="#">IK021139</a>
Clamping terminal up to 35 mm <sup>2</sup>	BK35	9004840022438		<a href="#">IK021137</a>

## CONNECTION TERMINAL PLATES FOR 60 mm SYSTEM









SI012430



SI015630

### SCHRACK INFO

- 3-pole
- Including cover cap
- For conductors 6-300 mm<sup>2</sup>, or small busbars up to 32x20
- For busbars 12x5 - 30x10, TT, TTT, TCC-profile
- Terminals can be removed for connection of uncut conductors

CROSS-SECTION/TYPE OF CONDUCTOR	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
1.5-16 mm <sup>2</sup> spring-clamp terminal for m	20x200x64	8	-	0.181	9004840537314		<a href="#">SI015630</a>
6-50 mm <sup>2</sup> /m, f, f + AE/la.Cu							
6x9x0.8 mm	54x200	1	01240	0.360	4021267012403		<a href="#">SI012400</a>
35-120 mm <sup>2</sup> /m, f, f + AE/la.Cu							
6/10x15.5x0.8 mm	81x200	1	01243	0.485	4021267012434		<a href="#">SI012430</a>
95-185 mm <sup>2</sup> /Cu, Al, m, sm, AE	135x200x117.5	1	01199	1.140	4021267011994		<a href="#">SI011990</a>
120-300 mm <sup>2</sup> /Cu and Al m, se, sm	135x200x117.5	1	01754	1.540	4021267017545		<a href="#">SI017540</a>
La. Cu 3x20x1 -10x32x1 for surface busbars	135x200x117.5	1	01753	0.295	4021267017538		<a href="#">SI017530</a>



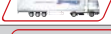


## COVER CAPS FOR 60 mm SYSTEM



COVER SHROUDS



SI010250

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
54 mm wide cover for terminal compartment or spare slots	54x200x55	1	01590	0.147	9004840156942		<a href="#">SI015900</a>
84 mm wide cover for terminal compartment or spare slots	84x200x55	1	01413	0.145	9004840156775		<a href="#">SI014130</a>
135 mm wide cover for terminal compartment or spare slots	135x200x90	1	01756	0.295	9004840157147		<a href="#">SI017560</a>
Cover profile 700 mm	700x200x63	1	01025	0.075	4021267010256		<a href="#">SI010250</a>
Holder for cover profile SI01025	9x196x32	10	01026	0.039	4021267010263		<a href="#">SI010260</a>



## CONNECTION TERMINALS FOR SMALL BUSBARS



SI010920

### SCHRACK INFO

- Connection of conductors 95-300 mm<sup>2</sup>/ re, rm, se, f, or small busbars up to 40x25, with busbars
- Connection for small busbars and flexible copper busbars up to 41x25, with busbars 40x10-60x10
- Nominal cross-section and tightening torque indicated on terminal.

BUSBAR/TERMINAL COMPARTMENT	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
60x10 for small busbars 40x25 or 2x40x10	60x78x100	3	01034	1.073	9004840156317		SI010340
40x10 for small busbars 40x25 or 2x40x10	60x58x100	3	01032	0.917	9004840156294		<b>SI010320</b>

## PROFILE TERMINALS



SI011860

### SCHRACK INFO

- Applicable for TT and TTT busbars
- Current carrying capacity up to 3200 A
- For small-busbar connection without drilling
- Parallel connection of small busbars also possible

BUSBAR / CURRENT CARRYING CAPACITY / TERMINAL COMPARTMENT	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
TT profile/1600 A terminal comp. 51x5-28	103x82x39	3	01906	1.160	9004840157260		<b>SI019060</b>
TT profile/2000 A (for centre supply)/ Terminal space 64x20-42	118x94x63	3	01911	1.387	9004840157284		SI019110
TTT profile/2500 A (for centre supply)/ Terminal space 64x23-45	154x94x39	3	01008	1.240	9004840199581		SI010080
TTT profile/3200 A (for centre supply)/ Terminals 101x23-45	154x132x39	3	01186	1.720	9004840156546		SI011860
Crito® Power Clip profile terminal 68x28	85x50x85	3	01070	0.235	9004840561265		SI010700

## BOLT-TYPE-TERMINAL



SI015140

### SCHRACK INFO

- For connection without drilling of conductors with cable lugs DIN 46234 and DIN 46235
- For busbars 5 or 10 mm or TT, TTT, TCC-profile
- Tightening torque marked on the terminal.

RAIL THICKNESS/SCREW/CURRENT	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
10 mm/M 8x8/490 A	32x29.5x36	20	01514	0.162	9004840156904		SI015140
10 mm/M 10x10/630 A	42x38x47	6	01047	0.362	9004840156409		<b>SI010470</b>



## CONNECTION TERMINALS



SI019970

### SCHRACK INFO

- For overlapping connection of small busbars and flexible copper busbars longitudinally and laterally.
- For 5 and 10 mm thick busbars.

BUSBAR/TERMINAL COMPARTMENT	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
30 with 20/max. 20 mm high	50x20x40	10	01997	0.164	9004840157369		<b>SI019970</b>
30 with 30/max. 20 mm high	60x20x50	10	01586	0.198	4021267015862		<b>SI015860</b>
32 with 40/max. 30 mm high	60x30x50	6	01616	0.276	9004840157000		<b>SI016160</b>
50 with 63/max. 30 mm high	82x30x70	3	01617	0.515	9004840157017		<b>SI016170</b>

## COVERS AND ACCESSORIES FOR BUSBARS

SIZE/DESCRIPTION/NOMINAL CURRENT	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Busbar support cover for busbar 12-30 x 5 mm	L=1000 mm	10	01244	0.087	4021267012441		<b>SI012440</b>
Busbar support cover for busbar 12-30 x 10 mm	L=1000 mm	10	01245	0.101	4021267012458		<b>SI012450</b>
Busbar support cover for busbar 12x5	L=1000 mm	10	78463	0.032	9004840187120		<b>SI784630</b>
Bracket for empty field cover for busbar 12-30x5/10, TT, TTT, TCC profile	9x195x32	1	01026	0.040	4021267010263		<b>SI010260</b>
Empty field cover 0.7 m long	700x202x16	2	01025	0.750	4021267010256		<b>SI010250</b>
Bracket for empty field cover SI010260 und SI010250	9x196x107	8	01320	0.012	4021267013202		SI013200
Name label PE, self-adhesive, green-yellow	Ø 15	1	78442	0.001	4021267784423		<b>SI784420</b>
Name labels N, self-adhesive, blue	Ø 15	1	78443	0.001	4021267784430		<b>SI784430</b>



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## ■ BUSBAR FUSE SWITCH-DISCONNECTOR FOR 60 mm SYSTEM



IS504851

### ■ SCHRACK INFO

- Including fuse-plug with flashing indicator
- Including plug retaining spring for D01 and cylindrical fuses 10x38 mm
- 400 V~, 63 A, 50 kA, AC 23 B, lockable, sealable, 27 mm wide
- for D0 fuse-links 2 ... 63 A and cylindrical fuses 10x38 mm 2 ... 32 A
- for D02 gauge-pieces 2... 50 A
- for busbars 12, 15, 20, 25, 30 mm wide, 5 or 10 mm thick

### ■ TECHNICAL DATA

Classification	Switch-disconnector fuse
Standard	DIN VDE 0638 DIN EN 60947-3; IEC 60947-3
Suitable for D0 fuses DIN 49522	D01, 2, 4, 6, 10, 13, 16 A with plug retaining spring D02: 20, 25, 32, 35, 40, 50, 63 A
Suitable for cylindrical fuses IEC EN 60269-1	10x38 mm: 2 ... 32 A with plug retaining spring
Suitable for gauge-pieces DIN 49523	D02: 2, 4, 6, 10, 16, 20, 25, 35, 50 A
Number of poles	3-pole, 3-pole+N
Insulating parts	Plastic, halogen-, phosphorus-, silicone-free
Fire classification /Leakage current resistance	UL94/V0, glow wire test 960 °C / CTI600
Degree of protection / touch protection	IP 20 / finger and hand touch safe
Ambient temperature; storage min/max	-25 °C / 60 °C
Rated operational voltage $U_e$	400 V~
Rated operational current $I_e$	63 A
Rated uninterrupted current $I_e$	63 A
Rated short-circuit breaking capacity $I_{cm}$	50 kA <sub>eff</sub>
Utilization category	AC 23 B
Overvoltage category	IV (DIN VDE 0110)
Pollution degree	3 (DIN VDE 0110)
Rated impulse withstand $U_{imp}$	6000 V
Connection style	Stainless steel cage terminal 1.5 ... 35 mm <sup>2</sup>
Tightening torque MD	4 Nm

### ■ SPECIAL FEATURES

- Flashing indicator only 27 mm wide
- Removable fuse-plug reliable fuse-blown indication
- Finger protection against burns independent manual operation
- Safe disconnecting lockable
- Securing against restarting sealable

## ■ BUSBAR FUSE SWITCH-DISCONNECTOR FOR 60 mm SYSTEM – continued

### ■ FLASHING INDICATOR



The optoelectronic fuse-blown indicator provides reliable fault detection on site.

A basic requirement for immediate restarting ability.

#### Independent manual operation

DIN VDE 0105

The disconnection of all poles – **clearance** – increases the safety.

### ■ FUSE-PLUG



EN 50110-1

The screw cap-less plug-in design with hand-independent, continuous contact pressure means:

- Operational safety
- Energy savings
- The removable fuse-plug protects fingers against burns

### ■ RESTART LOCK-OUT



#### Switching contact indicator

No-power state is indicated by visualising the isolating function.



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
D02 switch-disconnector TYTAN R 60 mm 3-pole	9004840550139		<b>IS504851</b>
D02 switch-disconnector TYTAN R 60 mm 3-pole + N	9004840585964		<b>IS504852</b>
D02 switch-disconnector TYTAN R 60 mm with fixed gauge-rings 20 A, 3-pole	9004840585971		IS504853
D02 switch-disconnector TYTAN R 60 mm with fixed gauge-rings 25 A, 3-pole	9004840585988		IS504854
D02 switch-disconnector TYTAN R 60 mm with fixed gauge-rings 35 A, 3-pole	9004840585995		IS504855



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## ■ BUSBAR FUSE SWITCH-DISCONNECTOR TYTAN RH1 MAIN PROTECTION – FOR COLLECTIVE FAULT EVALUATION FOR 60 mm SYSTEM



RH1

### ■ SCHRACK INFO

- D0 switch-disconnector with advanced electronic monitoring
- Monitored functions / visualisation:

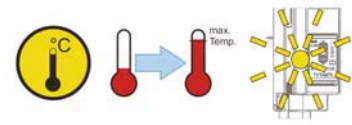
Ready



Blow fuse-link



Device overheated



HR12

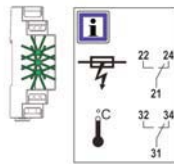
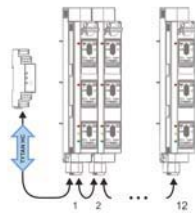
### • Construction:

- The TYTAN main protection consists of 1 ... 12 switch-disconnector TYTAN TH1 and one TYTAN HR12 main protective relay. The links of the main protection components are made with RJ10 connector wires quickly and easily.
- The 12 switch-disconnector switches can also be mixed and consist of TYTAN TH1 and TYTAN RH1 (see chapter TYTAN TH1 and TYTAN HR12 main protection).

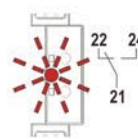
### MAIN PROTECTIVE RELAY TYTAN HR12

- Monitored functions are output to potential-free relay contacts

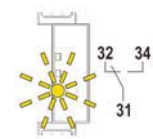
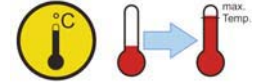
Ready



Blow fuse-link



Device overheated

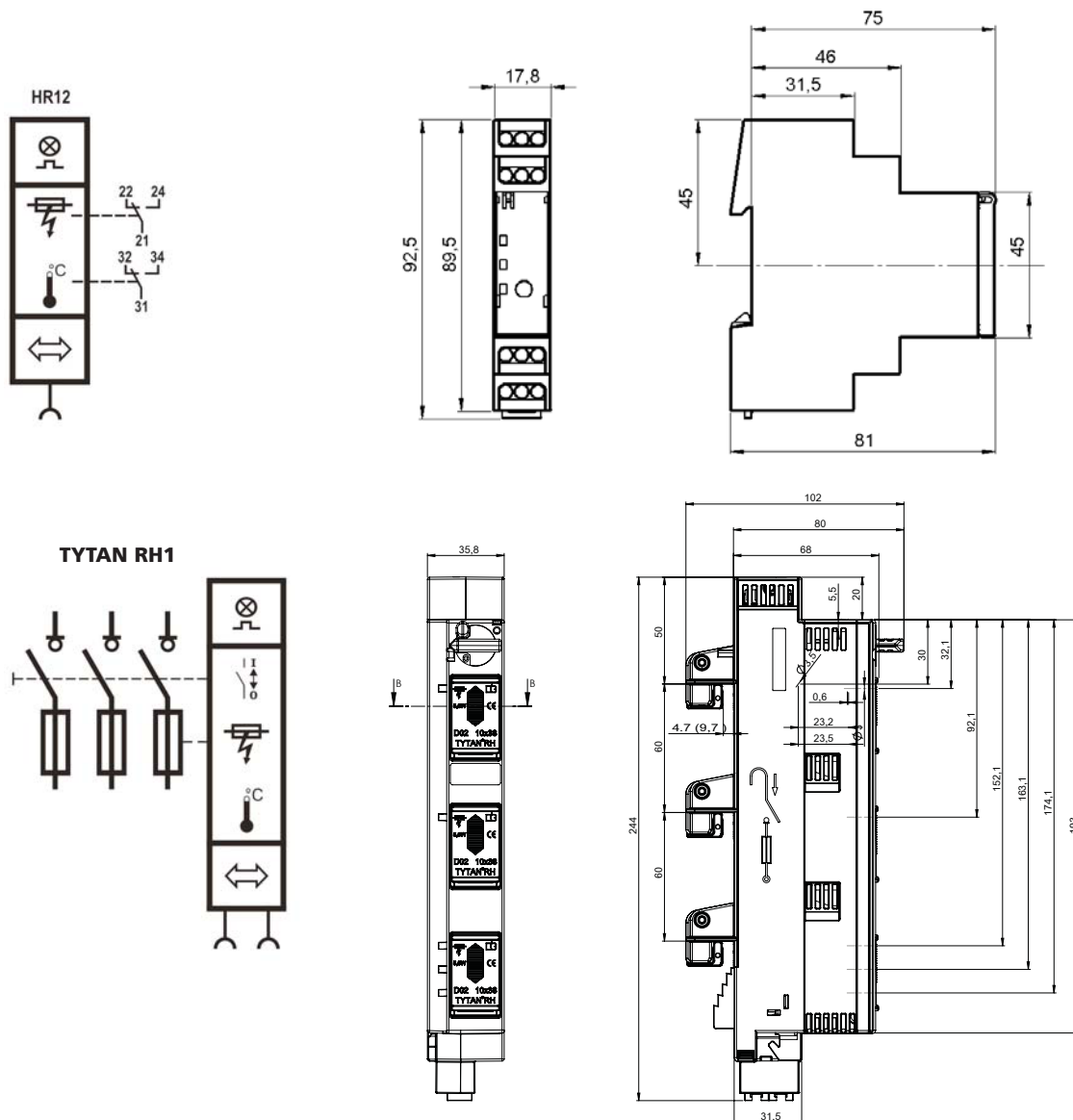


### ■ TECHNICAL DATA

Standards	DIN EN 61000 (EMC immunity), IEC/EN 61000-4-2, IEC/EN 61000-4-4, EN 60255	
Rated voltage	24V DC	
Power consumption per TYTAN TH1	Operation 0.4 W / Fault 1.55 W	
TYTAN HR12	0.95 W	
<b>RELAY CONTACTS</b>	for blown fuse-link, overheated device	
Rated operational voltage/current	250 V / 5 A <sub>μ</sub> AC cosφ=1 30 V / 5 A DC 300 V / 0.25 A DC	
Minimum rated operational voltage/current	100 mV / 10m A AC/DC	
Dielectric strength	Coil to contacts	4 kV <sub>r-m-s</sub>
	Open to contact	1 kV <sub>r-m-s</sub>
Rated impulse withstand voltage	4 kV	
Overtoltage category	III	
<b>GENERAL</b>		
Flame class / comparative tracking index	UL94/V0, glow wire test 960 °C / CTI 600	
Pollution degree	3	
Degree of protection / touch protection	IP 20 / IP 40; finger and hand touch safe	
Temperature range ambience / storage	-25 to +60 °C / -40 to +60 °C	
Connection style	Rigid	1x4 mm <sup>2</sup> / 2x1.5mm <sup>2</sup>
	Flexible	1 x 2.5 mm <sup>2</sup>
Tightening torque M <sub>b</sub>	0.5 Nm	

## ■ BUSBAR FUSE SWITCH-DISCONNECTOR TYTAN RH1 MAIN PROTECTION – FOR COLLECTIVE FAULT EVALUATION FOR 60 mm SYSTEM – continued

### ■ DIMENSIONS AND WIRING DIAGRAMS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE VERSION</b>			
TYTAN RH1 main protection switch-disconnector D02 with integrated monitoring electronics and LEDs	9004840651294		IS504858
<b>3+N VERSION</b>			
TYTAN RH1 main protection switch-disconnector D02 with integrated monitoring electronics and LEDs	9004840682359		IS504857
<b>ACCESSORIES</b>			
Plug retaining spring for D01 and 10x38 mm fuses	9004840419696		ISF90299
Solid links 63A, 3 pcs	9004840651928		IS504859
<b>TYTAN HR12 MAIN PROTECTIVE RELAY FOR COLLECTIVE FAULT EVALUATION</b>			
2 CO contacts 5 A / 250 VAC	9004840651317		IS504871
<b>TYTAN HC CONNECTOR WIRES RJ10</b>			
15 cm long	9004840651270		IS504873
100 cm long	9004840651287		IS504877

## /// BUSBAR FUSE SWITCH-DISCONNECTOR TYTAN RH1 MAIN PROTECTION – SINGLE EVALUATION FOR 60 mm SYSTEM



RH1

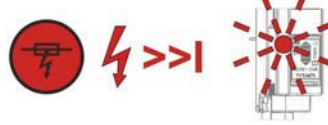
### /// SCHRACK INFO

- D0 switch-disconnector with advanced electronic monitoring
- Monitored functions / visualisation:

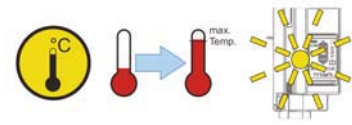
Ready



Blow fuse-link



Device overheated



HR11

### • Construction:

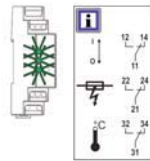
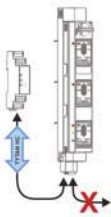
The TYTAN main protection consists of one switch-disconnector TYTAN TH1 and one TYTAN HR11 main protective relay. The links of the main protection components are with RJ10 connector wires quickly and easily.

### MAIN PROTECTIVE RELAY TYTAN HR11

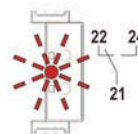
- Monitored functions are output to potential-free relay contacts

Ready

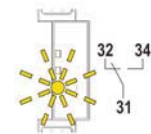
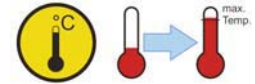
Load-break switch ON



Blow fuse-link



Device overheated

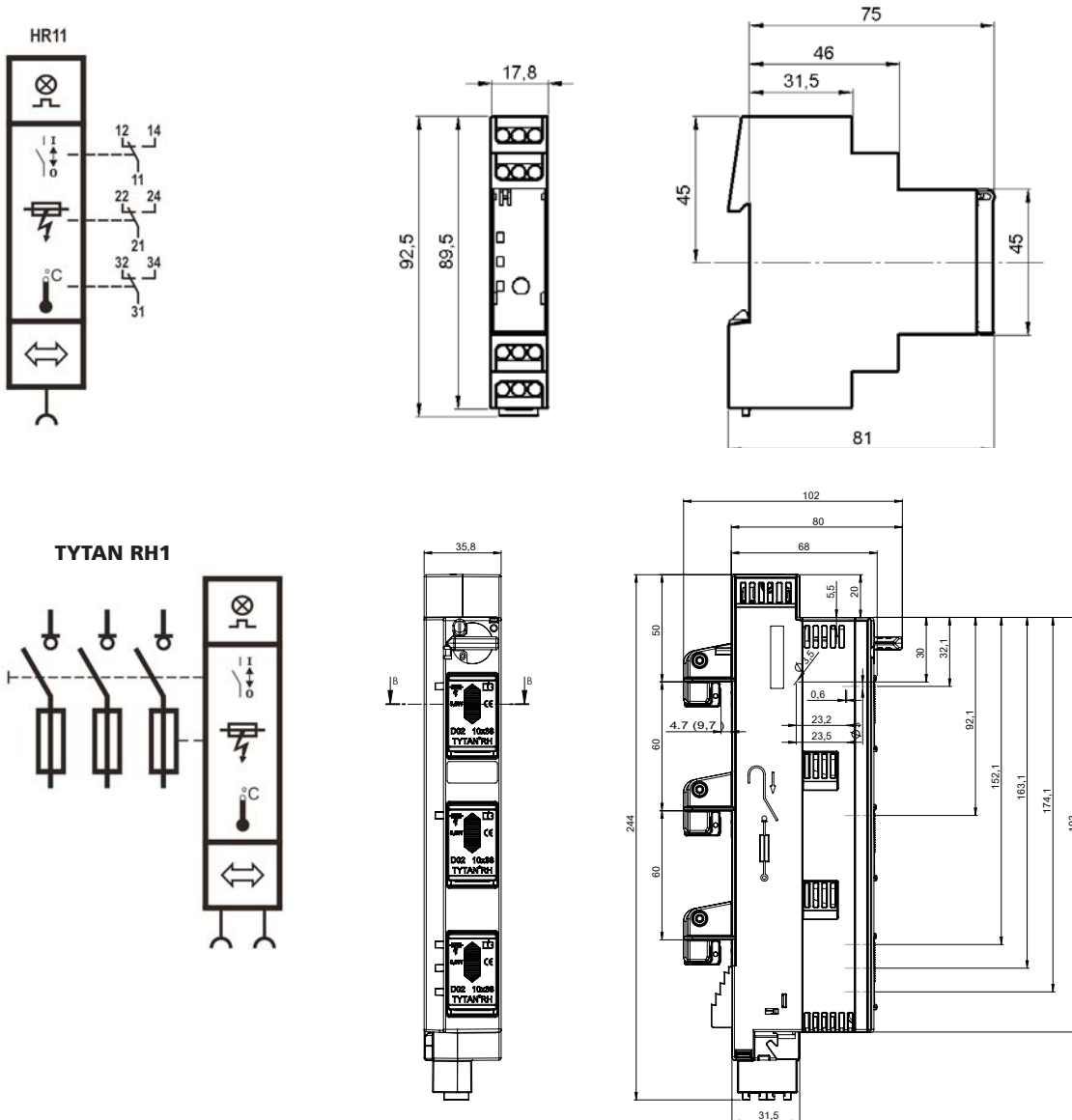


### /// TECHNICAL DATA





Standards	DIN EN 61000 (EMC immunity), IEC/EN 61000-4-2, IEC/EN 61000-4-4, EN 60255	
Rated voltage	24 V DC	
Power consumption per TYTAN RH1	Operation 0.4 W / Fault 1.55 W	
TYTAN HR11	1.15 W	
<b>RELAY CONTACTS</b>	for blown fuse-link, overheated device, load break switched ON/OFF	
Rated operational voltage/current	250 V / 5 A <sub>μ</sub> AC cosφ=1 30 V / 5 A DC 300 V / 0.25 A DC	
Minimum rated operational voltage/current	100 mV / 10 m A AC/DC	
Dielectric strength	Coil to contacts	4 kV <sub>r-m-s</sub>
	Open to contact	1 kV <sub>r-m-s</sub>
Rated impulse withstand voltage	4 kV	
Overvoltage category	III	
<b>GENERAL</b>		
Flame class / comparative tracking index	UL94/V0, glow wire test 960 °C / CTI 600	
Pollution degree	3	
Degree of protection / touch protection	IP 20 / IP 40; finger and hand touch safe	
Temperature range ambience / storage	-25 to +60 °C / -40 to +60 °C	
Connection style	Rigid	1x4 mm <sup>2</sup> / 2x1.5mm <sup>2</sup>
	Flexible	1 x 2.5 mm <sup>2</sup>
Tightening torque M <sub>b</sub>	0.5 Nm	

## ■ BUSBAR FUSE SWITCH-DISCONNECTOR TYTAN RH1 MAIN PROTECTION – SINGLE EVALUATION **FOR 60 mm SYSTEM** – continued

### ■ DIMENSIONS AND WIRING DIAGRAMS



Page  
**334**

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE VERSION</b>			
TYTAN RH1 main protection switch-disconnector D02 with integrated monitoring electronics and LEDs	9004840651294		<b>IS504858</b>
<b>3+N VERSION</b>			
TYTAN RH1 main protection switch-disconnector D02 with integrated monitoring electronics and LEDs	9004840682359		IS504857
<b>ACCESSORIES</b>			
Plug retaining spring for D01 and 10x38 mm fuses	9004840419696		<b>ISF90299</b>
Solid links 63A, 3 pcs	9004840651928		IS504859
<b>TYTAN HR11 MAIN PROTECTIVE RELAY FOR SINGLE EVALUATION</b>			
2 CO contacts 5 A / 250 VAC	9004840651263		IS504870
<b>TYTAN HC CONNECTOR WIRES RJ10</b>			
15 cm long	9004840651270		<b>IS504873</b>
100 cm long	9004840651287		<b>IS504877</b>





## /// D02 BUSBAR FUSE BASE, SERIES SCHRACK, FOR 60 mm SYSTEM



IS507823

### /// SCHRACK INFO

- Integral labelling field, loss-free stainless steel clamp
- Temperature resistance: +200 °C, 960 °C glow wire

DESCRIPTION	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
D02 bus-mounting fuse base E18 w/o cover	27x201x32/50	6010	0.147	9004840384130		<b>IS504823</b>
D02 busbar cover 27 mm 3p	27x201	6011	0.016	9004840384147		<b>IS504824</b>
D02 cover strip 36 mm + consumer 3p	36x201	6012	0.022	9004840384154		<b>IS504825</b>
D02 cover strip 54 mm + consumer 3p	54x201	6013	0.044	9004840396645		<b>IS504826</b>
D02 cover strip 36 mm, right	36x201	6018	0.022	9004840396676		<b>IS502767</b>
D02 screw caps	-	31006	0.012	4086500011520		<b>SI310060</b>

## /// D02 FUSE BASE FOR 60 mm SYSTEM – GENERAL INFORMATION



SI016470 + ACCESSORIES

### /// SCHRACK INFO

- 3-pole Version
- Combination foot makes it suitable for 5 and 10 mm thick busbar
- For busbars 12-30x5/10, TT and TTT profile
- With box terminals from 1.5-25 mm<sup>2</sup> (DII, D0), or 1.5-35 mm<sup>2</sup> (DIII)
- Latching mechanism when pushed onto the busbar.
- In one operation mechanically fixed and electrically contacted

## /// D02 FUSE BASE, SERIES WR, FOR 60 mm SYSTEM



SI016470

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
<b>NOMINAL VOLTAGE</b>							
27 mm wide, D0 base E 18, adjusting sleeve/63 A/400 V	27x200x35	1	01647	0.147	4021267016470		<b>SI016470</b>
36 mm wide, D0 base E18, adjusting sleeve/63 A/400 V	36x200x35	1	01498	0.155	4021267014988		<b>SI014980</b>



## D02 FUSE BASE COVER STRIP, SERIES BR, FOR 60 mm SYSTEM



SI019800

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
27 mm wide, for E 18 - 1x	27x200x43	1	01980	0.024	4021267019808		<a href="#">SI019800</a>
36 mm wide, for E18, 1-1/3x	36x200x43	1	01424	0.032	9004840156782		<a href="#">SI014240</a>
54 mm wide, for E 18 -2x (1 blind)	54x200x43	1	01981	0.040	9004840157338		<a href="#">SI019810</a>

## D02 FUSE BASE WITH COVER STRIP, TOUCH-PROTECTED, SERIES WR, FOR 60 mm SYSTEM

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
27 mm wide, for E 18 - 1-1/3x	36x200x35	1	31936	0.161	9004840555769		<a href="#">SI319360</a>

## D FUSE BASE FOR 60 mm SYSTEM



SI314410

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
NOMINAL VOLTAGE							
42 mm wide, D base, E27, gauge ring/25A/500V	42x169x35	1	31918	0.233	9004840186451		SI319180
42 mm wide, D base E 27, fitting screw/25A/500V	42x169x35	1	31441	0.225	4021267314415		<a href="#">SI314410</a>
57 mm wide, D base E 33, gauge ring/63A/690V	57x169x35	1	31919	0.336	9004840186468		SI319190
57 mm wide, D base E 33, fitting screw/63A/690V	57x169x35	1	31442	0.306	4021267314422		<a href="#">SI314420</a>
D screw cap porcelain 500V, E27/25A/500V	E27	1	01098	0.010	9004840264562		<a href="#">SI010980</a>
D screw cap porcelain 690V, E33/63A/690V	E33	1	01100	0.015	9004840264579		<a href="#">SI011000</a>

## D FUSE BASE FOR 60 mm SYSTEM

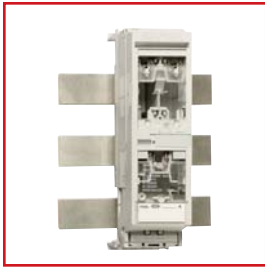


SI310700

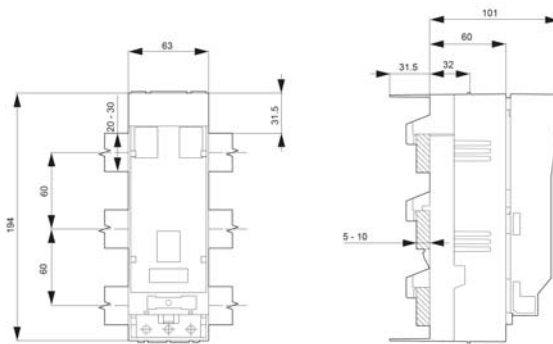
DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
42 mm wide, for E 27 - 1x	42x200x43	10	31070	0.050	4021267310707		<a href="#">SI310700</a>
57 mm wide, for E 33 - 1x	57x200x43	10	31071	0.062	4021267310714		<a href="#">SI310710</a>
Touch protection on the side							
for all cover strips	-	10	79663	0.013	9004840187199		<a href="#">SI796630</a>



## ARROW BLOC HRC FUSE LOAD-BREAK DISCONNECTOR, SIZE 000 / 100A / 54 mm, BUS-MOUNTING, FOR 60 mm SYSTEM



ISA05019




### SCHRACK INFO

- For busbars with 12-30 mm width and 5-10 mm thickness
- Device width 54 mm
- Touch protection IP 3x
- Lid lock combined with sealing
- Connection box terminal up to 2.5-50 mm<sup>2</sup>

### TECHNICAL DATA

- According to IEC/EN 60 947-3
- For HRC fuse links size 000 according to IEC/EN 60 269-2/section 1, VDE 0636 part 201
- Breaking capacity according to IEC/EN 60 947-3 AC 23 B / 400 V / 100 A, AC 21 B / 690 V / 100 A, DC 22 B / 440 V / 100 A
- Conditional rated short-circuit current for protection by fuses size 000: 80 kA / 690 V / 100 A

DESCRIPTION	PU	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
Arrow Bloc 100 A, size 000, 3-pole, box terminal 2.5-50 mm <sup>2</sup> , outlet at bottom	1	207	9004840688948		<b>ISA05019</b>



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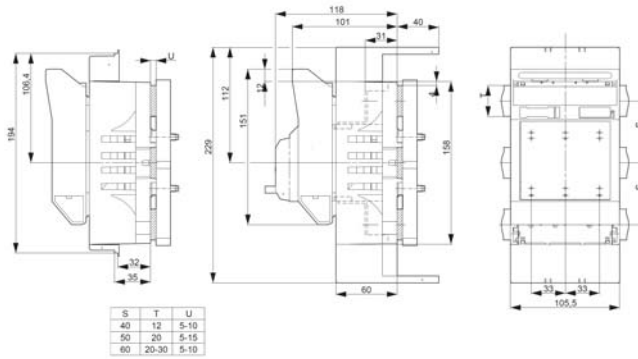


**Order no. blue:** on stock, usually ready for delivery on the day of order!

## ARROW BLOC HRC FUSE LOAD-BREAK DISCONNECTOR, BUS-MOUNTING, FOR 60 mm SYSTEM



ISA05226



### SCHRACK INFO

- Universal for 40 mm and 60 mm busbar system
- Universal for 5 mm and 10 mm busbar thickness
- Universal design: cable output at the top or bottom
- Technical performance data according to IEC 947 / EN 60947, the same as for the surface-mounting version
- Optional: fuse monitoring

DESCRIPTION	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>ARROW BLOC – SIZE 00 DISCONNECTOR</b>				
3-pole size 00 - 160 A, M8	214	9004840689112		<a href="#">ISA05223</a>
3-pole size 00 - 160 A, M8, with window lock	214	9004840689129		<a href="#">ISA05223F</a>
<b>ARROW BLOC – SIZE 1 DISCONNECTOR</b>				
3-pole size 1 - 250 A, M10	636	9004840689235		<a href="#">ISA05290</a>
<b>ARROW BLOC – SIZE 2 DISCONNECTOR</b>				
3-pole size 2 - 400 A, M10	1888	9004840689204		<a href="#">ISA05251</a>

Also available with fuse monitoring



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## ARROW LINE HRC FUSE LOAD-BREAKING, SIZE 00 / 160 A, BUS-MOUNTING, FOR 60 mm SYSTEM



ISA05261

### SCHRACK INFO

- HRC fuse load-breaking busbar, 3-pole, size 00, 160 A, AC 690 V
- Symmetric load-breaking busbar, outlet at top/bottom selectable at installation
- For busbars with 20 - 30 mm width and 10 mm thickness
- M8 terminal
- installation on 60 mm busbar system

### TECHNICAL DATA

- According to IEC/EN 60 947-3
- For HRC fuse links according to IEC/EN 60 269-2/section 1, VDE 0636 part 201
- Breaking capacity according to IEC/EN 60 947-3 AC 23 B / 400 V / 160 A, AC 22 B / 500 V / 160 A, AC 21 B / 690 V / 100 A
- Conditional rated short-circuit current with fuse links:  
80 kA / 400 V / 160 A, 80 kA / 500 V / 160 A, 50 kA / 690 V / 100 A

DESCRIPTION	PU	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
Arrow Line 160 A, size 00, 3-pole	1	420	9004840689211		<a href="#">ISA05260</a>

## HRC BUS-MOUNTING FUSE BASES FOR 60 mm SYSTEM



SI036560

### SCHRACK INFO

- Terminal at top
- With touch protection
- 60 mm bus-mounting system
- Other NH bases on request

DESCRIPTION	DIM. (WxHxD) mm	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Size 00/70 mm <sup>2</sup> /160 A M8 screw max. 70 mm <sup>2</sup> , 3-pole	99x200x89	4	0.645	4021267036560		<a href="#">SI036560</a>
Size 00/70 mm <sup>2</sup> /160 A clip max. 70 mm <sup>2</sup> , 3-pole	99x200x89	4	0.665	9004840403527		SI036540



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## BUSBAR ADAPTER – EQUES EASYCONNECTOR FOR 60 mm SYSTEM



ADAPTER 60 MM WR

### SCHRACK INFO

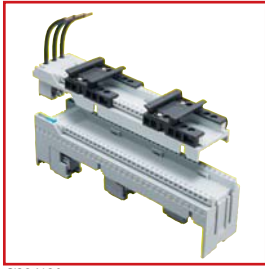
- 3-pole, 25 - 80 A
- Adapter widths 45 mm to 81 mm, can be combined
- For busbars 12-30x5/10, TT and TTT profile
- Combination foot for 5 and 10 mm thick busbar
- Ultrasonically welded lines
- Length 200 mm or 260 mm
- Adjustable mounting busbars
- Other adapters and accessories available on request

### TIPS & TRICKS

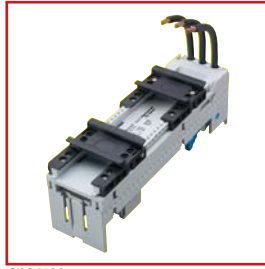
For surface-mounting of line circuit breakers, motor circuit breakers, contactors, etc.

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
25 A, 45 mm wide, 1 mounting busbar, 3 x 4 mm <sup>2</sup> wires	45x200	1	32430	0.325	4021267324308		<a href="#">SI324300</a>
25 A, 45 mm wide, 2 mounting busbar, 3 x 4 mm <sup>2</sup> wires	45x200	1	32431	0.326	9004840236316		<a href="#">SI324310</a>
25 A, 45 mm wide, 2 mounting busbar, 3 x 6 mm <sup>2</sup> terminals	45x200	1	32436	0.322	9004840274776		<a href="#">SI324360</a>
32 A, 54 mm wide, 1 mounting busbar, 3 x 6 mm <sup>2</sup> wires	54x200	1	32441	0.259	9004840233889		<a href="#">SI324410</a>
32 A, 54 mm wide, 2 mounting busbars, 3 x 6 mm <sup>2</sup> wires	54x200	1	32442	0.380	4021267324421		<a href="#">SI324420</a>
32 A, 63 mm wide, 1 mounting busbar, 3 x 6 mm <sup>2</sup> wires	63x200	1	32443	0.445	9004840236323		<a href="#">SI324430</a>
32 A, 72 mm wide, 1 mounting busbar, 3 x 6 mm <sup>2</sup> wires	72x200	1	32444	0.443	9004840236330		SI324440
63 A, 54 mm wide, 1 mounting busbar, 3x10 mm <sup>2</sup> wires	54x200	1	32454	0.277	9004840233865		<a href="#">SI324540</a>
63 A, 54 mm wide, 2 mounting busbars, 3x10 mm <sup>2</sup> wires	54x200	1	32455	0.410	4021267324551		<a href="#">SI324550</a>
63 A, 63 mm wide, 1 mounting busbar, 3 x 10 mm <sup>2</sup> wires	63x200	1	32456	0.449	9004840236354		<a href="#">SI324560</a>
63 A, 72 mm wide, 1 mounting busbar, 3 x 10 mm <sup>2</sup> wires	72x200	1	32457	0.340	9004840236361		<a href="#">SI324570</a>
63 A, 81 mm wide, 2 mounting busbars, 3 x 10 mm <sup>2</sup> wires	81x200	1	32459	0.374	9004840236378		<a href="#">SI324590</a>
Device support without contacting, 45 mm wide, 1 mounting busbar	45x182x60	1	32477	0.248	9004840267693		<a href="#">SI324770</a>
Device support without contacting, 54 mm wide, 1 mounting busbar	54x182x60	1	32478	0.156	9004840236385		<a href="#">SI324780</a>

## EQUES MOTOR CONTROLLER FOR 60 mm SYSTEM



SI324120





SI324120

### SCHRACK INFO

- 3-pole 25-45 A
- Adapter widths 45, 54 and combinable
- For busbars 12 - 30 x 5/10, TT, and TTT profile
- Combination foot for 5 and 10 mm thick busbar
- Ultrasonically welded lines
- Length 200 and 260 mm
- Provides MCC technology
- Touch-proof busbar during device replacement

### TIPS & TRICKS

For surface-mounting of line circuit breakers, motor circuit breakers, contactors, etc.

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
25 A, 2 mounting busbars with 3 x 4 mm <sup>2</sup> wires	45x200x75	4	32400		9004840407402		<b>SI324000</b>
32 A, 2 mounting busbars with 3 x 6 mm <sup>2</sup> wires	54x200x75	4	32404		9004840407419		SI324040
45 A, 2 mounting busbars with 3 x 100 mm <sup>2</sup> wires	54x200x75	1	32412	0.498	9004840251531		SI324120
Side module, pluggable on both sides	9x200	1	32963	0.023	9004840382938		<b>SI329630</b>



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## UNIVERSAL BUS-MOUNTING ADAPTER 200 A – 630 A, FOR 60 mm SYSTEM



MC291400

### SCHRACK INFO

- 3-pole for all commercially available switchgear systems
- Terminal at top or bottom
- With fastening screws M4 (M5, M6, see accessories) for adapter 200 A/250 A
- With fastening screws M6 (M8 see accessories) for adapter 630 A
- 200 A - Box terminal version for conductor 6-70 mm<sup>2</sup> rm/f/f+ferrule or flexible copper 10x16x0.8
- 250 A - Box terminal version for conductor 35-120 mm<sup>2</sup> rm/f/f+ferrule or flexible copper 10x20x0.8
- 630 A - Screw M12/240 mm<sup>2</sup> or terminal lug small busbar up to 14x25 mm
- For contacting on hole-free busbar

DESCRIPTION/NOMINAL CURRENT	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Outlet at top/200 A	108x222	32214	0.842	9004840186550		<b>SI322140</b>
Outlet at bottom/200 A	108x222	32215	0.860	9004840158908		<b>SI322150</b>
Outlet at top/250 A	110x320	32168	1.604	9004840186543		<b>SI321680</b>
Outlet at bottom/250 A	110x320	33216	1.640	9004840202137		<b>SI322160</b>
For circuit breaker Schrack MC1, 3-pole, 160 A	90x200x38	32570		9004840417722		<b>MC195700</b>
Phase separator, 3-pole for MC195700	-	MC1-XKP		9004840560367		MC196609
For circuit breaker Schrack MC2, 3-pole, 250 A	106x200x35	32140		9004840413700		<b>MC291400</b>
Cover for MC291400	-	MC2-XKR4V2		9004840523065		<b>MC291666V2</b>
For circuit breaker Schrack MC3, 3-pole, 500 A		32978		9004840413694		<b>MC391700</b>
Cover for MC391700	-			9004840403312		<b>MC391668</b>
For circuit breaker MG NS 250, 3-pole	106x192x35	32156		9004840250824		<b>SI321560</b>
For circuit breaker MG NS 250, 4-pole	140x270x35	32582		9004840553925		SI325820
For circuit breaker MG NS 400+630, 3-pole	140x272x35	32157		9004840241921		<b>SI321570</b>



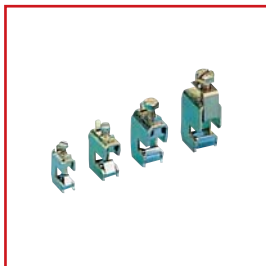
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## UNIVERSAL CONDUCTOR CONNECTION TERMINALS



CONDUCTOR CONNECTION TERMINALS

### SCHRACK INFO

- For 5 and 10 mm thick busbars, as well as special profiles
- Connection of conductors 1.5-120 mm<sup>2</sup>
- Integrated retaining spring
- Open terminal compartment and captive terminal screw allow easy mounting
- Nominal cross-section and tightening torque indicated on terminal

RAIL THICKNESS/ TERMINAL CAPACITY/TYPE OF CONDUCTOR	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
5 mm/1.5-16 mm <sup>2</sup> /re, rm, f, f+ferrule	11.5x22.5x30	1	01284	0.021	4021267012847		<b>SI012840</b>
5 mm/4-35 mm <sup>2</sup> /re, rm, f, f+ferrule, la. Cu 3/6x9x0.8	15.5x29x41	1	01285	0.044	4021267012854		<b>SI012850</b>
5 mm/16-70 mm <sup>2</sup> /rm, f, f+ferrule, 2x la. Cu 3/6x9x0.8/6x13x0.5	20.5x32	1	01287	0.071	4021267012878		<b>SI012870</b>
5 mm/16-120 mm <sup>2</sup> /rm, f, f+ferrule, la. Cu 4/6/10x16x0.8	23.5x36x60	1	01068	0.108	4021267010683		<b>SI010680</b>
10 mm/1.5-16 mm <sup>2</sup> /re, rm, f, f+ferrule, la. Cu 8x6x0.5	11.5x22.5x35	1	01289	0.023	4021267012892		<b>SI012890</b>
10 mm/4-35 mm <sup>2</sup> /re, rm, f, f+ferrule, la. Cu 3/6x9x0.8	15.5x29x45	1	01290	0.047	4021267012908		<b>SI012900</b>
10 mm, T profile/16-70 mm <sup>2</sup> /rm, f, f+ferrule, 2x la. Cu 3/6x9x0.8	20.5x32	1	01292	0.074	4021267012922		<b>SI012920</b>
10 mm, T profile/16-120 mm <sup>2</sup> /rm, f, f+ferrule, la. Cu 10x16x0.8	23.5x36x65	1	01203	0.11	4021267012038		<b>SI012030</b>

## TERMINAL CLAMPING PLATE, SERIES WR, FOR 60 mm COMPACT SYSTEM



SI011650

### SCHRACK INFO

- Terminal clamping plate, 3-pole, with cap
- For round conductors 35-150 mm<sup>2</sup>
- For busbars 12 x 5 and 12 x 10 mm

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Terminal plate, 3-pole for 60 mm compact system	90 x 160 x 115	1	01165	0.575	4021267011659		SI011650



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## ■ D02 BUS-MOUNTING FUSE BASE, SERIES WR, FOR 60 mm COMPACT SYSTEM



SI315540

### ■ SCHRACK INFO

- D02 bus-mounting fuse base, touch-proof
- 3-pole, with combination foot for 5 and 10 mm thick busbars of 60 mm compact system
- Latching mechanism when pushed onto the busbar.
- Opened box terminal 1.5 - 25 mm<sup>2</sup>

DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
D02 bus-mounting fuse base, 60 mm compact system	6	31554	0.130	4021267315542		SI315540
Plastic screw cap, D02, E 18/63 A, 400 V	20	31006	0.012	9004840686746		<b>SI310060</b>

## ■ COVER PROFILE, SERIES WR, FOR 60 mm COMPACT SYSTEM



SI013140



SI013170

### ■ SCHRACK INFO

- For covering the 60 mm compact system from the front

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Cover profile for 60 mm compact system	700 x 160 x 63	2	01314	0.420	4021267013141		SI013140
Holder for cover profiles 01314	5 x 155.5 x 54.5	10	01317	0.018	4021267013172		SI013170



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## UNIVERSAL BUSBAR SUPPORT 1250 A, SERIES WR, FOR 100 mm SYSTEM



SI014790

### SCHRACK INFO

- High short-circuit and temperature resistance
- Silicone-free, chlorine-free
- Temperature resistance 120 °C/VO
- Leakage current resistance CTI 600
- For hole-free mounting of 30 to 60x10 mm busbars

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
3-pole busbar support for busbar 30-40-50-60 x 10 mm, up to 1250 A	62x320x70	1	01479	0.461	4021267014797		<a href="#">SI014790</a>
End cap for SI014790	22x320x42	1	01254	0.050	4021267012540		<a href="#">SI012540</a>
For drilled busbars from 30x10 to 120x10 mm in 100/185 mm system	32x412x40	1	01004	0.311	9004840148428		<a href="#">SI010040</a>




## BUSBAR SUPPORT UP TO 2100 A, SERIES WR, FOR 185 mm SYSTEM



185mm COMPONENTS


### SCHRACK INFO

- High short-circuit and temperature resistance
- Silicone-free, chlorine-free
- Temperature resistance 120 °C/VO
- Leakage current resistance CTI 600
- For hole-free mounting of 30 to 120x10, TT and TTT profile busbars (with busbar support SI012300)

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Drill-free mounting for 30 up to 120x10, TT/TTT profile in 185 mm system	30x580x65	1	01230	0.500	4021267012304		<a href="#">SI012300</a>
For drilled busbars from 30x10 to 120x10 mm in 185 mm system	32x412x40	1	01742	0.727	9004840157086		<a href="#">SI017420</a>
For drilled busbars from 30x10 to 120x10 mm in 100/185 mm system	32x412x40	1	01004	0.311	9004840148428		<a href="#">SI010040</a>

## COPPER BUSBARS



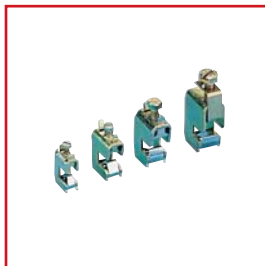
DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
40x10 busbar tin-plated/830 A	2400x40x10	1	01626	8544	9004840169898		<a href="#">SI016260</a>
50x10 busbar tin-plated/830 A	2400x50x10	1	01627	10680	9004840173468		SI016270
60x10 busbar tin-plated/830 A	2400x60x10	1	01628	12816	9004840168327		SI016280

Other busbars on request.



**Order no. blue:** on stock, usually ready for delivery on the day of order!

## UNIVERSAL CONDUCTOR CONNECTION TERMINALS



CONDUCTOR CONNECTION TERMINAL

### SCHRACK INFO

- For 5 and 10 mm thick busbars, as well as special profiles
- Connection of conductors 1.5-120 mm<sup>2</sup>
- Integrated retaining spring
- Open terminal compartment and captive terminal screw allow easy mounting.
- Nominal cross-section and tightening torque indicated on terminal.

RAILS THICKNESS/							
CROSS-SECTION/TYPE OF CONDUCTOR	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
10 mm/1.5-16 mm <sup>2</sup> /re, rm, f, f+ferrule	11.5x22.5x35	1	01289	0.023	4021267012892		<b>SI012890</b>
10 mm/4-35 mm <sup>2</sup> /re, rm, f, f+ferrule, la. Cu 3/6x9x0.8	15.5x29x45	1	01290	0.047	4021267012908		<b>SI012900</b>
10 mm, TT, TTT profiles/16-70 mm <sup>2</sup> /rm, f, f+ferrule, 2x la. Cu 3/6x9x0.8	20.5x32	1	01292	0.074	4021267012922		<b>SI012920</b>
10 mm, TT, TTT profiles/16-120 mm <sup>2</sup> /rm, f, f+ferrule, la. Cu 10x16x0.8	23.5x36x65	1	01203	0.110	4021267012038		<b>SI012030</b>

## CONNECTION CLAMPS FOR SMALL BUSBARS



SI010920

### SCHRACK INFO

- Connection of conductors 95-300 mm<sup>2</sup> re, rm, se, f, or small busbars up to 40x25, with busbars 30x10, TT, TTT profile
- Connection for small busbars and flexible copper busbars up to 41x25, with busbars 40x10-60x10
- Nominal cross-section and tightening torque indicated on terminal.

DESCRIPTION	DIM. (WxHxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
30x10 TT, TTT profile/for 95-300 mm <sup>2</sup>	47x60x85	3	01094	0.879	4021267010942		<b>SI010940</b>
60x10/for small busbars 41x25	60x78x100	3	01034	1.073	9004840156317		SI010340
40x10/for small busbars 41x25	60x58x100	3	01032	0.917	9004840156294		<b>SI010320</b>

## BUSBAR COVER

DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
For busbars 30-60 x 10, 1 m length	1	01251	0.093	9004840224054		<b>SI012510</b>



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## ARROW LINE HRC FUSE SWITCH DISCONNECTOR BUSBARS, FOR 100/185 mm SYSTEM



ISA05261



ISA05311

### TECHNICAL DATA

Size 00, 1, 2, 3:	3-pole
Convent. thermal current in free air:	160/250/400/630 A
Max. permissible nominal power loss of the NH fuse links:	12/32/45/48 W
Max. permissible nominal power loss of the consumption meters:	1.2/3/8/48 W
Rated operating voltage $U_e$ :	AC 400/500/690 V
Utilisation category:	AC 23/22/21B
Rated insulation voltage $U_i$ :	800/1000/1000/1000 V
Rated surge voltage protection $U_{imp}$ :	8 kV
Rated frequency:	50-60 Hz
Degree of protection:	IP 30
Pollution degree:	3
Rated duty:	Uninterrupted
Rated short circuit making capacity:	6.1/8/8/12.6 kA per second
Conditional rated short-circuit current when protected by fuses:	80/120/120/120 kA
Power loss at 160 A without NH fuse links:	18/23/54/115 W

DESCRIPTION	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>ARROW LINE – SIZE 00, TYPE UP TO 160 A</b>				
Load-breaking strip 3p size 00 up to 160 A, 100 mm busbar system, M8 + cable cover	420	9004840689228		<a href="#">ISA05261</a>
Single adapter size 00, 100 mm to 185 mm busbar system	276	9004840689334		<a href="#">ISA05327</a>
Double adapter size 00, 100 mm to 185 mm busbar system	466	9004840689327		<a href="#">ISA05326</a>
Cover shroud to equalise different installation heights, size 00-I, II, III	-	9004840689341		<a href="#">ISA05329</a>
<b>ARROW LINE – SIZE 1, TYPE UP TO 250 A</b>				
Size 1 up to 250 A, 3-pole breakable M10, for 185 mm busbar system	1943	9,00484E+12		<a href="#">ISA05305-A</a>
<b>ARROW LINE – SIZE 2, TYPE UP TO 400 A</b>				
Size 2 up to 400 A, 3-pole breakable M12 for 185 mm busbar system	1943	9004840519570		<a href="#">ISA05311-A</a>
<b>ARROW LINE – SIZE 3, TYPE UP TO 630 A</b>				
Size 3 up to 630 A, 3-pole breakable M12 for 185 mm busbar system	2662	9,00484E+12		<a href="#">ISA05320-A</a>



## FUSE LINKS TYPE 00.SE TO 3.SE, 400V AC



ISP01250

### SCHRACK INFO

These NH fuse links are used to protect cables and wires. They safely disconnect impermissible overcurrents up to the nominal disconnect current. Size 000 (C00) up to 100 A, only 2 cm wide. The electrical resistance of the fuse links can be reduced by special design of the fuse wires for AC 400 V versus 500 V AC. Less power loss and heat-up – the fuses are energy-saving!

### TECHNICAL DATA

- Insulation body made from Stealit
- Contact blades from one piece
- Anti-magnetic cover sheets
- Top indicator
- Operating class: gG in acc. to IEC 60269
- Corrosion-resistant

### BENEFITS










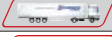


- Significantly lower power loss than fuse links AC 500 V “gG”
- Lower energy consumption – cost reduction
- Reduced heating (by up to 20%)
- Longer life
- Easy replacement of the existing fuse links AC 500 V – same dimensions

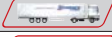


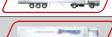


Mixed set of fuse links AC 400 V and AC 500 V possible without any problems, because of identical same current/ time curve – gradual replacement possible

CURRENT	AMPERE	PU	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 000 + 00</b>					
000 + 00	4 A	3	9004840507522		ISP00004
000 + 00	6 A	3	9004840507553		ISP00006
000 + 00	0 A	3	9004840507577		ISP00010
000 + 00	16 A	3	9004840507591		ISP00016
000 + 00	20 A	3	9004840507638		ISP00020
000 + 00	25 A	3	9004840507645		ISP00025
000 + 00	32 A	3	9004840507652		ISP00032
000 + 00	35 A	3	9004840507713		ISP00035
000 + 00	40 A	3	9004840507720		ISP00040
000 + 00	50 A	3	9004840507737		ISP00050
000 + 00	63 A	3	9004840507744		ISP00063
000 + 00	80 A	3	9004840507751		ISP00080
000 + 00	100 A	3	9004840507775		ISP00100
<b>SIZE 00</b>					
00	125 A	3	9004840507829		ISP00125
00	160 A	3	9004840507836		ISP00160
<b>SIZE 1</b>					
1	35 A	3	9004840507843		ISP01035
1	50 A	3	9004840507850		ISP01050
1	63 A	3	9004840507898		ISP01063
1	80 A	3	9004840507904		ISP01080
1	100 A	3	9004840507911		ISP01100
1	125 A	3	9004840507959		ISP01125
1	160 A	3	9004840507966		ISP01160
1	200 A	3	9004840507973		ISP01200
1	250 A	3	9004840508017		ISP01250



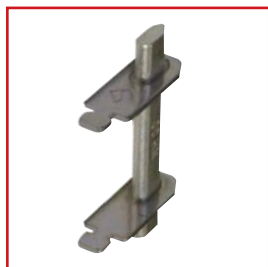
## ■ FUSE LINKS TYPE 00.SE TO 3.SE – continued

CURRENT	AMPERE	PU	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 2</b>					
2	35 A	3	9004840508031		<a href="#">ISP02035</a>
2	50 A	3	9004840508055		<a href="#">ISP02050</a>
2	63 A	3	9004840508079		<a href="#">ISP02063</a>
2	80 A	3	9004840508116		<a href="#">ISP02080</a>
2	100 A	3	9004840508123		<a href="#">ISP02100</a>
2	125 A	3	9004840508130		<a href="#">ISP02125</a>
2	160 A	3	9004840508154		<a href="#">ISP02160</a>
2	200 A	3	9004840538496		<a href="#">ISP02200</a>
2	225 A	3	9004840508239		<a href="#">ISP02225</a>
2	250 A	3	9004840508246		<a href="#">ISP02250</a>
2	315 A	3	9004840508253		<a href="#">ISP02315</a>
2	400 A	3	9004840508307		<a href="#">ISP02400</a>





<b>SIZE 3</b>					
3	200 A	3	9004840508314		<a href="#">ISP03200</a>
3	250 A	3	9004840508369		<a href="#">ISP03250</a>
3	315 A	3	9004840508376		<a href="#">ISP03315</a>
3	400 A	3	9004840508383		<a href="#">ISP03400</a>
3	500 A	3	9004840508390		<a href="#">ISP03500</a>
3	630 A	3	9004840508413		<a href="#">ISP03630</a>

<b>SIZE 4</b>					
4	800 A	3	9004840553680		<a href="#">ISP04800</a>

## ■ HRC-KNIFE LINK, SIZE 00-3



SI031610

NOMINAL VOLTAGE/SIZE	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
160A/size 00	3	03161	0.06	9004840157673		<a href="#">SI031610</a>
250 A/size 1	3	03162	0.14	9004840157680		<a href="#">SI031620</a>
400 A/size 2	3	03163	0.19	9004840157697		<a href="#">SI031630</a>
630 A/size 3	3	03164	0.26	9004840218879		<a href="#">SI031640</a>

## ■ CENTER FEED UNIT, UP TO 4000 A



CENTRAL SUPPLY

### ■ SCHRACK-INFO

Easy installation through

- Mounting without drilling
- Clear design
- Flexible design widths
- Universal arrangement of the busbars

- Variable number of terminal points
- Precise adjustment of outlets
- Complete gripping by jaw-type terminals
- Substantial time and cost savings
- Other types and currents on request

## ■ TIPS & TRICKS

Individual construction (e.g., system width) is possible by individual components

## ■ TECHNICAL DATA

**Basic systems consist of  
Type-tested combination of devices  
DIN EN 60439 Part 1:**

- 3- or 4-pole design
- Rated operating voltage: 690 V AC
- Rated insulation voltage: 1000 V AC
- Double T busbar up to 2000 A
- Triple T busbar up to 3200 A
- TCC busbar up to 4000 A

### High intrinsic safety:

- Current carrying capacity up to 4000 A
- Short-circuit resistance 120 kA
- Type-tested standard constructions

DESCRIPTION	DIM. (WxHxD) mm	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
For 600 mm cabinet width up to 1250 A	540x300x300	1	14.5	9004840169904		SI350070
For 800 mm cabinet width up to 3200 A	740x300x300	1	29.4	9004840174441		SI350160
Busbar support for external central supply	300x300	1	4.58	9004840191721		SI350080
Busbar support 4-pole centre TT	300x300	1	4.58	9004840191714		SI350090

## ■ CONNECTION TERMINALS FOR CENTER FEED UNIT



SI012030





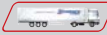




DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
16-120 mm <sup>2</sup> , rm, f+AC and la. Cu up to max. 440 A terminal compartment 17x15	25	01203	0.109	4021267012038		<b>SI012030</b>
95-300 mm <sup>2</sup> , re, se, sm, f, f+AC up to max. 630 A terminal compartment 41x31	3	01094	0.857	4021267010942		<b>SI010940</b>
Cu and Al 95-185 mm <sup>2</sup> , rm, sm, f up to max. 500 A terminal compartment 30x25	6	01318	0.312	4021267013189		<b>SI013180</b>
Cu and Al 120-300 mm <sup>2</sup> , rm, sm, f up to max. 600 A terminal compartment 32x25	3	01760	0.425	4021267017606		<b>SI017600</b>
600-900 mm <sup>2</sup> terminal compartment 64x5-28 up to max. 1600 A double T profile	3	01907	0.84	9004840157277		<b>SI019070</b>
1000-2000 mm <sup>2</sup> terminal compartment 101x20-42 up to max. 1600 A double T profile	3	01935	1.137	9004840157307		SI019350







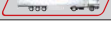
## COPPER BUSBARS BLANK AND TIN-PLATED



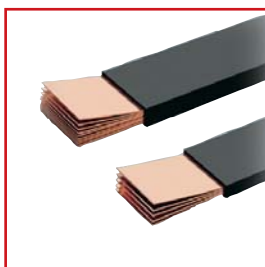
DESCRIPTION/NOMINAL CURRENT	DIM. (LxWxD) mm	FINISH	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>10 x 3</b>						
Copper busbar	1000 x 10 x 3	blank		9004840615654		<b>IS505108</b>
<b>12 x 5</b>						
200 A, busbar	2400 x 12 x 5	tin-plated	1,282	9004840211498		<b>SI016180</b>
<b>15 x 5</b>						
250 A, busbar	2400 x 15 x 5	tin-plated	1,602	9004840245738		SI016190
<b>20 x 5</b>						
274 A (320 A), busbar	2000 x 20 x 5	blank	1,838	9004840044188		<b>IS505068</b>
320 A, busbar	2400 x 20 x 5	tin-plated	2,136	9004840157024		<b>SI016200</b>
<b>20 x 10</b>						
520 A, busbar	2400 x 20 x 10	tin-plated	4,272	9004840157048		<b>SI016240</b>
<b>30 x 5</b>						
379 A (450 A) busbar	2000 x 30 x 5	blank	2,818	9004840044195		<b>IS505069</b>
450 A, busbar	2400 x 30 x 5	tin-plated	3,204	9004840157031		<b>SI016220</b>
Cranked busbar	355 + 550	cranked/blank	-	9004840276886		<b>BS900198</b>
Cranked copper busbar	957 + 75 + 953	cranked/blank	2,700	9004840589566		IS505107
<b>30 x 10</b>						
573 A (630 A), busbar	2000 x 30 x 10	blank	5,570	9004840044386		<b>IS505087</b>
630 A, busbar	2400 x 30 x 10	tin-plated	6,408	9004840157055		<b>SI016250</b>
630 A, busbar	3600 x 30 x 10	tin-plated	9,610	9004840184723		SI012040
<b>40 x 10</b>						
850 A, busbar	2400 x 40 x 10	tin-plated	8,544	9004840169898		<b>SI016260</b>
<b>50 x 10</b>						
1000 A, busbar	2400 x 50 x 10	tin-plated	10,680	9004840173468		SI016270
<b>60 x 10</b>						
1250 A, busbar	2400 x 60 x 10	tin-plated	12,816	9004840168327		SI016280
<b>80 x 10</b>						
1500 A, busbar	2400 x 80 x 10	tin-plated	17,088	9004840184761		SI017650
<b>100 x 10</b>						
1800 A, busbar	2400 x 100 x 10	tin-plated	21,360	9004840218893		SI017660
<b>120 x 10</b>						
2100 A, busbar	2400 x 120 x 10	tin-plated	25,630	9004840218909		SI017670



## T PROFILE-BUSBARS

DESCRIPTION/NOMINAL CURRENT	DIM. (L) mm	FINISH	CU WT. (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>DOUBLE T PROFILE BUSBARS 500 mm<sup>2</sup> UP TO 1250 A</b>						
1250 A, TT profile	2400	blank	10,440	9004840391220		<a href="#">SI012500</a>
1250 A, TT profile	2400	tin-plated	10,440	9004840187861		<a href="#">SI016090</a>
1250 A, TT profile	3600	blank	15,660	9004840261646		<a href="#">SI012230</a>
1250 A, TT profile	3600	tin-plated	15,660	9004840184754		SI012240
<b>DOUBLE T PROFILE BUSBARS 720 mm<sup>2</sup> UP TO 1600 A</b>						
1600 A, TT profile	2400	blank	15,400	9004840216837		SI012490
1600 A, TT profile	2400	tin-plated	15,400	9004840156966		SI016080
1600 A, TT profile	3600	blank	23,100	9004840259049		SI012290
1600 A, TT profile	3600	tin-plated	23,100	9004840156553		SI011900
<b>TRIPLE T PROFILE BUSBARS 1140 mm<sup>2</sup> UP TO 2500 A</b>						
2500 A, TTT profile	2400	tin-plated	24,360	9004840199529		SI011870
2500 A, TTT profile	3600	tin-plated	36,540	9004840230987		SI012270

## FLEXIBLE COPPER BUSBARS



LAMINATED COPPER BUSBARS


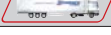



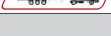





### SCHRACK INFO

- Temperature resistance of insulation 105 °C
- Current data at 40 °C ambient temperature and heating of the conductor surface of 45 K
- Flexible and pliable

Other cross-sections and tin-plated versions on request

### TIPS & TRICKS

Processing flexible copper saves approx. 25% conductor material and approx. 30% fastener material (e.g., 90° connections) compared to rigid copper

DESCRIPTION/NOMINAL CURRENT	DIM. (LxWxD) mm	FINISH	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
245 A, 6 x 9 x 0,8, insulated	2000 x 13 x 6		769	9004840156560		SI011940
253 A, 6 x 13 x 0,5, insulated	2000 x 17 x 7		694	9004840209617		SI010500
320 A, 4 x 16 x 0,8, insulated	2000 x 20 x 7		883	9004840156577		<a href="#">SI011960</a>
360 A, 3 x 20 x 1, insulated	2000 x 24 x 7		1,068	9004840199567		<a href="#">SI010270</a>
360 A, 3 x 20 x 1, insulated	2000 x 24 x 7	tin-plated	1,068	9004840222777		SI010620
462 A, 6 x 20 x 1, insulated	2000 x 24 x 10		2,136	9004840199574		<a href="#">SI010280</a>
640 A, 5 x 32 x 1, insulated	2000 x 30 x 9		2,848	9004840156973		<a href="#">SI016120</a>
645 A, 10 x 20 x 1, insulated	2000 x 24 x 14		3,560	9004840260755		<a href="#">SI010290</a>
514 A, 5 x 24 x 1, insulated	2000 x 28 x 9		2,136	9004840214376		<a href="#">SI016110</a>
800 A, 10 x 24 x 1, insulated	2000 x 28 x 14	blank	4,272	9004840156539		SI011840
1040 A, 10 x 32 x 1, insulated	2000 x 36 x 14		5,696	9004840156980		<a href="#">SI016130</a>
760 A, 5 x 40 x 1, insulated	2000 x 44 x 9		3,560	9004840184716		SI016140
1181 A, 10 x 40 x 1, insulated	2000 x 44 x 14		7,120	9004840156997		<a href="#">SI016150</a>
930 A, 5 x 50 x 1, insulated	2000 x 54 x 9		4,450	9004840199550		SI010600
1395 A, 10 x 50 x 5, insulated	2000 x 54 x 14		8,900	9004840156874		<a href="#">SI015090</a>
455 A, 10 x 15 x 0,8, insulated	2000 x 20 x 12		2,207	9004840156928		<a href="#">SI015830</a>
1600 A, 10 x 63 x 1, insulated	2000 x 67 x 14		11,214	9004840156881		<a href="#">SI015100</a>
1775 A, 10 x 80 x 1, insulated	2000 x 84 x 14		14,240	9004840231120		SI010610
1985 A, 10 x 100 x 1, insulated	2000 x 104 x 14		17,800	9004840259537		SI012730



## CUPONAL


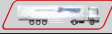


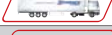

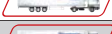








CU201003

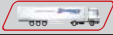
### SCHRACK INFO

Cuponal busbars are used worldwide for the following applications:

- Distributors for low-voltage applications
- Distributors for high-voltage applications
- Control cabinets
- Busbar distribution systems

DESCRIPTION/CONTINUOUS CURRENT AT 65 °C BUSBAR TEMPERATURE	DIM. (LxWxD) mm	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
10x3/94 A	2000x10x3	1	CU 2-94	0.108	9004840017090		<a href="#">CU201003</a>
20x3/168 A	2000x20x3	1	CU 2-168	0.214	9004840066401		<a href="#">CU202003</a>
20x5/225 A	2000x20x5	1	CU 2-225	0.356	9004840017106		<a href="#">CU202005</a>
20x5/225 A - sharp-edged	2000x20x5	1	CU 2-225S	0.363	9004840182590		<a href="#">CU2S2005</a>
30x5/313 A	2000x30x5	1	CU 2-313	0.538	9004840017113		<a href="#">CU203005</a>
30x5/313 A - sharp-edged	2000x30x5	1	CU 2-313S	0.545	9004840182606		<a href="#">CU2S3005</a>
40x5/400 A	2000x40x5	1	CU 2-400	0.719	9004840068658		<a href="#">CU204005</a>
30x10/472 A	2000x30x10	1	CU 2-472	1.0618	9004840017120		<a href="#">CU203010</a>
30x10/472 A - sharp-edged	2000x30x10	1	CU 2-472S	1.098	9004840182613		<a href="#">CU2S3010</a>
40x10/595 A	2000x40x10	1	CU 2-595	1.424	9004840017137		<a href="#">CU204010</a>
50x10/705 A	2000x50x10	1	CU 2-705	1.787	9004840017151		<a href="#">CU205010</a>
60x10/820 A	2000x60x10	1	CU 2-820	2.150	9004840017168		<a href="#">CU206010</a>
80x10/1030 A	2000x80x10	1	CU 2-1030	2.876	9004840017175		<a href="#">CU208010</a>

## ACCESSORIES FOR COPPER BUSBARS

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
Carrier for copper busbars 10 x 3	50	9004840615647		IS505110
Holder for laminated copper busbars 5 - 10 mm	4	9004840406863		<a href="#">SI013030</a>



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## SUPPORT INSULATORS WITH FEMALE THREADS UP TO 1 kV



IK011030

### SCHRACK INFO

- Nominal voltage 1 kV, overvoltage category I-IV, surge voltage 12 kV - IEC 61 180
- Heat-stabilised, glass-fibre reinforced polyester
- Resistant to heat aging, mildew, termites, oil, grease, petrol, alcohol, UV light and tropical climate

### TECHNICAL DATA

- Halogen-free (no corrosive, toxic gases released in the event of fire)
- Fire classification VO according to UL 94
- Maximum tightening torque: 20 / 20 / 60 / 80 Nm
- Tensile forces greater than / 6000 / 6000 / 8000 / 12000 Nm
- Complies with CTI 600-EW 60112
- Resistant to leakage current
- Cold impact-resistant, high break, tensile and compressive forces
- HH type throughout hexagonal, RH type with hexagonal flange

DESCRIPTION	DIM. (DxH) mm	PU	EAN CODE	AVAILABLE	ORDER NO.
<b>M6</b>					
2 x M6, 40 mm high, wrench opening 35, torque 3.5 kN	Ø 32 x H40	50	9004840498059		<b>IK011030-A</b>
<b>M8</b>					
2 x M8, 40 mm high, wrench opening 35, torque 4 kN	Ø 32 x H40	50	9004840498097		<b>IK011032-A</b>
2 x M8, 50 mm high, wrench opening 35, torque 3.5 kN	Ø 32 x H50	50	9004840589979		<b>IK011036-A</b>
<b>M10</b>					
2 x M10, 40 mm high, wrench opening 35, torque 8 kN	Ø 42 x H40	50	9004840498066		<b>IK011031-A</b>
2 x M10, 45 mm high, wrench opening 35, torque 8 kN	Ø 42 x H45	25	9004840589986		IK011037-A
2 x M10, 60 mm high, wrench opening 35, torque 8 kN	Ø 60 x H60	10	9004840589993		IK011038-A
<b>M12</b>					
2 x M12, 50 mm high, wrench opening 35, torque 12 kN	Ø 60 x H50	10	9004840498103		<b>IK011033-A</b>
2 x M12, 80 mm high, wrench opening 35, torque 10 kN	Ø 60 x H80	10	9004840590005		IK011039-A



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- See availability and price immediately
- Order desired products easily

## SUPPORT INSULATORS WITH FEMALE THREADS



SI057800

### SCHRACK INFO

- Halogen-free
- Temperature-resistant 250 °C
- Self-extinguishing according to UL 94
- Leakage current resistance CTI 600

DESCRIPTION	DIM. (WxHxD) mm	PU	EAN CODE	AVAILABLE	ORDER NO.
<b>M6</b>					
2 x M6, wrench opening 17, rated voltage 0.6 kV	17 x 17 x 20	100	4021267057794		SI057790
2 x M6, wrench opening 30, rated voltage 1.5 kV	30 x 30 x 30	20	9004840422955		<b>SI057800</b>
<b>M8</b>					
2 x M8, wrench opening 30, rated voltage 1.5 kV	30 x 30 x 30	20	9004840506846		SI057920
2 x M8, wrench opening 30, rated voltage 1.5 kV	32 x 32 x 35	20	9004840186307		<b>SI057820</b>
2 x M8, wrench opening 40, rated voltage 2 kV	40 x 40 x 40	20	4021267057831		<b>SI057830</b>
2 x M8, wrench opening 46, rated voltage 2 kV	46 x 46 x 45	20	4021267057862		SI057860
2 x M8, wrench opening 36, rated voltage 2 kV	36 x 36 x 50	20	9004840246919		SI057900
<b>M10</b>					
2 x M10, wrench opening 50, rated voltage 2 kV	36 x 36 x 50	20	9004840404258		<b>SI057880</b>

## SUPPORT INSULATORS WITH FEMALE AND MALE THREADS



SI058000

### SCHRACK INFO

- Halogen-free
- Temperature-resistant 250 °C
- Self-extinguishing according to UL 94
- Leakage current resistance CTI 600

DESCRIPTION	DIM. (WxHxD) mm	PU	EAN CODE	AVAILABLE	ORDER NO.
<b>M6</b>					
2 x M6, wrench opening 30, rated voltage 1.5 kV	30 x 30 x 30	20	4021267058005		<b>SI058000</b>
2 x M6, wrench opening 32, rated voltage 1.5 kV	30 x 30 x 35	20	9004840493979		<b>SI058010</b>
<b>M8</b>					
2 x M8, wrench opening 32, rated voltage 1.5 kV	35 x 35 x 35	20	9004840186314		<b>SI058020</b>



Order no. blue: on stock, usually ready for delivery on the day of order!

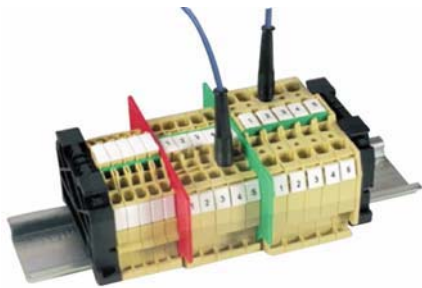
## TOP-TECHNIC



/// EASY CONNECTION BOX



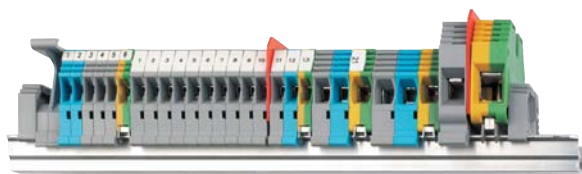
/// TERMINAL BLOCKS 4-POLE



/// SPRING CLAMP TERMINAL HMM



/// MAIN LINE BRANCH TERMINALS



/// TERMINALS SERIES IK6



/// CONNECTION TERMINAL WAGO 222



/// CONNECTION TERMINAL WAGO 273



/// LAMP TERMINAL WAGO 224

*“The new is pressing on with might.”*

Johann Christoph Friedrich von Schiller, poet

# TERMINALS

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## MAIN BRANCH TERMINALS TYPE A (OPEN TERMINAL POINTS)



SI022350/SI022250/SI022350/SI022260

### SCHRACK INFO



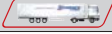


- Type A, open terminal points - can be protected against touching with cover profile (only for version 25 mm<sup>2</sup> and 35 mm<sup>2</sup>)
- With snap fastener for horizontal and vertical mounting (unless indicated otherwise)
- According to VDE 0606 (up to 70 mm<sup>2</sup>), rated voltage AC 500 V
- 25 mm<sup>2</sup> - inlet 2x25 mm<sup>2</sup>: Screw M6, Md 3 Nm, outlet 16 mm<sup>2</sup> both sides: Screw M5, Md 3 Nm
- 35 mm<sup>2</sup> - inlet 2x35 mm<sup>2</sup>: Screw M8, Md 4 Nm, outlet 25 mm<sup>2</sup> or 35 mm<sup>2</sup>: Screw M6, Md 3 Nm
- 70 mm<sup>2</sup> - inlet 2x70 mm<sup>2</sup>: Screw M8, Md 12 Nm, outlet 50 mm<sup>2</sup>: Screw M8, Md 4 Nm
- 150 mm<sup>2</sup> - inlet 2x150 mm<sup>2</sup>: Screw M12, Md 20 Nm, outlet 50 mm<sup>2</sup>: Screw M8, Md 4 Nm

DESCRIPTION	WxHxD (mm)	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>25 mm<sup>2</sup></b>					
1-pole, 1 insert with 12 outlets, 16 mm <sup>2</sup>	126x56x38	135	9004840147186		<a href="#">SI022010</a>
1-pole, 1 insert with 2 outlets, 16 mm <sup>2</sup>	32.5x43.5x40	40	9004840680553		<a href="#">SI022250</a>
1-pole, 1 insert with 6 outlets, 16 mm <sup>2</sup>	62x43.5x40	77	9004840680577		<a href="#">SI022270</a>
2-pole, 2 inserts each with 4 outlets, 16 mm <sup>2</sup>	62x43.5x40	128	9004840680591		<a href="#">SI022300</a>
4-pole, 3 inserts each with 2 outlets 16 mm <sup>2</sup> / 1 insert with 6 outlets, 16 mm <sup>2</sup>	150.5x43.5x40	199	9004840157444		<a href="#">SI022340</a>
4-pole, 3 inserts each with 4 outlets, 16 mm <sup>2</sup> / 1 insert with 6 outlets, 16 mm <sup>2</sup>	150.5x43.5x40	269	9004840680621		<a href="#">SI022350</a>
4-pole, 3 inserts each with 4 outlets, 16 mm <sup>2</sup> / 1 insert with 12 outlets, 16 mm <sup>2</sup>	150.5x43.5x40	327	9004840680638		<a href="#">SI022370</a>
4-pole, 4 inserts each with 2 outlets, 16 mm <sup>2</sup>	121x43.5x40	163	9004840157437		<a href="#">SI022310</a>
5-pole, 5 inserts each with 2 outlets, 16 mm <sup>2</sup>	150.5x43.5x40	203	9004840680645		<a href="#">SI022380</a>
<b>35 mm<sup>2</sup></b>					
1-pole, 2 inserts with 2 outlets, 35 mm <sup>2</sup>	62x40x50	81	9004840680584		<a href="#">SI022280</a>
1-pole, 1 insert with 2 outlets, 25 mm <sup>2</sup>	40x44x44	68	9004840680652		<a href="#">SI022420</a>
1-pole, 1 insert with 2 outlets, 35 mm <sup>2</sup>	40x44x44	68	9004840680737		<a href="#">SI025210</a>
1-pole, 1 insert with 4 outlets 35 mm <sup>2</sup>	33x40x50	64	9004840680560		<a href="#">SI022260</a>
1-pole, 1 insert with 4 outlets, 35 mm <sup>2</sup>	40x44x44	77	9004840682335		<a href="#">SI025260</a>
2-pole, 2 inserts each with 4 outlets 25 mm <sup>2</sup>	77x44x44	170	9004840680683		<a href="#">SI022460</a>
2-pole, 2 inserts each with 2 outlets, 35 mm <sup>2</sup>	77x44x44	136	9004840680676		<a href="#">SI022440</a>
4-pole, 3 inserts each with 2 outlets / 1 insert with 6 outlets 25 mm <sup>2</sup>	192x60x46	338	9004840680751		<a href="#">SI025440</a>
4-pole, 4 inserts each with 2 outlets, 35 mm <sup>2</sup>	155x60x46	257	9004840680720		<a href="#">SI025170</a>
4-pole, 4 inserts each with 2 outlets, 25 mm <sup>2</sup>	155x60x46	272	9004840680713		<a href="#">SI025050</a>
5-pole, 5 inserts each with 2 outlets, 25 mm <sup>2</sup>	192x60x46	341	9004840680744		<a href="#">SI025380</a>





## MAIN BRANCH TERMINALS TYPE A – continued

DESCRIPTION	WxHxD (mm)	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>70 mm<sup>2</sup></b>					
1-pole, 1 insert with 2 outlets					
50 mm <sup>2</sup> , screw-mounting	67x65x70	157	9004840680539		<b>SI022160</b>
1-pole, 1 insert with 4 outlets					
50 mm <sup>2</sup> , screw-mounting	67x65x70	256	9004840680546		<b>SI022170</b>
1-pole, 1 insert with 2 outlets					
50 mm <sup>2</sup> , snap-on type	67x65x70	157	9004840680690		<b>SI022470</b>
1 insert with 4 outlets					
50 mm <sup>2</sup> , snap-on type	67x65x70	256	9004840680706		<b>SI022480</b>
<b>COVER PROFILE FOR MAIN LINE BRANCH TERMINAL TYPE A, 25-35 mm<sup>2</sup></b>					
Cover length 1 m			9004840686005		<b>SI784910</b>



### I KNOW WHERE TO FIND IT!

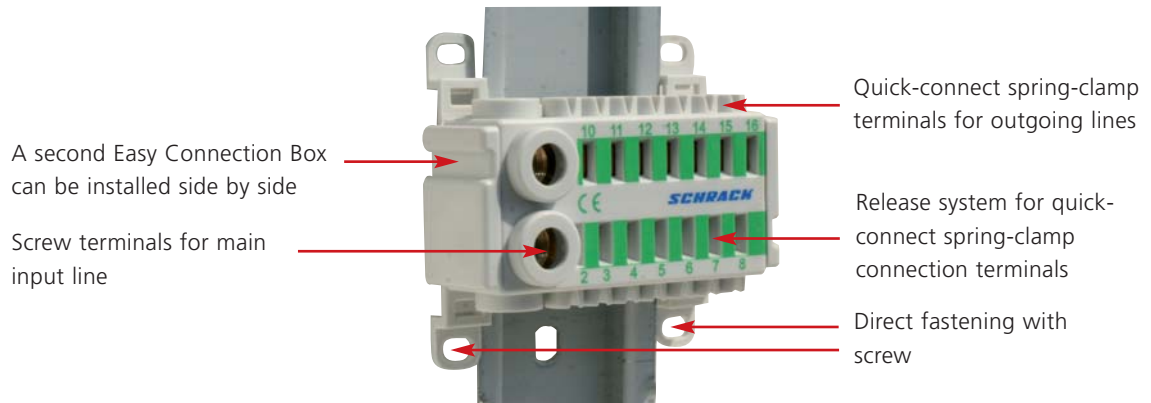
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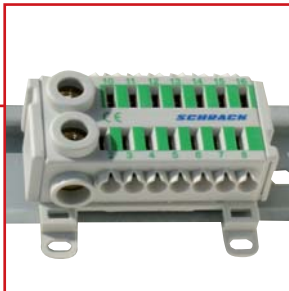


## THE ADVANTAGES

- Compact size
- Can be mounted directly onto mounting plate or alternatively snapped onto DIN rail
- Horizontal and vertical mounting on DIN rail possible
- Quick-connect spring-clamp terminal system for outlet terminal
- Can be installed side by side
- Available in grey, blue, green and blue/green



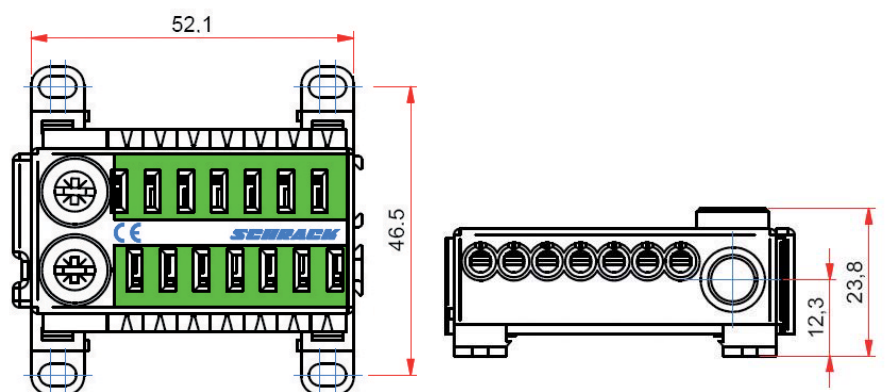
## HORIZONTAL MOUNTING



## VERTICAL MOUNTING



## DIMENSIONS (mm)



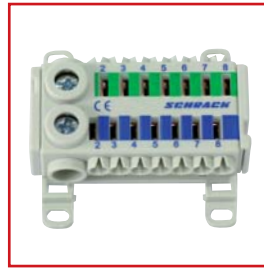
## EASY CONNECTION BOX



IK021078



IK021079



IK021080



IK021081

## TECHNICAL DATA

- Materials:
  - Terminal body: Plain brass
  - Housing: PA66-V0 grey RAL 7035
  - Lid: PA66-V0 grey RAL 7035
  - End caps: PA66-V0 grey RAL 7035
  - Terminal support: E-Cu
  - Setscrew: Steel, combo-slot
- Temperature resistance: HDT B ISO179 = 200 °C – UL94-V0/1.5
- CTI value of insulations: 600V
- Regulations: EN 60998-1:2004, EN 60998-2:2004, EN60998-2-2:2004, EN60999-1:2000, VDE 0603-1
- Electrical data:
  - Max. electrical load: 80 A
  - Protection class: IP20

## CONNECTION OPTIONS

### Screw terminals

Cable type:	H07V-U – solid H07V-R – stranded	H07V-K – finely stranded (with ferrule)
Max. connection Ø:	25 mm <sup>2</sup>	16 mm <sup>2</sup>
Min. connection Ø:	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>

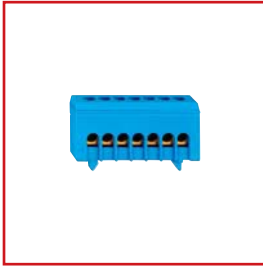
### Quick-connect spring-clamp connection terminals

Cable type:	H05V-U – solid H07V-U – solid H07V-R – stranded H07V-K – finely stranded (without ferrule)	H05V-K – finely stranded (with ferrule) H07V-K – finely stranded (with ferrule)
Max. connection Ø:	6 mm <sup>2</sup>	4 mm <sup>2</sup>
Min. connection Ø:	0.5 mm <sup>2</sup>	0.5 mm <sup>2</sup>

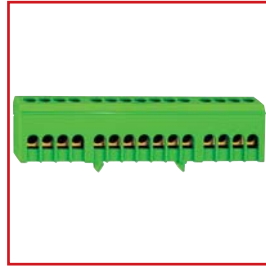
DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
EASY CONNECTION BOX blue, 2 x 25 mm <sup>2</sup> , 14 x 6 mm <sup>2</sup>	9004840519525		<b>IK021078</b>
EASY CONNECTION BOX green, 2 x 25 mm <sup>2</sup> , 14 x 6 mm <sup>2</sup>	9004840519532		<b>IK021079</b>
EASY CONNECTION BOX blue/green, 1 x 25 mm <sup>2</sup> , 7 x 6 mm <sup>2</sup>	9004840519549		<b>IK021080</b>
EASY CONNECTION BOX no colour, 2 x 25 mm <sup>2</sup> , 14 x 6 mm <sup>2</sup>	9004840521191		<b>IK021081</b>



## INSULATED N UND PE TERMINALS



IK021036



IK021039

### SCHRACK INFO

- Snap-on mounting on DIN-rail
- Maximum load 63 A
- Insulated
- Terminal cross-section 16 mm<sup>2</sup> (e, m) (f with ferrule max. 10 mm<sup>2</sup>)

DESCRIPTION	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Insulated PE terminal, 15 outlets	1	ISO-SL-KLEM 15	9004840449198		<b>IK021039I</b>
Insulated N terminal, 15 outlets	1	ISO-N-KLEM 15	9004840449181		<b>IK021038I</b>
Insulated PE terminal, 7 outlets	1	ISO-SL-KLEM 7	9004840449075		<b>IK021037I</b>
Insulated N terminal, 7 outlets	1	ISO-N-KLEM 7	9004840449068		<b>IK021036I</b>

## N AND PE TERMINALS



IK021036

### SCHRACK INFO

- Snap-on mounting on DIN-rail
- Maximum load 63 A
- Terminal cross-section 16 mm<sup>2</sup> Ye, Ym; Yf with ferrule max. 10 mm<sup>2</sup>

DESCRIPTION	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
NL/PE terminal screw-on type	1	NL/SL-S	9004840086928		BK004405
PE terminal, 15 outlets	1	SL-KLEM 15	9004840022124		<b>IK021039</b>
N terminal, 15 outlets	1	N-KLEM 15	9004840022117		<b>IK021038</b>
PE terminal, 7 outlets	1	SL-KLEM 7	9004840022100		<b>IK021037</b>
N terminal, 7 outlets	1	N-KLEM 7	9004840022094		<b>IK021036</b>



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## NEUTRAL AND/OR PROTECTIVE EARTH CONDUCTOR RAIL AND CARRIER



IK018004

### SCHRACK INFO

- Carrier: 2 rails, snap-on mounting
- Carrier can be snapped on to DIN rail or fastened with screw and sliding nut on rail in C form.

DESCRIPTION	WxHxD (mm)	PU	TYPE	CU WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Neutral conductor carrier 10 mm <sup>2</sup>	-	1	NT-10	-	9004840021554		<a href="#">IK018004</a>
Neutral conductor carrier 16 mm <sup>2</sup>	-	1	NT-16	-	9004840038309		<a href="#">IL900315</a>
10 mm <sup>2</sup> Neutral conductor rail	L=1 m	1	NLS 10	542	9004840021813		<a href="#">IK020014</a>
16 mm <sup>2</sup> Neutral conductor rail	L=1 m	1	NLS 16	678	9004840021844		<a href="#">IK020018</a>
NL-PE rail 25 mm <sup>2</sup>	L=1 m	1	NL-SL 25	1270	9004840126068		<a href="#">IK020013</a>
Insulating part 4-step	-	1	ISO 4St.	-	9004840021837		<a href="#">IK020017</a>
Cover for IK 020017	L=1 m	1	ISO 4st. ABD	-	9004840184952		IK020011
Additional terminal for connecting up to 25 mm <sup>2</sup>	-	1	Z-KLEM 25	-	9004840021820		<a href="#">IK020015</a>
Additional terminal steel 25 mm <sup>2</sup>	-	1	ZK25ST	-	9004840107364		<a href="#">IK020016</a>
Busbar 10 x 3 mm	-	1	CU3/10	-	9004840022407		<a href="#">IK021134</a>
Additional terminal for clamp rail	-	1	AK35	-	9004840665635		<a href="#">IK020022</a>

## EARTH DISTRIBUTION RAIL



BS900200

### SCHRACK INFO

- Lightning current carrying capacity: 100 kA (10/350)
- With plastic cover
- 1 earthing strip up to 30 x 3.5 mm
- 1 solid round conductor 7 - 10 mm (lightning protection)
- Nominal cross-section and tightening torque indicated on terminal

### STANDARDS

VDE 0606 § 7 and § 8

DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Earth distribution rail	1	POT	0.225	9004840013337		<a href="#">BS900200</a>



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## POWER DISTRIBUTION BLOCKS – GENERAL INFORMATION



IKB14016

### SCHRACK INFO

- Space-saving and safe distribution of electrical circuits
- Approx. 80% time savings in cabling
- Mounting on DIN rail and mounting plates
- Modular design, 1-4-pole systems can be constructed using several blocks
- Protection class IP 20


## TERMINAL BLOCK 1-POLE, 80 A, 16 mm<sup>2</sup>



IKB01016

### SCHRACK INFO

- Terminals inlet: 1 x 2.5 – 16 mm<sup>2</sup>  
Outlet: 2 x 2.5 – 16 mm<sup>2</sup>  
4 x 2.5 – 6 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal block 1-pole 80 A, inlet 1x16 mm <sup>2</sup> , outlet 2x16 mm <sup>2</sup> and 4x6 mm <sup>2</sup>	27x66x47	1	9004840449112		<b>IKB01016</b>




## TERMINAL BLOCK 1-POLE, 125 A, 35 mm<sup>2</sup>



IKB01035

### SCHRACK INFO

- Terminals inlet: 1 x 10 – 35 mm<sup>2</sup>  
1 x 2.5 – 16 mm<sup>2</sup>  
Outlet: 6 x 2.5 – 16 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal block, 1-pole 125 A, inlet 1x35 mm <sup>2</sup> and 1x16 mm <sup>2</sup> , outlet 6x16 mm <sup>2</sup>	27x66x47	1	9004840449129		<b>IKB01035</b>
N terminal block, 1-pole 125 A, inlet 1x35 mm <sup>2</sup> and 1x16 mm <sup>2</sup> , outlet 6x16 mm <sup>2</sup>	27x66x47	1	9004840655810		<b>IKB01035N</b>
PE terminal block, 1-pole 125 A, inlet 1x35 mm <sup>2</sup> and 1x16 mm <sup>2</sup> , outlet 6x16 mm <sup>2</sup>	27x66x47	1	9004840655827		<b>IKB01035PE</b>

## TERMINAL BLOCK 1-POLE, 160 A, 70 mm<sup>2</sup>



IKB01070

### SCHRACK INFO

- Lateral parallel connection with Cu 15 x 5 possible
- Terminals inlet: 1 x 10 – 70 mm<sup>2</sup>  
Outlet: 6 x 2.5 – 16 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal block, 1-pole 160 A, inlet 1x70 mm <sup>2</sup> , outlet 6x16 mm <sup>2</sup>	35x92x49	1	9004840449136		<b>IKB01070</b>

## TERMINAL BLOCK 1-POLE, 250 A, 120 mm<sup>2</sup>



IKB01120

### SCHRACK INFO

- Terminals inlet: 1 x 35 – 120 mm<sup>2</sup>  
Outlet: 2 x 6 – 35 mm<sup>2</sup>  
5 x 1.5 – 16 mm<sup>2</sup>  
4 x 1.5 – 10 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal block, 1-pole 250 A, inlet 1x120 mm <sup>2</sup> , outlet 2x35 mm <sup>2</sup> , 5x16 mm <sup>2</sup> and 4x10 mm <sup>2</sup>	44.5x95.5x49	1	9004840449143		<b>IKB01120</b>

## TERMINAL BLOCK 1-POLE, 400 A, 185 mm<sup>2</sup>



IKB01185

### SCHRACK INFO

- Terminals inlet: 1 x 95 – 185 mm<sup>2</sup>  
Outlet: 2 x 6 – 35 mm<sup>2</sup>  
5 x 1.5 – 16 mm<sup>2</sup>  
4 x 1.5 – 10 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal block, 1-pole, 400 A, inlet 1x185 mm <sup>2</sup> , outlet 2x35 mm <sup>2</sup> , 5x16 mm <sup>2</sup> and 4x10 mm <sup>2</sup>	44.5x95.5x49	1	9004840449105		<b>IKB01185</b>

## TERMINAL BLOCK 1-POLE, 400 A, 240 mm<sup>2</sup>



IKB01240

### SCHRACK INFO

- Suitable for Alu- and Cu-conductors
- Terminals inlet: 1 x 95 – 240 mm<sup>2</sup>  
Outlet: 2 x 50 – 120 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal block, 1-pole, 400 A, inlet 1x240 mm <sup>2</sup> , outlet 2x120 mm <sup>2</sup>	44.5x95.5x49	1	9004840651737		<b>IKB01240</b>

# TERMINALS

## TERMINAL DISTRIBUTION BLOCK 4-POLE, 80 A



IKB04016

### SCHRACK INFO

- Terminals per pole inlet: 1 x 2.5 – 16 mm<sup>2</sup>  
Outlet: 8 x 1.5 – 10 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal distribution block, 4-pole, 80 A, each pole: inlet 1x16 mm <sup>2</sup> , outlet 8x10 mm <sup>2</sup>	74.5x98x45	1	9004840449150		<b>IKB04016</b>

## TERMINAL DISTRIBUTION BLOCK 4-POLE, 100 A



IKB14016

### SCHRACK INFO

- Terminals per pole inlet: 1 x 10 – 35 mm<sup>2</sup>  
Outlet: 3 poles: 5 x 1.5 – 6 mm<sup>2</sup>  
6 x 2.5 – 16 mm<sup>2</sup>  
1 pole: 4 x 1.5 – 6 mm<sup>2</sup>  
6 x 2.5 – 16 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal distribution block, 4-pole, 100 A, each pole: Inlet 1x35 mm <sup>2</sup> , for outlet see Schrack Info	75x45x98	1	9004840449174		<b>IKB14016</b>

## TERMINAL DISTRIBUTION BLOCK 4-POLE, 125 A



IKB04035

### SCHRACK INFO

- Terminals per pole inlet: 2 x 10 – 35 mm<sup>2</sup>  
Outlet: 10 x 2.5 – 16 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal distribution block, 4-pole 125 A, each pole: inlet 2x35 mm <sup>2</sup> , outlet 10x16 mm <sup>2</sup>	85x129x48	1	9004840449167		<b>IKB04035</b>

## TERMINAL DISTRIBUTION BLOCK 4-POLE, 160 A



IKB04050

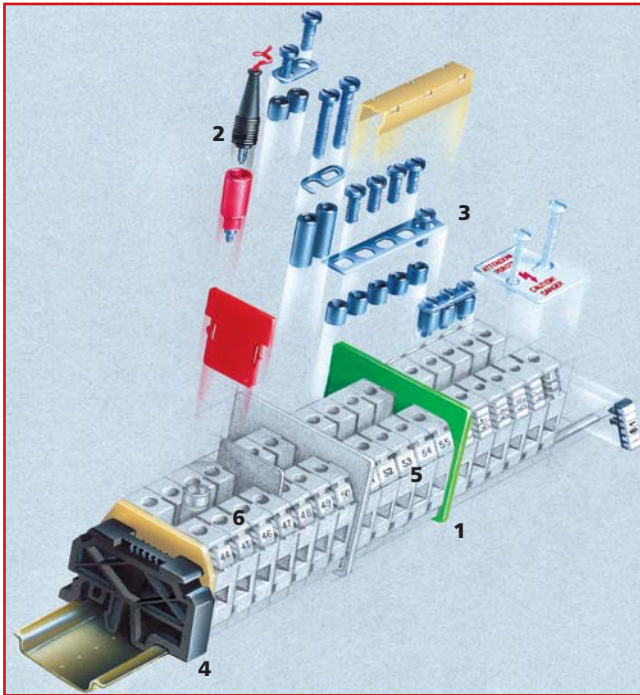
### SCHRACK INFO

- Terminals per pole inlet: 1 x 10 – 35 mm<sup>2</sup>  
Outlet: 3 x 6 – 25 mm<sup>2</sup>  
8 x 2.5 – 16 mm<sup>2</sup>

DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
Terminal distribution block, 4-pole, 160 A, each pole: inlet 1x35 mm <sup>2</sup> , outlet 3x25 mm <sup>2</sup> and 8x16 mm <sup>2</sup>	90x160.5x50	1	9004840449099		<b>IKB04050</b>



## SCREW TERMINALS SERIES IK1 – GENERAL INFORMATION



SCREW TERMINALS

### SCHRACK INFO

- 1 – Partition
- 2 – Test sockets and test plugs
- 3 – Parallel bridges and bar bridges
- 4 – End brackets
- 5 – Numbering strips
- 6 – Labels

### TECHNICAL DATA

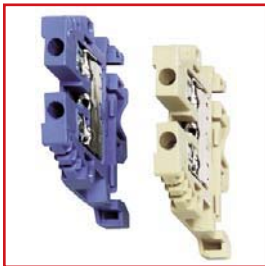
Insulation bodies:

- Made of polyamide, standard colour beige (RAL 1001) or blue (RAL 5015 - for use in electrical circuits (EX)i)
- According to the IEC Directive 947-7
- Self extinguishing class V0, according to UL94
- Operating temperature between -40 °C and +80 °C for polyamide; (-40 °C and +115 °C for melamine on request)
- Free of asbestos, PCB and PCT, cadmium, phosphorus and halogen-like materials

Conducting body:

- Components only from nickel-plated copper/zinc alloy

## TERMINALS CBD SERIES IK1



### SCHRACK INFO

- Terminals with polyamide 6.6 insulation body
- Flammability class V0 according to UL94
- Temperature resistance -40 °C to +80 °C

Mounting:

Universal on DIN rail TH/35 or G32 according to IEC60175

Terminal types from 2.5 to 95 mm<sup>2</sup> on compact sizes

CESI 01ATEX 090 U EEx and I M2 / II 2 G D certification

Colours:

Terminals: RAL 1001 (beige), RAL 5015 (blue)

## TERMINALS CBC SERIES IK1



### SCHRACK INFO

- Terminals with polyamide 6.6 insulation body
- Flammability class V0 according to UL94
- Temperature resistance -40 °C to +80 °C
- Dielectric strength up to 1000 V AC and DC

Mounting:

On DIN rail with 7.5 und 15 mm height




Colours:

Terminals: RAL 7042 (grey), RAL 5015 (blue)






# TERMINALS

## TERMINALS CBC SERIES IK1


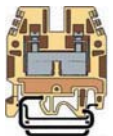

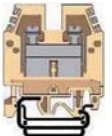
			
Type	CBC.2	CBC.4	CBC.6
<b>TERMINAL CROSS-SECTION</b>			
Terminal cross-section	0.2-4 mm <sup>2</sup>	0.2-6 mm <sup>2</sup>	0.2-10 mm <sup>2</sup>
Max. solid	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>
Max. stranded	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>
Max. flexible (f)	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>
Max. flexible with ferrule	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>
Stripping length (mm)	9	10	10
Terminal module width (mm)	5	6	8
Dimensions (HxWxD) in mm	52 x 5 x 44	52 x 6 x 44	52 x 8 x 44
Tightening torque min/nominal (Nm)	0.4/0.8	0.5/1.2	0.8/1.4
Nominal voltage (V)	1000	1000	1000
Maximum current (A)	24	32	41
<b>PART NUMBERS</b>			
Terminal grey	IK110002	IK110004	IK110006
Terminal blue	IK111002	IK111004	IK111006
<b>END PLATES</b>			
End plate grey	IK110210	IK110210	IK110210
End plate blue	IK111210	IK111210	IK111210
<b>SEPARATING PLATES</b>			
Partition pluggable red	IK108004	IK108004	IK108004
Partition pluggable green	IK109004	IK109004	IK109004
<b>CROSS-CONNECTOR</b>			
Parallel-bar bridge for 2 terminals	IK200822	IK200842	IK200862
Parallel-bar bridge for 5 terminals	IK200825	IK200845	IK200865
Parallel-bar bridge for 10 terminals	IK200829	IK200849	IK200869
Parallel-bar bridge	50-fold / IK200820	42-fold / IK200840	31-fold / IK200860
<b>END BRACKET</b>			
End bracket, screw-on type	IK123000	IK123000	IK123000
End bracket, snap-on type	IK123001	IK123001	IK123001
<b>NUMBERING STRIP</b>			
Numbering strip 1-10	IK297210-A	IK297410-A	-
Numbering strip 11-20	IK297211-A	IK297411-A	-
Numbering strip 21-30	IK297221-A	-	-
Numbering strip 31-40	IK297231-A	-	-
Numbering strip 41-50	IK297241-A	-	-
Numbering strip 51-60	IK297251-A	-	-
Numbering strip 61-70	IK297261-A	-	-
Numbering strip 71-80	IK297271-A	-	-
Numbering strip 81-90	IK297281-A	-	-
Numbering strip 91-99	IK297291-A	-	-
<b>LABELS</b>			
Labels 2 x 1-50	IK190051	IK190051	IK190051
Labels 2 x 51-100	IK190101	IK190101	IK190101
Labels 100 x empty	IK190030	IK190030	IK190030

## TERMINALS CBC SERIES IK1

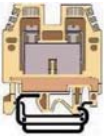
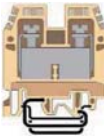


			
Type	<b>CBC.10</b>	<b>CBC.16</b>	<b>CBC.35</b>
<b>TERMINAL CROSS-SECTION</b>			
Terminal cross-section	1.5-16 mm <sup>2</sup>	1.5-25 mm <sup>2</sup>	2.5-50 mm <sup>2</sup>
Max. solid	16 mm <sup>2</sup>	25 mm <sup>2</sup>	50 mm <sup>2</sup>
Max. stranded	16 mm <sup>2</sup>	25 mm <sup>2</sup>	50 mm <sup>2</sup>
Max. flexible (f)	16 mm <sup>2</sup>	25 mm <sup>2</sup>	50 mm <sup>2</sup>
Max. flexible with ferrule	10 mm <sup>2</sup>	16 mm <sup>2</sup>	35 mm <sup>2</sup>
Stripping length (mm)	12	15	18
Terminal module width (mm)	10	12	16
Dimensions (HxWxD) in mm	52 x 10 x 44	56 x 12 x 47	63 x 16 x 56
Tightening torque min/nominal (Nm)	1.2/1.9	2/3	2.5/5
Nominal voltage (V)	1000	1000	1000
Maximum current (A)	57	76	125
<b>PART NUMBERS</b>			
Terminal grey	<b>IK110010</b>	<b>IK110016</b>	<b>IK110035</b>
Terminal blue	<b>IK111010</b>	<b>IK111016</b>	<b>IK111035</b>
<b>END PLATES</b>			
End plate grey	<b>IK110210</b>	<b>IK110216</b>	<b>IK110235</b>
End plate blue	<b>IK111210</b>	<b>IK111216</b>	<b>IK111235</b>
<b>SEPARATING PLATES</b>			
Partition pluggable red	<b>IK108004</b>	<b>IK108004</b>	<b>IK108004</b>
Partition pluggable green	<b>IK109004</b>	<b>IK109004</b>	<b>IK109004</b>
<b>CROSS-CONNECTOR</b>			
Parallel-bar bridge for 2 terminals	<b>IK200802</b>	<b>IK200812</b>	<b>IK200832</b>
Parallel-bar bridge for 5 terminals	<b>IK200805</b>	-	-
Parallel-bar bridge for 10 terminals	-	-	-
Parallel-bar bridge	25-fold / <b>IK200800</b>	-	-
<b>END BRACKET</b>			
End bracket, screw-on type	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>
End bracket, snap-on type	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>
<b>LABELS</b>			
Labels 10 x 1-10	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>
Labels 2 x 1-50	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>
Labels 2 x 51-100	<b>IK190101</b>	<b>IK190101</b>	<b>IK190101</b>
Labels 100 x empty	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>

# TERMINALS

## TERMINALS CBD SERIES IK1





				
Type	<b>CBD.2</b>	<b>CBD.4</b>	<b>CBD.6</b>	<b>CBD.10</b>
<b>TERMINAL CROSS-SECTION</b>				
Terminal cross-section	0.5-4 mm <sup>2</sup>	0.5-6 mm <sup>2</sup>	0.5-10 mm <sup>2</sup>	0.5-16 mm <sup>2</sup>
Max. solid	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>
Max. stranded	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>
Max. flexible (f)	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>
Max. flexible with ferrule	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>
Stripping length (mm)	13	14	14	14
Terminal module width (mm)	5.5	6.5	8	10
Dimensions (HxWxD) in mm	40.5 x 5.5 x 47	44 x 6.5 x 52	44 x 8 x 52	44 x 10 x 55
Tightening torque min/nominal (Nm)	0.4/0.8	0.5/1.2	0.8/1.4	1.2/1.9
Maximum current (A)	29	40	58	77
<b>PART NUMBERS</b>				
Terminal beige	<b>IK100002</b>	<b>IK100004</b>	<b>IK100006</b>	<b>IK100010</b>
Terminal blue	<b>IK101002</b>	<b>IK101004</b>	<b>IK101006</b>	<b>IK101010</b>
<b>END PLATES</b>				
End plate beige	<b>IK100202</b>	<b>IK100204</b>	<b>IK100204</b>	<b>IK100210</b>
End plate blue	<b>IK101202</b>	<b>IK101204</b>	<b>IK101204</b>	<b>IK101210</b>
<b>SEPARATING PLATES</b>				
Partition pluggable red	<b>IK108001</b>	<b>IK108004</b>	<b>IK108004</b>	<b>IK108004</b>
Partition pluggable green	<b>IK109001</b>	<b>IK109004</b>	<b>IK109004</b>	<b>IK109004</b>
<b>CROSS-CONNECTOR</b>				
Parallel bridge for 2 terminals, complete	<b>IK100511-A</b>	<b>IK100542-A</b>	<b>IK100583-A</b>	<b>IK100504-A</b>
Parallel bridge for 10 terminals, preassembled	<b>IK100803</b>	<b>IK100807</b>	<b>IK100811</b>	-
<b>END BRACKET</b>				
End bracket, screw-on type	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>
End bracket, snap-on type	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>
<b>NUMBERING STRIP</b>				
Numbering strip 1-18	<b>IK197512-A</b>	-	-	-
Numbering strip 19-36	<b>IK197513-A</b>	-	-	-
Numbering strip 37-54	<b>IK197514-A</b>	-	-	-
Numbering strip 55-72	<b>IK197515-A</b>	-	-	-
Numbering strip 73-90	<b>IK197516-A</b>	-	-	-
Numbering strip 2 x 1-9	<b>IK197517-A</b>	-	-	-
Numbering strip 1-16	-	<b>IK197612-A</b>	-	-
Numbering strip 17-32	-	<b>IK197613-A</b>	-	-
Numbering strip 33-48	-	<b>IK197614-A</b>	-	-
Numbering strip 49-64	-	<b>IK197615-A</b>	-	-
<b>LABELS</b>				
Labels 10 x 1-10	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>
Labels 2 x 1-50	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>
Labels 2 x 51-100	<b>IK190101</b>	<b>IK190101</b>	<b>IK190101</b>	<b>IK190101</b>
Labels 100 x empty	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>

## TERMINALS CBD SERIES IK1




				
Type	<b>CBD.16</b>	<b>CBD.35</b>	<b>CBD.50</b>	<b>CBD.70</b>
<b>TERMINAL CROSS-SECTION</b>				
Terminal cross-section	0.5-25 mm <sup>2</sup>	0.5-50 mm <sup>2</sup>	0.5-70 mm <sup>2</sup>	0.5-95 mm <sup>2</sup>
Max. solid	25 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>	95 mm <sup>2</sup>
Max. stranded	25 mm <sup>2</sup>	35 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>
Max. flexible (f)	25 mm <sup>2</sup>	35 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>
Max. flexible with ferrule	16 mm <sup>2</sup>	35 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>
Stripping length (mm)	18	20	22	26
Terminal module width (mm)	12	16	18	20.5
Dimensions (HxWxD) in mm	47 x 12 x 57	52 x 16 x 60	57 x 18 x 62	62 x 20.5 x 71
Tightening torque min/nominal (Nm)	1.8/3.0	2.0/3.5	2.5/5.0	3.0/8.0
Maximum current (A)	104	147	180	250
<b>PART NUMBERS</b>				
Terminal beige	<b>IK100016</b>	<b>IK100035-A</b>	<b>IK100050</b>	<b>IK100070</b>
Terminal blue	<b>IK101016</b>	<b>IK101035-A</b>	<b>IK101050</b>	<b>IK101070</b>
<b>END PLATES</b>				
End plate beige	<b>IK100216</b>	<b>IK100235-A</b>	<b>IK100250</b>	<b>IK100270</b>
End plate blue	<b>IK101216</b>	<b>IK101235-A</b>	<b>IK101250</b>	<b>IK101270</b>
<b>SEPARATING PLATES</b>				
Partition pluggable red	<b>IK108004</b>	<b>IK108005</b>	<b>IK108005</b>	<b>IK108006</b>
Partition pluggable green	<b>IK109004</b>	<b>IK109005</b>	<b>IK109005</b>	<b>IK109006</b>
<b>CROSS-CONNECTOR</b>				
Parallel bridge for 2 terminals, complete	<b>IK100505</b>	<b>IK100506</b>	<b>IK100507</b>	<b>IK100508</b>
Parallel bridge for 10 terminals, preassembled	-	-	-	-
Parallel bar bridge 250 mm	<b>IK100405</b>	<b>IK100406</b>	<b>IK100407</b>	<b>IK100408</b>
Screws and sleeves	<b>IK100605</b>	<b>IK100606</b>	<b>IK100607</b>	<b>IK100608</b>
<b>END BRACKET</b>				
End bracket, screw-on type	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>
End bracket, snap-on type	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>
<b>LABELS</b>				
Labels 10 x 1-10		<b>IK190510</b>		
Labels 2 x 1-50		<b>IK190001</b>		
Labels 2 x 51-100		<b>IK190051</b>		
Labels 2 x 101-150		<b>IK190101</b>		
Labels 100 x L1		<b>IK190002</b>		
Labels 100 x L2		<b>IK190003</b>		
Labels 100 x L3		<b>IK190004</b>		
Labels 100 x N		<b>IK190016</b>		
Labels 100 x earth		<b>IK190028</b>		
Labels 100 x empty		<b>IK190030</b>		

# TERMINALS

## PROTECTIVE EARTH TERMINALS SERIES IK1


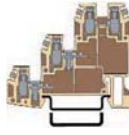


				
Type	TEO.2	TEO.4	TE.6	TE.10
<b>TERMINAL CROSS-SECTION</b>				
Terminal cross-section	0.5-4 mm <sup>2</sup>	0.5-6 mm <sup>2</sup>	0.5-10 mm <sup>2</sup>	0.5-16 mm <sup>2</sup>
Max. solid	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>
Max. stranded	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>
Max. flexible (f)	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>
Max. flexible with ferrule	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>
Stripping length (mm)	12	14	14	13
Terminal module width (mm)	5.5	6.5	8	10
Dimensions (HxWxD) in mm	50 x 5.5 x 47	49 x 6.5 x 52	42 x 8 x 52	47 x 10 x 55
Tightening torque min/nominal (Nm)	0.4/0.8	0.5/1.2	0.8/1.4	1.2/1.9
<b>PART NUMBERS</b>				
Earthing terminal yellow/green	IK122002-A	IK122004-A	IK122006	IK122010
<b>END PLATES</b>				
End plate yellow/green	IK122202	IK122204	Terminal closed	
<b>END BRACKET</b>				
End bracket screw-on type for EN50022/TS 35	IK123000			
End bracket snap-on type for EN50022/TS 35	IK123001			
<b>NUMBERING STRIP</b>				
Numbering strip 1-9	IK197517-A	IK197610-A	-	-
Numbering strip 10-18	IK197512-A	IK197611-A	-	-
Numbering strip 19-36	IK197513-A	IK197621-A	-	-
Numbering strip 37-54	IK197514-A	IK197641-A	-	-
Numbering strip 55-72	IK197515-A	-	-	-
Numbering strip 73-90	IK197516-A	-	-	-
Numbering strip 91-100	IK197591-A	-	-	-
<b>LABELS</b>				
Labels 10 x 1-10	IK190510	IK190510	IK190510	IK190510
Labels 2 x 1-50	IK190001	IK190001	IK190001	IK190001
Labels 2 x 51-100	IK190051	IK190051	IK190051	IK190051
Labels 100 x empty	IK190030	IK190030	IK190030	IK190030
Labels 100 x earth	IK190028	IK190028	IK190028	IK190028

## PROTECTIVE EARTH TERMINALS SERIES IK1

			
Type	<b>TE.16</b>	<b>TE.50</b>	<b>TE.70</b>
<b>TERMINAL CROSS-SECTION</b>			
Terminal cross-section	0.5-25 mm <sup>2</sup>	0.5-70 mm <sup>2</sup>	0.5-95 mm <sup>2</sup>
Max. solid	25 mm <sup>2</sup>	70 mm <sup>2</sup>	95 mm <sup>2</sup>
Max. stranded	25 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>
Max. flexible (f)	25 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>
Max. flexible with ferrule	16 mm <sup>2</sup>	50 mm <sup>2</sup>	70 mm <sup>2</sup>
Stripping length (mm)	13	17	26
Terminal module width (mm)	12	18	
Dimensions (HxWxD) in mm	47 x 12 x 56	57 x 18 x 62	48 x 18 x 62
Tightening torque min/nominal (Nm)	1.8/3.0	2.0/3.5	3.0/8.0
<b>PART NUMBERS</b>			
Earthing terminal yellow/green	<b>IK122016</b>	<b>IK122035</b>	<b>IK122070</b>
<b>END PLATES</b>			
End plate yellow/green	Terminal closed		Terminal open
<b>END BRACKET</b>			
End bracket screw-on type for EN50022/TS 35	<b>IK123000</b>		
End bracket snap-on type for EN50022/TS 35	<b>IK123001</b>		
<b>LABELS</b>			
Labels 10 x 1-10	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>
Labels 2 x 1-50	<b>IK190001</b>	<b>IK190001</b>	<b>IK190001</b>
Labels 2 x 51-100	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>
Labels 100 x empty	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>
Labels 100 x earth	<b>IK190028</b>	<b>IK190028</b>	<b>IK190028</b>



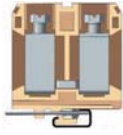
# TERMINALS

## TWO AND THREE-LEVEL TERMINALS SERIES IK1

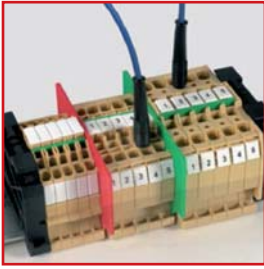
				
Type	<b>Two-level terminal DAS.4</b>	<b>Three-level terminal TLS.2</b>	<b>Three-level terminal TLD.2</b>	<b>Three-level terminal TDE.2</b>
<b>TERMINAL CROSS-SECTION</b>				
Terminal cross-section	0.2-4 mm <sup>2</sup>	0.2-2.5 mm <sup>2</sup>	0.2-2.5 mm <sup>2</sup>	0.2-2.5 mm <sup>2</sup>
Max. solid	6 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>
Max. stranded	6 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>
Max. flexible (f)	6 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>
Max. flexible with ferrule	4 mm <sup>2</sup>	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>
Stripping length (mm)	9	8	8	8
Terminal module width (mm)	6	6.2	6.2	6.2
Dimensions (HxWxD) in mm	64 x 6 x 62	62.5 x 6.2 x 52	85 x 6.2 x 52	82.5 x 6.2 x 52
Tightening torque min/nominal (Nm)	0.5 / 1.2	0.4 / 0.8	0.4 / 0.8	0.4 / 0.8
Approx. small screwdriver setting (example: MAK-MK/DMS2)	2	1	1	1
Maximum current (A)	32 A	24 A	24 A	24 A
<b>PART NUMBERS</b>				
Terminal beige	<b>IK150004-A</b>	<b>IK180000</b>	<b>IK180001</b>	<b>IK180002</b>
<b>END PLATES</b>				
End plate beige	<b>IK150204-A</b>	<b>IK180200</b>	<b>IK180201</b>	<b>IK180201</b>
<b>SEPARATING PLATES</b>				
Partition pluggable red	<b>IK108006</b>	<b>IK108004</b>	<b>IK108004</b>	<b>IK108004</b>
Partition pluggable green	<b>IK109006</b>	<b>IK109004</b>	<b>IK109004</b>	<b>IK109004</b>
<b>CROSS-CONNECTOR</b>				
Parallel bar bridge 250 mm	<b>IK100458</b>	<b>IK100402</b>	<b>IK100402</b>	<b>IK100402</b>
Screws and sleeves	<b>IK100601</b>	<b>IK100611</b>	<b>IK100611</b>	<b>IK100611</b>
<b>END BRACKET</b>				
End bracket screw-on type for EN50022/TS 35	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>
End bracket snap-on type for EN50022/TS 35	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>
<b>NUMBERING STRIP</b>				
Numbering strip 1-10	<b>IK297410-A</b>	-	<b>IK297210-A</b>	<b>IK297210-A</b>
Numbering strip 11-20	<b>IK297411-A</b>	-	<b>IK297211-A</b>	<b>IK297211-A</b>
Numbering strip 21-30	-	-	<b>IK297221-A</b>	<b>IK297221-A</b>
Numbering strip 31-40	-	-	<b>IK297231-A</b>	<b>IK297231-A</b>
Numbering strip 41-50	-	-	<b>IK297241-A</b>	<b>IK297241-A</b>
Numbering strip 51-60	-	-	<b>IK297251-A</b>	<b>IK297251-A</b>
Numbering strip 61-70	-	-	<b>IK297261-A</b>	<b>IK297261-A</b>
Numbering strip 71-80	-	-	<b>IK297271-A</b>	<b>IK297271-A</b>
Numbering strip 81-90	-	-	<b>IK297281-A</b>	<b>IK297281-A</b>
Numbering strip 91-100	-	-	<b>IK297291-A</b>	<b>IK297291-A</b>
<b>LABELS</b>				
Labels 10 x 1-10	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>
Labels 2 x 1-50	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>
Labels 2 x 51-100	<b>IK190101</b>	<b>IK190101</b>	<b>IK190101</b>	<b>IK190101</b>
Labels 100 x empty	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>
Labels 100 x earth	<b>IK190028</b>	<b>IK190028</b>	<b>IK190028</b>	<b>IK190028</b>



 POWER TERMINALS SERIES IK1

			
Type	<b>GPM.150/BC</b>	<b>CDA.120/CC</b>	<b>CDA.185/CC</b>
<b>TERMINAL CROSS-SECTION</b>			
Terminal cross-section	50-150 mm <sup>2</sup>	6-120 mm <sup>2</sup>	6-185 mm <sup>2</sup>
Max. solid	185 mm <sup>2</sup>	150 mm <sup>2</sup>	240 mm <sup>2</sup>
Max. stranded	185 mm <sup>2</sup>	150 mm <sup>2</sup>	240 mm <sup>2</sup>
Max. flexible (f)	150 mm <sup>2</sup>	185 mm <sup>2</sup>	185 mm <sup>2</sup>
Max. flexible with ferrule	-	-	-
Stripping length (mm)	35	32	40
Terminal module width (mm)	42	32	38
Dimensions (HxWxD) in mm	170 x 42 x 134	96 x 32 x 101	110 x 38 x 117
Tightening torque min/nominal (Nm)	10 / 15	4 / 10	- / 14
Approx. small screwdriver setting (example: MAK-MK/DMS2)			
Maximum current (A)	309 A	269 A	353 A
<b>PART NUMBERS</b>			
Terminal beige	<b>IK160000</b>	<b>IK114120</b>	<b>IK114185</b>
<b>END PLATES</b>			
End plate beige	Terminal closed	<b>IK119200</b>	<b>IK119201</b>
<b>SEPARATING PLATES</b>			
Partition pluggable red	-	-	-
Partition pluggable green	-	-	-
<b>CROSS-CONNECTOR</b>			
Parallel bar bridge 250 mm	-	-	-
Screws and sleeves	-	-	-
<b>END BRACKET</b>			
End bracket screw-on type for EN50022/TS 35	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>
End bracket snap-on type for EN50022/TS 35	-	-	-
<b>LABELS</b>			
Labels 10 x 1-10	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>
Labels 2 x 1-50	<b>IK190001</b>	<b>IK190001</b>	<b>IK190001</b>
Labels 2 x 51-100	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>
Labels 100 x empty	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>
Labels 100 x earth	<b>IK190028</b>	<b>IK190028</b>	<b>IK190028</b>
Labels 100 x L1	<b>IK190002</b>	<b>IK190002</b>	<b>IK190002</b>
Labels 100 x L2	<b>IK190003</b>	<b>IK190003</b>	<b>IK190003</b>
Labels 100 x L3	<b>IK190004</b>	<b>IK190004</b>	<b>IK190004</b>

## ■ SPRING CLAMP TERMINALS HMM SERIES IK2



### ■ SCHRACK INFO

- Spring-clamp terminal with polyamide 6.6 insulation body
- Flammability class V0 according to UL94
- Mounting: Universal on DIN rail TH/35 according to IEC60175
- Terminal types of 1.5–6 mm<sup>2</sup> on compact dimensions
- Terminal cross-sections of 0.2-6 mm<sup>2</sup>
- Colours: Spring-clamp terminals: grey (RAL 7035) / blue (RAL 5015)  
Earthing terminals yellow / green







### I KNOW WHERE TO FIND IT!

THE SCHRACK TECHNIK WEB SHOP WITH NAVIGATOR  
[WWW.SCHRACK.COM](http://WWW.SCHRACK.COM)

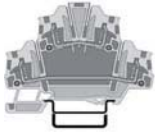



- Finding product information made easy
- Buying products around the clock
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 SPRING-CLAMP TERMINALS SERIES IK2

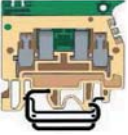



				
Type	<b>HMM.2</b>	<b>HMM.4</b>	<b>HMM.6</b>	<b>HMM.2 / 2+2</b>
<b>TERMINAL CROSS-SECTION</b>				
Terminal cross-section	0.2-2.5 mm <sup>2</sup>	0.2-4 mm <sup>2</sup>	0.2-6 mm <sup>2</sup>	0.2-2.5 mm <sup>2</sup>
Max. solid	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	4 mm <sup>2</sup>
Max. stranded	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	4 mm <sup>2</sup>
Max. flexible (f)	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	2.5 mm <sup>2</sup>
Max. flexible with ferrule	-			-
Stripping length (mm)	13	17	14	
Terminal module width (mm)	5.2	6.2	8.2	
Dimensions (HxWxD) in mm	50 x 5.2 x 37	58 x 6.2 x 41	62 x 8.2 x 44	
Maximum current (A)	24 A	32 A	41 A	
<b>PART NUMBERS</b>				
Terminal beige	<b>IK200002-C</b>	<b>IK200004-C</b>	<b>IK200006-C</b>	<b>IK800002-C</b>
Terminal blue	<b>IK201002-A</b>	<b>IK201004</b>	<b>IK201006</b>	-
<b>END PLATES</b>				
End plate beige	<b>IK200202-C</b>	<b>IK200204-C</b>	<b>IK200206-C</b>	<b>IK800202-C</b>
End plate blue	<b>IK201202-A</b>	<b>IK201204</b>	-	-
End plate yellow / green	-	-	-	-
<b>CROSS-CONNECTOR</b>				
Parallel-bar bridges for 2 terminals, complete	<b>IK200502-A</b>	<b>IK200502</b>	-	<b>IK200502-A</b>
Parallel-bar bridges for 47 terminals, complete	<b>IK200547</b>	-	-	<b>IK200547</b>
<b>END BRACKET</b>				
End bracket, screw-on type for EN50022/TS 35	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>
End bracket, snap-on type for EN50022/TS 35	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>
<b>NUMBERING STRIP</b>				
Numbering strip 1-10	<b>IK297210-A</b>	<b>IK297410-A</b>	-	<b>IK297210-A</b>
Numbering strip 11-20	<b>IK297211-A</b>	<b>IK297411-A</b>	-	<b>IK297211-A</b>
Numbering strip 21-30	<b>IK297221-A</b>	-	-	<b>IK297221-A</b>
Numbering strip 31-40	<b>IK297231-A</b>	-	-	<b>IK297231-A</b>
Numbering strip 41-50	<b>IK297241-A</b>	-	-	<b>IK297241-A</b>
Numbering strip 51-60	<b>IK297251-A</b>	-	-	<b>IK297251-A</b>
Numbering strip 61-70	<b>IK297261-A</b>	-	-	<b>IK297261-A</b>
Numbering strip 71-80	<b>IK297271-A</b>	-	-	<b>IK297271-A</b>
Numbering strip 81-90	<b>IK297281-A</b>	-	-	<b>IK297281-A</b>
Numbering strip 91-100	<b>IK297291-A</b>	-	-	<b>IK297291-A</b>
<b>LABELS</b>				
Labels 10 x 1-10	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>
Labels 2 x 1-50	<b>IK190001</b>	<b>IK190001</b>	<b>IK190001</b>	<b>IK190001</b>
Labels 2 x 51-100	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>
Labels 100 x empty	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>

# TERMINALS

## SPRING-CLAMP TERMINALS AND EARTHING SPRING-CLAMP TERMINALS SERIES IK2

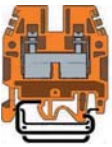
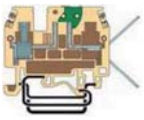
				
Type	HMD.2N	HTE.2	HTE.4	HTE.6
<b>TERMINAL CROSS-SECTION</b>				
Terminal cross-section	0.2-2.5 mm <sup>2</sup>	0.2-2.5 mm <sup>2</sup>	0.2-4 mm <sup>2</sup>	0.2-6 mm <sup>2</sup>
Max. solid	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>
Max. stranded	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>
Max. flexible (f)	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>
Max. flexible with ferrule				
Stripping length (mm)	13	13	17	18
Terminal module width (mm)	5.2	5.2	6.2	8.2
Dimensions (HxWxD) in mm	73 x 5.2 x 59	70 x 5.2 x 37	58 x 6.2 x 41	62 x 8.2 x 44
Maximum current (A)				
<b>PART NUMBERS</b>				
Terminal beige	IK250002-C	-	-	-
Terminal blue	-	IK222002	IK222004	IK222006
<b>END PLATES</b>				
End plate beige	IK250202-C	-	-	-
End plate blue	-	-	-	-
End plate yellow / green	-	-	-	IK222206
<b>CROSS-CONNECTOR</b>				
Parallel-bar bridges for 2 terminals, complete	IK200502-A	-	-	-
Parallel bar bridge 250 mm Screws and sleeves	IK200547	-	-	-
<b>END BRACKET</b>				
End bracket, screw-on type for EN50022/TS 35	IK123000	IK123000	IK123000	IK123000
End bracket, snap-on type for EN50022/TS 35	IK123001	IK123001	IK123001	IK123001
<b>NUMBERING STRIP</b>				
Numbering strip 1-10	-	IK297210-A	IK297410-A	-
Numbering strip 11-20	-	IK297211-A	IK297411-A	-
Numbering strip 21-30	-	IK297221-A	-	-
Numbering strip 31-40	-	IK297231-A	-	-
Numbering strip 41-50	-	IK297241-A	-	-
Numbering strip 51-60	-	IK297251-A	-	-
Numbering strip 61-70	-	IK297261-A	-	-
Numbering strip 71-80	-	IK297271-A	-	-
Numbering strip 81-90	-	IK297281-A	-	-
Numbering strip 91-100	-	IK297291-A	-	-
<b>LABELS</b>				
Labels 2 x 1-50	IK190001	IK190001	IK190001	IK190001
Labels 2 x 51-100	IK190051	IK190051	IK190051	IK190051
Labels 100 x empty	IK190030	IK190030	IK190030	IK190030
Labels 100 x earth	IK190028	IK190028	IK190028	IK190028

## OTHER TERMINALS SERIES IK1



				
Type	Fuse terminal SFR.4	Fuse terminal FPC.10	Current transformer terminal SCB.6/CD	Current transformer terminal SCB.6
<b>TERMINAL CROSS-SECTION</b>				
Terminal cross-section	0.2-4 mm <sup>2</sup>	1.5-10 mm <sup>2</sup>	0.5-6 mm <sup>2</sup>	0.5-6 mm <sup>2</sup>
Max. solid	6 mm <sup>2</sup>	16 mm <sup>2</sup>	10 mm <sup>2</sup>	10 mm <sup>2</sup>
Max. stranded	6 mm <sup>2</sup>	16 mm <sup>2</sup>	10 mm <sup>2</sup>	10 mm <sup>2</sup>
Max. flexible (f)	6 mm <sup>2</sup>	10 mm <sup>2</sup>	10 mm <sup>2</sup>	10 mm <sup>2</sup>
Max. flexible with ferrule	4 mm <sup>2</sup>	10 mm <sup>2</sup>	6 mm <sup>2</sup>	6 mm <sup>2</sup>
Stripping length (mm)	11	17	12	12
Terminal module width (mm)	8	12	8	8
Dimensions (HxWxD) in mm	52 x 8 x 52	70 x 12 x 63	65 x 8 x 82	65 x 8 x 69
Maximum current (A)	6.3 A	10 A	41 A	41 A
<b>PART NUMBERS</b>				
Terminal beige	<b>IK141004</b>	<b>IK141010</b>	<b>IK170006</b>	<b>IK171006</b>
Terminal blue	-	-	-	-
<b>END PLATES</b>				
End plate beige	<b>IK131204</b>	-	<b>IK170200</b>	<b>IK170200</b>
<b>SEPARATING PLATES</b>				
Partition pluggable red	<b>IK108005</b>	<b>IK108005</b>	<b>IK108005</b>	<b>IK108005</b>
Partition pluggable green	<b>IK109005</b>	<b>IK109005</b>	<b>IK109005</b>	<b>IK109005</b>
<b>CROSS-CONNECTOR</b>				
Parallel-bar bridges for 2 terminals, complete	-	-	<b>IK100520</b>	<b>IK100520</b>
Parallel-bar bridges for 4 terminals, complete	-	-	<b>IK100540</b>	<b>IK100540</b>
<b>END BRACKET</b>				
End bracket, screw-on type for EN50022/TS 35	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>	<b>IK123000</b>
End bracket, snap-on type for EN50022/TS 35	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>	<b>IK123001</b>
<b>LABELS</b>				
Labels 10 x 1-10	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>	<b>IK190510</b>
Labels 2 x 1-50	<b>IK190001</b>	<b>IK190001</b>	<b>IK190001</b>	<b>IK190001</b>
Labels 2 x 51-100	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>	<b>IK190051</b>
Labels 100 x empty	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>	<b>IK190030</b>
Labels 100 x L1	<b>IK190002</b>	<b>IK190002</b>	<b>IK190002</b>	<b>IK190002</b>
Labels 100 x L2	<b>IK190003</b>	<b>IK190003</b>	<b>IK190003</b>	<b>IK190003</b>
Labels 100 x L3	<b>IK190004</b>	<b>IK190004</b>	<b>IK190004</b>	<b>IK190004</b>

# TERMINALS

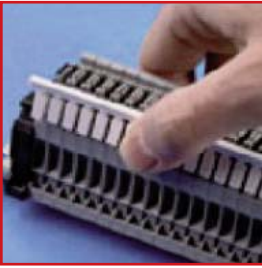
## OTHER TERMINALS SERIES IK1

		
Type	Orange CBD4 CBD.4	Disconnect terminal MPS4
<b>TERMINAL CROSS-SECTION</b>		
Terminal cross-section	0.5-6 mm <sup>2</sup>	0.2-4 mm <sup>2</sup>
Max. solid	6 mm <sup>2</sup>	6 mm <sup>2</sup>
Max. stranded	6 mm <sup>2</sup>	6 mm <sup>2</sup>
Max. flexible (f)	6 mm <sup>2</sup>	6 mm <sup>2</sup>
Max. flexible with ferrule	4 mm <sup>2</sup>	4 mm <sup>2</sup>
Stripping length (mm)	14	9
Terminal module width (mm)	6.5	6
Dimensions (HxWxD) in mm	44 x 6.5 x 52	45 x 6 x 61
Maximum current (A)	40 A	20 A
<b>PART NUMBERS</b>		
Terminal beige	IK108007 orange	IK130004-A
Terminal blue	-	IK131004-A
<b>END PLATES</b>		
End plate beige	-	IK130204-A
<b>SEPARATING PLATES</b>		
Partition pluggable red	IK108004	IK108005
Partition pluggable green	IK109004	IK109005
<b>CROSS-CONNECTOR</b>		
Parallel bridge for 2 terminals, complete	IK100542	-
10 terminals, preassembled	IK100807	-
Parallel bar bridge 250 mm	IK100442	-
Screws and sleeves	IK100612	-
<b>END BRACKET</b>		
End bracket, screw-on type for EN50022/TS 35	IK123000	IK123000
End bracket, snap-on type for EN50022/TS 35	IK123001	IK123001
<b>NUMBERING STRIP</b>		
Numbering strip 1-10	IK197610-A	-
Numbering strip 11-20	IK197611-A	-
Numbering strip 21-30	IK197621-A	-
Numbering strip 31-40	IK197631-A	-
Numbering strip 41-50	IK197641-A	-
<b>LABELS</b>		
Labels 10 x 1-10	IK190510	IK190510
Labels 2 x 1-50	IK190001	IK190001
Labels 2 x 51-100	IK190051	IK190051
Labels 100 x empty	IK190030	IK190030

## TERMINALS SERIES IK1

		
Type	Neutral disconnect terminal	Neutral disconnect terminal
<b>TERMINAL CROSS-SECTION</b>		
Terminal cross-section	0.5-6 mm <sup>2</sup>	0.5-16 mm <sup>2</sup>
Max. solid	10 mm <sup>2</sup>	25 mm <sup>2</sup>
Max. stranded	6 mm <sup>2</sup>	16 mm <sup>2</sup>
Max. flexible (f)	6 mm <sup>2</sup>	16 mm <sup>2</sup>
Max. flexible with ferrule	6 mm <sup>2</sup>	16 mm <sup>2</sup>
Stripping length (mm)	10.5	12
Terminal module width (mm)	8	12
Dimensions (HxWxD) in mm	52 x 8 x 51	56 x 12 x 53
Tightening torque min/nominal (Nm)	1.2/1.9	2/3
Nominal voltage (V)	400	400
<b>PART NUMBERS</b>		
Terminal blue	<b>IK119006</b>	<b>IK119016</b>
<b>END PLATES</b>		
End plate blue	<b>IK119206</b>	<b>IK119216</b>
<b>CROSS-CONNECTOR</b>		
Copper rail 10 x 30 mm	<b>IS505108</b>	<b>IS505108</b>
<b>END BRACKET</b>		
End bracket, screw-on type	<b>IK123000</b>	<b>IK123000</b>
End bracket, snap-on type	<b>IK123001</b>	<b>IK123001</b>
<b>LABELS</b>		
Labels 10 x 1-10	<b>IK190510</b>	<b>IK190510</b>
Labels 2 x 1-50	<b>IK190051</b>	<b>IK190051</b>
Labels 2 x 51-100	<b>IK190101</b>	<b>IK190101</b>
Labels 100 x empty	<b>IK190030</b>	<b>IK190030</b>

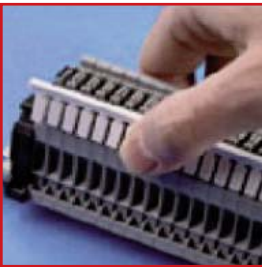
## NUMBERING STRIPES SERIES CBD



<i>numbering strip</i>	
	CBD.2
	Articlenumber
Numbering-stripes 1-18	<b>IK197512-A</b>
Numbering-stripes 19-36	<b>IK197513-A</b>
Numbering-stripes 37-54	<b>IK197514-A</b>
Numbering-stripes 55-72	<b>IK197515-A</b>
Numbering-stripes 73-90	<b>IK197516-A</b>
Numbering-stripes 2 x 1-9	<b>IK197517-A</b>
Numbering-stripes blank	<b>IK190030</b>

<i>numbering strip</i>	
	CBD.4
	Articlenumber
Numbering-stripes 1-16	<b>IK197612-A</b>
Numbering-stripes 17-32	<b>IK197613-A</b>
Numbering-stripes 33-48	<b>IK197614-A</b>
Numbering-stripes 49-64	<b>IK197615-A</b>
Numbering-stripes blank	<b>IK190030</b>

## NUMBERING STRIPES SERIES IK1 AND IK2



<i>numbering strip</i>	for the following types	
	HMM.2	HMM.4
	HMM.2 / 2+2	HMM.6
	HMD.2N	HTE.4
	HTE.2	HTE.6
	CBC 2	CBC 4
	Articlenumber:	Articlenumber:
Numbering-stripes 1-10	<b>IK297210-A</b>	<b>IK297410-A</b>
Numbering-stripes 11-20	<b>IK297211-A</b>	<b>IK297411-A</b>
Numbering-stripes 21-30	<b>IK297221-A</b>	-
Numbering-stripes 31-40	<b>IK297231-A</b>	-
Numbering-stripes 41-50	<b>IK297241-A</b>	-
Numbering-stripes 51-60	<b>IK297251-A</b>	-
Numbering-stripes 61-70	<b>IK297261-A</b>	-
Numbering-stripes 71-80	<b>IK297271-A</b>	-
Numbering-stripes 81-90	<b>IK297281-A</b>	-
Numbering-stripes 91-100	<b>IK297291-A</b>	-
Numbering-stripes blank	<b>IK190030</b>	<b>IK190030</b>



## MARKING TAGS SERIES IK1 AND IK2



IK190051

<b>NUMBERING STRIP</b>			
for type	<b>CBD.2</b>	<b>CBD.4</b>	<b>CBD.6</b>
	<b>CBD.16</b>	<b>CBD.35</b>	<b>CBD.50</b>
	<b>CBD.70</b>	<b>TEO.2</b>	<b>TEO.4</b>
	<b>TE.6</b>	<b>TE.10</b>	<b>TE.16</b>
	<b>TE.50</b>	<b>DAS.4</b>	<b>TLS.2</b>
	<b>TLD.2</b>	<b>TDE.2</b>	<b>HMM.2</b>
	<b>HMM.4</b>	<b>HMM.6</b>	<b>HMM.2/2+2</b>
	<b>HMD.2N</b>	<b>HTE.2</b>	<b>HTE.4</b>
	<b>HTE.6</b>	<b>MPS.4</b>	<b>SFR.4</b>
	<b>SCB.6/CD</b>	<b>SCB.6</b>	<b>Orange CBD.4</b>
	<b>GPM</b>	<b>NCS</b>	<b>CDA</b>
	<b>FPC.,10</b>	<b>CBC</b>	<b>CNT-6</b>
<b>PART NUMBERS</b>			
Numbering 1-50		<b>IK190001</b>	
Numbering 51-100		<b>IK190051</b>	
Numbering 101-150		<b>IK190101</b>	
Numbering 151-200		<b>IK190151</b>	
Numbering 201-250		<b>IK190201</b>	
Numbering 251-300		<b>IK190251</b>	
Numbering 301-350		<b>IK190301</b>	
Numbering 351-400		<b>IK190351</b>	
Numbering 401-450		<b>IK190401</b>	
Numbering 451-500		<b>IK190451</b>	
Numbering 501-550		<b>IK190501</b>	
Numbering 551-600		<b>IK190551</b>	
Numbering 601-650		<b>IK190601</b>	
Numbering 651-700		<b>IK190651</b>	
Numbering 701-750		<b>IK190701</b>	
Numbering 751-800		<b>IK190751</b>	
Numbering 801-850		<b>IK190801</b>	
Numbering 851-900		<b>IK190851</b>	
Numbering 901-950		<b>IK190901</b>	
Numbering 951-1000		<b>IK190951</b>	
Labels "L1" (100 pcs)		<b>IK190002</b>	
Labels "L2" (100 pcs)		<b>IK190003</b>	
Labels "L3" (100 pcs)		<b>IK190004</b>	
Labels 4xABC large		<b>IK190011</b>	
Labels "N" (100 pcs)		<b>IK190016</b>	
Labels "U" (100 pcs)		<b>IK190017</b>	
Labels "V" (100 pcs)		<b>IK190018</b>	
Labels "W" (100 pcs)		<b>IK190019</b>	
Labels "X" (100 pcs)		<b>IK190020</b>	
Labels "Y" (100 pcs)		<b>IK190021</b>	
Labels "Z" (100 pcs)		<b>IK190022</b>	
Labels "+" (100 Stk.)		<b>IK190023</b>	
Labels "-" (100 pcs)		<b>IK190024</b>	
Labels earth (100 pcs)		<b>IK190028</b>	
Labels white (100 pcs)		<b>IK190030</b>	
Labels "L" (100 pcs)		<b>IK190044</b>	

## END BRACKETS SERIES IK1 AND IK2



IK123000



IK123001



IK119900

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SUITABLE FOR ALL TYPES</b>			
End bracket, screw-on type, for EN50022/TS 35	9004840178586		<b>IK123000</b>
End bracket, snap-on type, for EN50022/TS 35	9004840178593		<b>IK123001</b>
End bracket for C rail	9004840178456		<b>IK113000</b>
<b>FOR END BRACKET IK123000 / IK123001 / IK113000</b>			
Clamping strip labels	9004840419375		<b>IK199999</b>

## SEPERATOR PLATES SERIES IK1



IK108210

DESCRIPTION	WxHxD (mm)	EAN-CODE	AVAILABLE	ORDER NO.
<b>FOR TYPE CBD.2</b>				
Seperator plate, 2.5-4 mm <sup>2</sup> , red	0.5x23x20	9004840178371		<b>IK108210</b>
<b>FOR TYPE CBD.2 / CBD.4 / CBD.6</b>				
Seperator plate, 6 mm <sup>2</sup> , red	0.5x24x31	9004840178388		<b>IK108600</b>
<b>FOR TYPE CBD.10 / CBD.16 / CBD.35 / CBD.50 / CBD.70</b>				
Seperator plate larger, 6 mm <sup>2</sup> , red	0.5x28x32	9004840178395		IK108700

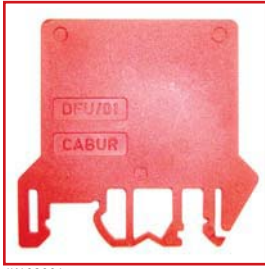


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## SEPERATOR PLATES SERIES IK1 AND IK2



IK108001

DESCRIPTION	WxHxD (mm)	EAN-CODE	AVAILABLE	ORDER NO.
<b>FOR TYPE CBD.2 / TEO.2 / HMM.4 / HMM.6 / HTE.2 / HTE.4 / HTE.6</b>				
Seperator plate, 2,5 mm, red	2x52x51	9004840178333		<b>IK108001</b>
<b>FOR TYPE CBD.4 / CBD.6 / CBD.10 / CBD.16 / TEO.4 / TE.6 / TE.10 / TE.16 / CBC</b>				
Seperator plate, 4/6/10/16 mm, red	2x52x62	9004840178340		<b>IK108004</b>
<b>FOR TYPE CBD.35 / CBD.50 / TE.50 / FPC.10</b>				
Seperator plate, 35/50 mm, red	2x62x58	9004840178357		<b>IK108005</b>
<b>FOR TYPE CBD.70 / TE.70 / SCB.6/CD / SCB.6 / HMD.2N</b>				
Seperator plate, 70 mm, red	2x72x74	9004840178364		<b>IK108006</b>

## LABELLING PENS SERIES IK1 AND IK2



IK193901

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SUITABLE FOR ALL TYPES</b>			
Marking pen red	9004840162967		<b>IK198901</b>
Marking pen black	9004840179071		<b>IK193901</b>



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## 2-WAY CROSS-CONNECTION FOR SERIES IK1



IK100511

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
2-way cross-connection for 2.5 mm	CBD.2	9004840676051		<a href="#">IK100511-A</a>
2-way cross-connection for 16 mm	CBD.16	9004840177787		<a href="#">IK100505</a>
2-way cross-connection for 35 mm	CBD.35	9004840177794		<a href="#">IK100506</a>
2-way cross-connection for 50 mm	CBD.50	9004840177800		<a href="#">IK100507</a>
2-way cross-connection for 70 mm	CBD.70	9004840177817		<a href="#">IK100508</a>
2-way cross-connection for 2 terminals	SCB.6	9004840161366		<a href="#">IK100520</a>
2-way cross-connection for 4 terminals	SCB.6	9004840161373		IK100540

## 10-WAY CROSS-CONNECTION, -PREASSEMBLED FOR SERIES IK1



IK100807

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
10-way cross-connection	CBD.2	9004840178012		<a href="#">IK100803</a>
10-way cross-connection	CBD.4	9004840178029		<a href="#">IK100807</a>
10-way cross-connection	CBD.6	9004840178036		<a href="#">IK100811</a>
10-way cross-connection	TLS2/TLD2	9004840178043		<a href="#">IK100816</a>

## CROSS-CONNECTION FOR SPRING-CLAMP TERMINALS SERIES IK2



IK200502-A

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
Cross-connection 2x	HMM.2, HMM.2/2+2, HMD.2N	9004840418194		<a href="#">IK200502-A</a>
Cross-connection 2x	HMM.4	9004840418194		<a href="#">IK200502-A</a>
Cross-connection 47xr	HMM.2, HMM.2/2+2, HMD.2N	9004840418200		<a href="#">IK200547</a>

## ■ CROSS-CONNECTION 250 mm, SCREWS AND SLEEVES FOR SERIES IK1



IK100401

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CROSS-CONNECTION</b>				
Cross-connection for 2.5 mm	CBD.2	9004840177688		<b>IK100401</b>
Cross-connection for 4 mm	CBD.4	9004840177695		<b>IK100402</b>
Cross-connection for 6 mm	CBD.6	9004840177756		<b>IK100413</b>
Cross-connection for 10 mm	CBD.10	9004840177701		<b>IK100404</b>
Cross-connection for 16 mm	CBD.16	9004840177718		<b>IK100405</b>
Cross-connection for 35 mm	CBD.35	9004840177725		<b>IK100406</b>
Cross-connection for 50 mm	CBD.50	9004840177732		<b>IK100407</b>
Cross-connection for 70 mm	CBD.70	9004840177749		<b>IK100408</b>
<b>SCREWS AND SLEEVES</b>				
Screws and sleeves for 2.5 mm	CBD.2	9004840177916		<b>IK100611</b>
Screws and sleeves for 4 mm	CBD.4	9004840177923		<b>IK100612</b>
Screws and sleeves for 6 mm	CBD.6	9004840177930		<b>IK100683</b>
Screws and sleeves for 10 mm	CBD.10	9004840177862		<b>IK100603</b>
Screws and sleeves for 16 mm	CBD.16	9004840177879		<b>IK100605</b>
Screws and sleeves for 35 mm	CBD.35	9004840177886		<b>IK100606</b>
Screws and sleeves for 50 mm	CBD.50	9004840177893		<b>IK100607</b>
Screws and sleeves for 70 mm	CBD.70	9004840177909		<b>IK100608</b>

## ■ SWITCHABLE CROSS-CONNECTION FOR SCREW TERMINALS SERIES IK1



IK100711

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
Switchable cross-connection for 2.5 mm	CBD.2	9004840177978		<b>IK100711</b>
Switchable cross-connection for 4 mm	CBD.4	9004840177985		<b>IK100712</b>
Switchable cross-connection for 6 mm	CBD.6	9004840178005		IK100793
Switchable cross-connection for 10/16 mm	CBD.10, CBD.16	9004840177992		<b>IK100744</b>

## TEST PLUGS AND TEST SOCKETS FOR SERIES IK1



IK100900

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
Test plug for 2.5/4/6 mm	CBD.2/4/6, MPS.4, NCS, SFR.4, TDE.2, TLD.2, TLS.2	9004840178050		IK100900
Test socket for 4 mm	CBD.4, MPS.4, NCS, SFR.4	9004840178081		IK100904
Test socket for 6 mm	CBD.6	9004840178098		IK100906

## DIN-RAIL-SUPPORT SERIES IK1 AND IK2



IK100997

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Din-rail-support for slanted mounting	9004840203400		<b>IK100993</b>
Din-rail-support H50	9004840402162		<b>IK100997</b>
Din-rail-support H90	9004840402179		IK100998



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## TERMINALS CBC SERIES IK1



IK110010



IK111010

DESCRIPTION	WxHxD (mm)	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>GREY</b>						
2.5 mm <sup>2</sup>	52x5x44	1	CBC 2	9004840665642		<b>IK110002</b>
4 mm <sup>2</sup>	52x6x44	1	CBC 4	9004840665659		<b>IK110004</b>
6 mm <sup>2</sup>	52x8x44	1	CBC 6	9004840665666		<b>IK110006</b>
10 mm <sup>2</sup>	52x10x44	1	CBC 10	9004840627428		<b>IK110010</b>
16 mm <sup>2</sup>	56x12x47	1	CBC 16	9004840665673		<b>IK110016</b>
35 mm <sup>2</sup>	63x16x56	1	CBC 35	9004840665680		<b>IK110035</b>
<b>BLUE</b>						
2.5 mm <sup>2</sup>	52x5x44	1	CBC 2 (Ex)i	9004840665710		<b>IK111002</b>
4 mm <sup>2</sup>	52x6x44	1	CBC 4 (Ex)i	9004840665727		<b>IK111004</b>
6 mm <sup>2</sup>	52x8x44	1	CBC 6 (Ex)i	9004840665734		<b>IK111006</b>
10 mm <sup>2</sup>	52x10x44	1	CBC 10 (Ex)i	9004840627435		<b>IK111010</b>
16 mm <sup>2</sup>	56x12x47	1	CBC 16 (Ex)i	9004840665741		<b>IK111016</b>
35 mm <sup>2</sup>	63x16x56	1	CBC 35 (Ex)i	9004840665758		<b>IK111035</b>

## TERMINALS – END PLATES CBC SERIES IK1



IK110210

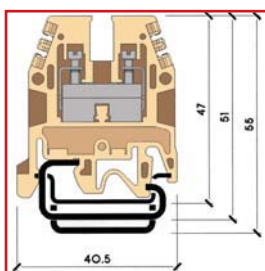
DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>GREY</b>			
End plate f. CBC 2.5 – 10	9004840627459		<b>IK110210</b>
End plate f. CBC 16	9004840665697		<b>IK110216</b>
End plate f. CBC 35	9004840665703		<b>IK110235</b>
<b>BLUE</b>			
End plate f. CBC 2.5 – 10	9004840627442		<b>IK111210</b>
End plate f. CBC 16	9004840665765		<b>IK111216</b>
End plate f. CBC 35	9004840665772		<b>IK111235</b>



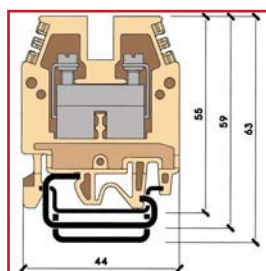
Order no. blue: on stock, usually ready for delivery on the day of order!

# TERMINALS

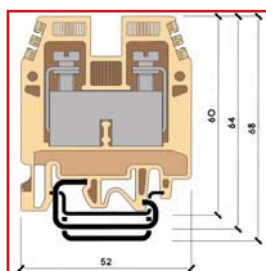
## TERMINALS CBD SERIES IK1



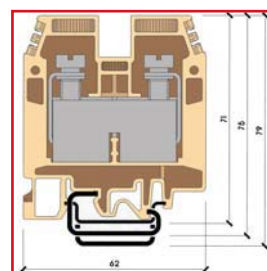
IK100010/IK101010



IK100002/IK101002



IK100035/IK101035



IK100070/IK101070

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
<b>BEIGE</b>							
Beige/0.5-4 mm <sup>2</sup>	5.5x40.5x47	1	CBD.2	0.009	9004840177534		<b>IK100002</b>
Beige/0.5-6 mm <sup>2</sup>	6.5x44x52	1	CBD.4	0.013	9004840177541		<b>IK100004</b>
Beige/0.5-10 mm <sup>2</sup>	8x44x52	1	CBD.6	0.016	9004840177558		<b>IK100006</b>
Beige/0.5-16 mm <sup>2</sup>	10x44x55	1	CBD.10	0.025	9004840177565		<b>IK100010</b>
Beige/0.5-25 mm <sup>2</sup>	12x47x57	1	CBD.16	0.034	9004840177572		<b>IK100016</b>
Beige/0.5-50 mm <sup>2</sup>	16x52x60	1	CBD.35	0.070	9004840418163		<b>IK100035-A</b>
Beige/1.5-70 mm <sup>2</sup>	18x57x62	1	CBD.50	0.080	9004840418170		<b>IK100050</b>
Beige/1.5-95 mm <sup>2</sup>	20.5x62x71	1	CBD.70	0.104	9004840177602		<b>IK100070</b>
<b>BLUE</b>							
Blue/0.5-4 mm <sup>2</sup>	5.5x40.5x47	1	CBD.2 (EX)i	0.009	9004840178142		<b>IK101002</b>
Blue/0.5-6 mm <sup>2</sup>	6.5x44x52	1	CBD.4 (EX)i	0.013	9004840178159		<b>IK101004</b>
Blue/0.5-10 mm <sup>2</sup>	8x44x52	1	CBD.6 (EX)i	0.016	9004840178166		<b>IK101006</b>
Blue/0.5-16 mm <sup>2</sup>	10x44x55	1	CBD.10 (EX)i	0.025	9004840162950		<b>IK101010</b>
Blue/0.5-25 mm <sup>2</sup>	12x47x57	1	CBD.16 (EX)i	0.034	9004840178173		<b>IK101016</b>
Blue/1-50 mm <sup>2</sup>	16x52x60	1	CBD.35 (EX)i	0.070	9004840418422		<b>IK101035-A</b>
Blue/1.5-70 mm <sup>2</sup>	18x57x62	1	CBD.50 (EX)i	0.080	9004840418439		<b>IK101050</b>
Blue/1.5-95 mm <sup>2</sup>	20.5x62x62	1	CBD.70 (EX)i	0.104	9004840178203		<b>IK101070</b>

## TERMINALS – END PLATES CBD SERIES IK1



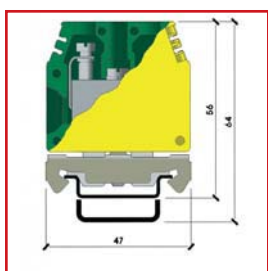
IK100202/IK100270

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
End plate f. CBD.2 beige	1.5x40.5x47	1	CB.2/PT	0.002	9004840177619		<b>IK100202</b>
End plate f. CBD.4 beige	1.5x44x52	1	CB.4/6/PT	0.002	9004840177626		<b>IK100204</b>
End plate f. CBD.10 beige	1.5x44x55	1	CB.10/PT	0.003	9004840177633		<b>IK100210</b>
End plate f. CBD.16 beige	1.5x47x57	1	CB.16/PT	0.003	9004840177640		<b>IK100216</b>
End plate f. CBD.35 beige	1.5x57x62	1	CB.35/PT	0.005	9004840419290		<b>IK100235-A</b>
End plate f. CBD.50 beige	1.5x52x60	1	CB.50/PT	0.004	9004840419306		<b>IK100250</b>
End plate f. CBD.70 beige	1.5x62x71	1	CB.70/PT	0.006	9004840177671		<b>IK100270</b>
End plate f. CBD2. (EX)i blue	1.5x40.5x47	1	CB.2/PT (EX)i	0.002	9004840178210		<b>IK101202</b>
End plate f. CBD.4 (EX)i blue	1.5x44x52	1	CB.4/PT (EX)i	0.002	9004840178227		<b>IK101204</b>
End plate f. CBD.10 (EX)i blue	1.5x44x55	1	CB.10/PT (EX)i	0.003	9004840178234		<b>IK101210</b>
End plate f. CBD.16 (EX)i blue	1.5x47x57	1	CB.16/PT (EX)i	0.003	9004840178241		<b>IK101216</b>
End plate f. CBD.35 (EX)i blue	1.5x57x62	1	CB.35/PT (EX)i	0.005	9004840419313		<b>IK101235-A</b>
End plate f. CBD.50 (EX)i blue	1.5x52x60	1	CB.50/PT (EX)i	0.004	9004840419320		<b>IK101250</b>
End plate f. CBD.70 (EX)i blue	1.5x62x71	1	CB.70/PT (EX)i	0.006	9004840178272		<b>IK101270</b>

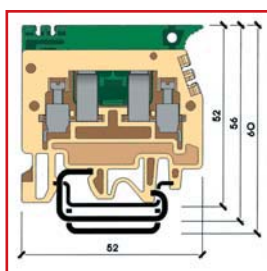




## PROTECTIVE EARTH TERMINALS, FUSE TERMINALS AND END PLATES SERIES IK1



IK122016



IK141004

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Earth terminal 2.5 mm yellow/green/0.5-4 mm <sup>2</sup>	5.5x40.5x47	50	TEO.2	0.018	9004840250589		<b>IK122002</b>
End plate 2.5 mm yellow/green for TEO.2	1.5x40.5x47	50	TEO.2/PT	0.002	9004840268089		<b>IK122202</b>
Earth terminal 4 mm yellow/green/0.5-6 mm <sup>2</sup>	6.5x40.5x47	50	TEO.4	0.026	9004840250572		<b>IK122004-A</b>
End plate 4 mm yellow/green for TEO.4	1.5x44x52	50	CBC.2/4/PT	0.002	9004840268096		<b>IK122204</b>
Earth terminal yellow/green – closed/0.5-10 mm <sup>2</sup>	8x47x51	45	TE 6/0	0.042	9004840178548		<b>IK122006</b>
Earth terminal yellow/green – closed/0.5-16 mm <sup>2</sup>	10x47x55	35	TE 10/0	0.051	9004840178555		<b>IK122010</b>
Earth terminal yellow/green – closed/0.5-25 mm <sup>2</sup>	12x47x55	30	TE 16/0	0.064	9004840178562		<b>IK122016</b>
Earth terminal yellow/green – closed/1.0-70 mm <sup>2</sup>	18x57x61	15	TE 50/0	0.105	9004840178579		<b>IK122035</b>
Earth terminal yellow/green – closed/1.0-90 mm <sup>2</sup>	20.5x62x71	15	TE 70/0	0.140	9004840250596		<b>IK122070</b>
Fuse terminal beige/0.2-6 mm <sup>2</sup>	8x52x52	70	SFR.4	0.016	9004840204001		<b>IK141004</b>
End plate for SFR.4 beige	1.5x52x52	50	SFR/PT	0.002	9004840204087		<b>IK131204</b>



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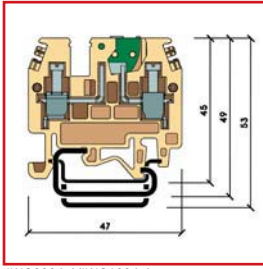
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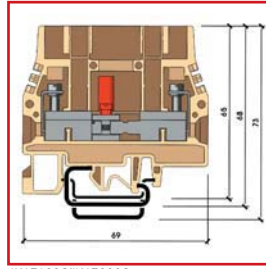
**Order no. blue:** on stock, usually ready for delivery on the day of order!

# TERMINALS

## DISCONNECT AND CURRENT TRANSFORMER TERMINALS SERIES IK1



IK130004-A/IK131004-A



IK171006/IK170006

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Disconnect terminal beige/0.2-6 mm <sup>2</sup>	6x47x45	85	MPS.4	0.015	9004840217919		<a href="#">IK130004-A</a>
Disconnect terminal blue/0.2-6 mm <sup>2</sup>	6x47x45	85	MPS.4 (Ex)i	0.015	9004840217926		<a href="#">IK131004-A</a>
End plate for disconnect terminal MPS.4	1.5x47x45	25	MPS.4/PT	0.002	9004840217933		<a href="#">IK130204-A</a>
Current transformer terminal	8x69x65	100	SCB.6	0.035	9004840161342		IK171006
Current transformer terminal with test socket 0.5-10 mm <sup>2</sup> /0.5-10 mm <sup>2</sup>	8x69x73	1	SCB.6/CD	0.048	9004840161335		<a href="#">IK170006</a>
End plate for current transformer terminal SCB.6	1.5x69x65	25	SCB.6/PT	0.003	9004840161359		<a href="#">IK170200</a>
Bridge f. SCB.6 - 2 terminals	-	40	SCB.6/PO/2	0.016	9004840161366		<a href="#">IK100520</a>
Bridge f. SCB.6 - 4 terminals	-	20	SCB.6/PO/4	0.016	9004840161373		IK100540

## END BRACKETS AND MARKING TAGS FOR END BRACKETS SERIES IK1



IK123000



IK123001

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
For EN 50022/TS 35, screw-on type	7.5x32x45	1	BT/3	0.005	9004840178586		<a href="#">IK123000</a>
For EN 50022/TS 35, snap-on type	8x41x48	1	BTU	0.012	9004840178593		<a href="#">IK123001</a>
For C rail/EN 50035	8x36x26	1	BT/DIN/PO	0.006	9004840178456		<a href="#">IK113000</a>
Clamping strip labels	53x19	1	TIM02	0.020	9004840419375		<a href="#">IK199999</a>

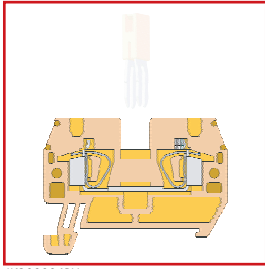


### I KNOW WHERE TO FIND IT!

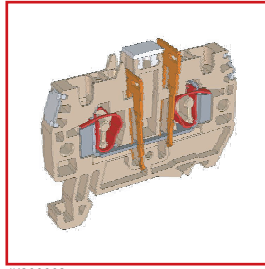
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## SPRING-CLAMP TERMINALS SERIES IK2 – GENERAL INFORMATION



IK200004PH



IK200002

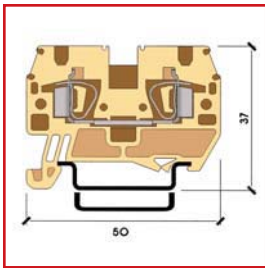
### SCHRACK-INFO

Spring-clamp terminals clamp solid or finely stranded wires (the latter with or without ferrules) by spring force and adapt themselves to the cross-section automatically. Considerably reduced working time compared to screw terminals results in up to 2/3 time savings, not only with serial applications! And this is vibration-proof, maintenance-free – simply connect/disconnect using a screwdriver – no torque to be monitored.

### TIPS & TRICKS

New 2- und multi-pole PTC parallel-bar bridges – usable at 2-sides – improve cross-connections.

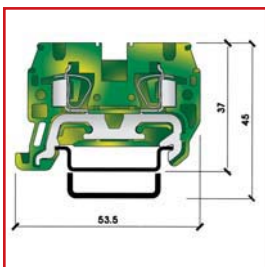
## FEED-THROUGH TERMINALS – SPRING CLAMP SERIES IK2



IK200002-A/IK201002-A

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Beige, 0,2-4 mm <sup>2</sup>	5.2x50x37	1	HMM.2	0.009	9004840544800		<b>IK200002-C</b>
Blue, 0,2-4 mm <sup>2</sup>	5.2x50x37	1	HMM.2 (EX)i	0.009	9004840418453		<b>IK201002-A</b>
Beige, 0,2-6 mm <sup>2</sup>	6.2x58x41	1	HMM.4	0.010	9004840544824		<b>IK200004-C</b>
Blue, 0,2-6 mm <sup>2</sup>	6.2x58x41	1	HMM.4 (EX)i	0.010	9004840131031		<b>IK201004</b>
Beige, 6 mm <sup>2</sup>	8.2x62x44	1	HMM.6	0.020	9004840544848		<b>IK200006-C</b>
2 x double terminal							
beige, 0,2-4 mm <sup>2</sup>	5.2x82x37	1	HMM.2/2+2	0.014	9004840544862		<b>IK800002-C</b>
Two-tier terminal,							
beige, 0,2-4 mm <sup>2</sup>	5.2x91x48.5	1	HMD.2	0.016	9004840544855		<b>IK250002-C</b>

## PROTECTIVE EARTH TERMINALS – SPRING CLAMP SERIES IK2



IK222002

DESCRIPTION	WxHxD (mm)	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Yellow/green, 6 mm	8.2x62x44	1	HTE.6	9004840251449		<b>IK222006</b>
Yellow/green, 0,2-4 mm <sup>2</sup>	6.2x58x41	1	HTE.4	9004840179743		<b>IK222004</b>
Yellow/green, 0,2-6 mm <sup>2</sup>	5.2x50x37	1	HTE.2	9004840130744		<b>IK222002</b>



**Order no. blue:** on stock, usually ready for delivery on the day of order!

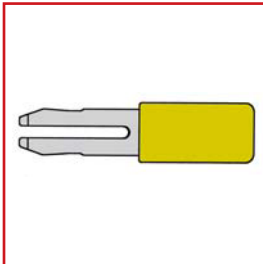
## END PLATES FOR SPRING-CLAMP TERMINALS SERIES IK2



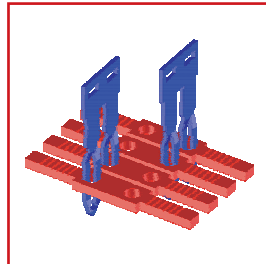
IK200202-A/IK201202-A

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Beige, for 2.5 mm <sup>2</sup>	1.5x50x37	1	HM.2/PT	0.002	9004840544817		<b>IK200202-C</b>
Blue, for 2.5 mm <sup>2</sup>	1.5x50x37	1	HM.2/PT (EX) i	0.002	9004840419344		IK201202-A
Beige, for 4 mm <sup>2</sup>	1.5x58x41	1	HM.4/PT	0.002	9004840544831		<b>IK200204-C</b>
Blue, for 4 mm <sup>2</sup>	1.5x58x41	1	HM.4/PT (EX) i	0.002	9004840131055		IK201204
Beige, for 6 mm	1.5x62x44	1	HMT.6/PT	0.002	9004840544893		IK200206-C
Beige for double terminal	1.5x73x25	1	HND.2	0.002	9004840544886		<b>IK250202-C</b>
Beige for double terminal	1.5x82x34	1	HMMD.2/2x2	0.003	9004840544879		<b>IK800202-C</b>

## CROSS-CONNECTION FOR SPRING-CLAMP TERMINALS SERIES IK2



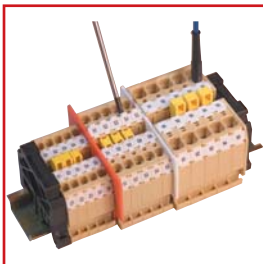
SYMBOL DRAWING



TYPE PTC

DESCRIPTION	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
To HMM 4 – 2-pole	1	PH/4	9004840418194		<b>IK200502-A</b>
To HMM 2 – 2-pole	1	PTC	9004840418194		<b>IK200502-A</b>
To HMM 2 – 47-pole	1	PTC	9004840418200		<b>IK200547</b>

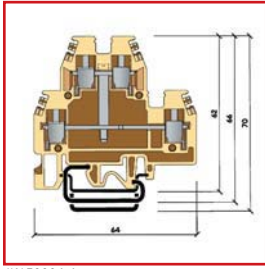
## NUMBERING STRIPS FOR SPRING-CLAMP TERMINALS SERIES IK2



TYPE SHZ

DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Empty for HMM.2	60	SHZ/2/00	0.001	9004840179750		IK297200
1-10 for HMM.2	60	SHZ/2/10	0.001	9004840662313		<b>IK297210-A</b>
11-20 for HMM.2	60	SHZ/2/11	0.001	9004840662320		<b>IK297211-A</b>
21-30 for HMM.2	60	SHZ/2/21	0.001	9004840662337		<b>IK297221-A</b>
31-40 for HMM.2	60	SHZ/2/31	0.001	9004840662344		<b>IK297231-A</b>
41-50 for HMM.2	60	SHZ/2/41	0.001	9004840662351		<b>IK297241-A</b>

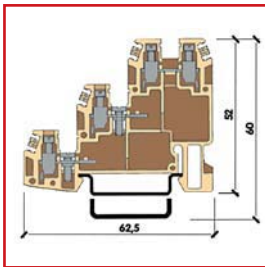
## TWO-LEVEL TERMINALS AND END PLATE SERIES IK1



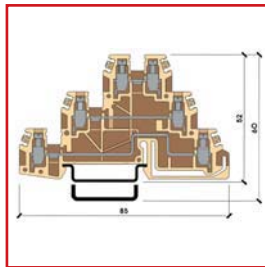
IK150004-A

DESCRIPTION	WxHxD (mm)	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Two-level terminal beige/0.2-6 mm <sup>2</sup>	6x64x62	1	DAS.4	9004840153873		<b>IK150004-A</b>
End plate for IK 150004	1.5x64x62	1	DAS/PT	9004840153880		<b>IK150204-A</b>

## TWO-LEVEL TERMINALS, INSTALLATION TERMINALS AND END PLATE SERIES IK1



IK180000



IK180001

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Three-level terminal 2.5 mm <sup>2</sup> , 3 x beige/0.2-4 mm <sup>2</sup>	6.2x62.5x52	1	TLS.2	0.012	9004840178661		<b>IK180000</b>
Three-level terminal 2.5 mm <sup>2</sup> /0.2-4 mm <sup>2</sup>	6.2x85x52	1	TLD.2	0.018	9004840178678		<b>IK180001</b>
Three-level terminal 2.5 mm <sup>2</sup> 2 x beige + ye/gn/0.2-4 mm <sup>2</sup>	6.2x82.5x52	1	TDE.2	0.018	9004840376739		<b>IK180002</b>
End plate for IK180000	1.5x62.5x52	1	TLS/PT	0.002	9004840178685		<b>IK180200</b>
End plate for IK180001 + IK180002	1.5x85x52	1	TLD+TDE/PT	0.002	9004840178692		<b>IK180201</b>
Installation terminal/0.5-4 mm <sup>2</sup>	-	1	PIK4-PE/L/NT	0.018	9004840022735		IK021178
Installation terminal/0.5-4 mm <sup>2</sup>	-	1	PIK 4 PE/L/N	0.018	9004840022698		<b>IK021172</b>
Installation terminal/0.5-4 mm <sup>2</sup>	-	1	PIK 4 PE/L/L	0.018	9004840022681		<b>IK021171</b>
End plate for IK 02117..	-	1	D PIK 4	0.002	9004840022711		<b>IK021174</b>



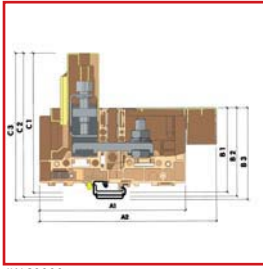
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# TERMINALS

## HIGH CURRENT TERMINALS AND END PLATES SERIES IK1



IK160000

DESCRIPTION	WxHxD (mm)	PU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
35-185 mm <sup>2</sup> cable/rail	170x42x133	1	GPM.150/BC	9004840178654		<b>IK160000</b>
35-120 mm <sup>2</sup> cable/rail	32x101x96	1	CDA. 120/CC	9004840122794		<b>IK114120</b>
35-185 mm <sup>2</sup> cable/rail	38x117x110	1	CDA/185/CC	9004840178470		IK114185
End plate 120 mm <sup>2</sup> for IK114120	4x101x96	1	CDA 120/PT	9004840178494		<b>IK119200</b>
End plate 185 mm <sup>2</sup> for IK114185	5x117x110	1	CDA 185/PT	9004840178500		IK119201

## TEST PLUGS AND TEST SOCKETS FOR SERIES IK1



IK100900

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
Test plug for 2.5/4/6 mm	CBD.2/4/6, MPS.4, NCS, SFR.4, TDE.2, TLD.2, TLS.2	9004840178050		IK100900
Test socket for 4 mm	CBD.4, MPS.4, NCS, SFR.4	9004840178081		IK100904
Test socket for 6 mm	CBD.6	9004840178098		IK100906

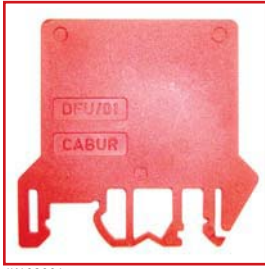
## SEPERATOR PLATES SERIES IK1



IK108210

DESCRIPTION	WxHxD (mm)	EAN-CODE	AVAILABLE	ORDER NO.
<b>FOR TYPE CBD.2</b>				
Seperator plate, 2.5-4 mm <sup>2</sup> , red	0.5x23x20	9004840178371		<b>IK108210</b>
<b>FOR TYPE CBD.2 / CBD.4 / CBD.6</b>				
Seperator plate, 6 mm <sup>2</sup> , red	0.5x24x31	9004840178388		<b>IK108600</b>
<b>FOR TYPE CBD.10 / CBD.16 / CBD.35 / CBD.50 / CBD.70</b>				
Seperator plate larger, 6 mm <sup>2</sup> , red	0.5x28x32	9004840178395		IK108700

## SEPERATOR PLATES SERIES IK1 AND IK2



IK108001

DESCRIPTION	WxHxD (mm)	EAN-CODE	AVAILABLE	ORDER NO.
<b>FOR TYPE CBD.2 / TEO.2 / HMM.4 / HMM.6 / HTE.2 / HTE.4 / HTE.6</b>				
Seperator plate, 2,5 mm, red	2x52x51	9004840178333		<b>IK108001</b>
<b>FOR TYPE CBD.4 / CBD.6 / CBD.10 / CBD.16 / TEO.4 / TE.6 / TE.10 / TE.16 / CBC</b>				
Seperator plate, 4/6/10/16 mm, red	2x52x62	9004840178340		<b>IK108004</b>
<b>FOR TYPE CBD.35 / CBD.50 / TE.50 / FPC.10</b>				
Seperator plate, 35/50 mm, red	2x62x58	9004840178357		<b>IK108005</b>
<b>FOR TYPE CBD.70 / TE.70 / SCB.6/CD / SCB.6 / HMD.2N</b>				
Seperator plate, 70 mm, red	2x72x74	9004840178364		<b>IK108006</b>

## CROSS-CONNECTION FOR TERMINALS SERIES IK1



IK200805

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>FOR CBC 2</b>			
For 2 terminals	9004840665826		<b>IK200822</b>
For 5 terminal	9004840665833		<b>IK200825</b>
For 10 terminals	9004840665840		<b>IK200829</b>
For 50 terminals	9004840665819		<b>IK200820</b>
<b>FOR CBC 4</b>			
For 2 terminals	9004840665871		<b>IK200842</b>
For 5 terminals	9004840665888		<b>IK200845</b>
For 10 terminals	9004840665895		<b>IK200849</b>
For 42 terminals	9004840665864		<b>IK200840</b>
<b>FOR CBC 6</b>			
For 2 terminals	9004840665918		<b>IK200862</b>
For 5 terminals	9004840665925		<b>IK200865</b>
For 10 terminals	9004840665932		<b>IK200869</b>
For 31 terminals	9004840665901		<b>IK200860</b>
<b>FOR CBC 10</b>			
For 2 terminals	9004840665789		<b>IK200802</b>
For 5 terminals	9004840627411		IK200805
For 25 terminals	9004840665796		<b>IK200809</b>
<b>FOR CBC 16</b>			
For 2 terminals	9004840665802		<b>IK200812</b>
<b>FOR CBC 35</b>			
For 2 terminals	9004840665857		<b>IK200832</b>

## 2-WAY CROSS-CONNECTION FOR SERIES IK1



IK100511

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
2-way cross-connection for 2.5 mm	CBD.2	9004840676051		<b>IK100511-A</b>
2-way cross-connection for 16 mm	CBD.16	9004840177787		<b>IK100505</b>
2-way cross-connection for 35 mm	CBD.35	9004840177794		<b>IK100506</b>
2-way cross-connection for 50 mm	CBD.50	9004840177800		<b>IK100507</b>
2-way cross-connection for 70 mm	CBD.70	9004840177817		<b>IK100508</b>
2-way cross-connection for 2 terminals	SCB.6	9004840161366		<b>IK100520</b>
2-way cross-connection for 4 terminals	SCB.6	9004840161373		IK100540

## 10-WAY CROSS-CONNECTION, -PREASSEMBLED FOR SERIES IK1



IK100807

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
10-way cross-connection	CBD.2	9004840178012		<b>IK100803</b>
10-way cross-connection	CBD.4	9004840178029		<b>IK100807</b>
10-way cross-connection	CBD.6	9004840178036		<b>IK100811</b>
10-way cross-connection	TLS2/TLD2	9004840178043		<b>IK100816</b>



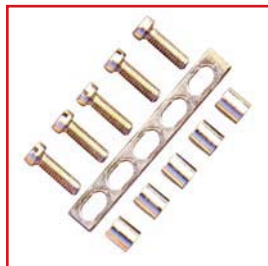
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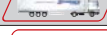

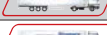





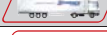

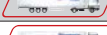

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## ■ CROSS-CONNECTION 250 mm, SCREWS AND SLEEVES FOR SERIES IK1






IK100401

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CROSS-CONNECTION</b>				
Cross-connection for 2.5 mm	CBD.2	9004840177688		<b>IK100401</b>
Cross-connection for 4 mm	CBD.4	9004840177695		<b>IK100402</b>
Cross-connection for 6 mm	CBD.6	9004840177756		<b>IK100413</b>
Cross-connection for 10 mm	CBD.10	9004840177701		<b>IK100404</b>
Cross-connection for 16 mm	CBD.16	9004840177718		<b>IK100405</b>
Cross-connection for 35 mm	CBD.35	9004840177725		<b>IK100406</b>
Cross-connection for 50 mm	CBD.50	9004840177732		<b>IK100407</b>
Cross-connection for 70 mm	CBD.70	9004840177749		<b>IK100408</b>
<b>SCREWS AND SLEEVES</b>				
Screws and sleeves for 2.5 mm	CBD.2	9004840177916		<b>IK100611</b>
Screws and sleeves for 4 mm	CBD.4	9004840177923		<b>IK100612</b>
Screws and sleeves for 6 mm	CBD.6	9004840177930		<b>IK100683</b>
Screws and sleeves for 10 mm	CBD.10	9004840177862		<b>IK100603</b>
Screws and sleeves for 16 mm	CBD.16	9004840177879		<b>IK100605</b>
Screws and sleeves for 35 mm	CBD.35	9004840177886		<b>IK100606</b>
Screws and sleeves for 50 mm	CBD.50	9004840177893		<b>IK100607</b>
Screws and sleeves for 70 mm	CBD.70	9004840177909		<b>IK100608</b>

## ■ SWITCHABLE CROSS-CONNECTION FOR SCREW TERMINALS SERIES IK1



IK100711

DESCRIPTION	FOR TYPE	EAN CODE	AVAILABLE	ORDER NO.
Switchable cross-connection for 2.5 mm	CBD.2	9004840177978		<b>IK100711</b>
Switchable cross-connection for 4 mm	CBD.4	9004840177985		<b>IK100712</b>
Switchable cross-connection for 6 mm	CBD.6	9004840178005		IK100793
Switchable cross-connection for 10/16 mm	CBD.10, CBD.16	9004840177992		<b>IK100744</b>

## DIN-RAIL-SUPPORT FOR SCREW TERMINALS SERIES IK1 AND IK2



IK100993

DESCRIPTION	WxHxD (mm)	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
For angular mounting M6	20x49x80	1	AC121314	0.025	9004840203400		<a href="#">IK100993</a>
Din-rail-support height = 30 mm	20x30x80	1	AC121215	0.020	9004840402155		<a href="#">IK100996</a>
Din-rail-support height = 50 mm	20x50x80	1	AC121217	0.025	9004840402162		<a href="#">IK100997</a>
Din-rail-support height = 90 mm	20x90x80	1	AC121219	0.030	9004840402179		IK100998

## LABELLING PENS SERIES IK1 AND IK2

DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Red	1	CB/CTL	0.008	9004840162967		<a href="#">IK198901</a>
Black	1	CB/CTL	0.008	9004840179071		<a href="#">IK193901</a>

## NUMBERING AND LABELLING STRIPS FOR TERMINALS CBD SERIES IK1



TYPE SNZ

DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
1-10 for CBD 2	60	SNZ/5/10	0.001	9004840668087		<a href="#">IK197517-A</a>
11-20 for CBD 2	60	SNZ/5/11	0.001	9004840668032		<a href="#">IK197512-A</a>
21-30 for CBD 2	60	SNZ/5/21	0.001	9004840668049		<a href="#">IK197513-A</a>
41-50 for CBD 2	60	SNZ/5/41	0.001	9004840668056		<a href="#">IK197514-A</a>
61-70 for CBD 2	60	SNZ/5/61	0.001	9004840668063		<a href="#">IK197515-A</a>
81-90 for CBD 2	60	SNZ/5/81	0.001	9004840668070		<a href="#">IK197516-A</a>




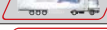


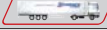

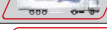

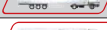
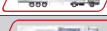



## MARKING TAGS SERIES IK1 AND IK2



TYPE CN18

### SCHRACK-INFO

For all terminals: Width 5 mm x height 8 mm

DESCRIPTION	PU	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
100 x white	5	0.01	9004840178852		<b>IK190030</b>
100 x symbol 'Earth'	5	0.01	9004840178845		<b>IK190028</b>
'L1'	5	0.01	9004840178715		<b>IK190002</b>
'L2'	5	0.01	9004840178722		<b>IK190003</b>
'L3'	5	0.01	9004840178739		<b>IK190004</b>
'N'	5	0.01	9004840178753		<b>IK190016</b>
'U'	5	0.01	9004840178760		IK190017
'V'	5	0.01	9004840178777		IK190018
'W'	5	0.01	9004840178784		IK190019
'±'	5	0.01	9004840178821		<b>IK190023</b>
'/'	5	0.01	9004840178838		<b>IK190024</b>
1-10 (10 x)	5	0.01	9004840178975		<b>IK190510</b>
1-50 (2 x)	5	0.01	9004840178708		<b>IK190001</b>
51-100	5	0.01	9004840178876		<b>IK190051</b>
101-150	5	0.01	9004840178883		<b>IK190101</b>
151-200	5	0.01	9004840178890		<b>IK190151</b>
201-250	5	0.01	9004840178906		<b>IK190201</b>
251-300	5	0.01	9004840178913		<b>IK190251</b>



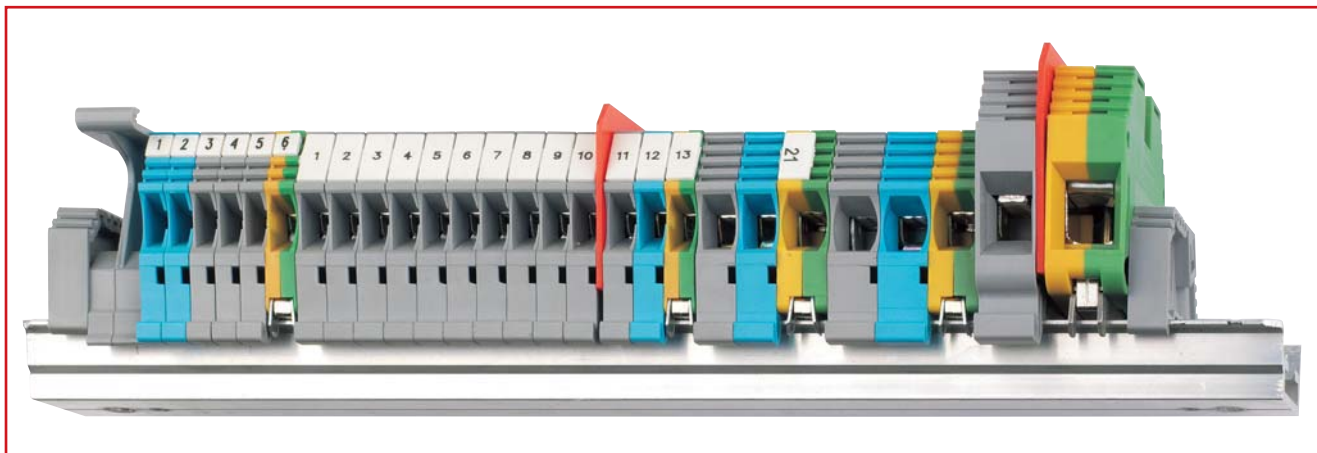
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## TERMINALS SERIES IK6 – GENERAL INFORMATION



The series terminals are state of the art based on technical enhancements, changes in power engineering, their applications and properties.

Since series terminals are important for system safety, the following factors are significant:

- Current-carrying parts are made from metals that minimise electrical losses
- The plastic housing must not be flammable and must have self-extinguishing properties
- The threads of the clamping screws must not come loose due to ambient conditions
- The bracket must have full contact with the wire to prevent that the wire comes loose due to external influences

Additionally, a series terminal with its accessories and earthing groups as well as labelling system should form a complete series in order to offer the user a competent solution.

## CONNECTING SYSTEMS

### SCREW CONNECTION



This system is the most commonly used connecting system. The conductor is connected with the metal bar by means of a clamping yoke. In this system the terminal screw has no connection to the conductor. When tightening the terminal screw, the top part of the yoke move up against spring force. Like a spring washer, it exerts a force on the thread which prevents the terminal screw from coming loose.

### SPRING-CLAMP SYSTEM



Due to the force that the stainless steel tension spring exerts on the conductor, the connection is not affected by vibration. Therefore, the spring-clamp system provides an optimal solution for vibration-loaded and moist environments.

## MATERIALS

The insulation materials, connection metals and conductor materials meet the international standards. This is also confirmed by numerous quality assurance processes.

The clamping yokes and terminal screws are zinc-plated to increase their resistance to wear. Busbars are made of brass and electrolytic copper. This gives a very low surface resistance.

Polyamide 6.6 has excellent electrical, mechanical and chemical properties even at very high temperatures, and it contains no cadmium-based colour pigments. Housings made of polyamide 6.6 absorb the moisture in the environment. Through these properties, the terminals remain flexible and unbreakable even at low temperatures.

This material belongs to class V2 according to UL94. UL94, has self-extinguishing properties. Due to their resistance to UV rays, the terminals are also suitable for outdoor applications.

## BASIC TERMINOLOGY

### **Modular terminal blocks:**

Modular terminal blocks are used worldwide. The terminals ensure secure connections for all low-voltage applications such as distributor panels, control panels, machine controls, vessels, power supply stations, and rail systems. The materials used and the technical specifications meet the highest standards of quality. The products have all certificates of major industrial countries.

### **Cross-section:**

The cross-section of a terminal is the wire cross-section specified by the manufacturer, which ensures the thermal conditions as well as mechanical and electrical conditions.

### **Nominal current:**

The nominal current of a terminal is the current specified by the manufacturer.

### **Nominal voltage:**

The nominal voltage of a terminal is the voltage specified by the manufacturer for which the terminal is suitable taking into account standardised clearances.

### **Nominal sizes:**

These are all specified dimensions of the terminal without taking into account the tolerance. For the arrangement of the terminals side by side, a tolerance of + 0.2 mm should be observed.

### **Stripping length:**

This is the stripping length of the conductor insulation which is required for each terminal and which is specified in mm.

### **End plate:**

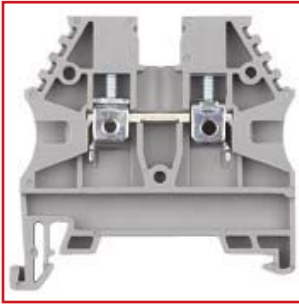
The metal parts of the last terminal of a terminal strip on a mounting rail must be covered by installing an end plate.

### **Separating plate:**

The separating plate is used to achieve a clear separation of the terminal groups.

# TERMINALS

## TERMINALS SERIES IK6



AVK 2.5 to AVK 16



AVK 35



AVK 70

## PROTECTIVE EARTH TERMINALS SERIES IK6



AVK 2.5/4 T

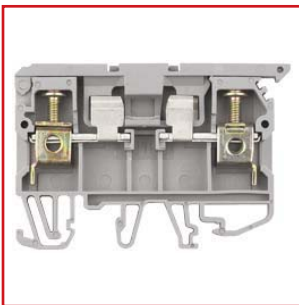


AVK 6/10 T

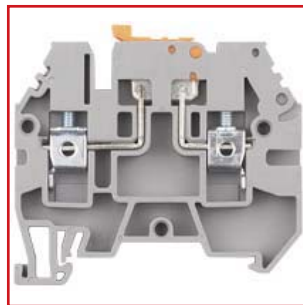


AVK 16/35 T

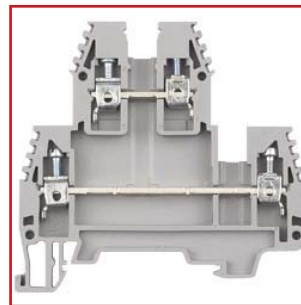
## FUSE AND MULTI-LEVEL SCREW TERMINALS SERIES IK6



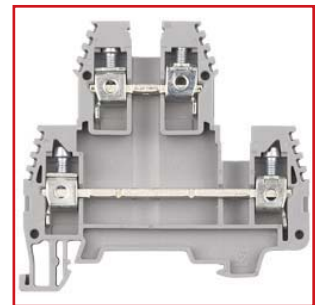
ASK 2 S



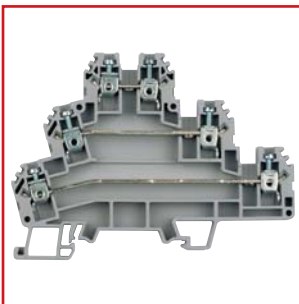
ASK 3 A



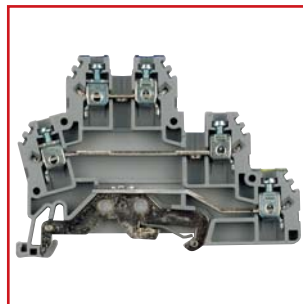
PIK 2.5 N



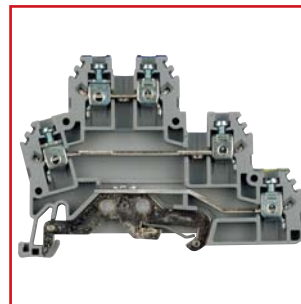
PIK 4



PUK 3



PUK 2 T PE/L/NT



PUK 2 T PE/L/L

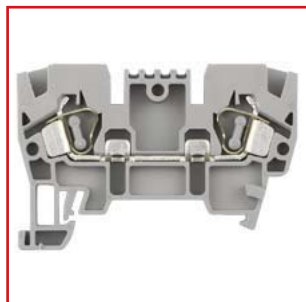


PUK 3 T

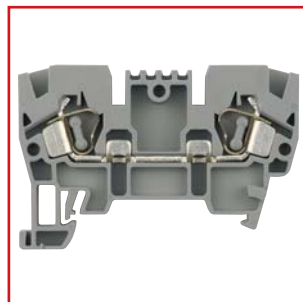
## SPRING-CLAMP TERMINALS SERIES IK6



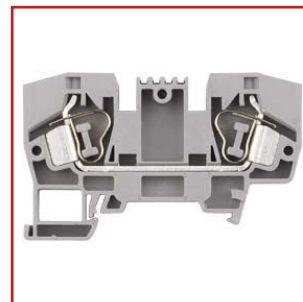
YBK 2.5



YBK 4



YBK 6

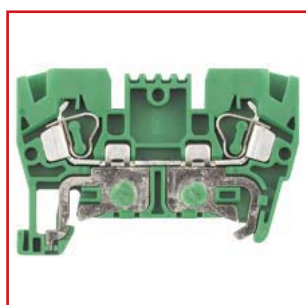


YBK 10

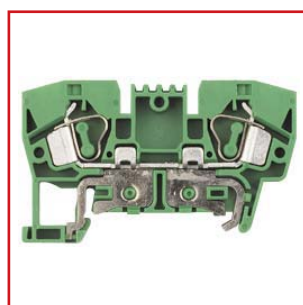
## PROTECTIVE EARTH – SPRING-CLAMP TERMINALS SERIES IK6



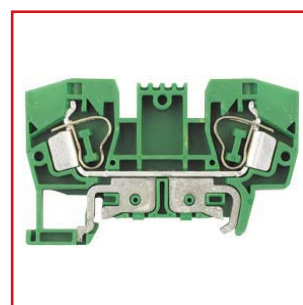
YBK 2.5 T



YBK 4 T

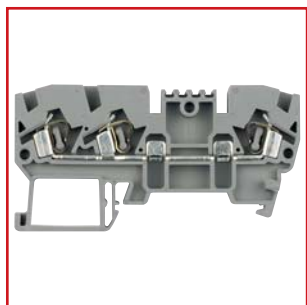


YBK 6 T



YBK 10 T

## MULTI-SPRING-CLAMP TERMINALS SERIES IK6



YBK 2.5 E



YBK 2.5 C

## MULTI-LEVEL SPRING-CLAMP TERMINALS SERIES IK6



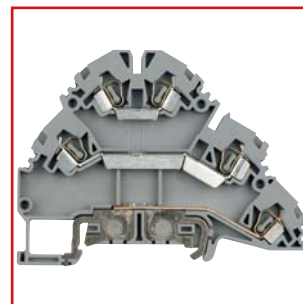
YBK 2.5-2 F



YBK 4-2 F













YBK 2.5-3 F



YBK 2.5-2 FT











# TERMINALS

## TERMINALS SERIES IK6 – OVERVIEW

					
Type	AVK 2.5	AVK 4	AVK 6	AVK 10	AVK 16
<b>TERMINAL CROSS-SECTION</b>					
Single conductor	0.5 - 4 mm <sup>2</sup>	0.5 - 6 mm <sup>2</sup>	0.5 - 10 mm <sup>2</sup>	1.5 - 16 mm <sup>2</sup>	1.5 - 16 mm <sup>2</sup>
Finely stranded conductor	1.5 - 2.5 mm <sup>2</sup>	1.5 - 4 mm <sup>2</sup>	1.5 - 6 mm <sup>2</sup>	1.5 - 10 mm <sup>2</sup>	1.5 - 16 mm <sup>2</sup>
Stripping length	10 mm	10 mm	12 mm	12 mm	16 mm
<b>PART NUMBERS</b>					
Terminal grey	<b>IK600002</b>	<b>IK600004</b>	<b>IK600006</b>	<b>IK600010</b>	<b>IK600016-A</b>
Terminal blue	<b>IK601002</b>	<b>IK601004</b>	<b>IK601006</b>	<b>IK601010</b>	<b>IK601016-A</b>
Terminal red	<b>IK608002</b>	<b>IK608004</b>	-	-	-
Terminal orange	<b>IK608012</b>	<b>IK608014</b>	-	<b>IK608010</b>	-
Earthing terminal yellow/green	-	-	-	-	-
<b>END PLATES</b>					
End plate grey 	<b>IK600210</b>			<b>IK600216-A</b>	
End plate blue	<b>IK601210</b>			<b>IK601216-A</b>	
<b>SEPARATING PLATES</b>					
Separating plate red	<b>IK608210</b>				-
<b>CROSS-CONNECTORS</b>					
2-fold 	<b>IK600522</b>	<b>IK600532</b>	<b>IK600542</b>	<b>IK600552</b>	<b>IK600562</b>
10-fold 	<b>IK600529</b>	<b>IK600539</b>	<b>IK600549</b>	<b>IK600559</b>	-
<b>END BRACKETS</b>					
End bracket, screw-on type 	<b>IK623001</b>				
End bracket, snap-on type 	<b>IK623000</b>				
<b>MARKERS (see accessories)</b>					
Horizontal labelling	DY 5	DY 5 or DY 6	DY 5	DY 5	DY 5
Vertical labelling	-	-	DY 10/6.5	DY 10/6.5	DY 10/6.5
<b>TECHNICAL DATA</b>					
Type	AVK 2.5	AVK 4	AVK 6	AVK 10	AVK 16
<b>Ratings</b>					
Voltage/current/cross-section	750 V AC / 26 A / 2.5 mm <sup>2</sup>	750 V AC / 34 A / 4 mm <sup>2</sup>	750 V AC / 44 A / 6 mm <sup>2</sup>	750 V AC / 61 A / 10 mm <sup>2</sup>	750 V AC / 82 A / 16 mm <sup>2</sup>
VDE (IEC 60947-7-1)	750 V AC / 24 A / 2.5 mm <sup>2</sup>	750 V AC / 32 A / 4 mm <sup>2</sup>	630 V AC / 41 A / 6 mm <sup>2</sup>	630 V AC / 57 A / 10 mm <sup>2</sup>	750 V AC / 76 A / 16 mm <sup>2</sup>
UL / CSA	600 V AC / 20 A / AWG 26-12	600 V AC / 30 A / AWG 26-10	600 V AC / 50 A / AWG 26-8	600 V AC / 65 A / AWG 16-6	600 V AC / 85 A / AWG 12-4
<b>Dimensions</b>					
Width	5 mm	6 mm	8 mm	10 mm	12 mm
Height	44.2 mm	44.2 mm	44.2 mm	44.2 mm	50 mm
Depth (with 7.5 mm DIN rail)	44.5 mm	44.5 mm	44.5 mm	44.5 mm	55.5 mm
<b>Tightening torque</b>					
Tightening torque of terminals	0.4 Nm	0.5 Nm	0.8 Nm	1.2 Nm	1.2 Nm

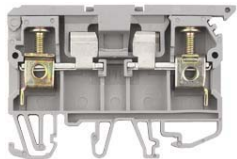











## TERMINALS SERIES IK6 – OVERVIEW

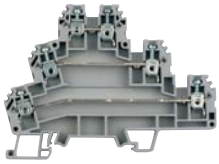








						
Type	<b>AVK 35</b>	<b>AVK 70</b>	<b>AVK 2.5/4 T</b>	<b>AVK 6/10 T</b>	<b>AVK 16 T RD</b>	<b>AVK 35 T RD</b>
<b>TERMINAL CROSS-SECTION</b>						
Single conductor	6 - 50 mm <sup>2</sup>	10 - 16 mm <sup>2</sup>	0.5 - 6 mm <sup>2</sup>	1.5 - 16 mm <sup>2</sup>	1,5 - 25 mm <sup>2</sup>	1,5 - 50 mm <sup>2</sup>
Finely stranded conductor	10 - 35 mm <sup>2</sup>	10 - 70 mm <sup>2</sup>	1.5 - 4 mm <sup>2</sup>	1.5 - 10 mm <sup>2</sup>	1,5 - 25 mm <sup>2</sup>	1,5 - 50 mm <sup>2</sup>
Stripping length	18 mm	20 mm	10 mm	12 mm	16 mm	18 mm
<b>PART NUMBERS</b>						
Terminal grey	<b>IK600035-A</b>	<b>IK600070</b>	-	-	-	-
Terminal blue	<b>IK601035-A</b>	<b>IK601070</b>	-	-	-	-
Terminal red	-	-	-	-	-	-
Terminal orange	-	-	-	-	-	-
Earthing terminal yellow/green	-	-	<b>IK622002</b>	<b>IK622010</b>	<b>IK622016-A</b>	<b>IK622035-A</b>
<b>END PLATES</b>						
End plate grey	-	-	-	-	-	-
End plate blue	-	-	-	-	-	-
<b>SEPARATING PLATES</b>						
Separating plate red	-	-	<b>IK608210</b>		-	-
<b>CROSS-CONNECTORS</b>						
2-fold 	<b>IK600572</b>	-	-	-	-	-
10-fold 	-	-	-	-	-	-
<b>END BRACKETS</b>						
End bracket, screw-on type 	<b>IK623001</b>					
End bracket, snap-on type 	<b>IK623000</b>					
<b>MARKERS (see accessories)</b>						
Horizontal labelling	DY 5	DY 5	DY 5 or DY 6	DY 5	DY 5	DY 5
Vertical labelling	DY 10/6.5	DY 10/6.5	-	DY 10/6.5	DY 10/6.5	DY 10/6.5
<b>TECHNICAL DATA</b>						
Type	<b>AVK 35</b>	<b>AVK . 70</b>	<b>AVK 2.5/4 T</b>	<b>AVK 6/10 T</b>	<b>AVK 16 T</b>	<b>AVK 35 T</b>
<b>Ratings</b>						
Voltage/current/cross-section	750 V AC / 135 A / 35 mm <sup>2</sup>	750 V AC / 192 A / 70 mm <sup>2</sup>	- V AC / - A / 2.5 mm <sup>2</sup>	- V AC / - A / 10 mm <sup>2</sup>	- V AC / - A / 35 mm <sup>2</sup>	- V AC / - A / 35 mm <sup>2</sup>
VDE (IEC 60947-7-1)	750 V AC / 125 A / 35 mm <sup>2</sup>	-	- V AC / - A / 2.5 mm <sup>2</sup>	- V AC / - A / 10 mm <sup>2</sup>	- V AC / - A / 35 mm <sup>2</sup>	- V AC / - A / 35 mm <sup>2</sup>
UL / CSA	600 V AC / 115 A / AWG 8-2	600 V AC / 175 A / AWG 6-2/0	AWG 26-10	AWG 16-8	AWG 12-4	AWG 12-4
<b>Dimensions</b>						
Width	16 mm	22 mm	6 mm	10 mm	12 mm	12 mm
Height	50 mm	74 mm	37 mm	37 mm	58.7 mm	58.7 mm
Depth (with 7.5 mm DIN rail)	55.5 mm	67.5 mm	44.5 mm	44.5 mm	52.8 mm	52.8 mm
<b>Tightening torque</b>						
Tightening torque of terminals	2.5 Nm	6 Nm	0.5 Nm	1.2 Nm	1.2 Nm	1.2 Nm

# TERMINALS

## ■ FUSE AND MULTI-LEVEL TERMINALS SERIES IK6 – OVERVIEW

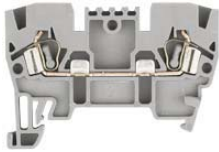
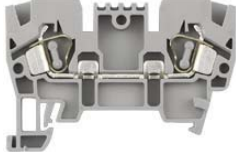

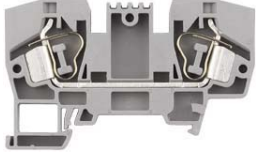



				
Type	<b>ASK 2 S</b> Fuse terminal	<b>ASK 3 A</b> Disconnect terminal	<b>PIK 2.5 N</b> Two-level terminal	<b>PIK 4</b> Two-level terminal
<b>TERMINAL CROSS-SECTION</b>				
Single conductor	0.5 - 10 mm <sup>2</sup>	0.5 - 6 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>	0.5 - 6 mm <sup>2</sup>
Finely stranded conductor	1.5 - 10 mm <sup>2</sup>	1.5 - 4 mm <sup>2</sup>	1.5 - 2.5 mm <sup>2</sup>	1.5 - 4 mm <sup>2</sup>
Stripping length	12 mm	10 mm	9 mm	9 mm
<b>PART NUMBERS</b>				
Terminal grey	<b>IK641004</b>	<b>IK641002</b>	<b>IK650002</b>	<b>IK650004</b>
<b>END PLATES</b>				
End plate grey 	<b>IK631204</b>	<b>IK631202</b>		<b>IK650204</b>
<b>CROSS-CONNECTORS</b>				
2-fold 	-	<b>IK610532</b>	<b>IK600522</b>	<b>IK600532</b>
10-fold 	-	<b>IK610539</b>	<b>IK600529</b>	<b>IK600539</b>
<b>END BRACKETS</b>				
End bracket, screw-on type 	<b>IK623001</b>			
End bracket, snap-on type 	<b>IK623000</b>			
<b>MARKERS (see accessories)</b>				
Horizontal labelling	DY 5	DY 5	DY 5	DY 5
<b>TECHNICAL DATA</b>				
Type	<b>ASK 2 S</b>	<b>ASK 3 A</b>	<b>PIK 2.5 N</b>	<b>PIK 4</b>
<b>Ratings</b>				
Voltage/current/cross-section	500 V AC / 6.3 A / 6 mm <sup>2</sup>	500 V AC / 24 A / 4mm <sup>2</sup>	750 V AC / 24 A / 2.5 mm <sup>2</sup>	750 V AC / 34 A / 4 mm <sup>2</sup>
VDE (IEC 60947-7-1)	-	-	-	500 V AC / 32 A / 4 mm <sup>2</sup>
UL / CSA	300 V AC / 6.3 A / AWG 26-8	600 V AC / 16 A / AWG 26-10	-	300 V AC / 32A / AWG 26-10
<b>Dimensions</b>				
Width	8 mm	6 mm	5 mm	6 mm
Height	63.2 mm	50.5 mm	64 mm	64 mm
Depth (with 7.5 mm DIN rail)	45 mm	53.5 mm	61.3 mm	61.3 mm
<b>Tightening torque</b>				
Tightening torque of terminals	0.8 Nm	0.5 Nm	0.5 Nm	0.5 Nm

## ■ FUSE AND MULTI-LEVEL TERMINALS SERIES IK6 – OVERVIEW



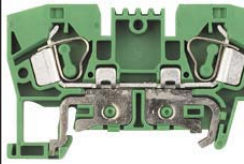
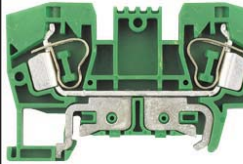
				
Type	<b>PUK 3</b> Three-level terminal	<b>PUK 2 T PE/L/NT</b> Three-level terminal	<b>PUK 2 T PE/L/L</b> Three-level terminal	<b>PUK 3 T</b> Three-level terminal
<b>TERMINAL CROSS-SECTION</b>				
Single conductor	0.5 - 4 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>
Finely stranded conductor	1.5 - 2.5 mm <sup>2</sup>	1.5 - 2.5 mm <sup>2</sup>	1.5 - 2.5 mm <sup>2</sup>	1.5 - 2.5 mm <sup>2</sup>
Stripping length	9 mm	9 mm	9 mm	9 mm
<b>PART NUMBERS</b>				
Terminal grey	<b>IK680001</b>	<b>IK680002</b>	<b>IK680004</b>	<b>IK680003</b>
<b>END PLATES</b>				
End plate grey 	<b>IK680201</b>	<b>IK680202</b>	<b>IK680202</b>	<b>IK680203</b>
<b>CROSS-CONNECTORS</b>				
2-fold 	<b>IK680522</b>	<b>IK680522</b>	<b>IK680522</b>	<b>IK680522</b>
10-fold 	<b>IK680529</b>	<b>IK680529</b>	<b>IK680529</b>	<b>IK680529</b>
<b>END BRACKETS</b>				
End bracket, screw-on type 	<b>IK623001</b>			
End bracket, snap-on type 	<b>IK623000</b>			
<b>MARKERS (see accessories)</b>				
Horizontal labelling	DY 5	DY 5	DY 5	DY 5
<b>TECHNICAL DATA</b>				
Type	<b>PUK 3</b>	<b>PUK 2 T PE/L/NT</b>	<b>PUK 2 T PE/L/L</b>	<b>PUK 3 T</b>
<b>Ratings</b>				
Voltage/current/cross-section	500 V AC / 24 A / 2.5 mm <sup>2</sup>	500 V AC / 24 A / 2.5 mm <sup>2</sup>	500 V AC / 24 A / 2.5 mm <sup>2</sup>	500 V AC / 24 A / 2.5 mm <sup>2</sup>
VDE (IEC 60947-7-1)	440 V AC / 24 A / 2.5 mm <sup>2</sup>	440 V AC / 24 A / 2.5 mm <sup>2</sup>	440 V AC / 24 A / 2.5 mm <sup>2</sup>	440 V AC / 24 A / 2.5 mm <sup>2</sup>
UL / CSA	300 V AC / 24 A / AWG 24-12	300 V AC / 24 A / AWG 24-12	300 V AC / 24 A / AWG 24-12	300 V AC / 24 A / AWG 24-12
<b>Dimensions</b>				
Width	6 mm	6 mm	6 mm	6 mm
Height	87.1 mm	71.7 mm	71.7 mm	87.5 mm
Depth (with 7.5 mm DIN rail)	65.2 mm	53 mm	53 mm	65.7 mm
<b>Tightening torque</b>				
Tightening torque of terminals	0.4 Nm	0.4 Nm	0.4 Nm	0.4 Nm

# TERMINALS

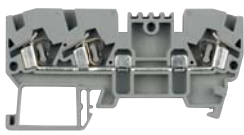
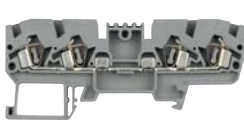





## SPRING-CLAMP TERMINALS SERIES IK6 – OVERVIEW

				
Type	<b>YBK 2.5</b>	<b>YBK 4</b>	<b>YBK 6</b>	<b>YBK 10</b>
<b>TERMINAL CROSS-SECTION</b>				
Single conductor	0.5 - 2.5 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>	0.5 - 6 mm <sup>2</sup>	0.5 - 10 mm <sup>2</sup>
Finely stranded conductor	0.5 - 2.5 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>	0.5 - 6 mm <sup>2</sup>	0.5 - 10 mm <sup>2</sup>
Stripping length	10 mm	12 mm	13 mm	13 mm
<b>PART NUMBERS</b>				
Terminal grey	<b>IK610002</b>	<b>IK610004</b>	<b>IK610006</b>	<b>IK610010</b>
Terminal blue	<b>IK611002</b>	<b>IK611004</b>	<b>IK611006</b>	<b>IK611010</b>
<b>END PLATES</b>				
End plate grey	<b>IK610202</b>	<b>IK610204</b>	<b>IK610206</b>	<b>IK610210</b>
End plate blue 	<b>IK611202</b>	<b>IK611204</b>	-	-
<b>SEPARATING PLATES</b>				
Separating plate red	<b>IK608210</b>			
<b>CROSS-CONNECTORS</b>				
2-fold 	<b>IK610522</b>	<b>IK610532</b>	-	-
10-fold 	<b>IK610529</b>	<b>IK610539</b>	-	-
<b>END BRACKETS</b>				
End bracket, snap-on type	<b>IK623002</b>			
<b>MARKERS (see accessories)</b>				
Horizontal labelling	DY 5	DY 5	DY 5	DY 5
Vertical labelling	-	-	DY 10/6.5	DY 10/6.5
<b>TECHNICAL DATA</b>				
Type	<b>YBK 2.5</b>	<b>YBK 4</b>	<b>YBK 6</b>	<b>YBK 10</b>
<b>Ratings</b>				
Voltage/current/cross-section	750 V AC / 22 A / 2.5 mm <sup>2</sup>	750 V AC / 30 A / 4 mm <sup>2</sup>	750 V AC / 40 A / 6 mm <sup>2</sup>	750 V AC / 63 A / 10 mm <sup>2</sup>
UL / CSA	600 V AC / 20 A / AWG 22-12	600 V AC / 26 A / AWG 22-10	600 V AC / 35 A / AWG 22-8	600 V AC / 55 A / AWG 20-6
<b>Dimensions</b>				
Width	5 mm	6 mm	8 mm	10 mm
Height	51 mm	55 mm	64 mm	70 mm
Depth (with 7.5 mm DIN rail)	35.5 mm	37 mm	38.5 mm	43 mm







## PROTECTIVE EARTH SPRING-CLAMP TERMINALS SERIES IK6 – OVERVIEW

				
Type	<b>YBK 2.5 T</b>	<b>YBK 4 T</b>	<b>YBK 6 T</b>	<b>YBK 10 T</b>
<b>TERMINAL CROSS-SECTION</b>				
Single conductor	0.5 - 2.5 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>	0.5 - 6 mm <sup>2</sup>	0.5 - 10 mm <sup>2</sup>
Finely stranded conductor	0.5 - 2.5 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>	0.5 - 6 mm <sup>2</sup>	0.5 - 10 mm <sup>2</sup>
Stripping length	10 mm	12 mm	13 mm	13 mm
Part numbers				
Terminal green	<b>IK632002</b>	<b>IK632004</b>	<b>IK632006</b>	<b>IK632010</b>
<b>END PLATES</b>				
End plate green	<b>IK632202</b>	<b>IK632204</b>	<b>IK632206</b>	<b>IK632210</b>
<b>SEPARATING PLATES</b>				
Separating plate red	<b>IK608210</b>			
<b>END BRACKETS</b>				
End bracket, snap-on type	<b>IK623002</b>			
<b>MARKERS (see accessories)</b>				
Horizontal labelling	DY 5	DY 5	DY 5	DY 5
Vertical labelling	-	-	DY 10/6.5	DY 10/6.5
<b>TECHNICAL DATA</b>				
Type	<b>YBK 2.5 T</b>	<b>YBK 4 T</b>	<b>YBK 6 T</b>	<b>YBK 10 T</b>
<b>Ratings</b>				
Voltage/current/cross-section	- V / - A / 2.5 mm <sup>2</sup>	- V / - A / 4 mm <sup>2</sup>	- V / - A / 6 mm <sup>2</sup>	- V / - A / 10 mm <sup>2</sup>
UL / CSA	600 V AC / 20 A / AWG 22-12	600 V AC / 26 A / AWG 22-10	600 V AC / 35 A / AWG 22-8	600 V AC / 55 A / AWG 20-6
<b>Dimensions</b>				
Width	5 mm	6 mm	8 mm	10 mm
Height	51 mm	55 mm	64 mm	70 mm
Depth (with 7.5 mm DIN rail)	35.5 mm	37 mm	38.5 mm	43 mm

## MULTI-SPRING-CLAMP TERMINALS SERIES IK6 – OVERVIEW


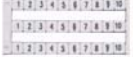
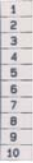
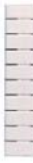

				
Type	<b>YBK 2.5 E</b>	<b>YBK 2.5 C</b>	<b>YBK 2.5-2 F</b>	<b>YBK 4-2 F</b>
<b>TERMINAL CROSS-SECTION</b>				
Single conductor	0.5 - 2.5 mm <sup>2</sup>	0.5 - 2.5 mm <sup>2</sup>	0.5 - 2.5 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>
Finely stranded conductor	0.5 - 2.5 mm <sup>2</sup>	0.5 - 2.5 mm <sup>2</sup>	0.5 - 2.5 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>
Stripping length	13 mm	13 mm	10 mm	12 mm
<b>PART NUMBERS</b>				
Terminal grey	<b>IK690013</b>	<b>IK690014</b>	<b>IK660002</b>	<b>IK660004</b>
<b>END PLATES</b>				
End plate grey 	<b>IK690213</b>	<b>IK690214</b>	<b>IK660202</b>	<b>IK660204</b>
<b>CROSS-CONNECTORS</b>				
2-fold 	IK610522	IK610522	IK610522	<b>IK610532</b>
10-fold 	IK610529	IK610529	IK610529	<b>IK610539</b>
<b>END BRACKETS</b>				
End bracket, snap-on type	<b>IK623002</b>			
<b>MARKERS (see accessories)</b>				
Horizontal labelling	DY 5	DY 5	DY 5	DY 5
<b>TECHNICAL DATA</b>				
Type	<b>YBK 2.5E</b>	<b>YBK 2.5C</b>	<b>YBK 2.5-2F</b>	<b>YBK 4-2F</b>
<b>Ratings</b>				
Voltage/current/cross-section	750 V AC / 24 A / 2.5 mm <sup>2</sup>	750 V AC / 24 A / 2.5 mm <sup>2</sup>	500 V AC / 24 A / 2.5 mm <sup>2</sup>	750 V AC / 30 A / 2.5 mm <sup>2</sup>
UL / CSA	-	-	-	600 V AC / 26 A / AWG 22-10
<b>Dimensions</b>				
Width	5 mm	5 mm	5 mm	6 mm
Height	66.6 mm	81.4 mm	83.7 mm	90.3 mm
Depth (with 7.5 mm DIN rail)	35.5 mm	35.5 mm	64.8 mm	55.5 mm

## MULTI-LEVEL SPRING-CLAMP TERMINALS SERIES IK6 – OVERVIEW




			
Type	<b>YBK 2.5-3 F</b>	<b>YBK 2.5-2 FT</b>	<b>YBK 2.5-3 FT</b>
<b>TERMINAL CROSS-SECTION</b>			
Single conductor	0.5 - 2.5 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>	0.5 - 4 mm <sup>2</sup>
Finely stranded conductor	0.5 - 2.5 mm <sup>2</sup>	0.5 - 2.5 mm <sup>2</sup>	0.5 - 2.5 mm <sup>2</sup>
Stripping length	10 mm	10 mm	10 mm
<b>PART NUMBERS</b>			
Terminal grey	<b>IK690001</b>	<b>IK690002</b>	<b>IK690003</b>
<b>END PLATES</b>			
End plate grey 	<b>IK690201</b>	<b>IK690202</b>	<b>IK690203</b>
<b>SEPARATING PLATES</b>			
Separating plate red	-	-	-
<b>CROSS-CONNECTORS</b>			
2-fold 	<b>IK610522</b>	<b>IK610522</b>	-
10-fold 	<b>IK610529</b>	<b>IK610529</b>	-
<b>END BRACKETS</b>			
End bracket, snap-on type	<b>IK623002</b>		
<b>MARKERS (see accessories)</b>			
Horizontal labelling	DY 5	DY 5	DY 5
Vertical labelling	-	-	-
<b>TECHNICAL DATA</b>			
Type	<b>YBK 2.5-3F</b>	<b>YBK 2.5-2FT</b>	<b>YBK 2.5-3FT</b>
<b>Ratings</b>			
Voltage/current/cross-section	500 V AC / 20 A / 2.5 mm <sup>2</sup>	500 V AC / 24 A / 2.5 mm <sup>2</sup>	500 V AC / 24 A / 2.5 mm <sup>2</sup>
UL / CSA	600 V AC / 20 A / AWG 22-10	600 V AC / 20 A / AWG 22-10	600 V AC / 20 A / AWG 22-10
<b>Dimensions</b>			
Width	5 mm	5 mm	5 mm
Height	100 mm	83.7 mm	100 mm
Depth (with 7.5 mm DIN rail)	75 mm	64.8 mm	74.5 mm

# TERMINALS

## MARKING TAGS SERIES IK6 – OVERVIEW

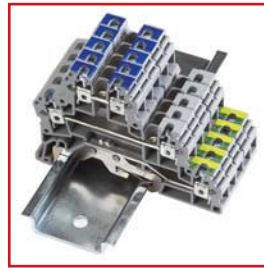
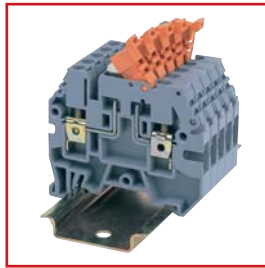
Type	DY 5 (Horizontal labelling)	for terminals	DY 6 (Horizontal labelling)	for terminals	DY 10 / 6.5 (Vertical labelling)	for terminals	DY 10 / 5	for terminals
								
Quantity	50 characters		-		10 characters		10 characters	
<b>Part numbers</b>								
1	<b>IK697001</b>	All terminals	-	-	-	-	-	-
2	<b>IK697002</b>	All terminals	-	-	-	-	-	-
3	<b>IK697003</b>	All terminals	-	-	-	-	-	-
1-10	<b>IK697020</b>	All terminals	<b>IK697070</b>	AVK 4	<b>IK697201</b>	AVK 6-70, AVK 6-35T	-	-
11-20	<b>IK697021</b>	All terminals	<b>IK697071</b>	AVK 4	<b>IK697202</b>	AVK 6-70, AVK 6-35T	-	-
21-30	<b>IK697022</b>	All terminals	-	-	<b>IK697203</b>	AVK 6-70, AVK 6-35T	-	-
31-40	<b>IK697023</b>	All terminals	-	-	<b>IK697204</b>	AVK 6-70, AVK 6-35T	-	-
41-50	<b>IK697024</b>	All terminals	-	-	<b>IK697205</b>	AVK 6-70, AVK 6-35T	-	-
1-50	<b>IK697040</b>	-	-	-	-	-	-	-
51-100	<b>IK697041</b>	-	-	-	-	-	-	-
101-150	<b>IK697042</b>	-	-	-	-	-	-	-
151-200	<b>IK697043</b>	-	-	-	-	-	-	-
201-250	<b>IK697044</b>	-	-	-	-	-	-	-
251-300	<b>IK697045</b>	-	-	-	-	-	-	-
301-350	<b>IK697046</b>	-	-	-	-	-	-	-
351-400	<b>IK697047</b>	-	-	-	-	-	-	-
401-450	<b>IK697048</b>	-	-	-	-	-	-	-
451-500	<b>IK697049</b>	-	-	-	-	-	-	-
L1	<b>IK697090</b>	-	-	-	-	-	-	-
L2	<b>IK697091</b>	-	-	-	-	-	-	-
L3	<b>IK697092</b>	-	-	-	-	-	-	-
N	<b>IK697093</b>	-	-	-	-	-	-	-
PE	<b>IK697094</b>	-	-	-	-	-	-	-
	<b>IK697097</b>	-	-	-	-	-	-	-
K	<b>IK697080</b>	-	-	-	-	-	-	-
L	<b>IK697081</b>	-	-	-	-	-	-	-
+	<b>IK697085</b>	-	-	-	-	-	-	-
-	<b>IK697086</b>	-	-	-	-	-	-	-
X	<b>IK697083</b>	-	-	-	-	-	-	-
Leer	-	-	-	-	<b>IK697920</b>	-	<b>IK697910</b>	-

## GROUP LABEL CARRIER / LABEL CARRIER / TEST PLUG

Type	GE	GE 2	TSK 3
			
<b>Part number</b>	<b>IK600998</b>	<b>IK600999</b>	<b>IK600900</b>
Description	-	-	Test plug D = 2.3 mm



## TERMINALS SERIES IK6



DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>GREY</b>				
2.5 mm <sup>2</sup>	AVK 2.5	9004840452082		<b>IK600002</b>
4 mm <sup>2</sup>	AVK 4	9004840452105		<b>IK600004</b>
6 mm <sup>2</sup>	AVK 6	9004840452112		<b>IK600006</b>
10 mm <sup>2</sup>	AVK 10	9004840452129		<b>IK600010</b>
16 mm <sup>2</sup>	AVK 16	9004840670639		<b>IK600016-A</b>
35 mm <sup>2</sup> closed	AVK 35	9004840670646		<b>IK600035-A</b>
70 mm <sup>2</sup> closed	AVK 70	9004840452150		<b>IK600070</b>
<b>BLUE</b>				
2.5 mm <sup>2</sup>	AVK 2.5	9004840452198		<b>IK601002</b>
4 mm <sup>2</sup>	AVK 4	9004840452204		<b>IK601004</b>
6 mm <sup>2</sup>	AVK 6	9004840452211		<b>IK601006</b>
10 mm <sup>2</sup>	AVK 10	9004840452228		<b>IK601010</b>
16 mm <sup>2</sup>	AVK 16	9004840670653		<b>IK601016-A</b>
35 mm <sup>2</sup>	AVK 35	9004840670660		<b>IK601035-A</b>
70 mm <sup>2</sup>	AVK 70	9004840452259		<b>IK601070</b>
<b>PROTECTIVE EARTH</b>				
2.5-4 mm <sup>2</sup>	AVK 2.5/4T	9004840452167		<b>IK622002</b>
6-10 mm <sup>2</sup>	AVK 6/10T	9004840452174		<b>IK622010</b>
16-35 mm <sup>2</sup>	AVK 16/35T	9004840676044		<b>IK622035-A</b>
<b>RED/ORANGE</b>				
2mm <sup>2</sup> red	AVK 2.5	9004840459821		<b>IK608002</b>
4 mm <sup>2</sup> red	AVK 4	9004840459838		IK608004
10 mm <sup>2</sup> red	AVK 10	9004840459821		<b>IK608002</b>
2 mm <sup>2</sup> orange	AVK 2.5	9004840459845		IK608012
4 mm <sup>2</sup> orange	AVK 4	9004840459852		IK608014
<b>DISCONNECT TERMINAL</b>				
4 mm <sup>2</sup> grey	ASK 3A	9004840506884		<b>IK641002</b>
<b>FUSE TERMINAL</b>				
6 mm <sup>2</sup> grey	ASK 2S	9004840452488		<b>IK641004</b>
<b>TWO-LEVEL TERMINALS</b>				
2 mm <sup>2</sup> grey	PIK 2.5N	9004840452563		<b>IK650002</b>
4 mm <sup>2</sup> grey	PIK 4	9004840452570		<b>IK650004</b>
<b>THREE-LEVEL TERMINAL</b>				
2.5 mm <sup>2</sup>	PUK3	9004840452501		<b>IK680001</b>

# TERMINALS

## TERMINALS SERIES IK6 – continued



IK600210



IK600529



IK600998



IK623001

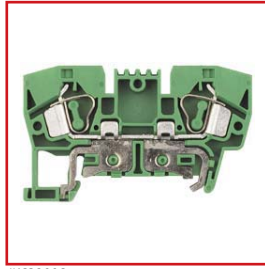
DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>INSTALLATION TERMINALS</b>				
2.5 mm <sup>2</sup>	PUK 2T PE/L/NT	9004840452525		<b>IK680002</b>
2.5 mm <sup>2</sup>	PUK 2T PE/L/L	9004840506532		<b>IK680004</b>
2.5 mm <sup>2</sup> 3p+P	PUK 3T	9004840452549		<b>IK680003</b>
<b>END PLATES</b>				
End plate 2.5-10 mm <sup>2</sup> grey	for AVK 2.5-10	9004840452280		<b>IK600210</b>
End plate 2.5-10 mm <sup>2</sup> blue	for AVK 2.5-10	9004840452303		<b>IK601210</b>
End plate 16 mm <sup>2</sup> blue	for AVK 16	9004840682571		<b>IK601216-A</b>
End plate grey	for ASK 3A	9004840519013		<b>IK631202</b>
End plate grey	for ASK 2S	9004840452495		<b>IK631204</b>
End plate grey	for PIK 2.5N	9004840452587		<b>IK650204</b>
End plate grey	for PUK 3	9004840452518		<b>IK680201</b>
End plate grey	for PUK 2T	9004840452532		<b>IK680202</b>
End plate grey	for PUK 3T	9004840452556		<b>IK680203</b>
<b>CROSS-CONNECTORS</b>				
Cross-connector 2P/2.5 mm <sup>2</sup>	for AVK 2.5	9004840452389		<b>IK600522</b>
Cross-connector 10P/2.5 mm <sup>2</sup>	for AVK 2.5	9004840452440		<b>IK600529</b>
Cross-connector 2P/4 mm <sup>2</sup>	for AVK 4	9004840452396		IK600532
Cross-connector 10P/4 mm <sup>2</sup>	for AVK 4	9004840452457		<b>IK600539</b>
Cross-connector 2P/6 mm <sup>2</sup>	for AVK 6	9004840452402		<b>IK600542</b>
Cross-connector 10P/6 mm <sup>2</sup>	for AVK 6	9004840452464		<b>IK600549</b>
Cross-connector 2P/10 mm <sup>2</sup>	for AVK 10	9004840452419		<b>IK600552</b>
Cross-connector 10P/10 mm <sup>2</sup>	for AVK 10	9004840624342		IK600559
Cross-connector 2P/16 mm <sup>2</sup>	for AVK 16	9004840452426		<b>IK600562</b>
Cross-connector 2P/35 mm <sup>2</sup>	for AVK 35	9004840452433		<b>IK600572</b>
Cross-connector 2P/2.5 mm <sup>2</sup>	for PUK	9004840517118		<b>IK680522</b>
Cross-connector 10P/2.5 mm <sup>2</sup>	for PUK	9004840517101		<b>IK680529</b>
<b>SEPARATING PLATES</b>				
Separating plate 2.5-10 mm <sup>2</sup> red	for AVK 2.5-10	9004840452341		<b>IK608210</b>
<b>TEST PLUGS / TEST SOCKETS</b>				
Test plug D=2.3 mm	for TSK 3	9004840452372		IK600900
<b>GROUP MARKING SUPPORT</b>				
Group marking support	GE	9004840459883		<b>IK600998</b>
Group marking support	GE 2	9004840452471		<b>IK600999</b>
<b>END BRACKETS</b>				
End bracket, snap-on type	for AVK	9004840452266		<b>IK623000</b>
End bracket, screw-on type	for AVK	9004840452273		<b>IK623001</b>



## SPRING-CLAMP TERMINALS SERIES IK6



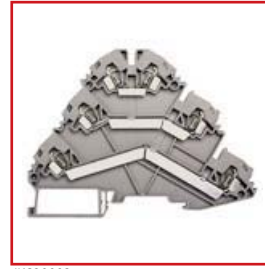
SYMBOL PHOTO



IK632006



IK660002



IK690002

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-CLAMP TERMINALS YBK GREY</b>				
2.5 mm <sup>2</sup>	YBK 2.5	9004840465457		<b>IK610002</b>
4 mm <sup>2</sup>	YBK 4	9004840465525		<b>IK610004</b>
6 mm <sup>2</sup>	YBK 6	9004840465532		<b>IK610006</b>
10 mm <sup>2</sup>	YBK 10	9004840465549		<b>IK610010</b>
<b>SPRING-CLAMP TERMINALS YBK BLUE</b>				
2.5 mm <sup>2</sup>	YBK 2.5	9004840465556		<b>IK611002</b>
4 mm <sup>2</sup>	YBK 4	9004840466904		<b>IK611004</b>
6 mm <sup>2</sup>	YBK 6	9004840465563		<b>IK611006</b>
10 mm <sup>2</sup>	YBK 10	9004840465570		<b>IK611010</b>
<b>PE SPRING-CLAMP TERMINALS YBK</b>				
2.5 mm <sup>2</sup>	YBK 2.5T	9004840465587		<b>IK632002</b>
4 mm <sup>2</sup>	YBK 4T	9004840465594		<b>IK632004</b>
6 mm <sup>2</sup>	YBK 6T	9004840465778		<b>IK632006</b>
10 mm <sup>2</sup>	YBK 10T	9004840465785		<b>IK632010</b>
PE multi-spring-clamp terminal 2.5 mm <sup>2</sup>	YBK 2.5E	9004840556179		<b>IK690013</b>
PE multi-spring-clamp terminal 2.5 mm <sup>2</sup>	YBK 2.5C	9004840556162		IK690014
<b>SPRING-CLAMP TWO-LEVEL TERMINALS</b>				
2.5 mm <sup>2</sup>	YBK 2.5-2F	9004840465952		<b>IK660002</b>
4 mm <sup>2</sup> green	YBK 4-2F	9004840465969		<b>IK660004</b>
Multi-spring-clamp terminal	YBK 2.5-3F	9004840556216		<b>IK690001</b>
<b>SPRING-CLAMP THREE-LEVEL TERMINALS</b>				
2.5 mm <sup>2</sup> L/N	YBK 2.5-2FT	9004840465990		<b>IK690002</b>
2.5 mm <sup>2</sup> L1, L2, L3, PE	YBK 2.5-3FT	9004840624694		<b>IK690003</b>



## SPRING-CLAMP TERMINALS SERIES IK6 – continued



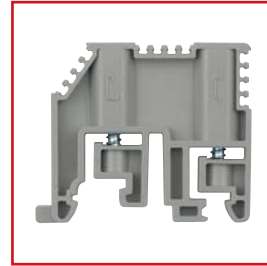
IK610202



IK610529



IK600998



IK623002

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>END PLATES</b>				
2.5 mm <sup>2</sup> grey	for YBK 2.5	9004840465792		<b>IK610202</b>
4 mm <sup>2</sup> grey	for YBK 4	9004840465808		<b>IK610204</b>
6 mm <sup>2</sup> grey	for YBK 6	9004840465815		<b>IK610206</b>
10 mm <sup>2</sup> grey	for YBK 10	9004840465822		IK610210
2.5 mm <sup>2</sup> blue	for YBK 2.5	9004840465839		<b>IK611202</b>
4 mm <sup>2</sup> blue	for YBK 4	9004840465846		<b>IK611204</b>
2.5 mm <sup>2</sup> green	for YBK 2.5T	9004840465877		<b>IK632202</b>
4 mm <sup>2</sup> green	for YBK 4T	9004840465884		<b>IK632204</b>
6 mm <sup>2</sup> green	for YBK 6T	9004840465891		<b>IK632206</b>
10 mm <sup>2</sup> green	for YBK 10T	9004840465907		IK632210
For IK660004	for YBK	9004840465983		<b>IK660204</b>
For IK690001	for YBK	9004840622812		IK690201
For IK690002	for YBK	9004840466003		<b>IK690202</b>
For IK690003	for YBK	9004840624700		IK690203
<b>CROSS-CONNECTORS</b>				
2P/2.5 mm <sup>2</sup>	for YBK	9004840465914		<b>IK610522</b>
10P/2.5 mm <sup>2</sup>	for YBK	9004840465921		<b>IK610529</b>
2P/4 mm <sup>2</sup>	for YBK	9004840465938		<b>IK610532</b>
10P/4 mm <sup>2</sup>	for YBK	9004840465945		<b>IK610539</b>
<b>GROUP MARKING SUPPORT</b>				
Group marking support	for GE	9004840459883		<b>IK600998</b>
Group marking support	for GE 2	9004840452471		<b>IK600999</b>
<b>END BRACKETS</b>				
End bracket spring-clamp terminal	for YBK	9004840466010		<b>IK623002</b>

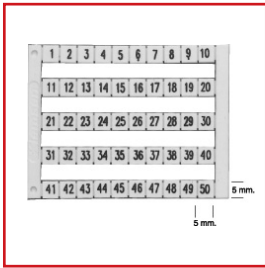


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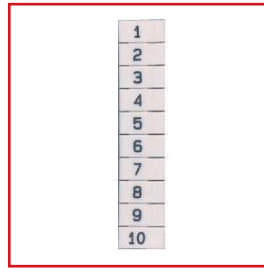
## MARKING TAGS SERIES IK6



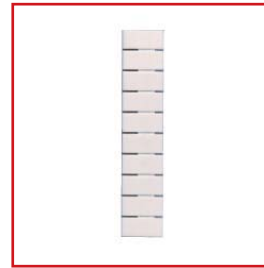
IK697040



IK697020



IK697201





IK697910

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>DEKAFIX – HORIZONTAL LABELLING DY5</b>			
DEKAFIX DY5 1 (50 characters)	9004840452853		<b>IK697001</b>
DEKAFIX DY5 2 (50 characters)	9004840452860		<b>IK697002</b>
DEKAFIX DY5 3 (50 characters)	9004840452877		<b>IK697003</b>
DEKAFIX DY5 1-10 (50 characters)	9004840452624		<b>IK697020</b>
DEKAFIX DY5 11-20 (50 characters)	9004840452631		<b>IK697021</b>
DEKAFIX DY5 21-30 (50 characters)	9004840452648		<b>IK697022</b>
DEKAFIX DY5 31-40 (50 characters)	9004840452655		<b>IK697023</b>
DEKAFIX DY5 41-50 (50 characters)	9004840452662		<b>IK697024</b>
DEKAFIX DY5 1-50 (50 characters)	9004840452679		<b>IK697040</b>
DEKAFIX DY5 51-100 (50 characters)	9004840452686		<b>IK697041</b>
DEKAFIX DY5 101-150 (50 characters)	9004840452693		<b>IK697042</b>
DEKAFIX DY5 151-200 (50 characters)	9004840452709		<b>IK697043</b>
DEKAFIX DY5 201-250 (50 characters)	9004840452716		<b>IK697044</b>
DEKAFIX DY5 251-300 (50 characters)	9004840452723		IK697045
DEKAFIX DY5 301-350 (50 characters)	9004840452730		IK697046
DEKAFIX DY5 351-400 (50 characters)	9004840588774		IK697047
DEKAFIX DY5 401-450 (50 characters)	9004840588767		IK697048
DEKAFIX DY5 451-500 (50 characters)	9004840588750		IK697049
<b>DEKAFIX – HORIZONTAL LABELLING SYMBOLS DY5</b>			
DEKAFIX DY5 L1 (50 characters)	9004840452754		<b>IK697090</b>
DEKAFIX DY5 L2 (50 characters)	9004840452761		<b>IK697091</b>
DEKAFIX DY5 L3 (50 characters)	9004840452778		<b>IK697092</b>
DEKAFIX DY5 N (50 characters)	9004840561333		<b>IK697093</b>
DEKAFIX DY5 PE (50 characters)	9004840561340		<b>IK697094</b>
DEKAFIX DY5 + (50 characters)	9004840561319		<b>IK697085</b>
DEKAFIX DY5 – (50 characters)	9004840561326		<b>IK697086</b>
DEKAFIX DY5 X (50 characters)	9004840452747		<b>IK697083</b>



## MARKING TAGS SERIES IK6 – continued

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>DEKAFIX – EMPTY LABELLING FIELDS</b>			
DEKAFIX DB10/5 EMPTY	9004840452839		<b>IK697910</b>
DEKAFIX DY10/6.5 empty	9004840452846		<b>IK697920</b>



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## EARTH DISTRIBUTION RAIL



BS900200

### SCHRACK-INFO

Temperature resistance: VST/B/50 ISO306 = 82°C UL94 HB  
 CTI value of insulations: 300 V  
 Standards: DIN VDE 0100-410/-540;  
 VDE 0185-305  
 Installation notes: Potential equalisation rail for the potential equalisation according to DIN VDE 0100-410/-540 and lightning protection potential equalisation according to DIN VDE 0185-305

### TERMINAL CAPACITIES

#### Wire types

Round conductors: 1 x 7-10 mm (lightning protection)  
 Earthing strip: up to 30 x 3.5 mm

#### Cable

U – solid wire: 2.5-16 mm<sup>2</sup>  
 R – stranded: 2.5-16 mm<sup>2</sup>  
 K – finely stranded  
 with wire end sleeve: 2.5-10 mm<sup>2</sup>  
 F – finely stranded  
 with wire end sleeve: 2.5-10 mm<sup>2</sup>

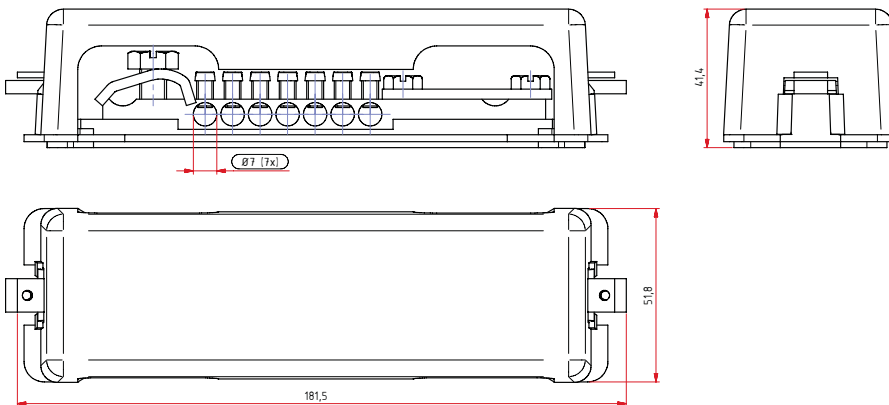
### TECHNICAL DATA

Terminal body: Brass / blank  
 Housing: Polystyrene / grey / RAL 7035  
 Lid: Polystyrene / grey / RAL 7035  
 Screws: Steel / zinc-plated

### ELECTRICAL DATA

Protection class: IP20  
 Lightning current carrying capacity: 100 kA (10/350)  
 Torque: 2.5 Nm

### DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Earth distribution rail	9004840013337		<b>BS900200</b>

# TERMINALS

## CONNECTION TERMINAL WAGO 222



IKW22203



IKW22205

### SCHRACK-INFO

The series 222 can be used to connect solid, stranded and finely stranded wires with various cross-sections.

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
3 x 0.08-4 mm <sup>2</sup>	50	4017332955676		<a href="#">IKW22203</a>
5 x 0.08-4 mm <sup>2</sup>	40	4044918464956		<a href="#">IKW22205</a>

## SPRING CLAMP TERMINAL WAGO 273



IKW27323



IKW27315



IKW27325



IKW27318

### SCHRACK-INFO

Connection terminal boxes with quick-connect spring-clamp terminals for quick and safe installation.

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
3 x 0.75-1.5 mm <sup>2</sup>	100	4017332409308		<a href="#">IKW27313</a>
5 x 0.75-1.5 mm <sup>2</sup>	100	4017332284462		<a href="#">IKW27315</a>
8 x 0.75-1.5 mm <sup>2</sup>	50	4017332283557		<a href="#">IKW27318</a>
3 x 1-2.5 mm <sup>2</sup>	100	4017332287777		<a href="#">IKW27323</a>
5 x 1-2.5 mm <sup>2</sup>	100	4017332287791		<a href="#">IKW27325</a>
8 x 1-2.5 mm <sup>2</sup>	50	9004840628364		<a href="#">IKW27328</a>

## LIGHTNING CONNECTOR WAGO 224



IKW22403

### SCHRACK-INFO

The ideal connection between solid and finely stranded wires.

DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
3 x 1-2.5 mm <sup>2</sup>	100	4017332542777		<a href="#">IKW22403</a>



## TERMINAL STRIPES

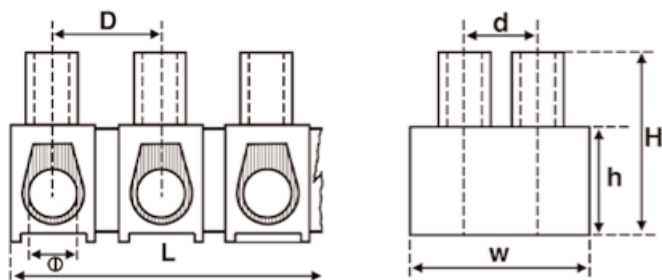


IKL120

### SCHRACK-INFO

Poles:	12
Maximum temperature resistance:	80 °C
Colour:	Neutral
Material:	Brass
	PA6 polyamide
	Zinc-plated steel screws

### DIMENSIONS



CROSS-SECTION (mm <sup>2</sup> )	NOMINAL CURRENT (A)	DIMENSIONS (mm)						
		L	W	Ø	D	d	H	h
2.5	3	93.0	17.0	2.8	8.0	6.0	13.7	8.0
4.0	5	117.0	19.0	3.3	9.8	6.5	15.9	9.0
6.0	10	132.0	21.0	4.2	11.0	7.8	16.8	10.0
10.0	15	141.0	23.0	4.5	11.7	8.5	19.0	10.8
16.0	30	168.0	26.0	5.5	14.5	9.5	20.4	12.0

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
12-fold, 2.5 mm <sup>2</sup>	9004840623130		<b>IKL12025</b>
12-fold, 4.0 mm <sup>2</sup>	9004840623147		<b>IKL12040</b>
12-fold, 6.0 mm <sup>2</sup>	9004840623154		<b>IKL12060</b>
12-fold, 10.0 mm <sup>2</sup>	9004840623161		<b>IKL12100</b>
12-fold, 16.0 mm <sup>2</sup>	9004840623178		<b>IKL12160</b>



## I KNOW WHERE TO FIND IT!

### WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily



## TOP-TECHNIC



PLUGGABLE INTERFACE RELAY XT



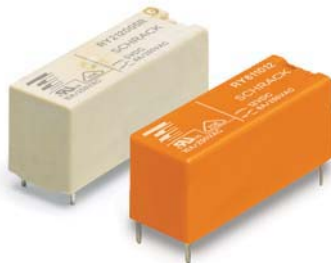
MINIATURE RELAY PT



MULTIMODE RELAY MT



POWER RELAY RM



PCB RELAY RY II



RELAY WITH FORCE GUIDED CONTACTS SR4D/M



MEASURING AND MONITORING RELAY SERIES 5



MEASURING AND MONITORING RELAY SERIES 6

*“To assign each deed the proper amount of effort is the secret of vitality.”*

Prentice Mulford, American journalist

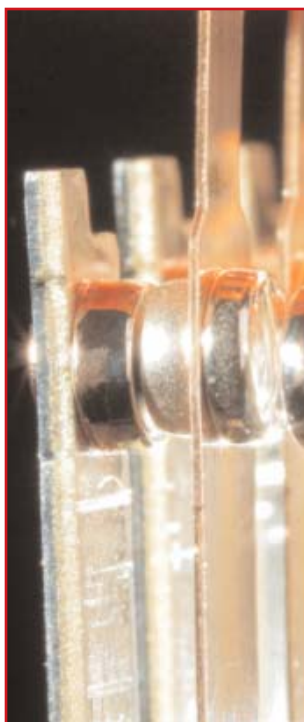
# RELAYS

## ▀ CONTENTS

GENERAL INFORMATION .....	Page 426
PANEL RELAYS AND ACCESSORIES .....	Page 428
PCB RELAYS.....	Page 462
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## STRUCTURE OF A RELAY

### THE CONTACT MATERIALS



One of the most important criteria of a relay; it is crucial for the application.

#### **Silver-Nickel AgNi90/10**

- High resistance against electrical wear, low welding tendency, higher contact resistance than AgNi0.15
- Circuits with medium to high loads, DC and AC circuits, recommended range of application  $\geq 12$  V, 10 mA

#### **Fine-Grain Silver AgNi0.15**

- Relatively low contact resistance, low resistance against aggressive atmosphere
- Universally applicable in medium and low load range, especially in DC circuits, recommended range of application  $\geq 12$  V, 10 mA

#### **Silver-Tin-Oxide AgSnO<sub>2</sub>**

- Low welding tendency, high wear resistance with heavy loads, low material transfer
- Circuits with high requirements to make- and break-currents, DC and AC loads, recommended range of application  $\geq 12$  V, 100 mA

#### **Tungsten W**

- Highest melting point, for high switching rates and low ON-time
- As prerun contact in circuits with highest make loads

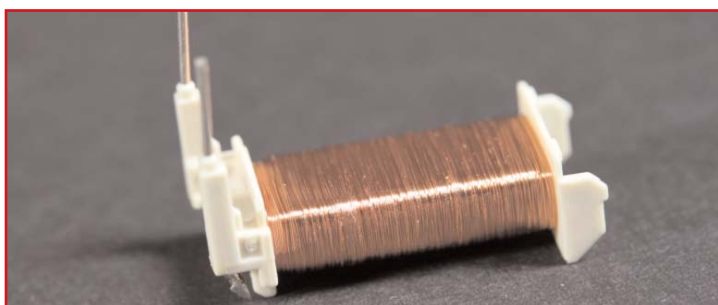
#### **Silver-Cadmium-Oxide AgCdO**

- Low welding tendency, high wear resistance
- For switching of inductive loads, AC circuits,  $\geq 12$  V, 100 mA

#### **Plating materials: Hard gold plated (htv)**

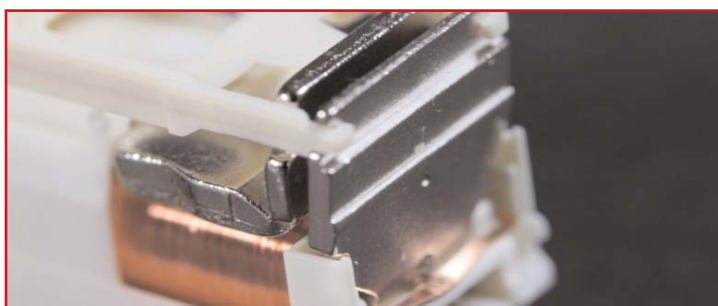
- Very good corrosion resistance, low and stable contact resistance at lowest loads, low tendency to cold welding
- Dry-circuit switching (without current/voltage), recommended range of application  $\geq 1$  V, 1 mA, 50 mW

### THE COIL



Although sensitive power consumption is important, the attraction force is an essential criterion.

### THE SPRING AND THE YOKE



The leaf spring offers the assurance of a strong spring force and a long service life of the relay.

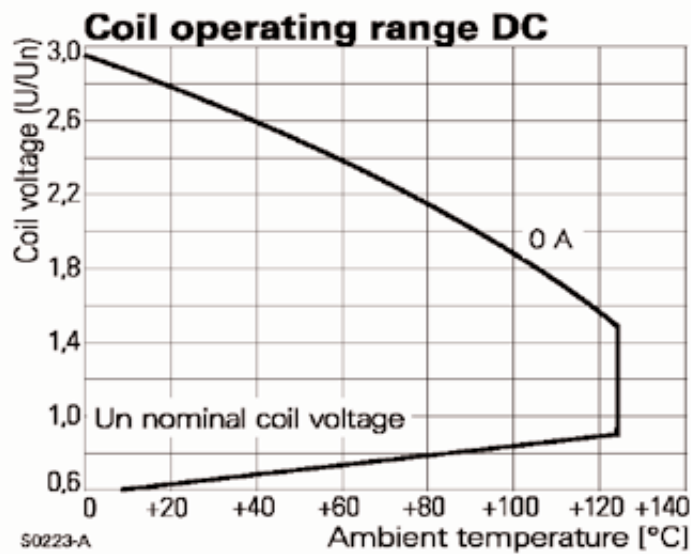
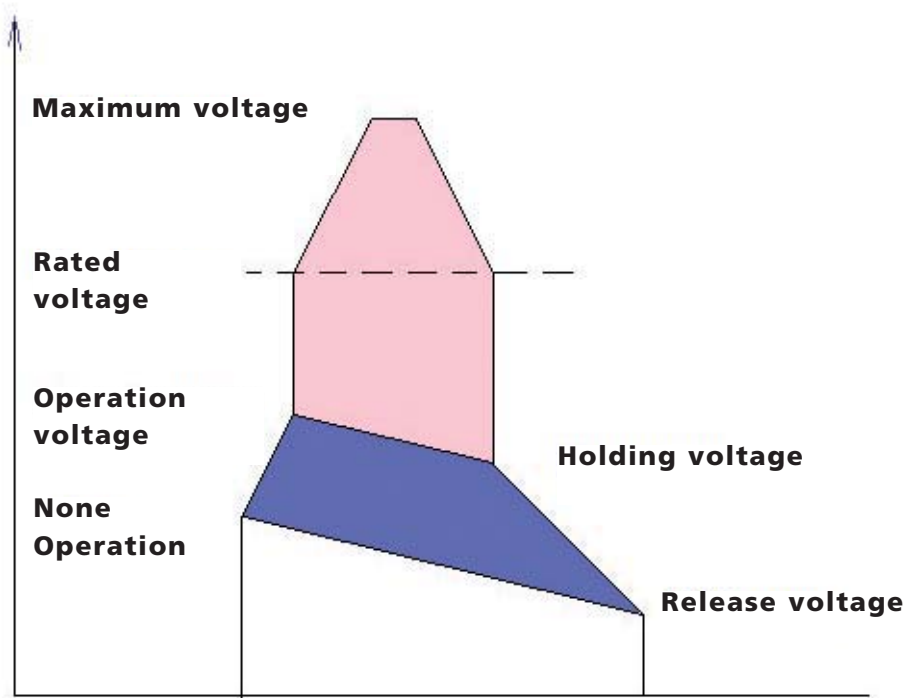
### PIN – THE PLUG-IN DESIGN



The pins must be found always according to the requirements on the printed circuit board, or in accordance with the base.

## WORKING PRINCIPLE OF A RELAY

## WORKING PRINCIPLE OF A COIL DEPENDING ON THE VOLTAGE



### Coil types, AC coil 50 Hz

Coil-code	LED	Rated voltage	Operation voltage 50 Hz	Release voltage 50 Hz	Coil resistance Ohm	Rated power 50 Hz VA	Opt. LED power 50 Hz VA
<b>524</b>	<b>R24</b>	<b>24</b>	<b>18.0</b>	<b>3.6</b>	<b>350±10%</b>	<b>0.76</b>	<b>0.012</b>
615	S15	115	86.3	17.3	8100±15%	0.76	0.054
<b>730</b>	<b>T30</b>	<b>230</b>	<b>172.5</b>	<b>34.5</b>	<b>32500±15%</b>	<b>0.74</b>	<b>0.073</b>

Data apply to coil without pre-excitation, ambient temperature + 23 °C.

Other coil types on request.

## RELAY PACKAGE SNR

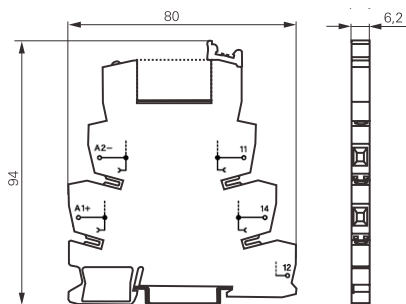


SNR

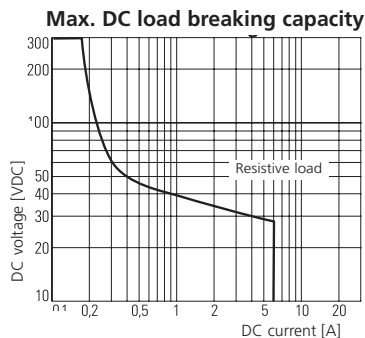
### SCHRACK-INFO

- Relay package consisting of relays and DIN rail mount
- 1 CO contact with 6 A nominal current
- Reinforced insulation (protection class II, VDE 0160)
- Module width only 6.2 mm
- Reduced system width for increase packing density on the DIN rail
- Complies with the RoHS Directive 2002/95/EC
- Encoded protection diode and LED

### DIMENSIONS (mm)



### LOAD BREAKING CAPACITY



### TYPE KEY

Type

Version

- 3P** Relay package, SNR 1-pole, CO, 6 A, screw terminals  
**4P** Relay package, SNR 1-pole, CO, 6 A, cage-clamp terminals

Contact material

- 2** AgSnO<sub>2</sub>, gold-plated, htv      **3** AgSnO<sub>2</sub>

Coil

- LB2** 12 VDC      **LC4** 24 VDC  
**SM5** 115 VDC/VAC      **TP0** 230 VDC/VAC

<b>S</b>	<b>T</b>	<b>P</b>			
Type		Version		Contact material	
Coil					

# PANEL RELAYS AND ACCESSORIES


## TECHNICAL DATA

<b>CONTACT DATA</b>		<b>6 A</b>
Contact configuration		1 CO
Contact set		Single contact
Type of interruption		Micro-switch
Rated current		6 A
Rated voltage / max. switching voltage AC		240 / 240 VAC
Max. breaking capacity AC		1500 VA
Limiting making capacity, max 4 s, duty factor 10%		10 A
Contact material		AgSnO <sub>2</sub> , AgSnO <sub>2</sub> gold-plated
LED and PD for DC voltage		
<b>INPUT DATA</b>		
Rated input voltage DC		12, 24 VDC, 115, 230 VAC/VDC (type 115, 230 VAC/VDC with 60 VDC relay)
Rated coil power, DC coil		12 VDC 184 mW, 24 VDC 220 mW, 115 VAC 402 mVA, 230 VAC 736 mVA
Operation range to IEC 61810		2
<b>GENERAL DATA</b>		
Ambient temperature range		- 40... + 55 °C
Degree of protection DIN 40050		IP20
Terminals		Screw terminals / cage-clamp terminals
Terminal screw torque according to IEC 61984		0.5 Nm
max.		0.6 Nm
Wire cross section	Solid wire	0.14...2.5 mm <sup>2</sup>
	Stranded wire	0.14...2.5 mm <sup>2</sup>
	with ferrule (DIN 46228/1)	0.14...2.5 mm <sup>2</sup>


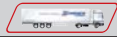
Visit [www.schrack.com](http://www.schrack.com) for further technical data

CONTACTS	COIL	CONTACT MATERIAL	TYPE	EAN CODE	AVAILABLE	ORDER NO.
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### RELAY PACKAGE, 6 A WITH SOCKET

1 CO, screw terminal	12 V DC	AgSnO <sub>2</sub>	SNR PACKAGE 12VDC SK	9004840408614		ST3P3LB2
1 CO, screw terminal	24 V DC	AgSnO <sub>2</sub>	SNR PACKAGE 24VDC SK	9004840408553		ST3P3LC4
1 CO, screw terminal	24 V DC	AgSnO <sub>2</sub> , hard gold-plated	SNR PACKAGE 24VDC SK REL.HTV.	9004840408546		<b>ST3P2LC4</b>
1 CO, screw terminal	115 V AC/DC	AgSnO <sub>2</sub>	SNR PACKAGE 115VDC/AC SK	9004840408560		ST3P3SM5
1 CO, screw terminal	230 V AC/DC	AgSnO <sub>2</sub>	SNR PACKAGE 230VDC/AC SK	9004840408577		ST3P3TP0
1 CO, screwless terminal	24 V DC	AgSnO <sub>2</sub>	SNR PACKAGE 24VDC FK	9004840407860		ST4P3LC4
1 CO, screwless terminal	230 V AC/DC	AgSnO <sub>2</sub>	SNR PACKAGE 230VDC/AC FK	9004840407884		ST4P3TP0

### ACCESSORIES

SNR screw base				9004840448931		ST3FLC4
SNR jumper bar, red 500 mm			ST3x, ST4x	9004840407914		<b>ST37001</b>
SNR jumper bar, blue 500 mm			ST3x, ST4x	9004840407921		ST37002
SNR jumper bar, grey 500 mm			ST3x, ST4x	9004840407938		ST37003
Label per pc.			ST3x, ST4x	9004840407891		<b>ST37040</b>



# PANEL RELAYS AND ACCESSORIES

## POWER RELAY RT1

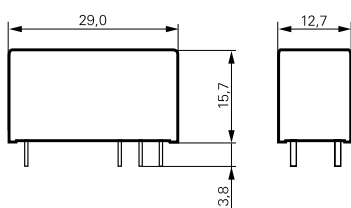


RT1

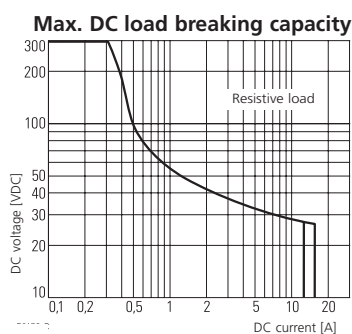
### SCHRACK-INFO

- 1-pole 12 / 16 A, DC or AC coil
- 1 CO contact or 1 NO contact
- Sensitive coil 400 mW / 0.75 VA
- 5 kV / 10 mm coil contact, class II (VDE 0700)
- Safe separation according to VDE 0160 in conjunction with base YRT78626
- Ambient temperature 85 °C (DC coil)
- Low overall height 15.7 mm
- Hard gold-plated contacts available
- PCB and screw bases are available
- Typical applications: panel boards, mechanical engineering

### DIMENSIONS (mm)



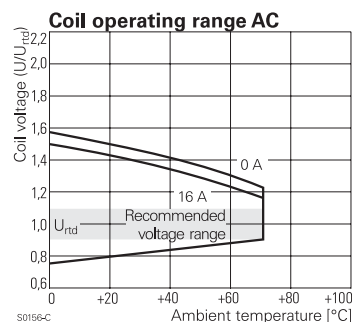
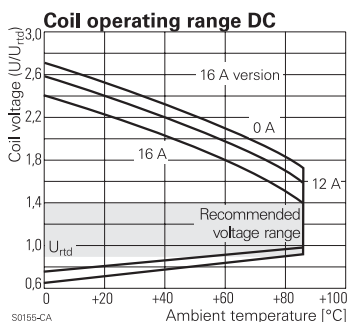
### LOAD BREAKING CAPACITY



### APPROVALS



### COIL OPERATING VOLTAGE RANGE

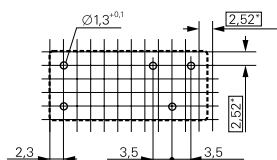


### PCB DIAGRAMS/WIRING DIAGRAMS

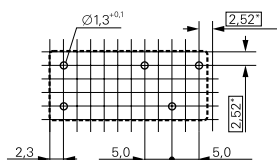
View of the terminals, dimensions in mm

\*) Equipping with indicated hole diameter also possible in 2.5 mm or 2.54 mm contact spacing.

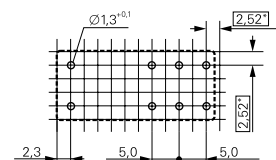
12 A, pinning 3.5 mm



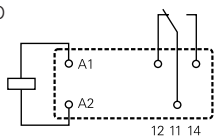
12 A, pinning 5 mm



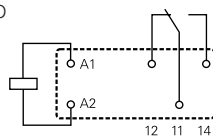
16 A, pinning 5 mm



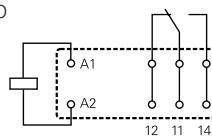
1 CO



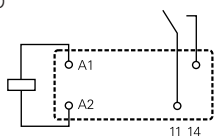
1 CO



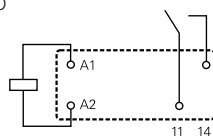
1 CO



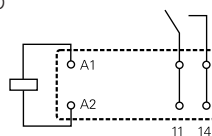
1 NO



1 NO



1 NO





# PANEL RELAYS AND ACCESSORIES

## TYPE KEY

Type	<b>R</b>	<b>T</b>						
Version	<b>1 12 A, pinning 3.5 mm, flux-proof</b> <b>2 12 A, pinning 5 mm, flux-proof</b> <b>3 16 A, pinning 5 mm, flux-proof</b>		<b>D 16 A, pinning 5 mm, wash-proof,</b>					
Contacts	<b>1</b> 1 CO		<b>3</b> 1 NO					
Contact material	<b>4</b> AgNi 90/10		<b>5</b> AgNi 90/10 gold-plated (for type RT31.)					
Coil	For coil code, see coil table							
Preferred types in bold print								

## TECHNICAL DATA

CONTACT DATA		12 A	16 A
Number of contacts and type		1 CO or 1 NO contact	
Contact style		Single contact	
Rated current		12 A	16 A
Rated voltage / max. switching voltage		AC 250 V~ / 440 V~	
Max. breaking capacity AC		3000 VA	4000 VA
Inrush current (max. 4 s at 10% DF)		25 A	30 A
Contact material		AgNi 90/10. AgNi 90/10 htv	
COIL DATA			
Nominal voltage	DC coil	5...110 V~	
	AC coil	24...230 V~	
Nominal power	DC coil	400 mW – 420 mW	
	AC coil	0.74 VA – 0.76 VA	
Operation release voltage/coil resistance at ambient temperature 23 °C	24 VDC coil	16.8 V / 2.4 V / 1440 Ω ± 10%	
	230 VAC coil	172.5 V / 34.5 V / 32500 Ω ± 10%	

Visit [www.schrack.com](http://www.schrack.com) for further technical data

CONTACTS	PINNING	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>12 A</b>							
1 CO	3.5 mm	12 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-012G-12-3.5	9004840160604		<b>RT114012</b>
1 CO	3.5 mm	24 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-024G-12-3.5	9004840160611		<b>RT114024</b>
1 CO	3.5 mm	24 V AC	AgNi 90/10	PREL-SL-1-UKE-M1-024W-12-3.5	9004840193466		<b>RT114524</b>
1 CO	5 mm	12 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-012G-12-5.0	9004840155846		<b>RT214012</b>
1 CO	5 mm	24 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-024G-12-5.0	9004840155143		<b>RT214024</b>
1 CO	5 mm	230 V AC	AgNi 90/10	PREL-SL-1-UKE-M1-230W-12-5.0	9004840158182		<b>RT214730</b>
<b>16 A</b>							
1 CO	5 mm	5 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-005G-16-5.0	9004840167856		<b>RT314005</b>
1 CO	5 mm	12 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-012G-16-5.0	9004840185553		<b>RT314012</b>
1 CO	5 mm	24 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-024G-16-5.0	9004839015489		<b>RT314024</b>
1 NO	5 mm	24 V DC	AgNi 90/10	PREL-SL-1-AKE-M1-024G-16-5.0	9004840158151		<b>RT334024</b>
1 CO	5 mm	110 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-110G-16-5.0	9004840196238		<b>RT314110</b>
1 CO	5 mm	24 V AC	AgNi 90/10	PREL-SL-1-UKE-M1-024W-16-5.0	9004840157994		<b>RT314524</b>
1 CO	5 mm	230 V AC	AgNi 90/10	PREL-SL-1-UKE-M1-230W-16-5.0	9004839034596		<b>RT314730</b>
1 CO	5 mm	230 V AC	AgNi 90/10	PREL-SL-1-UKE-M1-230W-16-5.0	9004840193503		<b>RT315730</b>
1 CO	5 mm	24 V DC	AgNi 90/10	PREL-SW-1-UKE-M1-024G-16-5.0	9004840193619		RTD14024

## POWER RELAY RT1 INRUSH

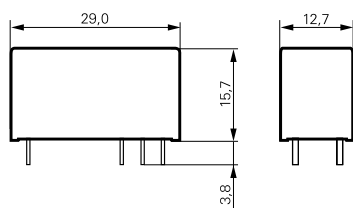


RT1 INRUSH

### SCHRACK-INFO

- 1-pole, 16 A, for inrush peak currents
- 1 NO or 1 CO contact
- Sensitive coil 400 mW
- 5 kV / 10 mm coil contact
- Protection class II (VDE 0700)
- Ambient temperature 85 °C
- Low overall height 15.7 mm (only relay)
- PCB and screw bases
- For domestic appliances, heating controls, lighting controls, building automation

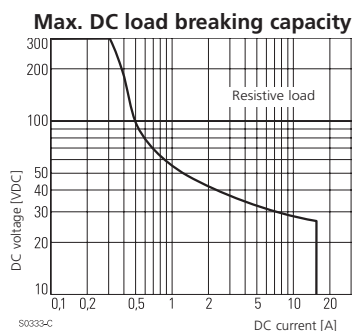
### DIMENSIONS (mm)



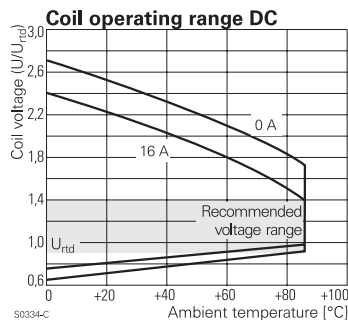
### APPROVALS



### LOAD BREAKING CAPACITY



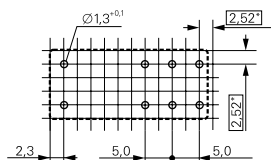
### COIL OPERATING VOLTAGE RANGE



### PCB DIAGRAMS/WIRING DIAGRAMS

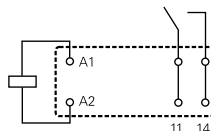
View of the terminals,  
dimensions in mm

16 A, pinning 5 mm



\*) Equipping with indicated hole diameter  
also possible in 2.5 mm or 2.54 mm  
contact spacing.

1 NO



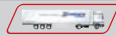
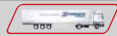
## TYPE KEY

Type	R T		3	3			
Version	3		16 A, pinning 5 mm				
Contacts	1	1 CO contact		3	1 NO contact		
Contact material	K	AgNi 90/10		L	AgSnO <sub>2</sub>		
Coil	Coil code: please see coil table, preferred types in bold print						

## TECHNICAL DATA

CONTACT DATA	
Number of contacts and type	1 NO contact
Contact style	Single contact
Rated current	16 A
Rated voltage / max. switching voltage	AC 250 V~ / 440 V~
Max. breaking capacity AC	4000 VA
Inrush current (max. 4 s at 10% DF)	30 A
Contact material	AgNi 90/10, AgSnO <sub>2</sub>
COIL DATA	
Rated voltage	5...110 V~
Rated power	400 mW
Operation release voltage/coil resistance at ambient temperature 23°C	24 VDC coil 16.8 V / 2.4 V / 1440 Ω ± 10%

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CONTACTS	PINNING	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>16 A</b>							
1 NO	5 mm	24 V DC	AgNi 90/10	PREL-SL-1-AKE-M1-024G-16-5.0	9004840158793		<b>RT33K024</b>
1 CO	5 mm	24 V DC	AgSnO <sub>2</sub>	PREL-SL-1-UKE-M1-024G-16-5.0	9004840155280		<b>RT31L024</b>



## I KNOW WHERE TO FIND IT!

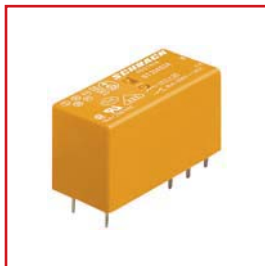
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# PANEL RELAYS AND ACCESSORIES

## POWER RELAYS RTI

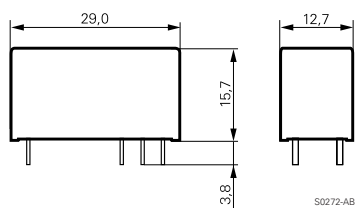


RTI

### SCHRACK-INFO

- 1-pole 16 A, 1 NO contact (W pre-make contact + AgSnO<sub>2</sub>)
- 10 A / 250 V AC making and breaking capacity according to IEC 60669-1
- 165 A / 20 ms inrush peak current
- Mono- or bistable coil
- 5 kV / 10 mm coil contact set
- Reinforced insulation
- Complies with the RoHS Directive 2002/95/EC
- For lighting systems, movement sensors, incandescent and fil lamps, motors

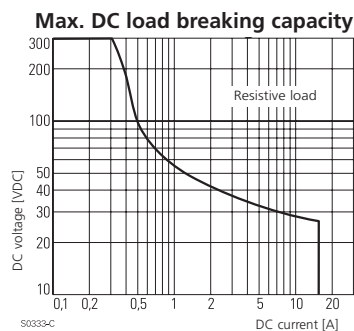
### DIMENSIONS (mm)



### APPROVALS

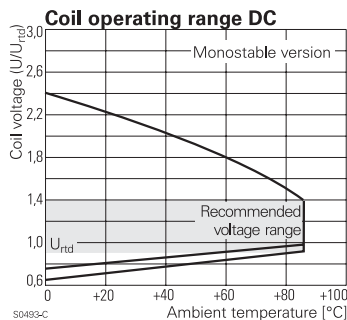


### LOAD BREAKING CAPACITY



S0333-C

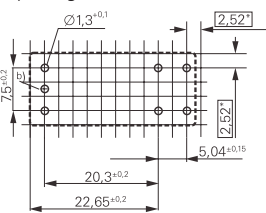
### COIL OPERATING VOLTAGE RANGE



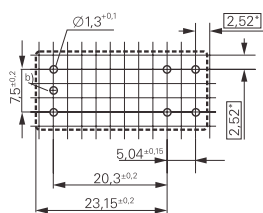
S0493-C

### PCB DIAGRAMS/WIRING DIAGRAMS

16 A, pinning 5 mm

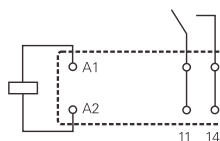


b) only for 2 windings

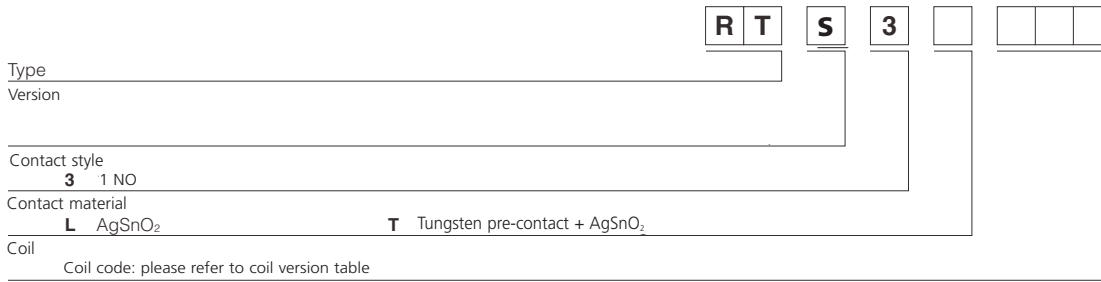


\*) Equipping with indicated hole diameter also possible in 2.5 mm or 2.54 mm contact spacing.

Monostable version



## TYPE KEY



## TECHNICAL DATA

CONTACT DATA		RT.3T	RTS3L
Contact type		1 NO contact	
Contact style		Single contact	
Type of disconnection		Micro-switch	
Rated current		16 A	
Rated voltage / max. switching voltage AC		250 / 400 VAC	
Limiting continuous current		16 A	
Max. breaking capacity AC		4000 VA	
Limiting making capacity	max 20 ms (incandescent lamps)	165 A	120 A
	max 200 µs (fluorescent lamps)	800 A	-
Contact material		W (lead contact)+AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
COIL DATA			
Rated voltage range		24 VDC	
Rated power		Typ. 400 mW	
Operation range, IEC 61810		2	
Coil insulation system according to UL1446		Class F	
Operation release voltage/coil resistance at ambient temperature 23 °C	24 VDC coil	16.8 V / 2.4 V / 1440 Ω ± 10%	
	230 VAC coil	172.5 V / 34.5 V / 32500 Ω ± 10%	

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CONTACTS	PINNING	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>16 A</b>							
1 NO	5 mm	24 V DC	AgSnO <sub>2</sub>	PREL-SL-1-AKE-M1-024G-16-5	9004840515855		RTS3L024
1 NO	5 mm	24 V DC	W + AgSnO <sub>2</sub>	PREL-SL-1-AKE-M1-024G-16-5	9004840543476		RTS3T024



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# PANEL RELAYS AND ACCESSORIES

## POWER RELAYS RT2

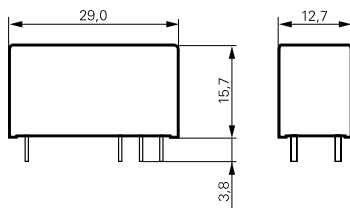


RT2

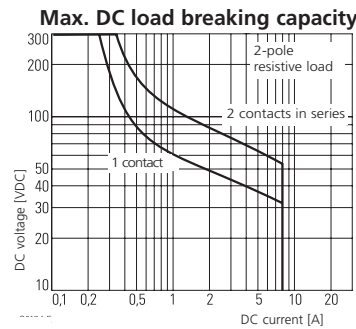
### SCHRACK-INFO

- 2-pole 8 A, DC or AC coil
- 2 CO contact
- Sensitive coil 400 mW
- DC or AC coil
- 5 kV / 10 mm coil contact, class II (VDE 0700), reinforced insulation
- Safe separation according to VDE 0160 in conjunction with base YRT78626
- Low overall height 15.7 mm (only relay)
- PCB and screw bases
- For domestic appliances, heating controllers, emergency lighting, modems, panel boards, mechanical engineering

### DIMENSIONS (mm)



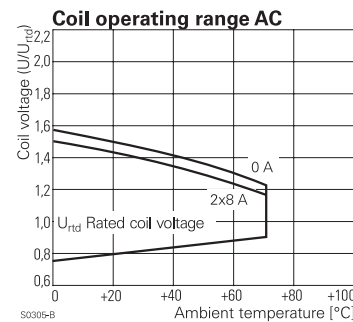
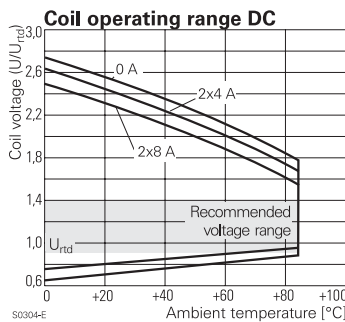
### LOAD BREAKING CAPACITY



### APPROVALS

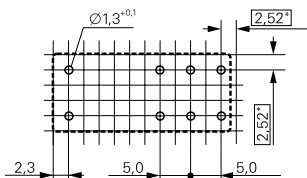


### COIL OPERATING VOLTAGE RANGE



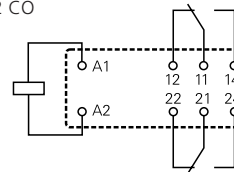
### PCB DIAGRAMS/WIRING DIAGRAMS

View of the terminals, dimensions in mm

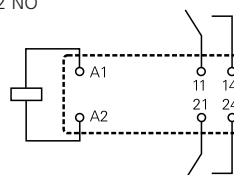


\*) Equipping with indicated hole diameter also possible in 2.5 mm or 2.54 mm contact spacing.

2 CO



2 NO



# PANEL RELAYS AND ACCESSORIES

## TYPE KEY

Type	<b>R T</b>	<b>4</b>				
Version	<b>4 8 A, pinning 5 mm, flux-proof</b>	<b>E</b>	8 A, pinning 5 mm, wash-proof,			
Contacts	<b>2 2 CO</b>					
Contact material	<b>4</b> AgNi 90/10	<b>5</b>	AgNi 90/10 gold-plated, htv			
Coil	For coil code, see coil table					

Preferred types in bold print

## TECHNICAL DATA

CONTACT DATA		8 A
Number of contacts and type		2 CO contact
Contact style		Single contact
Rated current		8 A
Rated voltage / max. switching voltage		AC 250 V~ / 440 V~
Max. breaking capacity AC		2000 VA
Inrush current (max. 4 s at 10% DF)		15 A
Contact material		AgNi 90/10. AgNi 90/10 htv
COIL DATA		
Rated voltage	DC coil	5...110 V~
	AC coil	24...230 V~
Rated power	DC coil	400 mW (24 VCD)
	AC coil	0.74 VA (230 VAC)
Operation release voltage/coil resistance at ambient temperature 23 °C	24 VDC coil	16.8 V / 2.4 V / 1440 Ω ± 10%
	230 VAC coil	172.5 V / 34.5 V / 32500 Ω ± 10%

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CONTACTS	PINNING	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>8 A</b>							
2 CO	5 mm	6 V DC	AgNi 90/10	PREL-SL-2-UKE-M1-006G-08-5.0	9004840158939		<a href="#">RT424006</a>
2 CO	5 mm	12 V DC	AgNi 90/10	PREL-SL-2-UKE-M1-012G-08-5.0	9004839019241		<a href="#">RT424012</a>
2 CO	5 mm	24 V DC	AgNi 90/10	PREL-SL-2-UKE-M1-024G-08-5.0	9004839019142		<a href="#">RT424024</a>
2 CO	5 mm	24 V DC	AgNi 90/10, htv	PREL-SL-2-UKE-M1-024G-08-5.0	9004840160628		<a href="#">RT425024</a>
2 CO, wash-tight	5 mm	24 V DC	AgNi 90/10	PREL-SL-2-UKE-M1-024G-08-5.0	9004839029103		<a href="#">RTE24024</a>
2 CO	5 mm	48 V DC	AgNi 90/10	PREL-SL-2-UKE-M1-048G-08-5.0	9004839027185		<a href="#">RT424048</a>
2 CO	5 mm	60 V DC	AgNi 90/10	PREL-SL-2-UKE-M1-060G-08-5.0	9004840193558		<a href="#">RT424060</a>
2 CO	5 mm	110 V DC	AgNi 90/10	PREL-SL-2-UKE-M1-110G-08-5.0	9004840191561		<a href="#">RT424110</a>
2 CO	5 mm	24 V AC	AgNi 90/10	PREL-SL-2-UKE-M1-024W-08-5.0	9004839034602		<a href="#">RT424524</a>
2 CO	5 mm	48 V AC	AgNi 90/10	PREL-SL-2-UKE-M1-048W-08-5.0	9004840167641		<a href="#">RT424548</a>
2 CO	5 mm	115 V AC	AgNi 90/10	PREL-SL-2-UKE-M1-115W-08-5.0	9004840158021		<a href="#">RT424615</a>
2 CO	5 mm	115 V AC	AgNi 90/10, htv	PREL-SL-2-UKE-M1-115W-08-5.0	9004840187748		<a href="#">RT425615</a>
2 CO	5 mm	230 V AC	AgNi 90/10	PREL-SL-2-UKE-M1-230W-08-5.0	9004839034282		<a href="#">RT424730</a>
2 CO	5 mm	230 V AC	AgNi 90/10, htv	PREL-SL-2-UKE-M1-230W-08-5.0	9004840166040		<a href="#">RT425730</a>



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# PANEL RELAYS AND ACCESSORIES

## PLUGGABLE INTERFACE RELAY XT

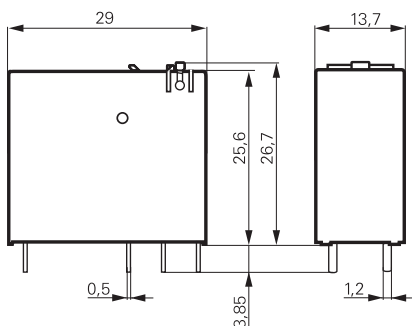


XT

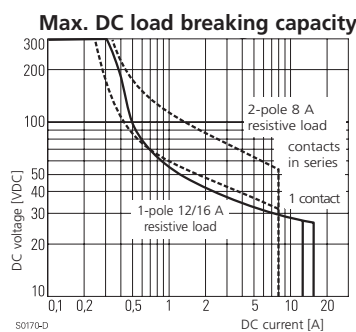
### SCHRACK-INFO

- 1-pole 16 A, 2-pole 8 A, 1 or 2 CO contacts
- DC or AC coil, sensitive coil 400 mW
- Reinforced insulation, protection class II (VDE 0700)
- Safe separation according to VDE 0160 in conjunction with base YRT78626
- 4 kV / 8 mm coil contact
- Lockable manual test system<sup>1)</sup>
- Optional version with mechanical and electrical indication available
- Suitable for standard RT bases
- Recyclable packaging
- Compliant with RoHS Directive 2002/95/EC
- For control panels, panel boards, mechanical engineering

### DIMENSIONS (mm)



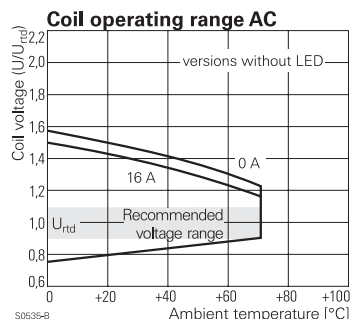
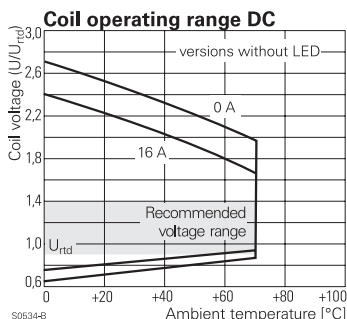
### LOAD BREAKING CAPACITY



### APPROVALS



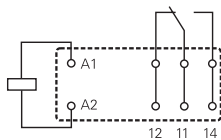
### COIL OPERATING VOLTAGE RANGE



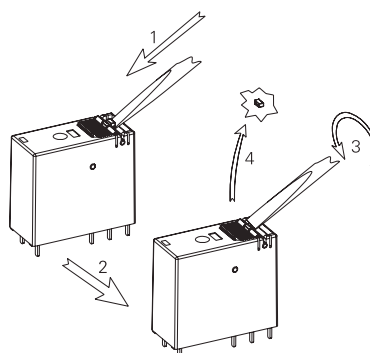
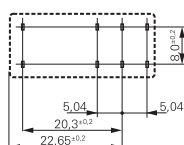
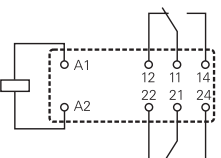
### PCB DIAGRAMS/WIRING DIAGRAMS APPLICATION

View of the terminals

1 CO, 16 A



2 CO, 8 A



1) Description of the locking function: If the test button is pulled out to forcibly, it may skip the test position and move directly to the locking position.

On delivery only with test option; to go to the locking position, please remove the plastic locking cam (see drawing).



# PANEL RELAYS AND ACCESSORIES

## TYPE KEY

Type	X T			4		
Version						
3	1-pole, 16 A, pinning 5 mm					
4	2-pole, 8 A, pinning 5 mm					
Contacts						
	7	1 CO contact with test button and mechanical indicator				
	8	2 CO contacts with test button and mechanical indicator				
Contact material						
4	AgNi 90/10					
Coil code						
Coil code: please see coil table, preferred types in bold print						

## TECHNICAL DATA

CONTACT DATA		1-POLE	2-POLE
Number of contacts and type		1 CO	2 CO
Contact style		Single contact	
Type of disconnection		Micro-switch	
Rated current		16 A	8 A
Rated voltage / max. switching voltage AC		240/400 V AC	
Max. breaking switching capacity AC		4000 VA	2000 VA
Inrush current (max 4 s at 10% DF)		30 A	15 A
Contact material		AgNi 90/10	
COIL DATA			
Rated voltage	DC coil	24 V~	
	AC coil	24 V~	
Rated power	DC coil	typ. 400 mW	
	AC coil	typ. 0.75 VA	
Operation range, IEC 61810		2	
Coil insulation system according to UL1446		Class F	
Operation release voltage/coil resistance at ambient temperature 23 °C	24 VDC coil	16.8 V / 2.4 V / 1440 Ω ± 10%	
	24 VAC coil	18 V / 3.6 V / 350 Ω ± 10%	
	230 VAC coil	172.5 V / 34.5 V / 32500 Ω ± 10%	

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CONTACTS	PINNING	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>16 A</b>							
1 CO	5 mm	24 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-024G-16-5.0	9004840616989		<b>XT374LC4</b>
<b>8 A</b>							
2 CO	5 mm	24 V DC	AgNi 90/10	PREL-SL-2-UKE-M1-024G-08-5.0	9004840529999		<b>XT484LC4</b>
2 CO	5 mm	24 V AC	AgNi 90/10	PREL-SL-2-UKE-M1-024W-08-5.0	9004840530001		<b>XT484R24</b>
2 CO	5 mm	230 V AC	AgNi 90/10	PREL-SL-2-UKE-M1-230W-08-5.0	9004840530018		<b>XT484T30</b>



## ACCESSORIES FOR POWER AND INTERFACE RELAYS RT AND XT – GENERAL INFORMATION



RT78725



RT17017



RT424730



YMLRW230



XT484LC4



XT17017



YRT78626

## SCHRACK-INFO

- For industrial power relays RT and XT, pinning 3.5 mm or 5 mm
- Plug-in base with separate terminal positions (input/output)
- New holding clip with ejection function
- Easy change of the relays even with dense packing
- High-quality, contact-reliable terminal screws
- Captive terminal screws
- Indicator and function modules reverse polarity-protected and easy to plug in
- Snap-on labels
- Complies with the RoHS Directive 2002/95/EC



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## SCREWLESS CLAMP SOCKET WITH SCREWLESS TERMINALS FOR DIN RAIL MOUNTING

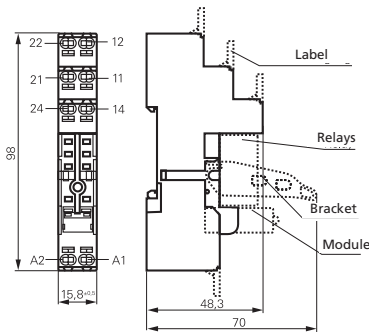


RT7872P

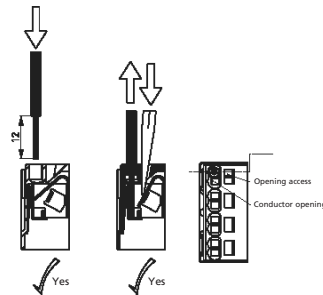
### SCHRACK-INFO

- Screwless terminals
- Solid wire can be connected without tools
- Double clamps per terminal
- Jumper bars for connection
- Open coil circuit for active modules
- Inputs and outputs arranged separately

### DIMENSIONS (mm)



### APPLICATION / CAUTIONS



Jumper bar



### TECHNICAL DATA

Rated current		2 x 8 A, 16 A*)
Rated voltage / max. switching voltage		240/400 V AC
Terminal capacity	Solid wire	1 x 0.75 / 1 / 1.5 mm <sup>2</sup> , 2 x 0.75 / 1 mm <sup>2</sup>
	Stranded wire without ferrule	1 x 0.75 / 1 / 1.5 mm <sup>2</sup> , 2 x 0.75 / 1 mm <sup>2</sup>
	without ferrule, with standard insulation	2 x 1.5 mm <sup>2</sup>
	with ferrule	1 x 0.75 / 1 mm <sup>2</sup> , 2 x 0.75 mm <sup>2</sup>
	with ferrule, without insulation or insulation at least 18 mm long	1 x 1.5 mm <sup>2</sup>

For stranded conductors with single wires of 0.05 mm or less, the used of ferrules is recommended. When using stranded conductors without ferrules, the terminal must be opened to insert the conductor.  
\* Supply contacts of the 1-pole relays must be doubled on 1x + 2x!

DESCRIPTION	FOR RELAY TYPE	EAN CODE	AVAILABLE	ORDER NO.
Screwless clamp socket, pinning 5 mm for DIN rail mounting	RT2x, RT3x, RT4x, XT, RP4x	9004840535204		<b>RT7872P</b>
Retaining clip for RT relay (overall height 15.7 mm)	RT2x, RT3x, RT4x	9004839096242		<b>RT17017</b>
Retaining clip for XT relay (overall height 25.5 mm)	XT, RP4	9004839096143		<b>XT17017</b>
Jumper bar	-	9004840539264		<b>RT170P1</b>



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# PANEL RELAYS AND ACCESSORIES

## SOCKET WITH SCREW TERMINALS FOR DIN RAIL



YRT78726/RT78725

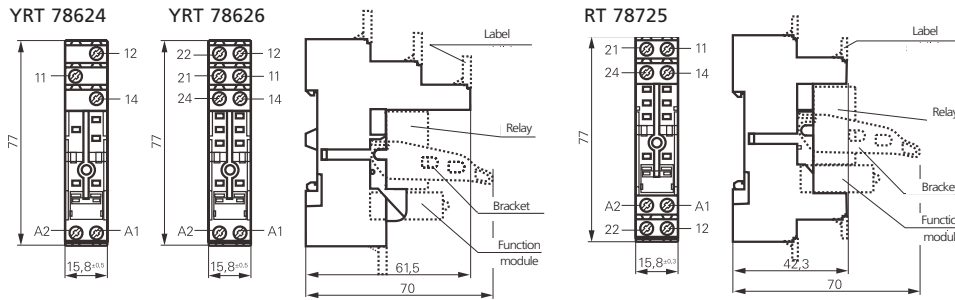
### SCHRACK-INFO

- Easy change of the relay even with dense packing
- High-quality, contact-reliable terminals
- Captive terminal screws

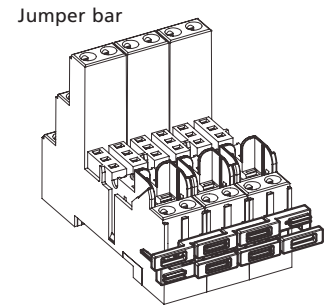
### APPROVALS



### DIMENSIONS (mm)



### APPLICATION



### TECHNICAL DATA

	YRT 78624	YRT 78626	RT 78725
Rated current	12 A	2 x 8 A, 16 A*)	2 x 8 A, 16 A*)
Rated voltage	AC 240 V~		
Terminals	Screw terminals		
Terminal torque according to IEC 61984	0.5 Nm		
max.	0.7 Nm		
Terminal capacity	copper wire	2 x 2.5 mm <sup>2</sup>	
	Stranded wire	2 x 2.5 mm <sup>2</sup>	
	with ferrule (DIN 46228/1)	2 x 1.5 mm <sup>2</sup>	

\* Supply contacts of the 1-pole relays (RT1) must be doubled on 1x + 2x!

DESCRIPTION	FOR RELAY TYPE	EAN CODE	AVAILABLE	ORDER NO.
Socket with screw terminals, logic version pinning 3.5 mm for DIN rail mounting	RT1x	9004840184921		<b>YRT78624</b>
Socket with screw terminals, logic version pinning 5 mm for DIN rail mounting	XT, RT2x, RT3x, RT4x	9004839900419		<b>YRT78626</b>
Socket with screw terminals, conventional version pinning 5 mm for DIN rail mounting	XT, RT2x, RT3x, RT4x	9004840546378		<b>RT78725</b>
Retaining clip f. RT relay w. eject function (overall height 15.7 mm)	RT1x, RT2x, RT3x, RT4x	9004839096242		<b>RT17017</b>
Retaining clip f. XT relay w. eject function (overall height 25.5 mm)	XT, RP4	9004839096143		<b>XT17017</b>
Jumper bar 8-fold	-	9004840617030		<b>RT170R8</b>
Marking tag	-	9004840184907		<b>YRT16040</b>



## LED AND PROTECTION MODULES



YMLRW230

### SCHRACK-INFO

- Compatible with screwless and screw terminal sockets

DESCRIPTION	FOR SOCKET	TYPE	EAN CODE	AVAILABLE	ORDER NO.
LED red 6...24 V DCV AC	YPTx, PTx, YRTx, RTx	EM07	9004839069253		<b>YMLRA024</b>
LED red 6...24 V DC with prot. diode (A1+, A2-)	YPTx, PTx, YRTx, RTx	EM18	9004839069192		<b>YMLRD024-A</b>
LED red 6...24 V DC with prot. diode (A1-, A2+)	YPTx, PTx, YRTx, RTx	EM08	9004840152203		<b>YMLRD024</b>
LED red 110...230 V AC	YPTx, PTx, YRTx, RTx	EM06	9004839069246		<b>YMLRW230</b>
LED green 6...24 V DCV AC	YPTx, PTx, YRTx, RTx	EM11	9004839069222		<b>YMLGA024</b>
LED green 6...24 V DC with prot. diode (A1+, A2-)	YPTx, PTx, YRTx, RTx	EM12	9004839069239		<b>YMLGD024</b>
LED green 110...230 V AC	YPTx, PTx, YRTx, RTx	EM10	9004839034879		<b>YMLGW230</b>
Protection diode (A1+, A2-), 6/230 V DC	YPTx, PTx, YRTx, RTx	EM09	9004839069208		<b>YMF DG230</b>
RC network 6...60 V AC	YPTx, PTx, YRTx, RTx	EM02	9004840152272		<b>YMR CW024</b>
RC network 110...230 V AC	YPTx, PTx, YRTx, RTx	EM03	9004840152289		<b>YMR CW230</b>
Varistor 24 V AC	YPTx, PTx, YRTx, RTx	EM04	9004840194081		<b>YMV AW024</b>
Varistor 230 V AC	YPTx, PTx, YRTx, RTx	EM05	9004840194098		<b>YMV AW230</b>



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# PANEL RELAYS AND ACCESSORIES

## MINIATURE RELAY PT



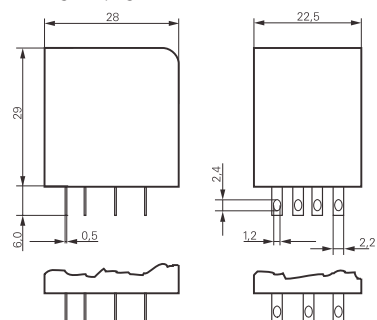
PT

### SCHRACK-INFO

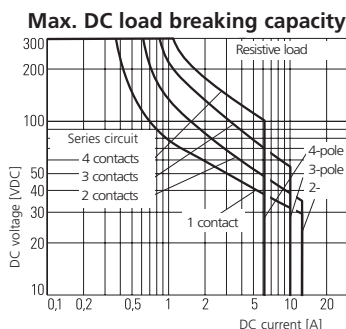
- 2-pole 12 A, 3-pole 10 A or 4-pole 6 A
- AC or DC coil
- Up to 3000 VA switching performance
- Overall height 29 mm
- Cadmium-free contact material
- Mechanical and optional electrical function indicator
- Touch-proof test button, selectable lock
- White label
- Universal use in control, automation and mechanical engineering

### DIMENSIONS (mm)

Soldering and plug-in terminals (standard version)



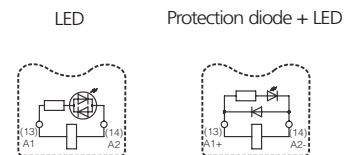
### LOAD BREAKING CAPACITY



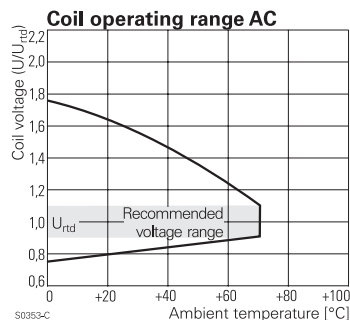
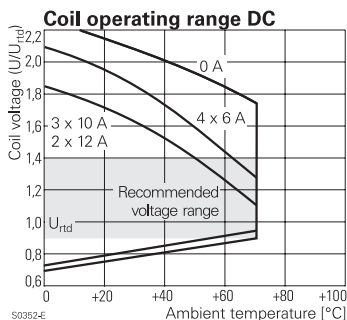
### APPROVALS



### WIRING DIAGRAMS



### COIL OPERATING VOLTAGE RANGE



### TYPE KEY

Type

Contact style

- 2** 2 CO
- 3** 3 CO
- 5** 4 CO

Contact material

- 7** AgNi 90/10, with test button
- 8** AgNi 90/10 gold-plated, with test button

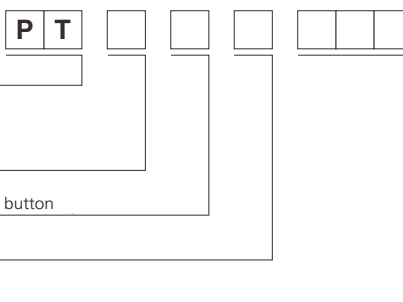
Version

- 0** Standard, 2.8 mm flat connector
- 1** Print terminals

Coil

Coil code: please refer to coil version table, preferred types in bold print

\*) Version with a closed cap without test button available on request. Other types available on request









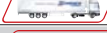
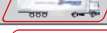
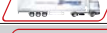










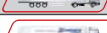





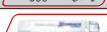


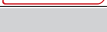
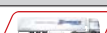
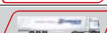




# PANEL RELAYS AND ACCESSORIES

## TECHNICAL DATA

CONTACT DATA		PT2	PT3	PT5
Contact version		2 CO	3 CO	4 CO
Contact style		Single contact		
Type of disconnection		Micro-switch		
Rated current		12 A	10 A	6 A
Rated voltage / max. switching voltage AC		240/400 VAC	240/400 VAC	240/240 VAC
Max. breaking capacity AC		3000 VA	2500 VA	1500 VA
Making capacity, max 20 ms		24 A	20 A	12 A
Contact material		AgNi90/10. AgNi90/10 hard gold-plated		
Minimum contact load		12V/10 mA, 20 mV/1 mA hard gold-plated		
COIL DATA				
Rated voltage range	DC coil	6...220 VDC		
	AC coil	6...230 VAC		
Rated output	DC coil	0.75 mW		
	AC coil	1.0 VA		
Operation release voltage/coil resistance at ambient temperature 23 °C	24 VDC coil	18 V / 2.4 V / 777 Ω ± 10%		
	24 VAC coil	19.2 V / 7.2 V / 192 Ω ± 10%		
	230 VAC coil	184 V / 69 V / 19465 Ω ± 10%		

Visit [www.schrack.com](http://www.schrack.com) for further technical data

CONTACTS	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
2 CO, 12 A	24 V DC	AgNi 90/10	SREL-SL-2-UKE-M1-024G-12	9004839055232		<a href="#">PT270024</a>
2 CO, 12 A	48 V DC	AgNi 90/10	SREL-SL-2-UKE-M1-048G-12	9004840376517		<a href="#">PT270048</a>
2 CO, 12 A	24 V AC	AgNi 90/10	SREL-SL-2-UKE-M1-024W-12	9004840149456		<a href="#">PT270524</a>
2 CO, 12 A	230 V AC	AgNi 90/10	SREL-SL-2-UKE-M1-230W-12	9004839055201		<a href="#">PT270730</a>
3 CO, 10 A	24 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-024G-10	9004840149487		<a href="#">PT370024</a>
3 CO, 10 A	110 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-110W-10	9004840537116		<a href="#">PT370110</a>
3 CO, 10 A	24 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-024W-10	9004840149470		<a href="#">PT370524</a>
3 CO, 10 A	230 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-230W-10	9004840149494		<a href="#">PT370730</a>
4 CO, 6 A	6 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-006G-06	9004840199307		<a href="#">PT570006</a>
4 CO, 6 A	12 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-012G-06	9004839057151		<a href="#">PT570012</a>
4 CO, 6 A	24 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-024G-06	9004839055249		<a href="#">PT570024</a>
4 CO, 6 A	48 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-048G-06	9004839056901		<a href="#">PT570048</a>
4 CO, 6 A	60 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-060G-06	9004840155297		<a href="#">PT570060</a>
4 CO, 6 A	110 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-110G-06	9004840155303		<a href="#">PT570110</a>
4 CO, 6 A	125 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-125G-06	9004840176995		<a href="#">PT570125</a>
4 CO, 6 A	220 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-220G-06	9004839058202		<a href="#">PT570220</a>
4 CO, 6 A	6 V AC	AgNi 90/10	SREL-SL-4-UKE-M1-006W-06	9004839056154		<a href="#">PT570506</a>
4 CO, 6 A	12 V AC	AgNi 90/10	SREL-SL-4-UKE-M1-012W-06	9004839057557		<a href="#">PT570512</a>
4 CO, 6 A	24 V AC	AgNi 90/10	SREL-SL-4-UKE-M1-024W-06	9004839055331		<a href="#">PT570524</a>
4 CO, 6 A	48 V AC	AgNi 90/10	SREL-SL-4-UKE-M1-048W-06	9004840155334		<a href="#">PT570548</a>
4 CO, 6 A	115 V AC	AgNi 90/10	SREL-SL-4-UKE-M1-115W-06	9004840155341		<a href="#">PT570615</a>
4 CO, 6 A	230 V AC	AgNi 90/10	SREL-SL-4-UKE-M1-230W-06	9004839055256		<a href="#">PT570730</a>
4 CO, 6 A, with LED	24 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-024G-06	9004840191691		<a href="#">PT570L24</a>
4 CO, 6 A, with LED and PD	24 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-024G-06	9004840652239		<a href="#">PT570LC4</a>
4 CO, 6 A, with LED	220 V DC	AgNi 90/10	SREL-SL-4-UKE-M1-220G-06	9004840188394		<a href="#">PT570N20</a>
4 CO, 6 A, with LED	24 V AC	AgNi 90/10	SREL-SL-4-UKE-M1-024W-06	9004839062452		<a href="#">PT570R24</a>
4 CO, 6 A, with LED	230 V AC	AgNi 90/10	SREL-SL-4-UKE-M1-230W-06	9004839062469		<a href="#">PT570T30</a>
4 CO, 6 A, hard gold-plated	24 V DC	AgNi 90/10 htv	SREL-SL-4-UKE-M1-024G-05	9004840156089		<a href="#">PT580024</a>
4 CO, 6 A, hard gold-plated	110 V DC	AgNi 90/10 htv	SREL-SL-4-UKE-M1-110G-05	9004840155358		<a href="#">PT580110</a>
4 CO, 6 A, hard gold-plated	220 V DC	AgNi 90/10 htv	SREL-SL-4-UKE-M1-220G-05	9004840169751		<a href="#">PT580220</a>
4 CO, 6 A, hard gold-plated	24 V AC	AgNi 90/10 htv	SREL-SL-4-UKE-M1-024W-05	9004840158816		<a href="#">PT580524</a>
4 CO, 6 A, hard gold-plated	115 V AC	AgNi 90/10 htv	SREL-SL-4-UKE-M1-115W-05	9004840175196		<a href="#">PT580615</a>
4 CO, 6 A, hard gold-plated	230 V AC	AgNi 90/10 htv	SREL-SL-4-UKE-M1-230W-05	9004840158823		<a href="#">PT580730</a>
4W, 6 A, hard gold-plated, with LED 24 V DC	24 V DC	AgNi 90/10 htv	SREL-SL-4-UKE-M1-024G-05	9004840220155		<a href="#">PT580L24</a>
4W, 6 A, hard gold-plated, with LED 230 V AC	230 V AC	AgNi 90/10 htv	SREL-SL-4-UKE-M1-230W-06	9004840268072		<a href="#">PT580T30</a>



**Order no. blue:** on stock, usually ready for delivery on the day of order!

# PANEL RELAYS AND ACCESSORIES

## SCREWLESS CLAMP SOCKET WITH SCREWLESS TERMINALS

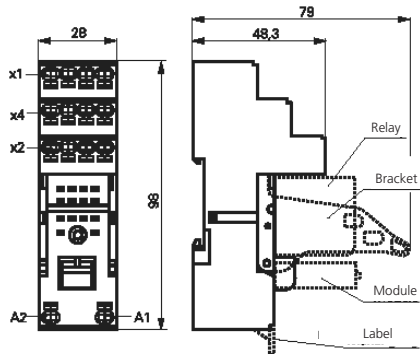


PT7874P

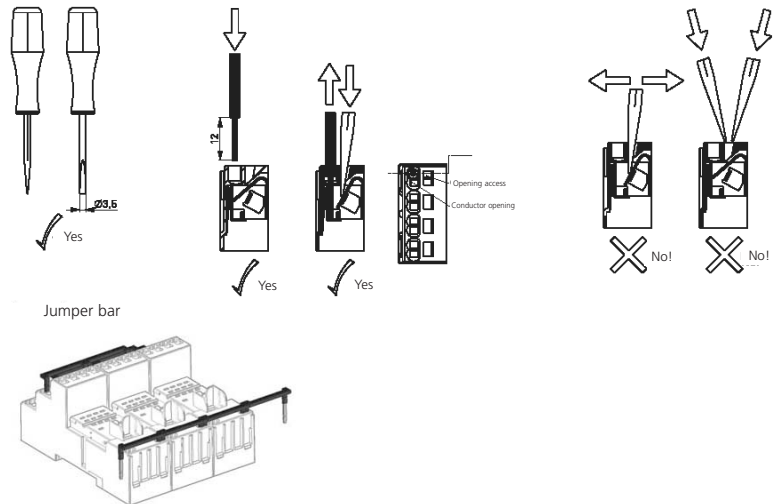
### SCHRACK-INFO

- PT 4-pole 6 A
- Screwless terminals
- Solid wire can be connected without tools
- Double clamps per terminal
- Jumper bars for connection
- Open coil circuit for active modules
- Inputs and outputs arranged separately

### DIMENSIONS (mm)



### APPLICATION / CAUTIONS



### TECHNICAL DATA

		4-POLE
Rated current		6 A
Rated voltage / max. switching voltage		240 V~
Dielectric strength	Coil/contact set	2500 V <sub>eff</sub>
	Open contact	1200 V <sub>eff</sub>
	adjacent contacts	2000 V <sub>eff</sub>
Contacts		Screwless terminal
Wire stripping length		12 mm
Terminal capacity	Solid wire	1 x 0.75 / 1 / 1.5 mm <sup>2</sup> , 2 x 0.75 / 1 mm <sup>2</sup>
	with standard insulation (no reinforced insulation)	2 x 1.5 mm <sup>2</sup>
	Stranded wire without ferrule	1 x 0.75 / 1 / 1.5 mm <sup>2</sup> , 2 x 0.75 / 1 mm <sup>2</sup>
	without ferrule, with standard insulation	2 x 1.5 mm <sup>2</sup>
	with ferrule	1 x 0.75 / 1 mm <sup>2</sup> , 2 x 0.75 mm <sup>2</sup>
	with ferrule, without insulation or insulation at least 18 mm long	1 x 1.5 mm <sup>2</sup>

DESCRIPTION	FOR RELAY TYPE	EAN CODE	AVAILABLE	ORDER NO.
Socket, inputs and outputs positioned separately, socket with screwless terminals, 4-pole	PT5x	9004840537987		<b>PT7874P</b>
Retaining clip	PT5x	9004840417258		<b>PT17021</b>
Jumper bar	-	9004840539301		<b>PT170P1</b>
Marking tag	-	9004839902512		<b>YPT16040</b>





## PT DIN RAIL MOUNT WITH SCREW TERMINALS LOGIC VERSION



PT78742

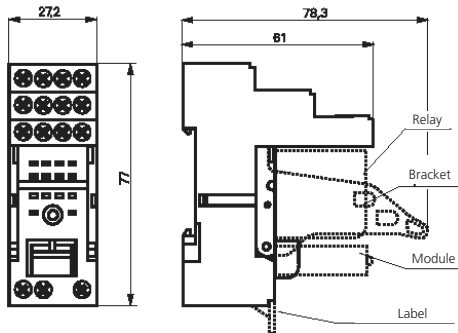
### SCHRACK-INFO

- Base with separate arrangement of the control and load terminals
- High-quality, contact-reliable terminals
- Captive terminal screws
- Double A2 terminals for simpler loopthrough

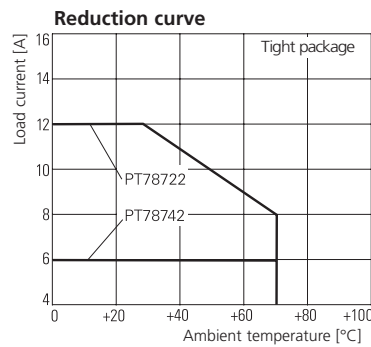
### APPROVALS



### DIMENSIONS (mm)



### REDUCTION CURVE



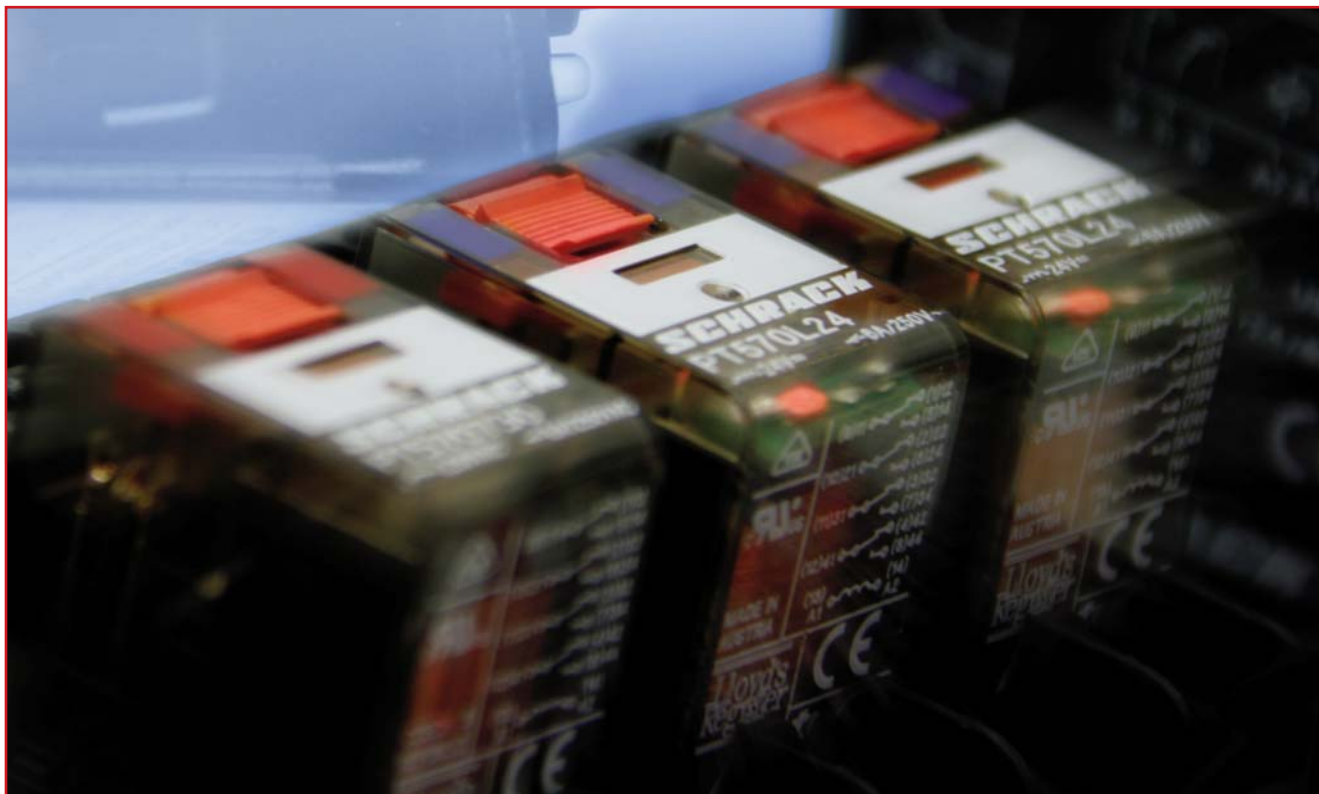
### TECHNICAL DATA

	2-POLE	4-POLE
Rated current	12 A	6 A
Limiting continuous current	See reduction curve	
Rated voltage / max. switching voltage	AC 240 / 400 V~	240 V~
Dielectric strength	Coil/contact set	2500 V <sub>eff</sub>
	Open contact	1200 V <sub>eff</sub>
	adjacent contacts	2000 V <sub>eff</sub>
Terminals	Screw terminals	
Terminal torque according to IEC 61984	0.5 Nm	
	max. 0.7 Nm	
Terminal capacity	Copper wire	2 x 2.5 mm <sup>2</sup>
	Stranded wire	2 x 2.5 mm <sup>2</sup>
	with ferrule (DIN 46228/1)	2 x 1.5 mm <sup>2</sup>

DESCRIPTION	FOR RELAY TYPE	EAN CODE	AVAILABLE	ORDER NO.
Socket, inputs and outputs arranged separately, 4-pole	PT5x	9004840411515		<b>PT78742</b>
Retaining clip	PTx	9004840417258		<b>PT17021</b>
Jumper bar, 6-fold	-	9004840617023		<b>PT170R6</b>
Marking tag	-	9004839902512		<b>YPT16040</b>



## ACCESSORIES FOR MINIATURE RELAY PT – GENERAL INFORMATION



PT ACCESSORIES

### SCHRACK-INFO

- Easy removal of the relay even with dense packing
- Due to plastic retaining brackets no reduction in protection classes or air and creepage distance.
- Pluggable indicator and protection modules
- Plastic retaining bracket with eject function for relay 29 mm height
- DIN rail mounts and accessories: compliant with RoHS Directive 2002/95/EC



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## YPT DIN RAIL MOUNT WITH SCREW TERMINALS CONVENTIONAL VERSION



YPT78704

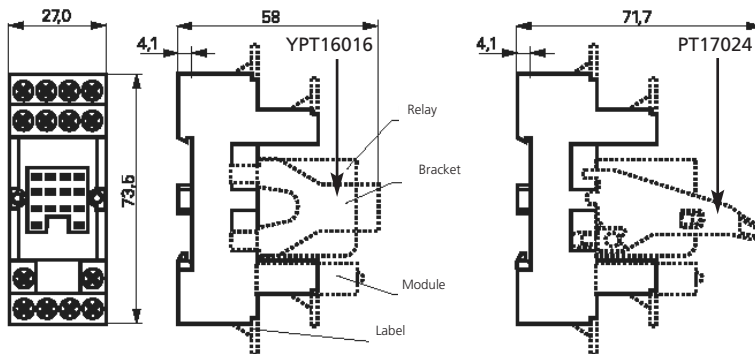
### SCHRACK-INFO

- High-quality, contact-reliable terminals
- Captive terminal screws

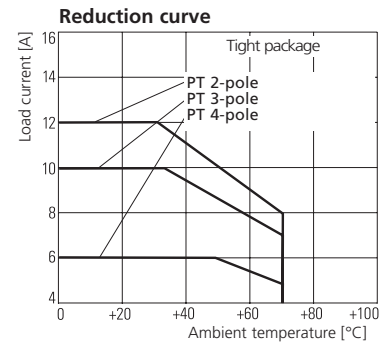
### APPROVALS



### DIMENSIONS (mm)



### REDUCTION CURVE



### TECHNICAL DATA

		2-POLE	3-POLE	4-POLE
Rated current		12 A	10 A	6 A
Limiting continuous current		See reduction curve		
Rated voltage / max. switching voltage		AC 250 V~		
Dielectric strength	Coil/contact set	2500 V <sub>eff</sub>	2500 V <sub>eff</sub>	2500 V <sub>eff</sub>
	Open contact	1200 V <sub>eff</sub>	1200 V <sub>eff</sub>	1200 V <sub>eff</sub>
	adjacent contacts	2500 V <sub>eff</sub>	2500 V <sub>eff</sub>	2000 V <sub>eff</sub>
Terminals		Screw terminals		
Terminal torque according to IEC 61984	max.	0.5 Nm		
		0.7 Nm		
Terminal capacity	Copper wire	2 x 2.5 mm <sup>2</sup>		
	Stranded wire	2 x 2.5 mm <sup>2</sup>		
	with ferrule (DIN 46228/1)	2 x 1.5 mm <sup>2</sup>		

DESCRIPTION	FOR RELAY TYPE	EAN CODE	AVAILABLE	ORDER NO.
DIN rail mount with screw terminals, 2-pole	PT2x	9004840152913		<b>YPT78702</b>
DIN rail mount with screw terminals, 3-pole	PT3x	9004840228878		<b>YPT78703</b>
DIN rail mount with screw terminals, 4-pole	PT5x	9004839900341		<b>YPT78704</b>
DIN rail mount with screw terminals, 4-pole with protection diode	PT5x with DC coil	9004839900358		<b>YPT78110</b>
Fixing clip	PTx	9004839902529		<b>YPT16016</b>
Retaining clip with eject function	PTx	9004840617016		<b>PT17024</b>
Jumper bar, 6-fold	-	9004840617023		<b>PT170R6</b>
Marking tag	-	9004839902512		<b>YPT16040</b>



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## LED AND PROTECTION MODULES



YMLRW230

### SCHRACK-INFO

- Compatible with screwless and screw terminal bases

DESCRIPTION	FOR SOCKET	TYPE	EAN CODE	AVAILABLE	ORDER NO.
LED red 6...24 V DCV AC	YPTx, PTx, YRTx, RTx	EM07	9004839069253		<b>YMLRA024</b>
LED red 6...24 V DC with prot. diode (A1+, A2-)	YPTx, PTx, YRTx, RTx	EM18	9004839069192		<b>YMLRD024-A</b>
LED red 6...24 V DC with prot. diode (A1-, A2+)	YPTx, PTx, YRTx, RTx	EM08	9004840152203		<b>YMLRD024</b>
LED red 110...230 V AC	YPTx, PTx, YRTx, RTx	EM06	9004839069246		<b>YMLRW230</b>
LED green 6...24 V DCV AC	YPTx, PTx, YRTx, RTx	EM11	9004839069222		<b>YMLGA024</b>
LED green 6...24 V DC with prot. diode (A1+, A2-)	YPTx, PTx, YRTx, RTx	EM12	9004839069239		<b>YMLGD024</b>
LED green 110...230 V AC	YPTx, PTx, YRTx, RTx	EM10	9004839034879		<b>YMLGW230</b>
Protection diode (A1+, A2-), 6/230 V DC	YPTx, PTx, YRTx, RTx	EM09	9004839069208		<b>YMF DG230</b>
RC network 6...60 V AC	YPTx, PTx, YRTx, RTx	EM02	9004840152272		<b>YMRCW024</b>
RC network 110...230 V AC	YPTx, PTx, YRTx, RTx	EM03	9004840152289		<b>YMRCW230</b>
Varistor 24 V AC	YPTx, PTx, YRTx, RTx	EM04	9004840194081		<b>YMVAV024</b>
Varistor 230 V AC	YPTx, PTx, YRTx, RTx	EM05	9004840194098		<b>YMVAV230</b>



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## MULTIMODE RELAY MT

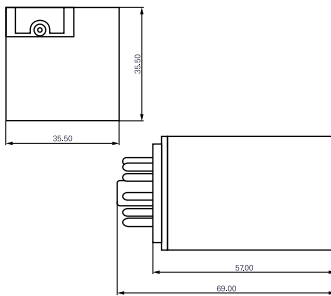


MT

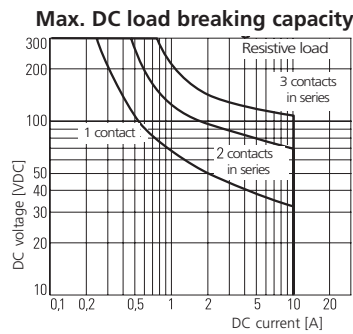
### SCHRACK-INFO

- 2/3-pole 10 A, DC and AC coil
- 2 or 3 CO
- Cadmium-free contact material
- DC and AC coil
- Mechanical indicator as standard
- Electrical indicator: optional
- Test button system: touchproof, lock with lever integrated in the cap, test button pushed from the front
- Universal use in control and mechanical engineering

### DIMENSIONS (mm)



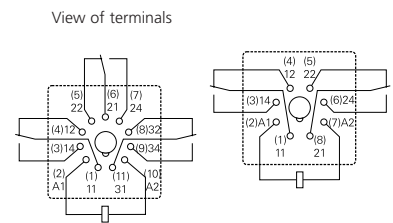
### LOAD BREAKING CAPACITY



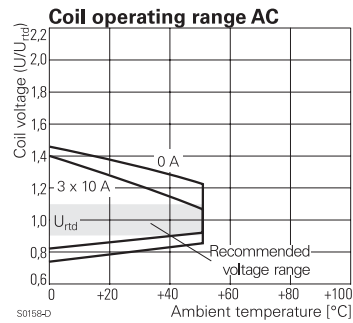
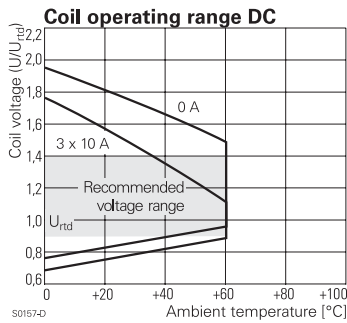
### APPROVALS



### CIRCUIT DIAGRAMS



### COIL OPERATING VOLTAGE RANGE



### TYPE KEY



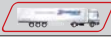



Type	<b>M</b>	<b>T</b>					
Contacts	<b>2</b> 2 CO, 8-pole		<b>3</b> 3 CO, 11-pole				
Contact material	<b>2</b> AgNi 90/10		<b>3</b> AgNi 90/10, gold-plated,				
Version	<b>1</b> DC voltage with test button	<b>6</b> AC voltage with test button					
	<b>3</b> DC voltage with test button and bipolar LED	<b>8</b> AC voltage with test button and LED					
Coil	Coil code: please see coil table, preferred types in bold print						
Other types available on request							

## MULTIMODE RELAY MT – continued

### TECHNICAL DATA

CONTACT DATA		10 A	
Number of contacts and type		2 CO or 3 CO contacts	
Contact version		Single contact	
Rated current		10 A	
Rated voltage / max. switching voltage AC		250 V~ / 440 V~	
Max. breaking capacity AC		2500 VA	
Making capacity (max.4 s at 10% duty cycle)		20 A	
COIL DATA			
Rated voltage range	DC coil	12...220 VDC	
	AC coil	24...230 VAC	
Rated output	DC coil	typ. 1.2 W	
	AC coil	typ. 2.3 VA	
Operation release voltage/coil resistance at ambient temperature 23°C	24 VDC coil	18 V / 2.4 V / 475 Ω ± 10%	
	24 VDC coil	19.2 V / 9.6 V / 86 Ω ± 10%	
	230 VAC coil	184 V / 92 V / 8300 Ω ± 10%	

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CONTACTS	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>2 CO 10 A, 8-POLE ROUND SOCKET</b>						
2 CO	12 V DC	AgNi 90/10	SREL-SL-2-UKE-M1-012G-10	9004840108552		<b>MT221012</b>
2 CO	24 V DC	AgNi 90/10	SREL-SL-2-UKE-M1-024G-10	9004840108569		<b>MT221024</b>
2 CO	12 V AC	AgNi 90/10	SREL-SL-2-UKE-M1-012W-10	9004840108620		<b>MT226012</b>
2 CO	24 V AC	AgNi 90/10	SREL-SL-2-UKE-M1-024W-10	9004840108637		<b>MT226024</b>
2 CO	115 V AC	AgNi 90/10	SREL-SL-2-UKE-M1-115W-10	9004840108668		<b>MT226115</b>
2 CO	230 V AC	AgNi 90/10	SREL-SL-2-UKE-M1-230W-10	9004840108675		<b>MT226230</b>
2 CO, with LED	230 V AC	AgNi 90/10	SREL-SL-2-UKE-M1-230W-10	9004840108699		MT228230











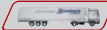









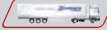










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## MULTIMODE RELAY MT – continued

CONTACTS	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3 CO 10 A, 11-POLE ROUND SOCKET</b>						
3 CO	12 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-012G-10	9004839088681		<b>MT321012</b>
3 CO	24 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-024G-10	9004840108743		<b>MT321024</b>
3 CO	48 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-048G-10	9004840108750		<b>MT321048</b>
3 CO	60 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-060G-10	9004840108767		<b>MT321060</b>
3 CO, with protection diode	24 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-024G-10	9004840108774		<b>MT3210C4</b>
3 CO	110 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-110G-10	9004840108781		<b>MT321110</b>
3 CO	220 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-220G-10	9004840108842		<b>MT321220</b>
3 CO, with LED	24 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-024G-10	9004840108866		<b>MT323024</b>
3 CO, with LED	48 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-048G-10	9004840108873		<b>MT323048</b>
3 CO, with LED	60 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-060G-10	9004840108880		<b>MT323060</b>
3 CO, with protection diode und LED	24 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-024G-10	9004840108897		<b>MT3230C4</b>
3 CO, with LED	110 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-110G-10	9004840108903		<b>MT323110</b>
3 CO, with LED	220 V DC	AgNi 90/10	SREL-SL-3-UKE-M1-220G-10	9004839090585		<b>MT323220</b>
3 CO	12 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-012W-10	9004840108934		<b>MT326012</b>
3 CO	24 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-024W-10	9004840108941		<b>MT326024</b>
3 CO	48 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-048W-10	9004840108965		<b>MT326048</b>
3 CO	60 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-060W-10	9004840108972		<b>MT326060</b>
3 CO	115 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-115W-10	9004840108996		<b>MT326115</b>
3 CO	230 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-230W-10	9004840109009		<b>MT326230</b>
3 CO, with LED	24 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-024W-10	9004839804748		<b>MT328024</b>
3 CO, with LED	115 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-115W-10	9004840109023		<b>MT328115</b>
3 CO, with LED	230 V AC	AgNi 90/10	SREL-SL-3-UKE-M1-230W-10	9004840109030		<b>MT328230</b>
3 CO	24 V DC	AgNi 90/10, htv	SREL-SL-3-UKE-M1-024G-10	9004839088643		<b>MT331024</b>
3 CO	110 V DC	AgNi 90/10, htv	SREL-SL-3-UKE-M1-110G-10	9004840109054		<b>MT331110</b>
3 CO	220 V DC	AgNi 90/10, htv	SREL-SL-3-UKE-M1-220G-10	9004840109078		<b>MT331220</b>
3 CO, with LED	24 V DC	AgNi 90/10, htv	SREL-SL-3-UKE-M1-024G-10	9004840109085		<b>MT333024</b>
3 CO, with protection diode und LED	24 V DC	AgNi 90/10, htv	SREL-SL-3-UKE-M1-024G-10	9004840109092		<b>MT3330C4</b>
3 CO, with LED	220 V DC	AgNi 90/10, htv	SREL-SL-3-UKE-M1-220G-10	9004840160697		<b>MT333220</b>
3 CO, with LED	230 V AC	AgNi 90/10, htv	SREL-SL-3-UKE-M1-230W-10	9004840109122		<b>MT336230</b>



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# PANEL RELAYS AND ACCESSORIES

## ACCESSORIES FOR MULTIMODE RELAYS MT AND COMPARABLE RELAYS WITH 8-/11-POLE BASE – GENERAL INFORMATION



MT ACCESSORIES

### SCHRACK-INFO

- Snap-on mounting on DIN rail
- Screw fastening with centring screw
- Pozidrive screws with lift terminals
- Logical arrangement of input / output terminals
- White marking area

### TECHNICAL DATA

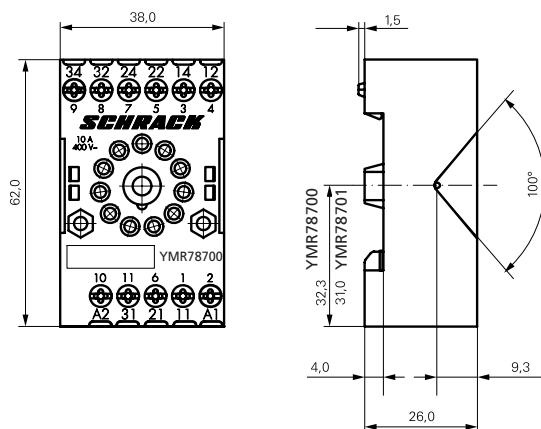
Rated current	10 A
Rated voltage / max. switching voltage	240 / 400 V~
Dielectric strength coil / contact set	> 3000 V <sub>eff</sub>
Ambient temperature	+80 °C
Degree of protection	IP 20
Mounting distance	≥ 0 dense packing
Mounting / rail	DIN50024 / 22
Terminal capacity	2 x 2.5 mm <sup>2</sup>
Terminal torque in according to IEC 61984	0.5 Nm
max.	0.7 Nm

## MT PLUG-IN SOCKET WITH SCREW TERMINALS



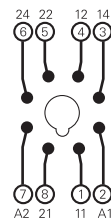
YMR78700

### DIMENSIONS (mm)

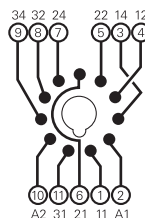


### CIRCUIT DIAGRAM

2 CO contacts (YMR78701)



3 CO contacts (YMR78700)



DESCRIPTION	FOR RELAY TYPE	EAN CODE	AVAILABLE	ORDER NO.
8-pole MT plug-in socket with screw terminals, 2 CO	MT2x	9004839900389		<b>YMR78701</b>
11-pole MT plug-in socket with screw terminals, 3 CO	MT3x	9004839900396		<b>YMR78700</b>





## MT PLUG-IN SOCKET WITH SCREW TERMINALS AND MODULE OPTION, 11-POLE

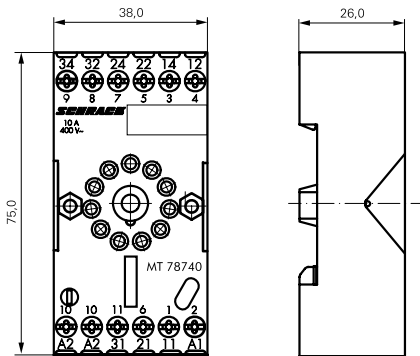


MT78740



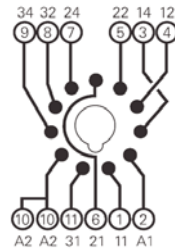
MTMF0W00/MTML0024/MTMT00A0

### DIMENSIONS (mm)



### CIRCUIT DIAGRAM

3-pole



### TECHNICAL DATA OF THE FUNCTION MODULES

Rated voltage	24...240 V~ / V~
Mains frequency	48...63 Hz
Repeat accuracy	± 0.5 %
Repeatability	≤ 0.5 % or 5 ms
Temperature influence	≤ 0.1 %/°C
Time ranges switchable	0.05 s...240 h in 8 ranges
Ambient temperature	-25...+55 °C

## MT PLUG-IN SOCKET WITH SCREW TERMINALS AND MODULE OPTION, 11-POLE – continued

### TIME MODULE FUNCTIONS

response delayed MTMZ0W00, MTMF0W00	U/t R	
reset delayed MTMF0W00	U/t S R	
Single shot leading edge with pulse control MTMF0W00	U/t S R	
Single shot trailing edge MTMF0W00	U/t S R	
Response delayed with control contact MTMF0W00	U/t S R	
Single shot leading edge MTMF0W00	U/t R	
Flashing pause starting MTMF0W00	U/t R	
Flashing pulse starting MTMF0W00	U/t R	

DESCRIPTION	FOR RELAY TYPE	EAN CODE	AVAILABLE	ORDER NO.
MT plug-in socket with screw terminals and module option, 3-pole MT3x		9004839052545		<b>MT78740</b>
MT module with red LED 24 V AC / DC	MT3xx024	9004840162714		<b>MTML0024</b>
MT module with protection diode A1+	MT321x, MT331x, MT323x, MT333x	9004840151978		<b>MTMT00A0</b>
MT module with RC network 110/240 AC	MT326x, MT336x, MT328x, MT338x	9004840151961		<b>MTMU0730</b>
MT module, delayed response, multi-voltage 24 V-230 V AC / DC	MT3x	9004840149548		<b>MTMZ0W00</b>
MT module, multifunction, multivoltage 24 V-230 V AC / DC	MT3x	9004840149555		<b>MTMF0W00</b>



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## POWER RELAY RM



RM



RM

## SCHRACK-INFO

### RM 2 / 3 / 7

- 2 / 3-pole 10 / 16 A, DC and AC coil
- Switching capacity up to 6000 VA
- DC and AC coil
- Mechanical indicator
- Test button
- Plug-in or PCB mountable, fixing with tongue, DIN rail mounting
- For lift control systems, power supplies

### RM 6

- 3-pole 10 / 16 A, DC and AC coil
- 2 NO contact or 3 NO contacts
- 3 mm contact gap
- DC and AC coil
- Test button
- Plug-in or PCB mountable, fixing with tongue, DIN rail mounting
- For power adapters, power supplies, pump controllers

### RM 8

- 2-pole 25 A, DC and AC coil
- 2 CO contacts
- DC and AC coil
- Mechanical indicator
- Test button
- Fastening with tongue or DIN rail mounting
- For cleaning machines, heating / cooling units

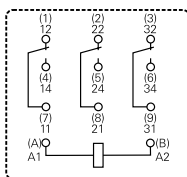
### RMD

- 1-pole, 30 A, DC and AC coil
- 1 NO or 1 NO + 1 NC contact
- Switching capacity up to 7500 VA
- DC and AC coil
- Test button
- Fastening with tongue
- For battery chargers, heating controls

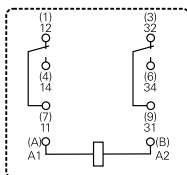
## CIRCUIT DIAGRAMS

### RM 2 / 3 / 7

3 CO

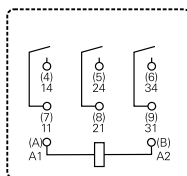


2 CO



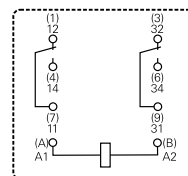
### RM 6

3 NO



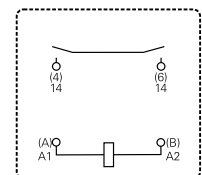
### RM 8

2 CO



### RMD

1 NO, RMD

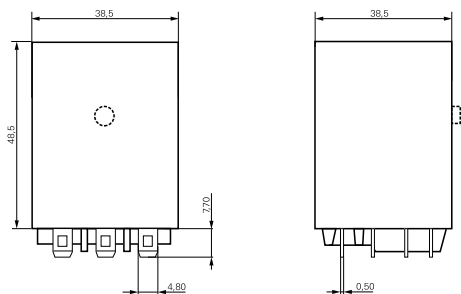


# PANEL RELAYS AND ACCESSORIES

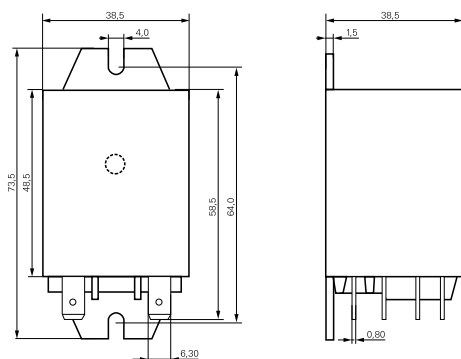
## POWER RELAY RM – continued

### DIMENSIONS (mm)

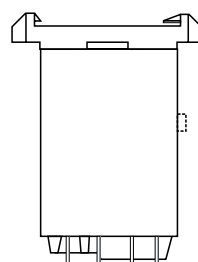
Cover without lug, plug-in connectors for plug-in socket



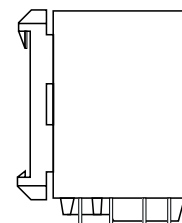
Cap with mounting bracket, Faston 250 (187 possible)



Cap with DIN snap mechanism (only Faston 250) lying



standing



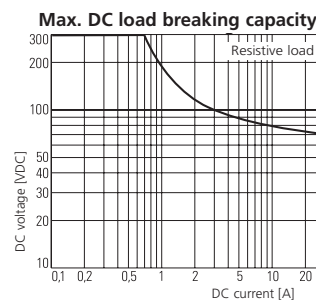
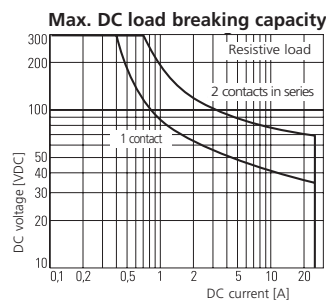
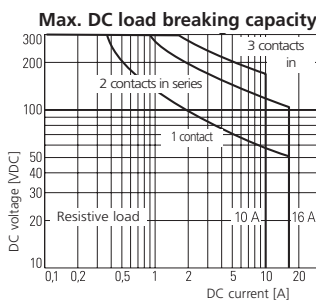
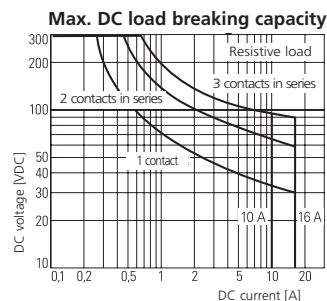
### LOAD BREAKING CAPACITY

RM 2, 3, 7

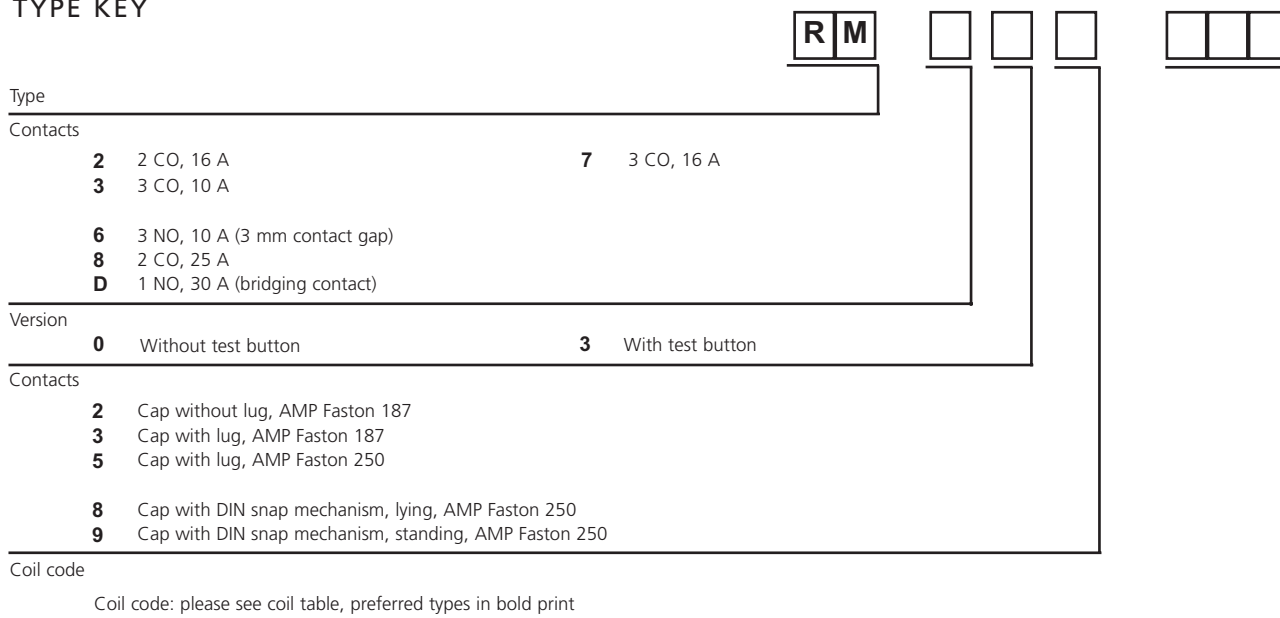
RM 6

RM 8

RMD



### TYPE KEY



AMP Faston 187 = 4.8 x 0.5 mm

AMP Faston 250 = 6.3 x 0.8 mm

## POWER RELAY RM – continued

### TECHNICAL DATA

<b>CONTACT DATA</b>		<b>RM2</b>	<b>RM3</b>	<b>RM7</b>
Number of contacts and type		2 CO	3 CO	3 CO
Contact version		Single contact	Single contact	Single contact
Rated current		16 A	10 A	16 A
Rated voltage / max. switching voltage AC		380 V~ / 440 V~	380 V~ / 440 V~	380 V~ / 440 V~
Max. breaking capacity AC		6000 VA	3800 VA	6000 VA
Making capacity (max. 4 s at 10% DF)		40 A	40 A	40 A
Contact material		AgCdO	AgCdO	AgCdO
<b>COIL DATA</b>				
Rated voltage range	DC coil	12...24 VDC	24 VDC	12...60 VDC
	AC coil	230 VAC	230 VAC	24...400 VDC
Rated output	DC coil	1.2 W	1.2 W	1.6 W
	AC coil	2.3 VA	2.3 VA	2.8 VA
Operation release voltage/coil resistance at ambient temperature 23 °C	24 VDC coil	18 V / 2.4 V	18 V / 2.4 V	18 V / 2.4 V
	230 VAC coil	184 V / 92 V	184 V / 92 V	184 V / 92 V

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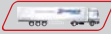






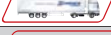




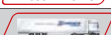
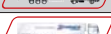


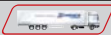
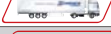
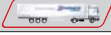
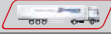
<b>CONTACT DATA</b>		<b>RM6</b>	<b>RM8</b>
Number of contacts and type		3 NO	2 CO
Contact version		Single contact	Single contact
Rated current		10 A	25 A
Rated voltage / max. switching voltage AC		380 V~ / 440 V~	250 V~ / 440 V~
Max. breaking capacity AC		3800 VA	6000 VA
Making capacity (max. 4 s at 10% DF)		25 A	60 A
Contact material		AgCdO	AgCdO
<b>COIL DATA</b>			
Rated voltage range	DC coil	24 VDC	24 VDC
	AC coil	230 VAC	230 VAC
Rated output	DC coil	1.6 W	1.2 W
	AC coil	2.8 VA	2.8 VA
Operation release voltage/coil resistance at ambient temperature 23 °C	24 VDC coil	18 V / 2.4 V	18 V / 2.4 V
	230 VAC coil	184 V / 92 V	184 V / 92 V

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<b>CONTACT DATA</b>		<b>RMD</b>
Number of contacts and type		1 NO contact
Contact version		Bridge context
Rated current		30 A
Rated voltage / max. switching voltage AC		250 V~ / 440 V~
Max. breaking capacity AC		7500 VA
Making capacity (max. 4 s at 10% DF)		60 A
Contact material		AgCdO
<b>COIL DATA</b>		
Rated voltage range	DC coil	6...220 VDC
	AC coil	6...400 VAC
Rated output	DC coil	24 VDC
Operation release voltage/coil resistance at ambient temperature 23 °C	24 VDC coil	18 V / 2.4 V
	230 VAC coil	184 V / 92 V

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## POWER RELAY RM – continued

CONTACTS	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>10 A</b>						
3 CO, (for RM socket)	24 V DC	AgCdO	SREL-SL-3-UKE-M1-024G-10	9004840105346		<a href="#">RM332024-D</a>
3 CO, (for RM socket) without test button	24 V DC	AgCdO	SREL-SL-3-UKE-M1-024G-10	9004840110319		<a href="#">RM302024-D</a>
3 CO, (for RM socket)	230 V AC	AgCdO	SREL-SL-3-UKE-M1-230W-10	9004840105353		<a href="#">RM332730SE</a>
<b>16 A</b>						
3 NO, 3 mm (for RM socket)	24 V DC	AgCdO	SREL-SL-3-AKE-M1-024G-10	9004840101478		<a href="#">RM632024-A</a>
3 NO, (for RM socket)	24 V DC	AgCdO	SREL-SL-3-AKE-M1-024G-10	9004840125238		RM602024
3 NO, (for RM socket)	24 V DC	AgCdO	SREL-SL-3-UKE-M1-024G-10	9004840101478		<a href="#">RM632024-A</a>
<b>16 A</b>						
2 CO, (for RM socket)	24 V DC	AgCdO	SREL-SL-2-UKE-M1-024G-10	9004840109955		RM232024-D
3 CO, (for RM socket)	12 V DC	AgCdO	SREL-SL-3-UKE-M1-012G-16	9004840105513		<a href="#">RM732012-C</a>
3 CO, (for RM socket)	24 V DC	AgCdO	SREL-SL-3-UKE-M1-024G-16	9004840105360		<a href="#">RM732024-C</a>
3 CO, (for RM socket) without test button	24 V DC	AgCdO	SREL-SL-3-UKE-M1-024G-16	9004840105384		<a href="#">RM702024-C</a>
3 CO, (for RM socket)	60 V DC	AgCdO	SREL-SL-3-UKE-M1-060G-16	9004840101225		RM732060
3 CO, (for RM socket)	24 V AC	AgCdO	SREL-SL-3-UKE-M1-024W-16	9004840104233		<a href="#">RM732524-C</a>
3 CO, (for RM socket)	230 V AC	AgCdO	SREL-SL-3-UKE-M1-230W-16	9004839086984		<a href="#">RM732730</a>
3 CO	230 V AC	AgCdO	SREL-SL-3-UKE-M1-230W-16	9004840103786		<a href="#">RM735730SE</a>
3 CO	400 V AC	AgCdO	SREL-SL-3-UKE-M1-400W-16	9004840385113		<a href="#">RM732900</a>
3 CO	24 V DC	AgCdO	SREL-LL-3-UKE-M1-024G-16	9004840103816		<a href="#">RM738024-C</a>
3 CO	230 V AC	AgCdO	SREL-LL-3-UKE-M1-230W-16	9004840103854		<a href="#">RM738730-C</a>
3 CO	230 V AC	AgCdO	SREL-SL-3-UKE-M1-230W-16	9004840100020		<a href="#">RM739730SE</a>
<b>25 A</b>						
2 CO	24 V DC	AgCdO	SREL-SL-2-UKE-M1-024G-25	9004840104264		<a href="#">RM835024</a>
2 CO	24 V DC	AgCdO	SREL-LL-2-UKE-M1-024G-25	9004840100037		<a href="#">RM838024</a>
2 CO	24 V DC	AgCdO	SREL-SL-2-UKE-M1-024G-25	9004840104042		<a href="#">RM839024</a>
2 CO	230 V AC	AgCdO	SREL-SL-2-UKE-M1-230W-25	9004840105742		RM805730
2 CO	230 V AC	AgCdO	SREL-SL-2-UKE-M1-230W-25	9004840142815		RM809730
2 CO	230 V AC	AgCdO	SREL-SL-2-UKE-M1-230W-25	9004840100938		<a href="#">RM835730SE</a>
2 CO	230 V AC	AgCdO	SREL-SL-2-UKE-M1-230W-25	9004840111149		<a href="#">RM839730</a>
<b>30 A</b>						
3 NO	24 V DC	AgCdO	LEIST-REL-GS-BRK-30A	9004840189087		<a href="#">RMD05024</a>



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## ACCESSORIES FOR POWER RELAYS RM – GENERAL INFORMATION



RM ACCESSORIES

### SCHRACK-INFO

- 2 / 3-pole, 10 / 16 A
- suitable, e.g.. for the relays: RM332, RM632, RM732

### TECHNICAL DATA

	UP TO 250 V AC
Rated current	16 A
Rated voltage / max. switching voltage	250 V~
Dielectric strength coil / contact set	> 2500 V <sub>e</sub>
Ambient temperature	-40...+40 °C
Terminal torque	0.8 Nm
max.	1.2 Nm

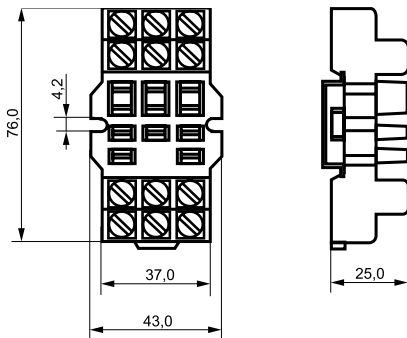
### RM PLUG-IN SOCKET WITH SCREW TERMINALS




RM78705

### DIMENSIONS (mm)

RM78705

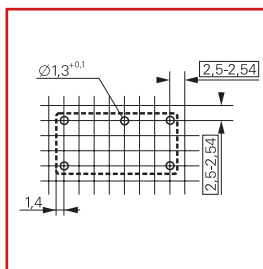
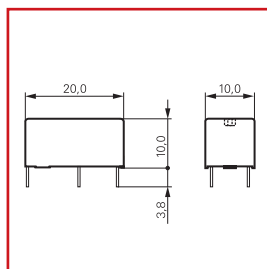


DESCRIPTION	FOR RELAY TYPE	EAN CODE	AVAILABLE	ORDER NO.
RM-socket for screw fastening up to 250 V AC	RMxx2x (187 Faston)	9004839013621		<b>RM78705</b>



Order no. blue: on stock, usually ready for delivery on the day of order!

## PCB RELAYS PE / PE BISTABLE

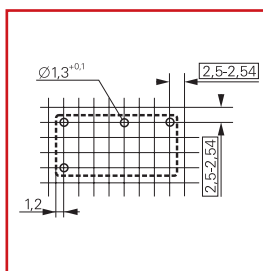
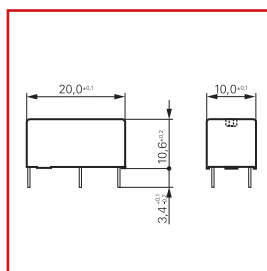


### SCHRACK-INFO

- 1 CO or 1 NO contact, 5 A
- Coil 3 to 48 V DC monostable or bistable
- Nominal coil power: 200 mW
- For industrial electronics, domestic appliances, battery-powered equipment
- Technical data at [www.schrack.com](http://www.schrack.com)

CONTACTS	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 CO, 5 A	5 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-005G-05	9004840158632		<b>PE014005</b>
1 CO, 5 A	12 V DC	AgNi 90/10	PREL-SL-1-UKE-M1-012G-05	9004840160598		<b>PE014012</b>

## MINIATURE PCB RELAYS RE

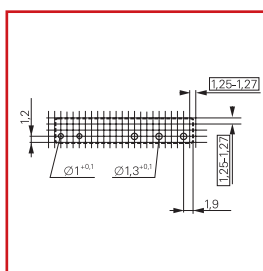
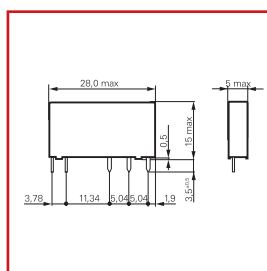


### SCHRACK-INFO

- 1 NO contact, 6 A
- Coil 5 to 48 V DC
- Nominal coil power: 200 mW
- For PLCs, timer relays, temperature controllers, interface cards, domestic appliances
- Technical data at [www.schrack.com](http://www.schrack.com)

CONTACTS	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 NO, 6 A	5 V DC	AgCdO	PREL-SW-1-AKE-M1-005G-06	9004840159110		<b>RE030005</b>
1 NO, 6 A	12 V DC	AgCdO	PREL-SW-1-AKE-M1-012G-06	9004840155167		<b>RE030012</b>
1 NO, 6 A	24 V DC	AgCdO	PREL-SW-1-AKE-M1-024G-06	9004839000270		<b>RE030024</b>

## SLIM PCB RELAY SNR



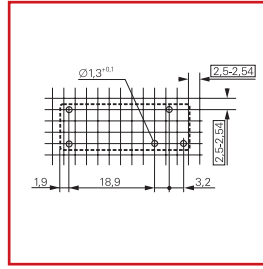
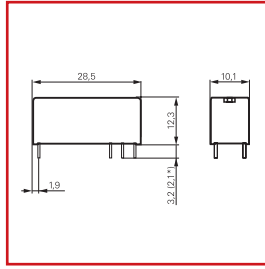
### SCHRACK-INFO

- 1 CO or 1 NO contact, 6 A
- Coil 5 to 60 V DC
- Nominal coil power: 170 mW
- For heating control, narrowest coupling elements, interface applications, PLC, I/O modules
- Technical data at [www.schrack.com](http://www.schrack.com)

CONTACTS	COIL	CONTACT MAT.	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 CO, 6 A	12 V DC	AgSnO	PREL-SW-1-UKE-M1-012G-06-5.0	9004840240535		SNR03012
1 CO, 6 A	24 V DC	AgSnO	PREL-SW-1-UKE-M1-024G-06-5.0	9004840175097		<b>SNR03024</b>
1 NO, 6 A	24 V DC	AgSnO	PREL-SW-1-AKE-M1-024G-06-5.0	9004840177299		<b>SNR13024</b>



## PCB RELAY RY II

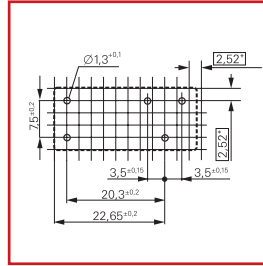
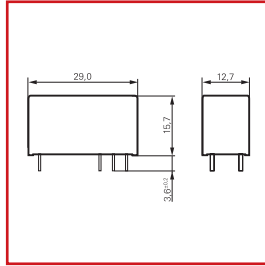


### SCHRACK-INFO

- Pinning 5 mm
- 1 CO, NO or NC contact, 8 A
- Coil 5 to 60 V DC
- Nominal coil power: 220 mW
- for heating controls, timer relays, timers
- Technical data at [www.schrack.com](http://www.schrack.com)

CONTACTS	PINNING	COIL	EAN-CODE	AVAILABLE	ORDER NO.
1 CO, 8 A	3.2 mm	12 V DC	9004840158212		<b>RY210012</b>
1 CO, 8 A	3.2 mm	24 V DC	9004840155112		<b>RY210024</b>
1 NO, 8 A	5 mm	12 V DC	9004840185867		RY530012
1 CO, 8 A	3.2 mm	24 V DC	9004840156126		RY612024

## POWER RELAYS RT



### SCHRACK-INFO

- 1 and 2 CO or NO contacts, 8/12/16 A
- Coil 5 to 110 V DC, 24 to 230 V AC
- Monostable and bistable
- Inrush, sensitive and high-temperature
- Pinning 3.5 and 5 mm
- Universal application
- Technical data at [www.schrack.com](http://www.schrack.com)

CONTACTS	PINNING	COIL	EAN-CODE	AVAILABLE	ORDER NO.
2 CO, 8 A	5 mm	6 V DC	9004840158939		<b>RT424006</b>
2 CO, 8 A	5 mm	12 V DC	9004839019241		<b>RT424012</b>
2 CO, 8 A	5 mm	24 V DC	9004839019142		<b>RT424024</b>
2 CO, 8 A	5 mm	48 V DC	9004839027185		<b>RT424048</b>
2 CO, 8 A	5 mm	60 V DC	9004840193558		<b>RT424060</b>
2 CO, 8 A	5 mm	110 V DC	9004840191561		<b>RT424110</b>
2 CO, 8 A	5 mm	24 V AC	9004839034602		<b>RT424524</b>
2 CO, 8 A	5 mm	48 V AC	9004840167641		<b>RT424548</b>
2 CO, 8 A	5 mm	115 V AC	9004840158021		<b>RT424615</b>
2 CO, 8 A	5 mm	230 V AC	9004839034282		<b>RT424730</b>
2 CO, 8 A	5 mm	5 V DC - bistable	9004840166491		RT424A05
2 CO, 8 A	5 mm	24 V DC - bistable	9004840193572		<b>RT424A24</b>
2 CO, 8 A	5 mm	12 V DC - bistable	9004840158205		<b>RT424F12</b>
2 CO, 8 A	5 mm	24 V DC - bistable	9004840160864		<b>RT424F24</b>
2 CO, 8 A	5 mm	24 V DC	9004840160628		<b>RT425024</b>
2 CO, 8 A	5 mm	115 V AC	9004840187748		<b>RT425615</b>
2 CO, 8 A	5 mm	230 V AC	9004840166040		<b>RT425730</b>
2 CO, 8 A	5 mm	24 V DC	9004839029103		<b>RTE24024</b>



# PCB RELAYS

## OTHER PCB RELAYS



## SCHRACK-INFO

- RP 2
- Card relay E (RP 1, V23057)

CONTACTS	PINNING	COIL	EAN-CODE	AVAILABLE	ORDER NO.
1 CO, 16 A	5 mm	12 V DC	9004840155181		<b>RP310012-A</b>
1 CO, 16 A	5 mm	24 V DC	9004840166033		<b>RP310024-A</b>
1 CO, 8 A	3.5 mm	24 V DC	9004840155235		<b>RP418024-A</b>
2 CO, 8 A	5 mm	12 V DC	9004840155242		<b>RP420012-B</b>
2 CO, 8 A	5 mm	24 V DC	9004840155259		<b>RP420024-B</b>
2 CO, 8 A	5 mm	24 V AC	9004840189964		<b>RP420524-B</b>
2 CO, 8 A	5 mm	230 V AC	9004840189988		<b>RP420730-B</b>
2 CO, 8 A	5 mm	24 V DC	9004840157970		<b>RP421024-B</b>
2 CO, 8 A	5 mm	48 V DC	9004840160581		<b>RP421048-B</b>
1 CO, 8 A	2.5 mm	12 V DC	9004840166910		<b>RP510012-E</b>
1 CO, 8 A	2.5 mm	24 V DC	9004840165029		<b>RP510024-E</b>
1 CO, 8 A	2.5 mm	60 V DC	9004840231175		RP510060-E
1 NO, 8 A	2.5 mm	24 V DC	9004840180107		RP531024-H
1 CO, 8 A	2.5 mm	5 V DC	9004840160840		RP610005-E
1 CO, 8 A	2.5 mm	12 V DC	9004840172720		RP610012-E
1 CO, 8 A	2.5 mm	24 V DC	9004840165012		<b>RP611024-E</b>
1 CO, 16 A	5 mm	24 V DC	9004840185508		RP710024-A
2 CO, 8 A	5 mm	24 V DC	9004840185546		<b>RP820024-A</b>
2 CO, 8 A	5 mm	24 V DC	9004840169720		RP821024-A
1 NO, 10 A	5 mm	24 V DC	9004840161427		RTH84024



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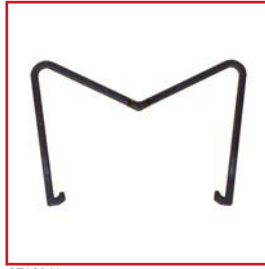
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## SOCKETS FOR PCB CONNECTION



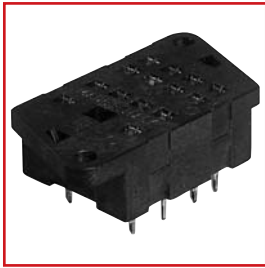
RP78601



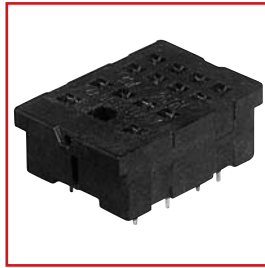
RT16041

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SOCKET</b>			
PCB socket for PCB relay with 3.5 mm pinning	9004840157888		<b>RP78601</b>
PCB socket for PCB relay with 5.0 mm pinning	9004840100518		<b>RP78602</b>
<b>ACCESSORIES</b>			
Retaining dip for RT relay	9004840167764		<b>RT16041</b>
Retaining dip for RT PCB socket, metal	9004840191578		<b>RT28516</b>

## PT SOCKETS WITH SOLDER/PCB TERMINALS



PT78600



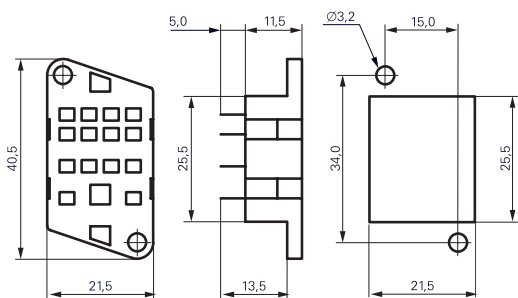
PT78604

### SCHRACK-INFO

- Rated current: 10 A
- Rated voltage: 250 V~
- Dielectric strength peak/cont.: >1500 V<sub>eff</sub>
- Ambient temperature: -40...+70 °C

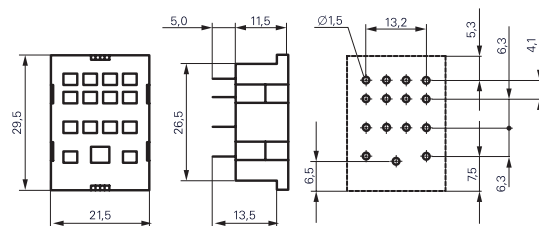
### DIMENSIONS (mm)

Plug-in socket with solder terminals, 4-pole PT78600



Mounting plate recess

Plug-in sockets with PCB terminals PT78602/03/04



DESCRIPTION	PU	EAN CODE	AVAILABLE	ORDER NO.
<b>PT SOCKET WITH SOLDER/PCB TERMINALS</b>				
Plug-in socket with PCB terminals, 4-pole, 6 A	100	9004840226829		<b>PT78604</b>
Plug-in socket with PCB terminals, 3-pole, 10 A	100	9004840153996		PT78603
<b>ACCESSORIES FOR PT SOCKETS</b>				
Retaining dip for PCB socket, metal	10	9004840154108		<b>PT28802</b>



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## MT PLUG-IN BASES WITH SOLDER-PINS



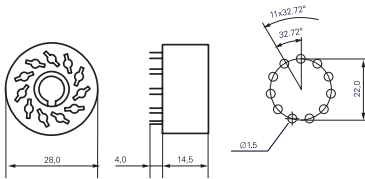
MT78603

### SCHRACK-INFO

- Rated current 10 A
- Rated voltage 250 V~
- Dielectric strength peak/cont. >2500 V<sub>eff</sub>
- Ambient temperature -40...+70 °C

### DIMENSIONS (mm)

Plug-in sockets 11-pole with PCB terminals MT787 603



DESCRIPTION	WxHxD (mm)	PU	EAN CODE	AVAILABLE	ORDER NO.
11-pole plug-in socket with PCB terminal	Ø 28x19	25	9004840226881		MT78603

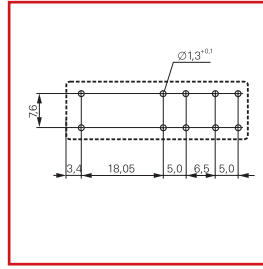
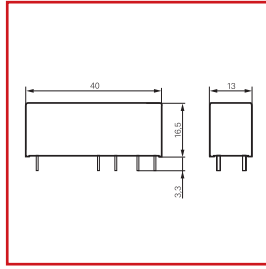


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## RELAY WITH FORCE GUIDED CONTACTS SR4D/M

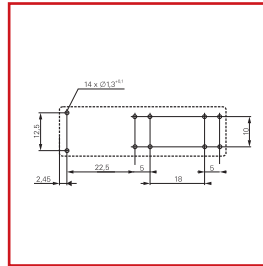
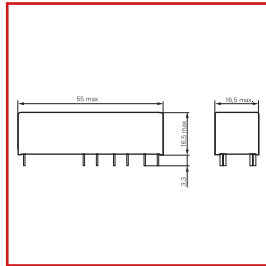


### SCHRACK-INFO

- 3 NO, 1 NC or 2 NO, 2 NC, 8 A
- Coil 5 to 110 V DC
- Technical data at [www.schrack.com](http://www.schrack.com)

CONTACTS	PINNING	COIL	EAN-CODE	AVAILABLE	ORDER NO.
1 NO, 6 A	5 mm	24 V DC	9004840378269		<b>SR2X5024</b>
2 CO, 6 A	5 mm	24 V DC	9004840226713		<b>SR2Y5024</b>

## RELAY WITH FORCE GUIDED CONTACTS SR6



### SCHRACK-INFO

- 4 NO, 2 NC, 8 A
- 3 NO, 3 NC, 8 A
- 5 NO, 1 NC, 8 A
- Coil 5 to 110 V DC
- Technical data at [www.schrack.com](http://www.schrack.com)

CONTACTS	COIL	EAN-CODE	AVAILABLE	ORDER NO.
2 NO, 2 NC, 6 A	24 V DC	9004840226720		SR4D4024
3 NO, 1 NC, 8 A	24 V DC	9004840373219		SR4M4024



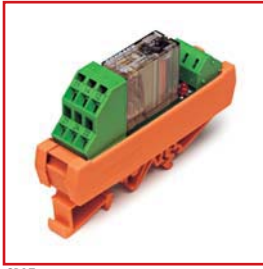
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# FORCE GUIDED RELAYS

## RELAY WITH FORCE GUIDED CONTACTS SR2Z

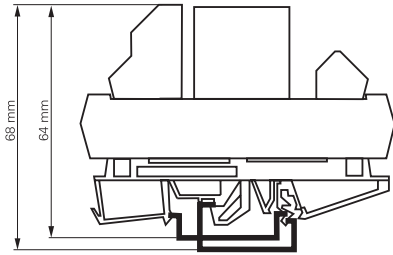


SR2Z

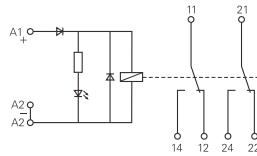
### SCHRACK-INFO

- 2-pole 6 A
- 2 CO, 6 A
- Coil 24 V DC
- SR2 on DIN rail module
- Screwless terminals

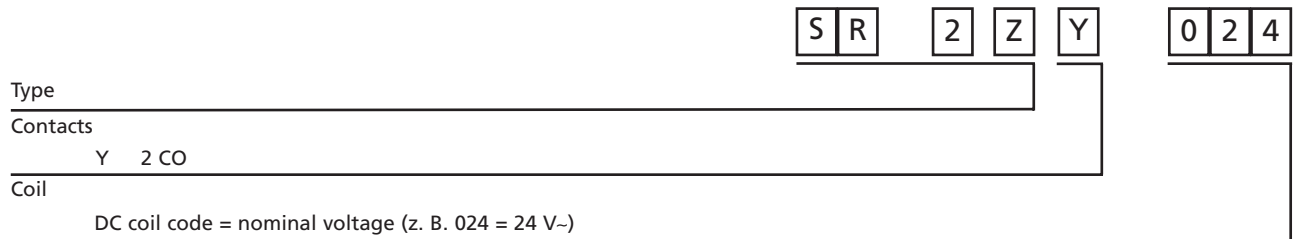
### DIMENSIONS (mm)



### CIRCUIT DIAGRAM



### TYPE KEY



## TECHNICAL DATA

CONTACT DATA		
Contact type		Single contact, positive action
Rated current		6 A
Rated voltage / max. switching voltage AC		250 V~ / V =
Max. breaking capacity AC		1500 VA
Contact material		AgNi
Recommended minimum load		> 10 mA / 5 V
INSULATION		
Initial dielectric strength between	Coil and contacts	4000 V <sub>eff</sub>
	Open contact circuit	1000 V <sub>eff</sub>
	Adjacent contacts	2000 V <sub>eff</sub>
Clearance/Creepage between	Coil and contacts	8 / 8 mm
	Adjacent contacts	3 / 3 mm
Insulation to IEC 50178 between	Coil and contacts	Reinforced
	Adjacent contacts	Basic
OTHER DATA		
Ambient temperature		-25...+50 °C
Mechanical endurance		> 10x10 <sup>6</sup> operations
Max. switching frequency with/without load		6 min <sup>-1</sup> / 300 min <sup>-1</sup>
Terminal cross section (according to IEC)	Copper wire	0.2...2.5 mm <sup>2</sup>
	Stranded wire	0.2...2.5 mm <sup>2</sup>
	AWG	28...14
Installation position		Any
Mounting		On DIN rail without gap
Connection		Screwless terminals

CONTACTS	COIL	EAN-CODE	AVAILABLE	ORDER NO.
4 NO, 2 NC, 8 A	24 V DC	9004840251517		SR6B4024



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# FORCE GUIDED RELAYS

## RELAY WITH FORCE GUIDED CONTACTS SR6Z

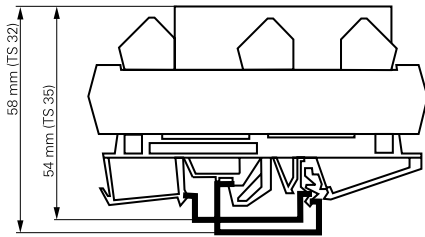


SR6Z

### SCHRACK-INFO

- 6-pole 8 A
- 4 NO, 2 NC, 8 A
- Coil 24 VDC
- SR6 on DIN rail module
- Screwless terminals
- Module width 46 mm
- For lift and escalator control, machine control

### DIMENSIONS (mm)



Module width 46 mm, module length 87 mm  
 Suitable for mounting rails according  
 to DIN EN 50022 or DIN EN 50035

### TYPE KEY

**S R 6 Z**

Type

Contacts

**B** 4 NO and 2 NC

Coil

DC coil code = nominal voltage (e.g. 024 = V $\rightarrow$ )

Other types available on request



## TECHNICAL DATA

CONTACT DATA		
Contact type		Single contact, positive action
Rated current		8 A
Rated voltage / max. switching voltage AC		250 V~ / V =
Max. breaking capacity AC		2000 VA
Contact material		AgSnO
Recommended minimum load		> 50 mW
INSULATION		
Initial dielectric strength between	Coil and contacts	3000 V <sub>eff</sub>
	Open contact circuit	1000 V <sub>eff</sub>
	Adjacent contacts	3000 V <sub>eff</sub>
Clearance/Creepage between	Coil and contacts	5.5 / 5.5 mm
	Adjacent contacts	3 / 3 mm
Insulation to IEC 50178 between	Coil and contacts	Reinforced
	Adjacent contacts	Basic
OTHER DATA		
Ambient temperature		-25...+50 °C
Mechanical endurance		> 10x10 <sup>6</sup> operations
Max. switching frequency with/without load		6 min <sup>-1</sup> / 300 min <sup>-1</sup>
Terminal cross section (according to IEC)	Copper wire	0.2...2.5 mm <sup>2</sup>
	Stranded wire	0.2...2.5 mm <sup>2</sup>
	AWG	28...14
Installation position		Any
Mounting		On DIN rail without gap
Connection		Screwless terminals

CONTACTS	COIL	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
2 CO, 6 A	24 V DC	PREL-BG-2UKE-M1-024G-06-DIN	9004840537185		SR2ZY024



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# MODULAR RELAYS

## COUPLING RELAY FOR DIN-RAIL

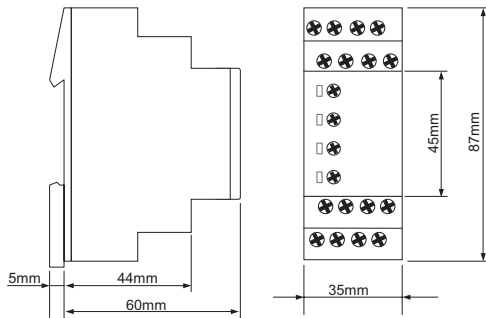


82652000

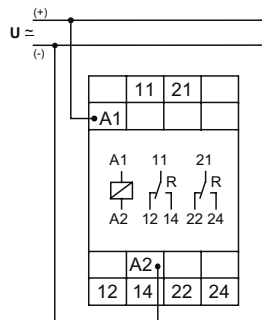
### SCHRACK-INFO

- Modular relay
- 1 CO or 2 CO
- Width 35 mm
- Installation design
- Low noise

### DIMENSIONS (mm)



### CIRCUIT DIAGRAM





### FUNCTIONAL DESCRIPTION



## TECHNICAL DATA

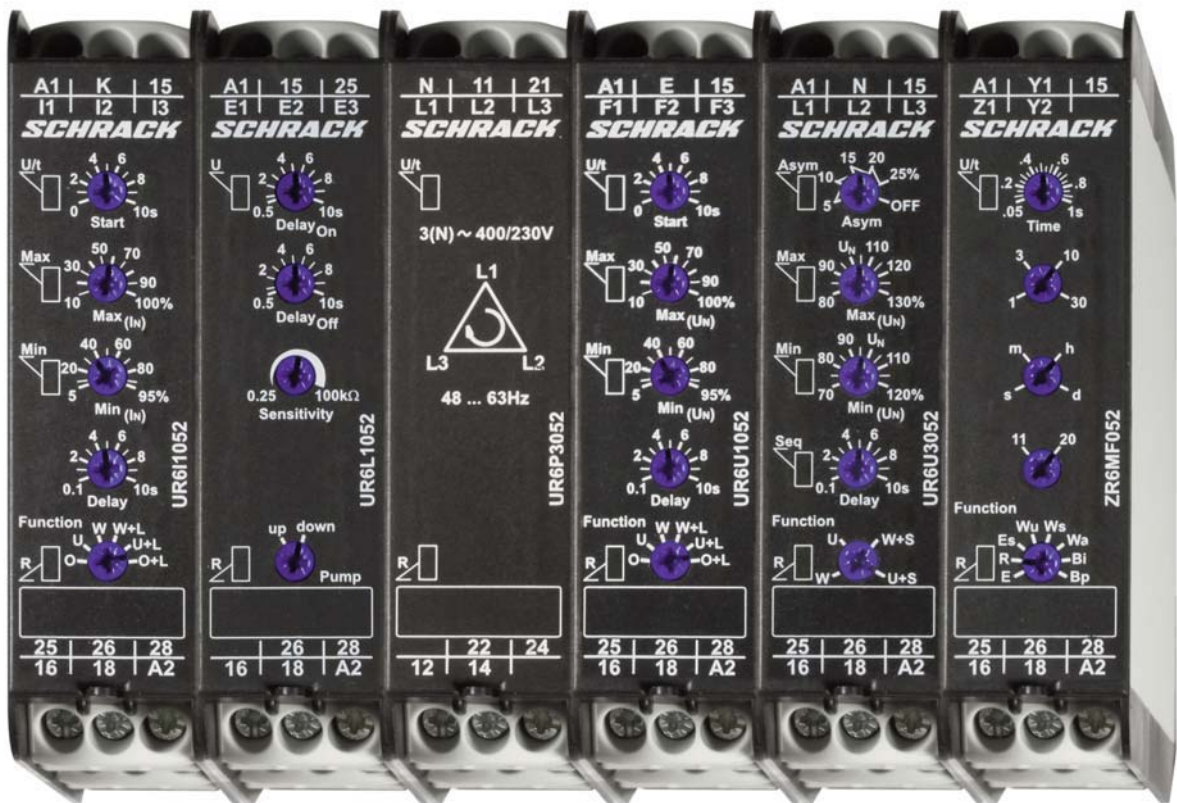
<b>FUNCTIONS</b>	
Coupling relay	
<b>INDICATORS</b>	
Yellow LED R ON/OFF	Position of output relay
<b>MECHANICAL DESIGN</b>	
Housing made of self-extinguishing plastic, degree of protection	IP40
Mounting on DIN rail TS 35 according to EN 60715	
Installation position	Any
Touch-proof clamping yoke terminals according to VBG 4 (PZ1 required), degree of protection IP20	
Tightening torque	Max 1 Nm
Terminal capacity	1 x 0.5 to 2.5 mm <sup>2</sup> with/without ferrule 1 x 4 mm <sup>2</sup> without ferrule 2 x 0.5 to 1.5 mm <sup>2</sup> with/without ferrules 2 x 2.5 mm <sup>2</sup> flexible with/without ferrules
<b>INPUT CIRCUIT</b>	
Supply voltage	12 to 240 V~/DC (2 CO) and 24 to 240 V~/DC (1 CO)
Terminals	A1(+)-A2
Tolerance	-10% to +10%
Rated consumption	6 VA (2 W)
Rated frequency	AC 48 to 63 Hz
Duty cycle	100%
Recovery time	100 ms
Residual ripple for DC	10%
Drop-out voltage	>30% of min supply voltage
Oversvoltage category	III (according to IEC 60664-1)
Rated surge voltage	4kV
<b>OUTPUT CIRCUIT</b>	
1 or 2 potential-free changeover switches	
Rated voltage	250 V~
Switching capacity	2000 VA (8 A / 250 V)
Fuse	8A fast acting
Mechanical endurance	20 x 10 <sup>6</sup> operations
Electrical endurance	2 x 10 <sup>5</sup> operations at 1000 VA resistive load
Switching frequency	Max. 6/min at 1000 VA resistive load (according to IEC 60947-5-1)
Oversvoltage category	III (according to IEC 60664-1)
Rated surge voltage	4 kV
<b>AMBIENT CONDITIONS</b>	
Ambient temperature	-25 to +55 °C
Relative humidity	15% to 85% (according to IEC 60721-3-3 class 3K3)
Pollution degree	2, when built-in 3 (according to IEC 60664-1)
<b>WEIGHT</b>	
Individual packaging	100g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Modular relay, 1 CO, 24-240 V~/DC	9004840557381		<b>BZ651000</b>
Modular relay, 2 CO, 12-240 V~/DC	9004840557473		<b>BZ652000</b>



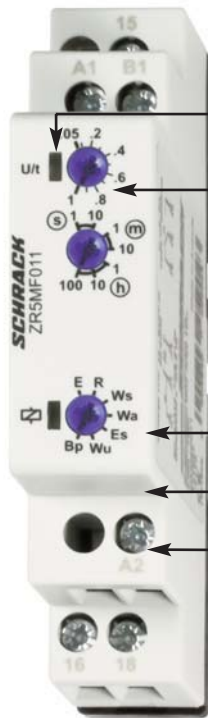
# TIME- AND MONITORING RELAYS

## TIME- AND MONITORING RELAYS



## MEASURING AND MONITORING RELAYS

### SERIES 5



OPERATION DISPLAY

LARGE TIME RANGE 50 ms – 100 h

MANY FUNCTIONS

45 mm CAP DIMENSION

MULTI-VOLTAGE 12 or 24 V~/DC – 240 V~/DC

### SERIES 6



INDUSTRIAL DESIGN

WIDTH 22.5 mm

MANY FUNCTIONS, E.G.:

- Monitoring of phase sequence and phase failure
- Detection of neutral wire break
- Windows function
- 16.6 – 400 Hz
- Thermal resistor relay
- Delayed contacts possible
- Time range of timer relay: 1 s to 30 days

## TIME RELAY ZR5E0011



### SCHRACK-INFO

Wide input voltage range  
1 change over contact  
Width 17,5 mm  
Installation design

### TECHNICAL DATA

#### 1. Functions

The function has to be set before connecting the relay to the supply voltage.

E ON delay

#### 2. Time ranges

Time range	Adjustment range
1 s	50 ms
10 s	500 ms
1 min	3 s
10 min	30 s
1 h	3 min
10 h	30 min
100 h	5 h

#### 3. Indicators

Green LED U/t ON: indication of supply voltage  
Green LED U/t flashes: indication of time period  
Yellow LED R ON/OFF: indication of relay outputs

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN-rail TS 35 according to EN 50022  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
Tightening torque: max. 1 Nm  
Terminal capacity:  
1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
1 x 4 mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage: Terminals A1(+)-A2  
Types ZR5..24-240 V AC/DC: 24 to 240 V AC/DC  
Tolerance: 24 V-15% to 240 V+10%  
Rated consumption: 4 VA (1.5 W)  
Rated frequency: AC 48 to 63 Hz  
Duty cycle: 100%  
Reset time: 100 ms  
Residual ripple for DC: 10%  
Drop-out voltage: >30% of minimum rated supply voltage  
Overvoltage category: III (according to IEC 60664-1)  
Rated surge voltage: 4 kV

#### 6. Output circuit

1 potential free change over contact  
Rated voltage: 250 V AC  
Switching capacity: 2000 VA (8 A / 250V)  
Fusing: 8 A fast acting  
Mechanical life: 20 x 10<sup>6</sup> operations  
Electrical life: 2 x 10<sup>5</sup> operations  
at 1000 VA resistive load  
Switching frequency: max. 60/min at 100 VA resistive load  
max. 6/min at 1000 VA resistive load (according to IEC 947-5-1)  
Overvoltage category: III. (according to IEC 60664-1)  
Rated surge voltage: 4 kV

#### 7. Control input

Input not potential free: Terminals A1-B1  
Loadable: yes  
Max. line length: 10m  
Trigger level (sensitivity): automatic adaption to supply voltage  
Min. control pulse length: DC 50 ms / AC 100 ms

#### 8. Accuracy

Base accuracy: ±1% of maximum scale value  
Adjustment accuracy: <5% of maximum scale value  
Repetition accuracy: <0.5% or ±5 ms  
Voltage influence: -  
Temperature influence: ≤0.01% / °C

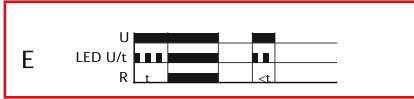
#### 9. Ambient conditions

Ambient temperature: -25 to +55 °C (according to IEC 68-1)  
Storage temperature: -25 to +70 °C  
Transport temperature: -25 to +70 °C  
Relative humidity: 15% to 85% (according to IEC 721-3-3 class 3K3)  
Pollution degree: 2, if built in 3 (according to IEC 664-1)  
Vibration resistance: 10 to 55 Hz 0.35 mm (according to IEC 68-2-6)  
Shock resistance: 15 g 11 ms (according to IEC 68-2-27)

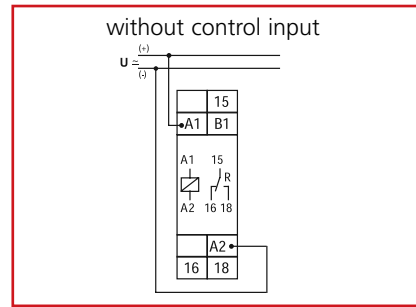
## FUNCTIONS

### ON delay (E)

When the supply voltage  $U$  is applied, the set interval  $t$  begins (green LED  $U/t$  flashes). After the interval  $t$  has expired (green LED  $U/t$  illuminated) the output relay  $R$  switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval  $t$ , the interval already expired is erased and is restarted when the supply voltage is next applied.



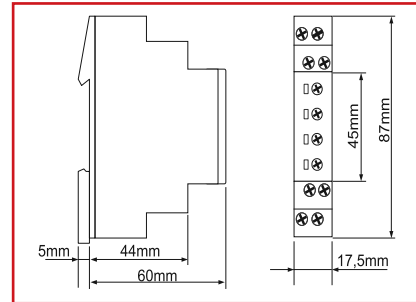
## CONNECTIONS



## WEIGHT

Single packing: 72 g

## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Single function time relay E (ON delay), 24-240VAC, 1 change over, 8A/250V	9004840459029		<b>ZR5E0011</b>



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## TIME RELAY ZR5R0011



### SCHRACK-INFO

Wide input voltage range  
1 change over contact  
Width 17,5 mm  
Installation design

### TECHNICAL DATA

#### 1. Functions

The function has to be set before connecting the relay to the supply voltage.

R OFF delay

#### 2. Time ranges

Time range	Adjustment range	
1 s	50 ms	1 s
10 s	500 ms	10 s
1 min	3 s	1 min
10 min	30 s	10 min
1 h	3 min	1 h
10 h	30 min	10 h
100 h	5 h	100 h

#### 3. Indicators

Green LED U/t ON: indication of supply voltage  
Green LED U/t flashes: indication of time period  
Yellow LED R ON/OFF: indication of relay outputs

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN-rail TS 35 according to EN 50022  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
Tightening torque: max. 1 Nm  
Terminal capacity:  
1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
1 x 4 mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage: Terminals A1(+)-A2  
Types ZR5..24-240 V AC/DC: 24 to 240 V AC/DC  
Tolerance: 24 V-15% to 240 V+10%  
Rated consumption: 4 VA (1.5 W)  
Rated frequency: AC 48 to 63 Hz  
Duty cycle: 100%  
Reset time: 100 ms  
Residual ripple for DC: 10%  
Drop-out voltage: >30% of minimum rated supply voltage  
Overvoltage category: III (according to IEC 60664-1)  
Rated surge voltage: 4 kV

#### 6. Output circuit

1 potential free change over contact  
Rated voltage: 250 V AC  
Switching capacity: 2000 VA (8 A / 250V)  
Fusing: 8 A fast acting  
Mechanical life: 20 x 10<sup>6</sup> operations  
Electrical life: 2 x 10<sup>5</sup> operations  
at 1000 VA resistive load  
Switching frequency: max. 60/min at 100 VA resistive load  
max. 6/min at 1000 VA resistive load (according to IEC 947-5-1)  
Overvoltage category: III. (according to IEC 60664-1)  
Rated surge voltage: 4 kV

#### 7. Control input

Input not potential free: Terminals A1-B1  
Loadable: yes  
Max. line length: 10m  
Trigger level (sensitivity): automatic adaption to supply voltage  
Min. control pulse length: DC 50 ms / AC 100 ms

#### 8. Accuracy

Base accuracy: ±1% of maximum scale value  
Adjustment accuracy: <5% of maximum scale value  
Repetition accuracy: <0.5% or ±5 ms  
Voltage influence: -  
Temperature influence: ≤0.01% / °C

#### 9. Ambient conditions

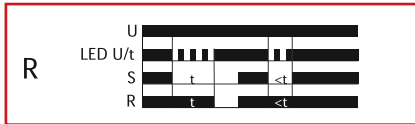
Ambient temperature: -25 to +55 °C (according to IEC 68-1)  
Storage temperature: -25 to +70 °C  
Transport temperature: -25 to +70 °C  
Relative humidity: 15% to 85% (according to IEC 721-3-3 class 3K3)  
Pollution degree: 2, if built in 3 (according to IEC 664-1)  
Vibration resistance: 10 to 55 Hz 0.35 mm (according to IEC 68-2-6)  
Shock resistance: 15 g 11 ms (according to IEC 68-2-27)



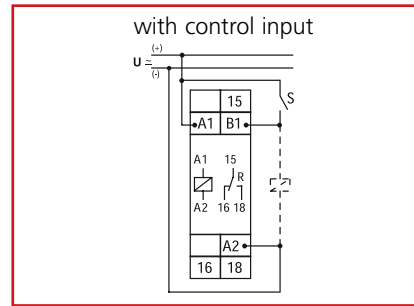
## FUNCTIONS

### OFF delay (R)

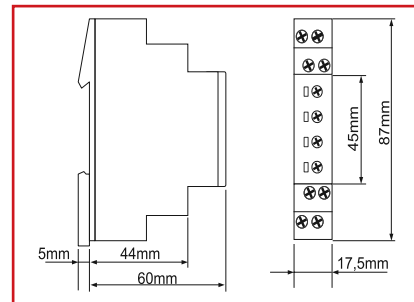
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted.



## CONNECTIONS



## DIMENSIONS



## WEIGHT

Single packing: 72 g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Single function time relay R (OFF delay), 24-240VAC, 1 change over, 8A/250V	9004840459050		<b>ZR5R0011</b>



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## TIME RELAY ZR5ER011



### SCHRACK-INFO

2 functions  
7 time ranges  
Wide input voltage range  
1 change over contact  
Width 17,5 mm  
Installation design

### TECHNICAL DATA

#### 1. Functions

The function has to be set before connecting the relay to the supply voltage.

E ON delay  
R OFF delay

#### 2. Time ranges

Time range	Adjustment range	
1 s	50 ms	1 s
10 s	500 ms	10 s
1 min	3 s	1 min
10 min	30 s	10 min
1 h	3 min	1 h
10 h	30 min	10 h
100 h	5 h	100 h

#### 3. Indicators

Green LED U/t ON: indication of supply voltage  
Green LED U/t flashes: indication of time period  
Yellow LED R ON/OFF: indication of relay outputs

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN-rail TS 35 according to EN 50022  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
Tightening torque: max. 1 Nm  
Terminal capacity:  
1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
1 x 4 mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage: Terminals A1(+)-A2  
Types ZR5..24-240 V AC/DC: 24 to 240 V AC/DC  
Tolerance: 24 V-15% to 240 V+10%  
Rated consumption: 4 VA (1.5 W)  
Rated frequency: AC 48 to 63 Hz  
Duty cycle: 100%  
Reset time: 100 ms  
Residual ripple for DC: 10%  
Drop-out voltage: >30% of minimum rated supply voltage  
Overvoltage category: III (according to IEC 60664-1)  
Rated surge voltage: 4 kV

#### 6. Output circuit

1 potential free change over contact  
Rated voltage: 250 V AC  
Switching capacity: 2000 VA (8 A / 250V)  
Fusing: 8 A fast acting  
Mechanical life: 20 x 10<sup>5</sup> operations  
Electrical life: 2 x 10<sup>5</sup> operations  
at 1000 VA resistive load  
Switching frequency: max. 60/min at 100 VA resistive load  
max. 6/min at 1000 VA resistive load (according to IEC 947-5-1)  
Overvoltage category: III. (according to IEC 60664-1)  
Rated surge voltage: 4 kV

#### 7. Control input

Input not potential free: Terminals A1-B1  
Loadable: yes  
Max. line length: 10m  
Trigger level (sensitivity): automatic adaption to supply voltage  
Min. control pulse length: DC 50 ms / AC 100 ms

#### 8. Accuracy

Base accuracy: ±1% of maximum scale value  
Adjustment accuracy: <5% of maximum scale value  
Repetition accuracy: <0.5% or ±5 ms  
Voltage influence: -  
Temperature influence: ≤0.01% / °C

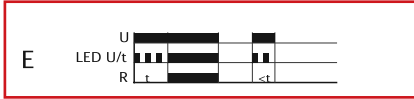
#### 9. Ambient conditions

Ambient temperature: -25 to +55 °C (according to IEC 68-1)  
Storage temperature: -25 to +70 °C  
Transport temperature: -25 to +70 °C  
Relative humidity: 15% to 85% (according to IEC 721-3-3 class 3K3)  
Pollution degree: 2, if built in 3 (according to IEC 664-1)  
Vibration resistance: 10 to 55 Hz 0.35 mm (according to IEC 68-2-6)  
Shock resistance: 15 g 11 ms (according to IEC 68-2-27)

## FUNCTIONS

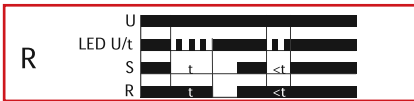
### ON delay (E)

When the supply voltage  $U$  is applied, the set interval  $t$  begins (green LED  $U/t$  flashes). After the interval  $t$  has expired (green LED  $U/t$  illuminated) the output relay  $R$  switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval  $t$ , the interval already expired is erased and is restarted when the supply voltage is next applied.

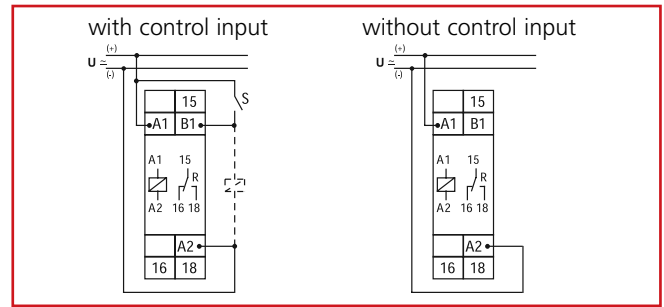


### OFF delay (R)

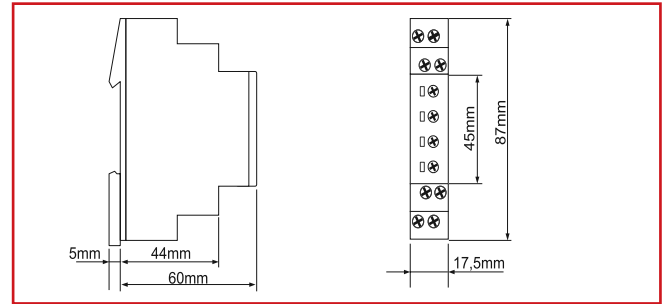
The supply voltage  $U$  must be constantly applied to the device (green LED  $U/t$  illuminated). When the control contact  $S$  is closed, the output relay  $R$  switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval  $t$  begins (green LED  $U/t$  flashes). After the interval  $t$  has expired (green LED  $U/t$  illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval  $t$  has expired, the interval already expired is erased and is restarted.



## CONNECTIONS



## DIMENSIONS



## WEIGHT

Single packing: 72 g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Double function time relay E (ON delay) + R (OFF delay), 24-240VAC, 1 change over, 8A/250V	9004840459036		<b>ZR5ER011</b>



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## MULTIFUNCTION TIME RELAY ZR5MF011



### SCHRACK-INFO

- Timers multifunctional
- Up to 7 functions
- 7 time ranges
- Wide input voltage range
- 1 change over contact
- Width 17,5 mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

The functions has to be set before connecting the relay to the supply voltage.

E	ON delay
R	OFF delay
Ws	Single shot leading edge with control input
Wa	Single shot trailing edge with control input
Es	ON delay with control input
Wu	Single shot leading edge voltage controlled
Bp	Flasher pause first

#### 2. Time ranges

Time range	Adjustment range	
1 s	50 ms	1 s
10 s	500 ms	10 s
1 min	3 s	1 min
10 min	30 s	10 min
1 h	3 min	1 h
10 h	30 min	10 h
100 h	5 h	100 h

#### 3. Indicators

Green LED U/t ON:	indication of supply voltage
Green LED U/t flashes:	indication of time period
Yellow LED R ON/OFF:	indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mounted on DIN-rail TS 35 according to EN 50022  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1 Nm  
 Terminal capacity:  
 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	terminals A1(+)-A2
Type ZR5MF025	12 to 240 V AC/DC
Tolerance:	12 V-10% to 240 V+10%
Rated consumption:	4 VA (1.5 W)
Rated frequency:	AC 48 to 63 Hz
Duty cycle:	100%
Reset time:	100 ms
Residual ripple for DC:	10%
Drop-out voltage:	>30% of minimum rated supply voltage

Overvoltage category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

#### 6. Output circuit

1 potential free change over contact	
Rated voltage:	250 V AC
Switching capacity:	2000 VA (8 A / 250 V)
Fusing:	8 A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> operations
	at 1000 VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load
	max. 6/min at 1000VA resistive load
	(according to IEC 947-5-1)

Overvoltage category:	III. (according to IEC 60664-1)
Rated surge voltage:	4kV

#### 7. Control input

Input not potential free:	terminals A1-B1
Loadable:	yes
Max. line length:	10m
Trigger level (sensitivity):	automatic adaption to supply voltage
Min. control pulse length:	DC 50 ms / AC 100 ms

#### 8. Accuracy

Base accuracy:	±1% of maximum scale value
Adjustment accuracy:	<5% of maximum scale value
Repetition accuracy:	<0.5% or ±5 ms
Voltage influence:	-
Temperature influence:	≤0.01% / °C

#### 9. Ambient conditions

Ambient temperature:	-25 to +55 °C (according to IEC 68-1)
Storage temperature:	-25 to +70 °C
Transport temperature:	-25 to +70 °C
Relative humidity:	15% to 85% (according to IEC 721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (according to IEC 664-1)
Vibrations resistance:	10 to 55 Hz 0.35 mm (according to IEC 68-2-6)
Shock resistance:	15 g 11 ms (according to IEC 68-2-27)

## FUNCTIONS

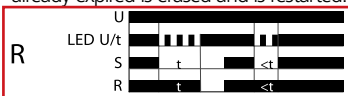
### ON delay (E)

When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t, the interval already expired is erased and is restarted when the supply voltage is next applied.



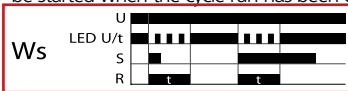
### OFF delay (R)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted.



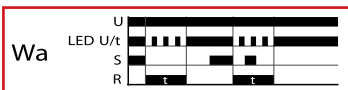
### Single shot leading edge with control input (Ws)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (green LED U/t illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



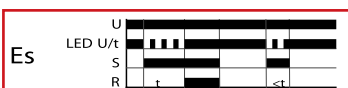
### Single shot trailing edge with control input (Wa)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). Closing the control contact S has no influence on the condition of the output R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated), the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



### ON delay with control input (Es)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.



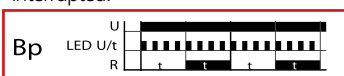
### Single shot leading edge voltage controlled (Wu)

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval t has expired, the output relay switches into off-position. The interval already is erased and is restarted when the supply voltage is next applied.

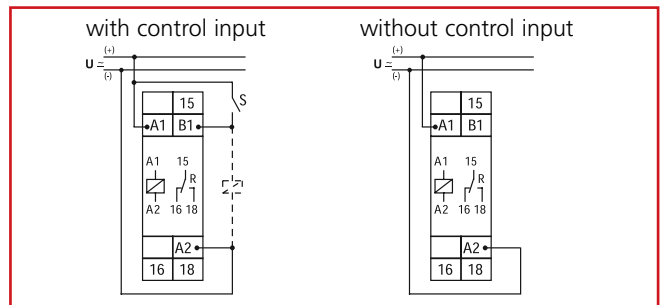


### Flasher pause first (Bp)

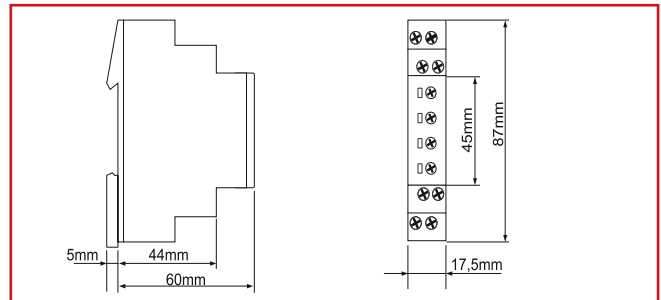
When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.



## CONNECTIONS



## DIMENSIONS



## WEIGHT

Single packing: 72 g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Multifunction time relay E, R, Ws, Wa, Es, Wu, Bp, 12-240VAC, 1 change over, 8A/250V	9004840459043		ZR5MF011

## MULTIFUNCTION TIME RELAY ZR5MF025



### SCHRACK-INFO

- Timers multifunctional
- Up to 7 functions
- 7 time ranges
- Wide input voltage range
- 2 change-over contacts
- Width 35 mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

The functions has to be set before connecting the relay to the supply voltage.

E	ON delay
R	OFF delay
Ws	Single shot leading edge with control input
Wa	Single shot trailing edge with control input
Es	ON delay with control input
Wu	Single shot leading edge voltage controlled
Bp	Flasher pause first

#### 2. Time ranges

Time range	Adjustment range	
1 s	50 ms	1 s
10 s	500 ms	10 s
1 min	3 s	1 min
10 min	30 s	10 min
1 h	3 min	1 h
10 h	30 min	10 h
100 h	5 h	100 h

#### 3. Indicators

Green LED U/t ON:	indication of supply voltage
Green LED U/t flashes:	indication of time period
Yellow LED R ON/OFF:	indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mounted on DIN-rail TS 35 according to EN 50022  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1 Nm  
 Terminal capacity:  
 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	terminals A1(+)-A2
Type ZR5MF025	12 to 240 V AC/DC
Tolerance:	12 V-10% to 240 V+10%
Rated consumption:	6 VA (2 W)
Rated frequency:	AC 48 to 63 Hz
Duty cycle:	100%
Reset time:	100 ms
Residual ripple for DC:	10%
Drop-out voltage:	>30% of minimum rated supply voltage

Overvoltage category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

#### 6. Output circuit

2 potential free change over contacts	
Rated voltage:	250 V AC
Switching capacity:	2000 VA (8 A / 250 V)
Fusing:	8 A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> operations
	at 1000 VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load
	max. 6/min at 1000VA resistive load
	(according to IEC 947-5-1)

Overvoltage category:	III. (according to IEC 60664-1)
Rated surge voltage:	4kV

#### 7. Control input

Input not potential free:	terminals A1-B1
Loadable:	yes
Max. line length:	10m
Trigger level (sensitivity):	automatic adaption to supply voltage
Min. control pulse length:	DC 50 ms / AC 100 ms

#### 8. Accuracy

Base accuracy:	±1% of maximum scale value
Adjustment accuracy:	<5% of maximum scale value
Repetition accuracy:	<0.5% or ±5 ms
Voltage influence:	-
Temperature influence:	≤0.01% / °C

#### 9. Ambient conditions

Ambient temperature:	-25 to +55 °C (according to IEC 68-1)
Storage temperature:	-25 to +70 °C
Transport temperature:	-25 to +70 °C
Relative humidity:	15% to 85% (according to IEC 721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (according to IEC 664-1)
Vibrations resistance:	10 to 55 Hz 0.35 mm (according to IEC 68-2-6)
Shock resistance:	15 g 11 ms (according to IEC 68-2-27)

## FUNCTIONS

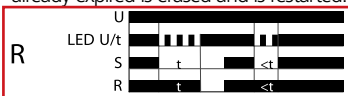
### ON delay (E)

When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t, the interval already expired is erased and is restarted when the supply voltage is next applied.



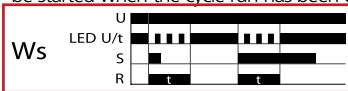
### OFF delay (R)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted.



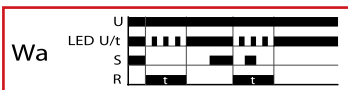
### Single shot leading edge with control input (Ws)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (green LED U/t illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



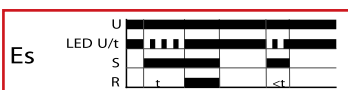
### Single shot trailing edge with control input (Wa)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). Closing the control contact S has no influence on the condition of the output R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated), the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



### ON delay with control input (Es)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.



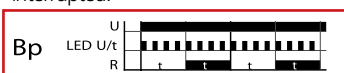
### Single shot leading edge voltage controlled (Wu)

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval t has expired, the output relay switches into off-position. The interval already is erased and is restarted when the supply voltage is next applied.

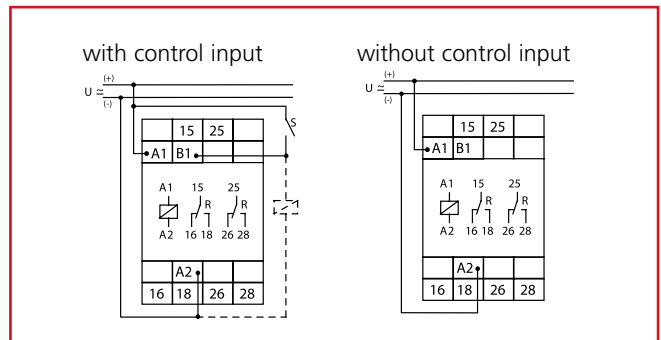


### Flasher pause first (Bp)

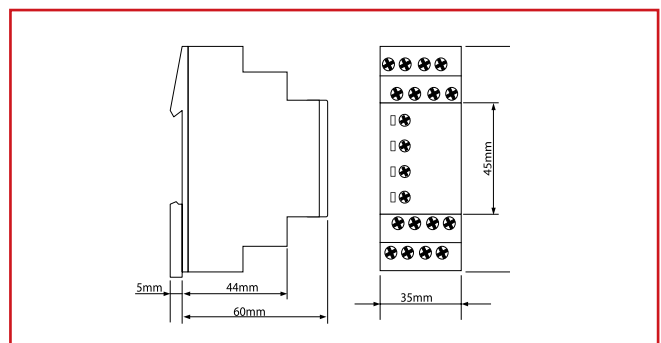
When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.



## CONNECTIONS



## DIMENSIONS



## WEIGHT

Single packing: 106g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Multifunction time relay, 12-240VAC, 2 change over, 8A/250V	9004840507287		ZR5MF025

## MULTIFUNCTION TIME RELAY ZR6MF052



- 16 functions
- 16 time ranges
- Connection of remote potentiometer possible
- Zoom voltage 24 to 240V AC/DC
- 2 change-over contacts
- Width 22.5 mm
- Industrial design

### TECHNICAL DATA

#### 1. Functions

1 delayed contact (terminals 15-16-18) and  
1 instantaneous contact (terminals 25-26-28)

E11	ON delay
R11	OFF delay with control contact
Es11	ON delay with control contact
Wu11	Single shot leading edge voltage controlled
Ws11	Single shot leading edge with control contact
Wa11	Single shot trailing edge with control contact
Bi11	Flasher pulse first
Bp11	Flasher pause first

2 delayed contacts

E20	ON delay
R20	OFF delay with control contact
Es20	ON delay with control contact
Wu20	Single shot leading edge voltage controlled
Ws20	Single shot leading edge with control contact
Wa20	Single shot trailing edge with control contact
Bi20	Flasher pulse first
Bp20	Flasher pause first

#### 2. Time ranges

Time range	Adjustment range	
1s	50ms	1s
3s	150ms	3s
10s	500ms	10s
30s	1500ms	30s
1min	3s	1min
3min	9s	3min
10min	30s	10min
30min	90s	30min
1h	3min	1h
3h	9min	3h
10h	30min	10h
30h	90min	30h
1d	72min	1d
3d	216min	3d
10d	12h	10d
30d	36h	30d

#### 3. Indicators

Green LED ON:	indication of supply voltage
Green LED flashes:	indication of time period
Yellow LED ON/OFF:	indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN-Rail TS 35 according to EN 60715  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
Tightening torque: max. 1Nm  
Terminal capacity:  
1 x 0.5 bis 2.5 mm<sup>2</sup> with/without multicore cable end  
1 x 4 mm<sup>2</sup> without multicore cable end  
2 x 0.5 bis 1.5 mm<sup>2</sup> with/without multicore cable end  
2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	24 to 240V AC/DC	terminals A1-A2 (galvanically separated)
Tolerance:	24 to 240V DC 24 to 240V AC	-20% to +25% -15% to +10%
Rated frequency:	24 to 240V AC 48 to 240V AC	48 to 400Hz 16 to 48Hz
Rated consumption:		4.5VA (1W)
Duration of operation:		100%
Reset time:		500ms
Wave form for AC:		Sinus
Residual ripple for DC:		10%
Drop-out voltage:		>15% of the supply voltage
Overvoltage category:		III (in accordance with IEC 60661-1)
Rated surge voltage:		4kV



## 6. Output circuit

2 potential free change-over contacts	
Rated voltage:	250V AC
Switching capacity (distance <5mm):	750VA (3A / 250V AC)
Switching capacity (distance >5mm):	1250VA (5A / 250V AC)
Fusing:	5A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical Life:	2 x 10 <sup>5</sup> operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

## 7. Control contact

Activation:	bridge Y1-Y2
Potential free:	yes, basic isolation against input and output circuit
Loadable:	no
Control voltage:	max. 5V
Short circuit current:	max. 1mA
Line length:	max. 10m
Control pulse length:	min. 50ms

## 8. Remote potentiometer (not included)

The internal potentiometer is de-activated when a remote potentiometer is connected!	
Connections:	1M $\Omega$ potentiometer (type RONDO R2), terminals Z1-Y2
Line type:	twisted pair
Control voltage:	max. 5V
Short circuit current:	max. $\mu$ A
Line length:	max. 5m

## 9. Accuracy

Base accuracy:	$\pm$ 1% (of maximum scale value) using 1M $\Omega$ remote potentiometer
Frequency response:	-
Adjustment accuracy:	$\leq$ 5% (of maximum scale value) using 1M $\Omega$ remote potentiometer
Repetition accuracy:	<0.5% or $\pm$ 5ms
Voltage influence:	-
Temperature influence:	$\leq$ 0.01% / $^{\circ}$ C

## 10. Ambient conditions

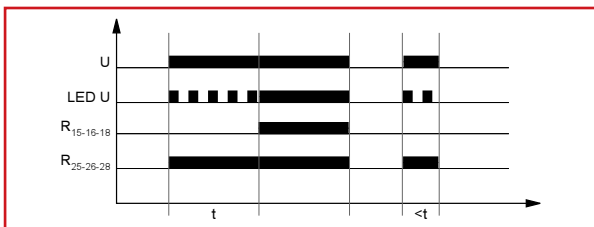
Ambient temperature:	-25 to +55 $^{\circ}$ C (in accordance with IEC 60068-1) -25 to +40 $^{\circ}$ C (in accordance with UL 508)
Storage temperature:	-25 to +70 $^{\circ}$ C
Transport temperature:	-25 to +70 $^{\circ}$ C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	3 (in accordance with IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35 mm (in accordance with IEC 60068-2-6)
Shock resistance:	15g 11ms (in accordance with IEC 60068-2-27)

## FUNCTIONS

The internal potentiometer is de-activated when a remote-potentiometer is connected !The function has to be set before connecting the relay to the supply voltage.

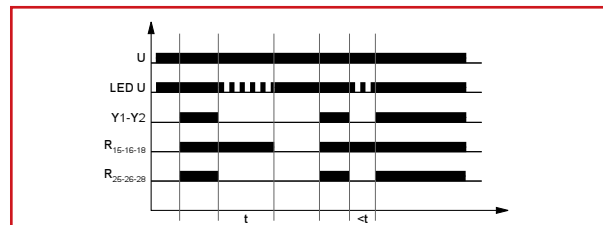
### ON delay (E11)

When the supply voltage U is applied, the instantaneous contact switches into on-position and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t, the interval already expired is erased and is restarted when the supply voltage is next applied.



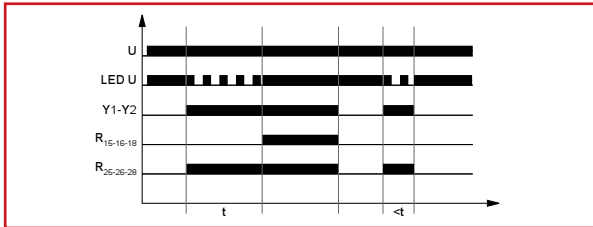
### OFF delay with control contact (R11)

The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, both contacts switch into on-position (yellow LED illuminated). If the control contact is opened, the instantaneous contact switches into off-position and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.



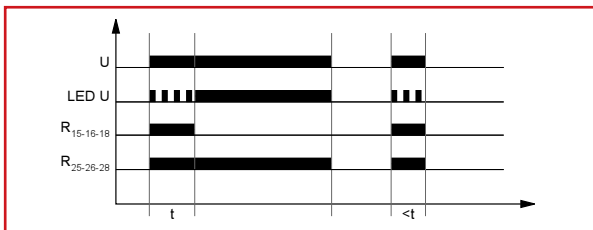
## ON delay with control contact (Es11)

The supply voltage  $U$  must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, the instantaneous contact switches into on-position and the set interval  $t$  begins (green LED flashes). After the interval  $t$  has expired (green LED illuminated) the delayed contact switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval  $t$  has expired, the interval already expired is erased and is restarted with the next cycle.



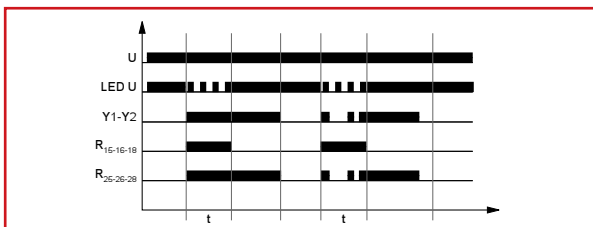
## Single shot leading edge voltage controlled (Wu11)

When the supply voltage  $U$  is applied, both contacts switch into on-position (yellow LED illuminated) and the set interval  $t$  begins (green LED flashes). After the interval  $t$  has expired (green LED illuminated) the delayed contact switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval  $t$  has expired, the both contacts switch into off-position. The interval already expired is erased and is restarted when the supply voltage is next applied.



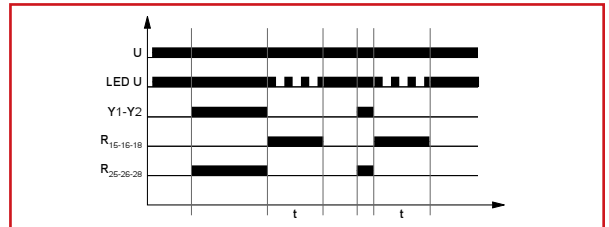
## Single shot leading edge with control contact (Ws11)

The supply voltage  $U$  must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, both contacts switch into on-position (yellow LED illuminated) and the set interval  $t$  begins (green LED flashes). After the interval  $t$  has expired (green LED illuminated) the delayed contact switches into off-position (yellow LED not illuminated). The instantaneous contact remains in on-position, until the control contact is opened again. During the interval, the control contact (and the instantaneous contact) can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



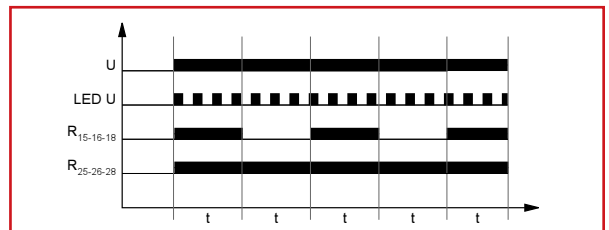
## Single shot trailing edge with control contact (Wa11)

The supply voltage  $U$  must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed the instantaneous contact switches into on-position. When the control contact is opened, the instantaneous contact switches into off-position, the delayed contact switches into on-position (yellow LED illuminated) and the set interval  $t$  begins (green LED flashes). After the interval  $t$  has expired (green LED illuminated), the delayed contact switches into off-position (yellow LED not illuminated). During the interval, the control contact (and the instantaneous contact) can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



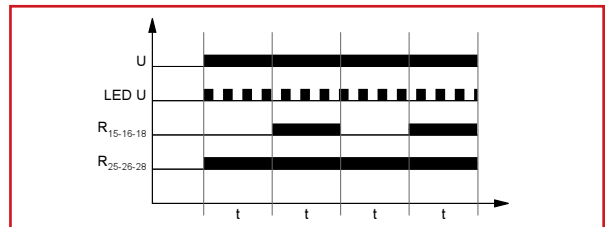
## Flasher pulse first (Bi11)

When the supply voltage  $U$  is applied, the instantaneous contact and the delayed contact switch into on-position (yellow LED illuminated) and the set interval  $t$  begins (green LED flashes). After the interval  $t$  has expired, the delayed contact switches into off-position (yellow LED not illuminated) and the set interval  $t$  begins again. The delayed contact is triggered at a ratio of 1:1 until the supply voltage is interrupted.



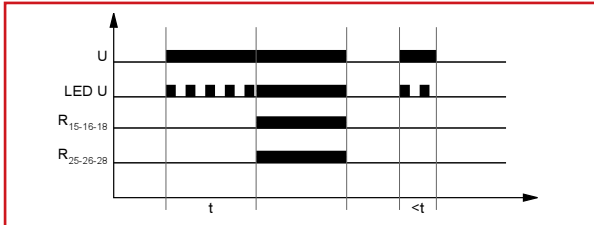
## Flasher pause first (Bp11)

When the supply voltage  $U$  is applied, the instantaneous contact switches into on-position and the set interval  $t$  begins (green LED flashes). After the interval  $t$  has expired, the delayed contact switches into on-position (yellow LED illuminated) and the set interval  $t$  begins again. After the interval  $t$  has expired, the delayed contact switches into off-position (yellow LED not illuminated). The delayed contact is triggered at a ratio of 1:1 until the supply voltage is interrupted.



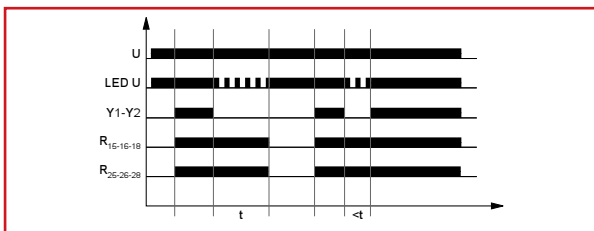
## ON delay (E20)

When the supply voltage U is applied, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t, the interval already expired is erased and is restarted when the supply voltage is next applied.



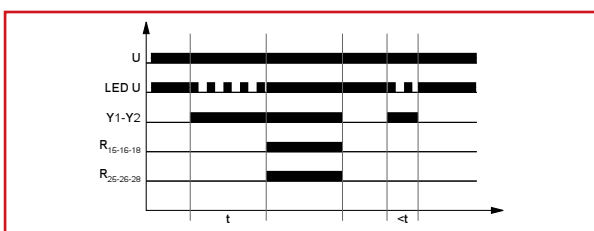
## OFF delay with control contact (R20)

The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.



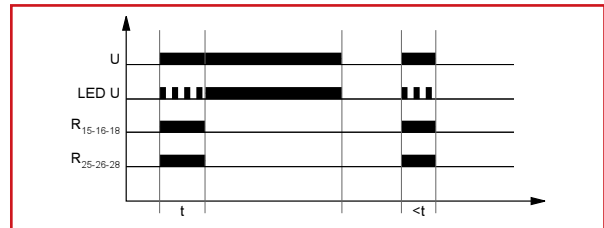
## ON delay with control contact (Es20)

The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.



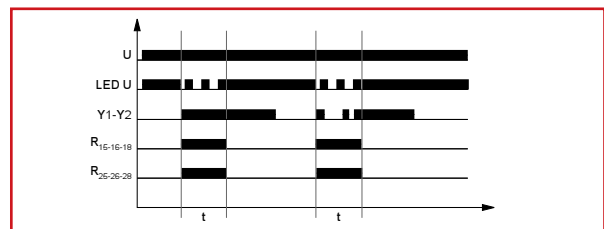
## Single shot leading edge voltage controlled (Wu20)

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval t has expired, the output relay switches into off-position. The interval already expired is erased and is restarted when the supply voltage is next applied.



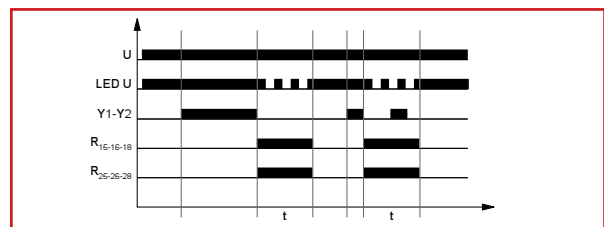
## Single shot leading edge with control contact (Ws20)

The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



## Single shot trailing edge with control contact (Wa20)

The supply voltage U must be constantly applied to the device (green LED illuminated). Closing the control contact Y1-Y2 has no influence on the condition of the output relay R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated), the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



# TIME RELAYS

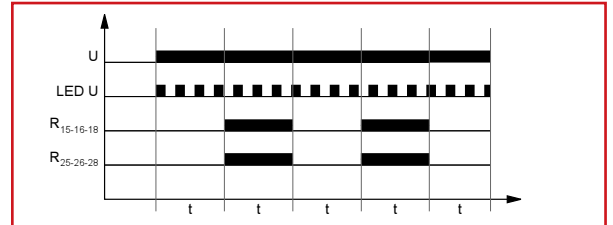
## Flasher pulse first (Bi20)

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval t begins again. The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.

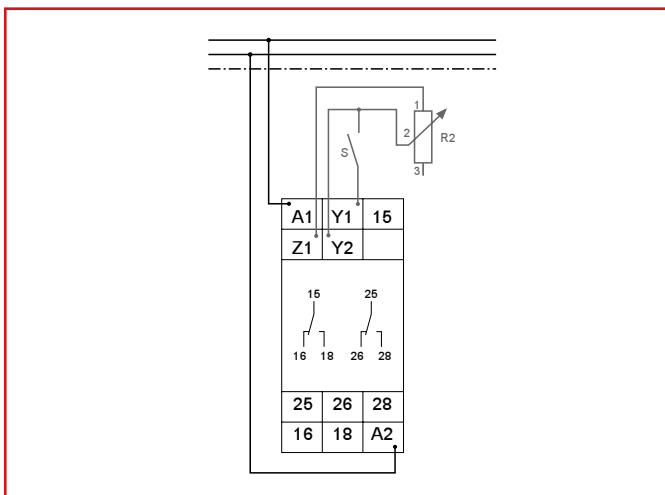


## Flasher pause first (Bp20)

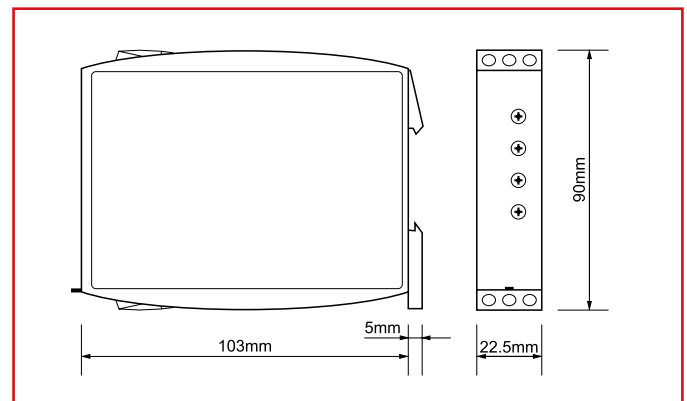
When the supply voltage U is applied, the set interval t begins (green LED flashes). After the interval t has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.



## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Multifunction time relay, 2 change over, 24-240V AC/DC, industrial design	9004840557466		<b>ZR6MF052</b>



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## FLASHER TIME RELAY ZR5B0011



### SCHRACK-INFO

- Asymmetric flasher
- 7 time ranges
- Wide input voltage range
- 1 change over contact
- Width 17,5 mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

- lp Asymmetric flasher pause first
- li Asymmetric flasher pulse first (A1-B1 bridged)

#### 2. Time ranges

Time range	Adjustment range	
1 s	50 ms	1 s
10 s	500 ms	10 s
1 min	3 s	1 min
10 min	30 s	10 min
1 h	3 min	1 h
10 h	30 min	10 h
100 h	5 h	100 h

#### 3. Indicators

- Green LED U/t ON: indication of supply voltage
- Green LED U/t slow flashing: indication of time period t1
- Green LED U/t fast flashing: indication of time period t2
- Yellow LED R ON/OFF: indication of relay output

#### 4. Mechanical design

- Self-extinguishing plastic housing, IP rating IP40
- Mounted on DIN-rail TS 35 according to EN 50022
- Mounting position: any
- Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20
- Tightening torque: max. 1 Nm
- Terminal capacity:
  - 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end
  - 1 x 4 mm<sup>2</sup> without multicore cable end
  - 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end
  - 2 x 2.5mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

- Supply voltage: Terminals A1(+)-A2
- Type ZR5B0011
- 12-240 V AC/DC: 12 to 240 V AC/DC
- Tolerance: 12 V-10% to 240 V+10%
- Rated consumption: 4 VA (1.5 W)
- Rated frequency: AC 48 to 63 Hz
- Duty cycle: 100%
- Reset time: 100 ms
- Residual ripple for DC: 10%
- Drop-out voltage: >30% of minimum rated supply voltage
- Overvoltage category: III (according to IEC 60664-1)
- Rated surge voltage: 4 kV

#### 6. Output circuit

- 1 potential free change over contact
- Rated voltage: 250 V AC
- Switching capacity: 2000 VA (8 A / 250 V)
- Fusing: 8 A fast acting
- Mechanical life: 20 x 10<sup>6</sup> operations
- Electrical life: 2 x 10<sup>5</sup> operations at 1000 VA resistive load
- Switching frequency: max. 60/min at 100 VA resistive load
- max. 6/min at 1000 VA resistive load (according to IEC 947-5-1)
- Overvoltage category: III. (according to IEC 60664-1)
- Rated surge voltage: 4 kV

#### 7. Control input

- Input not potential free: Terminals A1-B1
- Loadable: yes
- Max. line length: 10 m
- Trigger level (sensitivity): automatic adaption to supply voltage
- Min. control pulse length: DC 50 ms / AC 100 ms

#### 8. Accuracy

- Base accuracy: ±1% of maximum scale value
- Adjustment accuracy: <5% of maximum scale value
- Repetition accuracy: <0.5% or ±5 ms
- Voltage influence: -
- Temperature influence: ≤0.01% / °C

#### 9. Ambient conditions

- Ambient temperature: -25 to +55 °C (according to IEC 68-1)
- Storage temperature: -25 to +70 °C
- Transport temperature: -25 to +70 °C
- Relative humidity: 15% to 85% (according to IEC 721-3-3 class 3K3)
- Pollution degree: 2, if built in 3 (according to IEC 664-1)
- Vibration resistance: 10 to 55 Hz 0.35 mm (according to IEC 68-2-6)
- Shock resistance: 15 g 11 ms (according to IEC 68-2-27)

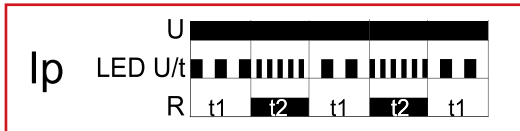
# TIME RELAYS

## FUNCTIONS

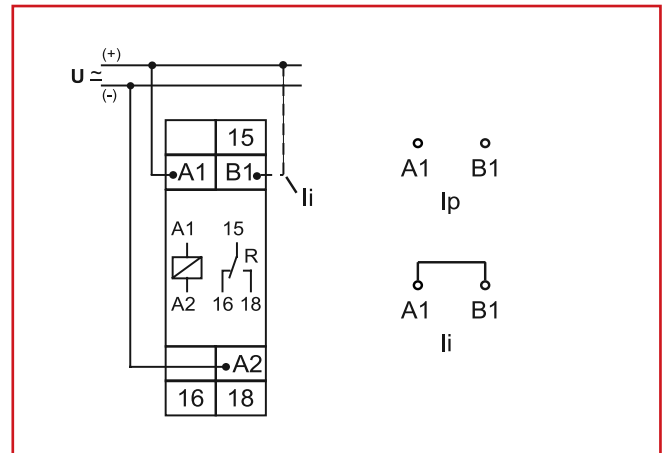
### Asymmetric flasher pause first (Ip)

When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated).

The output relay is triggered at the ratio of t1:t2 until the supply voltage is interrupted.



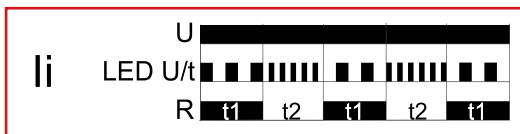
## CONNECTIONS



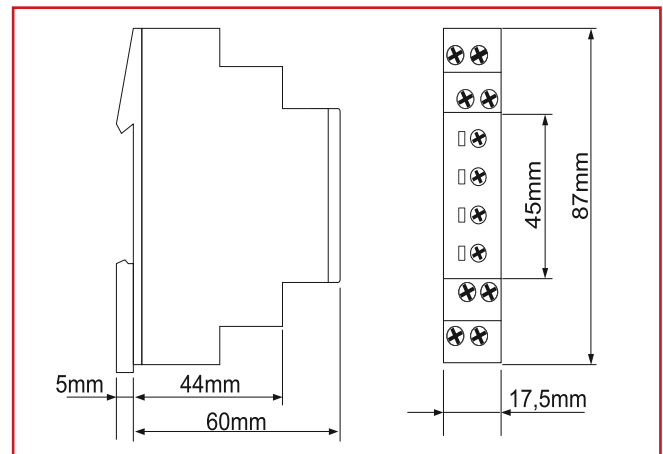
### Asymmetric flasher pulse first (Ii)

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into on-position (yellow LED illuminated).

The output relay is triggered at the ratio of t1:t2 until the supply voltage is interrupted.



## DIMENSIONS



## WEIGHT

Single packing: 72 g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Flasher time relay, 12-240VAC, 1 change over, 8A/250V	9004840459012		<b>ZR5B0011</b>



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## PULSE TIME RELAY ZR5B0025



### SCHRACK-INFO

- Asymmetric flasher, 2-time multifu
- 7 Time ranges
- Wide input voltage range
- 2 change-over contacts
- Width 35 mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

The function has to be set before connecting the relay to the supply voltage.

Ip	Asymmetric flasher pause first
li	Asymmetric flasher pulse first
ER	ON delay and OFF delay with control contact
EWu	ON delay single shot leading edge voltage controlled
EWs	ON delay single shot leading edge with control contact
WsWa	Single shot leading and single shot trailing edge with control contact
Wt	Pulse sequence monitoring

#### 2. Time ranges

Time range	Adjustment range	
1 s	50 ms	1 s
10 s	500 ms	10 s
1 min	3 s	1 min
10 min	30 s	10 min
1 h	3 min	1 h
10 h	30 min	10 h
100 h	5 h	100 h

#### 3. Indicators

Green LED U/t ON:	indication of supply voltage
Green LED U/t slow flashing:	indication of time period t1
Green LED U/t fast flashing:	indication of time period t2
Yellow LED ON/OFF:	indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mouted on DIN-rail TS 35 according to EN 50022  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1 Nm  
 Terminal capacity:  
 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	terminals A1(+) - A2
Types ZR5B0025	
12-240 V AC/DC:	12 to 240 V AC/DC
Tolerance:	12 V-10% to 240 V+10%
Rated frequency:	48 to 63 Hz
Rated consumption:	6 VA (2 W)
Duration of operation:	100%

Reset time:	100 ms
Residual ripple of DC:	-
Drop-out voltage:	>30% of the supply voltage
Oversvoltage category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

#### 6. Output circuit

2 potential free change over contacts	
Rated voltage:	250 V AC
Switching capacity:	2000 VA (8 A / 250 V)
Fusing:	8 A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> operations at 1000 VA resistive load
Switching frequency:	max. 60/min at 100 VA resistive load max. 6/min at 1000 VA resistive load (according to IEC 947-5-1)
Oversvoltage category:	III (according to IEC 60664-1)
Rated surge:	4 kV

#### 7. Control input

Input not potential free:	terminals A1-B1
Loadable:	yes
Max. line length:	10 m
Trigger level (sensitivity):	automatic adaption to supply voltage
Max. control pulse length:	DC 50 ms / AC 100 ms

#### 8. Accuracy

Base accuracy:	±1% of maximum scale value
Adjusting accuracy:	≤5% of maximum scale value
Repetition accuracy:	<0.5% or ±5 ms
Voltage influence:	-
Temperature influence:	≤0.01% / °C

#### 9. Ambient conditions

Ambient temperature:	-25 to +55 °C (according to IEC 68-1)
Storage temperature:	-25 to +70 °C
Transport temperature:	-25 to +70 °C
Relative humidity:	15% to 85% (according to IEC 721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (according to IEC 664-1)
Vibration resistance:	10 to 55 Hz 0.35 mm (according to IEC 68-2-6)
Shock resistance:	15 g 11 ms (according to IEC 68-2-27)

# TIME RELAYS

## FUNCTIONS

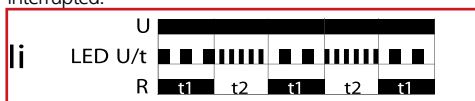
### Asymmetric flasher pause first (lp)

When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at the ratio of t1:t2 until the supply voltage is interrupted.



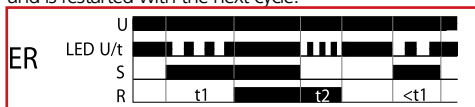
### Asymmetric flasher pulse first (li)

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into on-position (yellow LED illuminated). The output relay is triggered at the ratio of t1:t2 until the supply voltage is interrupted.



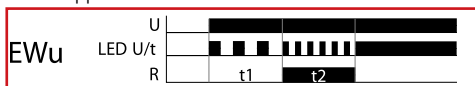
### ON delay and OFF delay with control contact (ER)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated). If the control contact is opened before the interval t1 has expired, the interval already expired is erased and is restarted with the next cycle.



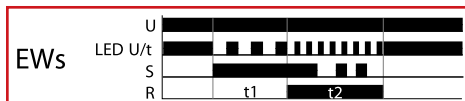
### ON delay and single shot leading edge voltage controlled (EWu)

When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated). If the supply voltage is interrupted before the interval t1+t2 has expired, the interval already expired is erased and is restarted when the supply voltage is next applied.



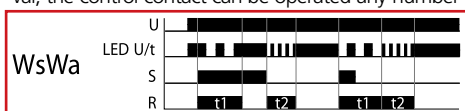
### ON delay and single shot leading edge with control contact (EWs)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



### Single shot leading and single shot trailing edge with control contact (WsWa)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into off-position (yellow LED not illuminated). If the control contact is opened, the output relay again switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times.

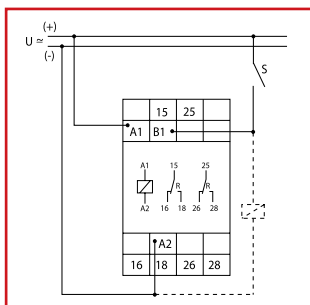


### Pulse sequence monitoring (Wt)

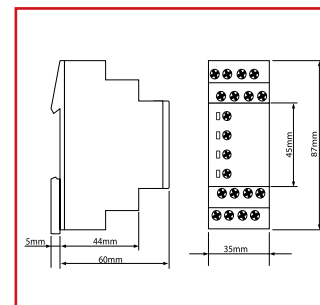
When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly) and the output relay R switches into on-position (yellow LED illuminated). After the interval t1 has expired, the set interval t2 begins (green LED U/t flashes fast). So that the output relay R remains in on-position, the control contact S must be closed and opened again within the set interval t2. If this does not happen, the output relay R switches into off-position (yellow LED not illuminated) and all further pulses at the control contact are ignored. To restart the function the supply voltage must be interrupted and reapplied.



## CONNECTIONS



## DIMENSIONS



## WEIGHT

Single packing: 106g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Pulse time relay, 7 functions, 12-240VAC, 2 change over, 8A/250V	9004840507263		ZR5B0025



## STAR-DELTA-RELAY ZR5SD025



### SCHRACK-INFO

- Star-Delta start up
- 2 change-over contacts
- Wide input voltage ran
- Width 35 mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

S Star-delta start up

#### 2. Time ranges

Start-up time

Time range	Adjustment range	
10 s	500 ms	10 s
30 s	1500 ms	30 s
1 min	3 s	1 min
3 min	9 s	3 min

Transit time (fixed)

40 ms  
60 ms  
80 ms  
100 ms

#### 3. Indicators

Green LED U/t ON: indication of supply voltage delta-contactor in on-position (terminals 25-28)

Green LED U/t flashes: indication of time period star time

Yellow LED R ON/OFF: indication of star contactor (terminals 15-18)

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN-rail TS 35 according to EN 50022  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
Tightening torque: max. 1 Nm  
Terminal capacity:  
1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
1 x 4 mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage: terminals A1(+)-A2  
Type ZR5SD025 12 to 240 V AC/DC  
Tolerance: 12 V-10% to 240 V+10%  
Rated consumption: 4 VA (1.5 W)  
Rated frequency: AC 48 to 63Hz  
Duty cycle: 100%

Reset time: 100 ms  
Residual ripple of DC: 10%  
Drop-out voltage: >30% of the supply voltage  
Overvoltage category: III (according to IEC 60664-1)  
Rated surge voltage: 4 kV

#### 6. Output circuit

2 potential free change over contacts  
Rated surge: 250 V AC  
Switching capacity: 2000 VA (8 A / 250 V)  
Fusing: 8 A fast acting  
Mechanical life: 20 x 10<sup>6</sup> operations  
Electrical life: 2 x 10<sup>5</sup> operations at 1000 VA resistive load  
Switching frequency: max. 60/min at 100 VA resistive load  
max. 6/min at 1000 VA resistive load (according to IEC 947-5-1)  
Overvoltage category: III. (according to IEC 60664-1)  
Rated surge voltage: 4 kV

#### 7. Accuracy

Base accuracy: ±1% of maximum scale value  
Adjustment accuracy: <5% of maximum scale value  
Repetition accuracy: <0.5% or ±5 ms  
Voltage influence: -  
Temperature influence: ≤0.01% / °C

#### 8. Ambient conditions

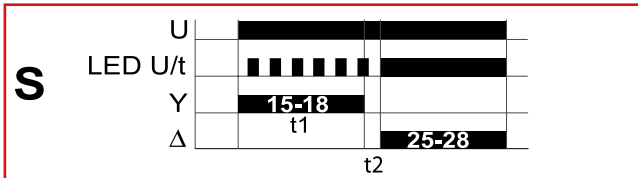
Ambient temperature: -25 to +55 °C (according to IEC 68-1)  
Storage temperature: -25 to +70 °C  
Transport temperature: -25 to +70 °C  
Relative humidity: 15% to 85% (according to IEC 721-3-3 Klasse 3K3)  
Pollution degree: 2, if built in 3 (according to IEC 664-1)  
Vibration resistance: 10 to 55 Hz 0.35 mm (according to IEC 68-2-6)  
Shock resistance: 15 g 11 ms (according to IEC 68-2-27)

# TIME RELAYS

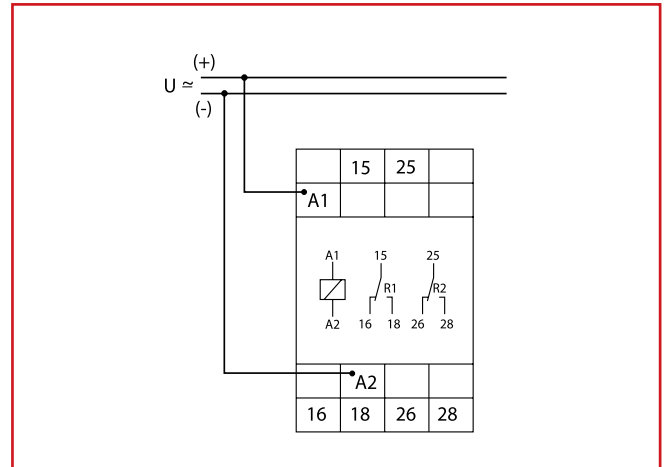
## FUNCTIONS

### Star-delta start up

When the supply voltage  $U$  is applied, the star-contact switches into on-position (yellow LED illuminated) and the set star-time  $t_1$  begins (green LED  $U/t$  flashes). After the interval  $t_1$  has expired (green LED  $U/t$  illuminated), the star-contact switches into off-position (yellow LED not illuminated) and the set transit-time  $t_2$  begins. After the interval  $t_2$  has expired, the contact for the delta-contactor switches into on-position. To restart the function, the supply voltage must be interrupted and reapplied.



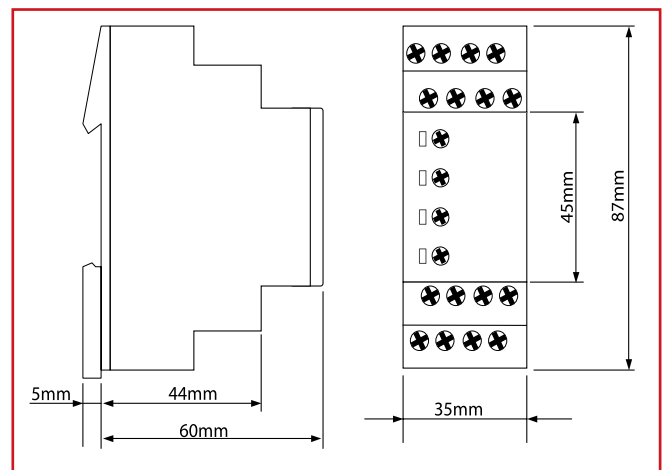
## CONNECTIONS



## WEIGHT

Single packing: 106 g

## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Star-delta-relay, 12-240VAC, 2 change over	9004840507300		ZR5SD025



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## STAR-DELTA-RELAY ZR6SD052



- Star-Delta start-up
- Supply voltage selectable via power modules
- 2 change-over contacts
- Width 22.5 mm
- Industrial design

### TECHNICAL DATA

#### 1. Functions

S Star-Delta start-up

#### 2. Zeitbereiche

Start-up time

Time range	Adjustment range	
10s	500ms	1s
3s	1500ms	30s
1min	3s	1min
3min	9s	3min

Transit time

Time range (fixed)

- 40ms
- 60ms
- 80ms
- 100ms

#### 3. Indicators

Green LED ON:	indication of supply voltage delta-contactor in on-position (terminals 25-28)
Green LED flashes:	indication of star-time
Yellow LED ON/OFF:	indication of star-contactor (terminals 15-18)

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mounted on DIN-Rail TS 35 according to EN 50022  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1Nm  
 Terminal capacity:  
 1 x 0.5 bis 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 bis 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:  
12 to 400V AC

Tolerance:

Rated frequency:

Rated consumption:

Duration of operation:

Reset time:

Residual ripple for DC:

Drop-out voltage:

Overvoltage category:

Rated surge voltage:

terminals A1-A2 (galvanically separated) selectable via power modules TR2 according to specification of power module according to specification of power module  
 2VA (1.5W)  
 100%  
 100ms  
 -  
 >30% of the supply voltage  
 III (in accordance with IEC 60664-1)  
 4kV

#### 6. Output circuit

2 potential free change-over contacts

Rated voltage: 250V AC

Schaltleistung: 750VA (3A / 250V AC)

If the *distance* between the devices is *less than 5mm!*

Switching capacity: 1250VA (5A / 250V AC)

If the *distance* between the devices is *greater than 5mm!*

Fusing: 5A fast acting

Mechanical life: 20 x 10<sup>6</sup> operations

Electrical Life: 2 x 10<sup>5</sup> operations at 1000VA resistive load

Switching frequency: max. 60/min bei 100VA

resistive load

max. 6/min bei 1000VA

resistive load (in accordance with IEC 60947-5-1)

Overvoltage category:

Rated surge voltage:

III (in accordance with IEC 60664-1)

4kV

#### 7. Accuracy

Base accuracy: ±1% (of maximum scale value)

Frequency response: -

Adjustment accuracy: ≤5% (of maximum scale value)

Repetition accuracy: <0.5% or ±5ms

Voltage influence: -

temperature influence: ≤0.01% / °C

# TIME DELAYS

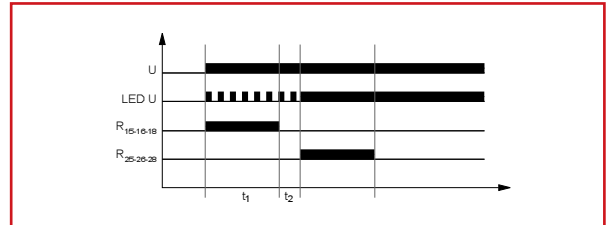
## 8. Ambient conditions

Ambient temperature:	-25 to +55°C (in accordance with IEC 60068-1) -25 to +40°C (in accordance with UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	3 (in accordance with IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35mm (in accordance with IEC 60068-2-6)
Shock resistance:	15g 11ms (in accordance with IEC 60068-2-27)

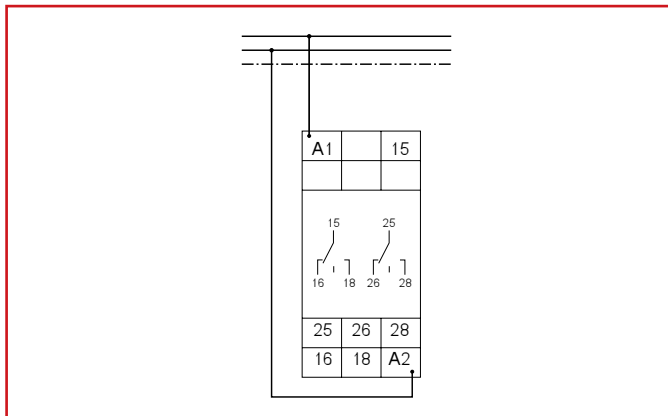
## FUNCTIONS

### Star-Delta start-up (S)

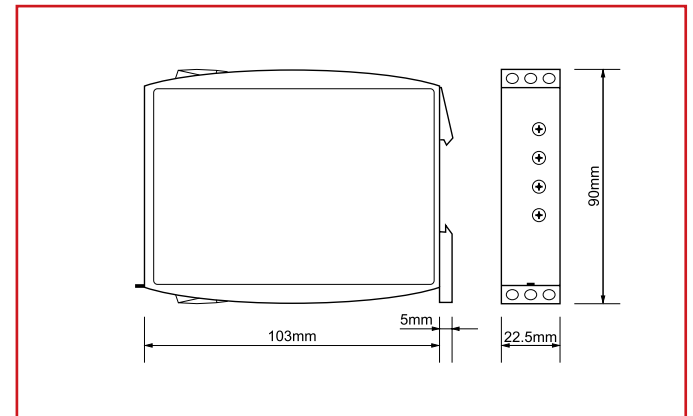
When the supply voltage U is applied, the star-contact switches into on-position (yellow LED illuminated) and the set star-time t1 begins (green LED flashing). After the interval t1 has expired (green LED illuminated) the star-contact switches into off-position (yellow LED not illuminated) and the set transit-time t2 begins. After the interval t2 has expired the delta-contact switches into on-position. To restart the function the supply voltage must be interrupted and re-applied.



## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Star-delta-relay, 2 change over, industrial design	9004840557459		ZR6SD052



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## EMERGENCY LIGHT TEST RELAY ZR5RT011



- Timer for automatic test of emergency lights
- Integrated test key
- 1 change over contact
- Width 17.5 mm
- Installation design

## TECHNICAL DATA

### 1. Functions

Ws Single shot leading edge with control contact

### 2. Time ranges

Time range reversible between 10min, 30min, 60min, 90min, 2h and 3h

### 3. Indicators

Green LED U/t ON: indication of supply voltage  
 Green LED U/t flashes: indication of time period t  
 Green LED U/t flashes fast: abort of time period t  
 Yellow LED ON/OFF: indication of relay output

### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP 40  
 Mounted on DIN-rail TS 35 according to EN 60715  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1Nm  
 Terminal capacity:  
 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

### 5. Input circuit

Supply voltage: 230V AC  
 Terminals: L-N  
 Tolerance: -15% to +10%  
 Rated frequency: 48 to 63Hz  
 Rated consumption: 2VA (1.0W)  
 Duty cycle: 100%  
 Reset time: 500ms  
 Ripple and noise at DC: -  
 Drop out voltage: >30% of supply voltage  
 Overvoltage category: III (in accordance with IEC 60664-1)  
 Rated surge voltage: 4kV

### 6. Output circuit

1 change over contact

#### NORMALLY OPEN CONTACT

Terminals: L-18  
 Rated voltage: 250V AC  
 Switching capacity: 1250VA (5A / 250V AC)

#### NORMALLY CLOSED CONTACT

Terminals: L-16  
 Rated voltage: 250V AC  
 Switching capacity: 2500VA (10A / 250V AC)  
 If the distance between the devices is less than 5mm!

Switching capacity: 4000VA (16A / 250V AC)  
 If the distance between the devices is greater than 5mm!  
 Start-up peak (20ms): 80A

Mechanical life: 30 x 10<sup>6</sup> operations  
 Electrical life:  
 Resistive load: 10<sup>5</sup> operations at 16A 250V  
 Lamp load: 80.000 operations at 1000W 250V

### 7. Accuracy

Base accuracy: ±5%  
 Adjustment accuracy: -  
 Repetition accuracy: <2%  
 Voltage influence: -  
 Temperature influence: ≤1%

### 8. Ambient conditions

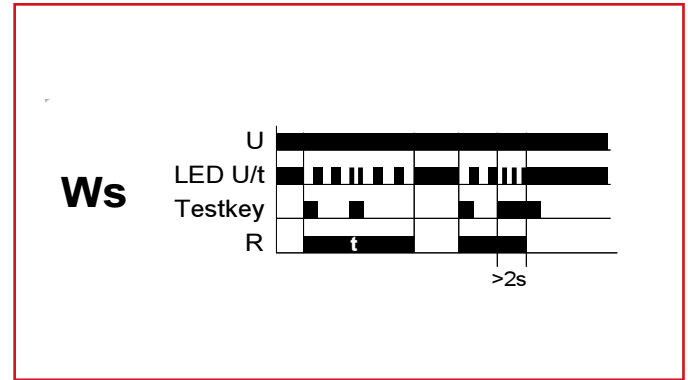
Ambient temperature: -25 to +55°C  
 Storage temperature: -25 to +70°C  
 Transport temperature: -25 to +70°C  
 Relative humidity: 15% to 85% (in accordance with IEC 60721-3-3 class 3K3)  
 Pollution degree: 2, if built in 3 (in accordance with IEC 60664-1)

# TIME DELAYS

## FUNCTIONS

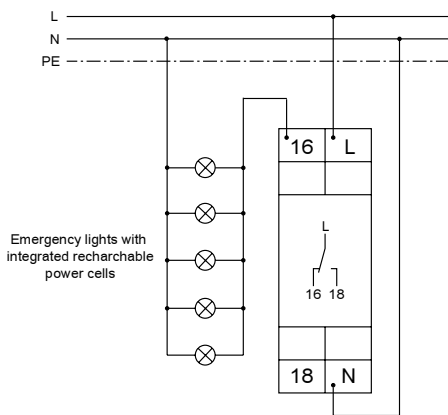
### Single shot leading edge with control contact (Ws)

The supply voltage U must be constantly to the device (green LED U/t illuminated). Pressing the integrated test key forces the output relay R to switch into on-position (yellow LED illuminated), so the emergency lights are disconnected from the mains and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated), the output relay R switches into off-position (yellow LED not illuminated) and the emergency lights are reconnected to the mains. During the interval, the test key can be operated any number of times. Prolonged pressure on the test key (>2s) aborts the running test interval (green LED U/t flashes fast) and a further cycle can be started.

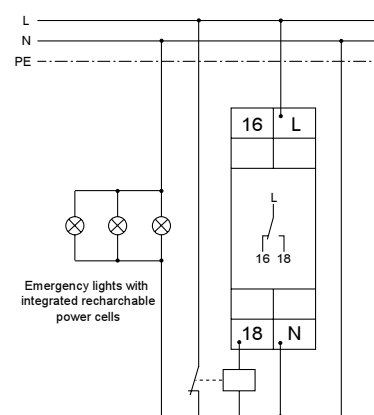


## CONNECTIONS

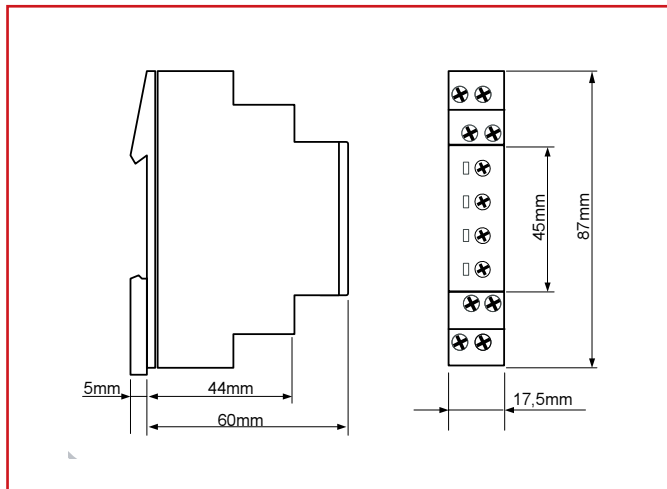
Direct connection of emergency lights (I < 16A)



Switching emergency lights with contactor (I > 16A)

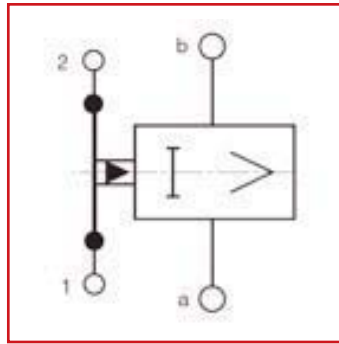


## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Emergency light test relay	9004840557374		ZR5RT011

## LOAD SHEEDING RELAY BZ601000




### SCHRACK INFO

- For reduction of the necessary cross section of a line with big consumers
- Also for electronically regulated instantaneous water heater
- Assembly on DIN-rail according to DIN EN 50 052 or mounting plate

### TECHNICAL DATA

Rated current range AC	6,7...39 A
Rated power range for load at 230 V AC	1,5...9 kW
Rated power range for load at AC 3~230/400 V	4,6...27 kW
Operating power consumption	0,5...4 VA
Tripping current	≤ 5,7 A AC
Maximum continuous current	43 A AC
Thermal continuous load at 40°C	2,5 W
Connection (a and b) screw terminal; wire cross section	2,5...16 mm <sup>2</sup>
Contact	1 NC
Rated current at 250 V AC	1 A
Contact material	silver plated
Maximum switching voltage	400 V AC
Maximum switching capacity	250 VA
Peak inrush current	5 A
Electrical life at rated load	10 <sup>5</sup> operations
Mechanical life	10 x 10 <sup>5</sup> operations
Duty cycle	100%
Max. switching frequency	1800 operations/hour at rated load
Max. operating temperature	40°C
Opening time/closing time	10...20 ms/≥ 20 ms
Contact resistance	ca. 3 mΩ
Test voltage: contact/winding	2500 V AC
Insulation class acc. to VDE 0110	C/250 V
Protection degree housing	IP 40
Connection (1 and 2)	Schraubklemmen
Wire cross section (1 and 2)	0,75...4 mm <sup>2</sup>
Weight	ca. 90 g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Load shedding relay 6,7 – 39 A 400V-AC	9004840378429		<b>BZ601000</b>



## VOLTAGE MONITORING RELAY UR5U1011



### SCHRACK-INFO

- AC/DC voltage monitoring in 1-phase mains
- Undervoltage monitoring
- 1 change over contact
- Width 17.5 mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

AC/DC undervoltage monitoring in 1-phase mains with adjustable threshold and fixed hysteresis.

UNDER Undervoltage monitoring

#### 2. Time ranges

Tripping delay (Delay): Adjustment range -

#### 3. Indicators

Green LED ON/OFF: indication of supply voltage  
Yellow LED ON/OFF: indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN rail TS 35 according to EN 50022  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
Tightening torque: max. 1Nm  
Terminal capacity:  
1 x 0.5 to 2.5mm<sup>2</sup> with/without multicore cable end  
1 x 4mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5mm<sup>2</sup> with/without multicore cable end  
2 x 2.5mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage: (= measuring voltage)  
Terminals:  
230V AC E-F3  
24V AC E-F2 (distance > 5mm)  
24V DC E-F1(+)  
Rated voltage Un: see table ordering information or printing on the unit  
Tolerance: -25% to +20% of Un  
Rated consumption:  
230V AC 10VA (0.6W)  
24V AC 1.3VA (0.8W)  
24V DC 0.6W  
Rated frequency: AC 48 to 63Hz  
Duration of operation: 100%  
Reset time: 500ms  
Wave form: DC, AC Sinus  
Hold-up time: -  
Drop-out voltage: >60% of supply voltage  
Overvoltage category: III (according to IEC 60664-1)  
Rated surge voltage: 4kV

#### 6. Output circuit

1 potential free change over contact  
Rated voltage: 250V AC  
Switching capacity: 1250VA (5A / 250V)  
Fusing: 5A fast acting  
Mechanical life: 20 x 10<sup>8</sup> operations  
Electrical life: 2 x 10<sup>5</sup> operations at 1000VA resistive load  
Switching frequency: max. 60/min at 100VA resistive load  
max. 6/min at 1000VA resistive load (according to IEC 947-5-1)  
Overvoltage category: III. (according to IEC 60664-1)  
Rated surge voltage: 4kV

#### 7. Measuring circuit

Measuring variable: DC or AC Sinus, 48 to 63Hz  
Measuring input: (= supply voltage)  
Terminals:  
230V AC E-F3  
24V AC E-F2 Distance between the devices must be greater than 5mm!  
24V DC E-F1(+)  
Overload capacity: 120% of Un  
Input resistance: -  
Switching threshold Us: see table ordering information or printing on the unit  
Hysteresis H: see table ordering information or printing on the unit  
Overvoltage category: III (according to IEC 60664-1)  
Rated surge voltage: 4kV

#### 8. Accuracy

Base accuracy: ±5% of rated value  
Adjustment accuracy: ±5% of rated value  
Repetition accuracy: ≤2% of rated value  
Voltage influence: -  
Temperature influence: 0,05% / °C

#### 9. Ambient conditions

Ambient temperature: -25 to +55°C (according to IEC 68-1)  
Storage temperature: -25 to +70°C  
Transport temperature: -25 to +70°C  
Relative humidity: 15% to 85% (according to IEC 721-3-3 class 3K3)  
Pollution degree: 2, if built in 3 (according to IEC 664-1)  
Vibration resistance: 10 to 55 Hz 0.35mm (according to IEC 68-2-6)  
Shock resistance: 15g 11ms (according to IEC 68-2-27)

#### 10. Weight

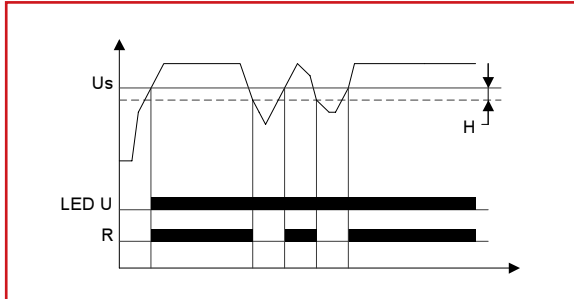
Single packing: 74g



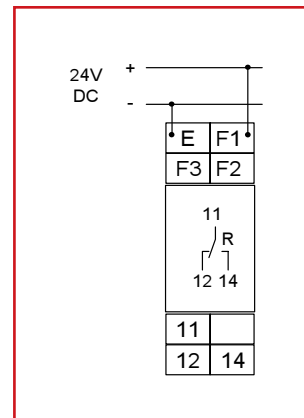
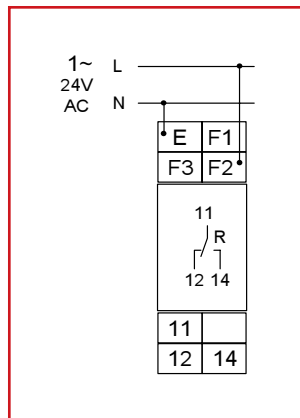
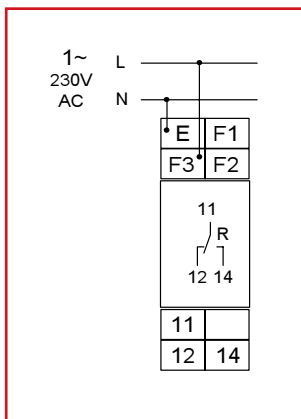
## FUNCTIONS

The supply voltage  $U$  must be constantly applied to the device (green LED illuminated).

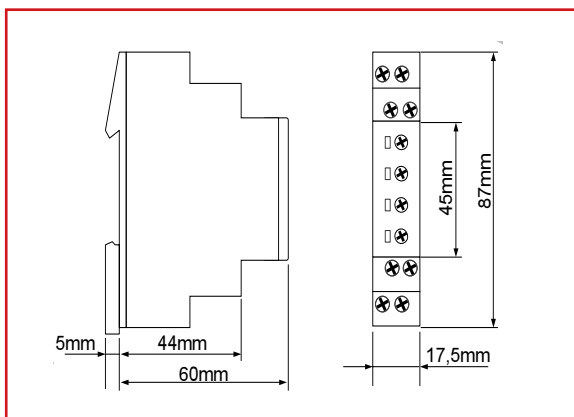
The output relay  $R$  switches into on-position (yellow LED illuminated) when the measured voltage  $U$  exceeds the value adjusted at the  $U_s$ -regulator. The output relay  $R$  switches into off-position (yellow LED not illuminated) when the measured value for the voltage falls below the set value by more than the fixed hysteresis.



## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Voltage monitoring relay, 1 change over, 1 phase, AC/DC	9004840517125		<b>UR5U1011</b>

## VOLTAGE MONITORING RELAY UR6U1052



- AC/DC voltage monitoring in 1-phase mains
- Multifunction
- 16.6 to 400 Hz
- Fault latch
- Zoom voltage 24 to 240V AC/DC
- 2 change-over contacts
- Width 22.5 mm
- Industrial design

### TECHNICAL DATA

#### 1. Functions

AC/DC voltage monitoring in 1-phase mains with adjustable thresholds, timing for start-up suppression and tripping delay separately adjustable and the following functions (selectable by means of rotary switch)

OVER	Overvoltage monitoring
OVER+LATCH	Overvoltage monitoring with fault latch
UNDER	Undervoltage monitoring
UNDER+LATCH	Undervoltage monitoring with fault latch
WIN	Monitoring the window between Min and Max
WIN+LATCH	Monitoring the window between Min and Max with fault latch

#### 2. Time ranges

	Adjustment range
Start-up suppression time:	0s 10s
Tripping delay:	0.1s 10s

#### 3. Indicators

Green LED ON:	indication of supply voltage
Green LED flashes:	indication of start-up suppression time
Yellow LED ON/OFF:	indication of relay output
Red LED ON/OFF:	indication of failure of the corresponding threshold
Red LED flashes:	indication of tripping delay of the corresponding threshold

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mounted on DIN-Rail TS 35 according to EN 60715  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1Nm  
 Terminal capacity:  
 1 x 0.5 bis 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 bis 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	24 to 240V AC/DC	terminals A1-A2 (galvanically separated)
Tolerance:	24 to 240V DC 24 to 240V AC	-20% to +25% -15% to +10%
Rated frequency:	24 to 240V AC 48 to 240V AC	48 to 400Hz 16 to 48Hz
Rated consumption:		4.5VA (1W)
Duration of operation:		100%
Reset time:		500ms
Wave form for AC:		Sinus
Residual ripple for DC:		10%
Drop-out voltage:		>15% of the supply voltage
Overvoltage category:		III (in accordance with IEC 60661-1)
Rated surge voltage:		4kV

#### 6. Output circuit

	2 potential free change-over contacts
Rated voltage:	250V AC
Switching capacity (distance <5 mm):	750VA (3A / 250V AC)
Switching capacity (distance >5 mm):	1250VA (5A / 250V AC)
Fusing:	5A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

## 7. Measuring circuit

Fusing:	max. 20A (in accordance with UL 508)
Measured variable:	DC or AC Sinus (16.6 to 400Hz)
Input:	
30V AC/DC	terminals E-F1(+)
60V AC/DC	terminals E-F2(+)
300V AC/DC	terminals E-F3(+)
Overload capacity:	
30V AC/DC	100V <sub>eff</sub>
60V AC/DC	150V <sub>eff</sub>
300V AC/DC	440V <sub>eff</sub>
Input resistance:	
30V AC/DC	47Ω
60V AC/DC	100Ω
300V AC/DC	470Ω
Switching threshold:	
Max	10% to 100% von U <sub>N</sub>
Min	5% to 95% von U <sub>N</sub>
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

## 8. Accuracy

Base accuracy:	±5% (of maximum scale value)
Frequency response:	-10% to +5% (at 16.6 to 400Hz)
Adjustment accuracy:	≤5% (of maximum scale value)
Repetition accuracy:	≤2%
Voltage influence:	≤0.5%
Temperature influence:	≤0.1% / °C

## 9. Ambient conditions

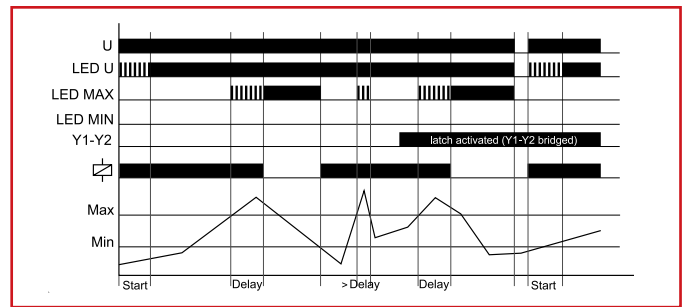
Ambient temperature:	-25 to +55°C (in accordance with IEC 60068-1) -25 to +40°C (in accordance with UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	3 (in accordance with IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35 mm (in accordance with IEC 60068-2-6)
Shock resistance:	15g 11ms (in accordance with IEC 60068-2-27)

## FUNCTIONS

When the supply voltage U is applied, the output relays switch into on-position (yellow LED illuminated) and the set interval of the start-up suppression (START) begins (green LED U flashes). Changes of the measured voltage during this period do not affect the state of the output relay. After the interval has expired the green LED is illuminated steadily. For all the functions the LEDs MIN and MAX are flashing alternating, when the minimum value for the measured voltage was chosen to be greater than the maximum value.

### Overvoltage monitoring (OVER, OVER+LATCH)

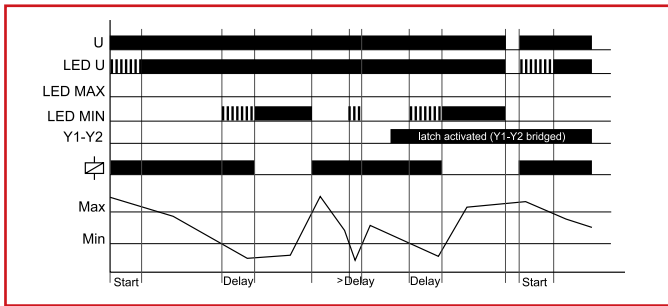
When the measured voltage exceeds the value adjusted at the MAX-regulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated), when the measured voltage falls below the value adjusted at the MIN-regulator (red LED MAX not illuminated). If the fault latch is activated (OVER+LATCH) and the measured voltage remains above the MAX-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured voltage falls below the value adjusted at the MIN-regulator. After resetting the failure (interrupting and re-applying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).



### Undervoltage monitoring (UNDER, UNDER+LATCH)

When the measured voltage falls below the value adjusted at the MIN-regulator, the set interval of the tripping delay (DELAY) begins (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated), when the measured voltage exceeds the value adjusted at the MAX-regulator. If the fault latch is activated (UNDER+LATCH) and the measured voltage remains below the MIN-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured voltage exceeds the value adjusted at the MAX-regulator. After resetting the failure (interrupting and re-applying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).

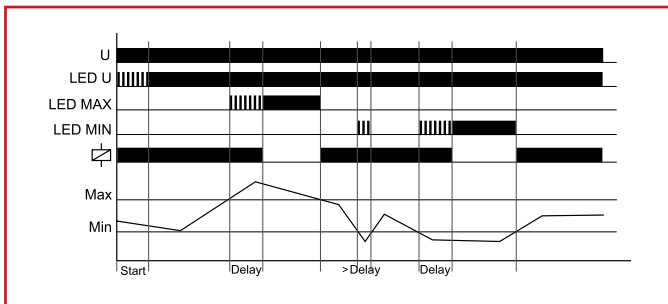
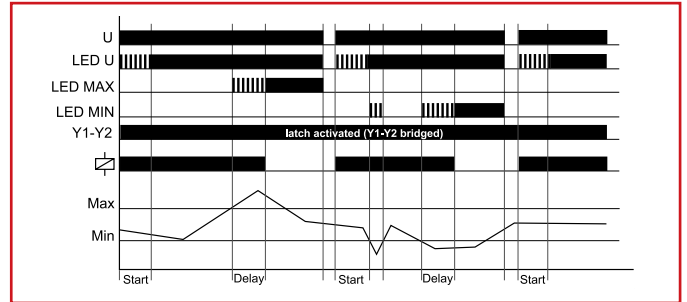
# MONITORING RELAYS



If the fault latch is activated (WIN+LATCH) and the measured voltage remains below the MIN-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured voltage exceeds the value adjusted at the MIN-regulator. If the measured voltage remains above the MAX-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured voltage falls below the value adjusted at the MAX-regulator. After resetting the failure (interrupting and re-applying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).

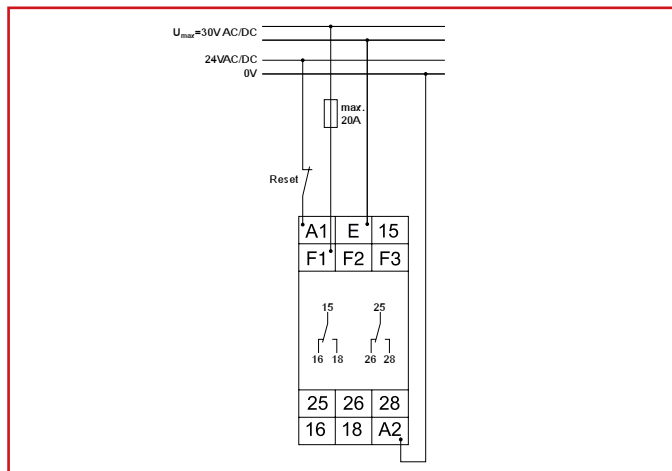
## Window function (WIN, WIN+LATCH)

The output relays switch into on-position (yellow LED illuminated) when the measured voltage exceeds the value adjusted at the MIN-regulator. When the measured voltage exceeds the value adjusted at the MAX-regulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated) when the measured voltage falls below the value adjusted at the MAX-regulator (red LED MAX not illuminated). When the measured voltage falls below the value adjusted at the MIN-regulator, the set interval of the tripping delay (DELAY) begins again (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relays switch into off-position (yellow LED not illuminated).

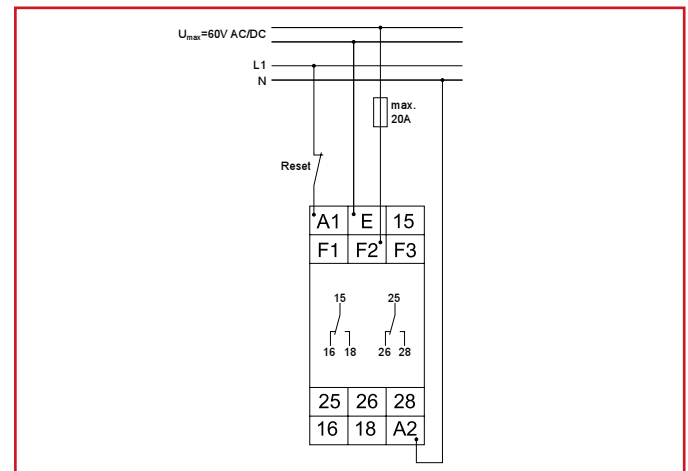


## CONNECTIONS

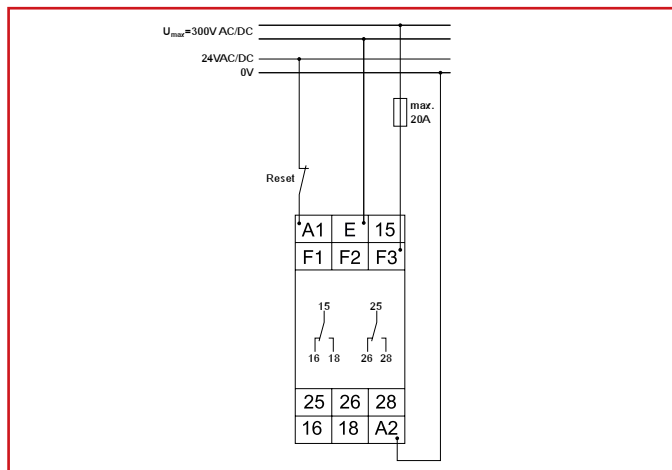
Range 30V, supply voltage 24V AC/DC and fault latch



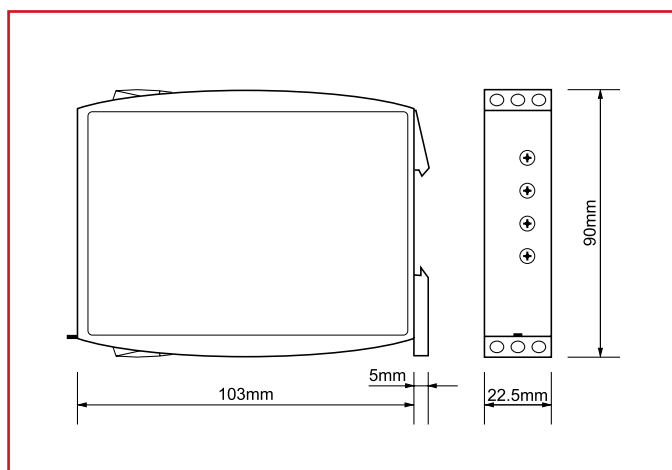
Range 60V, supply voltage 230V AC and fault latch



Range 300V, supply voltage 24V AC/DC and fault latch



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Voltage monitoring relay, 2 change over, 1 phase, 24-240V AC/DC, industrial design	9004840557398		<b>UR6U1052</b>

## VOLTAGE MONITORING 3-PHASE RELAY UR5U3011



### SCHRACK-INFO

- Undervoltage monitoring
- Supply voltage = measured voltage
- 1 change over contact
- Width 17.5 mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

Undervoltage monitoring in 3-phase mains (each phase against the neutral wire) with fixed or variable threshold voltage US and fixed hysteresis.

#### 2. Time range

Tripping delay: Adjustment range  
fixed, approx. 200ms

#### 3. Indicators

Green LED L1 ON/OFF: indication of supply voltage L1-N  
Green LED L2 ON/OFF: indication of supply voltage L2-N  
Green LED L3 ON/OFF: indication of supply voltage L3-N  
Yellow LED ON/OFF: indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN-rail TS 35 according to EN 60715  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required)  
IP rating: IP20  
Tightening torque: max. 1Nm  
Terminal capacity:  
1 x 0.5 to 2.5mm<sup>2</sup> with/without multicore cable end  
1 x 4mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5mm<sup>2</sup> with/without multicore cable end  
2 x 2.5mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage: (= measured voltage)  
Terminals: N-L1-L2-L3  
Rated voltage  $U_N$ : 400 / 230V  
Tolerance: -30% to +10% of UN  
Rated consumption:  
UR5U3011: 8VA (0,8W)  
Rated frequency: AC 48 to 63Hz  
Duty cycle: 100%  
Reset time: 500ms  
Hold-up time: -  
Drop out voltage: determined by undervoltage detection  
(see measured circuit)  
Overvoltage category: III (in accordance with IEC 60664-1)  
Rated surge voltage: 4kV

#### 6. Output circuit

1 potential free change over contact  
Rated voltage: 250V AC  
Switching capacity: 1250VA (5A / 250V)  
Fusing: 5A fast acting  
Mechanical life: 20 x 10<sup>6</sup> operations  
Electrical life: 2 x 10<sup>5</sup> operations  
at 1000V resistive load  
Switching frequency: max. 6/min at 1000VA resistive load  
(in accordance with IEC 60947-5-1)  
Overvoltage category: III (in accordance with IEC 60664-1)  
Rated surge voltage: 4kV

#### 7. Measuring circuit

Measuring variable: AC sinus, 48 to 63Hz  
Measuring input: (= supply voltage)  
Terminals: N-L1-L2-L3  
Overload capacity: determined by tolerance  
specified for supply voltage  
Input resistance: -  
Switching threshold US: see table ordering information  
or printing on the unit  
approx. 5%  
Hysteresis H: approx. 5%  
Overvoltage category: III (in accordance with IEC 60664-1)  
Rated surge voltage: 4kV

#### 8. Accuracy

Base accuracy: ±5% of nominal value  
Adjustment accuracy: -  
Repetition accuracy: ≤2%  
Voltage influence: -  
Temperature influence: ≤0,05%/°C

#### 9. Ambient conditions

Ambient conditions: -25 to +55°C  
Storage temperature: -25 to +70°C  
Transport temperature: -25 to +70°C  
Relative humidity: 15% to 85%  
(in acc. with IEC 60721-3-3 class 3K3)  
Pollution degree: 2, if built-in 3  
(in acc. with IEC 60664-1)

#### 10. Weight

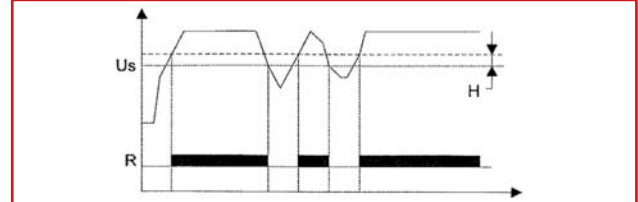
Single packing: 72g

## FUNCTIONS

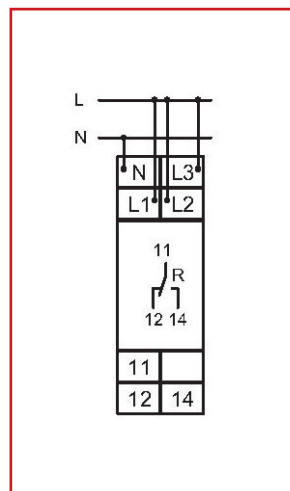
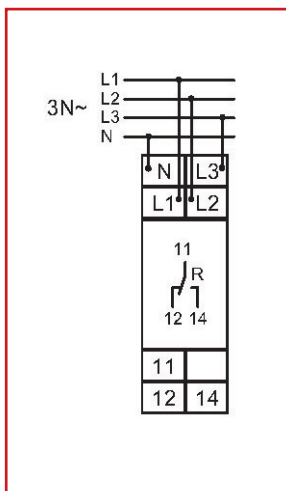
Undervoltage monitoring for 3-phase AC mains with variable threshold voltage  $U_s$  and fixed hysteresis. All measuring inputs (L1, L2 and L3) must be connected to phase voltage. If single or 2-phase monitoring is required, unused input terminals (L) must be connected to mains voltage to have proper L-N voltage on the terminals L1, L2 and L3. A phase failure can not be detected, if the reverse voltage coming from the load exceeds the threshold  $U_s$  relay.

### Undervoltage monitoring

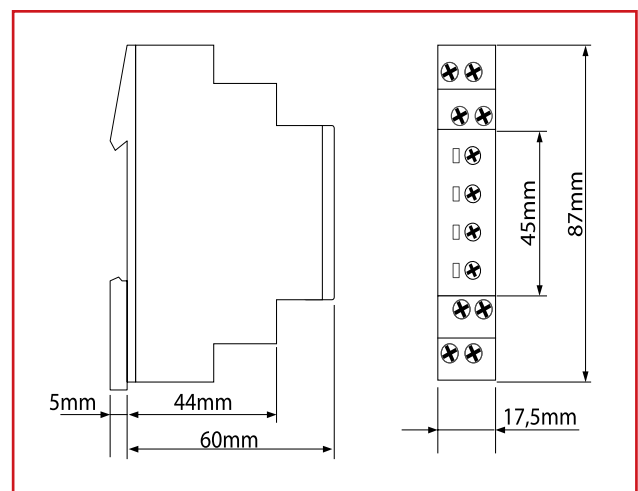
The output relay R switches into on-position (yellow LED illuminated), when the measuring voltage of all connected phases exceeds the fixed threshold  $U_s$  by more than the fixed hysteresis H. When the voltage of one of the connected phases (L1, L2 or L3) falls below the fixed threshold, the output relay R switches into off-position again (yellow LED not illuminated).



## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Voltage monitoring relay, 1 change over, 3 phases	9004840459074		<b>UR5U3011</b>



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## VOLTAGE MONITORING 3-PHASE RELAY UR6U3052



- Voltage monitoring in 3-phase mains
- Multifunction
- Monitoring of phase sequence and phase failure
- Monitoring of asymmetry selectable
- Connection of neutral wire optional
- Detection of loss of neutral wire
- Zoom voltage 24 to 240V AC/DC
- 2 change-over contacts
- Width 22.5mm
- Industrial design

### TECHNICAL DATA

#### 1. Functions

Voltage monitoring in 3-phase mains with adjustable thresholds, adjustable tripping delay, monitoring of phase sequence and phase failure, monitoring of asymmetry with adjustable threshold and the following functions (selectable by means of rotary switch)

UNDER	Undervoltage monitoring
UNDER+SEQ	Undervoltage monitoring and monitoring of phase sequence
WIN	Monitoring of window between Min and Max
WIN+SEQ	Monitoring the window between Min and Max and monitoring of phase sequence

#### 2. Time ranges

	Adjustment range	
Start-up suppression time:	-	
Tripping delay:	0.1s	10s

#### 3. Indicators

Red LED ON/OFF:	indication of failure of the corresponding threshold
Red LED flashes:	indication of tripping delay of the corresponding threshold
Yellow LED ON/OFF:	indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mounted on DIN-Rail TS 35 according to EN 60715  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1Nm  
 Terminal capacity:  
 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	24 to 240V AC/DC	terminals A1-A2 (galvanically separated)
Tolerance:	24 to 240V DC 24 to 240V AC	-20% to +25% -15% to +10%
Rated frequency:	24 to 240V AC 48 to 240V AC	48 to 400Hz 16 to 48Hz
Rated consumption:		4.5VA (1W)
Duration of operation:		100%
Reset time:		500ms
Wave form for AC:		Sinus
Residual ripple for DC:		10%
Drop-out voltage:		>15% of the supply voltage
Overvoltage category:		III (in accordance with IEC 60661-1)
Rated surge voltage:		4kV

#### 6. Output circuit

	2 potential free change-over contacts
Rated voltage:	250V AC
Switching capacity (distance <5 mm):	750VA (3A / 250V AC)
Switching capacity (distance >5 mm):	1250VA (5A / 250V AC)
Fusing:	5A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV



## 7. Measuring circuit

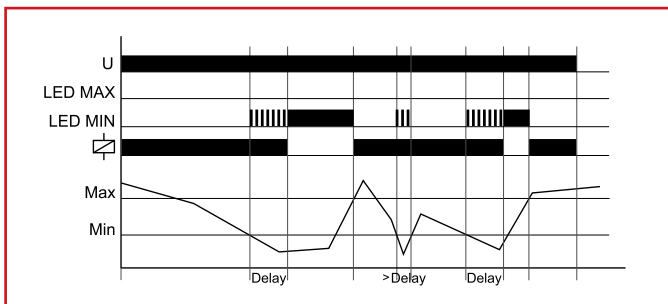
Fusing:	max. 20A (in accordance with UL 508)	
Measured variable:	AC Sinus (48 to 63Hz)	
Input:	3(N)~ 400/230V terminals (N)-L1-L2-L3	
Overload capacity:	3(N)~ 400/230V	3(N)~600/346V
Input resistance:	3(N)~ 400/230V	1MΩ
Switching threshold		
Max:	-20% to +30% of UN	
Min:	-30% to +20% of UN	
Asymmetry:	5% to 25%	
Overvoltage category:	III (in accordance with IEC 60664-1)	
Rated surge voltage:	4kV	

## FUNCTIONS

For all the functions the LEDs MIN and MAX are flashing alternating, when the minimum value for the measured voltage was chosen to be greater than the maximum value. If a failure already exists when the device is activated, the output relays remain in off-position and the LED for the corresponding threshold is illuminated.

### Under voltage monitoring (UNDER, UNDER+SEQ)

When the measured voltage (mean value of phase-to-phase voltages) falls below the value adjusted at the MIN-regulator, the set interval of the tripping delay (DELAY) begins (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated), when the measured voltage exceeds the value adjusted at the MAX-regulator.



### Window function (WIN, WIN+SEQ)

The output relays switch into on-position (yellow LED illuminated) when the measured voltage (mean value of phase-to-phase voltages) exceeds the value adjusted at the MIN-regulator. When the measured voltage exceeds the value adjusted at the MAX-regulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relays switch into off-position (yellow LED not illuminated).

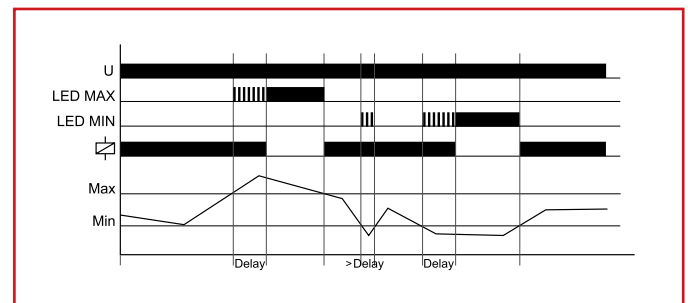
## 8. Accuracy

Base accuracy:	±5% (of maximum scale value)
Frequency response:	-
Adjustment accuracy:	±5% (of maximum scale value)
Repetition accuracy:	±2%
Voltage influence:	±0.5%
Temperature influence:	±0.1% / °C

## 9. Ambient conditions

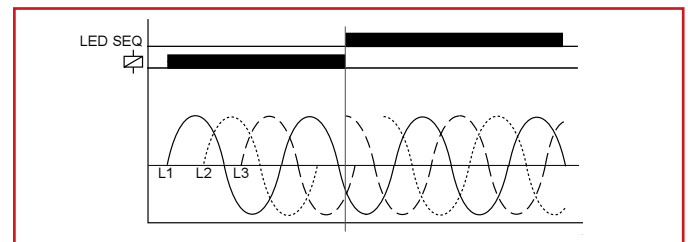
Ambient temperature:	-25 to +55°C (in accordance with IEC 60068-1)
	-25 to +40°C (in accordance with UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	3 (in accordance with IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35mm (in accordance with IEC 60068-2-6)
Shock resistance:	15g 11ms (in accordance with IEC 60068-2-27)

ated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated) when the measured voltage falls below the value adjusted at the MAX-regulator (red LED MAX not illuminated). When the measured voltage falls below the value adjusted at the MIN-regulator, the set interval of the tripping delay (DELAY) begins again (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relays switch into off-position (yellow LED not illuminated).



### Phase sequence monitoring (SEQ)

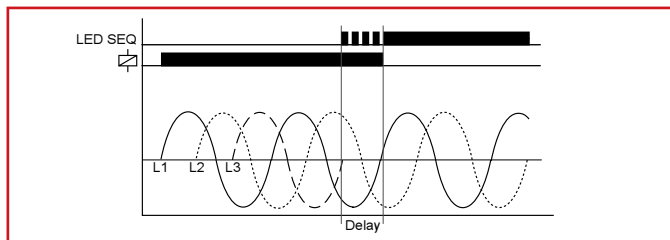
Phase sequence monitoring is selectable for all functions. If a change in phase sequence is detected (red LED SEQ illuminated), the output relays switch into off-position immediately (yellow LED not illuminated).



# MONITORING RELAYS

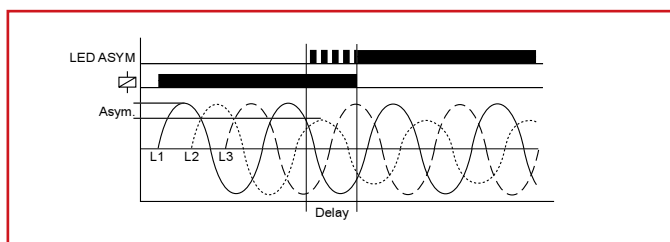
## Phase failure monitoring (SEQ)

If one of the phase voltages fails, the set interval of the tripping delay (DELAY) begins (red LED SEQ flashes). After the interval has expired (red LED SEQ illuminated), the output relays switch into off-position (yellow LED not illuminated). Reverse voltages of a consumer (e.g. a motor which continues to run on two phases) do not effect the disconnection but can be monitored by using a proper value for the asymmetry.



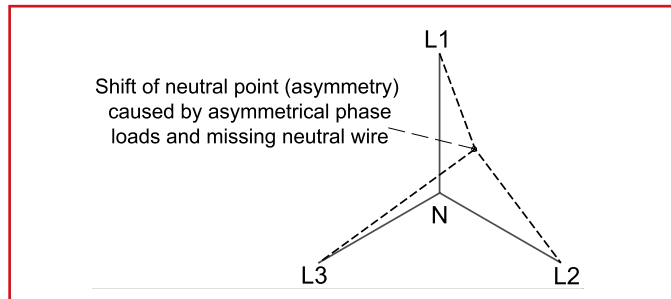
## Asymmetry monitoring

If the asymmetry of the phase-to-phase voltages exceeds the value set at the ASYM-regulator, the set interval of the tripping delay (DELAY) begins (red LED ASYM flashes). After the interval has expired (red LED ASYM illuminated), the output relays switch into off-position (yellow LED not illuminated). If the neutral wire is connected to the device, the asymmetry of the phase voltages referred to the neutral wire (Y-voltage) is monitored also. In that case both values of the asymmetry are evaluated and if one of the values exceeds the value set at the ASYM-regulator, the set interval of the tripping delay (DELAY) begins (red LED ASYM flashes). After the interval has expired (red LED ASYM illuminated), the output relays switch into off-position (yellow LED not illuminated).



## Loss of neutral wire by means of evaluation of asymmetry

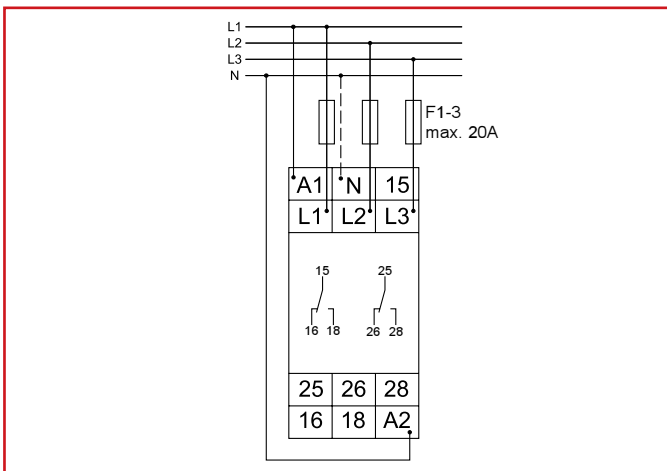
A break of the neutral wire between power line and machinery is detected as soon as asymmetry between phase-to-phase voltage and neutral wire occurs. If the asymmetry exceeds the value set at the ASYM-regulator, the set interval of the tripping delay (DELAY) begins (red LED ASYM flashes). After the interval has expired (red LED ASYM illuminated), the output relays switch into off-position (yellow LED not illuminated). A break of the neutral wire between our device and the machinery can not be detected.



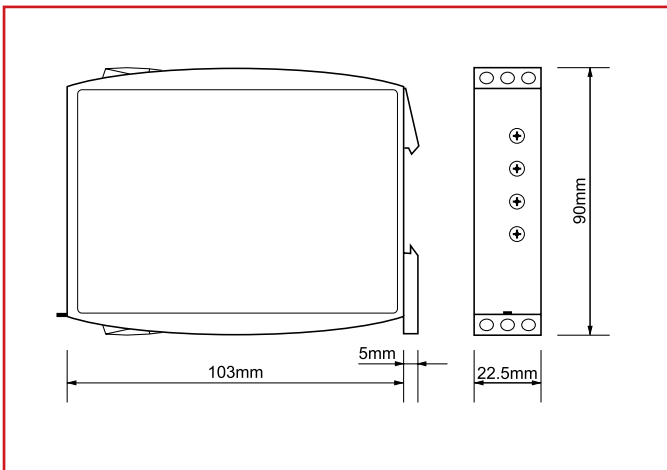
Shift of neutral point (asymmetry) caused by asymmetrical phase loads and missing neutral wire

## CONNECTIONS

24-240V, supply voltage 230V AC



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Voltage monitoring relay, 2 change over, 3 phases, 24-240V AC/DC, industrial design	9004840557404		<b>UR6U3052</b>



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## VOLTAGE MONITORING 3-PHASE RELAY UR5U3N11



- Undervoltage monitoring
- 1 change over contact
- Installation design

### TECHNICAL DATA

#### 1. Functions

Undervoltage monitoring in 3-phase mains (each phase against the neutral wire) with fixed threshold voltage  $U_S$  and fixed hysteresis.

#### 2. Time range

Adjustment range

Tripping delay: fixed, approx. 200ms

#### 3. Indicators

Yellow LED ON/OFF: indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40

Mounted on DIN-rail TS 35 according to EN 60715

Mounting position: any

Shockproof terminal connection according to VBG 4

(PZ1 required), IP rating IP20

Tightening torque: max. 1Nm

Terminal capacity:

1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end

1 x 4 mm<sup>2</sup> without multicore cable end

2 x 0.5 bis 1.5 mm<sup>2</sup> with/without multicore cable end

2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage: (= measured voltage)

Terminals: N-L1-L2-L3

Tolerance: -30% to +15% of  $U_N$

Rated voltage  $U_N$ : 3N~400/230V

Rated consumption: 5VA (0,6W)

Rated frequency: AC 48 to 63Hz

Duty cycle: 100%

Reset time: 500ms

Hold-up time: -

Drop out voltage: determined by undervoltage detection (see measured circuit)

Overvoltage category: III (in acc. with IEC 60661-1)

Rated surge voltage: 4kV

#### 6. Output circuit

1 potential free change over contact

Rated voltage: 250V AC

Switching capacity: 1250VA (5A / 250V)

Fusing: 5A fast acting

Mechanical life: 20 x 10<sup>6</sup> operations

Electrical life: 2 x 10<sup>5</sup> operations

at 1000VA resistive load

max. 6/min at 100VA resistive load (in acc. with IEC 60947-5-1)

Overvoltage category: III (in acc. with IEC 60664-1)

Rated surge voltage: 4kV

#### 7. Measuring circuit

Measuring variable: AC sinus, 48 to 63Hz

Measuring input: (= supply voltage)

Terminals: N-L1-L2-L3

Overload capacity: determined by tolerance

specified for supply voltage

Input resistance: -

Switching threshold  $U_S$ : fixed 195,5V (L-N)

Hysteresis H: approx. 5%

Overvoltage category: III (in acc. with IEC 60664-1)

Rated surge voltage: 4kV

#### 8. Accuracy

Base accuracy: ≤5% of nominal value

Adjustment accuracy: -

Repetition accuracy: ≤2%

Voltage influence: -

Temperature influence: ≤0,05% / °C

#### 9. Ambient conditions

Ambient conditions: -25 to +55°C

Storage temperature: -25 to +70°C

Transport temperature: -25 to +70°C

Relative humidity: 15% to 85% (in acc. with

IEC 60721-3-3 class 3K3)

Pollution degree: 2, if built-in 3

(in acc. with IEC 60664-1)

#### 10. Weight

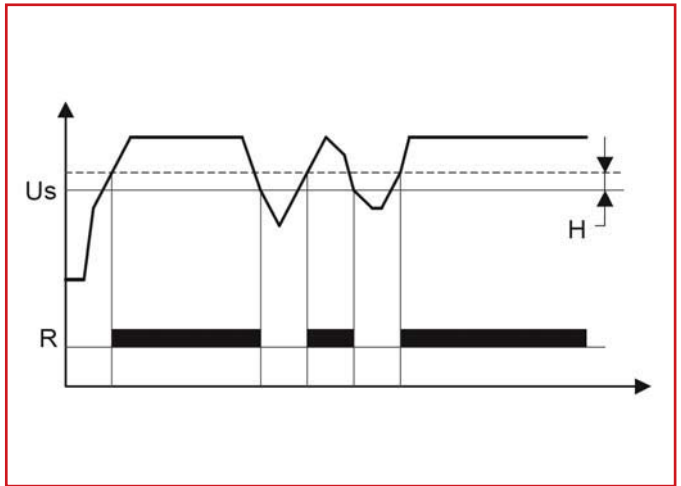
Single packing: 72g

## FUNCTIONS

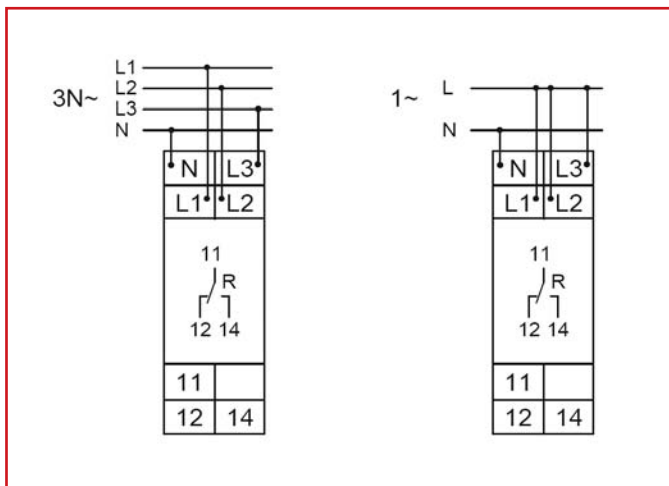
Undervoltage monitoring for 3-phase AC mains with fixed threshold voltage  $U_s$  and fixed hysteresis. All measuring inputs (L1, L2 and L3) must be connected to phase voltage. If single or 2-phase monitoring is required, unused input terminals (L) must be connected to mains voltage to have proper L-N voltage on the terminals L1, L2 and L3. A phase failure can not be detected, if the reverse voltage coming from the load exceeds the threshold  $U_s$ .

### Undervoltage monitoring

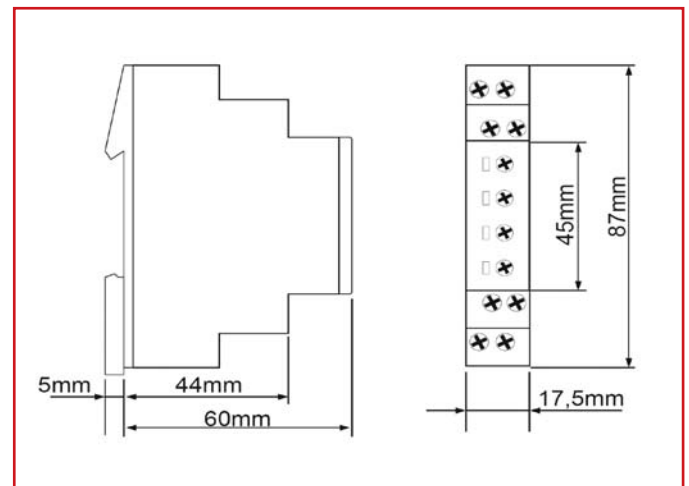
The output relay R switches into on-position (yellow LED illuminated), when the measuring voltage of all connected phases exceeds the fixed threshold  $U_s$  by more than the fixed hysteresis H. When the voltage of one of the connected phases (L1, L2 or L3) falls below the fixed threshold, the output relay R switches into off-position again (yellow LED not illuminated).



## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Voltage monitoring relay 3-phase to neutral, fixed $U_s = 195.5\text{ V}$	9004840591057		<b>UR5U3N11</b>



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## VOLTAGE MONITORING RELAY URU20301

### SCHRACK-INFO

- Voltage monitoring in 3-phase mains
- Undervoltage monitoring
- ON delay
- Supply voltage = measuring voltage
- 1 change over contact
- Width 17.5 mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

Undervoltage monitoring in 3-phase mains (each phase against the neutral wire) with adjustable ON delay, fixed threshold and fixed hysteresis.

#### 2. Time ranges

	Adjustment range
Tripping delay:	fixed, approx. 200ms
ON delay t:	5min to 15min

#### 3. Indicators

Green LED U/t ON:	all 3 tensions are alright
Green LED U/t flashes:	indication of time period
Yellow LED ON/OFF:	indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mounted on DIN-Rail TS 35 according to EN 50022  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1Nm  
 Terminal capacity:  
 1 x 0.5 bis 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	(= measured voltage)
Terminals:	N-L1-L2-L3
Rated voltage U <sub>N</sub> :	3N~400/230V
Tolerance:	-30% to +30% of U <sub>N</sub>
Rated consumption:	6 VA (0,8 W)
Rated frequency:	48 to 63 Hz
Duty cycle:	100%
Reset time:	500 ms
Hold-up time:	-
Drop out voltage:	determined by undervoltage detection (see measuring circuit)
Overvoltage category:	III (in acc. with IEC 60664-1)
Rated surge voltage:	4 kV

#### 6. Output circuit

1 potential free change-over contact	
Rated voltage:	250V AC
Switching capacity:	1250VA (5A / 250V)
Fusing:	5A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

#### 7. Measuring circuit

Measuring variable:	AC sinus, 48 to 63 Hz
Measuring input:	(=supply voltage)
Terminals:	N- L1- L2- L3
Overload capacity:	determined by tolerance specified for supply voltage
Input resistance:	-
Switching threshold U <sub>s</sub> :	fixed 165V (L-N)
Hysteresis H:	approx. 5%
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

#### 8. Accuracy

Base accuracy:	±5% of rated value
Adjustment accuracy:	≤5% of maximum scale value
Repetition accuracy:	±2%
Voltage influence:	-
Temperature influence:	≤1%

#### 9. Ambient conditions

Ambient temperature:	-25 to +55°C
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (in acc. with IEC 60664-1)

#### 10. Weight

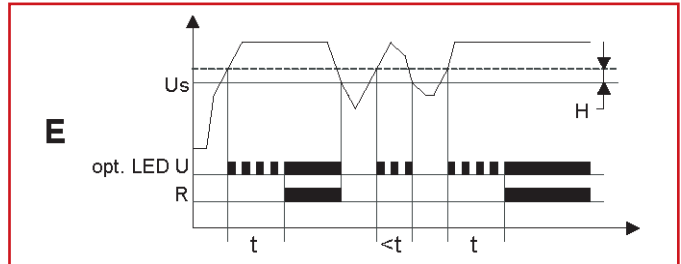
Single packing:	72g
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## FUNCTIONS

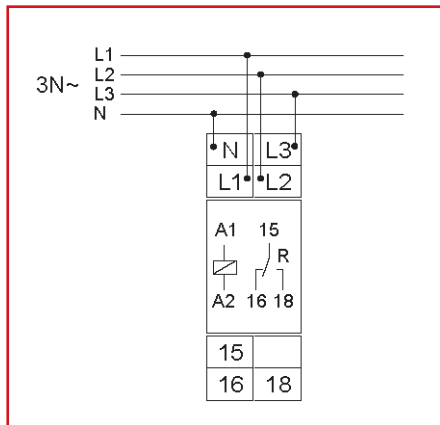
Undervoltage monitoring for 3-phase mains with fixed threshold voltage and fixed hysteresis. All measuring inputs (L1, L2 and L3) must be connected to phase voltage. If single or 2-phase monitoring is required, unused input terminals (L) must be connected to mains voltage to have proper L-N voltage on the terminals L1, L2 and L3. If there is a reverse voltage on account of a consumer, which exceeds the fixed threshold, detection of phase failure isn't possible.

### Undervoltage monitoring with ON delay (Option E)

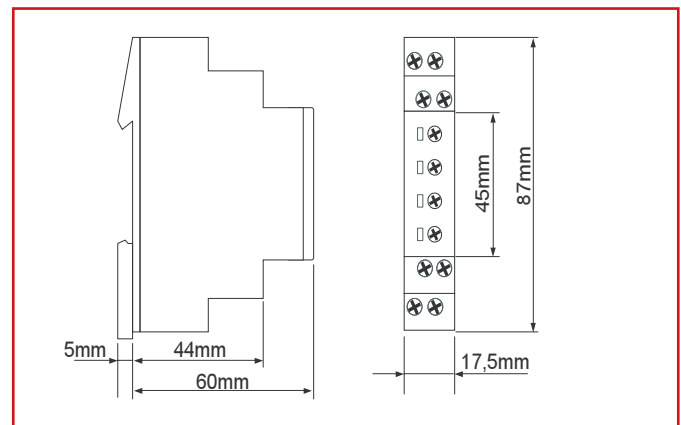
When the voltage of all connected phases exceeds the fixed threshold by more than the fixed hysteresis, the set interval  $t$  begins (green LED U/t flashes). After the set interval  $t$  has expired, the output relay R switches into on-position (yellow LED R illuminated, green LED U/t illuminated). When the voltage of one of the connected phases falls below the fixed threshold, the output relay R switches into off-position (yellow LED R not illuminated, green LED U/t not illuminated).



## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Voltage monitoring relay, on delay, 1 change over, 3 phases	9004840418125		<b>URU20301-T</b>



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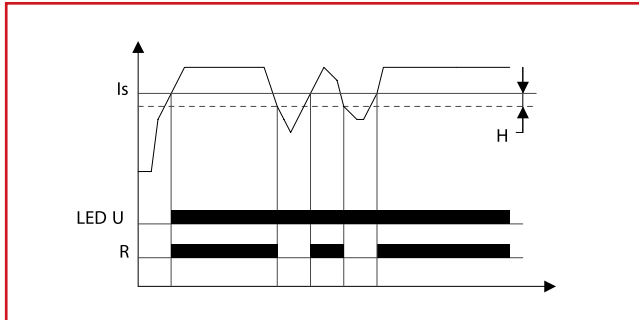
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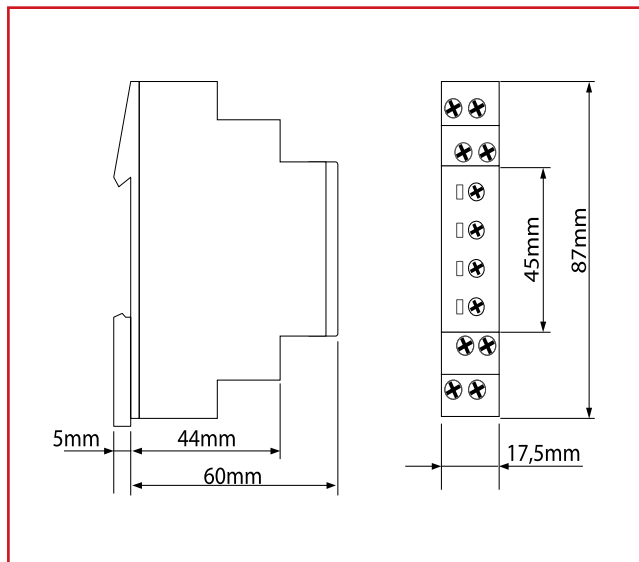


## FUNCTIONS

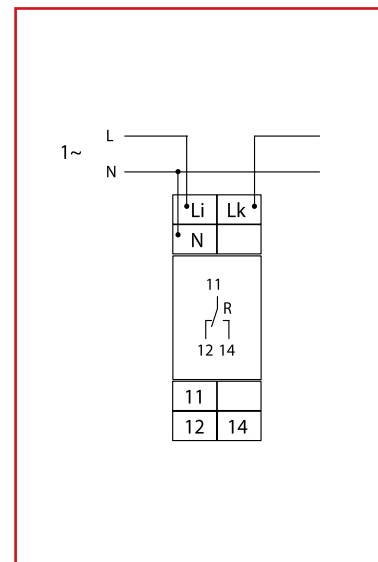
The supply voltage  $U$  must be constantly applied to the device (green LED illuminated). The output relay  $R$  switches into on-position (yellow LED illuminated) when the measured current exceeds the value adjusted at the  $I_s$  regulator. The output relay  $R$  switches into off-position (yellow LED not illuminated) when the measured value for the current falls below the set value by more than the fixed hysteresis.



## DIMENSIONS



## CONNECTIONS



## WEIGHT

Single packing: 70g

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Current monitoring relay, 1 change over, 1 phase	9004840507317		<b>URS1011</b>

## CURRENT MONITORING RELAY UR6I1052



- AC/DC current monitoring in 1-phase mains
- Multifunction
- 16.6 to 400Hz
- Fault latch
- Zoom voltage 24 to 240V AC/DC
- 2 change-over contacts
- Width 22.5mm
- Industrial design

### TECHNICAL DATA

#### 1. Functions

AC/DC current monitoring in 1-phase mains with adjustable thresholds, timing for start-up suppression and tripping delay separately adjustable and the following functions (selectable by means of rotary switch)

OVER	Overcurrent monitoring
OVER+LATCH	Overcurrent monitoring with fault latch
UNDER	Undercurrent monitoring
UNDER+LATCH	Undercurrent monitoring with fault latch
WIN	Monitoring the window between Min and Max
WIN+LATCH	Monitoring the window between Min and Max with fault latch

#### 2. Time ranges

	Adjustment range
Start-up suppression time:	0s      10s
Tripping delay:	0.1s      10s

#### 3. Indicators

Green LED ON:	indication of supply voltage
Green LED flashes:	indication of start-up suppression time
Yellow LED ON/OFF:	indication of relay output
Red LED ON/OFF:	indication of failure of the corresponding threshold
Red LED flashes:	indication of tripping delay of the corresponding threshold

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mounted on DIN-Rail TS 35 according to EN 60715  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1Nm  
 Terminal capacity:  
 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
 1 x 4 mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	24 to 240V AC/DC	terminals A1-A2 (galvanically separated)
Tolerance:	24 to 240V DC 24 to 240V AC	-20% to +25% -15% to +10%
Rated frequency:	24 to 240V AC 48 to 240V AC	48 to 400Hz 16 to 48Hz
Rated consumption:		4.5VA (1W)
Duration of operation:		100%
Reset time:		500ms
Wave form for AC:		Sinus
Residual ripple for DC:		10%
Drop-out voltage:		>15% of the supply voltage
Overvoltage category:		III (in accordance with IEC 60661-1)
Rated surge voltage:		4kV

#### 6. Output circuit

	2 potential free change-over contacts
Rated voltage:	250V AC
Switching capacity (distance <5 mm):	750VA (3A / 250V AC)
Switching capacity (distance > 5mm):	1250VA (5A / 250V AC)
Fusing:	5A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

## 7. Measuring circuit

Measured variable:	DC or AC Sinus (16.6 to 400Hz)
Input:	
20mA AC/DC	terminals K-I1(+)
1A AC/DC	terminals K-I2(+)
5A AC/DC	terminals K-I3(+)
Overload capacity:	
20mA AC/DC	250mA
1A AC/DC	3A
5A AC/DC	10A
Input resistance:	
20mA AC/DC	2.7Ω
1A AC/DC	47mΩ
5A AC/DC	10mΩ
Switching threshold:	
Max	10% to 100% of IN
Min	5% to 95% of IN
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

## 8. Accuracy

Base accuracy:	±5% (of maximum scale value)
Frequency response:	-10% to +5% (16.6 to 400Hz)
Adjustment accuracy:	≤ 5% (of maximum scale value)
Repetition accuracy:	≤ 2%
Voltage influence:	-
Temperature influence:	≤ 0.1% / °C

## 9. Ambient conditions

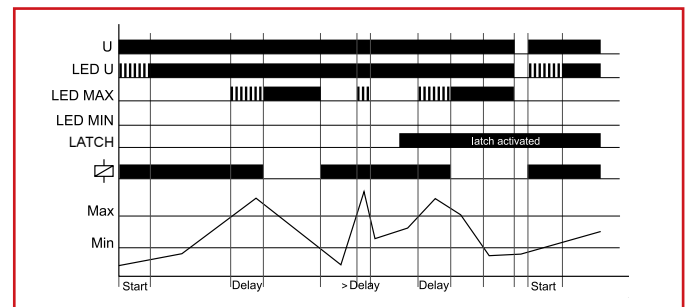
Ambient temperature:	-25 to +55°C (in accordance with IEC 60068-1) -25 to +40°C (in accordance with UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	3 (in accordance with IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35mm (in accordance with IEC 60068-2-6)
Shock resistance:	15g 11ms (in accordance with IEC 60068-2-27)

## FUNCTIONS

When the supply voltage U is applied, the output relays switch into on-position (yellow LED illuminated) and the set interval of the startup suppression (START) begins (green LED U flashes). Changes of the measured current during this period do not affect the state of the output relay. After the interval has expired the green LED is illuminated steadily. For all the functions the LEDs MIN and MAX are flashing alternating, when the minimum value for the measured current was chosen to be greater than the maximum value

### Overcurrent monitoring (OVER, OVER+LATCH)

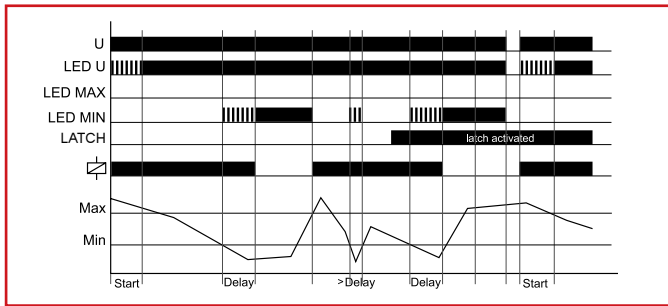
When the measured current exceeds the value adjusted at the MAX-regulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated), when the measured current falls below the value adjusted at the MIN-regulator (red LED MAX not illuminated). If the fault latch is activated (OVER+LATCH) and the measured current remains above the MAX-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured current falls below the value adjusted at the MIN-regulator. After resetting the failure (interrupting and re-applying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).



### Undercurrent monitoring (UNDER, UNDER+LATCH)

When the measured current falls below the value adjusted at the MIN-regulator, the set interval of the tripping delay (DELAY) begins (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated), when the measured current exceeds the value adjusted at the MAX-regulator. If the fault latch is activated (UNDER+LATCH) and the measured current remains below the MIN-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured current exceeds the value adjusted at the MAX-regulator. After resetting the failure (interrupting and re-applying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).

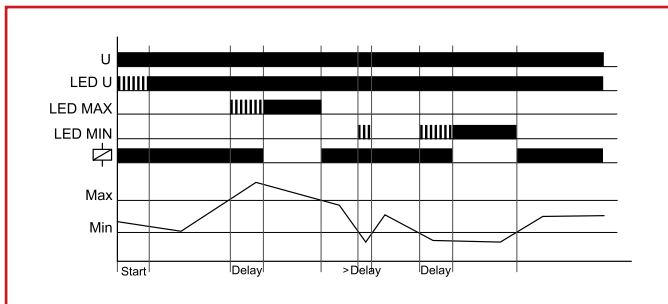
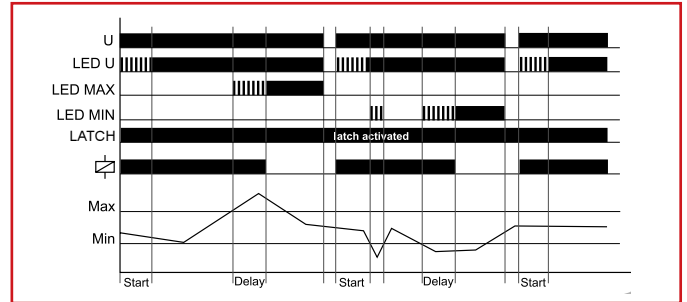
# MONITORING RELAYS



If the fault latch is activated (WIN+LATCH) and the measured current remains below the MIN-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured current exceeds the value adjusted at the MIN-regulator. If the measured current remains above the MAX-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured current falls below the value adjusted at the MAX-regulator. After resetting the failure (interrupting and reapplying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).

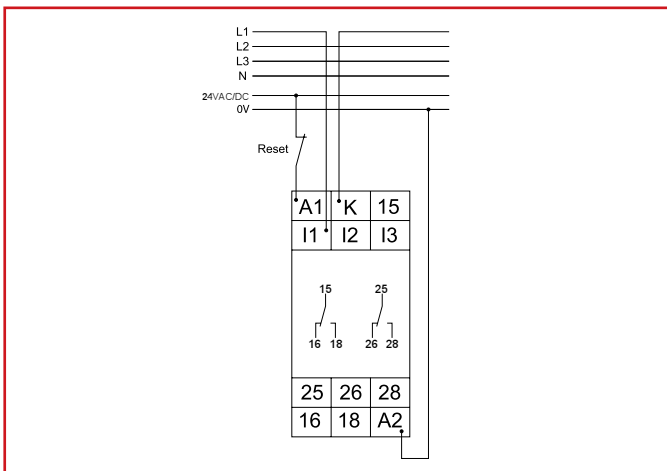
## Window function (WIN, WIN+LATCH)

The output relays switch into on-position (yellow LED illuminated) when the measured current exceeds the value adjusted at the MINregulator. When the measured current exceeds the value adjusted at the MAX-regulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated) when the measured current falls below the value adjusted at the MAX-regulator. When the measured current falls below the value adjusted at the MINregulator, the set interval of the tripping delay (DELAY) begins again (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relays switch into off-position (yellow LED not illuminated).

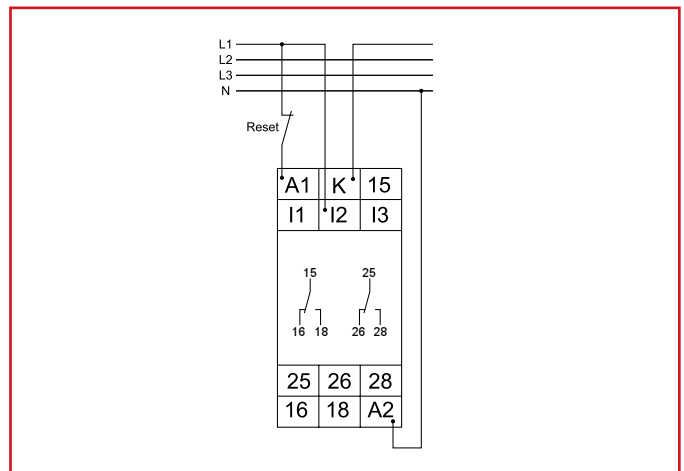


## CONNECTIONS

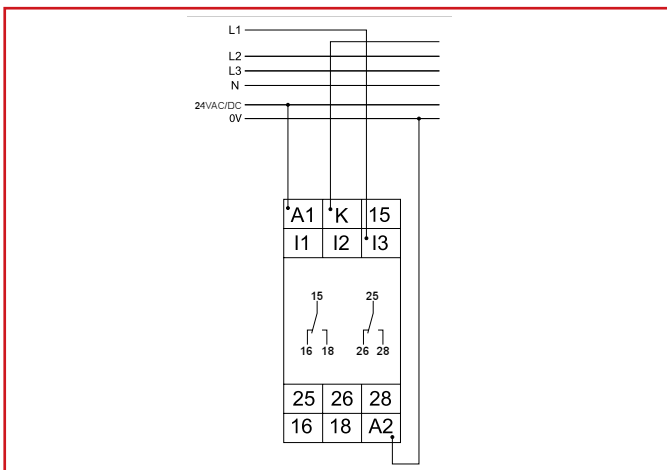
Range 20mA, supply voltage 24V AC/DC and fault latch



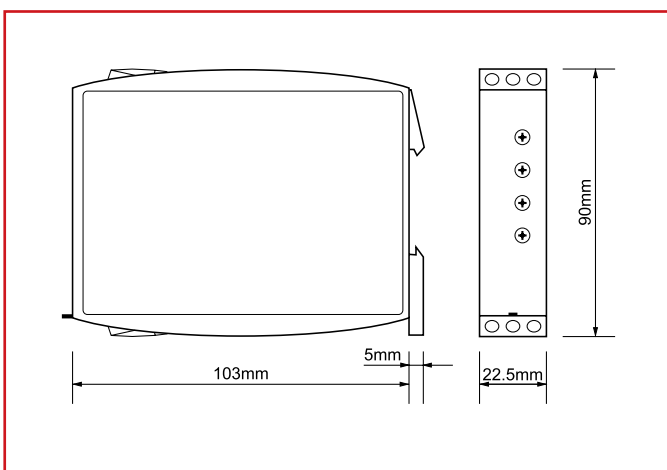
Range 1A, supply voltage 230V AC and fault latch



Range 5A, supply voltage 24V AC/DC without fault latch



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Current monitoring relay, 2 change over, 1 phase, 24-240V AC/DC	9004840557442		<b>UR611052</b>

## PHASE MONITORING RELAY UR5P3011



### SCHRACK-INFO

- Output relay
- 1 potential free change over contact

### TECHNICAL DATA

#### 1. Functions

Monitoring of phase sequence, phase failure and asymmetry with adjustable asymmetry, connection of neutral wire optional.

#### 2. Time ranges

Tripping delay: fixed, approx. 100 ms

#### 3. Indicators

Green LED ON: indication of supply voltage  
Yellow LED ON/OFF: indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40

Mounted on DIN-Rail TS 35 according to EN 50022

Mounting position: any

Tightening torque: max. 1Nm

Terminal capacity:

1 x 0.5 bis 2.5 mm<sup>2</sup> with/without multicore cable end

1 x 4 mm<sup>2</sup> without multicore cable end

2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end

2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage: (= measured voltage)

Terminals: (N)-L1-L2-L3

Rated voltage  $U_n$ : 3(N)-400/230V AC

Tolerance: -30% to +30% of  $U_n$

Rated consumption: 8 VA (0,8 W)

Rated frequency: AC 48 to 63 Hz

Duty cycle: 100%

Reset time: 500 ms

Hold-up time: -

Drop out voltage: >20% of the supply voltage

Overvoltage category: III (according to IEC 60664-1)

Rated surge voltage: 4 kV

#### 6. Output circuit

1 potential free change-over contact

Rated voltage: 250V AC

Switching capacity: 1250VA (5A / 250V)

Fusing: 5A fast acting

Mechanical life: 20 x 10<sup>6</sup> operations

Electrical life: 2 x 10<sup>5</sup> operations

at 1000VA resistive load

Switching frequency: max. 60/min at 100VA resistive load

max. 6/min at 1000VA resistive load

(according to IEC 60947-5-1)

Overvoltage category: III (according to IEC 60664-1)

Rated surge voltage: 4kV

#### 7. Measuring circuit

Measuring variable: 3(N)-, sinus, 48 to 63 Hz

Measuring input: (=supply voltage)

Terminals: (N)- L1- L2- L3

Overload capacity: determined by tolerance

specified for supply voltage

Input resistance: -

Asymmetry: 5% to 25% adjustable,

or disengageable

Overvoltage category: III (according to IEC 60664-1)

Rated surge voltage: 4 kV

#### 8. Accuracy

Base accuracy: ±5% of maximum scale value

Adjustment accuracy: ≤5% of maximum scale value

Repetition accuracy: ±2%

Voltage influence: -

Temperature influence: ≤0.05% / ° C

#### 9. Ambient conditions

Ambient temperature: -25 to +55°C (acc. to IEC 60068-1)

Storage temperature: -25 to +70°C

Transport temperature: -25 to +70°C

Relative humidity: 15% to 85%

(acc. to IEC 60721-3-3 class 3K3)

Pollution degree: 2, if built in 3 (acc. to IEC 60664-1)

Vibration resistance: 10 to 55Hz 0.35 mm

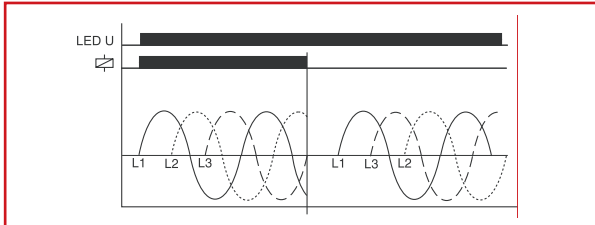
(according to IEC 60068-2-6)

Shock resistance: 15g 11ms (acc. to IEC 60068-2-27)

## FUNCTIONS

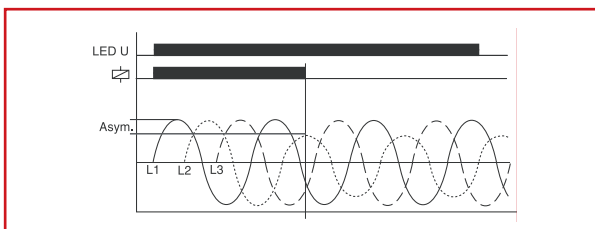
### Phase sequence monitoring

When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay switches into off-position (yellow LED not illuminated).



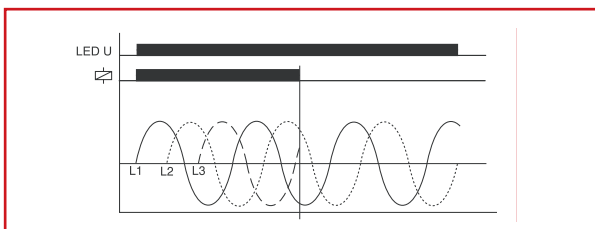
### Asymmetry monitoring

The output relay R switches into off-position (yellow LED not illuminated) when the asymmetry exceeds the value set at the ASYM-regulator. Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection.

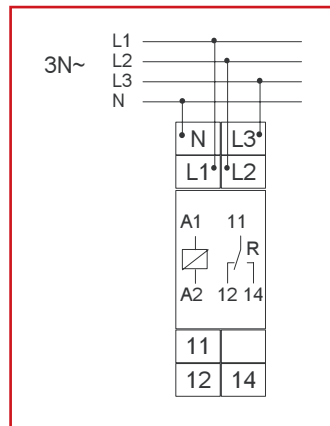


### Phase failure monitoring

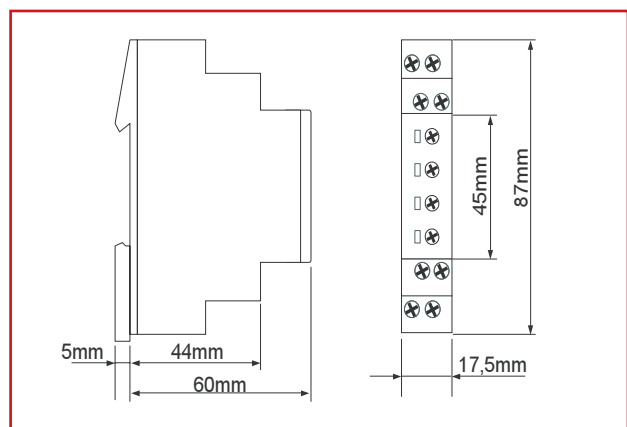
The output relay switches into off-position (yellow LED not illuminated), when one of the three phases fails.




## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Phase monitoring relay, 17,5 x 87 x 65 mm	9004840459067		<b>UR5P3011</b>



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## PHASE MONITORING RELAY UR6P3052



- Voltage monitoring in 3-phase mains
- Monitoring of phase sequence and phase failure
- Detection of reverse voltage
- Connection of neutral wire optional
- Supply voltage = measuring voltage
- 2 change-over contacts
- Width 22.5 mm
- Industrial design

### TECHNICAL DATA

#### 1. Functions

Monitoring of phase sequence, phase failure and detection of return voltage (by means of evaluating the asymmetry)

#### 2. Time ranges

Start-up suppression time:	Adjustment range fixed, max. 500ms
Tripping delay:	fixed, max. 350ms

#### 3. Indicators

Green LED ON:	indication of supply voltage
Yellow LED ON/OFF:	indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40

Mounted on DIN-Rail TS 35 according to EN 60715

Mounting position: any

Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20

Tightening torque: max. 1Nm

Terminal capacity:

- 1 x 0.5 bis 2.5 mm<sup>2</sup> with/without multicore cable end
- 1 x 4 mm<sup>2</sup> without multicore cable end
- 2 x 0.5 bis 1.5 mm<sup>2</sup> with/without multicore cable end
- 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:

3(N)~ 400/230V terminals (N)-L1-L2-L3  
(= measuring voltage)

Tolerance:

3(N)~ 400/230V 3(N)~ 342 to 457V

Rated frequency: 48 to 63Hz

Rated consumption:

3(N)~ 400/230V 9VA

Duration of operation: 100%

Reset time: 500ms

Residual ripple for DC: -

Drop-out voltage: >20% of the supply voltage

Oversvoltage category: III (in accordance with IEC 60664-1)

Rated surge voltage: 4kV

#### 6. Output circuit

2 potential free change-over contacts

Rated voltage: 250V AC

Switching capacity (distance <5 mm): 750VA (3A / 250V)

Switching capacity (distance >5 mm): 1250VA (5A / 250V)

Fusing: 5A fast acting

Mechanical life: 20 x 10<sup>6</sup> operations

Electrical life: 2 x 10<sup>5</sup> operations

at 1000VA resistive load

Switching frequency: max. 60/min at 100VA resistive load

max. 60/min at 1000VA resistive load

(in accordance with IEC 60947-5-1)

Oversvoltage category: III (in accordance with IEC 60664-1)

Rated surge voltage: 4kV

#### 7. Measuring circuit

Measured variable: AC Sinus, (48 to 63Hz)

Input:

3(N)~ 400/230V terminals (N)-L1-L2-L3  
(= supply voltage)

Overload capacity:

3(N)~ 400/230V 3(N)~ 457/264V

Input resistance:

3(N)~ 400/230V 15kΩ

Asymmetry: fixed, typ. 30%

Oversvoltage category: III (according to IEC 60664-1)

Rated surge voltage: 4kV

#### 8. Accuracy

Base accuracy: -

Frequency response: -

Adjustment accuracy: -

Repetition accuracy: -

Voltage influence: -

Temperature influence: -



## 9. Ambient conditions

Ambient temperature: -25 to +55°C  
(in accordance with IEC 60068-1)  
-25 to +40°C  
(in accordance with UL 508)

Storage temperature: -25 to +70°C

Transport temperature: -25 to +70°C

Relative humidity: 15% to 85%  
(in accordance with IEC 60721-3-3 class 3K3)

Pollution degree: 3 (in accordance with IEC 60664-1)

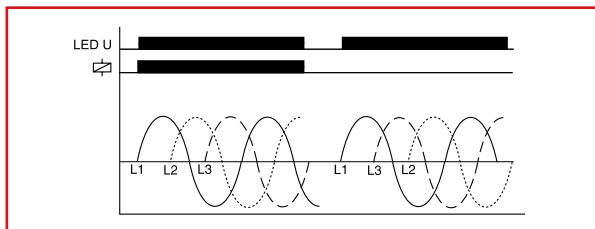
Vibration resistance: 10 to 55Hz 0.35 mm  
(in accordance with IEC 60068-2-6)

Shock resistance: 15g 11ms  
(in accordance with IEC 60068-2-27)

## FUNCTIONS

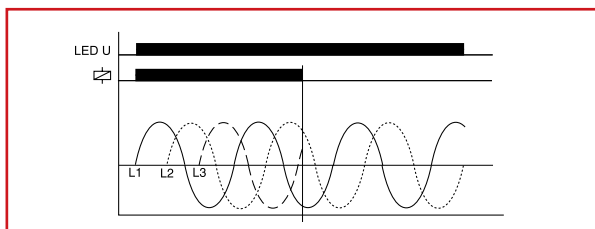
### Phase sequence monitoring

When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relays switch into on-position (yellow LED illuminated). When the phase sequence changes, the output relays switch into off-position (yellow LED not illuminated).



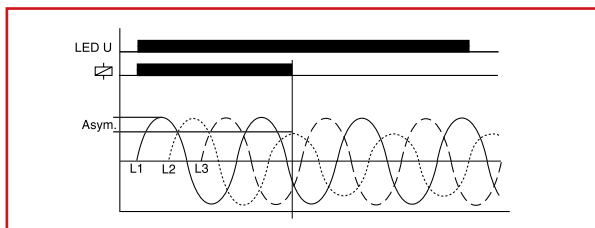
### Phase failure monitoring

When one of the three phases fails, the output relays switch into off-position (yellow LED not illuminated).

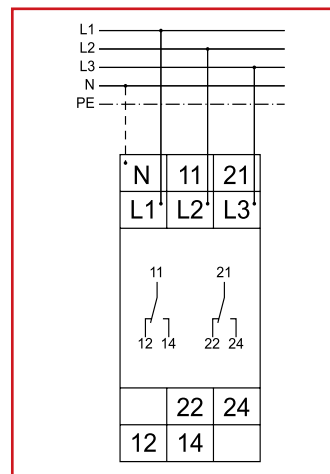


### Detection of reverse voltage (by means of evaluation of asymmetry)

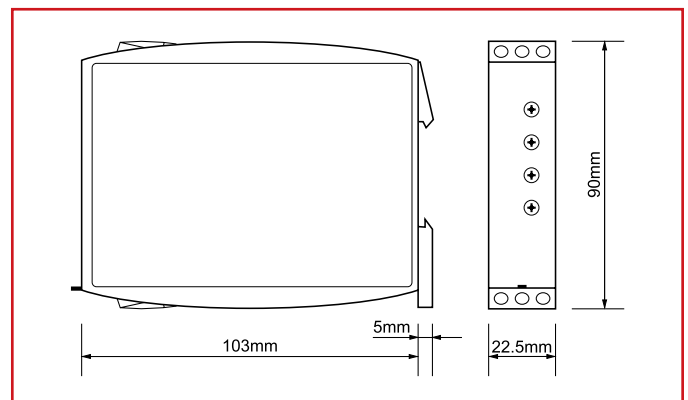
The output relays switch into off-position (yellow LED not illuminated) when the asymmetry between the phase voltages exceeds the fixed value of the asymmetry. An asymmetry caused by the reverse voltage of a consumer (e.g. a motor which continues to run on two phases only) does not effect the disconnection.



## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Phase monitoring relay, 2 change over, 3 phases, industrial design	9004840557428		<b>UR6P3052</b>

## ■ THERMISTOR MONITORING RELAY UR5R1021



### ■ SCHRACK-INFO

- Tripping unit for temperature monitoring of the motor winding with and without short circuit monitoring of the thermistor line (selectable by means of terminals)
- Optional evaluation of one thermal contact
- Test function with integrated reset key
- Rated isolated voltage on the sensor circuit up to 690V
- 1 change over contact
- Width 35mm
- Installation design

### ■ TECHNICAL DATA

#### 1. Functions

Temperature monitoring of the motor winding (max. 6 PTC) with fault latch for temperature sensors in accordance with DIN 44081, short circuit monitoring of the thermistor line (selectable by means of terminals), integrated test/reset key.

#### 2. Time ranges

	Adjustment range
Start-up suppression time (Start):	-
Tripping delay (Delay):	-

#### 3. Indicators

Green LED ON: indication of supply voltage  
Red LED ON/OFF: indication of failure

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN-Rail TS 35 according to EN 50022  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
Tightening torque: max. 1Nm  
Terminal capacity:  
1 x 0.5 to 2.5mm<sup>2</sup> with/without multicore cable end  
1 x 4mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5mm<sup>2</sup> with/without multicore cable end  
2 x 2.5mm<sup>2</sup> flexible without multicore cable end

#### 5. Input voltage

Supply voltage: 230V AC  
Terminals: A1-A2  
Rated voltage Un: see table ordering information or printing on the unit  
Tolerance: -15% to +10% of Un  
Rated consumption: 1,3VA (1W)  
Rated frequency: AC 48 to 63Hz  
Duty cycle: 100%  
Reset time: 250ms  
Residual ripple for DC: 50ms  
Drop-out voltage: >30% of the supply voltage  
Overvoltage category: III (in accordance with IEC 60664-1)  
Rated surge voltage: 6kV

#### 6. Output circuit

1 potential free change over contact  
Terminals: 11-12-14  
Rated voltage: 250V AC  
Switching capacity: 1250VA AC1 B300/P300 (in accordance with IEC 60947-5-1); therm. constant current 5A  
Fusing: 5A fast acting  
Mechanical life: 20 x 10<sup>6</sup> operations  
Electrical life: 2 x 10<sup>5</sup> operations at 1000VA resistive load  
Switching frequency: max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)  
Overvoltage category III. (in accordance with IEC 60664-1)  
Rated surge voltage: 6kV

#### 7. Measuring circuit

Terminals:	T1-T2 or T1-T3
Initial resistance:	<1.5kΩ
Response value (relay in off-position):	≥3.6kΩ
Release value (relay in on-position):	≤1.65kΩ
Disconnection (short circuit thermistor):	yes at T1-T2 no at T1-T3
Measuring voltage T1-T2:	≤7.5V at R ≤4.0kΩ (in accordance with EN 60947-8)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV

#### 8. Control contact R

Function: connection of an external reset key  
Loadable: no  
Line length R1-R2: max. 10m (twisted pair)  
Control pulse length: min. 50ms  
Reset: potential free normally open contact, terminals R1-R2  
Note: The terminals R2-T2 are internal affiliated with each other!!

#### 9. Accuracy

Base accuracy:	±5%
Adjustment accuracy	-
Repetition accuracy:	≤1%
Voltage influence:	-
Temperature influence:	≤0.15% / °C

#### 10. Ambient conditions

Ambient temperature:	-25 to +55°C
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (in accordance with IEC 60664-1)

#### 11. Weight

Single packing: 137,20g

## FUNCTIONS

### Temperature monitoring of the motor winding with fault latch

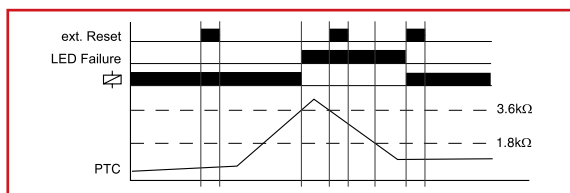
If the supply voltage  $U$  is applied (green LED illuminated) and the cumulative resistance of the PTC-circuit is less than  $3.6k\Omega$  (standard temperature of the motor), the output relay switches into on-position.

Pressing the test/reset key under this conditions forces the output relay to switch into off-position. It remains in state as long as the test/reset key is pressed and thus the switching function can be checked in case of fault. The test function is not effective by using an external reset key.

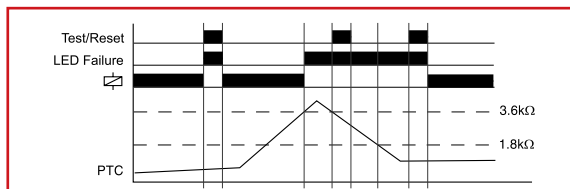
When the cumulative resistance of the PTC-circuit exceeds  $3.6k\Omega$  (at least one of the PTCs has reached the cut-off temperature), the output relay switches into off-position (red LED illuminated).

The output relay switches into on-position again (red LED not illuminated), if the cumulative resistance drops below  $1.65k\Omega$  by cooling down of the PTC and either a reset key (internal or external) was pressed or the supply voltage was disconnected and re-applied.

### Application of an external Reset

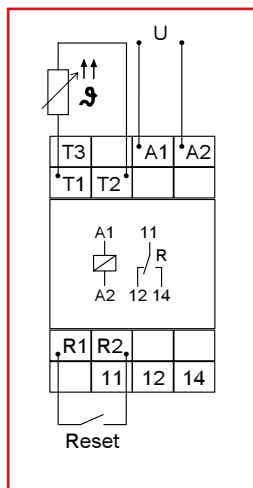


### Application of internal Test/Reset - key

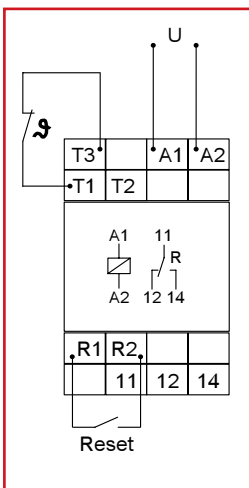


## CONNECTIONS

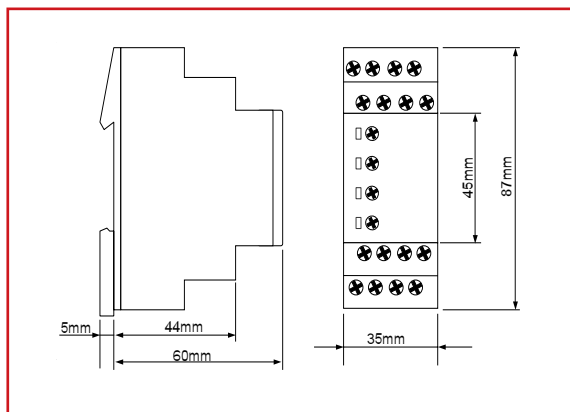
### Monitoring Temperature sensor



### Monitoring Thermal contact



## DIMENSIONS



### Note:

Only one of this circuit versions (either monitoring of the temperature sensor or monitoring of the thermal contact) can be executed!!

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Thermistor monitoring relay, 1 change over, input 230V	9004840515091		<b>UR5R1021</b>



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## ■ THERMISTOR MONITORING RELAY UR6R1052



- Temperature monitoring of the motor winding
- 2 change-over contacts
- External reset key connectable
- Width 22.5mm
- Industrial design

### ■ TECHNICAL DATA

#### 1. Functions

Temperature monitoring of the motor winding (max. 6 PTC) with fault latch, for temperature probes in accordance with DIN 44081  
Test function with integrated test/reset key

#### 2. Time ranges

	Adjustment range
Start-up suppression time:	-
Tripping delay:	-

#### 3. Indicators

Green LED ON:	indication of supply voltage
Red LED ON/OFF:	indication of failure

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
Mounted on DIN-Rail TS 35 according to EN 60715  
Mounting position: any  
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
Tightening torque: max. 1Nm  
Terminal capacity:  
1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end  
1 x 4 mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end  
2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:	240V AC/DC	terminals A1-A2 (galvanically separated)
Tolerance:	24 to 240V DC 24 to 240V AC	-20% to +25% -15% to +10%
Rated frequency:	24 to 240V AC 48 to 240V AC	48 to 400Hz 16 to 48Hz
Rated consumption:		4.5VA (1W)
Duration of operation:		100%
Reset time:		500ms
Wave form for AC:		Sinus
Residual ripple for DC:		10%
Drop-out voltage:		>15% of the supply voltage
Oversvoltage category:		III (in accordance with IEC 60661-1)
Rated surge voltage:		4kV

#### 6. Output circuit

	2 potential free change-over contacts
Rated voltage:	250V AC
Switching capacity (distance <5 mm):	750VA (3A / 250V AC)
Switching capacity (distance >5 mm):	1250VA (5A / 250V AC)
Fusing:	5A fast acting
Mechanical life:	20 x 10 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Oversvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

#### 7. Measuring circuit

Input:	terminals T1-T2
Initial resistance:	<1.5kΩ
Response value (relay in off-position):	≥ 3.6kΩ
Release value (relay in on-position):	≤ 1.8kΩ
Disconnection (short circuit thermistor):	no
Measuring voltage T1-T2:	≤ 2.5V DC at R " 4.0kΩ (in accordance with DIN VDE 0660 part 302)
Oversvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

#### 8. Control contact R

Function:	external reset key
Loadable:	no
Line length R-T2:	max. 10m (twisted pair)
Control pulse length:	-
Reset:	potential free normally open contact, terminals R-T2

#### 9. Accuracy

Base accuracy:	±10% (of maximum scale value)
Frequency response:	-
Adjustment accuracy:	-
Repetition accuracy:	≤ 1%
Voltage influence:	≤ 2.2%

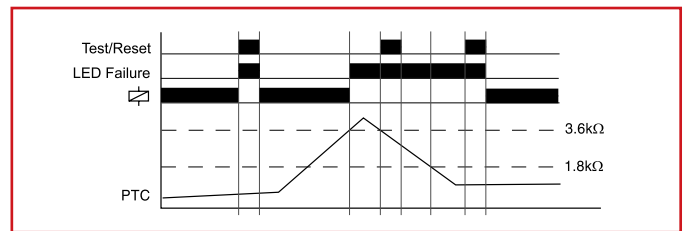
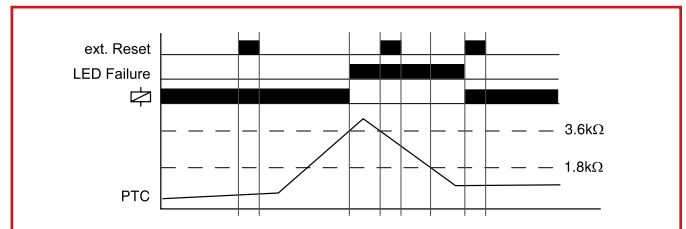
# MONITORING RELAYS

Temperature influence:  $\leq 0.1\% / ^\circ\text{C}$   
**10. Ambient conditions**  
 Ambient temperature: -25 to +55°C  
 (in accordance with IEC 60068-1)  
 -25 to +40°C  
 (in accordance with UL 508)  
 Storage temperature: -25 to +70°C  
 Transport temperature: -25 to +70°C  
 Relative humidity: 15% to 85%  
 (in accordance with IEC 60721-3-3  
 class 3K3)  
 Pollution degree: 3 (in accordance with IEC 60664-1)  
 Vibration resistance: 10 to 55Hz 0.35mm  
 (in accordance with IEC 60068-2-6)

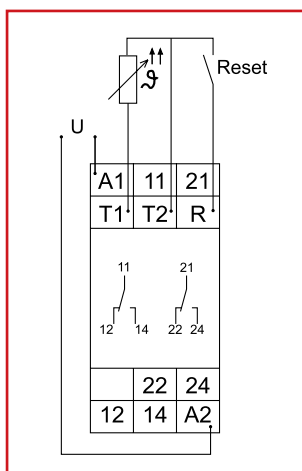
Shock resistance: 15g 11ms  
 (in accordance with IEC 60068-2-27)

## FUNCTIONS

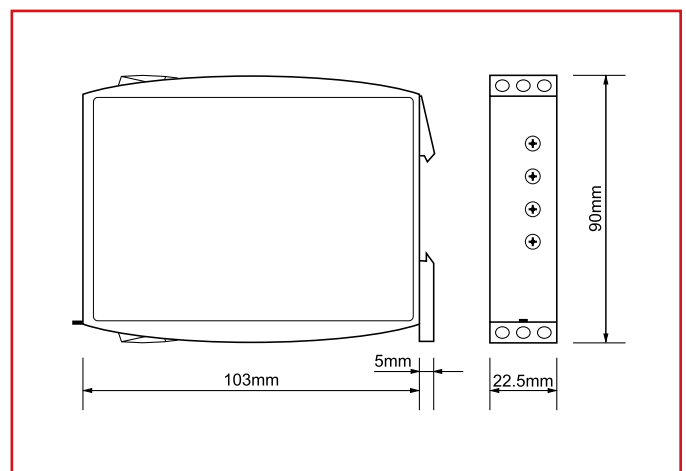
If the supply voltage U is applied (green LED illuminated) and the cumulative resistance of the PTC-circuit is less than  $3.6\text{k}\Omega$  (standard temperature of the motor), the output relays switch into on-position. Pressing the test/reset key under this conditions forces the output relays to switch into off-position. They remain in this state as long as the test/reset key is pressed and thus the switching function can be checked in case of fault. The test function is not effective using an external reset key. When the cumulative resistance of the PTC-circuit exceeds  $3.6\text{k}\Omega$  (at least one of the PTCs has reached the cut-off temperature), the output relays switch into off-position (red LED illuminated). The output relays again switch into on-position (red LED not illuminated), if the cumulative resistance drops below  $1.8\text{k}\Omega$  by cooling down of the PTC and either a reset key (internal or external) was pressed or the supply voltage was disconnected and re-applied.



## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Thermistor monitoring relay, 2 change over, 24-240V AC/DC, industrial design	9004840557411		<b>UR6R1052</b>

## LEVEL MONITORING RELAY UR5L1021



### SCHRACK-INFO

- Level monitoring of conductive liquids
- Multifunction
- Secure isolation of the measuring circuit
- 1 change over contact
- Width 35mm
- Installation design

### TECHNICAL DATA

#### 1. Functions

Level monitoring of conductive liquid, timing for tripping delay and turn-off delay separately adjustable and the following functions (selectable by means of rotary switch):

Pump up	pump up or minimum monitoring
Pump down	pump down or maximum monitoring

#### 2. Time ranges

	Adjustment range
Tripping delay (Delay ON):	0.5s to 10s
Turn-off delay (Delay OFF):	0.5s to 10s

#### 3. Indicators

Green LED ON:	indication of supply voltage
Yellow LED ON/OFF:	indication of output relay

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40  
 Mounted on DIN-rail TS 35 according to EN 50022  
 Mounting position: any  
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20  
 Tightening torque: max. 1Nm  
 Terminal capacity:  
 1 x 0.5 to 2.5mm<sup>2</sup> with/without multicore cable end  
 1 x 4mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Terminals:	A1-A2
Rated voltage Un:	see table ordering information or printing on the unit
Tolerance:	-15% of +10% of Un
Rated consumption:	2VA (1.0W)
Rated frequency:	AC 48 to 63Hz
Duty cycle:	100%
Reset time:	500ms
Hold-up time:	-
Drop-out voltage:	>30% of supply voltage
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV

#### 6. Output circuit

1 potential free change over contact  
 Rated voltage: 250V AC  
 Switching capacity: 1250VA AC1 B300/P300 (in accordance with IEC 60947-5-1) therm. constant current 5A  
 Fusing: 5A fast acting  
 Mechanical life: 20 x 10<sup>6</sup> operations  
 Electrical life: 2 x 10<sup>5</sup> operations at 1000VA resistive load  
 Switching frequency: max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)  
 Overvoltage category: III. (in accordance with IEC 60664-1)  
 Rated surge voltage: 6kV

#### 7. Measuring circuit

Measuring input:	conductive probes (Type SK1, SK2, SK3) E1-E2-E3
Terminals:	
Sensitivity:	0,25 to 100kΩ (4mS to 10μS)
Sensor voltage:	12V AC
Sensor current:	max. 7mA
Wiring distance (capacity of cable 100nF/km):	max. 1000m (set value <50%) max. 100m (set value 100%)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV

#### 8. Accuracy

Base accuracy:	-
Adjusting accuracy:	-
Repetition accuracy:	-
Voltage influence:	-
Temperature influence:	-

#### 9. Ambient conditions

Ambient temperature:	-25 to +55°C
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (in accordance with IEC 60664-1)

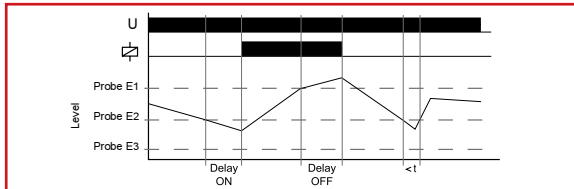
#### 10. Weight

Single packing:	140g
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## FUNCTIONS

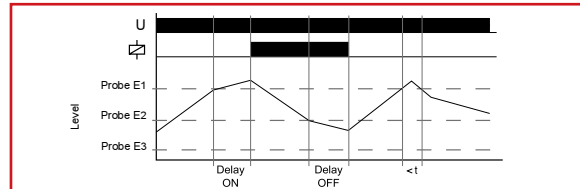
### Pump up

Connection of the probe rods E1, E2 and E3. Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the air-fluid level falls below the minimum probe E2 the set interval of tripping delay (Delay ON) begins. After the expiration of the interval, the output relays R switches into on-position (yellow LED illuminated). When the air-fluid level again rises above the maximum probe E1, the set interval of turn-off delay (Delay OFF) begins. After the expiration of the interval the output relays R switches into off-position (yellow LED not illuminated).



### Pump down

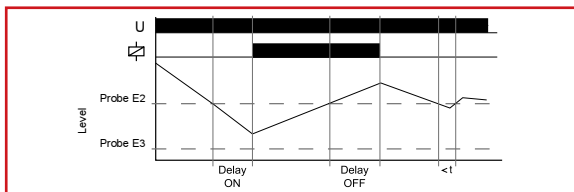
Connection of the probe rods E1, E2 and E3. Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the maximum probe E1 gets moistened the set interval of tripping delay (Delay ON) begins. After the expiration of the interval the output relays R switches into on-position (yellow LED illuminated). When the air-fluid level falls below the minimum probe E2, the set interval of turn-off delay (Delay OFF) begins. After the expiration of the interval, the output relays R switches into off-position (yellow LED not illuminated).



### Minimum monitoring (Pump up)

Connection the probe rods E2 and E3 (bridge E1-E3). Alternatively the electrically conducting container can be connected in lieu of the test probe E3.

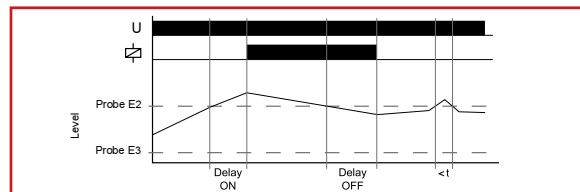
When the air-fluid level falls below the probe E2 the set interval of tripping delay (Delay ON) begins. After the expiration of the interval, the output relays R switches into on-position (yellow LED illuminated). When the air-fluid level again rises above the probe E2, the set interval of turn-off delay (Delay OFF) begins. After the expiration of the interval the output relays R switches into off-position (yellow LED not illuminated).



### Maximum monitoring (Pump down)

Connection of probe rods E2 and E3 (bridge E1-E3). Alternatively the electrically conducting container can be connected in lieu of the test probe E3.

When the probe E2 gets moistened the set interval of tripping delay (Delay ON) begins. After the expiration of the interval the output relays R switches into on-position (yellow LED illuminated). When the air-fluid level sinks below the probe E2, the set interval of turn-off delay (Delay OFF) begins. After the expiration of the interval the output relays R switches into off-position (yellow LED not illuminated).



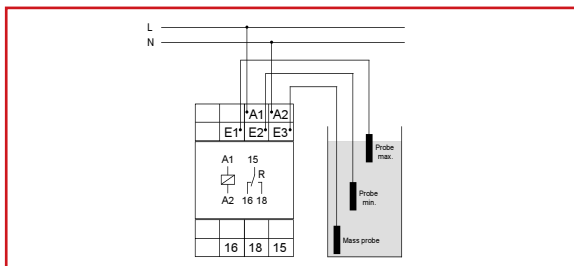
### Note

Use cables with low capacity for wiring the probes especially with extended wiring length.

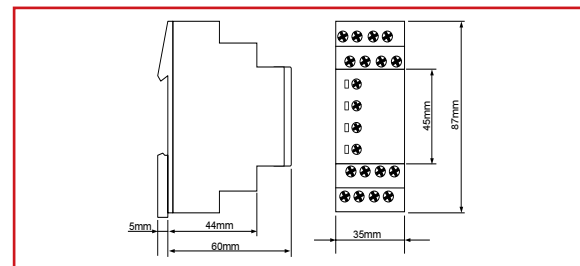
Following processes are suggested for the adjustment:

- The existent time delay should be to minimum (0,5s).
- The function selector switch must be in position pump down.
- Turn the sensitivity controller slowly clockwise from min to max until the relais switches into on-position. (probes must be in dipped state)
- The moistened probes should be taken out of the liquid to control if the relais switches into off-position. If the relais doesn't switch into off-position, turn the sensitivity controller slightly back to min. (counter clockwise)
- Set the existent time delay to desired value to fade out a short term moisten the probes by waves in the liquid.
- Set the function selector switch to desired position. (either pump up or pump down)

## CONNECTIONS



## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Level monitoring relay, 1 change over	9004840515084		<a href="#">UR5L1021</a>
Single probe	9004840519655		<a href="#">URL91010</a>
Level sensor, 1 rod	9004840203264		<a href="#">URL90010</a>
Level sensor, 2 rods	9004840203271		<a href="#">URL90020</a>
Level sensor, 3 rods	9004840203288		<a href="#">URL90030</a>

## LEVEL MONITORING RELAY UR6L1052



- Level monitoring of conductive liquids
- Multifunction
- Secure isolation of the measuring circuit
- 2 change-over contacts
- Width 22.5 mm
- Industrial design

### TECHNICAL DATA

#### 1. Functions

Level monitoring of conductive liquid, timing for tripping delay and turn-off delay separately adjustable and the following functions (selectable by means of rotary switch)

Pump up                      pump up or minimum monitoring  
 Pump down                pump down or maximum monitoring

#### 2. Time ranges

	Adjustment range	
Tripping delay (Delay ON):	0.5s	10s
Turn-off delay (Delay OFF):	0.5s	10s

#### 3. Indicators

Green LED ON:                      indication of supply voltage  
 Yellow LED ON/OFF:              indication of relay output

#### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40 Mounted on DIN-Rail TS 35 according to EN 60715

Mounting position:                      any  
 Shockproof terminal connection according to VBG 4

(PZ1 required), IP rating IP20

Tightening torque:                      max. 1Nm

Terminal capacity:

- 1 x 0.5 to 2.5 mm<sup>2</sup> with/without multicore cable end
- 1 x 4 mm<sup>2</sup> without multicore cable end
- 2 x 0.5 to 1.5 mm<sup>2</sup> with/without multicore cable end
- 2 x 2.5 mm<sup>2</sup> flexible without multicore cable end

#### 5. Input circuit

Supply voltage:                      230V AC                      terminals A1-A2

Tolerance:                              230V AC                      -15% to +15%

Rated frequency:                      48 to 63Hz

Rated consumption:                      230V AC                      2VA (1.5W)

Duration of operation:                      100%

Reset time:                              500ms

Residual ripple for DC:                      -

Drop-out voltage:                      >30% of the supply voltage

Overvoltage category:                      III (in acc. with IEC 60664-1)

Rated surge voltage:                      4kV

#### 6. Output circuit

2 potential free change-over contacts

Rated voltage:                              250V AC

Switching capacity (distance <5 mm):                      750VA (3A / 250V)

Switching capacity (distance >5 mm):                      1250VA (5A / 250V)

Fusing:                                      5A fast acting

Mechanical life:                              20 x 10<sup>6</sup> Operations

Elektrische Lebensdauer:                      2 x 10<sup>5</sup> Operations  
 at 1000VA resistive load  
 max. 60/min at 100VA  
 resistive load  
 max. 6/min at 1000VA  
 resistive load  
 (in accordance with IEC 60947-5-1)

Switching frequency:                      max. 60/min at 100VA  
 resistive load  
 max. 6/min at 1000VA  
 resistive load  
 (in accordance with IEC 60664-1)

Overvoltage category:                      III (in accordance with IEC 60664-1)

Rated surge voltage:                      4kV

#### 7. Measuring circuit

Input:    conductive probes  
 (type SK1, SK2, SK3)  
 terminals E1-E2-E3

Sensitivity:                                      0.25 to 100k $\Omega$  (4mS to 1 $\mu$ S)

Sensor voltage:                              12V AC

Sensor current:                              max. 7mA

Wiring distance (capacity of cable                      100nF/km)  
 max. 1000m (set value <50%) max.  
 100m (set value 100%)

Overvoltage category:                      III (in accordance with IEC 60664-1)

Rated surge voltage:                      6kV

#### 8. Accuracy

Adjustment accuracy:                      -

Repetition accuracy:                      -

Voltage influence:                              -

Temperature influence:                      -

#### 9. Ambient conditions

Ambient temperature:                      -25 to +55°C (in acc. with IEC 60068-1)  
 -25 to +40°C (in acc. with UL 508)

Storage temperature:                      -25 to +70°C

Transport temperature:                      -25 to +70°C

Relative humidity:                              15% to 85% (in accordance with  
 IEC 60721-3-3 class 3K3)

Pollution degree:                              3 (in acc. with IEC 60664-1)

Vibration resistance:                              10 to 55Hz 0.35 mm  
 (in acc. with IEC 60068-2-6)

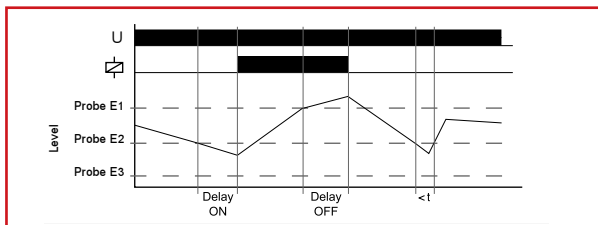
Shock resistance:                              15g 11ms (in acc. with IEC 60068-2-27)



## FUNCTIONS

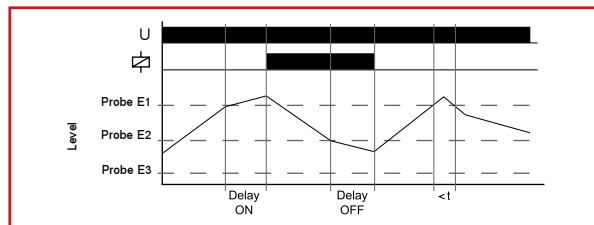
### Pump up

Connection of the probe rods E1, E2 and E3. Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the air-fluid level falls below the minimum probe E2 the set interval of the tripping delay (DELAY ON) begins. After the expiration of the interval the output relays switch into on-position (yellow LED illuminated). When the air-fluid level again rises above the maximum probe E1, the set interval of the turn-off delay (DELAY OFF) begins. After the expiration of the interval the output relays switch into off-position (yellow LED not illuminated).



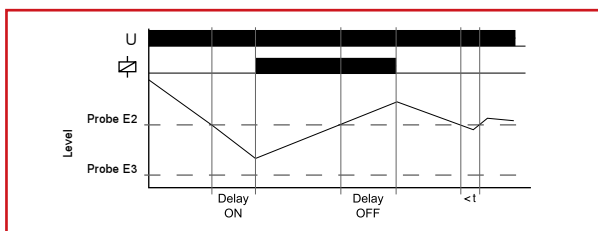
### Pump down

Connection of the probe rods E1, E2 and E3. Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the maximum probe E1 gets moistened the set interval of the tripping delay (DELAY ON) begins. After the expiration of the interval the output relays switch into on-position (yellow LED illuminated). When the air-fluid level falls below the minimum probe E2, the set interval of the turn-off delay (DELAY OFF) begins. After the expiration of the interval the output relays switch into off-position (yellow LED not illuminated).



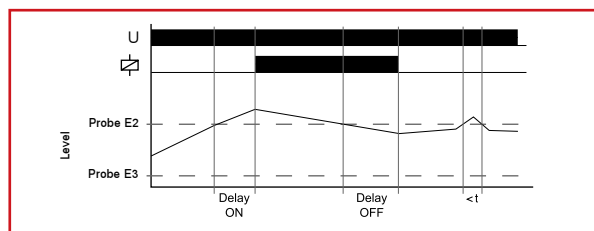
### Minimum monitoring (Pump up)

Connection of probe rods E2 and E3 (Bridge E1-E3). Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the air-fluid level falls below the probe E2 the set interval of the tripping delay (DELAY ON) begins. After the expiration of the interval the output relays switch into on-position (yellow LED illuminated). When the air-fluid level again rises above the probe E2, the set interval of the turn-off delay (DELAY OFF) begins. After the expiration of the interval the output relays switch into off-position (yellow LED not illuminated).



### Maximum monitoring (Pump down)

Connection of probe rods E2 and E3 (Bridge E1-E3). Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the probe E2 gets moistened the set interval of the tripping delay (DELAY ON) begins. After the expiration of the interval the output relays switch into on-position (yellow LED illuminated). When the air-fluid level sinks below the probe E2, the set interval of the turn-off delay (DELAY OFF) begins. After the expiration of the interval the output relays switch into off-position (yellow LED not illuminated).



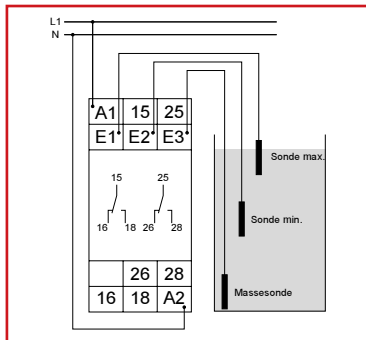
## NOTE

Use cables with low capacity for wiring the probes especially with extended wiring length.

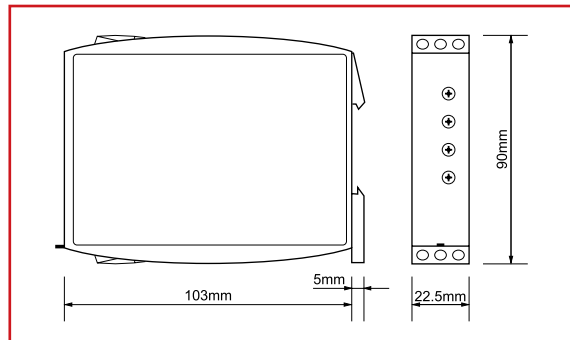
Following processes are suggested for the adjustment:

- The existent time delay should be to minimum (0,5s).
- The function selector switch must be in position pump down.
- Turn the sensitivity controller slowly clockwise from min to max until the relais switch into on-position. (probes must be in dipped state)
- The moistened probes should be taken out of the liquid to control if the relais switch into off-position. If the relais doesn't switch into off-position, turn the sensitivity controller slightly back to min. (counter clockwise)
- Set the existent time delay to desired value to fade out a short term moisten the probes by waves in the liquid.
- Set the function selector switch to desired position (either pump up or pump down)

## CONNECTIONS

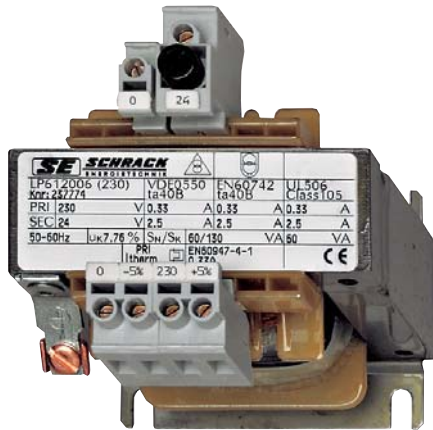


## DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Level monitoring relay, 2 change over	9004840557435		<b>UR6L1052</b>
Single probe	9004840519655		<b>URL91010</b>
Level sensor, 1 rod	9004840203264		<b>URL90010</b>
Level sensor, 2 rods	9004840203271		<b>URL90020</b>
Level sensor, 3 rods	9004840203288		<b>URL90030</b>

## TOP-TECHNIC



■ SINGLE PHASE CONTROL TRANSFORMERS



■ BELL TRANSFORMER, SHORT-CIRCUIT PROTECTED



■ POWER SUPPLY UNITS, SINGLE-PHASE DC VOLTAGE SUPPLY, OPEN DESIGN TYPE, FILTERED



■ POWER SUPPLY UNITS, THREE-PHASE POWER SUPPLY, OPEN DESIGN TYPE



■ SINGLE-PHASE DC VOLTAGE SUPPLY FOR DIN RAIL



■ POWER SUPPLY UNITS, CLOKED

*“The universe is built on the power of numbers.”*

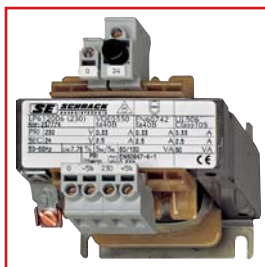
Pythagoras of Samos, Greek philosopher

# TRANSFORMERS, POWER SUPPLY UNITS

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BELL TRANSFORMER .....	Page 539
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POWER SUPPLY UNITS – FULLY ENCAPSULATED .....	Page 541
DC POWER SUPPLIES .....	Page 542

## SINGLE-PHASE CONTROL TRANSFORMERS



LP612006T

### SCHRACK-INFO

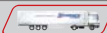





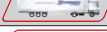

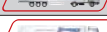







Compact high-quality transformers with

- Primary voltages 230 V and 400 V AC
- Secondary voltages 12 – 230 V AC
- Optional models including secondary fuse
- Safety transformer function

DESCRIPTION	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>SINGLE-PHASE SAFETY ISOLATING TRANSFORMERS 230/12 V</b>				
230/12 V 30 VA	500	9004840652246		LP601003T
230/12 V 60 VA	600	9004840148527		LP601006T
230/12 V 100 VA	600	9004840148046		LP601010T
230/12 V 160 VA	400	9004840164718		LP601016T
230/12 V 200 VA	1000	9004840159103		LP601020T
230/12 V 315 VA	1300	9004840154153		LP601032T
230/12 V 500 VA	1500	9004840148312		LP601050T
<b>SINGLE-PHASE SAFETY ISOLATING TRANSFORMERS 230/24 V</b>				
230/24 V 30 VA	500	9004840454192		LP602003I
230/24 V 60 VA	600	9004840454208		LP602006I
230/24 V 100 VA	600	9004840454215		LP602010I
230/24 V 160 VA	400	9004840454222		LP602016I
230/24 V 200 VA	1000	9004840149029		LP602020T
230/24 V 250 VA	800	9004840454239		LP602025I
230/24 V 315 VA	1100	9004840454246		LP602032I
230/24 V 400 VA	1150	9004840454253		LP602040I
230/24 V 500 VA	1400	9004840454260		LP602050I
230/24 V 630 VA	1900	9004840454277		LP602063I
230/24 V 800 VA	2100	9004840454284		LP602080I
230/24 V 1000 VA	2200	9004840454291		LP602100I
<b>SINGLE-PHASE SAFETY ISOLATING TRANSFORMERS 230/24 V</b>				
230/24 V 30 VA sec. fuse	200	9004840168372		LP612003T
230/24 V 60 VA sec. fuse	200	9004840167672		LP612006T
230/24 V 100 VA sec. fuse	250	9004840168365		LP612010T
230/24 V 200 VA sec. fuse	1000	9004840202076		LP612020T
230/24 V 250 VA sec. fuse	1000	9004840168358		LP612025T
<b>SINGLE-PHASE SAFETY ISOLATING TRANSFORMERS 400/24 V</b>				
400/24 V 30 VA	200	9004840149241		LP603003T
400/24 V 100 VA	250	9004840147582		LP603010T
400/24 V 160 VA	400	9004840153392		LP603016T
400/24 V 200 VA	650	9004840652291		LP603020T
400/24 V 250 VA	800	9004840652307		LP603025T
400/24 V 400 VA	1150	9004840158311		LP603040T
400/24 V 500 VA	1400	9004840154221		LP603050T



## ■ SINGLE-PHASE CONTROL TRANSFORMERS – continued

DESCRIPTION	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>SINGLE-PHASE ISOLATING TRANSFORMERS 230/230 V</b>				
230/230 V 100 VA	600	9004840454499		<a href="#">LP605010I</a>
230/230 V 250 VA	1000	9004840454505		<a href="#">LP605025I</a>
230/230 V 500 VA	1500	9004840454512		<a href="#">LP605050I</a>
230/230 V 800 VA	2100	9004840223446		LP605080T
230/230 V 1000 VA	2200	9004840454529		<a href="#">LP605100I</a>
230/230 V 1300 VA	3200	9004840163209		LP605130T
230/230 V 2000 VA	4000	9004840172935		LP605200T
230/230 V 2500 VA	5500	9004840159134		LP605250T
<b>SINGLE-PHASE CONTROL TRANSFORMER 400/230 V + SECONDARY FUSE</b>				
400/230 V 60 VA	600	9004840210873		LP614006T
400/230 V 100 VA	600	9004840210880		LP614010T
400/230 V 200 VA	1000	9004840210897		LP614020T
400/230 V 400 VA	1300	9004840210903		LP614040T
<b>SINGLE-PHASE ISOLATING TRANSFORMERS 400/230 V</b>				
400/230 V 60 VA	200	9004840417944		<a href="#">LP604006I</a>
400/230 V 100 VA	250	9004840454369		<a href="#">LP604010I</a>
400/230 V 160 VA	400	9004840454376		<a href="#">LP604016I</a>
400/230 V 200 VA	650	9004840148077		<a href="#">LP604020T</a>
400/230 V 250 VA	800	9004840454383		<a href="#">LP604025I</a>
400/230 V 320 VA	1100	9004840454390		<a href="#">LP604032I</a>
400/230 V 400 VA	1100	9004840454406		<a href="#">LP604040I</a>
400/230 V 500 VA	1400	9004840454420		<a href="#">LP604050I</a>
400/230 V 630 VA	1900	9004840454437		<a href="#">LP604063I</a>
400/230 V 800 VA	2100	9004840557510		LP604080I
400/230 V 1000 VA	2200	9004840454444		<a href="#">LP604100I</a>
400/230 V 1600 VA	3500	9004840454451		<a href="#">LP604160I</a>
400/230 V 2000 VA	4000	9004840454468		LP604200I
400/230 V 2500 VA	5500	9004840454475		LP604250I
400/230 V 3000 VA	9500	9004840454482		LP604300I
400/230 V 4000 VA	10400	9004840148435		LP604400T
400/230 V 5000 VA	12500	9004840248326		LP604500T
<b>ACCESSORIES</b>				
Snap-on mounting for DIN rail		9004840219876		<a href="#">LP699001T</a>

## ■ BELL TRANSFORMER, SHORT-CIRCUIT PROTECTED






BZ326578

### ■ SCHRACK-INFO

Bell transformers with isolated windings for DIN-rail mounting.

- Comply with EN 61558-1-2-8
- Primary voltage 230 V
- Secondary voltages 4 – 24 V AC
- 100% duty cycle
- Including PTC and protection class IP40

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
230 V AC prim./4,8,12 V AC sec., 15 VA	9004840275216		<a href="#">BZ326577</a>
230 V AC prim./8,12, 24 V AC sec., 30 VA	9004840275209		<a href="#">BZ326578</a>
230 V AC prim./12, 24 V AC sec., 63 VA	9004840384796		<a href="#">BZ326579</a>



Order no. blue: on stock, usually ready for delivery on the day of order!

## POWER SUPPLY UNITS, SINGLE-PHASE DC POWER SUPPLY, OPEN DESIGN TYPE, FILTERED



LP702110I

### SCHRACK-INFO

Transformer-based DC power supply with an output voltage of 24 V DC.

- Primary voltages 230 V AC, 230 – 400 V AC
- Up to 25 A output current
- Low residual ripple < 5%
- Self-cooling

DESCRIPTION	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>230-400 V 50/60 HZ / 24 V DC</b>				
230-400/24 V 3 A	360	9004840454574		<a href="#">LP702103I</a>
230-400/24 V 5 A	790	9004840454581		<a href="#">LP702105I</a>
230-400/24 V 8 A	850	9004840454598		<a href="#">LP702108I</a>
230-400/24 V 10 A	1400	9004840454604		<a href="#">LP702110I</a>
230-400/24 V 15 A	1400	9004840454611		<a href="#">LP702115I</a>
230-400/24 V 20 A	1700	9004840154948		<a href="#">LP702120T</a>
230-400/24 V 25 A	2500	9004840159073		<a href="#">LP702125T</a>
<b>230 V 50/60 Hz / 24 V DC</b>				
230/24 V 1.5 A	260	9004840548099		<a href="#">LP7021B1I</a>
230/24 V 20.0 A	2000	9004840154955		LP703120T
230/24 V 25.0 A	3000	9004840199444		LP703125T

## POWER SUPPLY UNITS, THREE-PHASE POWER SUPPLY, OPEN DESIGN TYPE



LP701310T

### SCHRACK-INFO

Three-phase, transformer-based DC power supply with an output voltage of 24 V DC.

- Output currents of 10 – 40 A
- Low residual ripple < 5%

DESCRIPTION	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
400/24 V DC, 10 A	940	9004840454536		LP701310I
400/24 V DC, 15 A	1040	9004840454543		LP701315I
400/24 V DC, 20 A	1360	9004840454550		LP701320I
400/24 V DC, 30 A	1600	9004840454567		LP701330I
400/24 V DC, 40 A	3500	9004840174434		LP701340T

## POWER SUPPLY UNITS, SINGLE-PHASE DC POWER SUPPLY, FULLY ENCAPSULATED, UNSTABILISED



LP733103I

### SCHRACK-INFO

Unstabilised DC power supply with an output voltage of 24 V DC.

- Encapsulated type
- Input voltage 230 V AC / 400 V AC
- Output currents of 1.5 – 10 A

DESCRIPTION	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>230/24 V DC</b>				
230/24 V 1.5 A unstabilised	380	9004840387940		<a href="#">LP7331B1I</a>
230/24 V 3 A unstabilised	600	9004840387957		<a href="#">LP733103I</a>
230/24 V 5 A unstabilised	660	9004840387971		<a href="#">LP733105I</a>
230/24 V 10 A unstabilised	1300	9004840387995		<a href="#">LP733110I</a>
400/24 V 3 A unstabilised	600	9004840387964		LP734103I
400/24 V 5 A unstabilised	660	9004840387988		<a href="#">LP734105I</a>

## POWER SUPPLY UNITS, SINGLE-PHASE DC POWER SUPPLY, FULLY ENCAPSULATED, STABILISED



LP723103

### SCHRACK-INFO

Stabilised DC power supply with an output voltage of 24 V DC for mounting plate and mounting on DIN rail (LP749xxx).

- Encapsulated type
- Input voltage 230 V
- Output currents of 1.5 – 10 A

DESCRIPTION	CU WEIGHT (g)	EAN CODE	AVAILABLE	ORDER NO.
<b>230/24 V DC</b>				
230/24 V 1.5 A stabilised	380	9004840405682		<a href="#">LP7231B1I</a>
230/24 V 3 A stabilised	600	9004840405699		<a href="#">LP723103I</a>
230/24 V 5 A stabilised	660	9004840405705		<a href="#">LP723105I</a>
Switching power supply unit 24 V DC 0.75 A 18 W		9004840526141		<a href="#">LP749018</a>
Switching power supply unit 24 V DC 1.25 A 30 W		9004840526134		<a href="#">LP749030</a>
Switching power supply unit 24 V DC 2.5 A 60 W		9004840526165		<a href="#">LP749060</a>
Switching power supply unit 24 V DC 5 A 120 W		9004840526158		<a href="#">LP749120</a>



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## ■ SINGLE-PHASE DC POWER SUPPLY FOR DIN RAIL NG 12/3 A / NG 24/3 A



YY494004-A

### ■ SCHRACK-INFO

DIN rail-mounting PCB power supply units for 12 V DC and 24 V DC output voltage and 3 A output current.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
NG 12/3 A	9004840063745		YY494012
NG 24/3 A	9004840063684		<b>YY494004-A</b>

## ■ DC POWER SUPPLY, INSTALLATION DESIGN TYPE, STABILISED



LP746201

### ■ SCHRACK-INFO

- DIN rail mounted power supply unit
- 230 V AC supply
- 24 V DC / 12 V DC output voltage

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Single-pole power supply unit, 230/24 V DC, 1.5 A	9004840556988		<b>LP746201</b>
Single-pole power supply unit, 230/12 V DC, 2 A	9004840556971		<b>LP7432C</b>



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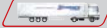



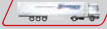


## POWER SUPPLY UNITS, CLOCKED



LP412406

### SCHRACK-INFO

- LP4 industrial power supply unit series in robust design
- Adjusting options for the right application
- 24 V DC / 12 V DC output voltage
- Various performance classes, as well as UPS version possible

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Power supply unit, clocked, 24 V DC 2.5 A 1PH	9004840664652		<b>LP412402</b>
Power supply unit, clocked, 24 V DC 4.5 A 1PH	9004840664676		<b>LP412405</b>
Power supply unit, clocked, 24 V DC 6 A 1PH	9004840544749		<b>LP412406</b>
Power supply unit, clocked, 24 V DC 12 A 1PH	9004840544732		<b>LP412412</b>
Power supply unit, clocked, 24 V DC 22 A 1PH	9004840664669		<b>LP412422</b>
Power supply unit with UPS function, 24 V DC 5 A 1PH	9004840544787		<b>LP442405</b>
Power supply unit with UPS function, 24 V DC 10 A 1PH	9004840544770		<b>LP442410</b>
Power supply unit, clocked, 230 V AC/12 V DC, 5 A	9004840586084		<b>LP411205</b>
Power supply unit, clocked, 230 V AC/12 V DC, 10 A	9004840589290		LP411210



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## TOP-TECHNIC



MAINS ANALYSER NA96



MAINS ANALYSER MF7



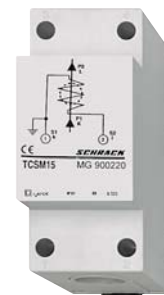
DC AMMETER



AC AMMETER



AC VOLTMETER/AMMETER



MODULAR CURRENT TRANSFORMER



MODULAR HOUR METER FOR DIN RAIL MOUNTING



MODULAR HOUR METER FOR FLUSH MOUNTING

*“Law is the rule  
by which the design of things  
can be determined.”*

Immanuel Kant, German philosopher

## MEASURING INSTRUMENTS

### ▀ CONTENTS

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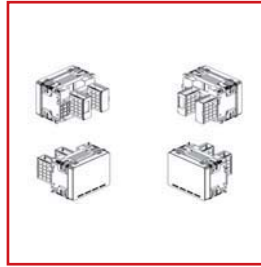
## NET-ANALYSER NA96 AND NA96+



NA96



NA96+



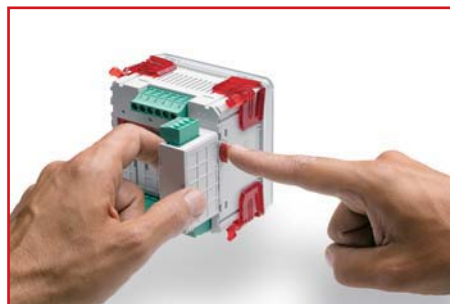
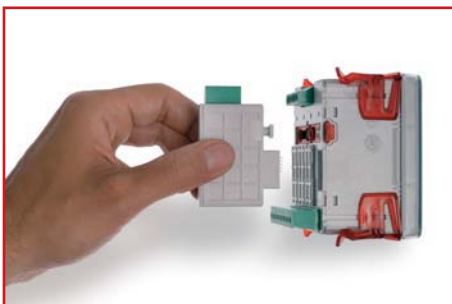
### GENERAL INFORMATION

- Multifunction measurements (4 quadrants)
- Active energy metering (2 quadrants)
- AC supply
- Single-phase, three-phase or 4-wire (adjustable)
- Connection with external dedicated CT (optional)
- 2 pulse outputs (relay) for energy (optional module)
- 2 relay outputs (optional module)
- 2 analogue outputs (optional module)
- RS485 communication (optional module)
- Profibus communication (optional module)
- Lon-Works (optional module)
- M-bus (optional module)
- Fast mounting

### SCHRACK-INFO

- 4-quadrant measurement
- Voltage – phase - phase
- Minimum voltage per phase
- Maximum voltage per phase
- Harmonic content of each phase
- Current – phase and neutral, average per phase, maximum average per phase, total current, harmonic content of each phase
- Total output – active, reactive and apparent power, power per phase – active, reactive and apparent power, average, maximum average
- Power factor – overall, per phase
- Frequency
- Working hours
- Active energy– positive overall, positive for each phase
- Reactive energy– positive overall, positive for each phase
- Active energy – negative overall
- Reactive energy – negative overall

### APPLICATION





## TECHNICAL DATA

<b>HOUSING</b>	
Panel cut-out flush mounting	92 x 92 mm
Front frame	96 x 96 mm
Depth	62 mm, 81 mm (including optional module)
Connection	Screw terminal, voltage – max. 4 mm <sup>2</sup> , current – max. 6 mm <sup>2</sup>
Housing material	Polycarbonate (self-extinguishing)
Degree of protection	IP 54 (front) – IP 20 (terminals)
<b>AMBIENT CONDITIONS</b>	
Reference temperature	23 °C + 2 °C
Operating temperature	-5 to 55 °C
Max. temperature range (storage/transport)	-25 to 70 °C
Temperature influence	≤ 0.1%/°C
Power loss	≤ 5 W
<b>DISPLAY</b>	
LCD backlit 68 x 65 mm	Backlighting switches off automatically after 20 seconds without operation
Measuring display	4 lines – 4 digits
Reading update:	1.1 seconds
Energy count	8 digits (6+2 decimals)
Accuracy (+ 1 digit)	
Active energy	NA96: Class 1 (EN62053-21), NA96+: Class 0.5 (EN62053-21)
Reactive energy	Class 2 (EN62053-23)
Voltage	NA96: ± 0.5% (80 .... 500 V phase-phase), NA96+: ± 0.2% (80 .... 690 V phase-phase)
Current	NA96: ± 0.5% (10 .... 120% I <sub>n</sub> ), NA96+: ± 0.2% (10 .... 120% I <sub>n</sub> )
Power	NA96: ± 1% (10 .... 120% P <sub>n</sub> , Q <sub>n</sub> , S <sub>n</sub> ), NA96+: ± 0.5% (10 .... 120% P <sub>n</sub> , Q <sub>n</sub> , S <sub>n</sub> )
Power factor	NA96: ± 1% (0.5 ind ..... 0.5 cap), NA96+: ± 0.5% (0.5 ind ..... 0.5 cap)
Frequency	± 0.15 Hz
<b>PROGRAMMING</b>	
	4 front keys, access protected by password
	Parameter retention in non-volatile memory
<b>PROGRAMMABLE PARAMETERS</b>	
Mains type	1-phase or 3/4-phase connection
Current rating	1 – 5 A
Transformer ratio	NA96: 1...10 (voltage – max. primary voltage 1,200 V) NA96+: 1...3000 (voltage – max. primary voltage 300,000 V) 1...9999 (current – max. primary current 50 kA/5 A – 10 kA/1 A)
Communication (optional modules)	e.g.: RS 232, address, baud rate, parity bit
Pulse value	Active or reactive energy, significance, pulse duration
Relay	Allocation of measured variable, threshold, min. or max. – NO or NC, hysteresis, On delay, Off delay
Current and power average	Integration time 5/8/10/15/20/30/60 minutes
Display	Contrast: 4 levels
Backlight	0–30 – 70–100%
Display page	After switch-on (measured quantity)
<b>INPUT</b>	
Voltage	AC, three-phase mains 3- and 4-wire connection NA96: 80 .... 500 V (three-phase AC mains phase-phase), NA96+: 80 .... 690 V (three-phase AC phase-phase) NA96: 50 .... 290 V (AC mains), NA96+: 50 .... 400 V (AC mains)
Current rating	5 A – 1 A – only current transformer connection
Max. current I <sub>max</sub>	1.2 I <sub>n</sub> continuous
Overload	20 I <sub>n</sub> /0.5 s
Nominal frequency	50 Hz
Operating frequency	47 .... 63 Hz
Type of measurement	Tue RMS value
Harmonic content	NA96: up to the 16th harmonic, NA96+: up to the 22nd harmonic
Start of measurement (energy meter)	< 5 s
Intrinsic consumption	Voltage path: < 0.5 VA (per phase), current path: < 0.5 VA (per phase)

## TECHNICAL DATA – continued

<b>AUXILIARY VOLTAGE</b>	
Auxiliary voltage	80 ..... 265 V AC
Nominal frequency	50 Hz
Operating frequency	47 ... 63 Hz
Intrinsic consumption	≤ 4 VA (without optional modules)
Auxiliary voltage	110 ..... 300 V DC
Intrinsic consumption	< 3.5 W (without optional modules)
Reverse polarity protection	
<b>INSULATION</b>	
Installation category	III
Pollution degree	2
Insulation voltage rating	300 V (phase - neutral)
Surge voltage protection	6 kV, 1.2/50 μs, 0.5 J
Test circuit	Measurement input, auxiliary voltage
Test voltage	4 kV, rms, 50 Hz/1 min
Test circuit	All circuits and earth
<b>ELECTROMAGNETIC COMPATIBILITY</b>	
Emission and immunity tests	Acc. to EN 62052-11
<b>AMBIENT CONDITIONS</b>	
Reference temperature	23 °C ± 2 °C
Operating temperature	-5 ... 55 °C
Limit range for storage and transport	-25 ... 70 °C
Temperature influence	≤ 0.1%/°C
Power dissipation for thermal dimensions of the control cabinet	≤ 5 W

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Net analyser NA96 basic unit	9004840550993		<b>MGF39000</b>
Net analyser NA96+ basic unit	9004840618419		<b>MGF39001</b>

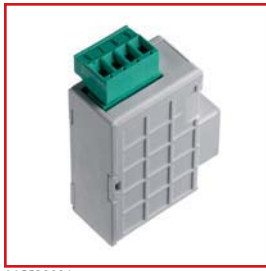


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## PLUG-IN MODULE ALARM CONTACTS, 2 INDEPENDENT AND INSULATED LIMIT CONTACTS



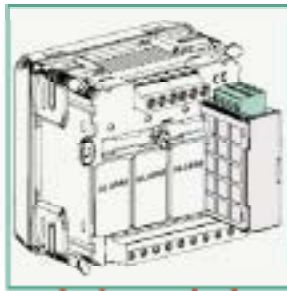
MGF3900A

### SCHRACK-INFO

Programming of: measured quantity, limit value, type of alarm, relay behaviour, hysteresis, On delay, and Off delay. The NA96 and NA96+ modules in conjunction with the multi-function module allow the monitoring of two measured quantities by two limit contacts. Each multi-function module, NA96 and NA96+, can accommodate up to two MGF3900A modules so that 4 limit contacts are available.

NA96 AND NA96+

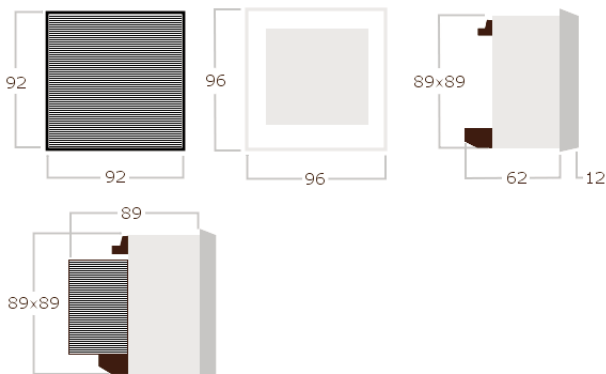
MGF3900A



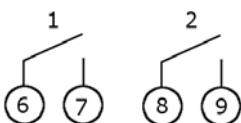
**Alarm 1**  
Alarm 1

**Alarm 2**  
Alarm 2

### DIMENSIONS



### CONNECTION DIAGRAM



### PROGRAMMABLE PARAMETERS

Measured quantity: for each output according to the table below

MEAS			
3n3E	3-3E	3-2E	1-n1E
U1			U1
U2			
U3			
U12	U12	U12	
U23	U23	U23	
U31	U31	U31	
A1	A1	A1	A2
A2	A2	A2	
A3	A3	A3	
P1			
P2			
P3			
VAR1			
VAR2			
VAR3			
P	P	P	P
Var	Var	Var	Var
PF	PF	PF	PF
FrEg	FrEg	FrEg	FrEg

3n3E	4-wire three-phase mains, 3 current transformers
3-3E	3-wire three-phase main, 3 current transformers
3-2E	3-wire three-phase power, 2 current transformers (ARON)
1n1E	AC mains
U1-U2-U3	Phase voltage
U12-U23-U31	Phase-to-phase voltage
A1-A2-A3	Phase current
P1-P2-P3	Active power (phase)
P	Active power (total); single-phase for mains type 1n1E
VAR1-VAR2-VAR3	Reactive power (phase)
Var	Reactive power (total); single-phase for mains type 1n1E
PF	Power factor
FrEq	Frequency
Limit value	
Alarm type:	Min and Max contact
Relay state:	Relay On or Off in normal state
Hysteresis:	0...20%
On delay:	0...99 s
Off delay:	0...99 s

## TECHNICAL DATA

### OUTPUT

2 relays with CO contacts SPDT-NO, potential-free

Contact load: 5 A 250 V AC cos $\phi$  1 – 3A 250 V AC - cos $\phi$  0.4 – 5 A 30 V DC

### AUXILIARY VOLTAGE (data apply to a combination of NA96 + MGF3900A module)

Intrinsic consumption MGF3900A:  $\leq$  1 VA

Intrinsic consumption NA96 + module MGF3900A:  $\leq$  5 VA

Intrinsic consumption NA96 + 2 modules MGF3900A:  $\leq$  6 VA

### ELECTRICAL SAFETY (data apply to a combination of NA96 + MGF3900A module)

Test voltage: 2 kV rms 50 Hz/1 min

Test circuits: Measurement input, auxiliary voltage, output 1 - output 2

### HOUSING

Housing: Module with connector (for connecting to NA96)


Housing depth: 81 mm (NA96 + module)

Connection: Screw terminal

Connection: Rigid cable max. 4.5 mm<sup>2</sup>, flexible cable max. 2.4 mm<sup>2</sup>

Housing material: Polycarbonate, self extinguishing

Weight: 40 grams

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plug-in module for alarm output, 2 limit contacts	9004840551006		<b>MGF3900A</b>



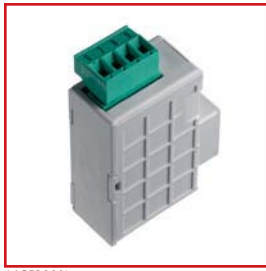
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## PLUG-IN MODULE WITH PULSE OUTPUT FOR ENERGY MEASUREMENTS 2 INDEPENDENT AND GALVANICALLY ISOLATED OUTPUTS



MGF3900I

### SCHRACK-INFO

Programming of: Energy allocation (active and/or reactive), pulse value and pulse duration. The module MGF3900I in combination with a device of type NA96 and NA96+ allows the transfer of energy values. Both independent and galvanically isolated pulse outputs can be freely allocated to active and/ or reactive energy. For each device (NA96), a maximum of two modules MGF3900I can be used, resulting in 4 pulse outputs.

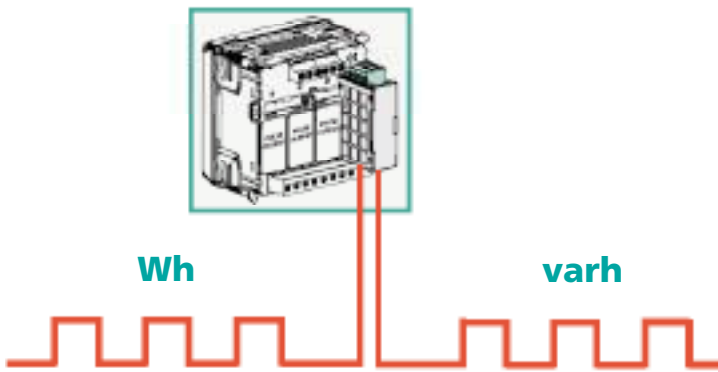
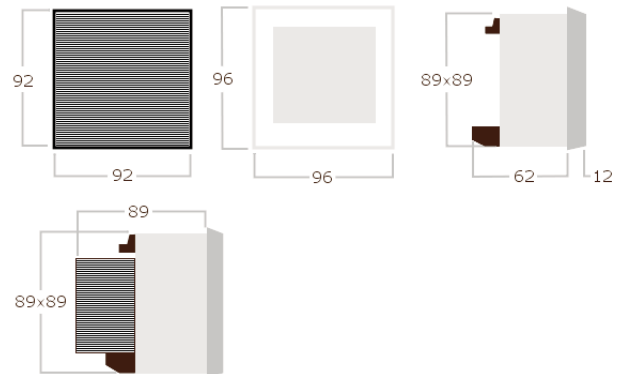
NA96 AND NA96+



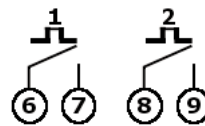
MGF3900I



### DIMENSIONS



### CONNECTION DIAGRAM



### TECHNICAL DATA

#### PROGRAMMABLE PARAMETERS (for each output)

Allocatable quantity:	Active or reactive energy
Pulse value:	1 pulse/10 Wh - 100 Wh - 1 kWh - 10 kWh - 100 kWh - 1 MWh - 10 MWh 1 pulse/10 Varh - 100 Varh - 1 kvarh - 10 kvarh - 100 kvarh - 1 Mvarh - 10 Mvarh
Pulse duration:	50 - 100 - 200 - 300 ms

#### OUTPUT

2 optical relays with potential-free contacts SPST-NO	
Loading capacity:	110 V AC / DC - 50 mA

#### AUXILIARY VOLTAGE (data apply to a combination of NA96 + module MGF3900I)

Intrinsic consumption MGF3900I:	≤ 1 VA
Intrinsic consumption NA96 + module MGF3900I:	≤ 5 VA
Intrinsic consumption NA96 + 2 modules MGF3900I:	≤ 6 VA

#### ELECTRICAL SAFETY (data apply to a combination of NA96 + module MGF3900I)

Test voltage:	2 kV rms 50 Hz/1 min
Test circuits:	Measurement input, auxiliary voltage, output 1 - output 2

#### HOUSING

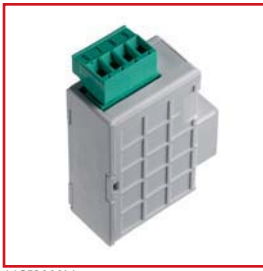
Housing:	Plug-in housing with connection for NA96
Housing depth:	81 mm (NA96 + module)
Connection:	Screw terminal
Connection:	Rigid cable max. 4.5 mm <sup>2</sup> , flexible cable max. 2.5 mm <sup>2</sup>
Housing material:	Polycarbonate, self extinguishing
Weight:	40 grams

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plug-in module for pulse output	9004840551020		<b>MGF3900I</b>



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## PLUG-IN MODULE ANALOGUE OUTPUT, 2 INDEPENDENT AND ISOLATED OUTPUTS



MGF3900M

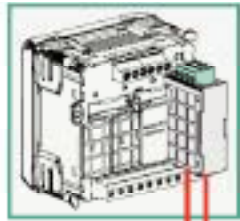
### SCHRACK-INFO

Programming of: Measured quantity, initial value of the measuring range, final value of the measuring range, output 0...20 mA - 4...20 mA. The module MGF3900M in conjunction with the multi-function module NA96 and NA96+ allows the mapping of two measured quantities to the analogue signal 0... 20 mA signal and/or 4... 20 mA. Each multi-function module NA96 and NA96+ can accommodate a maximum of 2 modules MGF3900M so that 4 analogue outputs are available.

NA96 AND NA96+



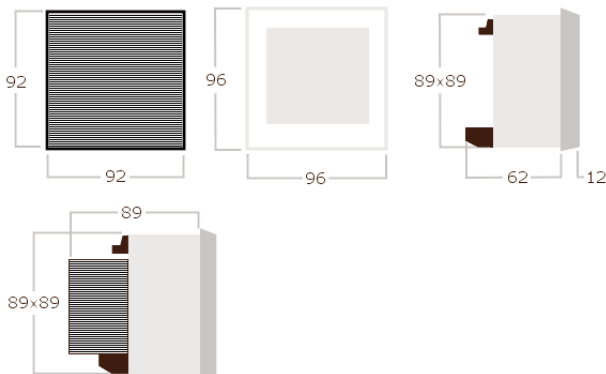
MGF3900M



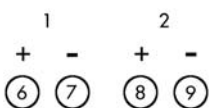
0/4...20 mA



### DIMENSIONS



### CONNECTION DIAGRAM



### PROGRAMMABLE PARAMETERS

Measured quantity: for each output according to the table below

MEAS			
3n3E	3-3E	3-2E	1-n1E
U1			U1
U2			
U3			
U12	U12	U12	
U23	U23	U23	
U31	U31	U31	
A1	A1	A1	A2
A2	A2	A2	
A3	A3	A3	
P1			
P2			
P3			
VAR1			
VAR2			
VAR3			
P	P	P	P
Var	Var	Var	Var
PF	PF	PF	PF
FrEg	FrEg	FrEg	FrEg

3n3E	4-wire three-phase mains, 3 current transformers
3-3E	3-wire three-phase main, 3 current transformers
3-2E	3-wire three-phase power, 2 current transformers (ARON)
1n1E	AC mains
U1-U2-U3	Phase voltage
U12-U23-U31	Phase-to-phase voltage
A1-A2-A3	Phase current
P1-P2-P3	Active power (phase)
P	Active power (total); single-phase for mains type 1n1E
VAR1-VAR2-VAR3	Reactive power (phase)
VAR	Reactive power (total); single-phase for mains type 1n1E
PF	Power factor
FrEq	Frequency
Output signal:	0...20 mA - 4...20 mA
Initial value	
of the measuring range:	Value of the measured quant. that is 0 mA (for output 0... 20 mA) or 4 mA (for output 4...20 mA).
Final value	
of the measuring range:	Value of the measured quantity that is 20 mA

## TECHNICAL DATA

### OUTPUT

Type:	Unidirectional
Accuracy:	Class 0.5
Set time:	≤ 600 ms
Nominal current:	0...20 and 4...20 mA
Output burden:	≤ 750 Ω

### AUXILIARY VOLTAGE (data apply to a combination of NA96 + module MGF3900M)


Intrinsic consumption MGF3900M:	≤ 1 VA
Intrinsic consumption NA96 + module MGF3900M:	≤ 6 VA
Intrinsic consumption NA96 + 2 modules MGF3900M:	≤ 8 VA

### ELECTRICAL SAFETY (data apply to a combination of NA96 + module MGF3900M)

Test voltage:	2 kV rms 50 Hz/1 min
Test circuits:	Measurement input, auxiliary voltage, output 1 - output 2

### HOUSING

Housing:	Module with connector (for connecting to NA96)
Housing depth:	81 mm (NA96 + module)
Connection:	Screw terminal
Connection:	Rigid cable max. 4.5 mm <sup>2</sup> , flexible cable max. 2.4 mm <sup>2</sup>
Housing material:	Polycarbonate, self extinguishing
Weight:	40 grams

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plug-in module for analogue values	9004840551013		<b>MGF3900M</b>



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## PLUG-IN MODULE M-BUS INTERFACE FOR NA96 AND NA96+



NA96



MGF3900B

### SCHRACK-INFO

The module MGF3900B in conjunction with the device of type NA 96 allows reading of kWh by the M-bus interface. Not calibratable!

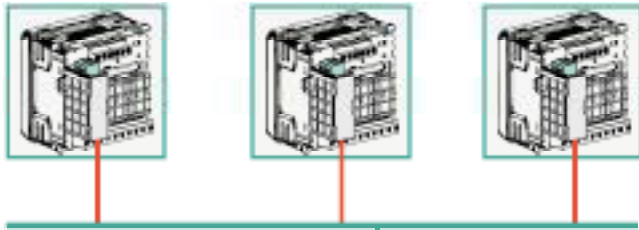
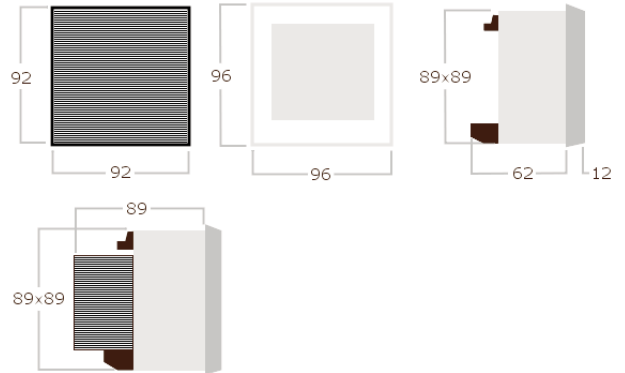
NA96 AND NA96+



MGF3900B

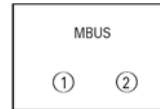


### DIMENSIONS



M-BUS

### CONNECTION DIAGRAM



### TECHNICAL DATA

**M-BUS COMMUNICATION** – Galvanic isolation between input and supply (NA96/NA96+)

Standard:	EN1434-3
Transfer:	Asynchronous serial
Protocol:	M-BUS
Number of bits:	8
Stop bit:	1

#### PROGRAMMABLE PARAMETERS

Address:	0...250
Baud rate:	300 - 600 - 1,200 - 2,400 - 4,800 - 9,600 bps

**AUXILIARY VOLTAGE** (The quantities depend on the combination NA96/ NA96+ and module)

Intrinsic consumption:	≤ 5 VA
------------------------	--------

**ELECTRICAL SAFETY** (The data depend on the combination of from NA96/NA96+ and module MGF39000B)

Test voltage:	AC 2 kV rms 50 Hz/1 min
Test circuits:	Measurement input, auxiliary voltage

#### HOUSING

Housing:	Plug-in housing with connection for NA96
Max housing depth:	81 mm (NA96 + module)
Connections:	Screw terminals
Input terminals:	Rigid cable max. 4.5 mm <sup>2</sup> , flexible cable max. 2.5 mm <sup>2</sup>
Housing material:	Self-extinguishing plastic
Weight:	30 grams

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plug-in module for M-bus	9004840665994		MGF3900B



## PLUG-IN MODULE PROFIBUS COMMUNICATION FOR NA96 AND NA96+



MGF3900P

### SCHRACK-INFO

The module MGF3900P in conjunction with the multi-function module NA 96 and NA96+ allows the readout of all measured values and configuration parameters via PROFIBUS communication.

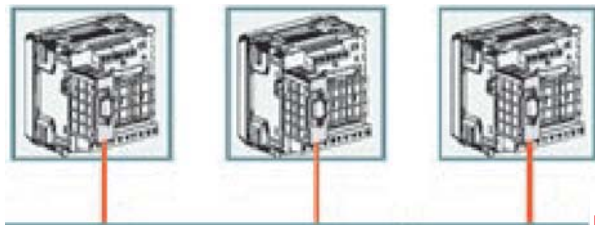
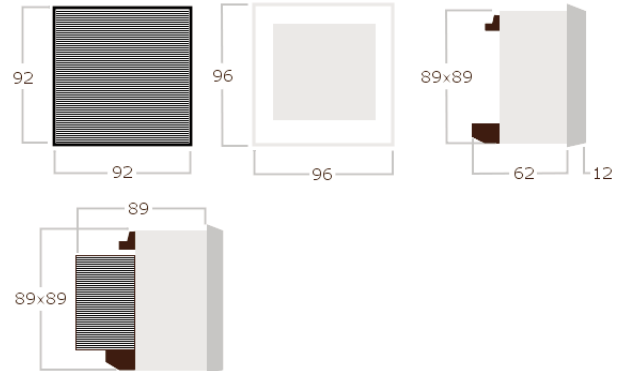
NA96 AND NA96+



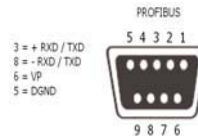
MGF3900P



### DIMENSIONS



### PROFIBUS CONNECTION DIAGRAM



### TECHNICAL DATA

#### PROFIBUS COMMUNICATION – Galvanic isolation between input and auxiliary voltage (NA96)

Standard:	PROFIBUS EN50170
Response time:	≤ 10 ms
Maximum distance from master:	Standard
Baud rate:	up to 3 Mbps

#### PROGRAMMABLE PARAMETERS

Address:	1...127
----------	---------

#### AUXILIARY VOLTAGE (data apply to a combination of NA96 + module MGF3900P)

Intrinsic consumption:	≤ 5 VA
------------------------	--------

#### ELECTRICAL SAFETY (data apply to a combination of NA96 + module MGF3900P)

Test voltage:	2 kV rms 50 Hz/1 min
Test circuits:	Measurement input, auxiliary voltage, output 1 - output 2

#### HOUSING

Housing:	Module with connector (for connecting to the device NA96)
Housing depth:	81 mm (NA96 + module)
Connection:	SUB-D, 9-pole
Housing material:	Polycarbonate, self extinguishing
Weight:	50 grams

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plug-in module for Profibus	9004840554281		<b>MGF3900P</b>

## PLUG-IN MODULE LONWORKS FOR NA96 AND NA96+



MGF3900L

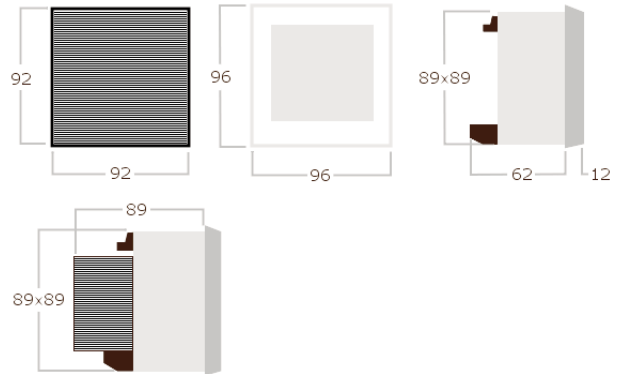
NA96 AND NA96+



MGF3900M



### DIMENSIONS



LONWORKS



### TECHNICAL DATA

**LONWORKS COMMUNICATION** – Galvanic isolation between input and auxiliary voltage (NA96)

Standard: FTT10

**AUXILIARY VOLTAGE** (data apply to a combination of NA96 + module MGF3900L)

Intrinsic consumption: ≤ 5 VA

**ELECTRICAL SAFETY** (data apply to a combination of NA96 + module MGF3900L)

Test voltage: 1 kV rms 50 Hz/1 min

#### HOUSING

Housing: Module with connector (for connecting to the device NA96)

Housing depth: 81 mm (NA96 + module)

Housing material: Polycarbonate, self extinguishing

Weight: 50 grams

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plug-in module for LonWorks	9004840586107		MGF3900L

## PLUG-IN MODULE RS485 INTERFACE FOR NA96 AND NA96+



MGF3900R

### SCHRACK-INFO

The module MGF3900R in conjunction with the device of type NA 96 and NA96+ allows read-out of all available parameterized data through the RS485 interface.

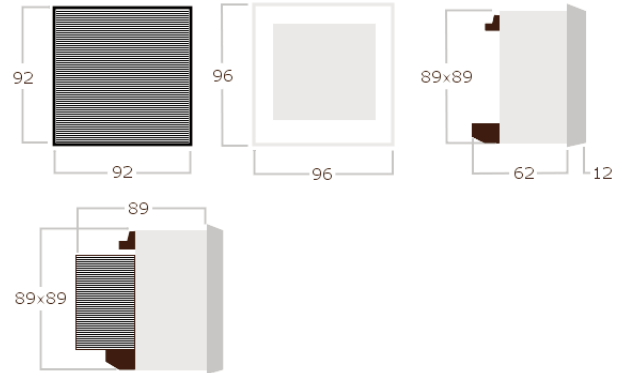
NA96 AND NA96+



MGF3900R

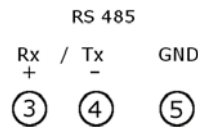


### DIMENSIONS



RS485

### CONNECTION DIAGRAM



### TECHNICAL DATA

#### RS485 INTERFACE – Galvanic isolation between input and supply (NA96)

Standard:	RS485 - 3-wire
Transfer:	Asynchronous serial
Protocol:	Compatible with JBUS / MODBUS
Number of bits / stop bits:	8 / 1
Data read-out time:	≤ 200 ms
Number of devices to be connected:	32 (up to 255 with RS485 repeater)
Maximum distance of devices:	1200m

#### PROGRAMMABLE PARAMETERS

Address:	1...255
Transfer speed:	4,800 - 9,600 - 19,200 - 38,400 bps
Parity bit:	none - even - odd

#### AUXILIARY VOLTAGE (data apply to a combination of NA96 + module MGF3900R)

Intrinsic consumption:	≤ 5 VA
------------------------	--------

#### ELECTRICAL SAFETY (data apply to a combination of NA96 + module MGF3900R)

Test voltage:	2 kV rms 50 Hz/1 min
Test circuits:	Measurement input, auxiliary voltage, output 1 - output 2

#### HOUSING

Housing:	Plug-in housing with connection for NA96
Housing depth:	81 mm (NA96 + module)
Connection:	Screw terminal
Connection:	Rigid cable max. 4.5 mm <sup>2</sup> , flexible cable max. 2.5 mm <sup>2</sup>
Housing material:	Polycarbonate, self extinguishing
Weight:	30 grams

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plug-in module for RS485 interface	9004840551037		MGF3900R

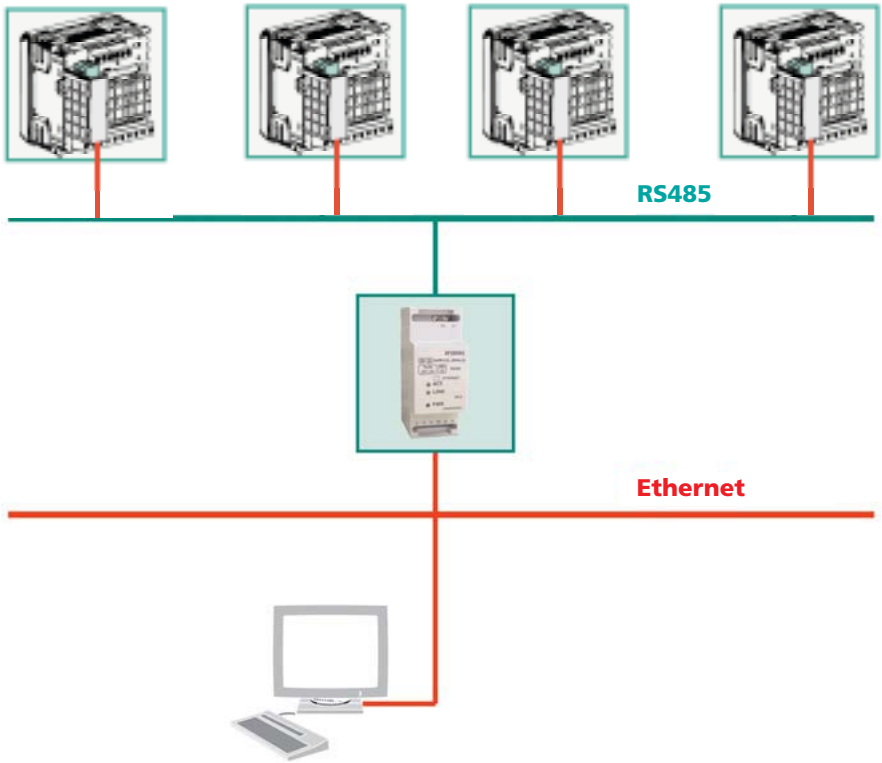


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## ETHERNET INTERFACE RS485 COMMUNICATION, 2 MODULES, FOR NA96 AND NA96+

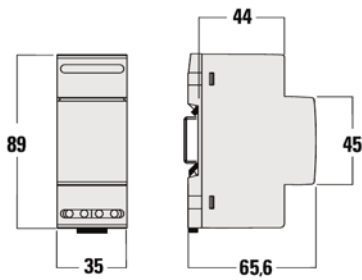


MGZEM001

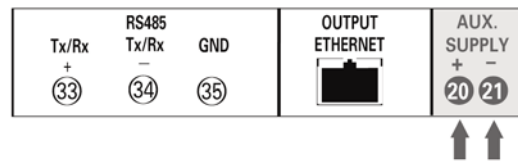


up to 32 devices!

### DIMENSIONS



### CONNECTION DIAGRAM





## TECHNICAL DATA

### ETHERNET INTERFACE RS485 COMMUNICATION - Input and power supply galvanically isolated

Standard: IEEE802.3

#### PROGRAMMABLE PARAMETERS

IP address

#### STATUS LEDS

ACT: Yellow LED, active connection

LINK: Green LED, Ethernet network On

PWR: Green LED power indicator

#### AUXILIARY VOLTAGE

Auxiliary voltage: 22...260 V DC/AC

Frequency: 47...63 Hz

Intrinsic consumption: ≤ 4 VA

#### INSULATION (EN61010-1)

Installation category: III

Pollution degree: 2

AC test voltage: 2.5 kV TRMS 50 Hz/1 min

Concerned circuits: Power supply - RS485 and Ethernet

AC test voltage: 1.5kV TRMS 50 Hz/1 min

Concerned circuits: RS485 to Ethernet

AC test voltage: 4kV TRMS 50 Hz/1 min

Concerned circuits: All circuits and earth

#### TEST FOR EMC COMPATIBILITY

Emission and immunity tests: According to EN61326

#### AMBIENT CONDITIONS

Reference temperature: 23 °C ± 2 °C

Maximum operating temperature: -5...55 °C

Maximum storage and transport temperature: -25...70 °C

Maximum heat dissipation

for the thermal calculation of distributor: 3.5 W

#### HOUSING

Housing: 2 MW according to DIN43880

#### CONNECTIONS

Power supply: Screw terminals

RS485: Plug connector

Ethernet: RJ-45 connector

Mounting: Snap-on DIN rail (35mm)

DIN rail: TH35-15 (EN60715)

Housing material: Polycarbonate

Weight: 110 grams

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Ethernet module	9004840666007		MGZEM001



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## NET-ANALYSER MF7



### SCHRACK-INFO

- Low voltage network monitor
- Three-phase network 340...450 V (phase - phase)
- Single-phase network 195...260 V (phase - neutral)
- Connection with dedicated CT
- Programmable primary CT 5...8000 A (41 range)
- True RMS value measurement

### TECHNICAL DATA

Display	Voltage phase-phase and phase-N Current wire and neutral wire current Frequency Average current Maximum value of average current Working hours (hours and minutes)
Display	LCD backlit
Backlight	Turns off automatically after 20 seconds without operation
Display	10,000 points (4 digits)
Engineering units	Automatic, depending on the setting of the transformer primary current
Resolution	Automatic, with the highest possible decimal places
Reading update	1.2 seconds
Accuracy (of reading)	
Voltage	± 0.5% (80...450 V phase - phase)
Current	± 0.5% (10...120% I <sub>N</sub> )
Neutral wire current	± 2%
Frequency	± 0.2 Hz

## TECHNICAL DATA

### DISPLAY

Type of display:	LCD backlighted Automatic backlit reduction after 20s from last key activation
Measurement display:	Subdivided on various pages, with manual or automatic scanning
Display pages:	<b>Three-phase 4-network:</b> Phase current Phase voltage Linked voltage Neutral current + frequency Current demand Current max. demand Working hours and minutes
Page 1	
Page 2	
Page 3	
Page 4	
Page 5	
Page 6	
Page 7	
N° of display points:	10.000 (4 digits)
Engineering units:	Automatic display
Resolution:	Automatic, with the highest possible number of decimals
Run hour meter:	Hours and minutes
Reading update:	1,2 seconds
Accuracy (of the reading)	
- Voltage:	± 0,5% (80...600V phase - phase)
- Current:	± 0,5% (10...120% I <sub>n</sub> )
- Neutral current:	± 2%
- Frequency:	± 0,2 Hz
<b>CURRENT DEMAND</b>	
Display:	Current demand and max. current demand
Averaging period:	Only for current and power
Value selectable:	5/8/10/15/20/30/60 minutes selectable
Calculation:	Average on the selected period
Max. demand reset:	By hand, by keyboard
<b>PROGRAMMING</b>	
Parameters programming:	Front keyboard, 2 keys
Programming access:	Key combination
Data and configuration parameters retention:	Non volatile memory (no battery)
<b>PROGRAMMABLE PARAMETERS</b>	
Connection:	Single-phase - three-phase 3 and 4 wire
External CT primary:	41 ranges (see table)

Programmable primary currents (A)														
5					10			15		20	25	30		40
50	60	70	75	80	100	120	125	150	160	200	250	300		400
500	600	700	750	800	1000	1200	1250	1500	1600	2000	2500	3000	3200	4000
5000	6000	7000	7500	8000										

Current max. demand:	Delay time, reset
Working hours:	Reset
<b>INPUT</b>	
Single-phase and three-phase 4-wire network	
Three-phase voltage:	340...450V (phase-phase)
Single-phase voltage:	195...260V
Current rating I <sub>n</sub> :	5A or 1A
Continuous overload:	1,2I <sub>n</sub>
Istantaneous overload:	20I <sub>n</sub> /0,5 seconds
Connection with external dedicated current transformer	
Inputs have a common point	
Frequency rating f <sub>n</sub> :	50Hz
Tolerance:	47...63Hz
Type of measurement:	True RMS
Harmonic content:	Up to the 16th harmonic
Voltage rated burden:	≤ 1VA (each phase)
Current rated burden:	≤ 0,5VA (each phase)

## TECHNICAL DATA – continued

### AUXILIARY SUPPLY

Taken from measurement (selfsupplied)

### INSULATION

Installation category: III

Pollution degree: 2

Insulation voltage rating: 660V

A.C. voltage test 4kV r.m.s. value 50Hz/1min – Considered circuits: All circuits and earth

### TESTS FOR ELETROMAMAGNETIC COMPATIBILITY

Emission tests according to EN 61000-6-3

Immunity tests according to EN 61000-6-2

### ENVIRONMENTAL CONDITIONS

Reference temperature: 23°C ± 2°C

Specified operating range: -5...55°C

Limit range for storage and transport: -25...70°C

Variation of the class index: ≤ 0,1% /°C

Max. power dissipation for switchboard thermal calculation: ≤ 6,8W

### HOUSING

Housing: Flush mounting (panel cutout 68x68mm)

Front frame: 72x72mm

Depth: 75 mm

Ammetric terminals range: Rigid cable min.0,05mm<sup>2</sup> / max. 4mm<sup>2</sup>  
Flexible cable min.0,05mm<sup>2</sup> / max. 2,5mm<sup>2</sup>

Volmetric terminals range: Rigid cable min. 0,05mm<sup>2</sup> / max. 4mm<sup>2</sup>  
Flexible cable min.0,05mm<sup>2</sup> / max. 2,5mm<sup>2</sup>

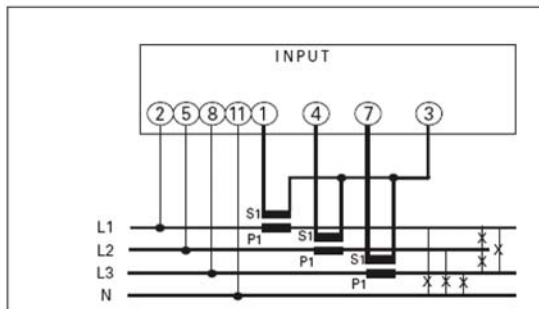
Housing material: Self-extinguishing makrolon

Protection degree (EN60529): IP54 front frame, IP20 terminals

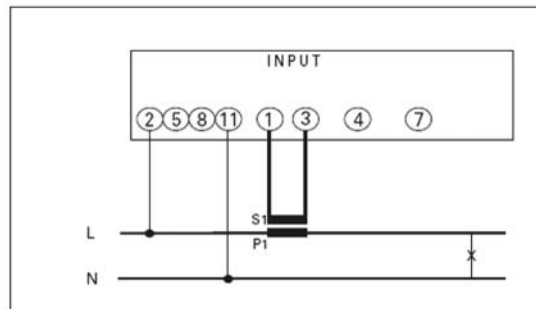
Weight: 250 grams

## CIRCUIT DIAGRAMS

4-wire three-phase network



Single-phase network



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Net analyser 72 x 72	9004840546385		<b>MGF37000</b>



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## MODULAR NET-ANALYSER



### SCHRACK-INFO

- Three-phase network 80...600 V (phase - phase)
- Single-phase network 50...350 V (phase - neutral)
- Connection with dedicated CT
- Primary CT 5...8000 A
- 41 primary currents settable
- True RMS measurement
- Display with manual or automatic scanning

### TECHNICAL DATA

#### DISPLAY

Type of display:	LCD backlighted Automatic backlit reduction after 20s from last key activation	
Measurement display:	Subdivided on various pages, with manual or automatic scanning	
Display pages:	<b>Three-phase 4-network:</b>	<b>Single-phase network:</b>
Page 1	Phase voltage	Voltage - Current
Page 2	Phase current	Active, reactive, apparent power
Page 3	Linked voltage	Frequency - Power factor
Page 4	Phase active power	Working hours and minutes
Page 5	Phase reactive power	Power demand - Power Max. demand
Page 6	Active, reactive, apparent power	Current demand, max. current demand
Page 7	Neutral current, frequency, power factor	
Page 8	Working hours and minutes	
Page 9	Power demand - Power Max. demand	
Page 10	Phase current demand	
Page 11	Phase current max. demand	
N° of display points:	10.000 (4 digits)	
Engineering units:	Automatic display according to the set CT ratios	
Resolution:	Automatic, with the highest possible number of decimals	
Run hour meter:	Hours and minutes	
Reading update:	1,2 seconds	
Accuracy (of the reading)		
- Voltage:	± 0,5% (340...450V phase - phase)	
- Current:	± 0,5% (10...120% In)	
- Neutral current:	± 2%	
- Power:	± 1,5% (10...120% Pn/qn/sn cosj 0,5 ind...0,5cap)	
- Power factor:	± 2%	
- Frequency:	± 0,2 Hz	
<b>CURRENT DEMAND - POWER DEMAND</b>		
Display:	Current and active power demand, max. current demand and max. power demand	
Averaging period:	Only for current and power	
Value selectable:	5/8/10/15/20/30/60 minutes	
Calculation:	Average on the selected period	
Max. demand reset:	By keyboard	
<b>PROGRAMMING</b>		
Parameters programming:	Front keyboard, 2 keys	
Programming access:	Key combination	
Data and configuration parameters retention:	Non volatile memory (no battery)	

## TECHNICAL DATA – continued

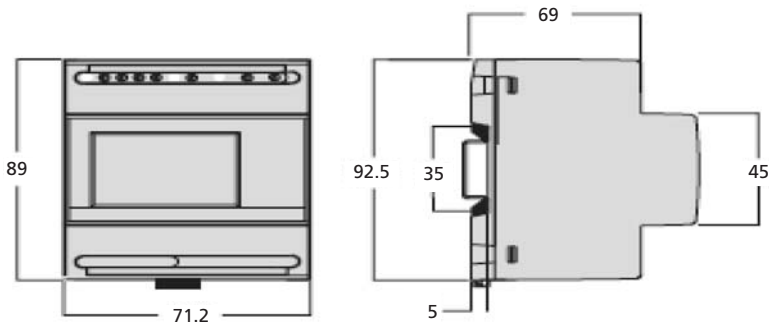
### PROGRAMMABLE PARAMETERS

Display:	Manual or automatic scanning
Connection:	Single-phase - three-phase 3 and 4 wire
External CT primay:	41 ranges (see table)

Selectable primary current (A)														
5					10			15		20	25	30		40
50	60	70	75	80	100	120	125	150	160	200	250	300		400
500	600	700	750	800	1000	1200	1250	1500	1600	2000	2500	3000	3200	4000
5000	6000	7000	7500	8000										

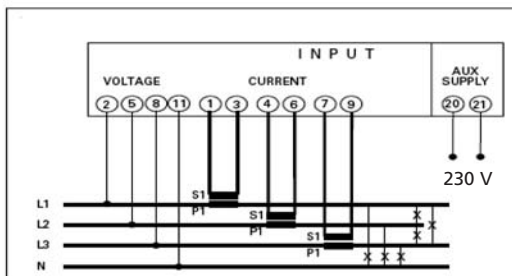
Current - Power max. demand:	Averaging time, max. demand reset
Working hours:	Reset
<b>INPUT</b>	
Single-phase network, three-phase network 3 and 4-wire	
Three-phase voltage:	80...600V (phase-phase)
Single-phase voltage:	50...350V
Current rating In:	5A or 1A
Continuous overload:	1,2In
Istantaneous overload:	20In/0,5 seconds
Connection with external dedicated current transformer Inputs have a common point (terminals 3 - 6 - 9)	
Frequency rating fn:	50Hz
Tolerance:	47...63Hz
Type of measurement:	True RMS
Harmonic content:	Up to the 16th harmonic
Voltage rated burden:	≤ 1VA (each phase)
Current rated burden:	≤ 0,5VA (each phase)
<b>AUXILIARY SUPPLY</b>	
Rated value Uaux ac:	115 – 230 e 240 - 400V
Tolerance:	0,85...1,1Uaux
Rated frequency:	50Hz
Working frequency:	47...63Hz
Rated burden:	≤ 5VA – 2,5W
<b>INSULATION</b>	
Installation category:	III
Pollution degree:	2
Insulation voltage rating:	660V
Impulse voltage test 6kV 1,2/50µs 0,5J – Considered circuits:	Measure, aux. supply
A.C. voltage test 2,5kV r.m.s. value 50Hz/1min – Considered circuits:	Measure, aux. supply
A.C. voltage test 4kV r.m.s. value 50Hz/1min – Considered circuits:	All circuits and earth
<b>TESTS FOR ELETROMAMAGNETIC COMPATIBILITY</b>	
Emission tests according to EN 61000-6-3	
Immunity tests according to EN 61000-6-2	
<b>ENVIRONMENTAL CONDITIONS</b>	
Reference temperature:	23°C ± 2°C
Specified operating range:	-5...55°C
Limit range for storage and transport:	-25...70°C
Variation of the class index:	≤ 0,1% /°C
Max. power dissipation for switchboard thermal calculation:	≤ 6,8W
<b>HOUSING</b>	
Custodia:	4 moduli DIN 43880
Connections:	Screw terminals
Ammetric terminals range:	Rigid cable min.0,05mm <sup>2</sup> / max. 4mm <sup>2</sup> Flexible cable min.0,05mm <sup>2</sup> / max. 2,5mm <sup>2</sup>
Volmetric terminals range:	Rigid cable min. 0,05mm <sup>2</sup> / max. 4mm <sup>2</sup> Flexible cable min.0,05mm <sup>2</sup> / max. 2,5mm <sup>2</sup>
Mounting:	Snap-on 35mm rail
Rail type:	Top hat TH35-15 (EN60715)
Housing material:	Self-extinguishing polycarbonate
Protection degree (EN60529):	IP54 front frame, IP20 terminals
Weight:	260 grams

## DIMENSIONS

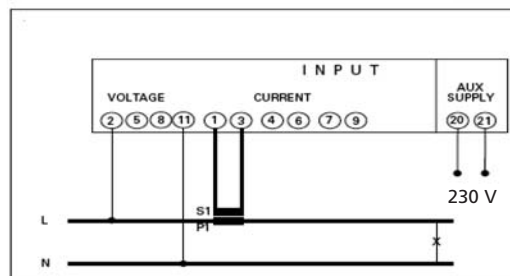


## CIRCUIT DIAGRAMS

4-wire three-phase network



Single-phase network



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Net analyser MF7-45	9004840588668		<b>MGR30000</b>



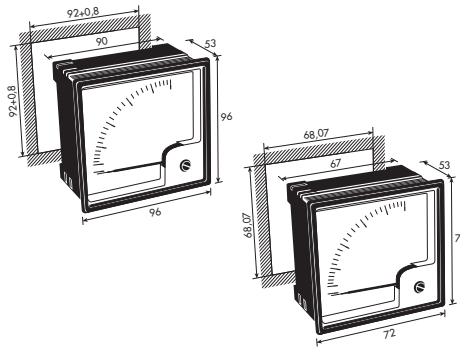
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## MEASURING INSTRUMENTS FOR PANEL INSTALLATION - GENERAL INFORMATION



### TECHNICAL DATA

- Class  $\pm 1.5$
- Nominal voltage max. 500 V
- Test voltage 2 kV, 50 Hz, 1 min

### ACCESSORIES

- Scale plates
- Terminal cover
- Quick mounting

## SYMBOLS AND THEIR MEANINGS

### Symbols indicating the principle function of the instrument and accessory

Symbol	Specification
	Magnetoelectric instrument (with moving coil and permanent magnet)
	Instrument with moving iron
	Ferrodynamic instrument (electrodynamic with iron)
	Induction instrument
	Bimetal instrument
	Electronic device in the measuring circuit
	Electronic device in an auxiliary circuit
	Shunt for measuring instrument
	General accessory

If the (1) symbol is associated with the symbol of the instrument this means that the device is incorporated.  
If the (1) symbol is associated with the (2) this means that the device is external.

### Symbols indicating the characteristics of the instrument in relation to its connection with the network

Symbol	Specification
	Circuit with direct current
	Single-phase circuit with alternating current
	Single-phase direct and alternating current circuit
	Three-phase alternating current circuit (general symbol)
	Three-phase alternating current circuit with unbalanced load (general symbol)
	A measuring element for 3 wire networks
	A measuring element for 4 wire networks
	Two measuring elements for 3 wire networks with unbalanced load
	Two measuring elements for 4 wire networks with balanced load
	Three measuring elements for 4 wire networks with unbalanced load

### Symbols for accuracy class

Symbol	Specification
1,5	Class indicator (eg. 1.5) with errors expressed in percentage of conventional value, except when the latter is as long as the graduation or the true value
	Class indicator (eg. 1.5) when the conventional value corresponds to the true value.
	Class indicator of an instrument with a non linear scale, contracted in the case where the conventional value is as long as the graduation and the indication of the error is expressed as a percentage of the true value. (for example: class indicator 1: relative error limit of 5%) (par. 2.3.11.36)

### Symbols indicating the working position

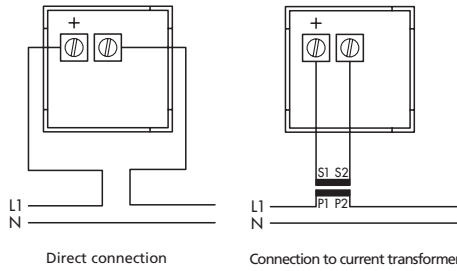
Symbol	Specification
	Instrument to use with the dial vertical
	Instrument to use with the dial horizontal
	Instrument to use with dial inclined (60° for example) in relation to the horizontal plane.

### Symbols regarding safety

Symbol	Specification
	500V test voltage
	Test voltage of more than 500V (2kV for example)
	Instrument exempt from voltage test
	High voltage on the accessory and/or on the instrument



## AC AMMETER



## SCHRACK-INFO

The instruments with transformer connection are delivered without a scale-plate. The scale plate is chosen according to the CT. Therefore, the scale plate must be ordered separately.































## TECHNICAL DATA

- Moving iron type, overcurrent range 2x In
- Frequency 45-65 Hz
- 0.5...60 A AC direct, 10 A...10 kA via current transformer connection

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>48x48</b>			
AMMETER 48X48 5 A AC DIR.	9004840545616		<b>MGF54005</b>
Ammeter 48x48 10 A AC DIR.	9004840545609		<b>MGF54010</b>
Ammeter 48x48 15 A AC DIR.	9004840545586		<b>MGF54015</b>
Ammeter 48x48 25 A AC DIR.	9004840545593		<b>MGF54025</b>
Ammeter 48x48 for CT 5 A	9004840560329		<b>MGF54000</b>
<b>72x72</b>			
Ammeter 72x72 5 A AC DIR.	9004840546460		<b>MGF57005</b>
Ammeter 72x72 10 A AC DIR.	9004840546453		<b>MGF57010</b>
Ammeter 72x72 25 A AC DIR.	9004840546446		<b>MGF57025</b>
Ammeter 72x72 50 A AC DIR.	9004840546514		<b>MGF57050</b>
Ammeter 72x72 for CT 5 A	9004840545647		<b>MGF57000</b>
<b>96x96</b>			
Ammeter 96x96 10 A AC DIR.	9004840546545		MGF59010
Ammeter 96x96 15 A AC DIR.	9004840546538		<b>MGF59015</b>
Ammeter 96x96 25 A AC DIR.	9004840546521		<b>MGF59025</b>
Ammeter 96x96 50 A AC DIR.	9004840546507		<b>MGF59050</b>
Ammeter 96x96 for CT 5 A	9004840545715		<b>MGF59000</b>



## AC AMMETER – continued

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SCALE PLATES 48x48</b>			
Scale plate 25 A/5 A 48x48	9004840560343		MG554025
Scale plate 50 A/5 A 48x48	9004840560350		MG554050
Scale plate 100 A/5 A 48x48	9004840560336		MG554100
<b>SCALE PLATES 72x72</b>			
Scale plate 50/5 A AC 72x72	9004840553352		<b>MG557050</b>
Scale plate 60/5 A AC 72x72	9004840553369		<b>MG557060</b>
Scale plate 80/5 A AC 72x72	9004840553376		<b>MG557080</b>
Scale plate 100/5 A AC 72x72	9004840553383		<b>MG557100</b>
Scale plate 150/5 A AC 72x72	9004840551143		<b>MG557150</b>
Scale plate 200/5 A AC 72x72	9004840553413		<b>MG557200</b>
Scale plate 250/5 A AC 72x72	9004840553420		<b>MG557250</b>
Scale plate 300/5 A AC 72x72	9004840553437		<b>MG557300</b>
Scale plate 400/5 A AC 72x72	9004840553444		<b>MG557400</b>
Scale plate 500/5 A AC 72x72	9004840545722		<b>MG557500</b>
Scale plate 600/5 A AC 72x72	9004840553451		<b>MG557600</b>
Scale plate 800/5 A AC 72x72	9004840553468		<b>MG557800</b>
Scale plate 1000/5 A AC 72x72	9004840553390		<b>MG5571K0</b>
Scale plate 1500/5 A AC 72x72	9004840553406		<b>MG5571K5</b>
<b>SCALE PLATES 96x96</b>			
Scale plate 60/5 A AC 96x96	9004840551372		<b>MG559060</b>
Scale plate 80/5 A AC 96x96	9004840551389		<b>MG559080</b>
Scale plate 100/5 A AC 96x96	9004840545739		<b>MG559100</b>
Scale plate 150/5 A AC 96x96	9004840551396		<b>MG559150</b>
Scale plate 200/5 A AC 96x96	9004840551402		<b>MG559200</b>
Scale plate 250/5 A AC 96x96	9004840551419		<b>MG559250</b>
Scale plate 300/5 A AC 96x96	9004840551440		<b>MG559300</b>
Scale plate 400/5 A AC 96x96	9004840551464		<b>MG559400</b>
Scale plate 500/5 A AC 96x96	9004840545760		<b>MG559500</b>
Scale plate 600/5 A AC 96x96	9004840551471		<b>MG559600</b>
Scale plate 800/5 A AC 96x96	9004840551488		<b>MG559800</b>
Scale plate 1000/5 A AC 96x96	9004840545746		<b>MG5591K0</b>
Scale plate 1500/5 A AC 96x96	9004840545753		<b>MG5591K5</b>
Scale plate 2000/5 A AC 96x96	9004840551426		<b>MG5592K0</b>
Scale plate 2500/5 A AC 96x96	9004840551433		<b>MG5592K5</b>
Scale plate 3000/5 A AC 96x96	9004840551457		<b>MG5593K0</b>

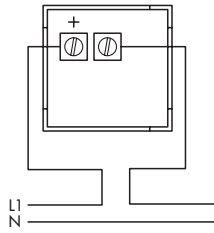


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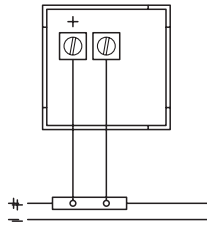
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## DC AMMETER



Direct connection



Connection to shunt 60 mV

### SCHRACK-INFO

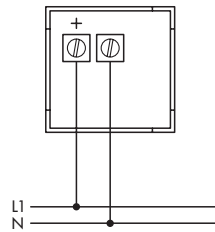
The instruments with shunt connection 60 mV are delivered without a scale-plate. The scale plate is chosen according to the shunt. The scale plate must be ordered separately.

### TECHNICAL DATA

- Moving coil type
- 1...60 A direct
- 10 A... 10 kA via shunt

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>72x72</b>			
Ammeter 72x72 25 A DC DIR.	9004840545630		<b>MGF17025</b>
Ammeter 72x72 60 A DC DIR.	9004840548105		<b>MGF17060</b>
Ammeter 72x72 for shunt	9004840545623		<b>MGF17000</b>
<b>SCALE PLATES 72x72</b>			
Scale plate 60 A DC 72x72	9004840560770		<b>MGS17060</b>
Scale plate 100 A DC 72x72	9004840560763		<b>MGS17100</b>
Scale plate 300 A DC 72x72	9004840560794		<b>MGS17300</b>
Scale plate 500 A DC 72x72	9004840560817		MGS17500

## AC VOLTMETER



Anschluß

### SCHRACK-INFO

- Frequency 45-65 Hz
- Moving iron type
- 30...500 V AC direct
- Up to 800 V AC on request

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>48x48</b>			
Voltmeter 48x48 500 V AC	9004840545654		<b>MGF64500</b>
<b>72x72</b>			
Voltmeter 72x72 30 V AC	9004840546477		MGF67030
Voltmeter 72x72 300 V AC	9004840546484		<b>MGF67300</b>
Voltmeter 72x72 500 V AC	9004840546491		<b>MGF67500</b>
<b>96x96</b>			
Voltmeter 96x96 300 V AC	9004840546576		MGF69300
Voltmeter 96x96 500 V AC	9004840546569		<b>MGF69500</b>

## VOLTMETER WITH INTEGRATED SWITCH

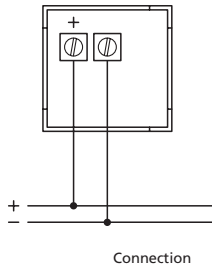


### SCHRACK-INFO

- Frequency 45-65 Hz
- Moving iron type
- AC voltmeter with integrated switch  
L1-N, L2-N, L3-N, L1-L2, L2-L3, L3-L1

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>72x72</b>			
Voltmeter 72x72 500 V AC	9004840545708		<b>MGF77500</b>
<b>96x96</b>			
Voltmeter 96x96 500 V AC	9004840545692		<b>MGF79500</b>

## DC VOLTMETER

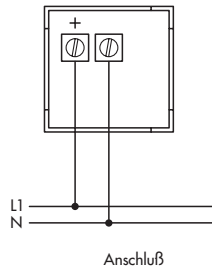


### SCHRACK-INFO

- Moving coil type
- 15... 300 V DC direct
- Up to 600 V DC on request

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>72x72</b>			
Voltmeter 72x72 15 V DC	9004840545524		<b>MGF27015</b>
Voltmeter 72x72 30 V DC	9004840545531		<b>MGF27030</b>
Voltmeter 72x72 60 V DC	9004840545548		<b>MGF27060</b>
Voltmeter 72x72 300 V DC	9004840545555		<b>MGF27300</b>

## FREQUENCY METER

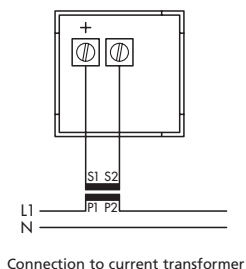


### SCHRACK-INFO

- 230 V
- Class 0.5

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Frequency meter 72x72	9004840545685		<b>MGF87050</b>
Frequency meter 96x96	9004840545661		<b>MGF89050</b>

## MAXIMUM DEMAND AMMETER



### SCHRACK-INFO

- These instruments consist of a bi-metal measuring mechanism which shows the maximum current recorded by a red drag pointer, and a moving iron measuring mechanism for measuring the momentary current.
- Moving iron mechanism, overcurrent range  $2x I_n$ , intrinsic consumption max. 1.2 VA, class 1.5
- Bi-metal measuring mechanism, overcurrent range  $1.2 I_n$ , intrinsic consumption 2.5 VA, class 3
- Response time 15 min., current transformer connection .. / 5 A, requires matching scale plate
- Frequency 45-65 Hz

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Maximum demand ammeter	9004840564518		<b>MGF49005</b>
Scale 100-120-200/5 A	9004840551136		MG549100

## FRONT PROTECTION KIT IP 65

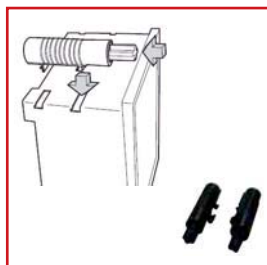
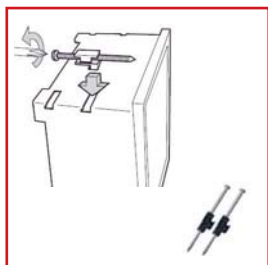


### SCHRACK-INFO

- Front protection kit for IP 65
- Additional 2 mounting fasteners

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Front protection kit 72x72 IP65	9004840545784		<b>MGZD7000</b>
Front protection kit 96x96 IP65	9004840545791		<b>MGZD9000</b>

## ACCESSORIES FOR MEASURING INSTRUMENTS FOR PANEL INSTALLATION



### SCHRACK-INFO

- Terminal cover as touch protection suitable for all panel installation devices

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>REAR TERMINAL COVER</b>			
Rear terminal cover 48x48	9004840143195		<b>MG900010</b>
Rear terminal cover 72x72	9004840090642		<b>MG900011</b>
Rear terminal cover 96x96	9004840090659		<b>MG900012</b>

### FIXING SYSTEMS

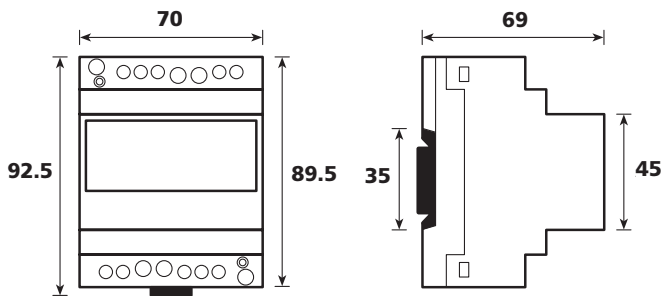
Additional fixing set	9004840546699		<b>MGZ00001</b>
Quick fixing set	9004840546682		<b>MGZ00002</b>

## ANALOGUE MEASURING INSTRUMENTS FOR RAIL MOUNTING – GENERAL INFORMATION



MEASURING INSTRUMENTS REG

## DIMENSIONS



## TECHNICAL DATA

Standards:	Electrical: CENELEC HD 233, IEC 51, VDE 0410, BS 89 Safety: CENELEC HD 215, IEC 414, DIN 57410, BS 5458
Ambient temperatures:	Temperature influence $\pm 0.03\%/^{\circ}\text{C}$ Operating temperature $-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ Storage temperature $-40\text{ }^{\circ}\text{C}$ to $+80\text{ }^{\circ}\text{C}$ Vibration-proof
Overload capability:	Current paths $1.2x I_n$ continuous, $10x I_n$ 10 sec. Voltage paths $1.2x U_n$ continuous, $2x U_n$ 5 sec.
Stray field influence:	Up to 0.5 mT without additional errors
Accuracy class:	1.5
Response time:	max. 2 sec.
Width:	4 MW
Scale:	120°



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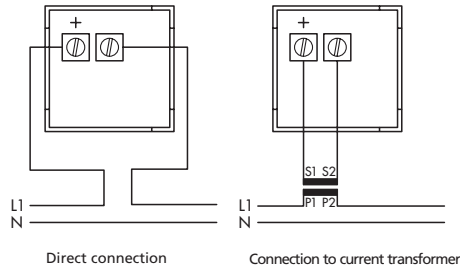
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## AC AMMETER



MG159010



### SCHRACK-INFO

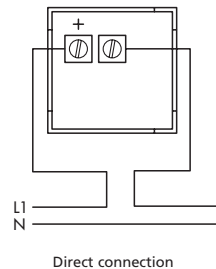
- Moving iron measuring mechanism
- Possible direct measurement ranges: 2, 5, 10, 25, 40 A
- 5 A transformer connection type available
- Standard scale  $1 \times I_N$
- Overload scale  $2 \times I_N$
- Frequency range 45-65 Hz
- Intrinsic consumption approx. 1.1 VA

DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
<b>AC AMMETER</b>						
5 A direct or CT	4	70x92.5x69	0.13	9004840058338		<b>MG159005</b>
10 A direct	4	70x92.5x69	0.13	9004840058345		<b>MG159010</b>
25 A direct	4	70x92.5x69	0.13	9004840136906		<b>MG159025</b>
40 A direct	4	70x92.5x69	0.13	9004840058352		<b>MG159040</b>
<b>SCALE PLATES</b>						
Scale plate 50 A	4	-	-	9004840080421		MG95A050
Scale plate 100 A	4	-	-	9004840080438		MG95A100
Scale plate 150 A	4	-	-	9004840080445		MG95A150
Scale plate 200 A	4	-	-	9004840080452		MG95A200
Scale plate 250 A	4	-	-	9004840080469		MG95A250
Scale plate 400 A	4	-	-	9004840080476		MG95A400

## DC AMMETER



MG154010



### SCHRACK-INFO

- Moving coil measuring mechanism

DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
10 A direct	4	70x92.5x69	0.12	9004840058307		MG154010
25 A direct	4	70x92.5x69	0.12	9004840058314		MG154025



## I KNOW WHERE TO FIND IT!

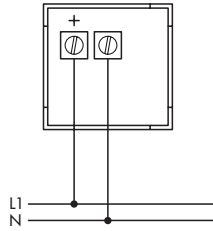
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## AC VOLTMETER



MG059250



Direct connection

### SCHRACK-INFO

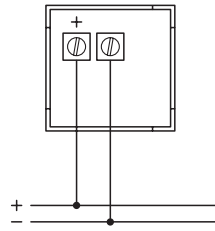
- Moving iron measuring mechanism
- Transformer connection 100-110 V possible
- Possible direct measurement ranges: 250, 500 V
- Frequency range: 45-65 Hz
- Intrinsic consumption approx. 3 VA

DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
250 V	4	70x92.5x69	0.13	9004840058185		<b>MG059250</b>
500 V	4	70x92.5x69	0.13	9004840058192		<b>MG059500</b>

## DC VOLTMETER



MG054100



Direct connection

### SCHRACK-INFO

- Moving coil measuring mechanism
- Possible direct measurement ranges: 1-100 V
- Intrinsic consumption: 1 mA at 0.5-600 V (1000 OhmV)
- Type 60 mV for connection to shunt

DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
100 V	4	70x92.5x69	0.12	9004840058161		MG054100

## FREQUENCY METER



MG359055

### SCHRACK-INFO

- Pointer frequency meter 45 to 55 Hz, 400 V
- Accuracy  $\pm 1\%$  of scale length
- Intrinsic consumption approx. 4 VA
- Permissible voltage fluctuation  $\pm 15\%$

DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
45-55 Hz, 400 V	4	70x92.5x69	0.2	9004840058383		MG359055



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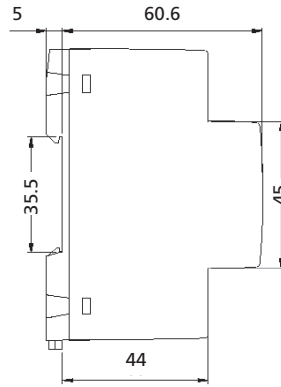




## DIGITAL MEASURING INSTRUMENTS FOR RAIL MOUNTING – GENERAL INFORMATION



MEASURING INSTRUMENTS REG DIGITAL



### SCHRACK-INFO

- Overload indicator
- 3-digit display, max. display: 999
- Display digits: green, 14 mm high
- Test voltage: 2 kV, 50 Hz
- Accuracy: Class 1 + 1 digit
- Terminals: Screw terminals
- Temperature range: 5 °C to 40 °C
- Limit temperature range: -40 °C to +70 °C

### TECHNICAL DATA

Continuous overload:

- 1.2x  $U_n$
- 1.2x  $I_n$

Short overload:

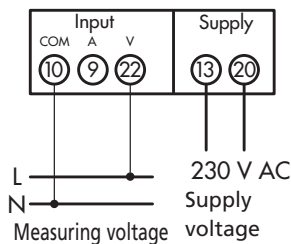
- 2x  $U_n/5$  sec.
- 10x  $I_n/10$  sec.

## AC VOLTMETER/AMMETER

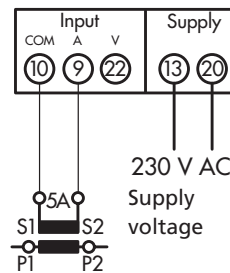


MGU076K8

Connection as voltmeter



Connection as ammeter with current transformer



### SCHRACK-INFO

- Can be used as voltmeter or ammeter
- Current measuring ranges settable from 5-8000 A by key (CT connection)
- Voltage range 0-500 V with overload indicator up to 600 V
- Auxiliary voltage 230 V, 50 Hz
- Nominal frequency 50 Hz, working frequency range 47-420 Hz
- TRMS measurement type

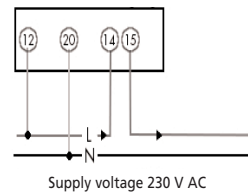
DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
5-8000 A for transformer connection x/5 A						
0-500 (600) V AC	4	70x92.5x69	0.3	9004840449945		<b>MGU076K8</b>

## AC AMMETER



MG109020

AC ammeter with measurement input direct connection



### SCHRACK-INFO

- Frequency range: 45-65 Hz
- Intrinsic consumption approx. 1 VA
- Possible measuring ranges: 10, 20 A

DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
10 A direct	4	70x92.5x69	0.3	9004840058222		MG109010
20 A direct	4	70x92.5x69	0.3	9004840058246		<b>MG109020</b>

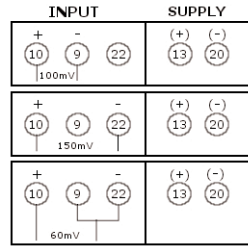


Order no. blue: on stock, usually ready for delivery on the day of order!

## DC AMMETER



MG10D999-A



### SCHRACK-INFO

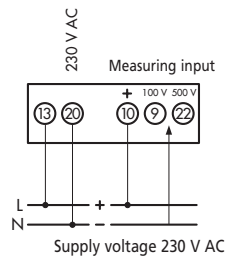
- Possible measuring ranges: 5 – 8000 A settable by key
- Can optionally connected to 60/100/150 mV shunt
- Overload 1.2  $I_N$

DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
5-8000 A, via shunt 60/100/150 mV	4	70x92.5x67	0.3	9004840449952		MG10D999-A

## DC VOLTMETER



MG004600-A



### SCHRACK-INFO

- Measuring range 0-99.9 V and 0-500 V optionally connectable
- Overload indicator 1.2  $U_N$
- Supply voltage 230 V AC

DESCRIPTION	MW	DIM. (WxHxD) mm	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
100 (120) V/500 (600) V	4	70x92.5x67	0.3	9004840449976		MG004600-A



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## MODULAR HOUR METER FOR DIN RAIL MOUNTING, SERIES OPTIMA



BZ326418

### SCHRACK-INFO

- With screw terminals for DIN-rail mounting
- Durable, maintenance-free technology
- Robust and reliable

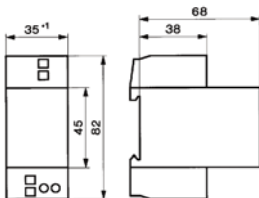
### Applications:



- Operating hour control in machines and pumps

### TECHNICAL DATA

Dimensions H x W x D (mm)	82 x 35 x 68
Panel cut-out (mm)	–
Cut-out (mm)	46 x 36
Overall depth (mm)	68
Weight (g) approx.	90
Connection	See order information
Power consumption	Approx. 1 VA
Ambient temperature	–20 °C to +55 °C
Protection class	II
Degree of protect. of front side	IP 20
Accuracy	Synchronised with mains
Counting capacity	99999.99 h
Running indicator	Yes
Mounting type	Distribution rail
Connection type	Captive ± screw terminals 1 x 2.5 or 2 x 1.5 mm <sup>2</sup>

### DIMENSIONS



DESCRIPTION	MW	EAN CODE	AVAILABLE	ORDER NO.
Hour meter 220-240 V AC, 50 Hz	2	9004840015409		<b>BZ326418-P</b>
Hour meter 18-26 V AC, 50 Hz	2	9004840015447		<b>BZ326423</b>



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# HOUR METER

## MODULAR HOUR METER FOR FLUSH MOUNTING, SERIES OPTIMA



BZ326413



BZ326416

### SCHRACK-INFO

- With screw terminals for installation
- Durable, maintenance-free technology
- Robust and reliable

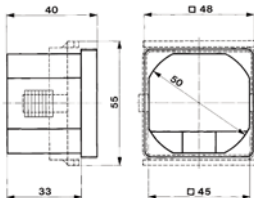
### Applications:

- Operating hour control in machines and pumps

### TECHNICAL DATA

Dimensions H x W x D (mm)	55 x 48 x 40
Panel cut-out (mm)	45 x 45
Cut-out (mm)	–
Overall depth (mm)	33
Weight (g) approx.	60
Connection	See order information
Power consumption	Approx. 1 VA
Ambient temperature	–20 °C to +55 °C
Protection class	II
Degree of protect. of front side	IP 20
Accuracy	Synchronised with mains
Counting capacity	99999.99 h
Running indicator	Yes
Mounting type	Installation
Connection type	Screw terminals

### DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Hour meter 220-240 V AC, 50 Hz, IP20	9004840015348		<b>BZ326413-P</b>
Hour meter 220-240 V AC, 50 Hz, IP54	9004840015355		<b>BZ326414</b>
<b>ACCESSORIES</b>			
Adapter 55 x 55 mm for BZ326413-P	9004840277555		<b>BZ326416</b>



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## MODULAR CURRENT TRANSFORMERS FOR DISTRIBUTOR INSTALLATION



MG900220

### SCHRACK-INFO

- Suitable for other REG devices such as RCCB, etc., 45 mm slot
- Easy to feedthrough
- For coarse display of measured value
- Space-saving - only 2 MW wide

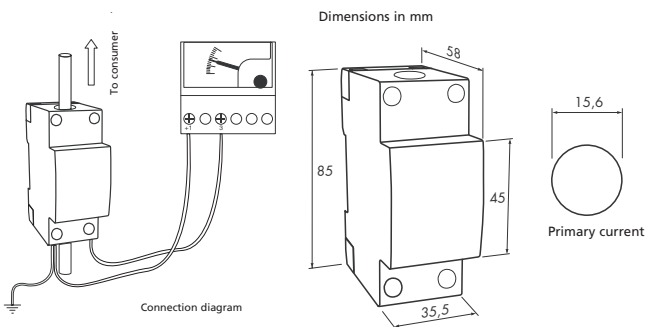
### TIPS & TRICKS

Do not confuse current direction (energy flow) during feedthrough. The secondary load (e.g. 2 VA) must fit the consumption of the measuring instrument!

### TECHNICAL DATA

- 2 MW housing with primary feedthrough max. 15 mm
- Mounting: DIN rail
- Class 3, 40 - 80 A
- Class 1, 100 - 150 A
- Powers 2 / 3 / 5 VA

### DIMENSIONS AND CIRCUIT DIAGRAMS



### POWER TABLE

Primary current	Class 1		Class 3	
	Secondary current 5 A		Secondary current 5 A	
	Type	VA	Type	VA
40			TCSM15 40 A	2
50			TCSM15 50 A	2
60			TCSM15 60A	3
80			TCSM15 80A	3
100	TCSM15 100A	3		
120	TCSM15 120A	5		
150	TCSM15 150A	5		

DESCRIPTION	PU	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Modular current transformer 40 A / 5 A	2	TCSM15 40 A	0.25	9004840277289		<b>MG900220</b>
Modular current transformer 50 A / 5 A	2	TCSM15 50 A	0.25	9004840277296		<b>MG900221</b>
Modular current transformer 60 A / 5 A	2	TCSM15 60 A	0.25	9004840277302		MG900222
Modular current transformer 80 A / 5 A	2	TCSM15 80 A	0.25	9004840277319		<b>MG900224</b>
Modular current transformer 100 A / 5 A	2	TCSM15 100 A	0.25	9004840277326		<b>MG900225</b>
Modular current transformer 120 A / 5 A	2	TCSM15 120 A	0.25	9004840277333		MG900226
Modular current transformer 150 A / 5 A	2	TCSM15 150 A	0.25	9004840277340		MG900227



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# CURRENT TRANSFORMERS

## MINIATURE CURRENT TRANSFORMERS FOR CABLE 13 mm Ø



MG900300

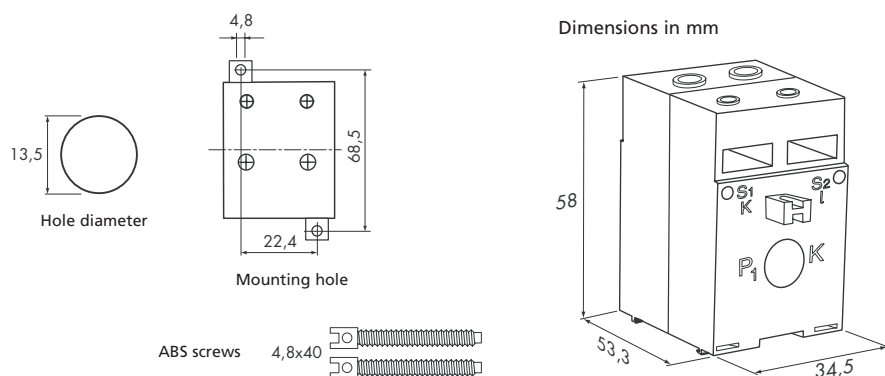
### SCHRACK-INFO

- Sealable terminal cover
- Degree of protection IP 20 (excluding terminal cover)

### TECHNICAL DATA

- 3x secondary connection: Faston connector, quick-connect spring-clamp terminal, screw terminal
- Screw mounting to the busbar/connector, optional snap-on mounting

### DIMENSIONS AND CIRCUIT DIAGRAMS



### POWER TABLE

A	Class 1		Class 3	
	Type	VA	Type	VA
40			TCS13 40 A	2
50			TCS13 50 A	2
60			TCS13 60A	3
75			TCS13 75A	3
80			TCS13 80A	3
100	TCS13 100A	3		
120	TCS13 120A	5		
150	TCS13 150A	5		

DESCRIPTION	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Miniature current transformer 40 A / 5 A	TCS13 40 A	0.25	9004840277357		<b>MG900300</b>
Miniature current transformer 50 A / 5 A	TCS13 50 A	0.25	9004840277364		MG900301
Miniature current transformer 60 A / 5 A	TCS13 60 A	0.25	9004840277371		MG900302
Miniature current transformer 75 A / 5 A	TCS13 75 A	0.25	9004840277388		MG900303
Miniature current transformer 80 A / 5 A	TCS13 80 A	0.25	9004840277395		MG900304
Miniature current transformer 100 A / 5 A	TCS13 100 A	0.25	9004840277401		MG900305
Miniature current transformer 150 A / 5 A	TCS13 150 A	0.25	9004840277425		MG900307

## CURRENT TRANSFORMERS, SERIES TAR – GENERAL INFORMATION



THROUGH-WIRING CURRENT TRANSFORMER TAR

### SCHRACK-INFO

- Case in ABS
- Degree of protection IP30
- Design complies with standards IEC 185, VDE 0414, EN 60044-1 (38-1)

### TECHNICAL DATA

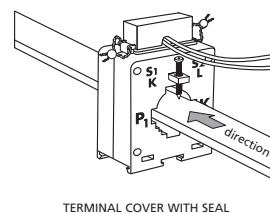
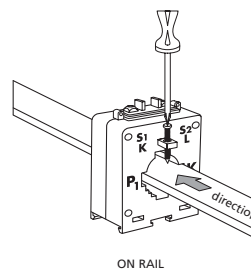
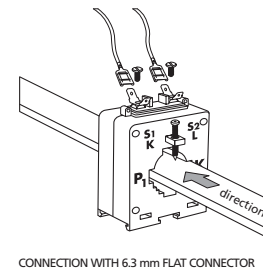
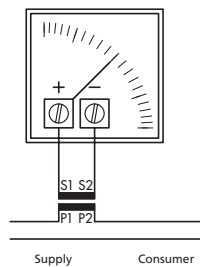
- Secondary current: Standard 5 A (other secondary currents on request)
- Maximum operating voltage: 1.2 kV
- Test voltage: 6 kV at 50 Hz for 1 minute
- Thermal nominal short-time current ( $I_{th}$ ):  $40 I_{pN}/1 s$
- Dynamic short-circuit current ( $I_{dyn}$ ):  $2.5 I_{th}/1 s$
- Permanent overload:  $1.2 I_{pN}$
- Nominal frequency: 50/60 Hz
- Insulation class E (IEC 185)

### TIPS & TRICKS

- During the installation make sure of the exact input direction (P1 - K) and output (P2 - L) of the primary cable
- In the case of the types with primary and secondary cables on terminals, do not invert the connection of the primary cable with the secondary one
- If is necessary to disconnect the measuring instruments from the CT while operating it is necessary to make a short circuit between the two terminals of the secondary on the CT
- It is recommended to ground the CTs
- Use class 0.5 for calibrated energy meters Class 1 for display measuring instruments and non-calibrated energy meters Class 3 for relays and measuring instrument without accuracy requirements (coarse display)
- Don't neglect the load of the measuring line! (e.g., 4 m of 1.5 mm<sup>2</sup> Cu wires required 2.31 VA at 5 A secondary current)

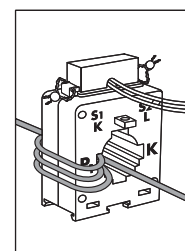
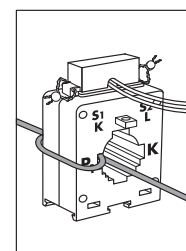
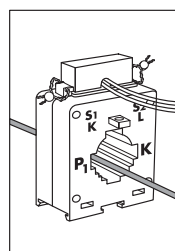
### POWER TABLE AND MOUNTING

Current transformer													
Series	TAR 1D	TAR 3D	TAR 4D	TAR 5	TAR 6	TAR 8	TAR 12						
Version	Plug-on transformer												
WINDING	Horiz. rail	–	30 x 10	40 x 10		64 x 20	80 x 30	125 x 50					
	Cable	20	23	32		50	2 x 30	2 x 50					
Primary current	Power (VA) - Class	Power (VA) - Class	Power (VA) - Class	Power (VA) - Class	Power (VA) - Class	Power (VA) - Class	Power (VA) - Class	Power (VA) - Class					
	(A)	0,5   1   3	0,5   1   3	0,5   1	0,5	0,2   0,5   1	0,5   1	0,5   1					
50		3		2									
60		3		3									
80		3											
100		3		3									
150	3		3										
200	3		3										
250	5		5										
300			5										
400			5		10	6							
500			6		10								
600			6		10	10							
800			6		10		5   10   20						
1000							5   20   40	10   20					
1500							30   60   20   40						
2000							30   60   20   40	20   40	30   60				
2500								20   40	40   80				
3000									40   80				
4000									50   100				



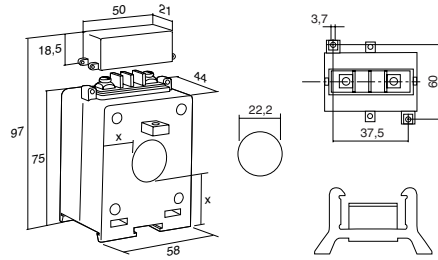
By repeated wrapping of the primary cable around the current transformer, each wrap results in half the primary current, while the power and class remain unchanged.

#### EXAMPLE:



# CURRENT TRANSFORMERS

## CURRENT TRANSFORMERS, SERIES TAR 1D, FOR CABLES UP TO 20 mm Ø

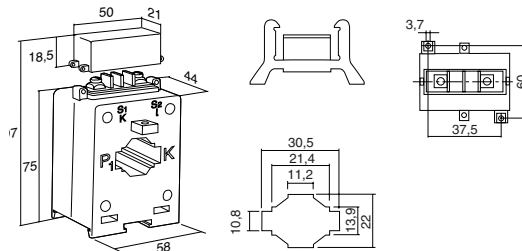


### SCHRACK-INFO

- Suitable for cables up to 20 mm diameter
- Secondary current: 5 A

TRANSFORMER	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
50/5 A	58x97x44	TAR1D-50	0.3	9004840090338		<b>MG952005</b>
60/5 A	58x97x44	TAR1D-60	0.3	9004840090345		<b>MG952006</b>
80/5 A	58x97x44	TAR1D-80	0.3	9004840090352		<b>MG952008</b>
100/5 A	58x97x44	TAR1D-100	0.3	9004840090369		<b>MG952010</b>
150/5 A	58x97x44	TAR1D-150	0.3	9004840090376		<b>MG952015</b>
200/5 A	58x97x44	TAR1D-200	0.3	9004840090383		<b>MG952020</b>
250/5 A	58x97x44	TAR1D-250	0.3	9004840090390		<b>MG952025</b>

## CURRENT TRANSFORMER, SERIES TAR 3D, FOR BUSBAR UP TO 30x10 mm



### SCHRACK-INFO

- Also suitable for cables up to 23 mm diameter
- Secondary current: 5 A

TRANSFORMER	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
50/5 A	58x97x44	TAR3D-50	0.3	9004840203011		<b>MG954005</b>
60/5 A	58x97x44	TAR3D-60	0.3	9004840203028		<b>MG954006</b>
100/5 A	58x97x44	TAR3D-100	0.3	9004840090406		<b>MG954010</b>
150/5 A	58x97x44	TAR3D-150	0.3	9004840090413		<b>MG954015</b>
200/5 A	58x97x44	TAR3D-200	0.3	9004840090420		<b>MG954020</b>
250/5 A	58x97x44	TAR3D-250	0.3	9004840090437		<b>MG954025</b>
300/5 A	58x97x44	TAR3D-300	0.3	9004840090444		<b>MG954030</b>
400/5 A	58x97x44	TAR3D-400	0.3	9004840090451		<b>MG954040</b>
500/5 A	58x97x44	TAR3D-500	0.3	9004840090468		<b>MG954050</b>
600/5 A	58x97x44	TAR3D-600	0.3	9004840090475		<b>MG954060</b>



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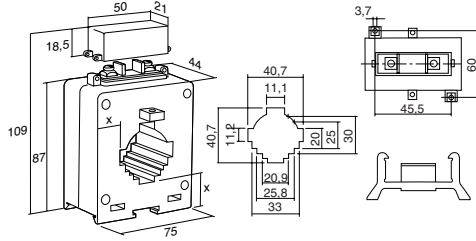
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# CURRENT TRANSFORMERS

## CURRENT TRANSFORMER, SERIES TAR 4D, FOR BUSBAR UP TO 40x10 mm

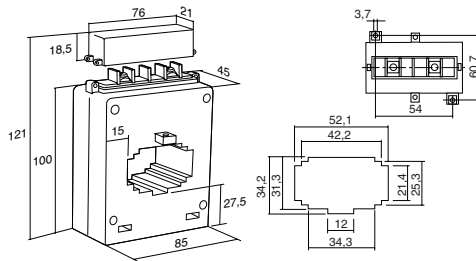


### SCHRACK-INFO

- Suitable for cables up to 32 mm diameter
- Secondary current: 5 A

TRANSFORMER	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
400/5 A	75x97x44	TAR4D-400	0.4	9004840090482		<b>MG955040</b>
500/5 A	75x97x44	TAR4D-500	0.4	9004840090499		<b>MG955050</b>
600/5 A	75x97x44	TAR4D-600	0.4	9004840090505		<b>MG955060</b>
800/5 A	75x97x44	TAR4D-800	0.4	9004840090512		<b>MG955080</b>

## CURRENT TRANSFORMER, SERIES TAR 5D, FOR BUSBAR UP TO 50x30 mm



### SCHRACK-INFO

- For busbar systems
- Secondary current: 5 A

TRANSFORMER	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
400/5 A	121x62x85	TAR5-400		9004840622911		MG956040
600/5 A	121x62x85	TAR5-600		9004840622904		MG956060



### I KNOW WHERE TO FIND IT!

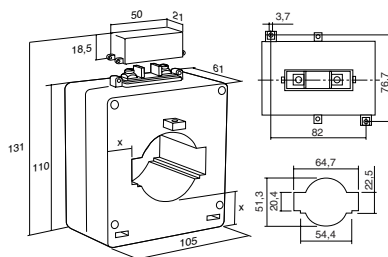
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# CURRENT TRANSFORMERS

## CURRENT TRANSFORMER, SERIES TAR 6D, FOR BUSBAR UP TO 60x20 mm

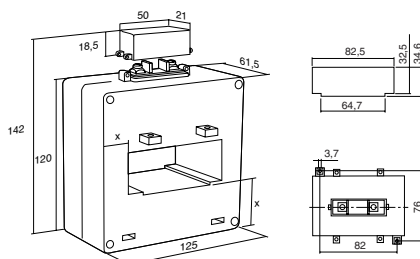


### SCHRACK-INFO

- Also suitable for cables up to 50 mm diameter
- Secondary current: 5 A

TRANSFORMER	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
800/5 A	105x131x61	TAR6-800	0.7	9004840101836		<b>MG957080</b>
1000/5 A	105x131x61	TAR6-1000	0.7	9004840091038		<b>MG957100</b>
1500/5 A	105x131x61	TAR6-1500	0.8	9004840115291		<b>MG957150</b>
2000/5 A	105x131x61	TAR6-2000	0.8	9004840091045		MG957200

## CURRENT TRANSFORMER, SERIES TAR 8D, FOR BUSBAR UP TO 80x30 mm



### SCHRACK-INFO

- Also suitable for cables up to 30 mm diameter
- Secondary current: 5 A

TRANSFORMER	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
1000/5 A	125x142x61.5	TAR8-1000	0.7	9004840091052		<b>MG958100</b>
1500/5 A	125x142x61.5	TAR8-1500	1.0	9004840091069		<b>MG958150</b>
2000/5 A	125x142x61.5	TAR8-2000	1.0	9004840091076		<b>MG958200</b>
2500/5 A	125x142x61.5	TAR8-2500	1.0	9004840091083		<b>MG958250</b>



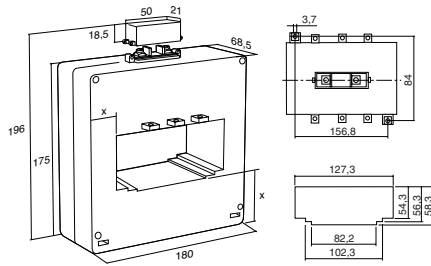
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# CURRENT TRANSFORMERS

## CURRENT TRANSFORMER, SERIES TAR 12D, FOR BUSBAR UP TO 125x50 mm



### SCHRACK-INFO

- Also suitable for cables up to 50 mm diameter
- Secondary current: 5 A

TRANSFORMER	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
2000/5 A	180x196x68.5	TAR12-2000	1.5	9004840149951		<b>MG959200</b>
2500/5 A	180x196x68.5	TAR12-2500	1.6	9004840149968		MG959250
3000/5 A	180x196x68.5	TAR12-3000	1.6	9004840149975		MG959300
4000/5 A	180x196x68.5	TAR12-4000	2.0	9004840149982		MG959400



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# CURRENT TRANSFORMERS

## SPLIT CORE CURRENT TRANSFORMERS



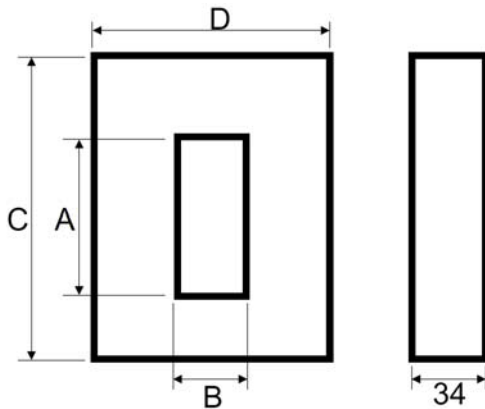
### SCHRACK-INFO

- Easy mounting of a current transformer into an existing low-voltage system
- IP30

### TECHNICAL DATA

- Primary current: 100 A, 150 A, 250 A, 400 A, 600 A
- Secondary current: 5 A
- Nominal voltage: 0.72 kV
- Frequency: 50-60 Hz
- Test voltage: 3 kV for 1 minute (at 50 Hz)
- Thermal class: A
- Thermal short-circuit current ( $I_{th}$ ):  $60 I_n$
- Dynamic limiting current ( $I_{dyn}$ ):  $2.5 I_{th}$
- Overcurrent limiting factor: FS 5
- Housing: Self-extinguishing plastic
- Mounting: Screw fastening

### DIMENSIONS



### POWER TABLE

Primary current	Class 0.5	Class 1	Class 3
100 A			3.00
150 A			3.75
250 A		3.75	5.00
400 A	2.50	3.75	7.50
600 A	5.00	7.50	20.0

Primary current	A	B	C	D	Capacity / copper rail	Capacity / cable
100 A	32 mm	22 mm	106 mm	90 mm	30 x 20 mm	≤ 20 mm
150 A	32 mm	22 mm	106 mm	90 mm	30 x 20 mm	≤ 20 mm
250 A	32 mm	22 mm	106 mm	90 mm	30 x 20 mm	≤ 20 mm
400 A	62 mm	32 mm	136 mm	100 mm	60 x 30 mm	≤ 30 mm
600 A	62 mm	32 mm	136 mm	100 mm	60 x 30 mm	≤ 30 mm

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
100/5 A, 30x20 mm	9004840665949		MG967100
150/5 A, 30x20 mm	9004840665956		MG967150
250/5 A, 30x20 mm	9004840665963		MG967250
400/5 A, 60x30 mm	9004840665970		MG968400
600/5 A, 60x30 mm	9004840665987		MG968600



## SHUNTS



MG900118

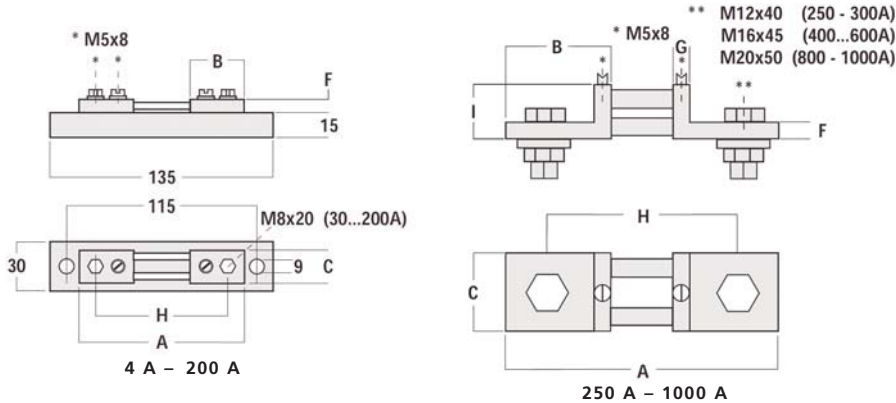
### SCHRACK-INFO

- Ambient temperatures -25 °C to + 60 °C
- Relative humidity ≤ 95%
- Overload capability
  - 1.2x I<sub>n</sub> continuous
  - 10x I<sub>n</sub> 5 s up to 250 A
  - 5x I<sub>n</sub> 5 s from 251 to 1000 A
- Accuracy: Class 0.5
- Measuring voltage: at I<sub>n</sub> ...60 mV

### TIPS & TRICKS

- For direct current instruments A/60 mV can be used
- Complies with the DIN standard
- Available up to 25 A on insulated carrier part

### DIMENSIONS



Amperage	A	B	C	F	G	H	I
4 A	90	28	20	8		78	
6 A	90	28	20	8		78	
10 A	90	28	20	8		78	
15 A	90	28	20	8		78	
20 A	90	28	20	8		78	
25 A	90	28	20	8		78	
40 A	100	30	20	8		80	
60 A	100	30	20	8		80	
100 A	100	30	20	8		80	
150 A	100	30	20	8		80	
200 A	100	33	20	8		80	
250 A	145	55	30	10	10	105	30
300 A	145	55	30	10	10	105	30
400 A	145	55	40	10	10	105	30
500 A	145	55	40	10	10	105	30
600 A	145	55	40	10	10	105	30
800 A	165	65	60	10	10	115	30
1000 A	165	65	60	10	10	115	30

NOMINAL CURRENT	DIM. (WxHxD) mm	PU	EAN CODE	AVAILABLE	ORDER NO.
15 A	135x30x23	1	9004840058529		MG900105
20 A	135x30x23	1	9004840058536		MG900106
25 A	135x30x23	1	9004840058543		MG900107
40 A	135x30x23	1	9004840058567		MG900109
60 A	135x30x23	1	9004840058581		MG900111
100 A	135x30x23	1	9004840058598		<b>MG900112</b>
150 A	135x30x23	1	9004840058604		MG900113
200 A	135x30x23	1	9004840058611		MG900114
250 A	145x30x30	1	9004840058628		MG900115
300 A	145x30x30	1	9004840058635		MG900116
400 A	145x30x30	1	9004840058642		MG900117
500 A	145x30x30	1	9004840058659		MG900118
600 A	145x30x30	1	9004840058666		MG900119
800 A	165x60x30	1	9004840058673		MG900120
1000 A	165x60x30	1	9004840058680		MG900121



Order no. blue: on stock, usually ready for delivery on the day of order!

## TOP-TECHNIK



### ■ CIRCUIT BREAKERS MC – COMPACT DESIGN IN 4 SIZES



### ■ UNDERVOLTAGE RELEASES WITH 2 EARLY-MAKE AUXILIARY CONTACTS TYPE MC1-XUHIVL



### ■ UNDERVOLTAGE RELEASE, OFF-DELAY TYPE MC-UVU, MC-XUVL



### ■ MECHANICAL INTERLOCK FOR (DOOR COUPLING-) TWIST GRIPS & TUNNEL TERMINAL FOR MC1



### ■ RESIDUAL CURRENT RELEASE RELAY FIR

*“One should not wish  
to predict the future,  
but to make it possible.”*

Antoine de Saint-Exupéry, French aviator and writer

## MCBS, ACBS, LOAD-BREAK SWITCHES

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# MC – SYSTEM OVERVIEW

## COMPACT DESIGN IN 4 FRAME SIZES FOR HIGH-PERFORMANCE APPLICATIONS



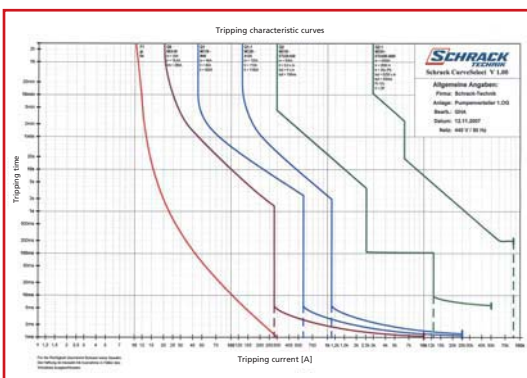
MC circuit breakers are members of the family of encapsulated compact circuit breakers from 15 to 1.600 A with only four frame sizes. These circuit breakers can be used universally – from the smallest of service distribution boards, to machine controls or motor starter combinations, up to large energy distribution systems with a maximum short-circuit breaking capacity of 150 kA. Special versions are available for smaller power ratings with phase failure sensitivity for motor and motor-related applications. The range of circuit breakers is rounded off nicely with switch actuation using toggle-lever, rotary or remote operators. Shunt, undervoltage and earth fault and residual-current releases complete the range. Thanks to their high utilisation category DC-3, they can be used universally for DC applications: from photovoltaics through power backup batteries to sophisticated control and protection of DC shunt motors in reverse and jog mode. The new MC-A circuit breakers are the ideal protection devices for DC power networks with operating voltages up to 750 V and operating currents up to 500 A. Equipped with thermomagnetic release systems, accurate r.m.s detection of operating and residual currents is assured. These contacts feature a double-break system which enables safe switching in high-energy networks with short-circuit currents up to 70,000 A.

## UNIFORM ACCESSORIES / UNIVERSAL CONNECTION SYSTEM



Simply retrofit your accessories from the front. The installation location is the same for all frame sizes. The auxiliary contacts and trip indicators are contact elements of the SCHRACK range of command and signalling devices. They are available in screw or tension spring technology. This reduces installation times and cuts costs. Effective shunt and undervoltage releases, also available combined with early-make auxiliary contacts for Emergency Stop functions or load-shedding circuits, offer elegant solutions for a broad spectrum of applications. The connection features of MC circuit breakers enable you to respond effectively to your system's demands, whatever they may be. Whether using copper or aluminium cables, copper bands or copper rails – these MCs have the right solution for any connection type. An accessory increases touch protection.

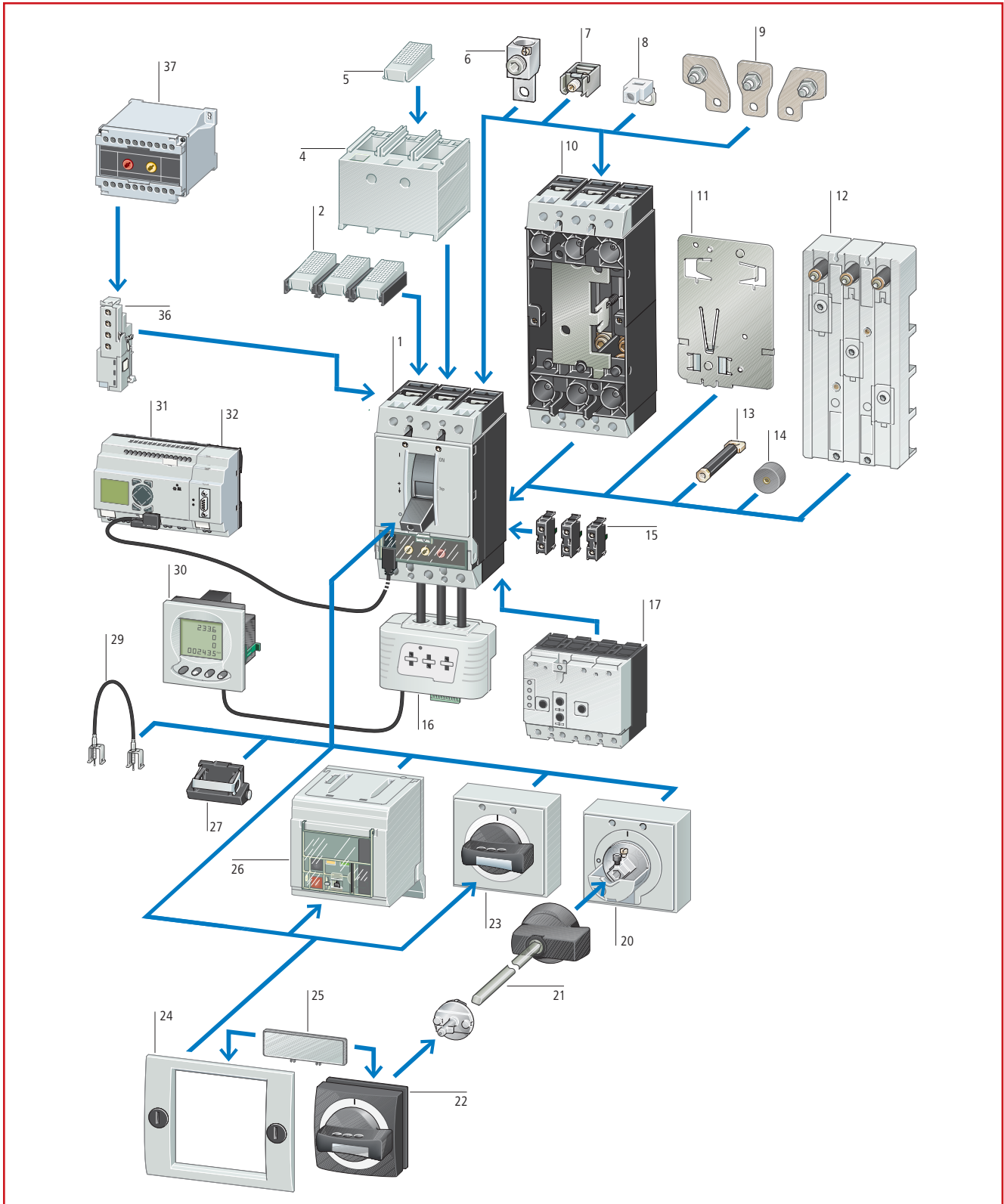
## EASIER VISUALISATION, COMPARISON AND DOCUMENTATION OF CHARACTERISTIC CURVES



The free characteristic curve software CurveSelect supports the documentation of the switches used in complete control systems. All setting parameters are easy to determine, display in graphical form and print with the characteristic curves. A direct comparison of MC circuit breakers with MO circuit breakers in combination with h.b.c fuses, for example, enables you to assess the selectivity for the overload and time-delayed overcurrent range.



## CIRCUIT BREAKERS MC – SYSTEM OVERVIEW



- |  |  |                                       |
|--|--|---------------------------------------|
| 1. Circuit breakers MC,<br>load-break switches MC.-PN, MC.-N | 13. Rear connection  | 25. External warning/additional plate |
| 2. IPX2 finger protection for box terminal                   | 14. Spacers  | 26. Remote operator                   |
| 4. Cover   | 15. Standard auxiliary contact,<br>trip-indicating auxiliary contact | 27. Toggle lever locking device       |
| 5. IPX2 finger protection for cover                          | 16. Measurement and communication module                             | 29. Mechanical interlock              |
| 6. Tunnel terminal for Al and Cu cables                      | 17. Residual-current release   | 30. Display                           |
| 7. Box terminal  | 20. Rotary drive with shaft support                                  | 31. DMI module                        |
| 8. Control circuit terminal                                  | 21. Extension shaft  | 32. Profibus interface                |
| 10. Plug-in and extension unit                               | 22. Door coupling rotary handle                                      | 36. Undervoltage release              |
| 11. Clip plate   | 23. Rotary handle with rotary drive                                  | 37. Time-delay device                 |
| 12. Busbar adapter   | 24. Door sealing frame   |                                       |

# MC – SYSTEM OVERVIEW

## TYPE KEY FOR COMPACT CIRCUIT BREAKERS



## TYPE KEY FOR COMPACT CIRCUIT BREAKERS 690 V AC

DESCRIPTION	FRAME SIZE	BREAKING CAPACITY 415 V	SWITCH TYPE	NO. OF POLES	TRIPPING UNIT	RATED UNINTERRUPTED CURRENT 20 A – 1600 A
M	C	.	-	-	.	-

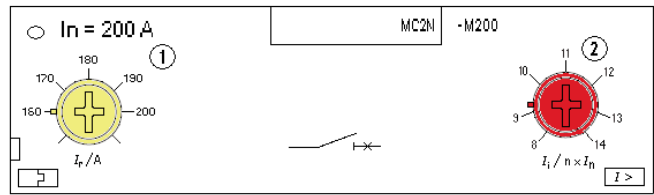
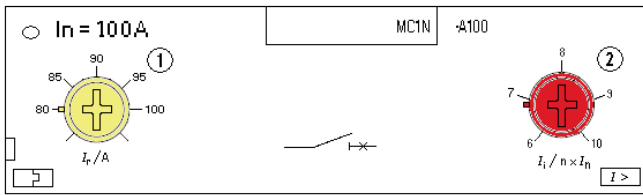
<b>M</b>	<b>C</b>	<b>1</b>	<b>B</b>	-	-	<b>1</b>	-	<b>A</b>
		Up to 160 A	Basis 25 kA	Circuit breaker	3-pole	1-pole		System protection, thermomagnetic
		<b>2</b>	<b>C</b>	<b>N</b>	-	<b>4</b>	-	<b>A E</b>
		Up to 300 A	Comfort 36 kA	Load-break switch Remote release		4-pole		System protection, electronic
		<b>3</b>	<b>N</b>	<b>PN</b>				<b>V E</b>
		Up to 630 A	Normal 50 kA	Load-break switch No remote release				Selective and generator protection, electronic
		<b>4</b>	<b>H</b>	<b>X</b>				<b>M</b>
		Up to 1600 A	High 150 kA	Accessories				Motor contactor, thermomagnetic
								<b>M E</b>
								Motor contactor, electronic

## TYPE KEY FOR COMPACT CIRCUIT BREAKERS 1000 V DC

DESCRIPTION	FRAME SIZE	SWITCH TYPE	NO. OF POLES	RATED UNINTERRUPTED CURRENT 160 A – 1400 A
M	C	.	-	.

<b>M</b>	<b>C</b>	<b>2</b>	-	<b>N</b>	-	<b>4</b>	-	-	<b>S1</b>	-	<b>DC</b>
		Up to 200 A		Load-break switch Remote release		4-pole			Main switch Disconnecter		Up to 1000 V
		<b>3</b>									
		Up to 500 A									
		<b>4</b>									
		Up to 1400 A									

## ADJUSTMENT INFORMATION FOR THERMOMAGNETIC RELEASE MC1 AND MC2 FOR 3- AND 4-POLE VERSION



### SCHRACK-INFO

#### 1 OVERLOAD RELEASE $I_r$

The overload release can be adjusted in a range from 0.8 to 1 x  $I_n$ .

#### 2 NON-DELAYED SHORT-CIRCUIT INSTANTANEOUS RELEASE $I_i$

To avoid damage to the system or to protect the switch itself, a non-delayed short-circuit release is necessary at very high short-circuit currents. In switches with system or line protection release, it can be adjusted from 6 to 10 x  $I_n$ , in switches with motor contactor release from 8 to 14 x  $I_n$ .

### FOR SYSTEM AND LINE PROTECTION

MC1 $I_u/A$	MC2 $I_u/A$	MC3 $I_u/A$	OVERLOAD RELEASE $I_r/A$	SHORT-CIRCUIT- RELEASE $I_i/A$
20	20		0.8–1x $I_n$	350
25	25		0.8–1x $I_n$	350
32	32		0.8–1x $I_n$	350
40	40		0.8–1x $I_n$	8–10x $I_n$
50	50		0.8–1x $I_n$	6–10x $I_n$
63	63		0.8–1x $I_n$	6–10x $I_n$
80	80		0.8–1x $I_n$	6–10x $I_n$
100	100		0.8–1x $I_n$	6–10x $I_n$
125	125		0.8–1x $I_n$	6–10x $I_n$
<b>160</b>	160		0.8–1x $I_n$	MC1: 8x $I_n$ /6–10x $I_n$
	200		0.8–1x $I_n$	
	<b>250</b>		0.8–1x $I_n$	
	300	320	0.8–1x $I_n$	
		400	0.8–1x $I_n$	
		500	0.8–1x $I_n$	

### FOR MOTOR PROTECTION

MC1 $I_u/A$	MC2 $I_u/A$	OVERLOAD RELEASE $I_r/A$	SHORT-CIRCUIT RELEASE $I_i/A$
		0.8–1x $I_n$	350
		0.8–1x $I_n$	350
		0.8–1x $I_n$	10–14x $I_n$
40		0.8–1x $I_n$	8–14x $I_n$
50		0.8–1x $I_n$	8–14x $I_n$
63		0.8–1x $I_n$	8–14x $I_n$
80		0.8–1x $I_n$	8–14x $I_n$
<b>100</b>		0.8–1x $I_n$	MC1: 8–12.5x $I_n$ MC2: 8–14x $I_n$
	125	0.8–1x $I_n$	8–14x $I_n$
	160	0.8–1x $I_n$	8–14x $I_n$
	200	0.8–1x $I_n$	8–14x $I_n$

## ADJUSTMENT INFORMATION FOR ELECTRONIC RELEASES MC2, 3 AND 4 FOR 3- AND 4-POLE VERSION

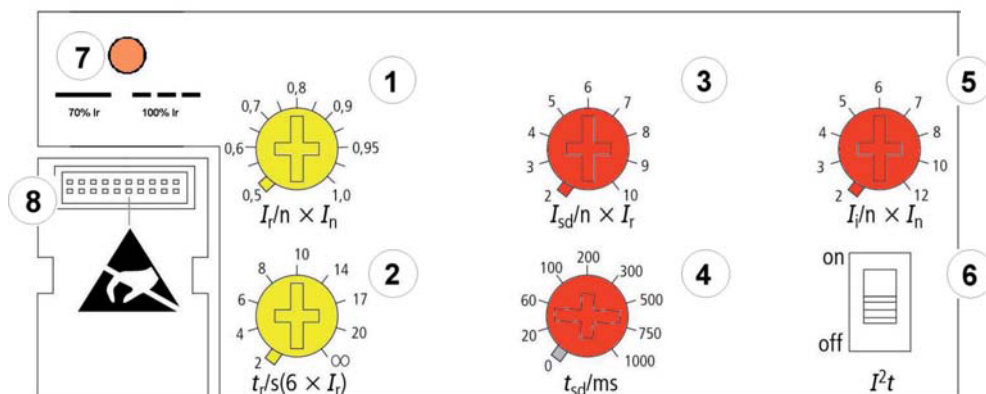
### FOR INSTALLATION, LINE, SELECTIVE AND GENERATOR PROTECTION

MC2 $I_u/A$	MC3 $I_u/A$	MC4 $I_u/A$	OVERLOAD- RELEASE $I_r/A$	SHORT-CIRCUIT RELEASE $I_{sc}/A$	SHORT-CIRCUIT RELEASE $I_i/A$
100	250	630	0.5–1x $I_n$	2–10x $I_r$	2–12x $I_n$
160	400	800	0.5–1x $I_n$	2–10x $I_r$	2–12x $I_n$
250	630	1000	0.5–1x $I_n$	2–10x $I_r$	2–12x $I_n$
		1250	0.5–1x $I_n$	2–10x $I_r$	2–12x $I_n$
		1600	0.5–1x $I_n$	2–10x $I_r$	2–12x $I_n$
		2000	0.5–1x $I_n$	2–6x $I_r$	2–8x $I_r$

### FOR MOTOR PROTECTION

MC2 $I_u/A$	MC3 $I_u/A$	OVERLOAD RELEASE $I_r/A$	SHORT-CIRCUIT RELEASE $I_i/A$
90		0.5–1x $I_n$	2–14x $I_r$
140		0.5–1x $I_n$	2–14x $I_r$
220	220	0.5–1x $I_n$	2–14x $I_r$
	350	0.5–1x $I_n$	2–14x $I_r$
	450	0.5–1x $I_n$	2–14x $I_r$

## ADJUSTMENT INFORMATION FOR ELECTRONIC RELEASES MC2, 3 AND 4 FOR 3- AND 4-POLE VERSION



### SCHRACK-INFO

- 1 OVERLOAD RELEASE  $I_r$**   
 The overload release has 13 possible settings (from 0.5 to 1 x  $I_n$ ). The nominal current of the device  $I_n$  is multiplied with the factor for the overload setting to obtain the calculated overload release current  $I_r$ .
- 2 TIME DELAY SETTING TO OVERCOME CURRENT PEAKS  $t_r$**   
 Electronic releases mimic the characteristics of a bi-metal. While each mechanical bi-metal has its own particular characteristic, electronics allow you to generate various characteristics (with different time delays). The time delay setting is defined using the time after which the circuit breaker trips at an overload of 6 x  $I_r$ . In a standard circuit breaker, tripping occurs after approx. 8 to 10 s. The setting can be selected in steps of  $t_r = 2, 4, 6, 8, 10, 14, 17, 20$  or  $\infty$  (without bi-metal release). Longer tripping times may be necessary, for example, if motors with hard-to-start drives are connected downstream. Unexpected premature trips are prevented. Lower settings are important for the protection of electronic system components.  $t_r = 10$  s should be selected for standard applications.
- 3 DELAYED SHORT-CIRCUIT RELEASE  $I_{sd}$**   
 MC delayed short-circuit releases are suitable for the time-selective construction of networks. Once the short-circuit current reaches the pre-set response value of the instantaneous release (2 to 10 x  $I_r$ ), the switch will trip after the pre-set time-delay  $t_{sd}$ . The  $I_{sd}$  is based on the pre-set  $I_r$ .
- 4 TIME DELAY  $t_{sd}$  (BASED ON  $I_{sd}$ )**  
 The response time for the delayed short-circuit release can be adjusted to 9 steps, from 0 to 1000 ms.
- 5 NON-DELAYED SHORT-CIRCUIT INSTANTANEOUS RELEASE  $I_i$**   
 Also with time-selective network designs, for very high short-circuit currents, a non-delayed release is necessary to prevent damage to the system and to protect the switch itself. The response value of the non-delayed instantaneous release can be adjusted between 2 and 12 x  $I_n$ . The  $I_i$  is based on the nominal current  $I_n$  of the switch.
- 6  $I^2t$  SETTING ON/OFF**  
 In the event of an overload, a circuit breaker will trip after a current-dependent delay. As soon as the over-current exceeds the response value of the short-circuit instantaneous release  $I_i$ , the overload characteristic curve abruptly terminates. Depending on the short-time delay setting, tripping will occur within milliseconds. The break in the characteristic curve can endanger the selectivity, if a fuse was chosen as the downstream protection device. Therefore, the tripping time can be increased electronically by a ramp function ( $I^2t = ON$ ). The resulting tripping time is determined by the maximum permissible thermal energy  $I^2t$ .
- 7 LED OVERLOAD INDICATOR "ALARM"**  
 The LED lights up before the switch triggers if an overload was detected by the electronic system. Upon reaching 70%  $I_r$ , the LED will light permanently, at 100%  $I_r$ , the LED will flash slowly, and from 120%  $I_r$  it will flash rapidly. The circuit breaker will switch off after a time that depends on the tripping characteristic curve.
- 8 DATA INTERFACE**  
 Retrieval of diagnostics and operational data with PC/laptop or DMI (Data Management Interface). The (optional) DMI module allows the display, evaluation and measurement of current values, has built-in motor starter functions, and enables the parameterisation and control of circuit breakers with electronic releases. An optional bus coupler makes it possible to connect automation systems (SPS/PLS) at any time (e.g. Profibus DP).

## ■ CIRCUIT BREAKER 1-POLE UP TO 125 A WITH FIXED THERMAL MAGNETIC RELEASE TYPES MC1B-A, MC1C-A, MC1N-A, MC1H-A



MC112118

### ■ SCHRACK-INFO

- For system and line protection
- Fixed overload release I<sub>n</sub>
- Fixed short-circuit release I<sub>n</sub>
- Lift terminals as standard, screw terminals as accessories
- Breaking capacity 25 kA at 230/240 V, 50/60 Hz
- Specifications acc. to IEC/EN 60947-2
- Rated uninterrupted current = rated current
- Available accessories: cover for 1-pole screw terminal, screw terminal IP2x finger protection, toggle locking device
- For dimensions, see from page 677.

ADJUSTMENT RANGE						
RATED CURRENT/ BREAKING CAPACITY	OVERLOAD, RELEASE (A)	SHORT-CIRCUIT RELEASE (A)	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>1-POLE (BASIC BREAKING CAPACITY) 25 kA</b>			MC1B-1-AF.			
20 A/25 kA	20	350	MC1B-1-AF20	9004840664546		MC120118
25 A/25 kA	25	480	MC1B-1-AF25	9004840664553		MC125118
32 A/25 kA	32	480	MC1B-1-AF32	9004840664560		MC132118
40 A/25 kA	40	480	MC1B-1-AF40	9004840664577		MC140118
50 A/25 kA	50	750	MC1B-1-AF50	9004840664584		MC150118
63 A/25 kA	63	750	MC1B-1-AF63	9004840664591		MC163118
80 A/25 kA	80	1000	MC1B-1-AF80	9004840664614		MC180118
100 A/25 kA	100	1000	MC1B-1-AF00	9004840664621		MC110118
125 A/25 kA	125	1000	MC1B-1-AF125	9004840664638		MC112118



## ■ CIRCUIT BREAKER 3-POLE UP TO 160 A WITH THERMAL MAGNETIC RELEASE TYPES MC1B-A, MC1C-A, MC1N-A, MC1H-A



MC110231

### ■ SCHRACK-INFO

- For system and line protection
- Adjustable overload release  $I_r$ :  $0.8 - 1 \times I_n$  (factory setting  $0.8 \times I_n$ )
- Adjustable short-circuit release  $I_i$ :  $6 - 10 \times I_n$  (factory setting  $6 \times I_n$ ); except MC.-A40:  $8 - 10 \times I_n$
- Lift terminals as standard, screw terminals as accessories
- Breaking capacity 25 / 36 / 50 / 100 kA at 415 V 50/60 Hz
- Specifications acc. to IEC/EN 60947-2
- Rated uninterrupted current = rated current
- For dimensions, see from page 677.

ADJUSTMENT RANGE						
RATED CURRENT/ BREAKING CAPACITY	OVERLOAD, RELEASE (A)	SHORT-CIRCUIT RELEASE (A)	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE (BASIC BREAKING CAPACITY) 25 kA</b>						
20 A/25 kA	15...20	fix 350	MC1B-A20	9004840403268		<b>MC120131</b>
25 A/25 kA	20...25	fix 350	MC1B-A25	9004840403275		<b>MC125131</b>
32 A/25 kA	25...32	fix 350	MC1B-A32	9004840403282		<b>MC132131</b>
40 A/25 kA	32...40	320...400	MC1B-A40	9004840261745		<b>MC140131</b>
50 A/25 kA	40...50	300...500	MC1B-A50	9004840261752		<b>MC150131</b>
63 A/25 kA	50...63	380...630	MC1B-A63	9004840261769		<b>MC163131</b>
80 A/25 kA	63...80	480...800	MC1B-A80	9004840261776		<b>MC180131</b>
100 A/25 kA	80...100	600...1000	MC1B-A100	9004840261783		<b>MC110131</b>
125 A/25 kA	100...125	750...1250	MC1B-A125	9004840261790		<b>MC112131</b>
160 A/25 kA	125...160	fix 1280	MC1B-A160	9004840403299		<b>MC116131</b>
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
20 A/50 kA	15...20	fix 350	MC1N-A20	9004840403558		MC120231
25 A/50 kA	20...25	fix 350	MC1N-A25	9004840403565		<b>MC125231</b>
32 A/50 kA	25...32	fix 350	MC1N-A32	9004840403572		<b>MC132231</b>
40 A/50 kA	32...40	320...400	MC1N-A40	9004840261806		<b>MC140231</b>
50 A/50 kA	40...50	300...500	MC1N-A50	9004840261813		<b>MC150231</b>
63 A/50 kA	50...63	380...630	MC1N-A63	9004840261820		<b>MC163231</b>
80 A/50 kA	63...80	480...800	MC1N-A80	9004840261837		<b>MC180231</b>
100 A/50 kA	80...100	600...1000	MC1N-A100	9004840261844		<b>MC110231</b>
125 A/50 kA	100...125	750...1250	MC1N-A125	9004840261851		<b>MC112231</b>
160 A/50 kA	125...160	fix 1280	MC1N-A160	9004840403589		<b>MC116231</b>
<b>3-POLE (HIGH BREAKING CAPACITY) 100 kA</b>						
20 A/100 kA	15...20	fix 350	MC1H-A20	9004840628722		MC120331
25 A/100 kA	20...25	fix 350	MC1H-A25	9004840628739		MC125331
32 A/100 kA	25...32	fix 350	MC1H-A32	9004840628746		MC132331
40 A/100 kA	32...40	320...400	MC1H-A40	9004840628753		MC140331
50 A/100 kA	40...50	300...500	MC1H-A50	9004840628760		MC150331
63 A/100 kA	50...63	380...630	MC1H-A63	9004840628777		MC163331
80 A/100 kA	63...80	480...800	MC1H-A80	9004840628784		MC180331
100 A/100 kA	80...100	600...1000	MC1H-A100	9004840628791		MC110331
125 A/100 kA	100...125	750...1250	MC1H-A125	9004840628807		MC112331
160 A/100 kA	125...160	fix 1280	MC1H-A160	9004840628814		MC116331



## ■ CIRCUIT BREAKER 4-POLE UP TO 160 A WITH THERMAL MAGNETIC RELEASE TYPES MC1B-4-A, MC1C-4-A, MC1N-4-A, MC1H-4-A



MC120141

### ■ SCHRACK-INFO

- For system and line protection
- 100% overload and short-circuit protection
- Adjustable overload release I<sub>r</sub>: 0.8 – 1 x I<sub>n</sub> (factory setting 0.8 x I<sub>n</sub>)
- Adjustable short-circuit release I<sub>i</sub>: 6 – 10 x I<sub>n</sub> (factory setting 6 x I<sub>n</sub>); except MC.-A40: 8 - 10 x I<sub>n</sub>
- Lift terminals as standard, screw terminals as accessories
- Breaking capacity 25 / 36 / 50 /kA at 415 V 50/60 Hz
- Specifications acc. to IEC/EN 60947-2
- Rated uninterrupted current = rated current
- For dimensions, see from page 677.

ADJUSTMENT RANGE						
RATED CURRENT/ BREAKING CAPACITY	OVERLOAD, RELEASE (A)	SHORT-CIRCUIT RELEASE (A)	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>4-POLE (BASIC BREAKING CAPACITY) 25 kA</b>						
20 A/25 kA	15...20	fix 350	MC1B-4-A20	9004840403596		MC120141
25 A/25 kA	20...25	fix 350	MC1B-4-A25	9004840403602		<b>MC125141</b>
32 A/25 kA	25...32	fix 350	MC1B-4-A32	9004840403619		<b>MC132141</b>
40 A/25 kA	32...40	320...400	MC1B-4-A40	9004840385441		<b>MC140141</b>
50 A/25 kA	40...50	300...500	MC1B-4-A50	9004840385458		MC150141
63 A/25 kA	50...63	380...630	MC1B-4-A63	9004840385465		<b>MC163141</b>
80 A/25 kA	63...80	480...800	MC1B-4-A80	9004840385472		<b>MC180141</b>
100 A/25 kA	80...100	600...1000	MC1B-4-A100	9004840385427		<b>MC110141</b>
125 A/25 kA	100...125	750...1250	MC1B-4-A125	9004840385434		<b>MC112141</b>
160 A/25 kA	125...160	fix 1280	MC1B-4-A160	9004840403626		<b>MC116141</b>
<b>4-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
20 A/50 kA	15...20	fix 350	MC1N-4-A20	9004840403633		MC120241
25 A/50 kA	20...25	fix 350	MC1N-4-A25	9004840403640		MC125241
32 A/50 kA	25...32	fix 350	MC1N-4-A32	9004840403657		MC132241
40 A/50 kA	32...40	320...400	MC1N-4-A40	9004840385588		MC140241
50 A/50 kA	40...50	300...500	MC1N-4-A50	9004840385595		MC150241
63 A/50 kA	50...63	380...630	MC1N-4-A63	9004840385694		MC163241
80 A/50 kA	63...80	480...800	MC1N-4-A80	9004840385700		MC180241
100 A/50 kA	80...100	600...1000	MC1N-4-A100	9004840385564		MC110241
125 A/50 kA	100...125	750...1250	MC1N-4-A125	9004840385571		MC112241
160 A/50 kA	125...160	fix 1280	MC1N-4-A160	9004840403664		MC116241



## ■ CIRCUIT BREAKER, 3-POLE UP TO 100 A WITH THERMAL MAGNETIC RELEASE TYPES MC1B-M, MC1C-M, MC1N-M



MC110236

### ■ SCHRACK-INFO

- For motor-protection
- Adjustable overload release  $I_r$ :  $0.8 - 1 \times I_n$  (factory setting  $0.8 \times I_n$ ); with phase failure sensitivity, tripping class 10 A ( $2s < T_p \leq 10s$ )
- Adjustable short-circuit release  $I_i$ :  $8 - 14 \times I_n$  (ex-factory  $12 \times I_n$ ); except MC1.-M100:  $8 - 12.5 \times I_n$  (factory setting  $12 \times I_n$ )
- Lift terminals as standard, screw terminals as accessories
- Breaking capacity 25 / 36 / 50 kA at 415 V 50/60 Hz
- Specification acc. to IEC/EN 60947-4 and IEC/EN 60947-2
- Meet all requirements of utilisation category AC3 at 400 VAC
- For dimensions, see from page 677.

NOMINAL CURRENT/ BREAKING CAPACITY/ POWER/CURRENT	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				
<b>3-POLE (BASIC BREAKING CAPACITY) 25 kA</b>						
40 A/25 kA/18.5 kW/36 A	32...40	320...560	MC1B-M40	9004840385496		<b>MC140136</b>
50 A/25 kA/22 kW/41 A	40...50	400...700	MC1B-M50	9004840385502		<b>MC150136</b>
63 A/25 kA/30 kW/55 A	50...63	504...882	MC1B-M63	9004840385519		<b>MC163136</b>
80 A/25 kA/37 kW/68 A	63...80	640...1120	MC1B-M80	9004840385526		<b>MC180136</b>
100 A/25 kA/55 kW/99 A	80...100	800...1250	MC1B-M100	9004840385489		<b>MC110136</b>
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
40 A/50 kA/18.5 kW/36 A	32...40	320...560	MC1N-M40	9004840385724		MC140236
50 A/50 kA/22 kW/41 A	40...50	400...700	MC1N-M50	9004840385731		MC150236
63 A/50 kA/30 kW/55 A	50...63	504...882	MC1N-M63	9004840385748		MC163236
80 A/50 kA/37 kW/68 A	63 ... 80	640 ... 1120	M80-MC1N	9004840385755		MC180236
100 A/50 kA/55 kW/99 A	80...100	800...1250	MC1N-M100	9004840385717		MC110236



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## LOAD-BREAK SWITCH UP TO 160 A TYPES MC1-PN, MC1-PN-4, MC1-N, MC1-N-4



MC112044

### SCHRACK-INFO

- Rated uninterrupted current up to 160 A
- MC1-PN two switch positions 0/I, no remote release
- MC1-N, with trip positions "0", "+"; "I", with remote release, can be equipped with undervoltage/shunt release and trip-indicating auxiliary contact
- Connection terminals as standard, screw terminals as accessories
- Properties of main switches including positive drive according to IEC/EN 60204 and VDE 0113
- Isolating characteristics according to IEC/EN 60947-3 and VDE 0660, protection against accidental contact according to VDE 0160 Part 100
- Specifications acc. to IEC/EN 60947-2
- Rated uninterrupted current = rated current
- Rated short-circuit breaking capacity:  $I_{cm}$  2.8 kA
- Rated short-time current protection:  $I_{cw}$  2 kA
- For dimensions, see from page 677.

RATED UNINTERRUPTED CURRENT	MAX. BACK-UP FUSE (gL) FOR LOAD-BREAK SWITCHES (Agl)	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>3-POLE, NO REMOTE RELEASE POSSIBLE</b>					
63 A	125 A	MC1-PN-63	9004840262216		<b>MC163034</b>
100 A	125 A	MC1-PN-100	9004840262223		<b>MC110034</b>
125 A	125 A	MC1-PN-125	9004840262230		<b>MC112034</b>
160 A	160 A	MC1-PN-160	9004840551334		<b>MC116034</b>
<b>4-POLE, NO REMOTE RELEASE POSSIBLE</b>					
63 A	125 A	MC1-PN-4-63	9004840385816		MC163044
100 A	125 A	MC1-PN-4-100	9004840385762		<b>MC110044</b>
125 A	125 A	MC1-PN-4-125	9004840385809		<b>MC112044</b>
160 A	160 A	MC1-PN-4-160	9004840551341		MC116044
<b>3-POLE, REMOTE RELEASE POSSIBLE</b>					
63 A	125 A	MC1-N-63	9004840262254		<b>MC163035</b>
100 A	125 A	MC1-N-100	9004840262261		<b>MC110035</b>
125 A	125 A	MC1-N-125	9004840262278		<b>MC112035</b>
160 A	160 A	MC1-N-160	9004840614428		<b>MC116035</b>
<b>4-POLE, REMOTE RELEASE POSSIBLE</b>					
63 A	125 A	MC1-N-4-63	9004840385557		MC163045
100 A	125 A	MC1-N-4-100	9004840385533		MC110045
125 A	125 A	MC1-N-4-125	9004840385540		<b>MC112045</b>
160 A	160 A	MC1-N-4-160	9004840627237		MC116045



## RESIDUAL-CURRENT RELEASE RELAY TYPES MC1-XFI.R, MC1-4-XFI.R, MC1-XFI.U, MC1-4-XFI.U











MC194608

### SCHRACK-INFO

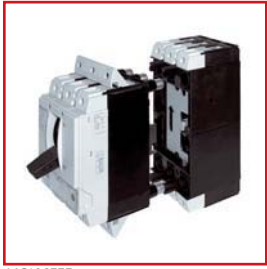
- Suitable for use in three- and single-phase systems
- Pulse current sensitive acc. to core-balance principle
- For 3- and 4-pole circuit breakers and load-break switches MC1, MC1-N, not for MC1-PN
- Dependant on mains power  $U_e = 200 - 415 \text{ V } 50/60 \text{ Hz}$
- Meets IEC/EN 60947-2
- Bottom mounting up to 100 A, installed from the right up to 125 A
- Complete unit
- For dimensions, see from page 677.

### TECHNICAL DATA

- At  $I_{\Delta n} = 0.03 \text{ A}$ : Time delay  $t_v$  permanently set to 10 ms.
- Alarm message  $> 30 \% I_{\Delta n}$  via yellow LED.
- Trip-indicating auxiliary contacts can be fitted by user (max. 2 auxiliary contacts):  
NO: Order No: MM216376, NC: Order No: MM216378 are reset via a reset toggle lever.
- When using the trip-indicating auxiliary contacts in the FI module, the NC contact works as an NO contact and the NO contact as an NC contact.
- Not for use in XCS insulated enclosures.
- Type MC1-XFI...U cannot be combined with shunt or undervoltage releases and an early-make auxiliary contact.
- Rated short-circuit breaking capacity values are determined by installed MC1 or when using a load-break switch MC1-N by the back-up fuse to be used.

FOR TYPE	RATED RESIDUAL CURRENT ( $I_{\Delta n}$ )	DELAY TIME (ms)	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE ATTACHMENT FROM THE RIGHT UP TO 160 A</b> 						
MC1/MC1-N	0.03	10	MC1-XFI30R	9004840507416		MC194603
MC1/MC1-N	0.3	10	MC1-XFI300R	9004840507454		MC194604
MC1/MC1-N	0.03-0.1-0.3-0.5-1-3	10, 60, 150, 300, 450	MC1-XFIR	9004840507478		<b>MC194605</b>
<b>4-POLE ATTACHMENT FROM THE RIGHT UP TO 160 A</b> 						
MC1-4 / MC1-N-4	0.03	10	MC1-4-XFI30R	9004840507447		MC194606
MC1-4 / MC1-N-4	0.3	10	MC1-4-XFI300R	9004840507461		<b>MC194607</b>
MC1-4 / MC1-N-4	0.03-0.1-0.3-0.5-1-3	10, 60, 150, 300, 450	MC1-4-XFIR	9004840507485		<b>MC194608</b>
<b>3-POLE ATTACHMENT FROM THE BOTTOM UP TO 100 A</b> 						
MC1/MC1-N	0.03	10	MC1-XFI30U	9004840587302		MC194609
MC1/MC1-N	0.3	10	MC1-XFI300U	9004840587319		MC194610
MC1/MC1-N	0.03-0.1-0.3-0.5-1-3	10, 60, 150, 300, 450	MC1-XFIU	9004840587326		MC194611
<b>4-POLE ATTACHMENT FROM THE BOTTOM UP TO 100 A</b> 						
MC1-4 / MC1-N-4	0.03	10	MC1-4-XFI30U	9004840587333		MC194612
MC1-4 / MC1-N-4	0.3	10	MC1-4-XFI300U	9004840587340		MC194613
MC1-4 / MC1-N-4	0.03-0.1-0.3-0.5-1-3	10, 60, 150, 300, 450	MC1-4-XFIU	9004840587524		<b>MC194614</b>

## SOCKET AND PLUG-IN MODULE FOR MC1



MC196777

### SCHRACK-INFO

- 3-pole version
- For circuit breaker MC1 and load-break switch MC1-N
- **Plug-in module only available in combination with switch**
- Socket can be ordered separately and pre-assembled
- Order control circuit plug unit separately
- Cannot be used in combination with MC1-XFI (residual current release relay)
- For dimensions, see from page 677.

### TECHNICAL DATA

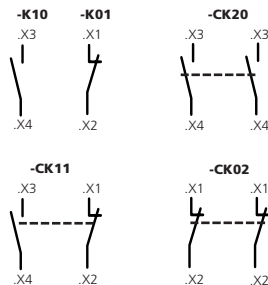
- $I_n$  max. at 20 °C: 125A  
at 70 °C: 100 A

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>SOCKET</b>				
Socket, 3-pole	MC1-XSVS	9004840651614		MC196777
<b>PLUG-IN MODULE</b>				
Plug-in module, 3-pole (supplied with switch, add an S to end of switch part number)				
<b>ACCESSORIES FOR PLUG-IN STYLE ASSEMBLY MC2/MC2-N</b>				
Control circuit plug unit for aux switches, undervoltage/shunt release	MC1/2-XSVHI	9004840263664		MC296705

## STANDARD AUXILIARY CONTACT / TRIP-INDICATING AUXILIARY CONTACT TYPE M22



MM216378



### SCHRACK INFO

- Switches with the main contacts, used for indicating and interlocking tasks
- General trip indication "+" with trip due to voltage release, overload release or short-circuit-release

### TECHNICAL DATA

Breaking capacity: AC 15: 4 A / 230 VAC  
DC 13: 3 A / 24 VDC  
M22-K: 0.3 A / 220 VDC  
M22-CK: 0.2 A / 220 VDC

### TIPS & TRICKS

The trip-indicating auxiliary contact is the same contact as the standard auxiliary contact. It derives its function from its place of installation (left is the alarm contact).

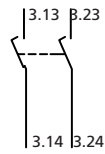
Maximum component installation MC1 with auxiliary contacts: 1 x standard auxiliary contact (HIN) M22-K.. or M22CK..  
+ 1 x trip-indicating auxiliary contact (HIA) M22-K.. or M22-CK..

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 NO contact with screw terminals	M22-K10	9004840176254		<b>MM216376</b>
1 NC contact with screw terminals	M22-K01	9004840176261		<b>MM216378</b>
2 NO contacts with spring terminals	M22-CK20	9004840547047		<b>MM107898</b>
2 NC contacts with spring terminals	M22-CK02	9004840547054		<b>MM107899</b>
1 NO contact + 1 NC contact with spring terminals	M22-CK11	9004840625783		<b>MM107940</b>

## EARLY-MAKE AUXILIARY CONTACT TYPE MC1-XHIVL



MC199432



### SCHRACK INFO

- For interlock- and load-shedding circuits as well as for early make of undervoltage release in main switch/Emergency-stop applications.

### TECHNICAL DATA

- Early-make during switch on and off (manual switch): approx. 20 ms
- Not in connection with undervoltage release MC1-XU... or shunt release MC1-XA...
- Breaking capacity: AC15: 4 A / 230 VAC  
DC13: 3 A / 24 VDC, 0.2 A / 220 VDC

### TIPS & TRICKS

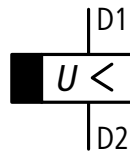
Maximum component installation MC1:  
1 x early-make auxiliary contact

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Early-make auxiliary switch, 2 NO contacts including 3 m cable	MC1 XHIVL	9004840262292		MC199432

## UNDervOLTAGE RELEASE TYPES MC1-XUL



MC199471



### SCHRACK INFO

- Non-delayed breaking of circuit breaker MC/load-breaking switch MC-N when the control voltage drops below 35% -70% Us.
- For use in Emergency Stop devices in connection with EMERGENCY STOP button
- Installed in breaker
- Without auxiliary contact
- Other voltages and connection versions available on request

### TIPS & TRICKS

When the undervoltage release is de-energised, accidental contact with the main contacts of the switch is safely prevented during attempts to switch on. Undervoltage release cannot be installed simultaneously with a shunt release or early-make auxiliary contact MC1-XHIV.

VOLTAGE	VERSION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
24 VAC	incl. 3 m cable	MC1-XUL24AC	9004840262308		<b>MC199462</b>
24 VDC	incl. 3 m cable	MC1-XUL24DC	9004840262346		<b>MC199481</b>
208 - 240 VAC	incl. 3 m cable	MC1-XUL208-240 AC	9004840262322		<b>MC199471</b>
380 - 440 VAC	incl. 3 m cable	MC1-XUL380-440 AC	9004840262339		MC199473



## I KNOW WHERE TO FIND IT!

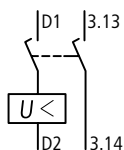
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- See availability and price immediately
- Order desired products easily

## UNDervOLTAGE RELEASE WITH TWO EARLY-MAKE AUXILIARY CONTACTS TYPE MC1-XUHIVL



MC199565



### SCHRACK INFO

- With 2 early-make auxiliary contacts
- For early-make of the undervoltage release in main switch applications and for interlock- and load-shedding circuits
- Installed in breaker
- Other voltages and connection versions available on request

### TIPS & TRICKS

When the undervoltage release is de-energised, accidental contact with the main contacts of the switch is safely prevented during attempts to switch on. Early-make of auxiliary contacts during switch on and off (20 ms). Undervoltage release cannot be installed simultaneously with a shunt release or early-make auxiliary contact MC1-XHIV.

VOLTAGE	VERSION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
208 - 240 VAC	incl. 3 m cable	MC1-XUHIVL208-240 AC	9004840262421		<b>MC199565</b>
380 - 440 VAC	incl. 3 m cable	MC1-XUHIVL380-440 AC	9004840262438		MC199567

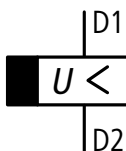
## UNDervOLTAGE RELEASE, OFF-DELAY TYPES MC-UVU, MC-XUVL



MC196154



MC191607



### SCHRACK INFO

- Voltage drops of less than 16 s do not cause MC circuit breakers or MC-N load-break switches to trip.
- Voltage range:
  - 220-240 VAC 50/60 Hz
  - 380-440 VAC 50/60 HZ
  - 480-550 VAC 50/60 HZ
  - 24 VDC / AC
- For dimensions, see from page 677.

### TECHNICAL DATA

- Time-delay adjustable between 70 ms – 4 s
- With additional external capacitor:
  - 30,000  $\mu$ F  $\geq$  35 V up to 8 s
  - 90,000  $\mu$ F  $\geq$  35 V up to 16 s
- Special release MC1-XUVL is required.
- Cannot be installed simultaneously with early-make auxiliary contact MC1-XHIV... or shunt release MC1-XA....
- Time-delay device for separate assembly (Mounting: DIN rail or screws).
- Use control transformer for other operating voltages.

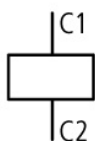
DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Time delay device	MC-UVU	9004840520392		<b>MC190154</b>
Special undervoltage release for time-delay device UVU	MC1 XUVL	9004840520408		MC191607



## SHUNT RELEASE TYPE MC1-XAL



MC199744



### SCHRACK INFO

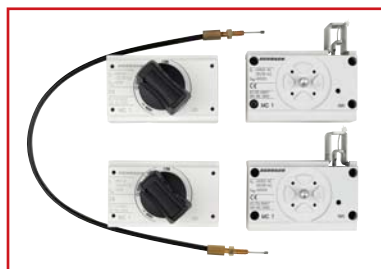
- Without auxiliary contact
- Switches are tripped by a voltage pulse or by applying uninterrupted voltage

### TIPS & TRICKS

When the shunt release is de-energised, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Shunt release cannot be installed simultaneously with undervoltage releases or early-make auxiliary contact MC1-XHIV.

VOLTAGE	VERSION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
24 VAC/DC	incl. 3 m cable	MC1-XAL24AC/DC	9004840262476		<b>MC199736</b>
208 - 250 VAC/DC	incl. 3 m cable	MC1-XAL208-250 AC/DC	9004840262490		<b>MC199744</b>

## MECHANICAL INTERLOCK FOR (DOOR COUPLING-) ROTARY HANDLES FOR MC1



MC191581 + MC191585

### SCHRACK INFO

- **Rotary handle on switch or door coupling rotary handle additionally required.**
- Cannot be combined with door sealing frame
- At least 2 interlocking modules are required to construct a mechanical interlock.
- Order Bowden cable separately
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Mechanical interlock	MC1-XMV	9004840403190		<b>MC191581</b>
Bowden cable 225 mm	MC XBZ225	9004840403206		<b>MC191585</b>
Bowden cable 600 mm	MC XBZ600	9004840403213		<b>MC191586</b>
Bowden cable 1000 mm	MC XBZ600	9004840403220		MC191587



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## ROTARY HANDLES DIRECTLY ON SWITCH FOR MC1



MC190125

### SCHRACK INFO

- Complete with rotary drive
- Can also be combined with door sealing frame
- For dimensions, see from page 677.

### TECHNICAL DATA

Available in the following versions:

#### Type MC.-XDV

Lockable in position "0" (up to three padlocks), black/grey

#### Type MC.-XDVR

Lockable in position "0" (up to three padlocks), EMERGENCY STOP red/yellow

#### Type MC.-XDTV

Lockable in position "0" on handle, modification also available in position "1", black/grey

#### Type MC.-XDTVR

Lockable in position "0", EMERGENCY STOP red/yellow

Version with door interlock:

- Door sealing frame supplied with door interlock
- Rotary handle can be rotated 90° for switches mounted horizontally
- In the ON position, can be defeated from the outside using a 1 mm pin
- Cannot be defeated in the locked OFF and ON positions
- Door can be opened in OFF
- Can only be switched on when door closed

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rotary handle for MC1, lockable, black/grey	MC1-XDV	9004840262728		<b>MC190125</b>
Rotary handle for MC1, lockable, emergency stop red/yellow	MC1-XDVR	9004840262773		<b>MC190135</b>
Rotary handle for MC1 with door interlock, lockable, black/grey	MC1 CDTV	9004840262759		<b>MC190131</b>
Rotary handle for MC1 with door interlock, lockable, emergency stop red/yellow	MC1 XDTVR	9004840262803		MC190142



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## DOOR COUPLING ROTARY HANDLES UND MAIN SWITCH KITS FOR MC1



MC190166 - Rotary drive



MC190166 - Coupling part



MC190166 - Rotary handle

### SCHRACK INFO

- Complete including rotary drive and coupling parts
- Degree of protection IP66
- Rotary handle can be rotated 90° for switches mounted horizontally
- Cannot be defeated in the locked OFF and ON positions
- Can be modified when in the unlocked ON position, can be defeated from the outside with a screwdriver
- Door can be opened in OFF
- External warning plate/additional plate can be clipped on
- For dimensions, see from page 677.

### NOTE

- Order extension shaft separately!

### TECHNICAL DATA

Available in the following versions:

#### Type MC.-XTVD

Lockable in position "0" on handle, with up to three padlocks, with door interlock, black/grey

#### Type MC.-XTVDV

Lockable in position "0" on handle and switch, with up to three padlocks, with door interlock, black/grey

#### Type MC.-XTVDVR

Lockable in position "0" on handle and switch with up to three padlocks, with door interlock, EMERGENCY STOP red/yellow

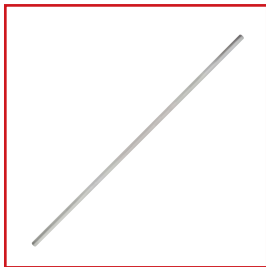
Main switch kit consisting of:

- Door coupling rotary handle + rotary drive XTVD/XTVDR
- Extension shaft XV4
- External warning plate
- Lightning arrow

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>DOOR COUPLING ROTARY HANDLES</b>				
For MC1 with door interlock, lockable, black/grey	MC1 XTVD	9004840262872		<b>MC190166</b>
For MC1 with door interlock, lockable, "0", "1", black/grey	MC1-XTVDV	9004840262902		<b>MC190172</b>
For MC1 with door interlock, lockable, emergency stop red/yellow	MC1 XDTVDR	9004840262933		<b>MC190178</b>
<b>MAIN SWITCH KITS</b>				
For MC1 lockable, black/grey	MC1-XHB	9004840263565		MC196626
For MC1 lockable, emergency stop red/yellow	MC1-XHBR	9004840263596		<b>MC196632</b>



## EXTENSION SHAFT FOR MC1



MC190191

### SCHRACK INFO

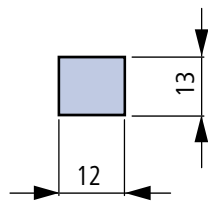
- For maximum cabinet depths of 400 or 600 mm
- Can be cut to required length
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Extension axis for MC1 max. 400 mm	MC1/2-XV4	9004840263053		<b>MC191232</b>
Extension axis for MC1 max. 600 mm	MC1/2-XV6	9004840262964		<b>MC190191</b>

## BOX TERMINALS FOR MC1



MC190015



Max. opening of box terminal

### SCHRACK INFO

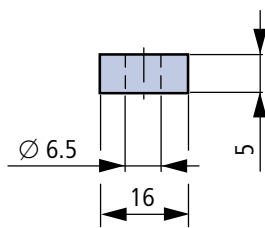
- Standard connection for all MC1, MC1-PN and MC1-N switches
- Conversion kit if switch is equipped with screw terminal
- Contains parts for one switch side
- Installed within the switch housing
- Use cover plate MC1(-4)-XKSA
- Terminal capacities:
  - Cu wires 1 x (10 to 70 mm<sup>2</sup>)
  - Cu wires 2 x (6 to 25 mm<sup>2</sup>)

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Box terminal up to 160 A (3 pcs. included) for MC1	MC1-160-XKC	9004840386974		MC190015
Box terminal up to 160 A (4 pcs. included) for MC1-4	MC1-160-4-XKC	9004840263848		MC197075

## SCREW CONNECTION FOR MC1



MC190019



Max. Dimension of the connecting bars for rail connection

### SCHRACK INFO

- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Installation outside switch housing
- Cover MC1-XKSA included
- Terminal capacities:
  - Cu cable lugs 1 x (10 to 70 mm<sup>2</sup>), 2 x (6 – 25 mm<sup>2</sup>)
  - Al cable lugs 1 x (10 to 35 mm<sup>2</sup>), 2 x (10 – 35 mm<sup>2</sup>)
- For dimensions, see from page 677.

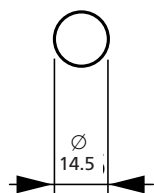
DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Screw terminal , 3 pcs. for MC1	MC1-XKS	9004840262629		<b>MC190019</b>
Screw terminal 4 pcs. for MC1-4	MC1-4-XKS	9004840386981		MC196725



## TUNNEL TERMINAL FOR MC1



MC196730



### SCHRACK INFO

- Contains parts for one switch side, top or bottom
- With control circuit terminal for 1 x (0.75 to 2.5 mm<sup>2</sup>), 2 x (0.75 to 1.5 mm<sup>2</sup>) Cu wire
- Installation outside switch housing
- Maximum specified cross-section can only be connected stranded and without end sleeve.
- Attachment of cover MC1(-4)-XKSA required (included)
- Terminal capacities: Cu cable, Al cable 95 mm<sup>2</sup>
- For dimensions, see from page 677.

### TECHNICAL DATA

- For Cu- and Al cables
- Including cover
- Stranded round conductor / stranded sector-shaped conductor
- Use with flexible and highly-flexible conductor end sleeves

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Tunnel terminal 95 mm <sup>2</sup> , 3-pole for MC1	MC1-X kA	9004840263749		<b>MC196730</b>
Tunnel terminal 95 mm <sup>2</sup> , 4-pole for MC1-4	MC1-4-X kA	9004840386998		MC196731

## REAR CONNECTION FOR MC1



MC196734

### SCHRACK INFO

- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Terminal capacities:
  - Cu cable lugs 1 x (10 to 70 mm<sup>2</sup>), 2 x (6 to 25 mm<sup>2</sup>)
  - Al cable lugs 1 x (10 to 35 mm<sup>2</sup>), 2 x (10 to 35 mm<sup>2</sup>)
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rear connection, 3-pole for MC1	MC1-XKR	9004840263756		MC196734

## CONTROL CIRCUIT TERMINAL FOR MC1



MC196739

### SCHRACK INFO

- Contains parts for two terminals located at top or bottom for 3/4-pole switches
- Included with tunnel terminal
- Terminal capacities: Screw terminal 1 x (0.75 to 2.5 mm<sup>2</sup>), 2 x (0.75 to 1.5 mm<sup>2</sup>)
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Control circuit connection for box terminal MC1	MC-XSTK	9004840263893		<b>MC196739</b>
Control circuit connection for screw terminal for MC1	MC1-XSTS	9004840262827		MC190150

## TERMINAL COVER FOR MC1



MC190021

### SCHRACK INFO

- Protection against accidental contact where cable lugs, rails are connected or tunnel terminals are used
- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Degree of protection IP4X front, side and rear, IP1X on the connection side when using insulated conductor material
- Cover plate already comes with tunnel terminals
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Terminal cover, 3-pole for MC1	MC1-XKSA	9004840262636		<b>MC190021</b>
Terminal cover, 4-pole for MC1-4	MC1-4-XKSA	9004840387018		<b>MC196741</b>

## CONNECTION COVER, KNOCKOUT FOR BOX TERMINAL

### SCHRACK INFO

- Contains parts for one switch side, top or bottom
- For 3- or 4-pole switches
- Connection cover can be knocked out
- To increase touch protection for box terminal (simplified finger protection)

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Terminal cover, 3-pole for MC1	MC1-XKSFA	9004840520514		<b>MC190780</b>

## IP2X FINGER PROTECTION FOR DIRECT-MOUNTED MC1 SWITCHES



MC196744



MC196748

### SCHRACK INFO

- Increases the protection against accidental contact to IP2X
- Protection when reaching into the cable connection area when cables are connected
- MC1-XIPK and MC1-4-XIPK for direct mounting on switches
- MC1-XIPA and MC1-4-XIPA only in combination with cover plate XKSA
- Contains parts for one switch side, top or bottom
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>FOR BOX TERMINAL</b>				
Finger protection, 3-pole for MC1	MC1-XIPK	9004840387025		<b>MC196744</b>
Finger protection, 4-pole for MC1	MC1-4-XIPK	9004840387032		MC196745
<b>FOR TERMINAL COVER</b>				
Finger protection, 3-pole for MC1	MC1-XIPA	9004840387049		<b>MC196748</b>
Finger protection, 4-pole for MC1	MC1-4-XIPA	9004840387056		MC196749



## INSULATED ENCLOSURE XCI



MC191522

### SCHRACK INFO

- Only for switches with box terminals for direct cable connection
- With door coupling rotary handle
- Complete including all necessary functional parts
- Degree of protection IP65
- MC1-XCI23 housing with flanges
- MC1-XCI43 are fitted with gland plates
- For dimensions, see from page 677.

### TECHNICAL DATA

Enclosure suitable for installation of circuit-breakers and load-break switches for separate mounting with top and bottom cable entry.

Including fixing straps for wall mounting. Short circuit protection at 415 V 50/60 Hz up to 10 kA.

Not in combination with remote operator, plug-in or withdrawable unit.

Additional insulated terminal for 4th or 5th pole must be ordered separately.

Available in the following versions:

#### Standard, black/grey

Lockable in position "0" on handle with up to 3 padlocks. Additionally with cover interlock.

#### For EMERGENCY STOP, red/yellow

Lockable on handle and switch lockable with up to 3 padlocks in position "0" on handle. Additionally with cover interlock and lockable at switch in position "0".

DESCRIPTION	MAX. RATED UNINTERRUPTED CURRENT	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>STANDARD, BLACK/GREY</b>					
For MC1, 3-pole	≤ 63 A	MC1-XCI23-TVD	9004840520545		MC191522
For MC1-4, 3- or 4-pole	≤ 125 A	MC1-XCI43-TVD	9004840520552		MC191523
For MC1-4, 3- or 4-pole	≤ 160 A	MC1-XCI43/2-TVD	9004840520521		MC194645
<b>FOR EMERGENCY STOP, RED/YELLOW</b>					
For MC1, 3-pole	≤ 63 A	MC1-XCI23-R	9004840520569		MC191527
For MC1-4, 3- or 4-pole	≤ 125 A	MC1-XCI43-R	9004840520576		MC191528
For MC1-4, 3- or 4-pole	≤ 160 A	MC1-XCI43/2-R	9004840520538		MC194646



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## COMPONENT ADAPTERS FOR CIRCUIT-BREAKERS AND LOAD-BREAK SWITCHES FOR 60 mm BUSBAR SYSTEM, MC1



MC195700 – SIDE VIEW



MC195700 – FRONT VIEW


### SCHRACK INFO

- For mounting on flat copper rails 12 x 5 mm to 30 x 10 mm
- Double T and triple T profile
- For snapping onto de-energised busbar
- Rated operating voltage  $U_e$ : 690 V
- For dimensions, see from page 677.

### TECHNICAL DATA

MC 1 up to 160 A:

- For switches with standard box terminal connection
- Connected to system via terminal strips at top
- In connection with IP2X finger protection, possible to increase protection against accidental contact on outgoing side

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
60 mm busbar adapter 160 A for MC1, 3-pole	32570	9004840417722		<b>MC195700</b>


## DOOR SEALING FRAME FOR MC1



MC190195

### SCHRACK INFO

- For toggle levers, rotary handles with rotary drive and remote operator
- Degree of protection IP40
- For rectangular cut-out on doors and enclosures with material thicknesses of 1.5 – 5 mm
- External warning plate / additional plate (optional) clipped
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Door sealing frame for MC1	MC1-XBR	9004840262988		<b>MC190195</b>

## TOGGLE LEVER LOCKING DEVICE FOR MC1



MC190199

### SCHRACK INFO

- Off position lockable with up to 3 padlocks (shackle thickness 4 – 8 mm)
- Cannot be combined with door sealing frame
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Toggle lever locking device for MC1	MC1-XKAV	9004840520606		MC190199




## SPACER FOR MC1



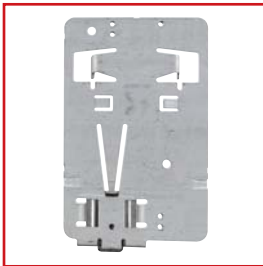
MC190203

### SCHRACK INFO

- Enables fast and low-priced adjustment of various frame sizes with/without rotary handle or remote operator at same front depth
- Grid depth 17.5 mm, thread M4
- One set contains 4 x spacers
- Maximum component installation 4 pcs. per fastening screw
- 2 fastening screws included for each circuit breaker MC1
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Spacer for MC1	MC1/2-XAB	9004840263008		<b>MC190203</b>


## CLIP PLATE FOR MC1



MC190213

### SCHRACK INFO

- Enables snap fit of circuit breakers / load-break switch to DIN rail (35 mm rail)
- For dimensions, see from page 677.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Clip plate for MC1	MC1-XC35	9004840263022		<b>MC190213</b>



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## ■ CIRCUIT BREAKER 3-POLE UP TO 300 A WITH THERMAL MAGNETIC RELEASE TYPES MC2B-A, MC2C-A, MC2N-A, MC2H-A



MC216131

### ■ SCHRACK-INFO

- For system and line protection
- Adjustable overload release I: 0.8 – 1 x I<sub>n</sub> (factory setting 0.8 x I<sub>n</sub>)
- Adjustable short-circuit release I: 6 – 10 x I<sub>n</sub> (factory setting 6 x I<sub>n</sub>); except MC.-A40: 8 - 10 x I<sub>n</sub>
- Screw terminals as standard, lift terminals as option
- Breaking capacity 25 / 36 / 50 / 150 kA at 415 V 50/60 Hz
- Meets IEC/EN 60947-2
- Rated uninterrupted current = rated current
- For dimensions, see from page 684.

RATED CURRENT/ BREAKING CAPACITY	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD, RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				
<b>3-POLE (BASIC BREAKING CAPACITY) 25 kA</b>						
160 A/25 kA	125...160	960...1600	MC2B-A160	9004840261875		<b>MC216131</b>
200 A/25 kA	160...200	1200...2000	MC2B-A200	9004840261882		<b>MC220131</b>
250 A/25 kA	200...250	1500...2500	MC2B-A250	9004840261899		<b>MC225131</b>
300 A/25 kA	240...300	2000...2500	MC2B-A300	9004840551150		<b>MC230131</b>
<b>3-POLE (COMFORT BREAKING CAPACITY) 36 kA</b>						
160 A/36 kA	125...160	960...1600	MC2C-A160	9004840552225		<b>MC216431</b>
200 A/36 kA	160...200	1200...2000	MC2C-A200	9004840552232		<b>MC220431</b>
250 A/36 kA	200...250	1500...2500	MC2C-A250	9004840552249		<b>MC225431</b>
300 A/36 kA	240...300	2000...2500	MC2C-A300	9004840552256		<b>MC230431</b>
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
125 A/50 kA	100...125	750...1250	MC2N-A125	9004840261905		<b>MC212231</b>
160 A/50 kA	125...160	960...1600	MC2N-A160	9004840261912		<b>MC216231</b>
200 A/50 kA	160...200	1200...2000	MC2N-A200	9004840261929		<b>MC220231</b>
250 A/50 kA	200...250	1500...2500	MC2N-A250	9004840261936		<b>MC225231</b>
300 A/50 kA	240...300	2000...2500	MC2N-A300	9004840551167		MC230231
<b>3-POLE (HIGH BREAKING CAPACITY) 150 kA</b>						
20 A/150 kA	15...20	fix 350	MC2H-A20	9004840405057		MC202331
25 A/150 kA	20...25	fix 350	MC2H-A25	9004840405064		MC205331
32 A/150 kA	25...32	fix 350	MC2H-A32	9004840405040		MC232331
40 A/150 kA	32...40	320...400	MC2H-A40	9004840261943		MC240331
50 A/150 kA	40...50	300...500	MC2H-A50	9004840261950		MC250331
63 A/150 kA	50...63	380...630	MC2H-A63	9004840261967		<b>MC263331</b>
80 A/150 kA	63...80	480...800	MC2H-A80	9004840261974		MC280331
100 A/150 kA	80...100	600...1000	MC2H-A100	9004840261981		<b>MC210331</b>
125 A/150 kA	100...125	750...1250	MC2H-A125	9004840261998		MC212331
160 A/150 kA	125...160	960...1600	MC2H-A160	9004840262001		MC216331
200 A/150 kA	160...200	1200...2000	MC2H-A200	9004840262018		MC220331
250 A/150 kA	200...250	1500...2500	MC2H-A250	9004840262025		MC225331
300 A/150 kA	240...300	2000...2500	MC2H-A300	9004840551174		MC230331



## ■ CIRCUIT BREAKER 4-POLE UP TO 300 A WITH THERMAL MAGNETIC RELEASE TYPES MC2B-4-A, MC2N-4-A, MC2H-4-A



MC216141

### ■ SCHRACK-INFO

- For system and line protection
- Adjustable overload release  $I_r$ :  $0.8 - 1 \times I_n$  (factory setting  $0.8 \times I_n$ )
- Adjustable short-circuit release  $I_i$ :  $6 - 10 \times I_n$  (factory setting  $6 \times I_n$ ); except MC.-A40:  $8 - 10 \times I_n$
- Screw terminals as standard, lift terminals as option
- Breaking capacity 25 / 50 / 150 kA at 415 V 50/60 Hz
- Meets IEC/EN 60947-2
- Rated uninterrupted current = rated current
- Switches also available with reduced N-wire release
- For dimensions, see from page 684.

RATED CURRENT/ BREAKING CAPACITY	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD, RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				
<b>4-POLE (BASIC BREAKING CAPACITY) 25 kA</b>						
160 A/25 kA	125...160	960...1600	MC2B-4-A160	9004840385830		<a href="#">MC216141</a>
200 A/25 kA	160...200	1200...2000	MC2B-4-A200	9004840385847		<a href="#">MC220141</a>
250 A/25 kA	200...250	1500...2500	MC2B-4-A250	9004840385854		<a href="#">MC225141</a>
300 A/25 kA	240...300	2000...2500	MC2B-4-A300	9004840551181		MC230141
<b>4-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
125 A/50 kA	100...125	750...1250	MC2N-4-A125	9004840386103		MC212241*
160 A/50 kA	125...160	960...1600	MC2N-4-A160	9004840386110		<a href="#">MC216241*</a>
200 A/50 kA	160...200	1200...2000	MC2N-4-A200	9004840386127		<a href="#">MC220241*</a>
250 A/50 kA	200...250	1500...2500	MC2N-4-A250	9004840386134		<a href="#">MC225241*</a>
300 A/50 kA	240...300	2000...2500	MC2N-4-A300	9004840551198		MC230241*
<b>4-POLE (HIGH BREAKING CAPACITY) 150 kA</b>						
20 A/150 kA	15...20	fix 350	MC2H-4-A20	9004840405071		MC202341
25 A/150 kA	20...25	fix 350	MC2H-4-A25	9004840405088		MC205341
32 A/150 kA	25...32	fix 350	MC2H-4-A32	9004840405095		MC232341
40 A/150 kA	32...40	320...400	MC2H-4-A40	9004840385946		MC240341
50 A/150 kA	40...50	300...500	MC2H-4-A50	9004840385953		MC250341
63 A/150 kA	50...63	380...630	MC2H-4-A63	9004840385960		MC263341
80 A/150 kA	63...80	480...800	MC2H-4-A80	9004840385977		MC280341
100 A/150 kA	80...100	600...1000	MC2H-4-A100	9004840385892		MC210341
125 A/150 kA	100...125	750...1250	MC2H-4-A125	9004840385908		MC212341
160 A/150 kA	125...160	960...1600	MC2H-4-A160	9004840385915		MC216341
200 A/150 kA	160...200	1200...2000	MC2H-4-A200	9004840385922		MC220341
250 A/150 kA	200...250	1500...2500	MC2H-4-A250	9004840385939		MC225341
300 A/150 kA	240...300	2000...2500	MC2H-4-A300	9004840551204		MC230341

\* Switches also available with reduced N-conductor release (MC2...241R),  $I_r$  N-conductor =  $0.6 \times I_r$  external conductor



## MOTOR CONTACTOR, 3-POLE UP TO 200 A WITH THERMAL MAGNETIC RELEASE TYPES MC2B-M, MC2N-M



MC212236

### SCHRACK-INFO

- Adjustable overload release I: 0.8 – 1 x I<sub>n</sub> (factory setting 0.8 x I<sub>n</sub>); with phase failure sensitivity, tripping class 10 A (2s < T<sub>p</sub> ≤ 10s)
- Adjustable short-circuit release I: 8 – 14 x I<sub>n</sub> (factory setting 12 x I<sub>n</sub>);
- Terminal screws as standard, lift terminals as option
- Breaking capacity 25 / 50 kA at 415 V 50/60 Hz
- Specification acc. to IEC/EN 60947-4 and IEC/EN 60947-2
- Meet all requirements of utilisation category AC3 at 400 VAC
- For dimensions, see from page 684.

NOMINAL CURRENT/ BREAKING CAPACITY/ POWER/CURRENT	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				
<b>3-POLE (BASIC BREAKING CAPACITY) 25 kA</b>						
125 A/25 kA/55 kW/99 A	100...125	1000...1750	MC2B-M125	9004840385861		MC212136
160 A/25 kA/75 kW/134 A	125...160	1280...2240	MC2B-M160	9004840385878		<b>MC216136</b>
200 A/25 kA/110 kW/196 A	160...200	1600...2800	MC2B-M200	9004840385885		<b>MC220136</b>
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
125 A/50 kA/55 kW/99 A	100...125	1000...1750	MC2N-M125	9004840386172		MC212236
160 A/50 kA/75 kW/134 A	125...160	1280...2240	MC2N-M160	9004840386189		MC216236
200 A/50 kA/110 kW/196 A	160...200	1600...2800	MC2N-M200	9004840386196		MC220236



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## ■ CIRCUIT BREAKER UP TO 250 A 3-/4 POLE WITH DELAYED ELECTRONIC RELEASE TYPES MC2N-VE, MC2H-VE, MC2N-4-VE, MC2H-4-VE



MC216233

### ■ SCHRACK-INFO

- System and line protection
- Selective and generator protection
- 3- and 4-pole version
- RMS value measurement and "thermal memory"
- Adjustable overload release  $I_r$ : 0.5 – 1 x  $I_n$  (factory setting 0.8 x  $I_n$ )
- Adjustable time delay setting to overcome current peaks  $t_r$ : 2 – 20 s at 6 x  $I_r$  as well as infinity (factory setting 10 s)
- Adjustable delayed short-circuit releases  $I_{sd}$ : 2 – 10 x  $I_r$  (factory setting 6 x  $I_r$ )
- Adjustable time delay  $t_{sd}$ : Levels: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms (factory setting 0)
- Non-delayed short-circuit release ( $I_l$ : fixed 12 x  $I_n$ )
- Screw terminals as standard, lift terminals as option
- Specifications acc. to IEC/EN 60947-2
- Rated uninterrupted current = rated current
- Switches also available with reduced N-wire release
- For dimensions, see from page 684.

RATED CURRENT/ BREAKING CAPACITY	OVERLOAD RELEASE (A)	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
		SHORT-CIRCUIT RELEASE NON-DELAYED (A)	DELAYED (A)				
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>							
100 A/50 kA	50...100	1200	100...1000	MC2N-VE100	9004840262094		<b>MC210233</b>
160 A/50 kA	80...160	1920	160...1600	MC2N-VE160	9004840262100		<b>MC216233</b>
250 A/50 kA	125...250	3000	250...2500	MC2N-VE250	9004840262117		<b>MC225233</b>
<b>3-POLE (HIGH BREAKING CAPACITY) 150 kA</b>							
100 A/150 kA	50...100	1200	100...1000	MC2H-VE100	9004840262124		MC210333
160 A/150 kA	80...160	1920	160...1600	MC2H-VE160	9004840262131		MC216333
250 A/150 kA	125...250	3000	250...2500	MC2H-VE250	9004840262148		MC225333
<b>4-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>							
100 A/50 kA	50...100	1200	100...1000	MC2N-4-VE100	9004840386141		<b>MC210243*</b>
160 A/50 kA	80...160	1920	160...1600	MC2N-4-VE160	9004840386158		<b>MC216243*</b>
250 A/50 kA	125...250	3000	250...2500	MC2N-4-VE250	9004840386165		<b>MC225243*</b>
<b>4-POLE (HIGH BREAKING CAPACITY) 150 kA</b>							
100 A/150 kA	50...100	1200	100...1000	MC2H-4-VE100	9004840385984		MC210343
160 A/150 kA	80...160	1920	160...1600	MC2H-4-VE160	9004840385991		MC216343
250 A/150 kA	125...250	3000	250...2500	MC2H-4-VE250	9004840386004		MC225343

\* Switch also available with reduced N-conductor release (MC2...243R),  $I_r$  N-conductor = 0.6 x  $I_n$  external conductor




## MOTOR PROTECTION, 3 POLE UP TO 220 A WITH ELECTRONIC RELEASE TYPES MC2N-ME, MC2H-ME



MC290237

### SCHRACK-INFO

- Adjustable overload release  $I_r$ :  $0.5 - 1 \times I_n$  (factory setting  $0.8 \times I_n$ )
- Adjustable short-circuit release  $I_s$ :  $2 - 14 \times I_n$  (factory setting  $12 \times I_n$ )
- Adjustable time delay setting to overcome current peaks  $t$ :  $2 - 20$  s at  $6 \times I_r$ , as well as infinity (without overload release), (factory setting 10 s)
- RMS value measurement and "thermal memory"
- Phase failure sensitivity
- Screw terminals as standard, lift terminals as option
- Specification acc. to IEC/EN 60947-4 and IEC/EN 60947-2
- Meet all requirements of utilisation category AC3 at 400 VAC
- For dimensions, see from page 684.

NOMINAL CURRENT/ BREAKING CAPACITY/ POWER/CURRENT	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
90 A/50 kA/45 kW/81 A	45...90	90...1260	MC2N-ME90	9004840386226		MC290237
140 A/50 kA/75 kW/134 A	70...140	140...1960	MC2N-ME140	9004840386202		MC214237
220 A/50 kA/110 kW/196 A	110...220	220...3080	MC2N-ME220	9004840386219		<b>MC222237</b>
<b>3-POLE (HIGH BREAKING CAPACITY) 100 kA</b>						
90 A/100 kA/45 kW/81 A	45...90	90...1260	MC2H-ME90	9004840386035		MC290337
140 A/100 kA/75 kW/134 A	70...140	140...1960	MC2H-ME140	9004840386011		MC214337
220 A/100 kA/110 kW/196 A	110...220	220...3080	MC2H-ME220	9004840386028		MC222337



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## LOAD-BREAK SWITCH UP TO 250 A TYPES MC2-PN, MC2-PN-4, MC2-N, MC2-N-4



MC216034

### SCHRACK-INFO

- 3- and 4-pole versions
- Rated uninterrupted current up to 250 A
- MC2-PN two switch positions 0/I, no remote release
- MC2-N, with trip positions "0", "+"; "I", with remote release, can be equipped with undervoltage/shunt release and trip-indicating auxiliary contact
- Screw terminals as standard, lift terminals as option
- Can be combined with remote operator MC-XR
- Properties of main switches including positive drive according to IEC/EN 60204 and VDE 0113
- Isolating characteristics according to IEC/EN 60947-3 and VDE 0660, protection against accidental contact according to VDE 0160 Part 100
- Specifications acc. to IEC/EN 60947-2
- Rated uninterrupted current = rated current
- Rated short-circuit breaking capacity:  $I_{cm}$  5.5 kA
- Rated short-time current protection:  $I_{cw}$  3.5 kA
- For dimensions, see from page 684.

RATED UNINTERRUPTED CURRENT	MAX. BACK-UP FUSE (gL) FOR LOAD-BREAK SWITCHES (AgL)	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>3-POLE, NO REMOTE RELEASE POSSIBLE</b>					
160 A	250	MC2-PN-160	9004840386271		<b>MC216034</b>
200 A	250	MC2-PN-200	9004840386288		<b>MC220034</b>
250 A	250	MC2-PN-250	9004840386295		<b>MC225034</b>
<b>4-POLE, NO REMOTE RELEASE POSSIBLE</b>					
160 A	250	MC2-PN-4-160	9004840386301		MC216044
200 A	250	MC2-PN-4-200	9004840386318		MC220044
250 A	250	MC2-PN-4-250	9004840386325		<b>MC225044</b>
<b>3-POLE, REMOTE RELEASE POSSIBLE</b>					
160 A	250	MC2-N-160	9004840386042		<b>MC216035</b>
200 A	250	MC2-N-200	9004840386059		<b>MC220035</b>
250 A	250	MC2-N-250	9004840386066		<b>MC225035</b>
<b>4-POLE, REMOTE RELEASE POSSIBLE</b>					
160 A	250	MC2-N-4-160	9004840386073		<b>MC216045</b>
200 A	250	MC2-N-4-200	9004840386080		MC220045
250 A	250	MC2-N-4-250	9004840386097		<b>MC225045</b>



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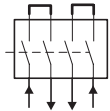
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## LOAD-BREAK SWITCHES UP TO 200 A/1000 V TYPES MC2-N-4-...-S1-DC



MC216045DC



### SCHRACK-INFO

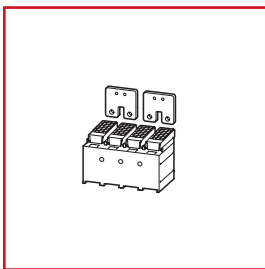
- 4-pole version / 2-pole switching
- Rated uninterrupted current up to 200 A
- With trip positions "0", "+", "I", with remote release, can be equipped with undervoltage or shunt release and trip-indicating auxiliary contact
- Terminal screws as standard, jumper kits\* optional
- Can be combined with remote operator MC-XR
- Properties of main switches including positive drive according to IEC/EN 60204 and VDE 0113
- Isolating characteristics according to IEC/EN 60947 and VDE 0660, protection against accidental contact according to VDE 0160 Part 100
- Specifications acc. to IEC/EN 60947-3
- Rated uninterrupted current = rated current
- Rated short-time current protection:  $I_{cw}$  3 kA
- Not available with plug-in technology
- For dimensions, see from page 684.

### NOTE

- MC-S1-DC ... cannot be combined with withdrawable unit and/or rear connection
- If  $U_i > 1000$  V DC, cannot be combined with early-make auxiliary contacts MC ... XHIV and box terminal MC.-4-XKC
- Connection technology MC...-S1-DC: 2-pole switching requires series connection of 2 poles each  
See accessories of jumper kits MC.-4-XKV..

RATED UNINTERRUPTED CURRENT AT DC 22-B/65 °C*	MAX. BACK-UP FUSE (gR)	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>4-POLE, REMOTE RELEASE POSSIBLE</b>					
160 A	200	MC2-N-4-160-S1-DC	9004840626834		MC216045DC
200 A	200	MC2-N-4-200-S1-DC	9004840626841		MC220045DC

## JUMPER KIT FOR TYPE MC2.....-S1-DC / 1000V DC



MC290602

### SCHRACK-INFO

- Type contains parts for upper switch side for 4-pole switches
- MC2-N...-S1-DC that are used with 2 poles for DC
- Each jumper switches 2 current paths in series
- Supply and outlet at bottom or top selectable
- For dimensions, see from page 684.

RATED UNINTERRUPTED CURRENT A/°C	DEGREE OF PROTECTION	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
200 A/65 °C, 160 A/70 °C	IP2x	MC2-4-XKV2P	9004840626919		MC290602



## RESIDUAL-CURRENT RELEASE UP TO 250 A TYPES MC2-4-XFI, MC2-4-XFIA






MC296720

### SCHRACK-INFO

- Direct mounting on 4-pole circuit breaker MC-2 and load-break switch MC2-N
- Type MC2-4-XFI pulse current sensitive accord. to core-balance principle
- Specifications acc. to IEC/EN 60947-2
- Bottom mounting up to 250 A
- Not suitable for MC2-N-...DC
- For dimensions, see from page 684.

### TECHNICAL DATA

- Independent of mains and auxiliary voltage,  $U_e = 280 \text{ V} - 690 \text{ V } 50/60 \text{ Hz}$
- Auxiliary contact: 1 NO, 1 NC reset via Reset function
- Type XFI(A)30: Rated residual current  $I_{\Delta n} = 0.03 \text{ A}$ , suitable for personal protection according to IEC/EN 60947-2 Annex B and VDE 664 Parts 2 and 3
- Type XFIA: Rated residual current  $I_{\Delta n} = 0.1-0.3-1 \text{ A}$  / XFI = 0.1-0.3-1-3 A, time delay  $t_v = 60-150-300-450 \text{ ms}$ , AC/DC current-sensitive accord. to core-balance principle (0–100 kHz)
- Internal supply voltage  $U_e = 50-400 \text{ V}$
- Observe response threshold depending on frequency!

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>4-POLE BOTTOM MOUNTING PULSE-CURRENT SENSITIVE</b> 				
FI personal protection 30 mA $I_{\Delta n}$ for MC2-4	MC2-4-XFI30	9004840523041		MC296719V2
FI 0.1-3 A $I_{\Delta n}$ for MC2-4	MC2-4-XFI	9004840523058		<b>MC296720V2</b>
<b>4-POLE BOTTOM MOUNTING AC/DC SENSITIVE</b> 				
FI personal protection 30 mA $I_{\Delta n}$ for MC2-4	MC2-4-XFIA30	9004840523072		MC292345V2
FI 0.1-1 A $I_{\Delta n}$ for MC2-4	MC2-4-XFIA	9004840523089		MC292346V2

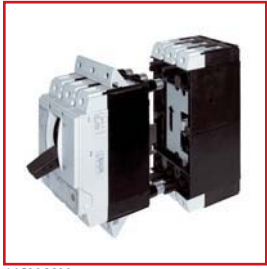


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## SOCKET UND PLUG-IN MODULE FOR MC2




MC296699

### SCHRACK-INFO

- 3- and 4-pole versions
- For circuit breaker MC2 and load-break switch MC2-N
- **Plug-in module only available in combination with switch**
- Socket can be ordered separately and pre-assembled
- Order control circuit plug unit separately
- Not suitable for MC2-N...DC
- Cannot be used in combination with MC2-4-XFI (residual current release relay)
- For dimensions, see from page 684.

### TECHNICAL DATA

- $I_n$  max. at 40 °C:  
230 A MC2  
250 A MC2-E (electronic release)

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>SOCKET</b>				
Socket, 3-pole	MC2-XSVS	9004840263640		<b>MC296699</b>
Socket, 4-pole	MC2-4-XSVS	9004840387421		MC296700

### PLUG-IN MODULE

Plug-in module, 3-pole (supplied with switch, add an S to end of switch part number)

Plug-in module, 4-pole (supplied with switch, add an S to end of switch part number)

### ACCESSORIES FOR PLUG-IN STYLE ASSEMBLY MC2/MC2-N

Control circuit plug unit for auxiliary contact, undervoltage-/shunt release	MC1/2-XSVHI	9004840263664		MC296705
Control circuit plug unit for remote operator	MC2-XSVR	9004840263671		MC296706



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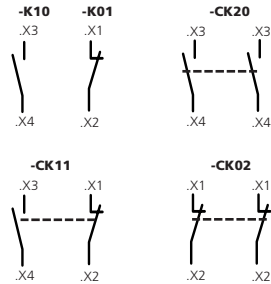
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## STANDARD AUXILIARY CONTACT / TRIP-INDICATING AUXILIARY CONTACT TYPE M22



MM216378



### SCHRACK INFO

- Switches with the main contacts, used for indicating and interlocking tasks
- General trip indication “+” with trip due to voltage release, overload release or short-circuit-release

### TECHNICAL DATA

Breaking capacity: AC15: 4 A / 230 VAC  
 DC13: 3 A / 24 VDC  
 M22-K: 0.3 A / 220 VDC  
 M22-CK: 0.2 A / 220 VDC

### TIPS & TRICKS

The trip-indicating auxiliary contact is the same contact as the standard auxiliary contact. It derives its function from its place of installation (left is the alarm contact).

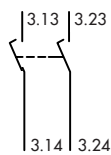
Maximum component installation MC2 with auxiliary contact: 2 x standard auxiliary contact (HIN) M22-K.. or M22CK..  
 + 1 x trip-indicating auxiliary contact (HIA) M22-K.. or M22-CK..

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 NO contact with screw terminals	M22-K10	9004840176254		<a href="#">MM216376</a>
1 NC contact with screw terminals	M22-K01	9004840176261		<a href="#">MM216378</a>
2 NO contacts with spring terminals	M22-CK20	9004840547047		<a href="#">MM107898</a>
2 NC contacts with spring terminals	M22-CK02	9004840547054		<a href="#">MM107899</a>
1 NO contact + 1 NC contact with spring terminals	M22-CK11	9004840625783		<a href="#">MM107940</a>

## EARLY-MAKE AUXILIARY CONTACT TYPE MC2-XHIV



MC299430



### SCHRACK INFO

- For interlock- and load-shedding circuits as well as for early make of undervoltage release in main switch/Emergency-stop applications.

### TECHNICAL DATA

- Early-make during switch on and off (manual switch): approx. 20 ms
- Not in connection with undervoltage release MC2-XU... or shunt release MC2-XA...
- Breaking capacity: AC15: 4 A / 230 VAC  
 DC13: 3 A / 24 VDC

### TIPS & TRICKS

Maximum component installation MC2:  
 1 x early-make auxiliary contact

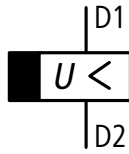
DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Early-make auxiliary switch, 2 NO	MC23-XHIV	9004840262285		<a href="#">MC299430</a>



## UNDervOLTAGE RELEASE TYPES MC2-XU



MC299499



### SCHRACK INFO

- Non-delayed switching of circuit breaker MC/ load-break switch MC-N when the control voltage drops below 35% – 70% Us.
- For use in emergency stop devices in connection with EMERGENCY STOP button
- Installed in breaker
- Without auxiliary contact
- Other voltage variants available upon request.

### TIPS & TRICKS

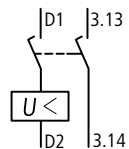
When the undervoltage release is de-energised, accidental contact with the main contacts of the switch is safely prevented during attempts to switch on. Undervoltage release cannot be installed simultaneously with a shunt release or early-make auxiliary contact MC2-XHIV.

VOLTAGE	VERSION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
24 VAC	Screw terminals	MC2/3-XU24AC	9004840262360		<b>MC299491</b>
24 VDC	Screw terminals	MC2/3-XU24DC	9004840262407		<b>MC299509</b>
208 - 240 VAC	Screw terminals	MC2/3-XU208-240 AC	9004840262384		<b>MC299499</b>
380 - 440 VAC	Screw terminals	MC2/3-XU380-440 AC	9004840262391		MC299501

## UNDervOLTAGE RELEASE WITH TWO EARLY-MAKE AUXILIARY CONTACTS TYPES MC2-XUHIV



MC299591



### SCHRACK INFO

- With 2 early-make auxiliary contacts
- For early-make of the undervoltage release in main switch applications and for interlock- and load-shedding circuits
- Installed in breaker
- Other voltage variants available upon request.

### TIPS & TRICKS

When the undervoltage release is de-energised, accidental contact with the main contacts of the switch is safely prevented during attempts to switch on. Early-make of auxiliary contacts during switch on and off (20 ms). Undervoltage release cannot be installed simultaneously with a shunt release or early-make auxiliary contact MC2-XHIV.

VOLTAGE	VERSION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
208 - 240 VAC	Screw terminals	MC2/3-XUHIV208-240 AC	9004840262452		<b>MC299591</b>
380 - 440 VAC	Screw terminals	MC2/3-XUHIV380-440 AC	9004840262469		MC299594



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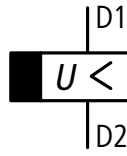
## UNDervOLTAGE RELEASE, OFF-DELAY TYPES MC-UVU, MC-XUV



MC190154



MC299527



### SCHRACK INFO

- Voltage drops of less than 16 s do not cause MC circuit breakers or MC-N load-break switches to trip..
- Voltage range:
  - 220-240 VAC 50/60 HZ
  - 380-440 VAC 50/60 HZ
  - 480-550 VAC 50/60 HZ
  - 24 VDC / AC
- For dimensions, see from page 684.

### TECHNICAL DATA

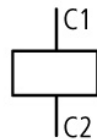
- Time-delay adjustable between 70 ms – 4 s
- With additional external capacitor:
  - 30,000 µF ≥ 35 V up to 8 s
  - 90,000 µF ≥ 35 V up to 16 s
- Special release MC2/3-XUV is required.
- Cannot be installed simultaneously with early-make auxiliary contact MC2-XHIV... or shunt release MC2-XA....
- Time-delay device for separate assembly (Mounting: DIN rail or screws).
- Use control transformer for other operating voltages.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Time delay device	MC-UVU	9004840520392		<b>MC190154</b>
Special undervoltage release for time-delay device UVU	MC2/3-XUV	9004840520613		<b>MC299527</b>

## SHUNT RELEASE TYPES MC2-XA



MC299754



### SCHRACK INFO

- Without auxiliary contact
- Switches are tripped by a voltage pulse or by applying uninterrupted voltage
- Other voltage variants available upon request.

### TECHNICAL DATA

When the shunt release is de-energised, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Shunt release cannot be installed simultaneously with undervoltage release or early-make auxiliary contact MC1-XHIV.

VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
24 VAC/DC	MC2/3-XA24AC/DC	9004840262506		<b>MC299754</b>
110 - 130 VAC/DC	MC2/3-XA110-130 AC/DC	9004840262513		MC299760
208 - 250 VAC/DC	MC2/3-XA208-250 AC/DC	9004840262520		<b>MC299763</b>

## REMOTE OPERATOR FOR MC2



MC299832

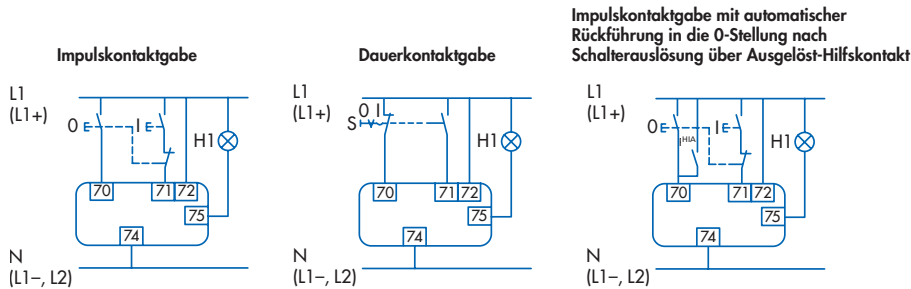
### SCHRACK INFO

- Remote operator can be combined with circuit breaker MC and load-break switch MC-N, but not with load-break switch MC-PN.
- Do not switch off switch simultaneously via remote control and release via undervoltage/shunt release.
- 1 auxiliary contact MM-K(CK).. must be installed in circuit breaker (included with remote operator)
- For dimensions, see from page 684.

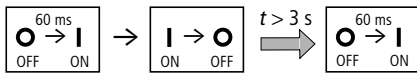
### TECHNICAL DATA

- On/Off switching and reset by means of permanent or pulse contact
- Types – XR: can be synchronised and locked
- Types – XRD: cannot be synchronised, cannot be locked
- Switching time, ON:  $\leq 60$  ms
- Local switching by hand possible
- Pause between Off and On: 3 s. On command is ignored
- Function of terminal 75: Ready for ON signal, when the cover is closed and not locked.  
AC-15: 2 A / 400 V  
DC-13: 0.2 A / 220 V

### CIRCUIT DIAGRAMS

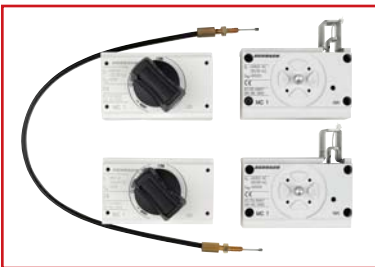


### SWITCHING CYCLE – XR



VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
208 - 240 V AC can be synchronised	MC2-XR208-240 AC	9004840262605		<b>MC299832</b>
208 - 240 V AC cannot be synchronised	MC2-XRD208-240 AC	9004840552218		MC299833
Additional cover for 4-pole switches	MC2-XAVPR	9004840386899		<b>MC296677</b>

## MECHANICAL INTERLOCK FOR (DOOR COUPLING) ROTARY HANDLES FOR MC2



MC291582 + MC191585

### SCHRACK INFO

- **Rotary handle on switch or door coupling rotary handle additionally required.**
- Cannot be combined with door sealing frame
- At least 2 interlocking modules are required to construct a mechanical interlock.
- Order Bowden cable separately
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Mechanical interlock	MC2-XMV	9004840403237		<b>MC291582</b>
Bowden cable 225 mm	MC XBZ225	9004840403206		<b>MC191585</b>
Bowden cable 600 mm	MC XBZ600	9004840403213		<b>MC191586</b>
Bowden cable 1000 mm	MC XBZ600	9004840403220		MC191587

## MECHANICAL INTERLOCK FOR REMOTE OPERATOR MC2-XR



MC294543




MC294543 - MOUNTED

### SCHRACK INFO

- For 2 switches of the same or next frame size side by side
- Side-by-side mounting
- Mounted on top of each other, long version
- Contains parts for 2 switches
- Remote operators also required
- Not suitable for remote operators – XRD
- For dimensions and maximum switch clearances, see from page 684.

### NOTE

Cannot be combined with rotary handles, door coupling rotary handles and early-make auxiliary contacts.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Mechanical interlock for MC2	MC2-XMVR	9004840520286		<b>MC294543</b>
Mechanical interlock for MC2 long version	MC2-XMVRL	9004840520996		MC294548
Mechanical interlock for MC2/3	MC2/3-XMVR	9004840520736		MC294544
Mechanical interlock for MC2/3 long version	MC2/3-XMVRL	9004840520804		MC294549

## ROTARY HANDLES DIRECTLY ON SWITCH FOR MC2



MC290127

### SCHRACK INFO

- Complete with rotary drive
- Can also be combined with door sealing frame
- For dimensions, see from page 684.

### TECHNICAL DATA

Available in the following versions:

#### Type MC.-XDV

Lockable in position "0" (up to three padlocks), black/grey

#### Type MC.-XDVR

Lockable in position "0" (up to three padlocks), EMERGENCY STOP red/yellow

#### Type MC.-XDTV



lockable in position "0" on handle, modification also available in position "1", black/grey

#### Type MC.-XDTV

Lockable in position "0", EMERGENCY STOP red/yellow

Version with door interlock type XDTV, XDTV:

- Door sealing frame supplied with door interlock
- Rotary handle can be rotated 90° for switches mounted horizontally
- In the ON position, can be defeated from the outside using a 1 mm pin
- Cannot be defeated in the locked OFF and ON positions
- Door can be opened in OFF
- Can only be switched on when door closed

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rotary handle for MC2 lockable, black/grey	MC2-XDV	9004840262735		<b>MC290127</b>
Rotary handle for MC2 lockable, Emergency Stop, red/yellow	MC2-XDVR	9004840262780		<b>MC290137</b>
Rotary handle for MC2 with door interlock, lockable, black/grey	MC2-XDTV	9004840262766		MC290133
Rotary handle for MC2 with door interlock, lockable, Emergency Stop, red/yellow	MC2-XDTV	9004840262810		MC290144

## DOOR COUPLING ROTARY HANDLES UND MAIN SWITCH KITS FOR MC2



MC290168 - Rotary drive



MC290168 - Coupling part



MC290168 - Rotary handle

### SCHRACK INFO

- Complete including rotary drive and coupling parts
- Degree of protection IP66
- Rotary handle can be rotated 90° for switches mounted horizontally
- Cannot be defeated in the locked OFF and ON positions
- Can be modified when in the unlocked ON position, can be defeated from the outside with a screwdriver
- Door can be opened in OFF
- External warning plate/additional plate can be clipped on
- For dimensions, see from page 684.

### NOTE

- Order extension shaft separately!

### TECHNICAL DATA

Available in the following versions:

#### Type MC.-XTVD

Lockable in position "0" on handle, with up to three padlocks, with door interlock, black/grey

#### Type MC.-XTVDV

Lockable in position "0" on handle and switch, with up to three padlocks, with door interlock, black/grey

#### Type MC.-XTVDVR

Lockable in position "0" on handle and switch with up to three padlocks, with door interlock, EMERGENCY STOP red/yellow

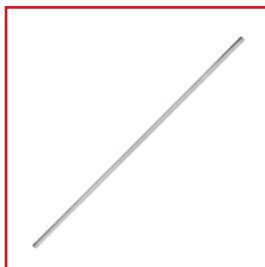
Main switch kit consisting of:

- Door coupling rotary handle + rotary drive XTVD/XTVDV
- Extension shaft XV4
- External warning plate
- Lightning arrow

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>DOOR COUPLING ROTARY HANDLES</b>				
For MC2 with door interlock, lockable, black/grey	MC2-XTVD	9004840262889		<b>MC290168</b>
For MC2 with door interlock, lockable, "0", "1", black/grey	MC2-XTVDV	9004840262919		<b>MC290174</b>
For MC2 with door interlock, lockable, Emergency Stop, red/yellow	MC2-XTVDVR	9004840262940		<b>MC290180</b>
<b>MAIN SWITCH KITS</b>				
For MC2 lockable, black/grey	MC2-XHB	9004840263572		MC296627
For MC2 lockable, Emergency Stop, red/yellow	MC2-XHBR	9004840263602		MC296633



## EXTENSION SHAFT FOR MC2



MC191232

### SCHRACK INFO

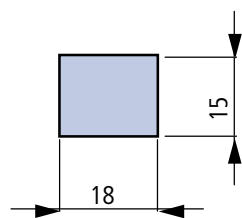
- For maximum cabinet depths of 400 or 600 mm
- Can be cut to required length
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Extension shaft for MC2 max. 400 mm	MC1/2-XV4	9004840263053	9004840263053	<b>MC191232</b>
Extension shaft for MC2 max. 600 mm	MC1/2-XV6	9004840262964	9004840262964	<b>MC190191</b>

## BOX TERMINALS FOR MC2



MC292240



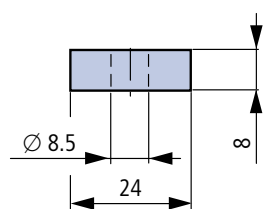
Max. opening of box terminal

### SCHRACK INFO

- Conversion kit for switches with screw connection
- Contains parts for one switch side
- Installed within the switch housing
- Use cover plate MC2-XKSA
- Terminal capacities:  
Cu wires 1 x (4 to 185 mm<sup>2</sup>)  
Cu wires 2 x (4 to 70 mm<sup>2</sup>)
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Box terminal up to 160 A (3 pcs. included) for MC2	MC2-160-XKC	9004840263077		<b>MC292240</b>
Box terminal up to 250 A (3 pcs. included) for MC2	MC2-250-XKC	9004840263084		<b>MC292244</b>
Box terminal up to 160 A (4 pcs. included) for MC2-4	MC2-4-160-XKC	9004840387063		<b>MC296755</b>
Box terminal up to 250 A (4 pcs. included) for MC2-4	MC2-4-250-XKC	9004840387070		<b>MC296756</b>

## SCREW CONNECTION FOR MC2



Max. Dimension of the connecting bars for rail connection

### SCHRACK INFO

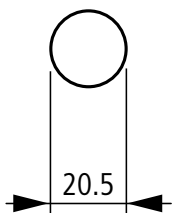
- Standard connection for all MC2, MC2-PN and MC2-N switches
- Conversion kit if switch was equipped with box terminal
- Installed within the switch housing
- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Terminal capacities:  
Cu cable lugs 1 x (4 to 185 mm<sup>2</sup>), 2 x (4 to 70 mm<sup>2</sup>)  
Al cable lugs 1 x (10 to 50 mm<sup>2</sup>), 2 x (10 to 50 mm<sup>2</sup>)
- Use special cable lugs MC2 XKS...

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Screw terminal , 3-pole for MC2	MC2-XKS	9004840387087		MC290030
Screw terminal , 4-pole for MC2-4	MC2-4-XKS	9004840387094		MC296750

## TUNNEL TERMINAL FOR MC2



MC196730



### SCHRACK INFO

- Contains parts for one switch side, top or bottom
- Standard with control circuit terminal for 1 x (0.75 to 2.5 mm<sup>2</sup>)  
2 x (0.75 to 1.5 mm<sup>2</sup>)
- Terminal capacities: Cu wires, Al wires 1 x (16 to 185 mm<sup>2</sup>\*)
- Installation outside switch housing
- For dimensions, see from page 684.

### TECHNICAL DATA

- For copper and aluminium cables, depending cable manufacturer, up to 240 mm<sup>2</sup>\*
- Including cover
- Stranded round conductor / stranded sector-shaped conductor

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Tunnel terminal 185 mm <sup>2</sup> , 3 pcs. included, for MC2	MC2-X kA	9004840373462		<b>MC291457</b>
Tunnel terminal 185 mm <sup>2</sup> , 4-pole, 4 pcs. included, for MC2-4	MC2-4-X kA	9004840387209		<b>MC291458</b>

## REAR CONNECTION FOR MC2



MC296765

### SCHRACK INFO

- Contains parts for one switch side, top or bottom
- Terminal capacities:  
Cu cable lugs 1 x (4 to 185 mm<sup>2</sup>), 2 x (4 to 70 mm<sup>2</sup>)  
Al cable lugs 1 x (10 to 50 mm<sup>2</sup>), 2 x (10 to 50 mm<sup>2</sup>)
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rear connection, 3-pole MC2	MC2-XKR	9004840263770		<b>MC296765</b>
Rear connection, 4-pole MC2-4	MC2-4-XKR	9004840387100		MC296768

## CONTROL CIRCUIT TERMINAL FOR MC2



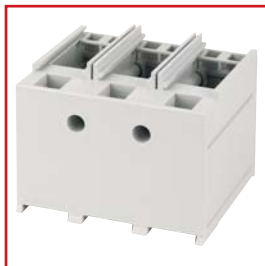
MC196739

### SCHRACK INFO

- Contains parts for two terminals located at top or bottom for 3/4-pole switches
- Included with tunnel terminal
- Degree of protection IP1X
- Terminal capacities:  
Screw terminal 1 x (0.75 to 2.5 mm<sup>2</sup>), 2 x (0.75 to 1.5 mm<sup>2</sup>)
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Control circuit connection for box terminal MC2	MC2-XSTK	9004840263893		<b>MC196739</b>
Control circuit connection for screw terminal MC2	MC2-XSTS	9004840262834		<b>MC290156</b>



## ■ TERMINAL COVER FOR MC2



MC290038

### ■ SCHRACK INFO

- Protection against accidental contact when cable lugs/rails are connected or tunnel terminals are used
- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Degree of protection IP4X front, side and rear, IP1X on the connection side when using insulated conductor material
- Cover plate already comes with tunnel terminals
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Terminal cover, 3-pole for MC2	MC-XKSA	9004840262643		<b>MC290038</b>
Terminal cover, 4-pole for MC2-4	MC2-4-XKSA	9004840387117		<b>MC296770</b>





## ■ CABLE LUG FOR MC2



MC299776

### ■ SCHRACK INFO



- Special cable lug in slimline design
- The cable lugs must be insulated when using without a cover plate.
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Cable lug 95 mm <sup>2</sup>	MC2-XKS95	9004840263855		<b>MC299775</b>
Cable lug 120 mm <sup>2</sup>	MC2-XKS120	9004840263862		<b>MC299776</b>
Cable lug 150 mm <sup>2</sup>	MC2-XKS150	9004840263879		<b>MC299777</b>
Cable lug 185 mm <sup>2</sup>	MC2-XKS185	9004840263787		<b>MC290032</b>

## ■ CONNECTION COVER, KNOCKOUT FOR BOX TERMINAL

### ■ SCHRACK INFO

- Contains parts for one switch side, top or bottom
- For 3- or 4-pole switches
- Connection cover can be knocked out
- To increase touch protection for box terminal (simplified finger protection)

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Connection cover, knockout, 3-pole for MC2	MC2-XKSFA	9004840520675		<b>MC294640</b>
Connection cover, knockout, 4-pole for MC2	MC2-4-XKSFA	9004840520668		<b>MC294641</b>



## IP2X FINGER PROTECTION DIRECT-MOUNTED ON MC2 SWITCHES





MC296743



MC296777

### SCHRACK INFO

- Increases the protection against accidental contact to IP2X
- Protection when reaching into the cable connection area when cables are connected in box terminal
- For 2 conductors, minimum cross-section is 25 mm<sup>2</sup>
- MC2-XIPK and MC2-4-XIPK for direct mounting on switches
- MC2-XIPA and MC2-4-XIPA only in connection with cover plate MC2(-4)-XKSA
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>FOR SWITCHES WITH BOX TERMINAL</b>				
Finger protection, 3-pole for MC2	MC2-XIPK	9004840387124		<b>MC296773</b>
Finger protection, 4-pole for MC2-4	MC2-4-XIPK	9004840387155		MC296774
<b>FOR SWITCHES WITH TERMINAL COVER</b>				
Finger protection, 3-pole for MC2	MC2-XIPA	9004840387162		<b>MC296777</b>
Finger protection, 4-pole for MC2-4	MC2-4-XIPA	9004840387179		MC296778

## INSULATED ENCLOSURE XCI



MC291524

### SCHRACK INFO

- Only for switches with box terminals for direct cable connection
- With door coupling rotary handle
- Complete including all necessary functional parts
- Degree of protection IP65
- Comes with gland plates
- For dimensions, see from page 684.

### TECHNICAL DATA

Enclosure suitable for installation of circuit-breakers and load-break switches for separate mounting with top and bottom cable entry. Including fixing straps for wall mounting.

Short circuit protection at 415 V 50/60 Hz up to 10 kA.

Not in combination with remote operator, plug-in or withdrawable unit.

Additional insulated terminal for 4th or 5th pole must be ordered separately.

Available in the following versions:

#### Standard, black/grey

Lockable in position "0" on handle with up to 3 padlocks. Additionally with cover interlock.

#### For EMERGENCY STOP, red/yellow

Lockable on handle and switch with up to 3 padlocks in position "0" on handle. Additionally with cover interlock and lockable at switch in position "0".

DESCRIPTION	MAX. RATED UNINTERRUPTED CURRENT	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>STANDARD, BLACK/GREY</b>					
For MC2 and MC2-4	≤ 200 A	MC2-XCI43-TVDR	9004840520682		MC291524
For MC2 and MC2-4	≤ 250 A	MC2-XCI45-TVDR	9004840520729		MC290418
<b>FOR EMERGENCY STOP, RED/YELLOW</b>					
For MC2 and MC2-4	≤ 250 A	MC2-XCI45-TVDR	9004840520712		MC299356



**Order no. blue:** on stock, usually ready for delivery on the day of order!

## COMPONENT ADAPTERS FOR CIRCUIT-BREAKERS AND LOAD-BREAK SWITCHES FOR 60 mm BUSBAR SYSTEM MC2



MC291400



MC291666

### SCHRACK INFO

- For mounting on flat copper rails 12 x 5 mm to 30 x 10 mm
- Double T and triple T profile
- Mounted via terminal -, screw fixing
- Rated operational voltage Ue: 690 V
- Cover also required (MC2-XKR4)
- For dimensions, see from page 684.

### TECHNICAL DATA

MC 2 up to 250 A:

- Top or bottom connection to system as required
- Cover plate MC2-XKR4 required

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
60 mm busbar adapter 250 A, 3-pole	32140	9004840413700		<b>MC291400</b>
Cover for component adapter, 3-pole	MC2-XKR4	9004840523065		<b>MC291666V2</b>

## DOOR SEALING FRAME FOR MC2



MC290197

### SCHRACK INFO

- For toggle levers, rotary handles with rotary drive and remote operator
- Degree of protection IP40
- For rectangular cut-out on doors and enclosures with material thicknesses of 1.5 – 5 mm
- External warning plate / additional plate (optional) clipped
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Door sealing frame for MC2	MC2-XBR	9004840262995		<b>MC290197</b>



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## TOGGLE LEVER LOCKING DEVICE FOR MC2



MC290201

### SCHRACK INFO

- Off position lockable with up to 3 padlocks (shackle thickness 4 – 8 mm)
- Cannot be combined with door sealing frame
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Toggle lever locking device for MC2	MC2/3-XKAV	9004840521009		MC290201

## SPACERS FOR MC2



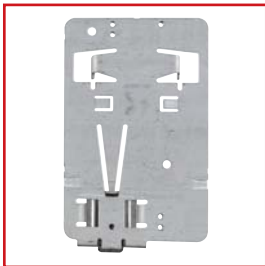
MC190203

### SCHRACK INFO

- Enables fast and low-priced adjustment of various frame sizes with/without rotary handle or remote operator at same front depth
- Grid depth 17.5 mm, thread M4
- One set contains 4 x spacers
- Maximum component installation 4 pcs. per fastening screw
- 2 fastening screws included for each circuit breaker MC2
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Spacers for MC2	MC1/2-XAB	9004840263008		<b>MC190203</b>

## CLIP PLATE FOR MC2



MC290215

### SCHRACK INFO

- Enables snap fit of circuit breakers / load-break switch to DIN rail (75 mm rail)
- Not suitable for switches with remote operator
- For dimensions, see from page 684.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Clip plate for MC2	MC2-XC75	9004840263039		MC290215



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## ■ CIRCUIT BREAKER 3/4-POLE UP TO 500 A WITH THERMAL MAGNETIC RELEASE TYPES MC3C-A, MC3N-A, MC3H-A, MC3N-4-A, MC3H-4-A



MC332231

### ■ SCHRACK-INFO

- System and line protection
- 3- and 4-pole versions
- Adjustable overload release  $I_r$ : 0.8 – 1 x  $I_n$  (factory setting 0.8 x  $I_n$ )
- Adjustable short-circuit release  $I_s$ : 8 – 10 x  $I_n$  (factory setting 8 x  $I_n$ )
- Breaking capacity 36 / 50 / 150 kA at 415 V 50/60 Hz
- Screw terminals as standard, lift terminals as option
- Rated uninterrupted current = rated current
- For dimensions, see from page 692.

RATED CURRENT/ BREAKING CAPACITY	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD, RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				
<b>3-POLE (COMFORT BREAKING CAPACITY) 36 kA</b>						
320 A/50 kA	250...320	1920...3200	MC3C-A320	9004840552263		MC332431
400 A/50 kA	320...400	2400...4000	MC3C-A400	9004840552270		<b>MC340431</b>
500 A/50 kA	400...500	3000...5000	MC3C-A500	9004840552287		MC350431
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
320 A/50 kA	250...320	1920...3200	MC3N-A320	9004840551211		MC332231
400 A/50 kA	320...400	2400...4000	MC3N-A400	9004840551228		<b>MC340231</b>
500 A/50 kA	400...500	3000...5000	MC3N-A500	9004840551235		<b>MC350231</b>
<b>3-POLE (HIGH BREAKING CAPACITY) 150 kA</b>						
320 A/150 kA	250...320	1920...3200	MC3H-A320	9004840551242		MC332331
400 A/150 kA	320...400	2400...4000	MC3H-A400	9004840551259		MC340331
500 A/150 kA	400...500	3000...5000	MC3H-A500	9004840551266		MC350331
<b>4-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
320 A/50 kA	250...320	1920...3200	MC3N-4-A320	9004840551273		MC332241
400 A/50 kA	320...400	2400...4000	MC3N-4-A400	9004840551280		MC340241
500 A/50 kA	400...500	3000...5000	MC3N-4-A500	9004840551297		MC350241
<b>4-POLE (HIGH BREAKING CAPACITY) 150 kA</b>						
320 A/150 kA	250...320	1920...3200	MC3H-4-A320	9004840551310		MC332341
400 A/150 kA	320...400	2400...4000	MC3H-4-A400	9004840551327		MC340341
500 A/150 kA	400...500	3000...5000	MC3H-4-A500	9004840551303		MC350341



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## ■ CIRCUIT BREAKER 3/4-POLE UP TO 630 A WITH ELECTRONIC RELEASE TYPES MC3N-AE, MC3H-AE, MC3N-4-AE, MC3H-4-AE



MC325232

### ■ SCHRACK-INFO

- System and line protection
- Selective and generator protection
- 3- and 4-pole version
- RMS value measurement and “thermal memory”
- Adjustable overload release  $I_r$ :  $0.5 - 1 \times I_n$  (factory setting  $0.8 \times I_n$ )
- Adjustable short-circuit release  $I_s$ :  $2 - 12 \times I_n$  (factory setting  $6 \times I_n$ )  
for MC3...-AE250/400:  $2 - 11 \times I_n$  (factory setting  $6 \times I_n$ )  
for MC3...-AE630:  $2 - 8 \times I_n$  (factory setting  $6 \times I_n$ )
- Breaking capacity 50 / 150 kA at 415 V 50/60 Hz
- Screw terminals as standard, lift terminals as option
- Rated uninterrupted current = rated current
- Switches also available with reduced N-wire release
- For dimensions, see from page 692.

RATED CURRENT/ BREAKING CAPACITY	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD, RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
250 A/50 kA	125...250	500...2750	MC3N-AE250	9004840262032		<a href="#">MC325232</a>
400 A/50 kA	200...400	800...4400	MC3N-AE400	9004840262049		<a href="#">MC340232</a>
630 A/50 kA	315...630	1260...5040	MC3N-AE630	9004840262056		<a href="#">MC363232</a>
<b>3-POLE (HIGH BREAKING CAPACITY) 150 kA</b>						
250 A/150 kA	125...250	500...2750	MC3H-AE250	9004840262063		MC325332
400 A/150 kA	200...400	800...4400	MC3H-AE400	9004840262070		MC340332
630 A/150 kA	315...630	1260...5040	MC3H-AE630	9004840262087		MC363332
<b>4-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
400 A/50 kA	200...400	800...4400	MC3N-4-AE400	9004840386424		<a href="#">MC340242*</a>
630 A/50 kA	315...630	1260...5040	MC3N-4-AE630	9004840386431		<a href="#">MC363242*</a>
<b>4-POLE (HIGH BREAKING CAPACITY) 150 kA</b>						
400 A/150 kA	200...400	800...4400	MC3H-4-AE400	9004840386332		MC340342
630 A/150 kA	315...630	1260...5040	MC3H-4-AE630	9004840386349		MC363342

\* Switch also available with reduced N-conductor release (MC3...242R),  $I_n$  N-conductor =  $0.6 \times I_n$  external conductor



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## ■ CIRCUIT BREAKER, 3/4 POLE UP TO 630 A WITH DELAYED ELECTRONIC RELEASE TYPES MC3N-VE, MC3H-VE, MC3N-4-VE, MC3H-4-VE



MC325233

### ■ SCHRACK-INFO

- System and line protection
- Selective and generator protection
- 3- and 4-pole version
- RMS value measurement and "thermal memory"
- Adjustable overload release  $I_r$ :  $0.5 - 1 \times I_n$  (factory setting  $0.8 \times I_n$ )
- Adjustable time delay setting to overcome current peaks  $t$ :  $2 - 20$  s at  $6 \times I_r$  as well as infinity
- Adjustable delayed short-circuit releases  $I_{sd}$ :  $2 - 10 \times I_r$  (factory setting  $6 \times I_r$ )  
MC3...-4-VE630:  $2 - 7 \times I_r$  (factory setting  $6 \times I_r$ )
- Adjustable time delay  $t_{sd}$ : Levels:  
0, 20, 60, 100, 200, 300, 500, 750, 1000 ms (factory setting 0)
- Adjustable non-delayed short-circuit release  $I_i$ :  $2 - 12 \times I_n$  (factory setting  $12 \times I_n$ )  
MC3...-VE250/400:  $2 - 11 \times I_n$  (factory setting  $6 \times I_n$ )  
MC3...-VE630:  $2 - 8 \times I_n$  (factory setting  $6 \times I_n$ )
- Switchable  $i^2t$  constant function (factory setting: OFF)
- Screw terminals as standard, lift terminals as option
- Rated uninterrupted current = rated current
- For dimensions, see from page 692.

RATED CURRENT/ BREAKING CAPACITY	OVERLOAD RELEASE (A)	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
		SHORT-CIRCUIT RELEASE NON-DELAYED (A)	SHORT-CIRCUIT RELEASE DELAYED (A)				
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>							
250 A/50 kA	125...250	500...2750	250...2500	MC3N-VE250	9004840262155		MC325233
400 A/50 kA	200...400	800...4400	400...4000	MC3N-VE400	9004840262162		<b>MC340233</b>
630 A/50 kA	315...630	1260...5040	472...4410	MC3N-VE630	9004840262179		<b>MC363233</b>
<b>3-POLE (HIGH BREAKING CAPACITY) 150 kA</b>							
250 A/150 kA	125...250	500...2750	250...2500	MC3H-VE250	9004840262186		MC325333
400 A/150 kA	200...400	800...4400	400...4000	MC3H-VE400	9004840262193		MC340333
630 A/150 kA	315...630	1260...5040	472...4410	MC3H-VE630	9004840262209		MC363333
<b>4-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>							
400 A/50 kA	200...400	800...4400	400...4000	MC3N-4-VE400	9004840386448		<b>MC340243</b>
630 A/50 kA	315...630	1260...5040	472...4410	MC3N-4-VE630	9004840386455		<b>MC363243</b>
<b>4-POLE (HIGH BREAKING CAPACITY) 150 kA</b>							
400 A/150 kA	200...400	800...4400	400...4000	MC3H-4-VE400	9004840386356		MC340343
630 A/150 kA	315...630	1260...5040	472...4410	MC3H-4-VE630	9004840386363		MC363343

## ■ MOTOR PROTECTION, 3-POLE UP TO 450 A WITH ELECTRONIC RELEASE TYPES MC3N-ME, MC3H-ME



MC322237

### ■ SCHRACK-INFO

- Adjustable overload release I: 0.5 – 1 x I<sub>n</sub> (factory setting 0.8 x I<sub>n</sub>)
- Adjustable short-circuit release I: 2 – 14 x I<sub>n</sub> (factory setting 12 x I<sub>n</sub>)
- Adjustable time delay setting to overcome current peaks t: 2 – 20 s at 6 x I<sub>r</sub>, as well as infinity (without overload release), (factory setting 10 s)
- RMS value measurement and “thermal memory”
- Phase failure sensitivity
- Screw terminals as standard, lift terminals as option
- Specification acc. to IEC/EN 60947-4 and IEC/EN 60947-2
- Circuit breakers satisfy all requirements of utilisation category AC3 at 400 V AC
- For dimensions, see from page 692.

NOMINAL CURRENT/ BREAKING CAPACITY/ POWER/CURRENT	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				

#### 3-POLE (NORMAL BREAKING CAPACITY) 50 kA

220 A/50 kA/110 kW/196 A	110...220	220...3080	MC3N-ME220	9004840386479		MC322237
350 A/50 kA/200 kW/349	175...350	350...4900	MC3N-ME350	9004840386486		<b>MC335237</b>
450 A/50 kA/250 kW/437 A	225...450	450...6300	MC3N-ME450	9004840615241		MC345237

#### 3-POLE (HIGH BREAKING CAPACITY) 150 kA

220 A/150 kA/110 kW/196 A	110...220	220...3080	MC3H-ME220	9004840386370		MC322337
350 A/150 kA/200 kW/349	175...350	350...4900	MC3H-ME350	9004840386387		MC335337
450 A/150 kA/250 kW/437 A	225...450	450...6300	MC3H-ME450	9004840628852		MC345337



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## LOAD-BREAK SWITCH UP TO 630 A TYPES MC3-PN, MC3-PN-4, MC3-N, MC3-N-4



MC340035

### SCHRACK-INFO

- 3- and 4-pole versions
- Rated uninterrupted current up to 630 A
- MC3-PN two switch positions 0/I, no remote release
- MC3-N, with trip positions "0", "+"; "I", with remote release, can be equipped with undervoltage/shunt release and trip-indicating auxiliary contact
- For load-break switches type MC...-N, undervoltage/shunt releases and trip-indicating auxiliary contacts can also be used.
- Can be combined with remote operator MC-XR...
- Screw terminals as standard, lift terminals as option
- Properties of main switches including positive drive according to IEC/EN 60204 and VDE 0113
- Isolating characteristics according to IEC/EN 60947-3 and VDE 0660, protection against accidental contact according to VDE 0160 Part 100
- Rated uninterrupted current = rated current
- Rated short-circuit breaking capacity:  $I_{cm}$  25 kA
- Rated short-time current protection:  $I_{cw}$  12 kA
- For dimensions, see from page 692.

RATED UNINTERRUPTED CURRENT	MAX. BACK-UP FUSE (gL) FOR LOAD-BREAK SWITCHES (AgL)	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>3-POLE, NO REMOTE RELEASE POSSIBLE</b>					
400 A	630	MC3-PN-400	9004840386493		<b>MC340034</b>
630 A	630	MC3-PN-630	9004840386523		<b>MC363034</b>
<b>4-POLE, NO REMOTE RELEASE POSSIBLE</b>					
400 A	630	MC3-PN-4-400	9004840386509		MC340044
630 A	630	MC3-PN-4-630	9004840386516		MC363044
<b>3-POLE, REMOTE RELEASE POSSIBLE</b>					
400 A	630	MC3-N-400	9004840386394		<b>MC340035</b>
630 A	630	MC3-N-630	9004840386462		<b>MC363035</b>
<b>4-POLE, REMOTE RELEASE POSSIBLE</b>					
400 A	630	MC3-N-4-400	9004840386400		<b>MC340045</b>
630 A	630	MC3-N-4-630	9004840386417		<b>MC363045</b>



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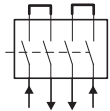
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## LOAD-BREAK SWITCHES UP TO 500 A/1000 V TYPES MC3-N-4-...-S1-DC



MC340045DC



### SCHRACK-INFO

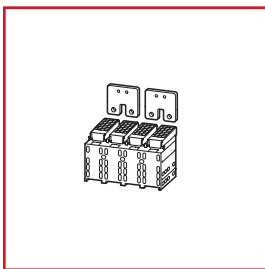
- 4-pole version / 2-pole switching
- Rated uninterrupted current up to 500 A
- With trip positions "0", "+", "1", with remote release, can be equipped with undervoltage or shunt release and trip-indicating auxiliary contact
- Terminal screws as standard, jumper kits\* optional
- Can be combined with remote operator MC-XR
- Properties of main switches including positive drive according to IEC/EN 60204 and VDE 0113
- Isolating characteristics according to IEC/EN 60947 and VDE 0660, protection against accidental contact according to VDE 0160 Part 100
- Specifications acc. to IEC/EN 60947-3
- Rated uninterrupted current = rated current
- Rated short-time current protection:  $I_{cw}$  5 kA
- Not available with withdrawable unit
- For dimensions, see from page 692.

### NOTE

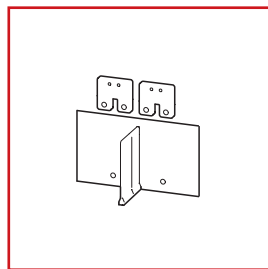
- MC-S1-DC ... cannot be combined with withdrawable unit and/or rear connection
- If  $U_i > 1000$  V DC, cannot be combined with early-make auxiliary contacts MC ... XHIV and box terminal MC.-4-XKC
- Connection technology MC...-S1-DC: 2-pole switching requires series connection of 2 poles each  
See accessories of jumper kits MC.-4-XKV..

RATED UNINTERRUPTED CURRENT AT DC 22-B/65 °C*	MAX. BACK-UP FUSE (gR)	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>4-POLE, REMOTE RELEASE POSSIBLE</b>					
320 A	500	MC3-N-4-320-S1-DC	9004840626858		MC332045DC
400 A	500	MC3-N-4-400-S1-DC	9004840626872		MC340045DC
500 A	500	MC3-N-4-500-S1-DC	9004840627312		MC350045DC

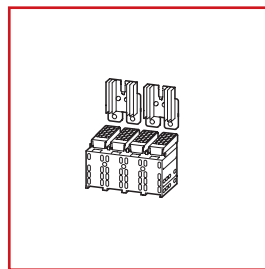
## JUMPER KITS FOR TYPES MC3.....-S1-DC / 1000V DC



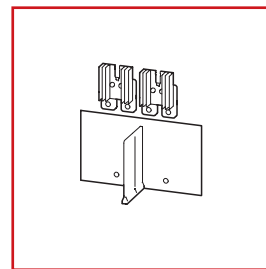
MC390602



MC390599



MC390601



MC390600

### SCHRACK-INFO

- Types contain parts for upper switch side for 4-pole switches
- MC3-N...-S1-DC that are used with 2 poles for DC
- Each jumper switches 2 current paths in series
- Supply and outlet at bottom or top selectable
- For dimensions, see from page 692.

RATED UNINTERRUPTED CURRENT A/°C	DEGREE OF PROTECTION	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
For MC3-N-320(400)-S1-DC					
with cover, 400 A/70°C	IP2x	MC3-4-XKV2P	9004840626926		MC390602
For MC3-N-400(500)-S1-DC					
with insulating plates, 500 A/50°C, 400 A/70°C	IP00	MC3-4-XKV12P	9004840627367		MC390599
For MC3-N-400(500)-S1-DC with cover					
and heat sinks, 500 A/55°C, 400 A/70°C	IP1x	MC3-4-XKV2P-K	9004840627343		MC390601
For MC3-N-500-S1-DC					
with insulating plates and heat sinks, 500 A/65°C	IP00	MC3-4-XKV12P-K	9004840627350		MC390600



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## SOCKET BASE AND WITHDRAWABLE MODULE FOR MC3



MC396711



MC396711

### SCHRACK-INFO

- 3- and 4-pole version
- For circuit breaker MC3 and load-break switch MC3-N
- Not suitable for MC3-N...DC
- For dimensions, see from page 692.

### TECHNICAL DATA

- Withdrawable unit complete with control circuit plug unit
- $I_n$  max. at 20 °C – 605 A
- $I_n$  max. at 40 °C – 550 A
- Mounting position: vertical, 90° left
- 3 positions: retracted, test, extended. The 3 positions are shown mechanically.
- Auxiliary contacts can also be used for remote signalling. Either an NC or NO contact per position.
- All connections of auxiliary switches (HIA, HIN, HIV) and undervoltage and shunt releases to the control circuit plug units are already present.
- **Withdrawable unit and withdrawable module only available in combination with switch.**
- Add an A to switch part number (e.g.: MC340232A) – Switch will be supplied ready for use with withdrawable feature.
- Socket base can be ordered separately and supplied pre-assembled.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>SOCKET BASE</b>				
Socket base, 3-pole	MC3-XAVS	9004840263701		<b>MC396711</b>
Socket base, 4-pole	MC3-4-XAVS	9004840387469		MC396712
<b>WITHDRAWABLE MODULE</b>				
Withdrawable module, 3-pole (delivered with switch, add an A to switch part number)				
Withdrawable module, 4-pole (delivered with switch, add an A to switch part number)				



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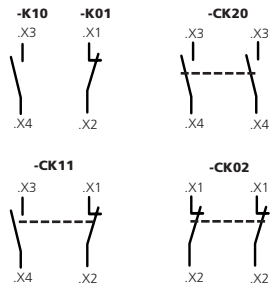
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## STANDARD AUXILIARY CONTACT / TRIP-INDICATING AUXILIARY CONTACT TYPE M22



MM216378



### SCHRACK INFO

- Switches with the main contacts, used for indicating and interlocking tasks
- General trip indication “+” with trip due to voltage release, overload release or short-circuit-release

### TECHNICAL DATA

Breaking capacity: AC15: 4 A / 230 VAC  
 DC13: 3 A / 24 VDC  
 M22-K: 0.3 A / 220 VDC  
 M22-CK: 0.2 A / 220 VDC

### TIPS & TRICKS

The trip-indicating auxiliary contact is the same contact as the standard auxiliary contact. It derives its function from its place of installation (left is the alarm contact).

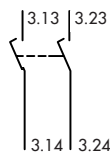
Maximum component installation MC3 with auxiliary contact: 3 x standard auxiliary contact (HIN) M22-K.. or M22CK..  
 + 1 x trip-indicating auxiliary contact (HIA) M22-K.. or M22-CK..

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1 NO contact with screw terminals	M22-K10	9004840176254		<b>MM216376</b>
1 NC contact with screw terminals	M22-K01	9004840176261		<b>MM216378</b>
2 NO contacts with spring terminals	M22-CK20	9004840547047		<b>MM107898</b>
2 NC contacts with spring terminals	M22-CK02	9004840547054		<b>MM107899</b>
1 NO contact + 1 NC contact with spring terminals	M22-CK11	9004840625783		<b>MM107940</b>

## EARLY-MAKE AUXILIARY CONTACT TYPE MC3-XHIV



MC299430



### SCHRACK INFO

- For interlock- and load-shedding circuits as well as for early make of undervoltage release in main switch/Emergency-stop applications.

### TECHNICAL DATA

- Not in connection with undervoltage release MC3-XU... or shunt release MC3-XA... Early-make during switch on and off (manual switch): approx. 20 ms
- Not in connection with remote operator MC-XR Undervoltage or shunt releases
- Breaking capacity: AC15: 4 A / 230 VAC  
 DC13: 3 A / 24 VDC, 0.2 A / 220 VDC

### TIPS & TRICKS

Maximum component installation with auxiliary contact:  
 1 x early-make auxiliary contact

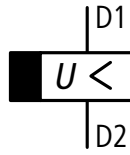
DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Early-make auxiliary switch, 2 NO	MC3-XHIV	9004840262285		<b>MC299430</b>



## UNDervOLTAGE RELEASE TYPES MC3-XU



MC299499



### SCHRACK INFO

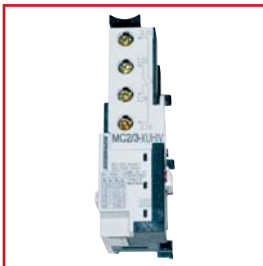
- For use in emergency stop devices in connection with EMERGENCY STOP button
- Installed in breaker
- Without auxiliary contact
- Non-delayed switching of circuit breaker MC/ load-break switch MC-N when the control voltage drops below 35% – 70% Us.
- Other voltage variants available upon request.

### TIPS & TRICKS

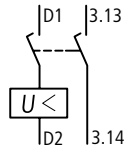
When the undervoltage release is de-energised, accidental contact with the main contacts of the switch is safely prevented during attempts to switch on. Undervoltage release cannot be installed simultaneously with a shunt release or early-make auxiliary contact MC2-XHIV.

VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
24 VAC 50/60 Hz	MC2/3-XU24AC	9004840262360		<b>MC299491</b>
24 VDC 50/60 Hz	MC2/3-XU24DC	9004840262407		<b>MC299509</b>
208 - 240 VAC 50/60 Hz	MC2/3-XU208-240 AC	9004840262384		<b>MC299499</b>
380 - 440 VAC 50/60 Hz	MC2/3-XU380-440 AC	9004840262391		MC299501

## UNDervOLTAGE RELEASE WITH TWO EARLY-MAKE AUXILIARY CONTACTS TYPES MC3-XUHIV



MC299591



### SCHRACK INFO

- With 2 early-make auxiliary contacts
- For early-make of the undervoltage release in main switch applications and for interlock- and load-shedding circuits
- Installed in breaker
- Other voltage variants available upon request.

### TIPS & TRICKS

When the undervoltage release is de-energised, accidental contact with the main contacts of the switch is safely prevented during attempts to switch on. Early-make of auxiliary contacts during switch on and off (20 ms). Undervoltage release cannot be installed simultaneously with a shunt release or early-make auxiliary contact MC2-XHIV.

VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
208 - 240 VAC	MC2/3-XUHIV240 AC	9004840262452		<b>MC299591</b>
380 - 440 VAC	MC2/3-XUHIV400 AC	9004840262469		MC299594



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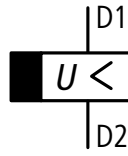
## UNDervOLTAGE RELEASE, OFF-DELAY TYPES MC-UVU, MC-XUV



MC295927



MC299499



### SCHRACK INFO

- Voltage drops of less than 16 s do not cause MC circuit breakers or MC-N load-break switches to trip..
- Voltage range:
  - 220-240 VAC 50/60 HZ
  - 380-440 VAC 50/60 HZ
  - 480-550 VAC 50/60 HZ
  - 24 VDC / AC
- For dimensions, see from page 692.

### TECHNICAL DATA

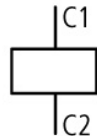
- Time-delay adjustable between 70 ms – 4 s
- With additional external capacitor:
  - 30,000  $\mu$ F  $\geq$  35 V up to 8 s
  - 90,000  $\mu$ F  $\geq$  35 V up to 16 s
- Special release MC2/3-XUV is required.
- Cannot be installed simultaneously with early-make auxiliary contact MC2-XHIV... or shunt release MC2-XA....
- Time-delay device for separate assembly (Mounting: DIN rail or screws).
- Use control transformer for other operating voltages.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Time delay device	MC-UVU	9004840520392		<b>MC190154</b>
Special undervoltage release for time-delay device UVU	MC2/3-XUV	9004840520613		<b>MC299527</b>

## SHUNT RELEASE TYPES MC3-XA



MC299754



### SCHRACK INFO

- Without auxiliary contact
- Switches are tripped by a voltage pulse or by the application of uninterrupted voltage
- Other voltage variants available upon request.

### NOTE

When the shunt release is de-energised, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Shunt release cannot be installed simultaneously with undervoltage release.

VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
24 VAC/DC	MC2/3-XA24AC/DC	9004840262506		<b>MC299754</b>
110 - 130 VAC/DC	MC2/3-XA110-130 AC/DC	9004840262513		MC299760
208 - 250 VAC/DC	MC2/3-XA208-250 AC/DC	9004840262520		<b>MC299763</b>



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## REMOTE OPERATOR FOR MC3



MC399850

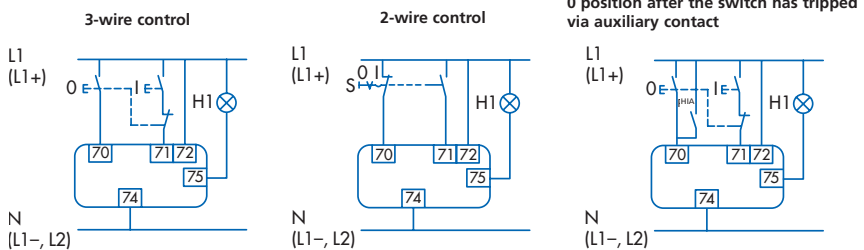
### SCHRACK INFO

- Remote operator can be combined with circuit breaker MC and load-break switch MC-N, but not with load-break switch MC-PN.
- Do not switch off switch simultaneously via remote control and release via undervoltage/shunt release.
- 1 auxiliary contact MM-K(CK).. must be installed in circuit breaker (included with remote operator)
- Other voltage variants available upon request.
- For dimensions, see from page 692.

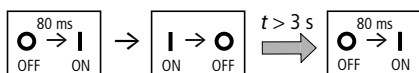
### TECHNICAL DATA

- On/Off switching and reset by means of continuous or pulse contact.
- Can be synchronised
- Switching time, ON:  $\leq 80$  ms
- Local switching by hand possible
- Pause between Off and On: 3 sec.  
On command is ignored
- Function of terminal 75:  
Ready for operation signal, when cover is closed and not locked.  
AC-15: 2 A / 400 V  
DC-13: 0.2 A / 220 V

### CIRCUIT DIAGRAMS

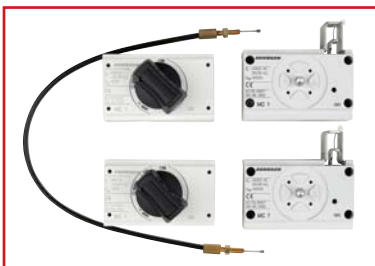


### SWITCHING CYCLE



VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
208 - 240 V AC	MC3-XR208-240 AC	9004840262612		<b>MC399850</b>
Additional cover for 4-pole switches	MC3-XAVPR	9004840386967		<b>MC396678</b>

## MECHANICAL INTERLOCK FOR (DOOR COUPLING-) ROTARY HANDLES FOR MC3



MC391583 + MC191585

### SCHRACK INFO

- **Rotary handle on switch or door coupling rotary handle additionally required.**
- Cannot be combined with door sealing frame
- At least 2 interlocking modules are required to construct a mechanical interlock.
- Order Bowden cable separately
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Mechanical interlock	MC3-XMV	9004840403244		<b>MC391583</b>
Bowden cable 225 mm	MC XBZ225	9004840403206		<b>MC191585</b>
Bowden cable 600 mm	MC XBZ600	9004840403213		<b>MC191586</b>
Bowden cable 1000 mm	MC XBZ600	9004840403220		MC191587



## MECHANICAL INTERLOCK FOR REMOTE OPERATOR MC3-XR



MC294544




MC294544 - mounted

### SCHRACK INFO

- For 2 switches of the same or next frame size side by side
- Side-by-side mounting
- Mounted on top of each other, long version
- Type contains parts for 2 switches
- Remote operators also required
- For dimensions and maximum switch clearances, see from page 692.

### NOTE

Cannot be combined with rotary handles, door coupling rotary handles and early-make auxiliary contacts.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Mechanical interlock for MC2/3	MC2/3-XMVR	9004840520736		MC294544
Mechanical interlock for MC2/3 long version	MC2/3-XMVRL	9004840520804		MC294549
Mechanical interlock for MC3	MC3-XMVR	9004840520293		<b>MC394545</b>
Mechanical interlock for MC3 long version	MC3-XMVRL	9004840521108		MC394550
Mechanical interlock for MC3/4	MC3/4-XMVR	9004840520705		MC394546
Mechanical interlock for MC3/4 long version	MC3/4-XMVRL	9004840521092		MC394551

## ROTARY HANDLE DIRECTLY ON SWITCH FOR MC3



MC390129

### SCHRACK INFO

- Complete with rotary drive
- Can also be combined with door sealing frame
- For dimensions, see from page 692.

### TECHNICAL DATA


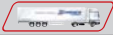
Available in the following versions:

#### Type MC.-XDV

Lockable in position "0" (up to three padlocks), black/grey

#### Type MC.-XDVR

Lockable in position "0" (up to three padlocks), EMERGENCY STOP red/yellow

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rotary handle for MC3 lockable, black/grey	MC3-XDV	9004840262742		<b>MC390129</b>
Rotary handle for MC3 lockable, Emergency Stop, red/yellow	MC3-XDVR	9004840262797		<b>MC390140</b>



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## DOOR COUPLING ROTARY HANDLES AND MAIN SWITCH KITS FOR MC3



MC390170 - Rotary drive



MC390170 - Coupling part



MC390170 - Rotary handle

### SCHRACK INFO

- Complete including rotary drive and coupling parts
- Degree of protection IP66
- Rotary handle can be rotated 90° for switches mounted horizontally
- Cannot be defeated in the locked OFF and ON positions
- Can be modified when in the unlocked ON position, can be defeated from the outside with a screwdriver
- Door can be opened in OFF
- External warning plate/additional plate can be clipped on
- For dimensions, see from page 692.

### NOTE

- Order extension shaft separately!

### TECHNICAL DATA

Available in the following versions:

#### Type MC.-XTVD

Lockable in position "0" on handle with up to three padlocks, with door interlock, black/grey

#### Type MC.-XTVDV

Lockable in position "0" on handle and switch with up to three padlocks, with door interlock, black/grey

#### Type MC.-XTVDVR

Lockable in position "0" on handle and switch with up to three padlocks, with door interlock, EMERGENCY STOP red/yellow

Main switch kit consisting of:

- Door coupling rotary handle + rotary drive XTVD/XTVDV
- Extension shaft XV4
- External warning plate
- Lightning arrow

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>DOOR COUPLING ROTARY HANDLES</b>				
For MC3 with door interlock, lockable, black/grey	MC3-XTVD	9004840262896		<b>MC390170</b>
For MC3 with door interlock, lockable, "0", "1", black/grey	MC3-XTVDV	9004840262926		<b>MC390176</b>
For MC3 with door interlock, lockable, Emergency Stop, red/yellow	MC3-XTVDVR	9004840262957		<b>MC390182</b>
<b>MAIN SWITCH KITS</b>				
For MC3 lockable, black/grey	MC3-XHB	9004840263589		MC396628
For MC3 lockable, Emergency Stop, red/yellow	MC3-XHBR	9004840263619		MC396634



## EXTENSION SHAFT FOR MC3



MC390193

### SCHRACK INFO

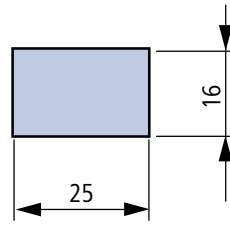
- For maximum cabinet depths of 400 or 600 mm
- Can be cut to required length
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Extension shaft for MC3, max. 400 mm	MC3/4-XV4	9004840263060		<b>MC391234</b>
Extension shaft for MC3, max. 600 mm	MC3/4-XV6	9004840262971		<b>MC390193</b>

## BOX TERMINALS FOR MC3



MC390042



Max. opening of box terminal

### SCHRACK INFO

- Installed within the switch housing
- If  $U_e \geq 525$  V AC, use cover plate MC3(-4)-XS kA
- Conversion kit for switches with screw connection
- Contains parts for one switch side
- Terminal capacities:
  - Copper lines/cables 500 A: 1 x (35 to 240 mm<sup>2</sup>)  
2 x (16 to 120 mm<sup>2</sup>)
  - Copper strip 630 A: 10 x (24 x 1) + 5 x (24 x 1) or 2 x (8 x 24 x 1)
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Box terminal (3 pcs. included) for MC3	MC3-XKC	9004840262674		<b>MC390042</b>
Box terminal (4 pcs. included) for MC3-4	MC3-4-XKC	9004840387186		MC396783



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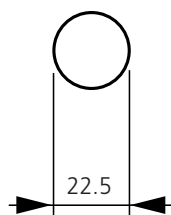
## TUNNEL TERMINAL FOR MC3



MC391459



MC391461



### SCHRACK INFO

- Contains parts for one switch side located at top or bottom for 3 or 4-pole switches
- Standard with control circuit terminal for 1 x (0.75 to 2.5 mm<sup>2</sup>), 2 x (0.75 to 1.5 mm<sup>2</sup>) Cu wire
- Terminal capacities:  
XKA1 max. 350 A: Cu/Al cable 1 x (16 to 185 mm<sup>2</sup>)  
XKA2 max. 630 A: Cu/Al cable 2 x (50 to 240 mm<sup>2</sup>)  
(\* depending on cable manufacturer up to 240 mm<sup>2</sup> can be connected)
- Installation outside switch housing
- Cover MC3(-4)-XKSA (included)
- For dimensions, see from page 692.

### TECHNICAL DATA

- For Cu- and Al cables
- Including cover
- Stranded round conductor / stranded sector-shaped conductor

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Tunnel terminal 185 mm <sup>2</sup> for MC3 3-pole	MC3-XKA1	9004840373493		<b>MC391459</b>
Tunnel terminal 2 x 240 mm <sup>2</sup> for MC3 3-pole	MC3-XKA2	9004840373486		<b>MC391461</b>
Tunnel terminal 185 mm <sup>2</sup> for MC3-4 4-pole	MC3-4-XKA1	9004840387216		<b>MC391460</b>
Tunnel terminal 2 x 240 mm <sup>2</sup> for MC3-4 4-pole	MC3-4-XKA2	9004840387223		<b>MC391462</b>

## CABLE LUG FOR MC3



MC390041

### SCHRACK INFO

- Special cable lug in slimline design
- The cable lugs must be insulated when using without a cover plate.
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Cable lug 185 mm <sup>2</sup> , for MC3	MC3/4-XKS185	9004840263886		<b>MC390040</b>
Cable lug 240 mm <sup>2</sup> , for MC3	MC3/4-XKS240	9004840262667		<b>MC390041</b>

## REAR CONNECTION FOR MC3



MC396792

### SCHRACK INFO

- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Terminal capacities: Copper cable 2 x (16 – 240 mm<sup>2</sup>)
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rear connection, 3-pole for MC3	MC3-XKR	9004840263800		MC396792
Rear connection, 4-pole for MC3-4	MC3-4-XKR	9004840387230		MC396795


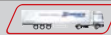
## CONNECTION WIDTH EXTENSION FOR MC3



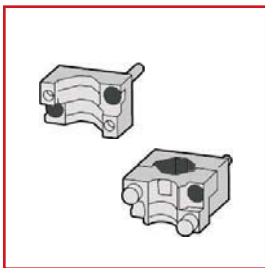
MC390514

### SCHRACK INFO

- Contains parts for one switch side incl. phase isolator
- Central holes, max. 2 cable lugs per phase
- Distance between pole centres 70 mm
- Terminal capacities: Cu cable lugs 2 x 300 mm<sup>2</sup>  
Cu rail 2 x (10 x 50)
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Connection width extension, 3-pole 630 A for MC3	MC3-XKV70	9004840417951		<b>MC390514</b>
Connection width extension, 4-pole 630 A for MC3	MC3-4-XKV70	9004840417968		<b>MC390515</b>

## CONNECTION TERMINALS FOR CONNECTION WIDTH EXTENSION MC3



MC390782 + MC390784

### SCHRACK INFO

- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Only in combination with connection width extension
- Use with flexible and highly-flexible conductor end sleeves
- Standard with control circuit terminal for 1 x (0.75 to 2.5 mm<sup>2</sup>)  
or 2 x 0.75 to 1.5 mm<sup>2</sup> Cu wire
- Terminal capacities: Copper cable 2 x (120 – 300 mm<sup>2</sup>)  
Copper strip 2 x (11 x 21 x 1)
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE</b>				
Terminals for connection width extension, 500 A for cable	MC3-XK300	9004840521023		MC390782
Terminals for connection width extension, 630 A for strip	MC3-XK22X21	9004840521030		MC390784
<b>4-POLE</b>				
Terminals for connection width extension, 500 A for cable	MC3-4-XK300	9004840521016		MC390783
Terminals for connection width extension, 630 A for strip	MC3-4-XK22X21	9004840521047		MC390785



## PHASE ISOLATOR FOR MC3



MC390513

### SCHRACK INFO

- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Are included in the connection width extension MC3(-4)-XKV70
- Insulation protection where cable lugs, busbars or flat conductor are connected.
- Cannot be combined with tunnel terminal, rear connection
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Phase isolator for MC3 (2 pcs.)	MC3-XKP	9004840417975		<b>MC390512</b>
Phase isolator for MC3-4 (3 pcs.)	MC3-4-XKP	9004840417982		MC390513

## CONTROL CIRCUIT TERMINAL FOR MC3



MC196739

### SCHRACK INFO

- Contains parts for two terminals located at top or bottom for 3/4-pole switches
- Included with tunnel terminal
- Terminal capacities: Screw terminal 1 x (0.75 to 2.5 mm<sup>2</sup>), 2 x (0.75 to 1.5 mm<sup>2</sup>)
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Control circuit connection for box terminal MC3	MC-XSTK	9004840263893		<b>MC196739</b>
Control circuit connection for screw terminal MC3	MC3/4-XSTS	9004840387247		<b>MC396797</b>

## TERMINAL COVER FOR MC3



MC390045

### SCHRACK INFO

- Protection against accidental contact when cable lugs/rails are connected or tunnel terminals are used
- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Degree of protection IP4X front, side and rear, IP1X on the connection side when using insulated conductor material
- Cover plate already comes with tunnel terminals
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Terminal cover, 3-pole, for MC3	MC3-XKSA	9004840262681		<b>MC390045</b>
Terminal cover, 4-pole, for MC3-4	MC3-4-XKSA	9004840387254		<b>MC396801</b>

## IP2X FINGER PROTECTION DIRECT-MOUNTED ON SWITCHES MC3



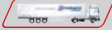
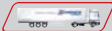
MC396804



MC396808

### SCHRACK INFO

- Increases the protection against accidental contact to IP2X
- Protection when reaching into the cable connection area when cables are connected in box terminal
- For 2 conductors, minimum cross-section is 70 mm<sup>2</sup>
- MC3-XIPK and MC3-4-XIPK for direct mounting on switches
- MC3-XIPA and MC3-4-XIPA only in combination with cover plate MC3(-4)-XKSA
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>FOR SWITCHES WITH BOX TERMINAL</b>				
Finger protection, 3-pole, for MC3	MC3-XIPK	9004840387261		<b>MC396804</b>
Finger protection, 4-pole, for MC3-4	MC3-4-XIPK	9004840387278		MC396805
<b>FOR SWITCHES WITH TERMINAL COVER</b>				
Finger protection, 3-pole, for MC3	MC3-XIPA	9004840387285		<b>MC396808</b>
Finger protection, 4-pole, for MC3-4	MC3-4-XIPA	9004840387292		MC396809

## INSULATED ENCLOSURE XCI



MC391525

### SCHRACK INFO

- Only for switches with box terminals for direct cable connection
- With door coupling rotary handle
- Complete including all necessary functional parts
- Degree of protection IP65
- Comes with gland plates
- For dimensions, see from page 692.

### TECHNICAL DATA

Enclosure suitable for installation of circuit-breakers and load-break switches for separate mounting with top and bottom cable entry. Including fixing straps for wall mounting.

Short circuit protection at 415 V 50/60 Hz up to 10 kA.

Not in combination with remote operator, plug-in or withdrawable unit.

Additional insulated terminal for 4th or 5th pole must be ordered separately.

Available in the following versions:

#### Standard, black/grey

Lockable in position "0" on handle with up to 3 padlocks. Additionally with cover interlock.

#### For EMERGENCY STOP, red/yellow

Lockable on handle and switch with up to 3 padlocks. Lockable in the position "0" on handle. Additionally with cover interlock and lockable at switch in position "0".

DESCRIPTION	MAX. RATED UNINTERRUPTED CURRENT	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>STANDARD, BLACK/GREY</b>					
For MC3(-4)	≤ 400 A	MC3-XCI48-TVD	9004840521078		MC391525
<b>FOR EMERGENCY STOP, RED/YELLOW</b>					
For MC3(-4)	≤ 400 A	MC3-XCI48-TVD	9004840521085		MC391530



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## COMPONENT ADAPTERS FOR CIRCUIT-BREAKERS AND LOAD-BREAK SWITCHES FOR 60 mm BUSBAR SYSTEM MC3



MC391668

### SCHRACK INFO

- Cover plate MC-XKR necessary for frame size 2 and 3.
- For mounting on flat copper rails 12 x 5 mm to 30 x 10 mm
- Double T and triple T profile
- For snapping onto the voltage-free busbar
- Rated operational voltage Ue: 690 V
- For dimensions, see from page 692.

### TECHNICAL DATA

MC 3 up to 630 A:

- Connection to system from top
- Cover plate MC3-XKR13 with rear connection required for component adapter

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
60 mm busbar adapter 550 A for MC3, 3-pole	32170	9004840413694		<b>MC391700</b>
Cover for component adapter, 3-pole	MC3-XKR13	9004840403312		<b>MC391668</b>

## DOOR SEALING FRAME FOR MC3



MC394645

### SCHRACK INFO

- For toggle levers, rotary handles with rotary drive and remote operator
- Degree of protection IP40
- For rectangular cut-out on doors and enclosures with material thicknesses of 1.5 – 5 mm
- External warning plate / additional plate (optional) clipped
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Door sealing frame for MC3	MC3-XBR	9004840415735		MC394645



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## TOGGLE LEVER LOCKING DEVICE FOR MC3



MC290201

### SCHRACK INFO

- Off position lockable with up to 3 padlocks (shackle thickness 4 – 8 mm)
- Cannot be combined with door sealing frame
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Toggle lever locking device for MC3	MC2/3-XKAV	9004840521009		MC290201


## SPACERS FOR MC3



MC390211

### SCHRACK INFO

- Enables fast and low-priced adjustment of various frame sizes with/without rotary handle or remote operator at same front depth
- Grid depth 17.5 mm, thread M5
- One set contains 4 x spacers
- 4 fastening screws included per switch
- For dimensions, see from page 692.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Spacers for MC3	MC3/4-XAB	9004840263015		<b>MC390211</b>



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## ■ CIRCUIT BREAKER 3/4-POLE UP TO 1600 A WITH ELECTRONIC RELEASE TYPES MC4N-AE, MC4H-AE, MC4N-4-AE, MC4H-4-AE



MC463232

### ■ SCHRACK-INFO

- System and line protection
- 3- and 4-pole versions
- RMS value measurement and “thermal memory”
- Adjustable overload release  $I_r$ : 0.5 – 1 x  $I_n$  (factory setting 0.8 x  $I_n$ )
- Adjustable short-circuit release  $I_i$ : 2 – 12 x  $I_n$  (factory setting 6 x  $I_n$ )
- Breaking capacity 50 / 85 kA at 415 V 50/60 Hz
- Screw terminals as standard
- Rated uninterrupted current = rated current
- For dimensions, see from page 700.

ADJUSTMENT RANGE						
RATED CURRENT/ BREAKING CAPACITY	OVERLOAD, RELEASE (A)	SHORT-CIRCUIT RELEASE (A)	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
630 A/50 kA	315...630	1260...7560	MC4N-AE630	9004840263091		<a href="#">MC463232</a>
800 A/50 kA	400...800	1600...9600	MC4N-AE800	9004840263107		<a href="#">MC480232</a>
1000 A/50 kA	500...1000	2000...12000	MC4N-AE1000	9004840263114		<a href="#">MC410232</a>
1250 A/50 kA	630...1250	2500...15000	MC4N-AE1250	9004840263121		<a href="#">MC412232</a>
1600 A/50 kA	800...1600	3200...19200	MC4N-AE1600	9004840263138		<a href="#">MC416232</a>
<b>3-POLE (HIGH BREAKING CAPACITY) 85 kA</b>						
630 A/85 kA	315...630	1260...7560	MC4H-AE630	9004840263145		MC463332
800 A/85 kA	400...800	1600...9600	MC4H-AE800	9004840263152		MC480332
1000 A/85 kA	500...1000	2000...12000	MC4H-AE1000	9004840263169		MC410332
1250 A/85 kA	630...1250	2500...15000	MC4H-AE1250	9004840263176		MC412332
1600 A/85 kA	800...1600	3200...19200	MC4H-AE1600	9004840263183		MC416332
<b>4-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
800 A/50 kA	400...800	1600...9600	MC4N-4-AE800	9004840386813		<a href="#">MC480242</a>
1000 A/50 kA	500...1000	2000...12000	MC4N-4-AE1000	9004840386783		MC410242
1250 A/50 kA	630...1250	2500...15000	MC4N-4-AE1250	9004840386790		MC412242
1600 A/50 kA	800...1600	3200...19200	MC4N-4-AE1600	9004840386806		MC416242
<b>4-POLE (HIGH BREAKING CAPACITY) 85 kA</b>						
800 A/85 kA	400...800	1600...9600	MC4H-4-AE800	9004840386660		MC480342
1000 A/85 kA	500...1000	2000...12000	MC4H-4-AE1000	9004840386639		MC410342
1250 A/85 kA	630...1250	2500...15000	MC4H-4-AE1250	9004840386646		MC412342
1600 A/85 kA	800...1600	3200...19200	MC4H-4-AE1600	9004840386653		MC416342

Higher breaking capacity available upon request.





## CIRCUIT BREAKER, 3/4 POLE UP TO 1600 A WITH DELAYED ELECTRONIC RELEASE TYPES MC4N-VE, MC4H-VE, MC4N-4-VE, MC4H-4-VE



MC463233

### SCHRACK-INFO

- System and line protection
- Selective and generator protection
- 3 - and 4-pole versions
- Rated uninterrupted current = rated current
- For dimensions, see from page 700.

### TECHNICAL DATA

- RMS value measurement and “thermal memory”
- Adjustable overload release  $I_r$ : 0.5 – 1 x  $I_n$  (factory setting 0.8 x  $I_n$ )
- Adjustable time delay setting to overcome current peaks  $t_r$ : 2 – 20 s at 6 x  $I_r$  as well as infinity
- Adjustable delayed short-circuit releases  $I_{sd}$ : 2 – 10 x  $I_r$  (factory setting 6 x  $I_r$ )
- Adjustable time delay  $t_{sd}$ : Levels: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms (factory setting 0)
- Adjustable non-delayed short-circuit release  $I_i$ : 2 – 12 x  $I_n$  (factory setting 12 x  $I_n$ )
- Switchable  $i^2t$  constant function (factory setting: OFF)
- MC4.-VE...: 2 – 12 x  $I_n$  (factory setting 12 x  $I_n$ )
- Switches also available with reduced N-wire release

RATED CURRENT/ BREAKING CAPACITY	OVERLOAD RELEASE (A)	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
		SHORT-CIRCUIT RELEASE NON-DELAYED (A)	DELAYED (A)				
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>							
630 A/50 kA	315...630	1260...7560	630...6300	MC4N-VE630	9004840263190		MC463233
800 A/50 kA	400...800	1600...9600	800...8000	MC4N-VE800	9004840263206		<b>MC480233</b>
1000 A/50 kA	500...1000	2000...12000	1000...10000	MC4N-VE1000	9004840263213		<b>MC410233</b>
1250 A/50 kA	630...1250	2500...15000	1250...12500	MC4N-VE1250	9004840263220		<b>MC412233</b>
1600 A/50 kA	800...1600	3200...19200	1600...16000	MC4N-VE1600	9004840263237		<b>MC416233</b>
<b>3-POLE (HIGH BREAKING CAPACITY) 85 kA</b>							
630 A/85 kA	315...630	1260...7560	630...6300	MC4H-VE630	9004840263244		MC463333
800 A/85 kA	400...800	1600...9600	800...8000	MC4H-VE800	9004840263251		MC480333
1000 A/85 kA	500...1000	2000...12000	1000...10000	MC4H-VE1000	9004840263268		MC410333
1250 A/85 kA	630...1250	2500...15000	1250...12500	MC4H-VE1250	9004840263275		MC412333
1600 A/85 kA	800...1600	3200...19200	1600...16000	MC4H-VE1600	9004840263282		<b>MC416333</b>
<b>4-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>							
800 A/50 kA	400...800	1600...9600	800...8000	MC4N-4-VE800	9004840386851		MC480243
1000 A/50 kA	500...1000	2000...12000	1000...10000	MC4N-4-VE1000	9004840386820		<b>MC410243*</b>
1250 A/50 kA	630...1250	2500...15000	1250...12500	MC4N-4-VE1250	9004840386837		MC412243*
1600 A/50 kA	800...1600	3200...19200	1600...16000	MC4N-4-VE1600	9004840386844		MC416243
<b>4-POLE (HIGH BREAKING CAPACITY) 85 kA</b>							
800 A/85 kA	400...800	1600...9600	800...8000	MC4H-4-VE800	9004840386707		MC480343
1000 A/85 kA	500...1000	2000...12000	1000...10000	MC4H-4-VE1000	9004840386677		MC410343
1250 A/85 kA	630...1250	2500...15000	1250...12500	MC4H-4-VE1250	9004840386684		MC412343
1600 A/85 kA	800...1600	3200...19200	1600...16000	MC4H-4-VE1600	9004840386691		MC416343

\* Switch also available with reduced N-conductor release (MC4..243R),  $I_n$  N-conductor = 0.6 x  $I_n$  external conductor



Order no. blue: on stock, usually ready for delivery on the day of order!

## MOTOR PROTECTION, 3-POLE UP TO 1400 A WITH ELECTRONIC RELEASE TYPES MC4N-ME, MC4H-ME



MC455237

### SCHRACK-INFO

- Adjustable overload release  $I_r$ :  $0.5 - 1 \times I_n$  (factory setting  $0.8 \times I_n$ )
- Adjustable short-circuit release  $I_s$ :  $2 - 14 \times I_n$  (factory setting  $12 \times I_n$ )
- Adjustable time delay setting to overcome current peaks  $t$ :  $2 - 20$  s at  $6 \times I_r$ , as well as infinity (without overload release), (factory setting 10 s)
- RMS value measurement and "thermal memory"
- Phase failure sensitivity
- Screw terminals as standard, lift terminals as option
- Specification acc. to IEC/EN 60947-4 and IEC/EN 60947-2
- Circuit breakers satisfy all requirements of utilisation category AC3 at 400 V AC
- For dimensions, see from page 700.

### NOTES

Rated operational power/current at 690 VAC:

MC4-ME550:  $P_e = 560$  kW;  $I_e = 550$  A

MC4-ME875 (ME1400):  $P_{e \max.} = 600$  kW;  $I_e = 588$  A

NOMINAL CURRENT/ BREAKING CAPACITY/ POWER AC3/CURRENT AC3	ADJUSTMENT RANGE		TYPE	EAN CODE	AVAILABLE	ORDER NO.
	OVERLOAD RELEASE (A)	SHORT-CIRCUIT RELEASE (A)				
<b>3-POLE (NORMAL BREAKING CAPACITY) 50 kA</b>						
550 A/50 kA/315 kW/544 A	275...550	550...7700	MC4N-ME550	9004840386875		MC455237
875 A/50 kA/500 kW/820 A	438...875	875...12250	MC4N-ME875	9004840386882		MC487237
1400 A/50 kA/630 kW/1066 A	700...1400	1400...19600	MC4N-ME1400	9004840386868		MC414237
<b>3-POLE (HIGH BREAKING CAPACITY) 85 kA</b>						
550 A/85 kA/315 kW/544 A	275...550	550...7700	MC4H-ME550	9004840386721		MC455337
875 A/85 kA/500 kW/820 A	438...875	875...12250	MC4H-ME875	9004840386738		MC487337
1400 A/85 kA/630 kW/1066 A	700...1400	1400...19600	MC4H-ME1400	9004840386714		MC414337



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## LOAD-BREAK SWITCH 3-/4-POLE UP TO 1600 A, FOR REMOTE RELEASE TYPES MC4-N, MC4-N-4



MC480035

### SCHRACK-INFO

- 3- and 4-pole versions
- Properties of main switches including positive drive according to IEC/EN 60204 and VDE 0113
- Isolating characteristics according to IEC/EN 60947-3 and VDE 0660, protection against accidental contact according to VDE 0160 Part 100
- Rated uninterrupted current up to 1600 A
- With trip positions "0", "+"; "I", with remote release, can be equipped with undervoltage/shunt release and trip-indicating auxiliary contact
- Can be combined with remote operator MC-XR...
- Screw terminals as standard
- Rated uninterrupted current = rated current
- Rated short-circuit breaking capacity:  $I_{cm}$  53 kA
- Rated short-time current protection:  $I_{cw}$  25 kA
- For dimensions, see from page 700.

RATED UNINTERRUPTED CURRENT	MAX. BACK-UP FUSE (gL) FOR LOAD-BREAK SWITCHES (Agl)	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
<b>3-POLE, REMOTE RELEASE POSSIBLE</b>					
800 A	1600	MC4-N-800	9004840263299		<b>MC480035</b>
1000 A	1600	MC4-N-1000	9004840263305		<b>MC410035</b>
1250 A	1600	MC4-N-1250	9004840263312		<b>MC412035</b>
1600 A	1600	MC4-N-1600	9004840263329		<b>MC416035</b>
<b>4-POLE, REMOTE RELEASE POSSIBLE</b>					
800 A	1600	MC4-N-4-800	9004840386776		MC480045
1000 A	1600	MC4-N-4-1000	9004840386745		MC410045
1250 A	1600	MC4-N-4-1250	9004840386752		MC412045
1600 A	1600	MC4-N-4-1600	9004840386769		MC416045



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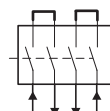
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## LOAD-BREAK SWITCHES UP TO 1400 A/1000 V TYPES MC4-N-4-...-S1-DC



MC412045DC



### SCHRACK-INFO

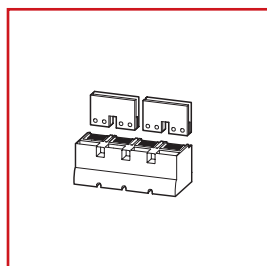
- 4-pole version / 2-pole switching
- Rated uninterrupted current up to 1400 A
- With trip positions "0", "+", "I", with remote release, can be equipped with undervoltage or shunt release and trip-indicating auxiliary contact
- Terminal screws as standard, jumper kits\* optional
- Can be combined with remote operator MC-XR
- Properties of main switches including positive drive according to IEC/EN 60204 and VDE 0113
- Isolating characteristics according to IEC/EN 60947 and VDE 0660, protection against accidental contact according to VDE 0160 Part 100
- Specifications acc. to IEC/EN 60947-3
- Rated uninterrupted current = rated current
- Rated short-time current protection:  $I_{cw}$  25 kA
- Not available with withdrawable unit
- For dimensions, see from page 700.

### NOTE

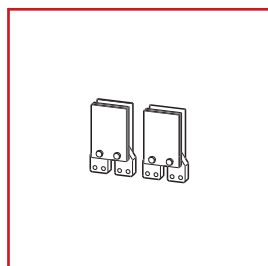
- MC-S1-DC ... cannot be combined with withdrawable unit and/or rear connection
- If  $U_i > 1000$  V DC, cannot be combined with early-make auxiliary contacts MC ... XHIV and box terminal MC.-4-XKC
- Connection technology MC...-S1-DC: 2-pole switching requires series connection of 2 poles each  
See accessories of jumper kits MC.-4-XKV..

RATED UNINTERRUPTED CURRENT AT DC 21-B/65 °C*	MAX. BACK-UP FUSE (gR)	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>4-POLE, REMOTE RELEASE POSSIBLE</b>					
800 A	1600	MC4-N-4-800-S1-DC	9004840628920		MC480045DC
1000 A	1600	MC4-N-4-1000-S1-DC	9004840626889		MC410045DC
1250 A	1600	MC4-N-4-1250-S1-DC	9004840626896		MC412045DC
1400 A	1600	MC4-N-4-1400-S1-DC	9004840626902		MC414045DC

## JUMPER KITS FOR TYPE MC4....-...-S1-DC / 1000 V DC



MC490602



MC490612

### SCHRACK-INFO

- Types contain parts for upper switch side for 4-pole switches
- MC4-N...-S1-DC that are used with 2 poles for DC
- Each jumper switches 2 current paths in series
- Supply and outlet at bottom or top selectable
- $\geq 1250$  A: FOR 65 °C ambient temperature, Connector at the bottom of module plates  
MC4-4-XKM2S-1600
- For dimensions, see from page 700.

RATED UNINTERRUPTED CURRENT A/°C	DEGREE OF PROTECTION	TYPE	EAN-CODE	AVAILABLE	ORDER NO.
For MC4-N...-S1-DC					
with cover, 1400 A/40 °C, 1250 A/65 °C	IP2x	MC4-4-XKV2P	9004840626933		MC490602
For MC4-N-1400-S1-DC					
with heat sink, 1400 A/65 °C	IP00	MC4-4-XKV2P-1400	9004840626940		MC490612

## SOCKET BASE AND WITHDRAWABLE MODULE FOR MC4



MC496713



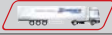
MC496713

### SCHRACK-INFO

- 3- and 4-pole version
- For circuit breaker MC4 and load-break switch MC4-N
- Not suitable for MC4-N...-DC
- For dimensions, see from page 700.

### TECHNICAL DATA

- Withdrawable unit complete with control circuit plug unit
- $I_n$  max. at 20 °C – 1600 A
- $I_n$  max. at 40 °C – 1500 A
- Mounting position: vertical
- 3 positions: retracted, test, extended. The 3 positions are shown mechanically.
- Auxiliary contacts can also be used for remote signalling. Either an NC or NO contact per position.
- All connections of auxiliary switches (HIA, HIN, HIV) and undervoltage and shunt releases to the control circuit plug units are already present.
- **Withdrawable unit and withdrawable module only available in combination with switch.**
- Add an A to switch part number (e.g.: MC463233A), will be supplied prepared for withdrawable units.
- Socket base can be ordered separately and supplied pre-assembled.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>SOCKET BASE</b>				
Socket base, 3-pole	MC4-XAVS	9004840263718		<b>MC496713</b>
Socket base, 4-pole	MC4-4-XAVS	9004840387476		MC496714
<b>WITHDRAWABLE MODULE</b>				
Withdrawable module, 3-pole (delivered with switch, add an A to switch part number)				
Withdrawable module, 4-pole (delivered with switch, add an A to switch part number)				



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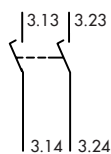
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## EARLY-MAKE AUXILIARY CONTACT TYPE MC4-XHIV



MC496172



### SCHRACK INFO

- For interlock- and load-shedding circuits as well as for early-make of undervoltage release in main switch/Emergency-stop applications.

### TECHNICAL DATA

- Not in connection with undervoltage release MC4-XU... or shunt release MC4-XA... Early-make during switch on and off (manual switch): approx. 20 ms
- Not in connection with remote operator MC-XR  
Undervoltage- or shunt voltage releases
- Breaking capacity: AC15: 4 A / 230 VAC  
DC13: 3 A / 24 VDC, 0.2 A / 220 VDC

### TIPS & TRICKS

Maximum component installation with auxiliary contact:

1 x early-make auxiliary contact

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Early-make auxiliary switch, 2 NO contacts	MC4-XHIV	9004840263336		MC496172



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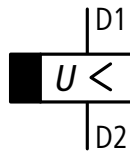
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## UNDervOLTAGE RELEASE TYPES MC4-XU



MC496189



### SCHRACK INFO

- For use in emergency stop devices in connection with EMERGENCY STOP button
- Installed in breaker
- Without auxiliary contact
- Non-delayed switching of circuit breaker MC/ load-break switch MC-N when the control voltage drops below 35% – 70%  $U_s$ .
- Other voltage variants available upon request.

### TIPS & TRICKS

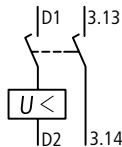
When the undervoltage release is de-energised, accidental contact with the main contacts of the switch is safely prevented during attempts to switch on. Undervoltage release cannot be installed simultaneously with a shunt release or early-make auxiliary contact MC4-XHIV.

VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
24 VAC	MC4-XU24AC	9004840263343		<b>MC496189</b>
24 VDC	MC4-XU24DC	9004840263381		MC496204
208 - 240 VAC	MC4-XU208-240AC	9004840263367		<b>MC496193</b>
380 - 440 VAC	MC4-XU380-440AC	9004840263374		MC496194

## UNDervOLTAGE RELEASE WITH TWO EARLY-MAKE AUXILIARY CONTACTS TYPES MC4-XUHIV



MC496221



### SCHRACK INFO

- With 2 early-make auxiliary contacts
- For early-make of the undervoltage release in main switch applications and for interlock- and load-shedding circuits
- Installed in breaker
- Other voltage variants available upon request.

### TIPS & TRICKS

When the undervoltage release is de-energised, accidental contact with the main contacts of the switch is safely prevented during attempts to switch on. Early-make of auxiliary contacts during switch on and off (20 ms). Undervoltage release cannot be installed simultaneously with a shunt release or early-make auxiliary contact MC4-XHIV.

VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
208 - 240 VAC	MC4-XUHIV208-240AC	9004840263404		MC496221
380 - 440 VAC	MC4-XUHIV380-440AC	9004840263411		MC496222



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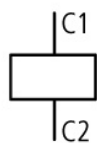
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## SHUNT RELEASE TYPES MC4-XA



MC496451


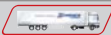


### SCHRACK INFO

- Without auxiliary contact
- Switches are tripped by a voltage pulse or by applying uninterrupted voltage
- Other voltage variants available upon request.

### TECHNICAL DATA

When the shunt release is de-energised, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Shunt release cannot be installed at the same time with undervoltage releases or early-make auxiliary contact MC4-XHIV.

VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
24 VAC/DC	MC4-XA24AC/DC	9004840263428		<b>MC496447</b>
208 - 250 VAC/DC	MC4-XA208-250AC/DC	9004840263466		<b>MC496451</b>



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## REMOTE OPERATOR FOR MC4



MC496685

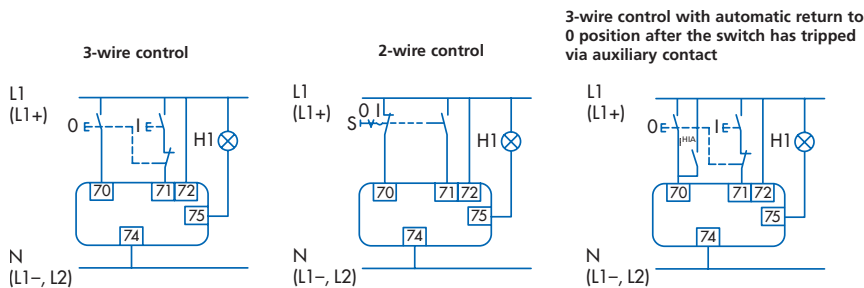
### SCHRACK INFO

- Remote operator can be combined with circuit breaker MC and load-break switch MC-N, but not with load-break switch MC-PN.
- Do not switch off switch simultaneously via remote control and release via undervoltage/shunt release.
- 1 auxiliary contact MM-K(CK).. must be installed in circuit breaker (included with remote operator)
- Other voltage variants available upon request.
- For dimensions, see from page 700.

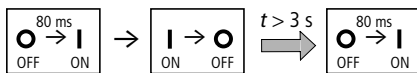
### TECHNICAL DATA

- On/Off switching and reset by means of continuous or pulse contact.
- Can be synchronised
- Switching time, ON:  $\leq 100$  ms
- Local switching by hand possible
- Pause between Off and On: 3 sec.  
On command is ignored
- Function of terminal 75:  
Ready for operation signal, when cover is closed and not locked.  
AC-15: 2 A / 400 V  
DC-13: 0.2 A / 220 V

### CIRCUIT DIAGRAMS

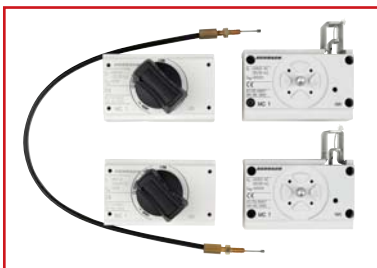


### SWITCHING CYCLE



VOLTAGE	TYPE	EAN CODE	AVAILABLE	ORDER NO.
208 - 240 V AC	MC4-XR208-240AC	9004840263626		<b>MC496685</b>

## MECHANICAL INTERLOCK FOR (DOOR COUPLING) ROTARY HANDLES FOR MC4



MC491584 + MC191585

### SCHRACK INFO

- **Rotary handle on switch or door coupling rotary handle additionally required.**
- Cannot be combined with door sealing frame
- At least 2 interlocking modules are required to construct a mechanical interlock.
- Order Bowden cable separately
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Mechanical interlock	MC4-XMV	9004840403251		MC491584
Bowden cable 225 mm	MC XBZ225	9004840403206		<b>MC191585</b>
Bowden cable 600 mm	MC XBZ600	9004840403213		<b>MC191586</b>
Bowden cable 1000 mm	MC XBZ600	9004840403220		MC191587

## MECHANICAL INTERLOCK FOR REMOTE OPERATOR MC4-XR



MC494547




MC494547 - mounted

### SCHRACK INFO

- For 2 switches of the same or next frame size side by side
- Side-by-side mounting
- Mounted on top of each other, long version
- Contains parts for 2 switches
- Remote operators also required
- For dimensions and maximum switch clearances, see from page 700.

### NOTE

Cannot be combined with rotary handles, door coupling rotary handles and early-make auxiliary contacts.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Mechanical interlock for MC3/4	MC3/4-XMVR	9004840520705		MC394546
Mechanical interlock for MC3/4 long version	MC3/4-XMVRL	9004840521092		MC394551
Mechanical interlock for MC4	MC4-XMVR	9004840520309		<b>MC494547</b>
Mechanical interlock for MC4 long version	MC4-XMVRL	9004840521184		MC494552

## ROTARY HANDLE DIRECTLY ON SWITCH FOR MC4



MC496608

### SCHRACK INFO

- Complete with rotary drive
- Can also be combined with door sealing frame
- For dimensions, see from page 700.

### TECHNICAL DATA


Available in the following versions:

#### Type MC.-XDV

Lockable in position "0" (up to three padlocks), black/grey

#### Type MC.-XDVR

Lockable in position "0" (up to three padlocks), EMERGENCY STOP red/yellow

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rotary handle for MC4 lockable, black/grey	MC4-XDV	9004840263503		<b>MC496608</b>
Rotary handle for MC4 lockable, Emergency Stop, red/yellow	MC4-XDVR	9004840263510		MC496610



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## DOOR COUPLING ROTARY HANDLES UND MAIN SWITCH KITS FOR MC4



MC494614 - Rotary drive



MC494614 - Coupling part



MC496608

### SCHRACK INFO

- Complete including rotary drive and coupling parts
- Degree of protection IP66
- Rotary handle can be rotated 90° for switches mounted horizontally
- Cannot be defeated in the locked OFF and ON positions
- Can be modified when in the unlocked ON position, can be defeated from the outside with a screwdriver
- Door can be opened in OFF
- External warning plate/additional plate can be clipped on
- For dimensions, see from page 700.

### NOTE

- Order extension shaft separately!

### TECHNICAL DATA

Available in the following versions:

#### Type MC.-XTVD

Lockable in position "0" on handle with up to three padlocks, with door interlock, black/grey

#### Type MC.-XTVDV



Lockable in position "0" on handle and switch with up to three padlocks, with door interlock, black/grey

#### Type MC.-XTVDVR

Lockable in position "0" on handle and switch with up to three padlocks, with door interlock, EMERGENCY STOP red/yellow

Main switch kit consisting of:

- Door coupling rotary handle + rotary drive XTVD/XTVDR
- Extension shaft XV4
- External warning plate
- Lightning arrow

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>DOOR COUPLING ROTARY HANDLES</b>				
For MC4 with door interlock, lockable, black/grey	MC4-XTVD	9004840263534		<b>MC496614</b>
For MC4 with door interlock, lockable, "0", "1", black/grey	MC4-XTVDV	9004840263541		MC496616
For MC4 with door interlock, lockable, Emergency Stop, red/yellow	MC4-XTVDVR	9004840263558		<b>MC496618</b>
<b>MAIN SWITCH KITS</b>				
For MC4 lockable, black/grey	MC4-XHB	9004840405026		MC491779
For MC4 lockable, Emergency Stop, red/yellow	MC4-XHBR	9004840405033		MC491842



## EXTENSION SHAFT FOR MC4



MC391234

### SCHRACK INFO

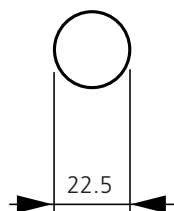
- For maximum cabinet depths of 400 or 600 mm
- Can be cut to required length
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Extension shaft for MC4, max. 400 mm	MC3/4-XV4	9004840263060		<b>MC391234</b>
Extension shaft for MC4, max. 600 mm	MC3/4-XV6	9004840262971		<b>MC390193</b>

## TUNNEL TERMINAL FOR MC4



MC496836



### SCHRACK INFO

- Installation outside switch housing
- Contains parts for one switch side located at top or bottom for 3 pole switches
- Comes with terminal for control circuit cabling as standard for copper conductors 1 x (0.75 to 2.5 mm<sup>2</sup>), 2 x (0.75 to 1.5 mm<sup>2</sup>)
- Terminal capacities:  
Cu/Al cable 1 x (50 to 240 mm<sup>2</sup>) to 4 x (50 to 240 mm<sup>2</sup>)
- For dimensions, see from page 700.

### TECHNICAL DATA

- For Cu and Al cables, max. 1400 A
- Including cover
- Stranded round conductor / stranded sector-shaped conductor

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Tunnel terminal 4 x 240 mm <sup>2</sup> for MC4 3-pole	MC4-X kA	9004840263817		<b>MC496836</b>
Tunnel terminal 4 x 240 mm <sup>2</sup> for MC4 4-pole	MC4-4-X kA	9004840387384		<b>MC496837</b>

## RIBBON CABLE FOR MC4



MC496829

### SCHRACK INFO

- $I_n \leq 1100$  A
- When mounting switch on conductive mounting plates you must use cover plate MC4(-4)-XKSA
- Use cover plate for phase isolator plates
- Contains parts for one switch side, top or bottom
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Flat conductor terminal for MC4/MC4-N, 3-pole	MC4-XKB	9004840387360		<b>MC496829</b>
Flat conductor terminal for MC4-4/MC4-N-4, 4-pole	MC4-4-XKB	9004840387377		MC496831

## ■ CABLE LUG FOR MC4



MC390040

### ■ SCHRACK INFO

- Special cable lug in slimline design
- The cable lugs must be insulated when using without a cover plate.
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Cable lug 185 mm <sup>2</sup> , for MC4	MC3/4-XKS185	9004840263886		<b>MC390040</b>
Cable lug 240 mm <sup>2</sup> , for MC4	MC3/4-XKS240	9004840262667		<b>MC390041</b>

## ■ REAR CONNECTION FOR MC4



MC496842

### ■ SCHRACK INFO

- Contains parts for one switch side, top or bottom
- Can be mounted additionally:  
module plate MC4...-XKM... or connection width extension MC4...-XKV...
- Max. terminal capacities 1250 A:  
Cu cable lugs 1 x (120 to 185 mm<sup>2</sup>), 2 x (95 to 185 mm<sup>2</sup>), 4 x (35 to 185 mm<sup>2</sup>)  
Al cable lugs 1 x 185 mm<sup>2</sup>, 2 x (70 to 185 mm<sup>2</sup>), 4 x (50 to 185 mm<sup>2</sup>)
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rear connection, 3-pole for MC4	MC4-XKR	9004840263824		MC496842

## ■ PHASE ISOLATOR FOR MC4



MC496873

### ■ SCHRACK INFO

- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Are included in the connection width extension MC4(-4)-XKV...
- Insulation protection where cable lugs, busbars or flat conductor are connected.
- Cannot be combined with tunnel terminal, rear connection
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Phase isolator for MC4 (2 pcs.)	MC4-XKP	9004840560404		<b>MC496873</b>
Phase isolator for MC4-4 (3 pcs.)	MC4-4-XKP	9004840560411		MC496874



## MODULE PLATE FOR MC4



MC496814



MC496820



MC494473

## SCHRACK INFO

- For M10 screws, can be bored for M12 screws
- Use special cable lugs in slimline design
- Can be mounted to switch with screw connection
- Contains parts for one switch side, top or bottom
- Insulation through cover plate MC4(-4)-XKSA or phase isolator MC4(-4)-XKP necessary
- For dimensions, see from page 700.

## TECHNICAL DATA

- Terminal capacities, 1 bore: Cu cable lugs 1 x (120 to 300 mm<sup>2</sup>), 2 x (95 up to 300 mm<sup>2</sup>)
- Terminal capacities, 2 bore: Cu cable lugs 2 x (95 to 185 mm<sup>2</sup>), 4 x (35 up to 185 mm<sup>2</sup>)
- Connection width extension: 2 x (95 to 300 mm<sup>2</sup>)

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE</b>				
Module plate 1-hole for MC4/MC4-N, I <sub>n</sub> ≤ 1250 A	MC4-XKM1	9004840387308		<b>MC496814</b>
Module plate 2-hole for MC4/MC4-N, I <sub>n</sub> ≤ 1400 A	MC4-XKM2	9004840387315		<b>MC496820</b>
Connection extension MC4 3-pole 1600 A	MC4-XKM2S-1600	9004840403336		<b>MC494473</b>
<b>4-POLE</b>				
Module plate 1-hole for MC4-4/MC4-N-4, I <sub>n</sub> ≤ 800 A	MC4-4-XKM1	9004840387322		MC496815
Module plate 2-hole for MC4-4/MC4-N-4, I <sub>n</sub> ≤ 1000 A	MC4-4-XKM2	9004840387339		MC496821
Connection extension MC4 4-pole 1600 A	MC4-4-XKM2S-1600	9004840403343		MC494474



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## CONNECTION WIDTH EXTENSION FOR MC4





MC496826

### SCHRACK INFO

- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches including phase isolator.
- 5x bore for up to 6 cable lugs per phase
- Can be mounted to switch with screw connection
- Phase isolator included
- 4 mm bore holes fitted for control circuit terminal
- Terminal capacities: Cu cable lugs 4 x 300 mm<sup>2</sup>, 6 x (95 to 240 mm<sup>2</sup>)
- For dimensions, see from page 700.

### TECHNICAL DATA

Pole centre distance on MC4 (-4)-XKV95:	95 mm
Installation possible for current transformer:	up to width 130 mm at rail width of 80 mm
Pole centre distance on MC4 XKV110:	107.5 mm
Installation possible for current transformer:	up to width 135 mm at rail width of 80 mm
Pole centre distance on MC4-4-XKV120:	122 mm
Installation possible for current transformer:	up to width 164 mm at rail width of 80 mm

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Connection width extension MC4 3-pole 1600 A	MC4-XKV95	9004840387346		<b>MC496826</b>
Connection width extension MC4 4-pole 1600 A	MC4-4-XKV95	9004840387353		MC496827
Connection width extension MC4 3-pole 1600 A long version	MC4-XKV110	9004840521146		<b>MC491593</b>
Connection width extension MC4 4-pole 1600 A long version	MC4-4-XKV120	9004840521153		MC491594


## TERMINAL COVER FOR MC4



MC496846

### SCHRACK INFO

- Protection against accidental contact where cable lugs, rails are connected or tunnel terminals are used
- Contains parts for one switch side located at top or bottom for 3- or 4-pole switches
- Degree of protection IP4X front, side and rear, IP1X on the connection side when using insulated conductor material
- Cover plate already comes with tunnel terminals
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Terminal cover for MC4, 3-pole	MC4-XKSA	9004840263831		<b>MC496846</b>
Terminal cover for MC4, 4-pole	MC4-4-XKSA	9004840387407		MC496847



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## DOOR SEALING FRAME FOR MC4



MC494646

### SCHRACK INFO

- For toggle levers, rotary handles with rotary drive and remote operator
- Degree of protection IP40
- For rectangular cut-out on doors and enclosures with material thicknesses of 1.5 – 5 mm
- External warning plate / additional plate (optional) clipped
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Door sealing frame for MC4	MC4-XBR	9004840403329		MC494646

## SPACERS FOR MC4



MC390211

### SCHRACK INFO

- Enables fast and low-priced adjustment of different frame sizes with/without rotary handle or remote control to identical front depths
- Grid depth 17.5 mm, thread M5
- One set contains 4 x spacers
- 4 fastening screws included per switch
- For dimensions, see from page 700.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Spacers for MC4	MC3/4-XAB	9004840263015		<b>MC390211</b>



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# RESIDUAL CURRENT RELEASE RELAY WITH CONVERTER

## RESIDUAL CURRENT RELEASE RELAY FIR



MC900001



MC900002



MC900003

### SCHRACK INFO

- Residual current release relay in combination with external core-balance transformers. Switch-off can be achieved with undervoltage- and shunt voltage releases or a contactor.
- For dimensions, see page 712.

### TECHNICAL DATA

Version corresponds to:	IEC 947-2, IEC 755, IEC 1008, IEC 1009			
Sensitivity:	Pulse current sensitive, type A			
Rated control supply voltage $U_G$ (V):	230 +/- 20% (50/60 Hz)			
Rated operational power $P_e$ (W):	3			
Relay contacts:	1 CO integrated			
Rated voltage of relay contacts:	250 V AC 100 V DC			
Rated current of the relay contacts:	6 A			
Rated residual currents:	FIR-003	$I_{\Delta n}$	A	0.03
	FIR-03	$I_{\Delta n}$	A	0.3
	FIR-5	$I_{\Delta n}$	A	0.03 – 0.1 – 0.3 – 0.5 – 1 – 3 – 5
Time delay:	FIR-003	$t_V$	s	0.02 (non-delayed)
	FIR-03	$t_V$	s	0.02 (non-delayed)
	FIR-5	$t_V$	s	0.02 – 0.1 – 0.3 – 0.5 – 1 – 3 – 5

Residual current warning with FIR-5 0.5 Hz: 25% – 50%  $I_{\Delta n}$  (every 2 s)  
 by flashing red LED, flashing frequency: 1 Hz: 50% – 75%  $I_{\Delta n}$  (every 1 s)  
 2 Hz: 75% – <100%  $I_{\Delta n}$  (2 x per second)

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>RESIDUAL CURRENT RELEASE RELAY</b>				
Rated residual current $I_n = 0.03$ A pulse current sensitive	FIR-003	9004840421538		MC900001
Rated residual current $I_n = 0.3$ A pulse current sensitive	FIR-03	9004840421545		<b>MC900002</b>
Rated residual current $I_n = 0.03...5$ A pulse current sensitive	FIR-5	9004840421552		<b>MC900003</b>
<b>RESIDUAL CURRENT RELEASE RELAY WITH DISPLAY</b>				
Rated residual current $I_n = 0.03...3$ A pulse current sensitive	FIRD-3			on request
Rated residual current $I_n = 0.03...30$ A pulse current sensitive	FIRD-30			on request



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# RESIDUAL CURRENT RELEASE RELAY WITH CONVERTER

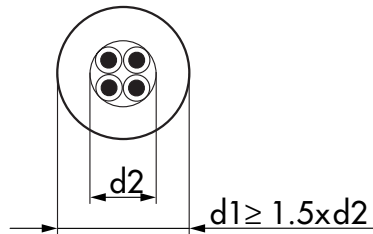
## CORE-BALANCE TRANSFORMER FIR-WS, FIR-W, FIR-WR



MC900070



MC910305



d1 ... Internal diameter of transformer  
d2 ... External diameter of cable

### SCHRACK INFO

- The internal diameter of the transformer d1 must be 1.5x larger than the total diameter d2 of the inserted conductors.
- For load circuits with inrush current  $.4 \times I_n$ , magnetic shielding is required.
- For dimensions, see page 712.

#### Core-balance transformer, round

Maximum nominal current		Diameter	
Energy distribution (A)	Motor/capacitor (A)	Transformer type FIR-W-... d1(mm)	Maximum wire diameter d2 (mm)
50	50	20	13
150	100	30	20
150	100	35	23
400	200	70	47
600	250	105	70
1200	630	140	93
1800	800	210	140

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>CORE-BALANCE TRANSFORMER, ROUND</b>				
Inner diameter 20 mm	FIR-WS-20	9004840421569		MC900020
Inner diameter 30 mm	FIR-WS-30	9004840421576		<b>MC900030</b>
Inner diameter 35 mm	FIR-W-35	9004840421583		<b>MC900035</b>
Inner diameter 70 mm	FIR-W-70	9004840421590		<b>MC900070</b>
Inner diameter 105 mm	FIR-W-105	9004840421606		<b>MC900105</b>
Inner diameter 140 mm	FIR-W-140	9004840421613		<b>MC900140</b>
Inner diameter 210 mm	FIR-W-210	9004840421620		MC900210

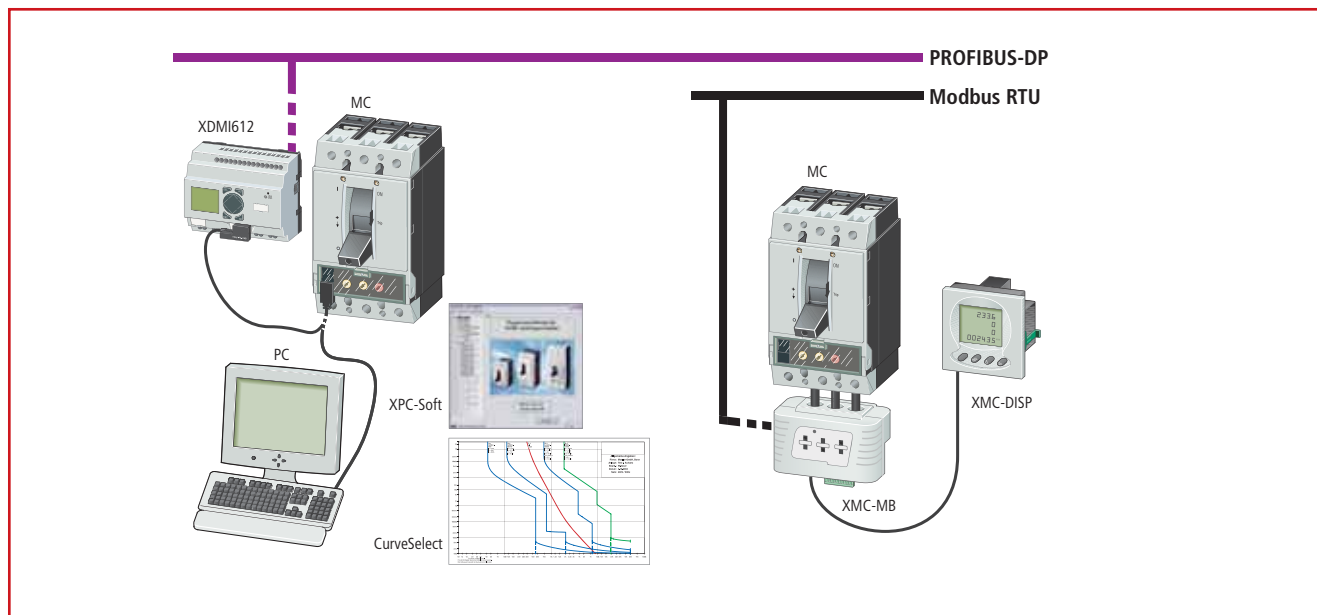
#### CORE-BALANCE TRANSFORMER, RECTANGULAR

70x175 mm (inner opening)	FIR-WR-175	9004840421637		<b>MC910175</b>
115x305 mm (inner opening)	FIR-WR-305	9004840421644		MC910305
150x350 mm (inner opening)	FIR-WR-350	9004840421651		MC910350

#### SHIELDING FOR ROUND CORE-BALANCE TRANSFORMER

For FIR-W-35	9004840465471	MC900010
For FIR-W-70	9004840465488	MC900011
For FIR-W-105	9004840465495	MC900012
For FIR-W-140	9004840465501	MC900013
For FIR-W-210	9004840465518	MC900014

## COMPONENTS FOR ENERGY MEASUREMENT AND COMMUNICATION



### SCHRACK INFO

For the compact circuit breakers MC, SCHRACK Technik offers the following components for energy measurement and communications:

- MC-XPC-Soft: Diagnostic software
- CurveSelect: Characteristic curve software for displaying the tripping characteristics
- MC-XMC-MB: Measurement and communication module
- MC-XDMI612: Data management interface with fieldbus connection for PROFIBUS DP and bus-wide diagnostic software

### XPC-SOFT

MC circuit breakers with electronic release provide all the necessary diagnostic data via a built-in interface directly to the USB or COM port of a connected PC. If an overload or short-circuit occurs, the MC immediately shuts down the system and documents the events with date and time if a PC is connected. Using XPC-Soft, the user can look at the history and analyse the possible cause.

The software can also output trend curves of the power consumption as MS Excel spreadsheets.

### CURVE SELECT

The characteristic curve software that is available free of charge allows a setting-specific display of tripping characteristic curves of several protective devices using the same time and current scales. Evaluating the interaction and selectivity of SCHRACK circuit breakers MC, open circuit breakers MON, motor protection switches BE, miniature circuit breakers and NH fuses is made considerably easier.

### DATA MANAGEMENT INTERFACE WITH PROFIBUS-DP INTERFACE

The Data Management Interface MC-XDMI612 with a field bus circuit for PROFIBUS-DP is available for this purpose.

The advantages of this solution are:

- A local indication on the built-in display shows all parameters of the circuit breaker
- The DMI can modify the tripping parameters of the switch by software. (Remote configuration)
- A total of 6 inputs and 6 outputs on the DMI can be used for remote control and for any user functions.
- A differentiated tripped message can be signalled locally via the outputs
- A central bus-wide diagnosis according to the FDT standard can be realised via the DMI with the DPV1 module. This requires the software MC-XPC-SOFT.

### MEASUREMENT AND COMMUNICATION MODULE

If the task is measuring and optimising of power consumption, the MC-XMC module is the right product.

It is designed as a compact unit with built-in current transformers, which determines the power and energy data by phase from the current and voltage measurements. The data is provided on the Modbus RTU. Applications up to 500 A can be served with the XMC; the measurements have high accuracy of 0.5%. Cable, rails or flat connectors may be used. The conductors are not cut, but routed through a tunnel in the device. An optional external door display allows direct local indication of measured values.

## DIAGNOSTICS AND PARAMETERISATION SOFTWARE



### SCHRACK-INFO

For the diagnosis of circuit breakers with electronic release via a PC and for the parameterisation of the DMI module via a PC. Including necessary connection cable between MC and PC (MC-XPC-CAB) and DMI and PC (DMI-XPC-CAB). Can only be used in combination with circuit breakers with electronic releases.

### TECHNICAL DATA

PC software for direct connection to all MC circuit breakers with electronic release or for connection to the DMI module, including connecting cable. Protection parameters: Online display and characteristic representation, export option to characteristics program. Warning and trip signals: Reads diagnostics memory even in de-energised state. Load currents: Display and trend representation. Recording and export feature to MS-Excel for load currents and diagnosis signals. Configuration of the DMI: Motor starter, remote operator, assignment of the input and outputs and displays.

### EXAMPLE

Should an overload, short circuit or other fault arise, your system or installation must be switched off immediately so as not to put staff at risk and to prevent damage to property. Once your installation has been switched off, you should address the following questions:

- Where is the fault?
- What can be done about it?
- When can the installation be reconnected to the mains?

The MC circuit breaker provides all the answers. It not only interrupts the current supply in a fraction of a second, but also directly documents which phases are affected at the location of the fault, what chain of events brought about the fault, which settings have been changed and much more.

### TIPS & TRICKS

#### Trip

Intelligent MC circuit breakers record the cause of a trip in their internal memory. The memory's detailed information about ten events, which allows you to rapidly get to the root of the fault based on specific information. The information is displayed clearly and concisely with the MC-XPCSOFT application. The file can be deleted, printed out and emailed to enable subsequent analysis of the fault. The MC event log clears up inconsistencies and transmission errors over the entire lifecycle of the circuit breaker and low-voltage installation. Even replaced switches can be traced based on their internal serial number. MC-XPC-SOFT supports 9 languages for world-wide use.

#### MC protection settings

By using selectively staggered MCs, the power interruption is limited to the areas actually affected by the fault. In this way, the impact and cost of any fault are minimised without compromising on security. MC-XPC-SOFT is able to precisely show the active tripping characteristic and the planned selectivity using the pre-selected switch setting and tripping characteristic. This means you can choose the best-possible protection parameters in direct comparison with parent and child switching devices, even at implementation time. Any faults can be recognised immediately thanks to visual comparison between the different protection settings. This is also possible for visualising adjustments such as those which are possible any time in low-voltage distribution boards. Even adjustment to a predefined motor characteristic is possible using a graphics-based optimisation of the protection features to the inrush, starting and operating current of the motor.

#### Documenting the current requirement

MC does not only supply useful data in the event of a current interruption: In regular mode, the circuit breaker can also be used to generate load analyses. To do so, simply connect the MP to a PC – MCXPC-SOFT will immediately begin documenting the RMS values of all phases. MC can be used to document the development of the current requirement in detail. For example, you can record the precise load development for an entire working week. Afterwards, you can further process and compare this data using the log function in MS Excel® file format. In this way, you can get a good overview of insightful current developments. In this way, you can improve the efficiency of your production processes and develop your power distribution system with regard to the future. This will soon make the MC an indispensable part of your Resource Management.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Diagnostics and parameterisation software	MC-XPC-KIT			on request



## DATA MANAGEMENT INTERFACE (DMI MODULE)



MC9260217

### SCHRACK-INFO

PC software for direct connection to all MC circuit breakers with electronic releases. Access to diagnostics and operational data, recorded current values, motor starter function, parameterisation and control of circuit breakers with electronic release. A vast range of remote diagnosis capabilities and remote operation via Fieldbus in combination with a Fieldbus interface. Includes connecting cable between MC and DMI (length: 2 m) for MC2.E, MC3.E and MC4.E. For dimensions, see page 709.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Data Management Interface	MC-XDMI612			on request

## PROFIBUS MODULE DPV1



MC9270333

### SCHRACK-INFO

- Fieldbus interface to PROFIBUS DPV1 slave
- Connected to the DMI module and has the same contour appearance.
- Addressable 1 to 126
- For dimensions, see page 709.

### TECHNICAL DATA

Connection to the DMI module for transfer of the phase currents, parameter, status and diagnostics data as well as the position of the circuit-breaker (wiring of the auxiliary contact to the DMI inputs). DMI configuration via field bus. Actuation of the remote operator (via DMI output wiring). Detection of digital inputs and actuation of the outputs via the Fieldbus. Can be operated with class 1 and class 2 masters.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Profibus module	MC-XDMI-DPV1			on request

## MEASUREMENT AND COMMUNICATION MODULE XMC-MB



### SCHRACK-INFO

- To measure current, voltage, power and energy
- The module has three built-in current transformers and three voltage taps that provide contact by self-tapping screws by piercing through the cable insulation.
- Power supply 24 VDC
- 2 SO pulse outputs
- Modbus interface (slave)
- The total energy consumption value is displayed permanently on the module
- The display unit DISP MC-XMC can be connected for local display of measurement data
- Expandable with max. two additional groups of MC-XMC

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Measurement and communication module	MC-XMC-MB			on request

## DIGITAL DISPLAY UNIT XMC-DISP



### SCHRACK-INFO

- For door mount (connected as a local display)
- For all measurement and communication modules with Modbus interface
- Phase-related indication of currents, voltages, power and energy values
- Dimensions: 96 x 96 mm

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Digital display unit	MC-XMC-DISP			on request

## SWITCHED-MODE POWER SUPPLY FOR DMI MODULE



EA212319

### SCHRACK-INFO

- For DMI module
- Rated input voltage: 50/60 Hz 115/230 V AC
- Rated output voltage (residual ripple): 24 V DC ( $\pm 3\%$ )
- Rated output current: 1.25 A
- Identical contours with DMI module
- For dimensions, see page 709.

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Switched-mode power supply 100-240 V AC/24 V DC 1.25 A	EASY400-POW	9004840199178		EA212319



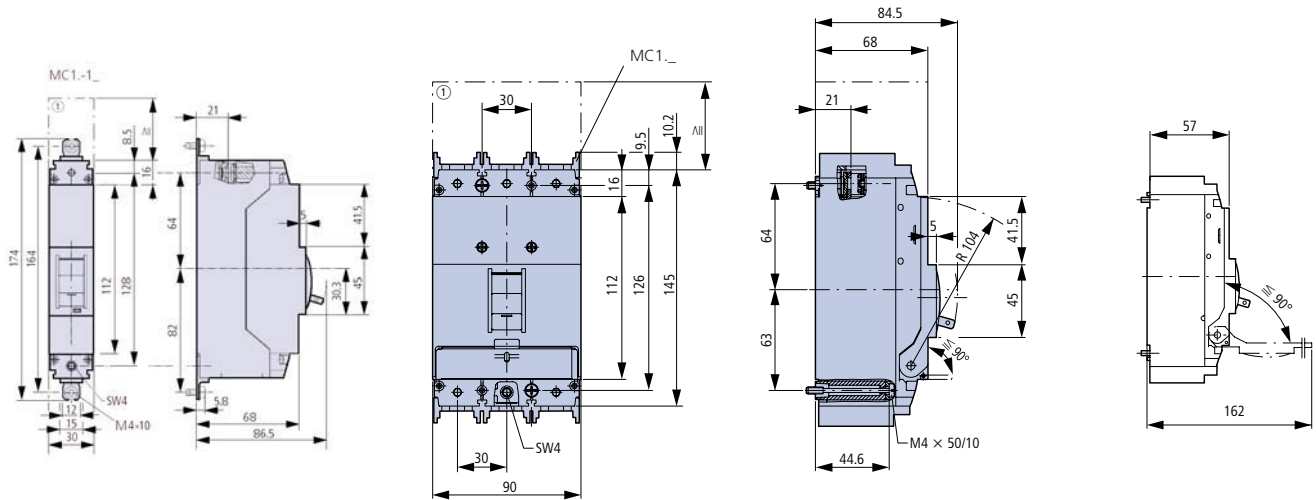
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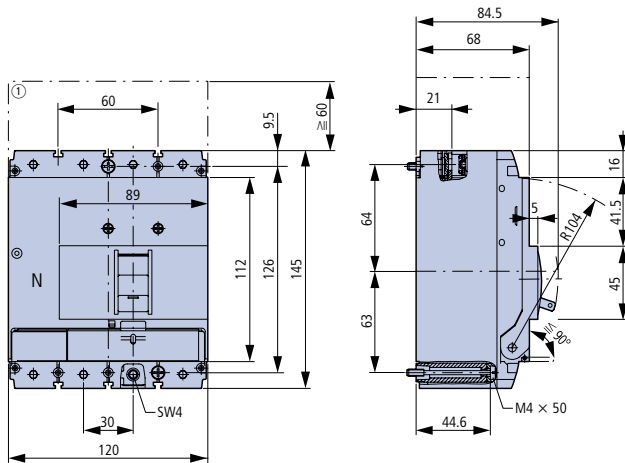
## FRAME SIZE 1: BASIC UNITS AND ACCESSORIES

### CIRCUIT-BREAKER / LOAD-BREAK SWITCH, 1-POLE AND 3-POLE TYPES MC1B, MC1B1-1, MC1C, MC1N, MC1H, MC1-PN, MC1-N



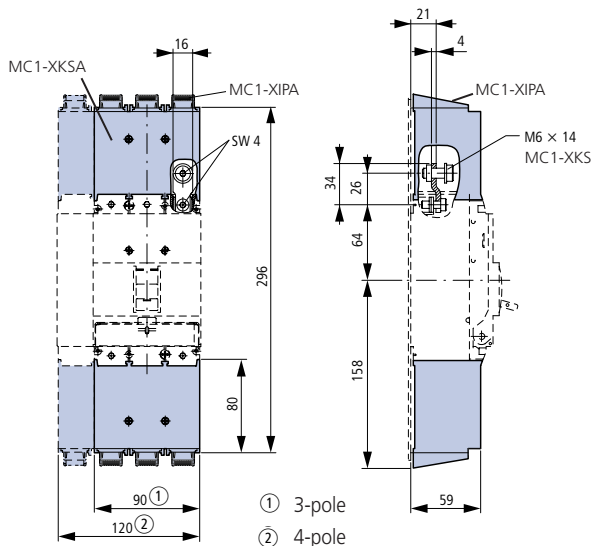
① Blow-out area, minimum clearance to other parts  $\geq 60$  mm

### CIRCUIT-BREAKER / LOAD-BREAK SWITCH, 4-POLE TYPES MC1B-4, MC1C-4, MC1N-4, MC1H-4, MC1-PN-4, MC1-N-4



① Blow-out area, minimum clearance to other parts  $\geq 60$  mm

### COVERS MC1-XKSA, MC1-4-XKSA FOR SCREW CONNECTION MC1-XKS, MC1-4-XKS AND IP2X FINGER-PROTECTION MC1-XIPA, MC1-4-XIPA

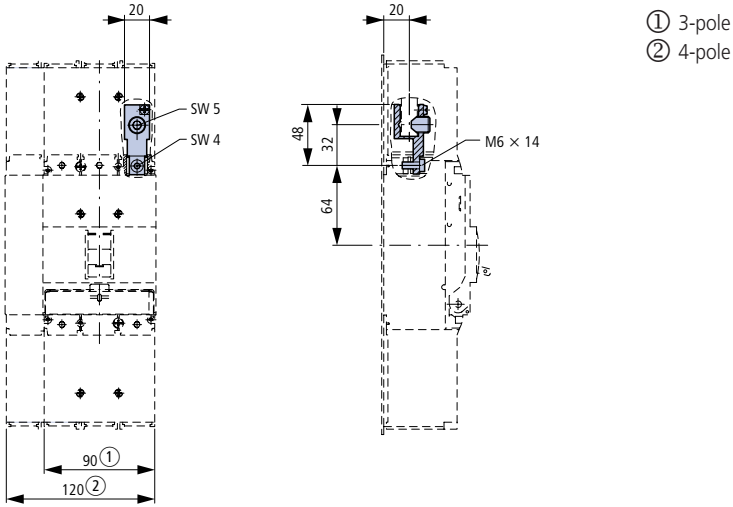


① 3-pole  
② 4-pole

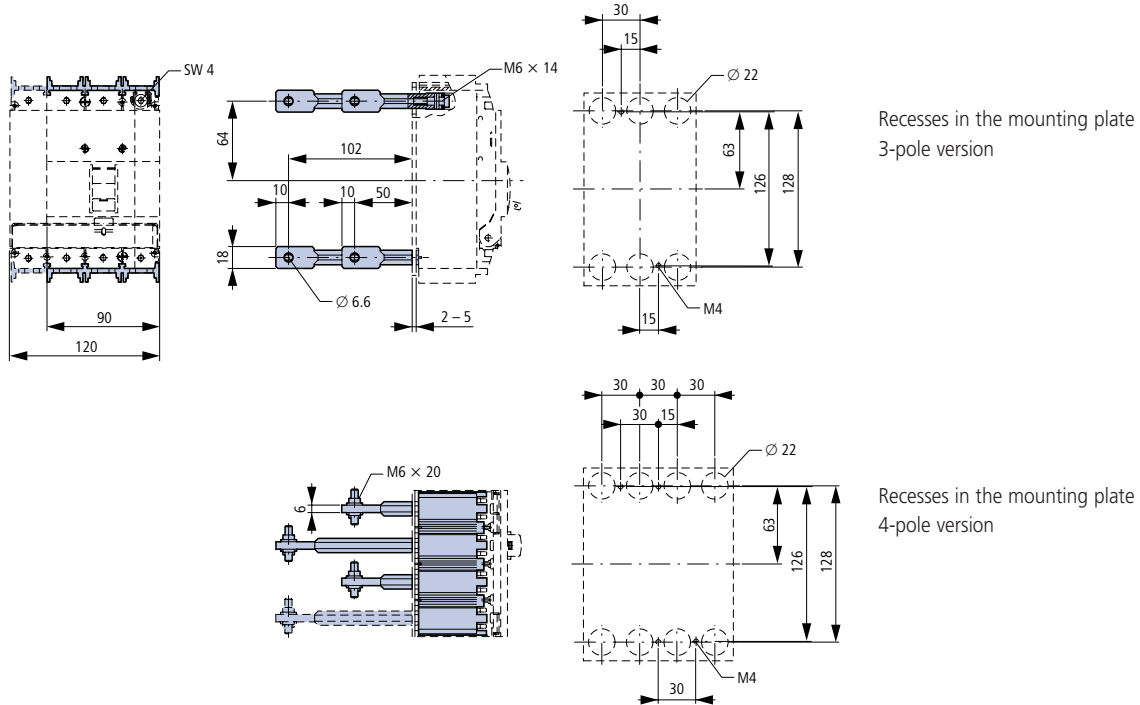
# DIMENSIONS MC

## FRAME SIZE 1: ACCESSORIES

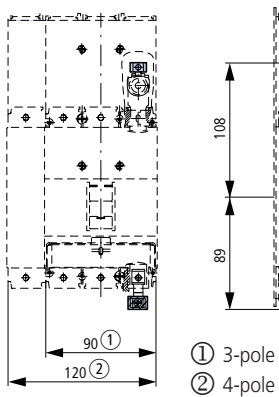
### TUNNEL TERMINAL, TYPES MC1-XKA, MC1-4-XKA



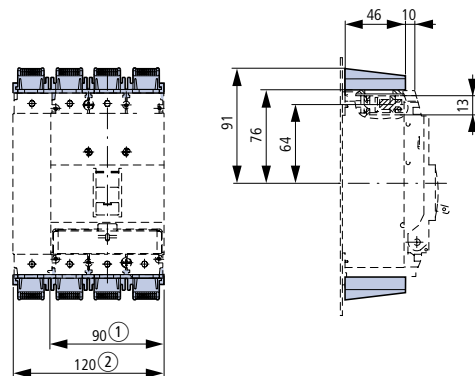
### REAR CONNECTION, TYPES MC1-XKR, MC1-4-XKR



### CONTROL LINE TERMINAL TYPE MC1-XSTK (-XSTS)



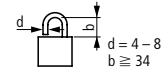
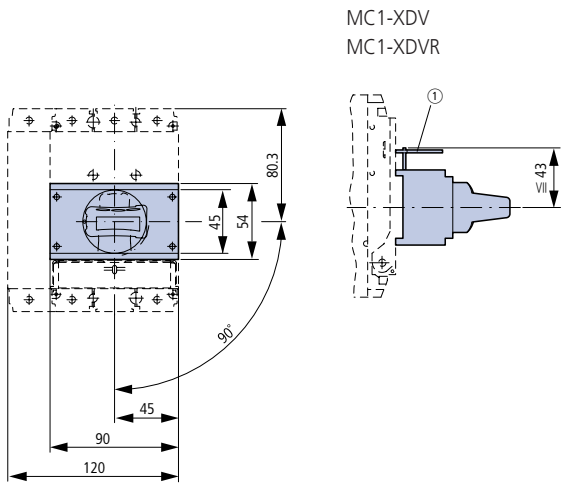
### IP2X FINGER PROTECTION TYPES MC1-XIPK, MC1-4-XIPK





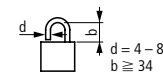
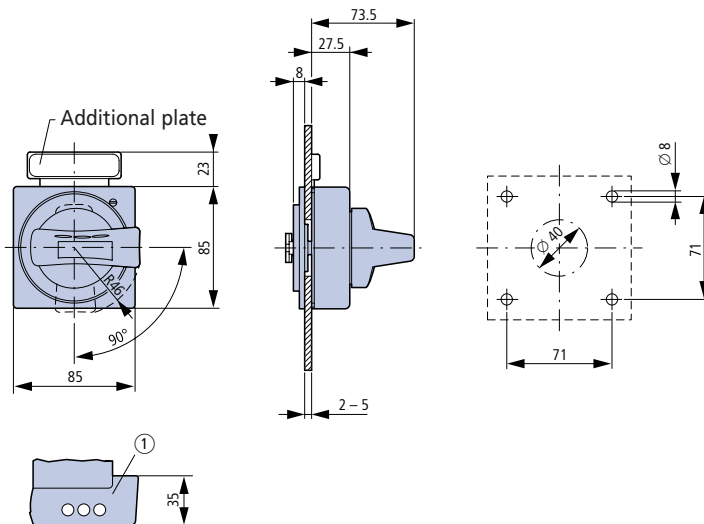
## FRAME SIZE 1: ACCESSORIES

### ROTAry OPERATOR, ROTAry HANDLE ON SWITCH, TYPES MC1-XDV, MC1-XDVR



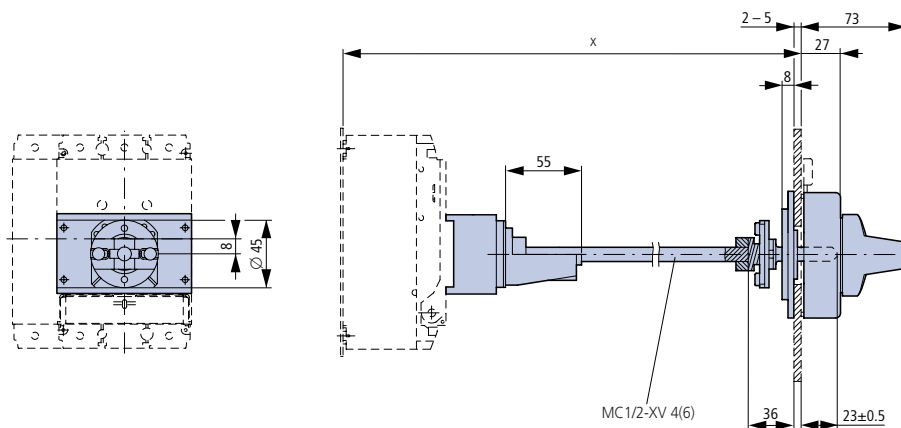
① Max. 3 padlocks

### DOOR COUPLING ROTAry HANDLE, TYPE MC1-XTVD(V)(R)

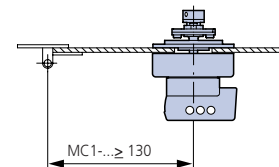


① Max. 3 padlocks

### DOOR COUPLING ROTAry HANDLE WITH EXTENSION AXIS, TYPES MC1/2-XV4...6



Minimum distance of door coupling rotary handle from door pivot point

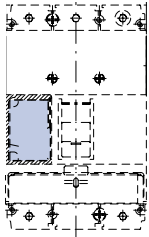


Type	x
MC1/2-XV4	210 - 400
MC1/2-XV6	400 - 600

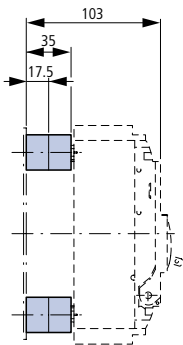
# DIMENSIONS MC

## FRAME SIZE 1: ACCESSORIES

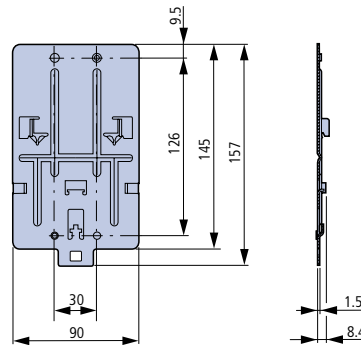
- INSTALLATION POSITION FOR UNDERVOLTAGE RELEASE MC1-XUL(XUVL), SHUNT RELEASE MC1-XAL, EARLY-MAKE AUXILIARY SWITCH MC1-XHIVL AND UNDERVOLTAGE RELEASE WITH 2 EARLY-MAKE CONTACTS MC1-XUHIVL



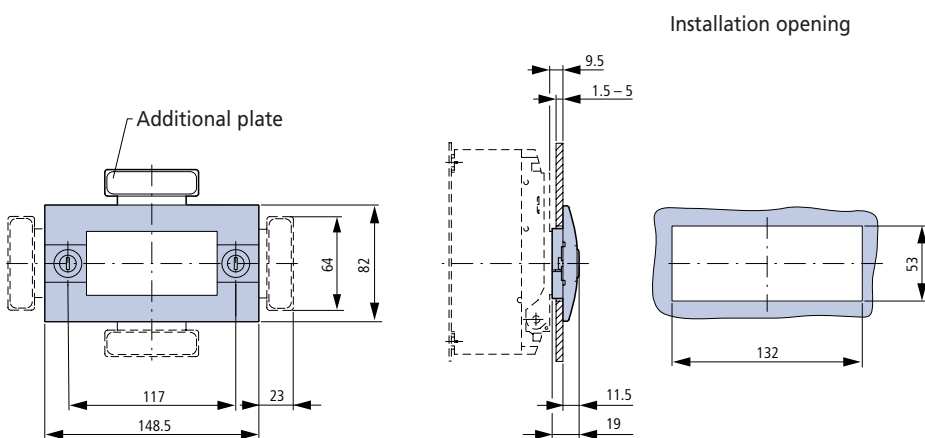
### SPACER TYPE MC1/2-XAB



### CLIP PLATE TYPE MC1-XC35



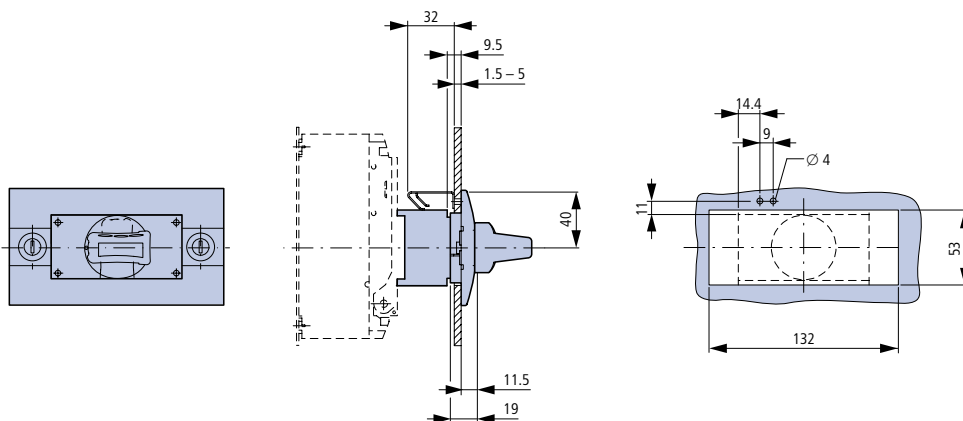
### DOOR SEALING FRAME, TYPE MC1-XBR



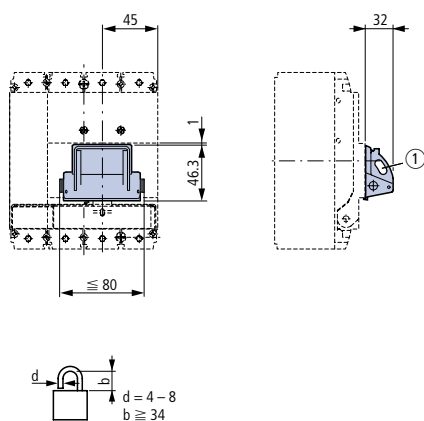
## FRAME SIZE 1: ACCESSORIES

### ROTARY HANDLE ON SWITCH WITH DOOR LOCK TYPE MC1-XDTV(R)

Installation opening



### TOGGLE LEVER LOCKING DEVICE, TYPE MC-XKAV



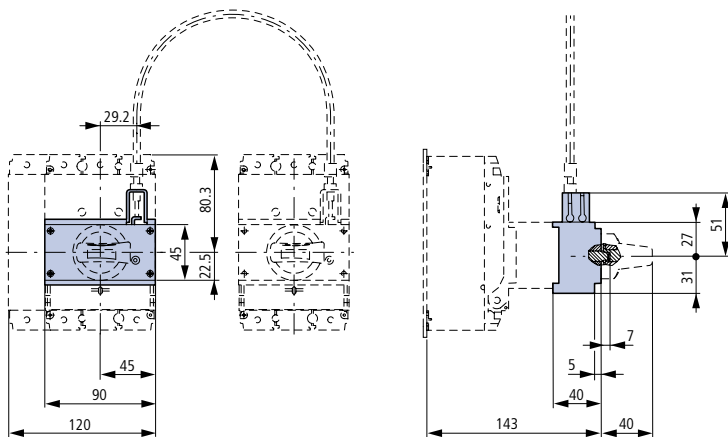
① Max. 3 padlocks

# DIMENSIONS MC

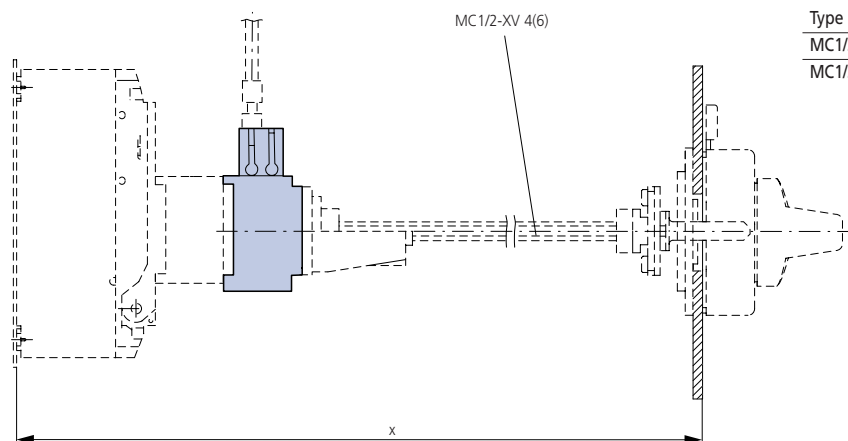
## FRAME SIZE 1: ACCESSORIES

### MECHANICAL INTERLOCK, TYPES MC1-XMV, MC1-XDV(R), MC1-XMV, MC1-XTVD(V)(R)

MC1-XMV + MC1-XDV(R)



MC1-XMV + MC1-XTVD(V)(R)

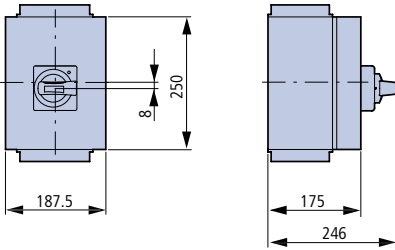


Type	x
MC1/2-XV4	245 – 400
MC1/2-XV6	400 – 600

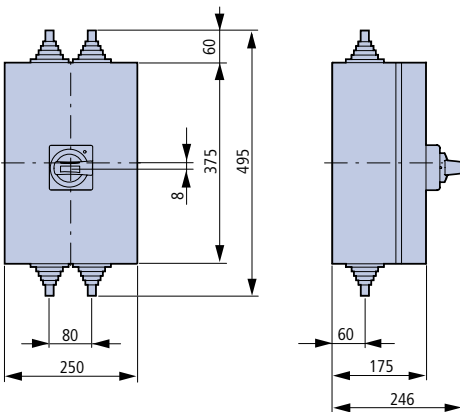
## FRAME SIZE 1: ACCESSORIES

### INSULATED ENCLOSURE, TYPES MC1-XCI23-TVD (R), MC1-XCI43-TVD (R), MC1-XCI43/2-TVD (R)

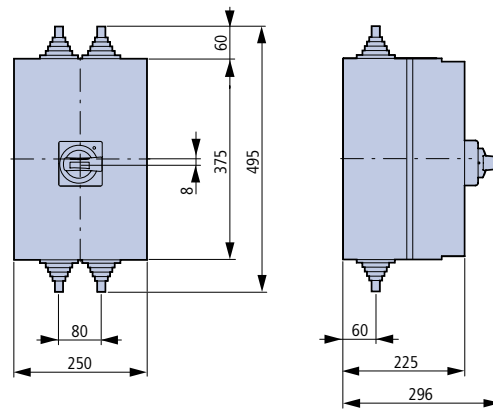
MC1-XCI23-TVD/TVDR



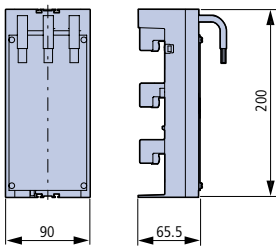
MC1-XCI43-TVD/TVDR



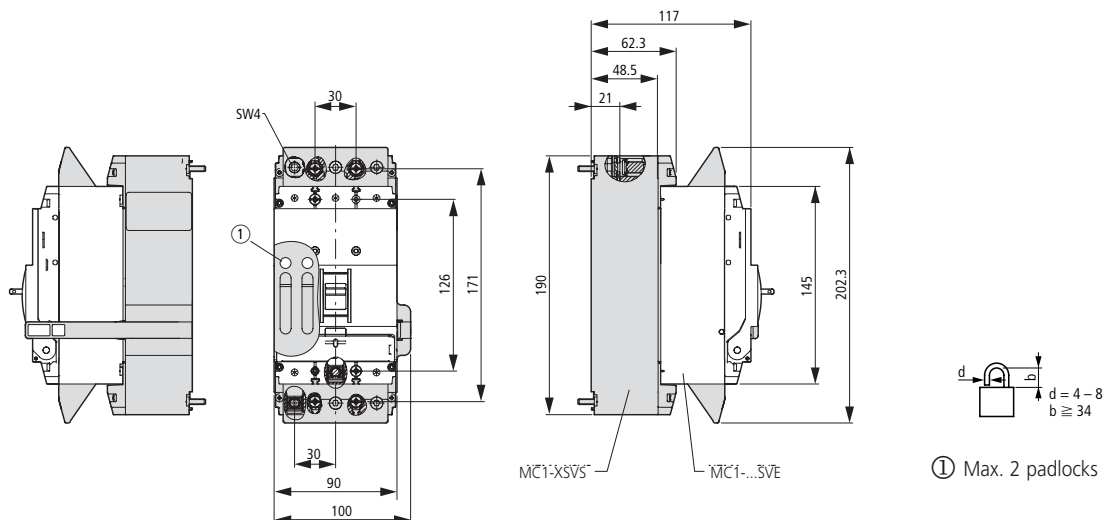
MC1-XCI43/2-TVD/TVDR



### COMPONENT ADAPTER, TYPE 32570



### SOCKET, TYPES MC1-XSVS WITH MC1-...-SVE, MC1-N-...-SVE

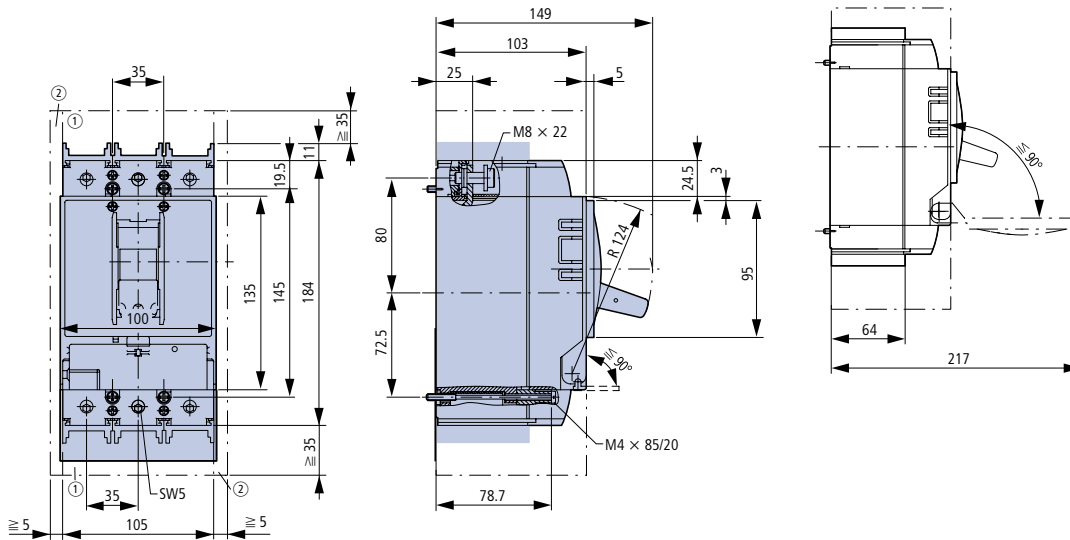


Dimensions in mm

# DIMENSIONS MC

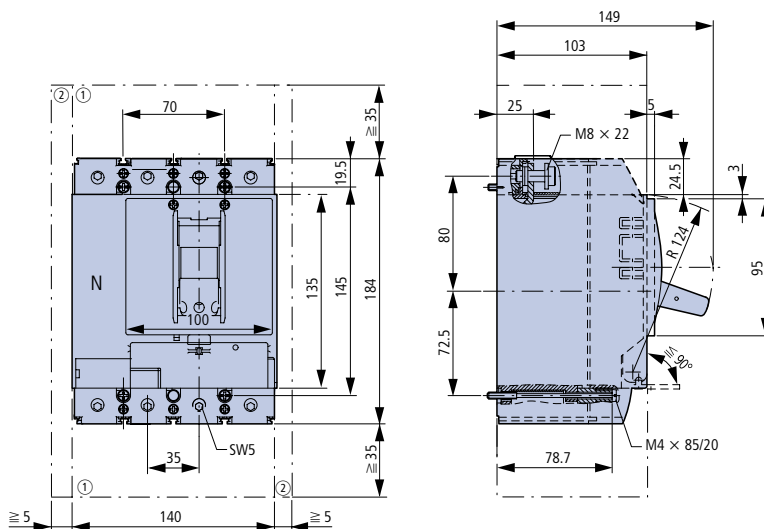
## FRAME SIZE 2: BASIC UNITS

### CIRCUIT-BREAKER / LOAD-BREAK SWITCH, 3-POLE TYPES MC2B, MC2C, MC2N, MC2H, MC2-PN, MC2-N



- ① Blow-out area, minimum clearance to other parts  $\geq 35$  mm
- ② Minimum clearance to adjacent parts  $\geq 5$  mm

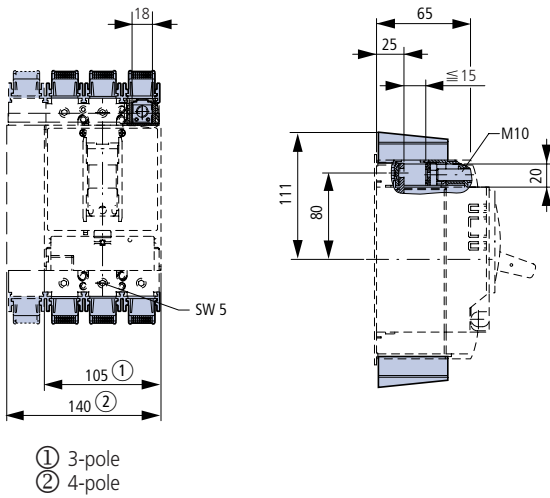
### CIRCUIT-BREAKER / LOAD-BREAK SWITCH, 4-POLE TYPES MC2B-4, MC2N-4, MC2H-4, MC2-PN-4, MC2-N-4, MC2-N-4-...S1-DC



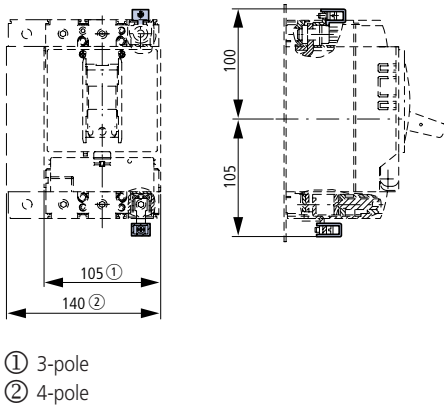
- ① Blow-out area, minimum clearance to other parts  $\geq 35$  mm
- ② Minimum clearance to adjacent parts  $\geq 5$  mm

## FRAME SIZE 2: ACCESSORIES

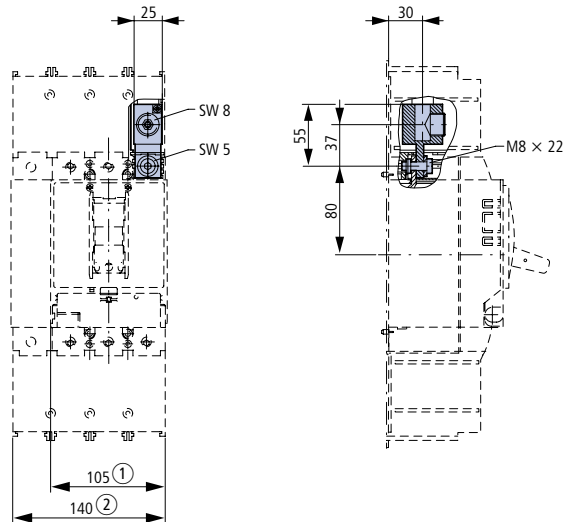
### BOX TERMINAL, TYPES MC2-...XKC, MC2-4-...XKC / IP2X FINGER PROTECTION, TYPES MC2-XIPK, MC2-4-XIPK



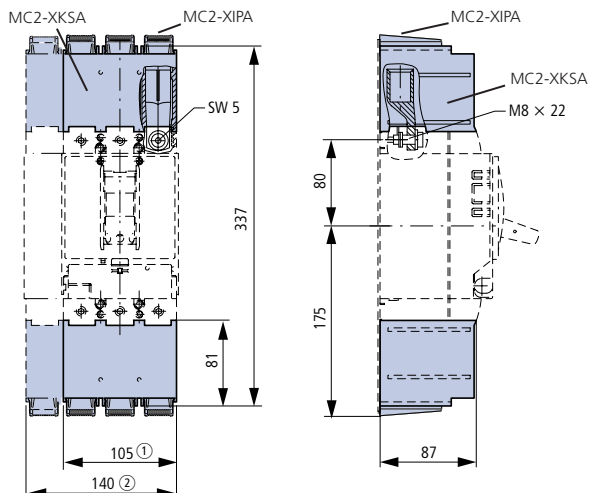
### CONTROL LINE TERMINAL TYPES MC2-XSTS, MC-XSTK



### TUNNEL TERMINAL TYPES MC2-XKA, MC2-4-XKA



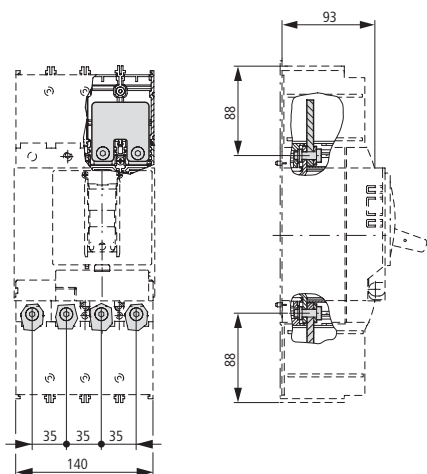
### COVER MC2 XKSA, MC2-4-XKSA FOR CABLE LUG MC2-XKS AND IP2X FINGER PROTECTION MC2-XIPA, MC2-4-XIPA



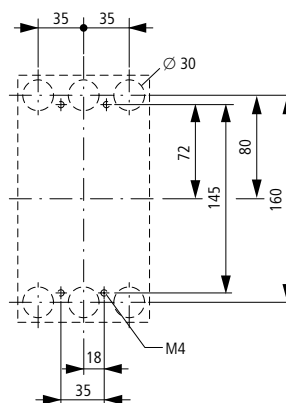
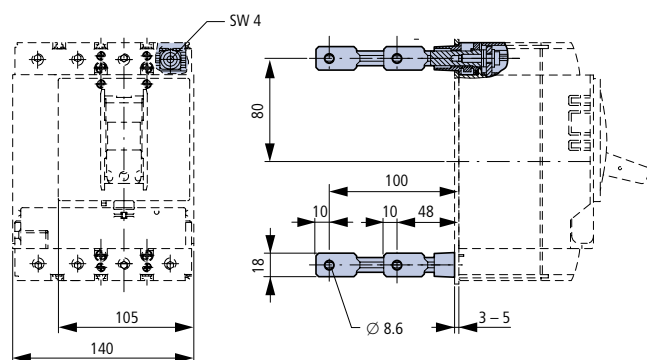
# DIMENSIONS MC

## FRAME SIZE 2: ACCESSORIES

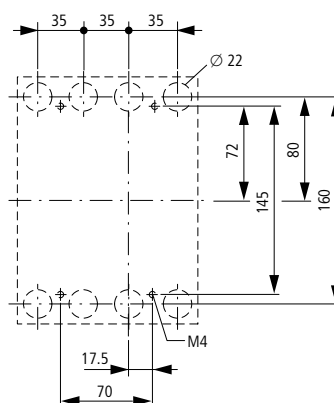
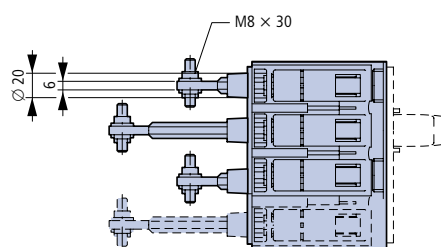
### JUMPER KIT, TYPE MC2-4-XKV2P



### REAR CONNECTION, TYPES MC2-XKR, MC2-4-XKR



Recesses in the mounting plate  
3-pole version

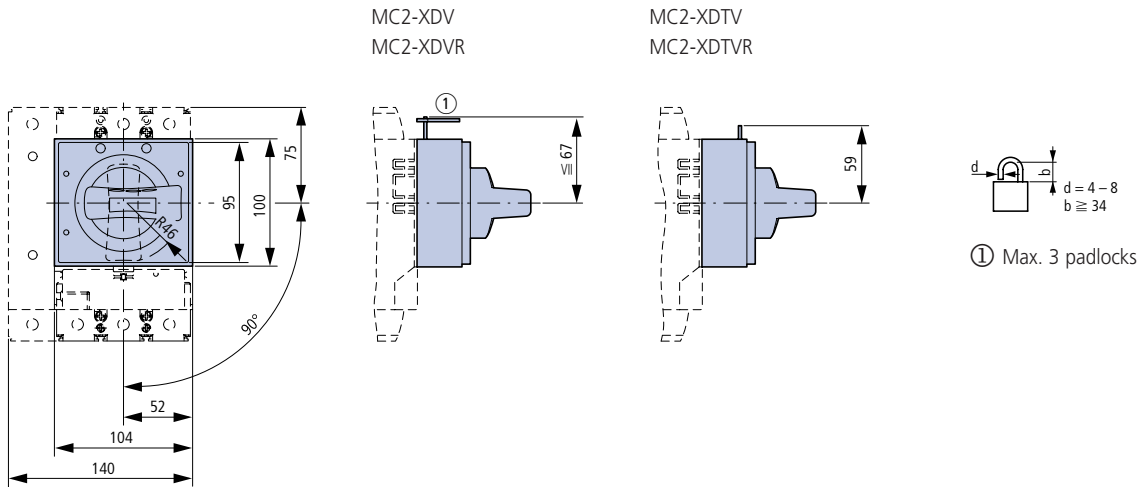


Recesses in the mounting plate  
4-pole version

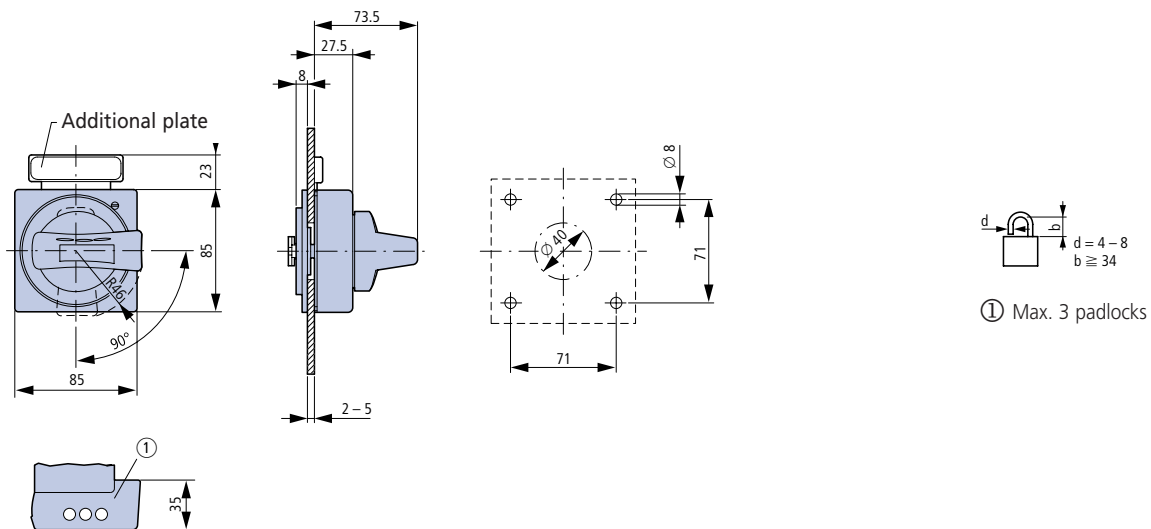


## FRAME SIZE 2: ACCESSORIES

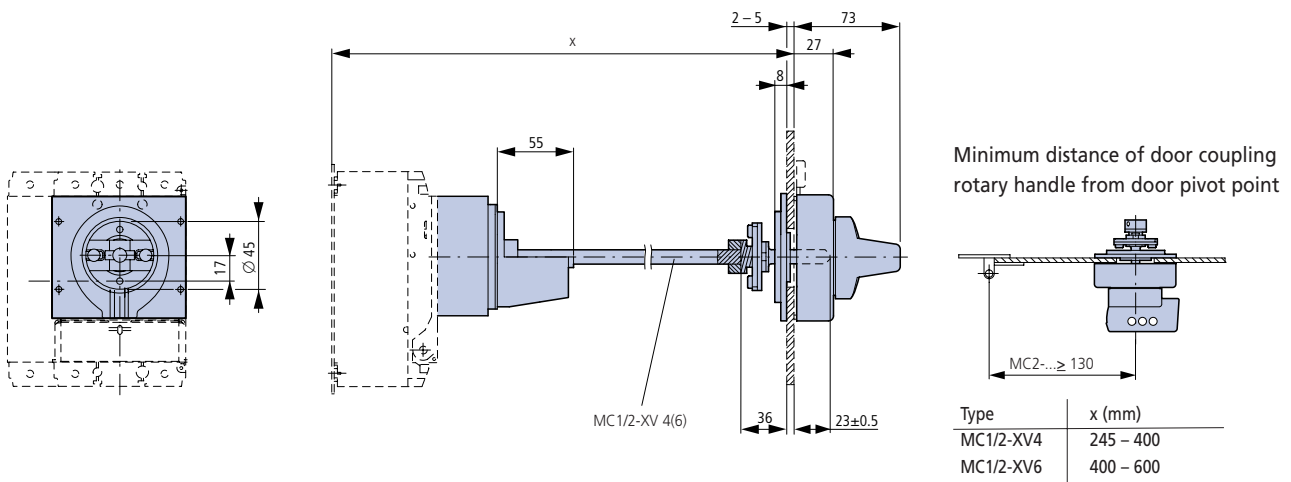
### ROTORARY OPERATOR, ROTARY HANDLE ON SWITCH, TYPES MC2-XDV, MC2-XDVR, MC2-XDTV, MC2-XDTV



### DOOR COUPLING ROTARY HANDLE, TYPE MC2-XTVD(V)(R)



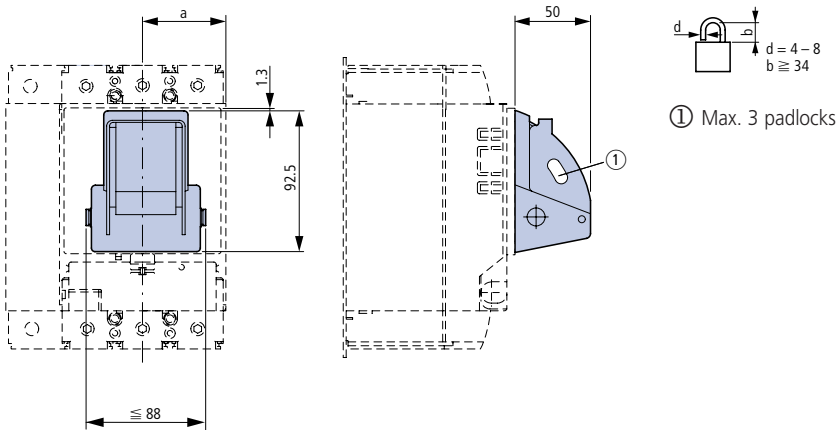
### DOOR COUPLING ROTARY HANDLE WITH EXTENSION SHAFT, TYPES MC2-XTVD(V)(R), MC1/2-XV4...6



# DIMENSIONS MC

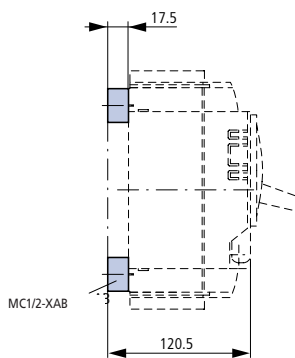
## FRAME SIZE 2: ACCESSORIES

### TOGGLE LEVER LOCKING DEVICE, TYPE MC2/3-XKAV

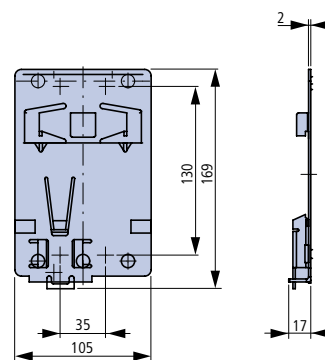


Type	a
MC2(-PN)(-N)	32
MC3(-PN)(-N)	32

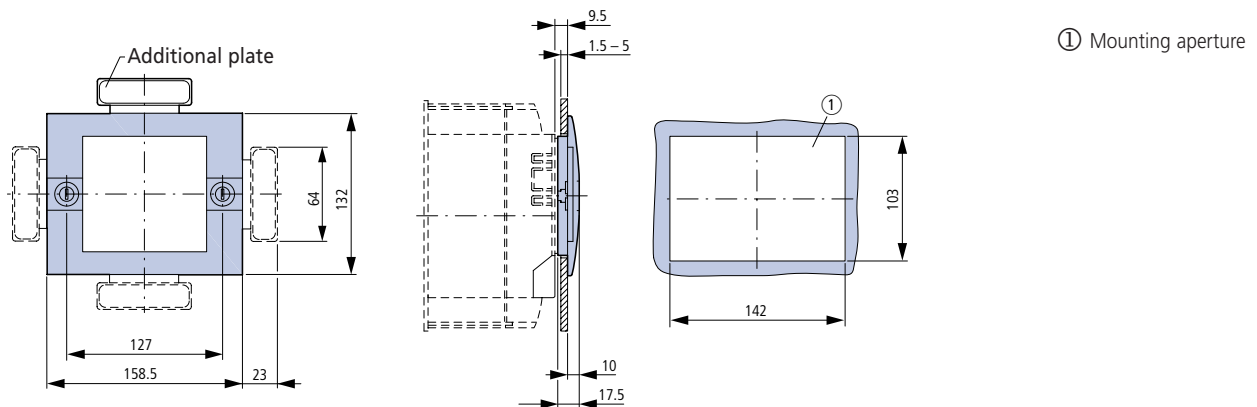
### SPACER TYPE MC1/2-XAB



### CLIP PLATE TYPE MC2-XC75

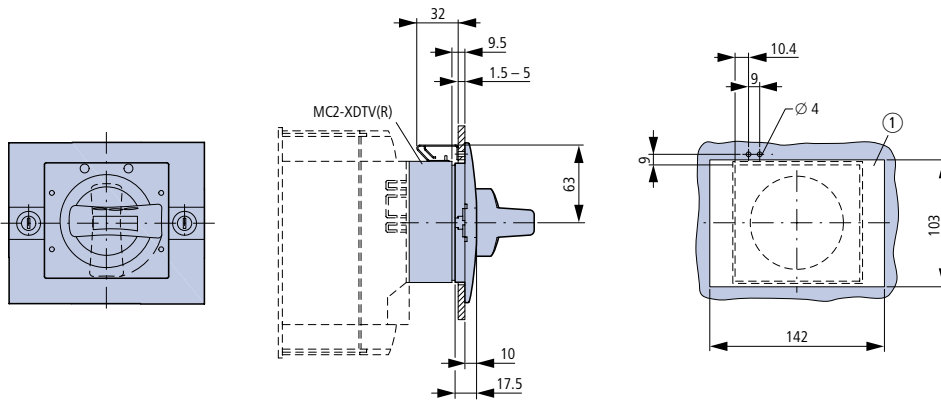


### DOOR SEALING FRAME, TYPE MC2-XBR



## FRAME SIZE 2: ACCESSORIES

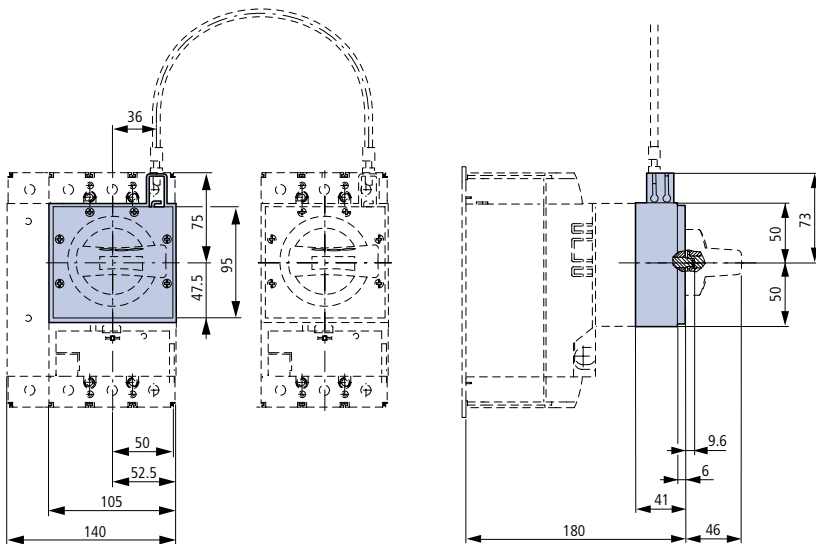
### ROTARY HANDLE ON SWITCH WITH DOOR LOCK, TYPE MC2-XDTV(R)



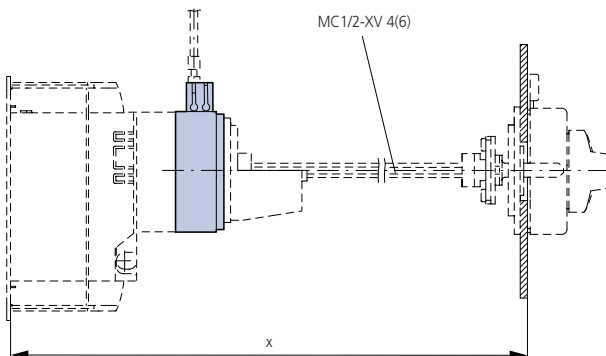
① Mounting aperture

### MECHANICAL INTERLOCK, TYPES MC2 XMV WITH ROTARY HANDLES MC2-XD/MC2-XTVD(V)(R)

MC2-XMV + MC2-XD



MC2-XMV + MC2XTVD(V)(R)

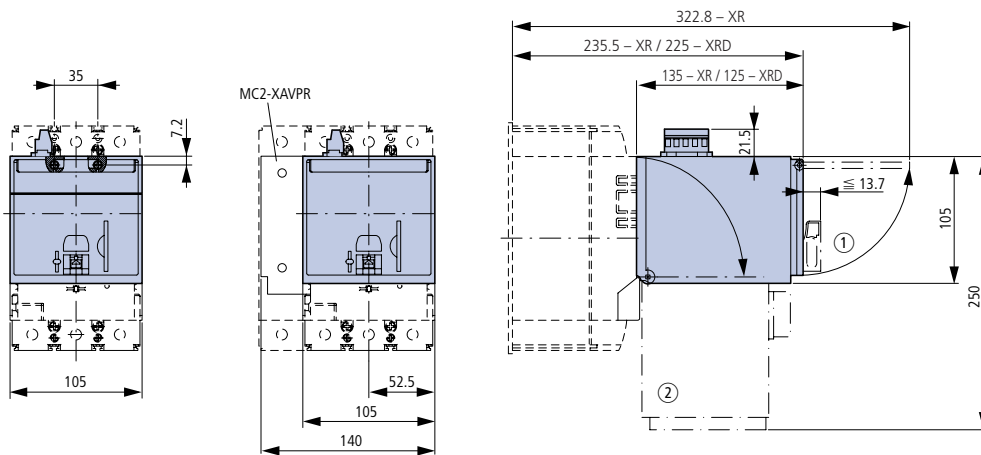


Type	x (mm)
MC1/2-XV4	280 - 400
MC1/2-XV6	400 - 600

# DIMENSIONS MC

## FRAME SIZE 2: ACCESSORIES

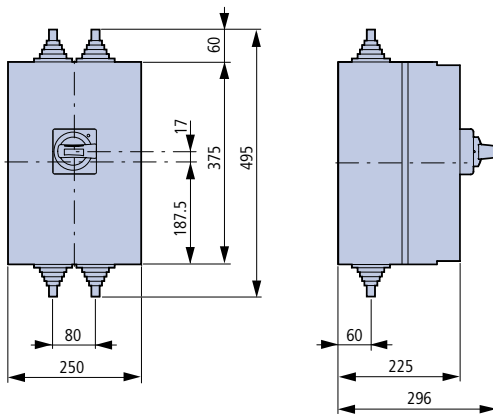
### REMOTE OPERATOR, TYPE MC2-XR... / -XRD



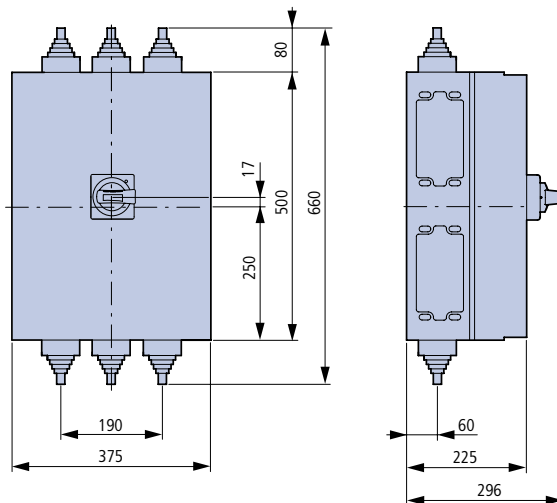
- ① Max. 3 padlocks
- ② Remote operator, folded

### INSULATED ENCLOSURE, TYPES MC2-XCI43-TVD(R), MC2-XCI45-TVD(R)

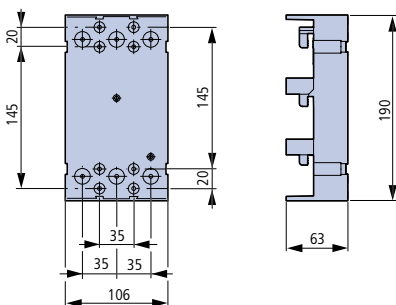
MC2-XCI43-TVD(R)



MC2-XCI45-TVD(R)

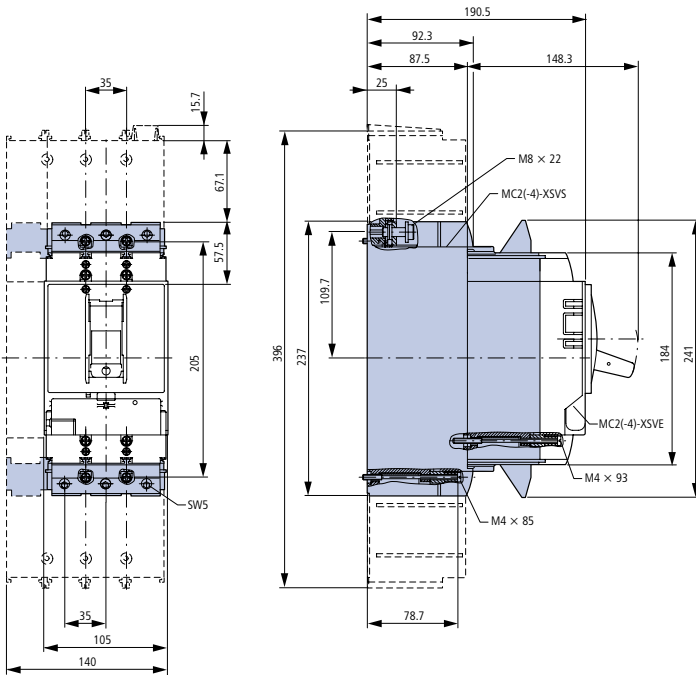


### COMPONENT ADAPTER, TYPE 32140

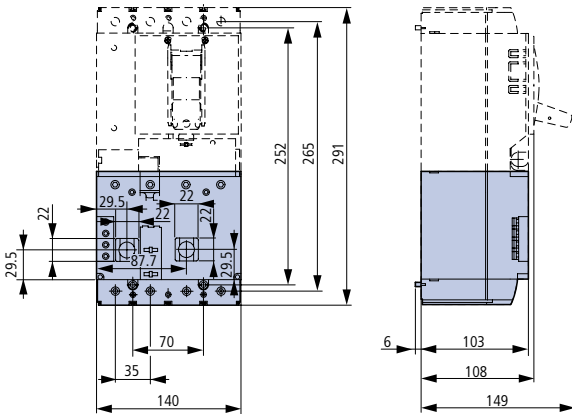


## FRAME SIZE 2: ACCESSORIES

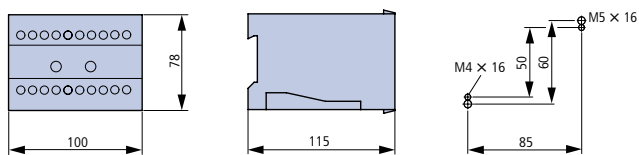
### SOCKET, TYPES MC2-XSV, MC2-4-XSV – WITH MC2(-4)-....-SVE



### RESIDUAL-CURRENT RELEASE, TYPES MC2-XFI..., MC2-4-XFI...



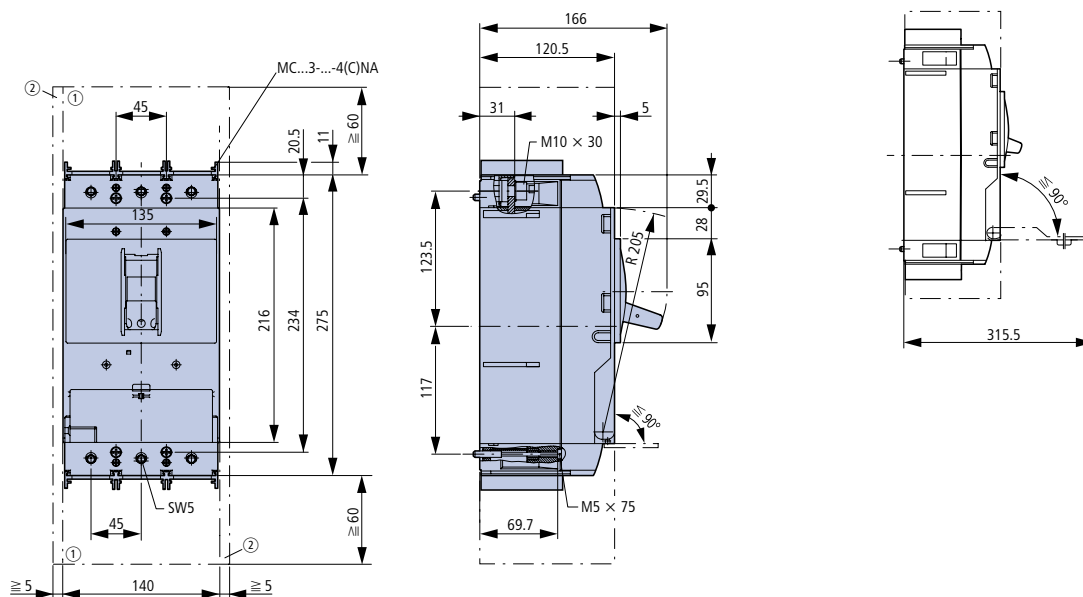
### UNDervOLTAGE RELEASE, OFF-DELAY, TYPE MC-UVU



# DIMENSIONS MC

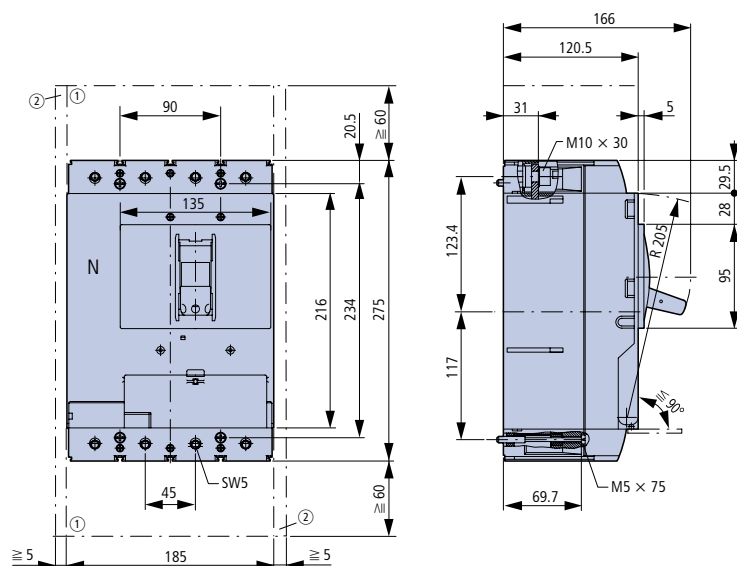
## FRAME SIZE 3: BASIC UNITS

### CIRCUIT-BREAKER / LOAD-BREAK SWITCH, 3-POLE TYPES MC3C, MC3N, MC3H, MC3-PN, MC3-N



- ① Blow-out area, minimum clearance to other parts  $\geq 60$  mm
- ② Minimum clearance to adjacent parts  $\geq 5$  mm

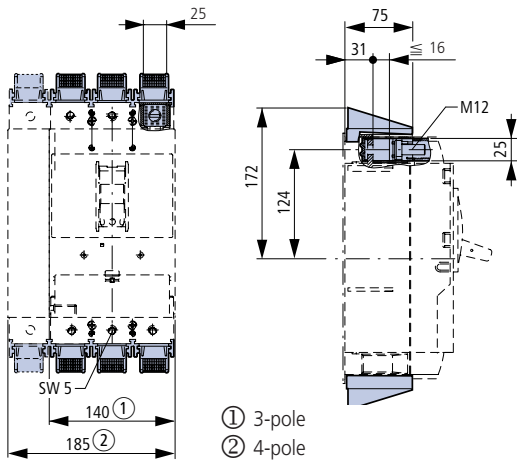
### CIRCUIT-BREAKER / LOAD-BREAK SWITCH, 4-POLE TYPES MC3N-4, MC3H-4, MC3-PN-4, MC3-N-4, MC3-N-4...-S1-DC



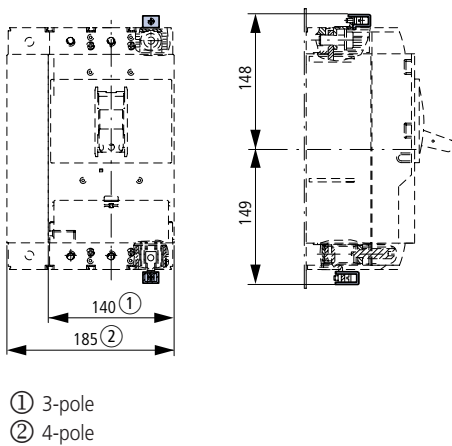
- ① Blow-out area, minimum clearance to other parts  $\geq 60$  mm
- ② Minimum clearance to adjacent parts  $\geq 5$  mm

## FRAME SIZE 3: ACCESSORIES

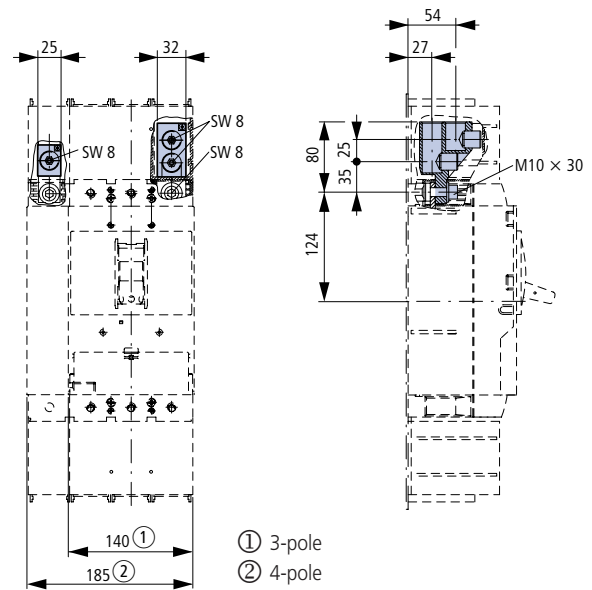
### BOX TERMINAL, TYPES MC3-XKC, MC3-4-XKC / IP2X FINGER PROTECTION, TYPES MC3-XIPK, MC3-4-XIPK



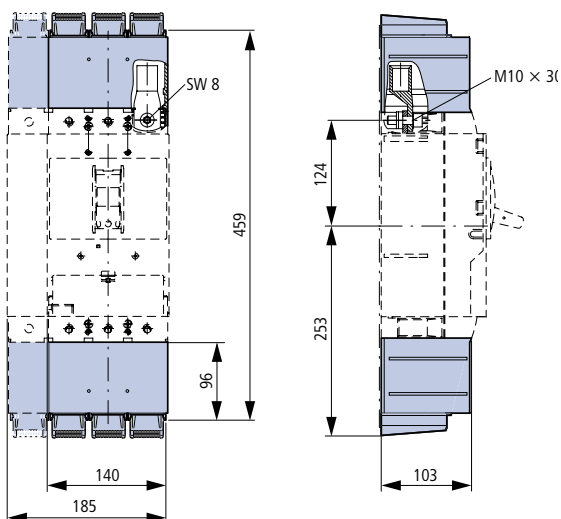
### CONTROL LINE TERMINAL TYPES MC3/4-XSTS, MC-XSTK



### TUNNEL TERMINAL TYPES MC3-4-XKA1...2, MC3-XKA1...2



### COVERS MC3(-4)-XKSA FOR CABLE LUG MC3-XKS185 AND IP2X FINGER PROTECTION MC3(-4)-XIPA

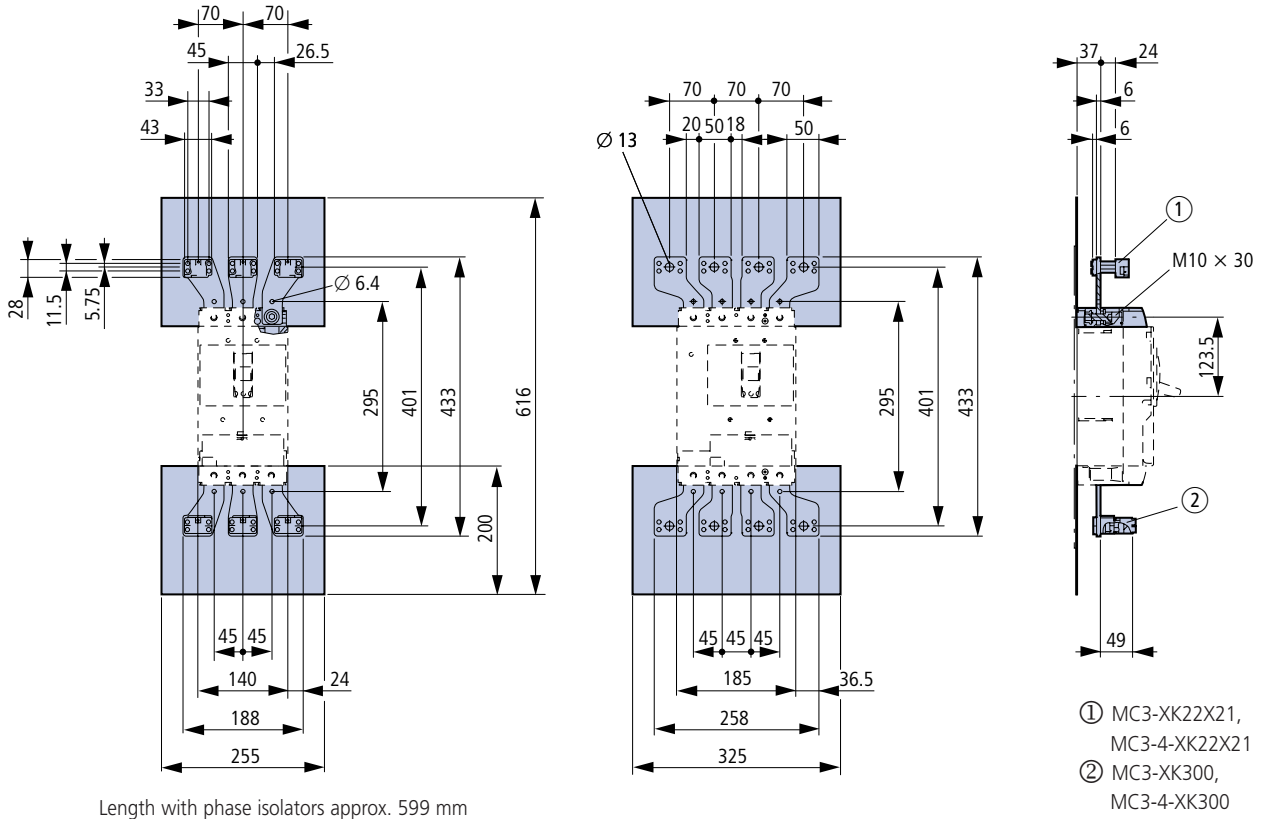


Dimensions in mm

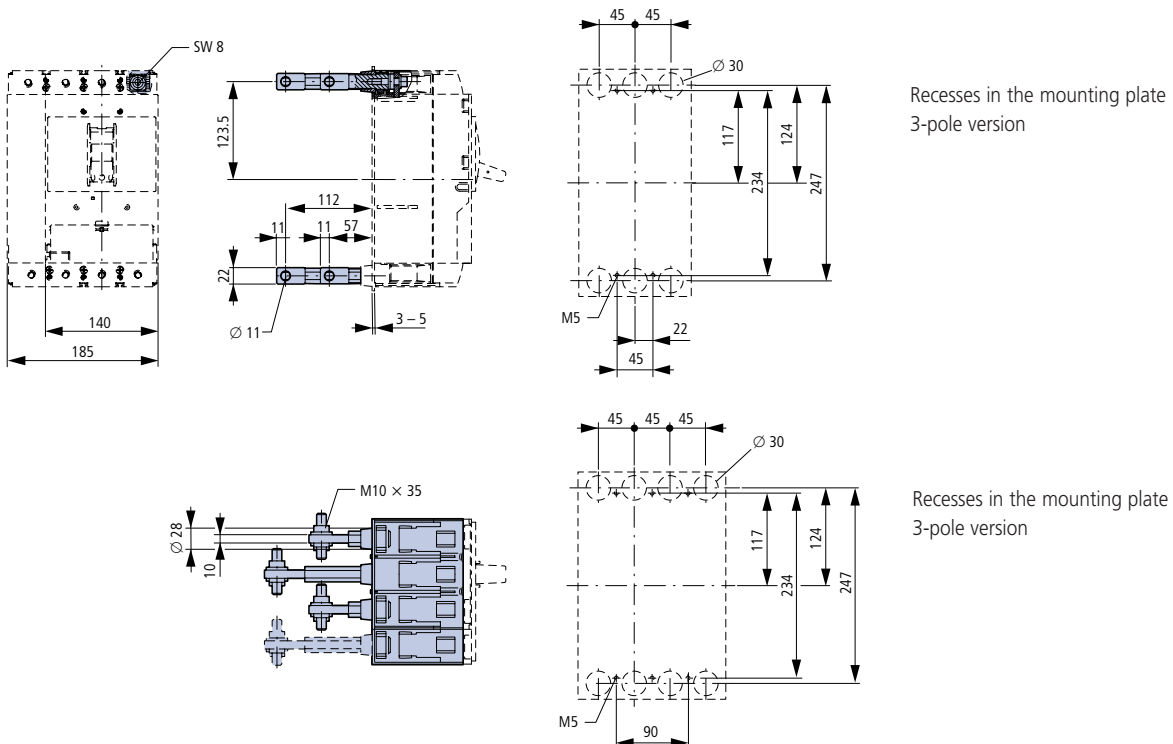
# DIMENSIONS MC

## FRAME SIZE 3: ACCESSORIES

### CONNECTION WIDTH EXTENSION, TYPES MC3-XKV70, MC3-4-XKV70 / CONNECTION TERMINALS, TYPES MC3-XK22X21, MC3-4-XK22X21, MC3-XK300, MC3-4-XK300



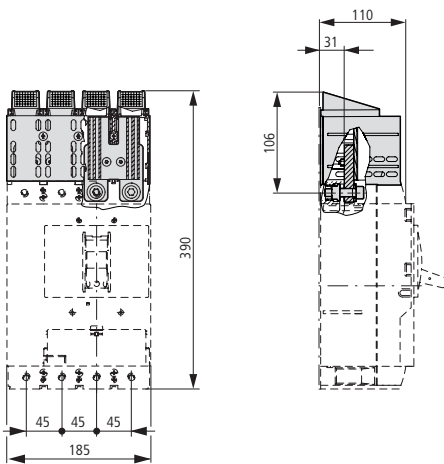
### REAR CONNECTION, TYPES MC3-XKR, MC3-4-XKR



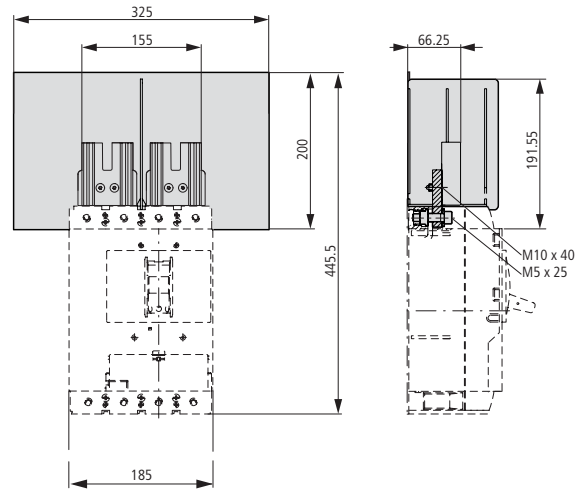


## FRAME SIZE 3: ACCESSORIES

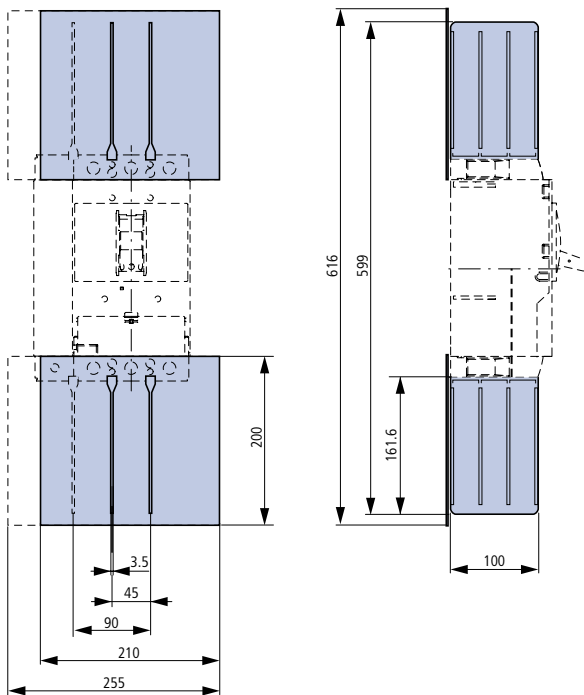
### JUMPER KITS TYPES MC3-4-XKV2P, MC3-4-XKV2P-K



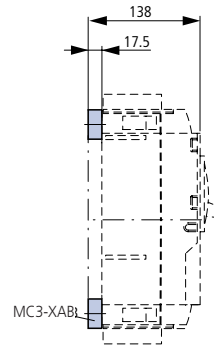
### JUMPER KITS TYPES MC3-4-XKVI2P, MC3-4-XKVI2P-K



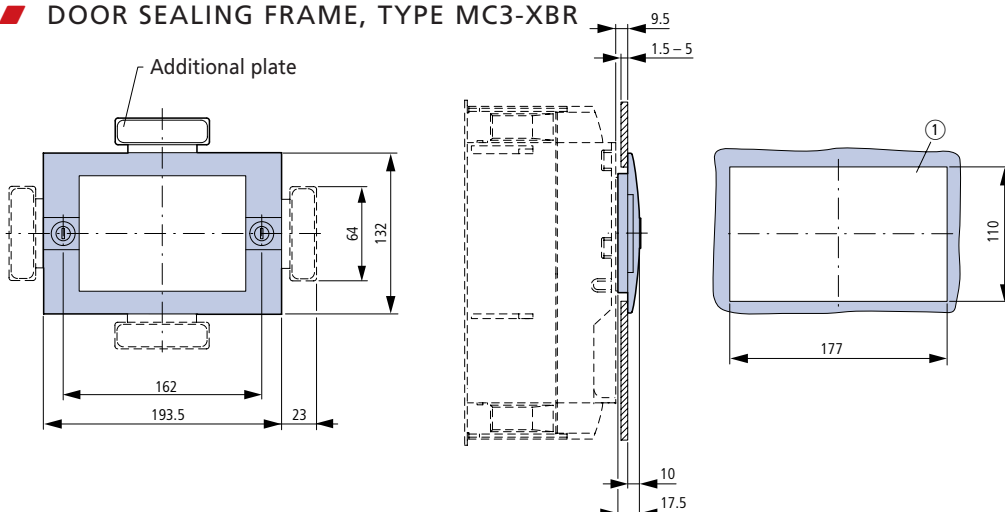
### PHASE ISOLATOR, TYPE MC3(-4)-XKP



### SPACER TYPE MC3/4-XAB



### DOOR SEALING FRAME, TYPE MC3-XBR

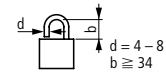
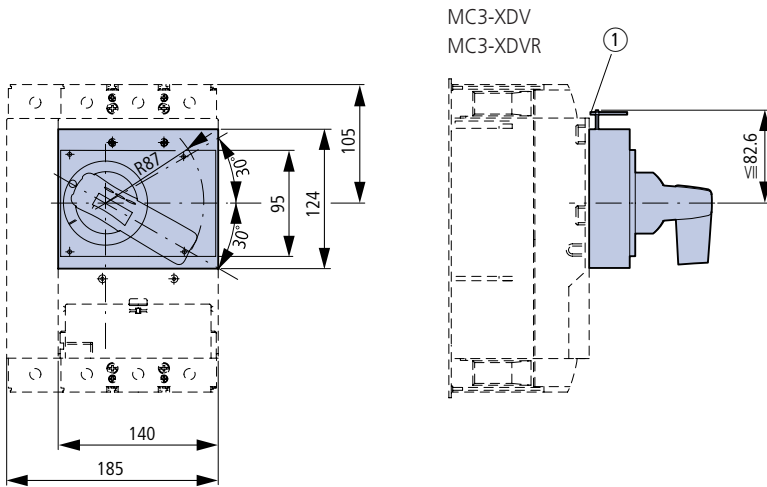


① Mounting aperture

# DIMENSIONS MC

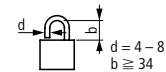
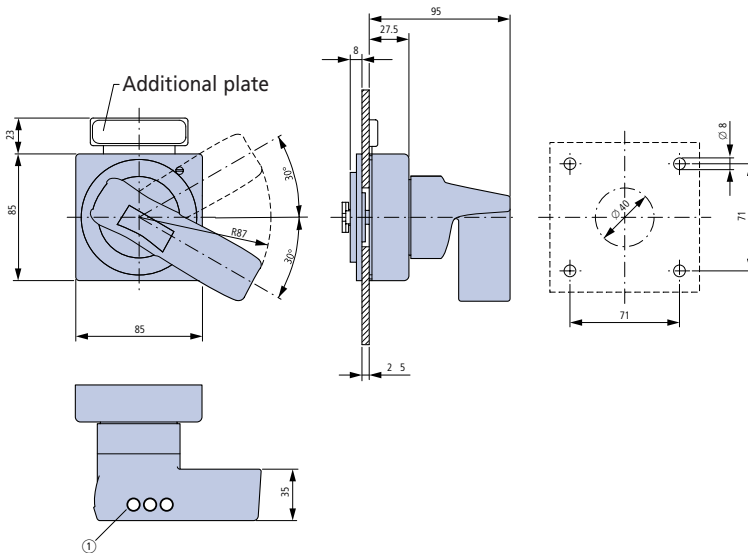
## FRAME SIZE 3: ACCESSORIES

### ROTARY DRIVE, ROTARY HANDLE ON SWITCH, TYPES MC3-XDV, MC3-XDVR



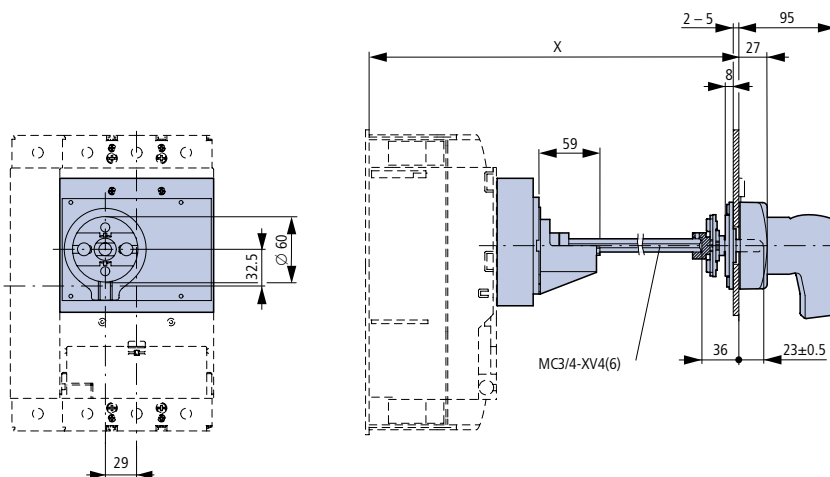
① Max. 3 padlocks

### DOOR COUPLING ROTARY HANDLE, TYPE MC3-XTVD(V)(R)...

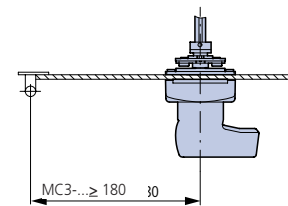


① Max. 3 padlocks

### DOOR COUPLING ROTARY HANDLE WITH EXTENSION SHAFT, TYPES MC3-XTVD(V)(R), MC3/4-XV4...6



Minimum distance of door coupling rotary handle from door pivot point

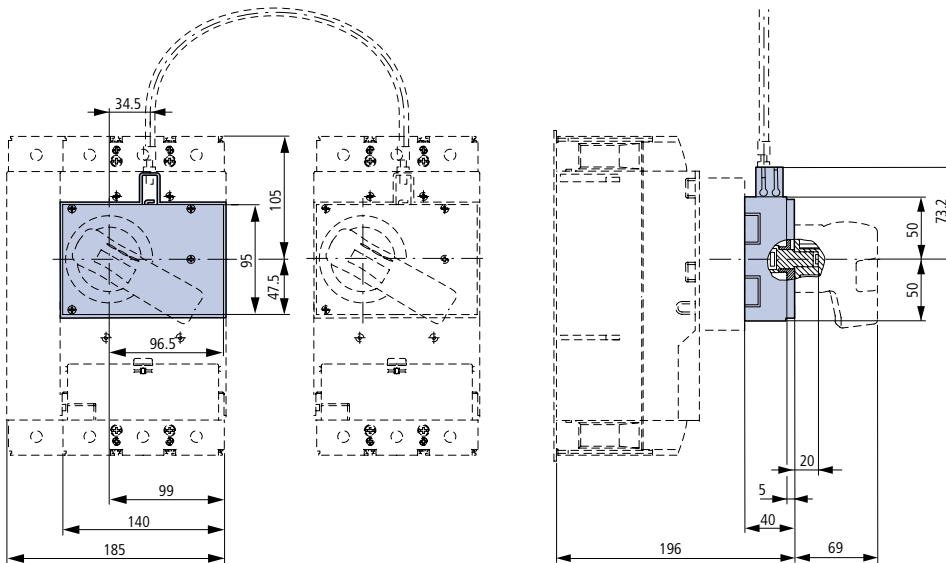


Type	x
MC3/4-XV4	270 – 400
MC3/4-XV6	400 – 600

## FRAME SIZE 3: ACCESSORIES

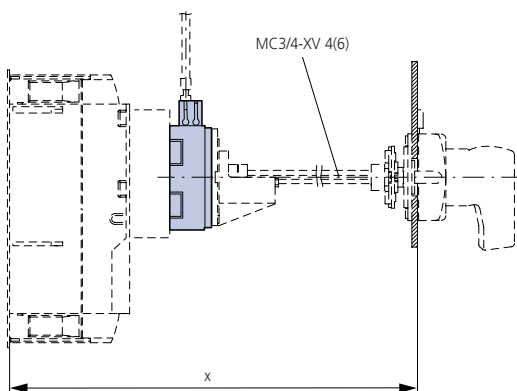
### MECHANICAL INTERLOCK, TYPE MC3-XMV WITH ROTARY HANDLE MC3-XD(R)

MC3-XMV + MC3-XDV(R)



### MECHANICAL INTERLOCK, TYPE MC3 XMV WITH DOOR COUPLING ROTARY HANDLE MC3-XTVD(V)(R)

MC3-XMV + MC3-XTVD(V)(R)

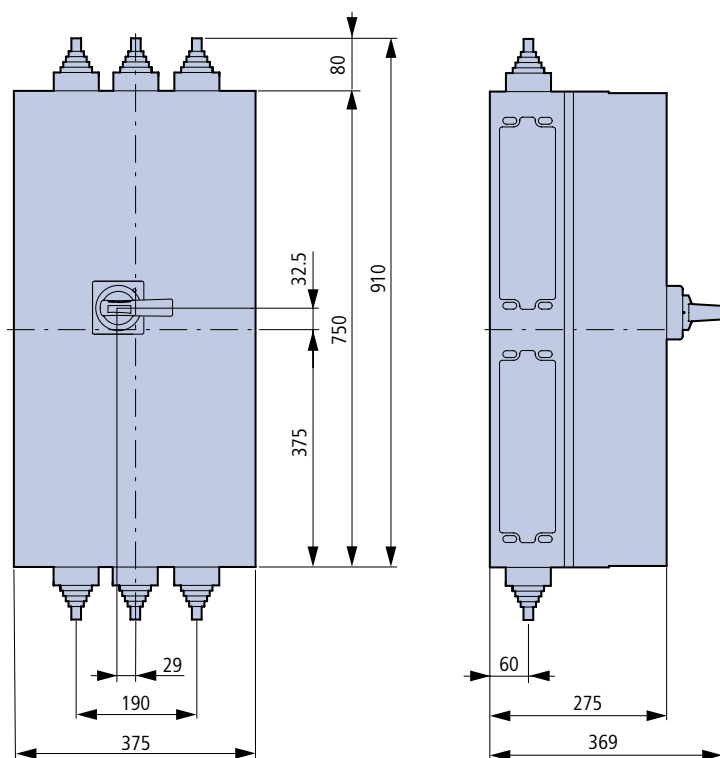


Type	x (mm)
MC3/4-XV4	305 - 400
MC3/4-XV6	400 - 600

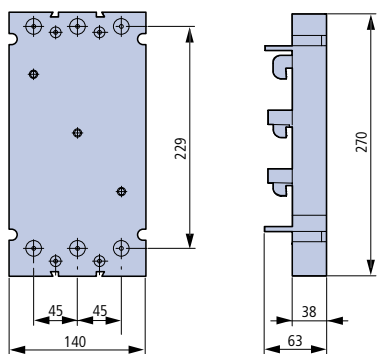
# DIMENSIONS MC

## FRAME SIZE 3: ACCESSORIES

### INSULATED ENCLOSURE, TYPE MC3-XCI48-TVD

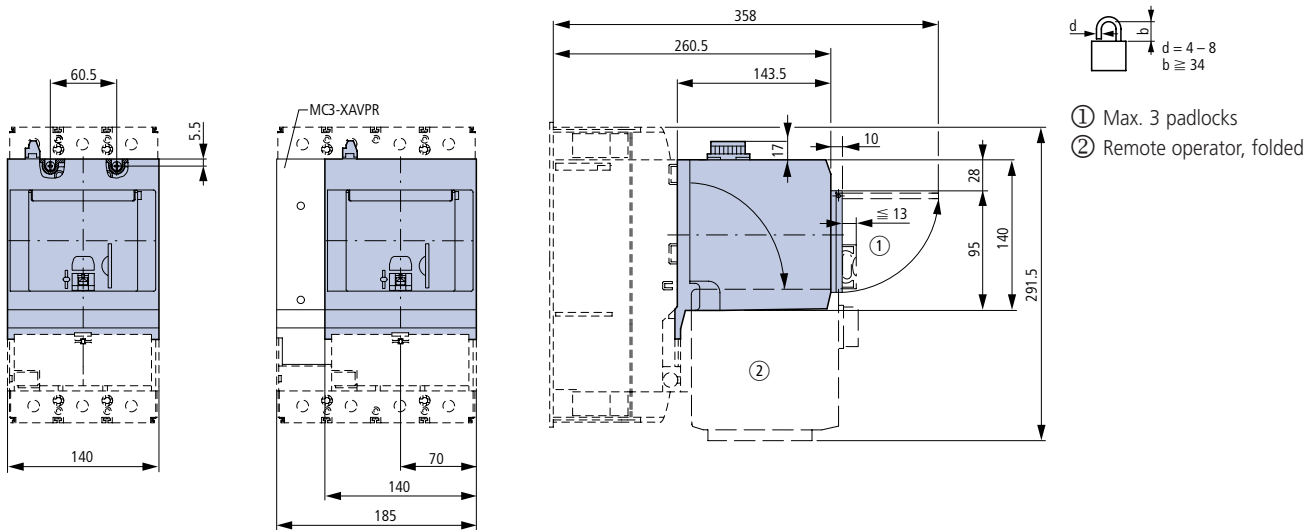


### COMPONENT ADAPTER, TYPE 32170

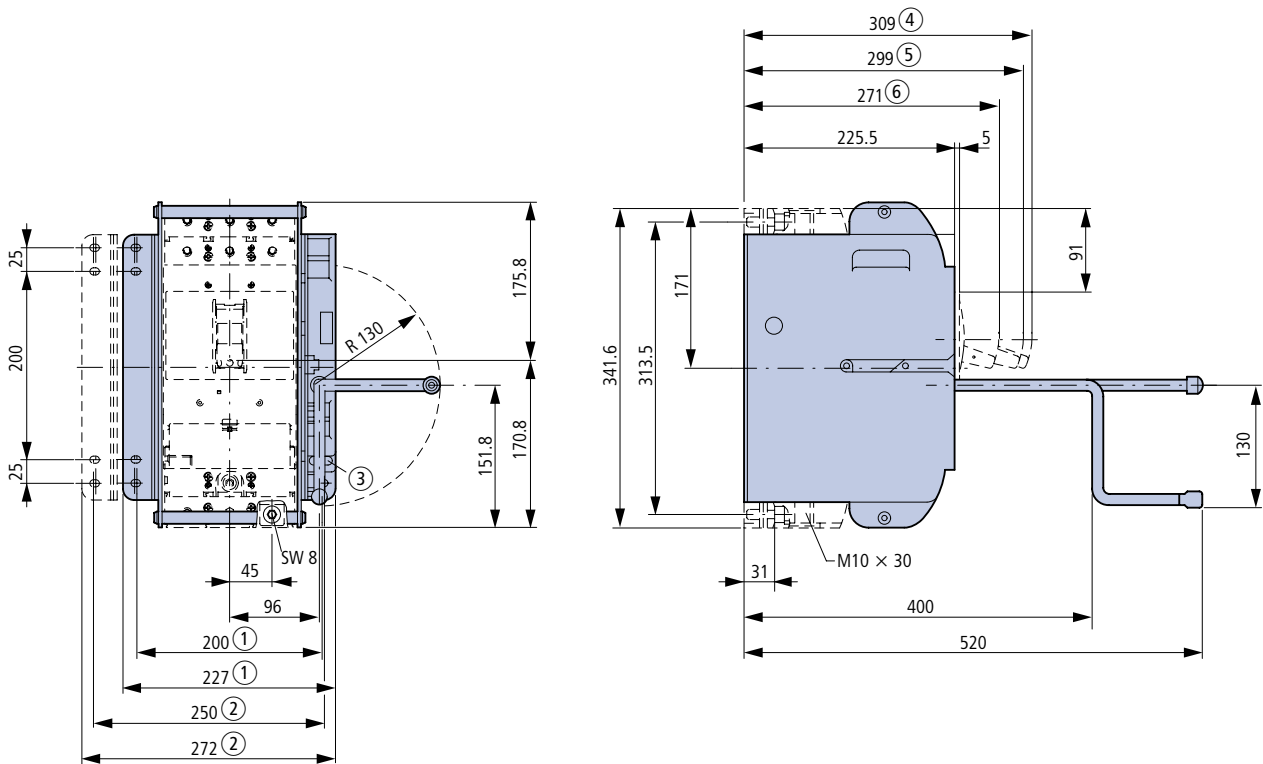


## FRAME SIZE 3: ACCESSORIES

### REMOTE OPERATOR, TYPE MC3-XR...



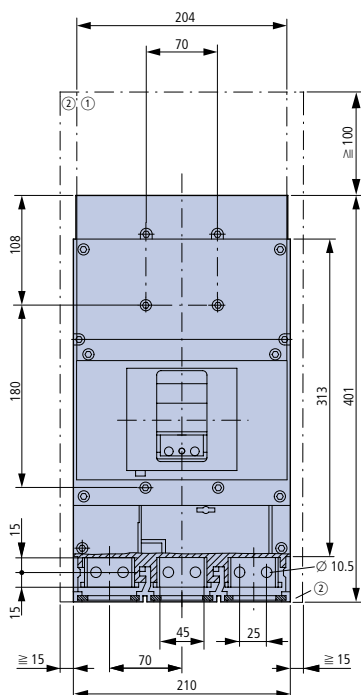
### WITHDRAWABLE UNIT WITH CONTROL CIRCUIT PLUG UNIT TYPE MC3-XAV



# DIMENSIONS MC

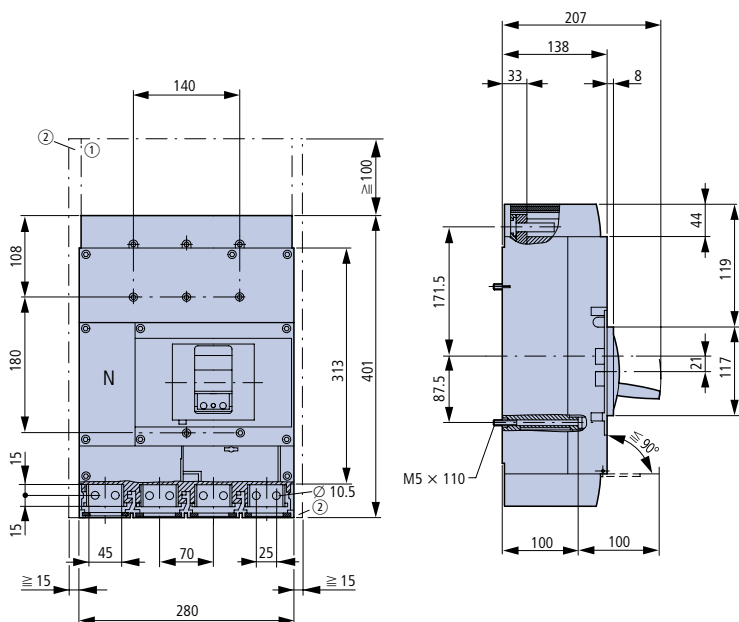
## FRAME SIZE 4: BASIC UNITS

### CIRCUIT-BREAKER / LOAD-BREAK SWITCH, 3-POLE TYPES MC4N, MC4H, MC4-PN, MC4-N



- ① Blow-out area, minimum clearance to other parts  $\geq 100$  mm to 690 V;  $\geq 200$  mm to 1000 V
- ② Minimum clearance to adjacent parts  $\geq 15$  mm

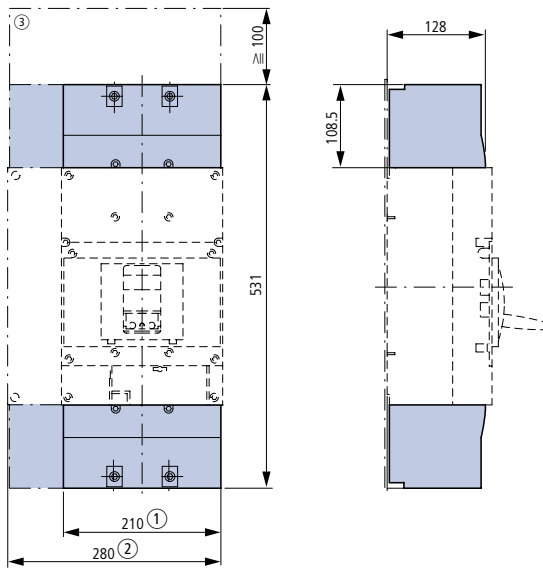
### CIRCUIT-BREAKER / LOAD-BREAK SWITCH, 4-POLE TYPES MC4N-4, MC4H-4, MC4-PN-4, MC4-N-4, MC4-N-4-...S1-DC



- ① Blow-out area, minimum clearance to other parts  $\geq 100$  mm
- ② Minimum clearance to adjacent parts  $\geq 15$  mm

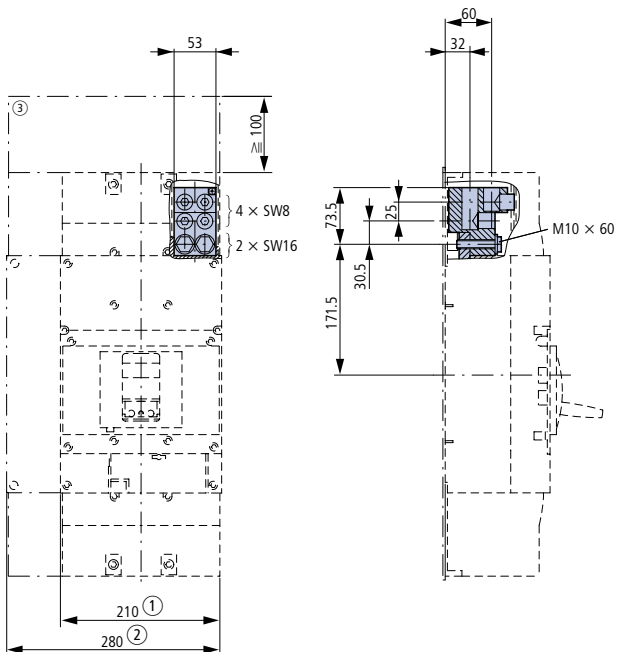
## FRAME SIZE 4: ACCESSORIES

### COVER PLATE, TYPES MC4-XKSA, MC4-4-XKSA



- ① 3-pole
- ② 4-pole
- ③ Clearance to conductive parts  $\geq 100$  mm to 690 V;  $\geq 200$  mm at 1000V

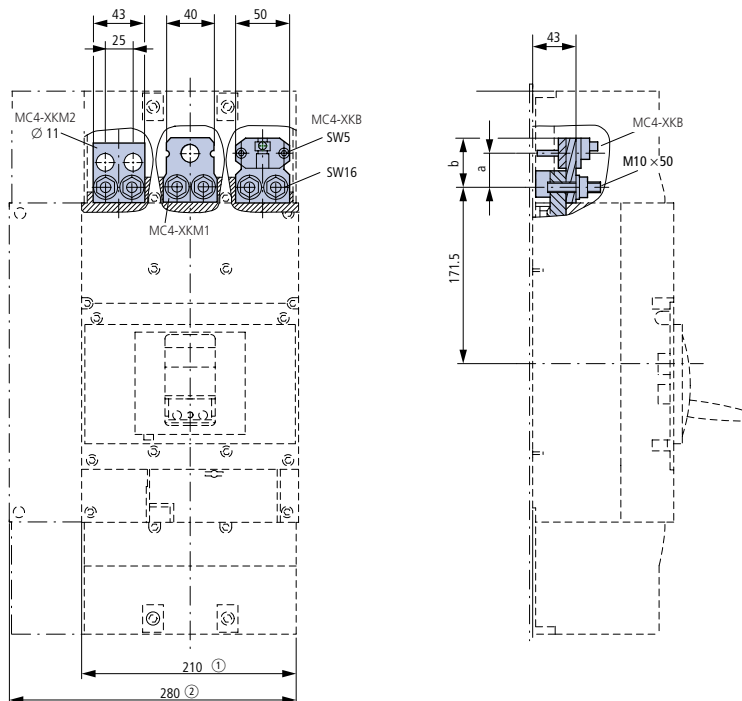
### TUNNEL TERMINAL, TYPES MC4-XKA, MC4-4-XKA



# DIMENSIONS MC

## FRAME SIZE 4: ACCESSORIES

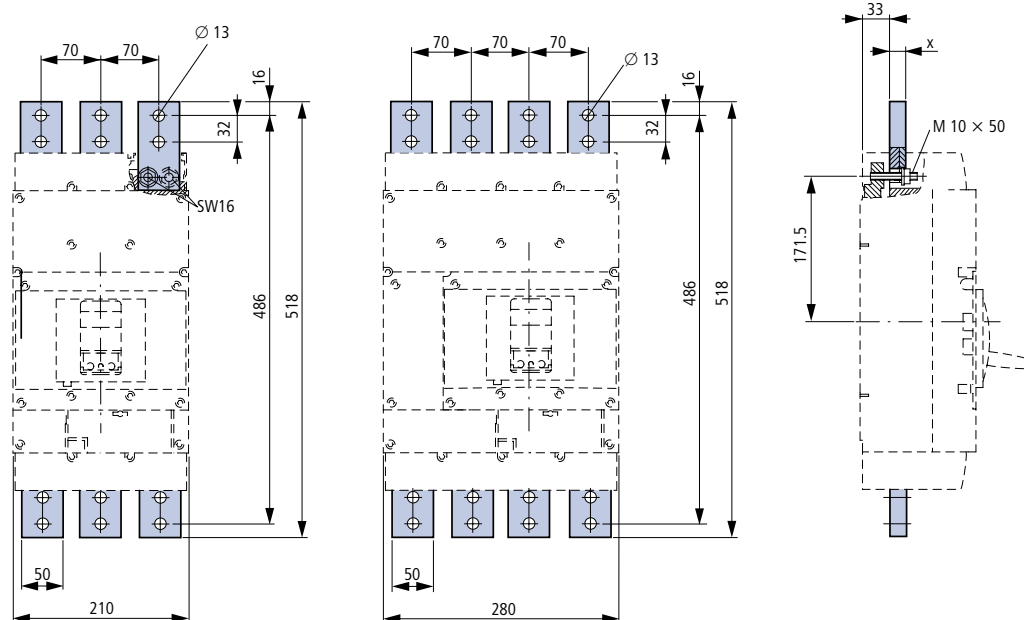
### SCREW CONNECTION MODULE PLATE 1 BORE, TYPES MC4-XKM1, MC4-4-XKM1, 2 BORE TYPES MC4-XKM2, MC4-4-XKM2 / RIBBON CABLE, TYPES MC4-XKB, MC4-4-XKB



Type	a	b
MC4(-4)-XKM1	36	47
MC4(-4)-XKM2	32	40
MC4(-4)-XKB	-	47

- ① 3-pole
- ② 4-pole
- ③ Clearance to conductive parts  
 ≥ 100 mm to 690 V;  
 ≥ 200 mm at 1,000 V

### CONNECTION WIDTH EXTENSION, TYPE MC4-XKM2S..., MC4-4-XKM2S...



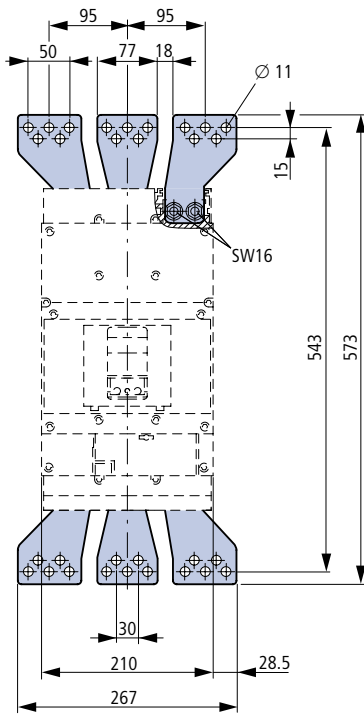
Type	x
MC4-XKM2S-1600,	20
MC4-4-XKM2S-1600	20



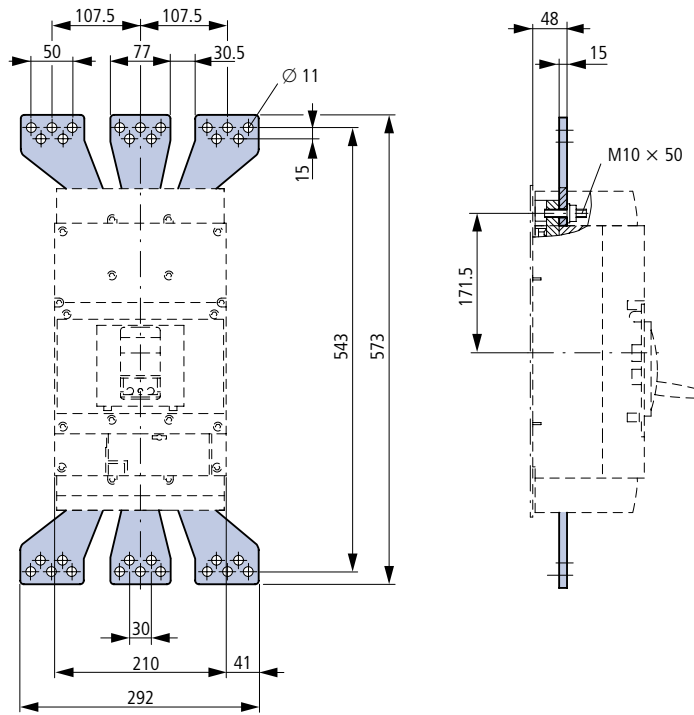
## FRAME SIZE 4: ACCESSORIES

### CONNECTION WIDTH EXTENSION, TYPES MC4-XKV95, MC4-XKV110, MC4-4-XKV95, MC4-4-XKV120

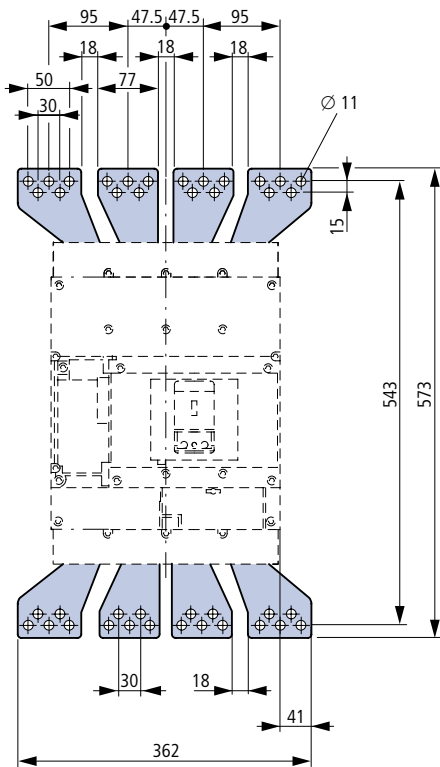
MC4-XKV95



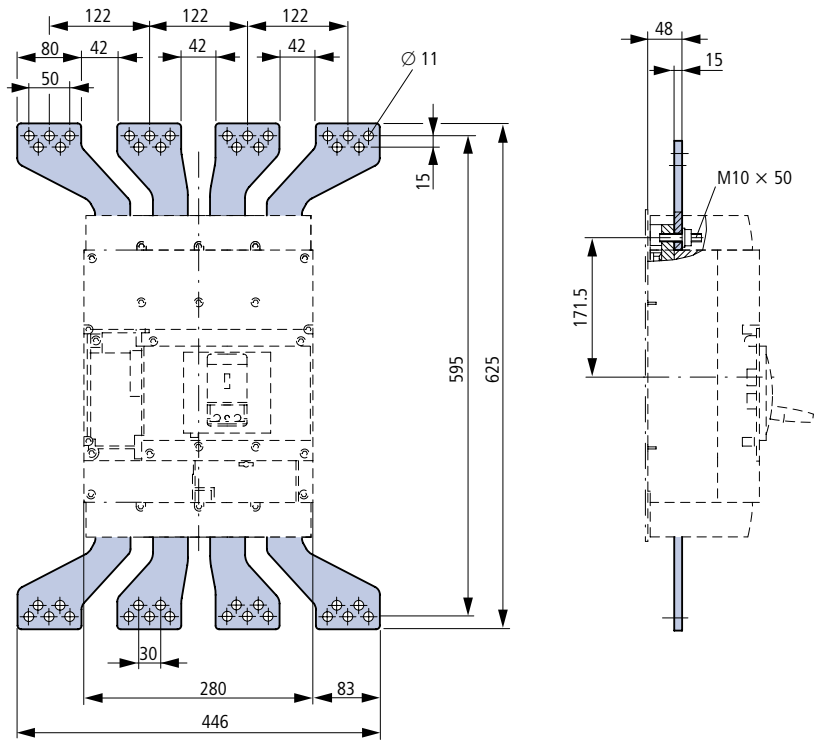
MC4-XKV110



MC4-4-XKV95



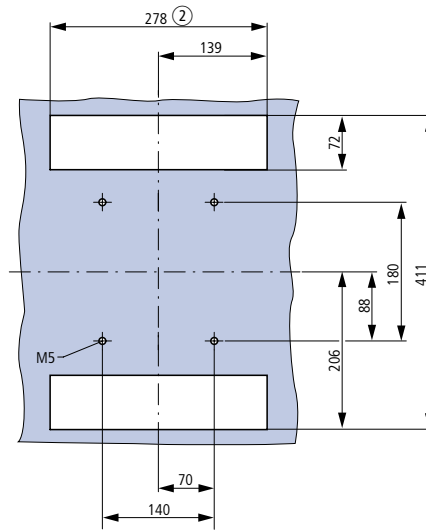
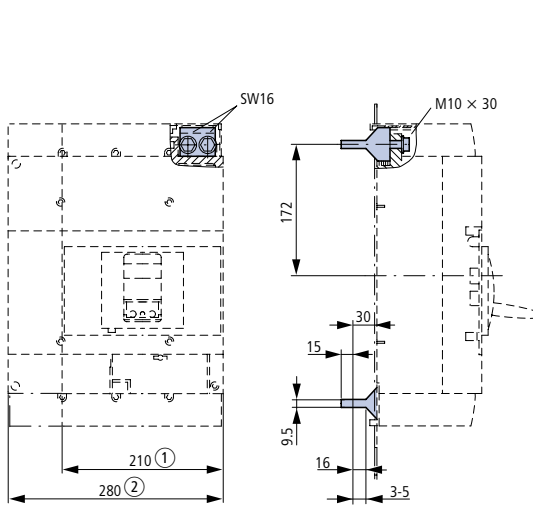
MC4-4-XKV120



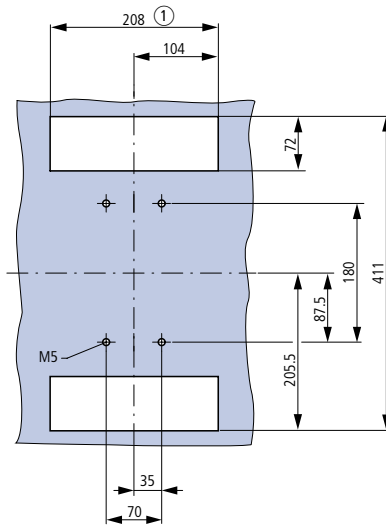
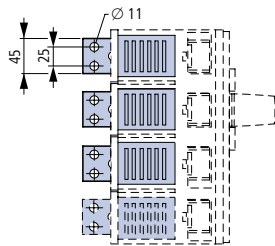
# DIMENSIONS MC

## FRAME SIZE 4: ACCESSORIES

### REAR CONNECTION, TYPES MC4-XKR, MC4-4-XKR



Recesses in the mounting plate  
4-pole version

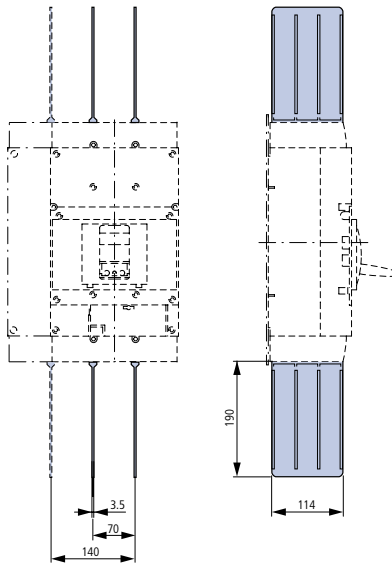


Recesses in the mounting plate  
3-pole version

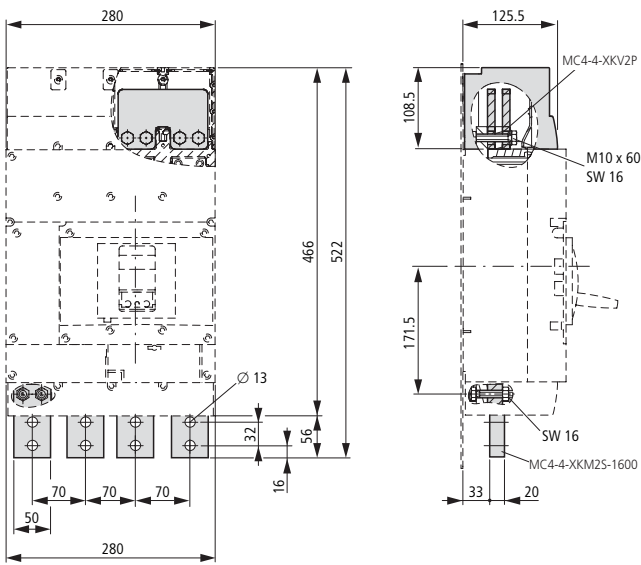
Rear-side connection also possible with 90° rotation.

- ① 3-pole
- ② 4-pole

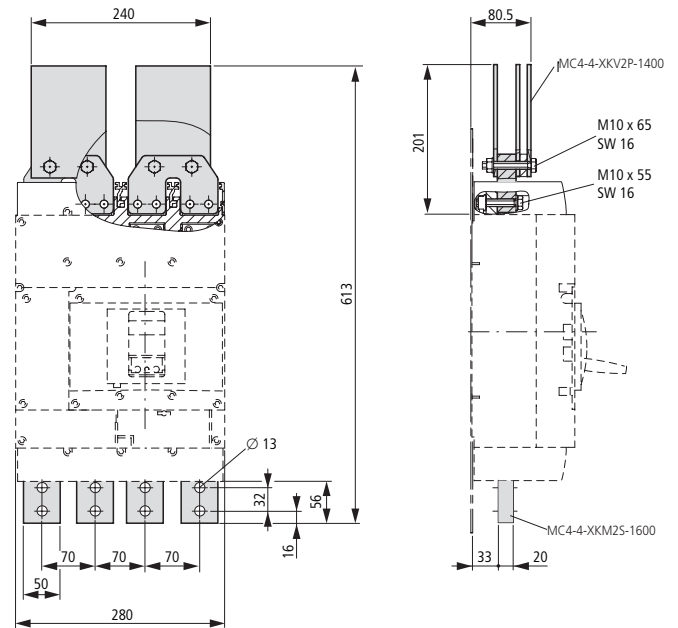
## PHASE ISOLATORS, TYPES MC4-XKP, MC4-4-XKP



## JUMPER KITS, TYPE MC4-4-XKV2P



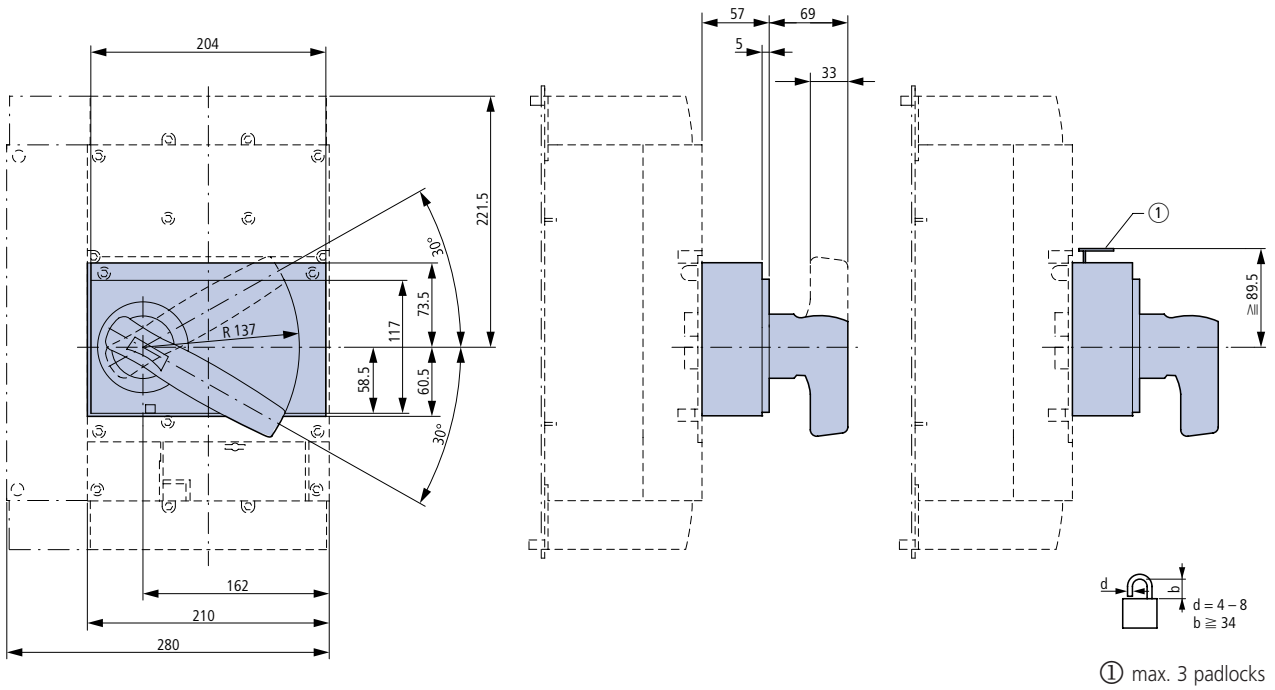
## JUMPER KITS, TYPE MC4-4-XKV2P-1400



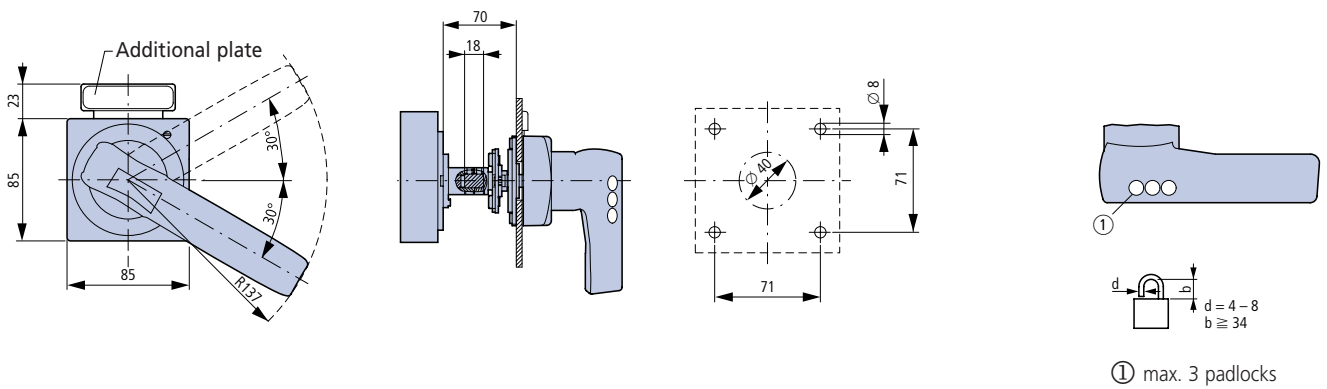
# DIMENSIONS MC

## FRAME SIZE 4: ACCESSORIES

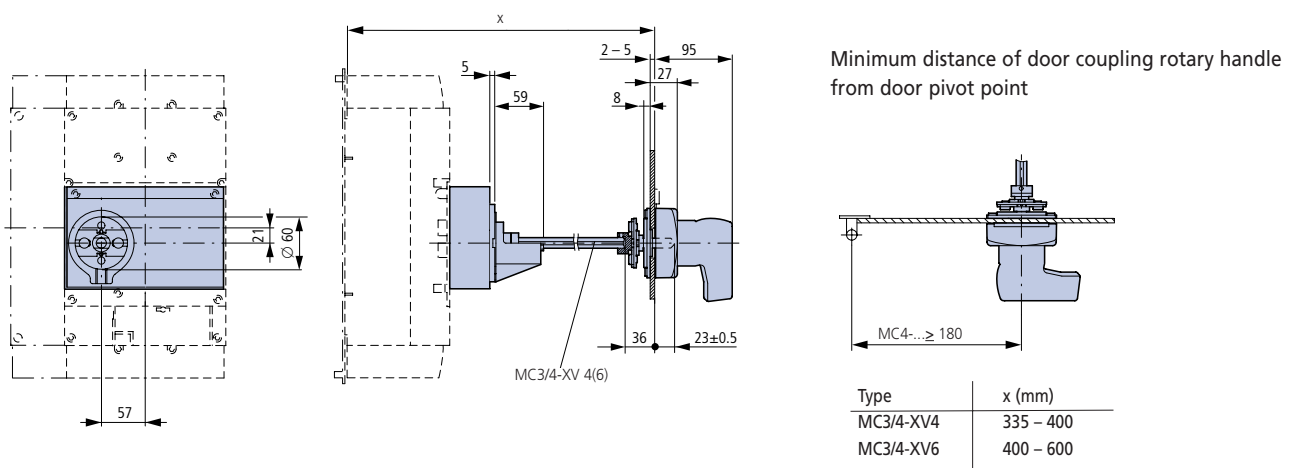
### ROTARY HANDLE ON SWITCH, TYPE MC4-XDV(R)



### DOOR COUPLING ROTARY HANDLE, TYPE MC4-XTVD(V)(R)...

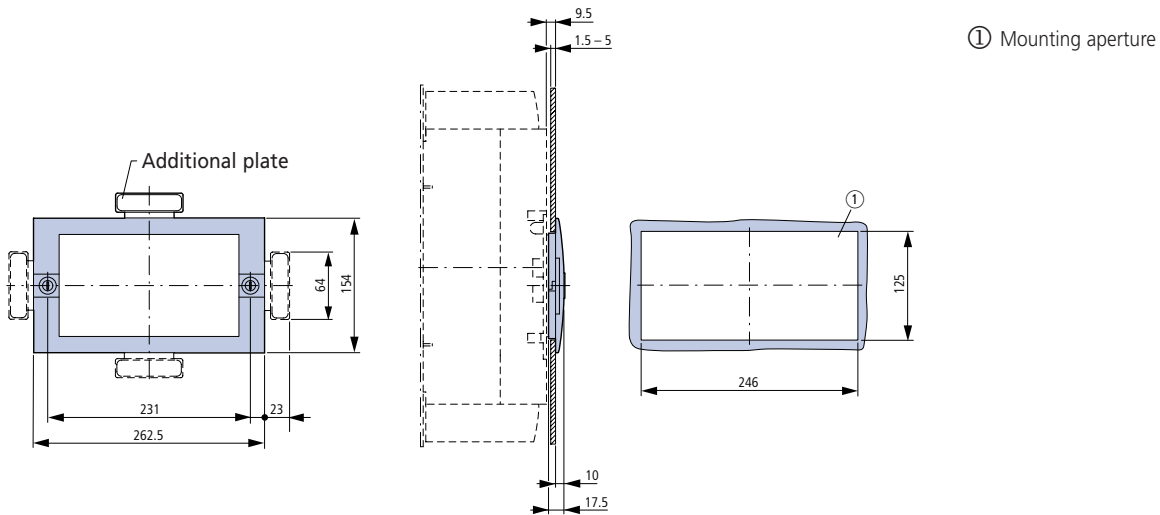


### DOOR COUPLING ROTARY HANDLE WITH EXTENSION SHAFT, TYPES MC4-XTVD(V)(R), MC3/4-XV4(6)



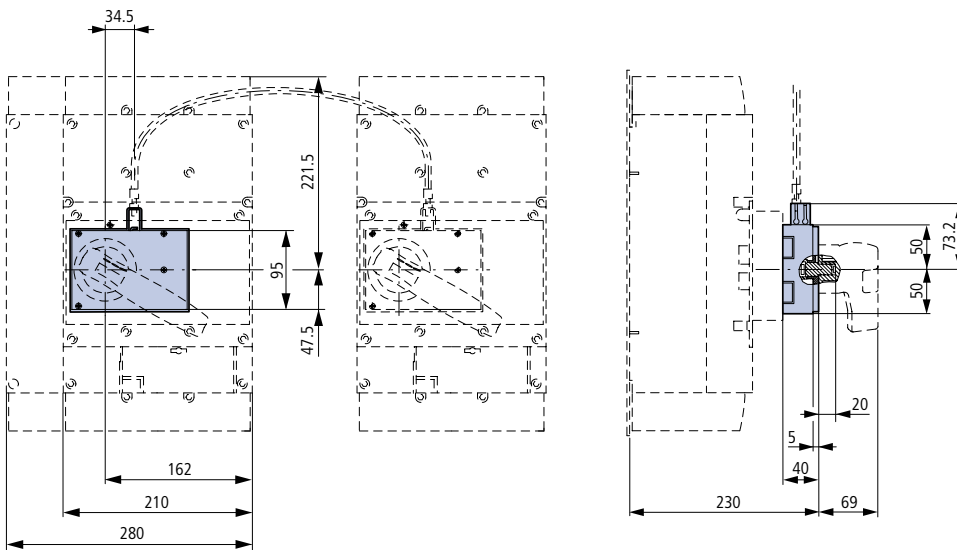
## FRAME SIZE 4: ACCESSORIES

### DOOR SEALING FRAME, TYPE MC4-XBR

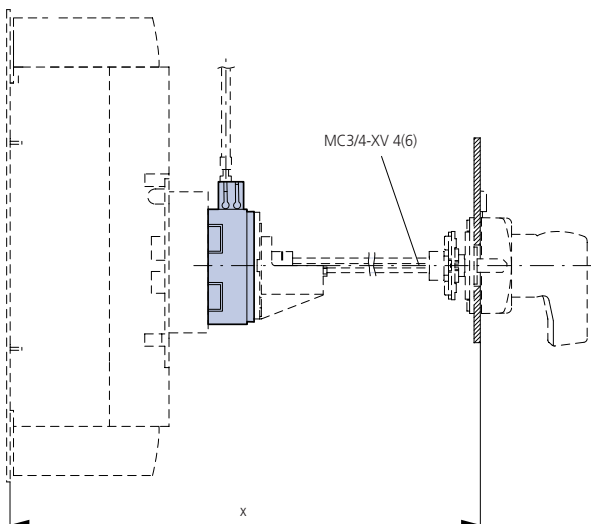


### MECHANICAL INTERLOCK, TYPE MC4-XMV WITH ROTARY HANDLES MC4-XD(R)/MC4-XTVD(V)(R)

MC4-XMV + MC4-XDV(R)



MC4-XMV + MC4-XTVD(V)(R)

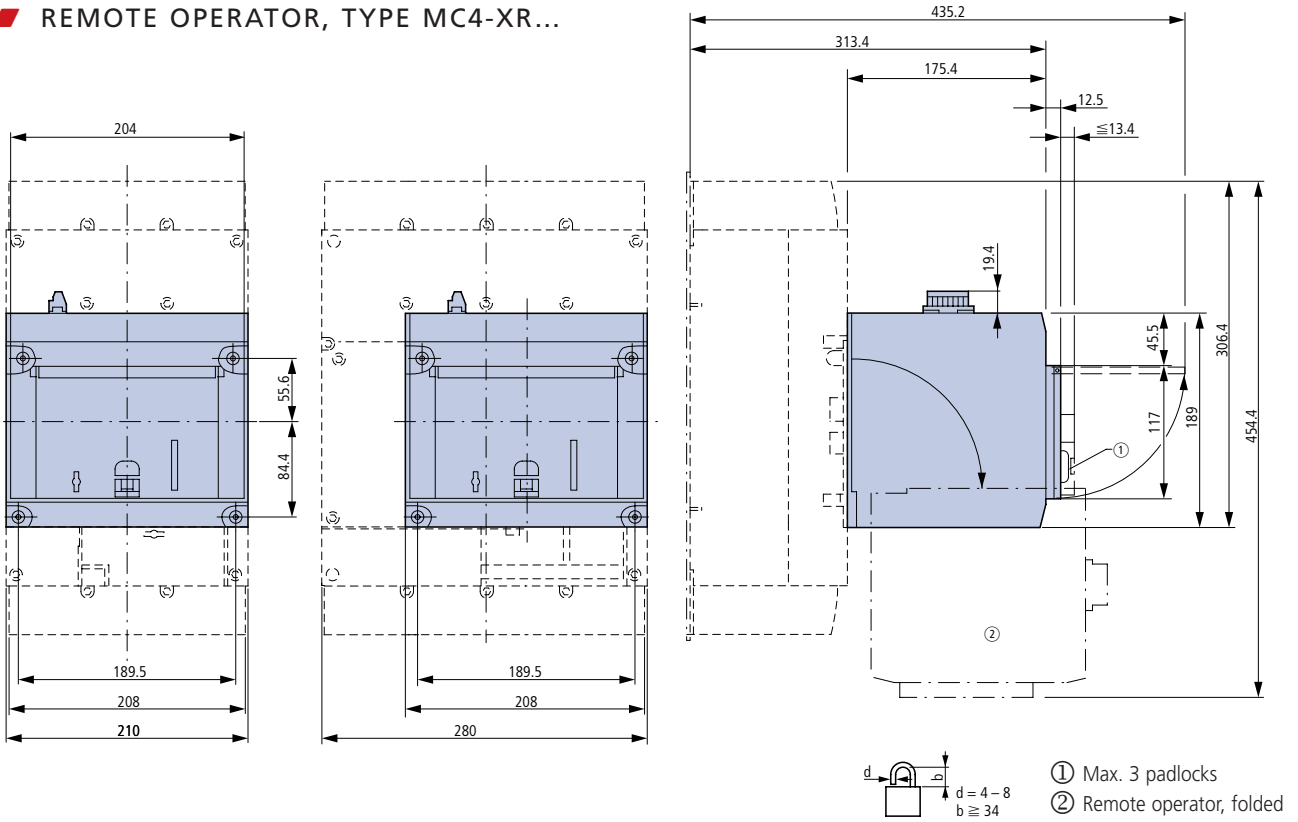


Type	x (mm)
MC3/4-XV4	335 – 400
MC3/4-XV6	400 – 600

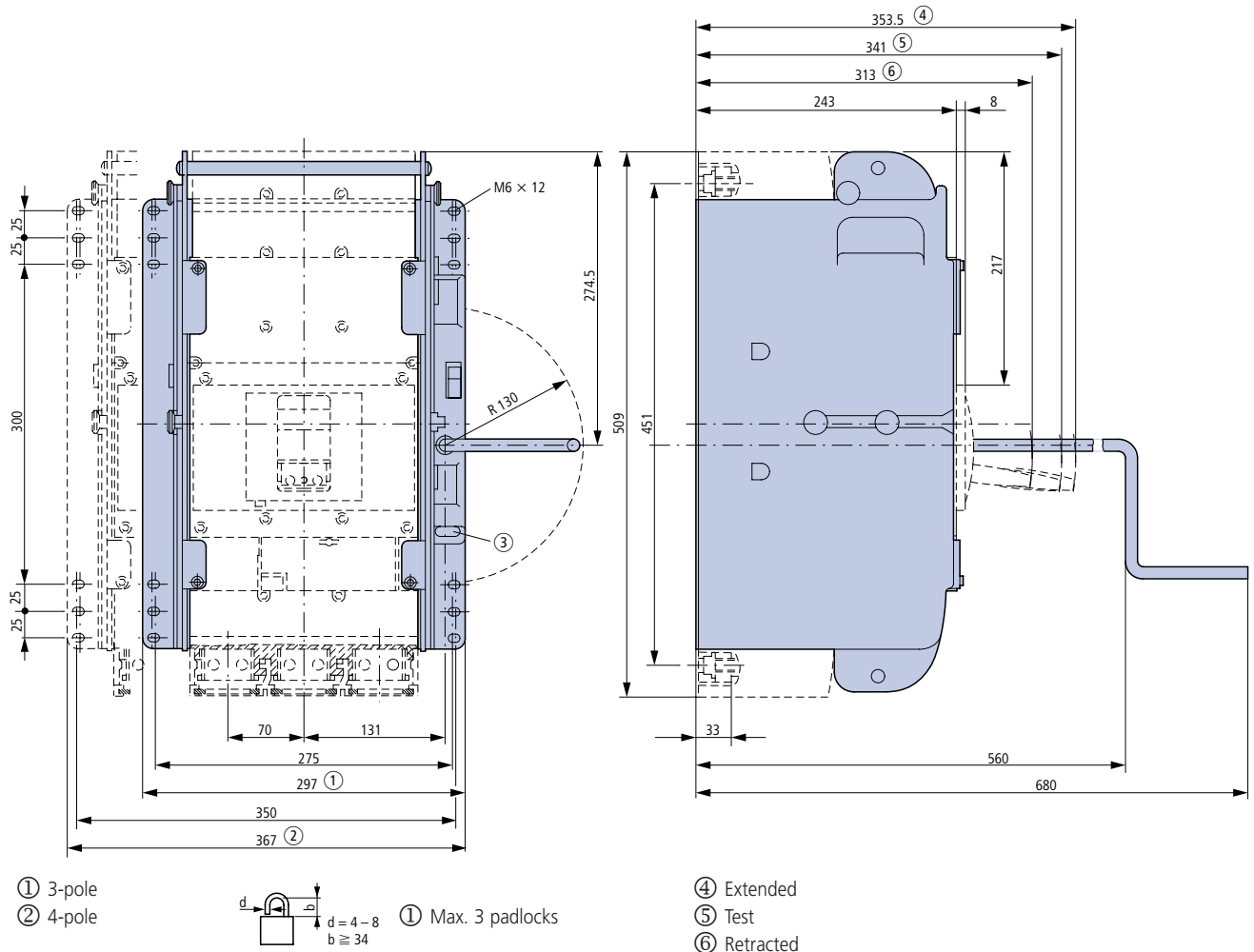
# DIMENSIONS MC

## FRAME SIZE 4: ACCESSORIES

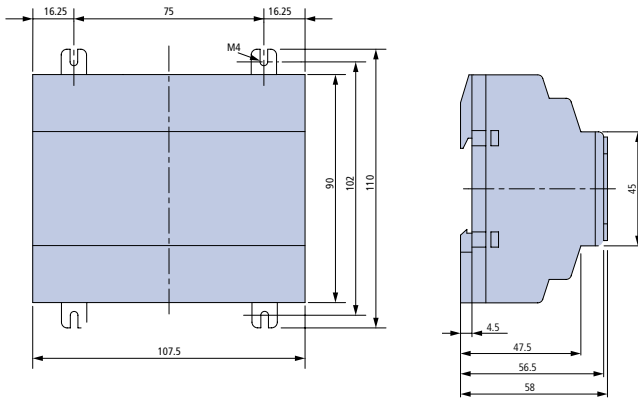
### REMOTE OPERATOR, TYPE MC4-XR...



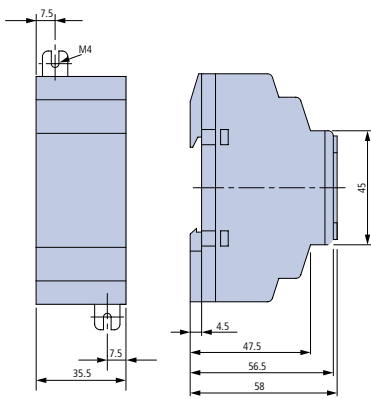
### WITHDRAWABLE UNIT WITH CONTROL CIRCUIT PLUG UNIT TYPE MC4-XAV



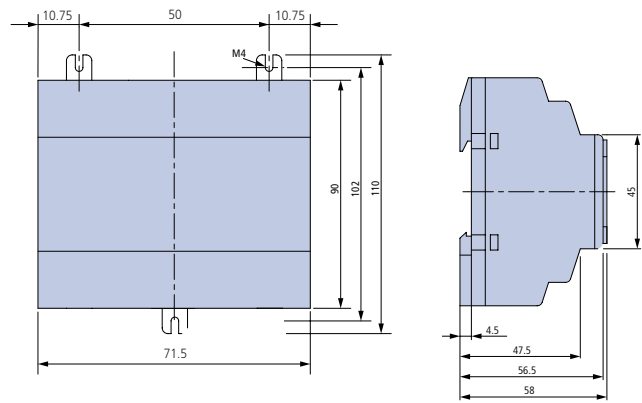
## DATA MANAGEMENT INTERFACE (DMI MODULE)



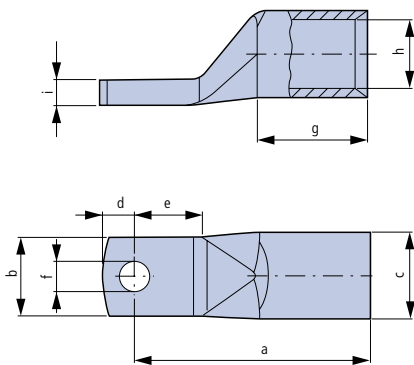
## PROFIBUS MODULE DPV1



## SWITCHED-MODE POWER SUPPLY EASY400-POW



## PIPE CABLE LUGS MC.-XKS...



To press in the cable lugs, the pressing tool K22, HK60/22 or EK22 from Klauke is required with the following inserts:

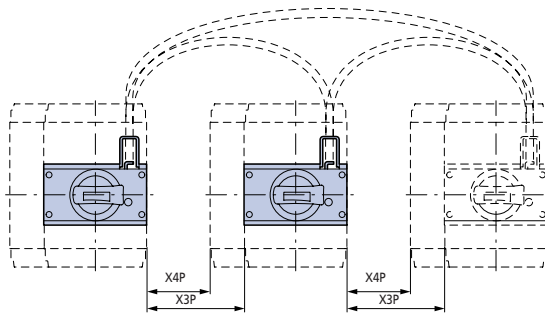
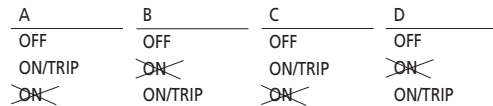
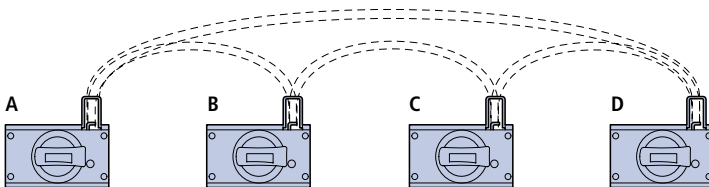
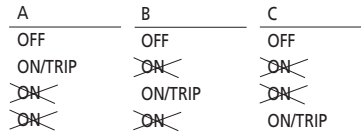
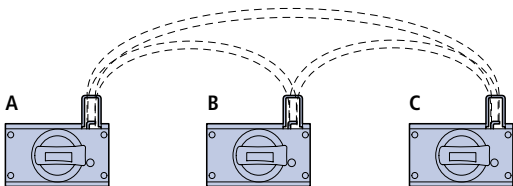
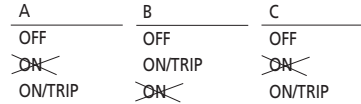
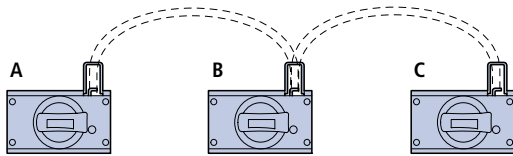
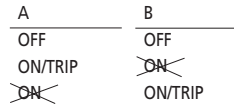
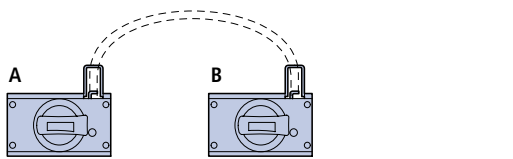
- R22/95 for 95 mm<sup>2</sup>
- R22/120 for 120 mm<sup>2</sup>
- R22/150 for 150 mm<sup>2</sup>
- R22/185 for 185 mm<sup>2</sup>
- R22/240 for 240 mm<sup>2</sup>

### Dimensions

Cable lug types	Usable for	Nominal cross-section mm <sup>2</sup>	Terminal bolts ≤	Dimensions in mm									
				a	b	c	d	e	f	g	h	i	
<b>MC2-XKS95</b>	MC2	MC2	M8	53±2	23±0,5	18±0,2	10±1	19	8,5	25	13,5	4,4	
<b>MC2-XKS120</b>	MC2	MC2	M8	56±2	23±0,5	19,5±0,2	10±1	19	8,5	26	15	4,4	
<b>MC2-XKS150</b>	MC2	MC2	M8	61±2	23±0,5	21±0,2	10±1	19	8,5	30	16,5	4,4	
<b>MC2-XKS185</b>	MC2	MC2	M8	65±1,5	22±1	24±0,36	9 <sup>+1</sup> <sub>-0,5</sub>	19 <sup>+2,5</sup> <sub>-0,5</sub>	8,5 <sup>+0,05</sup> <sub>-0,1</sub>	60±2	19±0,4	7	
<b>MC3-XKS185</b>	MC3, MC4	MC3, MC4	M10	65	24,5	24	11,5	18	10,5	30	19	7,0	
<b>MC3-XKS240</b>	MC3, MC4	MC3, MC4	M10	72	31	26	11,5	19	10,5	35	21	6,0	

# DIMENSIONS MC

## INTERLOCKING VERSIONS AND COMBINATION OPTIONS TYPES MC, MC...-XBZ...



X<sub>3p</sub> = Switch clearance, 3 pole  
X<sub>4p</sub> = Switch clearance, 4 pole

MC-XBZ225		right switch							
Max. switch clearance		MC1		MC2		MC3		MC4	
		X3P	X4P	X3P	X4P	X3P	X4P	X3P	X4P
left switch		mm	mm	mm	mm	mm	mm	mm	mm
MC1	3/4-pole	135	105	120	85	135	90	125	80
MC2	3/4-pole	135	105	120	85	135	90	125	80
MC3	3/4-pole	90	75	75	35	85	40	80	45
MC4	3/4-pole	50	35	40	15	25	-	15	-

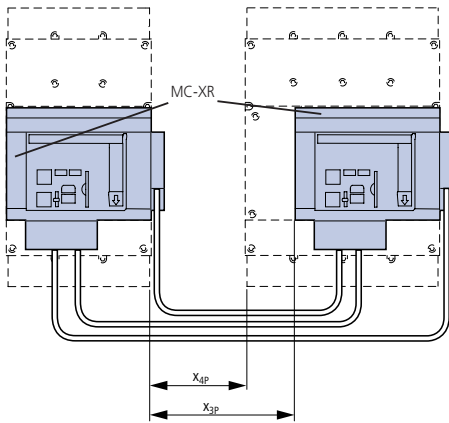
MC-XBZ600		right switch							
Max. switch clearance		MC1		MC2		MC3		MC4	
		X3P	X4P	X3P	X4P	X3P	X4P	X3P	X4P
left switch		mm	mm	mm	mm	mm	mm	mm	mm
MC1	3/4-pole	510	480	495	460	510	465	475	405
MC2	3/4-pole	510	480	495	460	510	465	475	405
MC3	3/4-pole	460	430	450	410	460	415	460	390
MC4	3/4-pole	400	370	380	340	400	375	390	320

MC-XBZ1000		right switch							
Max. switch clearance		MC1		MC2		MC3		MC4	
		X3P	X4P	X3P	X4P	X3P	X4P	X3P	X4P
left switch		mm	mm	mm	mm	mm	mm	mm	mm
MC1	3/4-pole	910	880	895	860	910	865	865	795
MC2	3/4-pole	910	880	895	860	910	865	865	795
MC3	3/4-pole	820	790	850	810	860	815	860	790
MC4	3/4-pole	750	720	730	700	800	775	790	720



## MECHANICAL INTERLOCK FOR REMOTE OPERATOR

### TYPE MC...-XMVR(L)



$X_{3p}$  = Switch clearance, 3 pole  
 $X_{4p}$  = Switch clearance, 4 pole

#### Mechanical interlock XMVR (Side-by-side mounting)

MC.-XMVR

		Max. switch clearance					
		MC2		MC3		MC4	
		X3p	X4p	X3p	X4p	X3p	X4p
left switch		mm	mm	mm	mm	mm	mm
<b>MC2</b>	<b>3/4-pole</b>	130	95	95	50	–	–
<b>MC3</b>	<b>3/4-pole</b>	–	–	135	90	155	85
<b>MC4</b>	<b>3/4-pole</b>	–	–	–	–	120	50

X = max. switch clearance

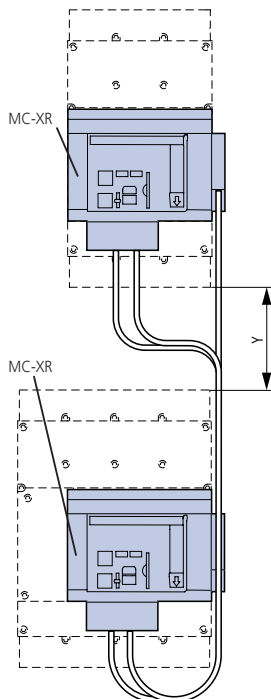
#### Mechanical interlock XMVRL (Mounting in adjacent control cabinet sections)

MC.-XMVRL

		Max. switch clearance					
		MC2		MC3		MC4	
		X3p	X4p	X3p	X4p	X3p	X4p
left switch		mm	mm	mm	mm	mm	mm
<b>MC2</b>	<b>3/4-pole</b>	350	315	420	385	–	–
<b>MC3</b>	<b>3/4-pole</b>	–	–	400	365	460	390
<b>MC4</b>	<b>3/4-pole</b>	–	–	–	–	420	350

X = max. switch clearance

### TYPE MC...-XMVRL



#### Mechanical interlock XMVRL (mounting on top of one another)

MC.-XMVRL

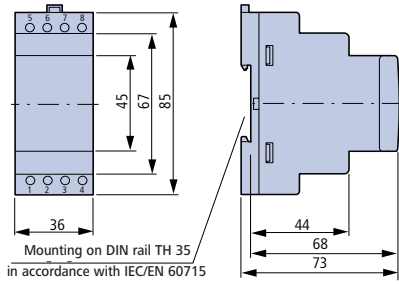
		Max. switch clearance		
		MC2	MC3	MC3
		3/4-pole	3/4-pole	3/4-pole
Switch upper		Y	Y	Y
Switch lower		mm	mm	mm
<b>MC2</b>	<b>3/4-pole</b>	220	225	–
<b>MC3</b>	<b>3/4-pole</b>	–	220	230
<b>MC4</b>	<b>3/4-pole</b>	–	–	230

Y = max. switch clearance

# DIMENSIONS MC

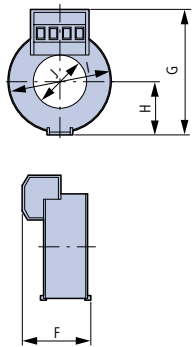
## RESIDUAL CURRENT RELEASE RELAY AND THROUGH-WIRING CURRENT TRANSFORMER

### RESIDUAL CURRENT RELEASE RELAY, TYPES FIR-003, FIR-03, FIR-5

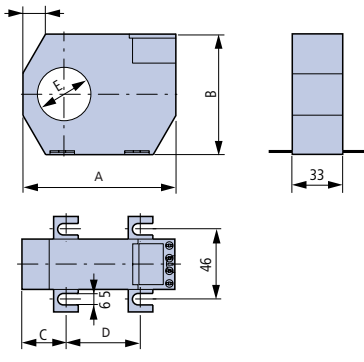


### CORE-BALANCE TRANSFORMER, TYPES FIR-WS-20...30, FIR-W-35...210

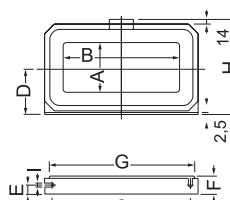
FIR-WS-20...30



FIR-W-35...210



FIR-WR-175...300



Type	F	G	H	I	J
FIR-WS-20	32	60	24	46	20
FIR-WS-30	32	70	30	59	30

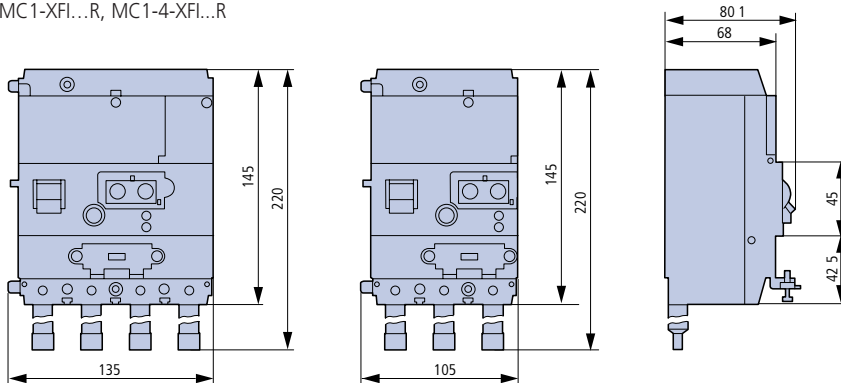
Type	A	B	C	D	E	F
FIR-W-35	100	79	26	48,5	35	35
FIR-W-70	130	110	32	66	70	52
FIR-W-105	170	146	38	94	105	72
FIR-W-140	220	196	48,5	123	140	97
FIR-W-210	299	284	69	161	210	141

Rectangular core-balance transformer

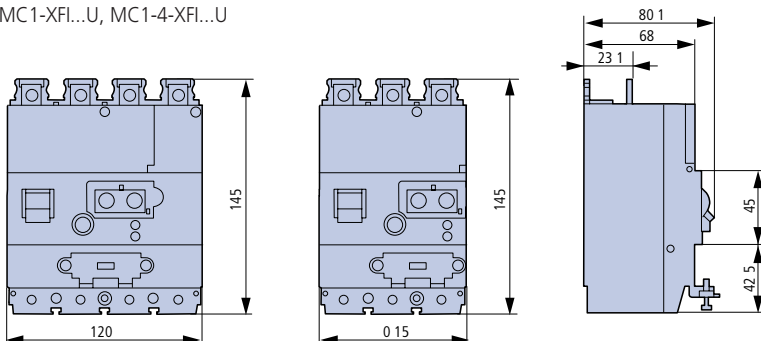
Type	A	B	C	D	E	F	G	H	I
FIR-WR-175	70	175	225	85	22	46	261	176	7,5
FIR-WR-305	115	305	360	116	25	55	402	240	8
FIR-WR-350	150	350	415	140	28	55	460	285	8

### RESIDUAL-CURRENT RELEASE, TYPES MC1-XFI...R, MC1-4-XFI...R, MC1-XFI...U, MC1-4-XFI...U

MC1-XFI...R, MC1-4-XFI...R

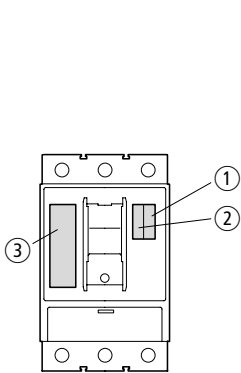


MC1-XFI...U, MC1-4-XFI...U



## COMPONENT INSTALLATION WITH AUXILIARY SWITCHES

## MAXIMUM COMPONENT INSTALLATION AND POSITION OF INTERNAL ACCESSORIES



	① HIN	② HIA	③ MC.-XHIV(2S) or -XA or -XU (early-make)
	(normal)	(tripped)	
MC1, MC1-N	1	1	1
MC2, MC2-N	2	1	1
MC3, MC3-N	3	1	1
MC4, MC4-N	3	2	1 <sup>1)</sup>
MC1-PN	1	-	1 <sup>2)</sup>
MC2-PN	2	-	1 <sup>2)</sup>
MC3-PN	3	-	1 <sup>2)</sup>

Contacts per plug-in slot HIA and HIN

1 NO
1 NC
2 NO
2 NC
1 NO + 1 NC

NO = normally open contact  
NC = normally closed contact

HIN = M22-K.. or M22-CK..

HIA = M22-K.. or M22-CK..

**Note:** <sup>1)</sup> With MC4/MC4-N, the HIV is not early-closing.

<sup>2)</sup> Only XHIV(2S) possible

## MO AIR CIRCUIT BREAKERS



### MO AIR CIRCUIT BREAKERS: NOMINAL CURRENT MAX 6300 A, 3 SWITCHING CAPACITY CLASSES, 5 ELECTRONIC RELEASES, 3- AND 4-POLE VERSIONS

MO air circuit breakers offer full coverage of the 630 - 6300A range with just three contact frame sizes. The nominal current of all contacts can be optimally adjusted to the expansion stage using rating plugs. The smallest rating plug has 250A and at that even with a setting range of 0,4 to 1xln.

### MO AIR CIRCUIT BREAKERS: STANDARD DIMENSIONS, EASY TO PLAN

The MO has a uniform frame height and -depth for all current ranges. Only the width of the circuit breaker varies, depending on the number of poles and the frame size. MOs for permanent installation and withdrawable models have identical widths.

### MO AIR CIRCUIT BREAKERS: CONNECTION SYSTEM

MO circuit breakers up to 5000A come with horizontal connections as standard. The MO 6300A is fitted with vertical connections. The following connections are available as optional extras: Vertical connections, front-side connections and flange connections.

### MO AIR CIRCUIT BREAKERS: RATED CURRENT MODULE

This replaceable module allows the user to reduce the nominal current of the device for optimal system adjustment, e.g. when commissioning a sub-system. The correct rating plug to choose is one which most closely matches the system's nominal current.

### MO AIR CIRCUIT BREAKERS: FRAME SIZE AND SHORT-CIRCUIT BREAKING CAPACITY

FRAME SIZE 1	FRAME SIZE 2	FRAME SIZE 3
250A	250A	
315A	315A	
400A	400A	
500A	500A	
630A	630A	
700A	700A	
800A	800A	
1000A	1000A	
1250A	1250A	1250A
1600A	1600A	1600A
2000A	2000A	2000A
	2500A	2500A
	3200A	3200A
		4000A
		5000A
		6300A

#### RATED BREAKING CAPACITY

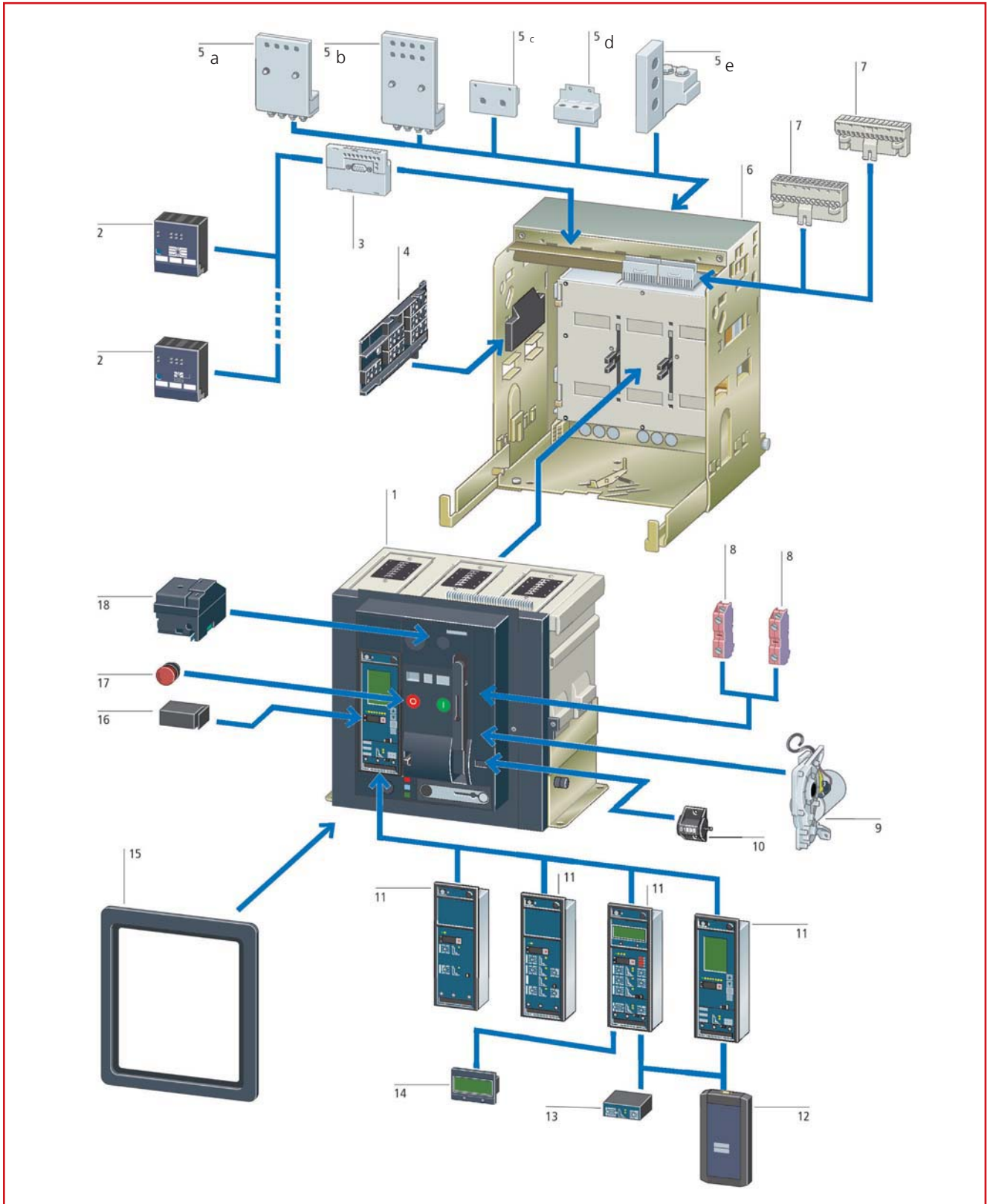
$I_{ov}$  at AC 500V (kA) /  $I_{ov}$  at DC 300V (kA):

Frame Size 1: B = 55 kA, N = 66 kA

Frame Size 2: B = 66 kA, N = 80 kA

Frame Size 3: H = 100 kA

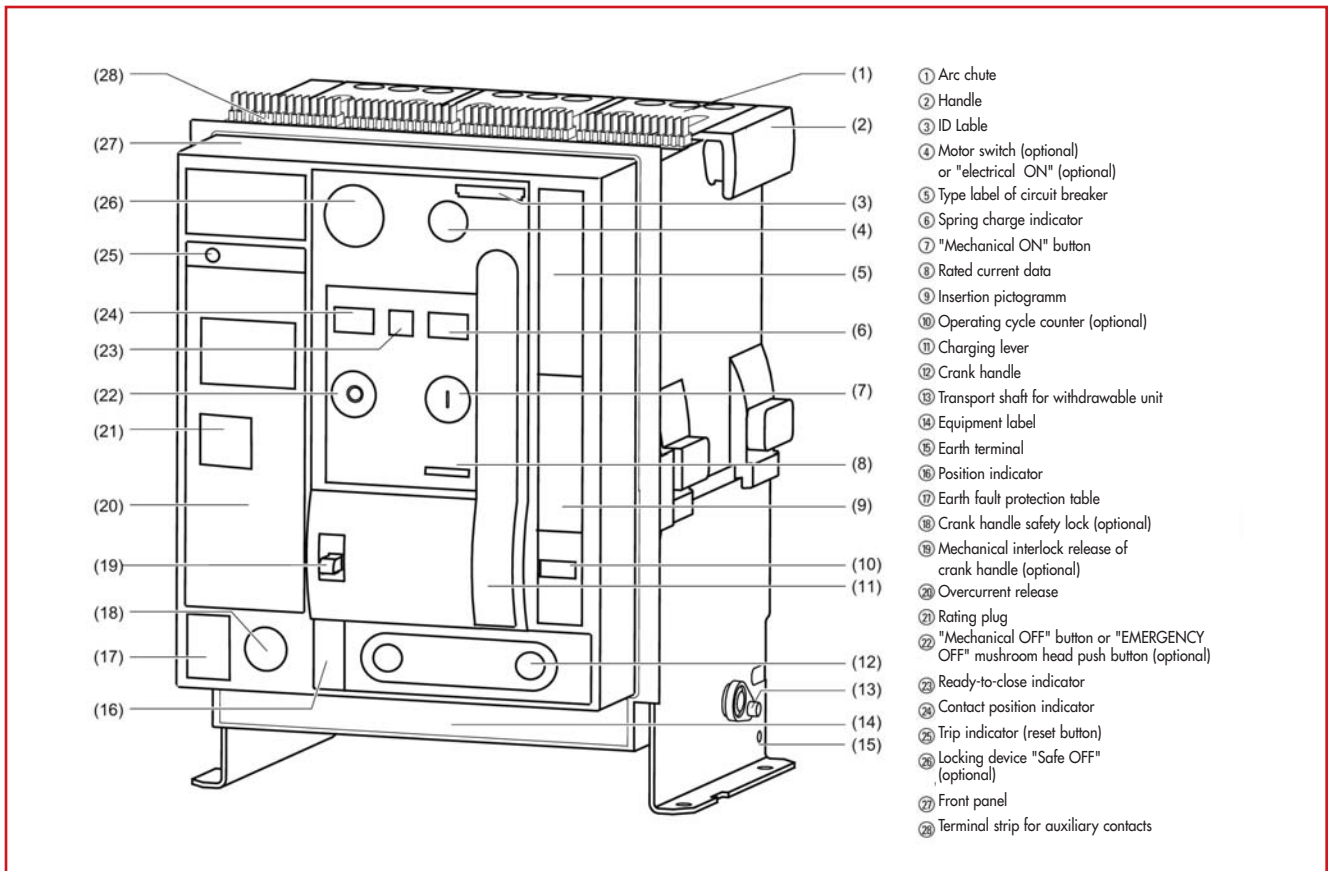
## MO AIR CIRCUIT BREAKERS – SYSTEM OVERVIEW



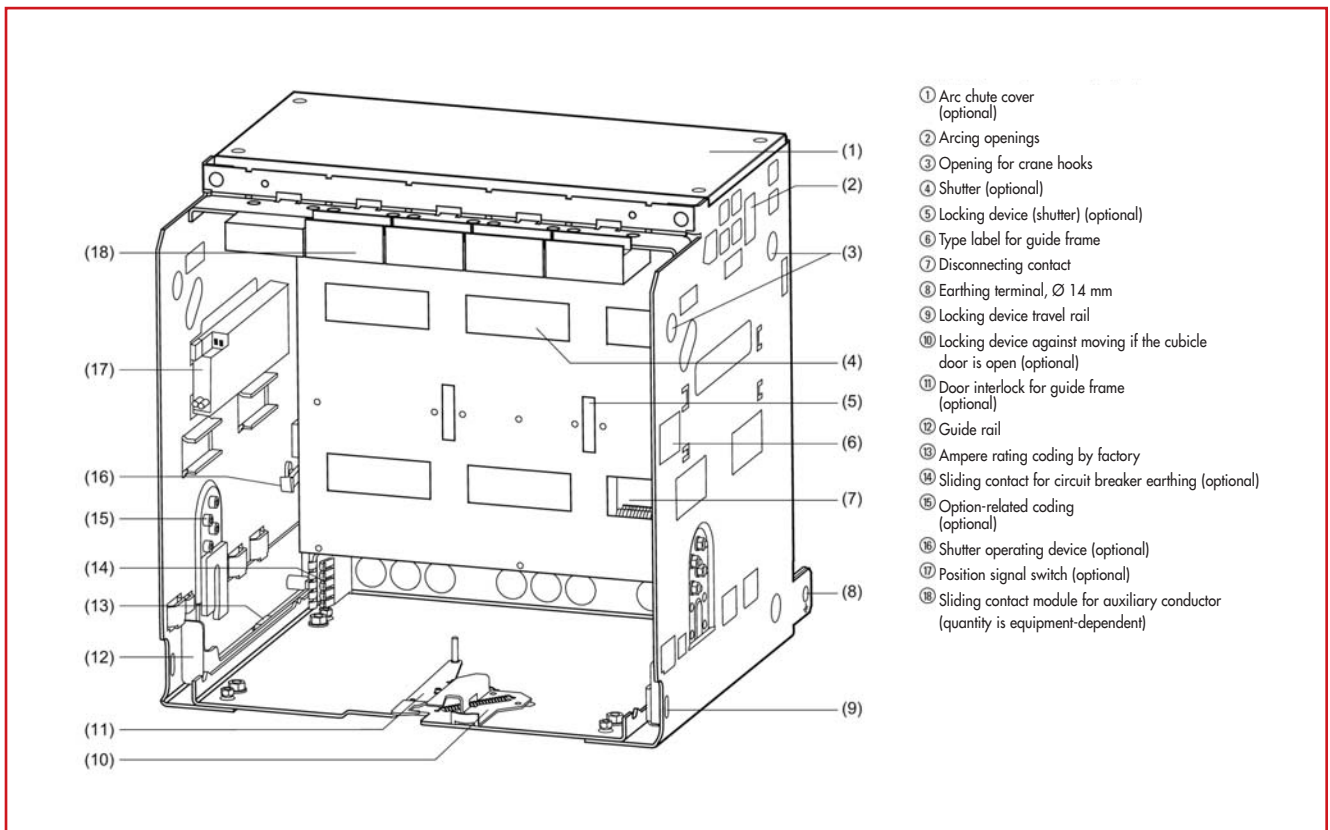
- |  |                                     |  |
|--|-------------------------------------|--|
| 1. MO circuit breaker,<br>between 630A and 6.300 A       | c. Flange connection                | 12. Parametric device                      |
| 2. External expansion modules                            | d. Horizontal connection, rear-side | 13. Earth-fault protection module          |
| 3. Communication module for PROFIBUS                     | e. Vertical connection, rear-side   | 14. 4-line LCD display                     |
| 4. Position indicator contact:<br>Module for guide frame | 6. Guide frame                      | 15. Door sealing frame                     |
| 5. Main connection elements:<br>a. Front connection      | 7. Auxiliary plug connector         | 16. Rating plug                            |
| b. Front connection, double bole                         | 8. Auxiliary contact                | 17. EMERGENCY STOP mushroom<br>push button |
|  | 9. Motor operator                   | 18. Closing magnet, voltage release        |
|  | 10. Operating cycle counter         |  |
|  | 11. Electronic release              |  |

## MO AIR CIRCUIT BREAKERS – BREAKDOWN OF FUNCTIONS

### CIRCUIT BREAKERS



### GUIDE FRAME

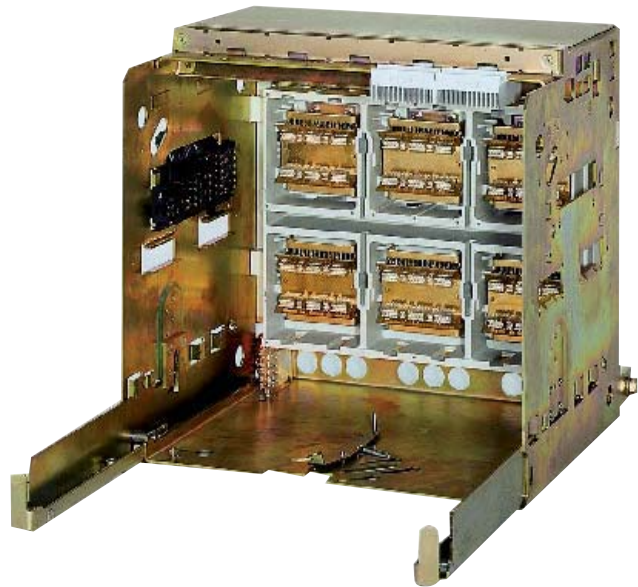


## BASIC UNIT

CIRCUIT BREAKER



GUIDE FRAME



## ACCESSORIES



VOLTAGE RELEASE



UNDERVOLTAGE RELEASE



COMBI-TRANSFORMER



CURRENT TRANSFORMER FOR EARTH-FAULT MEASUREMENT



CLOSING MAGNET



OPERATING CYCLE COUNTER

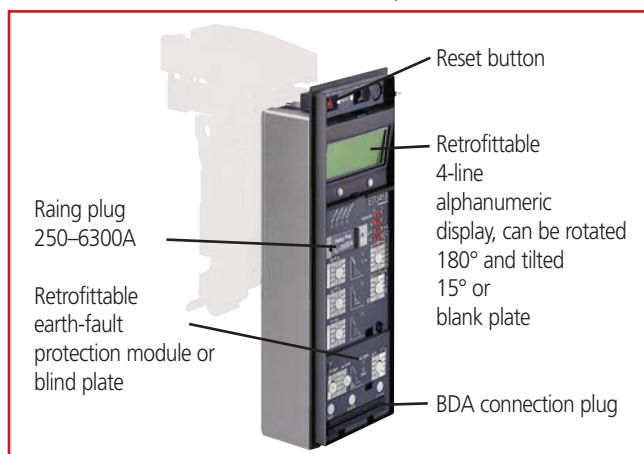


RESET MAGNET



MOTOR OPERATOR

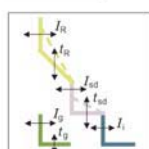
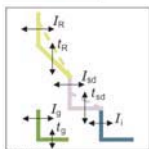
## FUNCTIONS OF THE ETU (ELECTRONIC TRIP UNITS) OVERCURRENT RELEASE



FUNCTIONS OF THE OVERCURRENT RELEASE		ETU15B	ETU25B	ETU27B
<b>BASIC PROTECTION FUNCTIONS</b>				
Overload protection	L	✓	✓	✓
Short-time delayed short-circuit protection	S	--	✓	✓
Instantaneous short-circuit protection	I	✓	✓	✓
Neutral conductor protection	N	--	--	✓
Earth-fault protection	G	--	--	✓
<b>ADDITIONAL FUNCTIONS</b>				
Neutral conductor protection can be switched off		--	--	✓
Neutral conductor protection can be adjusted		--	--	--
Short-time-delayed short-circuit protection can be switched on/off		--	--	--
Instantaneous short-circuit protection can be switched on/off		--	--	--
Thermal memory can be switched on/off		--	--	--
Load monitoring		--	--	--
Short-time-delayed short-circuit protection can be switched to I <sup>2</sup> t		--	--	--
Instantaneous short-circuit protection can be adjusted		✓	--	--
Overload protection switch-selectable I <sup>2</sup> t		--	--	--
Overload protection can be switched on/off		--	--	--
Switch-selectable parameter sets		--	--	--
<b>PARAMETERISATION AND DISPLAY</b>				
Parameterisation by rotary switch (10 steps)		✓	✓	✓
Parameterisation by communication (absolute values)		--	--	--
Parameterisation by menu (absolute values)		--	--	--
Parameterisation of additional protection functions		--	--	--
LCD, alphanumeric		--	--	--
LCD, graphical		--	--	--
<b>METERING FUNCTION</b>				
Metering function Plus		--	--	--
<b>COMMUNICATION</b>				
CubicleBUS		--	--	--
Communication via PROFIBUS-DP		--	--	--
Communication via Ethernet		--	--	--

✓ Standard    -- not available    □ optional



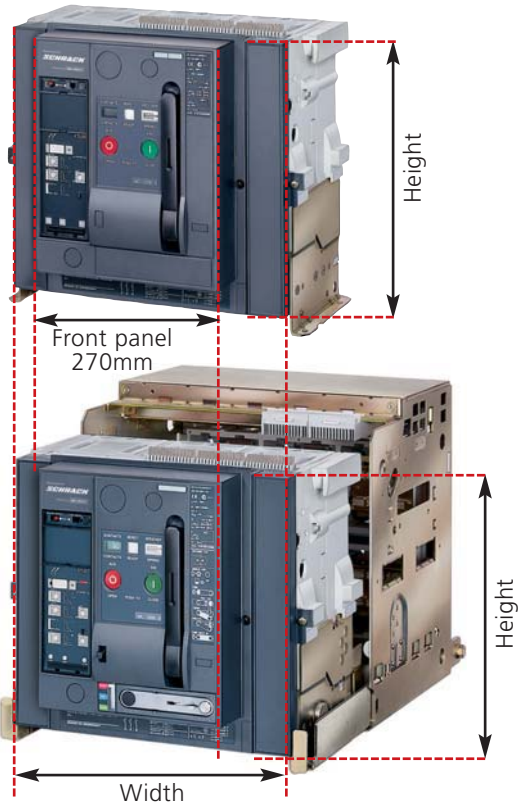


ETU45B	ETU76B
✓	✓
✓	✓
✓	✓
✓	✓
☐	☐
✓	✓
✓	✓
✓	✓
✓	✓
✓	✓
✓	✓
✓	✓
✓	✓
✓	✓
--	✓
--	✓
✓	--
--	✓
--	✓
☐	☐
☐	--
--	✓
☐	☐
☐	☐
☐	☐
✓	✓
☐	☐
☐	☐

# MO – SYSTEM OVERVIEW

## MO AIR CIRCUIT BREAKERS TO 6,300A – MOUNTING VERSIONS

### CIRCUIT BREAKER



Identical **width** for fixed installation and draw-out circuit breaker (with guide)

	3 pole	4 pole
Size 1	320 mm	410 mm
Size 2	460 mm	590 mm
Size 3	704 mm	914 mm

Identical **height** for each frame size fixed- and draw-out circuit breakers!

Same **depth** for each frame size (Size)

Fixed installation: Size 1 = Size 2 = Size 3 = 357 mm

Draw-out (with guide): Size 1 = Size 2 = Size 3 = 471 mm

### DRAW-OUT CIRCUIT-BREAKER (ADD-ON FOR PERMANENT INSTALLATION)



Mechanical interlock release of crank handle (optional)

Crank handle safety lock

Position indicator

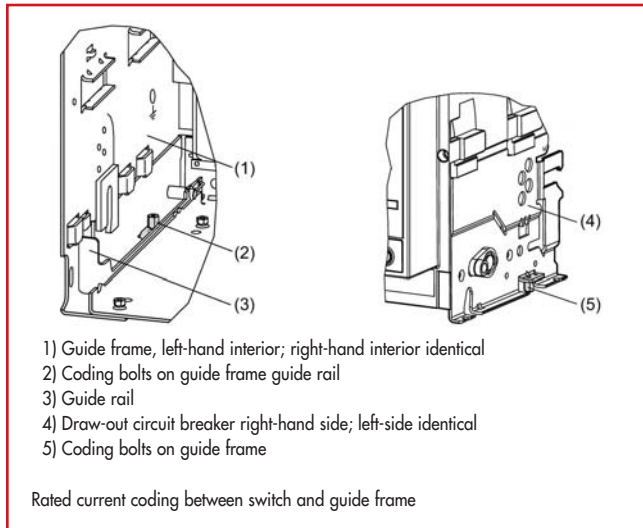
Insertion pictogram

Crank handle

## MO AIR CIRCUIT BREAKERS TO 6300A – GENERAL DATA

### Rated current coding between circuit breaker and guide frame

Draw-out circuit breaker and guide frame come with one rated current coding as standard. The coding ensures that only circuit breakers can be inserted into a guide rail when its contact blades fit the contact fins on that guide rail (see diagram).



### Option-related coding

Draw-out circuit breaker and guide frame can subsequently be equipped with an option-related coding facility. This ensures that circuit breakers with different equipment can only be inserted into certain guide rails. The circuit breaker cannot be inserted in a guide rail which has a different coding. 36 coding options are available.

### POSITION INDICATOR CONTACTS FOR GUIDE FRAME

The guide frame can be equipped with position indicator contacts. These contacts can be used to determine the position of the circuit breaker in the guide frame.

#### Two versions are available:

##### Option 1

Connected position	1 C/O
Test position	1 C/O
Disconnected position	1 C/O

##### Option 2

Connected position	3 C/Os
Test position	2 C/Os
Disconnected position	1 C/O

### POSITIONS OF THE DRAW-OUT CIRCUIT BREAKER IN THE GUIDE FRAME

	Diagram	Position indicator	Primary circuit	Secondary circuit	Switch cabinet door	Shutter
Maintenance position			disconnected	disconnected	open	closed
Disconnected position			disconnected	disconnected	closed	closed
Test position			disconnected	connected	closed	closed
Connected position			connected	connected	closed	open

(1) secondary circuit    (2) primary circuit    (3) switch cabinet door    (4) shutter

### PHASE DIVIDING WALLS

The system constructor can produce phase-isolating walls made from insulating material as a barrier to arc faults. Guide slots have been fitted along the rear panel of the permanently installed circuit breaker or guide frame.

### COVER FOR ARCING CHAMBER

A cover for the arcing chamber is available as an optional add-on for the guide frame. It provides protection for switchgear parts located immediately above the circuit breaker.

### DOOR SEALING FRAME AND COVER

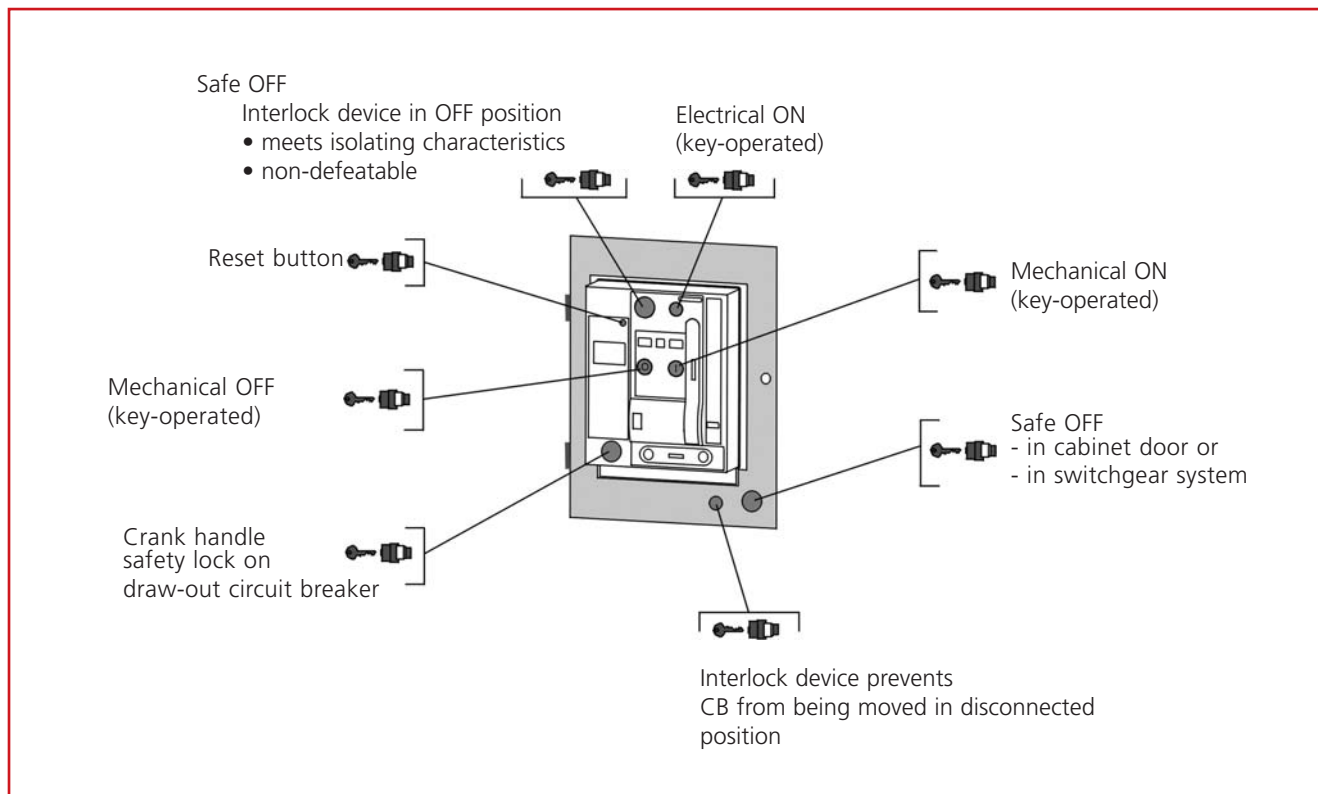
MO circuit breakers have degree of protection IP20 as standard. A door seal frame for IP41 and a cover for IP55 are also available when a higher degree of protection is required for the switchgear.

## MO AIR CIRCUIT BREAKERS – LOCKING OPTIONS

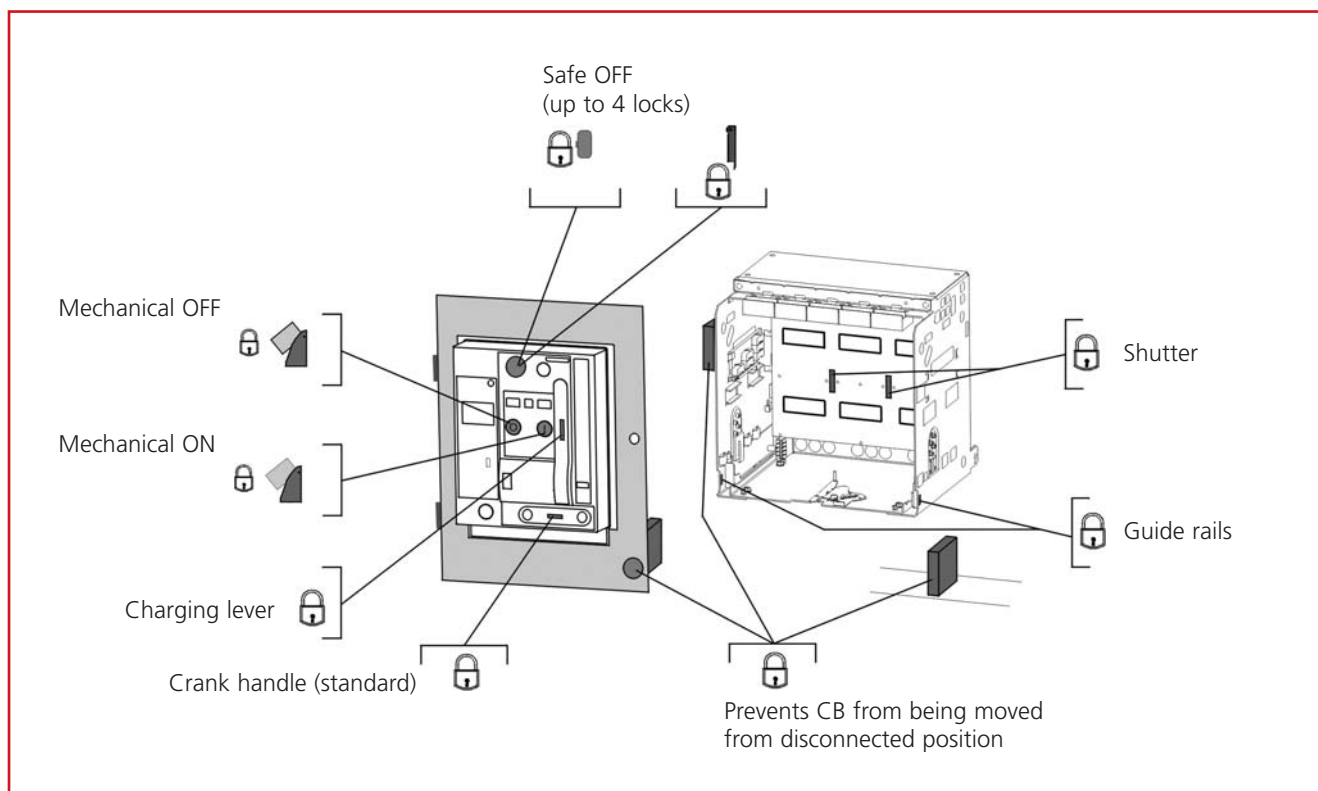
### INTERLOCKING OPTIONS

- Internal and external accessory, can easily be retrofitted at any time
- Various interlocking options secure energy distribution within critical production processes

### INTERLOCK- AND LEAD SEAL DEVICES



### INTERLOCK DEVICE PADLOCKS - OVERVIEW



## /// AIR CIRCUIT BREAKERS MO – INTERLOCKING

### /// SCHRACK-INFO

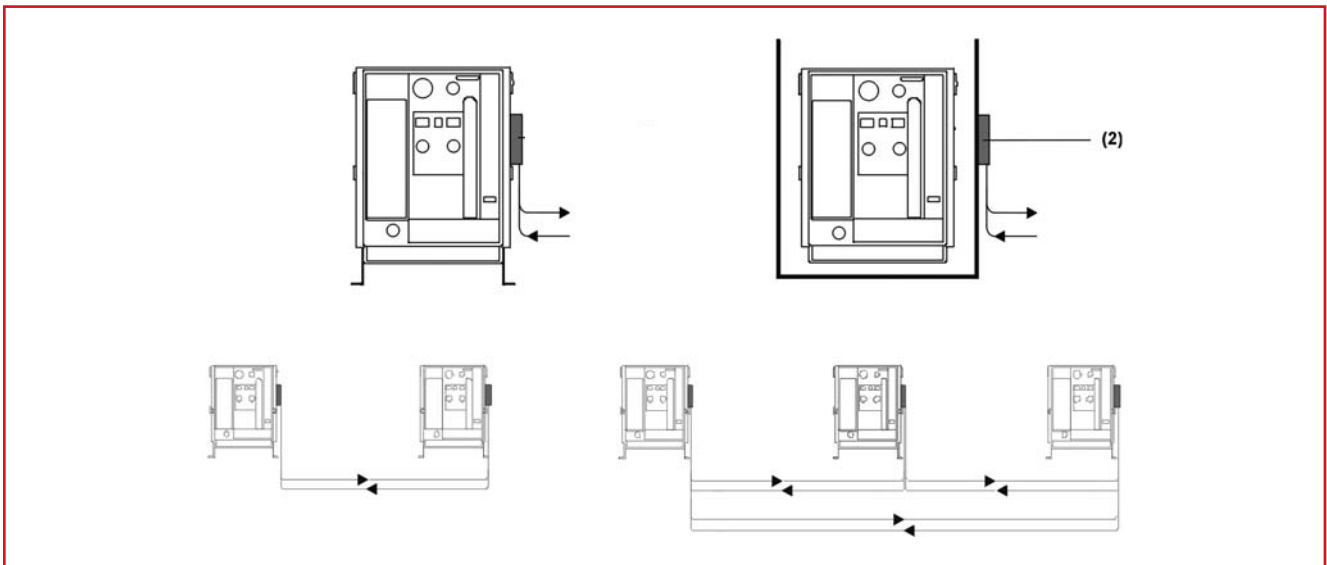
The module for mutual mechanical interlocking can be implemented for two or three ACBs and is simple to adapt to the respective version. Fixed-mounted and withdrawable circuit breakers are compatible and can be implemented together in a single system.

- Internal and external accessories can be fitted at any time
- Miscellaneous interlocking possibilities ensure power distribution of critical production processes

The following minimum conditions have to be achieved:

- Bowden wires have to run in a straight line, bents have to be avoided
- The bending radius of the bowden wire has to be  $> 500$  mm
- The summation of all bending angles of the bowden wire must not exceed  $640^\circ$
- All ACBs to be locked have to be placed in a way that all conditions mentioned above can be fulfilled, when using a 2m or 4,5m long bowden wire.
- The laying of the bowden wire has to be done prior to the adjustment of the interlocking.
- Openings or cut-outs in system elements have to be done in a way that the feed through of the bowden wire is possible without interfering its function.

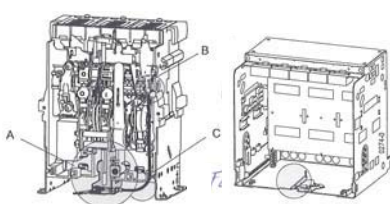
### /// MUTUAL MECHANICAL INTERLOCKING



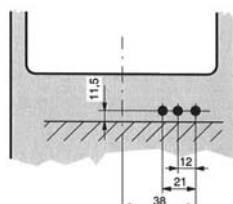
### /// INTERLOCKING OF CUBICLE DOOR

The cubicle door cannot be opened if the fixed-mounted circuit breaker is closed (transmission of the locking signal by means of bowden wire), or if the withdrawable circuit breaker is in connected position.

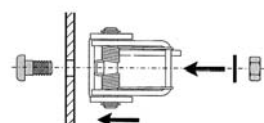
Mounting:



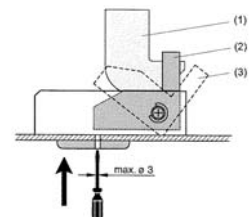
mounting of locking



drilling of cubicle door



mounting of safety catch on cubicle door



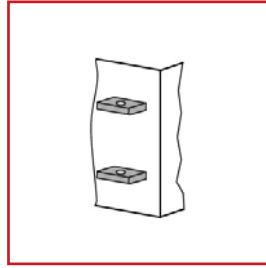
function test

- 1) Position of locking, if breaker is switched on
- 2) Safety catch in standard position
- 3) Safety catch in entrapped position

## FRAME SIZE 1 TO 2000A – REAR-SIDE CONNECTION, HORIZONTAL



MO116232



### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 55 kA</b>						
800 A	43	55 kA	MO1B-800	9004840417418		MO108232
1000 A	43	55 kA	MO1B-1000	9004840412697		MO110232
1250 A	43	55 kA	MO1B-1250	9004840412802		MO112232
1600 A	43	55 kA	MO1B-1600	9004840402216		MO116232
2000 A	43	55 kA	MO1B-2000	9004840685541		MO120232

<b>3-POLE 66 kA</b>						
800 A	43	66 kA	MO1N-800	9004840417432		MO108332
1000 A	43	66 kA	MO1N-1000	9004840412710		MO110332
1250 A	43	66 kA	MO1N-1250	9004840412826		MO112332
1600 A	43	66 kA	MO1N-1600	9004840412857		MO116332
2000 A	43	66 kA	MO1N-2000	9004840685602		MO120332

<b>4-POLE 55 kA</b>						
800 A	50	55 kA	MO1B-4-800	9004840417425		MO108242
1000 A	50	55 kA	MO1B-4-1000	9004840412703		MO110242
1250 A	50	55 kA	MO1B-4-1250	9004840412819		MO112242
1600 A	50	55 kA	MO1B-4-1600	9004840412840		MO116242
2000 A	50	55 kA	MO1B-4-2000	9004840685572		MO120242

<b>4 POLE 66 kA</b>						
800 A	50	66 kA	MO1N-4-800	9004840417449		MO108342
1000 A	50	66 kA	MO1N-4-1000	9004840412796		MO110342
1250 A	50	66 kA	MO1N-4-1250	9004840412833		MO112342
1600 A	50	66 kA	MO1N-4-1600	9004840412864		MO116342
2000 A	50	66 kA	MO1N-4-2000	9004840685633		MO120342



### I KNOW WHERE TO FIND IT!

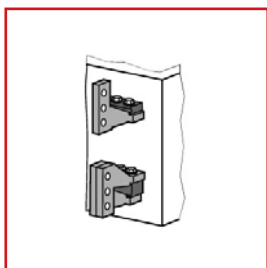
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## FRAME SIZE 1 TO 2000A – REAR-SIDE CONNECTION, VERTICAL



MO116232



### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 55 kA</b>						
800 A	43	55 kA	MO1B-800	upon request	upon request	MO108231
1000 A	43	55 kA	MO1B-1000	upon request	upon request	MO110231
1250 A	43	55 kA	MO1B-1250	upon request	upon request	MO112231
1600 A	43	55 kA	MO1B-1600	upon request	upon request	MO116231
2000 A	43	55 kA	MO1B-2000	upon request	upon request	MO120231

<b>3-POLE 66 kA</b>						
800 A	43	66 kA	MO1N-800	upon request	upon request	MO108331
1000 A	43	66 kA	MO1N-1000	upon request	upon request	MO110331
1250 A	43	66 kA	MO1N-1250	upon request	upon request	MO112331
1600 A	43	66 kA	MO1N-1600	upon request	upon request	MO116331
2000 A	43	66 kA	MO1N-2000	upon request	upon request	MO120331

<b>4-POLE 55 kA</b>						
800 A	50	55 kA	MO1B-4-800	upon request	upon request	MO108241
1000 A	50	55 kA	MO1B-4-1000	upon request	upon request	MO110241
1250 A	50	55 kA	MO1B-4-1250	upon request	upon request	MO112241
1600 A	50	55 kA	MO1B-4-1600	upon request	upon request	MO116241
2000 A	50	55 kA	MO1B-4-2000	upon request	upon request	MO120241

<b>4-POLE 66 kA</b>						
800 A	50	66 kA	MO1N-4-800	upon request	upon request	MO108341
1000 A	50	66 kA	MO1N-4-1000	upon request	upon request	MO110341
1250 A	50	66 kA	MO1N-4-1250	upon request	upon request	MO112341
1600 A	50	66 kA	MO1N-4-1600	upon request	upon request	MO116341
2000 A	50	66 kA	MO1N-4-2000	upon request	upon request	MO120341



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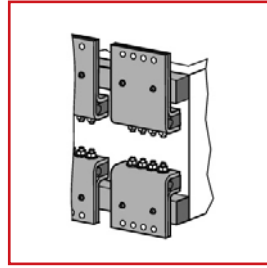
#### WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

## FRAME SIZE 1 TO 2000A – CONNECTION, FRONT, SINGLE BORE



MO116232



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 55 kA</b>						
800 A	43	55 kA	MO1B-800	upon request	upon request	MO108233
1000 A	43	55 kA	MO1B-1000	upon request	upon request	MO110233
1250 A	43	55 kA	MO1B-1250	upon request	upon request	MO112233
1600 A	43	55 kA	MO1B-1600	upon request	upon request	MO116233
2000 A	43	55 kA	MO1B-2000	upon request	upon request	MO120233

<b>3-POLE 66 kA</b>						
800 A	43	66 kA	MO1N-800	upon request	upon request	MO108333
1000 A	43	66 kA	MO1N-1000	upon request	upon request	MO110333
1250 A	43	66 kA	MO1N-1250	upon request	upon request	MO112333
1600 A	43	66 kA	MO1N-1600	upon request	upon request	MO116333
2000 A	43	66 kA	MO1N-2000	upon request	upon request	MO120333

<b>4-POLE 55 kA</b>						
800 A	50	55 kA	MO1B-4-800	upon request	upon request	MO108243
1000 A	50	55 kA	MO1B-4-1000	upon request	upon request	MO110243
1250 A	50	55 kA	MO1B-4-1250	upon request	upon request	MO112243
1600 A	50	55 kA	MO1B-4-1600	upon request	upon request	MO116243
2000 A	50	55 kA	MO1B-4-2000	upon request	upon request	MO120243

<b>4-POLE 66 kA</b>						
800 A	50	66 kA	MO1N-4-800	upon request	upon request	MO108343
1000 A	50	66 kA	MO1N-4-1000	upon request	upon request	MO110343
1250 A	50	66 kA	MO1N-4-1250	upon request	upon request	MO112343
1600 A	50	66 kA	MO1N-4-1600	upon request	upon request	MO116343
2000 A	50	66 kA	MO1N-4-2000	upon request	upon request	MO120343



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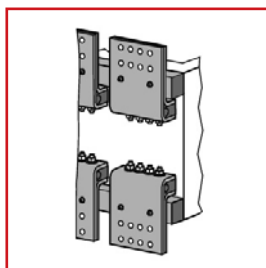
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## FRAME SIZE 1 TO 2000A – CONNECTION, FRONT, DOUBLE BORE



MO116232



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	ICU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 55 kA</b>						
800 A	43	55 kA	MO1B-800	upon request	upon request	MO108234
1000 A	43	55 kA	MO1B-1000	9004840413113		MO110234
1250 A	43	55 kA	MO1B-1250	9004840413151		MO112234
1600 A	43	55 kA	MO1B-1600	9004840413199		MO116234
2000 A	43	55 kA	MO1B-2000	9004840685558		MO120234
<b>3-POLE 66 kA</b>						
800 A	43	66 kA	MO1N-800	upon request	upon request	MO108334
1000 A	43	66 kA	MO1N-1000	9004840413137		MO110334
1250 A	43	66 kA	MO1N-1250	9004840413175		MO112334
1600 A	43	66 kA	MO1N-1600	9004840413212		MO116334
2000 A	43	66 kA	MO1N-2000	9004840685619		MO120334
<b>4-POLE 55 kA</b>						
800 A	50	55 kA	MO1B-4-800	upon request	upon request	MO108244
1000 A	50	55 kA	MO1B-4-1000	9004840413120		MO110244
1250 A	50	55 kA	MO1B-4-1250	9004840413168		MO112244
1600 A	50	55 kA	MO1B-4-1600	9004840413205		MO116244
2000 A	50	55 kA	MO1B-4-2000	9004840685589		MO120244
<b>4-POLE 66 kA</b>						
800 A	50	66 kA	MO1N-4-800	upon request	upon request	MO108344
1000 A	50	66 kA	MO1N-4-1000	9004840413144		MO110344
1250 A	50	66 kA	MO1N-4-1250	9004840413182		MO112344
1600 A	50	66 kA	MO1N-4-1600	9004840413229		MO116344
2000 A	50	66 kA	MO1N-4-2000	9004840685640		MO120344



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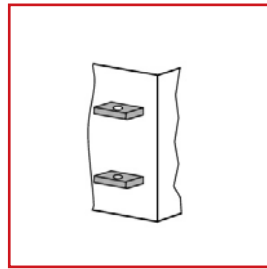
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## FRAME SIZE 2 TO 3200A – REAR-SIDE CONNECTION, HORIZONTAL



MO225232



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 66 kA</b>						
2000 A	56	66 kA	MO2B-2000	9004840412994		MO220232
2500 A	59	66 kA	MO2B-2500	9004840413038		MO225232
<b>3-POLE 80 kA</b>						
800 A	56	80 kA	MO2N-800	9004840417463		MO208332
1000 A	56	80 kA	MO2N-1000	9004840417487		MO210332
1250 A	56	80 kA	MO2N-1250	9004840417500		MO212332
1600 A	56	80 kA	MO2N-1600	9004840412895		MO216332
2000 A	56	80 kA	MO2N-2000	9004840413014		MO220332
2500 A	59	80 kA	MO2N-2500	9004840413052		MO225332
3200 A	64	80 kA	MO2N-3200	9004840413090		MO232332
<b>4-POLE 66 kA</b>						
2000 A	67	66 kA	MO2B-4-2000	9004840413007		MO220242
2500 A	71	66 kA	MO2B-4-2500	9004840413045		MO225242
<b>4-POLE 80 kA</b>						
800 A	67	80 kA	MO2N-4-800	9004840417470		MO208342
1000 A	67	80 kA	MO2N-4-1000	9004840417494		MO210342
1250 A	67	80 kA	MO2N-4-1250	9004840417517		MO212342
1600 A	67	80 kA	MO2N-4-1600	9004840412901		MO216342
2000 A	67	80 kA	MO2N-4-2000	9004840413021		MO220342
2500 A	71	80 kA	MO2N-4-2500	9004840413069		MO225342
3200 A	77	80 kA	MO2N-4-3200	9004840413106		MO232342



### I KNOW WHERE TO FIND IT!

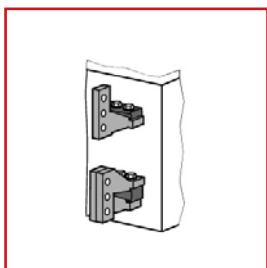
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## FRAME SIZE 2 TO 3200A – REAR-SIDE CONNECTION, VERTICAL



MO225232



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 66 kA</b>						
2000 A	56	66 kA	MO2B-2000	upon request	upon request	MO220231
2500 A	59	66 kA	MO2B-2500	upon request	upon request	MO225231
<b>3-POLE 80 kA</b>						
800 A	56	80 kA	MO2N-800	upon request	upon request	MO208331
1000 A	56	80 kA	MO2N-1000	upon request	upon request	MO210331
1250 A	56	80 kA	MO2N-1250	upon request	upon request	MO212331
1600 A	56	80 kA	MO2N-1600	upon request	upon request	MO216331
2000 A	56	80 kA	MO2N-2000	upon request	upon request	MO220331
2500 A	59	80 kA	MO2N-2500	upon request	upon request	MO225331
3200 A	64	80 kA	MO2N-3200	upon request	upon request	MO232331
<b>4-POLE 66 kA</b>						
2000 A	67	66 kA	MO2B-4-2000	upon request	upon request	MO220241
2500 A	71	66 kA	MO2B-4-2500	upon request	upon request	MO225241
<b>4-POLE 80 kA</b>						
800 A	67	80 kA	MO2N-4-800	upon request	upon request	MO208341
1000 A	67	80 kA	MO2N-4-1000	upon request	upon request	MO210341
1250 A	67	80 kA	MO2N-4-1250	upon request	upon request	MO212341
1600 A	67	80 kA	MO2N-4-1600	upon request	upon request	MO216341
2000 A	67	80 kA	MO2N-4-2000	upon request	upon request	MO220341
2500 A	71	80 kA	MO2N-4-2500	upon request	upon request	MO225341
3200 A	77	80 kA	MO2N-4-3200	upon request	upon request	MO232341



### I KNOW WHERE TO FIND IT!

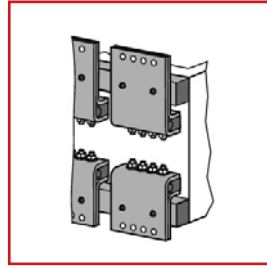
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## FRAME SIZE 2 TO 3200A – CONNECTION, FRONT, SINGLE BORE



MO225232



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 66 kA</b>						
2000 A	56	66 kA	MO2B-2000	upon request	upon request	MO220233
2500 A	59	66 kA	MO2B-2500	upon request	upon request	MO225233
<b>3-POLE 80 kA</b>						
800 A	56	80 kA	MO2N-800	upon request	upon request	MO208333
1000 A	56	80 kA	MO2N-1000	upon request	upon request	MO210333
1250 A	56	80 kA	MO2N-1250	upon request	upon request	MO212333
1600 A	56	80 kA	MO2N-1600	upon request	upon request	MO216333
2000 A	56	80 kA	MO2N-2000	upon request	upon request	MO220333
2500 A	59	80 kA	MO2N-2500	upon request	upon request	MO225333
3200 A	64	80 kA	MO2N-3200	upon request	upon request	MO232333
<b>4-POLE 66 kA</b>						
2000 A	67	66 kA	MO2B-4-2000	upon request	upon request	MO220243
2500 A	71	66 kA	MO2B-4-2500	upon request	upon request	MO225243
<b>4-POLE 80 kA</b>						
800 A	67	80 kA	MO2N-4-800	upon request	upon request	MO208343
1000 A	67	80 kA	MO2N-4-1000	upon request	upon request	MO210343
1250 A	67	80 kA	MO2N-4-1250	upon request	upon request	MO212343
1600 A	67	80 kA	MO2N-4-1600	upon request	upon request	MO216343
2000 A	67	80 kA	MO2N-4-2000	upon request	upon request	MO220343
2500 A	71	80 kA	MO2N-4-2500	upon request	upon request	MO225343
3200 A	77	80 kA	MO2N-4-3200	upon request	upon request	MO232343



### I KNOW WHERE TO FIND IT!

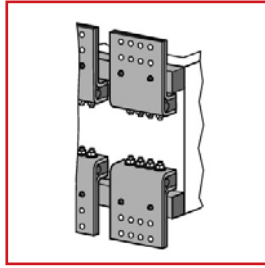
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## FRAME SIZE 2 TO 3200A – CONNECTION, FRONT, DOUBLE BORE



MO225232



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 66 kA</b>						
2000 A	56	66 kA	MO2B-2000	9004840413274		MO220234
2500 A	59	66 kA	MO2B-2500	9004840413311		MO225234
<b>3-POLE 80 kA</b>						
800 A	56	80 kA	MO2N-800	upon request	upon request	MO208334
1000 A	56	80 kA	MO2N-1000	upon request	upon request	MO210334
1250 A	56	80 kA	MO2N-1250	upon request	upon request	MO212334
1600 A	56	80 kA	MO2N-1600	9004840413250		MO216334
2000 A	56	80 kA	MO2N-2000	9004840413298		MO220334
2500 A	59	80 kA	MO2N-2500	9004840413335		MO225334
3200 A	64	80 kA	MO2N-3200	9004840413373		MO232334
<b>4-POLE 66 kA</b>						
2000 A	67	66 kA	MO2B-4-2000	9004840413281		MO220244
2500 A	71	66 kA	MO2B-4-2500	9004840413328		MO225244
<b>4-POLE 80 kA</b>						
800 A	67	80 kA	MO2N-4-800	upon request	upon request	MO208344
1000 A	67	80 kA	MO2N-4-1000	upon request	upon request	MO210344
1250 A	67	80 kA	MO2N-4-1250	upon request	upon request	MO212344
1600 A	67	80 kA	MO2N-4-1600	9004840413267		MO216344
2000 A	67	80 kA	MO2N-4-2000	9004840413304		MO220344
2500 A	71	80 kA	MO2N-4-2500	9004840413342		MO225344
3200 A	77	80 kA	MO2N-4-3200	9004840413380		MO232344



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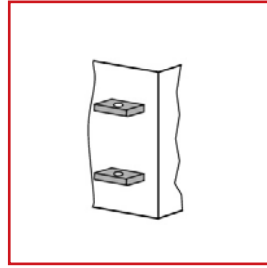
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## FRAME SIZE 3 TO 6300A – REAR-SIDE CONNECTION, HORIZONTAL



MO340432



Connection, rear view

### SCHRACK INFO

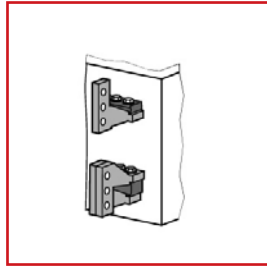
Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	$I_{CU}$	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 100 kA</b>						
4000 A	82	100 kA	MO3H-4000	upon request	upon request	MO340432
5000 A	82	100 kA	MO3H-5000	upon request	upon request	MO350432
6300 A	90	100 kA	MO3H-6300	upon request	upon request	MO363432
<b>4-POLE 100 kA</b>						
4000 A	99	100 kA	MO3H-4-4000	upon request	upon request	MO340442
5000 A	99	100 kA	MO3H-4-5000	upon request	upon request	MO350442
6300 A	100	100 kA	MO3H-4-6300	upon request	upon request	MO363442

## FRAME SIZE 3 TO 6300A – REAR-SIDE CONNECTION, VERTICAL



MO340432



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

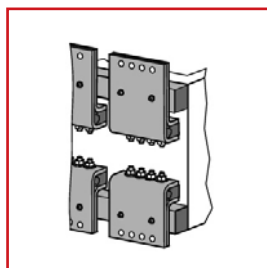
DESCRIPTION	WEIGHT (kg)	$I_{CU}$	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 100 kA</b>						
4000 A	82	100 kA	MO3H-4000	upon request	upon request	MO340431
5000 A	82	100 kA	MO3H-5000	upon request	upon request	MO350431
6300 A	90	100 kA	MO3H-6300	upon request	upon request	MO363431
<b>4-POLE 100 kA</b>						
4000 A	99	100 kA	MO3H-4-4000	upon request	upon request	MO340441
5000 A	99	100 kA	MO3H-4-5000	upon request	upon request	MO350441
6300 A	108	100 kA	MO3H-4-6300	upon request	upon request	MO363441

# MO – FRAME SIZE 3 / FIXED-MOUNTED INSTALLATION

## FRAME SIZE 3 TO 6300A – CONNECTION, FRONT, SINGLE BORE



MO340432



Connection, rear view

### SCHRACK INFO

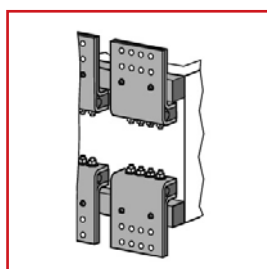
Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 100 kA</b>						
4000 A	99	100 kA	MO3H-4000	upon request	upon request	MO340433
<b>4-POLE 100 kA</b>						
4000 A	99	100 kA	MO3H-4-4000	upon request	upon request	MO340443

## FRAME SIZE 3 TO 6300A – CONNECTION, FRONT, DOUBLE BORE



MO340432



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 100 kA</b>						
4000 A	99	100 kA	MO3H-4000	upon request	upon request	MO340434
<b>4-POLE 100 kA</b>						
4000 A	99	100 kA	MO3H-4-4000	upon request	upon request	MO340444



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## FRAME SIZE 1 TO 2000A – WITHOUT GUIDE FRAME



MO116235

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device. Replacement switch for existing frames. The nominal current must be appropriate for the guide frame.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 55 kA</b>						
800 A	45	55 kA	MO1B-800	upon request	upon request	MO108235
1000 A	45	55 kA	MO1B-1000	upon request	upon request	MO110235
1250 A	45	55 kA	MO1B-1250	upon request	upon request	MO112235
1600 A	45	55 kA	MO1B-1600	upon request	upon request	MO116235
2000 A	45	55 kA	MO1B-2000	upon request	upon request	MO120235

### 3-POLE 66 kA

800 A	45	66 kA	MO1N-800	upon request	upon request	MO108335
1000 A	45	66 kA	MO1N-1000	upon request	upon request	MO110335
1250 A	45	66 kA	MO1N-1250	upon request	upon request	MO112335
1600 A	45	66 kA	MO1N-1600	upon request	upon request	MO116335
2000 A	45	66 kA	MO1N-2000	upon request	upon request	MO120335

### 4-POLE 55 kA

800 A	54	55 kA	MO1B-4-800	upon request	upon request	MO108245
1000 A	54	55 kA	MO1B-4-1000	upon request	upon request	MO110245
1250 A	54	55 kA	MO1B-4-1250	upon request	upon request	MO112245
1600 A	54	55 kA	MO1B-4-1600	upon request	upon request	MO116245
2000 A	54	55 kA	MO1B-4-2000	upon request	upon request	MO120245

### 4-POLE 66 kA

800 A	54	66 kA	MO1N-4-800	upon request	upon request	MO108345
1000 A	54	66 kA	MO1N-4-1000	upon request	upon request	MO110345
1250 A	54	66 kA	MO1N-4-1250	upon request	upon request	MO112345
1600 A	54	66 kA	MO1N-4-1600	upon request	upon request	MO116345
2000 A	54	66 kA	MO1N-4-2000	upon request	upon request	MO120345

### FRAME

Guide frame for frame size 1	upon request
------------------------------	--------------



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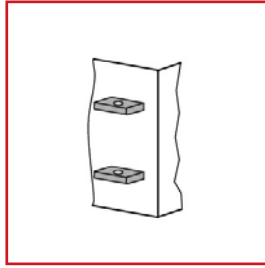


# MO – FRAME SIZE 1 / WITHDRAWABLE MODELS

## FRAME SIZE 1 TO 2000A – WITH GUIDE FRAME, REAR-SIDE CONNECTION, HORIZONTAL



MO116236



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	ICU	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 55 kA</b>						
800 A	70	55 kA	MO1B-800	upon request	upon request	MO108236
1000 A	70	55 kA	MO1B-1000	9004840413397		MO110236
1250 A	70	55 kA	MO1B-1250	9004840413434		MO112236
1600 A	70	55 kA	MO1B-1600	9004840413472		MO116236
2000 A	70	55 kA	MO1B-2000	9004840685565		MO120236
<b>3-POLE 66 kA</b>						
800 A	70	66 kA	MO1N-800	upon request	upon request	MO108336
1000 A	70	66 kA	MO1N-1000	9004840413410		MO110336
1250 A	70	66 kA	MO1N-1250	9004840413458		MO112336
1600 A	70	66 kA	MO1N-1600	9004840413496		MO116336
2000 A	70	66 kA	MO1N-2000	9004840685626		MO120336
<b>4-POLE 55 kA</b>						
800 A	84	55 kA	MO1B-4-800	upon request	upon request	MO108246
1000 A	84	55 kA	MO1B-4-1000	9004840413403		MO110246
1250 A	84	55 kA	MO1B-4-1250	9004840413441		MO112246
1600 A	84	55 kA	MO1B-4-1600	9004840413489		MO116246
2000 A	84	55 kA	MO1B-4-2000	9004840685596		MO120246
<b>4-POLE 66 kA</b>						
800 A	84	66 kA	MO1N-4-800	upon request	upon request	MO108346
1000 A	84	66 kA	MO1N-4-1000	9004840413427		MO110346
1250 A	84	66 kA	MO1N-4-1250	9004840413465		MO112346
1600 A	84	66 kA	MO1N-4-1600	9004840413502		MO116346
2000 A	84	66 kA	MO1N-4-2000	9004840685657		MO120346



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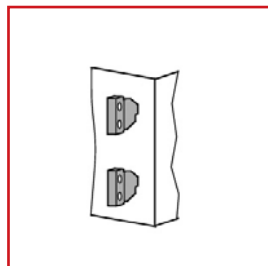
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## FRAME SIZE 1 TO 2000A – WITH GUIDE FRAME, REAR-SIDE CONNECTION, VERTICAL



MO116236



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 55 kA</b>						
800 A	70	55 kA	MO1B-800	upon request	upon request	MO108237
1000 A	70	55 kA	MO1B-1000	upon request	upon request	MO110237
1250 A	70	55 kA	MO1B-1250	upon request	upon request	MO112237
1600 A	70	55 kA	MO1B-1600	upon request	upon request	MO116237
2000 A	70	55 kA	MO1B-2000	upon request	upon request	MO120237
<b>3-POLE 66 kA</b>						
800 A	70	66 kA	MO1N-800	upon request	upon request	MO108337
1000 A	70	66 kA	MO1N-1000	upon request	upon request	MO110337
1250 A	70	66 kA	MO1N-1250	upon request	upon request	MO112337
1600 A	70	66 kA	MO1N-1600	upon request	upon request	MO116337
2000 A	70	66 kA	MO1N-2000	upon request	upon request	MO120337
<b>4-POLE 55 kA</b>						
800 A	84	55 kA	MO1B-4-800	upon request	upon request	MO108247
1000 A	84	55 kA	MO1B-4-1000	upon request	upon request	MO110247
1250 A	84	55 kA	MO1B-4-1250	upon request	upon request	MO112247
1600 A	84	55 kA	MO1B-4-1600	upon request	upon request	MO116247
2000 A	84	55 kA	MO1B-4-2000	upon request	upon request	MO120247
<b>4-POLE 66 kA</b>						
800 A	84	66 kA	MO1N-4-800	upon request	upon request	MO108347
1000 A	84	66 kA	MO1N-4-1000	upon request	upon request	MO110347
1250 A	84	66 kA	MO1N-4-1250	upon request	upon request	MO112347
1600 A	84	66 kA	MO1N-4-1600	upon request	upon request	MO116347
2000 A	84	66 kA	MO1N-4-2000	upon request	upon request	MO120347



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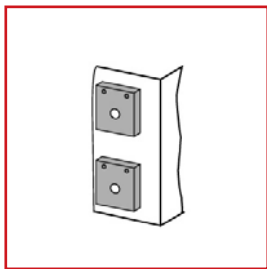
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## FRAME SIZE 1 TO 2000A – WITH GUIDE FRAME AND CONNECTING FLANGE



MO116236



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 55 kA</b>						
800 A	70	55 kA	MO1B-800	upon request	upon request	MO108238
1000 A	70	55 kA	MO1B-1000	upon request	upon request	MO110238
1250 A	70	55 kA	MO1B-1250	upon request	upon request	MO112238
1600 A	70	55 kA	MO1B-1600	upon request	upon request	MO116238
2000 A	70	55 kA	MO1B-2000	upon request	upon request	MO120238
<b>3-POLE 66 kA</b>						
800 A	70	66 kA	MO1N-800	upon request	upon request	MO108338
1000 A	70	66 kA	MO1N-1000	upon request	upon request	MO110338
1250 A	70	66 kA	MO1N-1250	upon request	upon request	MO112338
1600 A	70	66 kA	MO1N-1600	upon request	upon request	MO116338
2000 A	70	66 kA	MO1N-2000	upon request	upon request	MO120338
<b>4-POLE 55 kA</b>						
800 A	84	55 kA	MO1B-4-800	upon request	upon request	MO108248
1000 A	84	55 kA	MO1B-4-1000	upon request	upon request	MO110248
1250 A	84	55 kA	MO1B-4-1250	upon request	upon request	MO112248
1600 A	84	55 kA	MO1B-4-1600	upon request	upon request	MO116248
2000 A	84	55 kA	MO1B-4-2000	upon request	upon request	MO120248
<b>4-POLE 66 kA</b>						
800 A	84	66 kA	MO1N-4-800	upon request	upon request	MO108348
1000 A	84	66 kA	MO1N-4-1000	upon request	upon request	MO110348
1250 A	84	66 kA	MO1N-4-1250	upon request	upon request	MO112348
1600 A	84	66 kA	MO1N-4-1600	upon request	upon request	MO116348
2000 A	84	66 kA	MO1N-4-2000	upon request	upon request	MO120348



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## FRAME SIZE 2 TO 3200A – WITHOUT GUIDE FRAME



MO232335

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device. Replacement switch for existing frames. The nominal current must be appropriate for the guide frame.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 66 kA</b>						
2000 A	60	66 kA	MO2B-2000	upon request	upon request	MO220235
2500 A	63	66 kA	MO2B-2500	upon request	upon request	MO225235
<b>3-POLE 80 kA</b>						
800 A	60	80 kA	MO2N-800	upon request	upon request	MO208335
1000 A	60	80 kA	MO2N-1000	upon request	upon request	MO210335
1250 A	60	80 kA	MO2N-1250	upon request	upon request	MO212335
1600 A	60	80 kA	MO2N-1600	upon request	upon request	MO216335
2000 A	60	80 kA	MO2N-2000	upon request	upon request	MO220335
2500 A	63	80 kA	MO2N-2500	upon request	upon request	MO225335
3200 A	68	80 kA	MO2N-3200	upon request	upon request	MO232335
<b>4-POLE 66 kA</b>						
2000 A	72	66 kA	MO2B-4-2000	upon request	upon request	MO220245
2500 A	76	66 kA	MO2B-4-2500	upon request	upon request	MO225245
<b>4-POLE 80 kA</b>						
800 A	72	80 kA	MO2N-4-800	upon request	upon request	MO208345
1000 A	72	80 kA	MO2N-4-1000	upon request	upon request	MO210345
1250 A	72	80 kA	MO2N-4-1250	upon request	upon request	MO212345
1600 A	72	80 kA	MO2N-4-1600	upon request	upon request	MO216345
2000 A	72	80 kA	MO2N-4-2000	upon request	upon request	MO220345
2500 A	76	80 kA	MO2N-4-2500	upon request	upon request	MO225345
3200 A	82	80 kA	MO2N-4-3200	upon request	upon request	MO232345

### FRAME

Guide frame for frame size 2	upon request
------------------------------	--------------



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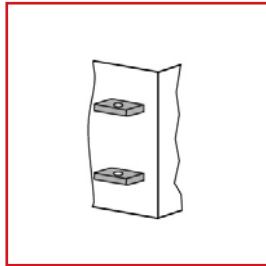
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# MO – FRAME SIZE 2 / WITHDRAWABLE MODELS

## FRAME SIZE 2 TO 3200A – WITH GUIDE FRAME, REAR-SIDE CONNECTION, HORIZONTAL



MO220236



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
-------------	-------------	-----------------	------	----------	-----------	-----------

#### 3-POLE 66 kA

2000 A	91	66 kA	MO2B-2000	9004840413557		MO220236
2500 A	102	66 kA	MO2B-2500	9004840413595		MO225236

#### 3-POLE 80 kA

800 A	91	80 kA	MO2N-800	upon request	upon request	MO208336
1000 A	91	80 kA	MO2N-1000	upon request	upon request	MO210336
1250 A	91	80 kA	MO2N-1250	upon request	upon request	MO212336
1600 A	91	80 kA	MO2N-1600	9004840413533		MO216336
2000 A	91	80 kA	MO2N-2000	9004840413571		MO220336
2500 A	102	80 kA	MO2N-2500	9004840413618		MO225336
3200 A	113	80 kA	MO2N-3200	9004840413656		MO232336

#### 4-POLE 66 kA

2000 A	109	66 kA	MO2B-4-2000	9004840413564		MO220246
2500 A	123	66 kA	MO2B-4-2500	9004840413601		MO225246

#### 4-POLE 80 kA

800 A	109	80 kA	MO2N-4-800	upon request	upon request	MO208346
1000 A	109	80 kA	MO2N-4-1000	upon request	upon request	MO210346
1250 A	109	80 kA	MO2N-4-1250	upon request	upon request	MO212346
1600 A	109	80 kA	MO2N-4-1600	9004840413540		MO216346
2000 A	109	80 kA	MO2N-4-2000	9004840413588		MO220346
2500 A	123	80 kA	MO2N-4-2500	9004840413625		MO225346
3200 A	136	80 kA	MO2N-4-3200	9004840413663		MO232346



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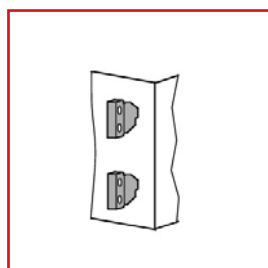


Order no. blue: on stock, usually ready for delivery on the day of order!

## FRAME SIZE 2 TO 3200A – WITH GUIDE FRAME, REAR-SIDE CONNECTION, VERTICAL



MO220236



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	$I_{CU}$	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 66 kA</b>						
2000 A	91	66 kA	MO2B-2000	upon request	upon request	MO220237
2500 A	102	66 kA	MO2B-2500	upon request	upon request	MO225237
<b>3-POLE 80 kA</b>						
800 A	91	80 kA	MO2N-800	upon request	upon request	MO208337
1000 A	91	80 kA	MO2N-1000	upon request	upon request	MO210337
1250 A	91	80 kA	MO2N-1250	upon request	upon request	MO212337
1600 A	91	80 kA	MO2N-1600	upon request	upon request	MO216337
2000 A	91	80 kA	MO2N-2000	upon request	upon request	MO220337
2500 A	102	80 kA	MO2N-2500	upon request	upon request	MO225337
3200 A	113	80 kA	MO2N-3200	upon request	upon request	MO232337
<b>4-POLE 66 kA</b>						
2000 A	109	66 kA	MO2B-4-2000	upon request	upon request	MO220247
2500 A	123	66 kA	MO2B-4-2500	upon request	upon request	MO225247
<b>4-POLE 80 kA</b>						
800 A	109	80 kA	MO2N-4-800	upon request	upon request	MO208347
1000 A	109	80 kA	MO2N-4-1000	upon request	upon request	MO210347
1250 A	109	80 kA	MO2N-4-1250	upon request	upon request	MO212347
1600 A	109	80 kA	MO2N-4-1600	upon request	upon request	MO216347
2000 A	109	80 kA	MO2N-4-2000	upon request	upon request	MO220347
2500 A	123	80 kA	MO2N-4-2500	upon request	upon request	MO225347
3200 A	136	80 kA	MO2N-4-3200	upon request	upon request	MO232347



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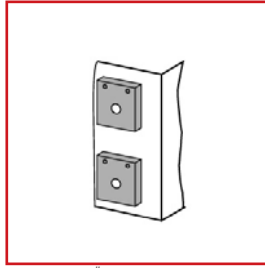
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## FRAME SIZE 2 TO 3200A – WITH GUIDE FRAME AND CONNECTING FLANGE



MO220236



ANSCHLUSS-RÜCKANSICHT

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 66 kA</b>						
2000 A	91	66 kA	MO2B-2000	upon request	upon request	MO220238
2500 A	102	66 kA	MO2B-2500	upon request	upon request	MO225238
<b>3-POLE 80 kA</b>						
800 A	91	80 kA	MO2N-800	upon request	upon request	MO208338
1000 A	91	80 kA	MO2N-1000	upon request	upon request	MO210338
1250 A	91	80 kA	MO2N-1250	upon request	upon request	MO212338
1600 A	91	80 kA	MO2N-1600	upon request	upon request	MO216338
2000 A	91	80 kA	MO2N-2000	upon request	upon request	MO220338
2500 A	102	80 kA	MO2N-2500	upon request	upon request	MO225338
3200 A	113	80 kA	MO2N-3200	upon request	upon request	MO232338
<b>4-POLE 66 kA</b>						
2000 A	109	66 kA	MO2B-4-2000	upon request	upon request	MO220248
2500 A	123	66 kA	MO2B-4-2500	upon request	upon request	MO225248
<b>4-POLE 80 kA</b>						
800 A	109	80 kA	MO2N-4-800	upon request	upon request	MO208348
1000 A	109	80 kA	MO2N-4-1000	upon request	upon request	MO210348
1250 A	109	80 kA	MO2N-4-1250	upon request	upon request	MO212348
1600 A	109	80 kA	MO2N-4-1600	upon request	upon request	MO216348
2000 A	109	80 kA	MO2N-4-2000	upon request	upon request	MO220348
2500 A	123	80 kA	MO2N-4-2500	upon request	upon request	MO225348
3200 A	136	80 kA	MO2N-4-3200	upon request	upon request	MO232348



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## FRAME SIZE 3 TO 6300A – WITHOUT GUIDE FRAME



MO340435

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device. Replacement switch for existing frames. The nominal current must be appropriate for the guide frame.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 100 kA</b>						
4000 A	88	100 kA	MO3H-4000	upon request	upon request	MO340435
5000 A	88	100 kA	MO3H-5000	upon request	upon request	MO350435
6300 A	96	100 kA	MO3H-6300	upon request	upon request	MO363435
<b>4-POLE 100 kA</b>						
4000 A	106	100 kA	MO3H-4-4000	upon request	upon request	MO340445
5000 A	106	100 kA	MO3H-4-5000	upon request	upon request	MO350445
6300 A	108	100 kA	MO3H-4-6300	upon request	upon request	MO363445

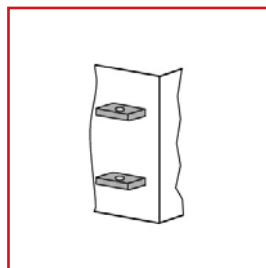
### FRAME

Guide frame for frame size 3	upon request
------------------------------	--------------

## FRAME SIZE 3 TO 6300A – WITH GUIDE FRAME, REAR-SIDE CONNECTION, HORIZONTAL



MO340436



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 100 kA</b>						
4000 A	148	100 kA	MO3H-4000	upon request	upon request	MO340436
5000 A	148	100 kA	MO3H-5000	upon request	upon request	MO350436
6300 A	160	100 kA	MO3H-6300	upon request	upon request	MO363436
<b>4-POLE 100 kA</b>						
4000 A	190	100 kA	MO3H-4-4000	upon request	upon request	MO340446
5000 A	190	100 kA	MO3H-4-5000	upon request	upon request	MO350446
6300 A	227	100 kA	MO3H-4-6300	upon request	upon request	MO363446

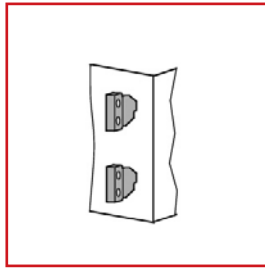


# MO – FRAME SIZE 3 / WITHDRAWABLE MODELS

## FRAME SIZE 3 TO 6300A – WITH GUIDE FRAME, REAR-SIDE CONNECTION, VERTICAL



MO340437



Connection, rear view

### SCHRACK INFO

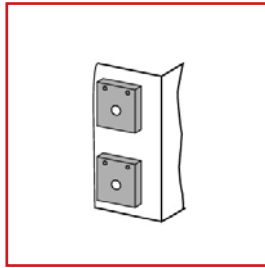
Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 100 kA</b>						
4000 A	148	100 kA	MO3H-4000	upon request	upon request	MO340437
5000 A	148	100 kA	MO3H-5000	upon request	upon request	MO350437
6300 A	166	100 kA	MO3H-6300	upon request	upon request	MO363437
<b>4-POLE 100 kA</b>						
4000 A	190	100 kA	MO3H-4-4000	upon request	upon request	MO340447
5000 A	190	100 kA	MO3H-4-5000	upon request	upon request	MO350447
6300 A	227	100 kA	MO3H-4-6300	upon request	upon request	MO363447

## FRAME SIZE 3 TO 6300A – WITH GUIDE FRAME AND CONNECTING FLANGE



MO340436



Connection, rear view

### SCHRACK INFO

Basic unit without release, factory assembled with selected components and delivered as complete device.

DESCRIPTION	WEIGHT (kg)	I <sub>CU</sub>	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE 100 kA</b>						
4000 A	148	100 kA	MO3H-4000	upon request	upon request	MO340438
<b>4-POLE 100 kA</b>						
4000 A	190	100 kA	MO3H-4-4000	upon request	upon request	MO340448

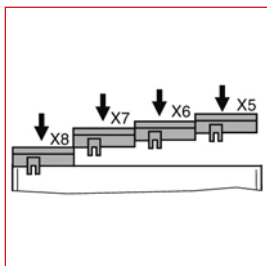


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## OVERVIEW



## SCHRACK-INFO

### Calculation of the required number of auxiliary supply connectors

- Draw-out version: The auxiliary contacts automatically contact when the circuit-breaker is inserted in the guide frame. There are a range of connection models for connection of the auxiliary cable to the circuit breaker (see adjacent diagrams).
- Fixed version: The connection is carried out through a hand-held connector. The connectors are fitted with coded pins, which prevents any confusion with regard to the slots.

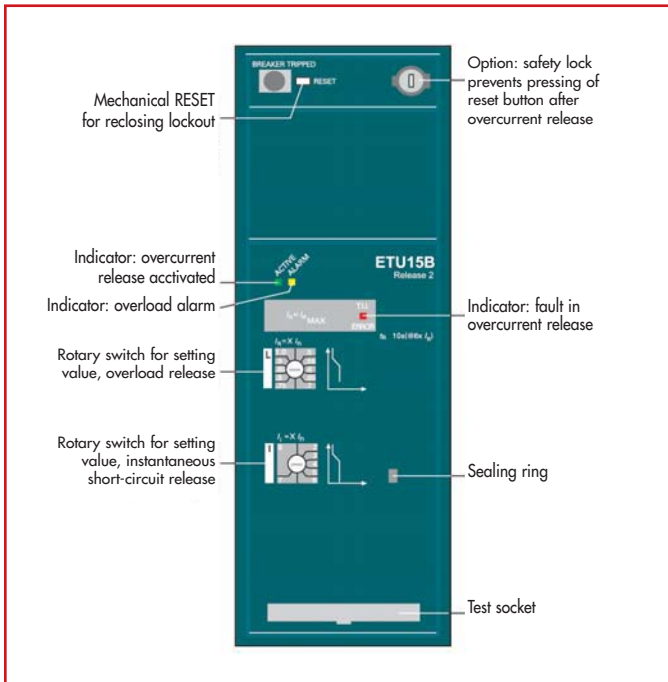
The number of auxiliary supply connectors required depends on:

- The operator type
- Overcurrent release with/without current transformer
- Type and quantity of the auxiliary releases
- The number of the auxiliary contacts
- Communication connection COM 15

Complete devices always come with all the required connectors

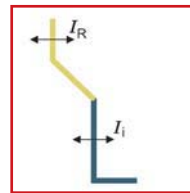
		No. of auxiliary supply connectors	Terminal
<b>a</b>	<b>First auxiliary supply connector X6 always required.</b>	<b>1</b>	<b>X6</b>
<b>b</b>	<b>Operator</b>		
b1	Manual operator with memory with mechanical call	0	
b2	Manual operator with stored-energy feature with electrical closing	0	X6
b3	Manual/motor operator with stored-energy feature with mechanical and electrical closing	+1	X5
<b>c</b>	<b>Overcurrent release</b>		
c1	Overcurrent release ETU15B, ETU25B, ETU27B	0	
c2	Overcurrent release ETU45B, ETU76B (internal Cubicle BUS)	+1	X8
	Ports for external current transformers for overload protection in the N conductor and earth-fault protection		
c3	Current transformer integral to N conductor (required for 3 pole circuit breakers when c2 is not selected)	+1	X8
c4	Current transformer installed in the neutral conductor (required if c2 or c3 not selected)	+1	X8
<b>d</b>	<b>Auxiliary release</b>		
d1	With/without 1st auxiliary release (Voltage release F1)	0	X6
d2	2nd auxiliary release (Voltage release F2, undervoltage release F3, delayable undervoltage release F4)	+1	X5
<b>e</b>	<b>Auxiliary switch blocks</b>		
e1	1st auxiliary switch block 2N/O + 2N/C	0	X6
e2	1. and 2nd auxiliary switch block 4N/O + 4N/C or 6N/O + 2N/C or 5N/O + 3N/C (required if b3 or d2 not selected)	+1	X5
<b>f</b>	<b>Communications module</b>		
f1	Without communications module COM15	0	
f2	With communications module COM15- occupies the entire terminal strip X7, making the following options no longer possible:	+1	X7
	• Tripped signal switch S24		
	• Stored-energy status indication S21		
	• Electrical On button S10		
	• Signaling switch on first and second auxiliary release S22 + S23		
<b>g</b>	<b>Optional signals/accessories</b>		
g1	Tripped signal switch S24 (only possible if f2 not selected)	+1	X7
g2	Stored-energy status S21 (only possible if f2 not selected, required if g1 not selected)	+1	X7
g3	Electrical ON button S10 (only possible if f2 not selected, required if g1 or g2 not selected)	+1	X7
g4	Signaling switch on first auxiliary release S22 (only possible if f2 not selected, required if g1, g2 or g3 not selected)	+1	X7
g5	Signaling switch on second auxiliary release S23 (only possible if f2 not selected, required if g1, g2 or g3 or g4 not selected)	0	X6
g6	Ready-to-close signalling switch S20	0	X5
g7	Motor cut-off switch S12 (only possible if motor operator selected)	+1	X8
g8	Remote reset magnet F7 (required if c2 not selected)	+1	X8
<b>h</b>	<b>Total number of auxiliary supply connectors</b>	<b>(max. 4)</b>	

## ELECTRONIC RELEASE ETU15B



## SCHRACK INFO

Basic protection for installations and systems without time-selective grading up to 3200A.



## TECHNICAL DATA

- Adjustable overload release with  $I^2t$  characteristic with fixed time delay  $t_R = 10$  seconds at  $6 \times I_R$
- Instantaneous short-circuit protection, adjustable between  $2 \dots 8 \times I_n$
- Overload indicator
- Setting of protective functions by means of rotary switch

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU15B – FACTORY INSTALLED</b>				
With protection function LI	ETU15B	9004840413816		MO890150



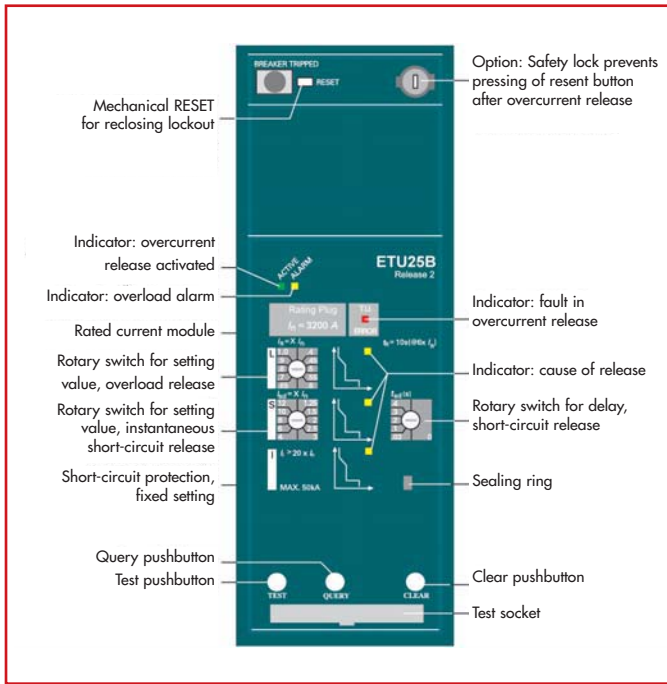
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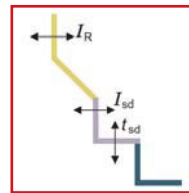


## ELECTRONIC RELEASE ETU25B



### SCHRACK INFO

Classic protection for installations, motors and systems using time-selective grading up to 6300A.



### TECHNICAL DATA

- Adjustable overload release with  $I^2t$  characteristic with time delay  $t_R = 10$  seconds at  $6 \cdot I_R$
- Short time-delay short-circuit protection, adjustable from  $1,25 \dots 12 \cdot I_n$  and
- Instantaneous short-circuit protection, fixed to  $20 \cdot I_n$ , max. 55kA
- Replaceable rating plug allows instant adaptability to the required system currents, thus ensuring overload protection of 100 A to 6300 A
- Overload indicator
- Display of cause of release through LED
- Option for testing the release
- Setting of protective functions by means of rotary switch

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU25B – FACTORY INSTALLED</b>				
With protection function LSI	ETU25B	9004840413823		MO890250

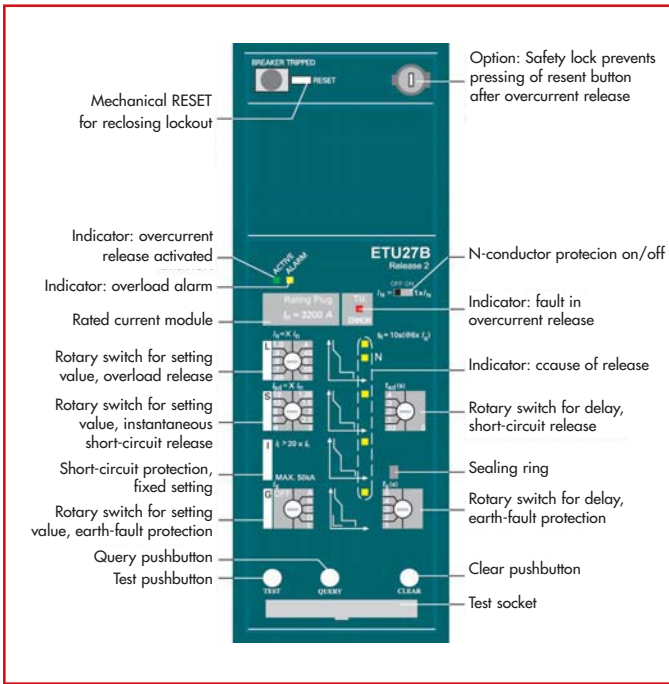


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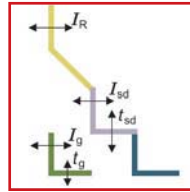
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## ELECTRONIC RELEASE ETU27B



## SCHRACK INFO

Classic protection for installations, motors and systems using time-selective grading up to 6300A.



## TECHNICAL DATA

- Adjustable overload release with  $I^2t$  characteristic with fixed time delay  $t_R = 10$  seconds at  $6 \times I_R$
- Short-time delay short-circuit protection, adjustable from  $1,25 \dots 12 \times I_n$
- Instantaneous short-circuit protection, fixed at  $20 \times I_n$ , max. 50 kA
- Replaceable rating plug allows instant adaptability to the required system currents, thus ensuring overload protection of 100 A to 6300 A
- Overload indicator
- Display of cause of release through LED
- Option for testing the release
- Connectable neutral conductor protection
- Permanently integrated earth-fault protection for the calculation of the earth-fault current through vectorial current summation
- Current transformer for N conductor has to be ordered separately
- Setting of protective functions by means of rotary switch

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU27B – FACTORY INSTALLED</b>				
With protection function LSING	ETU27B	upon request	upon request	MO890270

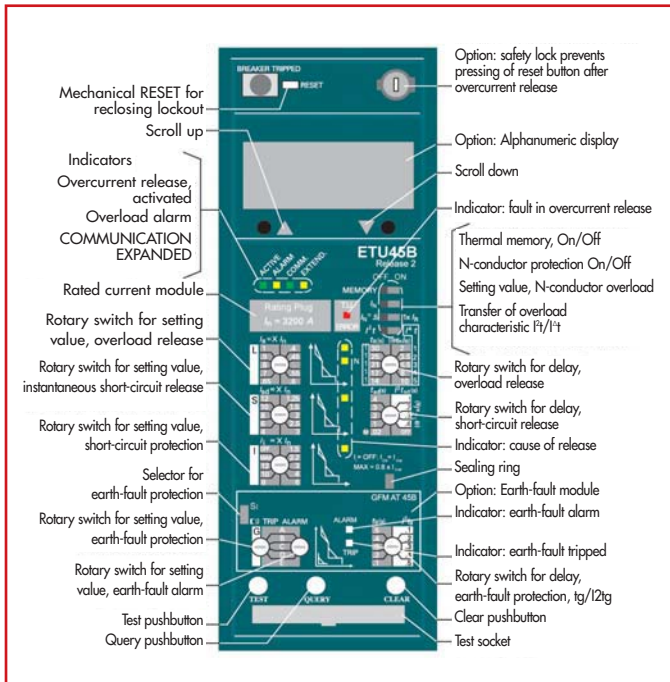


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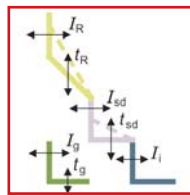
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## ELECTRONIC RELEASE ETU45B



### SCHRACK INFO

An inexpensive allrounder for intelligent installations and all sorts of industrial applications – “Internal Cubicle BUS”.



### TECHNICAL DATA

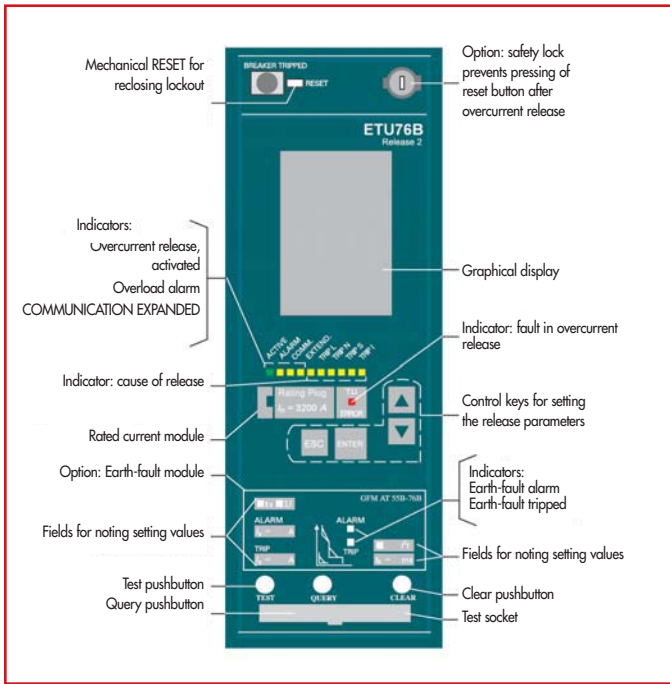
- Adjustable overload release with I<sup>2</sup>t characteristic with fixed time delay  $t_R = 10$  seconds at  $6 \times I_R$
- Short-time delay short-circuit protection, adjustable from 1,25 ... 12 x  $I_n$
- Instantaneous short-circuit protection, fixed at  $20 \times I_n$ , max. 50 kA
- Replaceable rating plug allows instant adaptability to the required system currents, thus ensuring overload protection of 100 A to 6300 A
- Overload indicator
- Display of cause of release through LED
- Option for testing the release
- Adjustable time-lag class for overload protection
- Switch-selectable characteristic of the overload and short-time delay short-circuit range (current discriminate) for finer selectivity conditioning to downstream fuses or protective devices
- Thermal memory as restart protection in the case of tripped motor circuits
- Connectable and adjustable neutral conductor protection
- Modular earth-fault protection, with separately adjustable alarm and trip function
- Communication interface, metering function (Plus), connection of external modules as option or retrofit option
- Optional high-contrast display with viewing angle adjustment
- Setting of protective functions by means of rotary or slide switch

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU45B – FACTORY INSTALLED</b>				
With LSIN protective function, without display	ETU45B	9004840413847		MO890450
With LSIN protective function, with display	ETU45B	9004840466874		MO89D450
With LSING protective function incl. earth-fault protection unit, without display		upon request	upon request	MO89045G

Order current converter for N conductor protection, and current converter for sensing ground fault current in earthed neutral conductor of transformer separately. The internal transformers for neutral conductors can be ordered by adding a “Z” and short order code “F23”.

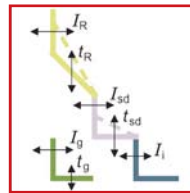


## ELECTRONIC RELEASE ETU76B



### SCHRACK INFO

The multitasking system with graphical display for network analysis – “integrated Cubicle BUS”.



### TECHNICAL DATA

- Adjustable overload release with  $I^2t$  characteristic with fixed time delay  $t_R = 10$  seconds at  $6 \times I_R$
- Short-time delay short-circuit protection, adjustable from  $1,25 \dots 12 \times I_n$
- Instantaneous short-circuit protection, fixed at  $20 \times I_n$ , max. 50 kA
- Replaceable rating plug allows instant adaptability to the required system currents, thus ensuring overload protection of 100 A to 6300 A
- Overload indicator
- Display of cause of release through LED
- Option for testing the release
- Adjustable time-lag class for overload protection
- Switch-selectable characteristic of the overload and short-time delay short-circuit range (current discriminate) for finer selectivity conditioning to downstream fuses or protective devices
- Thermal memory as restart protection in the case of tripped motor circuits
- Connectable and adjustable neutral conductor protection
- Modular earth-fault protection, with separately adjustable alarm and trip function
- Communication interface, metering function (Plus), connection of external modules as option or retrofit option
- Two protective parameter sets that can be stored separately in the release (switch selectable through external signal)
- Overload protection that can be switched off for use with modern operating mechanism technology
- Adjustable lag of the delayed short-circuit protection up to 4000 ms
- Neutral conductor protection adjustable to  $I_N = 2 \times I_n$
- Setting of protective functions by means of Breaker Data Adapter or through communication interface
- Graphical display of all parameters and event/curve characteristics
- Storage of events and causes of release for specific error analysis
- High contrast, background-lit graphical display with sleep mode

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU76B – FACTORY INSTALLED</b>				
With protection function LSIN	ETU76B	9004840413854		MO890760
With LSING protective function incl. earth-fault protection unit	ETU76B	upon request	upon request	MO89076G

Order current converter for N conductor protection, and current converter for sensing ground fault current in earthed neutral conductor of transformer separately. The internal transformers for neutral conductors can be ordered by adding a “Z” and short order code “F23”.



Order no. blue: on stock, usually ready for delivery on the day of order!

## RATING PLUG



### SCHRACK INFO

The Rating Plug is a replaceable module that enables users to reduce the rated device current for optimum adaptation to the system; e. g. during startup of a plant selection. The Rating Plug should be selected so that it roughly corresponds to the rated current of the system

RATED CURRENT I <sub>N</sub> (A)	ORDER NUMBER AS SPARE PART	ORDER NUMBER FACTORY INSTALLED
<b>FOR FRAME SIZE 1, 2</b>		
250	MO90AA51	MO800B02
315	MO90AA52	MO800B03
400	MO90AA53	MO800B04
500	MO90AA54	MO800B05
630	MO90AA55	MO800B06
800	MO90AA56	MO800B08
1000	MO90AA57	MO800B10
<b>FOR FRAME SIZE 1, 2, 3</b>		
1250	MO90AA58	MO800B12
1600	MO90AA61	MO800B16
<b>FOR FRAME SIZE 2, 3</b>		
2000	MO90AA62	MO800B20
2500	MO90AA63	MO800B25
3200	MO90AA64	MO800B32
4000	MO90AA65	MO800B40
<b>FOR FRAME SIZE 3</b>		
5000	MO90AA66	MO800B50
6300	MO90AA67	MO800B63



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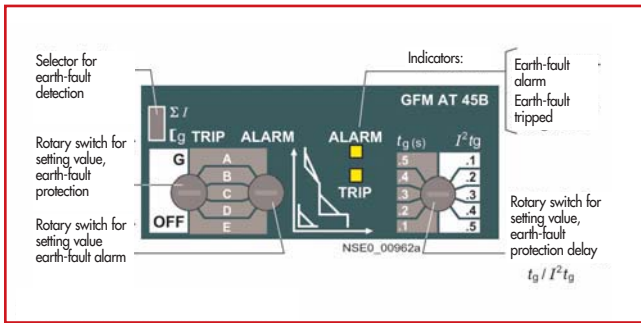


## EARTH-FAULT PROTECTION MODULE

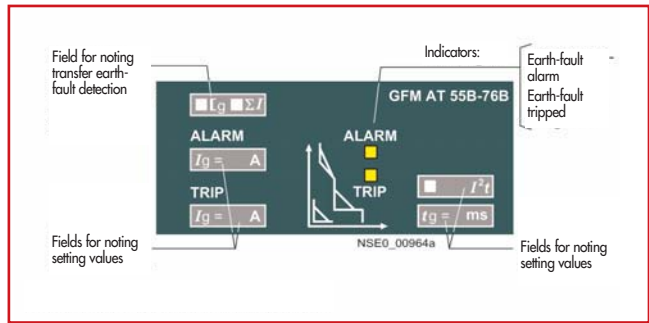
### SCHRACK-INFO

The earth-fault release "G" detects fault currents that flow above ground and present a fire hazard to the system. The adjustable time lag allows the selective staggering of consecutively arranged circuit-breakers. When setting the parameters at the over current release, a selection can be made between "report" (alarm) and "trigger" (trip) if the set current value is exceeded. The cause of the release is displayed on a LED when the query button is pressed. Protection release ETU27B is equipped with an earth-fault protection module, ETU45B, ETU55B and ETU76B can be retrofitted.

### EARTH-FAULT MODULE GFM AT 45B



### EARTH-FAULT MODULE GFM AT 55B-76B



DESCRIPTION	ORDER NO.	ORDER NUMBER
GFM AT 45B (for ETU 45B only) Alarm and trigger	MO90AT53	-
GFM AT 55B-76B (for ETU76B only) Alarm and trigger	MO90AT56	-

## DISPLAY



DESCRIPTION	ORDER NO.	ORDER NUMBER
4-line display for ETU45B	MO90AT81	-

## EMC FILTER

### SCHRACK INFO

Radio interference suppression filter for accentuating common-mode interferences (e. g. in IT networks, resulting from frequency converters). (Asymmetric) insertion loss in 40 kHz to 10 MHz > 40 dB range.

DESCRIPTION	ORDER NO.	ORDER NUMBER
EMC Filter	MO90AK32	MO800F31

## TRANSFORMER FOR N CONDUCTOR

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Internal transformers for Neutral conductor – includes wiring kit</b>		
Frame size 1	MO90AA11	MO810F23
Frame size 2	MO90AA12	MO820F23
Frame size 3	MO90AA13	MO830F23
<b>External transformer for N conductor</b>		
Frame size 1	MO90AA21	–
Frame size 2	MO90AA22	–
Frame size 3	MO90AA23	–
<b>External transformer for N conductor with connection pieces</b>		
Frame size 1	MO90AA31	–
Frame size 2	MO90AA32	–
Frame size 3	MO90AA33	–

## AUTOMATIC RESET OF THE RECLOSING LOCKOUT

### SCHRACK INFO

If the ETU is released the circuit-breaker cannot be reclosed until the release has been either electrically or manually reset. With the option “automatic reset of the reclosing lockout”, the circuit-breaker is ready-to-close immediately after a release. The reset of the manual trip indicator is not contained in this option.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Lead sealable cover plate for ETU15B to ETU55B	MO90AT45	–
Lead-sealable cover plate for ETU76	MO90AT46	–
Automatic reset of the reclosing lock out	MO90AK21	MO800K01
Remote reset magnet – for mechanical trip display DC 24 V	MO90AK03	MO800K10
Remote reset magnet – for mechanical trip display AC 208-240 V/DC 220–250 V	MO900AK06	MO800K13
Retrofittable internal Cubicle BUS wiring for connection to Terminal X8 – (male connectors not included) for ETU45B to ETU76B	MO90AK30	–
Retrofittable internal wiring for connecting external N- and G transformers to Terminal X8 – (male connectors not included)	MO90AK31	–



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## LOCKING DEVICES

### SCHRACK INFO

#### "Safe OFF" switch-independent interlock device to prevent unauthorised closing

This special feature available for draw-out circuit breakers prevents closing independently of the switch, thus satisfying main switch conditions to EN 60204 (VDE 0113) - Mains disconnecting equipment. Unauthorised closing is not possible after replacement of the circuit breaker. The circuit breaker must be switched off to activate the interlock. The interlock device is blocked when the circuit breaker is switched on. The blocking is only effective when the key has been removed. The safety key can only be removed in the "OFF" position.

DESCRIPTION	ORDER NO. AS SPARE PART	ORDER NUMBER FACTORY INSTALLED
<b>Locking device against unauthorised closing, in operator panel</b>		
Mains equipment meets EN 60204 (VDE 0113) regulations for main switches.		
Installation kit FORTRESS or CASTELL	MO900BA31	-
Made by Ronis	MO90BA33	MO800S08
Made by KIRK-Key	MO90BA34	-
Made by Profalux	MO90BA35	MO800S09
Made by CES	MO90BA36	MO800S01
Made by IKON	MO90BA38	MO800S03
Installation kit for padlocks	MO90BA41	MO800S07

#### Locking device against unauthorised closing, for draw-out circuit breaker

Mains equipment meets EN 60204 (VDE 0113) regulations for main switches, comprising lock in cabinet door, effective in operating position, the function remains the same when replacing the switch.

Made by CES	MO90BA51	MO800R61
Made by IKON	MO90BA53	-
Made by KIRK key	MO90BA57	-
Made by Ronis	MO90BA58	MO800R68
Made by Profalux	MO90BA50	MO800R60

#### Locking device for operator lever using padlock

Locking device for operating lever (padlock not included)	MO90BA71	MO800S33
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#### Lock device to prevent movement of withdrawable circuit breaker – Safety lock for mounting on switch

Made by CES	MO90BA73	MO800S71
Made by IKON	MO90BA75	-
Made by Profalux	MO90BA76	MO800S75
Made by Ronis	MO90BA77	MO800S76

## SEALING CAP FOR MECHANICAL ON/OFF

DESCRIPTION	ORDER NO. AS SPARE PART	ORDER NUMBER FACTORY INSTALLED
<b>Protective covers for mechanical ON/OFF</b>		
each comprising 2 transparent covers for sealing or attachment of padlocks, Cover with 6,35 mm bore (for tool actuation), lock mount for safety lock for key operation		
Lock not included	MO90BA21	-
Made by CES	MO90BA22	-
Made by IKON	MO90BA24	-

## LOCKING MECHANISMS

### SCHRACK INFO

#### Locking device against moving if the cubicle door is open for withdrawable circuit-breakers

The crank handle is blocked if the cubicle door is open and cannot be withdrawn. It is not possible to move withdrawable circuit-breakers. The blocking is only effective if the crank handle is inserted.

#### Interlocking of cubicle door

The cubicle door cannot be opened if the

- fixed-mounted circuit-breaker is closed (transmission of the locking signal by means of Bowden wire) or
- if the withdrawable circuit-breaker is in connected position

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Prevents movement of draw-out circuit breaker in disconnect position, comprising Bowden cable and lock in cabinet door</b>		
Made by CES	MO90BA81	MO800R81
Made by IKON	MO90BA83	–
Made by Profalux	MO90BA85	MO800R85
Made by Ronis	MO90BA86	MO800R86
Installation kit for padlocks	MO90BA87	–
<b>Prevents opening of cabinet door in ON position (defeatable)</b>		
For permanent installation	MO90BB12	MO800R30
<b>Prevents opening of cabinet door in ON position (defeatable)</b>		
For guide frame	MO90BB13	MO800S30
<b>Prevents movement while cabinet door open</b>		
For guide frame	MO90BB15	MO800R50

## MECHANICAL INTERLOCK

### SCHRACK INFO

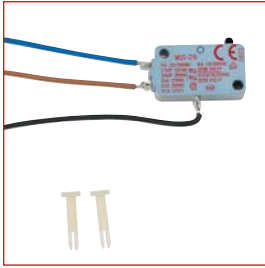
#### Mutual mechanical circuit-breaker interlocking

The module for mutual mechanical interlocking can be implemented for two or three circuit-breakers and is simple to adapt to the respective version. Fixed-mounted and withdrawable circuit-breakers are compatible and can be implemented together in a single system.

The circuit-breakers can be installed either next to one another or on top of one another, whereby the distance between circuit-breakers is determined only by the length of the Bowden wire.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Mutual mechanical interlock, with Bowden cable 2000 mm (one required per circuit breaker)</b>		
Module for fixed-mounted circuit breakers	MO90BB21	MO800S55
Module for draw-out circuit breaker with frame. To be ordered separately.	MO90BB24	MO800R55
Module for guide frame. To be ordered separately.	MO90BB22	MO800R56
Module for draw-out circuit breaker. To be ordered separately.	MO90BB23	MO800R57
<b>Bowden cable</b>		
2000 mm	MO90BB45	–
3000 mm	MO90BB46	–
4500 mm	MO90BB47	–

## SIGNALISATION AND CONTROL



MO90AH01

### SCHRACK INFO

#### Ready-to-close signalling switch

MO circuit breaker come with a visual ready-to-close signal indicator as standard. The option is also available to indicate ready-to-close using a signalling switch. This signalling switch is included as standard for switches operated via a communications interface.

#### Signalling switch for auxiliary release

One signalling contact is available per auxiliary release for polling switch status of the auxiliary releases.

#### Tripped signal switch

In the event that the circuit breaker tripped due to an overload, short-circuit, earth-fault or extended protection function, this can be indicated with a tripped signal switch. This indicator switch is available as an option. This signalling switch is included as standard for circuit breakers operated via a communications interface.

#### Operating cycle counter

A 5-digit operating cycle counter is available in connection with the motor operator. The counter increments by "1" once the storage spring is fully charged.

#### "Electrical ON" button

Used for the electrical switch-on of the circuit breaker via a local, electrical "ON" or remote operation.

#### Sealable cap covers "Electrical ON" button

The "Electrical ON button" comes with a sealable cap as standard.

#### Motor cut off switch

Rotary switch for switching off (automatic charging) of motor operator.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Ready-to-close signalling switch	MO90AH01	MO800C22
Signalling switch, 1st auxiliary release	MO90AH02	MO800C26
Signalling switch, 2nd auxiliary release	MO90AH03	MO800C27
Tripped signal switch	MO90AH04	MO800K07
Mechanical operating cycle counter	MO90AH07	MO800C01
Stored energy status signalling switch	MO90AH08	MO800C20
Position indicator switch for guide frame, 1st block (3rd microswitch)	MO90AH11	MO800R15
Position indicator switch for guide frame, 2nd block (6th microswitch)	MO90AH12	MO800R16
Electical ON button (button+wiring) with sealable cap	MO90AJ02	MO800C11
Electical ON button (button+wiring) with CES installation kit	MO90AJ03	MO800C12
Motor cut-off switch, assembly on operator panel	MO90AJ06	MO800S25
EMERGENCY OFF button, mushroom button instead of mechanical OFF button	MO90BA72	MO800S24



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## TEST DEVICES

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Manual test device for overcurrent releases ETU15B to ETU76B for testing overcurrent release functions	MO90AT31	-
Function test device for testing release characteristic curves for overcurrent releases ETU15B to ETU76B	MO90AT44	-

## CAPACITOR STORAGE DEVICE

### SCHRACK INFO

Rated control voltage must be the same as the rated control voltage of the voltage release unit. Also suitable for circuit breakers 3VL and 3WN.

RATED CONTROL VOLTAGE/ RATED CONTROL VOLTAGE	ORDER NO.	ORDER NUMBER
	AS REPLACEMENT PART	FACTORY INSTALLED
For voltage release AC 50/60 Hz 110-127/DC 110-115 V	MO90BA13	-
For voltage release AC 50/60 Hz 220-240/DC 220-250 V	MO90BA14	-

## AUX. PLUG CONNECTORS



MO90AB01



MO90AB03



MO90AB08

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Make connectors for circuit breakers	MO90AB01	-
Auxiliary supply connector for circuit breaker or guide frame, Screw connection (SIGUT)	MO90AB03	-
Auxiliary supply connector for circuit breaker or guide frame, Screwless connection type (tension spring)	MO90AB04	-
Coding set for fixed installation (X5 to X8)	MO90AB07	-
Sliding contact module for for guide frame	MO90AB08	-
Dummy block for circuit breaker	MO90AB12	-



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## 1ST AUXILIARY RELEASE AFTER ETU



MO90AD01

### SCHRACK INFO

Up to two auxiliary release switches can be installed at the same time. The 1st release must always be a voltage release. 2nd auxiliary release see below

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Shunt release</b>		
DC 24 V – 100 % ED	MO90AD01	MO890B00
DC 30 V	MO90AD02	MO890C00
DC 48 V	MO90AD03	MO890D00
DC 60 V	MO90AD04	MO890E00
DC 110 V/AC 110 V	MO90AD05	MO890F00
DC 220 V/AC 230 V	MO90AD06	MO890G00

## 2ND AUXILIARY RELEASE AFTER ETU



MO90AD01

### SCHRACK INFO

#### Possible combinations:

1 shunt release or 1 undervoltage release  
or 2 shunt releases  
or 1 shunt release + 1 undervoltage release.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Shunt release</b>		
DC 24 V – 100 % ED	MO90AD01	MO890B00
DC 30 V	MO90AD02	MO890C00
DC 48 V	MO90AD03	MO890D00
DC 60 V	MO90AD04	MO890E00
DC 110 V/AC 110 V	MO90AD05	MO890F00
DC 220 V/AC 230 V	MO90AD06	MO890G00

#### Undervoltage release – undelayed ( $\geq 80$ ms), short time-delayed ( $\leq 200$ ms)

DC 24 V	MO90AE01	MO890J00
DC 30 V	MO90AE02	MO890K00
DC 48 V	MO90AE03	MO890L00
DC 60 V	MO90AE07	MO890U00
DC 110-125 V/AC 110-127 V	MO90AE04	MO890M00
DC 220-250 V/AC 208-240 V	MO90AE05	MO890N00
AC 380-415 V	MO90AE06	MO890P00

#### Undervoltage release – time-delayable 0,2 s to 3,2 sec

DC 48 V	MO90AE11	MO890Q00
DC 110-125 V/AC 110-127 V	MO90AE12	MO890R00
DC 220-250 V/AC 208-240 V	MO90AE13	MO890S00
AC 380-415 V	MO90AE14	MO890T00

## MOTOR OPERATOR



MO90AF04

### SCHRACK INFO

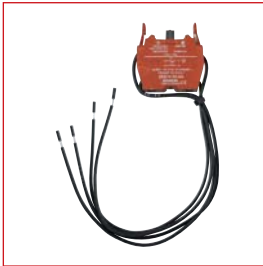
For automatic charging of the stored energy mechanism.

Is switched on when the stored energy mechanism is released and the control voltage is available.

Automatically switches off after charging. Manual actuation of the storage can function independently

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Motor operator DC 220-250 V/AC 208-240 V	MO90AF04	MO894000
Motor operator DC 110-125 V/AC 110-127 V	MO90AF05	MO895000
Motor operator DC 24-30 V	MO90AF06	MO896000

## AUXILIARY CONTACTS



MO90A401

### SCHRACK INFO

- Always includes 2 N/O + 2 N/C

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
2 N/O + 2 N/C additionally	MO90AG01	MO890004
4 N/O additionally	-	MO890007
3 N/O + 1 N/C additionally	-	MO890008
2 N/O additionally	MO90AG02	-
1 N/O + 1 N/C additionally	MO90AG03	-



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## DOOR SEALING FRAME, COVER



MO800T40

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Door sealing frame	MO90AP01	MO80T400
<b>Safety cover IP55 is not for use in combination with door sealing frame, removable cover is opened from both sides</b>	<b>MO90AP02</b>	-

## SHUTTER

### SCHRACK INFO

The cover strips of the shutter lock the laminated contacts of the guide frame if the withdrawable circuit-breaker is withdrawn so that they fulfil the function of a touch guard.

The cover strips can be manually opened with the strip lifter.

The cover strips can be fixed in different positions with padlocks and protected from unauthorized manipulation.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Shutter 3 pole</b>		
Frame size 1	MO90AP04	MO810R21
Frame size 2	MO90AP06	MO820R21
Frame size 3	MO90AP07	MO830R21

### Shutter 4 pole

Frame size 1	MO90AP08	MO814R21
Frame size 2	MO90AP11	MO824R21
Frame size 3	MO90AP12	MO834R21



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## ARC CHUTE COVER/SHUTTER

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Arc chute cover</b> Parts set for guide frame, 3 pole		
Frame size 1	MO90AS32	MO810R20
Frame size 2	MO90AS36	MO820R20
Frame size 3	MO90AS38	MO830R20
<b>Arc chute cover</b> Parts set for guide frame, 4 pole		
Frame size 1	MO90AS42	MO814R10
Frame size 2	MO90AS44	MO824R10
Frame size 3	MO90AS46	MO834R10

## SUPPORT BRACKET

### SCHRACK INFO

For mounting fixed-installed circuit breakers vertically, for frame sizes 1 and 2 only (1 set = 2 pcs.).

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Support bracket, frame size 1/2	MO90BB50	-

## CUBICLE BUS MODULES

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Digital output module with rotary coding switch, relay outputs	MO90AT26	-
Digital output module, configurable, relay outputs	MO90AT20	-
Digital input module	MO90AT27	-
Analogue output module	MO90AT23	-
ZSS module	MO90AT21	-



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## PARAMETERISATION SYSTEMS, COMMUNICATION

DESCRIPTION	ORDER NO.
<b>Breaker Data Adapter (BDA)</b>	
Parameterisation, operation, monitoring and diagnosis of SENTRON circuit breakers via the local interface: Breaker Data Adapter, connecting cable to SENTRON 3WL circuit breakers and to programming device (e.g. laptop); runs on Internet Explorer with JAVA2 VM 1.4.0-01	MO90AT28
<b>BDA Plus</b>	
Same as BDA, also with Ethernet interface for connection to Ethernet/Intranet/Internet	MO90AT33
<b>Connecting cable for BDA Plus</b>	
Connecting cable for connection of BDA Plus to Terminal X8 on SENTRON 3WL circuit breaker. Required when a COM 15 or other external CUBICLE BUS modules are not present, 2 m in length.	MO90BC21
<b>Switch ES Power parameterisation software</b>	
Parameterisation, operation, monitoring and diagnosis of SENTRON circuit breakers via the PROFIBUS DB; Runs on Windows95, Windows98, WindowsNT, Windows2000 and Windows XP Professional also requires additional PROFIBUS card, e.g. CP5613	MO90CC10

## ACCESSORIES FOR COMMUNICATION

DESCRIPTION	ORDER NO.
<b>Pre-assembled cables for Cubicle BUS modules</b>	
0,2 m long, for connection to SENTRON 3WL with COM15	MO90BC04
1 m long, for connection to SENTRON 3WL with COM15	MO90BC02
2 m long, for connection to SENTRON 3WL with COM15	MO90BC03
2 m long, for connection to SENTRON 3WL without COM15	MO90BC05
<b>Voltage transformer, 3-pole for SENTRON 3WL with Plus measurement function</b>	
230 V/100 V, Class 0,5	MO90BB70
380–630 V/100 V, Class 0,5	MO90BB68

## RETROFITTING AND REPLACEMENT PARTS

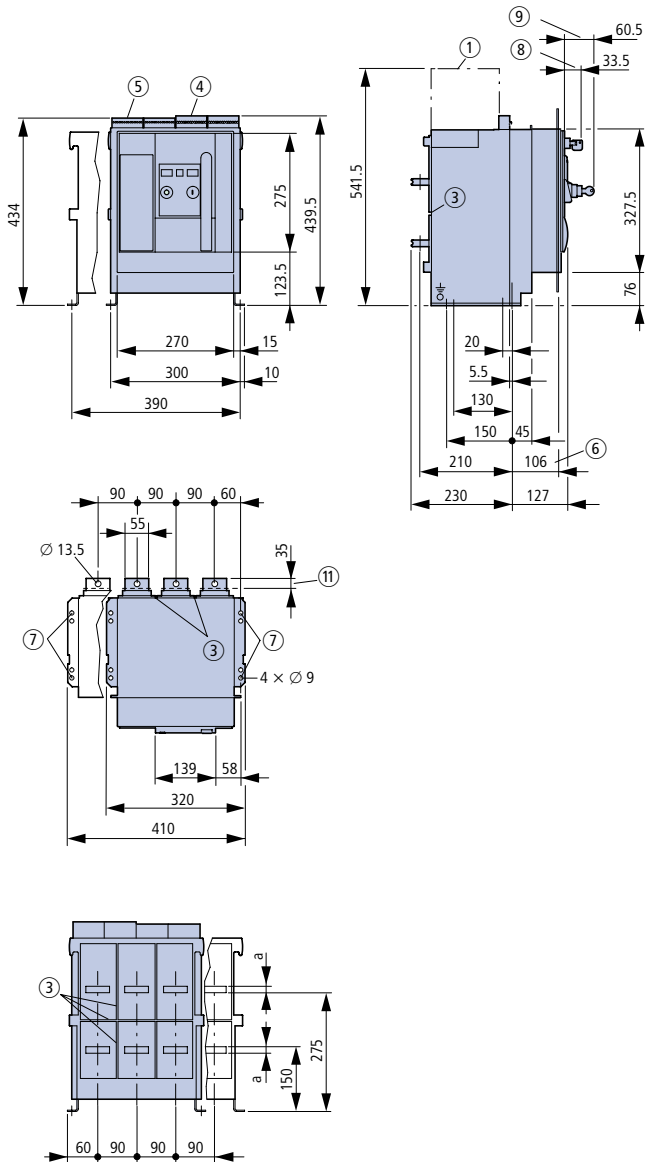
DESCRIPTION	ORDER NO.
<b>PROFIBUS retrofit kit</b>	
Retrofit kit for PROFIBUS communication includes COM15, BSS and cable kit for all MO circuit breakers of 3WL type with ETU45B, ETU55B and ETU76B releases	MO90AT12
COM15 PROFIBUS Module	MO90AT15
Breaker Status Sensor (BSS)	MO90AT16
Plus measurement function (requires voltage transformer)	MO90AT03



## MO1 – 3/4 POLE

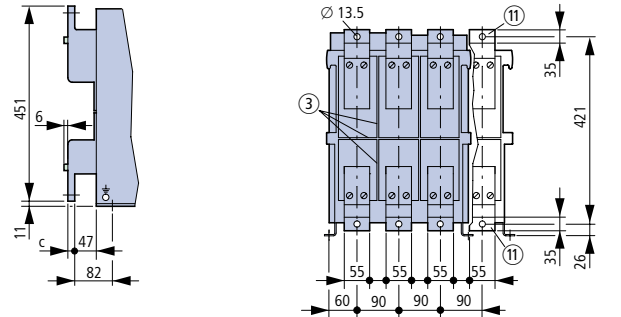
### FIXED-MOUNTING AND OPTIONAL CONNECTION FEATURES

#### Standard design, horizontal connection

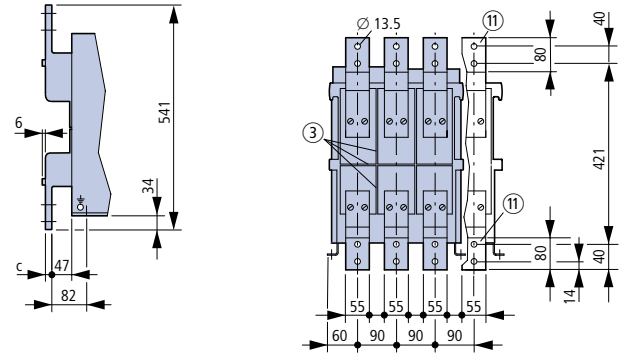


#### Optional connection features

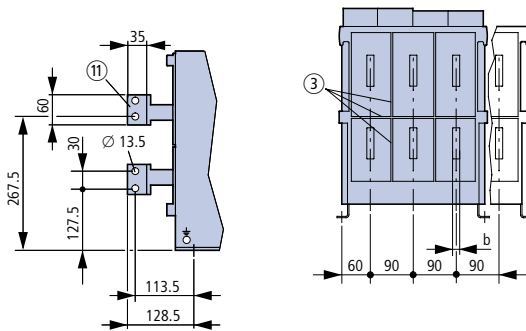
##### Front connection (single-bore fitting)



##### Front connection (double-bore fitting) to DIN 43 673



##### Vertical connection



Rated current $I_n$	a	b	c
up to 1000 A	10	10	10
1250 – 1600 A	15	15	15

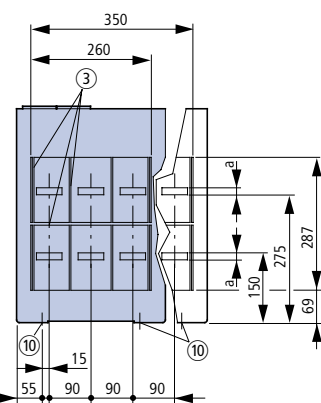
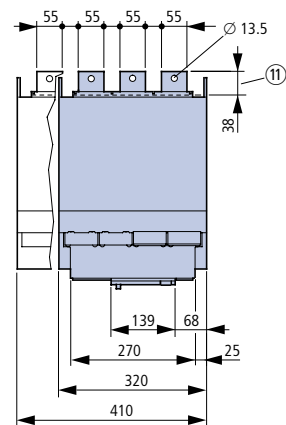
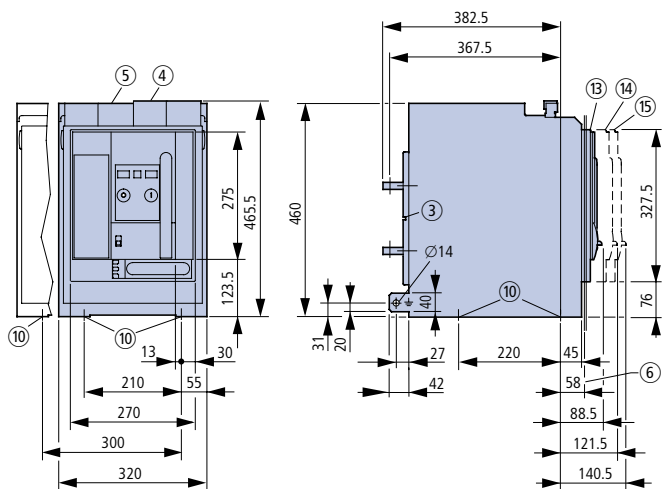
- ① Mounting space for removing of arcing chamber covers
- ② slots (4 mm wide, 5 mm deep) for supporting phase partitions in the system
- ③ Control circuit plug, screw terminals
- ④ Control circuit plug, spring terminals
- ⑤ Dimension to inside of closed switchgear door
- ⑥ Fixing points for the circuit-breaker in the system
- ⑦ Interlock in OFF (optional accessory)
- ⑧ key operation (optional accessory)
- ⑨ Connection area
- ⑩ When front connections are used, a partition between busbar and arcing space must be fitted on the system side.

# DIMENSIONS MO

## MO1 – 3/4 POLE

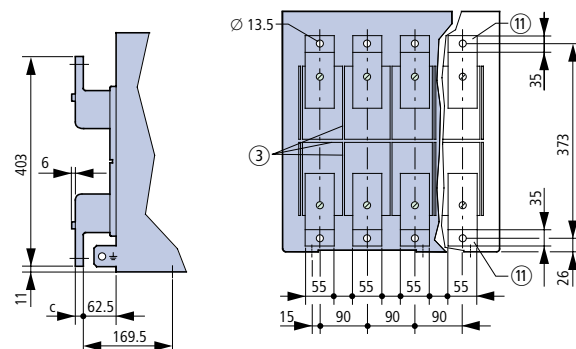
## WITHDRAWABLE UNITS AND OPTIONAL CONNECTION FEATURES

### Standard design, horizontal connection

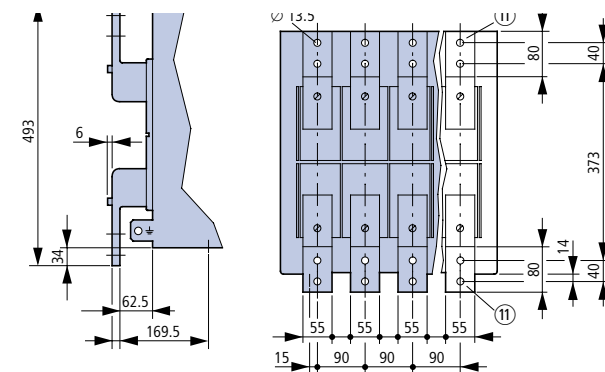


### Optional connection features

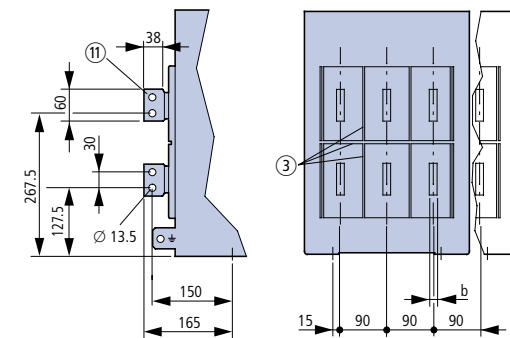
#### Front connection (single-bore fitting)



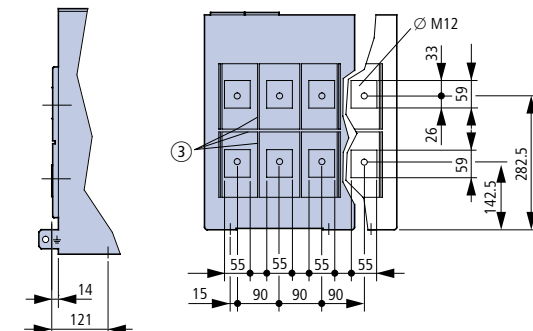
#### Front connection (double-bore fitting) meets DIN 43 673



#### Vertical connection



#### Flange connection



Rated current $I_n$	a	b	c
up to 1000 A	10	10	10
1250 – 1600 A	15	15	15

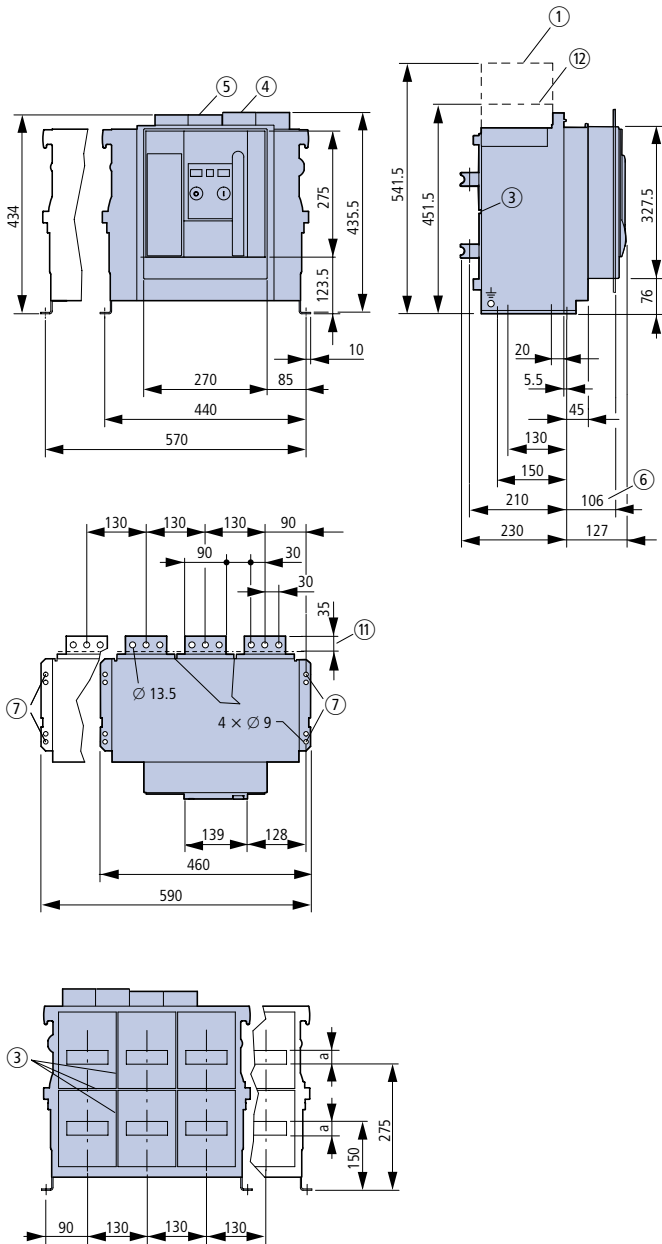
- ③ Slots (4 mm wide, 5 mm deep) for supporting phase partitions in the system
- ④ Control circuit plug, screw terminals
- ⑤ Control circuit plug, spring terminals
- ⑥ Dimension to inside of closed switchgear door
- ⑩ Fixing holes, [ 10 mm
- ⑪ Connection area
- ⑬ MO in connected position
- ⑭ MO in test position
- ⑮ MO in disconnected position

When front connections are used, a partition between busbar and arcing space must be fitted on the system side.

## MO2 – 3/4 POLE

### FIXED-MOUNTING AND OPTIONAL CONNECTION TECHNOLOGY

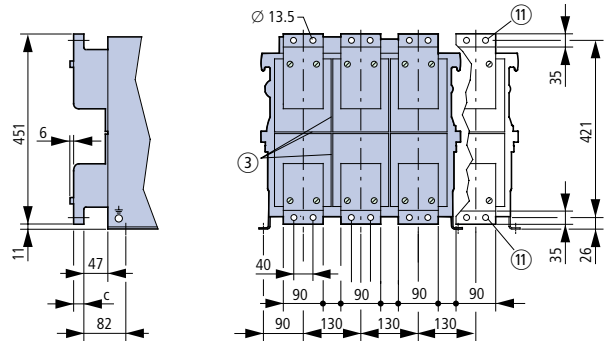
#### Standard design, horizontal connection



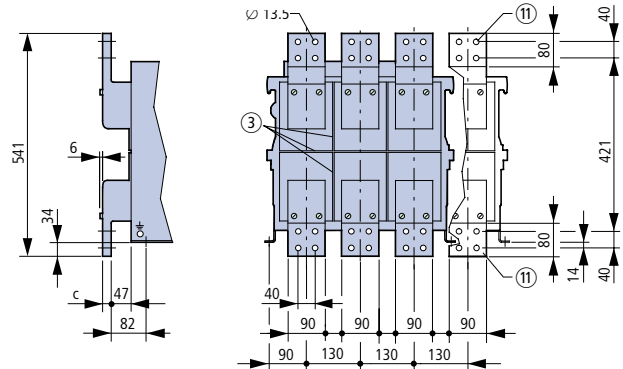
Rated current $I_n$	a	b	c
up to 2000 A	10	10	10
2500 A	15	15	20
3200 A	30	30	20

#### Optional connection features

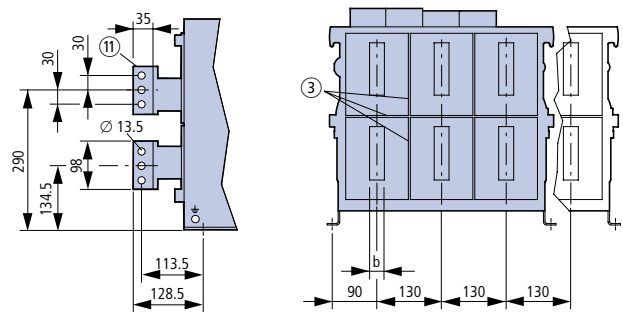
##### Front connection (single-bore fitting)



##### Front connection (double-bore fitting) to DIN 43 673



##### Vertical connection



① Mounting space for removal of arcing chamber covers

With  $U_n = 1000$  V, 175 mms are required for removing of the arcing chamber.

③ Slots (4 mm wide, 5 mm deep) for supporting phase partions in the system

④ Control circuit plug, screw terminals

⑤ Control circuit plug, spring terminals

⑥ Dimension to inside of closed switchgear door

⑦ Fixing points for the circuit-breaker in the system

⑪ Connection area

⑫ Circuit breaker top edge- AC-1000V version only

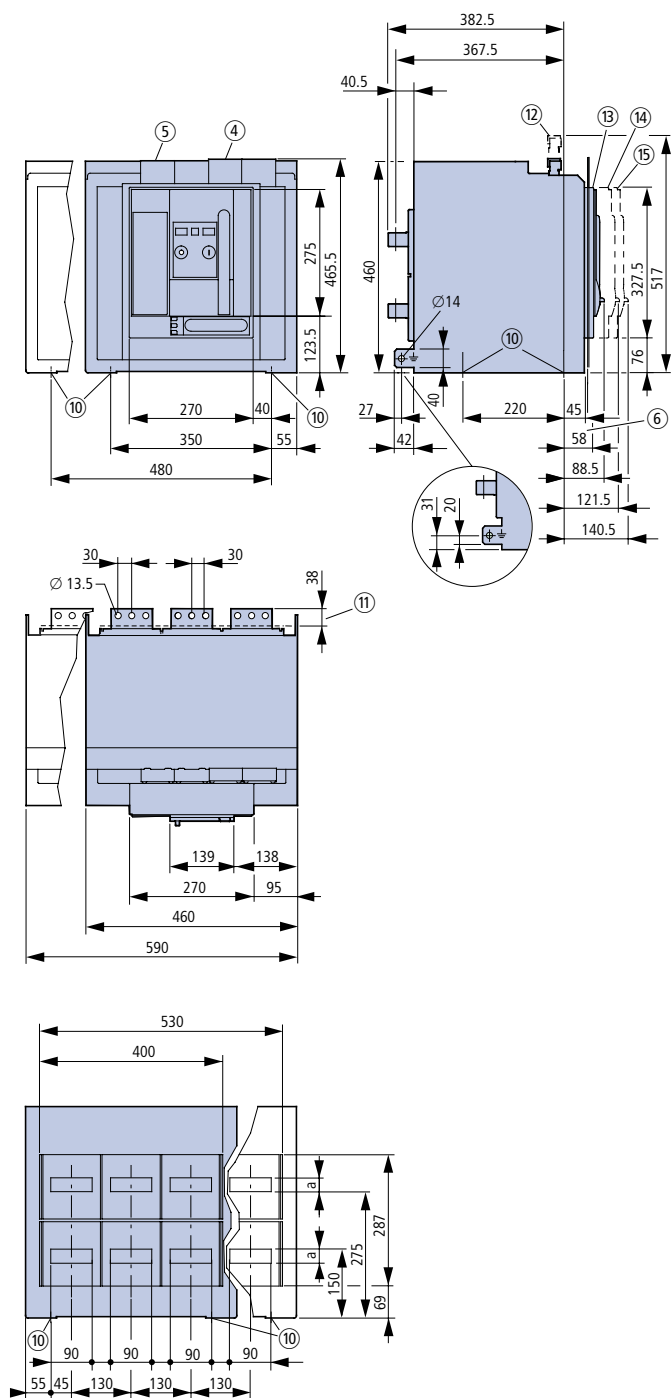
When front connections are used, a partition between busbar and arcing space must be fitted on the system side.

# DIMENSIONS MO

## MO2 – 3/4 POLE

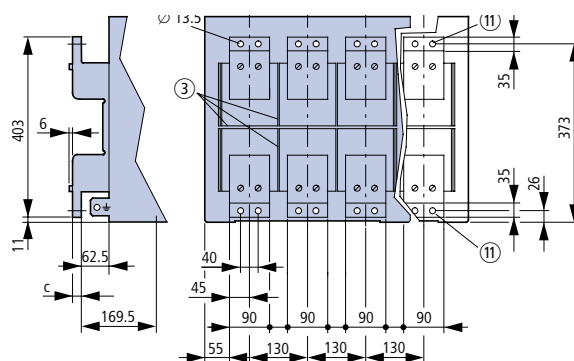
## WITHDRAWABLE UNITS AND OPTIONAL CONNECTION FEATURES

### Standard design, horizontal connection

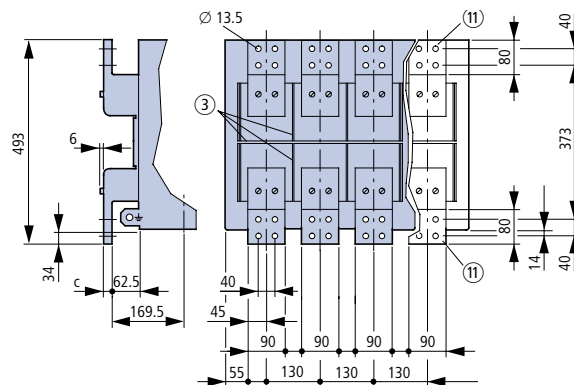


### Optional connection features

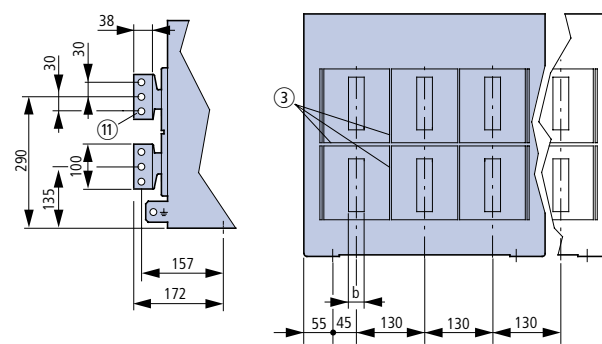
#### Front connection (single-bore fitting)



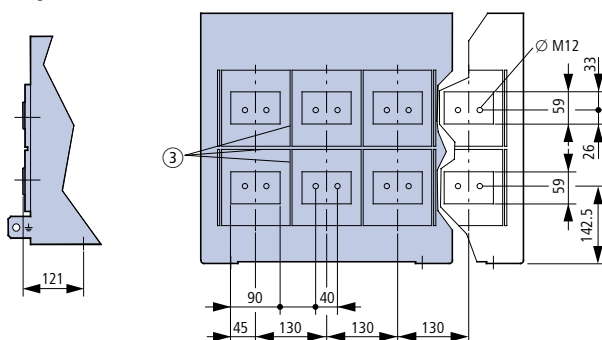
#### Front connection (double-bore fitting) to DIN 43 673



#### Vertical connection



#### Flange connection



With  $U_n = 1000$  V, 175 mm are required for removal of the arcing chamber.

- ③ Slots (4 mm wide, 5 mm deep) for supporting phase partitions in the system
- ④ Control circuit plug, screw terminals
- ⑤ Control circuit plug, spring terminals
- ⑥ Dimension to inside of closed switchgear door
- ⑩ Fixing holes,  $\varnothing 10$  mm
- ⑪ Connection area
- ⑫ Circuit breaker top edge- AC-1000V version only
- ⑬ MO in connected position
- ⑭ MO in test position
- ⑮ MO in disconnected position

When front connections are used, a partition between busbar and arcing space must be fitted on the system side.

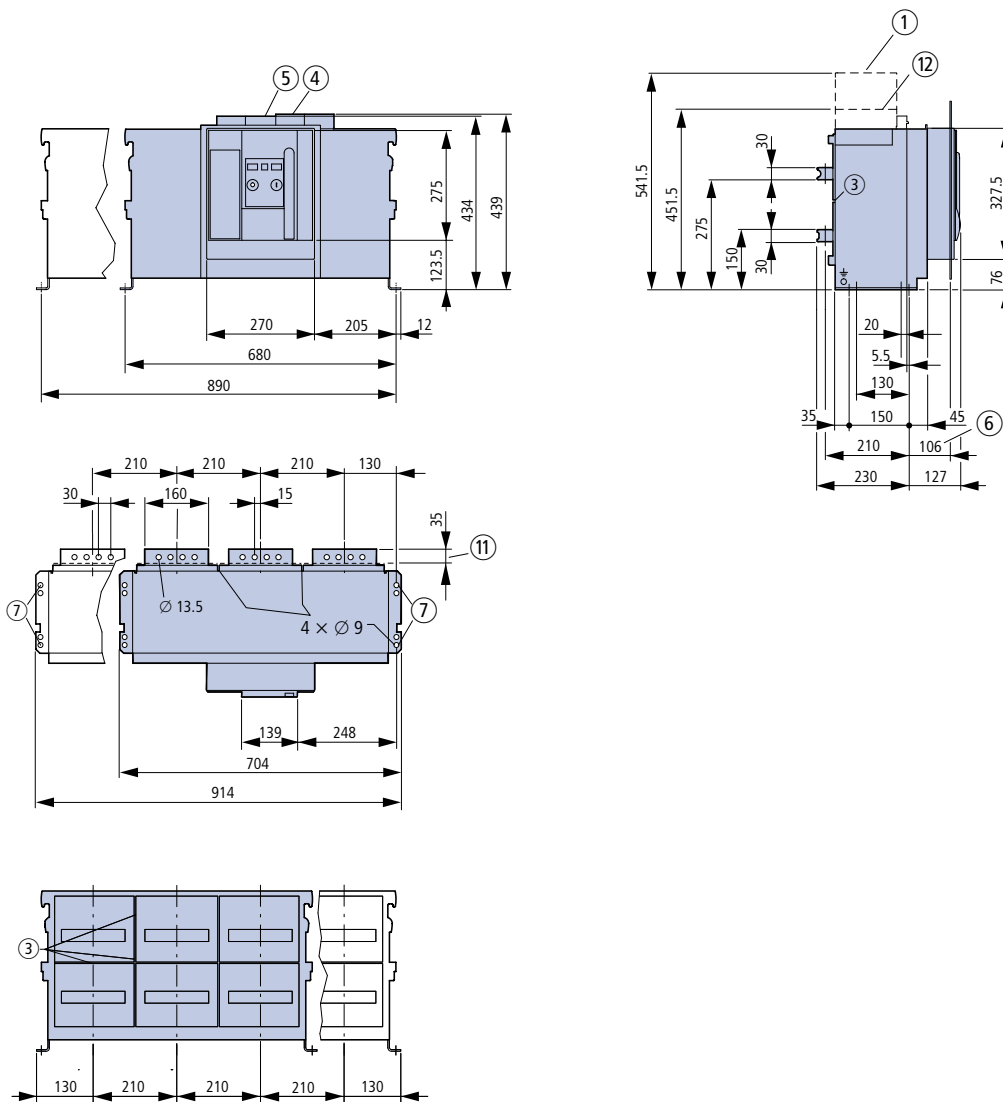
Rated current $I_n$	a	b	c
up to 2000 A	10	10	10
2500 A	15	15	20
3200 A	30	30	20



■ MO3 – 3/4 POLE

■ FIXED-MOUNTING

Standard design, horizontal connection ≤6300A



① Mounting space for removal of arcing chamber covers

With  $U_n = 1000\text{ V}$ , 175 mm are required for removal of the arcing chamber.

③ Slots (4 mm wide, 5 mm deep) for supporting phase partitions in the system

④ Control circuit plug, screw terminals

⑤ Control circuit plug, spring terminals

⑥ Dimension to inside of closed switchgear door

⑦ Fixing points for the circuit-breaker in the system

⑪ Connection area

⑫ Circuit breaker top edge- AC-1000V version only

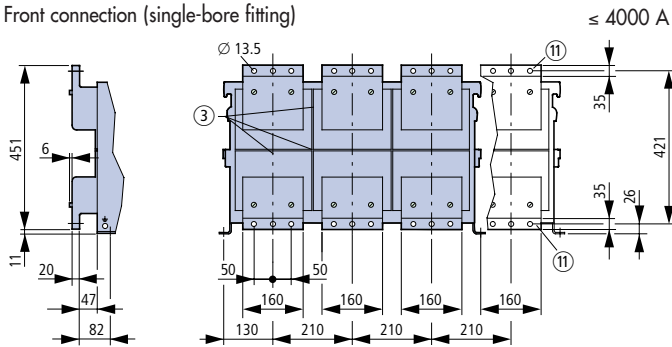
When front connections are used, a partition between busbar and arcing space must be fitted on the system side.

# DIMENSIONS MO

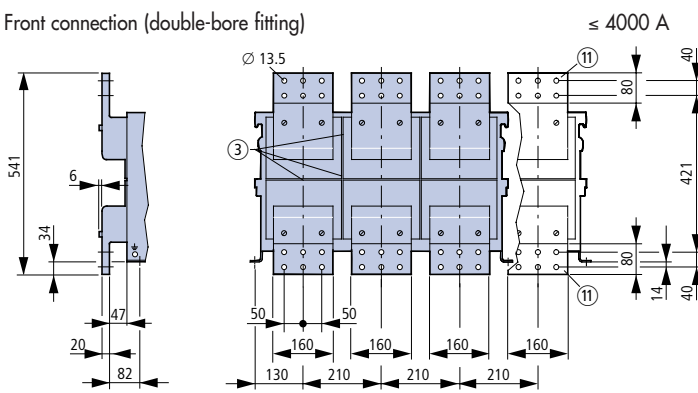
## MO3 – 3/4 POLE

### OPTIONAL CONNECTION FEATURES

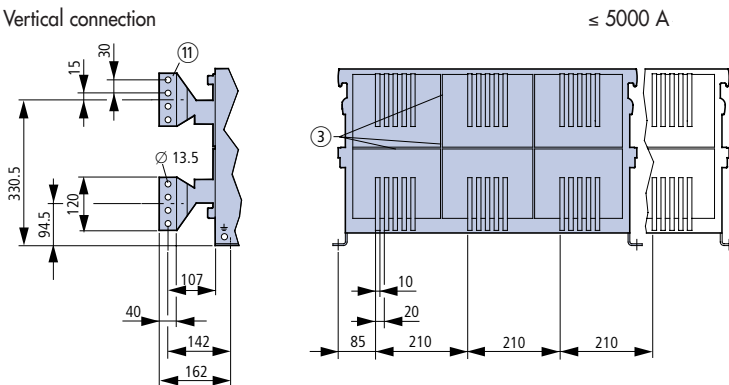
Front connection (single-bore fitting)



Front connection (double-bore fitting)



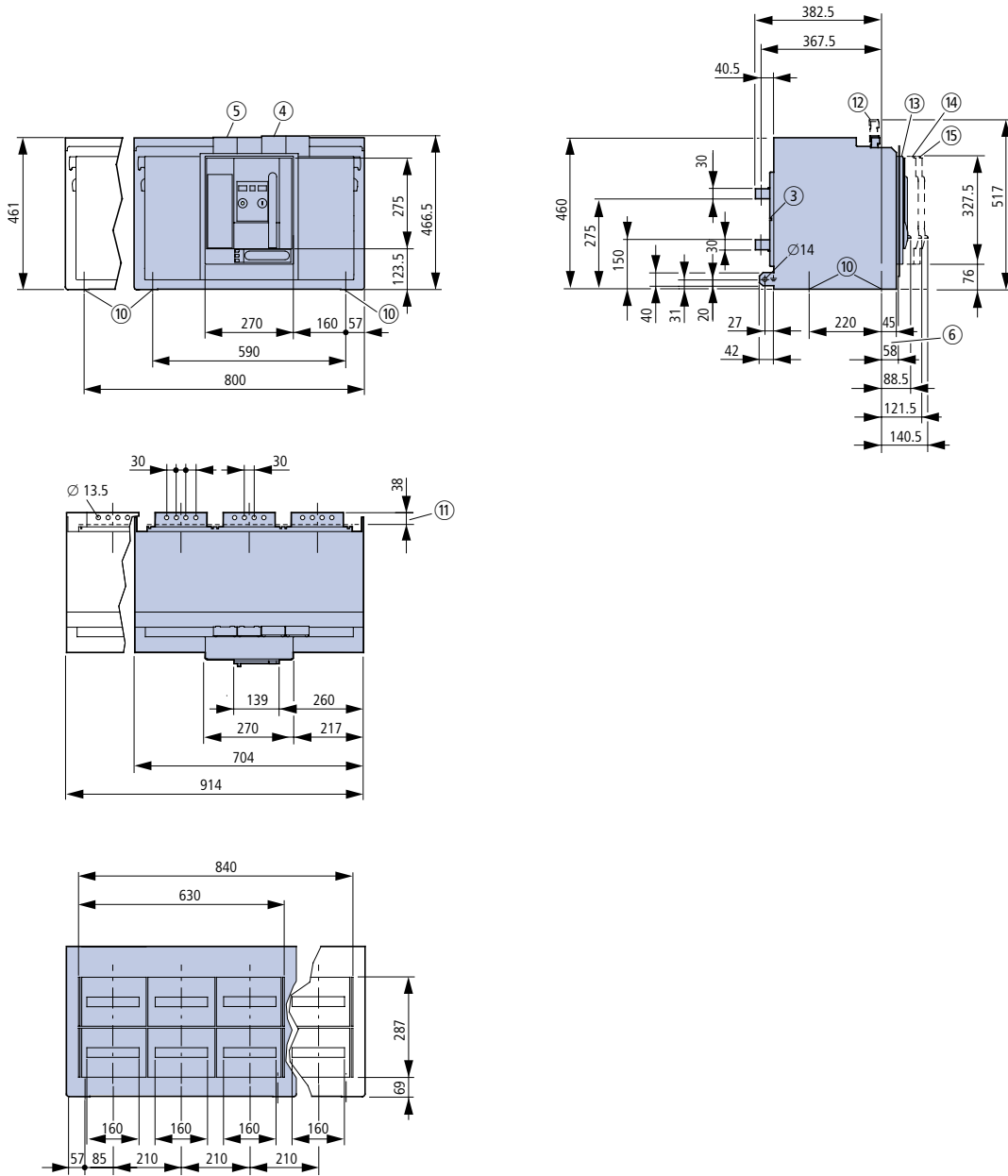
Vertical connection



## MO3 – 3/4 POLE

## OPTIONAL CONNECTION FEATURES

Standard design, horizontal connection ≤5000 A



Rated current $I_n$	a	b
4000 A	40	210
5000 A	40	210
6300 A	5	245

③ Slots (4 mm wide, 5 mm deep) for supporting phase partitions in the system

④ Control circuit plug, screw terminals

⑤ Control circuit plug, spring terminals

⑥ Dimension to inside of closed switchgear door

⑩ Fixing holes,  $\varnothing$  10 mm

⑪ Connection area

⑫ Circuit breaker top edge- AC-1000V version only

⑬ MO in connected position

⑭ MO in test position

⑮ MO in disconnected position

When front connections are used, a partition between busbar and arcing space must be fitted on the system side.

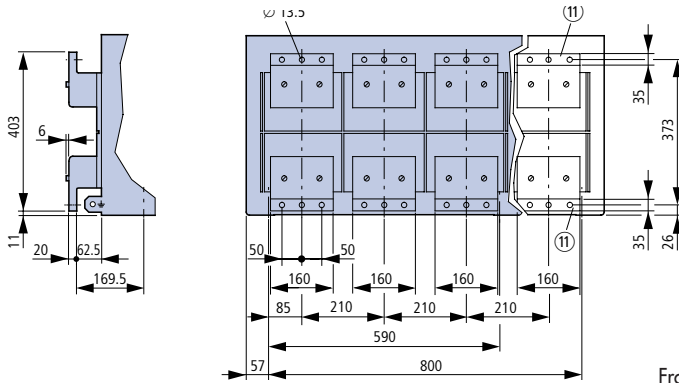
# DIMENSIONS MO

## MO3 – 3/4 POLE

## OPTIONAL CONNECTION FEATURES, WITHDRAWABLE UNITS

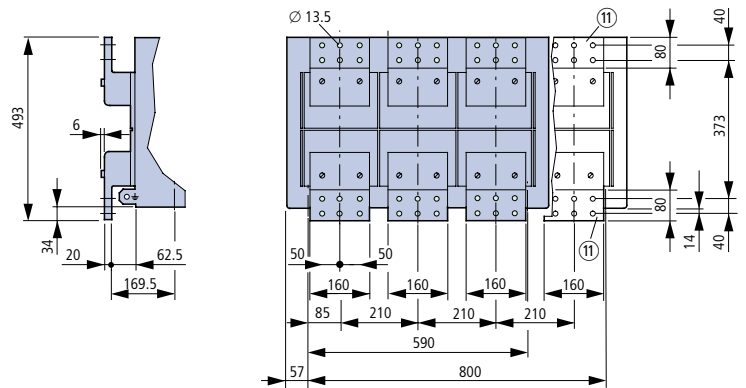
Front connection (single-bore fitting)

AV ≤ 4000 A



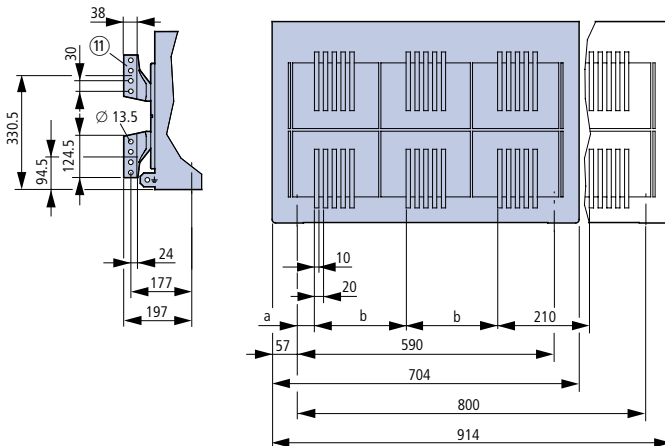
Front connection (double-bore fitting)

MC3-XATF...-AV ≤ 4000 A



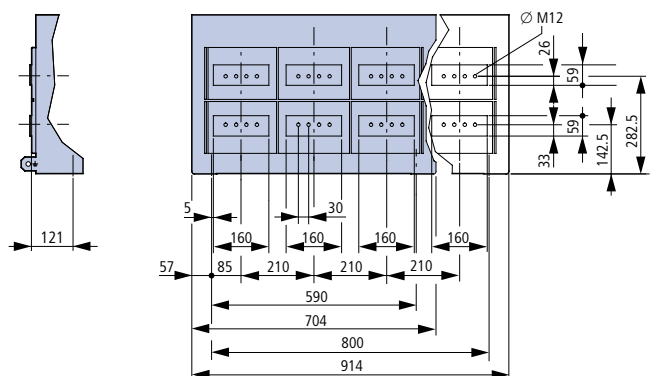
Vertical connection

MC3-XATV...-AV ≤ 6300 A



Flange connection

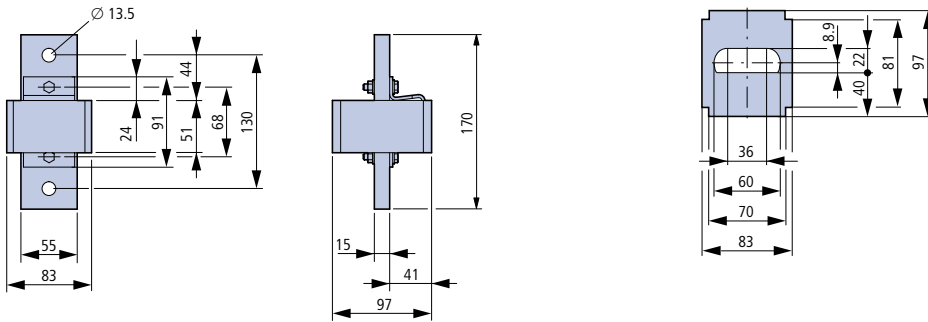
MC3-XATV...-AV ≤ 4000 A



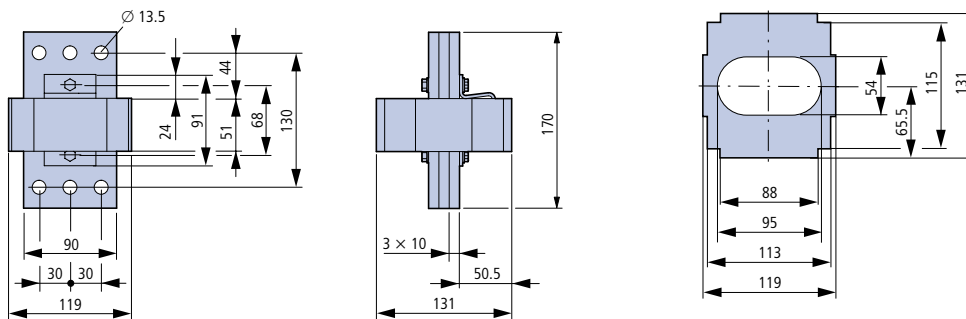
## MO1, MO2, MO3

## MEASURING TRANSDUCER, VOLTAGE RELEASE

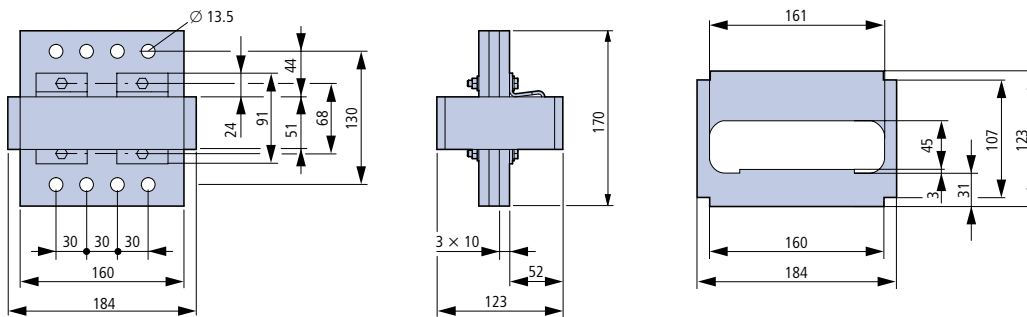
Measuring transducer for N conductor protection and earth-fault protection  
MO1



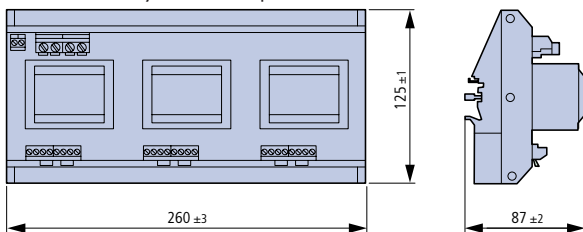
MO2



MO3



Voltage transformer  
for MO with measuring function  
for assembly on 35mm top-hat rail



# CONTACTORS, MOTOR PROTECTION SWITCHES, THERMAL OVERLOAD RELAYS

## TOP-TECHNIC



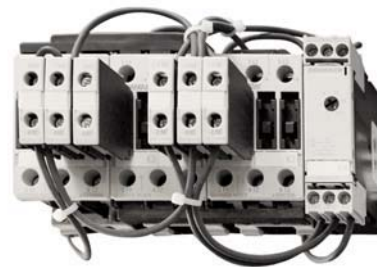
■ BZ MODULAR CONTACTORS AC-1



■ LSH TYPE AUXILIARY CONTACTORS AC15 – 4-POLE, SIZE 00



■ LSR CONTACTORS FOR SWITCHING OHMIC LOADS AC1 4-POLE, SIZE 00/0



■ LSY STAR-DELTA COMBINATIONS AC3, SIZE 00/0/2



■ BES MOTOR PROTECTION SWITCH, SIZE 00



■ BES MOTOR PROTECTION SWITCH, SIZE 0



■ LST THERMAL OVERLOAD RELAYS, SIZE 00



■ LST THERMAL OVERLOAD RELAYS, SIZE 0

*“Acting is the principle of being.”*

Immanuel Kant, German philosopher

# CONTACTORS, MOTOR PROTECTION SWITCHES, THERMAL OVERLOAD RELAYS

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CONTACTORS FOR SWITCHING OF CAPACITORS LSK .....	Page 782
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CONTACTORS / CONTACTORS .....	Page 792
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TECHNICAL DATA OF OVERLOAD RELAYS .....	Page 847

# CONTACTORS

## ■ BZ MODULAR CONTACTORS AC-1



BZ326437



BZ326463



BZ326442

## ■ SCHRACK-INFO

- Mounting on DIN rail TS35/TH35
- 1 MW = 17.5 mm module width
- 24V coils 50/60 Hz, 230 Hz coils 220-240 V/50 Hz
- Models with AC/DC coil (hum-free) on request (minimum 2 MW)
- Max 1 auxiliary contact block per contactor\*
- For dimensions, connection diagram and location of the terminals, see from page 792.

DESCRIPTION	Ie/AC-1 400 V	COIL VOLTAGE	MW	EAN CODE	AVAILABLE	ORDER NO.
<b>MODULAR CONTACTORS</b>						
2 NO	20 A	24 V AC	1	9004840126600		<a href="#">BZ326453</a>
2 NO	20 A	230 V AC	1	9004840015584		<a href="#">BZ326437</a>
1 NO + 1 NC	20 A	24 V AC	1	9004840096477		<a href="#">BZ326421</a>
1 NO + 1 NC	20 A	230 V AC	1	9004840015591		<a href="#">BZ326438</a>
2 NC	20 A	230 V AC	1	9004840015607		<a href="#">BZ326439</a>
1 NO	20 A	230 V AC	1	9004840405668		<a href="#">BZ326471</a>
1 NO	25 A	230 V AC	1	9004840617900		BZ326473
4 NO	25 A	24 V AC	2	9004840106534		<a href="#">BZ326460</a>
4 NO	25 A	230 V AC	2	9004840106510		<a href="#">BZ326461</a>
3 NO + 1 NC	25 A	24 V AC	2	9004840106565		<a href="#">BZ326462</a>
3 NO + 1 NC	25 A	230 V AC	2	9004840106527		<a href="#">BZ326463</a>
1 NO + 3 NC	25 A	24 V AC	2	9004840106572		<a href="#">BZ326464</a>
1 NO + 3 NC	25 A	230 V AC	2	9004840106541		<a href="#">BZ326465</a>
4 NC	25 A	230 V AC	3	9004840106558		<a href="#">BZ326467</a>
4 NO	40 A	24 V AC	3	9004840015645		<a href="#">BZ326443</a>
4 NO	40 A	230 V AC	3	9004840015638		<a href="#">BZ326442</a>
2 NO + 2 NC	40 A	230 V AC	3	9004840222784		<a href="#">BZ326466</a>
3 NO	40 A	230 V AC	3	9004840223088		<a href="#">BZ326468</a>
4 NO	63 A	24 V AC	3	9004840015669		<a href="#">BZ326445</a>
4 NO	63 A	230 V AC	3	9004840015652		<a href="#">BZ326444</a>
3 NO + 1 NC	63 A	230 V AC	3	9004840101089		<a href="#">BZ326452</a>
4 NC	63 A	230 V AC	3	9004840252804		<a href="#">BZ326469</a>
<b>AUXILIARY CONTACT BLOCK Ie/AC-15 230V</b>						
1 NO + 1 NC*	10 A	230 V AC	0.5	9004840134919		<a href="#">BZ326470</a>

\* Contact block starting at contactors with minimum 2 MW





## LA1 MINIATUR POWER CONTACTORS FOR SWITCHING MOTORS AC3 – 3POLE



LA100910

### SCHRACK-INFO

- For dimensions, connection diagram and location of the terminals, see from page 795.

DESCRIPTION	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
Contactor AC3: 4kW/400V, 1NO	AC24V	50/60Hz	9004840275063		<a href="#">LA100910</a>
Contactor AC3: 4kW/400V, 1NC <sup>1)</sup>	AC24V	50/60Hz	9004840275087		<a href="#">LA100920</a>
Contactor AC3: 4kW/400V, 1NO	AC220-240V	50Hz	9004840275070		<a href="#">LA100913</a>
Contactor AC3: 4kW/400V, 1NC <sup>1)</sup>	AC220-240V	50Hz	9004840275094		<a href="#">LA100923</a>
Contactor AC3: 4kW/400V, 1NO	DC24V		9004840275117		<a href="#">LA100915</a>
Contactor AC3: 4kW/400V, 1NC <sup>1)</sup>	DC24V		9004840275131		<a href="#">LA100925</a>
Contactor AC3: 4kW/400V, 1NO	DC24V <sup>2)</sup>		9004840275100		<a href="#">LA10091B</a>

<sup>1)</sup> Additional auxiliary contact blocks for contactors with 1NC included: only LA190153, 154, 155, 156 to be used (for miniatur auxiliary contactors)

<sup>2)</sup> With integrated coil-protection: diode + Z-diode

## LA1 MINIATUR POWER CONTACTORS FOR SWITCHING MOTORS AC3 – 4POLE



LA100943

### SCHRACK-INFO

- For dimensions, connection diagram and location of the terminals, see from page 795.

DESCRIPTION	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
Contactor AC3: 4kW/400V	AC220-240V	50Hz	9004840388961		<a href="#">LA100943</a>
Contactor AC3: 4kW/400V	DC24V <sup>2)</sup>		9004840388978		<a href="#">LA10094B</a>

<sup>2)</sup> With integrated coil-protection: diode + Z-diode

## LA1 MINIATUR AUXILIARY CONTACTORS AC15 – 4POLE



LA100770

### SCHRACK-INFO

- For dimensions, connection diagram and location of the terminals, see from page 795.

DESCRIPTION	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
Contactor AC15: 3A/230V, 4NO	AC24V	50/60Hz	9004840274974		<a href="#">LA100770</a>
Contactor AC15: 3A/230V, 4NO	AC220-240V	50Hz	9004840274981		<a href="#">LA100773</a>
Contactor AC15: 3A/230V, 4NO	AC380-400V	50Hz	9004840274998		<a href="#">LA100774</a>
Contactor AC15: 3A/230V, 3NO+1NC	AC24V	50/60Hz	9004840275001		<a href="#">LA100780</a>
Contactor AC15: 3A/230V, 3NO+1NC	AC220-240V	50Hz	9004840275018		<a href="#">LA100783</a>
Contactor AC15: 3A/230V, 2NO+2NC	AC24V	50/60Hz	9004840274967		<a href="#">LA100790</a>
Contactor AC15: 3A/230V, 2NO+2NC	AC220-240V	50Hz	9004840275049		<a href="#">LA100793</a>
Contactor AC15: 3A/230V, 2NO+2NC	DC24V		9004840275056		<a href="#">LA100795</a>

Order no. blue: on stock, usually ready for delivery on the day of order!

## LSH TYPE AUXILIARY CONTACTORS AC15 – 4-POLE, SIZE 00



LSHD...



LSHD...-SPS

### SCHRACK INFO

- Auxiliary contact blocks LSZD05.. and LSZDH5.. can be snapped on. Auxiliary contactors for SPS cannot be fitted with additional auxiliary contacts. Suitable surge suppressors LSZD0001 to LSZD0004.
- Coils not exchangeable
- For dimensions, connection diagram and location of the terminals, see page from 796.

DESCRIPTION	Ie/AC-15 230 V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 00 – TYPE LSHD</b>						
4 NO	6 A	24 V AC	50 Hz	9004840540901		LSHD0670
4 NO	6 A	24 V DC	-	9004840540925		<b>LSHD0675</b>
4 NO	6 A	230 V AC	50/60 Hz	9004840540918		<b>LSHD0673</b>
3 NO + 1 NC	6 A	24 V AC	50 Hz	9004840540871		LSHD0680
3 NO + 1 NC	6 A	24 V DC	-	9004840540895		<b>LSHD0685</b>
3 NO + 1 NC	6 A	230 V AC	50/60 Hz	9004840540888		<b>LSHD0683</b>
2 NO + 2 NC	6 A	24 V AC	50 Hz	9004840540840		<b>LSHD0690</b>
2 NO + 2 NC	6 A	24 V DC	-	9004840540864		<b>LSHD0695</b>
2 NO + 2 NC	6 A	230 V AC	50/60 Hz	9004840540857		<b>LSHD0693</b>
<b>SIZE 00 – TYPE LSHD FOR PLC</b>						
4 NO*	6 A	17-30 V DC	-	9004840541021		LSHD067N
4 NO with diode assembly	6 A	17-30 V DC	-	9004840541038		LSHD067G
3 NO + 1 NC*	6 A	17-30 V DC	-	9004840541045		LSHD068N
3 NO + 1 NC with diode assembly	6 A	17-30 V DC	-	9004840541052		LSHD068G
2 NO + 2 NC*	6 A	17-30 V DC	-	9004840541076		LSHD069N
2 NO + 2 NC with diode assembly	6 A	17-30 V DC	-	9004840541069		LSHD069G

\* Varistors and interference suppression diodes can be plugged



### I KNOW WHERE TO FIND IT!

WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

## LSDD CONTACTORS FOR SWITCHING OF MOTORS AC3 – 3-POLE, SIZE 00



LSDD....



LSDD ....-PLC

### SCHRACK INFO

- Auxiliary contact blocks LSZD .... can be snapped on.  
Contactors for PLC cannot be equipped with additional auxiliary contacts. Suitable surge suppressors LSZ0001 to LSZD0004.
- Coils not exchangeable
- Contactor also available with 2 NO + 2 NC main contacts (LSUD)
- For dimensions, wiring diagram and location of the terminals, see page from 797.

DESCRIPTION	Ie/AC-3 400 V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 00 – TYPE LSDD</b>						
3 kW, 1 NO	7 A	24 V AC	50 Hz	9004840539370		<b>LSDD0710</b>
3 kW, 1 NC*	7 A	24 V AC	50 Hz	9004840539387		<b>LSDD0720</b>
3 kW, 1 NO	7 A	110 V AC	50 Hz	9004840539394		<b>LSDD0712</b>
3 kW, 1 NC*	7 A	110 V AC	50 Hz	9004840539400		LSDD0722
3 kW, 1 NO	7 A	230 V AC	50/60 Hz	9004840539417		<b>LSDD0713</b>
3 kW, 1 NC*	7 A	230 V AC	50/60 Hz	9004840539424		<b>LSDD0723</b>
3 kW, 1 NO	7 A	24 V DC	-	9004840539431		<b>LSDD0715</b>
3 kW, 1 NC*	7 A	24 V DC	-	9004840539448		<b>LSDD0725</b>
4 kW, 1 NO	9 A	24 V AC	50 Hz	9004840539455		<b>LSDD0910</b>
4 kW, 1 NC*	9 A	24 V AC	50 Hz	9004840539462		<b>LSDD0920</b>
4 kW, 1 NO	9 A	110 V AC	50 Hz	9004840539479		<b>LSDD0912</b>
4 kW, 1 NC*	9 A	110 V AC	50 Hz	9004840539486		LSDD0922
4 kW, 1 NO	9 A	230 V AC	50/60 Hz	9004840539493		<b>LSDD0913</b>
4 kW, 1 NC*	9 A	230 V AC	50/60 Hz	9004840539509		<b>LSDD0923</b>
4 kW, 1 NO	9 A	24 V DC	-	9004840539516		<b>LSDD0915</b>
4 kW, 1 NC*	9 A	24 V DC	-	9004840539523		<b>LSDD0925</b>
5.5 kW, 1 NO	12 A	24 V AC	50 Hz	9004840539530		<b>LSDD1210</b>
5.5 kW, 1 NC*	12 A	24 V AC	50 Hz	9004840539547		<b>LSDD1220</b>
5.5 kW, 1 NO	12 A	110 V AC	50 Hz	9004840539554		LSDD1212
5.5 kW, 1 NC*	12 A	110 V AC	50 Hz	9004840539561		LSDD1222
5.5 kW, 1 NO	12 A	230 V AC	50/60 Hz	9004840539578		<b>LSDD1213</b>
5.5 kW, 1 NC*	12 A	230 V AC	50/60 Hz	9004840539585		<b>LSDD1223</b>
5.5 kW, 1 NO	12 A	24 V DC	-	9004840539592		<b>LSDD1215</b>
5.5 kW, 1 NC*	12 A	24 V DC	-	9004840539608		<b>LSDD1225</b>
<b>SIZE 00 – TYPE LSUD</b>						
5.5 kW, 2 NO + 2 NC*	12 A	230 V AC	50/60 Hz	9004840621211		LSUD12C3
<b>SIZE 00 – TYPE LSSD FOR PLC</b>						
3 kW, 1 NO**	7 A	17-30 V DC	-	9004840540413		LSSD071G
3 kW, 1 NC**	7 A	17-30 V DC	-	9004840540420		LSSD072G
4 kW, 1 NO**	9 A	17-30 V DC	-	9004840540437		<b>LSSD091G</b>
4 kW, 1 NC**	9 A	17-30 V DC	-	9004840540444		LSSD092G
5.5 kW, 1 NO**	12 A	17-30 V DC	-	9004840540451		LSSD121G
5.5 kW, 1 NC**	12 A	17-30 V DC	-	9004840540468		LSSD122G

\* Only auxiliary contact blocks LSZDH5 .. and LSZD05 .. possible  
\*\* No additional auxiliary contacts possible

## LSD CONTACTORS FOR SWITCHING OF MOTORS AC3 – 3-POLE, SIZE 0



LSD0...

### SCHRACK INFO

- Auxiliary contact and auxiliary contact blocks for LSD0 and LSS0: LSZ0D ... can be snapped on. Suitable surge suppressors LSZD0005, LSZD0006 and LSZ00001 to LSZ00003.
- Contactor also available with 2 NO + 2 NC main contacts (LSU0) (Caution! Same width as 4-pole AC-1 contactors LSR0)
- Auxiliary contact and auxiliary contact blocks for LSU0: LSZ0D0.., LSZ0D9.. and LSZ0D1..F can be snapped on.\*\*
- For dimensions, wiring diagram and location of the terminals, see page from 797.

DESCRIPTION	Ie/AC-3 400 V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 0 – TYPE LSD0</b>						
4 kW	9 A	24 V AC	50 Hz	9004840539646		<a href="#">LSD00930</a>
4 kW	9 A	24 V DC	-	9004840539677		<a href="#">LSD00935</a>
4 kW	9 A	110 V AC	50 Hz	9004840539653		<a href="#">LSD00932</a>
4 kW	9 A	230 V AC	50/60 Hz	9004840539660		<a href="#">LSD00933</a>
5.5 kW	12 A	24 V AC	50 Hz	9004840539844		<a href="#">LSD01230</a>
5.5 kW	12 A	24 V DC	-	9004840539967		<a href="#">LSD01235</a>
5.5 kW	12 A	110 V AC	50 Hz	9004840539837		<a href="#">LSD01232</a>
5.5 kW	12 A	230 V AC	50/60 Hz	9004840539820		<a href="#">LSD01233</a>
7.5 kW	17 A	24 V AC	50 Hz	9004840539851		<a href="#">LSD01730</a>
7.5 kW	17 A	24 V DC	-	9004840539974		<a href="#">LSD01735</a>
7.5 kW	17 A	110 V AC	50 Hz	9004840539868		<a href="#">LSD01732</a>
7.5 kW	17 A	230 V AC	50/60 Hz	9004840539875		<a href="#">LSD01733</a>
7.5 kW	17 A	400 V AC	50 Hz	9004840540802		<a href="#">LSD01734</a>
11 kW	25 A	24 V AC	50 Hz	9004840539615		<a href="#">LSD02530</a>
11 kW	25 A	24 V DC	-	9004840539981		<a href="#">LSD02535</a>
11 kW	25 A	110 V AC	50 Hz	9004840539622		<a href="#">LSD02532</a>
11 kW	25 A	230 V AC	50/60 Hz	9004840539639		<a href="#">LSD02533</a>
<b>SIZE 0 – TYPE LSU0</b>						
11 kW, 2 NO + 2 NC**	25 A	230 V AC	50/60 Hz	9004840621228		LSU025C3
<b>SIZE 0 – TYPE LSS0 FOR PLC</b>						
5.5 kW*	12 A	17-30 V DC/4.2 W	-	9004840540475		LSS0123H
7.5 kW*	17 A	17-30 V DC/4.2 W	-	9004840540482		<a href="#">LSS0173H</a>
11 kW*	25 A	17-30 V DC/4.2 W	-	9004840540499		<a href="#">LSS0253H</a>

\* Maximum 2 auxiliary contacts LSZ0D0 .. or LSZ0D9 .. allowed

\*\* Auxiliary contacts and auxiliary contact blocks for LSU0: LSZ0D0 .. LSZ0D9 .. and LSZ0D1 .. F can be snapped on



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## LSD CONTACTORS FOR SWITCHING OF MOTORS AC3 – 3-POLE, SIZE 2



LSD2....

### SCHRACK INFO

- Auxiliary contacts and auxiliary contact blocks for LSD2: LSZ0D ... can be snapped on. Suitable surge suppressor LSZ20001 for 230 V AC.
- Contactor also available with 2 NO + 2 NC main contacts (LSU2) (Caution! Same width as 4-pole AC-1 contactors LSR2)
- Auxiliary contact and auxiliary contact blocks for LSU2: LSZ0D0.., LSZ0D9.. and LSZ0D1..F can be snapped on.\*
- For dimensions, wiring diagram and location of the terminals, see page from 798.

DESCRIPTION	Ie/AC-3 400 V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 2 – TYPE LSD2</b>						
15 kW	32 A	24 V AC	50 Hz	9004840539882		<a href="#">LSD23230</a>
15 kW	32 A	24 V DC	-	9004840539912		<a href="#">LSD23235</a>
15 kW	32 A	110 V AC	50 Hz	9004840539899		<a href="#">LSD23232</a>
15 kW	32 A	230 V AC	50/60 Hz	9004840539905		<a href="#">LSD23233</a>
18.5 kW	40 A	24 V AC	50 Hz	9004840539929		<a href="#">LSD24030</a>
18.5 kW	40 A	24 V DC	-	9004840539950		<a href="#">LSD24035</a>
18.5 kW	40 A	110 V AC	50 Hz	9004840539936		<a href="#">LSD24032</a>
18.5 kW	40 A	230 V AC	50/60 Hz	9004840539943		<a href="#">LSD24033</a>
22 kW	50 A	24 V AC	50 Hz	9004840540000		<a href="#">LSD25030</a>
22 kW	50 A	24 V DC	-	9004840539998		<a href="#">LSD25035</a>
22 kW	50 A	110 V AC	50 Hz	9004840540017		<a href="#">LSD25032</a>
22 kW	50 A	230 V AC	50/60 Hz	9004840540024		<a href="#">LSD25033</a>
<b>SIZE 2 – TYPE LSU2</b>						
18.5 kW, 2 NO + 2 NC*	40 A	230 V AC	50/60 Hz	9004840621235		LSU240C3

\* Auxiliary contacts and auxiliary contact blocks for LSU2: LSZ0D0 .. LSZ0D9 .. and LSZ0D1 .. F can be snapped on

## LSD CONTACTORS FOR SWITCHING OF MOTORS AC3 – 3-POLE, SIZE 3



LSD3....

### SCHRACK INFO

- Auxiliary contact and auxiliary contact blocks LSZ0D... and LSZ3D... can be snapped on. Suitable surge suppressor LSZ20001 for 230 V AC.
- For dimensions, wiring diagram and location of the terminals, see page from 798.

DESCRIPTION	Ie/AC-3 400 V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 3 – TYPE LSD3</b>						
30 kW	65 A	24 V AC	50 Hz	9004840539684		<a href="#">LSD36530</a>
30 kW	65 A	24 V DC	-	9004840539721		<a href="#">LSD36535</a>
30 kW	65 A	110 V AC	50 Hz	9004840539691		LSD36532
30 kW	65 A	230 V AC	50/60 Hz	9004840539707		<a href="#">LSD36533</a>
30 kW, 2 NO + 2 NC	65 A	230 V AC	50 Hz	9004840539714		<a href="#">LSD36553</a>
37 kW	80 A	24 V AC	50 Hz	9004840539738		LSD38030
37 kW	80 A	24 V DC	-	9004840539783		<a href="#">LSD38035</a>
37 kW, 2 NO + 2 NC	80 A	24 V AC	50 Hz	9004840539745		<a href="#">LSD38050</a>
37 kW	80 A	110 V AC	50 Hz	9004840539752		LSD38032
37 kW, 2 NO + 2 NC	80 A	110 V AC	50 Hz	9004840539769		<a href="#">LSD38052</a>
37 kW	80 A	230 V AC	50/60 Hz	9004840539776		<a href="#">LSD38033</a>
45 kW	95 A	24 V AC	50 Hz	9004840539790		<a href="#">LSD39530</a>
45 kW	95 A	24 V DC	-	9004840539813		<a href="#">LSD39535</a>
45 kW	95 A	230 V AC	50/60 Hz	9004840539806		<a href="#">LSD39533</a>
45 kW, 2 NO + 2 NC	95 A	230 V AC	50/60 Hz	9004840540833		<a href="#">LSD39553</a>

# CONTACTORS

## ■ LSD CONTACTORS AND VACUUM CONTACTORS AC3 - 3-POLE, SIZE 6/10/12/14



LSD6115F



LSDE305F



LSDH...

### ■ SCHRACK INFO

Contactor LSD6115F is equipped with box terminal up to 70 mm<sup>2</sup>. All other types without box terminals. They are available on request.

### ■ SCHRACK INFO

Size 6 - 12: Auxiliary contacts and auxiliary contact blocks for LSZ0D... and LSZ3D..., Suitable surge suppressor LSZ60001.

Size 14: No additional auxiliary contacts possible. A varistor circuit is already installed.

For dimensions, wiring diagram and location of the terminals, see page from 799.

DESCRIPTION	Ie/AC-3 400 V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 6 – TYPE LSD6</b>						
55 kW, 2 NO + 2 NC (with box terminal)	115 A	UC 220-240 V	40-60 Hz	9004840540031		<b>LSD6115F</b>
75 kW, 2 NO + 2 NC	150 A	UC 220-240 V	40-60 Hz	9004840540048		<b>LSD6155F</b>
90 kW, 2 NO + 2 NC	185 A	UC 220-240 V	40-60 Hz	9004840540055		<b>LSD6195F</b>
<b>SIZE 10 – TYPE LSDE</b>						
110 kW, 2 NO + 2 NC	225 A	UC 220-240 V	40-60 Hz	9004840540062		<b>LSDE225F</b>
132 kW, 2 NO + 2 NC	265 A	UC 220-240 V	40-60 Hz	9004840540079		<b>LSDE265F</b>
160 kW, 2 NO + 2 NC	330 A	UC 220-240 V	40-60 Hz	9004840540086		<b>LSDE305F</b>
<b>SIZE 12 – TYPE LSDG</b>						
200 kW, 2 NO + 2 NC	400 A	UC 220-240 V	40-60 Hz	9004840540093		<b>LSDG415F</b>
250 kW, 2 NO + 2 NC	500 A	UC 220-240 V	40-60 Hz	9004840540109		<b>LSDG515F</b>
<b>SIZE 14 – TYPE LSDH VACUUM CONTACTORS</b>						
335 kW, 4 NO + 4 NC	630 A	UC 200-240 V	50 Hz	9004840541199		LSDH63G3
600 kW/ <b>1000 V</b> , 4 NO + 4 NC*	630 A	UC 200-240 V	50 Hz	9004840541205		LSDH64G3
450 kW, 4 NO + 4 NC	820 A	UC 200-240 V	50 Hz	9004840541212		<b>LSDH82G3</b>
800 kW/ <b>1000 V</b> , 4 NO + 4 NC*	820 A	UC 200-240 V	50 Hz	9004840541229		LSDH83G3

\* Size 14: Vacuum contactors for networks up to 1000 V



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## LSR CONTACTORS FOR SWITCHING OF RESISTIVE LOADS AC1 4-POLE, SIZE 00/0



LSR0....

### SCHRACK INFO

- Surge suppressors are identical to the corresponding 3-pole contactors LSD...
- For size 00: only auxiliary contacts LSZD05 .. or auxiliary contact blocks LSZDH5.. usable
- For size 0: only auxiliary contacts LSZ0D0.., LSZ0D9.. or auxiliary contact blocks LSZ0D1..F usable
- For dimensions, wiring diagram and location of the terminals, see page from 801.

DESCRIPTION	Ie/AC-1 690V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 00 – TYPE LSRD</b>						
AC1	18 A	24 V AC	50/60 Hz	9004840540178		LSRD1840
AC1	18 A	24 V DC	-	9004840540253		LSRD1845
AC1	18 A	230 V AC	50/60 Hz	9004840540185		<a href="#">LSRD1843</a>
AC1	22 A	24 V AC	50/60 Hz	9004840540192		LSRD2240
AC1	22 A	24 V DC	-	9004840540260		<a href="#">LSRD2245</a>
AC1	22 A	230 V AC	50/60 Hz	9004840540208		<a href="#">LSRD2243</a>
<b>SIZE 0 – TYPE LSR0</b>						
AC1*	35 A	24 V AC	50 Hz	9004840540215		LSR03540
AC1*	35 A	24 V DC	-	9004840540277		LSR03545
AC1*	35 A	230 V AC	50/60 Hz	9004840540222		<a href="#">LSR03543</a>
AC1*	40 A	24 V AC	50 Hz	9004840540239		LSR04040
AC1*	40 A	24 V DC	-	9004840540284		LSR04045
AC1*	40 A	230 V AC	50/60 Hz	9004840540246		<a href="#">LSR04043</a>

\* 4th pole (right) can be refitted to the left side without tools for the construction of interlocked assemblies

## LSR CONTACTORS FOR SWITCHING OF RESISTIVE LOADS AC1 4-POLE, SIZE 2/3



LSR3....

### SCHRACK INFO

- Surge suppressors are identical to the corresponding 3-pole contactors LSD...
- Auxiliary contacts LSZ0D0.., LSZ0D9.. or auxiliary contact blocks LSZ0D1..F usable
- For dimensions, wiring diagram and location of the terminals, see page from 801.

DESCRIPTION	Ie/AC-1 690V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 2 – TYPE LSR2</b>						
AC1*	60 A	24 V AC	50 Hz	9004840540291		LSR26040
AC1*	60 A	24 V DC	-	9004840540314		LSR26045
AC1*	60 A	230 V AC	50/60 Hz	9004840540307		<a href="#">LSR26043</a>
<b>SIZE 3 – TYPE LSR3</b>						
AC1	110 A	24 V AC	50 Hz	9004840540321		LSR31140
AC1	110 A	24 V DC	-	9004840540345		LSR31145
AC1	110 A	230 V AC	50/60 Hz	9004840540338		<a href="#">LSR31143</a>
AC1	140 A	24 V AC	50 Hz	9004840540352		LSR31440
AC1	140 A	24 V DC	-	9004840540376		<a href="#">LSR31445</a>
AC1	140 A	230 V AC	50/60 Hz	9004840540369		<a href="#">LSR31443</a>

\* 4th pole (right) can be refitted to the left side without tools for the construction of interlocked assemblies

## LSK CAPACITOR SWITCHING CONTACTORS



LSKD17B3

### SCHRACK INFO

- Technical data in accordance with IEC 60 947, EN 60 947 (VDE 0660)
- Climate-resistant
- Finger-proof according to EN 50274
- For dimensions, wiring diagram and location of the terminals, see page from 811.

### TECHNICAL DATA

The capacitor switching contactors LSK is a special version of the ALEA contactors size 00 to 3. The capacitors are charged via the attached early-make NO contacts and resistors. Only then the main contacts will close. This prevents unwanted reverse feeds to the mains and the welding of contactor contacts. Only discharged capacitors may be switched on with capacitor contacts. The auxiliary contact block snapped onto the capacitor contactor contains the 3 early-make NO contacts and, for size 00, an NC contact of size 0, and for size 3 NO contact that can be freely used. The size 00 contains another freely available NO contact in the basic unit. An auxiliary switching block of type LSZ0D711 can be attached to the side of the capacitor switching contactor of size 3. The auxiliary switches of the size 00 and 0 contactors are not expandable.

CAPACITOR POWER 400V/ FREE AUXILIARY CONTACTS						COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 00</b>										
12.5 kVAr / 1 NO + 1 NC	230 V AC	50/60 Hz	9004840540383		<a href="#">LSKD17B3</a>					
<b>SIZE 0</b>										
25 kVAr / 1 NO	230 V AC	50/60 Hz	9004840540390		<a href="#">LSK03213</a>					
<b>SIZE 3</b>										
50 kVAr / 1 NO	230 V AC	50/60 Hz	9004840540406		<a href="#">LSK36213</a>					

## LA3K CAPACITOR SWITCHING CONTACTORS



LA3K181

### SCHRACK-INFO

- For use in detuned or non-detuned capacitor units.
- Technical data according to EN 60 947-4-1; EN 60 947-5-1; VDE 0660

### TECHNICAL DATA

Specification: The capacitor switching contactors K3-..K are suitable for switching low-inductive and lowloss capacitors in capacitor banks (IEC 70 & 831, VDE 0560) with and without reactors. Capacitor switching contactors are fitted with early make contacts and damping resistors to reduce the value of the make current to  $<70 \times I_e$ . Operating conditions: Capacitor switching contactors are protected against contact welding for a prospective make current of  $200 \times I_e$ . Fuse rating approx.  $1,6$  to  $2,5 \times I_e$ , type gL/gG.

CAPACITOR RATING 400V/ INCLUDED AUXILIARY CONTACTS						COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
12,5 kVAr/1 NO	AC220-240V	50/60 Hz	9004840673715		<a href="#">LA3K1813N</a>					
12,5 kVAr/1 NC	AC220-240V	50/60 Hz	9004840673722		<a href="#">LA3K1823N</a>					
20 kVAr/ 0	AC220-240V	50/60 Hz	9004840193299		<a href="#">LA3K2433</a>					
25 kVAr/ 0	AC220-240V	50/60 Hz	9004840193282		<a href="#">LA3K3233</a>					
33,3 kVAr/ 0	AC220-240V	50/60 Hz	9004840191660		<a href="#">LA3K5033</a>					
50 kVAr/ 0	AC220-240V	50/60 Hz	9004840193275		<a href="#">LA3K6233</a>					
75 kVAr/ 0	AC220-240V	50/60 Hz	9004840193442		<a href="#">LA3K7433</a>					
80 kVAr/ 0	AC220-240V	50/60 Hz	9004840652048		<a href="#">LA3K9033</a>					
100 kVAr/ 0	AC220-240V	50/60 Hz	9004840652055		<a href="#">LA3K1A33</a>					





## LSW REVERSING CONTACTOR ASSEMBLIES AC3, SIZE 00/0/2/3



LSWD...



LSW0...

### SCHRACK INFO

- Higher performance by individual components for DIY assembling up to size 12 possible.
- For dimensions, connection diagram and location of the terminals, see page from 813.

DESCRIPTION	Ie/AC-3 400 V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 00 – TYPE LSWD</b>						
3 kW	7 A	230 V	50/60 Hz	9004840541236		<a href="#">LSWD0733</a>
4 kW	9 A	230 V	50/60 Hz	9004840541243		<a href="#">LSWD0933</a>
5.5 kW	12 A	230 V	50/60 Hz	9004840541250		<a href="#">LSWD1233</a>
<b>SIZE 0 – TYPE LSW0</b>						
5.5 kW	12 A	230 V	50/60 Hz	9004840541267		LSW01233
7.5 kW	17 A	230 V	50/60 Hz	9004840541274		LSW01733
11 kW	25 A	230 V	50/60 Hz	9004840541281		LSW02533
<b>SIZE 2 – TYPE LSW2</b>						
15 kW	32 A	230 V	50/60 Hz	9004840541298		LSW23233
18.5 kW	40 A	230 V	50/60 Hz	9004840541304		LSW24033
22 kW	50 A	230 V	50/60 Hz	9004840541311		LSW25033
<b>SIZE 3 – TYPE LSW3</b>						
30 kW	65 A	230 V	50/60 Hz	9004840541328		LSW36533
37 kW	80 A	230 V	50/60 Hz	9004840541335		LSW38033
45 kW	95 A	230 V	50/60 Hz	9004840541342		LSW39533

## LSY WYE-DELTA ASSEMBLIES AC3, SIZE 00/0/2



LSY03233

### SCHRACK- NFO

- Higher performance by individual components for DIY assembling up to size 12 possible.
- For dimensions, wiring diagram and location of the terminals, see page from 815.

DESCRIPTION	Ie/AC-3 400 V	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 00 – TYPE LSYD</b>						
Up to 7.5 kW	17 A	230 V	50/60 Hz	9004840541700		<a href="#">LSYD1733</a>
<b>SIZE 0 – TYPE LSY0</b>						
Up to 15 kW	32 A	230 V	50/60 Hz	9004840541717		<a href="#">LSY03233</a>
<b>SIZE 2 – TYPE LSY2</b>						
Up to 22 kW	50 A	230 V	50/60 Hz	9004840541724		<a href="#">LSY25033</a>



**Order no. blue:** on stock, usually ready for delivery on the day of order!

## AUXILIARY CONTACT BLOCKS FOR MINIATUR POWER CONTACTORS



LA190150

### SCHRACK-INFO

- Auxiliary contact blocks for LA1 miniatur power contactors with 1 NO included.
- For LA1 miniatur power contactors with 1 NC included.
- For dimensions, wiring diagram and location of the terminals, see page from 802.

DESCRIPTION	NOTE	EAN CODE	AVAILABLE	ORDER NO.
Auxiliary contact block 2NO+2NC	DIN EN 50012	9004840055641		<a href="#">LA190150</a>
Auxiliary contact block 1NO+1NC	DIN EN 50012	9004840055658		<a href="#">LA190151</a>

## AUXILIARY CONTACT BLOCKS FOR MINIATUR AUXILIARY CONTACTORS



LA190156

### SCHRACK-INFO

- For dimensions, wiring diagram and location of the terminals, see page from 802.

DESCRIPTION	NOTE	EAN CODE	AVAILABLE	ORDER NO.
Auxiliary contact block 2NO+2NC	DIN EN 50011	9004840117356		<a href="#">LA190153</a>
Auxiliary contact block 1NO+1NC	DIN EN 50011	9004840117363		<a href="#">LA190154</a>
Auxiliary contact block 2NC	DIN EN 50011	9004840117370		LA190155
Auxiliary contact block 4NO	DIN EN 50011	9004840147339		<a href="#">LA190156</a>

## SURGE SUPPRESSOR FOR MINIATUR CONTACTORS



LA190194

### SCHRACK-INFO

- For dimensions, wiring diagram and location of the terminals, see page from 802.

DESCRIPTION	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
RC-Unit	250-415 VAC	50Hz	9004840236743		<a href="#">LA190194</a>
RC-Unit*	12-48 VAC/DC	50Hz	9004840419436		LA190159
RC-Unit*	110-250 VAC/DC	50Hz	9004840419429		<a href="#">LA190158</a>

\*Can be snapped on contactor.

## AUXILIARY CONTACT BLOCKS FOR FRONT FOR LSDD, SIZE 00



LSZDD213



LSZD0510

### SCHRACK INFO

- For contactors LSDD with included NO contact
- For snapping on at the front
- LSDDs can be fitted with max. 4 additional auxiliary contacts.
- For dimensions, wiring diagram and location of the terminals, see page from 818.

DESCRIPTION	NOTE	EAN CODE	AVAILABLE	ORDER NO.
For size 00, 1 NO, cable from bottom	DIN EN 50005	9004840540932		<a href="#">LSZD0510</a>
For size 00, 1 NC, cable from bottom	DIN EN 50005	9004840540789		<a href="#">LSZD0501</a>
For size 00, 1 NC	DIN EN 50012	9004840540734		<a href="#">LSZDD201</a>
For size 00, 1 NO + 2 NC	DIN EN 50012	9004840540741		<a href="#">LSZDD212</a>
For size 00, 1 NO + 3 NC	DIN EN 50012	9004840540758		<a href="#">LSZDD213</a>
For size 00, 2 NO + 2 NC	DIN EN 50012	9004840540765		<a href="#">LSZDD222</a>

## AUXILIARY CONTACT BLOCKS FRONT FOR LSDD, LSRD, LSUD AND LSHD, SIZE 00



LSZDH522



LSZD0510

### SCHRACK INFO

- For contactors LSDD with one included NC or for contactors LSRD, LSUD and LSHD
- For snapping on at the front
- LSDD, LSRD, LSUD and LSHD can be fitted with max. 4 additional auxiliary contacts
- For dimensions, wiring diagram and location of the terminals, see page from 818.

DESCRIPTION	NOTE	EAN CODE	AVAILABLE	ORDER NO.
For size 00, 1 NO, cable from bottom	DIN EN 50005	9004840540932		<a href="#">LSZD0510</a>
For size 00, 1 NC, cable from bottom	DIN EN 50005	9004840540789		<a href="#">LSZD0501</a>
For size 00, 4 NO	DIN EN 50005	9004840541151		<a href="#">LSZDH540</a>
For size 00, 3 NO + 1 NC	DIN EN 50005	9004840541144		<a href="#">LSZDH531</a>
For size 00, 2 NO + 2 NC	DIN EN 50005	9004840541137		<a href="#">LSZDH522</a>

## PARALLEL CONNECTOR (STAR POINT) AND FEED TERMINAL, SIZE 00



LSZDY002



LSZDD003



LSZDD001

### SCHRACK INFO

- For dimensions, see page from 817.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>PARALLEL CONNECTOR</b>			
Size 00, 25mm <sup>2</sup> 3-pole + terminal	9004840540680		LSZDD003
Size 00, 25 mm <sup>2</sup> 4-pole + terminal	9004840540628		LSZDD004
Y point for size 00, 3-pole (can be reduced by one pole)	9004840540116		<a href="#">LSZDY002</a>
<b>FEED TERMINAL</b>			
Size 00, 6 mm <sup>2</sup> 3-pole + 3 terminals	9004840541373		LSZDD001

## WIRING KITS, MECHANICAL INTERLOCK AND CONNECTION CLIPS, SIZE 00



LSZDW002

### SCHRACK INFO

- When using the mechanical interlock, there will be no gap between the contactors.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Wiring kit for reversing contactor assemblies, size 00*	9004840541359		<b>LSZDW001</b>
Wiring kit for wye-delta assemblies, size 00*	9004840541366		LSZDY001
2 connection clips + mechanical interlock, size 00	9004840554366		<b>LSZDW002</b>

\* Includes 2 connection clips and 1 mechanical interlock

## WYE-DELTA TIMER RELAY



LSZD0102

### SCHRACK INFO

- These timer relays have a dead time of 50 ms (between the wye and the delta).
- Dimensions (WxHxD): 22.5 x 102 x 86 mm

DESCRIPTION	COIL VOLTAGE	FREQUENCY	EAN CODE	AVAILABLE	ORDER NO.
YD timer relay, 20s	24/240 VAC 24 VDC	50/60 Hz	9004840540710		<b>LSZD0101</b>
YD timer relay, 60s	24/240 VAC 24 VDC	50/60 HZ	9004840540727		<b>LSZD0102</b>

## CONNECTION ELEMENTS FOR CONTACTORS AND MOTOR PROTECTION SWITCHES, SIZE 00 (0)



LSZDD005

DESCRIPTION	COIL VOLTAGE	EAN CODE	AVAILABLE	ORDER NO.
For contactor of size 00 with motor protection switch size 00	AC-DC	9004840541625		<b>LSZDD005</b>
For contactor of size 00 with motor protection switch size 0	AC-DC	9004840541656		<b>LSZDD006</b>

## SOLDER PIN ADAPTER, SIZE 00



LSZDD002

### SCHRACK INFO

- For mounting size 00 contactors on printed circuit boards.
- Adapter for mounting size 00 contactors with attached 4-pole auxiliary switch block on request.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Solder pin adapter	9004840540635		LSZDD002

## SURGE SUPPRESSORS AND INTERFERENCE SUPPRESSION DIODES (PLUGGABLE), SIZE 00



LSZD0004

### SCHRACK INFO

- For dimensions and terminal names, see page 805.

DESCRIPTION	COIL VOLTAGE	EAN CODE	AVAILABLE	ORDER NO.
Varistor for size 00	24-48 V AC; 24-70 V DC	9004840540505		<a href="#">LSZD0001</a>
VARIATOR FOR SIZE 00	127-240 V AC; 150-250 V DC	9004840540512		<a href="#">LSZD0002</a>
RC-element for size 00	127-240 V AC; 150-250 V DC	9004840540529		<a href="#">LSZD0003</a>
Interference suppression diode for size 00	12-250 V DC	9004840540536		<a href="#">LSZD0004</a>

## AUXILIARY CONTACTS, FRONT, SIZES 0-12



LSZ0D001



LSZ0D010

### SCHRACK INFO

- Up to 4 auxiliary contacts can be snapped onto front of contactor
- For dimensions, wiring diagram and location of the terminals, see page from 818.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Size 0-12, 1 NO	9004840541083		<a href="#">LSZ0D010</a>
Size 0-12, 1 NC	9004840541090		<a href="#">LSZ0D001</a>
Size 0-12, 1 NO early-make	9004840541113		LSZ0D910
Size 0-12, 1 NC delayed	9004840541106		LSZ0D901



Order no. blue: on stock, usually ready for delivery on the day of order!

## AUXILIARY CONTACT BLOCKS, FRONT, SIZES 0-12



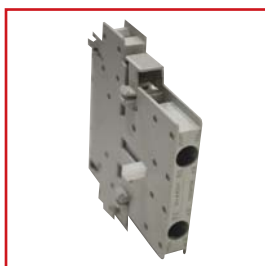
LSZ0D122

### SCHRACK INFO

- For dimensions, wiring diagram and location of the terminals, see page 809.

DESCRIPTION	NOTE	EAN CODE	AVAILABLE	ORDER NO.
Size 0-12, 3 NO + 1 NC	DIN EN 50012	9004840541014		<b>LSZ0D131</b>
Size 0-12, 2 NO + 2 NC	DIN EN 50012	9004840541007		<b>LSZ0D122</b>
Size 0-12, 1 NO + 3 NC	DIN EN 50012	9004840540994		<b>LSZ0D113</b>
Size 0-12, 4 NO	DIN EN 50005	9004840541502		<b>LSZ0D140F</b>
Size 0-12, 3 NO + 1 NC	DIN EN 50005	9004840591088		<b>LSZ0D131F</b>
Size 0-12, 2 NO + 2 NC	DIN EN 50005	9004840541526		<b>LSZ0D122F</b>
Size 0-12, 4 NC	DIN EN 50005	9004840591071		LSZ0D104F

## AUXILIARY CONTACT BLOCKS - SIDE-MOUNTED, SIZES 0-12



LSZ0D711

### SCHRACK INFO

- For dimensions, wiring diagram and location of the terminals, see page 818.

DESCRIPTION	NOTE	EAN CODE	AVAILABLE	ORDER NO.
Size 0-12, 1 NO + 1 NC, first position	DIN EN 50012	9004840541175		<b>LSZ0D711</b>
Size 3-12, 1 NO + 1 NC, second position	DIN EN 50012	9004840541182		<b>LSZ3D811</b>

## MECHANICAL INTERLOCK, SIZES 0-12



LSZ0W002


### SCHRACK INFO

- For dimensions, wiring diagram and location of the terminals, see page 818.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Size 0-3 (including 2 NC)	9004840541403		<b>LSZ0W002</b>
Size 6-12 (without auxiliary contacts)	9004840541557		<b>LSZ6W001</b>



## WIRING KITS FOR REVERSING CONTACTOR ASSEMBLIES, SIZES 0-12

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Size 0*	9004840541380		<a href="#">LSZ0W001</a>
Size 2, incl. connection clips	9004840541441		LSZ2W001
Size 3, incl. connection clips	9004840541489		LSZ3W001
Size 6*	9004840541540		LSZ6W002
Size 10*	9004840541588		LSZEW001
Size 12*	9004840541618		LSZGW001

\* Wiring devices perform the function of connection clips

## WIRING KITS AND ACCESSORIES FOR WYE-DELTA ASSEMBLIES, SIZES 0-12

### SCHRACK INFO

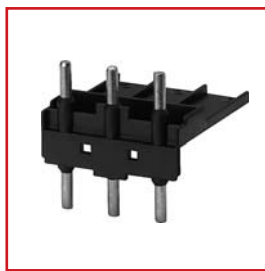
\* Wiring kits from frame size 2 only include the wiring element for the contactor bottom (in addition to the Y jumper). A double feed is recommended for feeding of line and delta contactors.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>WIRING KITS</b>			
Size 0, incl. mech. interlock, connection clips a. Y jumper	9004840541397		LSZ0Y001
Size 2-2-0, incl. connection clips a. Y jumper*	9004840541465		LSZ2Y004
Size 2-2-2, incl. connection clips a. Y jumper*	9004840541458		LSZ2Y003
Size 3-12			on request
<b>ACCESSORIES</b>			
Mounting plate for size 2-2-0	9004840541427		LSZ2Y001
Mounting plate for size 2-2-2	9004840541434		LSZ2Y002

## CONNECTION MODULE FOR CONTACTORS AND MOTOR PROTECTION SWITCHES, SIZE 0-3






LSZ0D002



LSZ2D004

### SCHRACK INFO

Contactors with AC or DC coil have different frame heights. Therefore, different connection modules are required.

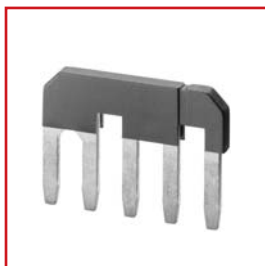
DESCRIPTION	COIL VOLTAGE	EAN CODE	AVAILABLE	ORDER NO.
Size 0	AC	9004840541632		<a href="#">LSZ0D002</a>
Size 0	DC	9004840541649		<a href="#">LSZ0D004</a>
Size 2	AC	9004840541663		<a href="#">LSZ2D004</a>
Size 2	DC	9004840541670		LSZ2D005
Size 3	AC	9004840541687		LSZ3D004
Size 3	DC	9004840541694		LSZ3D003



Order no. blue: on stock, usually ready for delivery on the day of order!

# CONTACTORS

## PARALLEL CONNECTORS (Y POINT) AND FEED TERMINALS, SIZES 0-12



LSZ0Y002



LSZ6Y003



LSZ2D003



BEZ00116

### SCHRACK INFO

- Y jumpers up to size 3 can be shortened by one pole\*.
- Recommended touch-protection cover for Y connector of size 6: LSZ6D002, for Y connectors of sizes 10 and 12: LSZED002.
- For dimensions and location of the terminals, see page from 817.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>PARALLEL CONNECTOR</b>			
Size 0, 35 mm <sup>2</sup> 3-pole + 1 terminal	9004840540697		LSZ0D003
Size 0 (Y point), 3-pole*	9004840540123		LSZ0Y002
Size 2, 95 mm <sup>2</sup> 3-pole + 1 terminal	9004840540703		LSZ2D003
Size 2 (Y point), 3-pole*	9004840540154		LSZ2Y005
Size 3 (Y point), 3-pole*	9004840540161		LSZ3Y004
Size 6 (Y point), 3-pole (hole diameter 10.5 mm)	9004840540130		LSZ6Y003
Size 10, 12 (Y point), 3-pole (hole diameter 12.5 mm)	9004840540147		LSZEY003
<b>FEED TERMINALS</b>			
Size 0, 25 mm <sup>2</sup> 3-pole + 3 terminals	9004840542318		<a href="#">BEZ00116</a>
Size 2, 50 mm <sup>2</sup> 3-pole + 3 terminals	9004840542301		<a href="#">BEZ00216</a>
Size 3, 95 mm <sup>2</sup> 1-pole + terminal	9004840541519		LSZ3D001

## SURGE SUPPRESSORS AND INTERFERENCE SUPPRESSION DIODES, SIZES 0-12



LSZ00002

### SCHRACK INFO

- Up to size 3, these components can be snapped in either on the top of the contactor (assemblies with thermal overload relay) or at the bottom (assemblies with motor protection switch). In sizes 6-12, these components only be snapped in on the top.
- For dimensions and terminal names, see page 805.

DESCRIPTION	COIL VOLTAGE	EAN CODE	AVAILABLE	ORDER NO.
<b>DIODE ASSEMBLIES</b>				
Size 0 (top-mounting)	24 V DC	9004840540581		<a href="#">LSZD0005</a>
Size 0 (bottom mounting)	24 V DC (marked with "+" a. "-")	9004840540826		<a href="#">LSZD0006</a>
Size 2-12	DC			on request
<b>VARISTOR</b>				
Size 0, 2, 3	24-48 V AC; 24-70 V DC	9004840540543		<a href="#">LSZ00001</a>
Size 0, 2, 3	127-240 V AC; 150-250 V DC	9004840540550		<a href="#">LSZ00002</a>
<b>RC ELEMENT</b>				
Size 0	127-240 V AC; 150-250 V DC	9004840540567		<a href="#">LSZ00003</a>
Size 2-3	127-240 V AC; 150-250 V DC	9004840540598		<a href="#">LSZ20001</a>
Size 6-12	127-240 V AC; 150-250 V DC	9004840540611		LSZ60001





## CONNECTION CLIPS FOR CONTACTORS, SIZES 0-6



LSZ2W003



LSZ2D001

### SCHRACK INFO

- Kits include 2 clips for 1 contactor assembly (2 contactors)

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
For contactors 3/4-pole, size 0-0, without interlock	9004840554373		LSZ0W003
For contactors 3/4-pole, size 0-0, with interlock (clearance 10 mm)	9004840554380		<a href="#">LSZ0W004</a>
For contactors 4-pole, size 2-2, with interlock (clearance 10 mm)	9004840541168		<a href="#">LSZ2W002</a>
For contactors 4-pole, size 3-3, with interlock (clearance 10 mm)	9004840541472		<a href="#">LSZ3W002</a>
For contactors 3-pole, size 2/3/6-2/3/6, with interlock (clearance 10 mm)	9004840541496		<a href="#">LSZ2W003</a>
For contactors 3/4-pole, size 2/3, without interlock	9004840541410		LSZ2D001

## MECHANICAL LATCHING BLOCK, SIZES 0-2



LSZ00113

### SCHRACK INFO

- For plugging on contactor. Contactor remains ON after triggering even in case of a power outage until the latching block is reset with a 24 VAC/DC pulse.
- The latching block additionally has a mechanical ON and reset button
- For dimensions, see page 817.

DESCRIPTION	COIL VOLTAGE	EAN CODE	AVAILABLE	ORDER NO.
Size 0-2	24 V AC/DC	9004840540796		LSZ00113

## TERMINAL COVER, SIZE 2-14



LSZ6D001



LSZ6D002

### SCHRACK INFO

- Additional terminal covers for contactors with or without box terminal.

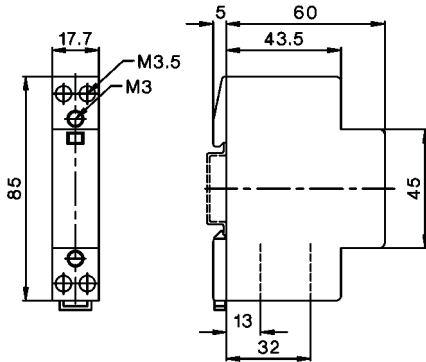
DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
For size 2* (additional Cover, fastening on box terminal)	9004840540642		LSZ2D002
For size 3* (additional Cover, fastening on box terminal)	9004840540659		LSZ3D002
For size 6* for contactors with cable lug or rail connection (100 mm)	9004840540666		<a href="#">LSZ6D001</a>
For size 6* short version for contactor assemblies (38 mm)	9004840540970		<a href="#">LSZ6D002</a>
For size 10*/12* for contactors with cable lug or rail connection (120 mm)	9004840540673		<a href="#">LSZED001</a>
For size 10*/12* short version for contactor assemblies (42 mm)	9004840540987		<a href="#">LSZED002</a>
For size 14* for contactors with cable lug or rail connection	9004840554397		<a href="#">LSZHD001</a>

\* 2 pcs. required for each contactor

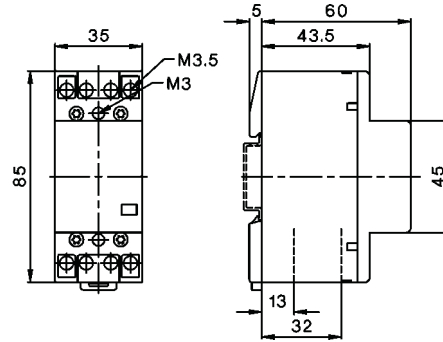
# CONTACTORS

## ■ BZ MODULAR CONTACTORS – DIMENSIONS

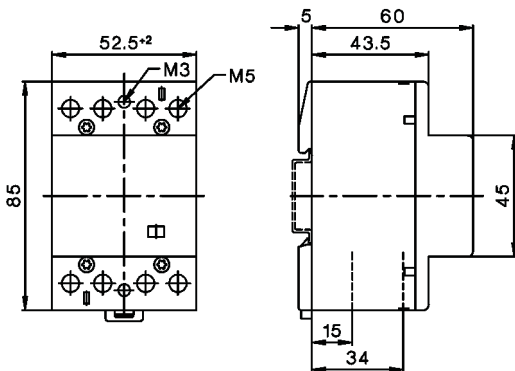
### ■ CONTACTORS 1 MODULE



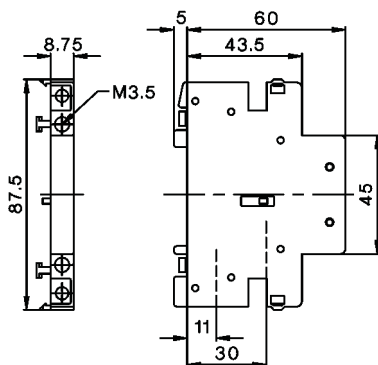
### ■ CONTACTORS 2 MODULES



### ■ CONTACTORS 3 MODULES



### ■ AUXILIARY CONTACT BLOCK BZ326470



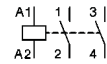
## /// BZ MODULAR CONTACTORS – WIRING DIAGRAM

### /// CONTACTORS 1 MODULE, 20 A, 25 A

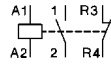
**1 NO**



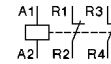
**2 NO**



**1 NO + 1 NC**

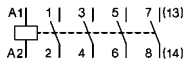


**2 NC**

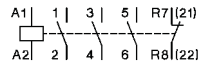


### /// CONTACTORS 2 MODULES, 25 A

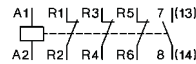
**4 NO**



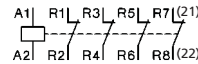
**3 NO + 1 NC**



**3 NC + 1 NO**

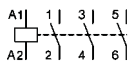


**4 NC**

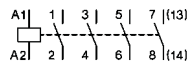


### /// CONTACTORS 3 MODULES, 40 A

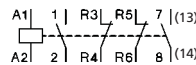
**3 NO**



**4 NO**

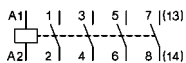


**2 NO + 2 NC**

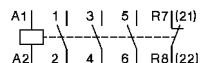


### /// CONTACTORS 3 MODULES, 63 A

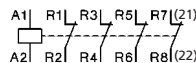
**4 NO**



**3 NO + 1 NC**



**4 NC**



### /// AUXILIARY CONTACT BLOCK 0.5 MODULES

**1 NO + 1 NC**

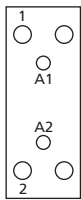


# CONTACTORS

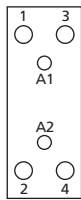
## ■ BZ MODULAR CONTACTORS – LOCATION OF TERMINALS

### ■ CONTACTORS 1 MODULE, 20 A, 25 A

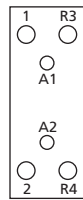
**1 NO**



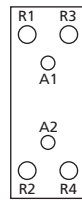
**2 NO**



**1 NO + 1 NC**

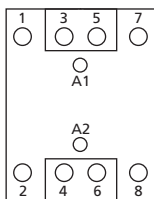


**2 NC**

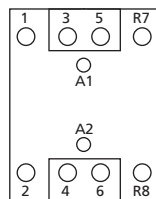


### ■ CONTACTORS 2 MODULES, 25 A

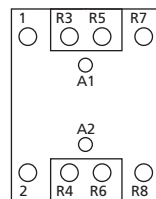
**4 NO**



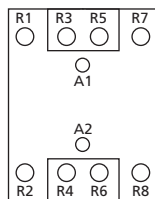
**3 NO + 1 NC**



**1 NO + 3 NC**

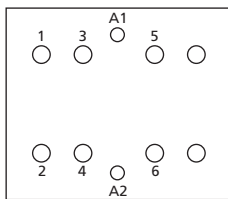


**4 NC**



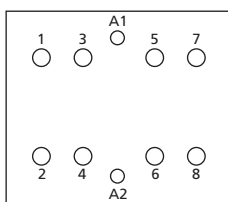
### ■ CONTACTORS 3 MODULES, 40 A

**3 NO**

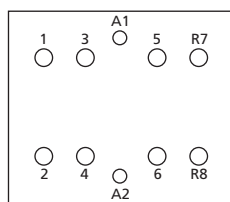


### ■ CONTACTORS 3 MODULES, 40 A, 63 A

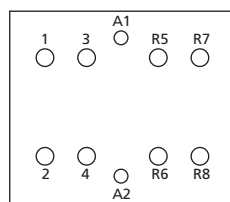
**4 NO**



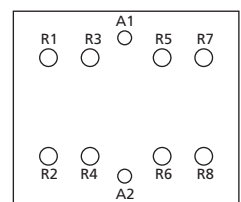
**3 NO + 1 NC**



**2 NO + 2 NC**



**4 NC**



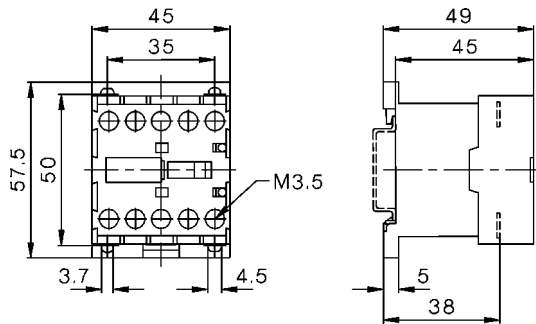
### ■ AUXILIARY CONTACT BLOCK 0.5 MODULES

**1 NO + 1 NC**

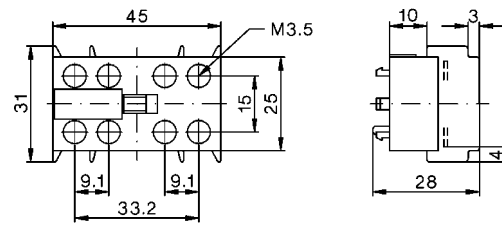


## LA1 MINIATUR POWER AND AUXILIARY CONTACTORS – DIMENSIONS

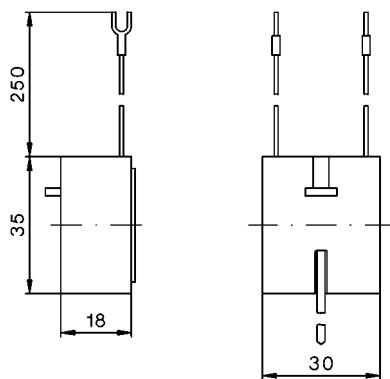
CONTACTORS  
LA1007..., LA1009..  
AC and DC operated



AUXILIARY CONTACT BLOCK  
LA19015.



RC UNIT  
LA190194

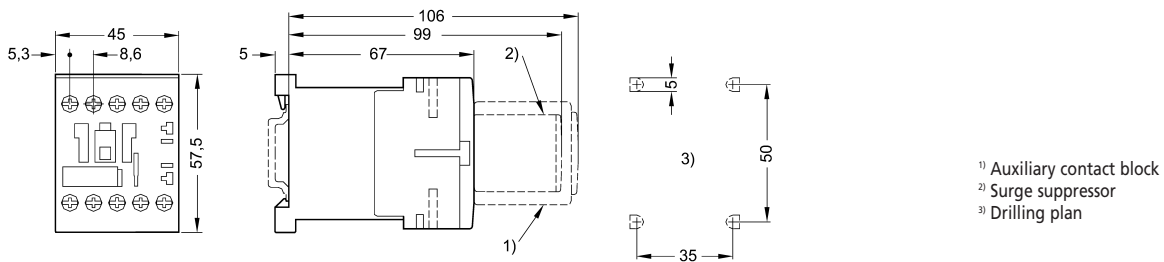


# CONTACTORS

## LSH AUXILIARY CONTACTORS – DIMENSIONS

### LSHD AUXILIARY CONTACTORS, SIZE 00

Lateral distance to earthed parts 6 mm.



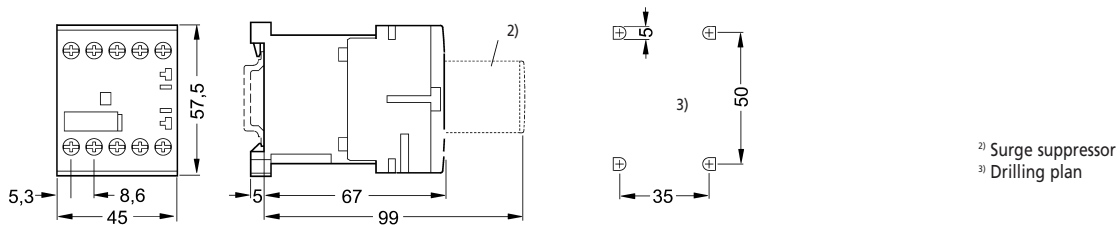
- <sup>1)</sup> Auxiliary contact block
- <sup>2)</sup> Surge suppressor
- <sup>3)</sup> Drilling plan

### LSHD...N, LSHD...G AUXILIARY CONTACTORS, SIZE 00

Lateral distance to earthed parts 6 mm. Additional auxiliary contacts cannot be snapped on.

LSHD...N: Surge suppressor can be plugged on

LSHD...G: with built-in diode



- <sup>2)</sup> Surge suppressor
- <sup>3)</sup> Drilling plan

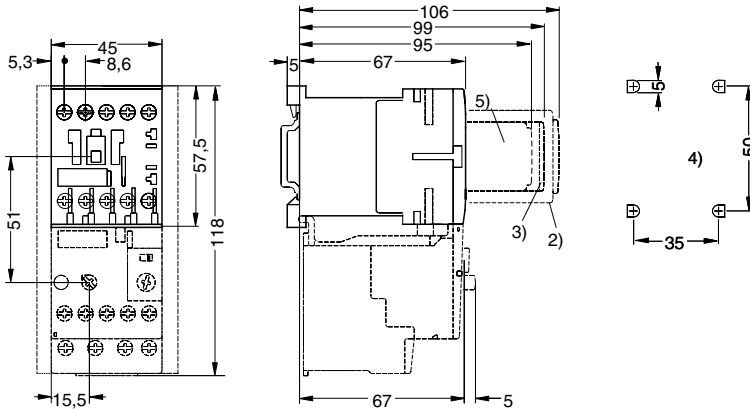
## LS. CONTACTORS, 3-POLE - DIMENSIONS

### LSDD CONTACTORS, SIZE 00

For LSUD dimensions, see LSRD ..

Representation with mounted thermal overload relay.

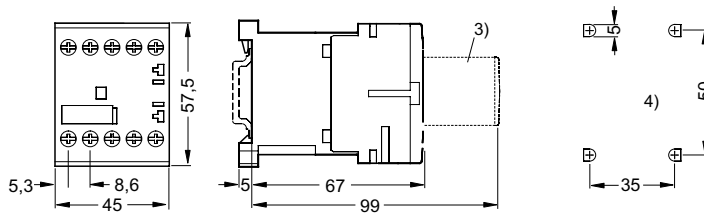
Lateral distance to earthed parts 6 mm.



- <sup>2)</sup> Auxiliary contact block
- <sup>3)</sup> Surge suppressor
- <sup>4)</sup> Drilling plan
- <sup>5)</sup> Auxiliary contact block, 1-pole

### LSSD CONTACTORS FOR PLC, SIZE 00

Lateral distance to earthed parts 6 mm.



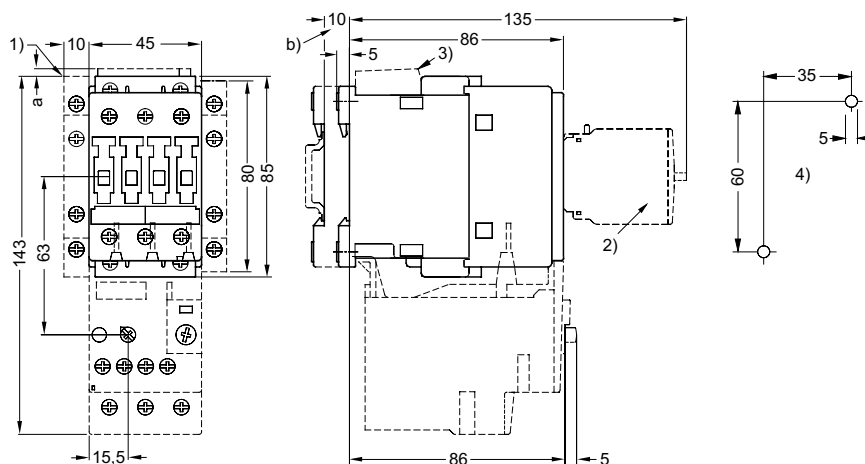
- <sup>3)</sup> Surge suppressor
- <sup>4)</sup> Drilling plan

### LSD0 CONTACTORS AND LSS0 CONTACTORS FOR PLC, SIZE 0

For LSU0 dimensions, see LSR0..

Representation with mounted thermal overload relay.

Lateral distance to earthed parts 6 mm.



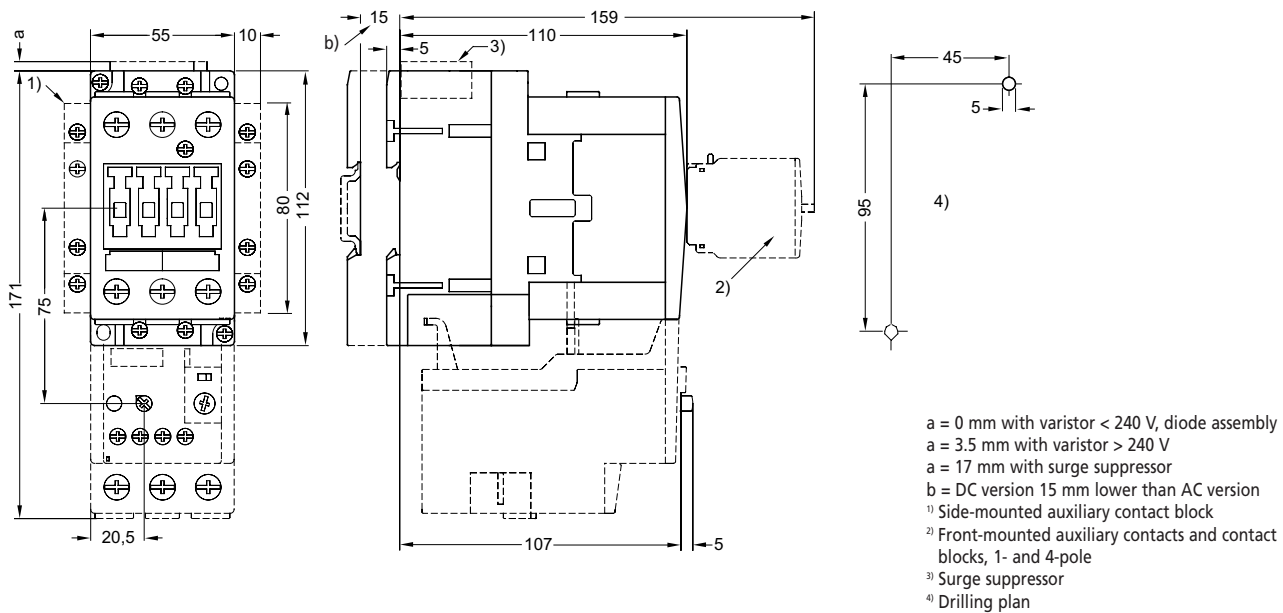
- a = 3 mm at < 240 V
- a = 7 mm at < 240 V
- b = DC version 10 mm lower than AC version
- <sup>1)</sup> Side-mounted auxiliary contact block
- <sup>2)</sup> Front-mounted auxiliary contacts and contact blocks, 1- and 4-pole
- <sup>3)</sup> Surge suppressor
- <sup>4)</sup> Drilling plan

# CONTACTORS

## LSD2 CONTACTORS, SIZE 2

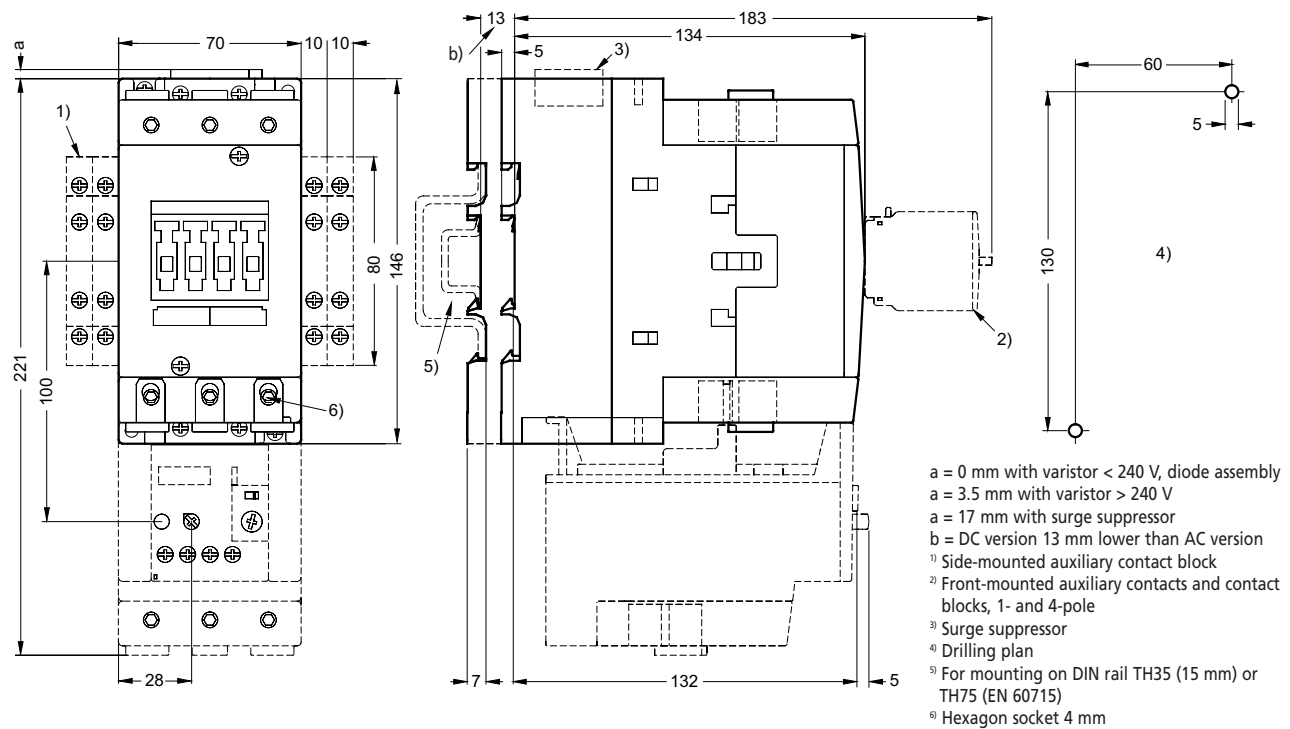
For LSU2 dimensions, see LSR2..

Representation with surge suppressor and mounted thermal overload relay.



## LSD3 CONTACTORS, SIZE 3

Representation with surge suppressor and mounted thermal overload relay.

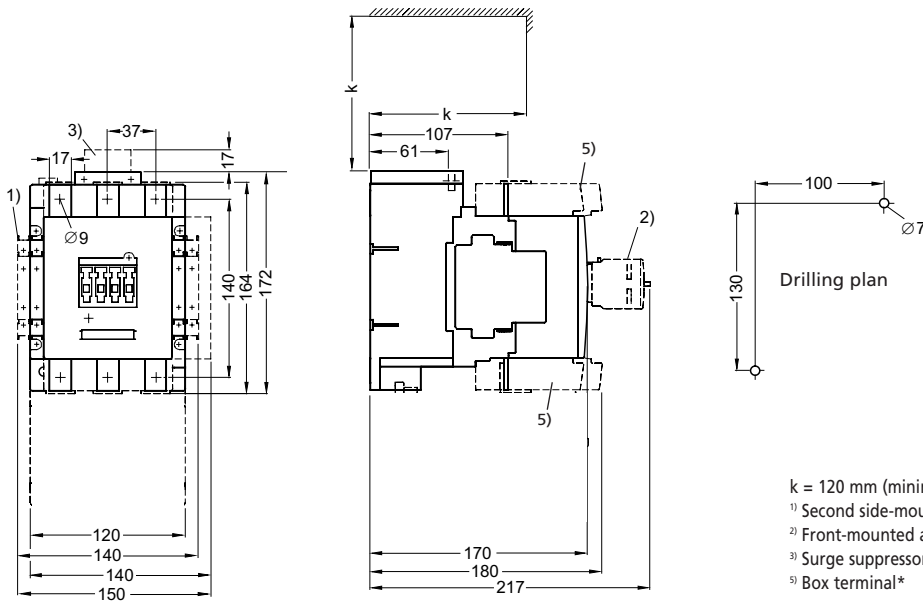




## ■ LSD6 CONTACTORS, SIZE 6

Clearance to grounded parts: lateral 10 mm, front 20 mm

LSD6115F with box terminal, and LSD6155F and LSD6195F without box terminal\*



k = 120 mm (minimum clearance for coil replacement)

<sup>1)</sup> Second side-mounted auxiliary contact block

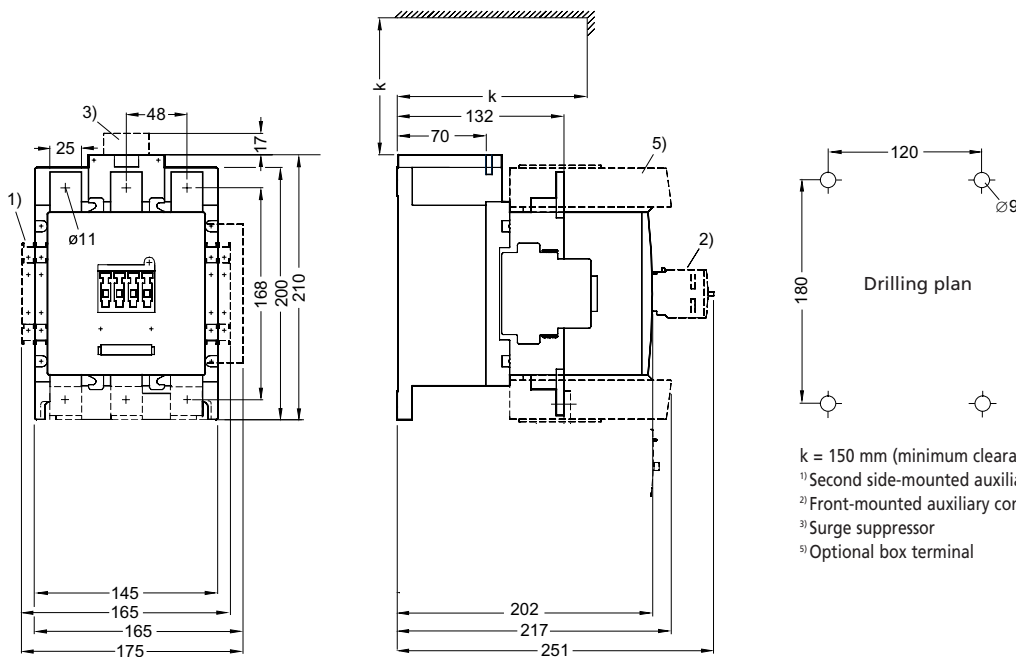
<sup>2)</sup> Front-mounted auxiliary contacts

<sup>3)</sup> Surge suppressor

<sup>5)</sup> Box terminal\*

## ■ LSDE CONTACTORS, SIZE 10

Clearance to grounded parts: lateral 10 mm, front 20 mm



k = 150 mm (minimum clearance for coil replacement)

<sup>1)</sup> Second side-mounted auxiliary contact block

<sup>2)</sup> Front-mounted auxiliary contacts

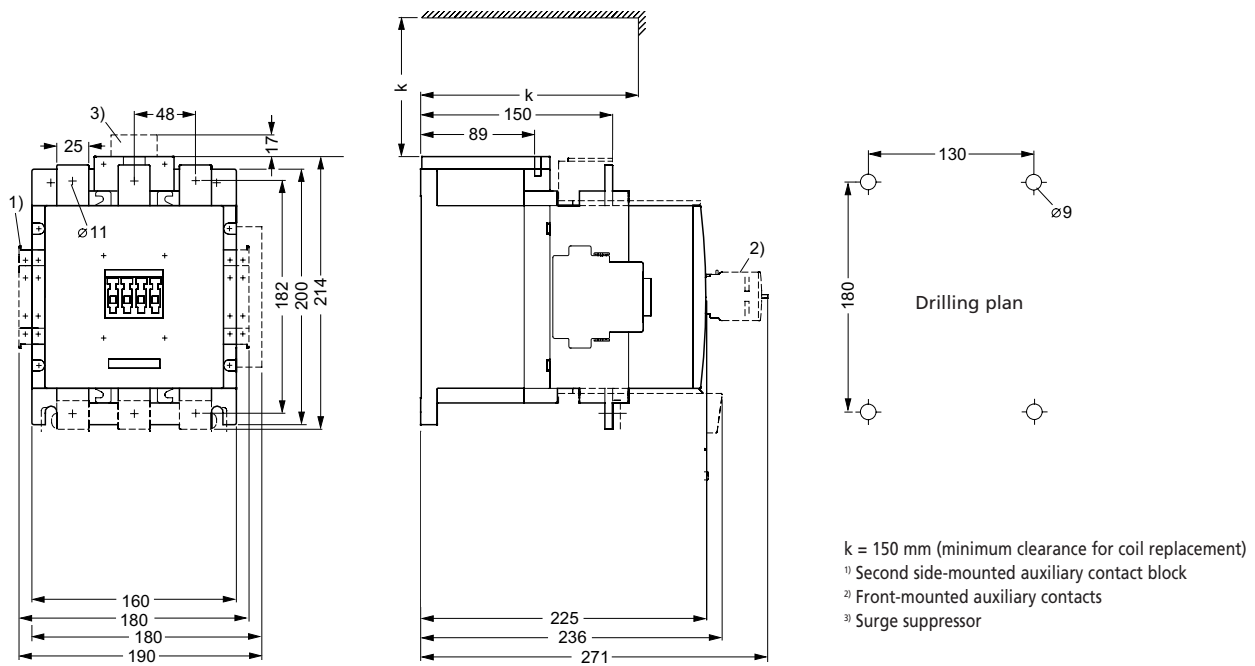
<sup>3)</sup> Surge suppressor

<sup>5)</sup> Optional box terminal

# CONTACTORS

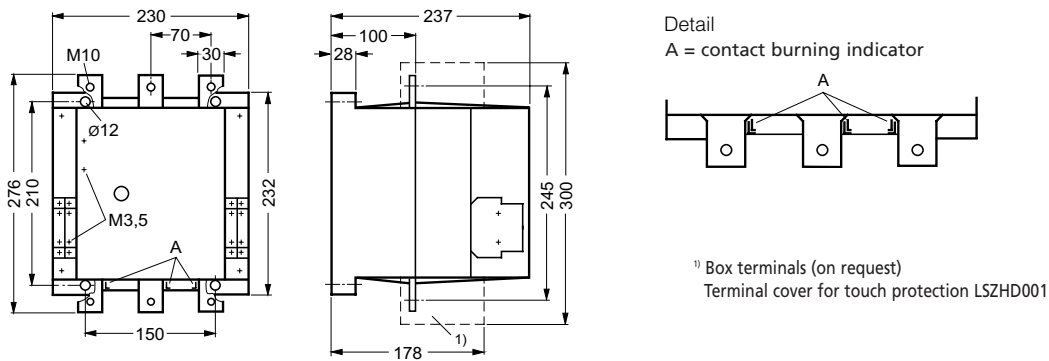
## LSDG CONTACTORS, SIZE 12

Clearance to grounded parts: lateral 10 mm, front 20 mm

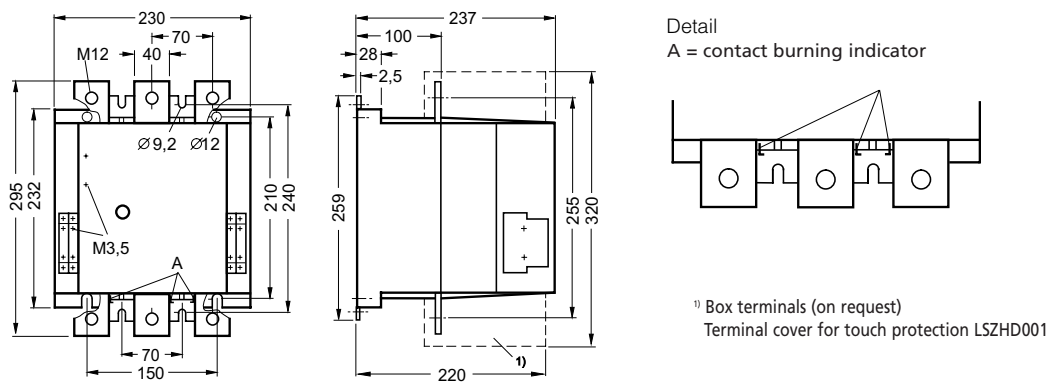


## LSDH6 AND LSDH8 VACUUM CONTACTORS, 3-POLE – DIMENSIONS

### LSDH6 VACUUM CONTACTORS, SIZE 14

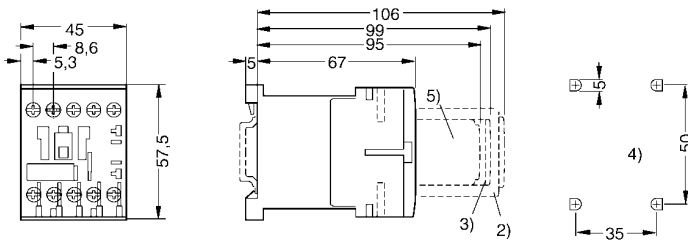


### LSDH8 VACUUM CONTACTORS, SIZE 14



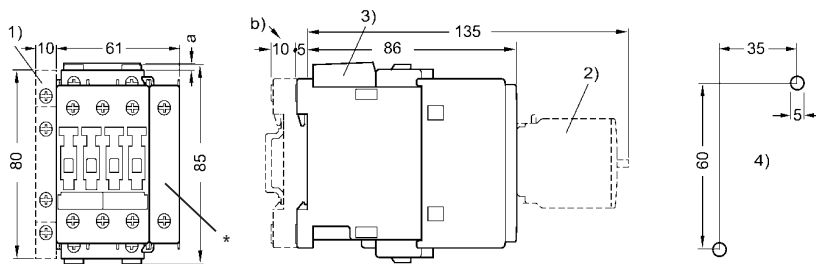
## LSR, LSU CONTACTORS, 4-POLE – DIMENSIONS

### LSRD, LSUD CONTACTORS, SIZE 00



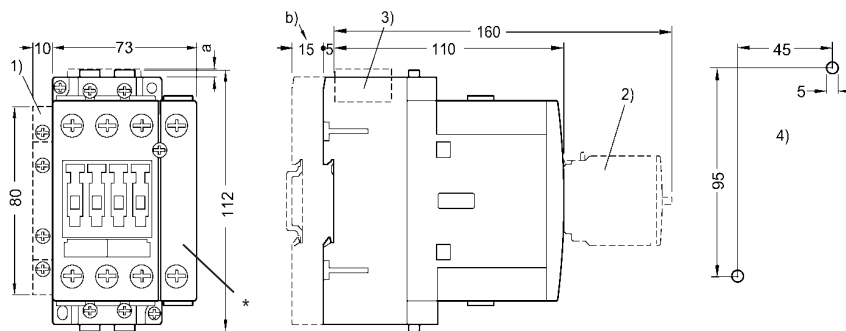
- <sup>2)</sup> Auxiliary contact block, 4-pole
- <sup>3)</sup> Surge suppressor
- <sup>4)</sup> Drilling plan
- <sup>5)</sup> Auxiliary contact block, 1-pole

### LSR0, LSU0 CONTACTORS, SIZE 0



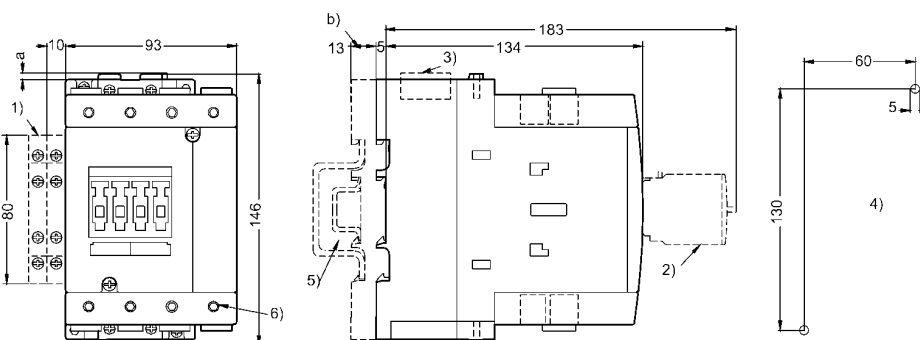
- a = 3 mm at < 250 V with surge suppressor
- a = 7 mm at < 250 V with surge suppressor
- b = DC version 10 mm lower than AC version
- <sup>1)</sup> Side-mounted auxiliary contact block
- <sup>2)</sup> Front-mounted auxiliary contacts and contact blocks, 1- and 4-pole
- <sup>3)</sup> Surge suppressor
- <sup>4)</sup> Drilling plan
- \* 4th pole can be moved to left side without tools

### LSR2, LSU2 CONTACTORS, SIZE 2



- a = 0 mm at < 240 V with surge suppressor
- a = 3.5 mm at < 240 V with surge suppressor
- a = 17 mm with a surge suppressor or diode
- b = size 2: DC version 15 mm lower than AC version
- <sup>1)</sup> Side-mounted auxiliary contact block (right or left)
- <sup>2)</sup> Front-mounted auxiliary contacts and contact blocks, 1- and 4-pole
- <sup>3)</sup> Surge suppressor
- <sup>4)</sup> Drilling plan
- <sup>5)</sup> For mounting on DIN rail TH35 (15 mm) or TH75 (EN 60715)
- <sup>6)</sup> Hexagon socket 4 mm
- \* 4th pole can be moved to left side without tools

### LSR3, CONTACTORS, SIZE 3



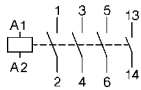
- a = 0 mm at < 240 V with surge suppressor
- a = 3.5 mm at < 240 V with surge suppressor
- a = 17 mm with a surge suppressor or diode
- b = size 3: DC version 13 mm lower than AC version
- <sup>1)</sup> Side-mounted auxiliary contact block (right or left)
- <sup>2)</sup> Front-mounted auxiliary contacts and contact blocks, 1- and 4-pole
- <sup>3)</sup> Surge suppressor
- <sup>4)</sup> Drilling plan
- <sup>5)</sup> For mounting on DIN rail TH35 (15 mm) or TH75 (EN 60715)
- <sup>6)</sup> Hexagon socket 4 mm

## LA1 CONTACTORS AND ACCESSORIES – WIRING DIAGRAM

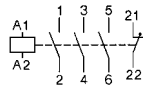
### LA1 MINIATUR POWER CONTACTOR 3-POLE

Terminal designations according to EN 50012

**LA10091.**  
1 NO included



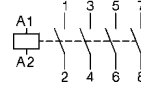
**LA10092.**  
1 NC included



### LA1 MINIATUR POWER CONTACTOR 4-POLE

Terminal designations according to EN 50005

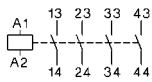
**LA10094.**  
4 NO



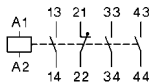
### LA1 MINIATUR AUXILIARY CONTACTOR

Terminal designations according to EN 50011

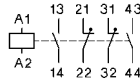
**LA10077.**  
4 NO



**LA10078.**  
3 NO + 1 NC



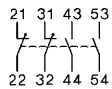
**LA10079.**  
2 NO + 2 NC



### LA1 MINIATUR POWER CONTACTORS WITH 1 NO INCLUDED

Terminal designations according to EN 50012

**LA190150**  
2 NO + 2 NC



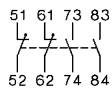
**LA190151**  
1 NO + 1 NC



### LA1 MINIATUR POWER CONTACTORS WITH 1 NC INCLUDED

Terminal designations according to EN 50005

**LA190153**  
2 NO + 2 NC



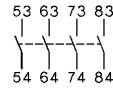
**LA190154**  
1 NO + 1 NC



**LA190155**  
2 NC



**LA190156**  
4 NO

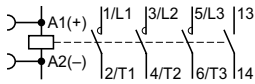


## LS CONTACTORS AND ACCESSORIES – WIRING DIAGRAM

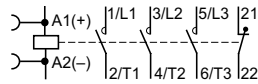
### LSDD, LSSD CONTACTORS, SIZE 00

Terminal names according to EN 50012

**LSDD, LSSD contactors**  
1 NO included



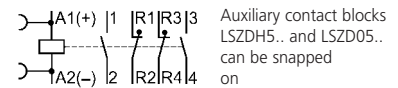
**LSDD, LSSD contactors**  
1 NC included



### LSUD CONTACTORS, SIZE 00

Terminal names according to EN 50005

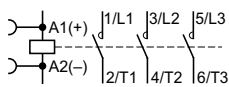
**LSUD contactors**  
2 NO + 2 NC main contacts



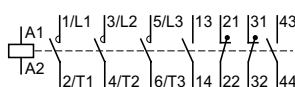
### LSD0, LSS0, LSD2, LSD3, LSD6, LSDE, LSDG CONTACTORS, SIZE 0-12

Terminal names according to EN 50012

**LSD0, LSS0, LSD2, LSD3 contactors**



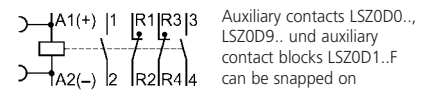
**LSD6, LSDE, LSDG contactors**  
2 NO + 2 NC included



### LSU0 CONTACTORS, SIZE 0

Terminal names according to EN 50005

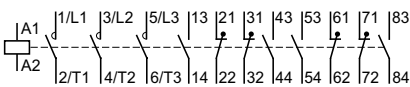
**LSU0 contactors**  
2 NO + 2 NC main contacts



### LSDH6 AND LSDH8 VACUUMCONTACTORS, SIZE 14

Terminal names according to EN 50012

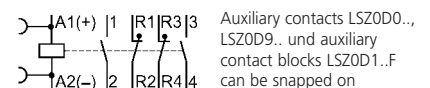
4 NO + 4 NC included



### LSU2 CONTACTORS, SIZE 2

Terminal names according to EN 50005

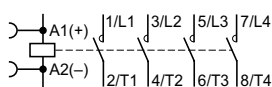
**LSU2 contactors**  
2 NO + 2 NC main contacts



### LSRD CONTACTORS WITH 4 MAIN CONTACTS, SIZE 00

Terminal names according to EN 50005

4 NO main contacts

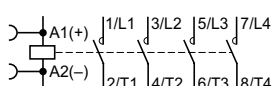


Auxiliary contact blocks LSZDH5.. and LSZD05.. can be snapped on

### LSR0, LSR2, LSR3 CONTACTORS WITH 4 MAIN CONTACTS, SIZE 0-3

Terminal names according to EN 50005

4 NO main contacts



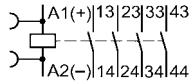
Auxiliary contacts LSZD00.., LSZD09.. and auxiliary contact blocks LSZD01..F can be snapped on

## LS CONTACTORS AND ACCESSORIES – WIRING DIAGRAM

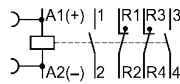
### LSHD AUXILIARY CONTACTORS, SIZE 00

Terminal names according to EN 50011<sup>1)</sup>, Surge suppressor can be plugged on.

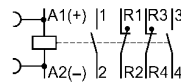
**LSHD067.**  
4 NO



**LSHD068.**  
3 NO + 1 NC



**LSHD069.**  
2 NO + 2 NC

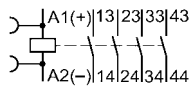


<sup>1)</sup> Appropriate auxiliary contact blocks according to EN 50005 LSZD05.. and LSZDH5..

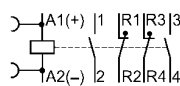
### LSHD..N AUXILIARY CONTACTORS FOR PLC, SIZE 00

Terminal names according to EN 50011, no further auxiliary contacts possible, surge suppressor can be plugged on.

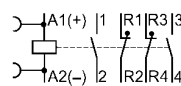
**LSHD067N**  
4 NO



**LSHD068N**  
3 NO + 1 NC



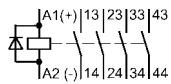
**LSHD069N**  
2 NO + 2 NC



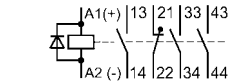
### LSHD..G AUXILIARY CONTACTORS FOR PLC, SIZE 00

Terminal names according to EN 50011, no further auxiliary contacts possible, diode built-in.

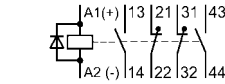
**LSHD067G**  
4 NO



**LSHD068G**  
3 NO + 1 NC



**LSHD069G**  
2 NO + 2 NC



### AUXILIARY CONTACT BLOCK FOR CONTACTORS LSDD, LSSD WITH INCLUDED NO CONTACT, SIZE 00

1 – 4-pole, terminal names according to EN 50012.

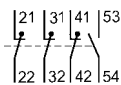
**LSZDD201**  
1 NC



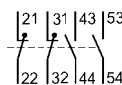
**LSZDD212**  
1 NO + 2 NC



**LSZDD213**  
1 NO + 3 NC



**LSZDD222**  
2 NO + 2 NC



### AUXILIARY CONTACT BLOCKS FOR CONTACTORS LSDD, LSSD WITH INCLUDED NC CONTACT AND FOR CONTACTORS LSHD, LSRD AND LSUD, SIZE 00

Terminal names according to EN 50005.

#### LSZD05.. Auxiliary contact blocks, 1-pole

Cable connection from below

**LSZD0510**  
1 NO



**LSZD0501**  
1 NC

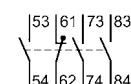


#### LSZDH5.. Auxiliary contact blocks, 4-pole

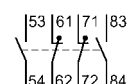
**LSZDH540**  
4 NO



**LSZDH531**  
3 NO + 1 NC



**LSZDH522**  
2 NO + 2 NC



## LS CONTACTORS AND ACCESSORIES – WIRING DIAGRAM

### AUXILIARY CONTACT BLOCKS, 1-POLE, SIZE 0-12

Terminal names according to EN 50005

#### LSZ0D0 auxiliary contact blocks, 1-pole

##### LSZ0D010

1 NO



##### LSZ0D001

1 NC



#### LSZ0D9.. Auxiliary contact blocks, 1-pole

##### LSZ0D910

1 NO

early-make



##### LSZ0D901

1 NC

delayed

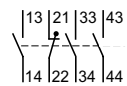


### AUXILIARY CONTACT BLOCKS, 4-POLE, SIZE 0-12

Terminal names according to EN 50012

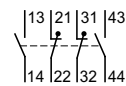
#### LSZ0D131

3 NO + 1 NC



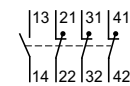
#### LSZ0D122

2 NO + 2 NC



#### LSZ0D113

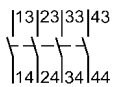
1 NO + 3 NC



Terminal names according to EN 50005

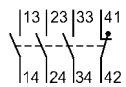
#### LSZ0D140F

4 NO



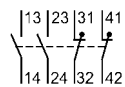
#### LSZ0D131F

3 NO + 1 NC



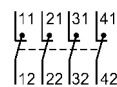
#### LSZ0D122F

2 NO + 2 NC



#### LSZ0D104F

4 NC



### AUXILIARY CONTACT BLOCK – SIDE 1ST POSITION, 2-POLE, SIZE 0-12

Terminal names according to EN 50012

#### LSZ0D711

1 NO + 1 NC

left



#### LSZ0D711

1 NO + 1 NC

right



### AUXILIARY CONTACT BLOCK – SIDE 2ND POSITION, 2-POLE, SIZE 3-12

Terminal names according to EN 50012

#### LSZ3D811

1 NO + 1 NC

left



#### LSZ3D811

1 NO + 1 NC

right



### SURGE SUPPRESSOR AND INTERFERENCE SUPPRESSION DIODES SIZE 00 (PLUGGABLE), SIZE 0-12 (SNAP-ON)

Diode



Varistor



RC element



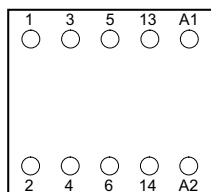
# CONTACTORS

## LA1 CONTACTORS AND ACCESSORIES – LOCATION OF THE CONNECTION TERMINALS

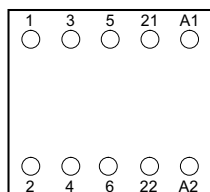
### LA1 MINIATUR POWER CONTACTOR 3-POLE

Terminal designations according to EN 50012

#### LA10091. 1 NO included



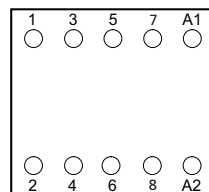
#### LA10092. 1 NC included



### LA1 MINIATUR POWER CONTACTOR 4-POLE

Terminal designations according to EN 50005

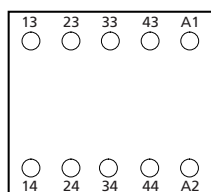
#### LA10094. 4 NO



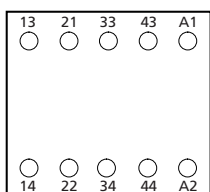
### LA1 MINIATUR AUXILIARY CONTACTOR

Terminal designations according to EN 50011

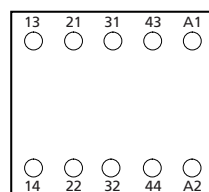
#### LA10077. 4 NO



#### LA10078. 3 NO + 1 NC



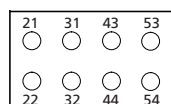
#### LA10079. 2 NO + 2 NC



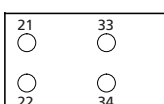
### LA1 MINIATUR POWER CONTACTORS WITH 1 NO INCLUDED

front mounted auxiliary contact blocks, terminal designations according to EN 50012

#### LA190150 2 NO + 2 NC



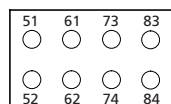
#### LA190151 1 NO + 1 NC



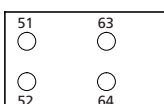
### LA1 MINIATURPOWER CONTACTORS WITH 1 NC INCLUDED

front mounted auxiliary contact blocks, terminal designations according to EN 50005

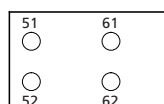
#### LA190153 2 NO + 2 NC



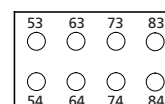
#### LA190154 1 NO + 1 NC



#### LA190155 2 NC



#### LA190156 4 NO



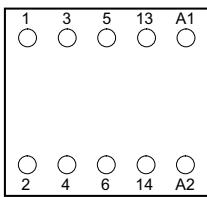


## LS-CONTACTORS AND ACCESSORIES – LOCATION OF THE CONNECTION TERMINALS

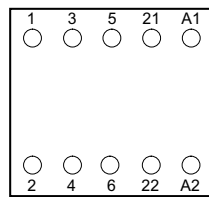
### LSDD, LSSD CONTACTORS, SIZE 00

Terminal names according to EN 50012

#### 1 NO included



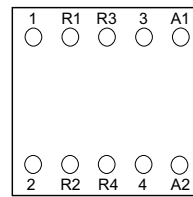
#### 1 NC included



### LSUD CONTACTORS, SIZE 00

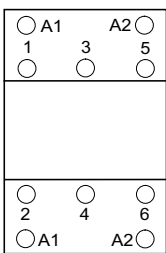
Terminal names according to EN 50005

#### 2 NO + 2 NC main contacts



### LSD0, LSS0, LSD2, LSD3 CONTACTORS, SIZE 0-3

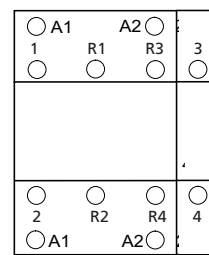
Terminal names according to EN 50012



### LSU0, LSU2 CONTACTORS, SIZE 0-2

Terminal names according to EN 50005

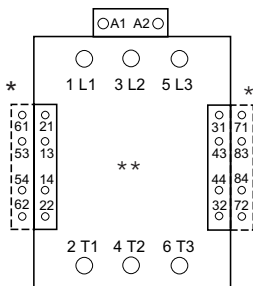
#### 2 NO + 2 NC main contacts



### LSD6, LSDE, LSDG CONTACTORS, SIZE 6-12

Terminal names according to EN 50012. Contactors equipped with 2 lateral auxiliary contact blocks LSZ0D711 (2 NO + 2 NC). Extension to 4 NO + 4 NC either with 2 lateral auxiliary contact blocks LSZ3D811\* or with 4 front auxiliary contacts LSZ0D0.., LSZ0D9..\*\* possible.

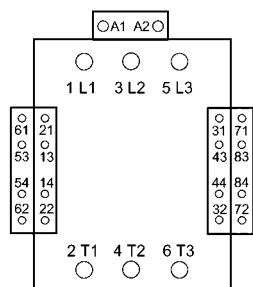
#### 2 NO + 2 NC (4 NO + 4 NC)



### LSDH6 AND LSDH8 VACUUMCONTACTORS, SIZE 14

Terminal names according to EN 50012, no further auxiliary contacts possible).

#### 4 NO + 4 NC



# CONTACTORS

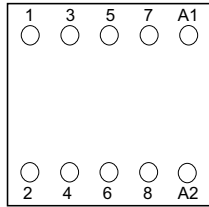
## LS-CONTACTORS AND ACCESSORIES – LOCATION OF THE CONNECTION TERMINALS

### LSRD CONTACTORS

WITH 4 MAIN CONTACTS, SIZE 00

Terminal names according to EN 50005

**4 NO**

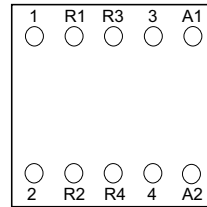


### LSUD CONTACTORS

WITH 4 MAIN CONTACTS, SIZE 00

Terminal names according to EN 50005

**2 NO + 2 NC**

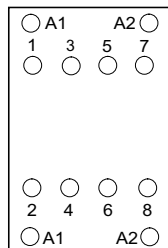


### LSR0, LSR2, LSR3 CONTACTORS

WITH 4 MAIN CONTACTS, SIZE 0-3

Terminal names according to EN 50005

**4 NO**

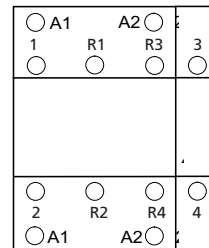


### LSU0, LSU2, LSU3 CONTACTORS

WITH 4 MAIN CONTACTS, SIZE 0-3

Terminal names according to EN 50005

**2 NO + 2 NC**

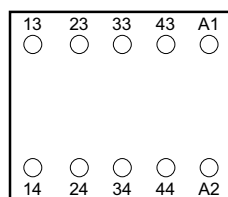


### LSHD AUXILIARY CONTACTORS FOR PLC, SIZE 00

Terminal names according to EN 50011

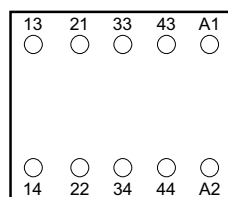
#### LSHD067.

**4 NO**



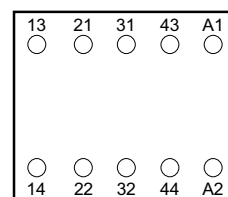
#### LSHD068.

**3 NO + 1 NC**



#### LSHD069.

**2 NO + 2 NC**



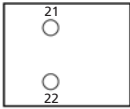
## LS-CONTACTORS AND ACCESSORIES – LOCATION OF THE CONNECTION TERMINALS

### AUXILIARY CONTACT BLOCKS FOR LSDD, LSSD WITH INCLUDED NO CONTACT

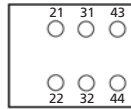
#### LSZDD2.. AUXILIARY CONTACT BLOCKS, 1-, 3- AND 4-POLE, SIZE 00

Terminal names according to EN 50012

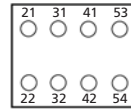
**LSZDD201**  
1 NC



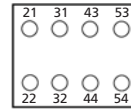
**LSZDD212**  
1 NO + 2 NC



**LSZDD213**  
1 NO + 3 NC



**LSZDD222**  
2 NO + 2 NC

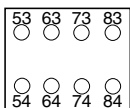


### AUXILIARY CONTACT BLOCKS FOR LSDD, LSSD WITH INCLUDED NC CONTACT AND FOR LSHD, LSRD, LSUD

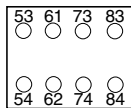
#### LSZDH5.. AUXILIARY CONTACT BLOCKS, 4-POLE, SIZE 00

Terminal names according to EN 50005

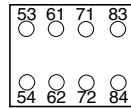
**LSZDH540**  
4 NO



**LSZDH531**  
3 NO + 1 NC



**LSZDH522**  
2 NO + 2 NC



#### LSZD05.. AUXILIARY CONTACT BLOCKS, 1-POLE, SIZE 00

Cable connection from below, terminal names according to EN 50005

**LSZD0510**  
1 NO



**LSZD0501**  
1 NC

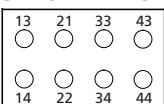


### AUXILIARY CONTACT BLOCKS FOR LSD0-12\*, (LSR0,2,3 AND LSU0,2)\*\*

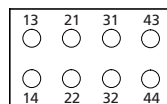
#### LSZ0D1.. AUXILIARY CONTACT BLOCKS, 4-POLE, SIZE 0-12\*

Terminal names according to EN 50012

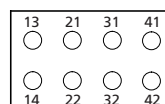
**LSZ0D131**  
3 NO + 1 NC



**LSZ0D122**  
2 NO + 2 NC



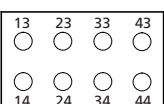
**LSZ0D113**  
1 NO + 3 NC



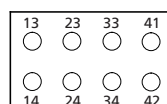
#### LSZ0D..F AUXILIARY CONTACT BLOCKS, 4-POLE, SIZE 0-12\*\*\*

Terminal names according to EN 50005

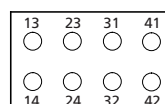
**LSZ0D140F**  
4 NO



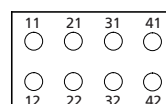
**LSZ0D131F**  
3 NO + 1 NC



**LSZ0D122F**  
2 NO + 2 NC



**LSZ0D104F**  
4 NC



## LS-CONTACTORS AND ACCESSORIES – LOCATION OF THE CONNECTION TERMINALS

### LSZ0D7.., LSZ3D8.. LATERAL AUXILIARY CONTACT BLOCKS, 2-POLE, SIZE 0(3)-12

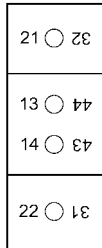
Terminal names according to EN 50012

#### LSZ0D711

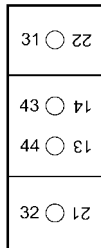
1st position lateral, left or right

##### 1 NO + 1 NC

Left



Right

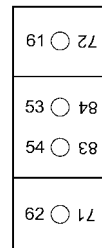


#### LSZ3D811

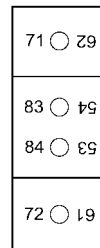
2nd position lateral, left or right (only for sizes 3-12)

##### 1 NO + 1 NC

Left



Right



### LSZ0D0.., LSZ0D9.. FRONT AUXILIARY CONTACTS, 1-POLE, SIZE 0-12

Terminal names according to EN 50005 and EN 50012.

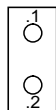
#### LSZ0D010

1 NO



#### LSZ0D001

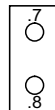
1 NC



#### LSZ0D910

1 NO

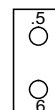
early-make



#### LSZ0D901

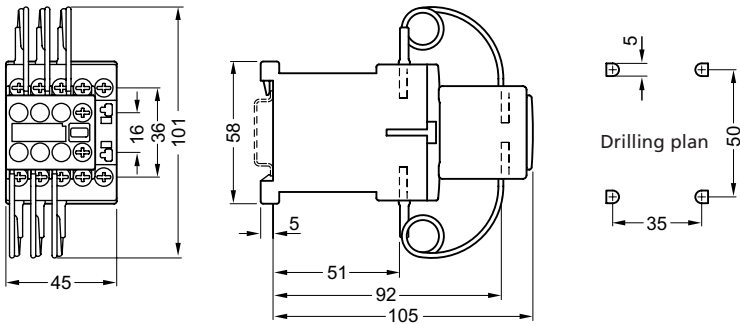
1 NC

delayed

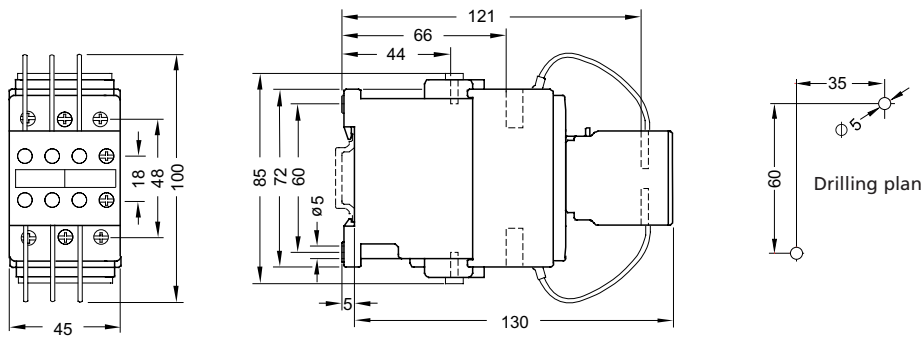


## LSK CAPACITOR CONTACTORS – DIMENSIONS

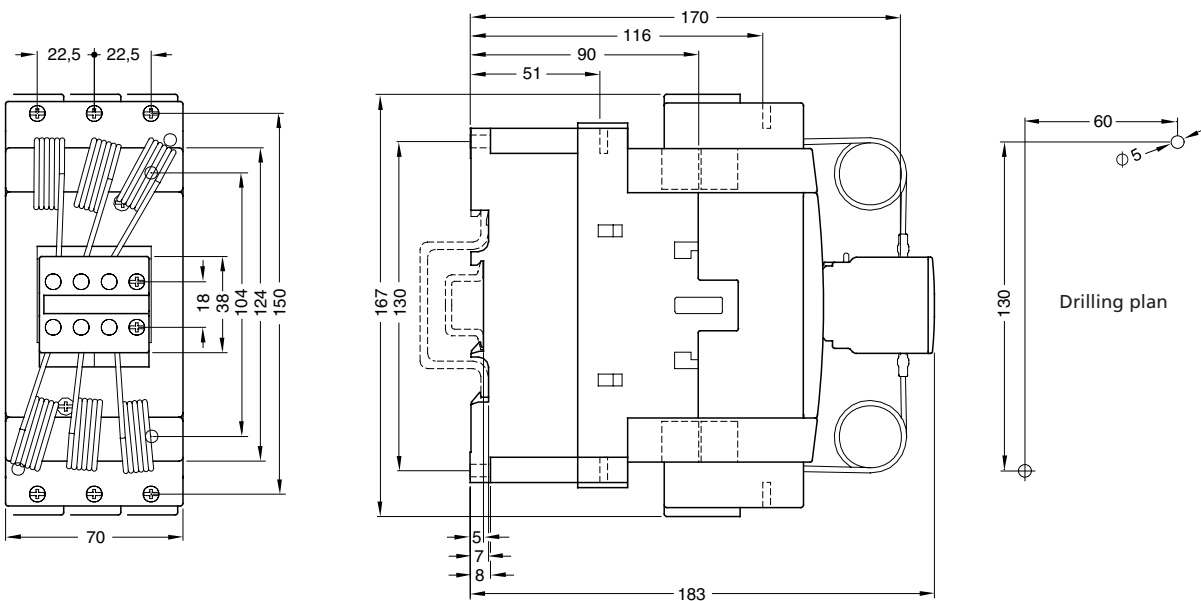
### LSKD CAPACITOR CONTACTORS, SIZE 00



### LSK0 CAPACITOR CONTACTORS, SIZE 0



### LSK3 CAPACITOR CONTACTORS, SIZE 3

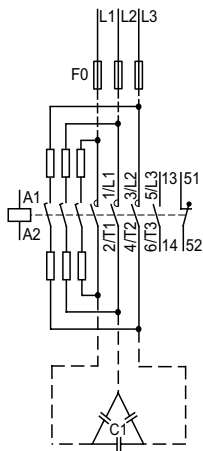


# CONTACTORS

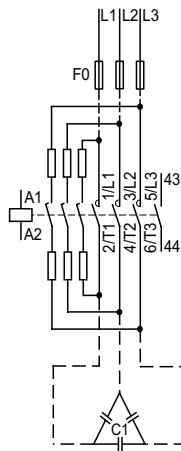
## CAPACITOR CONTACTORS – WIRING DIAGRAM

### LSK CAPACITOR CONTACTORS, SIZE 00, 0, 3

#### Size 00



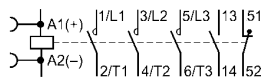
#### Size 0, 3



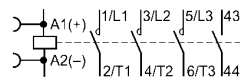
## CAPACITOR CONTACTORS – TERMINAL NAME

### LSK CAPACITOR CONTACTORS, SIZE 00, 0, 3

#### LSKD contactors Size 00



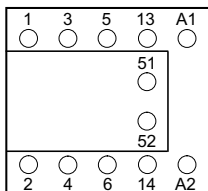
#### LSK0, LSK3 contactors Size 0, 3



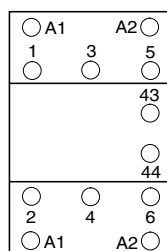
## CAPACITOR CONTACTORS – LOCATION OF CONNECTION TERMINALS

### LSK CAPACITOR CONTACTORS, SIZE 00, 0, 3

#### LSKD contactors Size 00



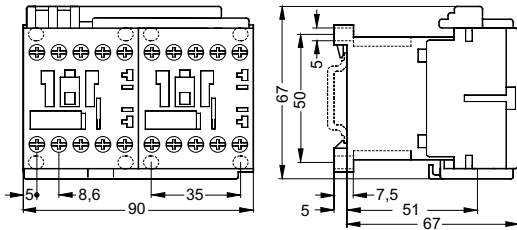
#### LSK0, LSK3 contactors Size 0, 3



## LSW REVERSING CONTACTOR ASSEMBLIES – DIMENSIONS

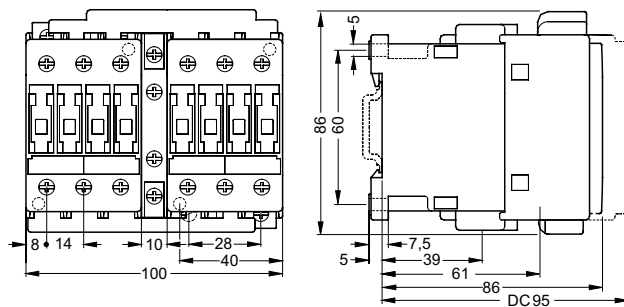
### LSWD, SIZE 00

With or without locking module LSZDW002.



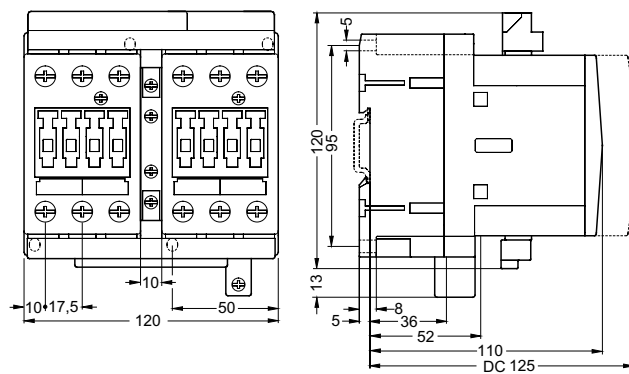
### LSW0, SIZE 0

With mechanical interlock LSZ0W002.



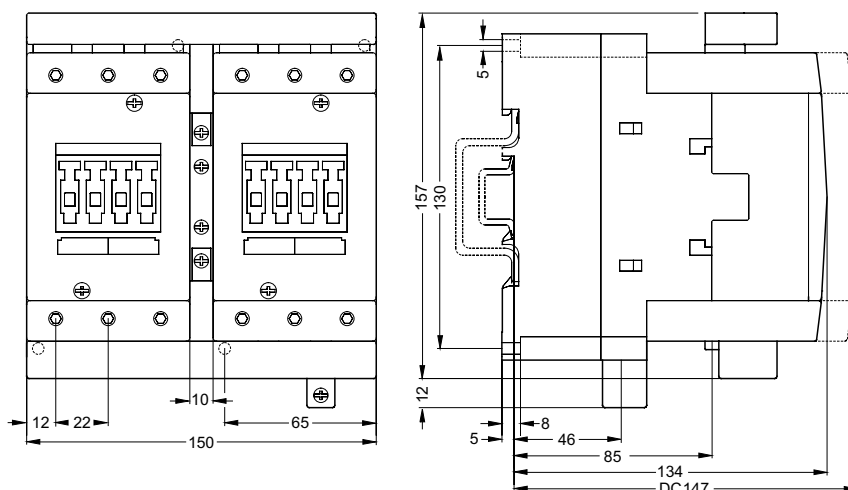
### LSW2, SIZE 2

With mechanical interlock LSZ0W002.



### LSW3, SIZE 3

With mechanical interlock LSZ0W002.

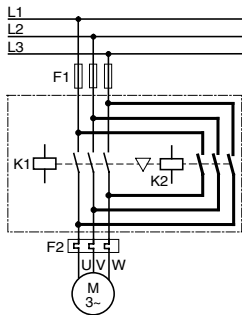


# CONTACTORS

## LSW REVERSING CONTACTOR ASSEMBLIES – WIRING DIAGRAM

### MAIN CIRCUIT, SIZE 00

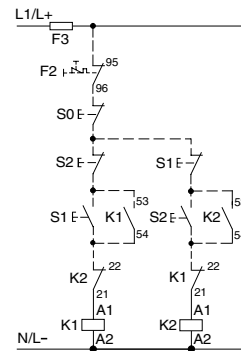
The wiring kit LSZDW001 also includes the connectors for the main circuit.



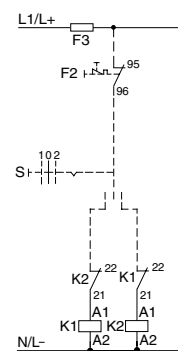
### CONTROL CIRCUIT, SIZE 00

Terminal names according to EN 50012. The wiring kit LSZDW001 also includes the electrical interlock.

#### Button operation

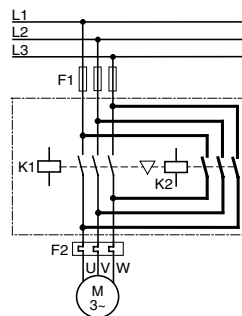


#### Permanent contact



### MAIN CIRCUIT, SIZES 0-3

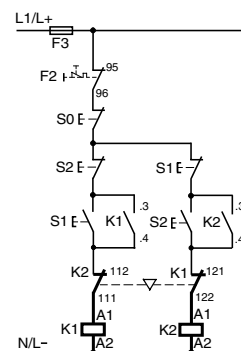
The wiring kit LSZ.W001 also includes the connectors for the main circuit.



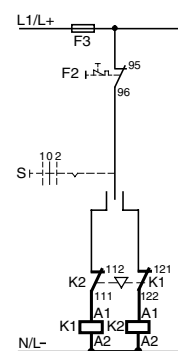
### CONTROL CIRCUIT, SIZES 0-3

Terminal names according to EN 50012. The mechanical interlock LSZ0W002 includes 2 NC contacts, 1 NC contact for each contactor.

#### Button operation



#### Permanent contact



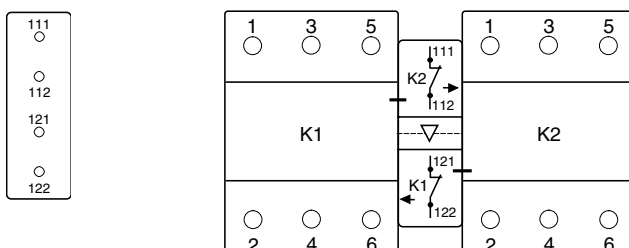
- S0 button "OFF"
- S1 button "ON" clockwise
- S2 button "ON" counterclockwise
- S selector "CW- OFF - CCW"
- K1 clockwise contactor
- K2 counterclockwise contactor
- F1 fuses for main circuit
- F3 fuses for control circuit
- F2 thermal overload relay

## LSW REVERSING CONTACTOR ASSEMBLIES – LOCATION OF CONNECTION TERMINALS

### LSW REVERSING CONTACTOR ASSEMBLIES, SIZE 0-3

Terminal names according to EN 50005. The mechanical interlock LSZ0W002 includes 2 NC contacts, 1 NC contact for each contactor.

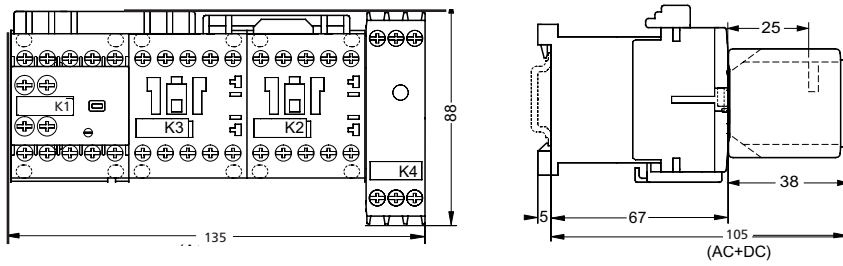
#### 2 NC



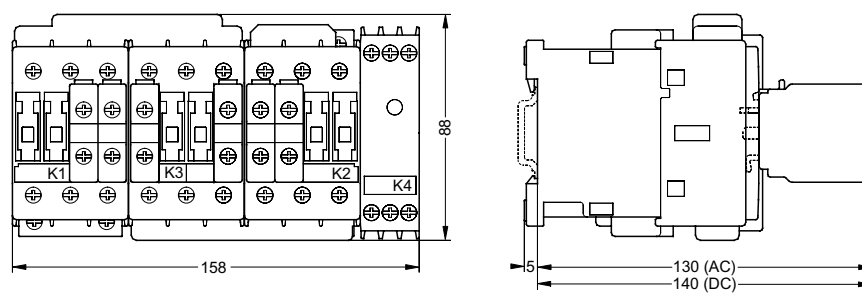


## LSY WYE-DELTA ASSEMBLIES – DIMENSIONS

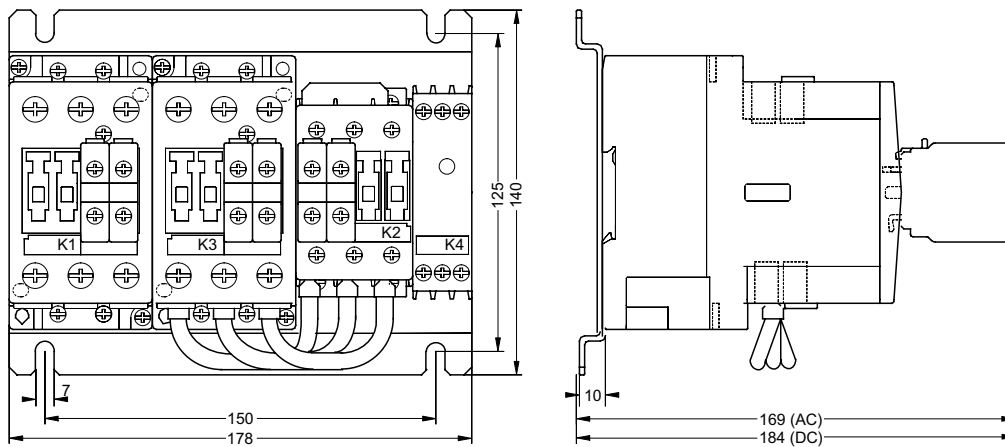
### LSYD, SIZE 00 – 00 – 00



### LSY0, SIZE 0 – 0 – 0



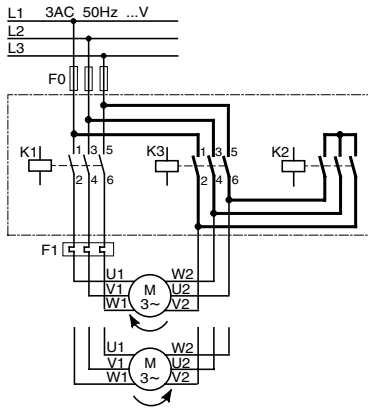
### LSY2, SIZE 2 – 2 – 0



# CONTACTORS

## WYE-DELTA ASSEMBLIES – WIRING DIAGRAM

### MAIN CIRCUIT, SIZES 00, 0



Bold connections are part of the wiring kit.

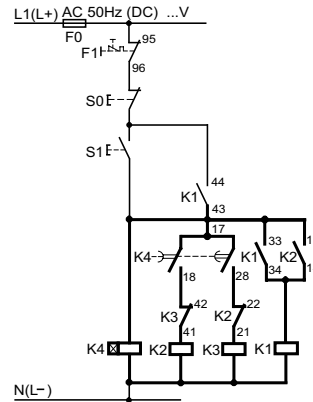
### CONTROL CIRCUIT, SIZES 00-12

With LSZD0101 wye-delta timer relay side-mounted.

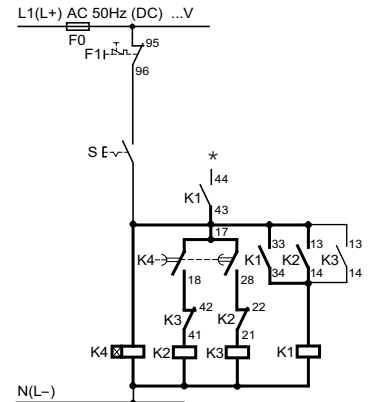
The contact K4:17/18 is closed only in the wye stage.

When de-energized and in the delta stage this contact is open.

#### Button operation

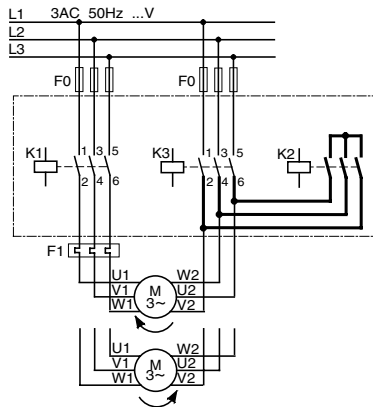


#### Permanent contact



\*Terminal K1:44 is not wired in this version

### MAIN CIRCUIT, SIZES 2-12

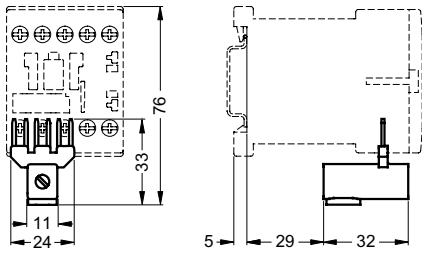


Bold connections are part of the wiring kit.

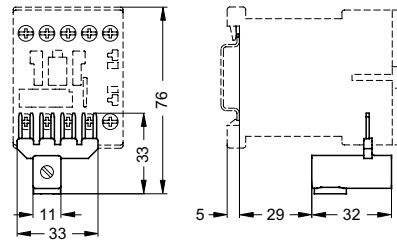
- S0 button "OFF"
- S1 button "ON"
- S switch with permanent contact
- K1 mains contactor
- K2 wye contactor
- K3 delta contactor
- K4 wye-delta timer relay
- F0 fuses
- F1 thermal overload relays

## ACCESSORIES FOR LSD CONTACTORS – DIMENSIONS

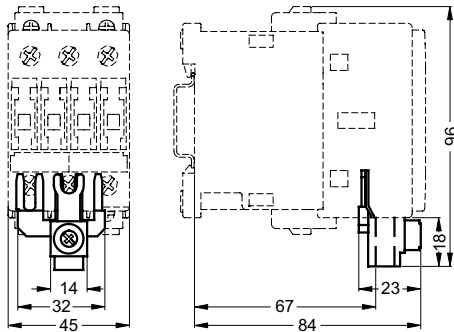
**LSZDD003 PARALLEL CONNECTOR, SIZE 00**  
3-pole, with terminal



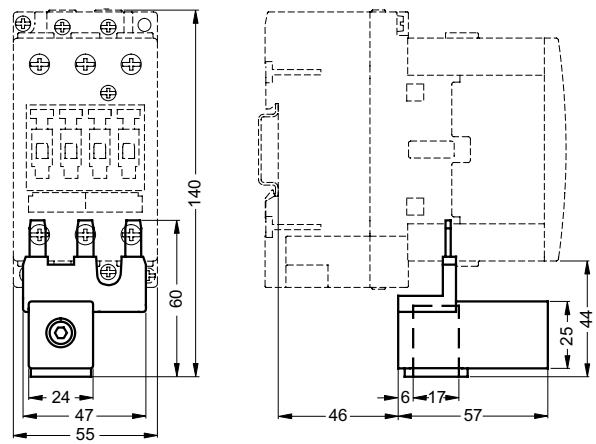
**LSZDD004 PARALLEL CONNECTOR, SIZE 00**  
4-pole, with terminal



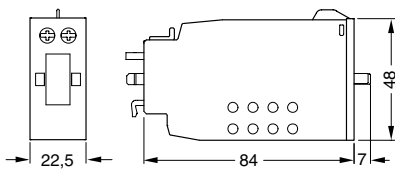
**LSZ0D003 PARALLEL CONNECTOR, SIZE 0**  
3-pole, with terminal



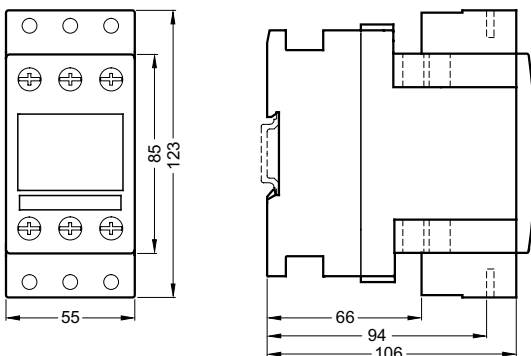
**LSZ2D003 PARALLEL CONNECTOR, SIZE 2**  
3-pole, with terminal



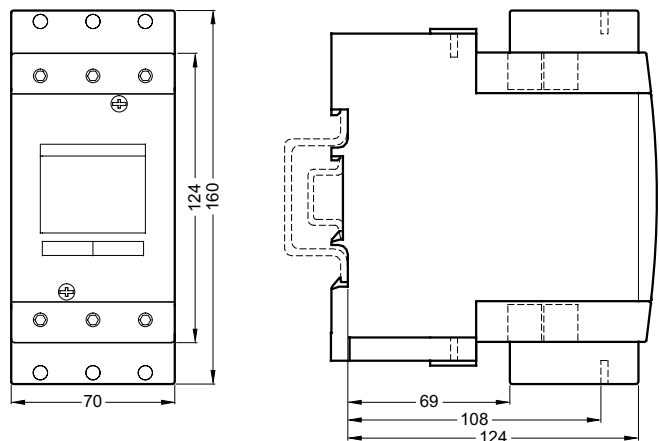
**LSZ00113 MECHANICAL LATCHING BLOCK, SIZES 0, 2**



**LSZ2D002 TERMINAL COVER FOR BOX TERMINAL, SIZE 2**



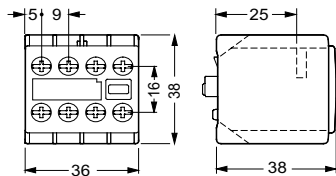
**LSZ3D002 TERMINAL COVER FOR BOX TERMINAL, SIZE 3**



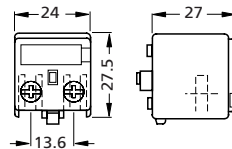
# CONTACTORS

## ACCESSORIES FOR LSD CONTACTORS – DIMENSIONS

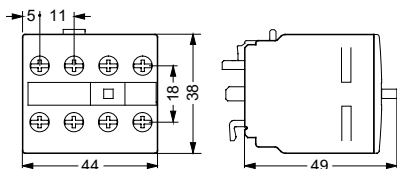
- LSZDD2.., LSZDH5..\***  
**AUXILIARY CONTACT BLOCKS, SIZE 00**  
 Terminal names according to EN 50012 or EN 50005\*  
 Screw terminals, 1 - 4-pole



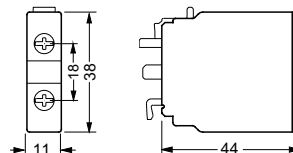
- LSZD0501, LSZD0510**  
**AUXILIARY CONTACT BLOCKS, SIZE 00**  
 Terminal names according to EN 50005  
 Screw terminals, cable entry from below, 1-pole



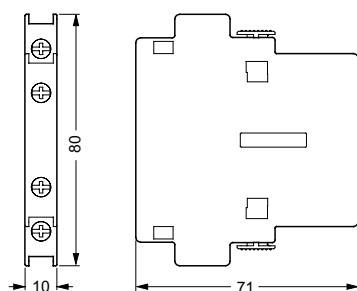
- LSZ0D1.., LSZ0D1..F\***  
**FRONT AUXILIARY CONTACT BLOCKS, SIZES 0-12**  
 Terminal names according to EN 50012 or EN 50005\*  
 Screw terminals, 4 pole



- LSZ0D0.., LSZ0D9..**  
**FRONT AUXILIARY CONTACTS, SIZES 0-12**  
 Terminal names according to EN 50005 and EN 50012  
 Screw terminals, 1 pole

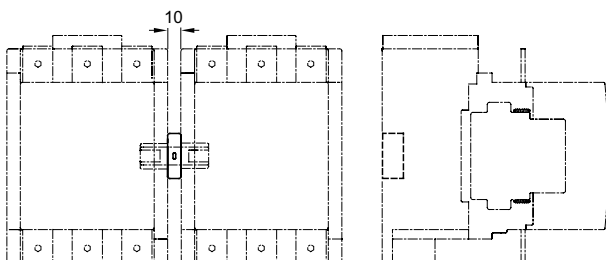


- LSZ0D711, LSZ3D811\***  
**LATERAL AUXILIARY CONTACT BLOCKS, SIZES 0-12/3-12\***  
 Terminal names according to EN 50012  
 Screw terminals, 2 pole



## ACCESSORIES FOR CONTACTOR ASSEMBLIES

- LSZ6W001 MECHANICAL INTERLOCK, SIZE 6-12**



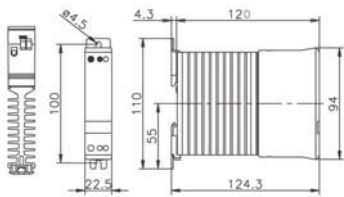
# SEMICONDUCTOR CONTACTORS

## ■ SINGLE-PHASE/ TWO-PHASE/ THREE-PHASE REGULATION

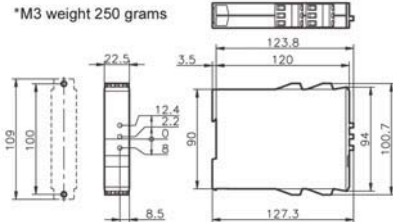


SEMICONDUCTOR CONTACTORS SINGLE-, TWO-, THREE-PHASE

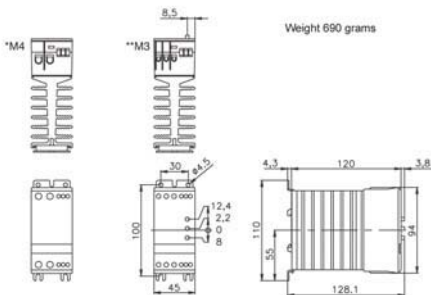
Dimensions for the 22.5 mm module (LAS1 10 A/15 A und LAK3,5 A)



\*M3 weight 250 grams

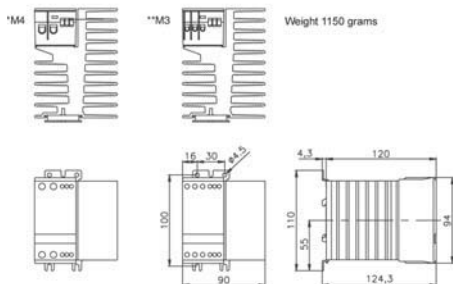


Dimensions for the 45 mm module (LAS1/LAW/LAK15A/LAD/LAA 30A)

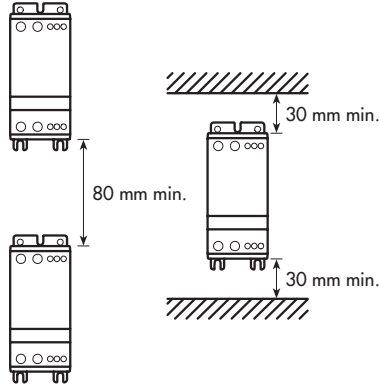
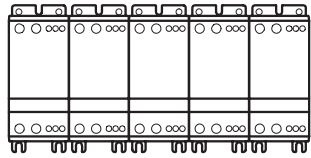


Weight 690 grams

Dimensions for the 90 mm module (LAS2 50A/63A /LAA 50A)



Weight 1150 grams



## ■ SCHRACK-INFO

- Rated operating voltage up to 600V AC, 50/60 Hz
- Control voltage 5-24 V DC or 24-230 V AC/DC
- Meets requirements of EN 60947-4-3
- Modular design with an overall width of 45 mm on DIN rails
- LED operating status indicator
- IP 20 degree of protection
- AC and DC control voltage
- Built-in varistor protection

## ■ RANGE OF APPLICATION

Heater controls:

- Soldering machines
- Plastic processing industry
- Galvanic industry
- Photo/film developers
- Film packaging
- Rubber industry

Lighting:

- Traffic lights
- Streetlights
- Floodlights in stadiums
- Outside factory lighting

## ■ TECHNICAL DATA, SINGLE-PHASE:

- Rated operating current up to 63 A AC-1

## ■ TECHNICAL DATA, TWO-PHASE:

- Rated operating current up to 50 A AC-1/2x15 A AC-3
- 2 autonomous 1-pole contactors in a single housing

## ■ TECHNICAL DATA, THREE-PHASE:

- Rated operating current up to 3x20 A AC-1/ 10 A AC-3

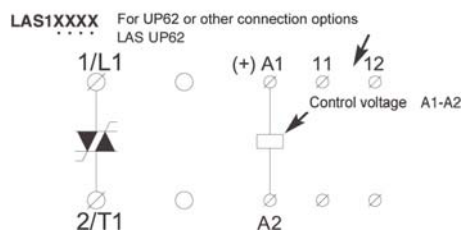
# SEMICONDUCTOR CONTACTORS

## SINGLE-PHASE REGULATION



LAS12301

### Connection diagram single phase



### SCHRACK-INFO

- Rated operating current up to 63 A AC-1
- Rated operating voltage up to 600 V AC, 50/60 Hz
- Control voltage 5-24 V DC or 24-230 V AC/DC
- Meets requirements of EN 60947-4-3
- Modular design with following widths 22.5 mm, 45 mm and 90 mm on DIN rail
- LED operating status indicator
- IP 20 degree of protection
- AC and DC control voltage
- Integrated varistor protection

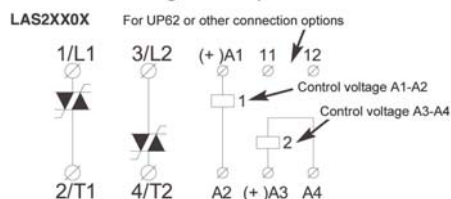
RATED CURRENT	RATED VOLTAGE	CONTROL VOLTAGE	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
30 A	12-240 V AC 50/60 Hz	5-24 V DC	45x110x124,3	9004840379815		<b>LAS12301</b>
30 A	12-240 V AC 50/60 Hz	24-230 V AC/DC	45x110x124,3	5705609000028		LAS12302
30 A	24-480 V AC 50/60 Hz	5-24 V DC	45x110x124,3	5705609000059		<b>LAS14301</b>
30 A	24-480 V AC 50/60 Hz	24-230 V AC/DC	45x110x124,3	5705609000066		<b>LAS14302</b>
50 A	12-240 V AC 50/60 Hz	24-230 V AC/DC	90x110x124,3	5705609000042		LAS12502
50 A	24-480 V AC 50/60 Hz	5-24 V DC	90x110x124,3	5705609000073		<b>LAS14501</b>

## TWO-PHASE REGULATION



LAS22302

### Connection diagram two-phase



### SCHRACK-INFO

- 2 autonomous 1-pole contactors in a single housing
- Rated operating current up to 50 A AC-1/2x15 A AC-3

RATED CURRENT	RATED VOLTAGE	CONTROL VOLTAGE	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
30 A	12-240 V AC 50/60 Hz	24-230 V AC/DC	45x110x124,3	5705609000103		LAS22302
30 A	24-480 V AC 50/60 Hz	5-24 V DC	45x110x124,3	5705609000134		LAS24301
30 A	24-480 V AC 50/60 Hz	24-230 V AC/DC	45x110x124,3	5705609000141		LAS24302
50 A	24-480 V AC 50/60 Hz	5-24 V DC	90x110x124,3	5705609000158		LAS24501
50 A	24-480 V AC 50/60 Hz	24-230 V AC/DC	90x110x124,3	5705609000165		LAS24502



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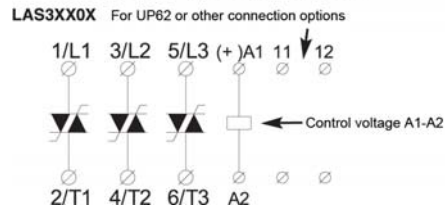


## THREE-PHASE REGULATION



LAS32102

### Connection diagram three. phase



### SCHRACK-INFO

- Rated operating current up to 3x20 A  
AC-1/ 10 A AC-3

RATED CURRENT	RATED VOLTAGE	CONTROL VOLTAGE	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
10 A	12-240 V AC 50/60 Hz	24-230 V AC/DC	45x110x124,3	5705609000189		LAS32102
10 A	24-480 V AC 50/60 Hz	24-230 V AC/DC	45x110x124,3	5705609000226		<b>LAS34102</b>
20 A	12-240 V AC 50/60 Hz	5-24 V DC	90x110x124,3	5705609000196		LAS32201
20 A	12-240 V AC 50/60 Hz	24-230 V AC/DC	90x110x124,3	5705609000202		LAS32202
20 A	24-480 V AC 50/60 Hz	5-24 V DC	90x110x124,3	5705609000233		<b>LAS34201</b>
20 A	24-480 V AC 50/60 Hz	24-230 V AC/DC	90x110x124,3	5705609000240		<b>LAS34202</b>
20 A	48-600 V AC 50/60 Hz	5-24 V DC	90x110x124,3	5705609000417		LAS36201
20 A	48-600 V AC 50/60 Hz	24-230 V DC	90x110x124,3	5705609000394		LAS36202



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### WITH THE SCHRACK TECHNIK LIVE-PHONE APP

- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily



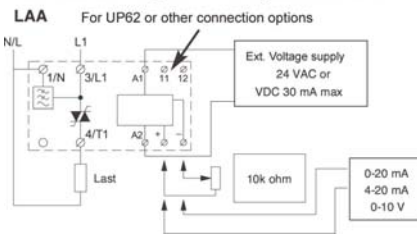
**Order no. blue:** on stock, usually ready for delivery on the day of order!

## 1-PHASE ELECTRONIC ANALOGUE CONTROLLER



LAA14306

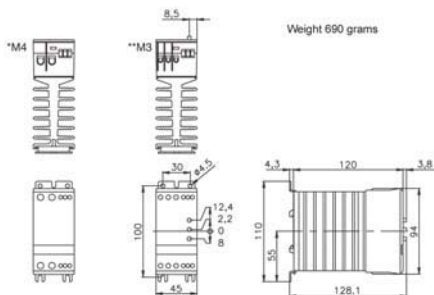
### Connection diagram analogue controller



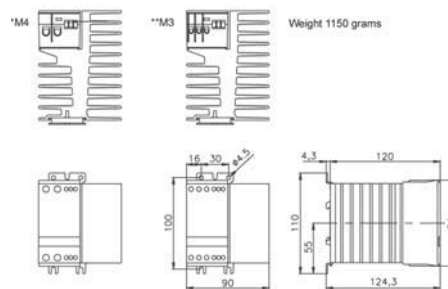
### SCHRACK-INFO

- Analogue controller for accurate process temperature control
- Heating element control with phase angle or burst firing control
- Current loop control: 0-20 mA, 4-20 mA
- Voltage control: 0-10 V DC
- Manual control 10 kΩ potentiometer
- Reverse action possible
- Rated voltage: 230 or 400 V AC
- Rated current: up to 30 or 50 A AC-51 (AC 1)
- Integrated EMC filter

### Dimensions for the 45 mm module (LAS1/LAW/LAK15A/LAD/LAA 30A)



### Dimensions for the 90 mm module (LAS2 50A/63A /LAA 50A)

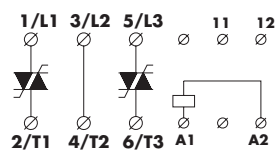


DESCRIPTION	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
Analogue controller 30 A/380-480 V	45x110x128,1	9004840153958		LAA14306

## MOTOR CONTACTORS



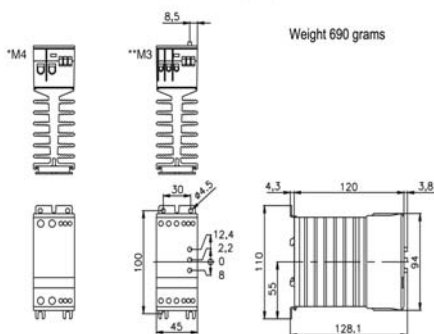
LAK32154



### SCHRACK-INFO

- Designed for direct start-up of 3-phase motors
- Rated operating current: 15 A AC-3 (10 HP at 400 V 3 Phase)
- Operating voltage range: from 24 to 600 V AC 50 or 60 Hz
- Control voltage range: from 24 to 480 V AC or 24-60 V DC
- LED operating status indicator
- Degree of protection IP 20
- Compact modular design, 45 mm installation width on DIN rail
- Meets requirements of standard EN 6047-4-2
- Genuine contact-free motor contactor for extremely long service life
- Unlimited number of start/stop cycles possible per hour

### Dimensions for the 45 mm module (LAM)



RATED CURRENT	RATED VOLTAGE	CONTROL VOLTAGE	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
15 A	400-480 VAC 50/60 Hz	24-480 V AC 24-60 V DC	45x110x124,3	5705609000455		LAM34154

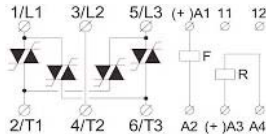


# 3-PHASE ELECTRONIC MOTOR CONTACTOR

## REVERSING CONTACTOR



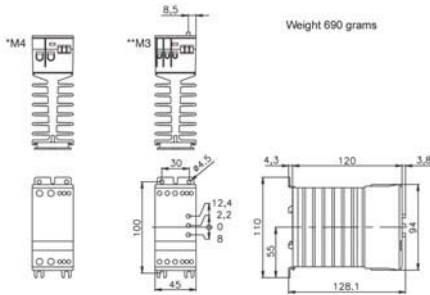
LAW34101



### SCHRACK-INFO

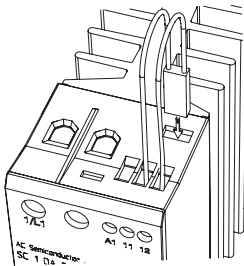
- Electronic contactor for reverse motor control
- Rated operating current up to 10 A AC-3/8 A AC-4
- Rated operating voltage up to 480V AC
- Control voltage 5-24 V DC or 24-230 V AC
- 2 separate potential-free control voltage inputs
- Meets requirements of EN 60947-4-2
- Modular design with an overall width of 45 mm on DIN rail
- LED operating status indicator
- IP 20 shock protection
- AC and DC control voltage
- Integrated interlock circuit

Dimensions for the 45 mm module (LAS1/LAW/LAK15A/LAD/LAA 30A)



RATED CURRENT	RATED VOLTAGE	CONTROL VOLTAGE	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
10 A	24-480 V AC 50/60 HZ	24-230 V AC/DC	45x110x124,3	5705609000264		<b>LAW34102</b>

## ELECTRONIC/MOTOR CONTACTOR ACCESSORIES



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Thermal overload protection	9004840150117		<b>LASUP62</b>



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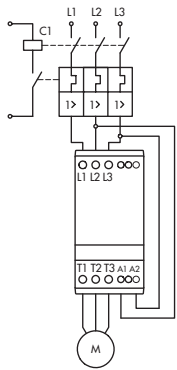
- Finding product information made easy
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# SOFT STARTERS

## MOTOR CONTROLLER



lak32155



### RANGE OF APPLICATION

Motor drive:

- Packaging industry
- Printing presses
- Valve control in power stations
- Bell controls

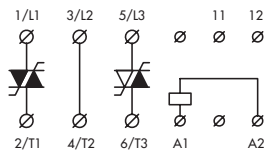
In general:

- Compressor systems
- Machine tools
- Conveyor systems
- Looms
- Fans and ventilation systems
- Woodworking machines

### SUPPLEMENTAL TECHNICAL DATA

- Soft starter, three controlled phases
- Soft starter, two controlled phases
- Soft starters with break system
- Initial torque limiting system, 1 or 3 controlled phases

### 2 controlled phases, LAK

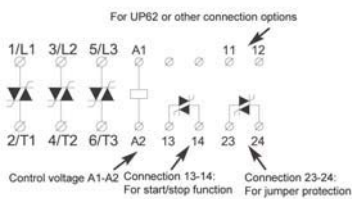


Benefits:

- Easy, rapid mounting
- Immediately ready for use
- Very easy to adjust
- Contact-protected
- More compact than standard soft starters
- Standardized module widths

### 3 controlled phases, LAT

Connection diagram (90 mm module)



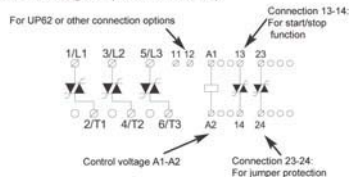
### APPLICATIONS

Used to delay the start and stop of 3-phase motors:

- Compressor systems
- Machine tools
- Conveyor systems
- Looms
- Fans and ventilation systems
- Woodworking machines
- Can be used instead of Star/Delta starters
- Packaging industry
- Printing presses

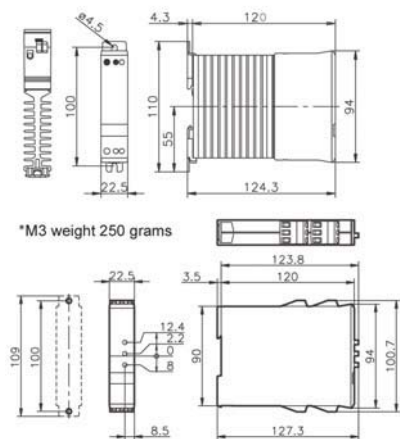
### 3 controlled phases, LAT B/D

Connection diagram (180 mm module)



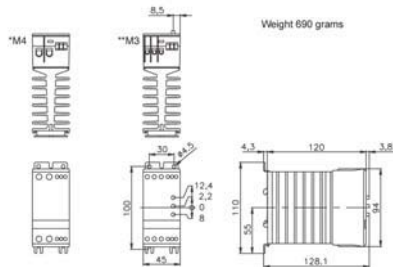
## MOTOR CONTROLLER – continued

Dimensions for the 22.5 mm module (LAS1 10 A/15 A und LAK3,5 A)



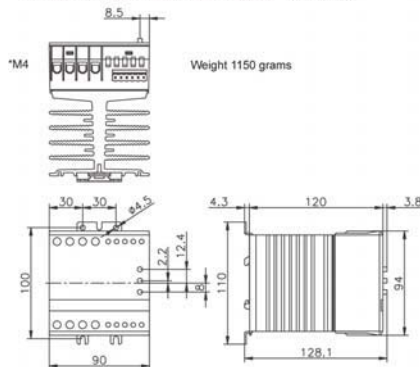
\*M3 weight 250 grams

Dimensions for the 45 mm module (LAS1/LAW/LAK15A/LAD/LAA 30A)



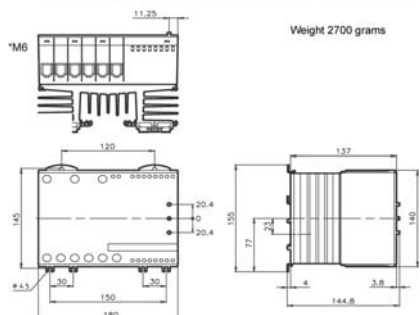
Weight 690 grams

Dimensions for the 90 mm module (LAK/LAB)



Weight 1150 grams

Dimensions for the 180 mm module (LAT/LATB/LATD)



Weight 2700 grams

### SOFT STARTER UP TO 45 kW/400 VAC

- AC electronic motor controller with soft start and soft stop or with by-pass function (from 30A)
- Rated operating current:
  - LAK type up to 25 A AC-3, AC-53a, AC-58a (11 kW 400-480 V AC) or up to 30 A AC 53b (15kW with jumper)
  - LAT type up to 86 A \*Root 3\* switch with 3 controlled phases (see Special Catalogue)
- Rated operating voltage up to 600V AC, 50/60 Hz
- Meets requirements of EN 60947-4-2
- Includes integrated microcomputer for optimal performance
- Start and stop times can be regulated between 0.5 s and 10 s (20 s)
- Initial torque can be adjusted up to 85% of nominal torque, Kick start option available
- LED operating status indicator
- Potential-free control inputs
- Control voltage range 24 V AC/DC to 480 V AC/DC
- Degree of protection IP 20
- Compact modular structure, 45 mm and 90 mm installation width on DIN rail

### SOFT STARTER WITH DYNAMIC BREAK

Rated operating voltage up to 480 V AC 50/60 Hz

- Rated operating current from 1 A up to 25 A AC-3, AC-53a, AC-58a (15PS, 400-480 V AC)
- Start time can be set between 0.5 to 10 secs.
- Initial torque can be set to between 0% - 85% of nominal torque. Kickstart option available.
- Control voltage range 24 V to 480 V AC/DC
- Braking current adjustable between 0-50 A DC
- Super-rapid brake function with automatic motor magnetic field reduction.
- Slow speed function: The motor operates at only 7.5 to 10% of the nominal speed
- Automatic down-time detection
- Output signal for full control (by-pass) and for the control of a mechanical

RATED CURRENT	RATED VOLTAGE	CONTROL VOLTAGE	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
15 A	208-240 VAC 50/60 Hz	24-230 V AC/DC	45x110x128,1	5705609000271		LAK32155
15 A	400-480 VAC 50/60 Hz	24-480 V AC/DC	45x110x128,1	5705609000288		<b>LAK34155</b>
25 A	208-240 VAC 50/60 Hz	24-230 V AC/DC	90x110x128,1	5705609000448		LAK32255
25 A	400-480 VAC 50/60 Hz	24-480 V AC/DC	90x110x128,1	5705609000462		<b>LAK34255</b>



Order no. blue: on stock, usually ready for delivery on the day of order!

## MOTOR CONTROLLER WITH BY-PASS



WITHOUT BY-PASS	WITH BY-PASS	RATED VOLTAGE	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
25 A AC-53a	30 A AC-53b	400–480 V	90x110x128,1	9004840188493		LAKB4255
35 A AC-53a	50 A AC-53b	400–480 V	180x145x144,8	9004840389074		<b>LATB4355</b>
17 A AC-53a	25 A AC-53b	400–480 V	90x110x128,1	9004840449860		LATB4175
60 A AC-53a	86 A AC-53b	400–480 V	180x145x144,8	9004840389081		<b>LATD4605</b>

## SOFT STARTER 2-PHASE, WITH INTEGRATED BY-PASS



RATED CURRENT	RATED VOLTAGE	EAN CODE	AVAILABLE	ORDER NO.
34 A AC-53a	200-440 V AC	9004840588057		LAKA4034
42 A AC-53a	200-440 V AC	9004840588064		LAKA4042
48 A AC-53a	200-440 V AC	9004840588071		LAKA4048
60 A AC-53a	200-440 V AC	9004840588088		LAKA4060
75 A AC-53a	200-440 V AC	9004840588095		LAKA4075
85 A AC-53a	200-440 V AC	9004840588101		LAKA4085
100 A AC-53a	200-440 V AC	9004840588118		LAKA4100
140 A AC-53a	200-440 V AC	9004840588125		LAKA4140
170 A AC-53a	200-440 V AC	9004840588132		LAKA4170
200 A AC-53a	200-440 V AC	9004840588149		LAKA4200



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## SOFT STARTER 2-PHASE, WITH INTEGRATED BY-PASS AND MOTORPROTECTION



RATED CURRENT	RATED VOLTAGE	EAN CODE	AVAILABLE	ORDER NO.
34 A AC-53a	200-440 V AC	9004840588156		LAKS4034
42 A AC-53a	200-440 V AC	9004840588163		LAKS4042
48 A AC-53a	200-440 V AC	9004840588170		LAKS4048
60 A AC-53a	200-440 V AC	9004840588187		LAKS4060
75 A AC-53a	200-440 V AC	9004840588194		LAKS4075
85 A AC-53a	200-440 V AC	9004840588200		LAKS4085
100 A AC-53a	200-440 V AC	9004840588217		LAKS4100
140 A AC-53a	200-440 V AC	9004840588224		LAKS4140
170 A AC-53a	200-440 V AC	9004840588231		LAKS4170
200 A AC-53a	200-440 V AC	9004840588248		LAKS4200

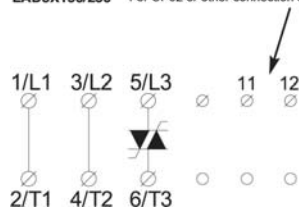
## TORQUE LIMITER



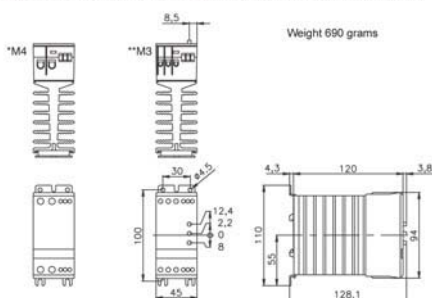
LAD34150

### Connection diagram

LAD3X150/250 For UP62 or other connection options



### Dimensions for the 45 mm module (LAS1/LAW/LAK15A/LAD/LAA 30A)



## SCHRACK-INFO

- Unit used to soft start three-phase and single-phase motors with rated operating voltages of 230 to 600 V, 50 or 60 Hz
- Rated operating current up to 25 A AC-3 (11 kW 400 V 3 phases)
- Operating voltage range: 230 to 600 V AC, 50 or 60 Hz
- Adjustable ramp-up time 0.5 s to 5 s
- Initial torque can be set to between 0% - 85% of nominal torque.
- LED operating status indicator
- Degree of protection IP 20
- Compact modular structure, 45 mm installation width on DIN rail
- Genuine contact-free motor contactor for extremely long service life
- Unlimited number of start/stop operations per hour.

RATED CURRENT	RATED VOLTAGE	DIM. (WxHxD) mm	EAN CODE	AVAILABLE	ORDER NO.
15 A	208-480 V AC	45x110x128,1	5705609000295		<b>LAD34150</b>
25 A	208-480 V AC	45x110x128,1	5705609000486		<b>LAD34250</b>



Order no. blue: on stock, usually ready for delivery on the day of order!

# MOTOR PROTECTION SWITCH

## BES MOTOR PROTECTION SWITCH, SIZE 00



BESD0063

### SCHRACK INFO

- Use for mounting of BESD...on contactors size 00, connection module LSZDD005
- For dimensions and wiring diagram, see from page 834.

DESCRIPTION	NOMINAL CURRENT A / kW*	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 00 – 100 kA (short-circuit breaking capacity at I<sub>cu</sub> 400 VAC)</b>				
0.16 A, Class 10	0.11-0.16 A / 0.04 kW	9004840542325		<b>BESD0016</b>
0.20 A, Class 10	0.14-0.20 A / 0.06 kW	9004840542332		<b>BESD0020</b>
0.25 A, Class 10	0.18-0.25 A / 0.06 kW	9004840542349		<b>BESD0025</b>
0.32 A, Class 10	0.22-0.32 A / 0.09 kW	9004840542356		<b>BESD0032</b>
0.40 A, Class 10	0.28-0.40 A / 0.09 kW	9004840542363		<b>BESD0040</b>
0.50 A, Class 10	0.35-0.50 A / 0.12 kW	9004840542370		<b>BESD0050</b>
0.63 A, Class 10	0.45-0.63 A / 0.18 kW	9004840542387		<b>BESD0063</b>
0.80 A, Class 10	0.55-0.80 A / 0.18 kW	9004840542394		<b>BESD0080</b>
1.00 A, Class 10	0.70-1.00 A / 0.25 kW	9004840542400		<b>BESD0100</b>
1.25 A, Class 10	0.90-1.25 A / 0.37 kW	9004840551129		<b>BESD0125</b>
1.60 A, Class 10	1.10-1.60 A / 0.55 kW	9004840542424		<b>BESD0160</b>
2.00 A, Class 10	1.40-2.00 A / 0.75 kW	9004840542431		<b>BESD0200</b>
2.50 A, Class 10	1.80-2.50 A / 0.75 kW	9004840542448		<b>BESD0250</b>
3.20 A, Class 10	2.20-3.20 A / 1.10 kW	9004840542455		<b>BESD0320</b>
4.00 A, Class 10	2.80-4.00 A / 1.10 kW	9004840542462		<b>BESD0400</b>
5.00 A, Class 10	3.50-5.00 A / 1.50 kW	9004840542479		<b>BESD0500</b>
6.30 A, Class 10	4.50-6.30 A / 2.20 kW	9004840542486		<b>BESD0630</b>
<b>SIZE 00 – 50 kA (short-circuit breaking capacity at I<sub>cu</sub> 400 VAC)</b>				
8 A, Class 10	5.50-8.00 A / 3.00 kW	9004840542493		<b>BESD0800</b>
10 A, Class 10	7.00-10.0 A / 4.00 kW	9004840542509		<b>BESD1000</b>
12 A, Class 10	9.00-12.0 A / 5.50 kW	9004840542516		<b>BESD1200</b>

\*Reference values for 4-pole standard motors at 50 Hz/400 VAC. The selection depends on the specific starting and rated performance of the motor to be protected.



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# MOTOR PROTECTION SWITCH

## BES MOTOR PROTECTION SWITCH, SIZE 0



BES00400

### SCHRACK INFO

- Use for mounting of BES0... on contactors size 0, connection module LSZ0D002 for AC-operated contactors or LSZ0D004 for DC-operated contactors
- Use for mounting of BES0... on contactors size 00, connection module LSZDD006 for AC and DC operated contactors
- For dimensions and wiring diagram, see from page 834.

DESCRIPTION	NOMINAL CURRENT A / kW*	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 0 – 100 kA (short-circuit breaking capacity at I<sub>n</sub> 400 VAC)</b>				
0.16 A, Class 10	0.11-0.16 A / 0.04 kW	9004840542523		<a href="#">BES00016</a>
0.20 A, Class 10	0.14-0.20 A / 0.06 kW	9004840542530		<a href="#">BES00020</a>
0.25 A, Class 10	0.18-0.25 A / 0.06 kW	9004840542547		<a href="#">BES00025</a>
0.32 A, Class 10	0.22-0.32 A / 0.09 kW	9004840542554		<a href="#">BES00032</a>
0.40 A, Class 10	0.28-0.40 A / 0.09 kW	9004840542561		<a href="#">BES00040</a>
0.50 A, Class 10	0.35-0.50 A / 0.12 kW	9004840542578		<a href="#">BES00050</a>
0.63 A, Class 10	0.45-0.63 A / 0.18 kW	9004840542585		<a href="#">BES00063</a>
0.80 A, Class 10	0.55-0.80 A / 0.18 kW	9004840542592		<a href="#">BES00080</a>
1.00 A, Class 10	0.70-1.00 A / 0.25 kW	9004840542608		<a href="#">BES00100</a>
1.25 A, Class 10	0.90-1.25 A / 0.37 kW	9004840542615		<a href="#">BES00125</a>
1.60 A, Class 10	1.10-1.60 A / 0.55 kW	9004840542622		<a href="#">BES00160</a>
2.00 A, Class 10	1.40-2.00 A / 0.75 kW	9004840542639		<a href="#">BES00200</a>
2.50 A, Class 10	1.80-2.50 A / 0.75 kW	9004840542646		<a href="#">BES00250</a>
3.20 A, Class 10	2.20-3.20 A / 1.10 kW	9004840542653		<a href="#">BES00320</a>
4.00 A, Class 10	2.80-4.00 A / 1.10 kW	9004840542660		<a href="#">BES00400</a>
5.00 A, Class 10	3.50-5.00 A / 1.50 kW	9004840542677		<a href="#">BES00500</a>
6.30 A, Class 10	4.50-6.30 A / 2.20 kW	9004840542684		<a href="#">BES00630</a>
8.00 A, Class 10	5.50-8.00 A / 3.00 kW	9004840542691		<a href="#">BES00800</a>
10.0 A, Class 10	7.00-10.0 A / 4.00 kW	9004840542707		<a href="#">BES01000</a>
12.5 A, Class 10	9.00-12.5 A / 5.50 kW	9004840542714		<a href="#">BES01200</a>
<b>SIZE 0 – 50 kA (short-circuit breaking capacity at I<sub>n</sub> 400 VAC)</b>				
16 A, Class 10	11.0-16.0 A / 7.50 kW	9004840542721		<a href="#">BES01600</a>
20 A, Class 10	14.0-20.0 A / 7.50 kW	9004840542738		<a href="#">BES02000</a>
22 A, Class 10	17.0-22.0 A / 11.0 kW	9004840542745		<a href="#">BES02200</a>
25 A, Class 10	20.0-25.0 A / 11.0 kW	9004840542752		<a href="#">BES02500</a>

\*Reference values for 4-pole standard motors at 50 Hz/400 VAC. The selection depends on the specific starting and rated performance of the motor to be protected.



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# MOTOR PROTECTION SWITCH

## ■ BES MOTOR PROTECTION SWITCH, SIZE 2



BES00400

### ■ SCHRACK INFO

- Use for mounting of BES2... on contactors size 2, connection module LSZ0D004 for AC-operated contactors or LSZ0D005 for DC-operated contactors
- For dimensions and wiring diagram, see from page 834.

DESCRIPTION	NOMINAL CURRENT A / kW*	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 2 – 50 kA (short-circuit breaking capacity at I<sub>cu</sub> 400 VAC)</b>				
25 A, Class 10	18.0-25.0 A / 11.0 kW	9004840542769		<a href="#">BES22500</a>
32 A, Class 10	22.0-32.0 A / 15.0 kW	9004840542776		<a href="#">BES23200</a>
40 A, Class 10	28.0-40.0 A / 18.5 kW	9004840542783		<a href="#">BES24000</a>
45 A, Class 10	36.0-45.0 A / 22.0 kW	9004840542790		<a href="#">BES24500</a>
50 A, Class 10	40.0-50.0 A / 22.0 kW	9004840542806		<a href="#">BES25000</a>

\*Reference values for 4-pole standard motors at 50 Hz/400 VAC. The selection depends on the specific starting and rated performance of the motor to be protected.

## ■ BES MOTOR PROTECTION SWITCH, SIZE 3



BES00400

### ■ SCHRACK INFO

- Use for mounting of BES3... on contactors size 3, connection module LSZ0D004 for AC-operated contactors or LSZ0D005 for DC-operated contactors
- For dimensions and wiring diagram, see from page 834.

DESCRIPTION	NOMINAL CURRENT A / kW*	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 3 – 50 kA (short-circuit breaking capacity at I<sub>cu</sub> 400 VAC)</b>				
63 A, Class 10	45.0-63.0 A / 30.0 kW	9004840542813		<a href="#">BES36300</a>
75 A, Class 10	57.0-75.0 A / 37.0 kW	9004840542820		<a href="#">BES37500</a>
90 A, Class 10	70.0-90.0 A / 45.0 kW	9004840542837		<a href="#">BES39000</a>
100 A, Class 10	80.0-100 A / 45.0 kW	9004840542844		<a href="#">BES39999</a>

\*Reference values for 4-pole standard motors at 50 Hz/400 VAC. The selection depends on the specific starting and rated performance of the motor to be protected.



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## AUXILIARY CONTACTS



BEZ00001

### SCHRACK INFO

- Used for message "ON" or "OFF"
- Left-side mounting or for front snap-mounting
- For all frame sizes
- For dimensions and wiring diagram, see page 835.

DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
Side mounting 1 NO + 1 NC	00/0/2/3	9004840542851		<b>BEZ00001</b>
Front mounting 1 NO + 1 NC	00/0/2/3	9004840542868		<b>BEZ00003</b>
Side mounting 2 NO	00/0/2/3	9004840542875		<b>BEZ00002</b>
Front mounting 2 NO	00/0/2/3	9004840542882		<b>BEZ00004</b>

## SIGNAL SWITCHES



BEZ00005

### SCHRACK INFO

- Used for message "Tripped" or "Short-circuit"
- Left-side mounting
- For frame sizes 0-3
- If motor protection switches of size 00 are to be monitored using signal switches, the size 0 motor protection switches having identical contours should be used instead of size 00!
- For dimensions and wiring diagram, see page 835.

DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
Side mounting 1 NO + 1 NC	0/2/3	9004840542899		<b>BEZ00005</b>

## UNDERVOLTAGE RELEASES



BEZ00006

### SCHRACK INFO

- Enables remote release by means of low voltage
- Right-side mounting
- For all frame sizes
- For dimensions and wiring diagram, see from 835.

DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
Side mounting, AC 230 V/50 Hz, AC 240 V/60 Hz	00/0/2/3	9004840542905		<b>BEZ00006</b>
Side mounting, AC 400 V/50 Hz, AC 440 V/60 Hz	00/0/2/3	9004840542912		<b>BEZ00007</b>



## SHUNT RELEASES



BEZ00009

### SCHRACK INFO

- Enables remote release by means of shunt current
- Right-side mounting
- For all frame sizes
- For dimensions and wiring diagram, see page 835.

DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
Side mounting, AC 20...24 V, 50/60 Hz, 100% ED	00/0/2/3	9004840542929		<a href="#">BEZ00008</a>
Side mounting, AC 210...240 V, 50/60 Hz, 100% ED	00/0/2/3	9004840542936		<a href="#">BEZ00009</a>

## PLASTIC HOUSINGS AND LOCKING DEVICE



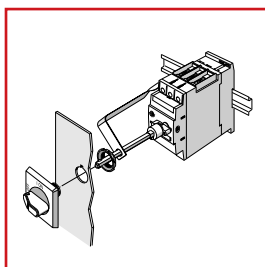
BEZ00012

### SCHRACK INFO

- Housing for motor protection switch size 00 with membrane or optional emergency stop mushroom button
- Housing for motor protection switch sizes 0-2 with rotary drive
- Housing for motor protection switch size 3 not available
- For dimensions, see page 836.

DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
<b>PLASTIC HOUSING</b>				
With membrane, IP55	00	9004840542967		<a href="#">BEZ00012</a>
Emergency stop mushroom button, IP 55 (yellow/red) without housing	00	9004840542974		<a href="#">BEZ00013</a>
With rotary drive, IP55	0	9004840543025		<a href="#">BEZ00112</a>
With rotary drive, emergency stop, IP55 (yellow/red)	0	9004840543032		<a href="#">BEZ00113</a>
With rotary drive, IP55	2	9004840543049		<a href="#">BEZ00212</a>
With rotary drive, emergency stop, IP55 (yellow/red)	2	9004840543056		<a href="#">BEZ00213</a>
<b>LOCKING DEVICE</b>				
For 3 padlocks	00	9004840542981		<a href="#">BEZ00014</a>

## DOOR COUPLING ROTARY DRIVES

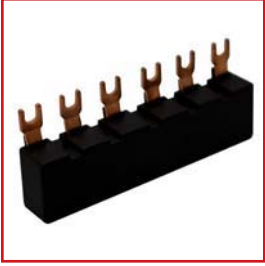


### SCHRACK INFO

- For dimensions, see page 838.




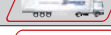

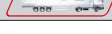
DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
Black/grey	0/2/3	9004840542943		<a href="#">BEZ00010</a>
Emergency stop (yellow/red)	0/2/3	9004840542950		<a href="#">BEZ00011</a>

## ■ BUSBAR, 3-POLE



### ■ SCHRACK INFO

- Not suitable for motor protection switches with side-mounted auxiliary contact signalling switch or release. Matching busbars on request.
- Busbars for size 3 on request
- For dimensions, see page 837.

DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
For 2 motor protection switches	00/0	9004840542998		<a href="#">BEZ00017</a>
For 3 motor protection switches	00/0	9004840543001		<a href="#">BEZ00018</a>
For 4 motor protection switches	00/0	9004840540574		<a href="#">BEZ00020</a>
For 5 motor protection switches	00/0	9004840540604		<a href="#">BEZ00021</a>
For 2 motor protection switches	2	9004840543063		<a href="#">BEZ00217</a>
For 3 motor protection switches	2	9004840543070		<a href="#">BEZ00218</a>


## ■ EMPTY SLOT COVERS



LSZDD002

### ■ SCHRACK INFO

- For covering empty or spare slots (touch protection)

DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
45 mm	00/0	9004840543018		<a href="#">BEZ00019</a>
55 mm	2	9004840543087		<a href="#">BEZ00219</a>




## ■ FEED TERMINALS, 3-POLE



BEZ00116

### ■ SCHRACK INFO

- For feeding of more than 5 railed motor protection switches:  
Busbar to be fed in the middle or from both ends!
- For dimensions, see page 838.

DESCRIPTION	SIZE	EAN CODE	AVAILABLE	ORDER NO.
3-pole (25 mm <sup>2</sup> ), 63 A	00	9004840542295		<a href="#">BEZ00016</a>
3-pole (25 mm <sup>2</sup> ), 63 A	0	9004840542318		<a href="#">BEZ00116</a>
3-pole (50 mm <sup>2</sup> ), 108 A	2	9004840542301		<a href="#">BEZ00216</a>

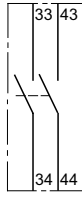
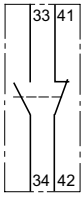


# MOTOR PROTECTION SWITCH

## BES MOTOR PROTECTION SWITCH – WIRING DIAGRAM

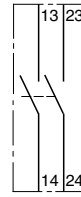
### Side-mounted auxiliary contact

BEZ00001 – 1 NO + 1 NC BEZ00002 – 2 NO



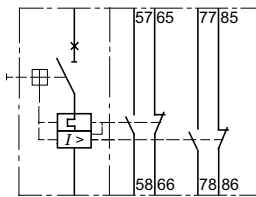
### Front-mounted auxiliary contact

BEZ00003 – 1 NO + 1 NC BEZ00004 – 2 NO



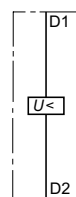
### Signal switch

BEZ00005 - 1 NO + 1 NC ... Overload  
1 NO + 1 NC ... Short circuit



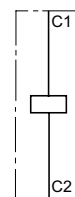
### Undervoltage release

BEZ00006/7

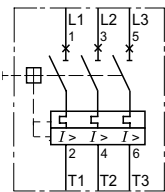


### Shunt release

BEZ00008/9

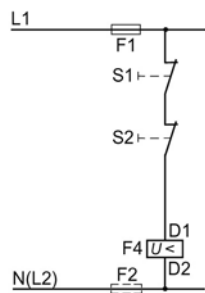


### BESD, BES0, BES2, BES3

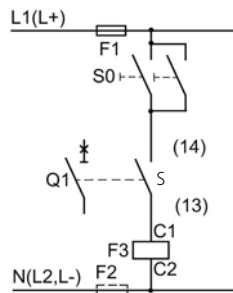


## BES MOTOR PROTECTION SWITCH – CONTROL PLAN

### Undervoltage release



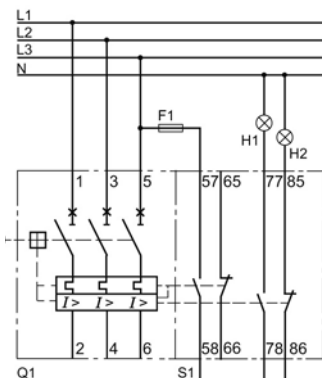
### Shunt release



- S0, S1, S2 OFF switch in the system
- Q1 Motor protection switch
- S Auxiliary contact of Q1
- F1, F2 Fuse (gL/gG), max. 10 A
- F3 Shunt release
- F4 Undervoltage release

## BES MOTOR PROTECTION SWITCH – SAMPLE CIRCUIT

### BES motor protection switch with BEZ00005 signal switch



Separate "Tripped" and "Short" messages:

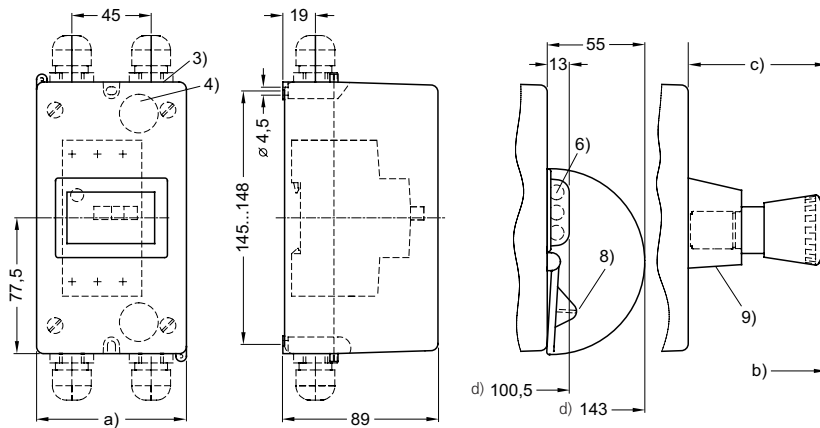
- S1 Signal switch
- Q1 Motor protection switch
- F1 Fuse (gL/gG), max. 10 A
- H1 Signal lamp "Short"
- H2 Signal lamp "Overload" or "Tripped" by undervoltage or shunt releases

# MOTOR PROTECTION SWITCH

## PLASTIC HOUSING AND LOCK-OUT DEVICE

### BEZ00012, BEZ00013

#### BEZ00012 with membrane, BEZ00013 emergency stop mushroom button for motor protection switch size 00

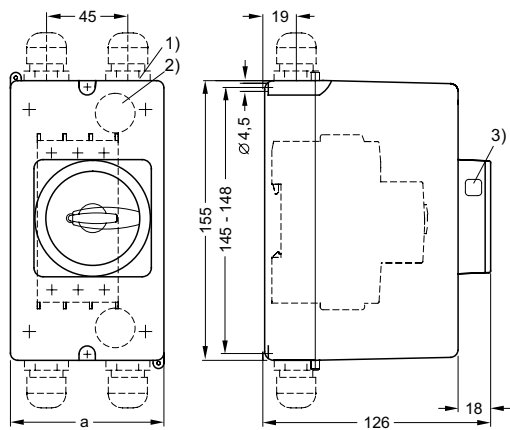


- <sup>3)</sup> Knockout for M25
- <sup>4)</sup> Knockout for M20 in housing bottom (rear cable entry)
- <sup>6)</sup> Max diameter of padlock shackle 8 mm
- <sup>8)</sup> Locking device BEZ00014
- <sup>9)</sup> Emergency stop mushroom button

- a) 105 mm
- b) With emergency stop mushroom button: 154 mm  
Distance from mounting surface
- b) With emergency stop mushroom button: 64 mm
- d) Distance from mounting surface

### BEZ00112, BEZ00113 – SIZE 0

#### BEZ00112 rotary drive, BEZ00113 rotary drive EMERGENCY STOP for motor protection switch size 0

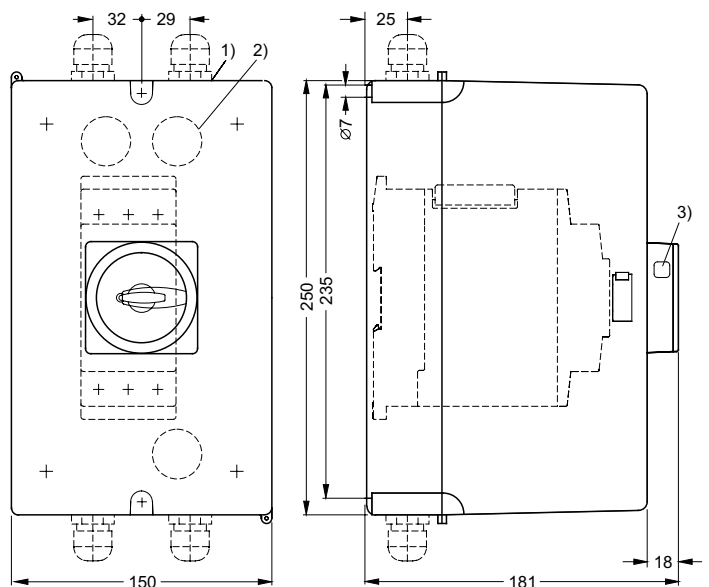


a) 105 mm

- <sup>1)</sup> Knockout for M25
- <sup>2)</sup> Knockout for M20 in housing bottom (rear cable entry)
- <sup>3)</sup> Max diameter of padlock shackle 6-8 mm

### BEZ00212, BEZ00213 – SIZE 2

#### BEZ00212 rotary drive, BEZ00213 rotary drive EMERGENCY STOP for motor protection switch size 2



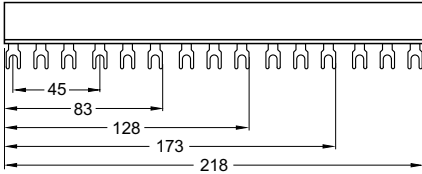
- <sup>1)</sup> Knockout for M32 (left) and M40 (right)
- <sup>2)</sup> Knockout for M32 in housing bottom (rear cable entry)
- <sup>3)</sup> Max diameter of padlock shackle 6-8 mm

# MOTOR PROTECTION SWITCH

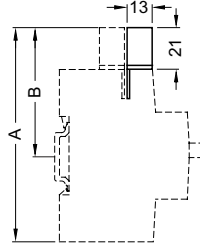
## **/// BUSBAR, 3-POLE**

### **/// BUSBAR FOR MOTOR PROTECTION SWITCH SIZES 00 AND 0, WIDTH 45 mm<sup>1)</sup>**

For 2 motor protection switches	BEZ00017
For 3 motor protection switches	BEZ00018
For 4 motor protection switches	BEZ00020
For 5 motor protection switches	BEZ00021



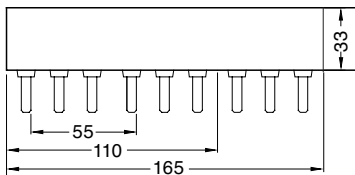
<sup>1)</sup> Empty slot cover (45 mm)  
Size 00/0 BEZ00019



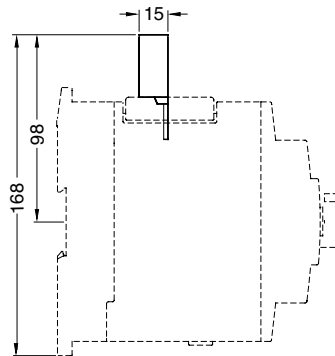
SIZE	A	B
00	111	67
0	119	70

### **/// BUSBAR FOR MOTOR PROTECTION SWITCH SIZE 2, WIDTH 55 mm<sup>2)</sup>**

For 2 motor protection switches	BEZ00217
For 3 motor protection switches	BEZ00218



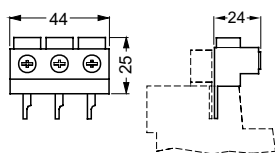
<sup>2)</sup> Empty slot cover (55 mm)  
Size 2 BEZ00219



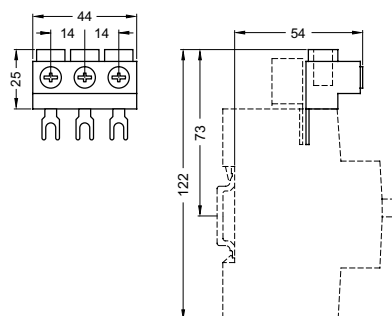
# MOTOR PROTECTION SWITCH

## FEED TERMINALS, 3-POLE

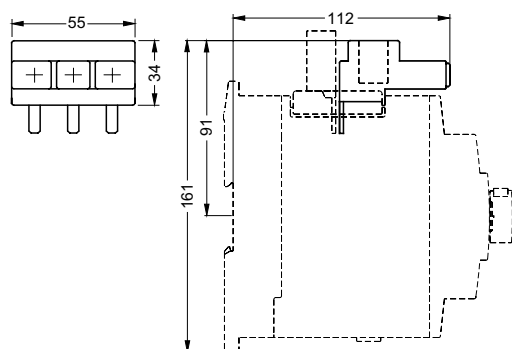
**BEZ00016**  
for motor protection switch size 00  
Connection from top



**BEZ00116**  
for motor protection switch size 0  
Connection from top

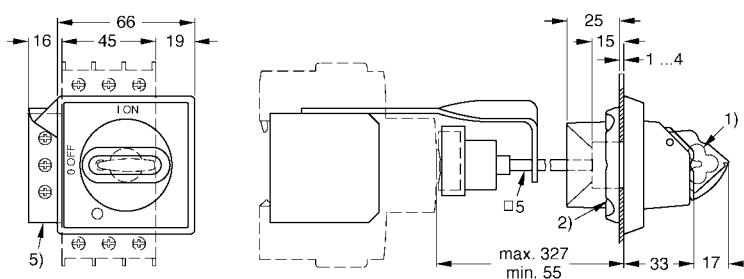


**BEZ00216**  
for motor protection switch size 2

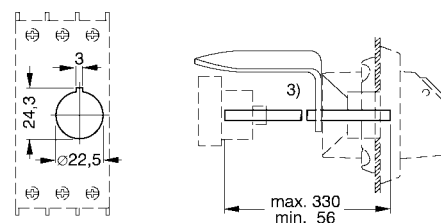


## DOOR COUPLING DRIVE

**BEZ00010/11**  
for motor protection switch size 0, 2, 3  
Long shaft (with bracket) <sup>3)</sup>



Door drilling plan



<sup>1)</sup> Lockable in the "off" position with a padlock 8 mm shackle diameter

<sup>2)</sup> Mounting with union nut

<sup>3)</sup> Supplied with 330 mm shaft length; can be adapted by cutting the shaft

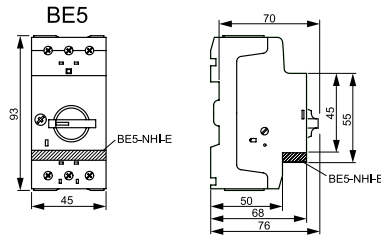
<sup>5)</sup> Earthing terminal 35 mm<sup>2</sup> and sheet metal angle bracket 330 mm for shaft



# MOTOR PROTECTION DEVICES IEC 947



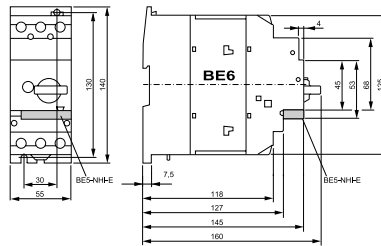
be500400.eps



be5\_m1.eps



be632000.eps



be6\_m1.eps

- Operating current for breake BE5 up to 25 A
- Operating current for breake BE65 up to 63 A
- Operating voltage for breake up to 690 V AC
- Overload tripping, adjustable 0.6 - 1 x I
- Short circuit tripping set permanently on 14 x I
- With phase failure protection
- Rupturing capacity BE5 inherently stable (100 kA)
  - up to I<sub>n</sub> 10 A
  - I<sub>n</sub> 16 A 50 kA
  - I<sub>n</sub> 20 A 16 kA
  - I<sub>n</sub> 25 A 16 kA
- Rupturing capacity BE6 inherently stable (50 kA) up to I<sub>n</sub> 63 A
- Connection screw terminals
- Max. connection cross-section BE5
  - single-wired 1 x 6 mm<sup>2</sup> / 2 x 2.5 mm<sup>2</sup>
  - fine-wired with sleeve 1 x 4 mm<sup>2</sup> / 2 x 2.5 mm<sup>2</sup>
- Max. connection cross-section BE6
  - single-wired 1 x 50 mm<sup>2</sup> / 2 x 35 mm<sup>2</sup>
  - fine-wired with sleeve 1 x 35 mm<sup>2</sup> / 2 x 35 mm<sup>2</sup>

IEC / EN 60947, UL 508, VDE 0660

Required back-up fuse if the short circuit current exceeds the limited rated short circuit current of the device.

50 A gG/gL => 100 kA

100 A gG/gL => 30 kA

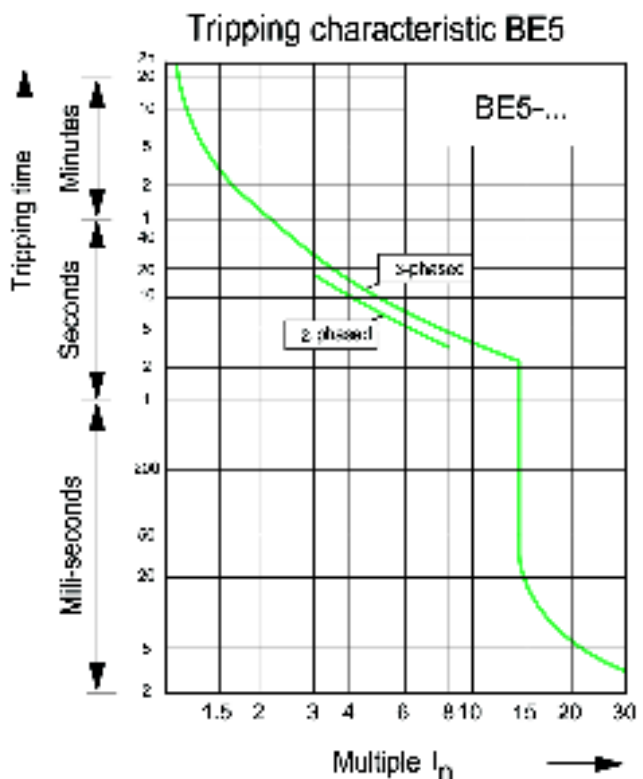
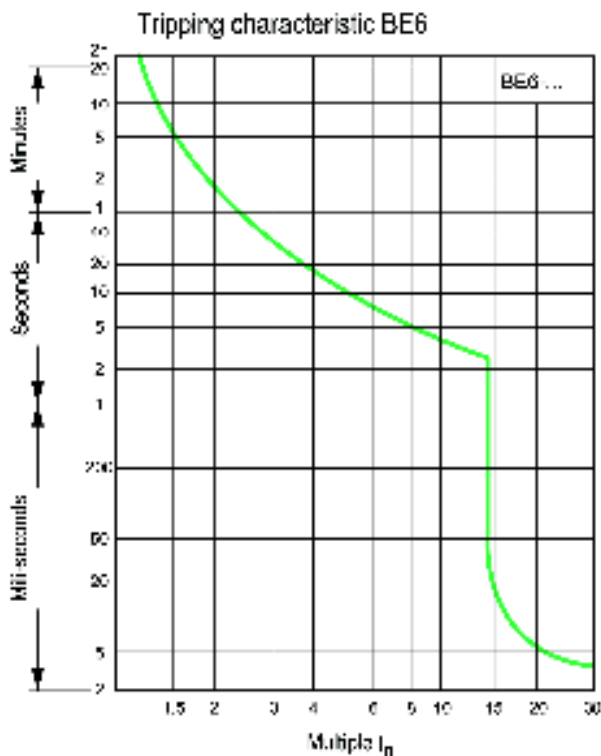
Also refer to special catalogue for motor leakages

Transformer safety switch with short circuit protection 20 x I  
Available upon request.

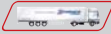

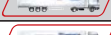






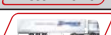




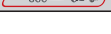


Spring reversing terminal and combined spring / screw terminals are also available upon request.

A compact starter according to coordination 1 can be realised with the help of the connection block BE590010 and the mini contactor LA1.

## TRIPPING CHARACTERISTIC



## MOTOR SAFETY SWITCH IEC 947 BE5 / BE6

RATED CURRENT	PERFORMANCE AT 400 V	DIM. (WxHxD) mm	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
0.1 - 0.16 A	-	45x93x76	BE5-0.16	0,3	9004840256147		BE500160
0.16 - 0.25 A	0.06 kW	45x93x76	BE5-0.25	0,3	9004840256154		<b>BE500250</b>
0.25 - 0.40 A	0.09 kW	45x93x76	BE5-0.4	0,3	9004840256161		<b>BE500400</b>
0.40 - 0.63 A	0.12 kW	45x93x76	BE5-0.63	0,3	9004840256178		<b>BE500630</b>
0.63 - 1.00 A	0.25 kW	45x93x76	BE5-1	0,3	9004840256185		<b>BE501000</b>
1.00 - 1.60 A	0.55 kW	45x93x76	BE5-1.6	0,3	9004840256192		<b>BE501600</b>
1.60 - 2.50 A	0.75 kW	45x93x76	BE5-2.5	0,3	9004840256208		<b>BE502500</b>
2.50 - 4.00 A	1.5 kW	45x93x76	BE5-4	0,3	9004840256215		<b>BE504000</b>
4.00 - 6.30 A	2.2 kW	45x93x76	BE5-6.3	0,3	9004840256222		<b>BE506300</b>
6.30 - 10.00 A	4 kW	45x93x76	BE5-10	0,3	9004840256239		<b>BE510000</b>
10 - 16 A	7.5 kW	45x93x76	BE5-16	0,3	9004840256246		<b>BE516000</b>
16 - 20 A	9 kW	45x93x76	BE5-20	0,3	9004840256253		<b>BE520000</b>
20 - 25 A	12.5 kW	45x93x76	BE5-25	0,3	9004840256260		<b>BE525000</b>
24 - 32 A	15 kW	55x140x160	BE6-32	1,2	9004840256277		<b>BE632000</b>
32 - 40 A	20 kW	55x140x160	BE6-40	1,2	9004840256284		<b>BE640000</b>
40 - 50 A	25 kW	55x140x160	BE6-50	1,2	9004840256291		<b>BE650000</b>
50 - 58 A	30 kW	55x140x160	BE6-58	1,2	9004840256307		<b>BE658000</b>
55 - 63 A	34 kW	55x140x160	BE6-63	1,2	9004840256314		<b>BE663000</b>

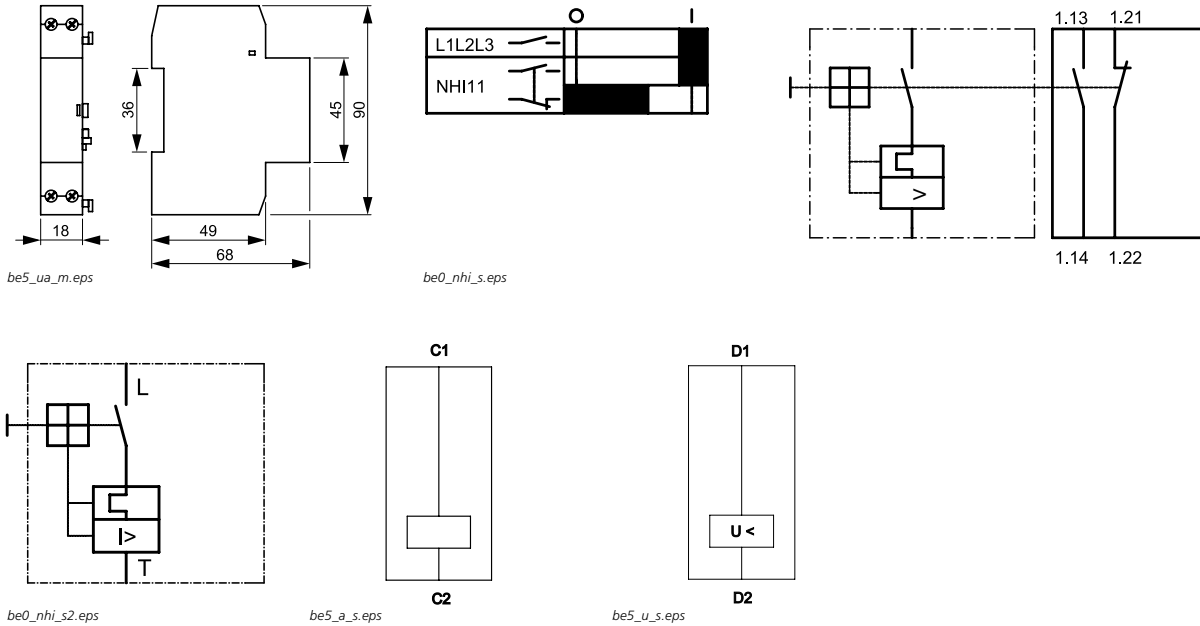


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## ACCESSORIES BE5 / BE6



## TECHNICAL DATA

- Auxiliary contacts:
  - AC 15, 6 A 230 V / 3 A, 400 V
  - Back-up fuse: 10 A gG/gL
  - Max. connection cross-section: 2,5 mm<sup>2</sup>
- Operating current tripping device:
  - Operating range: 0,7 - 1,1 x Un
  - Max. power consumption: 5 VA / 3 W
  - Max. connection cross-section: 2,5 mm<sup>2</sup>
- Undervoltage release:
  - Drop-out value of a relay: 0,7 - 0.35 x Un
  - Max. power consumption: 5 VA / 3 W
  - Max. connection cross-section: 2,5 mm<sup>2</sup>

!!!Under Voltage release device and remote release “cannot be combined!!!

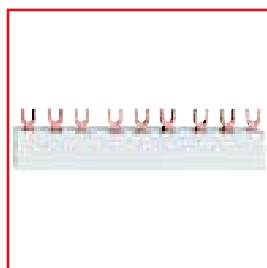
## TIPS & TRICKS

Same accessories for BE5 and BE6. While using installable auxiliary contacts the overall width of the MSS is maintained.

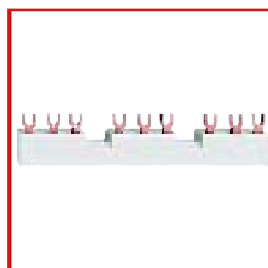
Other voltages and spring reversing terminals are available on request.

DESCRIPTION	TYPE	WEIGHT (kg)	EAN CODE	AVAILABLE	ORDER NO.
Auxiliary contact for frontal installation 1 N/O	BE5-NHI-E-10	0,015	9004840256581		<a href="#">BE082884</a>
Auxiliary contact for frontal installation 1 N/O + 1 N/C	BE5-NHI-E-11	0,02	9004840256574		<a href="#">BE082882</a>
Auxiliary contact for lateral installation 1 N/O + 1 N/C	BE5-NHI-11	0,034	9004840256550		<a href="#">BE072896</a>
Operating voltage tripping device 230 V AC, left	BE5-A (230 VAC)	0,082	9004840256598		BE073187
Low voltage tripping device 230 V AC, left	BE5-U (230 VAC)	0,082	9004840256604		BE073135

## BUSBARS BE5



BE590345



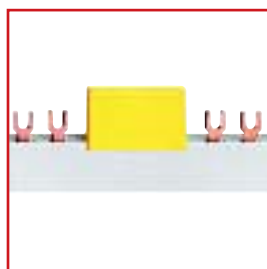
BE590354



BE590445



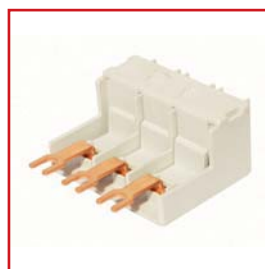
BE590554



BE590004



BE590001



BE590002



BE590454

## TECHNICAL DATA

- I<sub>max.</sub>: 63 A
- With 2 / 3 / 4 / 5 junctions  
Continuation with cabled assembly
- Touch safe
- Short circuit proof
- Connection cross-section     In rails 10 mm<sup>2</sup>  
   For feeding 6 - 25 mm<sup>2</sup>
- Pole distance 14 mm

## RANGE OF APPLICATION

- For motor safety switch 45 mm
- For motor safety switch with laterally mounted auxiliary contacts 54 mm
- For motor safety switch with undervoltage / remote release 63 mm

Busbars fully insulated for motor safety switch

IEC 690 V; VDE 660 V

NUMBER OF JUNCTIONS	INCREMENT	EAN CODE	AVAILABLE	ORDER NO.
2 x BE5	45 mm	9004840264340		<a href="#">BE590245</a>
3 x BE5	45 mm	9004840264395		<a href="#">BE590345</a>
4 x BE5	45 mm	9004840264401		<a href="#">BE590445</a>
5 x BE5	45 mm	9004840264418		<a href="#">BE590545</a>
2 x BE5	54 mm	9004840264432		BE590254
3 x BE5	54 mm	9004840264449		<a href="#">BE590354</a>
4 x BE5	54 mm	9004840264456		<a href="#">BE590454</a>
5 x BE5	54 mm	9004840264463		<a href="#">BE590554</a>
Feed block UL		9004840264517		BE590003
Feed block over rail		9004840264500		<a href="#">BE590002</a>
Feed block before rail		9004840264494		<a href="#">BE590001</a>

## LA1 THERMAL OVERLOAD RELAYS WITH HAND RESET



LA100300

### SCHRACK INFO

- For miniature power and auxiliary contactors LA1
- For dimensions, wiring diagram and location of the terminals, see from page 847.

DESCRIPTION	COIL VOLTAGE	EAN CODE	AVAILABLE	ORDER NO.
<b>THERMAL OVERLOAD RELAYS</b>				
Thermal overload relays	0,12 – 0,18A	9004840450620		LA100300
Thermal overload relays	0,18 – 0,27A	9004840450637		LA100301
Thermal overload relays	0,27 – 0,4A	9004840450644		LA100302
Thermal overload relays	0,4 – 0,6A	9004840450651		LA100303
Thermal overload relays	0,6 – 0,9A	9004840450668		LA100304
Thermal overload relays	0,8 – 1,2A	9004840450675		<b>LA100305</b>
Thermal overload relays	1,2 – 1,8A	9004840450682		<b>LA100306</b>
Thermal overload relays	1,8 – 2,7A	9004840450699		<b>LA100307</b>
Thermal overload relays	2,7 – 4,0A	9004840450705		<b>LA100308</b>
Thermal overload relays	4,0 – 6,0A	9004840450712		<b>LA100309</b>
Thermal overload relays	6,0 – 9,0A	9004840450729		<b>LA100310</b>
Thermal overload relays	8,0 – 11A	9004840450736		LA100311
Thermal overload relays	10 – 14A	9004840450743		LA100312



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# THERMAL OVERLOAD RELAYS

## LST THERMAL OVERLOAD RELAYS, SIZE 00



LSTD0032

### SCHRACK INFO

- Equipment:
  - Overload and phase failure protection
  - Auxiliary contacts 1 NO + 1 NC
  - Manual and automatic RESET
  - Switch position indicator
  - TEST function and STOP buttons
  - Sealable
- Auxiliary contact terminal 14/22 and the contactor coil terminal A2 connected through
- For dimensions, wiring diagram and location of the terminals, see from page 848.

DESCRIPTION	NOMINAL CURRENT A / kW*	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 00</b>				
Thermal overload relay	0.11...0.16 A / 0.04 kW	9004840541731		<a href="#">LSTD0016</a>
Thermal overload relay	0.14...0.20 A / 0.06 kW	9004840541748		<a href="#">LSTD0020</a>
Thermal overload relay	0.18...0.25 A / 0.06 kW	9004840541755		<a href="#">LSTD0025</a>
Thermal overload relay	0.22...0.32 A / 0.09 kW	9004840541762		<a href="#">LSTD0032</a>
Thermal overload relay	0.28...0.40 A / 0.09 kW	9004840541779		<a href="#">LSTD0040</a>
Thermal overload relay	0.35...0.50 A / 0.12 kW	9004840541786		<a href="#">LSTD0050</a>
Thermal overload relay	0.45...0.63 A / 0.18 kW	9004840541793		<a href="#">LSTD0063</a>
Thermal overload relay	0.55...0.80 A / 0.18 kW	9004840541809		<a href="#">LSTD0080</a>
Thermal overload relay	0.70...1.00 A / 0.25 kW	9004840541816		<a href="#">LSTD0100</a>
Thermal overload relay	0.90...1.25 A / 0.37 kW	9004840541823		<a href="#">LSTD0125</a>
Thermal overload relay	1.10...1.60 A / 0.55 kW	9004840541830		<a href="#">LSTD0160</a>
Thermal overload relay	1.40...2.00 A / 0.75 kW	9004840541847		<a href="#">LSTD0200</a>
Thermal overload relay	1.80...2.50 A / 0.75 kW	9004840541854		<a href="#">LSTD0250</a>
Thermal overload relay	2.20...3.20 A / 1.10 kW	9004840541861		<a href="#">LSTD0320</a>
Thermal overload relay	2.80...4.00 A / 1.50 kW	9004840541878		<a href="#">LSTD0400</a>
Thermal overload relay	3.50...5.00 A / 1.50 kW	9004840541885		<a href="#">LSTD0500</a>
Thermal overload relay	4.50...6.30 A / 2.20 kW	9004840541892		<a href="#">LSTD0630</a>
Thermal overload relay	5.50...8.00 A / 3.00 kW	9004840541908		<a href="#">LSTD0800</a>
Thermal overload relay	7.00...10.0 A / 4.00 kW	9004840541915		<a href="#">LSTD1000</a>
Thermal overload relay	9.00...12.0 A / 5.00 kW	9004840541922		<a href="#">LSTD1200</a>

\*Reference values for 4-pole standard motors at 50 Hz/400 VAC. The selection depends on the specific starting and rated performance of the motor to be protected.



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## LST THERMAL OVERLOAD RELAYS, SIZE 0



LST0....

### SCHRACK INFO

- Equipment:
  - Overload and phase failure protection
  - Auxiliary contacts 1 NO + 1 NC
  - Manual and automatic RESET
  - Switch position indicator
  - TEST function and STOP buttons
  - Sealable
- For dimensions, wiring diagram and location of the terminals, see from page 848.

DESCRIPTION	NOMINAL CURRENT A / kW*	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 0</b>				
Thermal overload relay	1.8...2.5 A / 0.75 kW	9004840541939		<a href="#">LST00250</a>
Thermal overload relay	2.2...3.2 A / 1.1 kW	9004840541946		<a href="#">LST00320</a>
Thermal overload relay	2.8...4.0 A / 1.5 kW	9004840541953		<a href="#">LST00400</a>
Thermal overload relay	3.5...5.0 A / 1.5 kW	9004840541960		<a href="#">LST00500</a>
Thermal overload relay	4.5...6.3 A / 2.2 kW	9004840541977		<a href="#">LST00630</a>
Thermal overload relay	5.5...8.0 A / 3.0 kW	9004840541984		<a href="#">LST00800</a>
Thermal overload relay	7...10.0 A / 4.0 kW	9004840541991		<a href="#">LST01000</a>
Thermal overload relay	9...12.5 A / 5.5 kW	9004840542004		<a href="#">LST01250</a>
Thermal overload relay	11...16 A / 7.5 kW	9004840542011		<a href="#">LST01600</a>
Thermal overload relay	14...20 A / 7.5 kW	9004840542028		<a href="#">LST02000</a>
Thermal overload relay	17...22 A / 11.0 kW	9004840542035		<a href="#">LST02200</a>
Thermal overload relay	20...25 A / 11.0 kW	9004840542042		<a href="#">LST02500</a>

\*Reference values for 4-pole standard motors at 50 Hz/400 VAC. The selection depends on the specific starting and rated performance of the motor to be protected.

## LST THERMAL OVERLOAD RELAYS, SIZE 2



LST2....

### SCHRACK INFO

- Equipment:
  - Overload and phase failure protection
  - Auxiliary contacts 1 NO + 1 NC
  - Manual and automatic RESET
  - Switch position indicator
  - TEST function and STOP buttons
  - Sealable
- For dimensions, wiring diagram and location of the terminals, see from page 848.

DESCRIPTION	NOMINAL CURRENT A / kW*	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 2</b>				
Thermal overload relay	5.5...8 A / 3.0 kW	9004840542059		LST20800
Thermal overload relay	7...10 A / 4.0 kW	9004840542066		LST21000
Thermal overload relay	9...12.5 A / 5.5 kW	9004840542097		<a href="#">LST21250</a>
Thermal overload relay	11...16 A / 7.5 kW	9004840542103		<a href="#">LST21600</a>
Thermal overload relay	14...20 A / 7.5 kW	9004840542110		<a href="#">LST22000</a>
Thermal overload relay	18...25 A / 11.0 kW	9004840542127		<a href="#">LST22500</a>
Thermal overload relay	22...32 A / 15.0 kW	9004840542134		<a href="#">LST23200</a>
Thermal overload relay	28...40 A / 18.5 kW	9004840542141		<a href="#">LST24000</a>
Thermal overload relay	36...45 A / 22.0 kW	9004840542158		<a href="#">LST24500</a>
Thermal overload relay	40...50 A / 22.0 kW	9004840542165		<a href="#">LST25000</a>

\*Reference values for 4-pole standard motors at 50 Hz/400 VAC. The selection depends on the specific starting and rated performance of the motor to be protected.

# THERMAL OVERLOAD RELAYS

## LST THERMAL OVERLOAD RELAYS, SIZE 3



LST2...

### SCHRACK INFO

- Equipment:
  - Overload and phase failure protection
  - Auxiliary contacts 1 NO + 1 NC
  - Manual and automatic RESET
  - Switch position indicator
  - TEST function and STOP buttons
  - Sealable
- For dimensions, wiring diagram and location of the terminals, see from page 848.

DESCRIPTION	NOMINAL CURRENT A / kW*	EAN CODE	AVAILABLE	ORDER NO.
<b>SIZE 3</b>				
Thermal overload relay	18...25 A / 11.0 kW	9004840542172		LST32500
Thermal overload relay	22...32 A / 15.0 kW	9004840542189		LST33200
Thermal overload relay	28...40 A / 18.5 kW	9004840542196		<b>LST34000</b>
Thermal overload relay	36...50 A / 22.0 kW	9004840542202		<b>LST35000</b>
Thermal overload relay	45...63 A / 33.0 kW	9004840542219		<b>LST36300</b>
Thermal overload relay	57...75 A / 37.0 kW	9004840542226		<b>LST37500</b>
Thermal overload relay	70...90 A / 45.0 kW	9004840542233		<b>LST39000</b>
Thermal overload relay	80...100 A / 45.0 kW	9004840542240		<b>LST39999</b>

\*Reference values for 4-pole standard motors at 50 Hz/400 VAC. The selection depends on the specific starting and rated performance of the motor to be protected.

## SEPARATE MOUNTING BRACKET



LSZDTE01

### SCHRACK INFO

- For separate mounting of the thermal overload relays on mounting rail TS35 or DIN rail TH35
- Size 3 also suitable for TS75 or TH75

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Separate mounting bracket, size 00	9004840542257		<b>LSZDTE01</b>
Separate mounting bracket, size 0	9004840542264		<b>LSZ0TE01</b>
Separate mounting bracket, size 2	9004840542271		<b>LSZ2TE01</b>
Separate mounting bracket, size 3	9004840542288		<b>LSZ3TE01</b>



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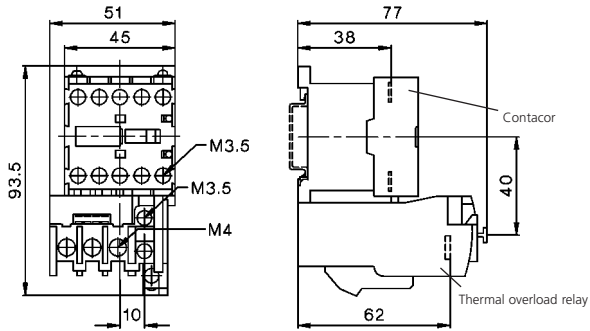
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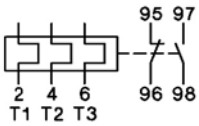


## LA1 THERMAL OVERLOAD RELAYS – DIMENSIONS, WIRING- AND CONNECTION DIAGRAMS

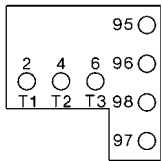
### LA1003.. (+ CONTACTOR LA1009..)



### LA1003.. manual reset



### LA1003..



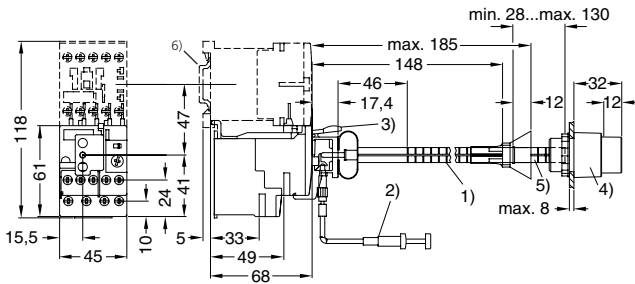
# THERMAL OVERLOAD RELAYS

## LST THERMAL OVERLOAD RELAYS – DIMENSIONS

Lateral distance to earthed parts at least 6 mm.

### LSTD, SIZE 00

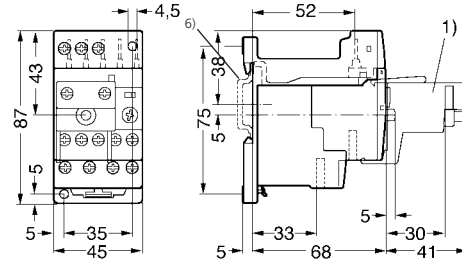
with mechanical RESET (on request)



- 1) Mechanical RESET (on request)
- 2) Wire release (on request)
- 3) Holder for RESET (on request)
- 4) Pushbutton (on request)
- 5) Extension plunger (on request)
- 6) Mounting rail TS/TH35

### LST0, SIZE 0

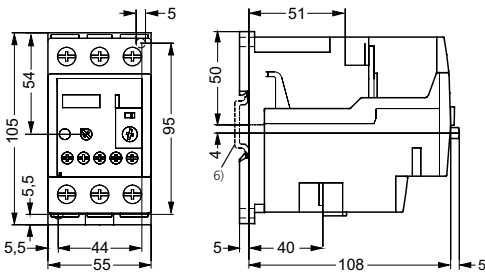
with separate mounting bracket LSZ0TE01



- 1) Mechanical RESET (on request)
- 6) Mounting rail TS/TH35

### LST2, SIZE 2

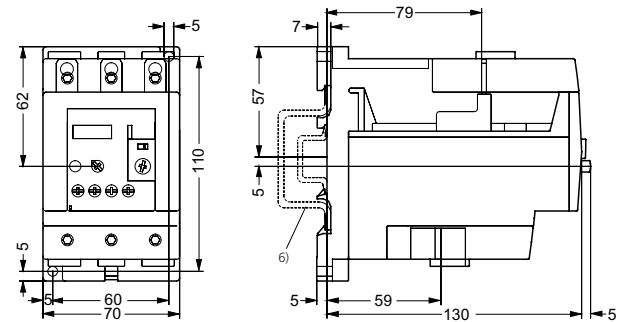
with separate mounting bracket LSZ2TE01



- 6) Mounting rail TS/TH35

### LST3, SIZE 3

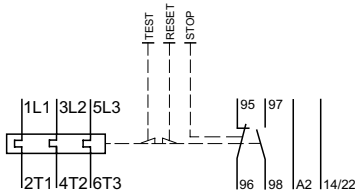
with separate mounting bracket LSZ3TE01



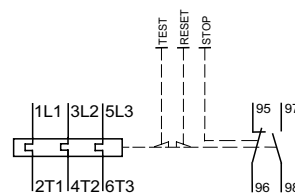
- 6) Mounting rail TS/TH35 or TS/TH75

## LST THERMAL OVERLOAD RELAYS – WIRING DIAGRAM

### LSTD



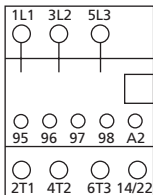
### LST0, LST2, LST3



## LST THERMAL OVERLOAD RELAYS – LOCATION OF TERMINALS

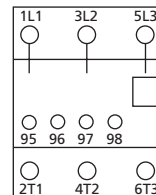
### LSTD

with LSZDTE01



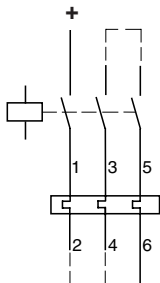
### LST0, LST2, LST3

with LST0TE01, LST2TE01, LST3TE01

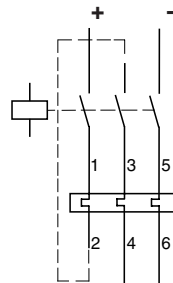


## PROTECTION OF DC MOTORS

### 1-POLE SWITCHED (+)



### 2-POLE SWITCHED (+,-)



TOP-TECHNIC



LOAD-BREAK SWITCHES



CAM SWITCHES



CAM SWITCHES CG8 VE21 FOR DIN RAIL MOUNTING



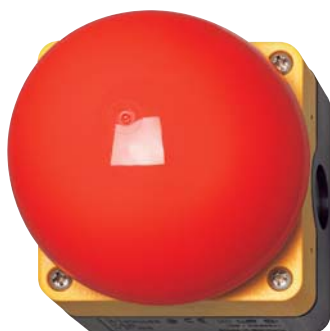
CAM SWITCHES CA10 PNL SEALED



SERIES MM – SETS



SERIES MM – COMPLETE UNITS



SERIES MM – PALM SWITCHES



SIGNAL LAMPS SERIES MM

*“You have to give ideas  
a chance to materialise.”*

Thomas Alva Edison,  
American inventor, discoverer of the thermionic effect



# MAIN- AND CONTROL SWITCHES, COMMAND- AND SIGNALLING DEVICES

## ▀ CONTENTS

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SYSTEM OVERVIEW SERIES MM .....	Page 882
SYSTEM OVERVIEW SERIES MS .....	Page 904

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## LOAD BREAK SWITCHES – DESIGN OVERVIEW

Typ	Ratings			Degree of protection from the front in installed condition			Label load-break switch mm	Emergency stop main switch	
	Nominal operating current Therm.			Motor				Installation	Distributor mounting with door coupling
	I <sub>th</sub> open AC21 at A	U <sub>e</sub> at A	U <sub>e</sub> V	AC3 3~400V kW	AC23 3~400V A	AC23 3~400V kW		IP66	Installation depth adjustable IP66
LTS20	20	20	690	5,5	12	7,5	64□		
LTS25	25	25	690	7,5	16	10	64□	LTS25 EHN4 ..	LTS25 VHN4 ..
LTS32	32	32	690	11	23	12,5	64□	LTS32 EHN4 ..	LTS32 VHN4 ..
LTS40	40	40	690	15	30	16	64□	LTS40 EHN4 ..	LTS40 VHN4 ..
LTS63	63	63	690	18,5	45	22	64□	LTS63 EHN4 ..	LTS63 VHN4 ..
LTS80	80	80	690	18,5	45	22	64□	LTS80 EHN4 ..	LTS80 VHN4 ..
LTS85	85	85	690	22	60	30	64□	LTS85 EHN4 ..	LTS85 VHN4 ..
LTS100	100	100	690	30	72	37	64□	LTS100 EHN4 ..	LTS100 VHN4 ..
LTS125	125	125	690	37	85	45	64□	LTS125 EHN4 ..	LTS125 VHN4 ..

## SWITCHING PROGRAMS

On-Off switch, 3-pole	●●●●● A3
On-Off switch, 4-pole	●●●●● A4
On-Off switch, 6-pole	●●●●● A6
On-Off switch, 8-pole	●●●●● A8
Changeover switch with zero position, 3-pole	●●●●● U3
Changeover switch with zero position, 4-pole	●●●●● U4

## ORDER NUMBER KEY

IN 8 ● ● ● ● ●			
Installation	E	2	20 A
Central fastening	Z	3	25 A
Floor mounting V	A	4	32 A
Floor mounting VZ	B	5	40 A
Floor mounting VZV	C	7	63 A
Modular mounting	R	8	80 A
Insulated enclosure	P	9	85 A
		A	100 A
		B	125 A
On/Off switch	0	0	without options
Main switch	1	2	with SV1
Emergency stop switch	2	3	with SV4
Changeover switch	3	4	with SV34
Changeover switch with locking device	5		Number of poles

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## Emergency stop main switch

Modular mounting

IP40



Insulated enclosure  
IP66



## Main switch

Installation

IP66



## Load-break switch

Modular mounting

IP40



LTS20 SMAHN1 ..	LTS20 PFHN4 ..	LTS20 EH4 ..	LTS20 SMA ..
LTS25 SMAHN1 ..	LTS25 PFHN4 ..	LTS25 EH4 ..	LTS25 SMA ..
LTS32 SMAHN1 ..	LTS32 PFHN4 ..	LTS32 EH4 ..	LTS32 SMA ..
LTS40 SMAHN1 ..	LTS40 PFHN4 ..	LTS40 EH4 ..	LTS40 SMA ..
LTS63 SMAHN1 ..	LTS63 PFHN4 ..	LTS63 EH4 ..	LTS63 SMA ..
LTS80 SMAHN1 ..	LTS80 PFHN4 ..	LTS80 EH4 ..	LTS80 SMA ..
LTS85 SMAHN1 ..		LTS85 EH4 ..	LTS85 SMA ..
LTS100 SMAHN1 ..		LTS100 EH4 ..	LTS100 SMA ..
LTS125 SMAHN1 ..		LTS125 EH4 ..	LTS125 SMA ..

## LOAD-BREAK SWITCHES LT(S).. 20-125 A – GENERAL INFORMATION



### SCHRACK INFO

Load-break switches can be used anywhere where compact ON-OFF switches with large contact gaps (isolators) and a high contact pressure, and where a greater short circuit protection is required.

Therefore, they are available as:

**Main switches** according to IEC/EN 60204 and VDE 0113 with locking device, terminal cover and forced-switching contactors.

**Disconnectors** according to IEC/EN 60947-3 and VDE 0660 Part 107 with disconnecting distance for 690 V.

**Motor switches**, 3-pole or 4-pole. According to IEC/EN 60947-3 and VDE 0660 Part 107, the LT(S) series switches have a high AC3 and AC23 A switching capacity.

## MAIN SWITCHES AND MAIN SWITCHES WITH EMERGENCY STOP FUNCTION – GENERAL INFORMATION



LTS20VH4

### SCHRACK INFO

In accordance with the standards IEC/EN 60204/ VDE0113, all production machines and machine tools must be equipped with a main switch, which disconnects all electrical equipment from all active mains connections during cleaning, maintenance and repair work, and during longer downtimes.

Where 2 or more main switches are required, suitable protective interlocking devices must be used. However, we recommend the use of a multi-pole main switch (cam switch).

The **main switch** must be one of the following types:

- Load-break switch which meets IEC/EN 60947-3 and VDE 0660 part 107 for application category AC23-B or DC-23B.
- Disconnector with auxiliary contact (for example: switching program A3-10), which ensures at all times that the switch devices can break the load before the main contacts of the disconnector are opened.
- The breaking capacity must be sufficient to shut off the power to the largest motor in stalled state together with the sum of the operating currents of all other motors and/or loads.

Requirements:

Disconnecting the electrical equipment from mains, where only one On and one Off position are available, clearly marked with O and I. It must be lockable in the Off position.

To protect against accidental touching, the line terminals of a main switch must meet at least the degree of protection IP2X. Colour of handle black or grey.

The **main switch with emergency stop function** must also be equipped with a red switch handle, and the face plate behind the switch handle must be yellow, so that the handle clearly stands out.

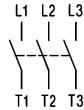


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

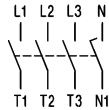
## EMERGENCY STOP SWITCH FOR PANEL MOUNTING, LOCKABLE, IP66



IN8E2333





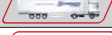
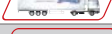


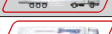

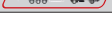

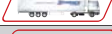



3-pole



4-pole

### SCHRACK INFO

- Rated therm. current: AC21 / 690 V
- Motor: AC23 / 3x400 V
- Degree of protection, front: IP66
- Degree of protection, switch: IP40
- For max. 3 padlocks
- For dimensions, see page 856.

NOMINAL CURRENT/SWITCHING CAPACITY	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE, LOCKING DEVICE SV4</b>				
Emergency stop main switch, 3-pole/20 A/7.5 kW	LTS20 EHN4 A3	9004840276602		<a href="#">IN8E2332</a>
Emergency stop main switch, 3-pole/25 A/10 kW	LTS25 EHN4 A3	9004840279399		<a href="#">IN8E2333</a>
Emergency stop main switch, 3-pole/32 A/12.5 kW	LTS32 EHN4 A3	9004840276640		<a href="#">IN8E2334</a>
Emergency stop main switch, 3-pole/40 A/16 kW	LTS40 EHN4 A3	9004840276695		<a href="#">IN8E2335</a>
Emergency stop main switch, 3-pole/63 A/22 kW	LTS63 EHN4 A3	9004840279351		<a href="#">IN8E2337</a>
Emergency stop main switch, 3-pole/80 A/22 kW	LTS80 EHN4 A3	9004840279368		<a href="#">IN8E2338</a>
Emergency stop main switch, 3-pole/85 A/30 kW	LTS85 EHN4 A3	9004840625424		<a href="#">IN8E2339</a>
Emergency stop main switch, 3-pole/100 A/37 kW	LTS100 EHN4 A3	9004840625462		<a href="#">IN8E233A</a>
Emergency stop main switch, 3-pole/125 A/45 kW	LTS120 EHN4 A3	9004840625479		<a href="#">IN8E233B</a>
<b>4-POLE, LOCKING DEVICE SV4</b>				
Emergency stop main switch, 4-pole/20 A/5.5 kW	LTS20 EHN4 A4	9004840459630		<a href="#">IN8E2432</a>
Emergency stop main switch, 4-pole/25 A/7.5 kW	LTS25 EHN4 A4	9004840459647		<a href="#">IN8E2433</a>
Emergency stop main switch, 4-pole/32 A/11 kW	LTS32 EHN4 A4	9004840459654		<a href="#">IN8E2434</a>
Emergency stop main switch, 4-pole/40 A/15 kW	LTS40 EHN4 A4	9004840459661		<a href="#">IN8E2435</a>
Emergency stop main switch, 4-pole/63 A/22 kW	LTS63 EHN4 A4	9004840459678		<a href="#">IN8E2437</a>
Emergency stop main switch, 4-pole/80 A/22 kW	LTS80 EHN4 A4	9004840459685		<a href="#">IN8E2438</a>



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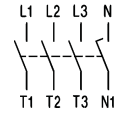
Order no. blue: on stock, usually ready for delivery on the day of order!

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## EMERGENCY STOP SWITCH FOR FLOOR MOUNTING WITH 4-HOLE PATTERN, DOOR COUPLING AND LOCKING DEVICE, IP66



LTS20VH4



4-pole

### SCHRACK INFO

- Installation depth adjustable later
- Rated therm. current: AC21 / 690 V
- Motor: AC23 / 3x400 V
- Degree of protection, front: IP66
- Degree of protection, switch: IP40
- For max. 3 padlocks
- For dimensions, see page 857.

NOMINAL CURRENT/SWITCHING CAPACITY	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>4-POLE, LOCKING DEVICE SV4</b>				
Emergency stop main switch, 4-pole/20 A/7.5 kW	LTS20 VHN4 A4	9004840460445		IN8A2432
Emergency stop main switch, 4-pole/25 A/10 kW	LTS25 VHN4 A4	9004840460452		IN8A2433
Emergency stop main switch, 4-pole/32 A/12.5 kW	LTS32 VHN4 A4	9004840460469		IN8A2434
Emergency stop main switch, 4-pole/40 A/16 kW	LTS40 VHN4 A4	9004840375862		<b>IN8A2435</b>
Emergency stop main switch, 4-pole/63 A/22 kW	LTS63 VHN4 A4	9004840375909		<b>IN8A2437</b>
Emergency stop main switch, 4-pole/80 A/22 kW	LTS80 VHN4 A4	9004840460476		IN8A2438



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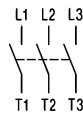
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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

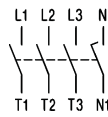
## EMERGENCY STOP MAIN SWITCH FOR DIN-RAIL MOUNTING, LOCKABLE, IP40



LTS20SMA



3-pole



4-pole

### SCHRACK INFO

- Rated therm. current: AC21 / 690 V
- Motor: AC23 / 3x400 V
- Degree of protection: IP40
- For max. 2 padlocks
- For dimensions, see page 858.

NOMINAL CURRENT/SWITCHING CAPACITY	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE, LOCKING DEVICE SV1</b>				
Emergency stop main switch, modular/20 A/7.5 kW	LTS20 SM AHN1 A3	9004840276626		<a href="#">IN8R2322</a>
Emergency stop main switch, modular/25 A/10 kW	LTS25 SM AHN1 A3	9004840375848		<a href="#">IN8R2323</a>
Emergency stop main switch, modular/32 A/12.5 kW	LTS32 SM AHN1 A3	9004840276671		<a href="#">IN8R2324</a>
Emergency stop main switch, modular/40 A/16 kW	LTS40 SM AHN1 A3	9004840276718		<a href="#">IN8R2325</a>
Emergency stop main switch, modular/63 A/22 kW	LTS63 SM AHN1 A3	9004840375893		<a href="#">IN8R2327</a>
Emergency stop main switch, modular/80 A/22 kW	LTS80 SM AHN1 A3	9004840375930		<a href="#">IN8R2328</a>
Emergency stop main switch, modular/85 A/30 kW	LTS85 SM AHN1 A3	9004840617092		<a href="#">IN8R2329</a>
Emergency stop main switch, modular/100/37 kW	LTS100 SM AHN1 A3	9004840625516		<a href="#">IN8R232A</a>
Emergency stop main switch, modular/125 A/45 kW	LTS125 SM AHN1 A3	9004840625523		<a href="#">IN8R232B</a>
<b>4-POLE, LOCKING DEVICE SV1</b>				
Emergency stop main switch, modular/20 A/7.5 kW	LTS20 SM AHN1 A4	9004840460384		<a href="#">IN8R2422</a>
Emergency stop main switch, modular/25 A/10 kW	LTS25 SM AHN1 A4	9004840460391		<a href="#">IN8R2423</a>
Emergency stop main switch, modular/32 A/12.5 kW	LTS32 SM AHN1 A4	9004840460407		<a href="#">IN8R2424</a>
Emergency stop main switch, modular/40 A/16 kW	LTS40 SM AHN1 A4	9004840460414		<a href="#">IN8R2425</a>
Emergency stop main switch, modular/63 A/22 kW	LTS63 SM AHN1 A4	9004840460421		<a href="#">IN8R2427</a>
Emergency stop main switch, modular/80 A/22 kW	LTS80 SM AHN1 A4	9004840460438		<a href="#">IN8R2428</a>



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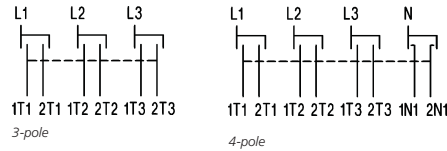
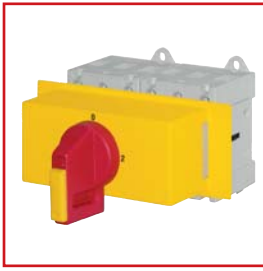
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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CHANGEOVER SWITCH WITH LOCKING DEVICE FOR DIN-RAIL MOUNTING, LOCKABLE, IP40



### SCHRACK INFO

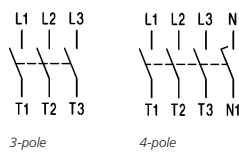
- Rated therm. current: AC21 / 690 V
- Motor: AC23 / 3x400 V
- Degree of protection: IP40
- For max. 2 padlocks
- For dimensions, see page 858.

NOMINAL CURRENT/SWITCHING CAPACITY	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE, LOCKING DEVICE SV164</b>				
Changeover switch, modular, lockable/20 A/ 7.5 kW	LTS20 SM AHN1 U3	9004840555646		IN8R5322
Changeover switch, modular, lockable/25 A/ 10 kW	LTS25 SM AHN1 U3	9004840555653		IN8R5323
Changeover switch, modular, lockable/32 A/ 12.5 kW	LTS32 SM AHN1 U3	9004840555660		IN8R5324
Changeover switch, modular, lockable/40 A/ 16 kW	LTS40 SM AHN1 U3	9004840555677		IN8R5325
Changeover switch, modular, lockable/63 A/ 22 kW	LTS63 SM AHN1 U3	9004840555684		IN8R5327
Changeover switch, modular, lockable/80 A/ 22 kW	LTS80 SM AHN1 U3	9004840555691		IN8R5328
<b>4-POLE, LOCKING DEVICE SV164</b>				
Changeover switch, modular, lockable/20 A/ 7.5 kW	LTS20 SM AHN1 U4	9004840555707		IN8R5422
Changeover switch, modular, lockable/25 A/ 10 kW	LTS25 SM AHN1 U4	9004840555714		IN8R5423
Changeover switch, modular, lockable/32 A/ 12.5 kW	LTS32 SM AHN1 U4	9004840555721		IN8R5424
Changeover switch, modular, lockable/40 A/ 16 kW	LTS40 SM AHN1 U4	9004840555738		IN8R5425
Changeover switch, modular, lockable/63 A/ 22 kW	LTS63 SM AHN1 U4	9004840555745		<a href="#">IN8R5427</a>
Changeover switch, modular, lockable/80 A/ 22 kW	LTS80 SM AHN1 U4	9004840555752		IN8R5428

## MAINTANANCE AND SAFETY SWITCH, PLASTIC ENCLOSED, LOCKABLE, IP65



LTS20PF



### SCHRACK INFO

- Rated therm. current: AC21 / 690 V
- Motor: AC23 / 3x400 V
- Degree of protection: IP66
- For max. 3 padlocks
- For dimensions, see page 858.

NOMINAL CURRENT/SWITCHING CAPACITY	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE, LOCKING DEVICE SV4</b>				
Emergency stop main switch, 3-pole/20 A/7.5 kW	LTS20 PFHN4 A3	9004840276619		<a href="#">IN8P2332</a>
Emergency stop main switch, 3-pole/25 A/10 kW	LTS25 PFHN4 A3	9004840279382		<a href="#">IN8P2333</a>
Emergency stop main switch, 3-pole/32 A/12.5 kW	LTS32 PFHN4 A3	9004840276657		<a href="#">IN8P2334</a>
Emergency stop main switch, 3-pole/40 A/16 kW	LTS40 PFHN4 A3	9004840459753		<a href="#">IN8P2335</a>
Emergency stop main switch, 3-pole/63 A/22 kW	LTS63 PFHN4 A3	9004840459760		<a href="#">IN8P2337</a>
Emergency stop main switch, 3-pole/80 A/22 kW	LTS80 PFHN4 A3	9004840279375		<a href="#">IN8P2338</a>
<b>4-POLE, LOCKING DEVICE SV4</b>				
Emergency stop main switch, 4-pole/20 A/7.5 kW	LTS20 PFHN4 A4	9004840459777		<a href="#">IN8P2432</a>
Emergency stop main switch, 4-pole/25 A/10 kW	LTS25 PFHN4 A4	9004840459784		IN8P2433
Emergency stop main switch, 4-pole/32 A/12.5 kW	LTS32 PFHN4 A4	9004840276664		<a href="#">IN8P2434</a>
Emergency stop main switch, 4-pole/40 A/16 kW	LTS40 PFHN4 A4	9004840459791		IN8P2435
Emergency stop main switch, 4-pole/63 A/18.5 kW	LTS63 PFHN4 A4	9004840459807		IN8P2437
Emergency stop main switch, 4-pole/80 A/22 kW	LTS80 PFHN4 A4	9004840459814		IN8P2438

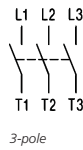


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## MAIN SWITCH FOR PANEL MOUNTING, LOCKABLE, IP66



LTS20EH4



### SCHRACK INFO

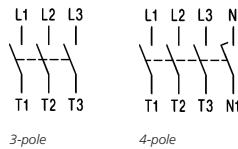
- Rated therm. current: AC21 / 690 V
- Motor: AC23 / 3x400 V
- Degree of protection, front: IP66
- Degree of protection, switch: IP40
- For max. 3 padlocks
- For dimensions, see page 856.

NOMINAL CURRENT/SWITCHING CAPACITY	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE, LOCKING DEVICE SV4</b>				
Main switch, 3-pole/20 A/7.5 kW	LTS20 EH4 A3	9004840276596		<a href="#">IN8E1332</a>
Main switch, 3-pole/25 A/10 kW	LTS25 EH4 A3	9004840375824		<a href="#">IN8E1333</a>
Main switch, 3-pole/32 A/12.5 kW	LTS32 EH4 A3	9004840276633		<a href="#">IN8E1334</a>
Main switch, 3-pole/40 A/16 kW	LTS40 EH4 A3	9004840276688		<a href="#">IN8E1335</a>
Main switch, 3-pole/63 A/22 kW	LTS63 EH4 A3	9004840375879		<a href="#">IN8E1337</a>
Main switch, 3-pole/80 A/22 kW	LTS80 EH4 A3	9004840375916		<a href="#">IN8E1338</a>
Main switch, 3-pole/85 A/30 kW	LTS85 EH4 A3	9004840625431		<a href="#">IN8E1339</a>
Main switch, 3-pole/100 A/37 kW	LTS100 EH4 A3	9004840625448		<a href="#">IN8E133A</a>
Main switch, 3-pole/125 A/45 kW	LTS125 EH4 A3	9004840625455		<a href="#">IN8E133B</a>

## MAIN SWITCH FOR DIN-RAIL MOUNTING, LOCKABLE, IP40



LTS20SM AH1



### SCHRACK INFO

- Rated therm. current: AC21 / 690 V
- Motor: AC23 / 3x400 V
- Degree of protection: IP40
- For max. 2 padlocks
- For dimensions, see page 858.

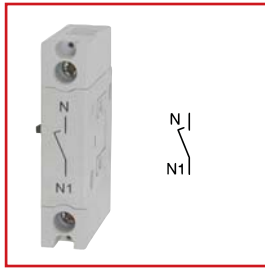
NOMINAL CURRENT/SWITCHING CAPACITY	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>3-POLE, LOCKING DEVICE SV1</b>				
Main switch, 3-pole/20 A/7.5 kW	LTS20 SM AH1 A3	9004840375817		<a href="#">IN8R1322</a>
Main switch, 3-pole/25 A/10 kW	LTS25 SM AH1 A3	9004840375831		<a href="#">IN8R1323</a>
Main switch, 3-pole/32 A/12.5 kW	LTS32 SM AH1 A3	9004840375855		<a href="#">IN8R1324</a>
Main switch, 3-pole/40 A/16 kW	LTS40 SM AH1 A3	9004840276701		<a href="#">IN8R1325</a>
Main switch, 3-pole/63 A/22 kW	LTS63 SM AH1 A3	9004840375886		<a href="#">IN8R1327</a>
Main switch, 3-pole/80 A/22 kW	LTS80 SM AH1 A3	9004840375923		<a href="#">IN8R1328</a>
Main switch, 3-pole/85 A/30 kW	LTS85 SM AH1 A3	9004840625486		<a href="#">IN8R1329</a>
Main switch, 3-pole/100 A/37 kW	LTS100 SM AH1 A3	9004840625493		<a href="#">IN8R132A</a>
Main switch, 3-pole/125 A/45 kW	LTS125 SM AH1 A3	9004840625509		<a href="#">IN8R132B</a>
<b>4-POLE, LOCKING DEVICE SV1</b>				
Main switch, 4-pole/20 A/7.5 kW	LTS20 SM AH1 A4	9004840459692		<a href="#">IN8R1422</a>
Main switch, 4-pole/25 A/10 kW	LTS25 SM AH1 A4	9004840459708		<a href="#">IN8R1423</a>
Main switch, 4-pole/32 A/12.5 kW	LTS32 SM AH1 A4	9004840459715		<a href="#">IN8R1424</a>
Main switch, 4-pole/40 A/16 kW	LTS40 SM AH1 A4	9004840459722		<a href="#">IN8R1425</a>
Main switch, 4-pole/63 A/22 kW	LTS63 SM AH1 A4	9004840459739		<a href="#">IN8R1427</a>
Main switch, 4-pole/80 A/22 kW	LTS80 SM AH1 A4	9004840459746		<a href="#">IN8R1428</a>



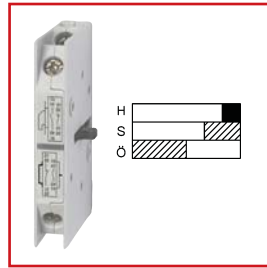
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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ADD-ON MODULES FOR MAIN SWITCHES AND SWITCH DISCONNECTORS



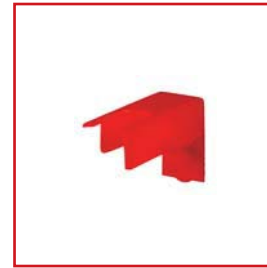
IN809003



IN809001



IN809012



IN809015

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>4TH POLE FOR 3-POLE SWITCHES</b>			
LTS20 to LTS40, panel mounting	9004840508833		<a href="#">IN809002</a>
LTS63 to LTS80, panel mounting	9004840509113		<a href="#">IN809003</a>
LTS20 to LTS40, modular mounting, floor mounting	9004840509106		IN809004
LTS63 to LTS80, modular mounting, floor mounting	9004840509120		IN809005
<b>AUXILIARY CONTACT BLOCK 1 NO + 1 NC</b>			
LTS20 to LTS125, panel mounting, modular mounting, floor mounting	9004840508857		<a href="#">IN809001</a>
<b>TERMINAL COVER, 3-POLE</b>			
LTS20 to LTS40, modular mounting, floor mounting	9004840665369		IN809012
LTS20 to LTS40, panel mounting	9004840665376		IN809013
LTS63 to LTS80, panel mounting, modular mounting, floor mounting	9004840665376		IN809013
LTS85 to LTS125, panel mounting, modular mounting, floor mounting	9004840665383		IN809014
<b>TERMINAL COVER FOR 4TH POLE</b>			
Mains side LTS63/LTS80, panel mounting, modular mounting, floor mounting	9004840665390		IN809015
Load side LTS63/LTS80, panel mounting, modular mounting, floor mounting	9004840665406		IN809016
<b>TERMINAL COVER, 4-POLE</b>			
LTS20 to LTS40, modular mounting, floor mounting	9004840665369		IN809012
LTS85 to LTS125, panel mounting, modular mounting, floor mounting	9004840665383		IN809014



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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## MAIN SWITCHES, LOAD-BREAK SWITCHES LT(S).. – TECHNICAL DATA

Data meet IEC 947-3, IEC 947-5-1, VDE 0660, EN 60947-3, EN 60947-5-1

Type	LTS20	LTS25	LTS32	LTS40	LTS63	LTS80	LTS85	LTS100	LTS125	
<b>Main contacts</b>										
Thermal rated operating current I <sub>th</sub> open	A	20	25	32	40	63	80	85	100	125
Thermal rated operating current I <sub>th</sub> sealed	A	20	25	32	40	63	80	85	100	110
Rated insulation voltage U <sub>i</sub> <sup>1)</sup>	V	690	690	690	690	690	1000 <sup>5)</sup>	1000 <sup>5)</sup>	1000 <sup>5)</sup>	1000 <sup>5)</sup>
Rated operating current I <sub>e</sub> AC21A	A	20	25	32	40	63	80	85	100	125
Making capacity I <sub>eff</sub> 3x380-440V	A	160	190	220	300	370	440	600	725	850
Breaking capacity	3x220-240V	A	160	180	200	250	330	380	480	580
	3x380-440V	A	160	180	200	250	330	380	480	580
	3x660-690V	A	80	110	140	170	190	220	250	330
Breaker conditions up to	V	690	690	690	690	690	690	1000	1000	1000
Motor switches AC3 3x400V	A	12	16	23	30	37	37	45	60	72
Motor switches for operational switching	AC3 3x220-240V	kW	3	4	5.5	7.5	11	11	15	18.5
	AC3 3x380-440V	kW	5.5	7.5	11	15	18.5	18.5	22	30
	AC3 3x660-690V	kW	5.5	7.5	11	15	18.5	18.5	22	30
Main switch, AC23 3x400V	A	16	20	25	32	45	45	60	72	85
Main switch, AC23A 3x220-240V	kW	4	5.5	7.5	9	15	15	18.5	22	30
Comutator principal, AC23B 3x380-440V	kW	7.5	10	12.5	16	22	22	30	37	45
Repair switch 3x660-690V	kW	5.5	7.5	11	15	18.5	18.5	22	30	37
Conditional rated short-circuit current	kA <sub>eff</sub>	10	10	10	10	10	10	10	10	10
Maximum back-up fuse	gL (gG)	A	25	35	40	50	63	80	100	125
Mechanical endurance	x10 <sup>3</sup>	200	200	200	200	100	100	100	100	100
Rated short-time current protection (1-second power)	A	250	300	400	500	600	850	1000	1200	1500
<b>Maximum terminal capacity</b>										
solid or stranded	mm <sup>2</sup>	10	10	10	10	25	25	50	50	50
	AWG	8	8	8	8	4	4	0	0	0
finely stranded (+ ferrule)	mm <sup>2</sup>	6	6	6	6	16	16	35	35	35
	AWG	10	10	10	10	6	6	2	2	2
Terminal screw		M3.5	M3.5	M3.5	M3.5	M5	M5	M6	M6	M6
Tightening torque	Nm	0.8-1.7	0.8-1.7	0.8-1.7	0.8-1.7	2-4	2-4	3.5-4.5	3.5-4.5	3.5-4.5
	lb.inch	7-15	7-15	7-15	7-15	18-35	18-35	31-40	31-40	31-40
<b>Auxiliary contacts</b>										
Rated insulation voltage U <sub>i</sub> <sup>1)</sup>	V	690	690	690	690	690	690	690	690	690
Thermal rated operating current I <sub>th</sub> , I <sub>th</sub> e	A	10	10	10	10	10	10	10	10	10
Breaking capacity	AC15 220-240V	A	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	AC15 380-440V	A	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Conditional rated short-circuit current	kA <sub>eff</sub>	3	3	3	3	3	3	3	3	3
Maximum back-up fuse	gL (gG)	A	10	10	10	10	10	10	10	10
<b>Maximum terminal capacity</b>										
solid or stranded	mm <sup>2</sup>	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	AWG	12	12	12	12	12	12	12	12	12
finely stranded (+ ferrule)	mm <sup>2</sup>	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	AWG	14	14	14	14	14	14	14	14	14

### Data in accordance with UL and cUL

Type	LTS20	LTS25	LTS32	LTS40	LTS63	LTS80	LTS85	LTS100	LTS125
Rated operating voltage	V	600	600	600	600	600	600	600	600
Ampere-Rating "General use"	A	20	25	32	40	63	80	85	100
DOL rating, 3-phase	110-120V	HP	1	1.5	2	2	3	5	7.5
	220-240V	HP	3	5	5	5	10	20	25
	440-480V	HP	7.5	10	10	10	20	40	50
	550-600V	HP	10	10	15	15	25	50	60
DOL rating, 1-phase	110-120V	HP	1	1	1	2	2	3	5
	200-208V	HP	1	2	2	2	3	7.5	10
	220-240V	HP	2	2	3	3	5	10	15
Fuse size (RK5) 5kA / 600V	Manual Motor Controller	A	40	50	50	70	90	110	200
	Motor Disconnect	A	40	50	50	50	70	70	-

1) Applies to: Mains with earthed Y point, overvoltage category I to III, pollution degree 3 (Industrial standard): U<sub>imp</sub> = 6 kV.

Values for other conditions on request

2) The smaller value is for 6-pole switches

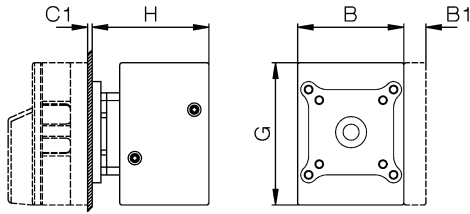
5) U<sub>imp</sub> = 8 kV

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

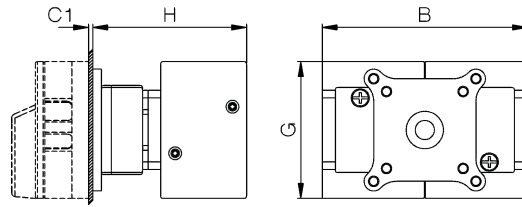
## MAIN SWITCHES, LOAD-BREAK SWITCHES LT(S).. – DIMENSIONS

### PANEL MOUNTING

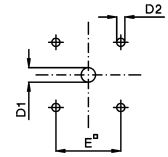
**Installation LT.. E(HN)..**  
On-Off switch, 3-pole, 4-pole



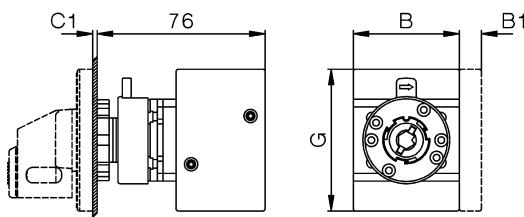
**Changeover switch, 3-pole, 4-pole**



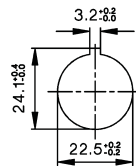
**Drilling plan**



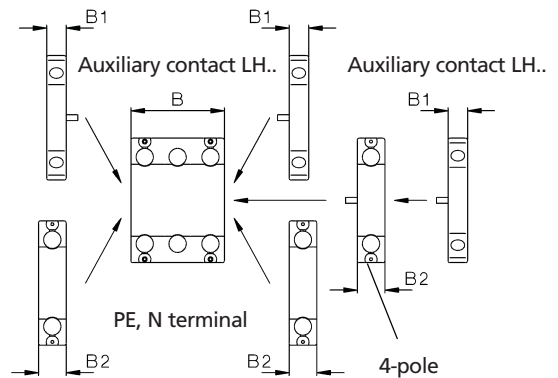
**Central mounting LTS.. Z(HN)..**  
On-Off switch, 3-pole, 4-pole



**Drilling plan**

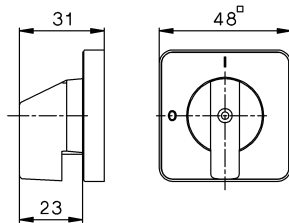


**Mounting of optional modules LTS20 - LTS80**  
Installation, central mounting

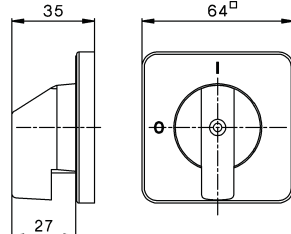


Type	Changeover switch Off switch	Label or locking device	3-pole		4-pole		Auxiliary contacts	4-pole			3-4-pole			3-4-pole			
			A	B	B	B		B	B1	PE B2	C1	D1	D2	E	F	G	H
LTS20-80..	48 □, SV1	48 □	48	48	62.5	-	-	10	14.5	1-5	10	5	36	-	64	54	-
LTS20-80..	64 □, SV4, SV164	64 □	64	48	62.5	97	126	10	14.5	1-5	10	5	48	-	64	54	74
LTS85-125..	64 □, SV4	64 □	64	78	78	-	-	10	-	1-5	10	5	48	-	85	60	-

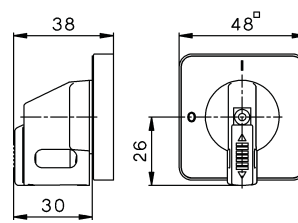
**Label**  
48 □



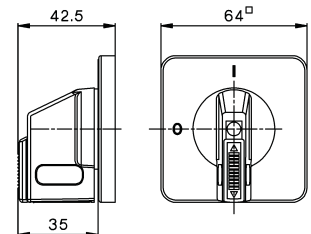
64 □



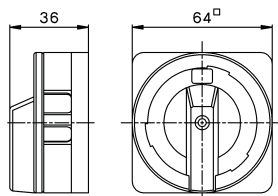
**Locking devices SV1**



**SV164**



**Locking devices SV4**





# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## MAIN SWITCHES, LOAD-BREAK SWITCHES LT(S).. – DIMENSIONS

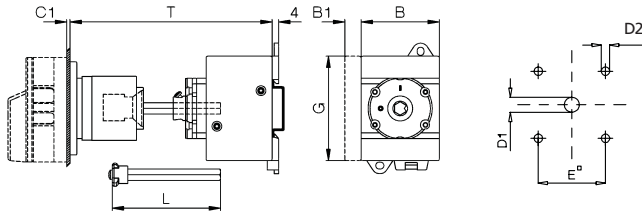
### FLOOR MOUNTING

#### Floor mounting LT(S).. V(HN)..

On-Off switch, 3-pole, 4-pole

Drilling plan

**L = T - 60±3** applies only to switches LTS...



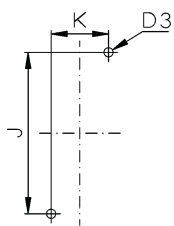
Type	T min T max	L
LTS20-80 VH..	111 - 190	T - 60±3
LTS85-125 VH..	115 - 190	T - 64±3

Type	Changeover switch Off switch Locking device	3-pole		3,4-pole	Aux. contact	PE 4th pole	C1	D1	D2	D3	E	G	K	J
		B	B	B	B1	B2								
LTS20 - 40	64 <sup>□</sup> , SV4, SV164	48	48	97	10	14.5	1-5	10	5	M4	48	64	25	70
LTS63, 80	64 <sup>□</sup> , SV4, SV164	48	48	97	10	14.5	1-5	10	5	M4	48	64	25	70
LTS85 - 125	64 <sup>□</sup> , SV4	78	78	-	10	-	1-5	9	5	M4	48	85	38	90

#### Floor mounting

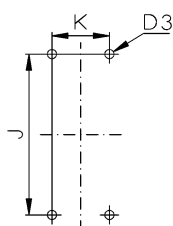
On-Off switches LTS20 - LTS80

3-pole, 4-pole



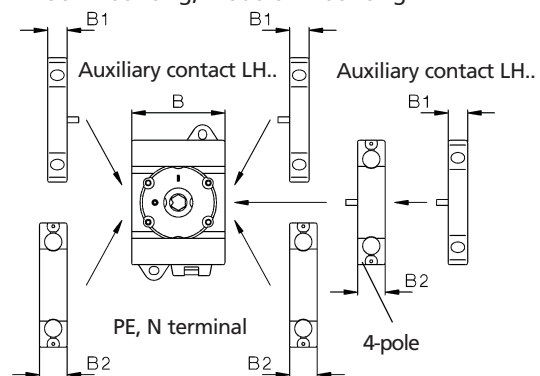
#### LTS85-125

3-pole, 4-pole



#### Mounting of optional modules LTS20 - LTS80

Floor mounting, modular mounting



- 1) dia. 22-25 only for LT80(100) VH(N)34 ..
- 2) dia. 26-30 only for LT125(160) VH(N)34 ..

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

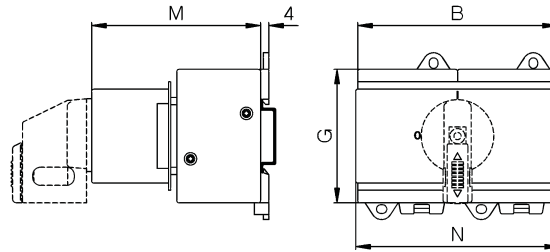
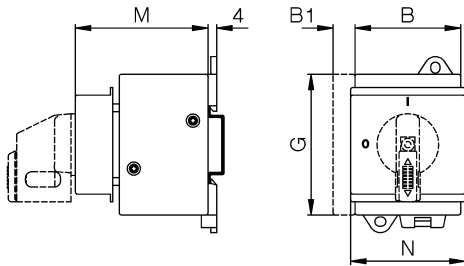
## MAIN SWITCHES, LOAD-BREAK SWITCHES LT(S).. – DIMENSIONS

### MODULAR

#### Modular mounting LT(S).. SMA(HN)..

On-Off switch, 3-pole, 4-pole

Changeover switch, 3-pole, 4-pole

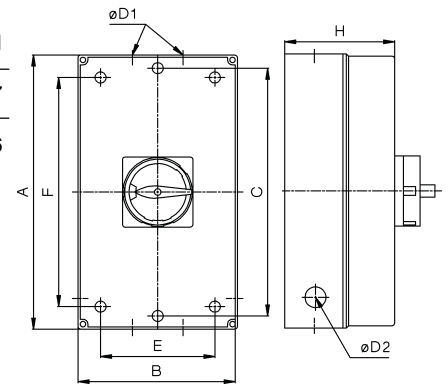


Type	Locking device	Changeover switch		3,4-pole			G	3,4-pole		3,4-pole		
		Off switch	3-pole	4-pole	Auxiliary contacts	4th pole PE		3-pole 4-pole	M	M	3-pole 4-pole	3,4-pole
		B	B	B	B1	B2		M	M	M	N	N
LTS20 - 40	SV1, SV164	48	48	96	10	14.5	64	60	60	74	52	97 <sup>1)</sup>
LTS63, 80	SV1, SV164	48	62.5	125	10	14.5	64	60	74	74	52	126
LTS85-125..	SV164	78	78	-	10	-	85	60	-	-	78	-

1) including break-off taps 126 mm

#### Repair switch with insulated enclosure LT(S)..PF..

Type	Poles	A	B	D1	D2	E	F	H
LTS20 PFH.. A., LTS40 PFH.. A	3, 4	130	98	2x25,5/20,5	-	75	100	77
LTS63 PFH.. - LTS80 PFH.. A.	3, 4	200	120	40.5/32.5 +16.5	-	95	165	86

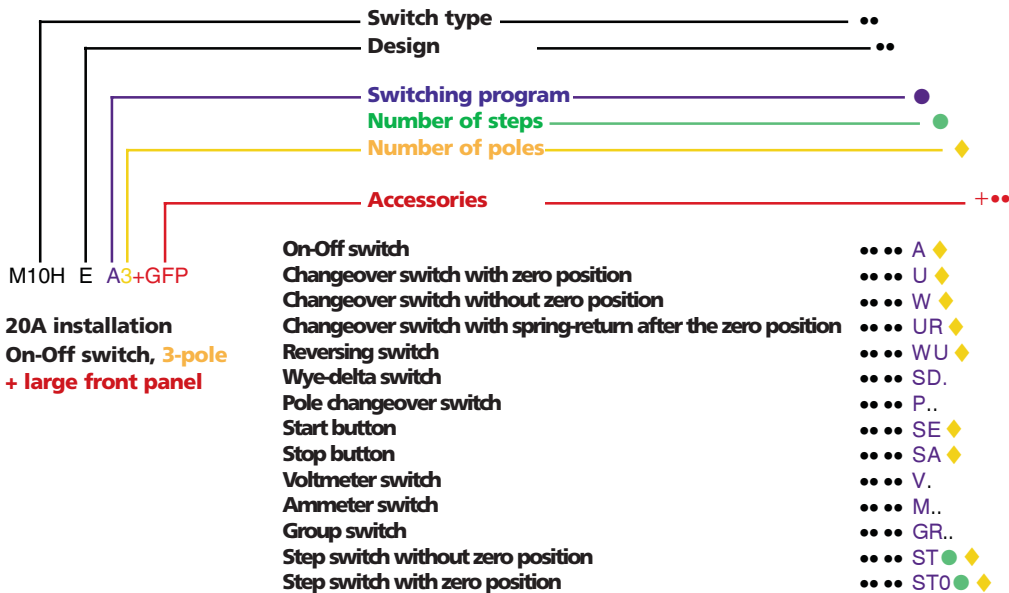


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES – DESIGN OVERVIEW

Type	Ratings			Motor			Degree of protection from the front in installed condition	Label	Types				
	Nominal operating current Therm. I <sub>th</sub> open AC21 at U <sub>e</sub>			AC3 3-400V kW	AC23 3-400V A kW				Panel mounting M10H, M20 IP65 IP 40	Centre mounting with label IP 65	Rail mounting IP 40	Modular mounting IP 40	Insulated enclosure ..P.. IP 40 ..PF.. IP 65
	A	A	V				mm						
M4H	10	10	440	2,2	6	3	30□	M4H E ◆	M4H Z ◆	-	-	-	
M10H	20	20	690	5,5	16	7,5	48□	M10H E ◆	M10H Z ◆	M10H SM ◆	M10H SMA ◆	-	
M10	20	20	440	5,5	16	7,5	48□	-	-	-	-	M10 P(F) ◆	
M20	32	32	690	11	30	15	48□	-	M20 Z ◆	-	M20 SMA ◆	-	

## TYPE KEY



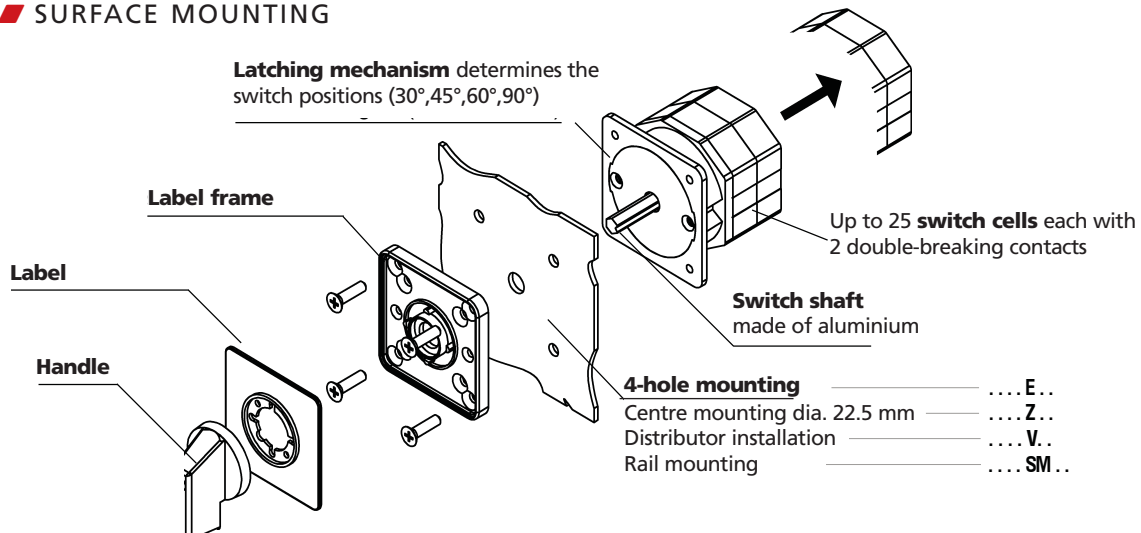
# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ CAM SWITCHES 10-32 A – GENERAL INFORMATION

### ■ SCHRACK INFO

Cam switches are suitable for virtually any desired application and can be used, e.g., as motor switches, main switches, control switches and instrument switches.

### ■ SURFACE MOUNTING



## ■ CAM SWITCHES FOR PANEL MOUNTING



IN005120

### ■ SCHRACK INFO

- For 4-hole pattern
- Front mounting
- Switching capacity: AC 3 up to 15 kW
- Nominal current: 20 A to 50 A
- Type E
- Degree of protection: IP 65

## ■ CAM SWITCHES WITH CENTRAL FASTENING



IN025120

### ■ SCHRACK INFO

- 22 mm diameter
- Degree of protection: IP 65

## ■ CAM SWITCHES FOR DIN-RAIL MOUNTING



IN085220

### ■ SCHRACK INFO

- Switching capacity: up to 11 kW
- Nominal current: up to 32 A
- Type: SMA
- Degree of protection: IP 40

## ■ CAM SWITCHES PLASTIC ENCLOSED



IN036120

### ■ SCHRACK INFO

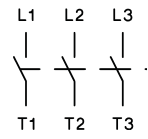
- Switching capacity: AC 3 up to 15 kW
- Nominal current: up to 32 A
- Type P (insulated enclosure) and G (cast enclosure)
- Degree of protection: IP 40

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES, ON-OFF SWITCHES FOR PANEL MOUNTING, IP65 (IP40)



IN005120



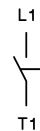
CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H E A1	9004840040630		<a href="#">IN005120</a>
2-pole/20 A	M10H E A2	9004840040647		<a href="#">IN005220</a>
3-pole/20 A/5.5 kW	M10H E A3	9004840040654		<a href="#">IN005320</a>
1-pole/20 A/ON-OFF	M10H E A1+003S	9004840110159		<a href="#">IN005121</a>

## CAM SWITCHES, ON-OFF KEY SWITCHES FOR PANEL MOUNTING, IP65 (IP40)



IN005122



CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Key switch, 1-pole/20 A/ON-OFF	M10H E A1+S A+002S+8100	9004840122619		<a href="#">IN005122</a>

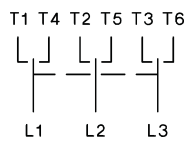
## CAM SWITCHES, CHANGEOVER SWITCHES WITH ZERO POSITION FOR PANEL MOUNTING, IP65 (IP40)



IN006320



IN006122



CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H E U1	9004840040661		<a href="#">IN006120</a>
2-pole/20 A	M10H E U2	9004840040678		<a href="#">IN006220</a>
3-pole/20 A/5.5 kW	M10H E U3	9004840040685		<a href="#">IN006320</a>
1-pole/20 A/MAN-OFF- AUTO	M10H E U1+088S	9004840110128		<a href="#">IN006121</a>
1-pole/20 A/HAND-0- AUTO	M10H E U1+009S	9004840533217		<a href="#">IN006122</a>
2-pole/20 A/MAN-OFF- AUTO	M10H E U2+088S	9004840110135		<a href="#">IN006221</a>

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

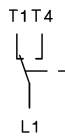
## CAM SWITCHES, CHANGEOVER SWITCHES WITHOUT ZERO POSITION FOR PANEL MOUNTING, IP65 (IP40)



IN007122



IN007121



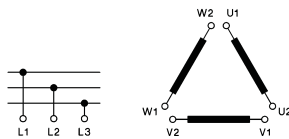
CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H E W1	9004840122640		<a href="#">IN007122</a>
1-pole/20 A/HAND- AUTO	M10H E W1+0825	9004840110142		IN007121

## CAM SWITCHES, WYE-DELTA SWITCHES FOR PANEL MOUNTING, IP65 (IP40)



IN108900



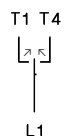
CONNECTION DIAGRAMS

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Wye-delta switch, 32 A/15 kW	N20 E SD	9004840067828		<a href="#">IN108900</a>

## CAM SWITCHES, CHANGEOVER SWITCHES WITH SPRING RETURN FOR PANEL MOUNTING, IP65 (IP40)



IN004120



CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Changeover switch with spring return, 20 A	M10H E UR1	9004840122589		<a href="#">IN004120</a>



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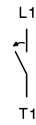
- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES, ROTARY SWITCH FOR PANEL MOUNTING, IP65



IN008120



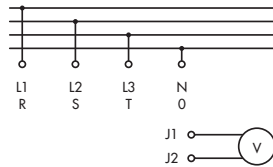
CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rotary switch "Start", 1-pole, 20 A	M10H E SE	9004840122558		IN008120

## CAM SWITCHES, VOLTMETER SWITCH FOR PANEL MOUNTING, IP65



IN009V00



CONNECTION DIAGRAM

### SCHRACK INFO

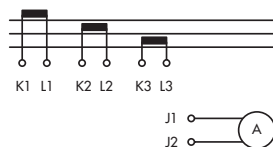
- 3 line to line and 3 phase to neutral voltages

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
3 line to line and 3 phase to neutral voltages, 1-pole/20 A	M10H E V1+503	9004840110111		IN009V00

## CAM SWITCHES, AMMETER SWITCH FOR PANEL MOUNTING, IP65



IN009A00



CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Ammeter switch for 3 current transformer circuits, 1-pole/20 A	M10H E M31+504	9004840110104		IN009A00



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- Quick access customer service





# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

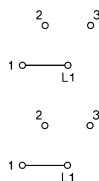
## CAM SWITCHES, STEP SWITCHES 1- AND 2-POLE WITHOUT ZERO POSITION FOR PANEL MOUNTING, IP65



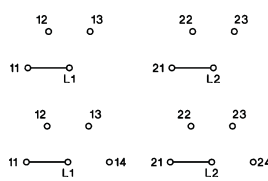
IN003121



IN003122



CONNECTION DIAGRAM, 1-pole



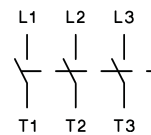
CONNECTION DIAGRAM, 2-pole

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>1-POLE</b>				
3-step switch/20 A	M10H E ST31	9004840110166		<a href="#">IN003121</a>
4-step switch/20 A	M10H E ST41	9004840110173		<a href="#">IN003122</a>
<b>2-POLE</b>				
3-step switch/20 A	M10H E ST32	9004840122565		IN003123
4-step switch/20 A	M10H E ST42	9004840122572		<a href="#">IN003124</a>
<b>3-POLE</b>				
4-step switch/20 A	M10H E ST43	9004840653427		<a href="#">IN003125</a>
<b>4-POLE</b>				
4-step switch/20 A	M10H E ST44	9004840653434		<a href="#">IN003126</a>

## CAM SWITCHES, ON-OFF SWITCHES WITH CENTRAL FASTENING, DIA. 22 mm, IP65



IN025120



CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H ZA1	9004840041071		<a href="#">IN025120</a>
2-pole/20 A	M10H ZA2	9004840041088		<a href="#">IN025220</a>
3-pole/20 A/5.5 kW	M10H ZA3	9004840041095		<a href="#">IN025320</a>
3-pole/32 A/11 kW	M20 ZA3	9004840041699		<a href="#">IN125325</a>



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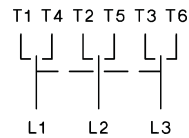
- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES, CHANGEOVER SWITCHES WITH ZERO POSITION WITH CENTRAL FASTENING, DIA. 22 mm, IP65



IN026220



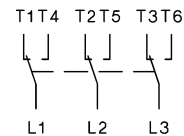
CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H Z U1	9004840040975		<a href="#">IN026120</a>
2-pole/20 A	M10H Z U2	9004840040814		<a href="#">IN026220</a>
3-pole/20 A/5.5 kW	M10H Z U3	9004840040890		<a href="#">IN026320</a>

## CAM SWITCHES, CHANGEOVER SWITCHES WITHOUT ZERO POSITION WITH CENTRAL FASTENING, DIA. 22 mm, IP65



IN027220



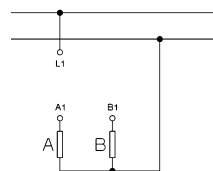
CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H Z W1	9004840041019		<a href="#">IN027120</a>
2-pole/20 A	M10H Z W2	9004840040777		<a href="#">IN027220</a>
3-pole/20 A/5.5 kW	M10H Z W3	9004840041101		<a href="#">IN027320</a>

## CAM SWITCHES, GROUP SWITCHES 1-POLE, 2 GROUPS WITH CENTRAL FASTENING, DIA. 22 mm, IP65



IN020901



CONNECTION DIAGRAM

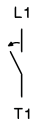
DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Group switch, 1-pole/20 A	M10H Z GR11	9004840040692		IN020901

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES, ROTARY SWITCH WITH CENTRAL FASTENING, DIA. 22 mm, IP65



IN02C102



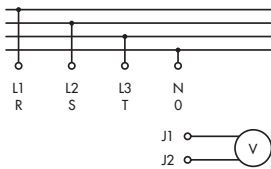
CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Rotary switch "Start", 1-pole, 20 A	M10H Z SE	9004840383881		<a href="#">IN02C102</a>

## CAM SWITCHES, VOLTMETER SWITCH WITH CENTRAL FASTENING, DIA. 22 mm, IP65



IN009V02



CONNECTION DIAGRAM

### SCHRACK INFO

- 3 line to line and 3 phase to neutral voltages

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
3 line to line and 3 phase to neutral voltages, 1-pole/20 A	M10H E V1	9004840223187		<a href="#">IN009V02</a>

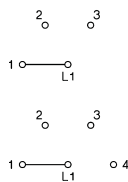
## CAM SWITCHES, CHANGEOVER SWITCH, 1-POLE WITHOUT ZERO POSITION WITH CENTRAL FASTENING, DIA. 22 mm, IP65



IN023901



IN023902



CONNECTION DIAGRAM, 1-pole

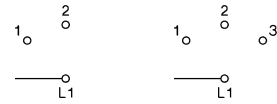
DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
3 stages/20 A	M10H Z ST31	9004840041040		<a href="#">IN023901</a>
4 stages/20 A	M10H Z ST41	9004840041057		<a href="#">IN023902</a>

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES, STEP SWITCH, 1-POLE WITH ZERO POSITION WITH CENTRAL FASTENING, DIA. 22 mm, IP65



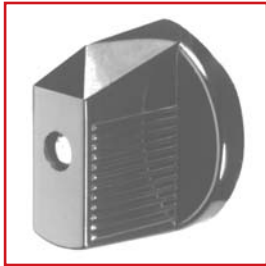
IN023903



CONNECTION DIAGRAMS

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
2 stages/ 20 A	M10H Z ST021	9004840655049		<a href="#">IN023904</a>
3 stages/20 A	M10H Z ST031	9004840041064		<a href="#">IN023903</a>

## ACCESSORIES FOR CAM SWITCHES WITH CENTRAL FASTENING



IN16001



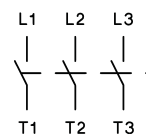
IN16000

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
T-handle black for switches M10, M10H, M20	A1535	9004840106930		IN16001
T-handle blue for switches M10, M10H, M20	A1549	9004840106923		IN16000

## CAM SWITCHES, ON-OFF SWITCHES FOR DIN-RAIL MOUNTING, IP40



IN085220



CONNECTION DIAGRAM

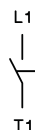
DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H SMA A1	9004840041439		<a href="#">IN085120</a>
2-pole/20 A	M10H SMA A2	9004840041446		<a href="#">IN085220</a>
3-pole/20 A/5.5 kW	M10H SMA A3	9004840041453		<a href="#">IN085320</a>

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES, ON-OFF KEY SWITCHES FOR DIN-RAIL MOUNTING, IP40



IN085121



CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Key switch, 1-pole/20 A	M10H SMA A1+S A	9004840378931		IN085121

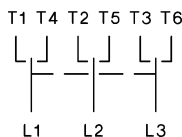
## CAM SWITCHES, CHANGEOVER SWITCHES WITH ZERO POSITION FOR DIN-RAIL MOUNTING, IP40



IN086220



IN086121



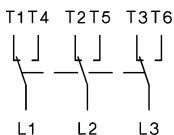
CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H SMA U1	9004840041460		IN086120
2-pole/20 A	M10H SMA U2	9004840041477		IN086220
3-pole/20 A	M10H SMA U3	9004840041484		IN086320
1-pole/20 A/HAND-0- AUTO	M10H SMA U1+009S	9004840094268		IN086121
1-pole/20 A/MAN-0- AUTO	M10H SMA U1+081S	9004840094275		IN086122
1-pole/20 A/TAG-0-NACHT	M10H SMA U1+143S	9004840094282		IN086123

## CAM SWITCHES, CHANGEOVER SWITCHES WITHOUT ZERO POSITION FOR DIN-RAIL MOUNTING, IP40



IN087220



CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10H SMA W1	9004840041491		IN087120
2-pole/20 A	M10H SMA W2	9004840041507		IN087220
3-pole/20 A	M10H SMA W3	9004840041514		IN087320



Order no. blue: on stock, usually ready for delivery on the day of order!

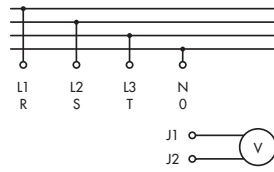


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ CAM SWITCHES, VOLTMETER SWITCHES FOR DIN-RAIL MOUNTING, IP40



IN009V01



CONNECTION DIAGRAM

### ■ SCHRACK INFO

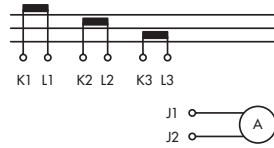
- 3 line to line and 3 phase to neutral voltages

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
3 line to line and 3 phase to neutral voltages, 1-pole/20 A	M10H SMA V1	9004840164503		IN009V01

## ■ CAM SWITCHES, AMMETER SWITCHES FOR DIN-RAIL MOUNTING, IP40



IN009A01



CONNECTION DIAGRAM

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Ammeter switch for 3 current transformer circuits, 1-pole/20 A	M10H SMA M31	9004840164497		IN009A01

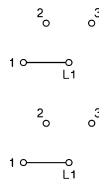
## ■ CAM SWITCHES, STEP SWITCHES 1- AND 2-POLE WITHOUT ZERO POSITION FOR DIN-RAIL MOUNTING, IP40



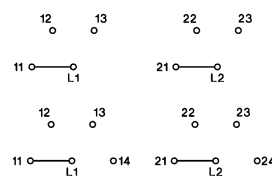
IN083121



IN083220



CONNECTION DIAGRAM, 1-pole



CONNECTION DIAGRAM, 2-pole

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>1-POLE</b>				
3-step switch/20 A	M10H SMA ST31	9004840122602		IN083120
4-step switch/20 A	M10H SMA ST41	9004840122626		IN083220
<b>2-POLE</b>				
3-step switch/20 A	M10H SMA ST32	9004840122596		IN083121
4-step switch/20 A	M10H SMA ST42	9004840122633		IN083221

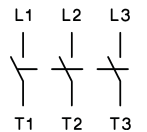


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES, ON-OFF SWITCH, PLASTIC ENCLOSED, IP40



IN035220



CONNECTION DIAGRAM

### SCHRACK INFO

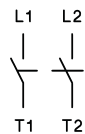
- Insulated enclosure

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10 P A1+K6	9004840041217		IN035120
2-pole/20 A	M10 P A2+K6	9004840040852		IN035220
3-pole/20 A/5.5 kW	M10 P A3+K6	9004840041224		IN035320
3-pole/32 A/11 kW	N20 P A3+K6	9004840041705		IN135325

## CAM SWITCHES, HEATING EMERGENCY SWITCHES, 2-POLE, PLASTIC ENCLOSED, IP40



IN032009



CONNECTION DIAGRAM

### SCHRACK INFO

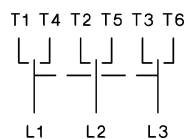
- Insulated enclosure

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
Heating emergency stop switch 2-pole/20 A	M10 P A2+904465	9004840041200		IN032009

## CAM SWITCHES, CHANGEOVER SWITCHES WITH ZERO POSITION, PLASTIC ENCLOSED, IP40



IN036320



CONNECTION DIAGRAM

### SCHRACK INFO

- Insulated enclosure

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
1-pole/20 A	M10 P U1	9004840041231		IN036120
2-pole/20 A	M10 P U2	9004840041248		IN036220
3-pole/20 A/5.5 kW	M10 P U3	9004840041255		IN036320



Order no. blue: on stock, usually ready for delivery on the day of order!

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES – TECHNICAL DATA

Data meet IEC 947-3, IEC 947-5-1, VDE 0660, EN 60947-3, EN 60947-5-1, SEV, CEE24

Type		M10	M10H	M20
<b>Therm. nom. current</b> $I_{th}$ open	A	20	20	32
<b>Therm. nom. current</b> $I_{th}$ sealed	A	20	20	32
<b>Nominal operating voltage</b> $U_e$	A	440	690 <sup>1)</sup>	690 <sup>1)</sup>
<b>Breaker conditions</b> <sup>2)</sup> in acc. with VDE, IEC up to		440	440	440
<b>Breaking capacity</b> $I_{eff}$				
3 x 220-440V	A	160	160	220
3 x 500V	A	-	100	160
3 x 660-690V	A	80	120	120
<b>Utilisation cat. AC21A, AC21B</b> Switching of resistive load including slight overload				
<b>Nominal operating current</b> $I_e$	A	20	20	32
<b>Utilisation cat. AC23A, AC23B</b> Switching of motors and other highly inductive loads				
<b>Nominal operating current</b> $I_e$ 400 V	A	16	16	30
<b>Nominal power</b> 220-240V	kW	4	4	7,5
3-phase, 3-pole 380-440V	kW	7,5	7,5	15
500V	kW	-	7,5	15
660-690V	kW	-	7,5	15
<b>Wye-delta switch</b> for cage motors				
<b>Nominal power</b> 220-240V	kW	3,7	3,7	7,5
3-phase, 3-pole 380-415V	kW	7,5	7,5	15
<b>Utilisation category AC3</b> Switching of 3-phase AC motors				
<b>Nominal operating current</b> $I_e$ 400 V	A	12	12	22
<b>Nominal power</b> 220-240V	kW	3	3	5,5
3-phase, 3-pole 380-440V	kW	5,5	5,5	11
500V	kW	-	5,5	11
660-690V	kW	-	5,5	11
<b>Utilisation category AC4</b> Cage motors, jog operation				
<b>Nominal power</b> 220-240V	kW	0,55	0,55	2,2
3-phase, 3-pole 380-440V	kW	1,5	1,5	4
500V	kW	-	1,5	4
660-690V	kW	-	1,5	4
<b>Utilisation category AC15</b> Switching of magn. drives, contactors, valves, pulling magnets				
<b>Nominal operating current</b> $I_e$ up to 240V	A	6	6	12
380 - 440V	A	4	4	6
2-pole breaking 500V	A	-	5	8
<b>Utilisation cat. DC21A, DC21B</b> Switching of resistive load, time constant L/R" 1 ms				
<b>Nominal operating current</b> $I_e$				
1-pole 30V	A	20	20	32
60V	A	4	4	6
110V	A	0,6	0,6	3
220V	A	0,3	0,3	0,8
440V	A	-	-	0,4
<b>Utilisation category DC3 - DC5</b> Switching of shunt and series motors, time constant L/R" 15 ms				
<b>Nominal operating current</b> $I_e$				
1-pole 30V	A	8	8	13
60V	A	1	1	2,4
110V	A	0,3	0,3	0,5
Degree of protection from rear		IP00	IP20	IP00

1) Applies to: Mains with earthed Y point, overvoltage category I to III, pollution degree 3: Uimp = 6 kV. Values for other conditions on request.

2) The breaker condition in acc. with IEC 947-1 and VDE 0660 apply to: systems with earthed Y point, overvoltage category III and inhomogeneous field.



# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES – TECHNICAL DATA

Data meet IEC 947-3, IEC 947-5-1, VDE 0660, EN 60947-3, EN 60947-5-1

Type		M10 P	M10H	M20
<b>Terminal capacity</b>				
solid or stranded	mm <sup>2</sup>	1-2.5	1-2.5 <sup>1)</sup>	1.5-6
finely stranded	mm <sup>2</sup>	0.75-2.5	0.75-2.5 <sup>1)</sup>	1-4
finely stranded with end sleeve	mm <sup>2</sup>	0.75-2.5	0.75-1.5	1-4
Clampable conductor per terminal		2	2	2
Terminal screw		M3	M3.5	M4
Tightening torque	Nm lb.inch	0.6-1.2 5-11	0.8-1.4 7-12	1.2-1.8 11-16
<b>Short-circuit protection</b>				
Max. fuse, gL (gG)	A	20	20	35
Rated short-time current protection (1-second power)	A	250	250	400
Conditional rated short-circuit current kA <sub>eff</sub>		10	10	10
<b>Short-term load capacity</b>				
Load duration	3s A	100	100	200
	10s A	60	60	130
Values apply only to contacts that are already closed	30s A	35	35	85
	60s A	25	25	65
<b>Power loss at AC21A</b>				
per pole	A W	20 0.6	20 0.5	32 0.9
<b>Switching of capacitive load</b>				
Maximum making capacity up to 500 V	A	140	140	300

### Data acc. to cULus

Type		M10 P	M10H	M20
Rated operating voltage	V~	300	600	600
Rated operating current	"General Use" A	20	20	35
	with jumper A	15	-	25
DOL rating, 3-phase	110-120V hp	1½	1½	5
	200-208V hp	2	2	5
	220-240V hp	3	3	5
	440-480V hp	-	5	10
	550-600V hp	-	7½	15
DOL rating, 1-phase	110-120V hp	½	½	1½
	200-208V hp	1	1	3
	220-240V hp	1½	1½	5
Fuse size (RK5)	Manual motor controller and motor disconnect A	40 <sup>2)</sup>	40	80
Heavy pilot duty	AC	A300	A600	A600
<b>Terminal capacity</b>				
solid	AWG	12 - 20	12 - 20	10 - 18
finely stranded	AWG	14 - 20	14 - 20	8 - 18
Tightening torque	Nm	1.7	1-1.7	1.7-2.8
	lb.inch	15	9-15	15-25

1) Maximum terminal capacity with prepared conductor

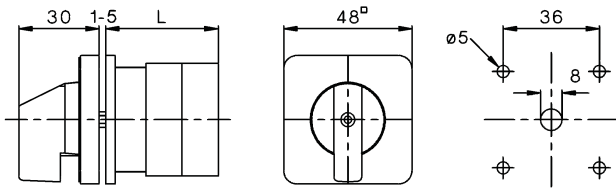
2) 5KA / 300V

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## CAM SWITCHES – DIMENSIONS

### FOR PANEL MOUNTING

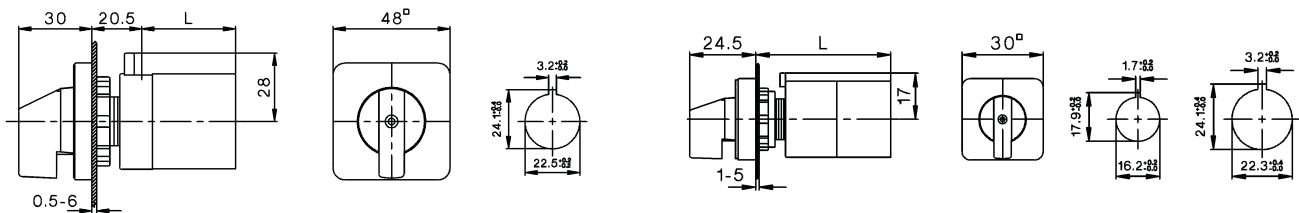
Cam switch for panel mounting  
M10H E..



### FOR CENTRE MOUNTING

Cam switch for central fixing  
M10H Z.., M20 Z..

M4H Z..



### Dimension L for switching programs

Switching programs	A1, A2, U1, W1, UR1, SE, SA, GR11, ST021 1 switch cell	A3, U2, W2 ST31, ST41, ST031 2 switch cells	U3, W3 V1, M31, ST32 3 switch cells	ST42 4 switch cells
M4H	51	62.5	74.5	86.5
M10H	36.5	46	55.5	65
M20	38.5	51	63.5	76

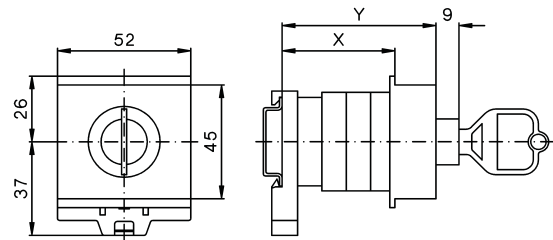
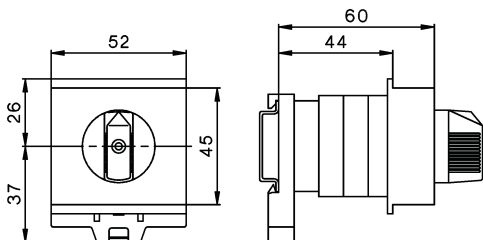
### FOR DIN-RAIL MOUNTING

Cam switch for DIN-rail mounting

M10H SMA.. 1-3 switch cells  
M20 SMA.. 1,2 switch cells

Key switch for DIN-rail mounting

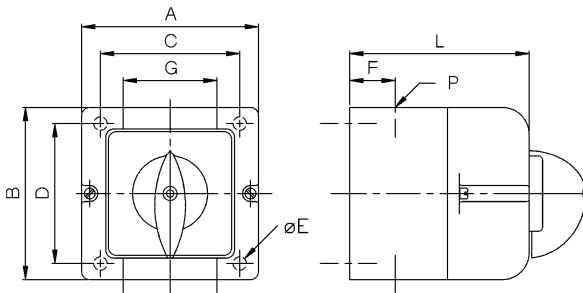
Type	Dimension X for switch cells				Dimension Y for switch cells		
	1	2	3	4	1	2	3
M10H	44	75	75	91	60	90	90
M20	59	75	75	91	75	90	90



## ■ CAM SWITCHES – DIMENSIONS

### ■ INSULATED ENCLOSURE

Switch with insulated enclosure  
M10 P..



Type	A	B	C	D	E	F	G	P	Dimension L for ... switch cells			
									1	2	3	4
M10	66	64	50	36	5	15.5	26	M20	43	52	62	71

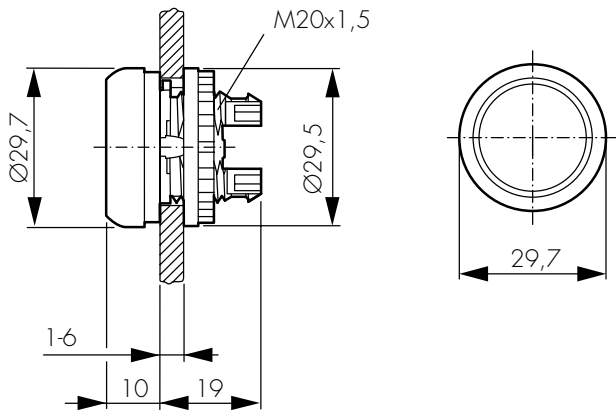
# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## COMMAND AND SIGNALLING DEVICES SERIES MM – GENERAL INFORMATION



SERIES MM

### Actuating and signalling elements

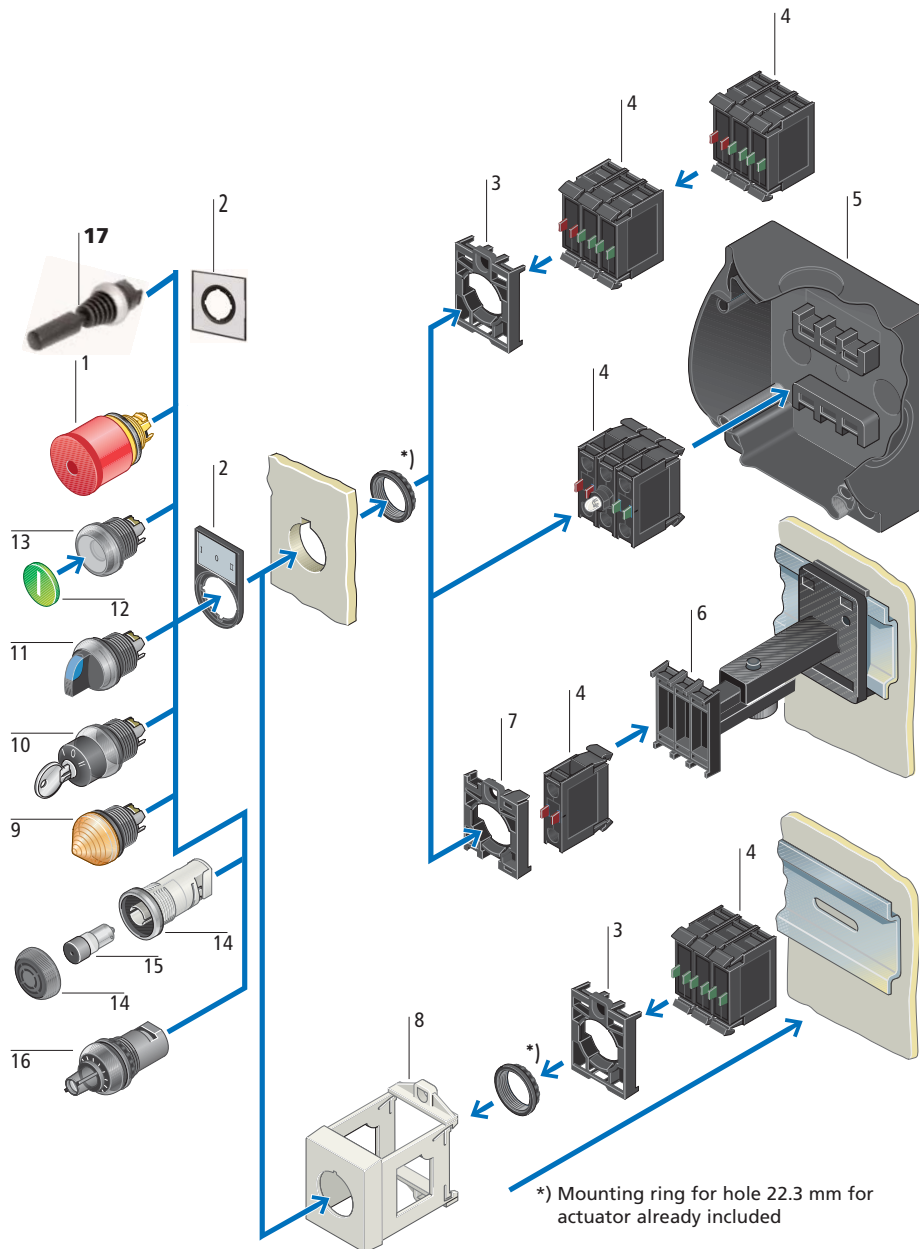


### SCHRACK INFO

- Full LED technology
- 100,000 h service life
- 3 LEDs for 5 colours
- Spring terminals for contact and LED elements
- Degree of protection
  - IP 67/69 K for pushbuttons, illuminated pushbuttons and signal lamps; emergency stop buttons, mushroom pushbuttons
  - IP 66 for double pushbuttons, selector and key switches
- Abrasion-proof laser labelling
- Database (1000 symbols)
- Custom symbols will be scaled to size
- Individual text possible
- 3 mm font height, 3 lines possible
  1. 8 characters
  2. 10 characters
  3. 8 characters
- 5 mm font height, one line with 5 characters
- Programmable stay-put and spring-return function
- 22.5 mm diameter

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SYSTEM OVERVIEW SERIES MM



- |   |                        |    |                                |
|---|------------------------|----|--------------------------------|
| 1 | Emergency stop buttons | 9  | Indicator light                |
| 2 | Label holder           | 10 | Key buttons                    |
| 3 | Mounting adapter       | 11 | Selector switch                |
| 4 | Contact elements       | 12 | Button plates / buttons lenses |
| 5 | Encapsulation          | 13 | Pushbuttons                    |
| 6 | Telescopic clip        | 14 | Acoustic indicator             |
| 7 | Centring adapter       | 15 | Buzzers                        |
| 8 | DIN rail adapter       | 16 | Potentiometers                 |
|   |                        | 17 | Joystick                       |

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SERIES MM – SETS



MM90002

### SCHRACK INFO

- Pre-configured sets consisting of:
  - Command or signalling device
  - Mounting adapter
  - Light sources
  - Auxiliary contacts

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>ILLUMINATED PUSHBUTTON, GREEN, 230 V</b> consisting of: Illuminated pushbutton, flat, spring-return, green, mounting adapter, front, LED 85-264 V AC, green, front, NO contact front	9004840614442		<a href="#">MIM900001</a>
<b>ILLUMINATED PUSHBUTTON, RED, 230V</b> consisting of: Illuminated pushbutton, flat, spring-return, red, mounting adapter front, LED 85-264 V AC red, front, NC contact front	9004840614459		<a href="#">MIM900002</a>
<b>ILLUMINATED PUSHBUTTON, GREEN, 24V</b> consisting of: Illuminated pushbutton, flat, spring-return, green, mounting adapter front, LED 12-30 V AC/DC, green, front, NO contact front	9004840614466		<a href="#">MIM900003</a>
<b>ILLUMINATED PUSHBUTTON, RED, 24V</b> consisting of: Illuminated pushbutton, flat, spring-return, red, mounting adapter front, LED 12-30 V AC/DC red, front, NC contact front	9004840614473		<a href="#">MIM900004</a>
<b>INDICATOR LIGHT, FLAT, GREEN, 230 V</b> consisting of: Signal lamp flat, green, mounting adapter front, LED 85-264 V AC, green, front	9004840614480		<a href="#">MIM900005</a>
<b>INDICATOR LIGHT, FLAT, RED, 230 V</b> consisting of: Signal lamp, flat, red, mounting adapter front, LED 85-264 V AC red, front	9004840614497		<a href="#">MIM900006</a>
<b>INDICATOR LIGHT, FLAT, GREEN, 24V</b> consisting of: Signal lamp flat, green, mounting adapter front, LED 12-30 V AC/DC, green, front	9004840614503		<a href="#">MIM900007</a>
<b>INDICATOR LIGHT, FLAT, RED, 24V</b> consisting of: Signal lamp, flat, red, mounting adapter front, LED 12-30 V AC/DC red, front	9004840614510		<a href="#">MIM900008</a>
<b>PUSHBUTTON, GREEN</b> , consisting of: Pushbutton, flat, spring-return, green, mounting adapter front, NO contact front	9004840614527		<a href="#">MIM900009</a>
<b>PUSHBUTTON, RED</b> , consisting of: Pushbutton, flat, spring-return, red, mounting adapter front, NO contact front	9004840614534		<a href="#">MIM900010</a>
<b>EMERGENCY STOP</b> consisting of: Emergency stop button, mounting adapter front, NC contact front	9004840614541		<a href="#">MIM900011</a>
<b>SELECTOR SWITCH, 2 POSITIONS STAY-PUT, dia. 60</b> consisting of: T-handle switch, 2 positions r, dia. 60, mounting adapter front, NO contact front, NC contact front	9004840614558		<a href="#">MIM900012</a>
<b>SELECTOR SWITCH, 3 POSITIONS STAY-PUT, dia. 60</b> consisting of: T-handle switch, 3 positions r, dia. 60, mounting adapter front, NO contact front, NC contact front	9004840614565		<a href="#">MIM900013</a>
<b>DOUBLE PUSHBUTTON, GREEN/RED, 230 V</b> consisting of: Double pushbutton, illuminated, spring-return, green/red, "I-O", mounting adapter front, LED 85-264 V AC ws front, NO contact front, NC contact front	9004840614572		<a href="#">MIM900014</a>
<b>DOUBLE PUSHBUTTON, GREEN/RED, 24 V</b> consisting of: Double pushbutton, illuminated, spring-return, green/red, "I-O", mounting adapter front, LED 12-30 V AC/DC ws front, NO contact front, NC contact front	9004840614589		<a href="#">MIM900015</a>
<b>KEY OPERATED BUTTON, 2 POSITIONS STAY-PUT, dia. 40</b> consisting of: Key switch, 2 positions r, dia. 40, mounting adapter front, NO contact front, NC contact front	9004840614596		<a href="#">MIM900016</a>

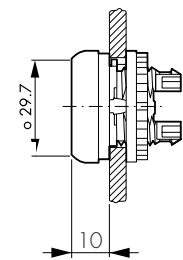


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – PUSHBUTTONS, FLAT



MM216605



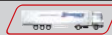



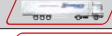



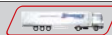


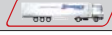
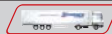
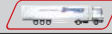

DIMENSIONS

### ■ SCHRACK INFO

- IP 67, 69K
- 22.5 mm diameter

### ■ TIPS & TRICKS

To obtain a pushbutton with custom label, use the pushbutton without button plate and insert a button plate with your desired text.

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>				
Flat, spring-return, black	dia. 29.7x10	9004840175332		<b>MM216590</b>
Flat, spring-return, white	dia. 29.7x10	9004840175349		<b>MM216592</b>
Flat, spring-return, red	dia. 29.7x10	9004840175356		<b>MM216594</b>
Flat, spring-return, green	dia. 29.7x10	9004840175363		<b>MM216596</b>
Flat, spring-return, yellow	dia. 29.7x10	9004840175370		<b>MM216598</b>
Flat, spring-return, blue	dia. 29.7x10	9004840175387		<b>MM216600</b>
Flat, spring-return, red "0"	dia. 29.7x10	9004840175400		<b>MM216605</b>
Flat, spring-return, black "0"	dia. 29.7x10	9004840175424		MM216609
Flat, spring-return, green "1"	dia. 29.7x10	9004840175417		<b>MM216607</b>
Flat, spring-return, white "1"	dia. 29.7x10	9004840175431		MM216611
Flat, spring-return, without button plate	dia. 29.7x10	9004840175394		<b>MM216602</b>
<b>STAY-PUT</b>				
Flat, stay-put, black	dia. 29.7x10	9004840175448		<b>MM216613</b>
Flat, stay-put, red	dia. 29.7x10	9004840175462		<b>MM216617</b>
Flat, stay-put, green	dia. 29.7x10	9004840175479		<b>MM216619</b>
Flat, stay-put, white	dia. 29.7x10	9004840175455		MM216615
Flat, stay-put, blue	dia. 29.7x10	9004840175493		<b>MM216623</b>
Flat, stay-put, without button plate	dia. 29.7x10	9004840175509		MM216625
<b>BUTTON PLATES, FLAT WITH INSCRIPTION</b>				
Button plate, flat, black "Arrow"	dia. 22.5	9004840223873		<b>MM218173</b>
Button plate, flat, green "1"	dia. 22.5	9004840215359		MM218165
Button plate, flat, red "Stop"	dia. 22.5	9004840251616		MM218194
Button plate, flat, red "0"	dia. 22.5	9004840215335		MM218153
Button plate, flat, black "Up"	dia. 22.5	9004840224573		MM218185
Button plate, flat, black "Down"	dia. 22.5	9004840224580		MM218186
Button plate, flat, black "0"	dia. 22.5	9004840215342		MM218154
Button plate, flat, black "+"	dia. 22.5	9004840223859		MM218170
Button plate, flat, black "-"	dia. 22.5	9004840223866		<b>MM218171</b>



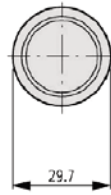
**Order no. blue:** on stock, usually ready for delivery on the day of order!

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

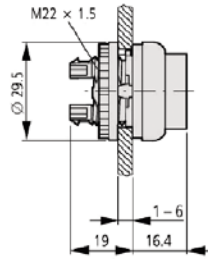
## ■ SERIES MM – PUSHBUTTONS, HIGH



MM216641



DIMENSIONS



### ■ SCHRACK INFO

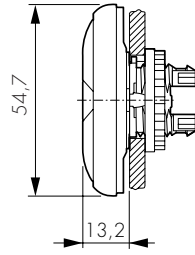
- IP 67, 69K
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
High, spring-return, black	dia. 29.7x16.4	9004840207200		<b>MM216636</b>
High, spring-return, red	dia. 29.7x16.4	9004840207224		MM216641
High, spring-return, green	dia. 29.7x16.4	9004840207231		<b>MM216643</b>
High, spring-return, blue	dia. 29.7x16.4	9004840207255		MM216649
High, spring-return, red, "0"	dia. 29.7x16.4	9004840177381		MM216655

## ■ SERIES MM – DOUBLE PUSHBUTTONS



MM216700



DIMENSIONS

### ■ SCHRACK INFO

- With signal lamp centre indicator lens, white
- LED can be retrofitted
- IP 66
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
Spring-return, illuminated, green/red	dia. 29.7x54.7x13.2	9004840175554		<b>MM216698</b>
Spring-return, illuminated, green/red, "1/0"	dia. 29.7x54.7x13.2	9004840175561		<b>MM216700</b>
Spring-return, illuminated, green/red, "Start/Stop"	dia. 29.7x54.7x13.2	9004840175578		<b>MM216702</b>
Spring-return, illuminated, white/black	dia. 29.7x54.7x13.2	9004840175585		<b>MM216704</b>
Spring-return, illuminated, white/black, "1/0"	dia. 29.7x54.7x13.2	9004840175592		<b>MM216706</b>
Spring-return, illuminated, white/black, "Start/Stop"	dia. 29.7x54.7x13.2	9004840175608		<b>MM216708</b>
Spring-return, illuminated, black/black, arrows	dia. 29.7x54.7x13.2	9004840175615		<b>MM216710</b>
Spring-return, illuminated, black/black, "+/-"	dia. 29.7x54.7x13.2	9004840175622		<b>MM218145</b>



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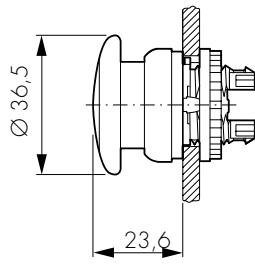


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – MUSHROOM BUTTONS



MM216714



DIMENSIONS

### ■ SCHRACK INFO

- IP 67, 69K
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>				
Spring-return, black	dia. 36.5x23.6	9004840175639		<a href="#">MM216712</a>
Spring-return, red	dia. 36.5x23.6	9004840175646		<a href="#">MM216714</a>
Spring-return, green	dia. 36.5x23.6	9004840175653		<a href="#">MM216716</a>
Spring-return, yellow	dia. 36.5x23.6	9004840175660		<a href="#">MM216718</a>
Spring-return, red, "0"	dia. 36.5x23.6	9004840175677		MM216720
<b>STAY-PUT</b>				
Stay-put, black	dia. 36.5x23.6	9004840207408		<a href="#">MM216743</a>
Stay-put, red	dia. 36.5x23.6	9004840207415		<a href="#">MM216745</a>

## ■ SERIES MM – BUTTON PLATES FOR MUSHROOM BUTTONS



MM216440

### ■ SCHRACK INFO

**MM216440:** To order a mushroom button with a custom label, use the button plate "MM216440-\* - \*" with order code and substitute the colour for the first asterisk and your desired text for the second asterisk.

**Colour:** -R...red, -G...green, -B...blue, W...white, -Y...yellow, -S...black

**Text is possible in:** 3 mm font height: 1st and 3rd line max. 8 characters, 2nd line 10 characters; 5 mm text height: 1 line max. 5 characters

### ■ ORDER SAMPLE

#### **MM216440-G-POWER**

(green button plate with 5 mm font, one line)

#### **MM216440-Y-OIL PRESSURE WARNING**

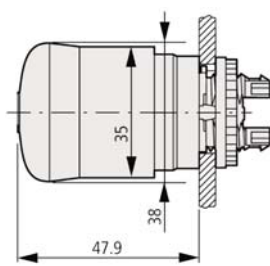
(yellow button plate with 3 mm font, two lines)

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
Button plate, mushroom buttons, red	dia. 22.5	9004840176827		MM216437
Button plate, mushroom buttons for custom labels	dia. 22.5	9004840176858		MM216440

## ■ SERIES MM – EMERGENCY STOP BUTTONS



MM216878



DIMENSIONS

### ■ SCHRACK INFO

- IP 67, IP 69K
- Overload protection in accordance with EN 418
- Return by pulling
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
Emergency stop button, non-illuminated	dia. 35x47.9	9004840175790		<a href="#">MM216876</a>
Emergency stop button, illuminated	dia. 35x47.9	9004840175806		<a href="#">MM216878</a>
Emergency stop button, non-illuminated, released by rotating	dia. 35x47.9	9004840622874		<a href="#">MM263467</a>
Emergency stop key switch	dia. 35x47.9	9004840175813		<a href="#">MM216879</a>



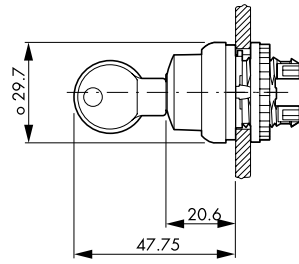
**Order no. blue:** on stock, usually ready for delivery on the day of order!

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SERIES MM – KEY OPERATED BUTTONS



MM216900



DIMENSIONS

### SCHRACK INFO

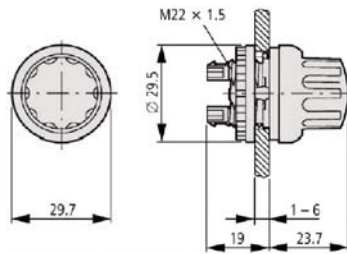
- IP 66
- Locking system, 4 levels
- The following can be modified for MM 216406: spring-return/stay-put, key removable/not removable
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
2 positions, spring-return, 40°	dia. 29.7x20.6	9004840175820		<b>MM216881</b>
2 positions, stay-put, 60°	dia. 29.7x20.6	9004840175837		<b>MM216887</b>
3 positions, spring-return, 40°	dia. 29.7x20.6	9004840175844		<b>MM216894</b>
3 positions, stay-put, 60°	dia. 29.7x20.6	9004840175851		<b>MM216900</b>
Key MS1 Standard	dia. 29.7x20.6	9004840204117		<b>MM216416</b>

## SERIES MM – ROTARY KNOB



MM216853



DIMENSIONS

### SCHRACK INFO

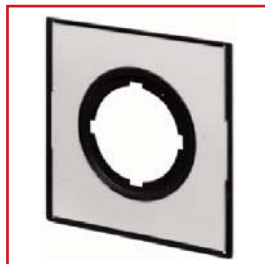
- IP 67
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
2 positions, spring-return, "1/0"	dia. 29.7x23.7	9004840207835		MM216853
3 positions, spring-return "1/0/0"	dia. 29.7x23.7	9004840207866		MM216861

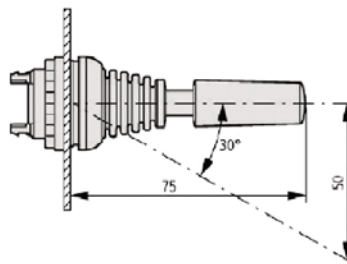
## SERIES MM – JOYSTICK



MM289196



MM279436



DIMENSIONS

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
2 positions, spring-return	dia. 30x75	9004840665079		MM289196
2 positions, stay-put	dia. 30x75	9004840665093		MM289240
4 positions, spring-return	dia. 30x75	9004840626582		MM279417

### ACCESSORIES

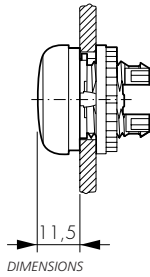
Label holder + label for custom text	50x50	9004840665086		MM279436
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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – INDICATOR LIGHT, FLAT



MM216771



DIMENSIONS

### ■ SCHRACK INFO

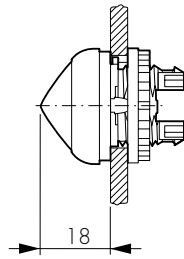
- IP 67, 69K
- 22.5 mm diameter
- LED technology

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
Flat, white	dia. 29.7x11.5	9004840177398		<b>MM216771</b>
Flat, red	dia. 29.7x11.5	9004840177404		<b>MM216772</b>
Flat, green	dia. 29.7x11.5	9004840177411		<b>MM216773</b>
Flat, yellow	dia. 29.7x11.5	9004840177428		<b>MM216774</b>
Flat, blue	dia. 29.7x11.5	9004840177435		<b>MM216775</b>
Flat, empty	dia. 29.7x11.5	9004840177442		MM216776

## ■ SERIES MM – INDICATOR LIGHT, CONICAL



MM216779



DIMENSIONS

### ■ SCHRACK INFO

- IP 67, 69K
- 22.5 mm diameter
- LED technology

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
High, white	dia. 29.7x18	9004840175868		MM216778
High, red	dia. 29.7x18	9004840175875		<b>MM216779</b>
High, green	dia. 29.7x18	9004840175882		<b>MM216780</b>
High, yellow	dia. 29.7x18	9004840175899		MM216781

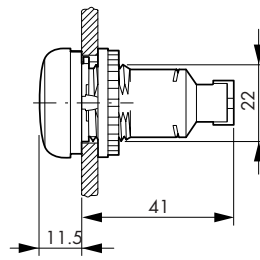
## ■ SERIES MM – ACOUSTIC INDICATOR



MM229015



MM229015 WITH BUZZER



DIMENSIONS

### ■ SCHRACK INFO

- Volume: 83 dB
- IP 40
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
Acoustic indicator, empty	dia. 29.7x11.5	9004840207903		<b>MM229015</b>
Buzzer, continuous tone, 18-30 V AC/DC	dia. 29.7x11.5	9004840207781		<b>MM229025</b>
Buzzer, pulse tone 24 V DC	dia. 29.7x11.5	9004840207798		<b>MM229028</b>



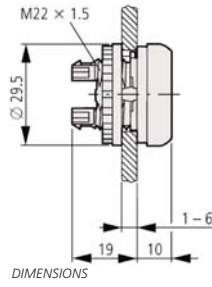
Order no. blue: on stock, usually ready for delivery on the day of order!

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – ILLUMINATED PUSHBUTTONS, FLAT



MM216938



DIMENSIONS

### ■ SCHRACK INFO

- IP 67, 69K
- 22.5 mm diameter
- Custom label is also possible on the button lens

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>				
Flat, spring-return, white	dia. 29.7x10	9004840175929		<b>MM216922</b>
Flat, spring-return, red	dia. 29.7x10	9004840175936		<b>MM216925</b>
Flat, spring-return, green	dia. 29.7x10	9004840175943		<b>MM216927</b>
Flat, spring-return, yellow	dia. 29.7x10	9004840175950		<b>MM216929</b>
Flat, spring-return, blue	dia. 29.7x10	9004840175967		<b>MM216931</b>
Flat, spring-return, red "0"	dia. 29.7x10	9004840175981		<b>MM216936</b>
Flat, spring-return, green "1"	dia. 29.7x10	9004840175998		<b>MM216938</b>
Flat, spring-return, white "0"	dia. 29.7x10	9004840176001		MM216940
Flat, spring-return, white "1"	dia. 29.7x10	9004840176018		<b>MM216942</b>
Flat, spring-return, without button plate	dia. 29.7x10	9004840175974		<b>MM216933</b>
<b>STAY-PUT</b>				
Flat, stay-put, white	dia. 29.7x10	9004840176025		<b>MM216944</b>
Flat, stay-put, red	dia. 29.7x10	9004840176032		<b>MM216946</b>
Flat, stay-put, green	dia. 29.7x10	9004840176049		<b>MM216948</b>
Flat, stay-put, yellow	dia. 29.7x10	9004840176056		<b>MM216950</b>
Flat, stay-put, blue	dia. 29.7x10	9004840176063		<b>MM216952</b>
Flat, stay-put, red "0"	dia. 29.7x10	9004840176087		MM216957
Flat, stay-put, green "1"	dia. 29.7x10	9004840176094		MM216959
Flat, stay-put, without button plate	dia. 29.7x10	9004840176070		MM216954



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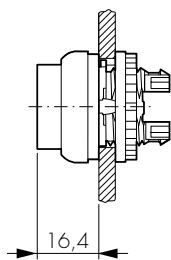


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – ILLUMINATED PUSHBUTTON, HIGH



MM216975



DIMENSIONS

### ■ SCHRACK INFO

- IP 67, 69K
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>				
High, spring-return, white	dia. 29.7x16.4	9004840207521		MM216965
High, spring-return, red	dia. 29.7x16.4	9004840207538		MM216967
High, spring-return, green	dia. 29.7x16.4	9004840207545		MM216969
High, spring-return, yellow	dia. 29.7x16.4	9004840207552		MM216971
High, spring-return, blue	dia. 29.7x16.4	9004840207569		MM216973
High, spring-return, red "0"	dia. 29.7x16.4	9004840177459		MM216975

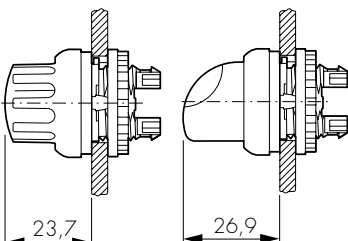
### LENSES FOR ILLUMINATED PUSHBUTTONS

Button lens, illuminated buttons for red	dia. 22.5	9004840176872		MM216442
Button lens, illuminated buttons for green	dia. 22.5	9004840176889		MM216443
Button lens, illuminated buttons for yellow	dia. 22.5	9004840176896		MM216444
Button lens, illuminated buttons for blue	dia. 22.5	9004840176902		MM216445
Button lens, illuminated buttons for individual	dia. 22.5	9004840176919		MM216446

## ■ SERIES MM – SELECTOR SWITCHES



MM216865



DIMENSIONS

### ■ SCHRACK INFO

- IP 66
- 22.5 mm diameter
- Stay-put: 60°
- Spring-return: 40°

### ■ TIPS & TRICKS

The coding parts MM 216407 can be used for conversion from stay-put to spring-return function!

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
<b>2 POSITIONS</b>				
2 positions, spring-return, 40°, thumb grip	dia. 29.7x26.9	9004840175752		<b>MM216865</b>
2 positions, stay-put, 60°, thumb grip	dia. 29.7x26.9	9004840175769		<b>MM216867</b>
2 positions, V-position, stay-put, thumb grip	dia. 29.7x26.9	9004840207897		<b>MM216874</b>
2 positions, stay-put, black, I-0, thumb grip	dia. 29.7x23.7	9004840196535		<b>MM216855</b>
<b>3 POSITIONS</b>				
3 positions, spring-return, 40°, thumb grip	dia. 29.7x26.9	9004840175776		<b>MM216870</b>
3 positions, stay-put, 60°, thumb grip	dia. 29.7x26.9	9004840175783		<b>MM216872</b>
3 positions, stay-put, black, I-0-II, rotary switch	dia. 29.7x23.7	9004840207873		<b>MM216863</b>



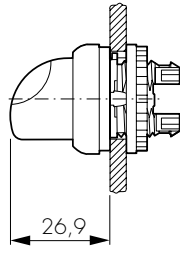
**Order no. blue:** on stock, usually ready for delivery on the day of order!

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – ILLUMINATED SELECTOR SWITCHES, 2 POSITIONS



MM216845



DIMENSIONS

### ■ SCHRACK INFO

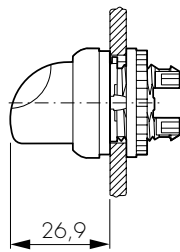
- IP 66
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>				
2 positions, spring-return, white	dia. 29.7x26.9	9004840176124		<a href="#">MM216812</a>
2 positions, spring-return, red	dia. 29.7x26.9	9004840176131		<a href="#">MM216814</a>
2 positions, spring-return, green	dia. 29.7x26.9	9004840176148		<a href="#">MM216816</a>
2 positions, spring-return, yellow	dia. 29.7x26.9	9004840191486		MM216818
<b>STAY-PUT</b>				
2 positions, stay-put, white	dia. 29.7x26.9	9004840176155		<a href="#">MM216823</a>
2 positions, stay-put, red	dia. 29.7x26.9	9004840176162		<a href="#">MM216825</a>
2 positions, stay-put, green	dia. 29.7x26.9	9004840176179		<a href="#">MM216827</a>
2 positions, stay-put, yellow	dia. 29.7x26.9	9004840191509		<a href="#">MM216829</a>
2 positions, stay-put, blue	dia. 29.7x26.9	9004840191516		<a href="#">MM216831</a>

## ■ SERIES MM – ILLUMINATED SELECTOR SWITCHES, 3 POSITIONS



MM216833



DIMENSIONS

### ■ SCHRACK INFO

- IP 66
- 22.5 mm diameter

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>				
3 positions, spring-return, white	dia. 29.7x26.9	9004840176186		<a href="#">MM216833</a>
3 positions, spring-return, red	dia. 29.7x26.9	9004840176193		<a href="#">MM216835</a>
3 positions, spring-return, green	dia. 29.7x26.9	9004840176209		<a href="#">MM216837</a>
<b>STAY-PUT</b>				
3 positions, stay-put, white	dia. 29.7x26.9	9004840176216		<a href="#">MM216843</a>
3 positions, stay-put, red	dia. 29.7x26.9	9004840176223		<a href="#">MM216845</a>
3 positions, stay-put, green	dia. 29.7x26.9	9004840176230		<a href="#">MM216847</a>
3 positions, stay-put, yellow	dia. 29.7x26.9	9004840191547		<a href="#">MM216849</a>
3 positions, stay-put, blue	dia. 29.7x26.9	9004840191554		MM216851

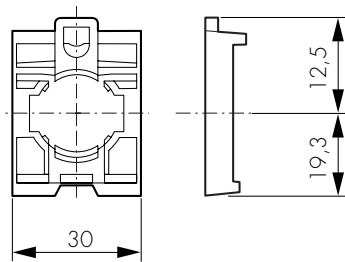


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SERIES MM – ADAPTERS



MM216374



DIMENSIONS

### SCHRACK INFO

- For front mounting of switch and LED elements

### TIPS & TRICKS

The mounting adapter is required for any command and signal device that consists of individual components. Up to 6 contacts or one LED plus up to 4 contacts can be mounted.

DESCRIPTION	WxH (mm)	EAN CODE	AVAILABLE	ORDER NO.
Mounting adapter (front)	30x31.8	9004840176247		<a href="#">MM216374</a>
Mounting adapter (front), 4 mounting locations	44x45	9004840467741		<a href="#">MM279437</a>

## SERIES MM – SWITCHING ELEMENTS



MM216378

### SCHRACK INFO

- Spring-tension (CC=spring terminals) or screw terminals
- Breaking capacity: AC15, 230 V 6 A  
DC13, 24 V 3 A

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SWITCHING ELEMENT FOR FRONT MOUNTING</b>			
NO contact front	9004840176254		<a href="#">MM216376</a>
NC contact front	9004840176261		<a href="#">MM216378</a>
NO contact CC front	9004840176292		<a href="#">MM216384</a>
NC contact CC front	9004840176308		<a href="#">MM216385</a>
<b>SWITCHING ELEMENT FOR FLOOR MOUNTING</b>			
NO contact, floor	9004840176278		<a href="#">MM216380</a>
NC contact, floor	9004840176285		<a href="#">MM216382</a>
NO contact CC, floor	9004840176315		<a href="#">MM216386</a>
NC contact CC, floor	9004840176322		<a href="#">MM216387</a>
<b>SWITCHING ELEMENT WITH DOUBLE CONTACTS</b>			
NC double contact CC front	9004840547054		<a href="#">MM107899</a>
NO double contact CC front	9004840625783		<a href="#">MM107940</a>



Order no. blue: on stock, usually ready for delivery on the day of order!

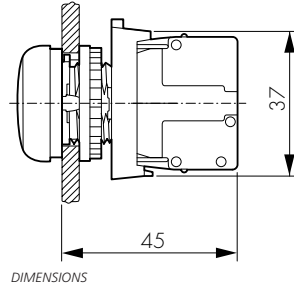


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SERIES MM – LIGHT EMITTING DIODES



MM216557



DIMENSIONS

### SCHRACK INFO

2 supply voltages:	12-30 V AC/DC 85-264 V AC
Rated current:	12-30 V AC/DC: 8-15 mA 85-264 V AC: 5-15 mA (Pmax = 0.33 W)
Diameter:	22.5 mm

### TIPS & TRICKS

Use for enclosures and telescopic clip floor. Spring terminals (CC).

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>LED FOR FRONT MOUNTING</b>			
LED 12-30 V AC/DC white front	9004840176339		<a href="#">MM216557</a>
LED 12-30 V AC/DC red front	9004840176346		<a href="#">MM216558</a>
LED 12-30 V AC/DC green front	9004840176353		<a href="#">MM216559</a>
LED 12-30 V AC/DC, blue front	9004840184549		<a href="#">MM218057</a>
LED 12-30 V AC/DC white CC front	9004840176452		<a href="#">MM216569</a>
LED 12-30 V AC/DC red CC front	9004840176469		<a href="#">MM216570</a>
LED 12-30 V AC/DC green CC front	9004840176476		<a href="#">MM216571</a>
LED 12-30 V AC/DC, blue CC front	9004840184525		<a href="#">MM218061</a>
LED 85-264 V AC white front	9004840176391		<a href="#">MM216563</a>
LED 85-264 V AC red front	9004840176407		<a href="#">MM216564</a>
LED 85-264 V AC green front	9004840176414		<a href="#">MM216565</a>
LED 85-264 V AC, blue front	9004840184556		<a href="#">MM218059</a>
LED 85-264 V AC white CC front	9004840176513		<a href="#">MM216575</a>
LED 85-264 V AC red CC front	9004840176520		<a href="#">MM216576</a>
LED 85-264 V AC green CC front	9004840176537		<a href="#">MM216577</a>
LED 85-264 V AC, blue CC front	9004840184501		<a href="#">MM218063</a>
<b>LED FOR FLOOR MOUNTING</b>			
LED 12-30 V AC/DC white, floor	9004840176360		<a href="#">MM216560</a>
LED 12-30 V AC/DC red, floor	9004840176377		<a href="#">MM216561</a>
LED 12-30 V AC/DC green, floor	9004840176384		<a href="#">MM216562</a>
LED 12-30 V AC/DC, blue, floor	9004840184563		<a href="#">MM218058</a>
LED 12-30 V AC/DC white, floor CC	9004840176483		<a href="#">MM216572</a>
LED 12-30 V AC/DC green, floor CC	9004840176506		<a href="#">MM216574</a>
LED 12-30 V AC/DC red, floor CC	9004840176490		MM216573
LED 85-264 V AC white, floor	9004840176421		<a href="#">MM216566</a>
LED 85-264 V AC red, floor	9004840176438		<a href="#">MM216567</a>
LED 85-264 V AC green, floor	9004840176445		<a href="#">MM216568</a>
LED 85-264 V AC blue, floor	9004840184570		MM218060
LED 85-264 V AC red, floor CC	9004840176551		<a href="#">MM216579</a>
LED 85-264 V AC white, floor CC	9004840176544		MM216578
<b>LED ACCESSORIES</b>			
LED test module 12-30 V AC/DC	9004840246865		<a href="#">MM231079</a>
LED test module 85-264 V AC/DC	9004840242317		<a href="#">MM231080</a>





# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SERIES MM – COMPLETE UNITS



MM216529



MM216525

### SCHRACK INFO

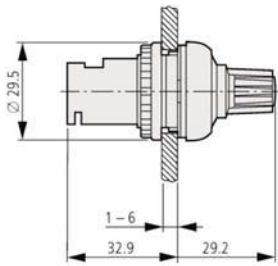
- 22.5 mm diameter
- Surface mounting: Insulated enclosure IP 67
- Surface and panel mounting units delivered pre-assembled.

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
All-in-one surface buttons, 2x "0", "1"	9004840177251		<b>MM216529</b>
All-in-one surface buttons, 3x "1", "0", "2"	9004840177268		MM216532
All-in-one surface buttons, key switch, 1NO 1NC, Spring-return/stay-put function	9004840177244		MM216526
All-in-one surface buttons, emergency stop mushroom button 1NO 1NC	9004840177237		<b>MM216525</b>
All-in-one surface buttons, emergency stop mushroom button 2NC	9004840177220		<b>MM216524</b>
All-in-one surface buttons, emergency stop mushroom button 1NO 1NC	9004840177213		MM216523
All-in-one surface buttons, green "1"	9004840177206		<b>MM216522</b>
All-in-one surface buttons, red "0"	9004840177190		MM216521
All-in-one emergency stop button 1 NC for panel mounting	9004840195781		<b>MM216515</b>
All-in-one emergency stop button 1NO 1NC	9004840215311		<b>MM216516</b>
All-in-one emergency stop button 1NO 1NC, spring-return/stay-put function	9004840372144		<b>MM216514</b>

## SERIES MM – POTENTIOMETERS



MM229491



DIMENSIONS



CIRCUIT DIAGRAM

### SCHRACK INFO

- Complete with potentiometer
- From 1 kΩ to 470 kΩ
- 3 terminals lead out separately
- Degree of protection IP 65
- Fully insulated
- Pmax = 0.5 W

DESCRIPTION	WxHxD (mm)	EAN CODE	AVAILABLE	ORDER NO.
Potentiometer 1 kΩ	dia. 29.5x29.2	9004840207699		<b>MM229489</b>
Potentiometer 4.7 kΩ	dia. 29.5x29.2	9004840207705		<b>MM229490</b>
Potentiometer 10 kΩ	dia. 29.5x29.2	9004840207712		<b>MM229491</b>
Potentiometer 100 kΩ	dia. 29.5x29.2	9004840207736		MM229493
Potentiometer 470 kΩ	dia. 29.5x29.2	9004840207743		<b>MM229494</b>



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## ■ SERIES MM – SURFACE ENCLOSURE



MM216536



MM216538

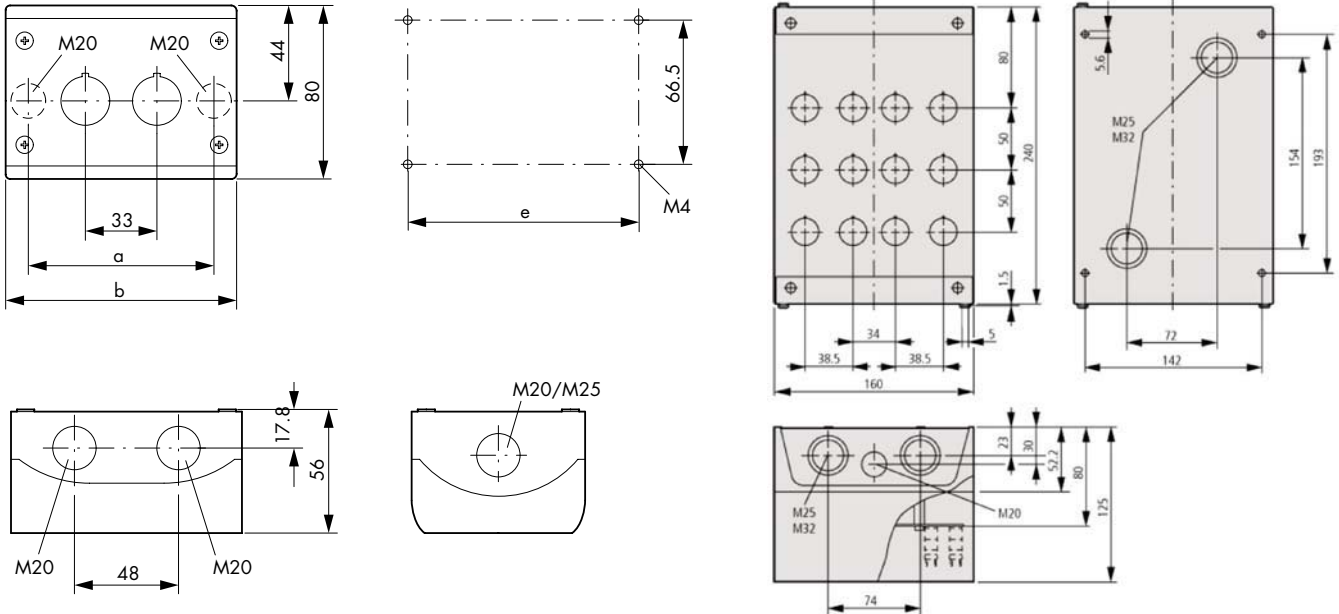


MM222688

### ■ SCHRACK INFO

- 22.5 mm diameter

### ■ DIMENSIONS



Installation positions	a	b	e	Line entries
1	172	42.6	58.5	2 x M16 3 x M20 2 x M25
2	120	85.6	106.5	2 x M20 3 x M20 2 x M25
3	153	118.6	139.5	2 x M20 2 x M25 4 x M20
4	186	151.6	172.5	2 x M20 2 x M25 4 x M40
6	252	217.6	238.5	2 x M20 2 x M25 4 x M20
12	72	160.0	193.0	2 x M20 2 x M32 4 x M32

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Surface enclosure 1 black/light grey	9004840176575		<b>MM216535</b>
Surface enclosure 1 black/yellow	9004840176582		<b>MM216536</b>
Surface enclosure 2 black/light grey	9004840176599		<b>MM216537</b>
Surface enclosure 3 black/light grey	9004840176605		<b>MM216538</b>
Surface enclosure 4 black/light grey	9004840176612		<b>MM216539</b>
Surface enclosure 6 black/light grey	9004840176629		<b>MM216540</b>
Surface enclosure 12 black/light grey	9004840196528		MM222688



# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

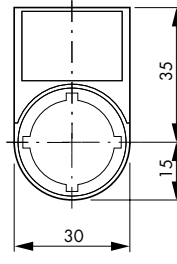
## LABELS FOR SERIES MM



MM216494



MM216465



DIMENSIONS

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Emergency stop label, dia.=60, 4 languages	9004840226768		<b>MM216483</b>
Emergency stop label 50x50	9004840215328		<b>MM216484</b>
Label holder, empty 30x50mm	9004840176643		<b>MM216392</b>
Label holder for double pushbutton, empty 30x75	9004840176650		<b>MM216394</b>
Emergency stop label, dia.=90, empty	9004840176940		<b>MM216464</b>
Emergency stop label, dia.=90, 4 languages	9004840176957		<b>MM216465</b>
Label, 18x27 mm, alu, plain	9004840176971		<b>MM216480</b>
Label, 18x27 mm, custom	9004840176988		MM216482
Label+holder 30x50 I	9004840177008		<b>MM216485</b>
Label+holder 30x50 I II	9004840177022		<b>MM216486</b>
Label+holder 30x50 On	9004840177046		MM216487
Label+holder 30x50 Operation	9004840177053		<b>MM216488</b>
Label+holder 30x50 Alarm	9004840177060		<b>MM216489</b>
Label+holder 30x50 Off On	9004840177077		MM216490
Label+holder, Manual Auto	9004840177084		MM216492
Label+holder, Manual 0 Auto	9004840177091		<b>MM216493</b>
Label+holder 30x50 Stop	9004840177107		<b>MM216494</b>
Label+holder 30x50 Start	9004840177114		<b>MM216495</b>
Label+holder 30x50 ON	9004840177138		<b>MM216496</b>
Label+holder 30x50 OFF ON	9004840177169		<b>MM216499</b>
Label+holder, MAN. 0 AUTO	9004840177183		<b>MM216501</b>
Label+holder 30x50 Off	9004840177039		MM218299
Label+holder 30x50 OFF	9004840177121		MM218300
Emergency stop label 33x50	9004840190168		<b>MM216472</b>
Emergency stop label 33x50	9004840195767		<b>MM216471</b>



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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## OTHER ACCESSORIES FOR SERIES MM



MM216398



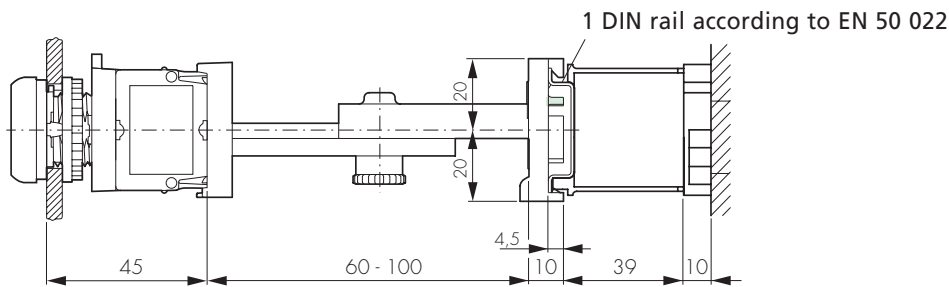
MM216400



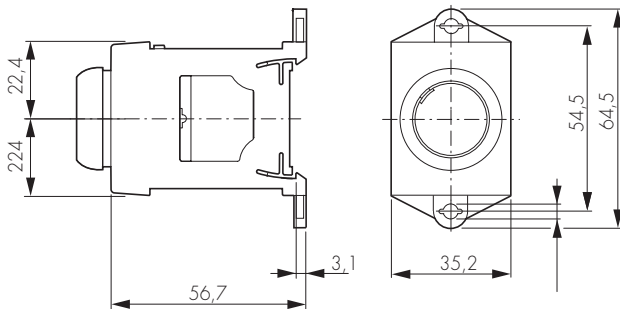
MM231273

## DIMENSIONS

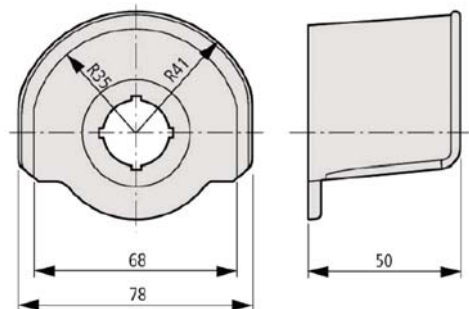
Pushbuttons, illuminated pushbuttons, signal lamps with telescopic clip



### DIN rail adapter



### Protective collars for emergency stop

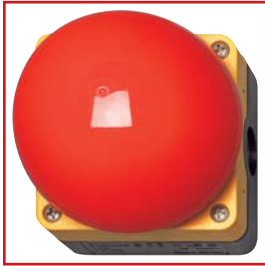


DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Telescopic clip	9004840177473		MM216398
DIN rail adapter	9004840176698		<b>MM216400</b>
Button protective membrane for pushbuttons	9004840176667		<b>MM216395</b>
Button protective membrane for double pushbuttons	9004840176674		<b>MM216396</b>
Sealing cover for emergency stop	9004840176681		<b>MM216397</b>
Protective collar for emergency stop, yellow	9004840276725		<b>MM231273</b>
Protective collar for emergency stop, grey	9004840456288		MM271610
Coding part pull-off	9004840176711		<b>MM216406</b>
Coding part stay-put/spring-return	9004840176728		<b>MM216407</b>
Bridge for centre contact	9004840207934		<b>MM216405</b>
Threaded ring M22x1.5 mm	9004840177466		MM216401
Mounting key	9004840176704		<b>MM216402</b>
Reducer kit from 30 to 22.3 mm drill hole	9004840190151		<b>MM216408</b>
Blind cap, black, round	9004840176636		<b>MM216390</b>
Blind cap, grey	9004840207910		<b>MM216388</b>



# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SERIES MM – PALM SWITCHES



MM229747/MM229748



MM229749



MM229746

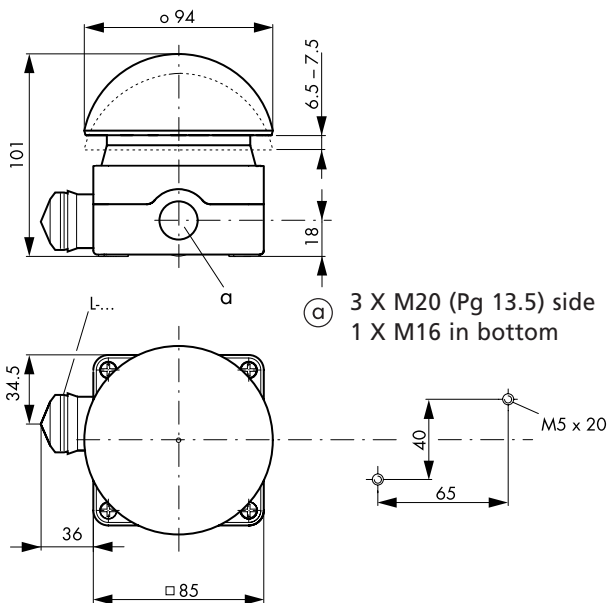
### SCHRACK INFO

- IP 67/ IP 69K
- NC with safety function through positive opening operation meeting IEC 947-5-1
- Large robust impact surface
- Emergency stop provides overload-proof operation in accordance with ISO 13 850/EN 418

### TIPS & TRICKS

The auxiliary contacts are identical to those of the titanium range

### DIMENSIONS



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Palm switch, black, 1 NO/1 NC, momentary	9004840226324		<b>MM229749</b>
Palm switch, red, 1 NO/1 NC, momentary	9004840226355		<b>MM229746</b>
Emergency stop switch, 1 NC, maintained	9004840226331		<b>MM229747</b>
Emergency stop switch, 1 NO/1 NC, maintained	9004840226348		<b>MM229748</b>



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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – SIGNAL LAMPS – GENERAL INFORMATION



SIGNAL LAMPS RMQ TITANIUM

### ■ SCHRACK INFO

The signal lamps are ideal, for example, to indicate different operating states of machinery.

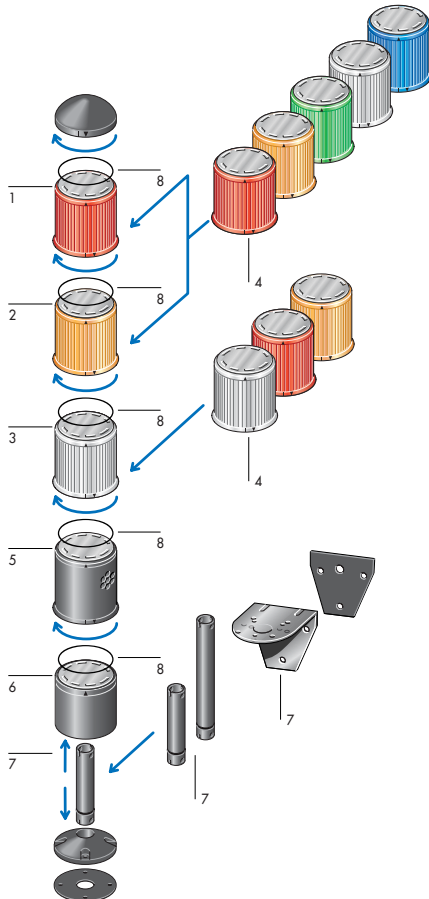
### ■ TIPS & TRICKS

The free programmability of each module allows you set up different alert levels – both visual and audible indicators. Programming simply by jumpers.

### ■ TECHNICAL DATA

- Degree of protection IP 54 (acoustic indicator IP 20)
- Modular design without wire
- Individual modules can be programmed separately
- Easy mounting through bayonet clock
- Up to 5 modules can be controlled
- For 110 - 130 V and 230 V AC or 24 V DC
- Continuous and blinking light, with 5 W incandescent lamp, BA 15d
- Flashing light, with 15 cd light intensity, Flashing frequency approx. 60/min
- Acoustic indicator with 90 dB
- Terminal capacity 6 x 1.5 mm<sup>2</sup>
- Five dome colours: red, yellow, green, blue, white
- Meets the standards and specifications: IEC/EN 60 947, VDE 0660
- Degree of protection: IP54
- Climatic proofing:
  - Damp heat, constant: IEC 60 068-2-3
  - cyclic: IEC 60 068-2-30
- Ambient temperature closed, min./max.: -25/+50 °C
- Installation in any position
- Shock resistance (shock duration 11 ms) in accordance with IEC 60 068-2-27: 15 g
- Terminal capacity
  - solid: 2x1.5; 1x2.5 mm<sup>2</sup>
  - stranded: 2x0.5; 1x1.5 mm<sup>2</sup>
- Current paths
- Rated surge voltage protection Uimp: 4000 V
- Rated insulation voltage Ui: 250 V
- Overvoltage category/pollution degree: III/3

## ■ SERIES MM – SIGNAL LAMPS – SYSTEM OVERVIEW

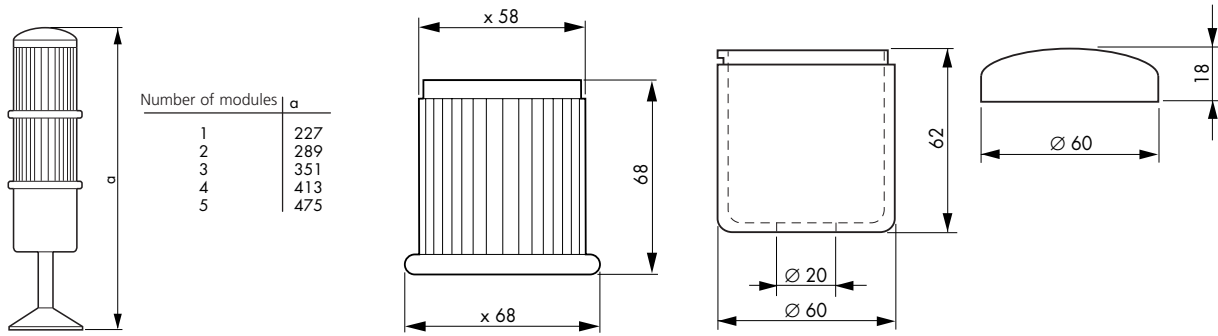


- 1 Permanent light
- 2 Flashing light
- 3 Strobe like
- 4 Domes
- 5 Audible alarms
- 6 Base module
- 7 Optional equipment (mounting)
- 8 Gaskets

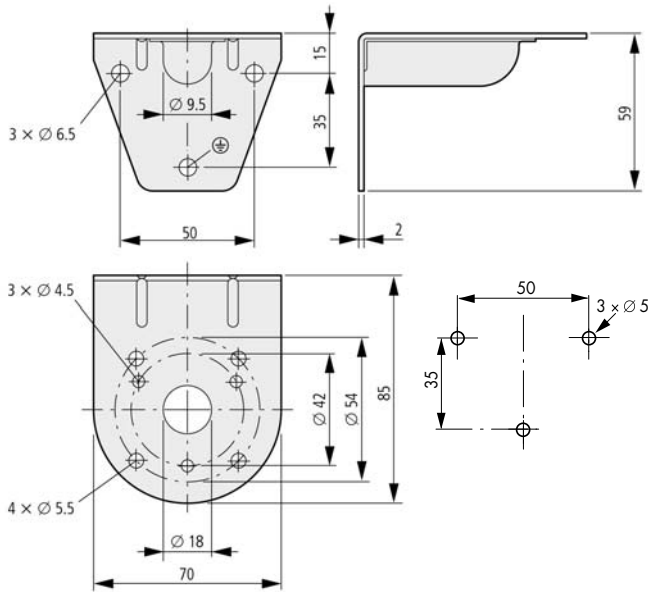
# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – SIGNAL LAMPS – DIMENSIONS

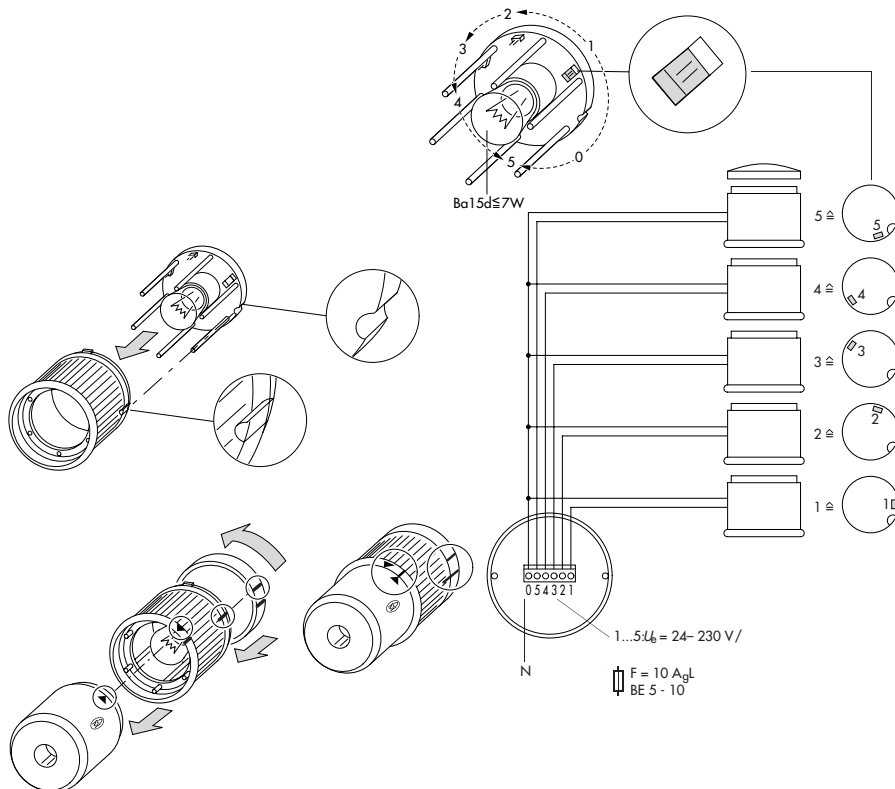
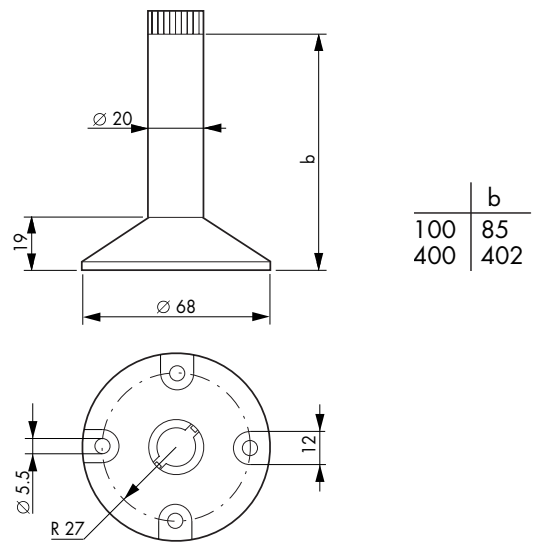
Complete units



Mounting bracket MM205347



Foot MM205345 / MM215275  
with tube



# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MM – SIGNAL LAMPS – BASIC MODULE



MM205311

### ■ SCHRACK INFO

Terminal base plus end cover  
The foot must be ordered separately!

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Signal lamps, basic module with screw terminals	9004840204032		<b>MM205311</b>

## ■ SERIES MM – SIGNAL LAMPS – INDIVIDUAL MODULES



MM205313



MM205314



MM205315




DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Signal lamp, continuous light, white	9004840204049		<b>MM205312</b>
Signal lamp, continuous light, red	9004840204056		<b>MM205313</b>
Signal lamp, continuous light, green	9004840204148		<b>MM205314</b>
Signal lamp, continuous light, yellow	9004840204155		<b>MM205315</b>
Signal lamp, continuous light, blue	9004840204162		<b>MM205316</b>
Signal lamp, blinking light, red, 24 V DC	9004840204186		<b>MM205318</b>
Signal lamp, blinking light, red, 230 V AC	9004840204285		<b>MM205328</b>
Signal lamp, blinking light, green, 24 V DC	9004840204193		MM205319
Signal lamp, blinking light, green, 230 V AC	9004840204292		MM205329
Signal lamp, blinking light, yellow, 24 V DC	9004840204209		<b>MM205320</b>
Signal lamp, blinking light, yellow, 230 V AC	9004840204308		<b>MM205330</b>
Signal lamp, blinking light, blue, 230 V AC	9004840204315		MM205331
Signal lamp, flashing light, white, 24 V DC	9004840204322		MM205332
Signal lamp, flashing light, white, 230 V AC	9004840204384		MM205338
Signal lamp, flashing light, red, 24 V DC	9004840204339		<b>MM205333</b>
Signal lamp, flashing light, red, 230 V AC	9004840204391		<b>MM205339</b>
Signal lamp, flashing light, yellow, 24 V DC	9004840204346		MM205334
Signal lamp, flashing light, yellow, 230 V AC	9004840204407		<b>MM205340</b>
Acoustic module with continuous tone, 12-36 V AC/DC	9004840204414		<b>MM205341</b>
Acoustic module with continuous tone, 110-230 V AC/DC	9004840204421		<b>MM205342</b>
Acoustic module with pulse tone, 12-36 V AC/DC	9004840204438		<b>MM205343</b>
Acoustic module with pulse-tone, 110-230 V AC/DC	9004840204445		<b>MM205344</b>






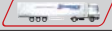
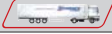
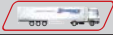
# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

### ■ SERIES MM – SIGNAL LAMPS – MOUNTING MATERIAL

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Standfoot with tube 100 mm, plastic	9004840204452		<b>MM205345</b>
Standfoot with tube 400 mm, metal	9004840204674		MM215275
Mounting bracket	9004840204476		<b>MM205347</b>
Sealing kit to IP 65	9004840204698		<b>MM215277</b>

### ■ SERIES MM – SIGNAL LAMPS – ACCESSORIES

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
LED white 18-30 V AC/DC	9004840204704		<b>MM215278</b>
LED red 18-30 V AC/DC	9004840204711		<b>MM215279</b>
LED green 18-30 V AC/DC	9004840204728		<b>MM215280</b>
LED yellow 18-30 V AC/DC	9004840204735		<b>MM215281</b>
LED blue 18-30 V AC/DC	9004840204742		MM215282
Incandescent lamp 24 V	9004840204483		<b>MM205348</b>
Incandescent lamp 110-130 V	9004840204490		MM205349
Incandescent lamp 220-260 V	9004840204506		<b>MM205350</b>



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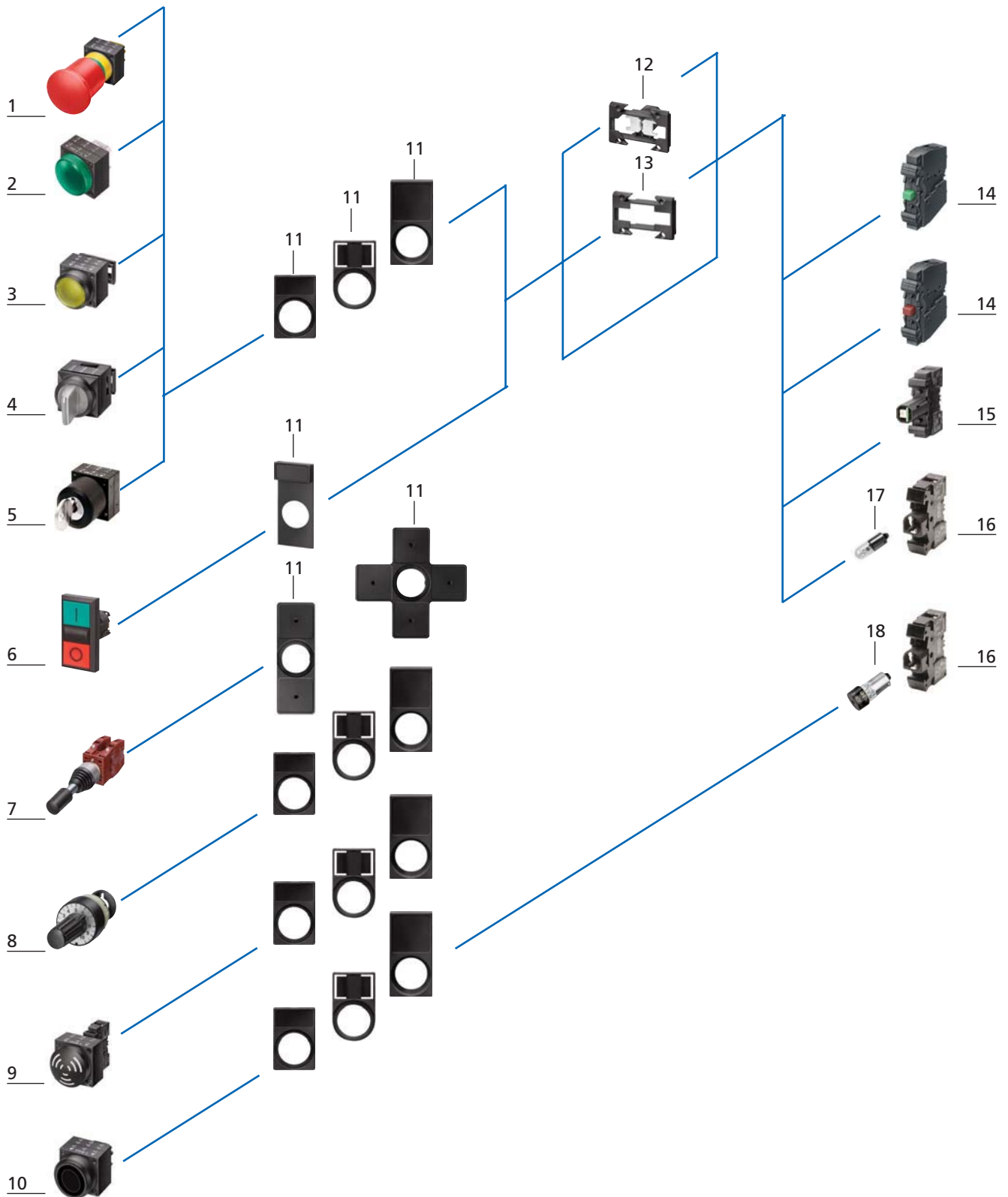
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- Quick access customer service



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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SYSTEM OVERVIEW SERIES MS



- 1 Emergency stop buttons
- 2 Signal lamp
- 3 Push buttons
- 4 Knob for selector switches
- 5 Key buttons
- 6 Double push buttons
- 7 Joysticks
- 8 Potentiometer knob
- 9 Buzzers complete

- 10 Cover for buzzer
- 11 Label holder
- 12 Carrier for 3 contact blocks
- 13 Carrier for 2 contact blocks + lamp
- 14 Contact block
- 15 LED
- 16 Lamp holder
- 17 Lamp
- 18 Buzzer insert

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SERIES MS – SETS



MSL14103C



MSM12003C



MSN12260RD



MST14100C

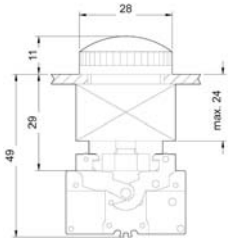


MSG13400RD

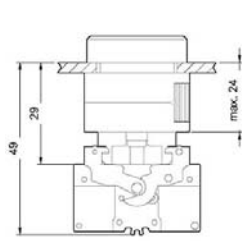
### SCHRACK INFO

- Pre-configured sets consisting of:
  - Command or signalling device
  - Holder and carrier
  - LED
  - Auxiliary contacts

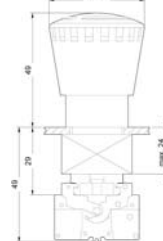
## DIMENSIONS



m\_MSMKPL



m\_MSTKPL



m\_MSN12260RD

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
SET push-button, red, 1 NC, spring-type terminals	9004840671568		<b>MST12200C</b>
SET push-button, green, 1 NO, spring-type terminals	9004840671605		<b>MST14100C</b>
SET push-button illum., green, 230V, 1 NO, spring-type terminals	9004840671278		<b>MSL14103C</b>
SET push-button illum., red, 230V, 1 NC, spring-type terminals	9004840671216		<b>MSL12203C</b>
SET push-button illum., green, 24V, 1 NO, spring-type terminals	9004840671285		<b>MSL14105C</b>
SET push-button illum., red, 24V, 1NC, spring-type terminals	9004840671223		<b>MSL12205C</b>
SET signal lamp, green, 230V, spring-type terminals	9004840671377		<b>MSM14003C</b>
SET signal lamp, red, 230V, spring-type terminals	9004840671339		<b>MSM12003C</b>
SET signal lamp, green, 24V, spring-type terminals	9004840671384		<b>MSM14005C</b>
SET signal lamp, red, 24V, spring-type terminals	9004840671346		<b>MSM12005C</b>
SET Emerg.-Stop push-button red, "NOT-HALT", 1 NC, rot. release	9004840671438		<b>MSN12260RD</b>
SET Emerg.-Stop m/head PB, 2NC, box yellow, rot. rel., w/o collar	9004840670776		<b>MSG13400RD</b>



## I KNOW WHERE TO FIND IT!

WITH THE SCHRACK TECHNIK LIVE-PHONE APP

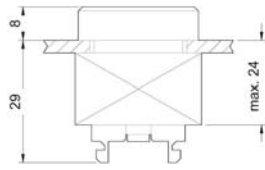
- Access technical product information at any time and from everywhere
- See availability and price immediately
- Order desired products easily

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – PUSHBUTTONS



MST14000



DIMENSIONS

### ■ SCHRACK INFO

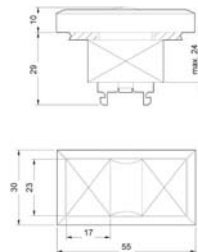
- IP 66
- Diameter 29.5 mm
- Button plates with inscription for transparent push-buttons see page 881

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>			
Push-button, black	9004840671537		<b>MST11000</b>
Push-button, black, "0"	9004840671544		<b>MST11040</b>
Push-button, red	9004840671551		<b>MST12000</b>
Push-button, red, "0"	9004840672602		<b>MST12040</b>
Push-button, yellow	9004840671575		<b>MST13000</b>
Push-button, green	9004840671582		<b>MST14000</b>
Push-button, green, "1"	9004840671599		<b>MST14010</b>
Push-button, blue	9004840671612		<b>MST15000</b>
Push-button, white	9004840671629		<b>MST16000</b>
Push-button, white, "1"	9004840671636		<b>MST16010</b>
Push-button, transparent	9004840672701		<b>MST17000</b>
<b>LATCHING</b>			
Push-button, black, latching	9004840672619		<b>MST11000R</b>
Push-button, red, latching	9004840672626		<b>MST12000R</b>
Push-button, yellow, latching	9004840672633		<b>MST13000R</b>
Push-button, green, latching	9004840672640		<b>MST14000R</b>
Push-button, blue, latching	9004840672657		<b>MST15000R</b>
Push-button, white, latching	9004840672664		<b>MST16000R</b>

## ■ SERIES MS – TWIN-PUSHBUTTON



MST29020



DIMENSIONS

### ■ SCHRACK INFO

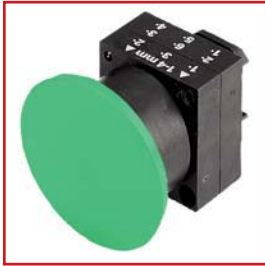
- IP 65
- Holder included

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Twin push button illum., green/red, "I/O"	9004840671643		<b>MST29020</b>

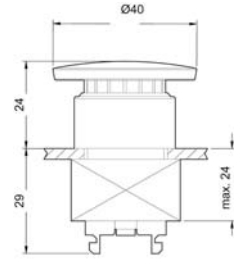


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – MUSHROOM PUSHBUTTONS



MSP14000



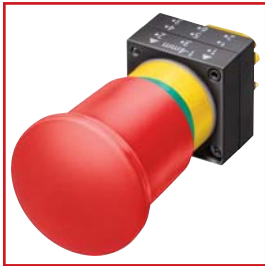
DIMENSIONS

### ■ SCHRACK INFO

- IP 66

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>			
Mushroom push-button, black	9004840671452		<b>MSP11000</b>
Mushroom push-button, red	9004840671469		<b>MSP12000</b>
Mushroom push-button, green	9004840671483		<b>MSP14000</b>
<b>LATCHING</b>			
Mushroom push-button, red, latching, pull release	9004840671476		<b>MSP12000RZ</b>

## ■ SERIES MS – EMERGENCY STOP PUSHBUTTONS



MSN12000RZ



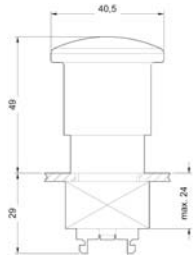
MSN12000RD



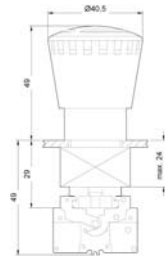
MSNV2000RS

### ■ SCHRACK INFO

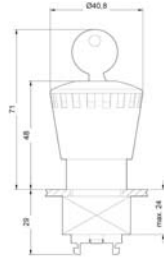
- IP 66
- Tamperproof



DIMENSIONS



DIMENSIONS



DIMENSIONS

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Emergency-Stop push-button, red, pull release, w. mech. pos.-indication	9004840671414		<b>MSN12000RD</b>
Emergency-Stop push-button, red, 40mm dia, pull release	9004840671421		<b>MSN12000RZ</b>
Emergency-Stop push-button red, 40mm dia, key release, Ronis	9004840671445		<b>MSNV2000RS</b>



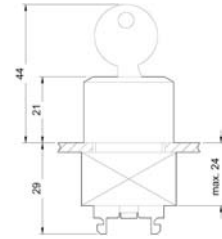
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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – KEY OPERATED SWITCHES



MSS11020RS



DIMENSIONS

### ■ SCHRACK INFO

- IP 66
- 2 keys Ronis SB30 included
- Diameter 28.5 mm

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Key switch button, 2pos., 50°, Ronis SB30	9004840671506		<b>MSS11020T</b>
Key switch button, 2pos., 50°, latching, Ronis SB30	9004840671490		<b>MSS11020RS</b>
Key switch button, 3pos., 2x50°, latching	9004840671513		<b>MSS11030RS</b>

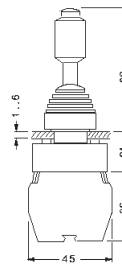
## ■ SERIES MS – JOYSTICKS



MSJ11320RH



MSJ11740R



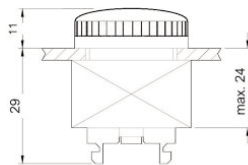
DIMENSIONS

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Joystick 2pos., horizontal, 2 NO	9004840670844		<b>MSJ11320TH</b>
Joystick 2pos., vertical, 2 NO	9004840670851		<b>MSJ11320TV</b>
Joystick 2pos., latching horizontal, 2 NO	9004840670820		<b>MSJ11320RH</b>
Joystick 2pos., latching vertical, 2 NO	9004840670837		<b>MSJ11320RV</b>
Joystick 4pos., 4 NO	9004840670875		<b>MSJ11740T</b>
Joystick 4pos., latching, 4 NO	9004840670868		<b>MSJ11740R</b>

## ■ SERIES MS – SIGNAL LAMPS



MSM14000



DIMENSIONS

### ■ SCHRACK INFO

- IP 66
- Diameter 28 mm
- LED or lampholder + lamps can be snapped on

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Signal lamp, red	9004840671322		<b>MSM12000</b>
Signal lamp, yellow	9004840671353		<b>MSM13000</b>
Signal lamp, green	9004840671360		<b>MSM14000</b>
Signal lamp, blue	9004840671391		<b>MSM15000</b>
Signal lamp, white	9004840671407		<b>MSM16000</b>
Signal lamp, transparent	9004840672718		<b>MSM17000</b>



# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – ACOUSTIC INDICATORS, BUZZER AND SOCKET



MSA1000



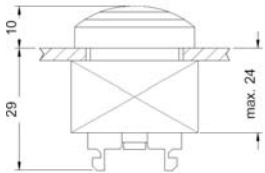
MSA00000



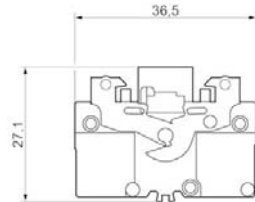
MSA00005



MSZF0000



DIMENSIONS



DIMENSIONS

### ■ SCHRACK INFO

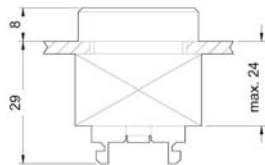
- 80 dB continuous tone
- 24 V AC/DC, 230 V AC/DC
- Diameter 28 mm
- 100% duty cycle

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Acoustic indicator, cont.tone 2,4 kHz, compl., 24VACDC, IP65	9004840670745		<b>MSA1000S</b>
Acoustic indicator, cont.tone 2,4 kHz, compl., 230VACDC, IP65	9004840670752		<b>MSA1000F</b>
Cover for buzzer (IP40)	9004840670714		<b>MSA00000</b>
Buzzer, cont. tone, 24VDC, (f. socket BA9s)	9004840670738		<b>MSA00005</b>
Bulb socket BA9s	9004840671650		<b>MSZF0000</b>

## ■ SERIES MS – ILLUMINATED PUSHBUTTONS



MSL13000



DIMENSIONS

### ■ SCHRACK INFO

- IP 66
- Diameter 28.5 mm
- Carrier included for 2 contact elements + LED

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>			
Push-button illum., red	9004840671193		<b>MSL12000</b>
Push-button illum., yellow	9004840671230		<b>MSL13000</b>
Push-button illum., green	9004840671254		<b>MSL14000</b>
Push-button illum., blue	9004840671292		<b>MSL15000</b>
Push-button illum., white	9004840671308		<b>MSL16000</b>
Push-button illum., transparent	9004840672671		<b>MSL17000</b>
<b>LATCHING</b>			
Push-button illum., red, latching	9004840671209		<b>MSL12000R</b>
Push-button illum., yellow, latching	9004840671247		<b>MSL13000R</b>
Push-button illum., green, latching	9004840671261		<b>MSL14000R</b>
Push-button illum., blue, latching	9004840672695		<b>MSL15000R</b>
Push-button illum., white, latching	9004840671315		<b>MSL16000R</b>
Push-button illum., transparent, latching	9004840672688		<b>MSL17000R</b>



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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – TRANSPARENT BUTTON PLATES WITH INSCRIPTION FOR ILLUMINATED AND TRANSPARENT PUSHBUTTONS



MSZS700128



MSZS701028

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plate 28mm dia, transparent, "0"	9004840672299		<a href="#">MSZS700028</a>
Plate 28mm dia, transparent, "1"	9004840672305		<a href="#">MSZS700128</a>
Plate 28mm dia, transparent, "EIN"	9004840672312		<a href="#">MSZS700228</a>
Plate 28mm dia, transparent, "AUS"	9004840672329		<a href="#">MSZS700328</a>
Plate 28mm dia, transparent, "AUF"	9004840672336		<a href="#">MSZS700428</a>
Plate 28mm dia, transparent, "AB"	9004840672343		<a href="#">MSZS700528</a>
Plate 28mm dia, transparent, "ZU"	9004840672350		<a href="#">MSZS700628</a>
Plate 28mm dia, transparent, "BETRIEB"	9004840672367		<a href="#">MSZS700728</a>
Plate 28mm dia, transparent, "STÖRUNG"	9004840672374		<a href="#">MSZS700828</a>
Plate 28mm dia, transparent, "START"	9004840672381		<a href="#">MSZS700928</a>
Plate 28mm dia, transparent, "HALT"	9004840672398		<a href="#">MSZS701028</a>
Plate 28mm dia, transparent, "STOP"	9004840672404		<a href="#">MSZS701128</a>
Plate 28mm dia, transparent, "Arrow"	9004840672411		<a href="#">MSZS701528</a>
Plate 28mm dia, transparent, "TEST"	9004840673050		<a href="#">MSZS701828</a>
Plate 28mm dia, transparent, "RESET"	9004840673067		<a href="#">MSZS701928</a>
Plate 28mm dia, transparent, "ON"	9004840673074		<a href="#">MSZS710228</a>
Plate 28mm dia, transparent, "OFF"	9004840673081		<a href="#">MSZS710328</a>
Plate 28mm dia, transparent, "UP"	9004840673098		<a href="#">MSZS710428</a>
Plate 28mm dia, transparent, "DOWN"	9004840673128		<a href="#">MSZS710528</a>
Plate 28mm dia, transparent, "CLOSE"	9004840673135		<a href="#">MSZS710628</a>
Plate 28mm dia, transparent, "RUNNING"	9004840673142		<a href="#">MSZS710728</a>
Plate 28mm dia, transparent, "FAULT"	9004840673104		<a href="#">MSZS710828</a>
Plate 28mm dia, transparent, "OPEN"	9004840673111		<a href="#">MSZS730428</a>

## ■ SERIES MS – COLOURED BUTTONS FOR ILLUMINATED PUSHBUTTONS



MSZX60001

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Plate for push-button illum., transparent	9004840672596		<a href="#">MSZX7001</a>
Plate for push-button illum., red	9004840672541		<a href="#">MSZX2001</a>
Plate for push-button illum., yellow	9004840672558		<a href="#">MSZX3001</a>
Plate for push-button illum., green	9004840672565		<a href="#">MSZX4001</a>
Plate for push-button illum., blue	9004840672572		<a href="#">MSZX5001</a>
Plate for push-button illum., white	9004840672589		<a href="#">MSZX6001</a>



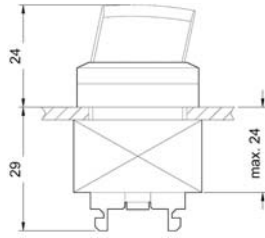


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – KNOBS FOR SELECTOR SWITCHES



MSK010305R



DIMENSIONS

### ■ SCHRACK INFO

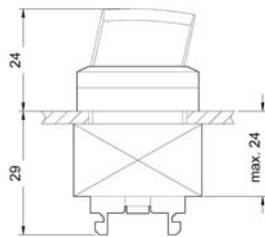
- IP 66
- Diameter 28.5 mm
- 2 or 3 positions
- Operating angle: 50°, 2 x 50° or 90°

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>2 POSITIONS SPRING-RETURN</b>			
Knob, 2pos., 50°	9004840670929		<a href="#">MSK010205T</a>
<b>2 POSITIONS LATCHING</b>			
Knob, 2pos., 50°, latching	9004840670912		<a href="#">MSK010205R</a>
Knob, 2pos., 90°, latching	9004840670936		<a href="#">MSK010209R</a>
<b>3 POSITIONS SPRING-RETURN</b>			
Knob, 3pos., 2x50°	9004840670950		<a href="#">MSK010305T</a>
<b>3 POSITIONS LATCHING</b>			
Knob, 3pos., 2x50°, latching	9004840670943		<a href="#">MSK010305R</a>
<b>3 POSITIONS SPRING-RETURN / LATCHING</b>			
Knob 3pos., 2x50°, latching right	9004840672725		<a href="#">MSK01030TR</a>
Knob 3pos., 2x50°, latching left	9004840672732		<a href="#">MSK01030RT</a>

## ■ SERIES MS – ILLUMINATED KNOBS FOR SELECTOR SWITCHES, 2 POSITIONS



MSKB2030



DIMENSIONS

### ■ SCHRACK INFO

- IP 66
- Diameter 28.5 mm
- Operating angle: 50°
- Carrier included (for 2 contact elements + LED)

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>			
Knob illum., red, 2pos., 50°	9004840673159		<a href="#">MSKB2020T</a>
Knob illum., yellow, 2pos., 50°	9004840673166		<a href="#">MSKB3020T</a>
Knob illum., green, 2pos., 50°	9004840673180		<a href="#">MSKB4020T</a>
Knob illum., blue, 2pos., 50°	9004840673197		<a href="#">MSKB5020T</a>
Knob illum., transparent, 2pos., 50°	9004840671148		<a href="#">MSKB7020T</a>
<b>LATCHING</b>			
Knob illum., red, 2pos., 50°, latching	9004840670981		<a href="#">MSKB2020R</a>
Knob illum., yellow, 2pos., 50°, latching	9004840671025		<a href="#">MSKB3020R</a>
Knob illum., green, 2pos., 50°, latching	9004840671056		<a href="#">MSKB4020R</a>
Knob illum., blue, 2pos., 50°, latching	9004840671100		<a href="#">MSKB5020R</a>
Knob illum., transparent, 2pos., 50°, latching	9004840671131		<a href="#">MSKB7020R</a>



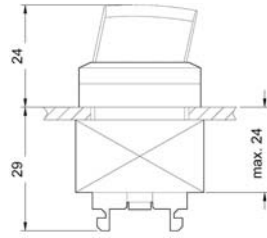
**Order no. blue:** on stock, usually ready for delivery on the day of order!

# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – ILLUMINATED KNOBS FOR SELECTOR SWITCHES, 3 POSITIONS



MSKB3020



DIMENSIONS

### ■ SCHRACK INFO

- IP 66
- Diameter 28.5 mm
- Operating angle: 2 x 50°
- Carrier included (for 2 contact elements + LED)

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>SPRING-RETURN</b>			
Knob illum., red, 3pos., 2x50°	9004840672749		<a href="#">MSKB2030T</a>
Knob illum., yellow, 3pos., 2x50°	9004840672756		<a href="#">MSKB3030T</a>
Knob illum., green, 3pos., 2x50°	9004840671070		<a href="#">MSKB4030T</a>
Knob illum., blue, 3pos., 2x50°	9004840672763		<a href="#">MSKB5030T</a>
Knob illum., transparent, 3pos., 2x50°	9004840671179		<a href="#">MSKB7030T</a>
<b>LATCHING</b>			
Knob illum., red, 3pos., 2x50°, latching	9004840670998		<a href="#">MSKB2030R</a>
Knob illum., yellow, 3pos., 2x50°, latching	9004840673173		<a href="#">MSKB3030R</a>
Knob illum., green, 3pos., 2x50°, latching	9004840671063		<a href="#">MSKB4030R</a>
Knob illum., blue, 3pos., 2x50°, latching	9004840673203		<a href="#">MSKB5030R</a>
Knob illum., transparent, 3pos., 2x50°, latching	9004840671155		<a href="#">MSKB7030R</a>
<b>SPRING-RETURN / LATCHING</b>			
Knob illum., red, 3pos., 2x50°, latching right	9004840671018		<a href="#">MSKB2030TR</a>
Knob illum., yellow, 3pos., 2x50°, latching right	9004840671049		<a href="#">MSKB3030TR</a>
Knob illum., green, 3pos., 2x50°, latching right	9004840671094		<a href="#">MSKB4030TR</a>
Knob illum., blue, 3pos., 2x50°, latching right	9004840671124		<a href="#">MSKB5030TR</a>
Knob illum., transparent, 3pos., 2x50°, latching right	9004840671186		<a href="#">MSKB7030TR</a>
Knob illum., red, 3pos., 2x50°, latching left	9004840671001		<a href="#">MSKB2030RT</a>
Knob illum., yellow, 3pos., 2x50°, latching left	9004840671032		<a href="#">MSKB3030RT</a>
Knob illum., green, 3pos., 2x50°, latching left	9004840671087		<a href="#">MSKB4030RT</a>
Knob illum., blue, 3pos., 2x50°, latching left	9004840671117		<a href="#">MSKB5030RT</a>
Knob illum., transparent, 3pos., 2x50°, latching left	9004840671162		<a href="#">MSKB7030RT</a>



## I KNOW WHERE TO FIND IT!

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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – HOLDER AND CARRIERS



MSZH0001



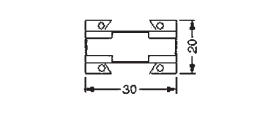
MSZX0002



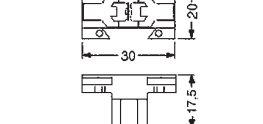
MSZX0003



DIMENSIONS



DIMENSIONS



DIMENSIONS

### ■ SCHRACK INFO

- For front mounting of switch and signaling elements
- Up to either 2 contact elements or 1 LED can be mounted on the holder
- Holders are included at all control devices
- Carriers are included at all illuminated control devices
- Up to 3 contact elements or 1 LED + 2 contact elements can be fixed by use of carrier
- Use carrier with pressure plate for actuating the central of 3 contact elements (key switch, twin push button)

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Holder for devices 22,3mm bore (1-4mm panels)	9004840671667		<b>MSZH0001</b>
Carrier for 2 contact blocks + LED	9004840672473		<b>MSZX0002</b>
Carrier for 3 contact blocks	9004840672480		<b>MSZX0003</b>

## ■ SERIES MS – CONTACT ELEMENTS



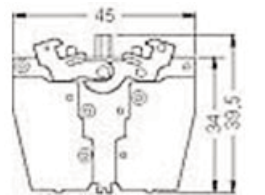
MSZK0300C



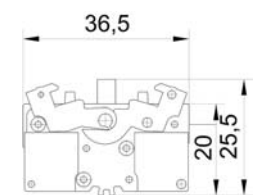
MSZK0100

### ■ SCHRACK INFO

- Available with spring-type or with screw terminals
- Breaking capacity:  
AC15, 230V, 6A  
DC13, 24V, 3A



DIMENSIONS



DIMENSIONS

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>WITH SCREW TERMINALS</b>			
Contact block , 1 NO, screw conn.	9004840671674		<b>MSZK0100</b>
Contact block , 1 NC, screw conn.	9004840671698		<b>MSZK0200</b>
<b>WITH SPRING-TYPE TERMINALS</b>			
Contact block , 1 NO, spring-type terminals	9004840671681		<b>MSZK0100C</b>
Contact block , 1 NC, spring-type terminals	9004840671704		<b>MSZK0200C</b>
Contact block , 2 NO, spring-type terminals	9004840671711		<b>MSZK0300C</b>
Contact block , 2 NC, spring-type terminals	9004840671728		<b>MSZK0400C</b>
Contact block , 1 NO + 1 NC, spring-type terminals	9004840671735		<b>MSZK0500C</b>
Contact block , 1 early make NO + 1 delayed NC, spring-type terminals	9004840671742		<b>MSZK0600C</b>

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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – LED, LAMPHOLDER AND LAMPS



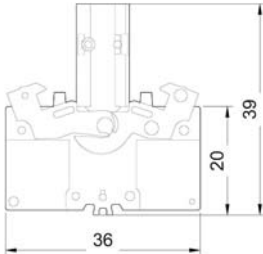
MSZL6003



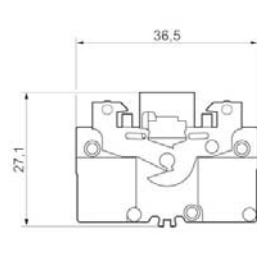
MSZF000



LAMP



DIMENSIONS



DIMENSIONS

### ■ SCHRACK INFO

- 2 supply voltages: LED's 24V AC/DC and lamps 230V AC
- Spring-type terminals, screw terminals or BA9s socket types
- For lamps, additional holder required

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>LED FOR 24V AC/DC – SCREW TERMINALS</b>			
LED unit, red, 24VAC/DC	9004840671766		<a href="#">MSZL2005</a>
LED unit, green, 24VAC/DC	9004840671803		<a href="#">MSZL4005</a>
LED unit, blue, 24VAC/DC	9004840671834		<a href="#">MSZL5005</a>
LED unit, white, 24VAC/DC	9004840671872		<a href="#">MSZL6005</a>
<b>LED FOR 230V AC – SCREW TERMINALS</b>			
LED unit, red, 230VAC	9004840671759		<a href="#">MSZL2003</a>
LED unit, green, 230VAC	9004840671780		<a href="#">MSZL4003</a>
LED unit, blue, 230VAC	9004840671827		<a href="#">MSZL5003</a>
LED unit, white, 230VAC	9004840671858		<a href="#">MSZL6003</a>
<b>LED FOR 24V AC/DC – SPRING-TYPE TERMINALS</b>			
LED unit, red, 24VAC/DC, spring-type terminals	9004840671773		<a href="#">MSZL2005C</a>
LED unit, green, 24VAC/DC, spring-type terminals	9004840671810		<a href="#">MSZL4005C</a>
LED unit, blue, 24VAC/DC, spring-type terminals	9004840671841		<a href="#">MSZL5005C</a>
LED unit, white, 24VAC/DC, spring-type terminals	9004840671889		<a href="#">MSZL6005C</a>
<b>LED FOR 230V AC – SPRING-TYPE TERMINALS</b>			
LED unit, red, 230VAC, spring-type terminals	9004840672794		<a href="#">MSZL2003C</a>
LED unit, green, 230VAC, spring-type terminals	9004840671797		<a href="#">MSZL4003C</a>
LED unit, blue, 230VAC, spring-type terminals	9004840672770		<a href="#">MSZL5003C</a>
LED unit, white, 230VAC, spring-type terminals	9004840671865		<a href="#">MSZL6003C</a>
<b>HOLDER FOR LAMPS BA9s</b>			
Holder for Lamps BA9s	9004840671650		<a href="#">MSZF0000</a>



# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – KNOB FOR POTENTIOMETERS



MSZX1011

### ■ SCHRACK INFO

- Scale from 1. – 10
- Potentiometers to be ordered separately

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Rotary knob for potentiometer, scale 0...10, axle 6mm dia	9004840672534		<b>MSZX1011</b>

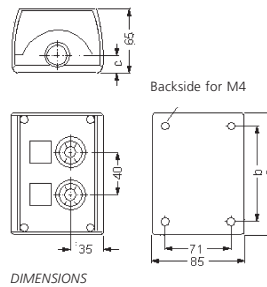
## ■ SERIES MS – SURFACE ENCLOSURES



MSG



MSG31000



DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
Box, surf. mounted, 1-hole, black/gray	9004840670769		<b>MSG11000</b>
Box, surf. mounted, 1-hole, black/yellow	9004840670721		<b>MSG13000</b>
Box, surf. mounted, 2-holes, black/gray	9004840670783		<b>MSG21000</b>
Box, surf. mounted, 3-holes, black/gray	9004840670790		<b>MSG31000</b>
Box, surf. mounted, 4-holes, black/gray	9004840670806		<b>MSG41000</b>
Box, surf. mounted, 6-holes, black/gray	9004840670813		<b>MSG61000</b>



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# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## SERIES MS – TAG HOLDERS AND PLATES



MSZT1210



MSZT1710



MSZT2710



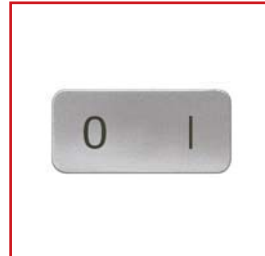
MSZT122070



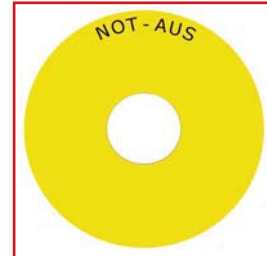
MSJT2740



MSJT2720



MSZS001417









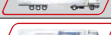
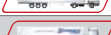

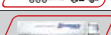
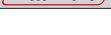
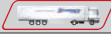


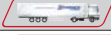

MSZS308080

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>TAG HOLDERS FOR ADHESIVE PLATE 12,5x27mm</b>			
Tag holder for adhesive plate 12,5x27mm	9004840672428		<b>MSZT1210</b>
Tag holder f. twin PB (for adhesive plate 12,5x27mm)	9004840672435		<b>MSZT122070</b>
<b>TAG HOLDER FOR SNAP-IN PLATE 17,5x28mm</b>			
Tag holder for snap-in plate 17,5x28mm	9004840672442		<b>MSZT1710</b>
<b>TAG HOLDERS FOR ADHESIVE PLATE 27x27mm</b>			
Tag holder for adhesive plate 27x27mm	9004840672459		<b>MSZT2710</b>
Tag holder for joystick 2pos., horizontal (f. 2 plates 27x27)	9004840670882		<b>MSJT2720H</b>
Tag holder for joystick 2pos., vertical (f. 2 plates 27x27)	9004840670899		<b>MSJT2720V</b>
Tag holder for joystick 4pos., (f. 4 plates 27x27)	9004840670905		<b>MSJT2740</b>
<b>PLATES ADHESIVE 12,5x27mm</b>			
Plate 12,5x27mm, Alu, adhesive, w/o text	9004840672787		<b>MSZS000012</b>
Plate 12,5x27mm, Alu, adhesive, Arrow vertikal	9004840672886		<b>MSZS001512</b>
Plate 12,5x27mm, Alu, adhesive, Arrow horizontal	9004840672893		<b>MSZS001612</b>
<b>PLATES SNAP-IN 17,5x28mm</b>			
Plate 17,5x28mm, Alu, snap-in, "EIN"	9004840671902		<b>MSZS000217</b>
Plate 17,5x28mm, Alu, snap-in, "AUS"	9004840671919		<b>MSZS000317</b>
Plate 17,5x28mm, Alu, snap-in, "AUF"	9004840671926		<b>MSZS000417</b>
Plate 17,5x28mm, Alu, snap-in, "AB"	9004840671933		<b>MSZS000517</b>
Plate 17,5x28mm, Alu, snap-in, "ZU"	9004840671940		<b>MSZS000617</b>
Plate 17,5x28mm, Alu, snap-in, "BETRIEB"	9004840671957		<b>MSZS000717</b>
Plate 17,5x28mm, Alu, snap-in, "STÖRUNG"	9004840671964		<b>MSZS000817</b>
Plate 17,5x28mm, Alu, snap-in, "START"	9004840671971		<b>MSZS000917</b>
Plate 17,5x28mm, Alu, snap-in, "HALT"	9004840671988		<b>MSZS001017</b>
Plate 17,5x28mm, Alu, snap-in, "STOP"	9004840671995		<b>MSZS001117</b>
Plate 17,5x28mm, Alu, snap-in, "STOP START"	9004840672008		<b>MSZS001217</b>
Plate 17,5x28mm, Alu, snap-in, "HAND AUTO"	9004840672015		<b>MSZS001317</b>
Plate 17,5x28mm, Alu, snap-in, "0 I"	9004840672022		<b>MSZS001417</b>
Plate 17,5x28mm, Alu, snap-in, symbol "Arrow vertikal"	9004840672039		<b>MSZS001517</b>
Plate 17,5x28mm, Alu, snap-in, symbol "Arrow horizont."	9004840672046		<b>MSZS001617</b>
Plate 17,5x28mm, Alu, snap-in, w/o text	9004840672053		<b>MSZS001717</b>
Plate 17,5x28mm, Alu, snap-in, "ON"	9004840672909		<b>MSZS010217</b>
Plate 17,5x28mm, Alu, snap-in, "OFF"	9004840672916		<b>MSZS010317</b>
Plate 17,5x28mm, Alu, snap-in, "UP"	9004840672947		<b>MSZS010417</b>
Plate 17,5x28mm, Alu, snap-in, "DOWN"	9004840672948		<b>MSZS010517</b>

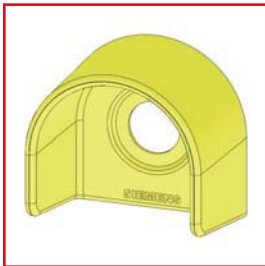


# MAIN SWITCHES, CONTROL SWITCHES, COMMAND AND SIGNALLING DEVICES

## ■ SERIES MS – TAG HOLDERS AND PLATES – continued

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>PLATES SNAP-IN 17,5x28mm</b>			
Plate 17,5x28mm, Alu, snap-in, "CLOSE"	9004840672985		<a href="#">MSZS010617</a>
Plate 17,5x28mm, Alu, snap-in, "RUNNING"	9004840672992		<a href="#">MSZS010717</a>
Plate 17,5x28mm, Alu, snap-in, "FAULT"	9004840673005		<a href="#">MSZS010817</a>
Plate 17,5x28mm, Alu, snap-in, "MAN AUTO"	9004840673012		<a href="#">MSZS011317</a>
Plate 17,5x28mm, Alu, snap-in, "AUS EIN"	9004840672923		<a href="#">MSZS020317</a>
Plate 17,5x28mm, Alu, snap-in, "OFFEN"	9004840672954		<a href="#">MSZS020417</a>
Plate 17,5x28mm, Alu, snap-in, "HAND 0 AUTO"	9004840673029		<a href="#">MSZS021317</a>
Plate 17,5x28mm, Alu, snap-in, "I 0 II "	9004840673043		<a href="#">MSZS021417</a>
Plate 17,5x28mm, Alu, snap-in, "OFF ON"	9004840672930		<a href="#">MSZS030317</a>
Plate 17,5x28mm, Alu, snap-in, "OPEN"	9004840672961		<a href="#">MSZS030417</a>
Plate 17,5x28mm, Alu, snap-in, "MAN 0 AUTO"	9004840673036		<a href="#">MSZS031317</a>
<b>PLATES ADHESIVE 27x27mm</b>			
Plate 27x27mm, Alu, adhesive, w/o text	9004840671896		<a href="#">MSZS000027</a>
<b>PLATES FOR EMERGENCY STOP PUSH-BUTTONS</b>			
Plate 60mm dia, yellow, "NOT-HALT" G, E, Ital., Spain	9004840672251		<a href="#">MSZS306060</a>
Plate 80mm dia, yellow, w/o text	9004840672268		<a href="#">MSZS300080</a>
Plate 80mm dia, yellow, "NOT-HALT" G, E, Ital., Spain	9004840672275		<a href="#">MSZS306080</a>
Plate 80mm dia, yellow, "NOT-AUS"	9004840672282		<a href="#">MSZS308080</a>

## ■ SERIES MS – ACCESSORIES



MSZX0006



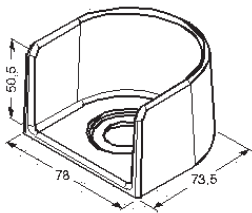
MSZX1001



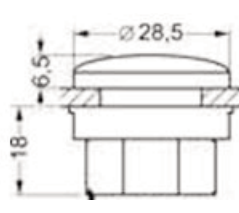
MSZX0001








MSZX1002



DIMENSIONS



DIMENSIONS

DESCRIPTION	EAN CODE	AVAILABLE	ORDER NO.
<b>PROTECTIVE COVER</b>			
Protection cover, transparent, for push-buttons (IP67)	9004840672466		<a href="#">MSZX0001</a>
<b>PROTECTIVE COLLAR</b>			
Protective collar for Emergency-stop switches, yellow	9004840672510		<a href="#">MSZX0006</a>
<b>BLIND COVER</b>			
Blind-cover black, 22,3mm bore	9004840672527		<a href="#">MSZX1001</a>
<b>DISMANTLING TOOLS</b>			
Dismantling tool for devices with cage clamp	9004840684032		<a href="#">MSZX1002</a>
Dismantling tool for devices with screw connection	9004840684049		<a href="#">MSZX1003</a>



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LSZ3D003	789	M142104	310	MC125331	596	MC190191	628	MC196777	601	MC220331	613
LSZ3D004	789	M142105	310	MC132118	595	MC190195	611	MC197075	607	MC220341	614
LSZ3D811	788	M142106	310	MC132131	596	MC190199	611	MC199432	602	MC220431	613
LSZ3TE01	846	M142200	310	MC132141	597	MC190203	612	MC199462	602	MC222237	617
LSZ3W001	789	M142201	310	MC132231	596	MC190203	633	MC199471	602	MC222337	617
LSZ3W002	791	M142202	310	MC132241	597	MC190213	612	MC199473	602	MC225034	618
LSZ3Y004	790	M143000	310	MC132331	596	MC190780	609	MC199481	602	MC225035	618
LSZ60001	790	M143001	310	MC140118	595	MC191232	607	MC199565	603	MC225044	618
LSZ6D001	791	M143002	310	MC140131	596	MC191232	628	MC199567	603	MC225045	618
LSZ6D002	791	M143003	310	MC140136	598	MC191522	610	MC199736	604	MC225131	613
LSZ6W001	788	M143004	310	MC140141	597	MC191523	610	MC199744	604	MC225141	614
LSZ6W002	789	M143005	310	MC140231	596	MC191527	610	MC202331	613	MC225231	613
LSZ6Y003	790	M143006	310	MC140236	598	MC191528	610	MC202341	614	MC225233	616
LSZD0001	787	M143100	310	MC140241	597	MC191581	604	MC205331	613	MC225241	614
LSZD0002	787	M143101	310	MC140331	596	MC191585	604	MC205341	614	MC225243	616
LSZD0003	787	M143102	310	MC150118	595	MC191585	625	MC210233	616	MC225331	613
LSZD0004	787	MC110034	599	MC150131	596	MC191585	644	MC210243	616	MC225333	616
LSZD0005	790	MC110035	599	MC150136	598	MC191585	663	MC210331	613	MC225341	614
LSZD0006	790	MC110044	599	MC150141	597	MC191586	604	MC210333	616	MC225343	616
LSZD0101	786	MC110045	599	MC150231	596	MC191586	625	MC210341	614	MC225431	613
LSZD0102	786	MC110118	595	MC150236	598	MC191586	644	MC210343	616	MC230131	613
LSZD0501	785	MC110131	596	MC150241	597	MC191586	663	MC212136	615	MC230141	614
LSZD0501	785	MC110136	598	MC150331	596	MC191587	604	MC212231	613	MC230231	613
LSZD0510	785	MC110141	597	MC163034	599	MC191587	625	MC212236	615	MC230241	614
LSZD0510	785	MC110231	596	MC163035	599	MC191587	644	MC212241	614	MC230331	613
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LSZDD002	787	MC110241	597	MC163045	599	MC191607	603	MC212341	614	MC230431	613
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LSZDD004	785	MC112034	599	MC163131	596	MC194604	600	MC214337	617	MC232341	614
LSZDD005	786	MC112035	599	MC163136	598	MC194605	600	MC216034	618	MC240331	613
LSZDD006	786	MC112044	599	MC163141	597	MC194606	600	MC216035	618	MC240341	614
LSZDD201	785	MC112045	599	MC163231	596	MC194607	600	MC216044	618	MC250331	613
LSZDD212	785	MC112118	595	MC163236	598	MC194608	600	MC216045	618	MC250341	614
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MC290038	630	MC299430	622	MC340431	634	MC391668	652	MC416342	654	MC496836	666
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MC290197	632	MC299509	642	MC363034	638	MC394645	652	MC480045	657	MC900003	671
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MC296756	628	MC340241	634	MC391234	666	MC414337	656	MC496714	659	MG900114	587
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MM216952	890	MM900008	884	MO110332	724	MO116244	727	MO208336	739	MO216348	741
MM216954	890	MM900009	884	MO110333	726	MO116245	734	MO208337	740	MO220231	729
MM216957	890	MM900010	884	MO110334	727	MO116246	735	MO208338	741	MO220232	728
MM216959	890	MM900011	884	MO110335	734	MO116247	736	MO208341	729	MO220233	730
MM216965	891	MM900012	884	MO110336	735	MO116248	737	MO208342	728	MO220234	731
MM216967	891	MM900013	884	MO110337	736	MO116331	725	MO208343	730	MO220235	738
MM216969	891	MM900014	884	MO110338	737	MO116332	724	MO208344	731	MO220236	739
MM216971	891	MM900015	884	MO110341	725	MO116333	726	MO208345	738	MO220237	740
MM216973	891	MM900016	884	MO110342	724	MO116334	727	MO208346	739	MO220238	741
MM216975	891	MO108231	725	MO110343	726	MO116335	734	MO208347	740	MO220241	729
MM218057	894	MO108232	724	MO110344	727	MO116336	735	MO208348	741	MO220242	728
MM218058	894	MO108233	726	MO110345	734	MO116337	736	MO210331	729	MO220243	730
MM218059	894	MO108234	727	MO110346	735	MO116338	737	MO210332	728	MO220244	731
MM218060	894	MO108235	734	MO110347	736	MO116341	725	MO210333	730	MO220245	738
MM218061	894	MO108236	735	MO110348	737	MO116342	724	MO210334	731	MO220246	739
MM218063	894	MO108237	736	MO112231	725	MO116343	726	MO210335	738	MO220247	740
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MO220334	731	MO232346	739	MO800C22	755	MO89045G	748	MO90AB07	756	MO90AS38	760
MO220335	738	MO232347	740	MO800C26	755	MO890760	749	MO90AB08	756	MO90AS42	760
MO220336	739	MO232348	741	MO800C27	755	MO89076G	749	MO90AB12	756	MO90AS44	760
MO220337	740	MO340431	732	MO800F31	751	MO890B00	757	MO90AD01	757	MO90AS46	760
MO220338	741	MO340432	732	MO800K01	752	MO890B00	757	MO90AD01	757	MO90AT03	761
MO220341	729	MO340433	733	MO800K07	755	MO890C00	757	MO90AD02	757	MO90AT12	761
MO220342	728	MO340434	733	MO800K10	752	MO890C00	757	MO90AD02	757	MO90AT15	761
MO220343	730	MO340435	742	MO800K13	752	MO890D00	757	MO90AD03	757	MO90AT16	761
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MO220348	741	MO340442	732	MO800R55	754	MO890F00	757	MO90AD05	757	MO90AT27	760
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## General Terms of Delivery

issued by the Austrian Electrical and Electronics Industry Association (FEEL)



### 1. Scope

- 1.1. These General Terms shall govern legal transactions between business enterprises, namely the delivery of commodities and, mutatis mutandis, the rendering of services. Software transactions are with precedence governed by the Software Conditions issued by the Austrian Electrical and Electronics Industry Association, assembly work by the Terms and Conditions for Assembly Work issued by the Austrian Power Current and Light Current Engineering Industry and/or (where applicable) the Terms and Conditions for the Assembly of Electrical Equipment used in Medicine issued by the Austrian Electrical and Electronics Industry (the current versions are available at [www.feel.at](http://www.feel.at)).
- 1.2. Any departure from the terms and conditions mentioned in 1.1 above shall be valid only if expressly accepted in writing by Seller.

### 2. Submission of offers

- 2.1. Seller's offers shall be deemed offers without engagement.
- 2.2. Tender documents and project documentation must not be duplicated nor made available to third parties without the permission of Seller. They may be claimed back at any time and shall be returned to Seller immediately if the order is placed elsewhere.

### 3. Conclusion of contract

- 3.1. The contract shall be deemed concluded upon written confirmation by Seller of an order received or upon dispatch of a delivery.
- 3.2. Particulars appearing in catalogues, folders etc. as well as any oral or written statements shall only be binding if Seller makes express reference to them in the confirmation of the order.
- 3.3. Subsequent amendments of or additions to the contract shall be subject to written confirmation.

### 4. Prices

- 4.1. Prices shall be quoted ex works or ex Seller's warehouse without VAT, packing and packaging, loading, disassembly, take-back and proper recycling and disposal of waste electrical and electronic equipment for commercial purposes as defined by the Ordinance Regulating the Handling of Waste Electrical Equipment. Buyer shall be liable for any and all charges, taxes or other duties levied in respect of delivery. If the terms of delivery include transport to a destination designated by Buyer, transport costs as well as the cost of any transport insurance desired by Buyer shall be borne by the latter. Delivery does not, however, include unloading and subsequent handling. Packaging materials will be taken back only by express agreement.
- 4.2. Seller reserves the right to modify prices if the order placed is not in accordance with the offer submitted.
- 4.3. Prices are based on costs obtaining at the time of the first quotation. In the event that the costs have increased by the time of delivery, Seller shall have the right to adjust prices accordingly.
- 4.4. In carrying out repair orders, Seller shall provide all services deemed expedient and shall charge Buyer for the same on the basis of the work input and/or expenditures required. The same holds for any services or additional services the expediency of which becomes apparent only as the repair order is executed. In such an event special notification of Buyer shall not be required.
- 4.5. Expenses for estimates of costs of repair and maintenance or for expert valuations shall be invoiced to Buyer.

### 5. Delivery

- 5.1. The period allowed for delivery shall commence at the latest of the following dates:
  - a) the date of order confirmation by Seller;
  - b) the date of fulfilment by Buyer of all the conditions, technical, commercial and other, for which he is responsible;
  - c) the date of receipt by Seller of a deposit or security due before delivery of the goods in question.
- 5.2. Buyer shall obtain whatever licences or approvals may be required from authorities or third parties for the construction of plant and equipment. If the granting of such licences or approvals is delayed for any reason the delivery period shall be extended accordingly.
- 5.3. Seller may carry out, and charge Buyer for, partial or advance deliveries. If delivery on call is agreed upon, the commodity shall be deemed called off at the latest one year after the order was placed.
- 5.4. In case of unforeseeable circumstances or circumstances beyond the parties control, such as all cases of force majeure, which impede compliance with the agreed period of delivery, the latter shall be extended in any case for the duration of such circumstances; these include in particular armed conflicts, official interventions and prohibitions, delays in transport or customs clearance, damages in transit, energy shortage and raw materials scarcity, labour disputes, and default on performance by a major component supplier who is difficult to replace. The aforesaid circumstances shall be deemed to prevail irrespective of whether they affect Seller or his subcontractor(s).
- 5.5. If a contractual penalty for default of delivery was agreed upon by contracting parties when the contract was concluded, it shall be executed as follows, and any deviations concerning individual items shall not affect the remaining provisions: Where delay in performance can be shown to have occurred solely through the fault of Seller, Buyer may claim for each completed week of delay an indemnity

of at most one half of one per cent, a total of no more than 5 %, however, of the value of that part of the goods to be delivered which cannot be used on account of Seller's failure to deliver an essential part thereof, provided the Buyer has suffered a damage to the aforesaid extent. Assertion of rights of damages exceeding this extent is precluded.

### 6. Passage of risk and place of performance

- 6.1. Unless otherwise agreed, the delivery of goods is considered sold EXW in accordance with INCOTERMS® 2010.
- 6.2. For services, the place of performance shall be the place indicated in the written order confirmation, secondary to that at which the service is actually rendered by Seller. The risk in respect of such services or any part thereof shall pass to Buyer at the time the services have been rendered.

### 7. Payment

- 7.1. Unless otherwise agreed, one third of the purchase price shall fall due at the time of receipt by Buyer of the order confirmation of Seller, one third after half the delivery period has elapsed and the balance at the time of delivery. Irrespective thereof the turnover tax comprised in the amount of the invoice shall be paid within 30 days of the invoice date. If bankruptcy proceedings are instituted against the assets of Buyer or if an application for bankruptcy proceedings is not granted for insufficiency of assets, deliveries shall only be made against cash in advance.
- 7.2. In the case of part settlements the individual part payments shall fall due upon receipt of the respective invoices. The same shall apply to amounts invoiced for additional deliveries or resulting from additional agreements beyond the scope of the original contract, irrespective of the terms of payment agreed upon for the principal delivery.
- 7.3. Payment shall be made without any discount free Seller's domicile in the agreed currency. Drafts and checks shall be accepted on account of payment only, with all interest, fees and charges in connection therewith (such as collection and discounting charges) to be borne by Buyer.
- 7.4. Buyer shall not be entitled to withhold or offset payment on the grounds of any warranty claims or other counterclaims.
- 7.5. Payment shall be deemed to have been effected on the date at which the amount in question is at Seller's disposal.
- 7.6. If Buyer fails to meet the terms of payment or any other obligation arising from this or other legal transactions, Seller may without prejudice to his other rights
  - a) suspend performance of his own obligations until payments have been made or other obligations fulfilled, and exercise his right to extend the period of delivery to a reasonable extent,
  - b) call in debts arisen from this or any other legal transactions and charge default interest amounting to 1.25 % per month plus turnover tax for these amounts beginning with the due dates, unless Seller proves costs exceeding this.
  - c) only perform other legal transactions against cash in advance in the case of qualified insolvency, in other words, following two delays in payment.

In any case Seller has the right to invoice all expenses arising prior to a lawsuit, especially reminder charges and lawyer's fees.

### 7.7. Discounts or bonuses are subject to complete payment in due time.

- 7.8. Seller retains title to all goods delivered by him until receipt of all amounts invoiced including interests and charges. Buyer herewith assigns his claim out of a resale of conditional commodities, even if they are processed, transformed or combined with other commodities, to Seller to secure the latter's purchase money claim. In the case of resale granting respite Buyer shall have the power of disposal of the product under retention of ownership only with the proviso that upon reselling Buyer notifies the secondary buyer of the assignment for security or enters the assignment in his account books. Upon request Buyer has to notify the assigned claim and the debtor thereof to Seller, and to make all information and material required for his debt collection available and to notify the assignment to the third-party debtor. If the goods are attached or otherwise levied upon, Buyer shall draw attention to Seller's title and immediately inform Seller of the attachment or levy.

### 8. Warranty and acceptance of obligation to repair defects

- 8.1. Once the agreed terms of payment have been complied with, Seller shall, subject to the conditions hereunder, remedy any defect existing at the time of acceptance of the article in question whether due to faulty design, material or manufacture, that impairs the functioning of said article. From particulars appearing in catalogues, folders, promotional literature as well as written or oral statements which have not been included in the agreement no warranty obligations may be deduced.
- 8.2. Unless special warranty periods operate for individual items the warranty period shall be 12 months. These conditions shall also apply to any goods supplied, or services rendered in respect of goods supplied, that are firmly attached to buildings or the ground. The warranty period begins at the point of passage of risk acc. to paragraph 6.
- 8.3. For improved or exchanged parts, the warranty period shall start again, but shall end in any case 6 months after the original warranty period has expired.
- 8.4. If delivery or the performance of services is delayed for reasons outside the control of Seller, the warranty period shall begin 2 weeks after Seller is ready to deliver or perform services.

# GENERAL TERMS OF DELIVERY

- 8.5. The foregoing warranty obligations are conditional upon the Buyer giving within a reasonable period notice in writing of any defects that have occurred and such notice reaching the Seller. Buyer shall prove within a reasonable period the presence of a defect, in particular he shall make available within a reasonable period to Seller all material and data in his possession. Upon receipt of such notice Seller shall, in the case of a defect covered by the warranty under 8.1 above, have the option to replace the defective goods or defective parts thereof or else to repair them on Buyer's premises or have them returned for repair, or to grant a fair and reasonable price reduction.
- 8.6. Any expenses incurred in connection with rectifying defects (e. g. expenses for assembly and disassembly, transport, waste disposal, travel and site-quarters time) shall be borne by Buyer. For warranty work on Buyer's premises Buyer shall make available free of charge any assistance, hoisting gear, scaffolding and sundry supplies and incidentals that may be required. Replaced parts shall become the property of Seller.
- 8.7. If an article is manufactured by Seller on the basis of design data, design drawings, models or other specifications supplied by Buyer, Seller's warranty shall be restricted to non-compliance with Buyers specifications.
- 8.8. Seller's warranty obligation shall not extend to any defects due to assembly and installation work not undertaken by Seller, inadequate equipment, or due to non-compliance with installation requirements and operating conditions, overloading of parts in excess of the design values stipulated by Seller, negligent or faulty handling or the use of inappropriate materials, nor for defects attributable to material supplied by Buyer. Nor shall Seller be liable for damage due to acts of third parties, atmospheric discharges. Excess voltage and chemical influences. The warranty does not cover the replacement of parts subject to natural wear and tear. Seller accepts no warranty for the sale of used goods.
- 8.9. The warranty shall lapse immediately if, without written consent of Seller, Buyer himself or a third party not expressly authorised undertakes modifications or repairs on any items delivered.
- 8.10. Claims acc. to § 933b ABGB are struck by the statute of limitation with lapse of the period mentioned under point 8.2.
- 8.11. The provisions of sub-paragraphs 8.1 to 8.10 shall apply, mutatis mutandis, to all cases where the obligation to repair defects has to be accepted for other reasons laid down by law.
- 9. Withdrawal from contract**
- 9.1. Buyer may withdraw from the contract only in the event of delays caused by gross negligence on the part of Seller and only after a reasonable period of grace has elapsed. Withdrawal from contract shall be notified in writing by registered mail.
- 9.2. Irrespective of his other rights Seller shall be entitled to withdraw from the contract
- a) if the execution of delivery or the inception or continuation of services to be rendered under the contract is made impossible for reasons within the responsibility of Buyer and if the delay is extended beyond a reasonable period of grace allowed;
  - b) if doubts have arisen as to Buyer's creditworthiness and if same fails, on Seller's request, to make an advance payment or to provide adequate security prior to delivery, or
  - c) if, for reasons mentioned in 5.4, the period allowed for delivery is extended by more than half of the period originally agreed or by at least 6 months, or
  - d) if Buyer does not or does not properly meet the obligations imposed as per paragraph 13.
- 9.3. For the reasons given above withdrawal from the contract shall also be possible in respect of any outstanding part of the delivery or service contracted for.
- 9.4. If bankruptcy proceedings are instituted against Buyer or an application for bankruptcy proceedings is not granted for insufficiency of assets, Seller may withdraw from the contract without allowing a period of grace. If this withdrawal is taken, it shall take effect immediately upon the decision that the business will not be continued. If the business will be continued, a withdrawal shall not take effect until 6 months after the institution of bankruptcy proceedings or after an application for bankruptcy proceedings has not been granted for insufficiency of assets. In any case, the contract shall be terminated immediately unless the bankruptcy law to which Buyer is subject conflicts with this or if termination of the contract is necessary to prevent significant damages to Seller.
- 9.5. Without prejudice to Seller's claim for damages including expenses arising prior to a lawsuit, upon withdrawal from contract any open accounts in respect of deliveries made or services rendered in whole or in part shall be settled according to contract. This provision also covers deliveries or services not yet accepted by Buyer as well as any preparatory acts performed by Seller. Seller shall, however, have the option alternatively to require the restitution of articles already delivered.
- 9.6. Withdrawal from contract shall have no consequences other than those stipulated above.
- 9.7. The assertion of claims on the ground of *laesio enormis*, error, or lapse of purpose by the Buyer is excluded.

## **10. Disposal of waste electrical and electronic equipment**

- 10.1. The Buyer of electrical/electronic equipment for commercial purposes, incorporated in Austria, is responsible for the financing of the collection and treatment of waste electrical and electronic equipment as defined by the Ordinance Regulating the Handling of Waste Electrical Equipment, if he is himself the user of the electrical/electronic equipment. If the Buyer is not the end user, he shall transfer the full financial commitment to his customer by agreement and furnish proof thereof to the Seller.
- 10.2. The Buyer incorporated in Austria shall ensure that the Seller is provided with all information necessary to meet the Seller's obligations as manufacturer/importer, particularly according to §§ 11 and 24 of the Ordinance Regulating the Handling of Waste Electrical Equipment and the Waste Management Act.
- 10.3. The Buyer incorporated in Austria is liable vis-à-vis the Seller for any damage and other financial disadvantages incurred by Seller due to Buyer's failure to meet or fully meet his financing commitment or any other obligations according to Article 10. The Buyer shall bear the burden of proof of performance of this obligation.

## **11. Seller's liability**

- 11.1. Outside the scope of the Product Liability Act, Seller shall be liable only if the damage in question is proved to be due to intentional acts or acts of gross negligence, within the limits of statutory provisions. Seller's total liability in cases of gross negligence is limited to the net value of the order or EUR 500,000, depending on which amount is lower.
- 11.2. For each incident of damage, Seller shall be liable for 25% of the net value of the order or EUR 125,000, depending on which amount is lower.
- 11.3. Seller shall not be liable for damage due to acts of ordinary negligence nor for consequential damages or damages for pure economic loss, indirect damages, loss of production, financing costs, costs for replacement energy, loss of energy, data or information, loss of profits, loss of savings or interest, or damage resulting from third-party claims against buyer.
- 11.4. Seller shall not be liable for damages in case of non-compliance with instructions for assembly, commissioning and operation (such as are contained in instructions for use) or non-compliance with licensing requirements.
- 11.5. Claims that exceed the contractual penalties that were agreed on are excluded from the respective title. The provisions of paragraph 11 apply exclusively for all claims by Buyer against Seller, regardless of the legal basis or entitlement, and also apply to all employees, subcontractors and subsuppliers of Seller.

## **12. Industrial property rights and copyrights**

- 12.1. Buyer shall indemnify Seller and hold him harmless against any claims for any infringement of industrial property rights raised against him if Seller manufactures an article pursuant to any design data, design drawings, models or other specifications made available to him by Buyer.
- 12.2. Design documents such as plans and drawings and other technical specifications as well as samples, catalogues, prospectuses, pictures and the like shall remain the intellectual property of Seller and are subject to the relevant statutory provisions governing reproduction, imitation, competition etc. The provisions of 2.2 above shall also cover design documents.

## **13. Compliance with export provisions**

- 13.1. When passing on goods delivered by Seller to third parties (as well as any related documentation, regardless of the method of provision or the services performed by Seller [including technical support of any kind]), Buyer must comply with the applicable regulations of national and international (re-)export provisions. In any case, Buyer must observe the (re-)export provisions of Seller's country of residence, the European Union and the United States of America.
- 13.2. If necessary for export controls, Buyer must provide Seller with all necessary information immediately after being requested to do so, for example, information about the final recipient, final destination and purpose of the goods or services.

## **14. General**

Should individual provisions of the contract or of these provisions be invalid the validity of the other provisions shall not be affected. The invalid provision shall be replaced by a valid one, which comes as close to the target goal as possible.

## **15. Jurisdiction and applicable law**

Any litigations arising under the contract including litigations over the existence or non-existence thereof shall fall within the exclusive jurisdiction of the competent court at Seller's domicile; the competent court of the Bezirksgericht Innere Stadt, Vienna, shall have exclusive jurisdiction if Seller is domiciled in Vienna. The contract is subject to Austrian law excluding the referral rules. Application of the UN Convention on Contracts for the International Sale of Goods is renounced.

## **16. Proviso**

The execution of the contract by Seller is subject to the condition that there are no obstacles standing in the way of execution due to national or international (re-)export provisions, and especially no embargos and/or other sanctions.

Last revised in September 2011

CONNECTING COMPETENCE.



## THE COMPANY

### HEADQUARTERS

SCHRACK TECHNIK GMBH  
Seybelgasse 13, A-1230 Vienna  
PHONE +43(0)1/866 85-5900  
FAX +43(0)1/866 85-98800  
E-MAIL [export@schrack.com](mailto:export@schrack.com)



### SCHRACK COMPANIES



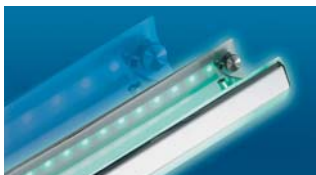
#### BELGIUM

SCHRACK TECHNIK B.V.B.A  
Twaalfapostelenstraat 14  
BE-9051 St-Denijs-Westrem  
PHONE +32 9/384 79 92  
FAX +32 9/384 87 69  
E-MAIL [info@schrack.be](mailto:info@schrack.be)



#### BOSNIEN-HERZEGOWINA

SCHRACK TECHNIK BH D.O.O.  
Put za aluminijski kombinat bb  
BH-88000 Mostar  
PHONE +387/36 333 666  
FAX +387/36 333 667  
E-MAIL [schrack@schrack.ba](mailto:schrack@schrack.ba)



#### BULGARIA

SCHRACK TECHNIK EOOD  
Prof. Tsvetan Lazarov 162  
Druzha - 2  
BG-1000 Sofia  
PHONE +359/(2) 890 79 13  
FAX +359/(2) 890 79 30  
E-MAIL [sofia@schrack.bg](mailto:sofia@schrack.bg)



#### CROATIA

SCHRACK TECHNIK D.O.O.  
Zavrtnica 17  
HR-10000 Zagreb  
PHONE +385 1/605 55 00  
FAX +385 1/605 55 66  
E-MAIL [schrack@schrack.hr](mailto:schrack@schrack.hr)



#### POLAND

SCHRACK TECHNIK POLSKA SP.ZO.O.  
ul. Staniewicka 5  
PL-03-310 Warszawa  
PHONE +48 22/205 31 00  
FAX +48 22/205 31 01  
E-MAIL [kontakt@schrack.pl](mailto:kontakt@schrack.pl)

#### ROMANIA

SCHRACK TECHNIK SRL  
Str. Simion Barnutiu nr. 15  
RO-410204 Oradea  
PHONE +40 259/435 887  
FAX +40 259/412 892  
E-MAIL [schrack@schrack.ro](mailto:schrack@schrack.ro)

#### SERBIA

SCHRACK TECHNIK D.O.O.  
Kumodraska 260  
RS-11000 Beograd  
PHONE +38 1/11 309 2600  
FAX +38 1/11 309 2620  
E-MAIL [office@schrack.co.rs](mailto:office@schrack.co.rs)

#### SLOVAKIA

SCHRACK TECHNIK S.R.O.  
Ivanská cesta 10/C  
SK-82104 Bratislava  
PHONE +42 (02)/491 081 01  
FAX +42 (02)/491 081 99  
E-MAIL [info@schrack.sk](mailto:info@schrack.sk)

#### SLOVENIA

SCHRACK TECHNIK D.O.O.  
Pameče 175  
SLO-2380 Slovenj Gradec  
PHONE +38 6/2 883 92 00  
FAX +38 6/2 884 34 71  
E-MAIL [schrack.sg@schrack.si](mailto:schrack.sg@schrack.si)

#### CZECH REPUBLIC

SCHRACK TECHNIK SPOL. SR.O.  
Dolnomecholupska 2  
CZ-10200 Praha 10 – Hostivar  
PHONE +42(0)2/810 08 264  
FAX +42(0)2/810 08 462  
E-MAIL [praha@schrack.cz](mailto:praha@schrack.cz)

#### HUNGARY

SCHRACK TECHNIK KFT.  
Vidor u. 5  
H-1172 Budapest  
PHONE +36 1/253 14 01  
FAX +36 1/253 14 91  
E-MAIL [schrack@schrack.hu](mailto:schrack@schrack.hu)

