

Model 720G

High Pressure Transducers & Transmitters



Description

The 720G can be manufactured to either a pressure transducer or a transmitter, both of which are developed for extremely high pressure applications. Based on glass bonding semiconductor strain gauge technology, the 720G transducer offers higher output sensitivity compared to the BCM 722F transducer which is based on metal foil strain gauge technology.

To guarantee safety when working with extremely high pressures, the 720G employs mono-block structure made from 17-4PH stainless steel as its measuring cell. This rugged mono-block design greatly improves durability of the transducer/transmitter by eliminating the welded diaphragm and any internal O-ring seal.

By selecting a proper electrical connection, the 720G is able to reach the environmental protection rating up to IP67.

Designed to an inner-cavity process connection, the transducer/transmitter is suitable for measuring pressures of dilute fluids with pressure reference of gauge.



Features

- all welded and rugged structure of the wetted parts
- measuring range up to 8000bar
- 80%fs shunt calibration
- selectable output:
4~20mA (standard), 0.5~4.5V ratiometric, and I²C.
- wide choice of process connection and electrical interface
- protection rating up to IP67

Applications

- water jets
- high pressure hydraulics
- test stands
- pipeline instrumentation
- pumps
- food sterilization

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Technical Data

Parameters	Units	Specifications	Notes
pressure medium		dilute fluids	1
pressure ranges	bar	0~200, ~400, ~600, ~1000, ~2000, ~3000, ~6000, ~8000	2
pressure references		gauge	
proof pressure	%fs	300	3
burst pressure	%fs	500	
output signal	mA	4~20 (standard)	
	V	0~5, 1~5	
	digital	I ² C	
output sensitivity (for transducers)	mV/V	≥ 10, ≥ 5 (for range ≥ 1000bar)	
zero offset (for transducers)	mV/V	≤ ±0.5	
accuracy	%fs	≤ ±0.5 (standard), ≤ ±1	4
long-term stability	%fs/year	≤ ±0.15	
power supply (Vs)	Vdc	12 < Vs ≤ 36 (for transmitters); 3, ..., 10 (for transducers)	
load resistance for voltage output	kΩ	> 5	
load resistance for current loop	Ω	≤ (Vs - 12V) / 0.02A	
bridge resistance (for transducers)	kΩ	2.5 ±0.5	
insulation resistance	MΩ	500 @100Vdc	
compensated temperature range	°C	-20 ~ +80	
operating temperature range	°C	-40 ~ +125	
storage temperature range	°C	-40 ~ +125	
temperature coefficient of zero	%fso/°C	≤ ±0.03	
temperature coefficient of span	%fso/°C	≤ ±0.03	
vibration resistance (20, ..., 2000 Hz)	g	10	
life time	cycles	10 ⁸	
response time	ms	≤ 1	5
pressure diaphragm		17-4PH	
wetted parts material		17-4PH	
electronics housing material		304 SS (≤ 2,500bar), mild steel (> 2,500bar)	
environment protection	IP rating	IP65 (standard), IP66, IP67 (only for cable connection)	
net weight	gram	~500	

- Notes:
1. The pressure medium should be compatible with wetted parts material and pressure diaphragm.
 2. For customized pressure ranges, consult BCM.
 3. "fs" refers to full scale pressure or rated pressure.
 4. Including non-linearity, hysteresis and repeatability.
 5. Response time for a 0 bar to fs step change, 10% to 90% rise time.

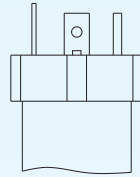
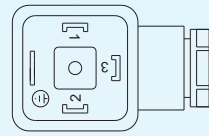
The listed specifications and dimensions are subject to change without prior notice.

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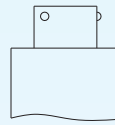
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Dimensions

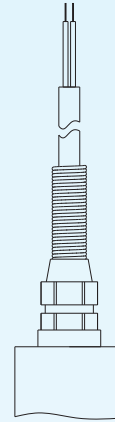
electrical interface



DIN43650
(standard)



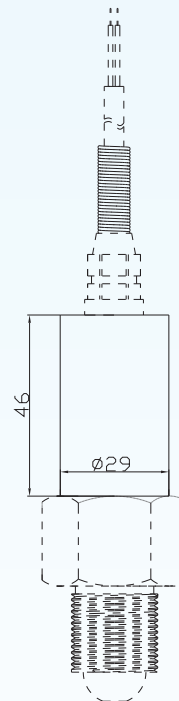
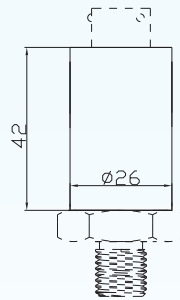
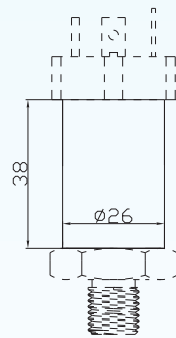
circular connector
with 4 pins



PVC cable
Φ5mm

- 2 wires for current loop
- 3 wires for voltage output
- cable length (L) should be specified in ordering information

electronics housing (casing)



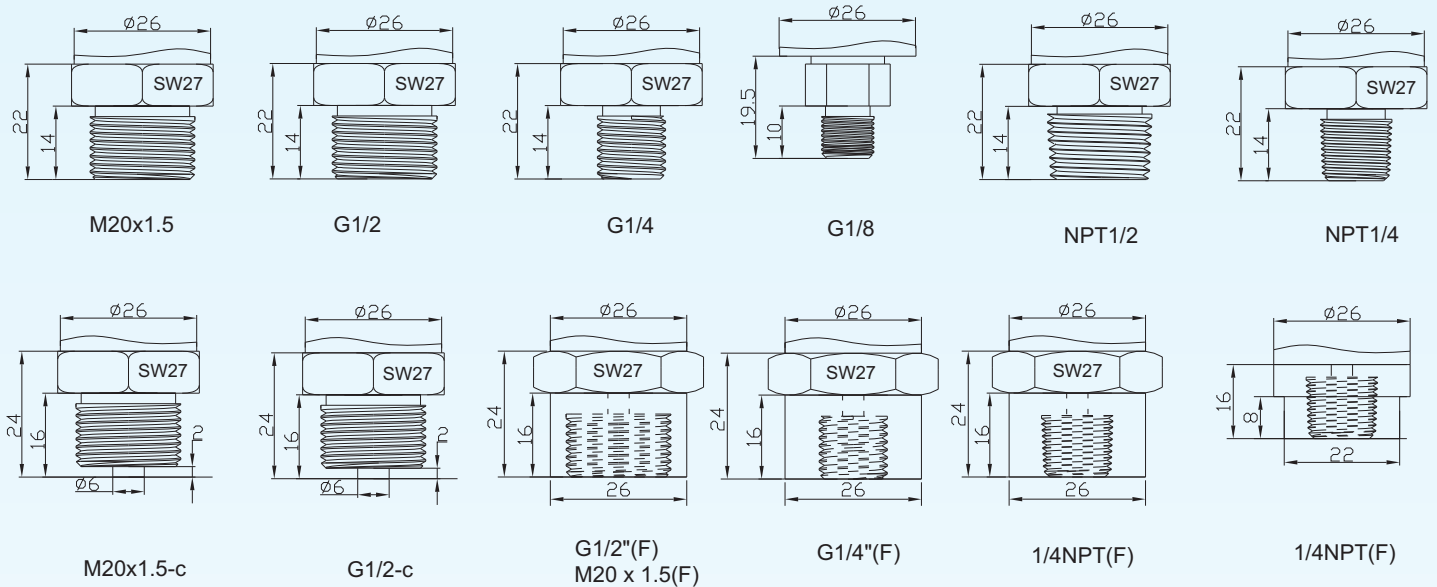
Notes: All dimensions are in mm.

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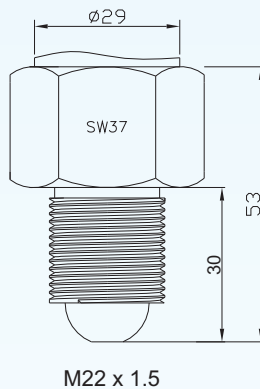
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mechanical interface

for pressure ranges ≤ 1600 bar



for pressure ranges > 1600 bar



Notes: - All dimensions are in mm.

- The mechanical interfaces and the electrical interfaces listed can be combined freely.
- If other types of interfaces are on request, consult BCM.

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Ordering Information

position (pos.) 1: model							
720G							
pos. 2: pressure range and reference							
200bar G		3000bar G		G: gauge pressure			
400bar G		6000bar G					
600bar G		8000bar G					
1000bar G							
2000bar G							
pos. 3: output signal							
10mV/V, 5mV/V (for range \geq 1000bar)		4/20mA (standard)		0/5V		1/5V I ² C	
pos. 4: accuracy							
0.5%fs		1%fs					
pos. 5: mechanical interface							
Refer to the drawings of mechanical interface for available options.							
pos. 6: electrical interface							
DIN43650 (standard) circular connection PVC/Φ5/1m = PVC cable, Φ5mm, L = 1m (this length should be specified)							
pos. 7: environment protection							
IP65		IP66		IP67			
pos. 8: customized specifications							
“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.							
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8

Examples of Ordering Code

- standard transmitter:
720G-2000barG-4/20mA-0.5%fs-G1/2-DIN43650-IP65
- customized transmitter:
720G-4000barG-4/20mA-0.5%fs-G1/2-DIN43650-IP65-(*)
(*): Customized pressure range = 0~4000 barG.

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