Model 664F(f)
Pressure Sensors with Flush-Diaphragm

Description

The 664F(f) pressure sensor which provides outstanding thermal stability and high accuracy is based on the BCM high-quality metal foil strain gauge. The sensor features all welded structure so there is no O-ring seal inside the sensor body.

As this model employs the flush-diaphragm structure, the 664F(f) is suitable for pressure measurement of viscous fluids or fluids with media containing solids which are compatible with 17-4PH stainless steel.

The sensor has its process connection and electronics housing connection with threads, and the entire sensor body is weldable.

Features

- rugged and fully welded structure
- measuring ranges: 16bar, ..., 400bar
- reliable metal foil strain gauge technology
- accuracy up to 0.1%fs
- compensated temperature range: -20 ~ +85 °C
- excited by either current or voltage

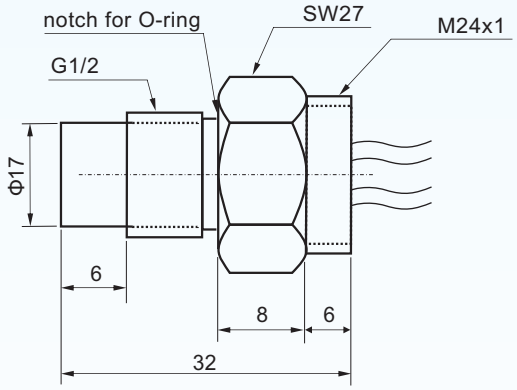
Applications

- industrial controls
- hydraulic systems
- compressors
- food industry
- process control systems

Environmental Specifications

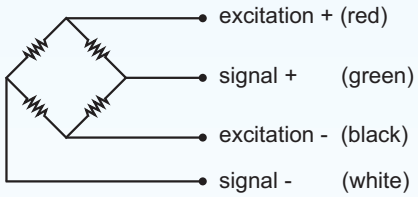
- position effect: < 0.1% of zero offset shift in any direction
- vibration effect: no change at 10 g (RMS), 20~2000 Hz
- shock: 100 g, for 10 millisecond

Dimensions



Note: all dimensions are in mm

Electrical Interface



BCM SENSOR TECHNOLOGIES BVBA

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Technical Data

Parameters	Units	Specifications	Notes
pressure medium		viscous fluid or media containing solids	1
measuring ranges	bar	0~16, ~25, ~40, ~60, ~100, ~160, ~250, ~400	2
pressure references		gauge	
overload pressure	%fs	150	3
output sensitivity	mV/V	1.2, 1.5, 2 (option: 10%~90%Vs ratiometric, I^2C, SPI)	
excitation	Vdc	5~12	
zero offset	mV	⩽ ±1	4
accuracy	%fs	±0.1 (for ranges ⩾250bar), ±0.25 (for ranges ⩾60bar), ±0.5 (standard)	5
long-term stability	%fs/year	⩽ ±0.2	
bridge resistance	Ω	350, 700 (standard), 1000, 2000	
insulation resistance	MΩ	500 @100Vdc	
compensated temperature range	°C	-20 ~ +85	
operating temperature range	°C	-40 ~ +125	
storage temperature range	°C	-40 ~ +125	
temperature coefficient of zero offset	%fso/°C	⩽ ±0.01	6
temperature coefficient of span	%fso/°C	⩽ ±0.01	6
life time	cycles	10^8	
response time	ms	⩽ 1	7
mechanical interface		G1/2 male	
housing connection		M24x1 male	
electrical interface		4 colored PVC flexible wires, 100mm	
pressure diaphragm		17-4PH stainless steel	
material of mechanical interface		17-4PH stainless steel	
O-ring material		fluorine rubber	
net weight	gram	~40	

General conditions for measurements: media temp. = 25°C ±1°C, ambient temp. = 25°C ±1°C, humidity = 50%RH ±10%RH, barometric pressure: 86~106 kPa, vibration = 0.1 g (1m/s/s) max.

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. Measured at 10 Vdc excitation.
5. Accuracy = sqrt (non-linearity^2 + hysteresis^2 + repeatability^2).
6. Calculated as a rate of output change between 25°C and 70°C, and normalized by the output at 25°C, when the sensor is not temperature compensated.
7. 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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Ordering Information

ordering code: 664F(f)-250-II-G1/2-(*)

pressure ranges			
16 = 0~16 bar	G	160 = 0~160 bar	G
25 = 0~25 bar	G	250 = 0~250 bar	G
40 = 0~40 bar	G	400 = 0~400 bar	G
60 = 0~60 bar	G	customized range available as an option	
100 = 0~100 bar	G		

accuracy
II = 0.1%fs
III = 0.25%fs
IV = 0.5%fs (standard)

process connection
G1/2
other thread types available as options, consult BCM

customized parameter
"(*)" is necessary only if any customized parameter is required, otherwise it is neglectable.

Examples of Ordering Code

- standard sensor:

  model-pressure range-accuracy-process connection

  664F(f)-160-IV-G1/2

- customized sensor:

  model-pressure range-accuracy-process connection-customized parameter

  664F(f)-300-III-G1/2-(*)

  (*): Customized pressure range = 0~300 bar.

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