

Model 131F

Pressure Transmitters for General Purpose

Description

The 131F is a general-purpose pressure transmitter featuring a monolithic-structure pressure port. Depending on the BCM high-quality metal foil strain gauge, this model provides excellent thermal stability and high accuracy. The transmitter is suitable for applications of processing and control operations especially involving temperature variation. Offering numerous options of process connection and electrical interface, the 131F can fit most industrial pressure measurement systems.

The 131F consists of a 17-4PH stainless steel (SS) diaphragm, 316 SS wetted part, and a 304 SS housing so that it can be used for measurements involving hostile media. And the transmitter doesn't need to have an O-ring sealing internally. Featuring an inner-cavity process connection, the transmitter is specially designed to measure pressures of dilute fluids with gauge pressure reference.

By selecting proper electrical interface, the 131F is able to reach the environmental protection rating up to IP67.



Features

- monolithic and rugged structure of the wetted parts
- excellent thermal stability
- measuring ranges: 16, ..., 400 bar
- accuracy up to 0.1%fs
- selectable output:
4~20 mA (standard), 0.5~4.5V ratiometric and others.
- wide choice of process connection and electrical interface
- protection rating up to IP67

Applications

- mechanical engineering
- hygienic applications
- hydraulics and pneumatics
- compressor and pump systems
- liquid level measurement

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Technical Data

Parameters		Units	Specifications	Notes
pressure medium			gases or dilute fluids	1
pressure references & ranges	gauge	bar	0~16, ~25, ~40, ~60, ~100, ~160, ~250, ~400, ~600	2
proof pressure		%fs	150	3
burst pressure		%fs	200	
output signal		mA	4~20 (standard)	
		V	0.5~4.5 (ratiometric), 0.5~5, 0.5~10	
		digital	I ² C	
accuracy		%fs	≤ ±0.05, ≤ ±0.1, ≤ ±0.25 (standard), ≤ ±0.5	4
long-term stability		%fs/year	≤ ±0.2	
power supply (Vs)		Vdc	12 < Vs ≤ 36; 5 (for output = 0.5~4.5 V)	
load resistance for voltage output		kΩ	> 5	
load resistance for current loop		Ω	≤ (Vs - 12V) / 0.02A	
insulation resistance		MΩ	500 @100Vdc	
compensated temperature range		°C	-10 ~ +60	
operating temperature range		°C	-40 ~ +125	
storage temperature range		°C	-40 ~ +125	
temperature coefficient of zero		%fso/°C	≤ ±0.005	
temperature coefficient of span		%fso/°C	≤ ±0.005	
vibration resistance (20, ..., 2000 Hz)		g	10	
life time		cycles	10 ⁸	
response time		ms	≤ 1	5
seal			all welded	
pressure diaphragm			17-4PH	
wetted parts material			316 SS	
electronics housing material			304 SS	
environment protection			IP65 (standard), IP67 (only for cable connection)	
net weight		gram	~300	

- 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.

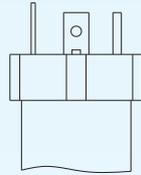
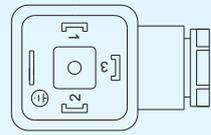
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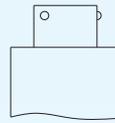
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Dimensions

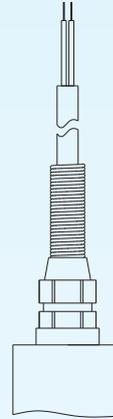
electrical interface



DIN43650
(standard)



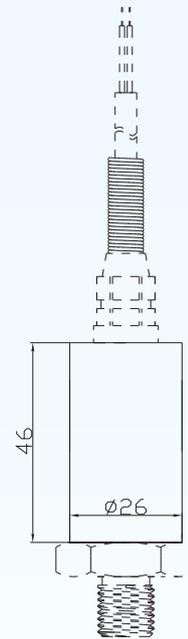
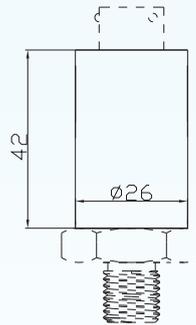
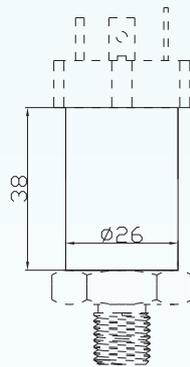
circular connector
with 4 pins



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.

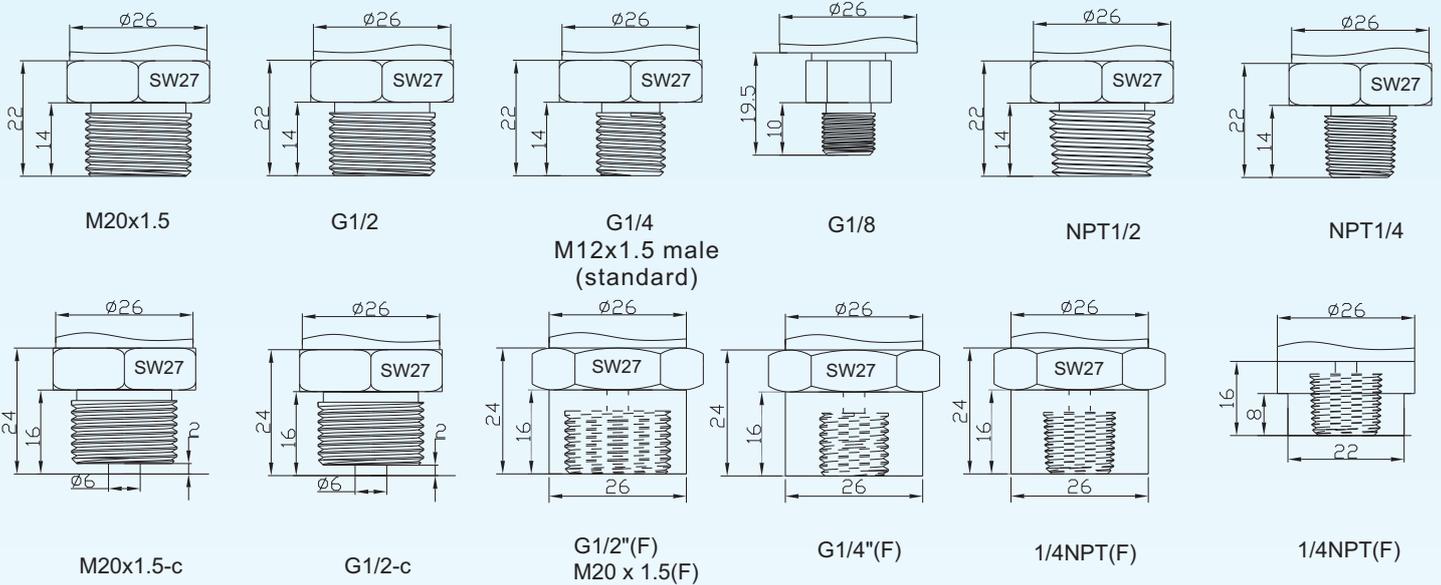
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mechanical interface



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							
131F							
pos. 2: pressure ranges and references							
16bar G 160bar G G: gauge pressure							
25bar G 250bar G							
40bar G 400bar G							
60bar G							
100bar G							
pos. 3: output signal							
4/20 mA (standard) 0.5/4.5 V (ratiometric) 0/5 V 1/5 V I ² C							
pos. 4: accuracy							
0.05%fs 0.1%fs 0.25%fs (standar) 0.5%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 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:

131F-25barG-4/20mA-0.25%fs-G1/4-DIN43650-IP65

- customized transmitter:

131F-50barG-4/20mA-0.1%fs-G1/4-DIN43650-IP65-(*)

(*): Customized pressure range = 0~50 barG.



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