

Model 131C

Pressure Transmitters for General Purpose



Description

The 131C is a general-purpose pressure transmitter made from the BCM ceramic pressure sensor. This model is developed for applications of processing and control operations involving aggressive media. To meet requirements of high corrosion resistance, the transmitter can have its process connection made from PVDF (polyvinylidene fluoride). With numerous options of process connection and electrical interface, the 131C can fit most industrial pressure measurement applications.

The 131C consists of a ceramic diaphragm, stainless steel or PVDF wetted part, and stainless steel housing. The transmitter features an inner-cavity process connection to measure pressure of gases or dilute fluids with gauge pressure reference.

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



Features

- high chemical resistance
- measuring ranges: 2bar, ..., 400bar
- 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

- chemical industry
- medical instrument
- hydraulics and pneumatics
- liquid level measurement
- process control

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Technical Data

Parameters		Units	Specifications	Notes
pressure medium			gases or dilute fluids	1
pressure references & ranges	gauge	bar	0~2, ~2.5, ~4, ~6, ~10, ~16, ~25, ~40, ~60, ~100, ~160, ~250, ~400	2
proof pressure		%fs	150	3
burst pressure		%fs	200	
output signal		mA	4~20 (standard)	
		V	0.5~4.5 (ratiometric), 0~5, 1~5	
		digital	I ² C	
accuracy		%fs	±0.5 (standard), ±1	4
long-term stability		%fs/year	≤ ±0.2 (standard), ≤ ±0.1 is available on request	
power supply (Vs)		Vdc	12 < Vs ≤ 30; 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	
medium temperature range		°C	-40 ~ +125	
ambient temperature range		°C	-40 ~ +85	
storage temperature range		°C	-40 ~ +85	
compensated temperature range		°C	-20 ~ +85	
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
seal			O-ring (fluorine rubber)	
pressure diaphragm			ceramic (96% Al ₂ O ₃)	
wetted parts material			316L SS (standard), PVDF	
electronics housing material			304 SS	
environment protection			IP65 (standard), IP67 (only for cable connection)	
net weight		gram	~180	

- 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.

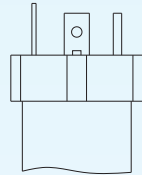
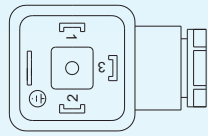
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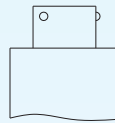
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Dimensions

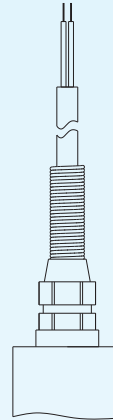
electrical interface



DIN43650
(standard)



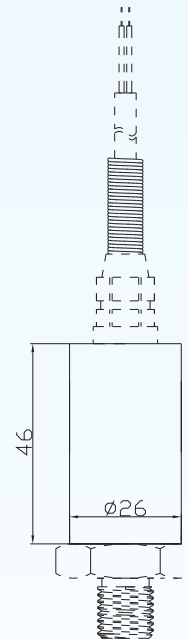
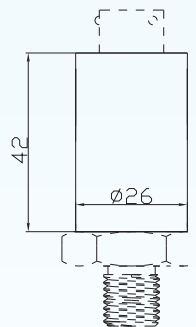
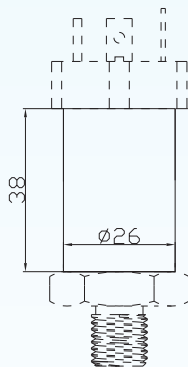
circular connector
with 4 pins



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)



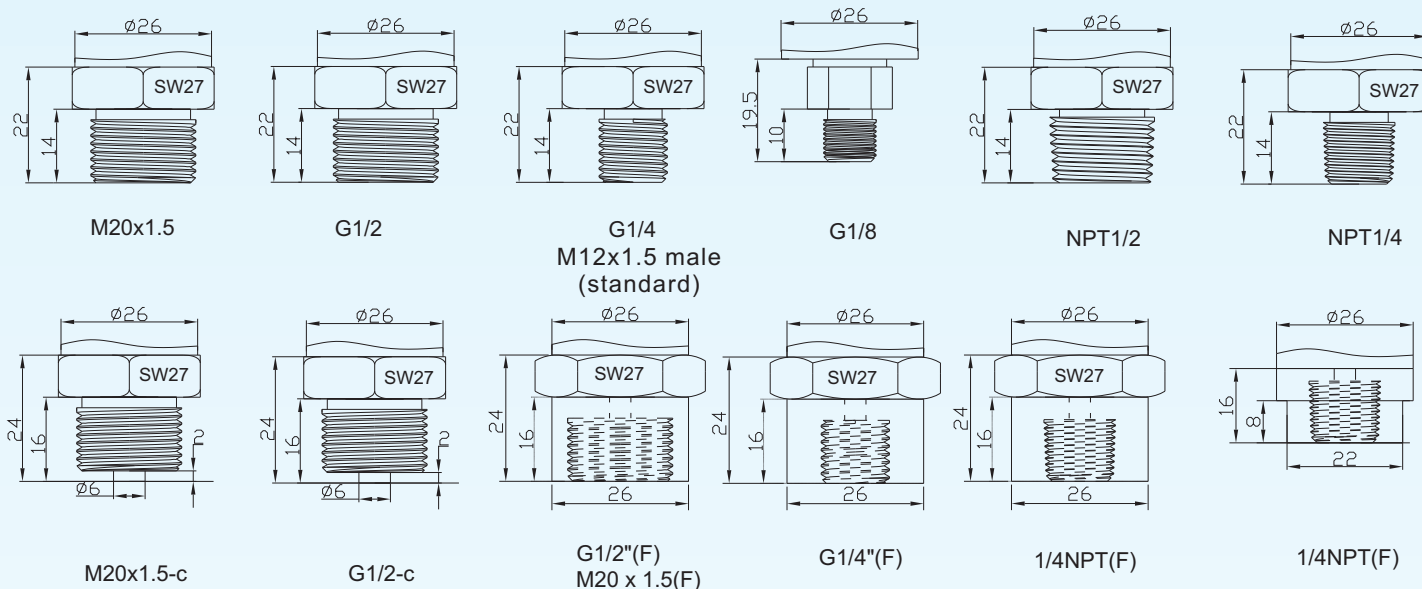
Notes: All dimensions are in mm.

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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								
131C								
pos. 2: pressure ranges and references								
2bar	G	16bar	G	160bar	G	G: gauge pressure		
2.5bar	G	25bar	G	250bar	G			
4bar	G	40bar	G	400bar	G			
6bar	G	60bar	G					
10bar	G	100bar	G					
pos. 3: output signal								
4/20mA (standard)		0.5/4.5V (ratiometric)		0/5V		1/5V		I ² C
pos. 4: accuracy								
0.5%fs (standard), 1%fs								
pos. 5: material of wetted parts								
316LSS			PVDF: polyvinylidene fluoride					
pos. 6: mechanical interface								
Refer to the drawings of mechanical interface for available options.								
pos. 7: electrical interface								
DIN43650 (standard) circular connection PVC/Φ5/1m = PVC cable, Φ5mm, L = 1m (this length should be specified)								
pos. 8: environment protection								
IP65			IP67					
pos. 9: 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	pos. 9

Examples of Ordering Code

- standard transmitter:
131C-16barG-4/20mA-0.5%fs-316L-G1/4(M)-DIN43650-IP65
- customized transmitter:
131C-50barG-4/20mA-0.5%fs-PVDF-G1/4(M)-DIN43650-IP65-(*)
(*): Customized pressure range = 0~50 barG.

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

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