

Model 131C Ceramic Pressure Transmitters For General Purpose



Features

- thick-film ceramic technology, only for gauge pressure measurement
- higher resistance to chemical corrosion
- ceramic (96% Al₂O₃) diaphragm
- wetted parts made from either SS 316L or PVDF
- measuring ranges from 0~1 bar to 0~400 bar
- selectable output of 4~20 mA (standard), 0.5~4.5V, or 0.5~5V (or 10V)
- 0.5% fs accuracy
- available in many type of pressure connection threads and electrical interfaces

Applications

- general purpose for industrial applications with corrosive pressure medium
- hydraulics and pneumatics
- refrigeration and air conditioning



Description

131C-series general purpose pressure transmitters are made of thick-film ceramic technology. These transmitters are built with mono-block ceramic pressure sensors (301B- & 302B-series pressure sensors). A working pressure acts on the ceramic diaphragm, under which a full-bridge circuit is printed using thick-film technology. The pressure deforms the diaphragm, hence breaks the balance of the bridge circuit. The output signal of the bridge circuit, which is proportional to the working pressure, is processed further to fit application purpose by a signal conditioning circuit.

The pressure ranges of the 131C transmitters starts from 0~2 bar and ends at 0~400 bar. A number of standard output signals, such as 4~20 mA current loop or voltage output of 0.5~4.5V (ratiometric) or 0.5~5V (or 10V), are available when order. The measuring accuracy of 131C transmitters is $\leq 0.5\%fs$ (fs = full scale).

The pressure diaphragm of 131C transmitters is made from ceramic (96% Al₂O₃) material, while the wetted parts are made from either SS 316L or polyvinylidene fluoride (PVDF). The latter possesses a higher degree of chemical corrosion resistance. Hence, 131C transmitters are especially suitable for use in applications where the pressures are created by the corrosive pressure medium. By means of an inner cavity, model 131C transmitter is designed to measure gauge pressures of gases or dilute liquids. Typical applications of 131C transmitters include hydraulics and pneumatics, refrigeration and air conditioning, process control systems.

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Technical data

parameters	units	specifications
pressure medium		gases or dilute fluids compatible with the material of wetted parts
pressure range	barG	0~2, ~2.5, ~4, ~6, ~10, ~16, ~25, ~40, ~60, ~100, ~160, ~250, ~400
	barA	NA*
	barSG	NA
overload pressure	%fs	200
burst pressure	%fs	300
output signal		4~20 mA (standard), 0.5~4.5 V (ratiometric), 0.5~5 V, 0.5~10 V
accuracy	%fs	±0.5
long-term stability	%fs/year	< 0.2
power supply (V _{sup})	Vdc	15, ..., 36
response time (10...90%)	ms	< 1
load resistance for current loop	Ω	≤ (V _{sup} -12)V/0.02mA
load resistance for voltage output	kΩ	> 5
storage temperature range	°C	-40 ~ +125
operating temperature range	°C	-40 ~ +125
compensated temperature range	°C	-10 ~ +60
temp. coefficient of span	%fs/°C	± 0.03
temp. coefficient of zero	%fs/°C	± 0.03
vibration resistance (20, ..., 2000 Hz)	g	10
seal (O-ring)		fluorine rubber
filling fluid		NA
material of pressure diaphragm		ceramic (96% Al ₂ O ₃)
material of wetted parts		316L SS (standard), PVDF
material of electronics housing		304 SS
mechanical interface		refer to the drawings of mechanical interface on the next page
electrical interface		refer to the drawings of electrical interface on the next page
environment protection	IP rating	IP 65, IP 66
unit weight	g	~ 180

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

*: NA = not available or not applicable

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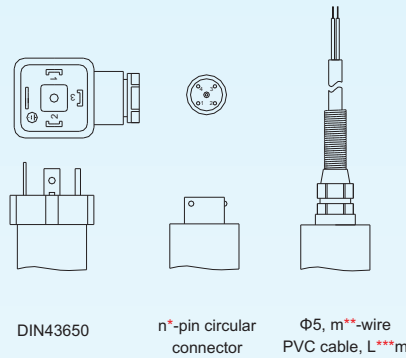
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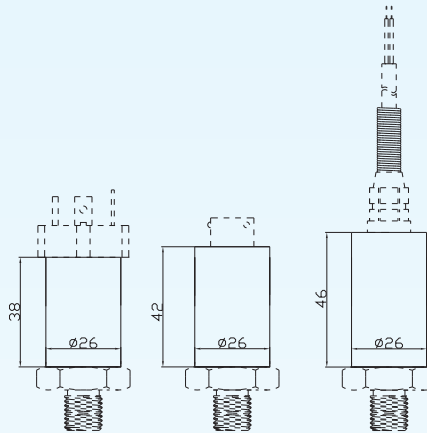
Dimensions

electrical interface#

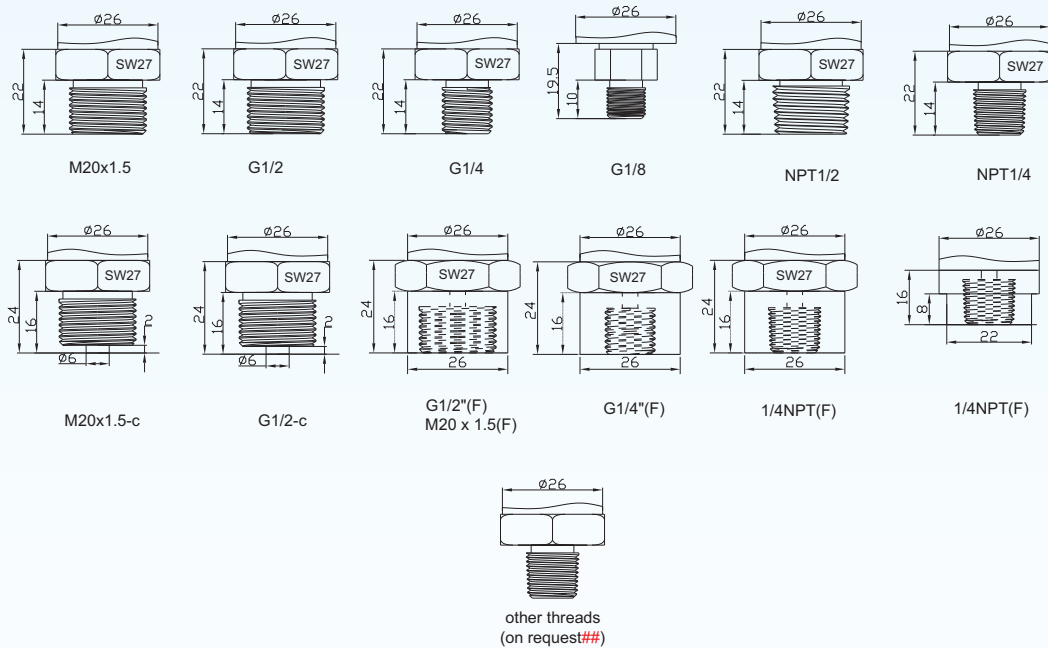


*: n = 4
 **: m = 2 (for current loop), 3 (for voltage output)
 ***: L = cable length

electronics housing (case)



mechanical interface#



#: The mechanical interfaces and the electrical interfaces listed below can be combined freely.
 ##: Other types of interfaces are available on request and to be confirmed in case of order.

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Ordering Information

position (pos.) 1: model										
131C										
pos. 2: ranges and types										
2 bar, G		10 bar, G		100 bar, G		G: gauge pressure				
2.5 bar, G		16 bar, G		160 bar, G						
4 bar, G		25 bar, G		250 bar, G						
6 bar, G		40 bar, G		400 bar, G						
		60 bar, G								
pos. 3: output signal										
4~20 mA		0.5~4.5 V (ratiometric)			0.5~5 V 0.5~10 V					
pos. 4: accuracy										
0.5 %fs										
pos. 5: supply power										
24 V (15, ..., 36 Vdc)			5 V (for o/p = 0.5~4.5 V)							
pos. 6: filling fluid										
NA*. In case of "NA", pos.6 can be omitted from the ordering code.										
pos. 7: material (wetted parts)										
316L: 316L stainless steel PVDF: polyvinylidene fluoride										
pos. 8: mechanical interface										
Refer to drawings of mechanical interfaces for available options.										
pos. 9: electrical interface										
For available connections, refer to drawings of electrical interfaces. For cable, code = diameter(Φ)/number of conductors/cable jacket /cable length 5.7/4/PVC/L** = Φ5.7 mm, 4-conductors shielded, PVC, L m										
pos. 10: environment protection										
IP 65 IP 66										
pos. 11: customized spec's										
When any customized spec's are required, the customer needs to add "C" as the last parameter in the ordering code, and specifies the wished spec's on his order clearly. The customized spec's needs to be confirmed in advance by BCM's sales representative. Code "C" can be omitted if no customized spec's are required.										
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8	pos. 9	pos. 10	pos. 11

*: NA = not available or not applicable;

** : L = cable length. This value is a customized value.

example: 131C-16barG-4/20mA-0.5%fs-PVDF-G1/4-DIN43650-IP65-C



ISO9001 Certified Company

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