

Model 131F Stain Gauge Pressure Transmitters For General Purpose



Features

- metal foil strain gauge technology, only for gauge pressure measurement
- all-welded construction of the wetted parts
- very small thermal errors (0.005%fs/°C) for span and zero
- pressure ranges from 0~16 bar to 0~600 bar
- selectable output of 4~20 mA (standard), 0.5~4.5V (ratiometric), or 0.5~5V (or 10V)
- 0.5% fs accuracy
- excellent shock and vibration resistance
- diaphragm made from 17-4PH stainless steel
- available in many type of pressure connection threads and electrical interfaces

Applications

- general purpose for industrial applications
- hydraulics and pneumatics
- mechanical engineering
- machine tools
- process control systems



Description

131F-series general purpose pressure transmitters are made of metal foil strain gauge technology. A working pressure acts on the metal diaphragm, under which a full-bridge circuit formed by a metal foil diaphragm strain gauge is bonded. 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 131F transmitters starts from 0~16 bar and ends at 0~600 bar. A number of standard output signals, such as 4~20 mA current loop or voltage output of 0.5~4.5V or 0.5~5V (or 10V), are available when order. The measuring accuracy of 131F transmitters is 0.5%fs (fs=full scale). Thanks to BCM's advanced stain gauge technology, model 131F transmitters provide good long-term stability (<0.2%fs/year), thermal characteristics (<0.005%fs/°C), and excellent shock and vibration resistance.

The wetted parts of the 131F transmitters are of all-welded construction. That is, the diaphragm and the wetted parts are welded together. As a result, the pressure is completely stopped by the diaphragm in the wetted parts. No rubber O-ring is needed for sealing. This unique feature allows the 131F transmitters to have long service life with minimal maintenance. By means of an inner cavity, model 131F transmitter is designed to measure gauge pressures of gases or dilute liquids. The all-stainless steel (SS) construction allows 131F transmitters to have a compatibility of pressure media with SS 17-4PH. Typical applications of 131F transmitters include hydraulics and pneumatics, mechanical engineering, machine tools.

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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	0~16, ~25, ~40, ~60, ~100, ~160, ~250, ~400, ~600
	barA	NA*
	barSG	NA
overload pressure	%fs	150
burst pressure	%fs	200
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	± 0.005
temp. coefficient of zero	%fs/°C	± 0.005
vibration resistance (20, ..., 2000 Hz)	g	10
seal		all-welded construction
transmission fluid		NA
material of diaphragm		17-4PH
material of wetted parts		316 SS
material of electronics housing		304 SS
mechanical interface		refer to the drawings of mechanical interface
electrical interface		refer to the drawings of electrical interface
environment protection	IP rating	IP 65, IP 66
unit weight	g	~ 300

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

*: NA = not available or not applicable

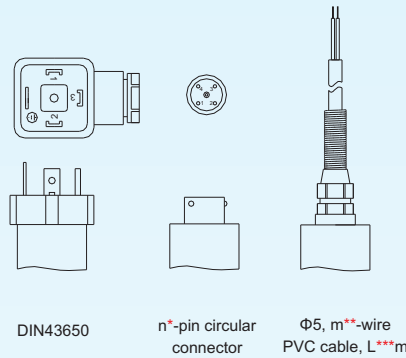
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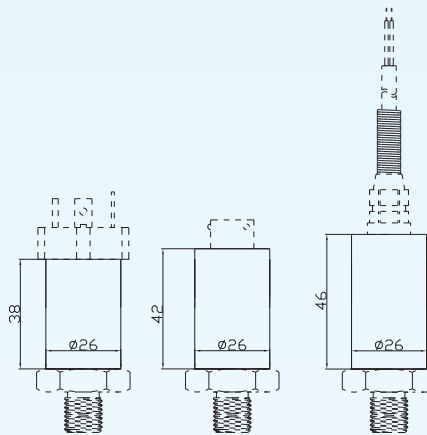
Dimensions

electrical interface#

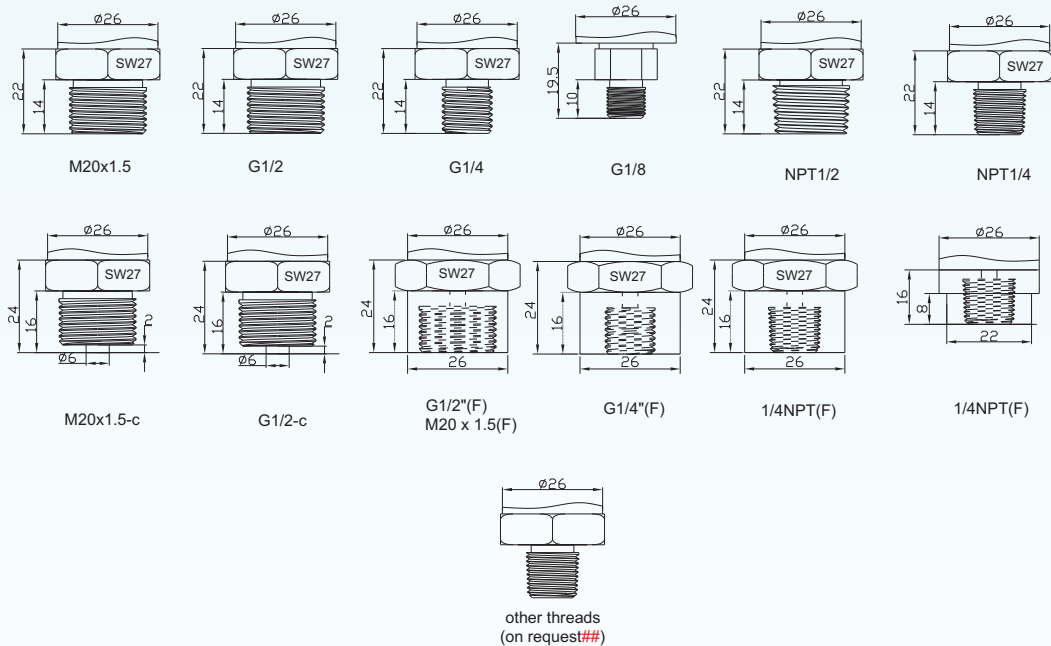


*: n = 4
 **: m = 2 (for current loop), 3 (for voltage output)
 ***: L = cable length

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										
131F										
pos. 2: ranges and types										
16 bar, G 100 bar, G G: gauge pressure 25 bar, G 160 bar, G 40 bar, G 250 bar, G 60 bar, G 400 bar, G 600 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 (diaphragm)										
17-4PH: 17-4PH stainless steel										
pos. 8: mechanical interface										
Refer to drawings of mechanical interface for available options.										
pos. 9: electrical interface										
For available connections, refer to drawings of electrical interface. 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: 131F-16barG-4/20mA-0.5%fs-17-4PH-G1/4-DIN43650-IP65-C



ISO9001 Certified Company

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