

Model 131S

General Purpose Pressure Transmitters

Description

The 131S is a silicone piezoresistive pressure transmitter fitting most industrial pressure measurement applications. Due its compact and rugged design, this model is suitable for applications of processing and control operations such as hydraulics, pneumatics, test equipment, liquid level measurement, compressor and pump control, etc. With various options of process connection and electrical interface, the 131S can be fitted into almost all common systems.

The 131S consisting of a stainless steel diaphragm, wetted part, and housing can be used for measurements involving hostile media compatible with 316 stainless steel. Featuring an inner-cavity process connection, the transmitter is specially designed to measure pressure of gases or dilute fluids with pressure reference of gauge, absolute, or sealed gauge.

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



Features

- measuring ranges: 0.35bar, ..., 600bar
- pressure references:
gauge, absolute, and sealed gauge
- accuracy up to 0.25%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
- hydraulics and pneumatics
- compressor and pump systems
- liquid level measurement
- test equipment

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Technical Data

Parameter		Units	Specifications	Notes
pressure medium			viscous fluid or fluid with particles	1
pressure references & ranges	gauge	bar	0~0.35, ~0.6, ~1, ~1.6, ~2.5, ~4, ~6, ~10, ~16, ~25, ~40	2
	absolute	bar	0~1, ~1.6, ~2.5, ~4, ~6, ~10, ~16, ~25, ~40	
	sealed gauge	bar	0~10, ~16, ~25, ~40, ~60, ~100, ~160, ~250, ~400, ~600	
overload 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	≤ ±0.25 (standard), ≤ ±0.5	4
long-term stability		%fs/year	≤ ±0.2 (standard), ≤ ±0.1 is available on request	
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	-20 ~ +85	
operating temperature range		°C	-40 ~ +125	
storage temperature range		°C	-40 ~ +125	
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			316L SS	
wetted parts material			316 SS	
electronics housing material			304 SS	
filling oil			silicone oil (standard), fluorine oil	6
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.
 6. Fluorine oil can be used for in food and oxygen industry

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

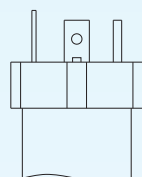
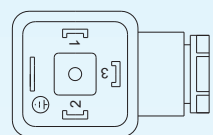
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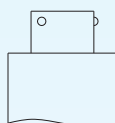
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Dimensions

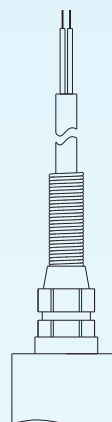
electrical interface



DIN43650
(standard)



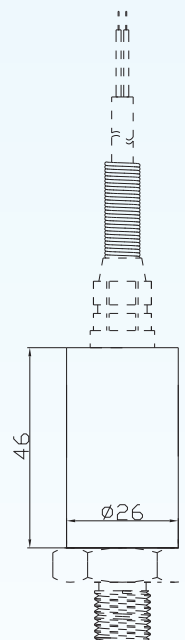
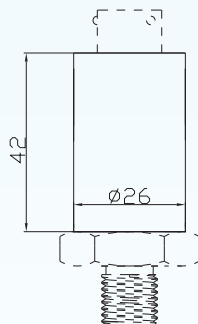
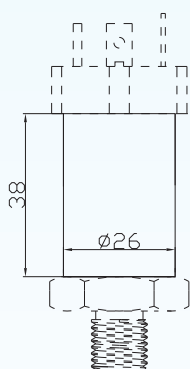
circular connector
with 4 pins



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)

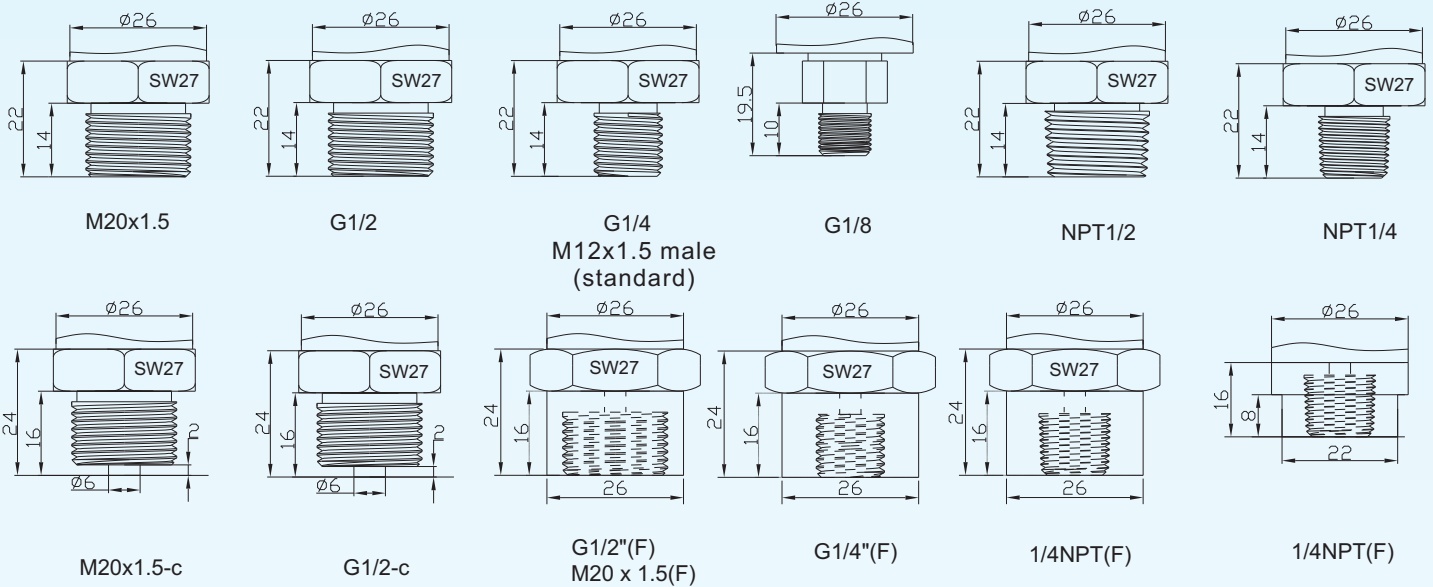


Notes: All dimensions are in mm.

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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									
131S									
pos. 2: pressure ranges and references									
0.35bar	G, A	4bar	G, A, S	40bar	G, A, S	400bar	S	G: gauge pressure	
0.6bar	G, A	6bar	G, A, S	60bar	S	600bar	S	A: absolute pressure	
1bar	G, A	10bar	G, A, S	100bar	S			S: sealed gauge	
1.6bar	G, A	16bar	G, A, S	160bar	S				
2.5bar	G, A	25bar	G, A, S	250bar	S				
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									
0.25%fs (standard)				0.5%fs					
pos. 5: filling oil									
siOil = silicone oil					fOil = fluorine oil				
pos. 6: pressure diaphragm									
316L stainless steel									
pos. 7: mechanical interface									
Refer to the drawings of mechanical interface for available options.									
pos. 8: electrical interface									
DIN43650 (standard)									
circular connection									
PVC/Φ5/1m = PVC cable, Φ5mm, L = 1m (this length should be specified)									
pos. 9: environment protection									
IP65					IP67				
pos. 10: 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	pos. 10

Examples of Ordering Code

- standard transmitter:

131S-16barG-4/20mA-0.25%fs-siOil-316L-G1/4-DIN43650-IP65

- customized transmitter:

131S-50barG-4/20mA-0.5%fs-siOil-316L-G1/4-DIN43650-IP65-(*)

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

