

GP-2080 Pressure Sensor

Features

- ✓ Range: -100kPa~0kPa ~ 20kPa~35MPa
- ✓ Laser trimming temperature compensation
- ✓ Standard size ϕ 19mm
- ✓ High accuracy and stability
- ✓ 316L housing, SS 316L, Hastelloy C, titanium, tantalum optional



Introduction

GP-2080 series is a compact and isolated oil-filled pressure sensor, which adopts MEMS silicon chip as the core of pressure sensing, and each sensor is manufactured through strict aging, screening and testing to ensure the excellent quality and high reliability of the product.

Featuring high overload resistance and a wide range of temperatures, these products are widely used in hydraulic systems, loading machinery, pumps, and industrial process control.

Parameters

Items	Parameters
Diaphragm Material	SS 316L
Housing Material	SS 316L
Electrical Connection	Kovar / 100mm silicone rubber wires
Back Tube	SS 316L (only exist on gauge)
Seal Ring	NBR, VITON, VMQ
Power Supply	$\leq 2.0\text{mA DC}$
Impedance Input	$2.5\text{k}\Omega \sim 5\text{k}\Omega$
Impedance Output	$2.5\text{k}\Omega \sim 5\text{k}\Omega$
Response	$< 1\text{ms}$ (10% ~ 90%)
Insulation Resistance	$100\text{M}\Omega$, 100V DC
Over Pressure	2 x FS
Media Applicability	Fluid which no corrosion on stainless steel and seal ring
Shock	No change at 10gRMS, (20 ~ 2000)Hz
Impact	100g, 11ms
Position Effect	Deviate 90° from any direction, zero change $\leq \pm 0.05\% \text{FS}$
Standard Condition	Media temperature: $25 \pm 1^\circ\text{C}$ Environment temperature: $25 \pm 1^\circ\text{C}$ Humidity: $50\% \pm 10\% \text{RH}$ Environment pressure: 86 ~ 106kPa Power supply: $1.5 \pm 0.0015\text{mA DC}$

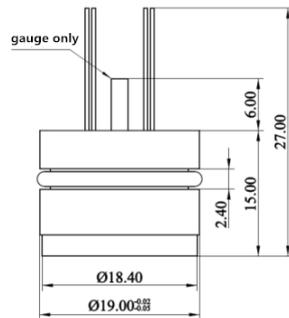
Specification

Item	Min.	Typ.	Max.	Units
Linearity		±0.1	±0.25	%FS, BFSL
Repeatability		±0.05	±0.075	%FS
Hysteresis		±0.05	±0.075	%FS
Zero output			±2.0	mV DC
FS output	45	100		mV DC
Compensated Temp.		0 ~ 70		°C
Working Temp.		-40 ~ 125		°C
Storage Temp.		-40 ~ 150		°C
Zero Temp. Error		±0.75	±1	%FS, @25°C
Full Temp. Error		±0.75	±1	%FS, @25°C
Long Term Stability		±0.2		%FS/year

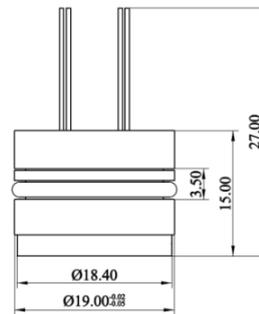
Note:

1. The above performance indicators are tested under the benchmark conditions.
2. The temperature range for temperature drift test is the compensation temperature range.

Dimensions (mm)

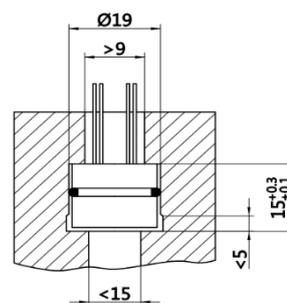
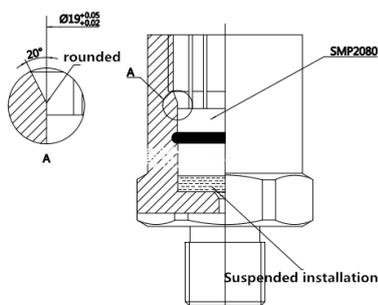


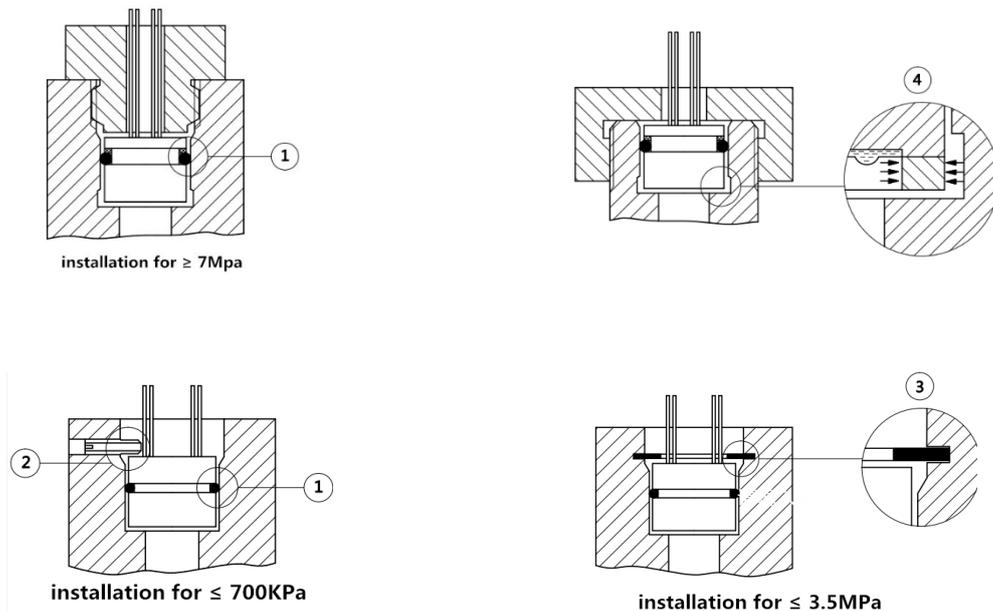
<math>< 20\text{MPa}</math>



$\ge 20\text{MPa}$

Recommended installation structure (mm)

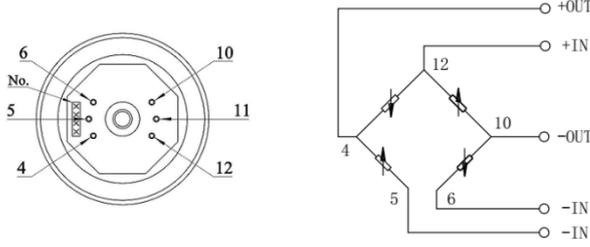




- 1) When installing an O-ring or PTFE ring, keep PTFE ring installed in the side without pressure
- 2) Screw can't be lifted to the sensor housing
- 3) The figure shows the installation of an elastic ring with holes
- 4) The picture shows the pressure transmitter suspension installation, to make sure there is a gap between the radial and axial of the sensor ring and the base, to avoid pressure is transmitted to the sensor diaphragm

Electrical connections

Pin	Definition	Wire color
4	+OUT	Red
10	- OUT	Blue
11	- IN	Yellow
12	+IN	Black



Order Guide

GP-2080 Pressure Sensor						
	Code1	Range	Type	Code1	Range	Type
	0B	0 ~ 20kPa	G	12	0 ~ 2MPa	G/A
	0A	0 ~ 35kPa	G	13	0 ~ 3.5MPa	G/A
	02	0 ~ 70kPa	G	14	0 ~ 7MPa	A/S
	03	0 ~ 100kPa	G/A	15	0 ~ 15MPa	A/S
	07	0 ~ 200kPa	G/A	17	0 ~ 20MPa	A/S
	08	0 ~ 350kPa	G/A	18	0 ~ 35MPa	A/S
	09	0 ~ 700kPa	G/A	19	0 ~ 70MPa	A/S
	10	0 ~ 1MPa	G/A			
		Code2	Pressure Type			
		G	Gauge			
		A	Absolute			
		S	Sealed gauge			
			Code3	Electrical connection		
			1	Gold-plated Kavor pin		
			2	100mm Silicone rubber wires		
			Code4	Special measurement		
			Y	Gauge can measure negative pressure Note ^①		
<i>Completed Sample: GP-2080-03-G-2</i>						

Note^① When gauge pressure used to measure the negative pressure, it will affect the sensor zero and full value, it is necessary for customers to do fine tuning in the follow-up circuit until the required value.

Tips:

- 1: The pressure sensor is suitable for the customer to use by assembling the shell, when installing, please avoid pressing the front and back faces of the sensor to ensure the sensor to be stable.
- 2: When customers weld the sensor to a shell or housing, improper methods might lead to irreparable damage. At this time, please contact us to offer the welding of components directly.