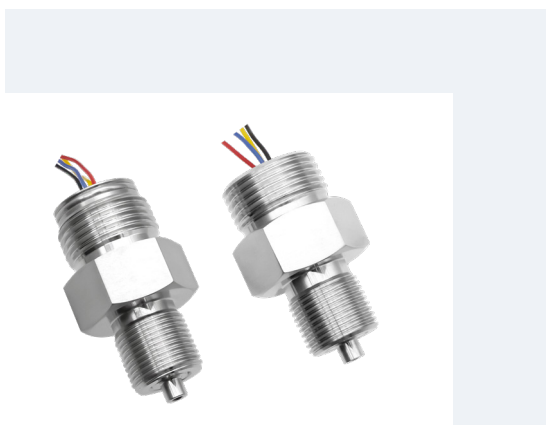


MPM280 Threaded Pressure Sensor



Features

- Pressure range: -100kPa...0kPa ~ 20kPa...70MPa
- Gauge, Absolute and Sealed gauge
- Constant current or constant voltage power supply for option
- Isolated construction to measure various fluid media
- $\Phi 19\text{mm}$ OEM pressure sensor
- Full stainless steel 316L
- Withstand vacuum pressure, minimum -100kPa

Applications

- Industrial process control
- Level measurement
- Gas, Liquid pressure measurement
- Pressure gauge
- Pressure calibrator
- Hydraulic system and switches
- HVAC system
- Aviation and navigation inspection

Introduction

Assembled MPM280 Pressure Sensor

Put a standard MPM280 Pressure Sensor assembled in a pressure port with standard or specialized thread, sealed with either face or waterline sealing. It undergoes strict testing and screening. This sensor offers flexible configurations and is suitable for various pressure measuring instrument assemblies.

Welded MPM280 Pressure Sensor

Put a standard MPM280 Pressure Sensor welded into a pressure port with standard or specialized thread, without an O-ring. It offers wide application flexibility and is suitable for various pressure measuring instrument assemblies.

Electrical Performance

- Power supply: $\leq 2.0\text{mA DC}$
- Electrical connection: Silicone wires
- Common mode voltage output: 50% of input (typ.)
- Input impedance: $3\text{k}\Omega \sim 8\text{k}\Omega$
- Output impedance: $3.5\text{k}\Omega \sim 6\text{k}\Omega$
- Response time(10%~90%): $< 1\text{ms}$
- Insulation resistance: $100\text{M}\Omega @ 100\text{V DC}$
- Overpressure: 2 times FS or 110MPa(min. value is valid)

Construction Performance

- Diaphragm: Stainless steel 316L
- Housing: Stainless steel 316L
- O-ring: FKM
- Oil filling: Silicone oil

Environmental Conditions

- Vibration: No change at $10\text{g RMS}, (20 \sim 2000)\text{Hz}$
- Shock: 100g, 11ms
- Medium compatibility: The gas or liquid which is compatible with construction material and FKM

Basic Conditions

- Medium temperature: $(25 \pm 1)^\circ\text{C}$
- Ambient temperature: $(25 \pm 1)^\circ\text{C}$
- Vibration: $0.1\text{g } (1\text{m/s}^2)$ Max.
- Humidity: $(50\% \pm 10\%) \text{RH}$
- Ambient pressure: $(86 \sim 106)\text{kPa}$
- Power supply: $(1.5 \pm 0.0015)\text{mA DC}$

Specifications

Item*	Min.	Typ.	Max.	Units
Pressure nonlinearity		±0.15	±0.25	%FS,BFSL
Pressure repeatability		±0.05	±0.075	%FS
Pressure hysteresis		±0.05	±0.075	%FS
Zero output		±1.0	±2.0	mV DC
Output/Span**	70			mV DC
Zero thermal error		±0.75	±1.0	%FS, @25℃
FS thermal error		±0.75	±1.0	%FS, @25℃
Compensation temp. range	0~50			℃
Operating temp. range	-40~125			℃
Storage temp. range	-40~125			℃
Long-term stability error		±0.2	±0.3	%FS/Year

* Testing at basic condition, G: Gauge; A: Absolute; S: Sealed gauge

** Output/Span=full scale output - zero point

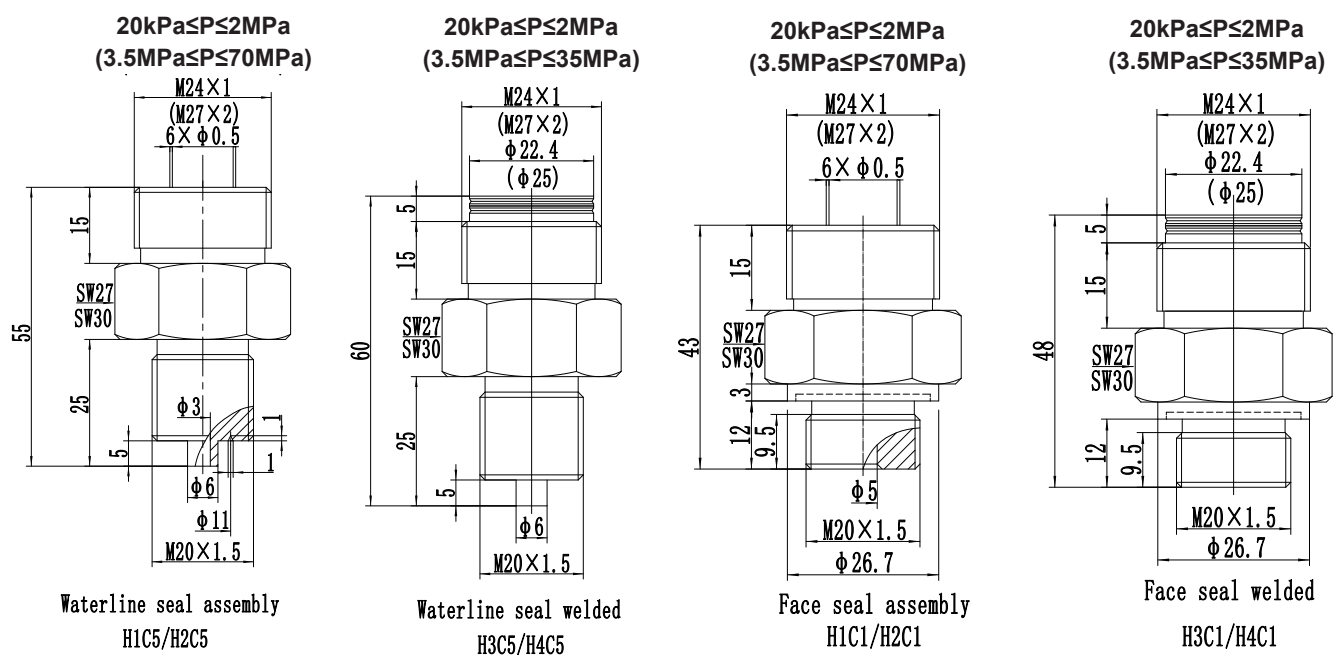
20kPa G, FS output ≥45mV

35kPa G, FS output ≥60mV

70kPa A, 100kPa A, 70kPa GY, 100kPa GY, FS output ≥45mV

200kPa A, 350kPa A, 200kPa GY, 350kPa GY, FS output ≥60mV

Outline Construction (Unit: mm)



Electrical Connection

Definition	Wire color
+OUT	Red
+IN	Black
-IN	Yellow or White
-OUT	Blue

Notes

- Please check the specification label enclosed with the products for the actual electrical connection method.

Order Guide

MPM280-08-G-H1-C1-L-2-P

Range code	Pressure range	Ref.
0B	0kPa~20kPa	G
0A	0kPa~35kPa	G.A
02	0kPa~70kPa	G.A
03	0kPa~100kPa	G.A
07	0kPa~200kPa	G.A
08	0kPa~350kPa	G.A
09	0kPa~700kPa	G.A
10	0MPa~1MPa	G.A
12	0MPa~2MPa	G.A
13	0MPa~3.5MPa	G.A.S
14	0MPa~7MPa	S.A
15	0MPa~10MPa	S.A
17	0MPa~20MPa	S.A
18	0MPa~35MPa	S.A
19	0MPa~70MPa	S.A

Code	Pressure type
G	Gauge
A	Absolute
S	Sealed gauge
GY0	Withstand vacuum pressure while Zero at atmospheric pressure
GY	Withstand vacuum pressure while Zero at -100kPa

Code	Potting
Code P	No potting
Code RTV	Potting with silicone RTV gel

Code	Electrical connection
2	100mm silicon wires

Code	Compensation
L	Temperature compensation (1.5mA excitation)

Code	Pressure port
C1	M20×1.5 male face seal
C2	G1/4 B male
C3	G1/2 B male
C4	G1/4 B female
C5	M20×1.5 male waterline seal
C6	1/4NPT male
C8	1/4NPT female
C10	1/2NPT male
C11	1/2NPT female
C15	R1/4 male
C31	R1/2 male

Code	Pressure connection
H1	M24×1 male(assembled, P≤20bar)
H2	M27×2 male (assembled, P≤700bar)
H3	M24×1 male(welded, P≤20bar)
H4	M27×2 male (welded, P≤350bar)

Notes

- The default unit of the product is kPa. 1kPa=0.01bar.
- Zero shift: Range code 0B can be shifted to -5kPa, -10kPa or -20kPa; 0A can be shifted to -10kPa or -20kPa; 02 can be shifted to -35kPa, -50kPa, or -70kPa; 03 and above can be shifted to -100kPa.
- Over-range or under-range use is allowed, recommended within ±30%.
- Vacuum pressure sensors differ significantly in materials and processes from positive pressure sensors and cannot be replaced by standard gauge pressure sensors.
- Verify the system's maximum overload to ensure it is below the sensor's limit to avoid performance impact, reduced lifetime, or damage.
- Standard sensors are temperature compensated under constant current to ensure stability; constant current power supply is recommended.
- The FKM O-ring of sensor has a temperature range of -20°C~250°C by default. For operating temperature below -20°C or harsh media, please contact the MICROSENSOR.

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