

MPM289 Piezoresistive OEM Pressure Sensor



Features

- Pressure range 0~ 35kPa...100MPa
- Gauge, absolute, sealed gauge
- Constant current power supply
- Isolated construction, enable to measure various media
- $\Phi 19\text{mm}$ standard OEM pressure sensor
- Full stainless steel 316L
- Wide temperature compensation $-10^{\circ}\text{C} \sim 70^{\circ}\text{C}$

Application

- Industrial process control
- Level measurement
- Gas, liquid pressure measurement
- Pressure checking meter
- Pressure calibrator
- Liquid pressure system and switch
- Cooling equipment and air conditioning system
- Aviation and navigation inspection

Introduction

MPM289 OEM sensor is the piezoresistive pressure sensor with isolated construction and precise compensation. It uses high stable silicon die. Stainless steel 316L housing with diameter $\Phi 19\text{mm}$. Wider temperature compensation and zero correction are calibrated by laser trimming technics. The measured pressure is transmitted onto silicon die through 316L diaphragm and inner media, to transform the pressure to electric signal.

MPM289 pressure sensor is inspected and screened on automatic production line, testing and checking time after time strictly. It is widely used for various pressure measurement fields.

Electrical Specification

- Power supply: $\leq 2.0\text{mADC}$
- Electric connection: Kovar pin
- Common mode voltage output: 50% input (typ.)
- Input impedance: $2\text{k}\Omega \sim 4\text{k}\Omega$
- Output impedance: $3.5\text{k}\Omega \sim 6\text{k}\Omega$
- Output impedance: $4\text{k}\Omega \sim 6\text{k}\Omega$
- Insulation resistor: $100\text{M}\Omega$, 100VDC
- Overpressure: 1.5 times FS

Construction

- Diaphragm: stainless steel 316L
- Housing: stainless steel 316L
- Pin: Kovar
- O-ring: Viton
- Net weight: $\sim 25\text{g}$

Environment Condition

- Position: deviate 90° from any direction, zero change $\pm 0.05\%$ FS
- Shock: no change at 10gRMS, (20~ 2000) Hz
- Impact: 100g, 11ms
- Media compatibility: the gas or liquid which is compatible with stainless steel and viton

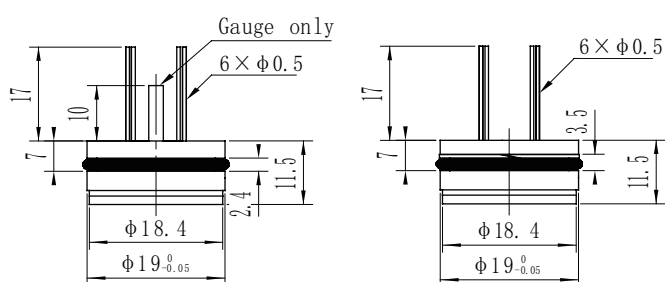
Basic Condition

- Media temperature: $(30 \pm 1)^\circ\text{C}$
- Environment temperature: $(30 \pm 1)^\circ\text{C}$
- Shock: 0.1g (1m/s²)Max
- Humidity: $(50 \pm 10\%)$ RH
- Local air pressure: (86~ 106)kPa
- Power supply: (1.5 ± 0.0015) mADC

Specification

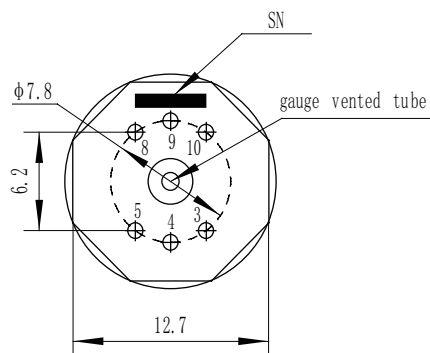
Item*	Min.	Typ.	Max.	Units
Linearity		±0.10	±0.20	%FS,BFSL
Repeatability		±0.05	±0.075	%FS
Hysteresis		±0.05	±0.075	%FS
Zero output			±2	mVDC
FS output	60			mVDC
Zero thermal error		±0.50	±1.0	%FS, @30℃
Span thermal error		±0.50	±1.0	%FS, @30℃
Compensated temp. range	0 ~ 70 (35K0) -10~70			℃
Working temp. range	-40 ~ 125			℃
Storage temp. range	-40 ~ 125			℃
Stability error	±0.5			%FS/year
*testing at basic condition **Code 35K0 Max. Linearity:±0.25(%FS,BFSL)				

Outline Construction (Unit: mm)



The suggested mounting dimension is $\Phi 19^{+0.05}_{+0.02}$ mm

Electrical Connection



Pin	Definition	Wire color
4	-OUT	Blue
5	-IN	Yellow
8	+IN	Black
9	+OUT	Red

Order Guide

MPM289		Piezoresistive OEM Pressure Sensor							
		Range code		Pressure range		Ref.	Range code	Pressure range	Ref.
		35K0		0kPa~35kPa		G.A	07M0	0MPa~7MPa	S.A
		100K		0kPa~100kPa		G.A	10M0	0MPa~10MPa	S.A
		200K		0kPa~200kPa		G.A	20M0	0MPa~20MPa	S.A
		500K		0kPa~ 500kPa		G.A	35M0	0MPa~35MPa	S.A
		01M0		0MPa ~ 1MPa		G.A	70M0	0MPa~70MPa	S.A
		02M0		0MPa ~ 2MPa		G.A	100M0	0MPa~100MPa	S.A
		03M5		0MPa~ 3.5MPa		G			
			Code		Pressure type				
			G		Gauge				
			A		Absolute				
			S		Sealed gauge				
				Code		Pressure connection			
				0 or null		O-ring			
				Code		Compensation			
				L		Laser trimming			
				Code		Electrical connection			
				1		Kovar pin(default)			
2*		100mm silicon rubber flexible wires							
MPM289	01M0	G	0	L	1	the whole spec			

Notes

1.It is recommended that the sensor should be installed as Suspended Mode to avoid face tight press and avoid affecting sensor stability.

2.Please pay attention to protect the diaphragm and the compensated board to prevent any damage or bad performance.

3.Temperature resistant range of standard Viton O-ring of sensor is -20°C ~ 250°C . When working temperature is lower than -20°C , or sensor is applied in critical environment, please contact us.

ООО "РусАвтоматизация"

454010 г. Челябинск, ул. Гагарина 5, оф. 507
 тел. 8-800-775-09-57 (звонок бесплатный), +7(351)799-54-26, тел./факс +7(351)211-64-57
info@rusautomation.ru; русавтоматизация.рф; www.rusautomation.ru