

MPM281 High Stable Piezoresistive OEM Pressure Sensor

Features

- Pressure range 0 ~ 7kPa...70MPa
- Gauge, absolute, sealed gauge
- Constant current power supply
- Isolated construction, enable to measure various media
- Φ19mm standard OEM pressure sensor
- Full stainless steel 316L
- Wider temperature compensation -10 °C~+80 °C
- Long-term stability 0.1%FS/year



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

MPM281 high stable 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 Φ19mm. 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.

MPM281 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.

Electric Specification

Power supply: $\leq 2.0\text{mADC}$

Electric connection: Kovar pin or 100mm silicon rubber flexible wires

Common mode voltage output: 50% 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 (10%~90%): $< 1\text{ms}$

Insulation resistor: $100\text{M}\Omega$, 100VDC

Overpressure: 1.5 times FS

Construction

Diaphragm: stainless steel 316L

<http://www.microsensor.cn>

Add: No.18, Yingda Road Baoji, P.R.China, 721006

Tel: +86 917 3600739/3600832 Fax: 3600755

Housing: stainless steel 316L

Pin: Kovar

O-ring: Viton

Net weight: ~16g

Environment Condition

Position effect: deviate 90° from any orientation, zero change $\leq 0.05\%FS$

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: (35±1) °C

Environment temperature: (35±1) °C

Shock: 0.1g (1m/s/s) Max

Humidity: (50%±10%) RH

Local air pressure: (86~106) kPa

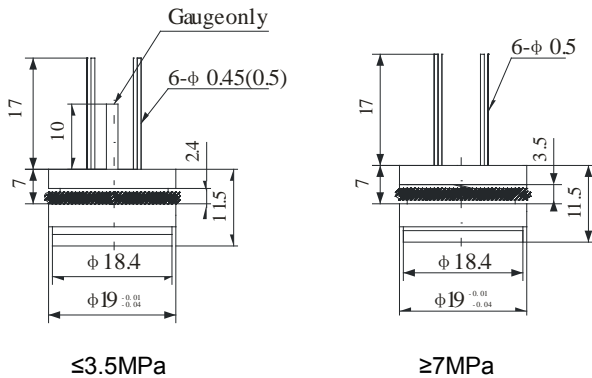
Power supply: (1.5±0.0015) mADC

Basic Specification

Specification*	Min.	Typ.	Max.	Units
Linearity		±0.2	±0.25	%FS,BFSL
Repeatability		±0.05	±0.075	%FS
Hysteresis		±0.05	±0.075	%FS
Zero output			±2	mVDC
FS output	70			mVDC
Zero thermal error		±0.75	±1.0	%FS,@35 °C
Span thermal error		±0.75	±1.0	%FS,@35 °C
Compensated temp. range		-10 ~ 80		°C
Working temp. range		-40 ~ 125		°C
Storage temp. range		-40 ~ 125		°C
Stability error		±0.1	±0.2	%FS/year
*testing at basic condition				

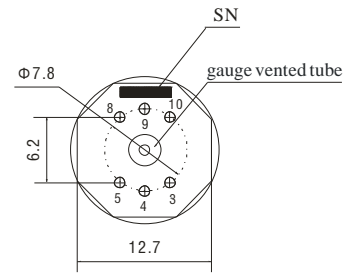
Outline Construction

(Units: mm)



The suggested installation dimension is $\phi 19^{+0.05}_{+0.02}$ mm

Electric Connection



Pin	Electric connection	Wire color
4	+OUT	Red
8	+IN	Black
5	-IN	yellow(white)
9	-OUT	Blue

Order Guide

MPM281 High Stable Piezoresistive OEM Pressure Sensor						
Range code	Pressure range (kPa)	Ref.	Range code	Pressure range (MPa)	Ref.	
0C	0 ~ 7	G	10	0 ~ 1	G.A	
0B	0 ~ 20	G	12	0 ~ 2	G.A	
0A	0 ~ 35	G	13	0~3.5	G.A.S	
02	0 ~ 70	G	14	0 ~ 7	S	
03	0 ~ 100	G	15	0 ~ 10	S	
07	0~200	G.A	17	0 ~ 20	S	
08	0 ~ 350	G.A	18	0 ~ 35	S	
09	0 ~ 700	G.A	19	0 ~ 70	S	
Code		Pressure type				
G		Gauge				
A		Absolute				
S		Sealed gauge				
Code		Pressure connection				
0		O-ring				
Code		Temperature compensation				
L		Laser trimming				
M		Outer compensated resistor				
Code		Electric connection				
1		φ0.5mm Kovar pins				
2		4-color 100mm flexible rubber wire				
Code		Special measurement				
Y		Gauge sensor to measure vacuum				

MPM281	07	G	0	L	1	Y	the whole spec
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Order Note:

1. We suggest you to use Floating construction when you install the sensor to prevent affecting sensor stability;
2. Please pay attention to protect sensor isolated diaphragm and ceramic compensated board, to avoid damaging sensor and affecting the performance;
3. When the temperature exceeds viton working temperature, or the user needs to use sensor at rugged environment, please contact our company freely.