MPM281 High Stable Piezoresistive OEM Pressure Sensor

Features

·Pressure range 0～35kPa…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℃～+80℃
·Long-term stability 0.1%FS/year

Application

·Industrial process control ·level measure ·gas, liquid pressure measure
·Pressure checking meter ·Pressure calibrator ·Liquid pressure system and switch
·Cooling equipment and air conditioner ·aviation, 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, housing with outer diameter Φ19mm 316L stainless steel housing. Wider temperature compensation and zero correction are calibrated by laser trimming technics. The measured pressure is transmitting 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. It is widely used for various pressure measure fields.

Electric Specification

Power supply: ≤2.0mADC
Electric connection: Kovar pin or 100mm silicon rubber flexible wires
Common mode voltage output: 50% input (typ.)
Input impedance: 3kΩ ~ 8kΩ
Output impedance: 3.5kΩ ~ 6kΩ
Response (10% ~ 90%): <1ms
Isolation resistor: 100MΩ, 100VDC
Overpressure: 1.5 times FS

Construction

Diaphragm: stainless steel 316L

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Housing: stainless steeel 316L
Pin: Kovar
O-ring: Viton
Net weight: ~16g

Environment Condition

Position effect: deviate 90° from any orientation, zero change ≤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）℃
Environment temperature: （35±1）℃
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℃
Span thermal error		±0.75	±1.0	%FS,@35℃
Compensated temp. range		-10～80		℃
Working temp. range		-40～125		℃
Storage temp. range		-40～125		℃
Stability error		±0.1	±0.2	%FS/year
*testing at basic condition				

Outline Construction

(Units: mm)

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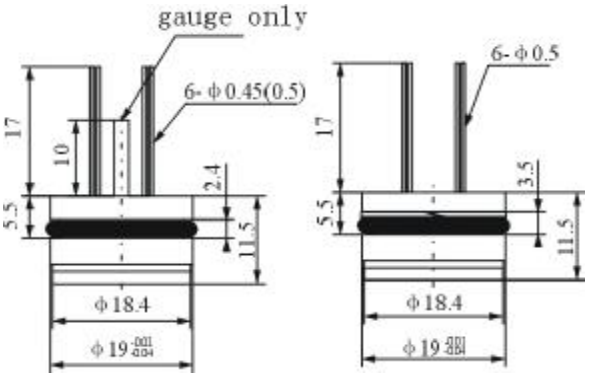
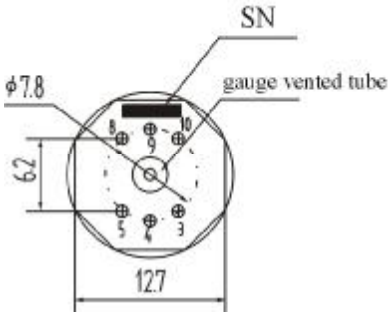


≤3.5MPa ≥7MPa

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

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Range code	Pressure range (kPa)	Ref.	Range code	Pressure range (MPa)	Ref.
0A	0～35	G	12	0～2	G.A
02	0～70	G.A	13	0～3.5	G.A.S
03	0～100	G.A	14	0～7	S
07	0～200	G.A	15	0～10	S
08	0～350	G.A	17	0～20	S
09	0～700	G.A	18	0～35	S
10	0～1000	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	φ0.45（φ0.5）mm Kovar pins
2	4-color 100mm flexible rubber wire

Code	Special measure
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.

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