MPM285 Pressure Sensor



Features

- Cost-effective, small size
- Laser trimming for temperature compensation
- Pressure range: 0kPa~100kPa…3.5MPa
- Gauge, Sealed gauge and Absolute
- Constant current or constant voltage power supply
- Isolated construction, suitable for various fluids
- Φ15mm standard OEM pressure sensor
- Full stainless steel 316L

Applications

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

Introduction

MPM285 Pressure Sensor is compact and cost-effective. It has the same outline, dimensions, and sealing as the international standard sensors, ensuring good interchangeability. It is widely used for pressure measurement of media compatible with stainless steel and FKM, suitable for space-constrained applications.

Electrical Performance

- Power supply: ≤2.0mA DC
- Electrical connection: Φ0.5mm Kovar pin or 100mm silicone wires
- Common mode voltage output: 50% of input (typ.)
- Input impedance: 2.5kΩ~5kΩ
- Output impedance: 3.5kΩ~6kΩ
- Response time(10%~90%): <1ms
- Insulation resistance: 100MΩ@100V DC
- Overpressure: 2 times FS

Construction Performance

- Diaphragm: Stainless steel 316L
- Housing: Stainless steel 316L
- Pin: Kovar
- O-ring: FKM
- Net weight: ~10g
- Oil filling: Silicone oil

Environmental Conditions

- Vibration: No change at 10gRMS, (20~2000)Hz
- Shock: 100g, 11ms
- Medium compatibility: The gas or liquid which is compatible with construction material and FKM

Basic Conditions

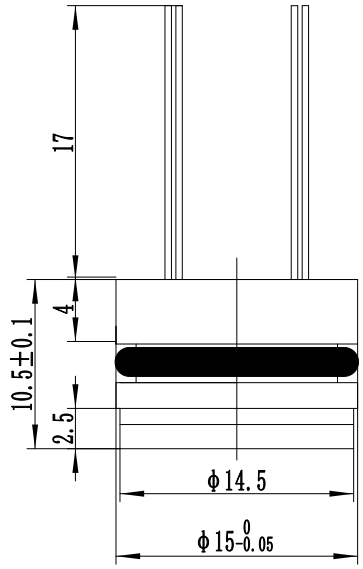
- Medium temperature: (35±1)℃
- Ambient temperature: (35±1)℃
- Vibration: 0.1g (1m/s^2) Max
- Humidity: (50±10) %RH
- Ambient pressure: (86~106)kPa
- Power supply: (1.5±0.0015) mA DC

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**			±2.0	mV DC
Output/Span***	50			mV DC
Zero thermal error		±0.75	±1.0	%FS, @35℃
Span thermal error		±0.75	±1.0	%FS, @35℃
Compensation temp. range	0 ~ 70			℃
Operating temp. range	-40 ~ 125			℃
Storage temp. range	-40 ~ 125			℃
Long-term stability error	±0.2			%FS/Year

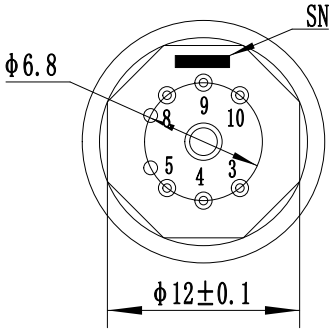
* Testing at basic condition
** Zero output for closed loop sensor
*** Output/Span=full scale output - zero point

Outline Construction (Unit: mm)



The recommended installation dimension is $\Phi 15^{+0.05}_{+0.02}$ mm

Electrical Connection



Pin	Definition
4	-OUT
5	-IN
8	+IN
9	+OUT

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

Order Guide

MPM285-08-G-F-L-1

Range code	Pressure range	Ref.
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

Code	Pressure type
G	Gauge
A	Absolute
S	Sealed gauge

Code	Electrical connection
1	Kovar pin
2	100mm silicone wires

Code	Compensation
L	Temperature compensation (1.5mA excitation)
M	Compensation resistor (1.5mA excitation)

Code	Sealing
F	FKM O-ring

Notes

1. The default unit of the product is kPa. 1kPa=0.01bar.
2. It is recommended that the sensor be assembled as a "suspended" construction to avoid direct pressure on its face and affecting sensor stability.
3. Protect the isolated diaphragm to prevent any damage or low performance.
4. 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.