MPM281VC Voltage Compensated OEM Pressure Sensor

Introduction

MPM281VC OEM sensor is the piezoresistive pressure sensor with constant voltage power supply and standard output. The outline, installation dimension and sealing method of the general MPM281VC is strongly interchangeable, it is widely used for measuring pressure which is compatible with stainless steel and Viton, it also can meet the requirement of installation with limited space.

Electrical Performance

- Power supply: ≤10V DC
- Electrical connection: Kovar pin
- Common mode voltage output: 50% input (typ.)
- Input impedance: 4kΩ~25kΩ
- Output impedance: 3.5kΩ~6kΩ
- Response:(10%~90%): <1ms
- Insulation resistor: 100MΩ,100VDC
- Overpressure: 1.5 times FS

Construction Performance

- Diaphragm: stainless steel 316L
- Housing: stainless steel 316L
- Pin: Kovar
- O-ring: Viton
- Net weight: ~11g

Features

- Constant Voltage Power Supply, Standard Output
- International Famous chips; Laser trimming
- Pressure range 0kPa~35kPa…100MPa
- Gauge,sealed gauge and absolute
- Isolated construction, enable to measure various media
- Φ19mm standard OEM pressure sensor
- Full stainless steel 316L

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

Environment Condition

- 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/s2)Max.
- Max Humidity: (50%±10%)RH
- Local air pressure: (86~106)kPa
- Power supply: (10±0.1)V DC

Specification

Specification*	Min.	Typ.	Max.	Units
Linearity		±0.2	±0.3	%FS,BFSL
Repeatability		±0.05	±0.075	%FS
Hysteresis		±0.05	±0.075	%FS
Zero Output**			±3	mV DC
FS Output	98	100	102	mV DC
Zero thermal error		±0.75	±1.0	%FS,@35℃
FS thermal error		±0.75	±1.0	%FS,@35℃
Compensated temp. range	0~70			℃
Working temp. range	-40~125			℃
Storage temp. range	-40~125			℃
Stability error	±0.2			%FS/year
*Test at the basic condition, G: Gauge **Closed-loop products				

Outline Construction (Unit: mm)
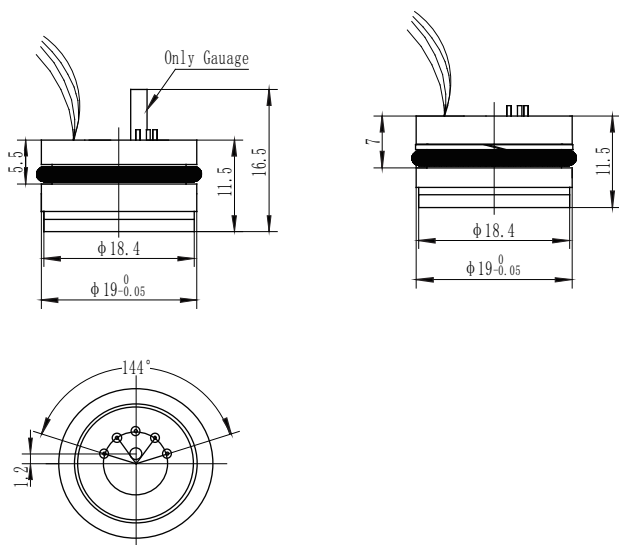
The suggested installation dimension is Φ19 $^{+0.05}_{+0.02}$ mm

Electrical Connection

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

Order Guide

MPM281VC		Piezoresistive OEM Pressure Sensor					
		Range Code	Pressure Range	Ref.	Range Code	Pressure Range	Ref.
		0A	0kPa~35kPa	G	13	0MPa~3.5MPa	G.A.S
		03	0kPa~100kPa	G.A	14	0MPa~7MPa	S.A
		07	0kPa~200kPa	G.A	15	0MPa~10MPa	S.A
		08	0kPa~350kPa	G.A	17	0MPa~20MPa	S.A
		09	0kPa~700kPa	G.A	18	0MPa~3.5MPa	S.A
		10	0MPa~1MPa	G.A	19	0MPa~70MPa	S.A
		12	0MPa~2MPa	G.A	20	0MPa~100MPa	S.A
			Code	Pressure Type			
			G	Gauge			
			A	Absolute			
			S	Sealed Gauge			
				Code	Pressure Connection		
				0 or Null	O-ring		
					Code	Temperature compensation	
					L	Laser trimming	
						Code	Electrical connection
						2*	100mm silicon rubber flexible wires
MPM281VC		03	G	0	L	2	The whole spec.

*The default code for electrical connection is "1"on the parameter card. And it is also allowed to print code "1" if the electrical connection is flexible wire (original code "2"). The wire length shall be as per customers' request on the contact.

Notes

1.We suggest you to use Suspended 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. Sensor standard components fluorine rubber O-ring temperature range is -20 ℃ ~250 ℃ , when the sensitive component operating temperature range below -20℃ or the user needs to use sensor at rugged environment, please contact our company freely.