

MPM3801 Digital Output Pressure Sensor



Features

- Gauge, absolute, sealed gauge
- Isolated construction, enable to measure various liquid
- Standard sensor dimension, wide range of applications

Application

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

Introduction

MPM3801 Digital Output Pressure Sensor is the OEM piezoresistive pressure sensor with 316L stainless steel corrugated diaphragm and isolated oil-filling construction. The sensing package utilizes silicone oil to transfer pressure from the 316L stainless steel diaphragm to the sensing die. The pressure is transformed to analog electric signal. By customized integrated circuit for temperature compensation and non-linearity correction, it outputs pressure data and temperature data conforming to I²C interface protocol or SPI interface protocol. With digital normalized output and low power consumption, it is convenient to connect to various devices, and has strong applicability. It is widely used for various liquid pressure measurement which is compatible with stainless steel and Viton.

Specifications

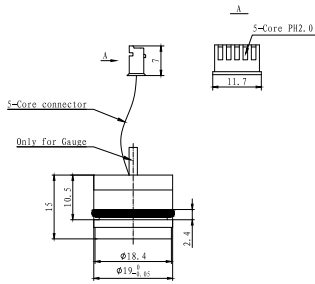
- Range: 0bar~0.07bar/0.2bar/0.35bar/0.7bar/1bar/2bar/3.5bar/5bar/7bar/10bar/16bar/20bar/35bar/70bar/100bar/200bar/350bar/700bar/1000bar
- Pressure Type: Gauge/ Absolute/Sealed Gauge
- Overpressure: 1.5FS or 1100bar (min. value is valid)
- Accuracy: $\pm 0.25\%$ FS (typ.); $\pm 0.5\%$ FS (max.)
- Output Digital Value: 1638 (zero)~14746 (span)
- Output Digits: 14 digits (max. 16383)
- Power Supply: 3.3 ± 0.1 V DC(default); 5 ± 0.1 V DC
- Power Consumption: 5uA (standby mode) @25°C
- Long Term Stability: $\pm 0.2\%$ FS/year
- Working Temperature: -20°C~80°C
- Storage Temperature: -40°C~125°C
- Compensation temperature:-10°C~50°C
- Shock: 10g, 20Hz~2000Hz
- Impact:100g, 11ms

Note

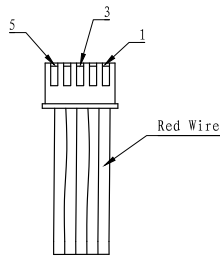
Accuracy is $\pm 1\%$ when pressure is ≤ 0.35 bar,Accuracy is $\pm 0.5\%$ when pressure is ≥ 70 bar.

Sensor pressure output is 14-digit, the max. output digital value is 16383, but in order to leave a certain overpressure value, the upper and lower limits of the digital quantity are left 10% each, the zero and full values are 1638 and 14746.

Outline Construction (Unit: mm)



Electrical Connection



Wire number (red: 1)	Electrical connection (I ² C)	Electrical connection (SPI)
1	V-	V-
2	V+	V+
3	SCL	SCLK
4	SDA	MISO
5	NULL	SS

Order Guide

MPM3801	Digital Output Pressure Transducer					
	Range	Range: 0bar~0.07bar/0.2bar/0.35bar/0.7bar/1bar/2bar/3.5bar/5bar/7bar/10bar/16bar/20bar/35bar/70bar/100bar/200bar/350bar/700bar/1000bar				
	[0~X]bar	X: actual measured range				
		Code	Power Supply			
		3	(3.3±0.1)V DC (default)			
		5	(5±0.1)V DC			
		Code	Communication interface			
		C	I ² C			
		D	SPI			
		Code	Pressure Type			
		G	Gauge (Range≤35bar)			
		A	Absolute (Range≥0.7bar)			
		S	Sealed Gauge (Range≥35bar)			
MPM3801	[0~X]bar	3	C	G	the whole spec.	

Notes

- Please pay attention that the measured media shall be compatible with contacted parts.
- The sensor has temperature output which is a reference value. The reference precision is $\pm 1.5\text{ }^{\circ}\text{C}$ (@ constant temperature condition), If the sensor range $\geq 70\text{bar}$, no temperature output.
- For special requirements, please contact us and make note in purchase order.