

MPM3801A Digital Pressure Transmitter



Feature

- Standard structure for general applications
- Weldable or threaded process fittings
- Low power consumption
- I²C or SPI interface protocols
- Gauge, Absolute and Sealed gauge

Introduction

The MPM3801A digital pressure transmitter adopts the MPM3801 stainless steel oil-filled sensor as the sensing element, has the stainless-steel housing. Its wetted material is stainless steel, which has excellent corrosion resistance and long-term stability. The sensor is temperature compensated to ensure that the technical parameters such as Zero Point, sensitivity, linearity and stability are well maintained within the operating temperature range.

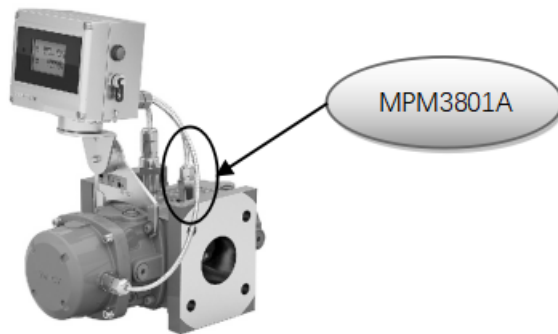
MPM3801A digital pressure transmitter includes two versions: Type I and Type II. Type I is the complete transmitter, mostly used in end-user equipment. Its structure is compact and easy to be installed. It is widely used in process control and pressure and liquid level measurement in petrochemical industry, Internet of Things, electric power, aviation, aerospace, textile, building materials, hydrogeology, etc.

Type II consists of MPM3801 digital pressure sensor with weldable or threaded process fittings, uses end face seal or waterline seal. Its flexible structure is specially used development of pressure instruments. It is widely used in IoT, petroleum and petrochemical industries etc.

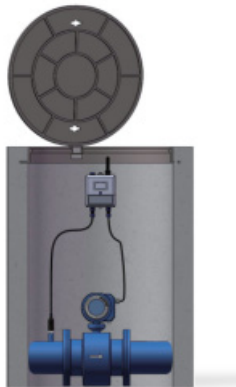
Application

Type I

It is widely used in flow meters, IoT, natural gas, electric power, petrochemical and other industries etc. It is used in near field or on-board communication equipment. It supports standard I²C or SPI interface protocol, easy operation, suitable for general applications.



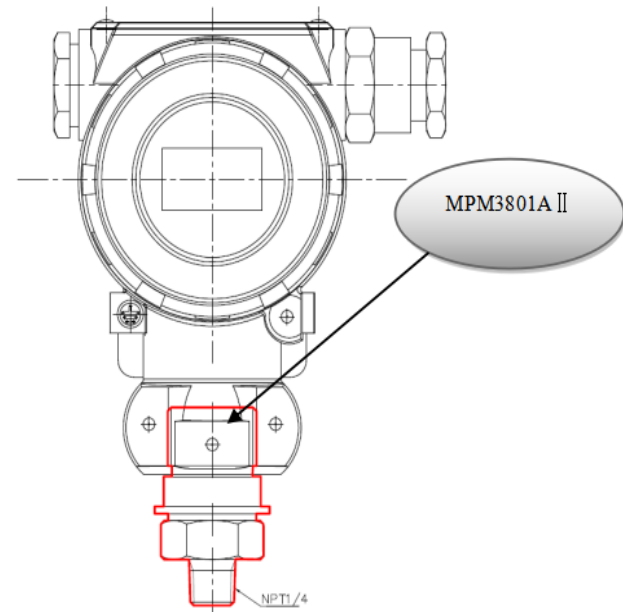
MPM3801A I Used in flowmeter



MPM3801A I used in IoT

Type II

It is normally used in the standard explosion-proof instruments and other general instruments. The sensor with mounting thread makes the installation easy and quick. The sensor has the standard digital signal output and each sensor goes through the strict calibration and inspection before shipment, does not need re-calibration, and has low power consumption, therefore can be used for battery-powered wireless products.



MPM3801A II Used in the pressure instruments



Explosion-proof Pressure Transmitter



Wireless Pressure Transmitter

Measured Ranges

Table 1

Gauge	Absolute	Sealed Gauge	Overpressure	Accuracy
0~0.07bar	0~0.07bar		1.5×FS	±1%FS
0~0.2bar	0~0.2bar			
0~0.35bar	0~0.35bar			
0~0.7bar	0~0.7bar		1.5×FS	±0.5%FS
0~1bar	0~1bar			
0~2bar	0~2bar		1.5×FS	±0.25%FS
0~3.5bar	0~3.5bar			
0~5bar	0~5bar			
0~7bar	0~7bar			
0~10bar	0~10bar			
0~16bar	0~16bar			
0~20bar	0~20bar			
0~35bar	0~35bar	0~35bar		
	0~70bar	0~70bar		
	0~100bar	0~100bar		
	0~200bar	0~200bar	1.5×FS	±0.5%FS
	0~350bar	0~350bar		
	0~700bar	0~700bar		
	0~1000bar	0~1000bar		
	0~1000bar	0~1000bar		

Specifications

Range: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:1.5 times or 110MPa(min)

Accuracy ① :±0.25%FS, ±0.5%FS, ±1%FS

Temperature accuracy: ±1.5℃ (Ambient Temperature)

Digital output ② : 1638(Zero)~14746(Span)

Wetted material: Stainless Steel 304/316L and Viton O-ring

IP rating: IP65

Output Bits: 14 bits (Max. digital counts 16383)

Power: 3.3V±0.1V DC(Default);5V±0.1V DC

Consumption:5uA(Ready mode)@25℃

Long-term Stability: ±0.2%FS/year

Working Temperature:-20℃ ~80℃

Storage Temperature:-40℃ ~80℃

CompensationTemperature: -10℃ ~50℃

Shock:10g, 20Hz~2000Hz

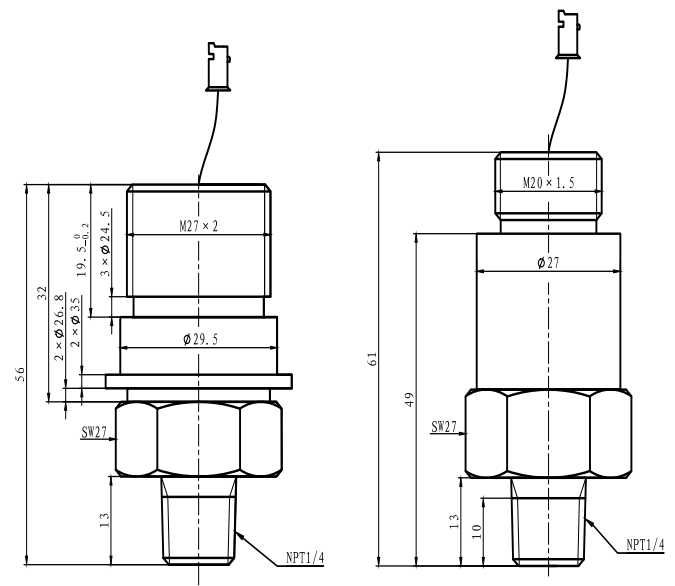
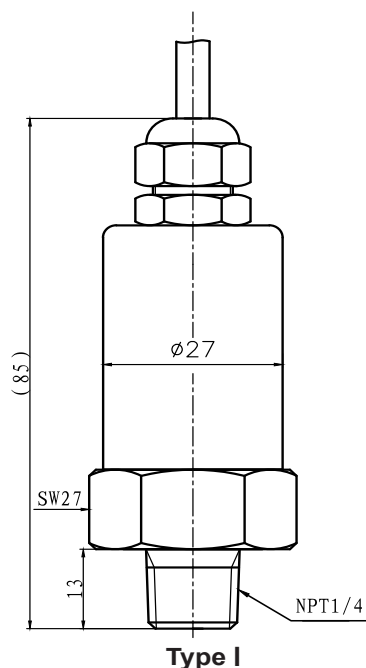
Impact:100g, 11ms·

Cable Length: ≤2m

①: Pressure measurement accuracy refers to Table 1

②: The sensor has 14-bit pressure output, and the maximum digital output count is 16383, but take 10% and 90% of the full digital count as the Zero and Span output respectively, namely the Zero digital count is 1638 and Span digital count is 14746.

Outline Construction



Type II

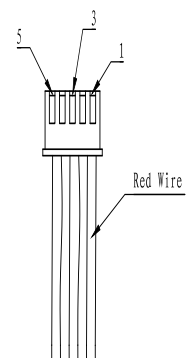
Electrical Connection

MPM3801A I Digital Pressure Transmitter

Color	I2C	SPI
Black	V-	V-
Red	V+	V+
Green	SCL	SCLK
White	SDI	MISO
Yellow	Null	SS

MPM3801A II Digital Pressure Transmitter

PIN	I2C	SPI
1(RED)	V-	V-
2	V+	V+
3	SCL	SCLK
4	SDI	MISO
5	Null	SS



Order Guide

MPM3801A		Digital Pressure Transmitter						
	Range	0~0.07bar/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	Structure					
		I	Transmitter					
		II	Sensor+Fitting					
		Code	Supply Voltage					
		3	3.3V±0.1V DC(Default)					
		5	5V±0.1V DC					
		Code	Protocol					
		C	I2C					
		D	SPI					
		Code	Pressure Type					
		G	Gauge					
		A	Absolute					
		S	Sealed Gauge					
		Code	Pressure Connection					
		C1	M20×1.5 Male,face seal					
		C2	G1/4 Male					
		C3	G1/2 Male,face seal					
		C5	M20×1.5 Male,waterline seal					
		C6	NPT1/4 Male					
		H1	M27×2 Male	Top mount thread, for Type II only				
		H2	M27×1.5 Male					
		H3	M20×1.5 Male					
MPM3801A	[0~X]bar	I	3	C	G	C2	Full part number	
MPM3801A	[0~X]bar	II	3	C	G	C2H1	Full part number	

Order Notes

- 1.Cable length ≤2m;
- 2.Please note the measured media is compatible with the wetted material;
- 3.For special requirements, please contact the company.