Pressure Transmitter for Building Automation

MPM4503

Features

- MSG (microfused silicon strain gauge) technology; overpressure and water hammer resistant
- Compact design; cost-effective; wide applications
- Temperature compensation and linear correction

Application

- Energy and water treatment systems
- Building automation systems
- Smart IoT solutions
- VFD constant pressure water supply
- Compressors

Introduction

MPM4503 Pressure Transmitter is a cost-effective measuring instrument for reliable pressure measurement. It features a silicon microfused sensitive element combined with an amplified circuit with linear correction and temperature compensation. The stainless steel diaphragm provides excellent resistance to sudden overpressure and ensures stable performance under various operating conditions. Produced on an automated production line with controlled specifications, each unit undergoes strict component, semi-finished, and finished product testing and aging to guarantee high consistency and long-term stability.

Specification

1. Basic specifications

Pressure Range	0MPa ～ 1MPa…5MPa
Overpressure	≤ 1.5×FS
Burst pressure	≤ 5×FS (Max 10MPa)
Pressure Type	Gauge, Sealed gauge
Accuracy	≤ ±1%FS
Long-term stability	< 0.3 %FS/year
Compensated temperature	0°C～ 70°C
Operating temperature	-10°C～ 80°C
Storage temperature	-40°C～ 100°C
Vibration	5g, 10Hz ～ 500Hz (GB/T2423.10/IEC60068-2-6)
Shock	10g, 11ms (GB/T2423.5/IEC60068-2-27)
Insulation resistance	100MΩ, 500V DC
IP rating	IP65
	IP68 (5 meters under room temperature water, 24 hours)
Weight	≤ 60g

2.Output signals

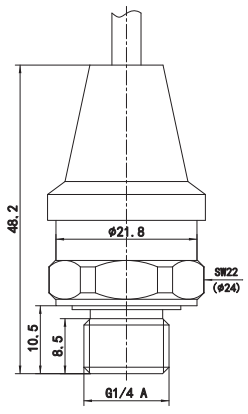
Output Signal	Supply voltage	Output configuration	Load Resistance	Transmission Distance
4mA ～ 20mA DC	10V ～ 28V DC	2-wire	≤ (U-10)/0.02(Ω)	< 1000m(@24V DC, 250Ω load)
0.5V ～ 4.5V DC	5V±0.1V DC	3-wire	≥ 10kΩ	≤ 5m
0.5V ～ 2.5V DC				
0.5V ～ 2.5V DC	3.3V±0.1V DC			

EMC

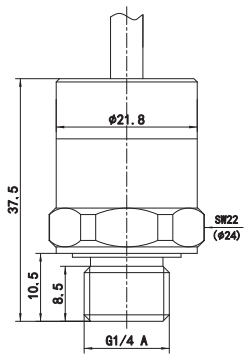
No.	Test Item	Standard
1	Electrostatic discharge immunity test	GB/T 17626.2/IEC 61000-4-2
2	Radiated, radio-frequency, electromagnetic field immunity test	GB/T 17626.3/IEC 61000-4-3
3	Power frequency magnetic field immunity test	GB/T 17626.8/IEC 61000-4-8
4	Electrical fast transient/burst immunity test (power port)	GB/T 17626.4/IEC 61000-4-4
5	Surge immunity test (power port)	GB/T 17626.5/IEC 61000-4-5
6	Immunity to conducted disturbances, induced by radio-frequency fields (power port)	GB/T 17626.6/IEC 61000-4-6

Outline Construction

(Unit:mm)



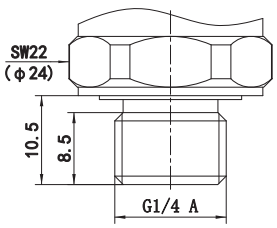
IP65 protection class



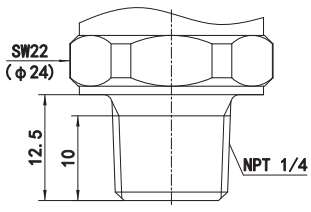
IP68 protection class

Process Connection

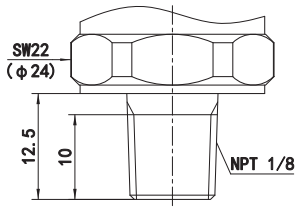
(Unit:mm)



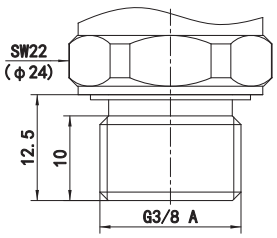
C2（G1/4 Male, face seal）



C6（NPT1/4 Male）



C7（NPT1/8 Male）



C16（G3/8 Male, face seal）

Electrical Connection

Color	2-wire	3-wire
Red	+V	+V
Green	Null	+OUT
Black	OV/+OUT	GND

Construction Material

Wetted part

Isolated diaphragm: SS 17-4PH

Pressure port: SS 304

O-ring: FKM/NBR

Non-Wetted part

Cable: Φ5mm PVC 3-core dedicated cable

Order Guide

MPM4503	Pressure Transmitter							
Range	Measuring range: 0MPa ～ 1MPa…5MPa							
[0 ～ X]MPa	X：actual measurement range							
	Code	Electrical Connection						
	B2	Cable						
		Code	Output Signal					
		E	4mA ～ 20mA DC					
		K	0.5V ～ 4.5V DC					
		W	0.5V ～ 2.5V DC					
			Code	Power Supply				
			V6	5V±0.1V DC (for output signals K, W only)				
			V7	3.3V±0.1V DC (for output signals W only)				
			V22	10V ～ 28V DC (for output signals E only)				
				Code	Process Connection			
				C2	G1/4 Male, face seal			
				C6	NPT1/4 Male			
				C7	NPT1/8 Male			
				C16	G3/8Male, face seal			
					Code	IP rating		
					IP65	IP65		
					IP68	IP68 (submersible to 5m for 24 hours at ambient temperature)		
						Code	Cable length (unit: m)	
						L0D5	0.5	
						L001	1	
						L1D5	1.5	
						L002	2	
						L003	3	
						L005	5	
						L008	8	
						L010	10	

MPM4503	[0 ～ 1]MPa	B2	E	V22	C2	IP65	L0D1	The complete spec.

Notes

1. Please pay attention that the measured medium shall be compatible with the material of wetted parts; The maximum torque applied during the disassembly of the transmitter is 20N•m ~ 25N•m.
2. I²C output is available upon request. Please contact MICROSENSOR for customization.
3. For other special requirements, please contact MICROSENSOR and specify them in the order.