

MPM489FL Piezoresistive Analog Output Pressure Transmitter



Features

- Reliable performance, easy application
- Short protection and reverse polarity protection
- Reference pressure: gauge, absolute and sealed gauge
- Fluorocarbon oil-filled sensor element and oil-control process
- Intrinsic safe version, conforming to Standard GB3836.4, and Exd certificate is approved.
- Exd version, conforming to Standard GB3836.2, and Exd certificate is approved.
- Ship-use product conforming to CCS Rules of Classification of Sea-going Steel Ships (2018)
- CE, RoHS and ATEX approved

Introduction

MPM489FL is a newly developed pressure transmitter which can meet the application requirements of Oxygen pressure measurement. The cavity of sensor element is filled with Fluorocarbon oil, the oil-control process is applied in production and the transmitter is cleaned in accordance with the Oxygen Clean Class. It adopts a full stainless-steel housing and an integrated structure. The zero and sensitivity of the sensor are compensated with a wide temperature range, and it has cable and plug connections.

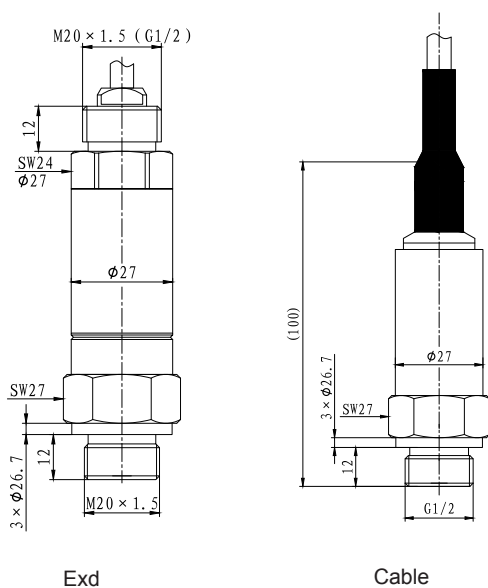
Specification

- Pressure range: -1bar...0bar~0.1bar...300bar
- Overpressure: ≤ 1.5 times FS
- Pressure type: gauge/ absolute / sealed gauge
- Power supply: 11V ~ 28V DC (2-wire); 3.3V/5V DC
- Output signal: 4mA ~ 20mA DC (2-wire)
0/1V ~ 5V/10VDC (3-wire)
0.5V ~ 2.5V/4.5VDC (3-wire)
- Load: $\leq (U-11)/0.02(\Omega)$ (2-wire); $\geq 10k$ (3-wire)
- Accuracy: $\pm 0.5\%$ FS
- Long term stability: $\leq \pm 0.3\%$ FS/year
- Zero thermal drift: $\pm 0.05\%$ FS/ $^{\circ}$ C (≤ 1 bar);
 $\leq 0.03\%$ FS/ $^{\circ}$ C (> 1 bar)
- Span thermal drift: $\pm 0.05\%$ FS/ $^{\circ}$ C (≤ 1 bar);
 $\leq 0.03\%$ FS/ $^{\circ}$ C (> 1 bar)
- Compensation temp : 0 $^{\circ}$ C ~50 $^{\circ}$ C
- Application temp :
 - -30 $^{\circ}$ C ~80 $^{\circ}$ C ; -20 $^{\circ}$ C ~60 $^{\circ}$ C (Exia, cable type);
 - -30 $^{\circ}$ C ~60 $^{\circ}$ C (Exia, plug type);
 - -20 $^{\circ}$ C ~60 $^{\circ}$ C (Exd); -10 $^{\circ}$ C ~70 $^{\circ}$ C (Cable)
- Storage temp. : -40 $^{\circ}$ C ~120 $^{\circ}$ C ; -20 $^{\circ}$ C ~85 $^{\circ}$ C (Cable)
- Power supply: 11V~28VDC; 11V~28VDC; 3.3/5V DC
- Electrical connection: DIN43650 plug or cable (1.5m)
- Process connection: M20*1.5 male (others available)
- Housing protection: IP65

Construction Material

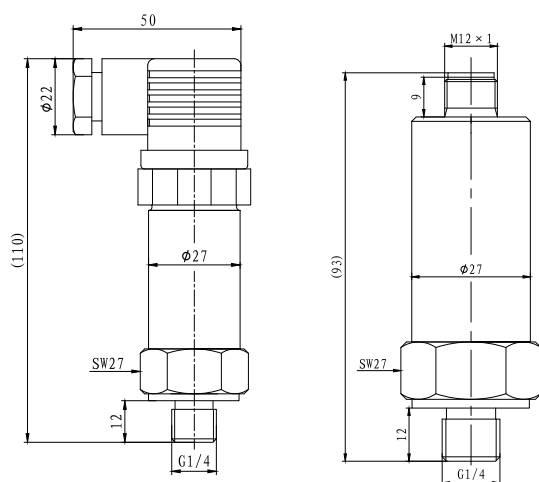
- Housing: stainless steel 304
- O-ring: Viton
- Sensor housing: stainless steel 304
- Plug housing: plastic
- Diaphragm: stainless steel 316L
- Cable: $\Phi 7.5\text{mm}$ Polyethylene Special Cable

Outline Construction (Unit: mm)



Exd

Cable

B₁ PlugB₄ Plug

Electrical Connection

The transmitter and the external circuit are electrically connected through DIN43650 imported explosion-proof plug or cable.

B₁ Plug Connection

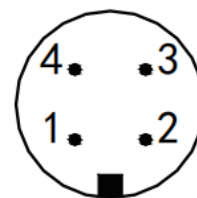
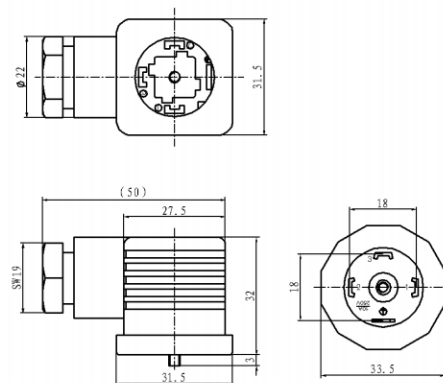
Pin	2-wire	3-wire
1	+V	+V
2	+OUT	GND
3	Null	+OUT

Exd And Cable Connection

Wire color	2-wire	3-wire
Black	+V	+V
Red	0V	+OUT
White	Null	GND

B₄ M12x1 Plug Connection

Pin	2-wire	3-wire
1	+V	+V
2	Null	GND
3	+OUT	+OUT

B₄ M12x1 Plug ConnectionB₁ Plug Connection

Order Guide

MPM489FL		Pressure Transmitter				
	Range	Pressure range: -1bar...0bar~0.1bar...300bar				
	[0~X]bar	X: the actual measured pressure				
	Code	Power				
	V ₁	24V DC				
	V ₆	5V DC				
	V ₇	3.3V DC				
	Code	Output signal				
	E	4mA~20mA DC				
	F	1V~5V DC				
	J	0V~5V DC				
	V	0V~10V DC				
	W	0.5V~2.5V DC				
	K	0.5V~4.5V DC				
	Code	Construction material				
		Diaphragm	Pressure port	Housing		
	22	SS 316L	SS	SS		
	24	SS 316L	SS 316L	SS 316L		
	25	Tantalum	SS	SS		
	35	Tantalum	Hastelloy	SS		
	Code	Others				
	B ₁	4-pin Plug connection				
	B ₂	Cable connection				
	B ₄	M12×1 4-pin Plug connection				
	M ₆	4digits LED digital indicator(only for 4mA~20mA DC)				
	M ₇	4digits LCD digital indicator(only for 4mA~20mA DC)				
	i	Intrinsic safe version: Exia II CT6Ga				
	T	Ship-use				
	y	ATEX				
	d	Exd II CT6 Gb				
	C ₁	M20×1.5 male, face type seal				
	C ₂	G1/4 male				
	C ₃	G1/2 male				
	C ₆	NPT1/4 male				
	C ₁₅	R1/4 male				
	G	Gauge				
	S	Sealed gauge				
	A	Absolute				
MPM489FL	[0~1] bar	V ₁	E	22	B ₁ C ₁ G	the whole spec.

Notes

1. Please pay attention that the media should be compatible with the wetted parts.
2. If the ordered products require a metrological verification certificate, or other special requirement, please feel free to contact us and remark your requirement in the order.
3. Please pay attention that the intrinsic safe version and ship-use product do not include digital indicator M6 or M7; and please notice the power supply of the transmitter shall be no less than 20V DC if it has M6 or M7 indicator.
4. For 24V DC power supply (V1), please check the supply range in "Specification".
5. Please notice the cable length should be less than 10m if the transmitter is powered by 3.3V/5V DC. The power supply is 15V~28V DC for 0V~10V DC product.
6. For 3.3V DC power supply (V7), output can only be W(0.5V~2.5V DC); For 5V DC power supply (V6), output can be W(0.5V~2.5V DC) or K(0.5V~4.5V DC), the suggested output is K.