

MPM480 Piezoresistive Pressure Transmitter

Features

- Wider pressure range;
- Full stainless steel construction; optional pressure port; flush diaphragm type, sanitation type and anti-corrosive type are available; protection IP65;
- Optional output signal; local calibration and displayable;
- Reversed-polarity, transient current & voltage protection, which conform to EMI standard;
- Intrinsic safe ex-proof version conforming to GB3836.4 Exia II CT6 Regulation; Ex-proof Certificate is issued;
- EXD product conforming to GB3836.2 Exd II CT6 Regulation; EXD Certificate is issued;
- Ship-use product conforming to CCS Rules of Classification of Sea-going Steel Ships (2006) ; Ship-use Certificate is issued;
- CE and RoHS Certificates;
- National patent, patent No.: ZL002 26957.0



Introduction

MPM480 transmitter uses piezoresistive OEM pressure sensor with isolated stainless steel diaphragm as signal sensing element, through automatic testing, laser trimming compensating zero and sensitivity in wider temperature range; the amplifier circuit is in stainless steel housing, transforming sensor signal into standard output signal. Through strict component making, semi-finished product and all-finished product testing and aging, the transmitter is stable and reliable, having excellent flexibility, sensitivity and diversity. The product is widely used for pressure measure and control of petroleum, chemi-industry, metallurgy, power station and hydrology, etc.

Specification

Pressure range: -0.1...0~0.01...100MPa

Overpressure: 1.5 times FS or 110MPa (min. value is valid)

Pressure type: gauge, absolute or sealed gauge

Accuracy: 0.25%FS (typ.) 0.5%FS (max.)

Long-term stability: 0.2%FS/year (typ.) 0.3%FS/year (max.)

Zero temp. drift: 0.03%FS/°C ($\leq 100\text{kPa}$); 0.02%FS/°C ($> 100\text{kPa}$)

<http://www.microsensor.cn>

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FS temp. drift: 0.03%FS/°C (≤100kPa); 0.02%FS/°C (>100kPa)

Operation temp. -30°C~80°C

Storage temp.: -40°C~120°C

Power supply:	15~30VDC	15~28VDC	15~28VDC
Output signal:	4~20mADC	0~10/20mADC	0/1~5/10VDC
Transmitting:	2-wire	3-wire	3-wire
Load:	≤ (U-15) /0.02Ω	≤ (U-15) /0.02Ω	>5k

Protection: IP65 for both cable and plug connection

Electric connection: Plug connection or 1.5m cable connection

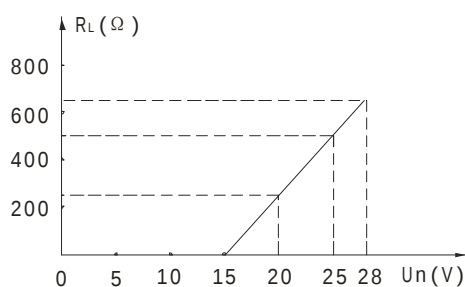
Housing: stainless steel 1Cr18Ni9Ti

Diaphragm: stainless steel 316L

O-ring: Viton

Rubber casing: NBR

Load Characteristic



2-wire, 4~20mADC output,
3-wire, 0~10/20mADC output
15~28VDC power supply

$$R_L < \frac{U_n - 15V}{20mA} \times 10^3 (\Omega)$$

Outline Construction

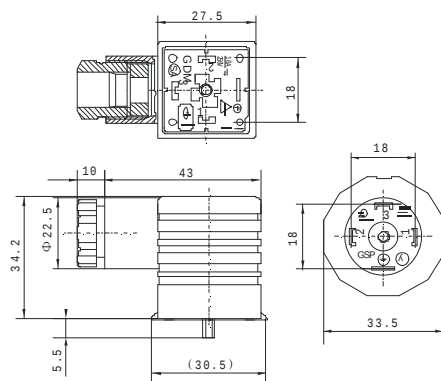
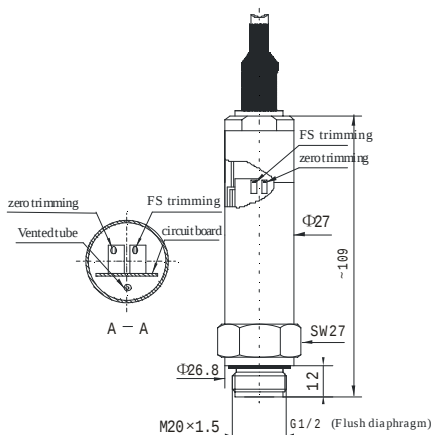
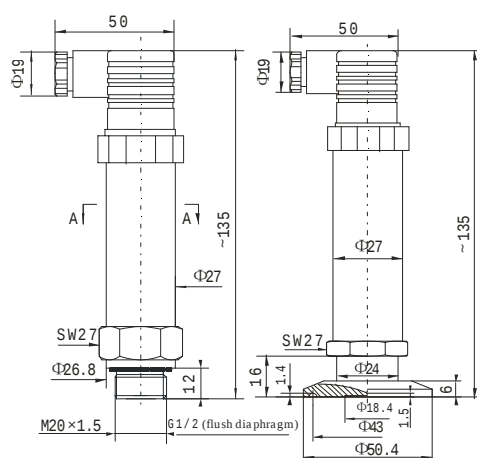
(Unit: mm)

Non-EXD Product Outline Drawing

B₁ Plug Connection Outline Drawing

B₂ Cable Connection Outline Drawing

Plug Outline and Arrangement



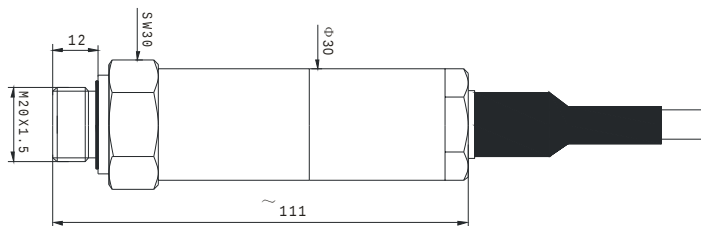
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EXD Product Outline Drawing



Electric Connection

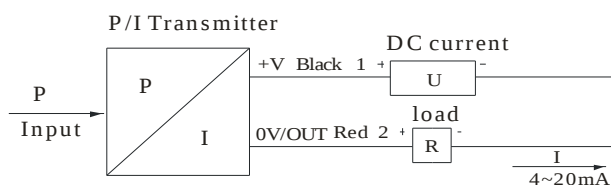
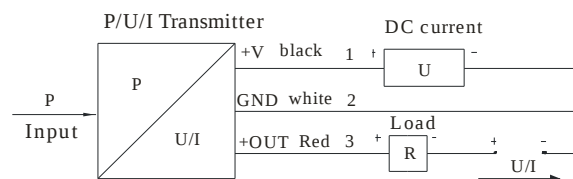
Plug Connection Wiring

Pin	2-wire	3-wire
1	(+V)	(+V)
2	(0V/+OUT)	(GND)
3	Null	(+OUT)

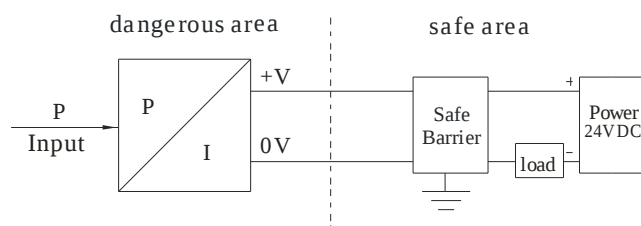
Cable Connection Wiring

Color	2-wire	3-wire
Black	(+V)	(+V)
Red	(0V/+OUT)	(+OUT)
White	Null	(GND)

Electric Connection for transmitter output 2-wire 4~20mAD


Electric Connection for transmitter 3-wire 0/1~5VDC,
0~10/20mADC


Electric Connection for Ex-proof transmitter (Intrinsic safe system 2-wire 4~20mADC)



Transmitter Ex-proof parameter:

 $U_i \leq 28VDC$ $I_i \leq 93mADC$
 $L_i \approx 0.1mH$ $C_i \approx 0.02\mu F$
 $P_i \leq 0.65W$

Safe barrier's ex-proof parameter:

 $U_o \leq 28VDC$ $I_o \leq 93mADC$
 $P_o \leq 0.65W$

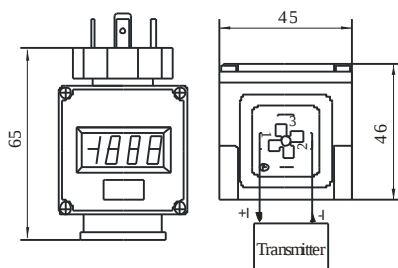
Operation introduction for transmitter with indicator (2-wire 4~20mADC)

<http://www.microsensor.cn>

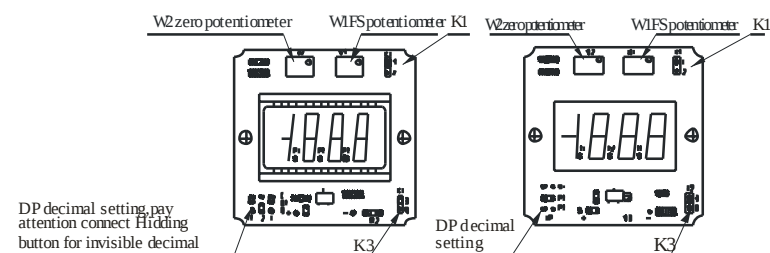
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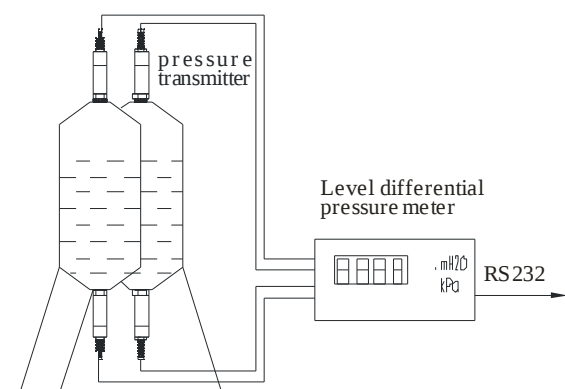
3 1/2 digit indicator outline



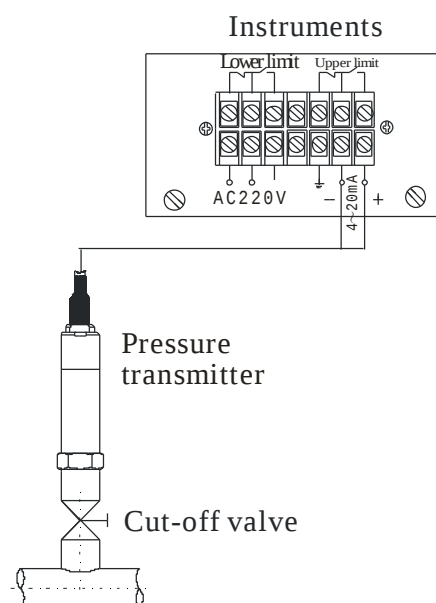
LCD indicator operation (M₃)

LED indicator operation (M₄)

Application Example



Flush diaphragm transmitter installed on beer tank to measure level



General transmitter installed on tube to measure pressure

Order Guide

MPM480		Piezoresistive Pressure Transmitter						
		Range		Pressure range: -0.1...0~0.01...100MPa				
		[0~X]kPa or MPa		X= actual measurement range				
				Code	Output signal			
				E	4~20mADC			
				F	1~5VDC			
				J	0~5VDC			
				Q	0~10mAC			
				U	0~20mAC			
				V	0~10VDC			
				Code	Construction material			
					Diaphragm	Pressure port	Housing	
					22	SS 316L	SS	SS
					25	Tantalum	SS	SS
					35	Tantalum	Hastelloy C	SS
				Code	Other			
					B ₁	Plug connection		
					B ₂	Cable connection cable length: 1.5m		
					P	Flush diaphragm: 0~70kPa...35MPa, G1/2 male		
					P ₃	Sanitationtype:-0.1...0 ~ 0.02...2MPa,DN25clamp connection		
					M ₃	31/2 digits LCD digital indicator (only for 4~20mA)		
					M ₄	31/2 digits LED digital indicator (only for 4~20mA)		
					i	Intrinsic safe version Exia II CT6		
					T	Ship-use		
					d	Exd II CT6		
					C ₁	M20×1.5 male, face type seal		
					C ₃	G1/2 male		
		C ₅	M20×1.5 male, waterline seal					
		G	Gauge					
		A	Absolute					
		S	Sealed gauge					

Order Note

1. Please pay attention that the media should be compatible with contacting material;
2. Please note in the order if the user needs zero pressure as negative pressure;
3. Please pay attention that Ex-proof, ship-use and Exid transmitters have no indicator provided;
4. Please pay attention for transmitter with LCD or LED, power supply is 20~30VDC;
5. If lightning possible happening, we suggest to use Lightning Protection Device in local operating place, and be sure product and power grounding safely;
6. If the user has special requirement, please feel free to contact our company.