

MPM480 Piezoresistive OEM Pressure Transmitter

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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

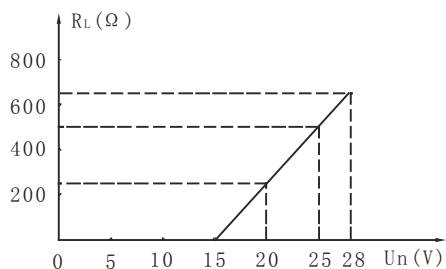
MPM480 transmitter uses piezoresistive OEM pressure sensor with isolated stainless steel diaphragm as signal sensing element, through automatic testing, laser trimming compensating zero and sensitivity in wider temperature range; the amplifier circuit is in stainless steel housing, transforming sensor 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

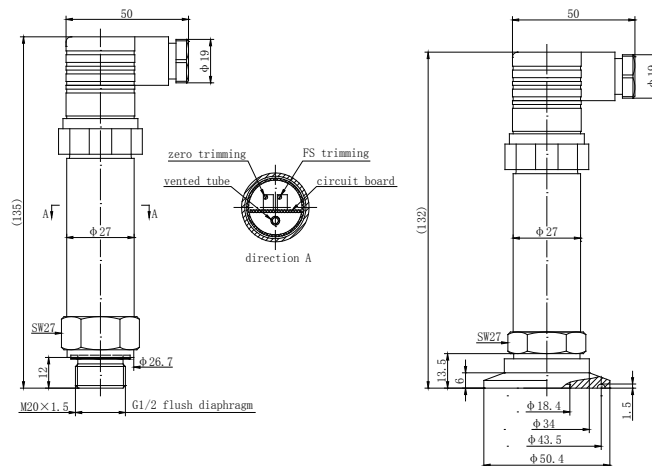
- Pressure range: $-0.1...0 \sim 0.01...100\text{MPa}$
- Overpressure: 1.5 times FS or 110MPa(min. value is valid)
- Pressure type: gauge, absolute or sealed gauge
- Accuracy: 0.25%FS(typ.)
0.5%FS(max.)
- Long-term stability: 0.2%FS/year(typ.)
0.3%FS/year(max.)
- Zero temp. drift: 0.03%FS/°C ($\leq 100\text{kPa}$);
0.02%FS/°C ($> 100\text{kPa}$)
- FS temp. drift: 0.03%FS/°C ($\leq 100\text{kPa}$);
0.02%FS/°C ($> 100\text{kPa}$)
- Operation temp.: $-30^{\circ}\text{C} \sim 80^{\circ}\text{C}$
- Storage temp.: $-40^{\circ}\text{C} \sim 120^{\circ}\text{C}$
- 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: $\leq (U-15)/0.02\Omega$ $\leq (U-15)/0.02\Omega$ $> 100\text{k}$
- 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

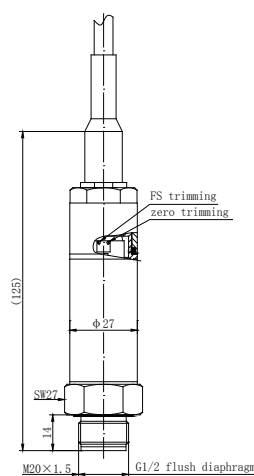
- 2-wire, 4~20mADC output,
- 3-wire, 0~10/20mADC output
- 15~28VDC power supply
- $R_L < (U_n - 15) / 0.02 \text{ (}\Omega\text{)}$



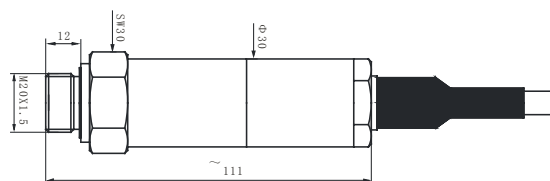
Outline Construction (Unit: mm)



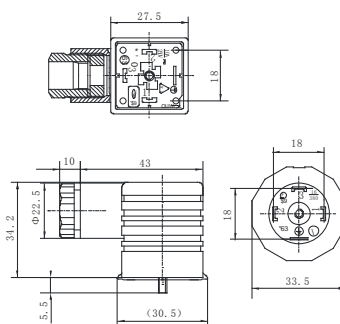
B1 Plug Connection Outline Drawing



B2 Cable Connection Outline Drawing



EXD Product Outline Drawing



Plug Outline and Arrangement

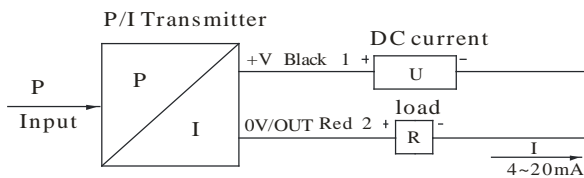
Electrical Connection

Plug Connection:

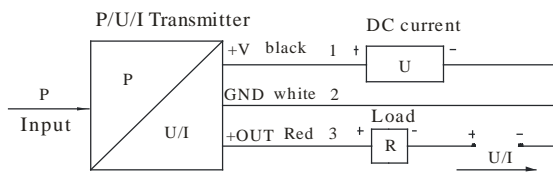
| Pin | 2-wire | 3-wire |
|-----|---------|--------|
| 1 | +V | +V |
| 2 | 0V/+OUT | GND |
| 3 | Null | +OUT |

Cable Connection:

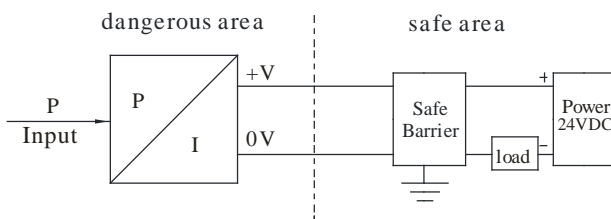
| Wire color | 2-wire | 3-wire |
|------------|---------|--------|
| Black | +V | +V |
| Red | 0V/+OUT | +OUT |
| White | Null | GND |



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



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



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

Transmitter Ex-proof parameter:

Ui: 28VDC li: 93mADC

Li: 0mH Ci: 0.044uF

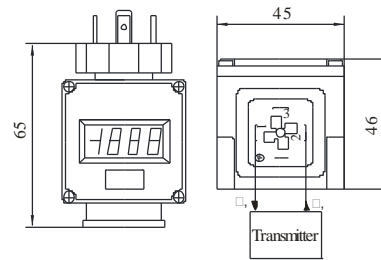
Pi: 0.65W

Safe barrier's ex-proof parameter:

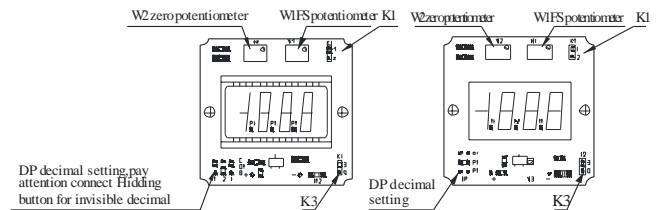
Uo: 28VDC lo: 93mADC

Po: 0.65W

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

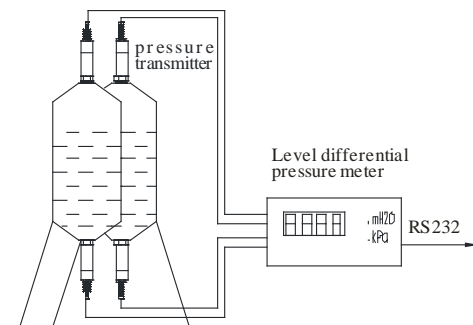


3 1/2 digit indicator outline

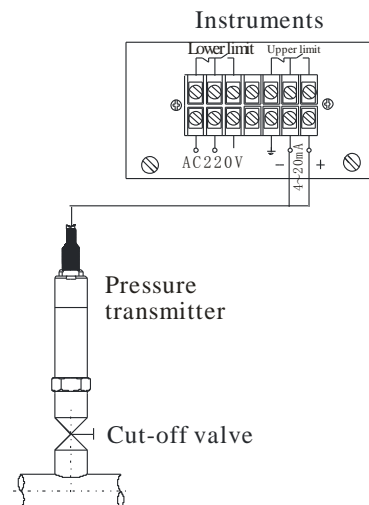


LCD indicator operation (M3) LCD indicator operation (M4)

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 pressure 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 | |
| 24 | | SS 316L | SS 316L | SS 316L | |
| 25 | | Tantalum | SS | SS | |
| 35 | | Tantalum | Hastelloy C | SS | |
| Code | | Other | | | |
| B ₁ | | Plug connection | | | |
| B ₂ | | Cable connection cable length: 1.5m | | | |
| PC ₁ | | Flush diaphragm, M20×1.5 male | | | |
| PC ₃ | | Flush diaphragm, G1/2 male | | | |
| P ₃ | | Sanitation type: -0.1...0~0.02...2MPa, DN25 clamp connection | | | |
| M ₃ | | 3 1/2 digits LCD digital indicator (only for 4~20mA) | | | |
| M ₄ | | 3 1/2 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 | | | |
| MPM480 | [0~100]kPa | E | 22 | B ₁ PC ₃ G | the whole spec |