

MPM416WRK Submersible Level Transmitter



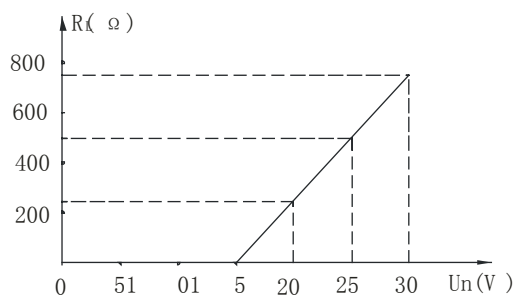
Features

- Separate construction; full sealed stainless steel construction for submersible/inserted sensor; aluminum-alloy electric connection box; easy for installation, wiring and calibration;
- MPM416WRK is full welded, stainless steel flexible tube armoured;
- Explosion-proof version product conforms to Exia II CT6 of Standard GB3836.4; Explosion-proof Certificate is issued
- Ship-use product conforms to CCS Rules of Classification of Sea-going Steel Ships(2006); Ship-use Product Certificate is issued;
- CE Certificate

Introduction

MPM416WRK Submersible Level Transmitters use high performance piezoresistive pressure sensor as sensing elements. It measures liquid static pressure accurately which is positive proportional to liquid depth, transmitting pressure signal into standard current/voltage output signal by amplifier circuit board. The product has high accuracy, compact size and easy operation characteristics, and it can be submersible into the liquid to measure level from transmitter bottom to liquid surface. It is widely used for the liquid measure and control of both petroleum, chemi-industry, power station, city water supply and drainage and hydrology.

Load Characteristic



2-wire

4mA~20mADC output

15V~30VDC power supply

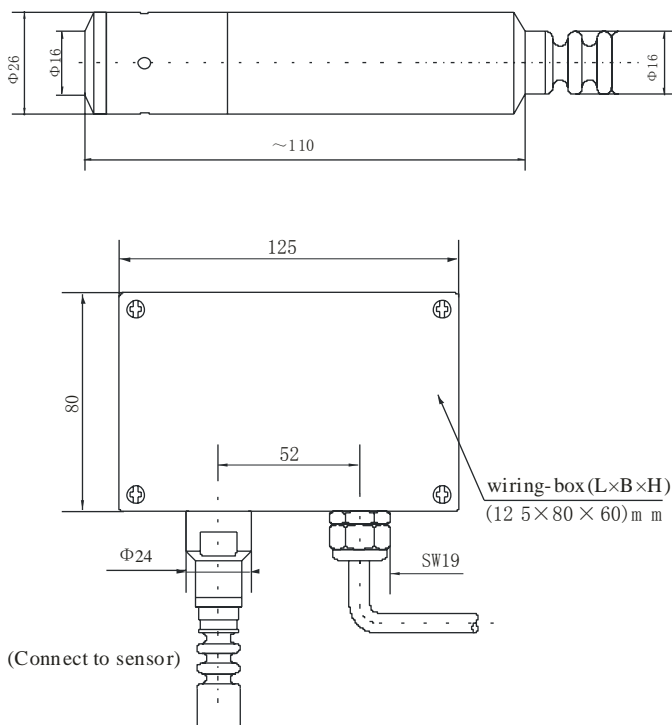
$$R_L \leq \frac{U_n - 15V}{20mA} \times 10^3 (\Omega)$$

Specifications

| | | | | |
|--------------------------------|---|---------------------|--------------------|--------------------------|
| Pressure range | 1, 2, 5, 10, 20mH ₂ O | | | |
| Overpressure | 1.5times FS | | | |
| Accuracy | ±0.25%FS(typ.) ±0.5%FS(max.) | | | |
| Stability error | ±0.1%FS(typ.) ±0.2%FS(max.) pressure range>10mH ₂ O | | | |
| | ±10mmH ₂ O(typ.) ±20mmH ₂ O(max.) pressure ranges≤10mH ₂ O | | | |
| Temp. drift | | Zero drift,± %FS/°C | | Sensitivitydrift,±%FS/°C |
| | Range>10mH ₂ O | 0.005(typ.) | 0.01(max.) | 0.02(max.) |
| | Range ≤10mH ₂ O | 0.01(typ.) | 0.02(max.) | 0.02(max.) |
| | Range ≤5mH ₂ O | 0.015(typ.) | 0.03(max.) | 0.02(max.) |
| | Range ≤2mH ₂ O | 0.025(typ.) | 0.05(max.) | 0.02(max.) |
| Transmitting | 2-wire | | 3-wire | 3-wire |
| Power supply | 15~28VDC(Intrinsic safe version is supplied through safe barrier) | | | |
| Output signal | 4~20mADC | | 0~10/20mADC | 0/1~5/10VDC |
| Load(Ω) | <(U-15)/0.02A | | <(U-15)/0.02A | >5k |
| Material contacting with media | Housing: stainless steel 1Cr18Ni9Ti | | O-ring: Viton | |
| | Diaphragm: stainless steel 316L | | Rubber casing: NBR | |
| | Cable: Φ7.2mm PVC/Polyurethane cable with vented tube | | | |
| Operation temp. | -30°C ~80°C -10°C ~60°C | | | |
| Storage temp. | -40°C ~120°C | | | |
| Protection | IP68(sensor part), IP65(wiring part) | | | |
| Ex-proof class | Exia II CT6 | | | |

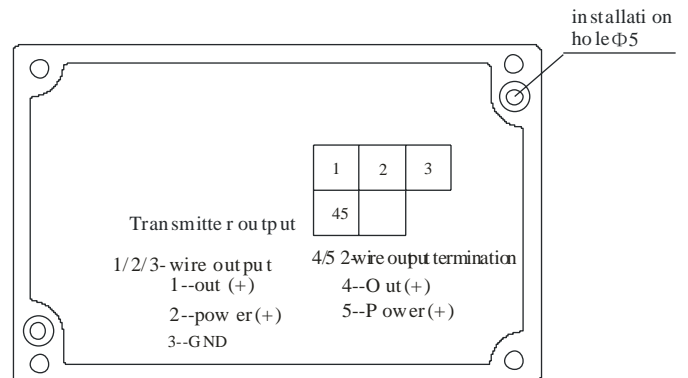
Outline Construction (Unit: mm)

Outline dimension

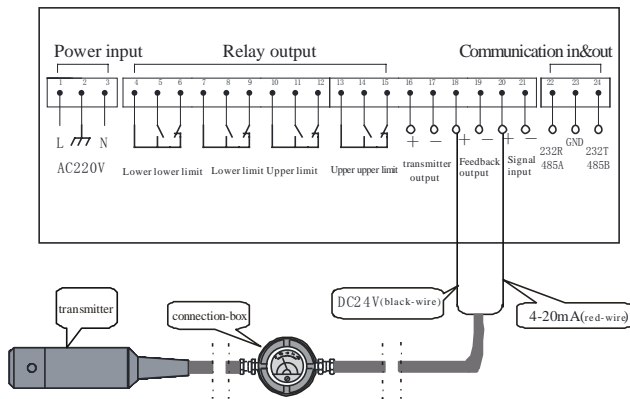


Electrical Connection

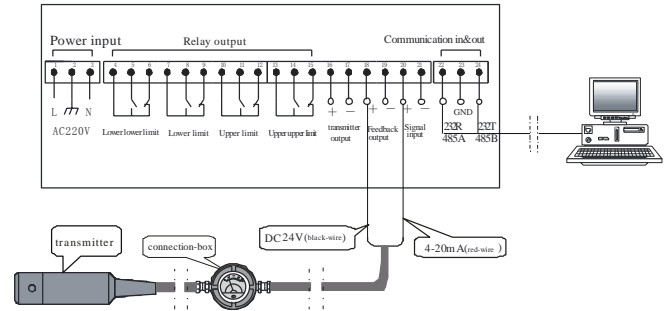
Terminal connection in Electrical Housing



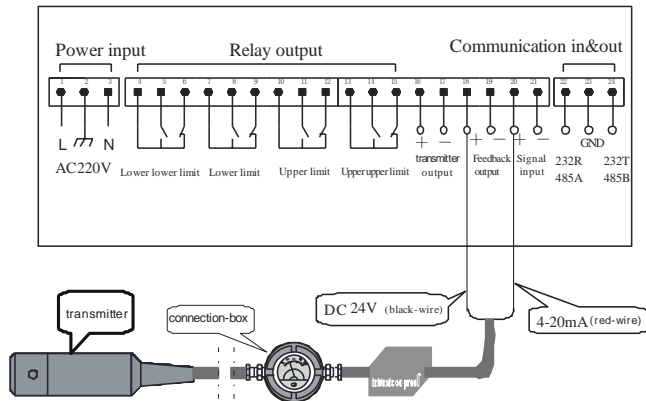
Application Example



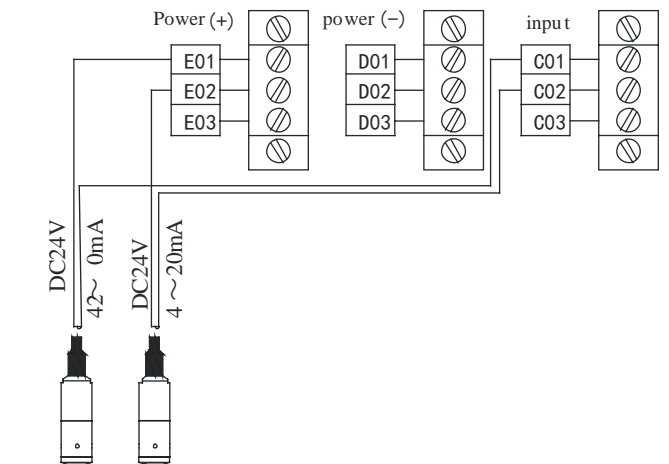
Connecting level transmitter with measure display to build up one measure and control system.



Connecting with MSB9418 measure display to build up one liquid measure and control system with upper and lower limits alarming. Meanwhile, the display could output RS232 or analog signal 1V~5VDC, 0V~5VDC, 4mA~20mADC.

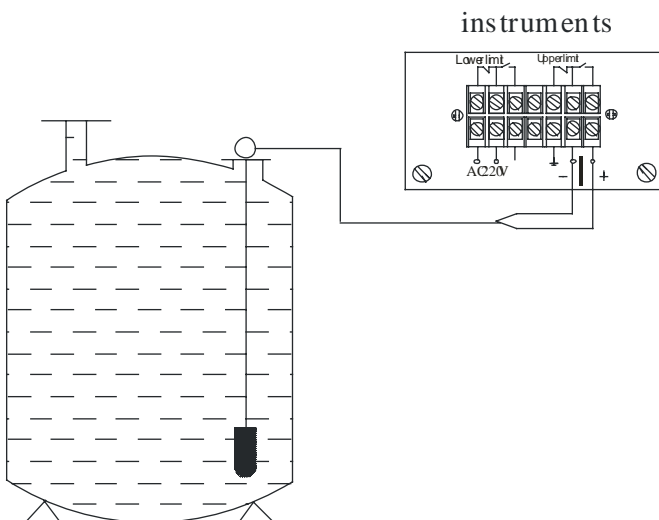


Connecting Ex-proof version transmitter with safe barrier and measure display to build up measure and control system;

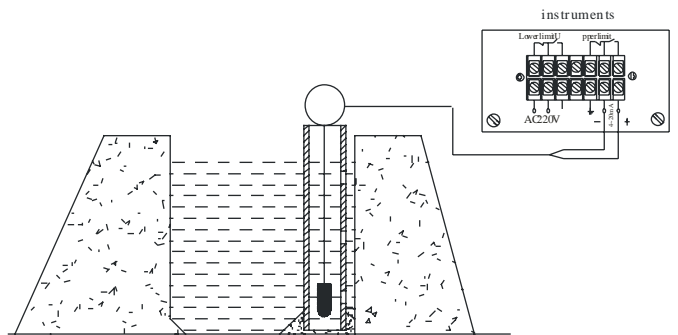


1#transmitter 2#transmitter

Connecting the most two level transmitter with MSB9438 measure display to build up one level difference system with multi-channel display. It can also output 4mA~20mADC analog output and provide upper and lower limit alarming and control.

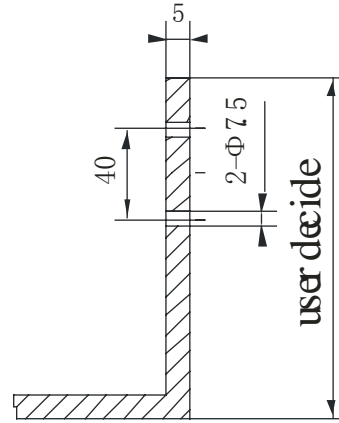
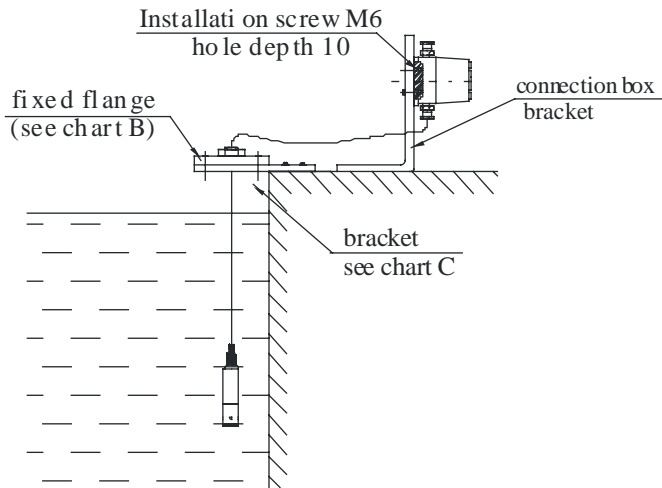


When measure static level in open tank, put level transmitter into tank bottom, and fix transmitter cable and connection box at the open tank entrance.

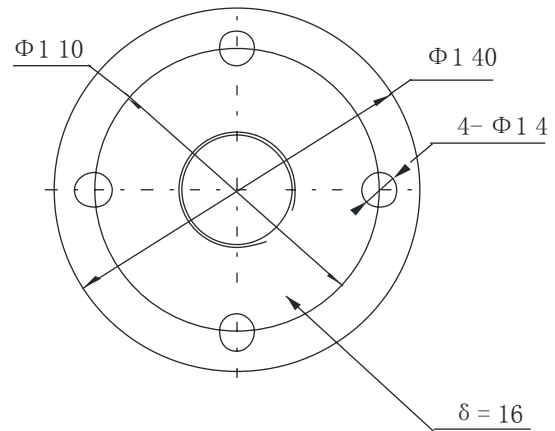
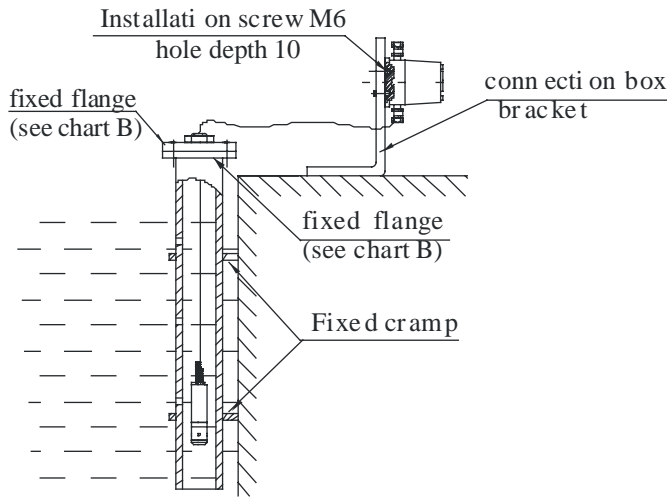


When measuring flow water, insert one steel tube $\Phi 45$ which has little holes $\Phi 5$ at different heights. Make holes opposite to water flowing direction, and let water go into the tube and fix cable and connection box at the entrance of tube.

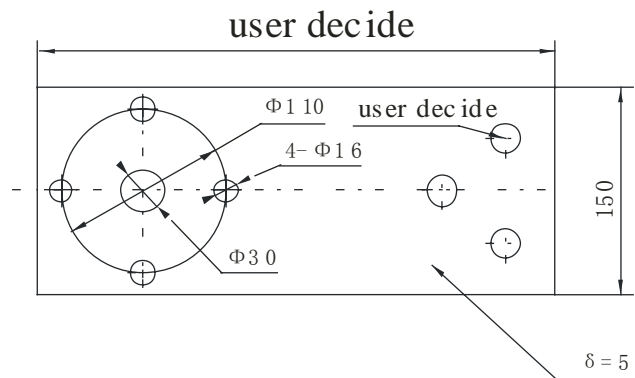
Installation at Local Place (Unit: mm)



ChartA (user decide)



ChartB (Enclosed by factory or user decide)



ChartA (user decide)

Order Guide

| MPM416WRK | | Flexible Armoured Level Transmitter | | | | |
|-----------|-------------------------|-------------------------------------|--------------------------|----------------------------------|----------------|--|
| | | Range(mH ₂ O) | [0~X mH ₂ O]L | L: flexible armoured tube length | | |
| | | | Code | Output signal | | |
| | | | E | 4~20mADC | | |
| | | | F | 1~5VDC | | |
| | | | J | 0~5VDC | | |
| | | | Q | 0~10mADC | | |
| | | | U | 0~20mADC | | |
| | | | V | 0~10VDC | | |
| | | Code | Construction material | | | |
| | | | Diaphragm | Pressure port | Housing | |
| 22 | SS 316L | SS | SS | | | |
| 25 | Tantalum | SS | SS | | | |
| | Code | Others | | | | |
| | i | Intrinsic safe version Exia II CT6 | | | | |
| | F1 | Fixed flange | | | | |
| MPM416WRK | [0~3mH ₂ O]5 | E | 22 | iF ₁ | the whole spec | |

Notes

1. Please pay attention if the media is compatible with contacting material, especially pay attention to media density at measuring situation (except water);
2. We provide the user with PVC or polyurethane cable; polyurethane cable is more flexible and wearable. If the user has no special requirements, the default would be PVC cable;
3. If the product is installed in lightning and thunder area, please note "lightning Protection" in the order; we suggest to use lightning protection device to make sure power is grounding safely;
4. When MPM416WRK transmitter is working, please do not pull flexible steel tube to protect it;
5. If the user has special requirement, please feel free to contact with our company.