

# MPM436W Submersible Level Transmitter

## Introduction

The product uses high performance pressure sensor as sensing element, which could measure liquid static pressure that is positive proportional to level depth precisely, and transform pressure signal into standard current/voltage signal output by amplifier circuit to measure accurate level depth. The product has high accuracy, compact size, easy installation, can be submersible into the liquid directly to measure level from transmitter bottom to the liquid surface. It can be widely used for water and level measure and control of petroleum, chemical industry, power station, city water supply and drainage and hydrology, etc.



## Features

- Full sealed stainless steel construction for submersible part; sensor and amplifier circuit are all in the sealed housing; protection class IP68;
- Waterproof Junction Box is optional to ease wiring; protection class IP65;
- Removable top stainless steel cap; Prevent diaphragm damage and ease cleaning;
- MPM436W min. pressure range 0.5mH<sub>2</sub>O; high pressure impact resistibility;
- Explosion-proof product conforms to Exia II CT6 of Standard GB3836.4; Ex-proof Certificate is issued;
- Ship-use product conforms to CCS Rules of Classification of Sea-going Steel Ships (2006); Ship-use Certificate is issued.

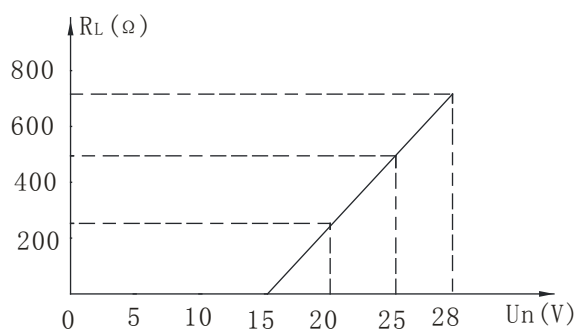
## Specifications

Range	0.5, 2mH <sub>2</sub> O		
Overpressure	10 times FS		
Accuracy	±0.5%FS (min.) ±1.0%FS (max.)		
Stability error	±5mmH <sub>2</sub> O (typ.)		
Temp. drift	≤±0.15%FS/10°C		
Transmitting <sup>1</sup>	2-wire	3-wire	3-wire
Power supply	15V~28VDC(Intrinsic safe version is supplied through safe barrier)		
Output signal	4V~20 mADC	0mA~10/20mADC	0/1V~5/10VDC
Load (Ω)	<(U-15) /0.02A	<(U-15) /0.02A	>5k
Material contacting with media	Housing: SS ICr18Ni9Ti	Seal parts: Viton	
	Rubber casing: NBR	Cable: Φ7.5mm PVC/Polyurethane cable with vented tube	
	96% alumina ceramic		
Operation temp.	-10°C ~70°C    -10°C ~60°C (Exia)		
Storage temp.	-20°C ~85°C		
Protection	IP68 (sensor part); IP65 (connection box)		
Ex-proof class	Exia II CT6 Ga		

1.MPM436W only can be 2-wire transmitting; power supply 12~30VDC, load<(U-12)/0.02A-Rwire(kΩ); U is power supply valrage, Rwire is wire resistance.

2.For 2-wire output transmitter with LCD/LED display, the power supply shall be >= 20VDC

## Load Characteristic

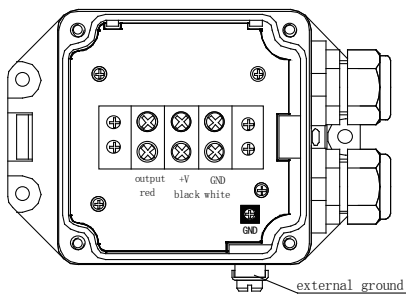
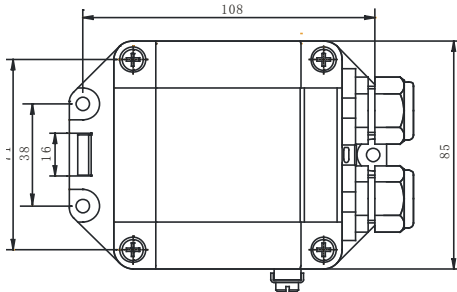
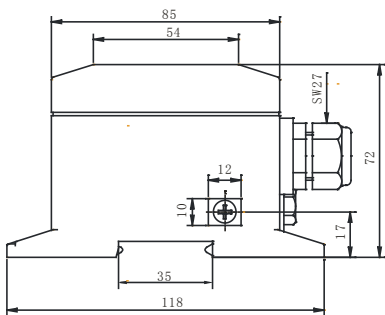
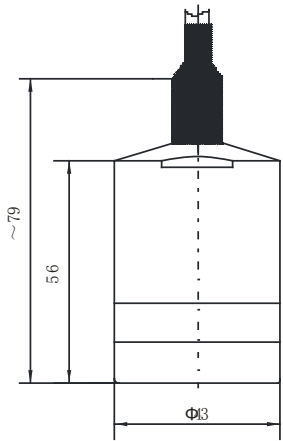


2-wire

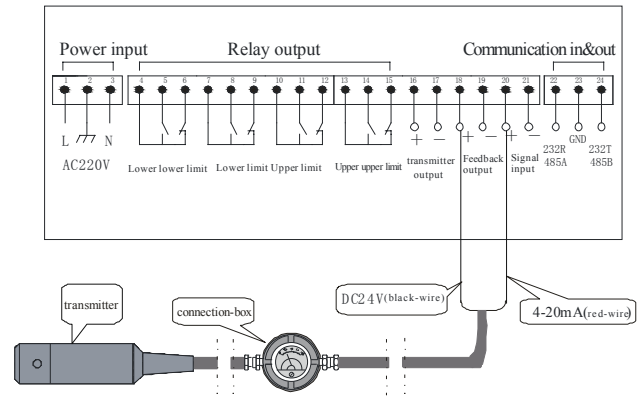
4mA~20mADC output

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

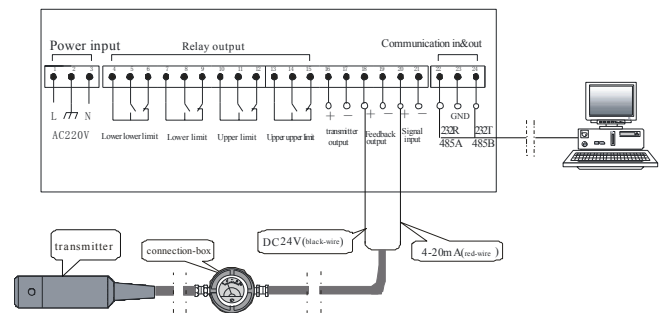
Outline Construction (Unit: mm)



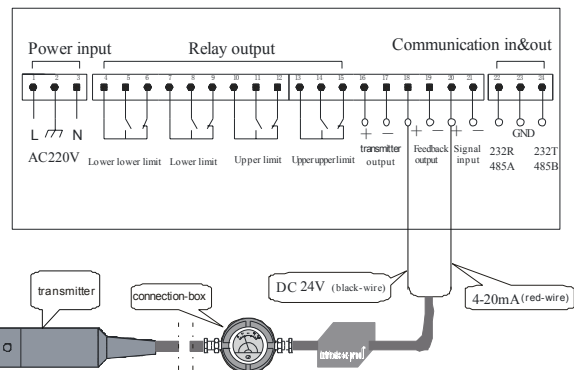
Application Example



Connecting level transmitter with measure display to build up a control system

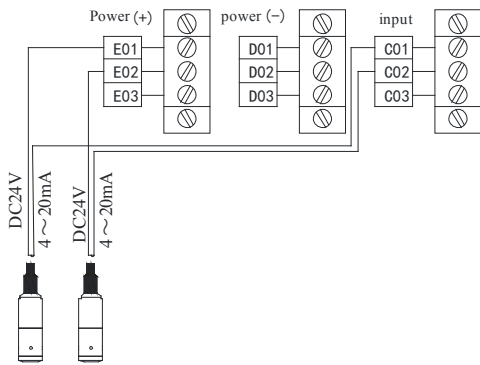


Connecting level transmitter with MSB9418 measure display to build up one level measure system with upper and lower limits control and alarming. Output signal is RS232 or analog 1~5VDC, 0~5VDC, 4~20mADC.

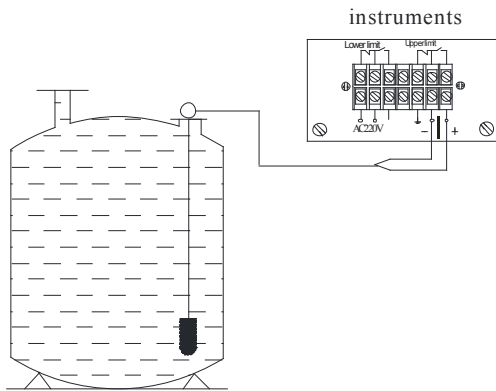


Connect Ex-proof version transmitter with safe barrier and measure display to build up one control system.

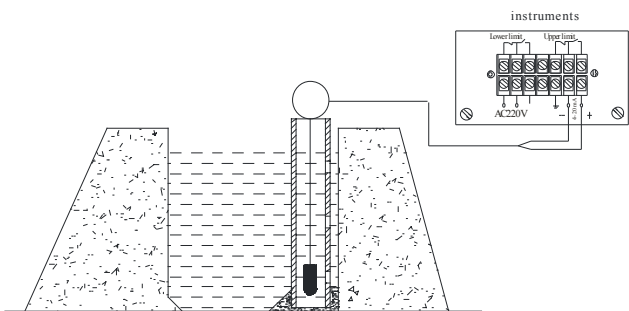
Outline Construction (Unit: mm)



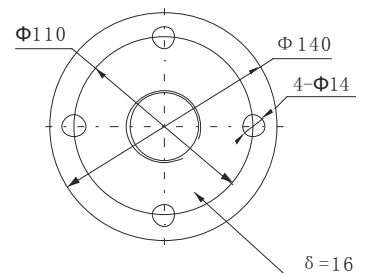
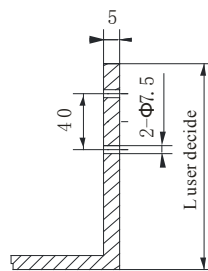
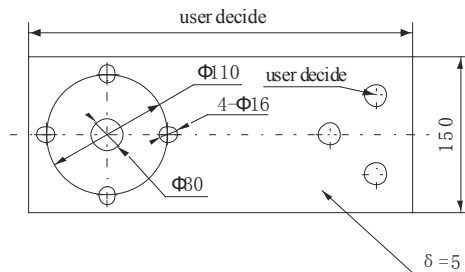
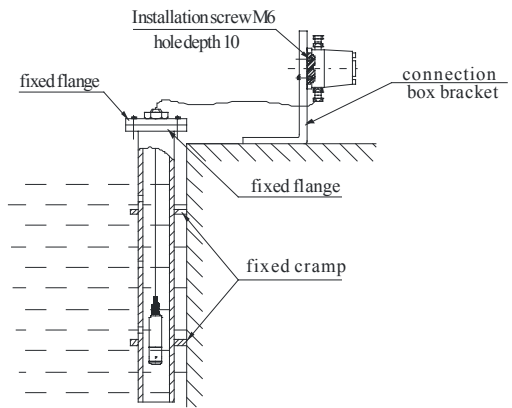
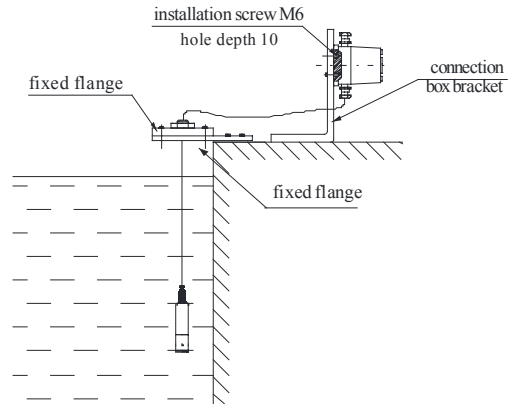
Connecting the most two level transmitter with MSB9438 measure displayer to build up one level difference system with multi-channel display. Output signal can be 4~20mA analog, it can also provide upper and lower limit control and alarm.



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



When measuring level in flow water, please insert one steel tube  $\Phi 45$ , and make some little holes  $\Phi 5$  at the different height of the tube. Make holes opposite to water flowing direction, and let water go into tube unobstructed. Fix cable and connection box at the entrance of the tube.



## Order Guide

MPM436W		Submersible Level Transmitter			
Range		[0~XmH <sub>2</sub> O]L L: cable length; suggested L-X=(1~2)m			
		Code	Output signal		
		E	4~20mADC		
		Code	Others		
		M1	0~100% hand pointer indicator		
		M3	3 1/2 digits LCD digital indicator(only for 4~20mA)		
		M4	3 1/2 digits LED digital indicator(only for 4~20mA)		
		Yb	Aluminum connection box without display		
		Yc	MS200 water-proof connection box(default)		
		Yd	PD140 lightning-proof protection device		
		Ye	connection box(with display or without display)		
		i	Intrinsic safe version Exia II CT6		
		F1	Fixed flange		
MPM436W	[0~0.5mH <sub>2</sub> O]3	E	Yi	the whole spec	

## Notes

1. Please be sure the measured media is compatible with contacting material; please pay attention to media density in the measurement (except water);
2. We provide two kinds of cable, PVC or polyurethane cable. Polyurethane cable is more flexible and wearable. If the use has no special requirement, we provide PVC cable as default;
3. If the product is installed in "lightning and thunder" area, please note "lightning-proof" in the order. We suggest to increase Lightning-proof Protection Device to protect transmitter. Please be sure good grounding as well;
4. If the user has special requirement, please feel free to contact our company.