MPM4700 Intelligent Level Transmitter

Features

- 4mA~20mA DC 2-wire current output;
- Digital temperature compensation and linearity correction;
- RS485 communication interface(Custom protocol) or HART®communication protocol(optional);
- Netting application;
- Full stainless steel construction, compact size, light weight;
- Special requirement available;
- RoHS Certificate;
- Intrinsic safe ex-proof version conforming to GB3836.4 Exia Ⅱ BT6 Ga Regulation; Ex-proof Certificate is issued;
- Marine type products accord with CCS classification of sea-going steel ships of the rules "(2006) the requirements, has obtained the type approval.

Introduction

MPM4700 level transmitter is the full stainless steel construction and full-sealed submersible intelligent level transmitter with high accuracy. It uses highly reliable and stable pressure sensor, intelligent processing circuit, precise digital temperature compensation and linearity correction technics for production. The water-proof cable connects with housing sealed, with vented tube putting in, the transmitter could be used in the water or liquid in a long time. Integrated construction and standard output signal could provide easy operation and good automatic control. With 2-wire working, compact size, light weight and easy installation and operation, it is widely used for industry field instead of normal 2-wire 4mA~20mA DC analog output transmitter.

Specification

Basic range (mH_2O)	3.5	7	10	20	35	70	100	200
Overpressure (mH_2O)	5	10	15	30	50	100	150	300

Notes:

1.The min.shrinked available range is 1/5 of basic range;

2.For the other pressure range between min.range and max.range, but not indicated on the above table, we enlarge the above basic pressure range to produce (overpressure unavailable).

Total accuracy [①③]	±0.075%FS(min.); ±0.1%FS(typ.); ±0.25%FS(max.)
Stability	±0.2%FS/year
Compensation temp. [②]	-10℃ ~70℃
Operation temp.	-10℃ ~70℃ ; -20℃ ~60℃ (Intrinsic safe)
Storage temp.	-20℃ ~85℃
Power supply	10V~28V DC(RS485); 12V~30V DC(HART®)
	10V~12V DC(The Ann model, the security gate power supply)
Output	4mA~20mA DC
	RS485 communication interface(Custom protocol) or HART® communication protocol
Load	4mA~20mA DC output, (U-12V)/0.02A（Ω）
	RS485 bus line could connect with 99 transmitter
Insulation	100MΩ/50V
Shock	20g, 20Hz~5000Hz
Impact	20g, 11ms
Protection	IP68(Transmitter part); IP65(Junction box part)
Media compatibility	Diaphragm: Stainless steel 316L
	Housing: Stainless steel 304
	O-ring: Viton
Weight	~250g

① Total accuracy: including non-linearity, hysteresis, repeatability and thermal error;
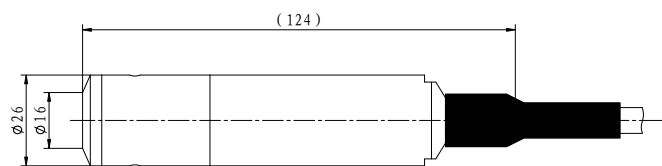② For special temperature requirement, please contact with our company;
③ For pressure range 3.5mH₂O ad 7mH₂O, after shrinking, the total accuracy is ±0.5%FS.

Outline Construction (Unit: mm)

Electrical Connection

Transmitter connecting the air through plug or cable:

| Wire color	Connection
Black	+V
Red	OUT/GND
Yellow(Green)	RS485A
White	RS485B
Blue	⏚
Note: conventional products are not grounded,explosio- proof products must be grounde.	

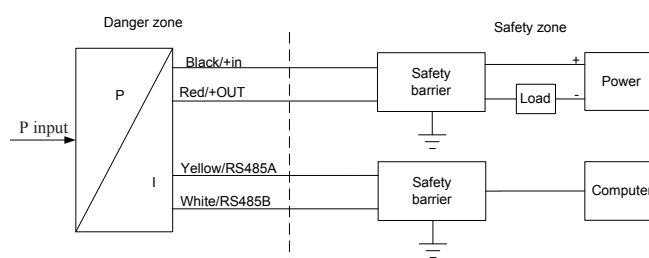A: Electrical connection for transmitter with 2-wire 4mA~20mA DC output:
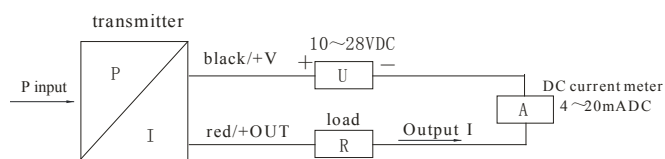
B: Electrical connection for transmitter with RS485 interface:
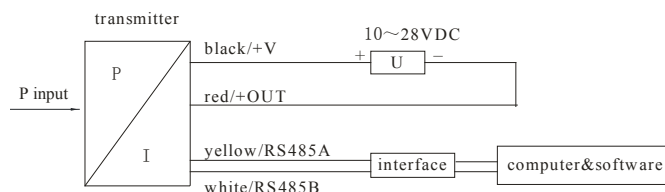
C: Wiring for HART®transmitter connecting with hand-communicator:
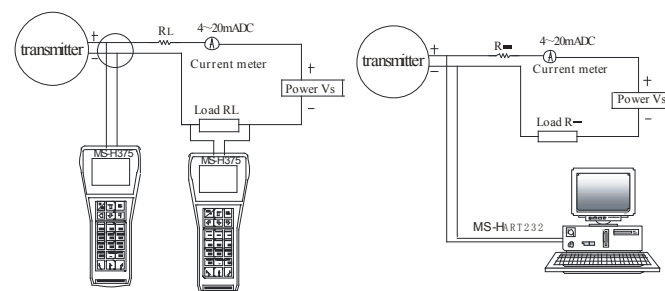
D: This Ann explosion-proof type electrical connection methods are shown below:

ExiaIIBT6 Ga
Transmitter Ex-proof parameter:
Ui: 12.4V DC   Ii:140mA DC
Li: 0mH Ci:1.049μF Pi: 0.43W

ExiaIIC
Safe barrier's ex-proof parameter:
Uo:12.4V DC
Io:140mA DC Po:0.43W

Assistant Software

RS485 type:

Transmitter software through RS232/RS485 conversion module, is used to communicate with RS485 interface (including level range, compensated temperature range and version), displaying actual pressure, setting new zero, analog output and transmitter address.

"MS Setonline" is used for ASCII protocol product (R4 type), Setonline Rtu is used for Modbus protocol product(R8 type).

Software could be downloaded from our website. Users may need to download other necessary tools.

The initial address is random, if the user needs to reset the address, please notify us or reset it after receiving the product.

Application Example
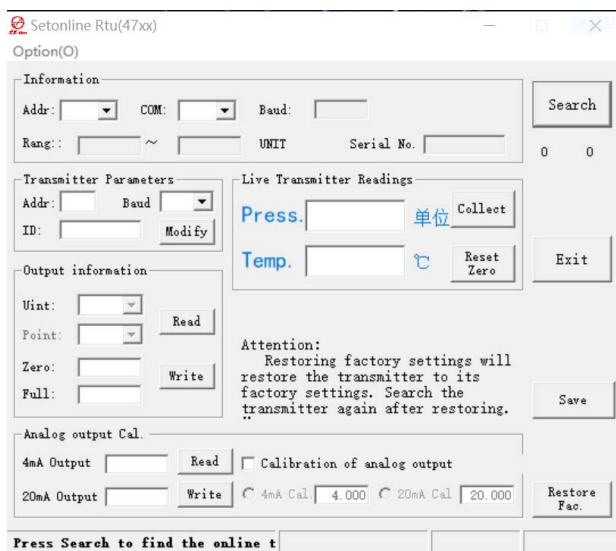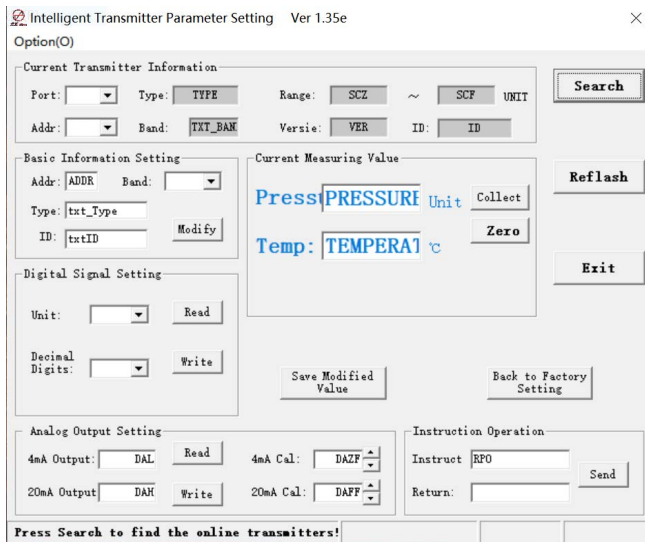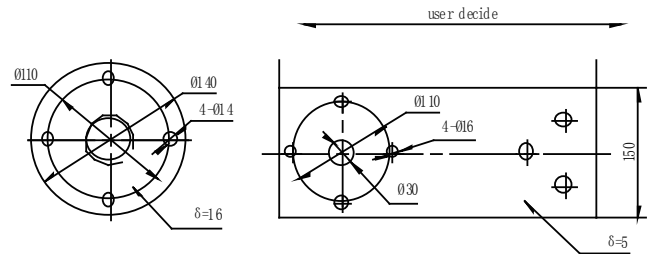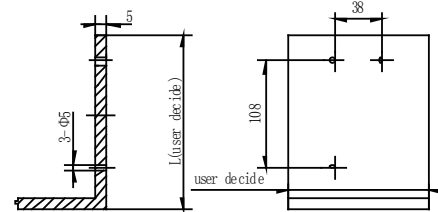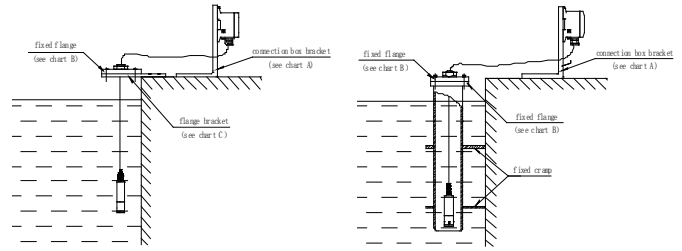
Order Guide

MPM4700			Intelligent Level Transmitter				
		Range	Pressure range: 0m~3.5m…200mH$_2$O				
		[0m~XmH$_2$O]L	X=actual pressure range, L=cable length, suggested L-X=(1~2)m				
			Code	Output signal			
			E	4mA~20mA DC			
			R$_4$	RS485 interface, Customized ASCII protocol by MICROSENSOR			
			R$_8$	RS485 interface, MODBUS_RTU protocol			
			H	HART® communication protocol			
				Code	Construction material		
					Diaphragm	Interface	Housing
				22	SS 316L	SS	SS
				24	SS 316L	SS 316L	SS 316L
					Code	Others	
					C$_1$	M20×1.5 male, face type seal	
					C$_5$	M20×1.5 male, waterline seal	
					Y$_b$	Aluminum connection box without display	
					Y$_c$	MS200 water-proof connection box(default)	
					Y$_d$	PD140 lightening-proof protection device	
					Y$_e$	Connection box(with display or without display)	
					F$_1$	Fixed flange	
					i	Intrinsic safe version Exia Ⅱ BT6 Ga	
					T	Ship-use	
MPM4700	[0~10mH$_2$O]12	ER$_4$	22	Yc	the whole spec.		

Notes

1. If the user has no special requirement for cable, we provide default PVC cable;

2. If the user has special requirement, please feel free to contact our company.