

# MPM4700 Intelligent Level Transmitter

## Features

- 4~20mADC 2-wire current output;
- Digital temperature compensation and linearity correction;
- RS485 communication interface or HART communication protocol (optional) ;
- Netting application;
- Full stainless steel construction, compact size, light weight;
- Special requirement available;
- RoHS Certificate



## 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 4~20mADC analog output transmitter.

## Specifications

Basic range (mH <sub>2</sub> O)	3.5	7	10	20	35	70	100	200
Overpressure (mH <sub>2</sub> O)	5	10	15	30	50	100	150	300

Note: The min.shrunked available range is 1/5 of basic range;

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);

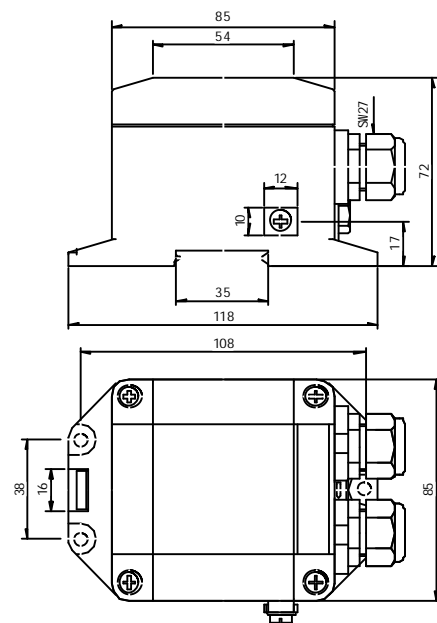
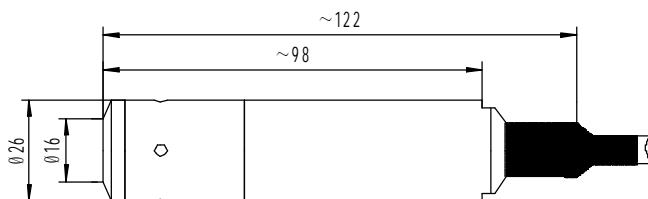
Total accuracy ①③	±0.075%FS (min.)	±0.1%FS (typ.)	±0.25%FS (max.)
Stability	±0.2%FS/year		
Compensation temp. ②	(0~50)°C		
Operation temp.	(-10~80)°C		
Storage temp.	(-40~100)°C		
Power supply	(10~28)VDC (RS485) , (12~30)VDC (HART®)		

Output	(4~20)mADC
	RS485/HART <sup>®</sup> optional
Load	(4~20)mADC output, (U-10V/12V) /0.02A (Ω)
	RS485 bus line could connect with 99 transmitter
Electric connection	DIN43650 4-pin (RS485 socket inside)
	7-pin plug (for RS485 interface output at local place)
	Φ7.2mm shielding cable
Insulation	100MΩ/50V
Shock	20g, (20~5000)Hz
Impact	20g, 11ms
Protection	IP68
Media compatibility	Diaphragm: stainless steel 316L
	Housing: stainless steel 1Cr18Ni9Ti
	O-ring: Viton
Weight	~160g

- 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 3.5mH<sub>2</sub>O ad 7mH<sub>2</sub>O, after shrinking, the total accuracy is  $\pm 0.5\%$ FS.

## Outline Construction

(Unit: mm)



Connection box outline

## Electric Connection

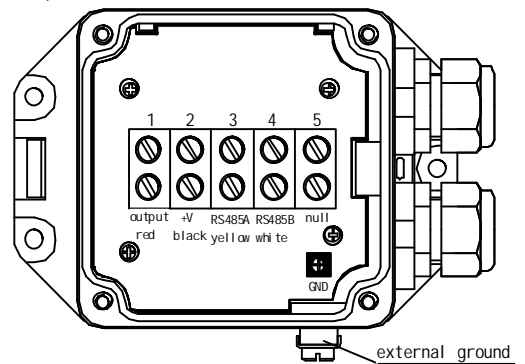
<http://www.microsensor.cn>

Add: No.18, Yingda Road Baoji, P.R.China, 721006

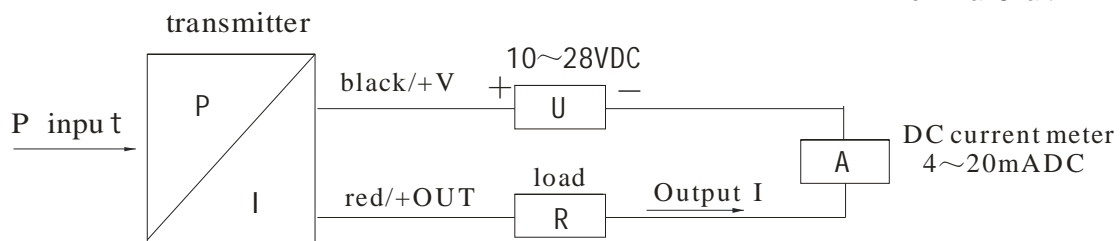
Tel: +86 917 3600739/3600832 Fax: 3609977

Transmitter connecting the outside by cable or connection box;

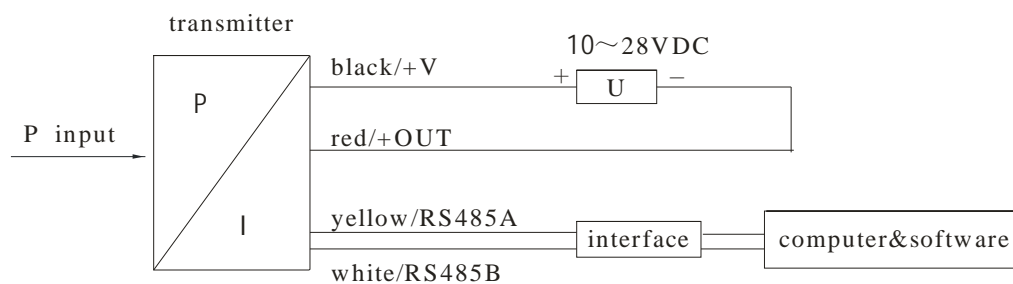
Wire color	Terminal	Function
Black	2	+V
Red	1	OUT/GND
White	4	RS485B
Yellow	3	RS485A



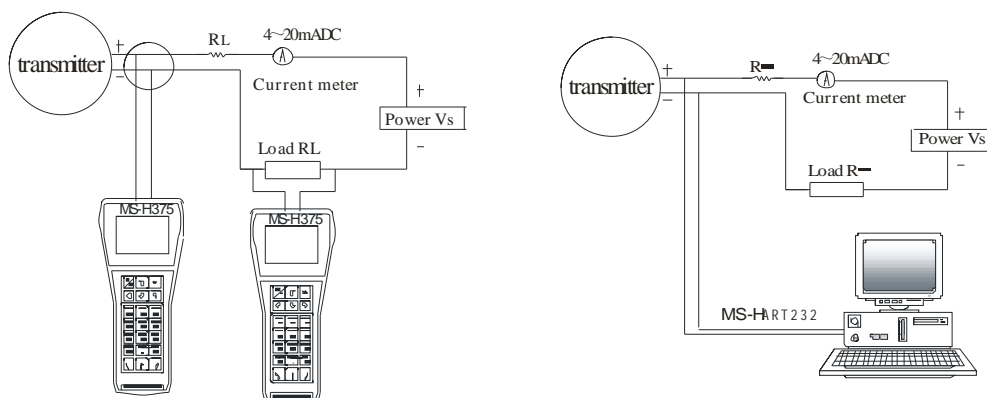
a). Electric connection for transmitter with 2-wire 4~20mADC output:



b). Electric connection for transmitter with RS485 interface



c). Wiring for HART® transmitter connecting with hand-communicator;

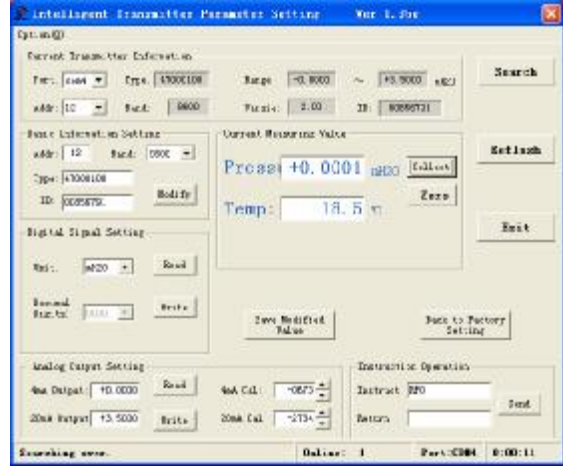


### Assistant Software

a). Transmitter Software (RS485 Interface type)

MS Setonline Software

Through RS232/485 conversation module, the user could read inner basic information for RS485 interface transmitter (including level range, compensated temp. range, version code, etc.) and display actual level, set new zero, analog output and device address.



Note: Software "MS Setonline" could be downloaded from our website [www.microsensor.cn](http://www.microsensor.cn)

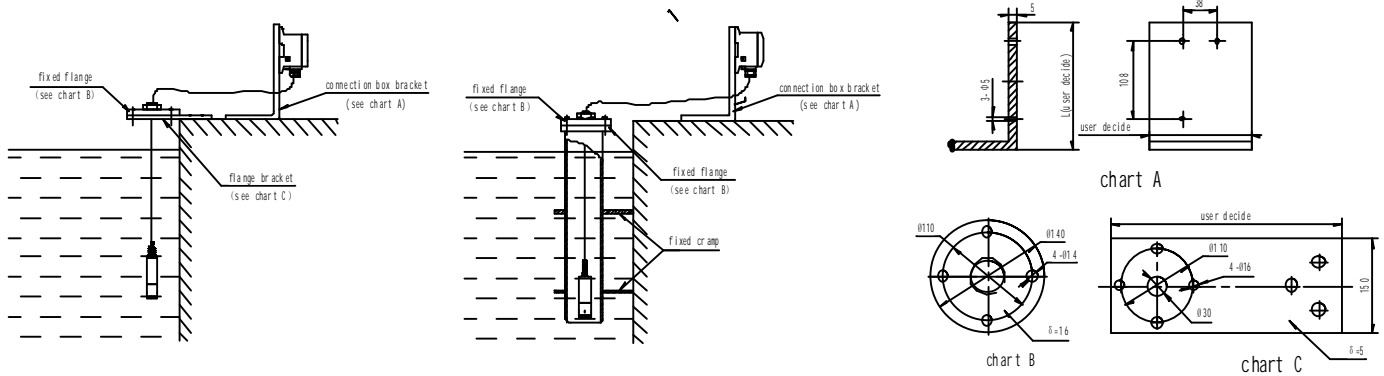
b). Transmitter Software (HART® protocol)

MS-C100A Software

Through MS-HART357 conversion module, the user could calibrate and adjust HART® transmitter.



### Application Example



## Order Guide

MPM4700	HART® Intelligent Level Transmitter				
	Range	Pressure range (mH <sub>2</sub> O)			
	[0~XmH <sub>2</sub> O]L	X=actual measure pressure, L=cable length, suggested L-X= (1~2) m			
		Code	Output signal		
		E	4~20mADC		
		R <sub>4</sub>	RS485 communication interface		
		H	HART® communication protocol		
		R <sub>8</sub>	RS485 communication interface, MODBUS communication protocol		
			Code	Construction material	
				Diaphragm	Interface
			22	SS 316L	SS
			24	SS 316L	SS 316L
				Others	
			C <sub>1</sub>	M20×1.5 male, face type seal	
			C <sub>5</sub>	M20×1.5 male, waterline seal	
			Ya	Aluminum connection box with display	
			Yb	Aluminum connection box without display(Only when clients have explosion-proof requirement)	
			Yc	MS200 water-proof connection box	
			Yd	PD140 lightning-proof protection device	
			F <sub>1</sub>	Fixed flange	
MPM4700	[0~10mH <sub>2</sub> O]	ER <sub>4</sub>	22	Yc	the whole spec

## Order Note

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.