Low Power Consumption Digital Output Intelligent Level Transmitter

MPM4706

Applications

- Pharmaceutical, metallurgical industry
- Power plants, mines
- Urban water supply and drainage
- Hydrological exploration

Features

- Extremely low consumption and available for auto stand-by mode
- Integrated temperature measurement
- Digital compensation and non-linearity correction
- RS485 communication interface
- Suitable for networking

Introduction

MPM4706 digital level transmitter is a highly precise and stable digital transmitter for the level measurement. This product utilizes the highly reliable piezoresistive OEM pressure sensing element and the high precision digital processing circuit, coupled with a dedicated algorithm, the transmitter is capable of high precision measurement. The product supports the measurement of both level and temperature and communicate via an RS485 interface. The transmitter consumes very low power and automatically enters standby mode when not communicating, and the power consumption at standby mode is as low as 10uA.

Specifications

Range	0mH_2O ~ 1mH_2O…200mH_2O
Overpressure	≤2 times FS
Pressure Type	guage, absolute
Accuracy	see Accuracy on page 2
Temperature Accuracy[a]	±0.5℃ (-20℃ ~ 80℃)
Long-tem Stability	≤ ±0.25% FS/year
Compensated Temperature	-10℃ ~ 70℃
Application Temperature	-20℃ ~ 70℃ (cable material: PE, PVC)
	-20℃ ~ 80℃ (cable material: PUR)
Storage Temperature	-20℃ ~ 85℃
Vibration	20g, 20Hz ~ 5000Hz
Shock	20g, 11ms
Protection Rating	IP68
Weight	≤250g (not includes cable)

a (temperature accuracy): The measured temperature is ambient.

Accuracy

Pressure Type	Range	Accuracy
Gauge (G)	$0mH_2O$ ~ $1mH_2O \le X < 2mH_2O$	±0.5%FS
	$2mH_2O \le X \le 7mH_2O$	±0.25%FS
	$7mH_2O < X \le 200mH_2O$	±0.25%FS
Absolute (A)	$0mH_2O$ ~ $7mH_2O < X \le 10mH_2O$	±0.5%FS
	$10mH_2O < X \le 200mH_2O$	±0.25%FS

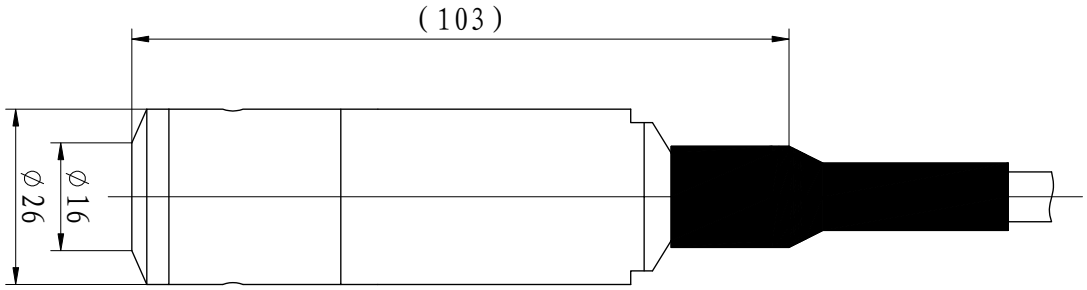
Note: the accuracy is between compensated temperature range (-10℃ ~ 70℃)
Test standard: GB/T 17614.1-2015/IEC60770-1:2010;

Output Signals

Output Signal	Power Supply	Output Format	Load Resistance
RS485, ASCII protocol (R4)	3.6V~28V DC	4-wire	RS485 bus can load 99 transmitters
RS485, MODBUS_RTU protocol (R8)			

Outline Dimensions

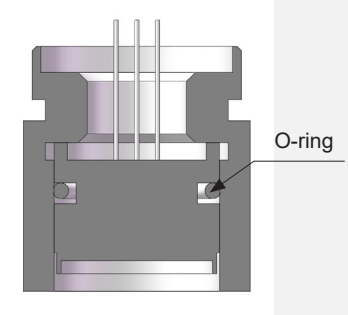
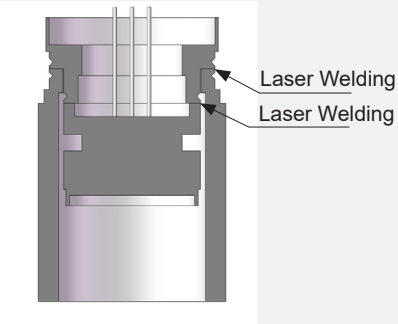
unit: mm



Electrical Connection

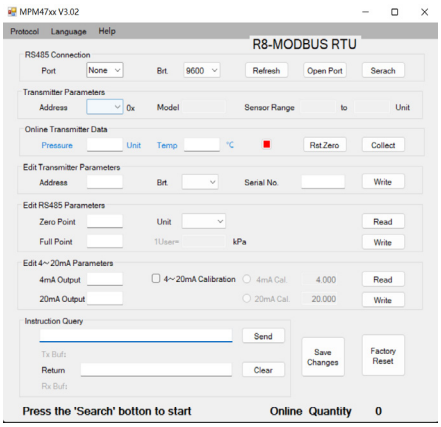
Color	4-wire
Red	+V
White	RS485B
Black	-V
Yellow (Green)	RS485A
Blue	EARTH

Sensor Sealing

O-ring (O-ring material: fluoroelastomer/EPDM)	Welding
	

Software

RS485 transmitter software
47xx software
Through RS232/485 transfer module, basic information about RS485 interface transmitter can be read including level range, temperature compensation range, version etc.Display actual level value, setting new zero, analog output, address.
Note: 47xx software can be downloaded from our company website www.microsensorcorp.com。



Material

Isolated Diaphragm: SS 316L/Tantalum
Housing: SS 304/SS 316L
Cable: PE/PUR/PVC

Ordering Guide

MPM4706	Intellignet Level Transmitter					
	Range	Measurement Range 0mH$_2$O ~ 1mH$_2$O…200mH$_2$O				
	[0 ~ XmH$_2$O]L	X: actual measured range, L: cable length, recommended cable length L=X+(1~2)m				
		Code	Output Signal			
		R4	RS485 communication interface, customized ASCII protocol			
		R8	RS485 communication interface, MODBUS_RTU protocol			
			Code	Material		
				Isolated Diaphragm	Housing	
			22	SS 316L	SS 304	
			24	SS 316L	SS 316L	
			25	Tantalum	SS 304	
				Code	Junction Box	
				null	no junction box	
				Yb	Aluminum junction box without display	
				Yc	MS200 waterproof junction box	
				Yd	PD140 lightening-proof junction box	
				Ye	junction box (without display)	
					Code	Process Connection
					null	no special process connection
					C1	M20×1.5 male, end face seal
					C3	G1/2 male
					C5	M20×1.5 male, waterline seal
					F1	fixed flange
MPM4706	[0 ~ 5mH$_2$O]6	R8	22	Ye	F1	Complete Type Specification

Ordering Notes

1. Cable material is available for 3 types: PE cable is provided by default; if other material is needed, please specify in the order.
2. The measured media should be compatible with the wetted material and the measured media density except water needs to be specified on contract.
3. If the product is installed in a thunderstorm area, a lightning protection device is required and be sure that the product and the power are reliably earthed, which can efficiently prevent the level sensor from lightning damage.
4. If metrology verification certificate is needed or there are other requirements, please contact us and specify it in the order.