Smart Level Transmitter with Low Power Consumption & Digital Output

MPM4706

Applications

- Medicine, metallurgy
- Power plants, mines
- Urban water supply and drainage
- Hydrological exploration

Features

- Extremely low power consumption, automatic sleep
- Pressure and temperature measurement
- Digital temperature compensation and non-linear correction technology
- RS485 communication interface
- Networking applications

Introduction

MPM4706 Smart Level Transmitter is a fully sealed, submersible measuring instrument constructed of stainless steel. It utilizes a high-stability piezoresistive OEM pressure sensor and a high-precision smart processing circuit, along with proprietary algorithms, to achieve accurate measurements. Equipped with a digital temperature sensor, the device measures ambient or medium temperatures and outputs data via an RS485 interface. Designed for low power consumption, it automatically enters a sleep mode during periods of inactivity, reducing consumption to below 10μA.

Specifications

Range	Refer to"Measuring Range & Accuracy Table"
Overpressure	
Accuracy	
Pressure type	Gauge pressure
Temperature accuracy[a]	±0.5℃（-20℃～ 80℃）
Long-term stability	≤±0.25% FS/ year
Compensation temperature	-10℃～ 70℃
Operating temperature	-20℃~ 70℃ (cable material: PE, PVC)
	-20℃ ~ 80℃ (cable material: PUR)
Storage temperature	-20℃～ 85℃
Vibration	20g，20Hz ～ 5000Hz
Shock	20g，11ms
IP rating	IP68
Weight	≤ 250g (excluding cable weight)

a Temperature accuracy: The measured temperature is the ambient temperature.

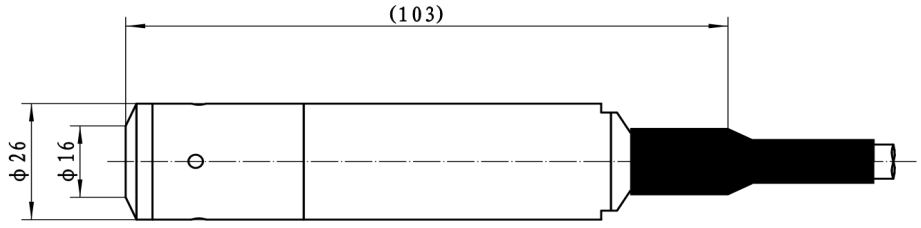
Measuring Range & Accuracy Table

Gauge Pressure G				
Unit	Measuring Range	Accuracy	Overpressure	Code
mH_2O	0 ~ 1	±0.5%FS	4	H001
	0 ~ 2	±0.25%FS	4	H002
	0 ~ 2.5		4	H2D5
	0 ~ 3		7	H003
	0 ~ 3.5		14	H3D5
	0 ~ 4		14	H004
	0 ~ 5		20	H005
	0 ~ 6		20	H006
	0 ~ 7		20	H007
	0 ~ 8		20	H008
	0 ~ 9		20	H009
	0 ~ 10		20	H010
	0 ~ 15		40	H015
	0 ~ 20		40	H020
	0 ~ 25		70	H025
	0 ~ 30		70	H030
	0 ~ 35		70	H035
	0 ~ 40		140	H040
	0 ~ 45		140	H045
	0 ~ 50		140	H050
	0 ~ 60		140	H060
	0 ~ 70		140	H070
	0 ~ 80		200	H080
	0 ~ 90		200	H090
	0 ~ 100		200	H100
	0 ~ 110		400	H110
	0 ~ 120		400	H120
	0 ~ 150		400	H150
	0 ~ 200		400	H200

Note: The specified accuracy applies within the compensation temperature range of -10°C to 70°C.
Test standard: GB/T 17614.1-2015/IEC60770-1:2010

Unit mm

Outline Construction



Output Signals

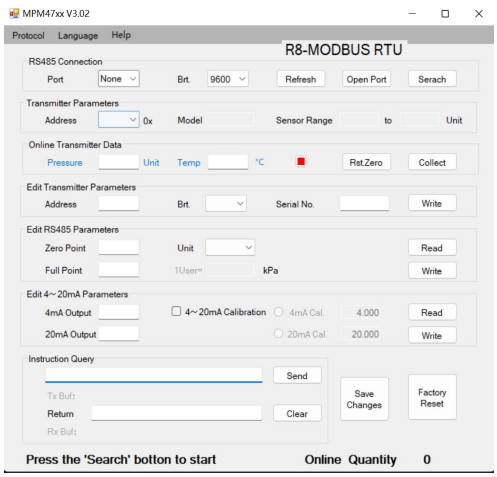
Output signal	Supply voltage	Output type	Load resistance
RS485, ASCII communication protocol (R4)	3.6V~28V DC	4-wire	The RS485 bus supports up to 99 devices.
RS485, MODBUS_RTU communication protocol (R8)			

Electrical Connection

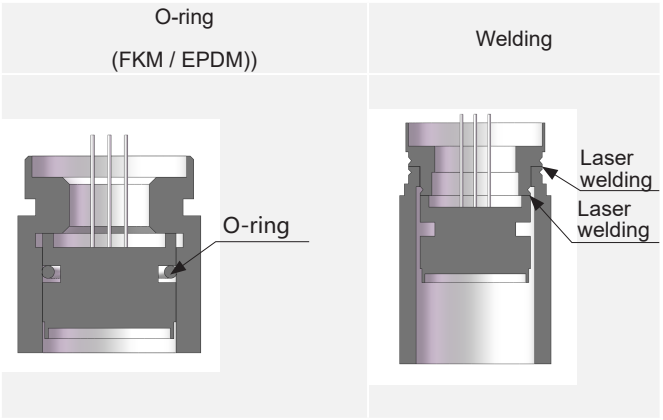
Color	4-wire
Red	(+V)
White	RS485B
Black	(-V)
Yellow (Green)	RS485A
Blue	Ground wire

Auxiliary Software

RS485 Transmitter software
47XX software
Used with an RS485 converter module, this software enables reading basic internal information from RS485 transmitters (including level range, temperature compensation range, version, etc.), display the actual level, set a new zero, configure the programmable analog output, and set the device address.
Note: The “47XX” programming software is available for download from our official website: www.microsensorcorp.com.



Sensor Sealing



Construction Materials

Isolated diaphragm: SS 316L/Titanium
Housing: SS 304/ SS 316L/Titanium
Cable: PE/PUR/PVC

Order Guide

MPM4706	Smart Level Transmitter
Range	Measuring range 0mH2O ～ 1mH2O…200mH2O
HXXX	Range-specific code

Code	Output signal
R4	RS485，ASCII
R8	RS485，MODBUS_RTU

Code	Power supply
V15	3.6V ～ 28V DC

Code	Accuracy
A1	±0.25%FS
A2	±0.5%FS

Code	Construction material	
	Isolated diaphragm	Housing
22	Stainless steel 316L	Stainless steel 304
24	Stainless steel 316L	Stainless steel 316L
40	Titanium TA1	Titanium TC4

Code	Sensor sealing
00	FKM (standard)
01	EPDM (optional for special media based on compatibility)
02	Welding (optional for special media based on compatibility)

Code	Cable material
P1	PE (standard)
P2	PUR (optional for special media based on compatibility)
P3	PVC (optional for special media based on compatibility)

Code	Cable length (Unit: m)
L001	1
L002	2
L003	3
L004	4
L005	5
L006	6
L007	7
L008	8
L009	9
L010	10
L012	12
L015	15
L017	17
L020	20
L30	30
L035	35
L040	40
L045	45
L050	50

MPM4706	H005	R8	V15	A1	22	00	P3	L005	The complete spec.

Order Guide

Code	Cable length (Unit: m)
L060	60
L070	70
L080	80
L090	90
L100	100
L110	110
L120	120
L150	150
L200	200

Code	Accessory
N	No accessories required
Yb5	Yb junction box (5-core terminals)
Yc5	MS200 (5-core terminals)
Yd	PD140
Ye	Ye (without indicator)
MS01	Polymer plug

Ye	The complete spec.

Notes

1.The measured medium shall be compatible with the wetted parts materials, and the medium's density (excluding water) under measurement conditions must be specified.

2.In areas prone to thunderstorms, install lightning protection and ensure proper grounding of the product and power supply to minimize lightning damage to the transmitter.

3. If a metrology verification certificate is required, or there are any other special requirements, please consult with the MICROSENSOR and specify them in the order.