Flexible & Customizable Level Transmitter

MPM489W

Applications

- Pharmaceuticals
- Metallurgy
- Power plant
- Mine
- Urban water supply and drainage
- Hydrological exploration

Features

- Integrated construction with no external adjustment required
- Intrinsically safe, Ex ia IIC T6 Ga
- ATEX explosion-proof:
  Ⓔx II 1 G Ex ia IIC T4 Ga
- CE, EAC, RoHS and CCS approved

Introduction

MPM489W Level Transmitter is a fully sealed submersible level measurement instrument. It utilizes an OEM pressure sensor, which has undergone extensive stability and reliability testing, along with a high-accuracy dedicated circuit, all encapsulated in a stainless steel housing. Its integrated construction and standardized signal output simplify field installation and integration into automated control systems. The dedicated cable is securely sealed to the housing, ensuring long-term, stable operation in liquids that are compatible with the transmitter materials.

Specifications

Range	0mH_2O - 1mH_2O…200mH_2O
Overpressure	≤ 2 times FS
Pressure type	Gauge pressure
Accuracy	Refer to “Measuring Range & Accuracy Table”
Long-term stability	Range ＞ 10mH2O, ≤ ±0.2% FS/year
	Range ≤ 10mH2O, ≤ 20mmH2O/year
Operating temperature	-10°C～ 60°C (Intrinsically safe explosion-proof)
	-20°C～ 70°C (cable material: PE, PVC)
	-20°C～ 80°C (cable material: PUR)
Storage temperature	-20°C～ 85°C
Vibration	10g，55Hz ～ 2000Hz
Shock	100g，11ms
IP rating	IP68
Weight	≤220g

Measuring Range & Accuracy Table

Unit	Measuring Range	Overpressure	Code	Accuracy
mH_2O	0 - 1	4	H001	±1%FS
	0 - 2	4	H002	
	0 - 2.5	4	H2D5	
	0 - 3	7	H003	±0.5%FS
	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	±0.25%FS
	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	

Test standard: GB/T 17614.1-2015/IEC60770-1:2010
Ambient temperature: 20°C ±5°C
Relative humidity: 45% ~ 75%

Thermal Error

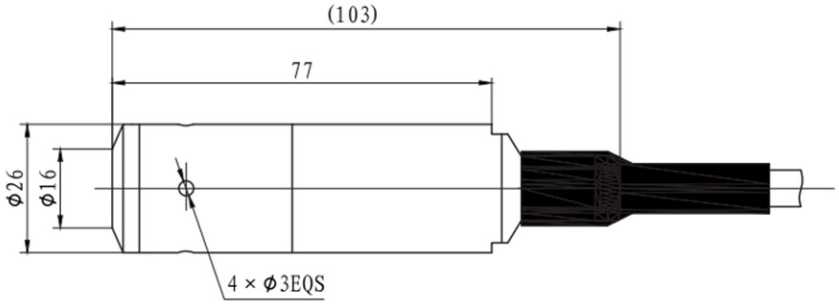
Zero thermal error	≤ ±0.05% FS/℃（≤ 10mH_2O）
	≤ ±0.02% FS/℃（＞ 10mH_2O）
Span thermal error	≤ ±0.05% FS/℃（≤ 10mH_2O）
	≤ ±0.05% FS/℃（＞ 10mH_2O）

Output Signals

Output Signal	Supply Voltage	Output Type	Load Resistance
4mA~20mA DC	11V~28V DC	2-wire	≤(U-11)/0.02 (Ω)
1V~5V DC		3-wire	≥10kΩ
0V~5V DC			
0.5V~4.5V DC			
0V~10V DC	15V~28V DC		
0.5V~4.5V DC	5V±0.1V DC		
0.5V~2.5V DC			
0.5V~2.5V DC	3.3V±0.1V DC		

Outline Construction

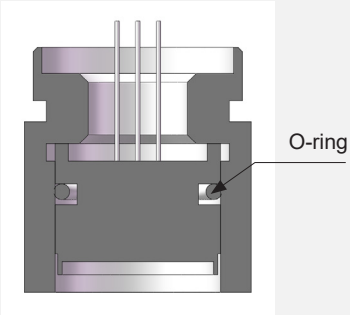
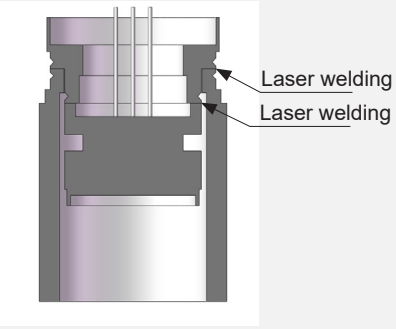
Unit: mm



Electrical Connection

Color	2-wire	3-wire
Red	(+V)	(+V)
White	Null	OUT
Black	0V/OUT	GND

Sensor Sealing

O-ring (FKM/EPDM)	Welding
	

Construction Materials

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

Order Guide

MPM489W	Level Transmitter
Range	Measuring Range 0mH_2O - 1mH_2O…200m H_2O
XXXX	Range-specific code

Code	Output signal
E	4mA~20mA DC
F	1V~5V DC
J	0V~5V DC
V	0V~10V DC
K	0.5V~4.5V DC
W	0.5V~2.5V DC

Code	Power supply
V5	11V~28V DC
V6	5V±0.1V DC
V7	3.3V±0.1V DC
V13	15V~28V DC

Code	Accuracy
A1	±0.25%FS
A2	±0.5%FS
A3	±1%FS

Code	Construction material		
	Isolated diaphragm	Pressure port	Housing
22	SS 316L	SS 304	SS 304
24	SS 316L	SS 316L	SS 316L
40	Titanium	Titanium	Titanium

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
L025	25
L030	30
L035	35
L040	40
L045	45

MPM489W	H005	E	V5	A2	22	00	P1	The complete spec.

Code (Table continued)	Cable length (Unit: m)
L050	50
L060	60
L070	70
L080	80
L090	90
L100	100
L110	110
L120	120
L150	150
L200	200

Code	Certification requirement①
N	None
i	Intrinsically safe Ex ia IIC T6 Ga
T	Ship-use Ex ia IIC T6 Ga
y	ATEX Ex ia IIC T4 Ga

Code	Accessory	
N	No accessory	
Yb3	YYb junction box (3-core terminals)	Polymer plug (default)
Yc3	MS200 (3-core terminals)	
Yd	PD140	
YeM6	Ye（M6）	
YeM7	Ye（M7）	
Ye	Ye (Without indicator)	
MS01	Polymer plug (except for Yb, Yc, Yd)	

L002	i	Yb	The complete spec.

Notes

1、" ① " refers to certification requirements. The details are:
For the intrinsically safety type, current output is available only.
The product can be intrinsically safe explosion-proof/flameproof and suitable for ship-use simultaneously.

2、Only transmitters with a 4mA~20mA output signal can be equipped with M6 or M7 indicators, with a power supply of ≥ 16V DC.

3、The ambient temperature of transmitter should be -20°C~ 70°C with M6 indicator, while -10°C~ 60°C with M7 indicator. Indicator settings refer to its order guide, which can be obtained from the MICROSENSOR website.

4、Please note that for 5V DC/3.3V DC powered products, the cable length must be less than 10m if connected.

5、The IP rating of junction box is IP65.

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

7、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.

8、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.