


# 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:  
 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 <sub>2</sub> O - 1mH <sub>2</sub> O...200mH <sub>2</sub> O
Overpressure	≤ 2 times FS
Pressure type	Gauge pressure
Accuracy	Refer to "Measuring Range & Accuracy Table"
Long-term stability	Range > 10mH <sub>2</sub> O, ≤ ±0.2% FS/year
	Range ≤ 10mH <sub>2</sub> O, ≤ 20mmH <sub>2</sub> O/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 <sub>2</sub> O	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

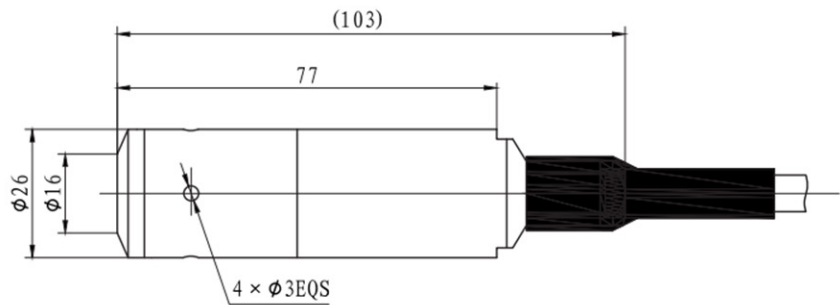
Zero thermal error	$\leq \pm 0.05\% \text{ FS}/^{\circ}\text{C}$ ( $\leq 10\text{mH}_2\text{O}$ )
	$\leq \pm 0.02\% \text{ FS}/^{\circ}\text{C}$ ( $> 10\text{mH}_2\text{O}$ )
Span thermal error	$\leq \pm 0.05\% \text{ FS}/^{\circ}\text{C}$ ( $\leq 10\text{mH}_2\text{O}$ )
	$\leq \pm 0.05\% \text{ FS}/^{\circ}\text{C}$ ( $> 10\text{mH}_2\text{O}$ )

## Output Signals

Output Signal	Supply Voltage	Output Type	Load Resistance
4mA~20mA DC	11V~28V DC	2-wire	$\leq (U-11)/0.02\ (\Omega)$
1V~5V DC		3-wire	$\geq 10\text{k}\Omega$
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

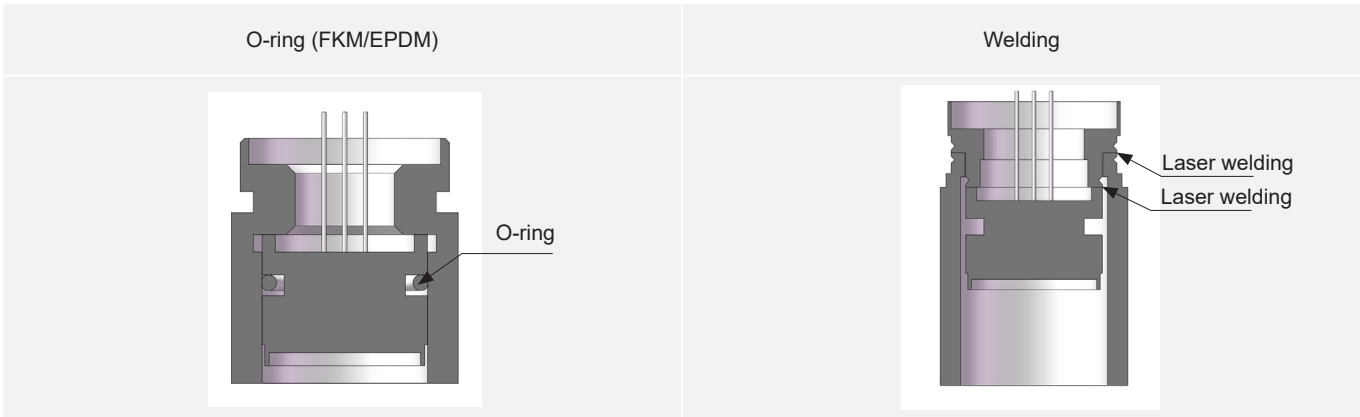
Unit: mm



Electrical Connection

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

Sensor Sealing



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 <sub>2</sub> O - 1mH <sub>2</sub> O...200m H <sub>2</sub> O											
	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									
				Construction material									
			Code	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 requirement <sup>①</sup>
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" 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.
- Only transmitters with a 4mA~20mA output signal can be equipped with M6 or M7 indicators, with a power supply of  $\geq 16V$  DC.
- The ambient temperature of transmitter should be  $-20^{\circ}C \sim 70^{\circ}C$  with M6 indicator, while  $-10^{\circ}C \sim 60^{\circ}C$  with M7 indicator. Indicator settings refer to its order guide, which can be obtained from the MICROSENSOR website.
- Please note that for 5V DC/3.3V DC powered products, the cable length must be less than 10m if connected.
- The IP rating of junction box is IP65.
- The measured medium shall be compatible with the wetted parts materials, and the medium's density (excluding water) under measurement conditions must be specified.
- 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.
- 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.