

Level Transmitter

for Multiple Applications and Customization

MPM489W



Applications

- Pharmaceutical industry
- Metallurgical industry
- Power plant
- Mining
- Water and wastewater
- Hydrological exploration

Features

- Integrated structure, no extra adjustment required
- Intrinsic safety type, Ex ia IIC T6 Ga
- Explosion-proof type, Ex d IIC T6 Gb
- CE, RoHS and CCS approved

Introduction

MPM489W level transmitter is a fully sealed submersible level instrument designed for general industrial applications. It contains a piezoresistive sensing element of excellent stability and reliability and a dedicated circuit that are housed in a high-strength stainless steel housing. Featured with integrated structure, standard outputs, the product is an ideal solution for field service and automation control. The tightly sealed connection between the cable and housing allows long term service of the sensor in the liquids that are compatible with the material.

Specifications

Range	0mH ₂ O ~ 1mH ₂ O...200mH ₂ O
Overpressure	2 times FS
Pressure Type	gauge, absolute
Accuracy	see Accuracy on page 2
Long-term Stability	range > 10mH ₂ O, ≤ ±0.2% FS/ year
	range ≤ 10mH ₂ O, ≤ 20mmH ₂ O/ year
Application Temperature	-10°C ~ 60°C (intrinsic safe type)
	-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
Protection Rating	IP68
Weight	≤220g

Accuracy

Pressure Type	Range	Accuracy
Gauge (G)	$0 \text{ mH}_2\text{O} \sim 1 \text{ mH}_2\text{O} \leq X < 2 \text{ mH}_2\text{O}$	$\pm 1\% \text{FS}$
	$2 \text{ mH}_2\text{O} \leq X \leq 10 \text{ mH}_2\text{O}$	$\pm 0.5\% \text{FS}$
	$10 \text{ mH}_2\text{O} \leq X \leq 200 \text{ mH}_2\text{O}$	$\pm 0.25\% \text{FS}$
		$\pm 0.5\% \text{FS}$
Absolute (A)	$0 \text{ mH}_2\text{O} \sim 7 \text{ mH}_2\text{O} < X \leq 10 \text{ mH}_2\text{O}$	$\pm 1\% \text{FS}$
	$10 \text{ mH}_2\text{O} < X < 200 \text{ mH}_2\text{O}$	$\pm 0.5\% \text{FS}$

Test standard: GB/T 17614.1-2015/IEC60770-1:2010;

Environment temperature: $20^\circ\text{C} \pm 5^\circ\text{C}$;

Relative humidity: 45%~75%

Thermal Drift

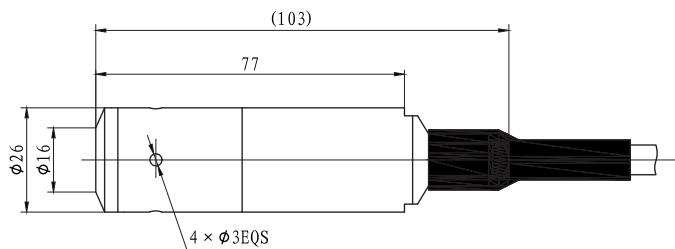
Zero Thermal Drift	$\leq \pm 0.05\% \text{ FS}/^\circ\text{C} (\leq 10 \text{ mH}_2\text{O})$
	$\leq \pm 0.02\% \text{ FS}/^\circ\text{C} (>10 \text{ mH}_2\text{O})$
Span Thermal Drift	$\leq \pm 0.05\% \text{ FS}/^\circ\text{C} (\leq 10 \text{ mH}_2\text{O})$
	$\leq \pm 0.05\% \text{ FS}/^\circ\text{C}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

Output Signals

Output Signal	Power Supply	Output Format	Load Resistance
4mA~20mA DC(E)	11V~28V DC	2-wire	$\leq (U-11)/0.02 (\Omega)$
1V~5V DC(F)			
0V~5V DC(J)			
0.5V~4.5V DC (K2)			
0V~10V DC(V)	15V~28V DC	3-wire	$\geq 10 \text{ k}\Omega$
0.5V~4.5V DC(K1)	5V \pm 0.1V DC		
0.5V~2.5V DC(W1)			
0.5V~2.5V DC(W2)	3.3V \pm 0.1V DC		

Outline Dimensions

unit: mm



Electrical Connection

Wire Color	2-wire	3-wire
Red	+V	+V
White	null	+OUT
Black	0V/+OUT	GND

Sensor Sealing



Materials

Isolated Diaphragm: SS 316L/Tantalum

Housing: SS 304/SS 316L

Cable: PE/PUR/PVC

Ordering Guide

MPM489W	Level Transmitter									
	Range	Measurement Range 0~1mH 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	Power Supply								
	V1	11V~28V DC								
	V6	5V±0.1V DC								
	V7	3.3V±0.1V DC								
	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	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 lightning-proof junction box								
	Ye	junction box (with or without display)								
	Code	Display Indicator ^① (with Ye junction box only)								
	null	no display indicator								
	M1	0% ~ 100% linear indicator								
	M6	4 digits LED digital indicator								
	M7	4 digits LCD digital indicator								
	Code	Certification Requirement ^②								
	null	no certification requirement								
	i	intrinsic safe Ex ia IIC T6 Ga								
	T	ship-use								
	y	ATEX								
	Code	Process Connection								
	null	no special process connection								
	C1	M20×1.5 male, end face seal								
	C3	G1/2 male, end face seal								
	F1	fixed flange								
MPM489W	[0 ~ 5mH ₂ O]6	V1	E	22	Ye	M6	i	F1	Complete Type Specification	

Ordering Notes

1. "①", digital display is available for Ye junction box , but can only used along with products support 4mA~20mA signal.
2. "②" refers to certification requirements. For the intrinsically safety type, current output is available only. The product can be intrinsically safe and suitable for ship-use simultaneously or can be flameproof and suitable for ship-use simultaneously.
3. When ordering the transmitter with M6 or M7 indicator, power supply should $\geq 16V$ DC.
4. Environmental temperature should be $-20^{\circ}C \sim 70^{\circ}C$ when ordering the transmitter with M6 indicator, environmental temperature should be $-10^{\circ}C \sim 60^{\circ}C$ when ordering the transmitter with M7 indicator, indicator setting can refer to our indicator lectotype, which can be found on our company's website.
5. Cable material is available for 3 types: PE cable is provided as default; if other material is needed, please specify in the order.
6. When ordering 5V DC/3.3V DC power products with cable connection, the cable length should be less than 10m.
7. The protection rating of junction boxes are IP65.
8. The measured media should be compatible with the wetted material and the measured media density needs to be specified (except water) on contract.
9. 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.
10. If metrology verification certificate is needed or there are other requirements, please contact us and specify it in the order.