MPM416WK Armored Insertion Level Transmitter

Features

- Remote construction, fully sealed stainless steel sensor, cast aluminum electronics housing and easy calibration and wiring
- Stainless steel armored protection, standard flange-mounted, with local display and calibration options
- Explosion-proof, certified Exia II CT6Ga, compliant with GB3836.4
- CCS certified, in accordance with “Rules for Classification of Sea-Going Steel Ships” (2006)

Introduction

MPM416WK Armored Insertion Level Transmitter uses a high-performance silicon piezoresistive pressure sensor to measure liquid static pressure, proportional to the liquid level. The pressure is converted into a standard output signal through a dedicated signal conditioning circuit, providing a linear relationship between the output signal and liquid depth. With high accuracy and compact size, the transmitter can be directly immersed to measure the distance from the sensor tip to the liquid surface. It is widely used for level measurement and control in oil & gas, chemical, power, water supply, and hydrological industries.

Specifications

Range	Refer to Measuring Range & Accuracy
Overpressure	
Accuracy	
Long-term stability	±20mmH_2O
Storage temperature	-40°C～ 120°C
Ambient temperature	-10°C～ 70°C；-10°C～ 60°C（Intrinsically safe）
Vibration	10g，55Hz ～ 2000Hz
Shock	100g，11ms
IP rating	IP68（sensor）；IP65（junction box）

Measuring Range & Accuracy

Unit	Measuring Range	Overpressure	Code	Accuracy
mH_2O	0 - 0.5	1	H0D5	±2%FS
	0 - 1	4	H001	±1%FS
	0 - 2	4	H002	±0.5%FS
	0 - 3	7	H003	
	0 - 4	14	H004	

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

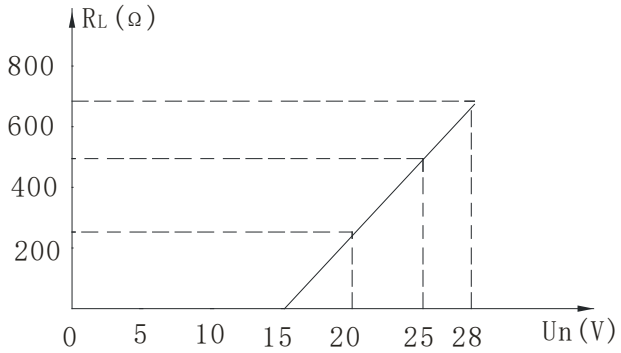
Thermal Error

Zero thermal error	≤ ±0.03% FS/℃
Sensitivity error	≤ ±0.02% FS/℃

Output Signals

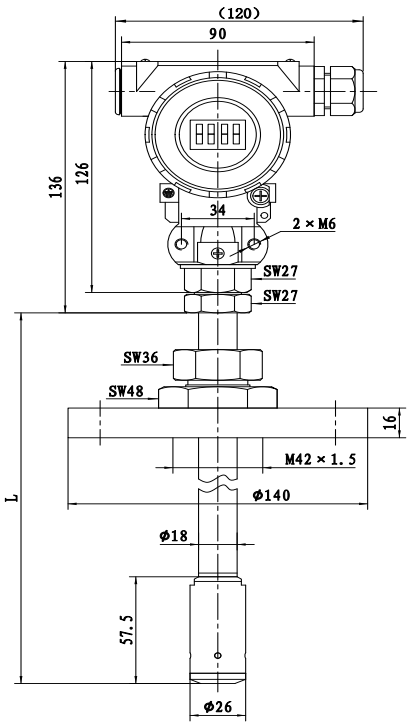
Output signal	Supply voltage	Output type	Load resistance
4mA~20mA DC(E)	15V~28V DC (Intrinsically safe powered by safety barrier)	2-wire	≤(U-15)/0.02 （Ω）
0V~5V DC(J)		3-wire	＞5 kΩ
1V~5V DC(F)			
0V~10V DC(V)			

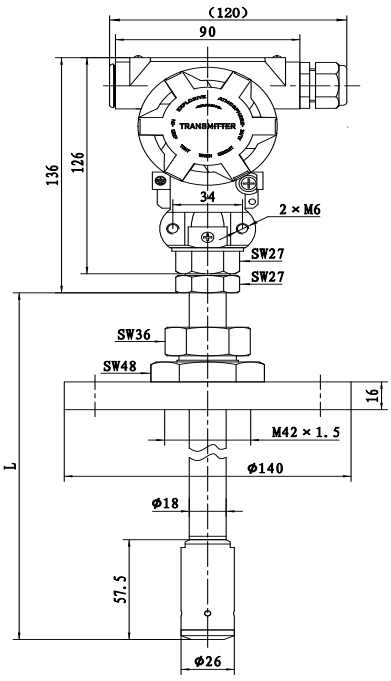
Load characteristics



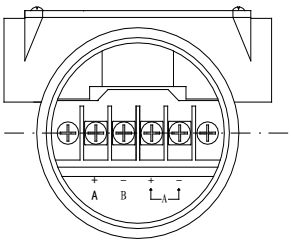
Outline Construction

Unit: mm





Electrical Connection



Current		Voltage	
Terminal	Definition	Terminal	Definition
+/A	V+	+/A	V+
-/B	IO	-/B	OUT
		⏚	GND

Order Guide

MPM416WK	Armored Insertion Level Transmitter										
	Range	Measuring range 0mH$_2$O ~ 0.5mH$_2$O…4mH$_2$O									
	HXXX	Range-specific code									
		Code	Output signal								
		E	4mA ~ 20mA DC								
		F	1V ~ 5V DC								
		J	0V ~ 5V DC								
		V	0V ~ 10V DC								
			Code	Power supply							
			V13	15V ~ 28V DC							
				Code	Accuracy						
				A2	±0.5%FS						
				A3	±1%FS						
				A7	±2%FS						
					Code	Construction material					
						Isolated diaphragm	Pressure port	Housing			
					22	SS 316L	SS 304	SS 304			
					24	SS 316L	SS 316L	SS 316L			
						Code	Sensor sealing				
						00	FKM (standard)				
						01	EPDM (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	Armored cable length (unit: m)		
								L0D3	0.3		
								L0D5	0.5		
								L0D6	0.6		
								L0D7	0.7		
								L0D9	0.9		
								L001	1		
								L1D1	1.1		
								L1D3	1.3		
								L1D4	1.4		
								L1D6	1.6		
								L002	2		
								L2D2	2.2		
								L2D5	2.5		
								L003	3		
								L004	4		
									Code	Certification	
									N	None	
									i	Intrinsically safe explosion-proof Ex ia IIC T6 Ga	only optional for 4mA ~ 20mA DC
									T	Ship-use	
										Code	Accessory
										N	No accessory
										M3	3.5-digit LCD digital indicator
										M6	M6 digital indicator
										M7	M7 digital indicator

MPM416WK	H001	E	V13	A2	22	00	P1	L002	N	N	The Complete spec.

	Code	Accessory 2
	N	None
	LJ9	Armored nut M42×1.5 Male (flange-mounted)
	LJ10	Armored nut M30×1.5 Male (flange-mounted)
N		The Complete spec.

Notes

1. M6 or M7 indicators are only optional for transmitters with a 4mA~20mA output signal, with a power supply of ≥ 16V DC.
2. The ambient temperature of transmitter should be -10°C~ 70°C with M6 indicator, while -10°C~ 60°C with M7 indicator.
3. The measured medium shall be compatible with the wetted parts materials, and the medium's density (excluding water) under measurement conditions must be specified.
4. In areas prone to thunderstorms, it is advisable to install lightning protection devices and ensure proper grounding of the product and power supply to minimize the risk of lightning damage to the transmitter.
5. For other special requirements, please consult with the MICROSENSOR and specify them in the order.