Multichannel Smart Level Controller

MPM460W

Features

- Primary and secondary ultra-bright LED displays for real-time four-digit readings
- AC/DC power supply options
- Diffused silicon piezoresistive sensitive element, with nonlinear digital compensation
- RS485, Modbus RTU for network and data transfer
- Standard analog output 4mA ～ 20mA DC or 0V ～ 10V DC
- Cast aluminum housing with IP65
- Up to 8 relay outputs, freely configurable for value and status
- Configurable relay hysteresis prevents contact chatter for reliable control
- Enhanced EMC design for reliable operation

Introduction

MPM460W Smart Level Controller is designed for harsh outdoor and field environments, providing accurate level measurement and control. It supports RS485 bus networking, real-time display, and offers analog or contact control signals. Widely used in industries such as chemical, metallurgy, water supply and wastewater treatment, power, maritime, and environmental protection, it enables level measurement, transmission, display, and control.

Specifications

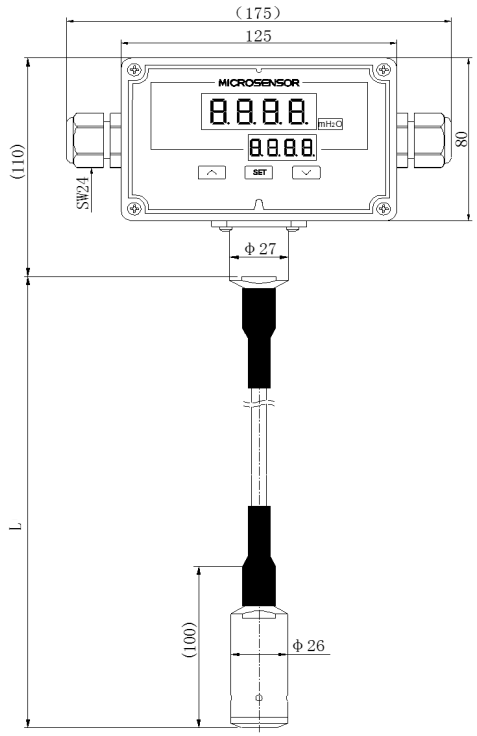
Range	0m ～ 1m…20mH_2O
Overpressure	≤1.5 times FS
Accuracy	Refer to Measuring Range & Accuracy
Thermal error	±0.03%FS%°C (≤1bar)
	±0.02%FS%°C (>1bar)
Long-term stability	≤±0.5%FS/year
Number of relay outputs	1-8
Max. power consumption	≤ 3.5W (1 ～ 5 relay outputs)
	≤ 5W (6 ～ 8 relay outputs)
Load capacity	240V/3AAC or 30V/3A DC
Contact life	> 100,000 operations
Display type	Main Display: 4-digit 0.56" red high-brightness LED
	Secondary Display: 4-digit 0.36" red high-brightness LED
Display range	1999 ～ 9999
Operating temperature	-10°C ~60°C
Medium temperature	-10°C～ 80°C
Storage Temperature	-40°C～ 80°C
Vibration	3g, 0Hz ～ 300Hz
Shock	≤ 10g

Measuring Range & Accuracy

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

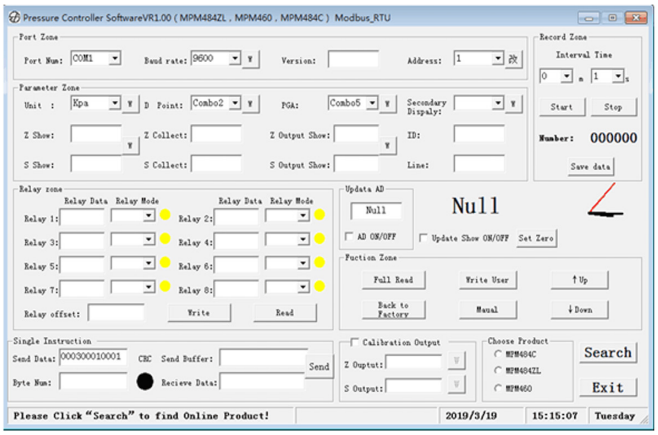
Test standard：GB/T 17614.1-2015/IEC60770-1:2010；
Ambient temperature：20℃ ±5℃ ;
Relative humidity：45% ~ 75%

Outline Construction

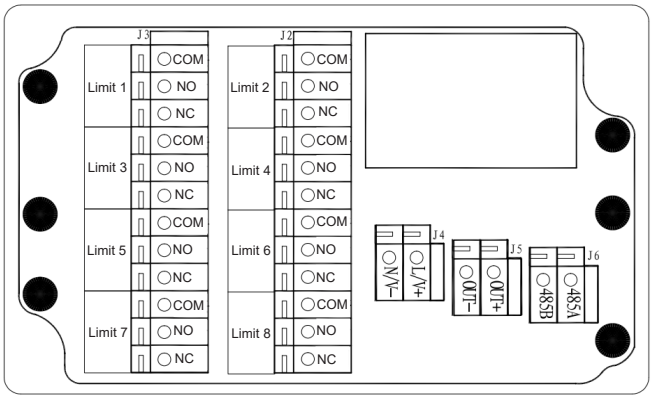


User Software

If the product with an RS485 communication port is selected, MICROSENSOR provides controller software, as shown below:



Electrical Connection



Note: Terminal wiring cross-section: 0.2 mm² ～ 1.5 mm².

Construction Materials

Isolated diaphragm: SS 316L
Electronics housing: Aluminum alloy
Housing: SS 304/ SS 316L
Cable: PE/PUR/PVC

Order Guide

MPM460W	Smart Level Controller								
	Range	Measuring Range 0mH_2O ~ 1mH_2O…20mH_2O							
	HXXX	Range-specific code							
		Code	Output signal						
		E	4mA~20mA DC						
		F	1V~5V DC						
		J	0V~5V DC						
		V	0V~10V DC						
		R8	RS485，MODBUS_RTU						
		ER8	4mA~20mA DC+RS485，MODBUS_RTU						
			Code	Power supply					
			V1	24V DC					
			V220	220V AC					
				Code	Accuracy				
				A2	±0.5%FS				
					Code	Construction material			
						Isolated diaphragm	Housing (probe)		
					22	SS 316L	SS 304		
					24	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	Cable length (unit: m)
								L001	1
								L1D5	1.5
								L002	2
								L003	3
								L004	4
								L005	5
								L006	6
								L007	7
								L008	8
								L009	9
								L010	10
								L015	15
								L020	20
								L025	25
								L030	30
								L035	35
								L040	40
								L045	45
								L050	50

MPM460W	H005	E	V1	A2	22	00	P1	L010	The complete spec.

	Code	Number of relay outputs
	J1	1
	J2	2
	J3	3
	J4	4
	J5	5
	J6	6
	J7	7
	J8	8
J3		The complete spec.

Notes

1. Indicator housing: Aluminum alloy.
2. The measured medium shall be compatible with the wetted parts materials, and the medium's density (excluding water) under measurement conditions must be specified.
3. 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.
4. 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.