HPM4119 Min-diameter Pressure Transmitter

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Overview

HPM4119 Mini-diameter liquid level transmitter is a fully sealed submersible structure, using high-quality and high-stability pressure sensors as a sensing element. This product is designed with a diameter of 19mm Slim probe makes it suitable for particularly small inlets and can be used in a wide range for measuring the level and depth of water and wastewater, in groundwater, deep Wells, lift stations, above ground tanks and stock tanks etc.

The shell of the product adopts a fully welded process, and the connections of the shell, cables and other links are all designed to be reliably sealed. It also adopts a full potting process to ensure that the product has a long service life. It can be widely used in groundwater detection, deep well liquid level measurement, water treatment, industrial process control and many other occasions.

Application: Water treatment industry, Groundwater, deep wells, Environmental protection industry, Marine use, Industrial process control

Features

- Φ19mm mini diameter, easy to install.
- High accuracy till 0.1%F.S.
- Good stability with full temperature range digital compensation
- Whole welded structure
- Wider measuring range, from 1m to 350m
- Double anti-condensation and condensation design
- Multiple protection structure design, IP68 supported.

Technical Parameters

Pressure Range	0~10kPa...3.5MPa 0~1...350mH_2O Note: The measurement unit can be converted into ftH2O@4℃, inH2O@4℃, m, mm, etc. Need to give the density value of the measuring medium when the unit is m, mm, etc.
Overload	1.5 times pressure range of full scale
Measuring Medium	Various liquids compatible with contact materials
Output Signal/ Power Supply	2-wire 4~20mADC/Vs=10~30 VDC 3-wire 0~10V/Vs=12~30 VDC 3-wire 0~5V/Vs=10~30 VDC

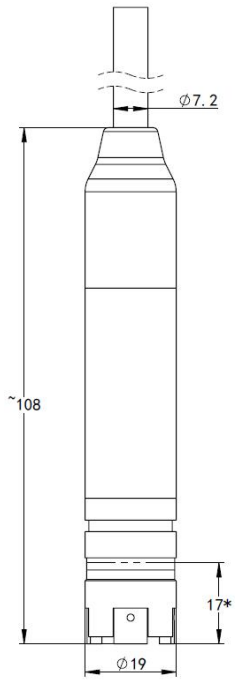
	3-wire 0.25~1.25V、0.5~2.5V/Vs=2.8~5.5VDC Modbus-RTU/RS485 / Vs=10~30V
Accuracy	±0.25%FS(typical), ±0.1%FS(optional)
Long-term Stability	±0.2%FS(Reference 25℃,typical); ±0.1%FS(Reference 25℃,optional)
Response time	about 1ms
Compensation temperature range	0~70℃(typical) -20~85℃(optional) Note: Please consult the sales for measuring range≤ 35kPa
Temperature Coefficient of Zero	±1.5%FS(0~35kPa,0~70℃) ±1.0%FS(Other ranges, Reference 25℃, in compensation temperature range)
Temperature Coefficient of Full Scale	±1.5%FS(0~35kPa,0~70℃) ±1.0%FS(Other ranges, Reference 25℃, in compensation temperature range)
Operation Temperature	-40~80℃
Storage Temperature	-40~85℃
Medium Temperature	-40~80℃
Protection Grade	IP68
Reverse polarity protection	No damage, circuit does not work
EMC	Complies with EN 61326
Vibration	20g(20~5000Hz)
Impact resistance	20g(11ms)
Dielectric strength	500VAC 50Hz voltage, 1min
Insulation resistance	>100MΩ，500VDC

Structure Material

Ordering Code	Part	Notes
S4	Probe	304
S6		316L
M1	Sensor	silicon piezoresistive, 316L
FK	O ring	FKM (Applicable temperature range -20~200℃)
NB		NBR (Applicable temperature range -40~120℃)
C2U	Cable	PU jacket, outer diameter Φ(7.2±0.2)mm
C2N		NBR jacket, outer diameter Φ(7.2±0.2)mm

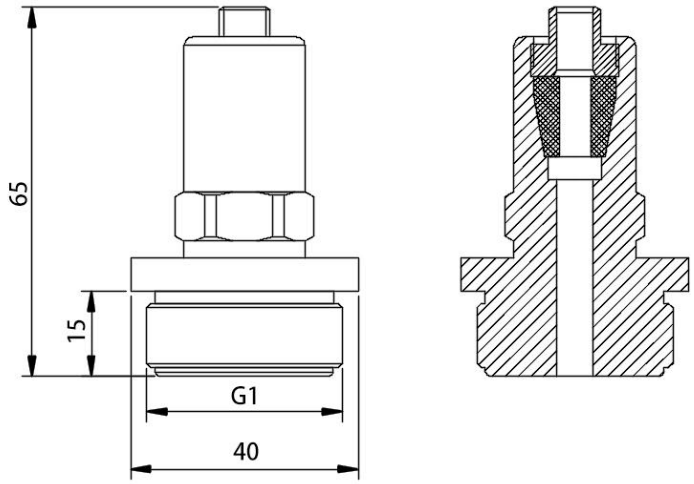
Structure Drawings(Unit:mm)

Probe



* This is the distance from the sensing diaphragm to the bottom

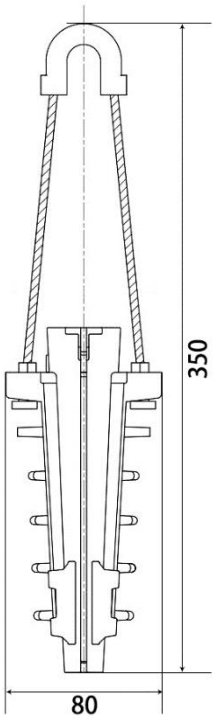
Threaded Mounting Parts (Code: W1)



1. Used to fix the entire product at the top
2. Except for G1 thread, other threads can be customized if required

Weight ~450g

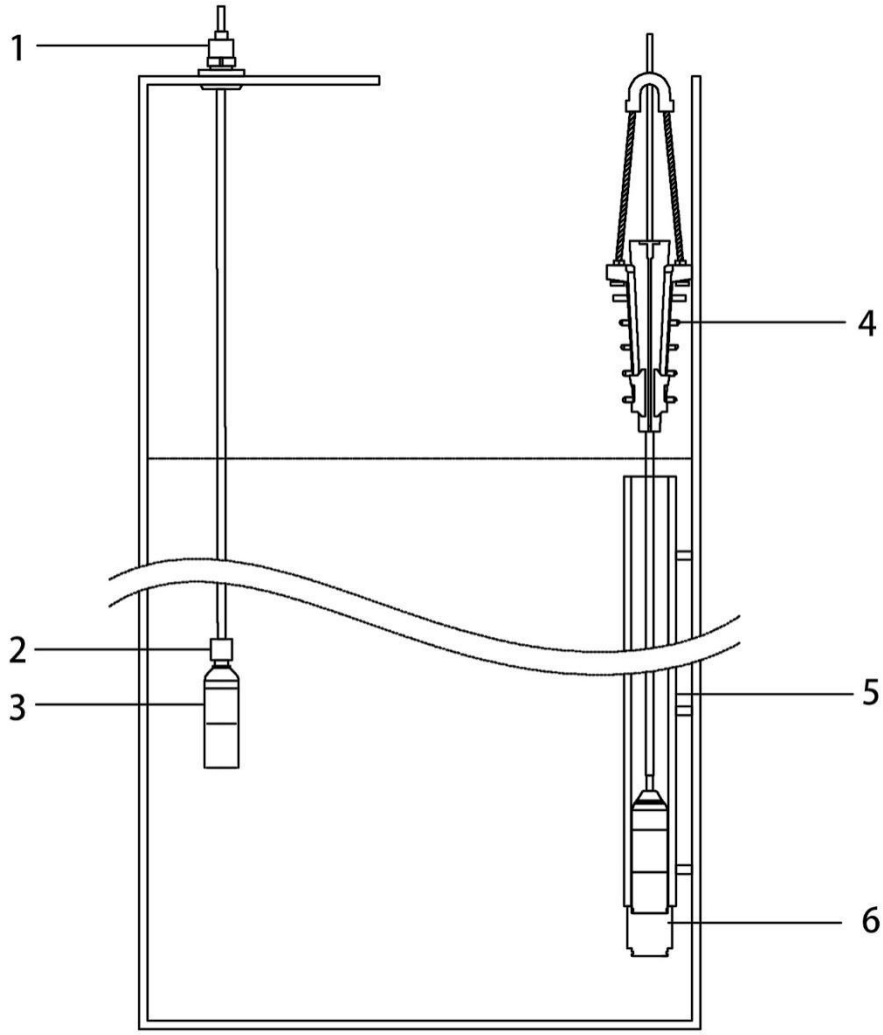
Cable clip(Code:W8)



Used to fix the entire product at the top

Weight ~340g

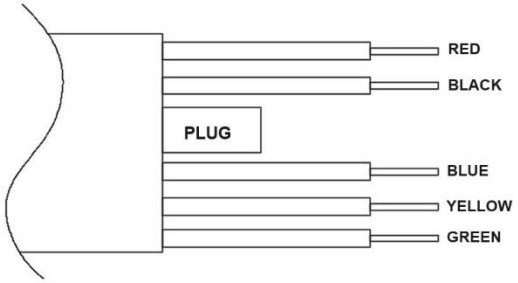
Installation



1. Threaded Mounting Parts(W1)
2. Top connection heavy hammer(W2)
3. Level transmitter
4. Cable clip(W8)
5. Protective tube
6. Bottom connection heavy hammer(W3)

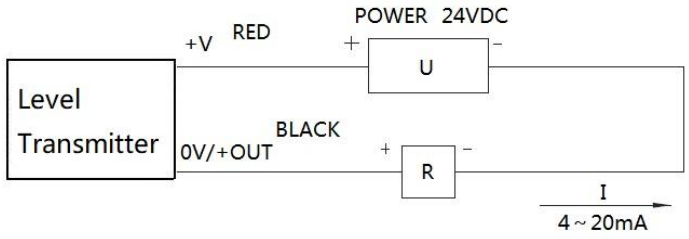
Notes： If heavy hammer in bottom, need to consider the influence of the height of the bottom hammer on the height from the sensing diaphragm to the bottom of the measurement medium.

Electrical Connection

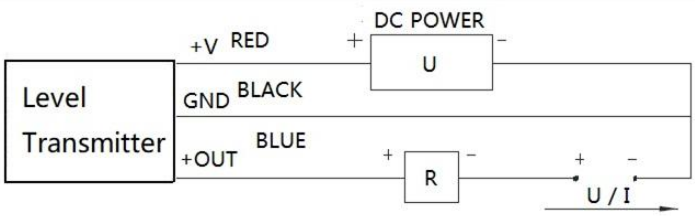


Wire color	4～20mA 2-wire	Voltage 3-wire	Modbus-RTU/RS485
Red	Power supply+（+V）	Power supply+（+V）	Power supply+（+V）
Black	Power supply-（0V/+OUT）	Common (GND)	Power supply-（0V）
Blue	-	Output+（+OUT）	-
Yellow	-	-	RS485A
Green	-	-	RS485B

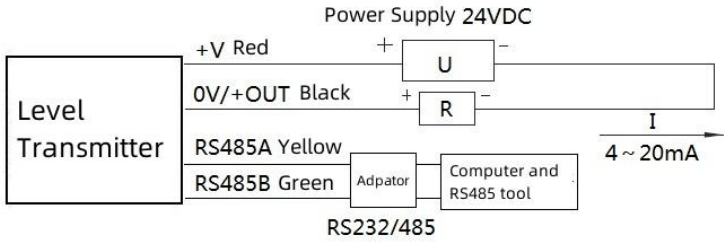
⚠Gauge pressure products should refer to the current atmospheric pressure, and the breathable plug must be kept dry and prevented from falling off.



Electrical wiring diagram of 2-wire 4-20mADC output transmitter



Electrical wiring diagram of 3-wire voltage output transmitter



Electrical wiring diagram of Modbus-RTU/RS485 output transmitter

Ordering Guide

Item NO.	Type							
HPM4119	Mini-diameter Level transmitter							
	Pressure Range	Measuring Range						
	[0 ~ X]mH₂O (Ln)	X is measuring range L is the length of cable						
		Code	Output Signal					
		B1	(4 ~ 20)mA					
		B3	(0 ~ 10)V					
		B4	(0 ~ 5)V					
		B7	RS485					
			Code	Cable				
			C2N	NBR				
			C2U	PU				
				Code	Mounting Method			
				N	NA			
				W1	Threaded Mounting Parts			
				W2	Top connection heavy hammer			
				W3	Bottom connection heavy hammer			
				W8	Cable clip			
					Code	Sensor		
					M1	316L, silicon piezoresistive		
						Code	Proble Housing	
						S4	304	
						S6	316L	
							Code	Others
							QF	Factory report
							FK	FKM sealing ring
							NB	NBR sealing ring
								Other customized requests
eg:HPM4119	[0 ~ 5]mH2O (L7)	B1	C2U	N	M1	S4		FK

Certification Information

Certification organization	CQM
Quality management system	ISO 9001:2015
Certification scope	Research, development and manufacture of pressure transmitter and temperature transmitter
Certificate No.	00223Q21711R1S