Product model: HPM4116/HPM4119 Mini-diameter Pressure Transmitter

Manufacturer: Nanjing Hangjia Electronic Technology Co., LTD

Product category: liquid level transmitter

Application: liquid level measurement and control in petroleum, chemical industry, power plant, urban water supply and hydrologic exploration

Overview

HPM4116/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 16mm or 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.

Features

- 16mm or 19mm mini diameter, easy to install.
- High accuracy till 0.1%F.S.
- Good stability with full temperature range digital compensation
- Whole welded
- Double anti-condensation and condensation design
- Multiple protection structure design, IP68 supported.

Technical Parameters

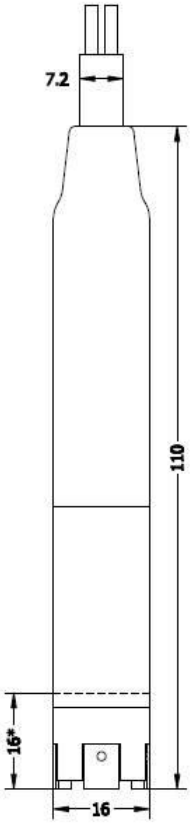
Pressure Range	0~300mH_2O
Overload	1.5 times pressure range of full scale
Measuring Medium	various liquid compatibles with 304 or 316L stainless steel
Output Signal/ Power Supply	2-wire 4~20mADC/Vs=10~30 VDC 3-wire 0~10VDC, 0~5VDC /Vs=12~30 VDC 3-wire 0.25~1.25V、0.5~2.5V/Vs=2.8~5.5VDC Modbus-RTU/RS485 / Vs=10~30V * Please consult the sales whether configuration is supported
Accuracy	±0.25%FS(typical), ±0.1%FS(optional)
Response time	about 1ms
Compensation temperature range	0~70℃
Long-term Stability	±0.2%FS/year(typical); ±0.1%FS(optional)
Temperature Coefficient of Zero	±1.0%FS(Reference 35℃, in compensation temperature range, typical)
Temperature Coefficient of Full Scale	±1.0%FS(Reference 35℃, in compensation temperature range ,typical)
Medium Temperature	-40~80℃
Storage Temperature	-40~85℃
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

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, Φ(7.2±0.2)mm
C2N		NBR jacket, Φ(7.2±0.2)mm

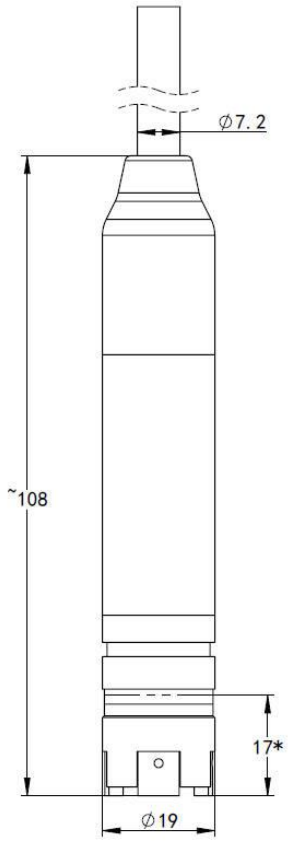
Structure Drawings(Unit:mm)

Probe



16mm diameter probe

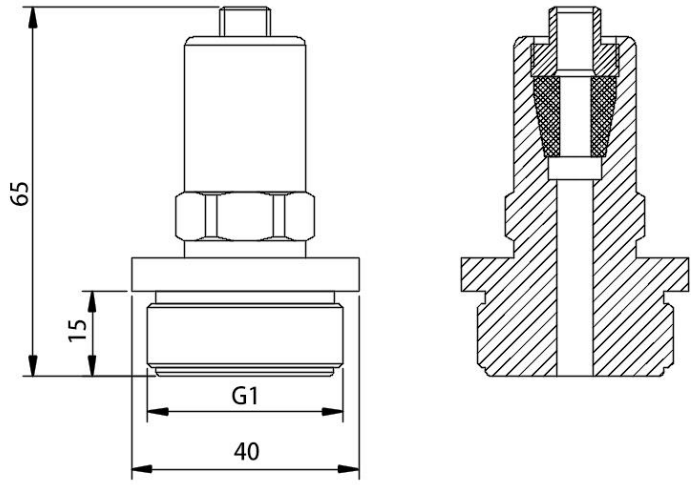
* Is the distance from the sensing diaphragm to the bottom



19mm diameter probe

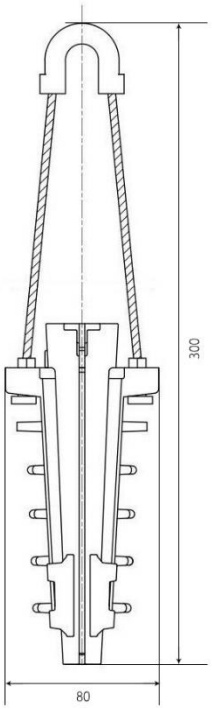
* Is the distance from the sensing diaphragm to the bottom

Threaded Mounting Parts(Code: W1)



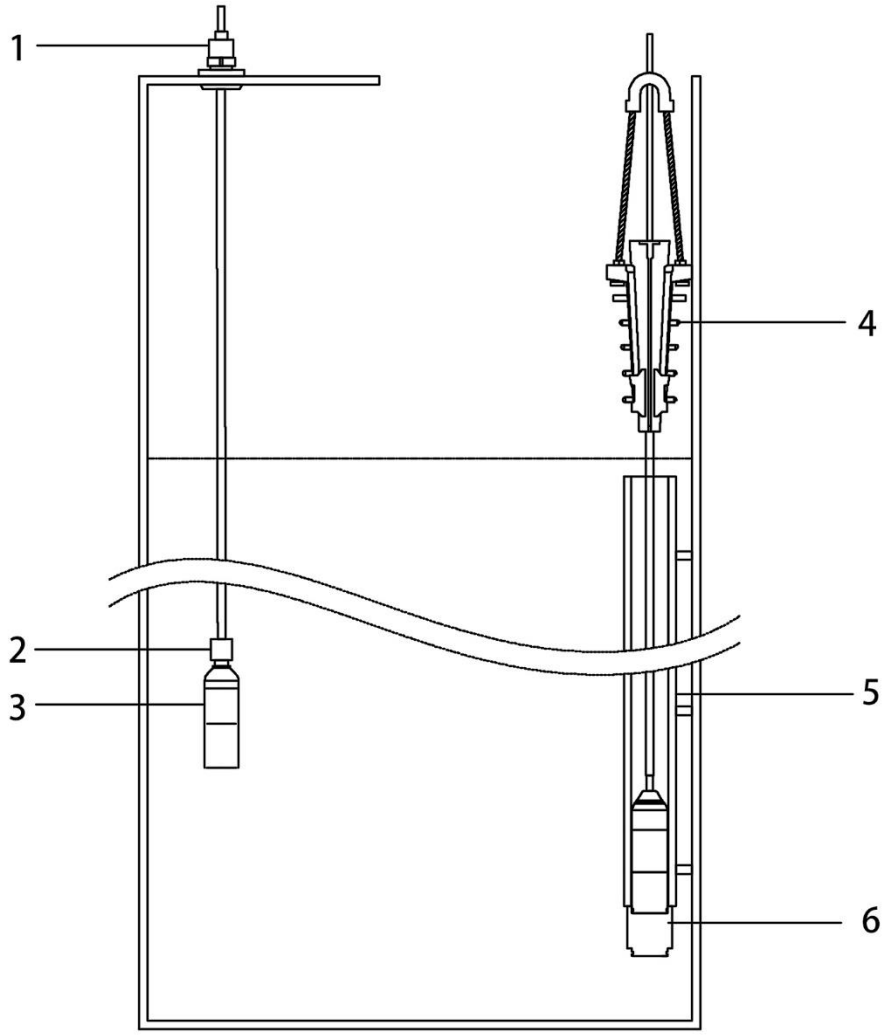
1. Used to fix the entire product at the top
2. Except for G1 thread, other threads can be customized if required

Cable clip(Code:W8)



Used to fix the entire product at the top

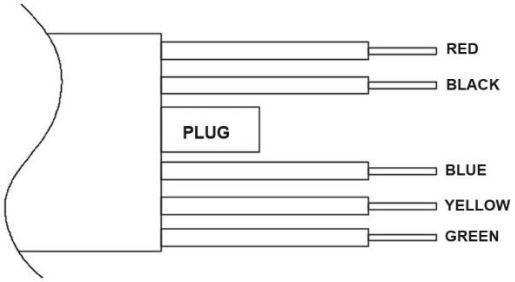
Installation



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.

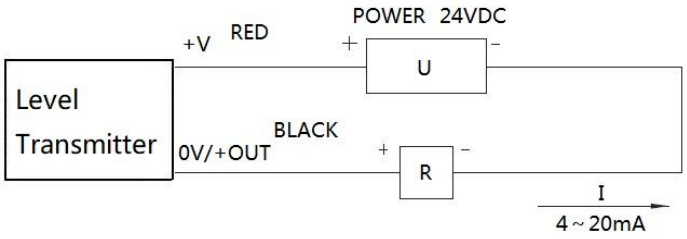
Electrical Connection



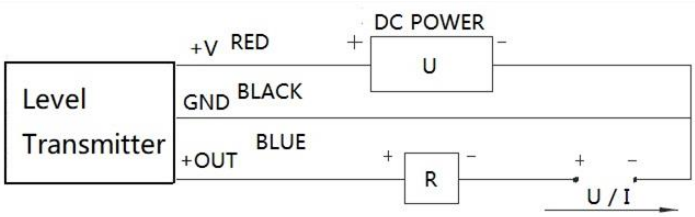
Wire color	4～20mA 2-wire	Voltage 3-wire	Modbus-RTU/RS485*
Red	Power supply+（+V）	Power supply+（+V）	Power supply+（+V）
Black	Power supply-（0V/+OUT）	Common (GND)	Power supply-（0V）
Blue	-	Output+（+OUT）	-
Yellow	-	-	RS485A
Green	-	-	RS485B

* Please consult the sales whether this configuration is supported

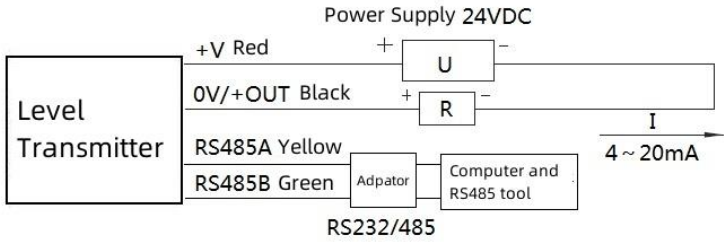
⚠Gauge pressure products should refer to the current atmospheric pressure, and the breathable plug must be kept dry and prevented from falling off.



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



Electrical wiring diagram of three-wire voltage output transmitter



Electrical wiring diagram of Modbus-RTU/RS485 output transmitter

Ordering Guide

Type								
Mini-diameter Level Pressure Transmitter								
Pressure Range	Measuring Range							
[0 ~ X]mH$_2$O (Ln)	X is measuring range Ln is the length of cable							
	Code	Output Signal						
	B1	(4 ~ 20)mA						
	B3	(0 ~ 10)V						
	B4	(0 ~ 5)V						
	B6	(0.5 ~ 4.5)V						
	B7	RS485						
		Code	Cable Material					
		C2N	NBR Nitrile					
		C2U	PU Polyurethane					
			Code	Mounting method				
			N	No				
			W1	Threaded mounting parts				
			W2	Top weight				
			W3	Bottom weight				
			W8	Clip				
				Code	Pressure sensor			
				M1	316L, silicon piezoresistive			
					Code	Probe shell material		
					S4	304		
					S6	316L		
						Code	Probe Diameter	
						D16	16mm	
						D19	19mm	
							Code	Additional Functions
							QF	Factory report
							R1	CE
							M	Metal filter cap
							P	Plastic filter cap
							FK	FKM sealing ring
							NB	NBR sealing ring
								Other requests
[0 ~ 5]mH2O (L7)	B1	C2U	N	M1	S4	D16	M 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