Product model: HPM47W anti-corrosive level transmitter

Manufacturer: Nanjing Hangjia Electronic Technology Co., LTD

Product category: liquid level transmitter

Application: Chemical industry; Water treatment industry; Environmental protection industry; Pharmaceutical industry; Industrial process control

Overview

HPM47W Anti-corrosive Level Transmitter is all sealed submerged structure and uses an anti-corrosion ceramic piezoresistive pressure sensor. The probe is made of corrosion-resistant materials such as PP, PVC, PVDF or PTFE. The gas conductive cable is also with PTFE or PU jacket. It is suitable for level measurement of corrosive media such as acids and alkalis.

This product has multiple designs for reliable sealing in probe, wires, etc., and uses a full potting process internally to ensure that the product has a long service life. It could be widely used in chemical industry, environmental protection, medicine, and industrial processes. control and many other situations.

Features

- High purity ceramic (96% Al2O3) sensor, with strong corrosion resistance
- Fluoro rubber ring as waterproof seal
- Corrosion resistant design of probe and cable
- Full potting process, with Waterproof breathable plug to prevent condensation
- Multiple protection structure design, high protection ability
- Built-in counterweight design

Technical Parameters

Measuring Range						
Rated range (Gauge pressure，kPa*)	50	100	200	500	1000	2000
Min range (Gauge pressure，kPa)	20	60	120	250	500	1000
Overload (kPa)	100	200	400	1000	1500	3500
*The measurement unit can be converted to mmH_2O@4℃, inH_2O@4℃, m, mm, etc. When using m, mm, etc. as the unit, please give the density value of the measurement medium.						
Measuring Medium	various liquid compatibles with contact materials					
Output Signal/Power Supply (1)	4~20mADC / Vs=10~30 VDC					
Output Signal/Power Supply (2)	4~20mADC+HART / Vs=12~32 VDC					
Output Signal/Power Supply (3)	0~5V etc. /Vs=10~30 VDC					
Output Signal/Power Supply (4)	Modbus-RTU/RS485 /Vs =3~8 VDC or 10~30 VDC					
Accuracy *Accuracy complies with IEC 60770 (non-linearity, hysteresis, repeatability)	±0.5%FS(typical); ±0.2%FS(with HART)					
Load characteristics	4~20mADC 2-wire: RL≤（U-10）/0.02Ω 4~20mADC+HART 2-wire: RL≤（U-12）/0.02Ω Voltage output, 3-wire: RL>10kΩ					
Long-term Stability	±0.25%FS/year					
Response time	About 1ms					
Startup time	≤3s					
Temperature Coefficient of Zero	±0.04%FS/℃ (25~70℃,Reference 25℃)					
Temperature Coefficient of Full Scale	±0.02%FS/℃ (-10~70℃Reference 25℃)					
Operation Temperature	-10~70℃ Note: The operating temperature of PVC material products is 0~60℃; the operating temperature of PP material products is 0~70℃					
Medium Temperature	-10~70℃					
Storage Temperature	-10~70℃					
Protection Grade	IP68(for probe)					
Short circuit protection	permanent					
Reverse polarity protection	No damage, circuit does not work					
Electromagnetic	compatibility according to EN 61326					
Vibration	20g(20~5000Hz)					
Impact resistance	20g(11ms)					
Insulation resistance	>100MΩ，500VDC					
Dielectric strength	Apply 500VAC 50Hz test voltage, no breakdown or arcing for 1 minute.					

Structure Material

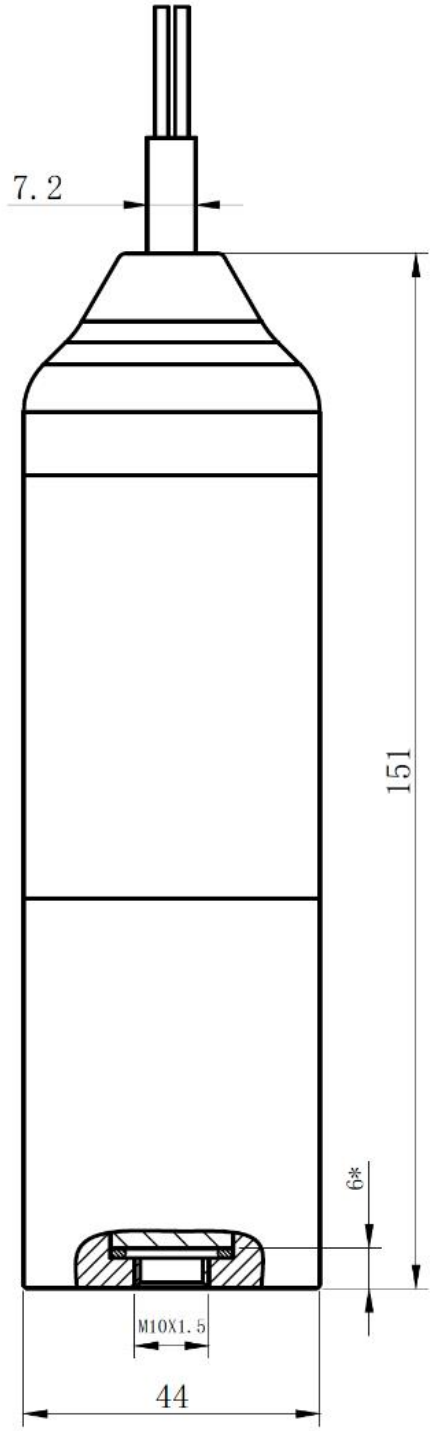
Ordering Code	Part	Note
DF	Shell material	PVDF, Density 1.78g/cm^3, Shore hardness 77, applicable temperature -10 ~ 140℃
PC		PVC, Density 1.45g/cm^3, Shore hardness 79, applicable temperature 0 ~ 60℃
PP		PP, Density 0.91g/cm^3, Shore hardness 72, applicable temperature 0 ~ 100℃
FE		PTFE, Density 2.17g/cm^3, Shore hardness 54 ~ 60, applicable temperature -200 ~ 260℃
M5	Pressure sensor	Ceramic Al_2O_3 96%
FK	Sealing ring	FKM (applicable temperature -20 ~ 200℃)
FF		FFKM (More corrosion resistant, applicable temperature -25 ~ 300℃)
C2F	Cable	PTFE, outer diameter (7.2±0.2) mm
C2U		PU, outer diameter (7.2±0.2) mm

Weight (unit: g)

Probe				
Material	PVC	PP	PVDF	PTFE
Weight (Cable not included)	~ 480	~ 430	~ 530	~580

Cable		
Material	PTFE	PU
Weight(1m)	~ 60	~ 50

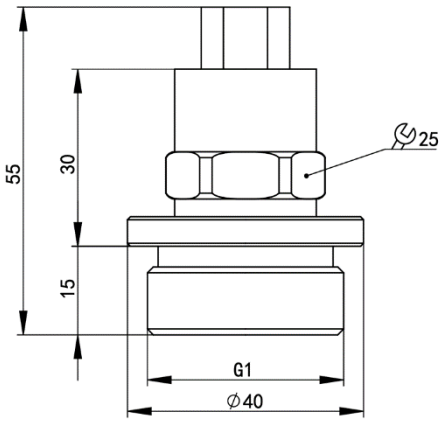
Structure Drawings (unit:mm)

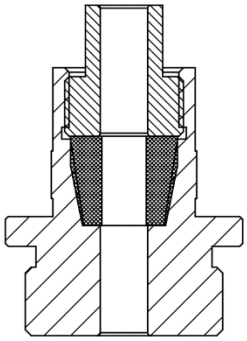


*This dimension is the distance from the sensing diaphragm to the base

Installation (Unit: mm)

Threaded Mounting Parts (Ordering Code: W1)

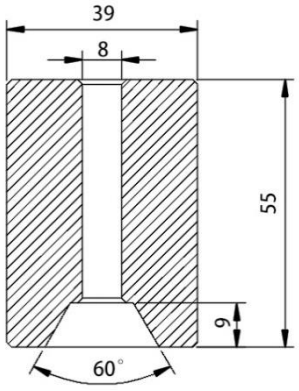




1. Used to fix the entire product at the top
2. Except for G1 thread, other threads can be customized if required

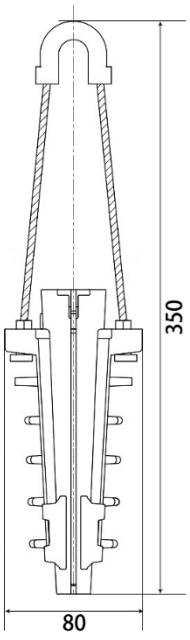
Weight ~400g

Top connection weight (Ordering code: W2)



1. Used to fix products in certain areas where the flow rate is too fast.
2. Used to fix products in certain media with excessive density.
3. Prevent measurement errors caused by floating movement of the product

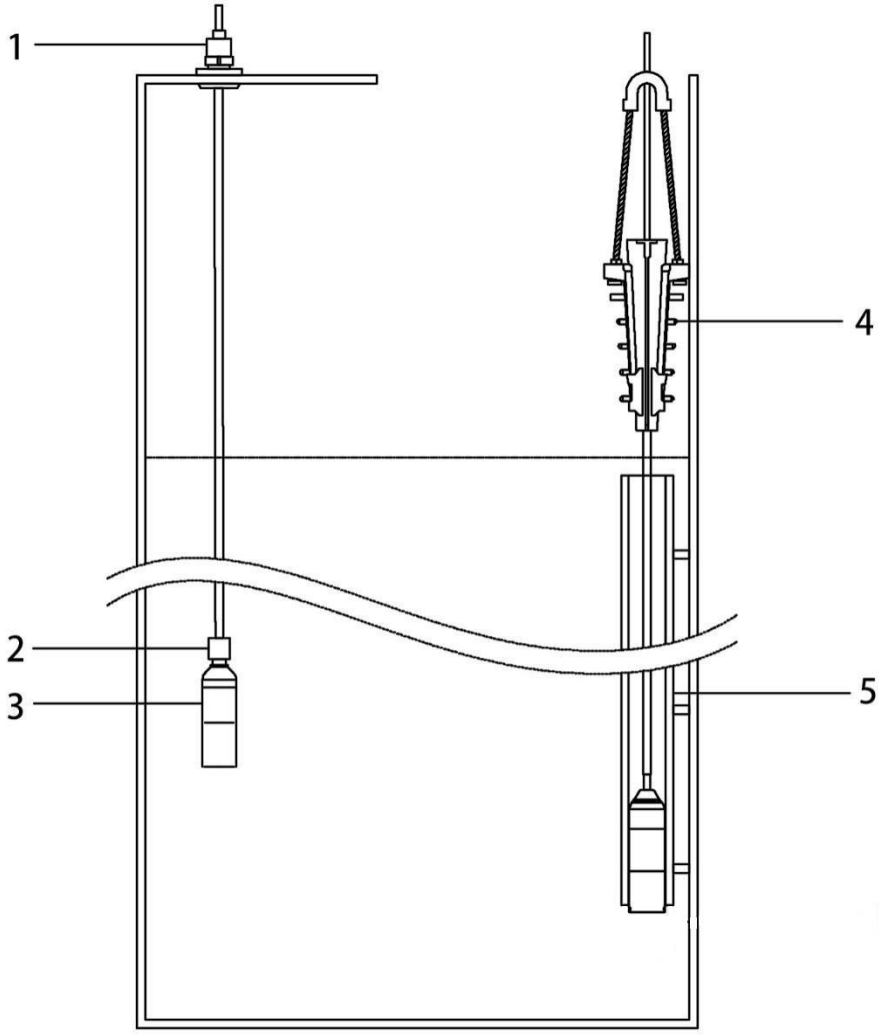
Cable clip (Ordering Code: W8)



Used to fix the entire product at the top

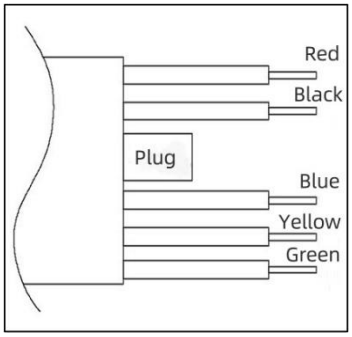
Weight ~340g

Installation Diagram



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

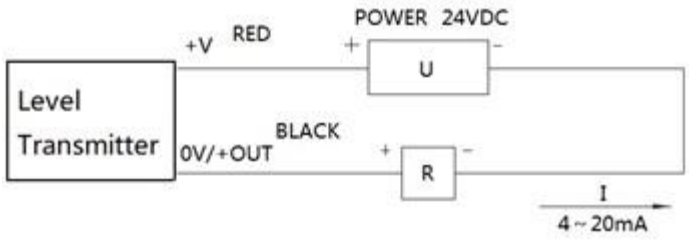
Electrical Connection



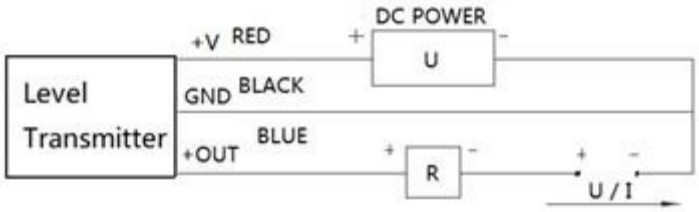
Wire color	2-wire 4 ~ 20mA	3-wire voltage	Modbus-RTU/RS485
Red	Power supply+ (+V)	Power supply+ (+V)	Power supply+ (+V)
Black	Power supply- (0V/+OUT)	Common (GND)	Power supply- (0V)
Blue		Output+(+OUT)	
Yellow			RS485A
Green			RS485B

⚠ Gauge pressure products should be referenced to current atmospheric pressure, and the breathable plugs should be kept dry and prevented from falling out.

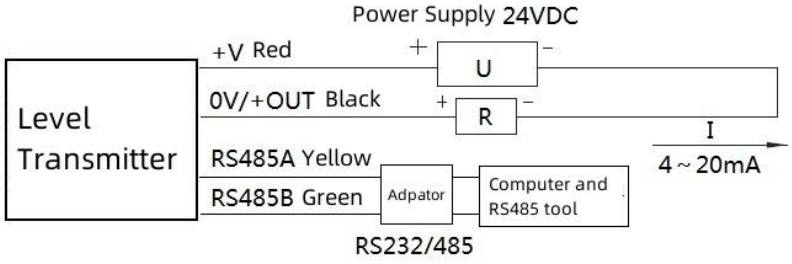
2-wire 4~20mA output



3-wire voltage output



Modbus-RTU/RS485 output



Ordering Guide

Model	Type								
HPM47W	Anti-corrosion level transmitter (Ceramic Piezo sensor)								
	Pressure Range	Range							
	[0 ~ X]mH_2O (Ln)	X measure range Ln Cable length							
		Code	Output						
		B1	(4 ~ 20)mA						
		B4	(0 ~ 5)V						
		B7	Modbus-RTU/RS485						
		B8	(4 ~ 20)mA+HART						
			Code	Cable material					
			C2F	PTFE					
			C2U	PU					
				Code	Fix way				
				N	No				
				W1	Thread				
				W2	Top heavy-bob				
				W8	Clip				
					Code	Sensor			
					M5	Ceramic Piezo			
						Code	Probe		
						DF	PVDF		
						PC	PVC		
						PP	PP		
							Code	Sealing ring Material	
							FK	FKM	
							FF	FFKM	
								Code	Other requests
								QF	Test report
								R1	CE Certification
								Y	With site display
									Other customization
eg: HPM47W	[0 ~ 5]mH2O (L7)	B1	C2F	N	M5	DF	FK	QF	

Certification Information

Factory certification	
Certification organization	CQM
Quality management system	ISO 9001:2015
Certification scope	Research, development and manufacture of pressure transmitter and temperature transmitter
Certificate No.	00223Q21711R1S
CE	
Certification organization	ECM
Certification scope	Pressure Transmitter
Standard	EN61326-1:2013
	EN61326-2-3:2013
	EN61000-6-2:2005/AC:2005
	EN61000-6-4:2007+A1:2011
Certificate No.	3Z200408.NHET098