HPM410LR Lower Power Consumption Level Transmitter

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Overview

HPM410LR low power consumption level transmitter uses high quality stable pressure sensor as the measurement element; it measures the static level pressure accurately which has direct ratio with liquid depth. Then converting the measurement value into standard RS485 signal through the signal conditioning circuit to achieve the measurement of liquid depth. This product has extremely low power consumption and long service life, it can use lithium-ion battery as power supply. And can connect wireless module, implement data wireless transport.

With long-term aging and stability testing, the product is suitable for harsh outdoor environment and can be widely used for groundwater, rivers, lakes, surface water tanks, and inventory water tanks. It is also suitable for kinds of measurement levels in IoT.

Feature

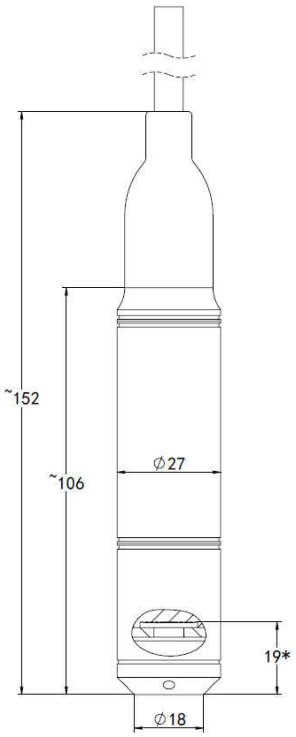
- Low Power Consumption
- Easy adapted with wireless module
- Can equip lithium battery outside as supply.
- Common regular profile, easy to install.
- Special Anti-condensation design
- Customized requests supported.

Technical Parameters

Level Range	0~0.5...500mH_2O Notes: Can also use mH2O, inH2O, m, mm, etc. as unit Need to highlight the density of liquid to be measured when using length unit such as m, mm etc.
Overload	1.5 times of Full scale
Measuring Medium	Liquid which applicable with the contact material
Output Signal	RS485
Power Supply	3.1~8 VDC
Power consumption	Standby current <5uA Date collection cycle 0~65535s Power Consumption: About 200uA with data collection cycle as 1s About 70uA with data collection cycle as 3s About 50uA with data collection cycle as 5s ... Note: Longer data collection cycle, lower consumption
Accuracy	±0.5%FS
Long term stability	±0.25%FS/year

Medium temperature	-40~85℃
Ambient Temperature	-40~85℃
Storage Temperature	-40~85℃
Protection grade	IP68
Compensated Temperature	-10~70℃(Other measurement range); 0~60℃ (Range≤1mH_2O)
Zero-point temperature drift	±1.5%FS(reference 30℃,within compensated temperature range); ±2.0%FS(Measurement Range≤1mH_2O)
Full scale point temperature drift	±1.5%FS(reference 30℃,within compensated temperature range); ±2.0%FS(Measurement Range≤1mH_2O)
Reverse polarity protection	No damage. Product will not work.
Vibration	20g(20~5000Hz)
Shock	20g(11ms)
Insulation resistance	>100MΩ @500VDC
Insulation strength	Apply 500VAC 50Hz test voltage, no breakdown or arcing for 1 minute.

Structure Drawings (Unit: mm)

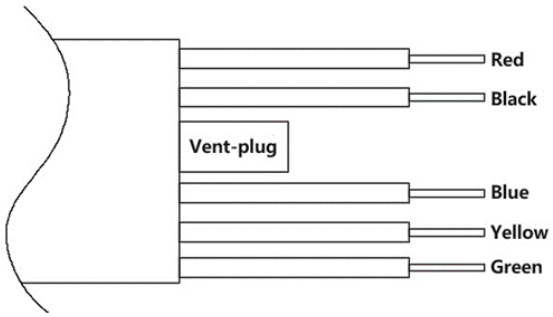


* This size is the distance from the sensing diaphragm to the bottom

Material

Code	Part	Note
S4	Probe shell	304
S6		316L
TI		titanium alloy
M1	Pressure sensor	Silicon Piezoresistive，316L
FK	O ring	FKM (working temperature: -20~200℃)
NB		NBR (working temperature: -40~120℃)
C2U	Cable	PU, external diameter (7.2±0.2) mm
C2N		NBR, external diameter (7.2±0.2) mm
C2F		Fluoroplastic cable, external diameter (7.2±0.2) mm

Electrical Interface



⚠ Gauge products need to take atmosphere pressure as reference, please keep vent-plug dry and do not take down it.

Electrical Connection

Output signal	Four wires Modbus-RTU/RS485			
Definition	Supply+(+V)	Supply-(-V)	RS485A	RS485B
Color	Red	Black	Yellow	Green

Ordering Guide

Model No.	Type						
HPM410LR	Low Power Consumption Level Transmitter						
	Range	Measurement Range					
	(0 ~ X)mH$_2$O (Ln)	X is the level range Ln is the cable length					
		Code	Output Signal				
		B7	RS485				
			Code	Cable			
			C2N	NBR cable			
			C2U	PU cable			
			C2F	Fuoroplastics cable			
				Code	Pressure Sensor		
				M1	silicon piezoresistive，316L		
				X	Other customized requests		
					Code	Probe Material	
					S4	304	
					S6	316L	
					TI	titanium alloy	
						Code	Others
						NB	NBR sealing ring
						FK	FKM sealing ring
						QF	Factory report
							Other customized requests
eg:HPM410LR	(0 ~ 1)mH2O (L2)	B12	C2N	M1	S4	NB	

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