HPM410LC Lower Power Consumption Level Transmitter

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Overview

HPM410LC 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 I2C 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 level measurements in IOT.

Feature

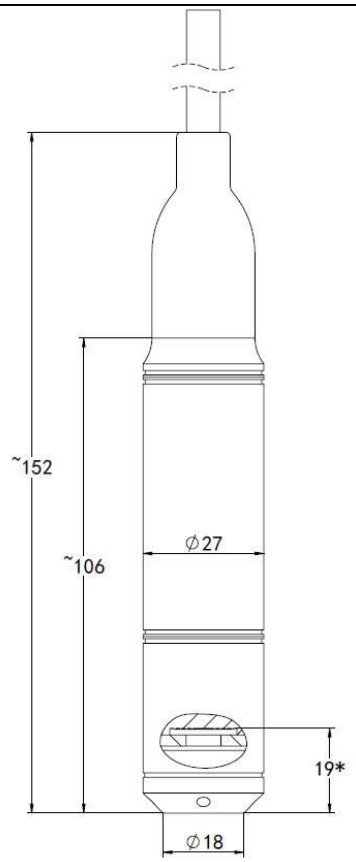
- Low Power Consumption
- Easy adapted with wireless module
- Can equip lithium battery outside as supply.
- Common regular profile, easy to install.
- Special Anti-condensation design
- Customized requests supported.

Technical Parameters

Level Range	0~0.5...50mH_2O Notes：Can also use mH_2O, inH_2O, m, mm, etc. as unit Need to highlight the density of liquid to be measured when using length units such as m, mm etc.
Overload	1.5 times of Full scale
Measuring Medium	Liquid which applicable with the contact material
Output Signal	I^2C
Power Supply	3.0~5.5 VDC
Power consumption	Normal mode <3mA Hibernate mode <100nA Wake-up Time 8ms
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)

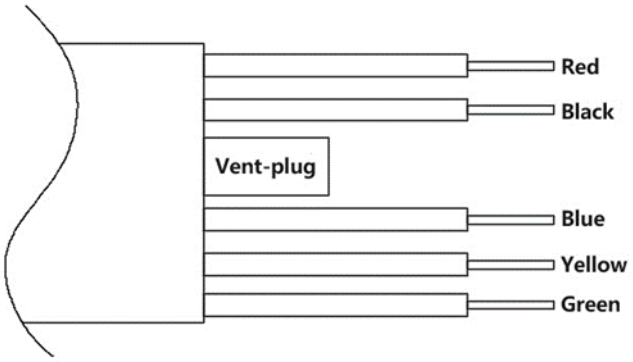


* This size is the distance from the sensing diaphragm to the bottom

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 product needs to take atmosphere pressure as reference, please keep vent-plug dry and do not take down it.

Electrical Connection

Wire color	Symbol	Definition
Red	VCC	Supply+
Black	GND	Supply-
Blue	PD	For hibernate,68k pull-up resistor inside, High level hibernation, low level wakes up.
Yellow	SCL	Clock pin for I^2C interface
Green	SDA	Data pin for I^2C interface

Ordering Guide

Model No.	Type							
HPM410LC	Low Power Consumption Level Transmitter							
	Range	Measurement Range						
	(0 ~ X)mH_2O (Ln)	X is the level range Ln is the cable length						
		Code	Output Signal					
		B12	I2C					
			Code	Hibernate Enable				
			PD	With PD function				
			NPD	Without PD function				
				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:HPM410LC	(0 ~ 1)mH2O (L2)	B12	NPD	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