



**Product model:** HPM410LC Lower Power Consumption Level Transmitter

**Manufacturer:** Nanjing Hangjia Electronic Technology Co., LTD.

**Product Category:** Level Transmitter

**Application:** IoT, Water Treatment

Industry, Groundwater, rivers, lakes, Ship

## 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 measurement in IOT.

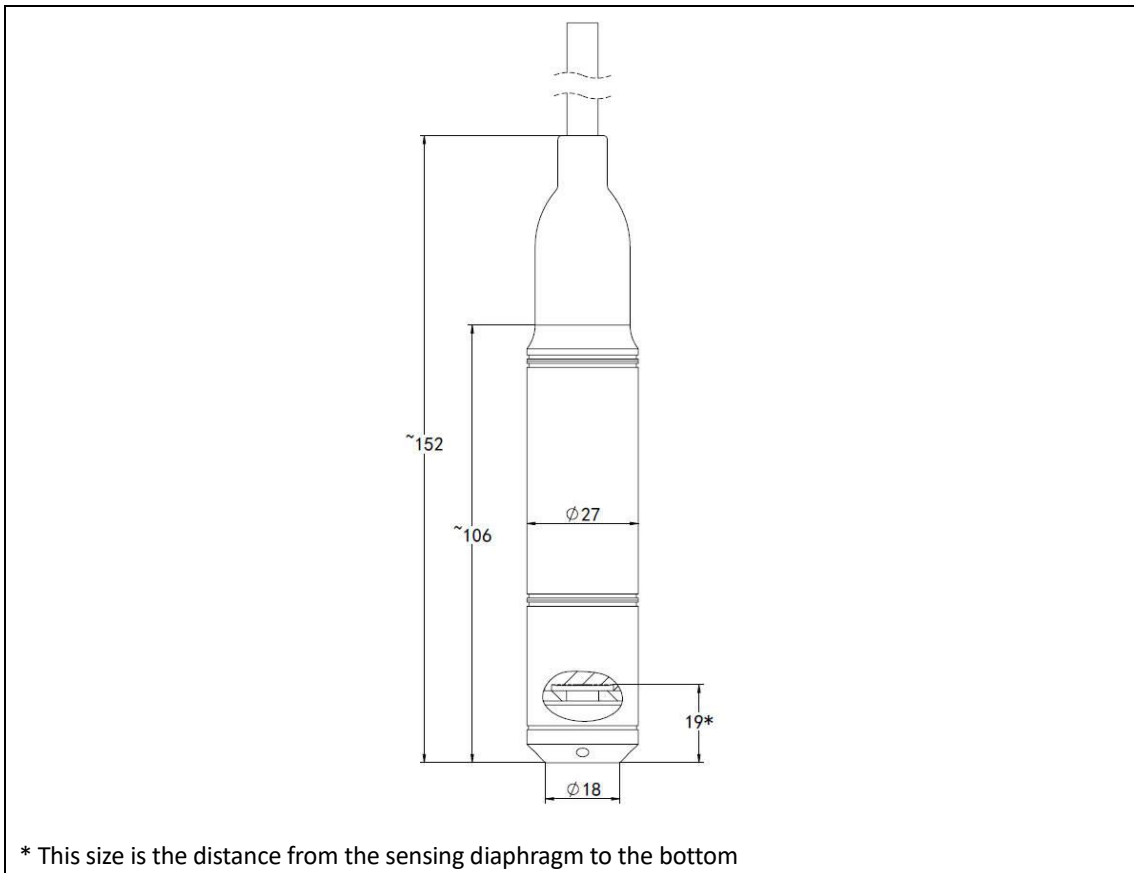
## Feature

- ◆ 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

<b>Level Range</b>	0~0.5~50mH <sub>2</sub> O Notes: Can also use mH <sub>2</sub> O、inH <sub>2</sub> O、m、mm, etc. as unit Need to highlight the density of liquid to be measured when use length unit such as m、mm etc.
<b>Overload</b>	1.5 times of Full scale
<b>Measuring Medium</b>	Liquid which applicable with the contact material
<b>Output Signal</b>	I <sup>2</sup> C
<b>Power Supply</b>	3.0~5.5 VDC
<b>Power consumption</b>	Normal mode <3mA Hibernate mode <100nA Wake-up Time 4ms
<b>Accuracy</b>	±0.5%FS
<b>Long term stability</b>	±0.25%FS/year
<b>Medium temperature</b>	-40~85℃
<b>Ambient Temperature</b>	-40~85℃
<b>Storage Temperature</b>	-40~85℃
<b>Protection grade</b>	IP68
<b>Compensated Temperature</b>	-10~70℃(Other measurement range); 0~60℃ (Range ≤1mH <sub>2</sub> O)
<b>Zero-point temperature drift</b>	±1.5%FS(reference 30℃,within compensated temperature range); ±2.0%FS(Measurement Range ≤1mH <sub>2</sub> O)
<b>Full scale point temperature drift</b>	±1.5%FS(reference 30℃,within compensated temperature range); ±2.0%FS(Measurement Range ≤1mH <sub>2</sub> O)
<b>Reverse polarity protection</b>	No damage. Product will not work.
<b>EMC</b>	Compliance EN 61326
<b>Vibration</b>	20g(20~5000Hz)
<b>Shock</b>	20g(11ms)
<b>Insulation resistance</b>	>100MΩ @500VDC
<b>Insulation strength</b>	Apply 500VAC 50Hz test voltage, no breakdown or arcing for 1 minute.

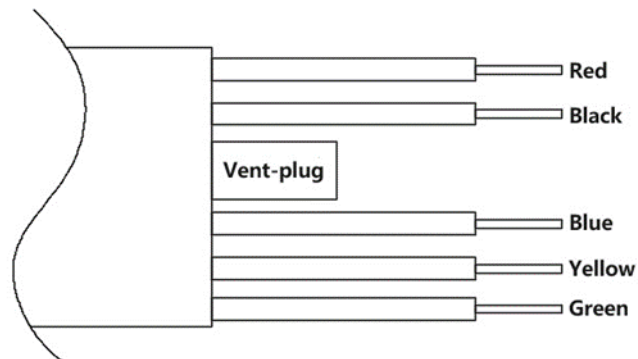
## Structure Drawings (Unit: mm)



## Material

Code	Part	Note
S4	Displacer part	304
S6		316L
TI		titanium alloy
M1	Pressure sensor	Silicon Piezoresistive, 316L
FK	O ring	FKM (working temperature: -20 ~ 200°C)
NB		NBR (working temperature: -40 ~ 120°C)
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
M	Filter cap	Metal Material
P		Plastic material

## 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 wake up.
Yellow	SCL	Clock pin for I <sup>2</sup> C interface
Green	SDA	Data pin for I <sup>2</sup> C interface

## Ordering Guide

Model No.	Type						
HPM410LC	Low Power Consumption Level Transmitter						
	<b>Range</b>	<b>Measurement Range</b>					
	(0 ~ X)mH <sub>2</sub> O (Ln)	X is the level range Ln is the cable length					
		<b>Code</b>	<b>Output Signal</b>				
		B12	I2C				
			<b>Code</b>	<b>Hibernate Enable</b>			
			PD	With PD function			
			NPD	Without PD function			
			<b>Code</b>	<b>Cable</b>			
			C2N	NBR cable			
			C2U	PU cable			
			C2F	Fuoroplastics cable			
			<b>Code</b>	<b>Pressure Sensor</b>			
			M1	silicon piezoresistive, 316L			
			X	Other customized requests			
				<b>Code</b>	<b>Probe Material</b>		
				S4	304		
				S6	316L		
				T1	titanium alloy		
				<b>Code</b>	<b>Others</b>		
				NB	NBR sealing ring		
				FK	FKM sealing ring		
				QF	Factory report		
					Other customized requests		
eg.HPM410LC	(0 ~ 1)mH <sub>2</sub> O (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