HPM420L Lower Power Consumption Level Transmitter

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Overview

HPM420L 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 with lithium-ion battery. The product has display, and with RS485 signal output, it can be networked or embedded with wireless module implement wireless transmission.

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.

Feature

- Low Power Consumption
- lithium battery inside product as supply
- Local display
- With RS485 signal output， easy adapted with wireless module
- Special Anti-condensation design

Technical Parameters

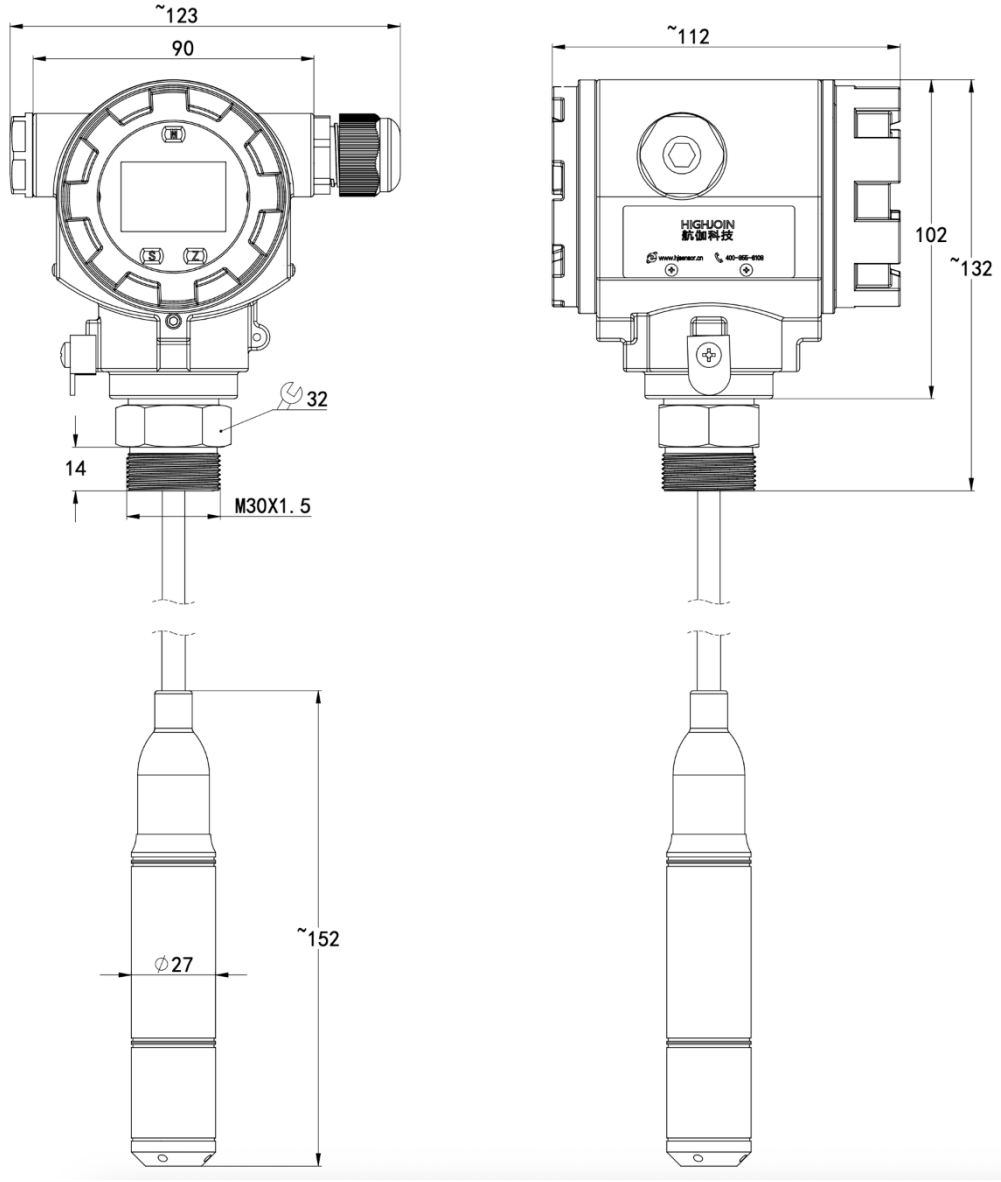
Level Range	0~0.5…10mH_2O Notes: Can also use mH2O, inH2O, m, mm, etc. as unit Need to highlight the density of liquid to be measured when using length units such as m, mm etc.
Overload	1.5 times of Full scale
Measuring Medium	Liquid which applicable with the contact material
Output Signal	RS485
Power Supply	Vs=3.1~8 V_{DC} (lithium-ion battery inside ER14250, 3.6V 1200mAh) Vs=5V_{DC} (External power supply supported) Vs=24V_{DC} (External power supply supported)
Power consumption	Standby current <20uA 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	-40~100℃
Ambient Temperature (LCD display)	-30~70℃
Storage Temperature	-30~70℃
Protection grade	IP68(Probe part) IP65(Transmitter part)
Compensated Temperature	-10~70℃
Zero-point temperature drift	±1.5%FS (reference 30℃, within compensated temperature range)
Full scale point temperature drift	±1.5%FS (reference 30℃, within compensated temperature range)
Reverse polarity protection	No damage. Product will not work.
Vibration	20g(20~5000Hz)
Shock	20g(11ms)
Insulation resistance	>100MΩ @500VDC
Insulation strength	500VAC 50Hz test voltage, no breakdown or arcing for 1min

Material

Code	Part	Note
S4	Probe shell	304
S6		316L
M1	Pressure sensor	Silicon Piezoresistive,316L
F1	Sealing 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
A12	Protection shell	Cast aluminum alloy ADC12(by default)

Structure Drawings (Unit: mm)



Electrical Connection

Output signal	4- wires Modbus-RTU/RS485			
Definition	Supply(+V)	Supply(-V)	RS485A	RS485B
Battery compartment/ Terminal	Battery+	Battery-	485A	485B

Ordering Guide

Model No.	Type							
HPM420L	Low power comsumption Level Transmitter							
	Range	Measuring range						
	(0 ~ X)mH_2O (Ln)	X is the range for level Ln is the length of the cable						
		Code	Output signal					
		B7	RS485					
			Code	Material of Cable				
			C2N	NBR/nitrile -butadiene rubber				
			C2U	PU/polyurethane				
			C2F	Fluoroplastic cable				
				Code	Top cable fixing			
				M30	M30×1.5			
				G1	G1			
				F20	DN20 Flange			
					Code	Pressure sensor		
					M1	Silicon Piezoresistive, 316L		
						Code	Probe material	
						S4	304	
						S6	316L	
							Code	Others
							VL36	3.6V lithium-ion battery (Default)
							V5	5V DC
							V24	24V DC
							QF	With factory test report
								Other customized requests
eg:HPM420L	(0 ~ 1)mH2O (L2)	B7	C2U	M30	M1	S4	VL36	

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