HPM420-T Gas collection cylinder type high temperature resistant liquid level transmitter

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Overview

HPM420-T Gas collection cylinder type high temperature resistant immersion level transmitter consists of a stainless-steel gas cylinder, a stainless-steel capillary and a junction box. The sensor and signal processing circuit are designed inside the junction box, and the gas cylinder is put into the liquid to be measured to collect pressure signals. The liquid level pressure signal collected by the gas in the gas cylinder transmits the pressure to the sensor through the stainless-steel capillary, thereby avoiding direct contact between the sensor and the measured medium, and is suitable for high temperature corrosive occasions, effectively solving the problem of high temperature corrosive liquid and sewage level measurement.

HPM420-T Gas collection cylinder type high temperature resistant immersion level transmitter is widely used in liquid level measurement and control in the fields of environmental protection, water conservancy, variable frequency water supply, industrial process control, chemical industry, etc.

Features

- Gas collection cylinder type liquid level probe
- Probe immersion measurement method, simple and convenient installation
- Can measure high temperature media
- Full metal armor, high-strength steel pipe structure
- On-site display optional
- Lightning protection optional

Applications

- High temperature media
- Corrosive media
- Industrial process control

Technical Parameters

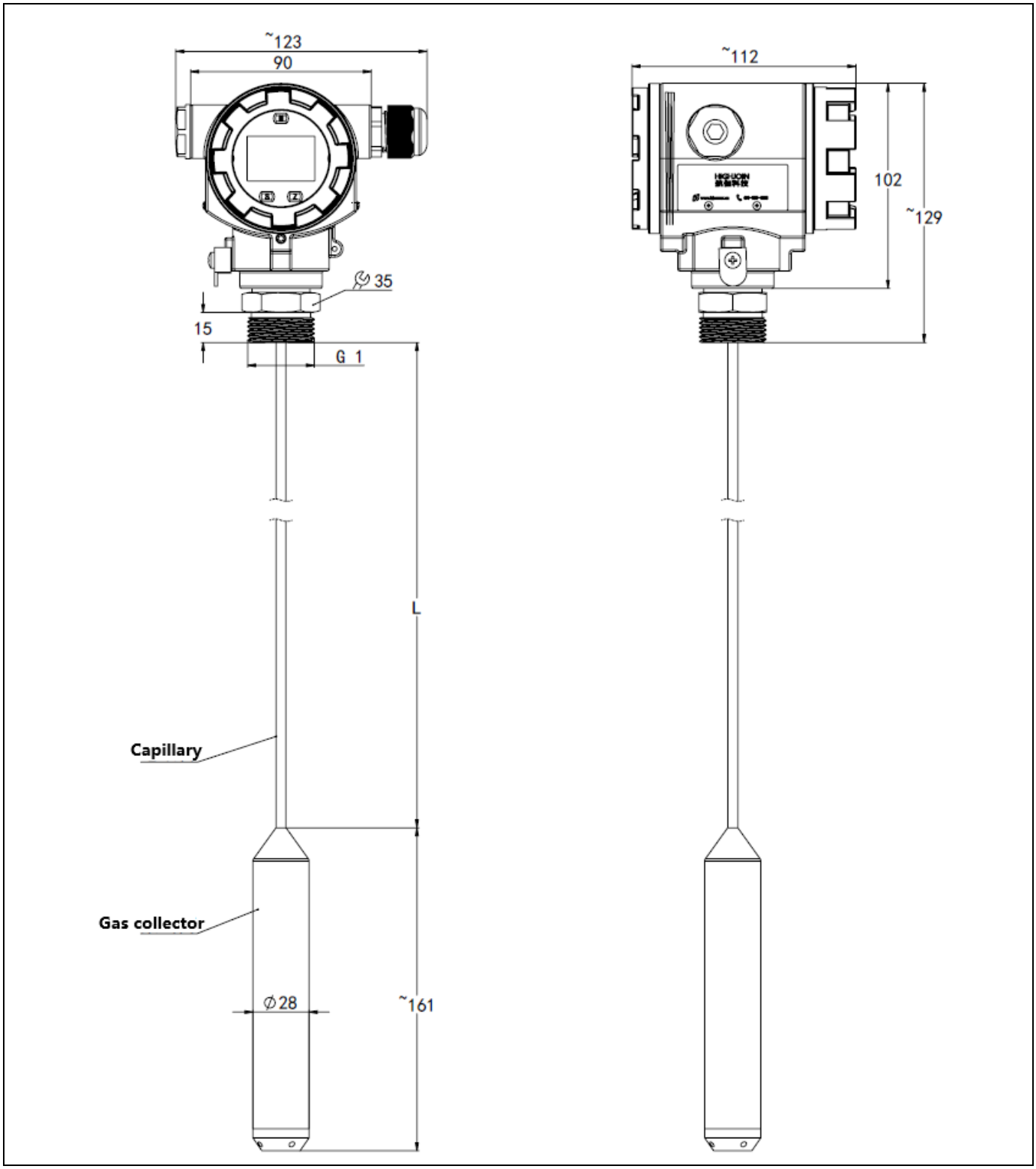
Pressure Range	0~1...20mH_2O Note: The measurement unit can be converted into ftH_2O@4℃, inH_2O@4℃, m, mm, etc.
Overload	1.5 times pressure range of full scale
Measuring Medium	various liquid compatibles contact materials
Output Signal/Power Supply (option 1)	4~20mA / Vs=8~30V
Output Signal/Power Supply (option 2)	4~20mA+HART / Vs=12~32V
Output Signal/Power Supply (option 3)	0~10V / Vs=12~30V
Output Signal/Power Supply (option 4)	Modbus-RTU/RS485 / Vs=12~30V
Output Signal/Power Supply (option 5)	2-way relay / Vs=18~32V
Accuracy	±0.5%FS (typical, @25℃)
Long-term Stability	±0.25%FS/year
*Accuracy complies with IEC 60770 (non-linearity, hysteresis, repeatability)	
Compensation temperature range	0~70℃

Temperature Coefficient of Zero	±1.5%FS (Reference 25℃, in compensation temperature range)
Temperature Coefficient of Full Scale	±1.5%FS (Reference 25℃, in compensation temperature range)
Operation Temperature	-20~80℃
Medium Temperature	-40~200℃
Storage Temperature	-20~85℃
Protection Grade	IP65(for junction box)
Reverse polarity protection	No damage, circuit does not work
Insulation resistance	>20MΩ, 500VDC
Insulation strength	<2mA 500VAC (500VAC 50Hz test voltage applied, no breakdown or arcing for 1 minute)

Structure Material

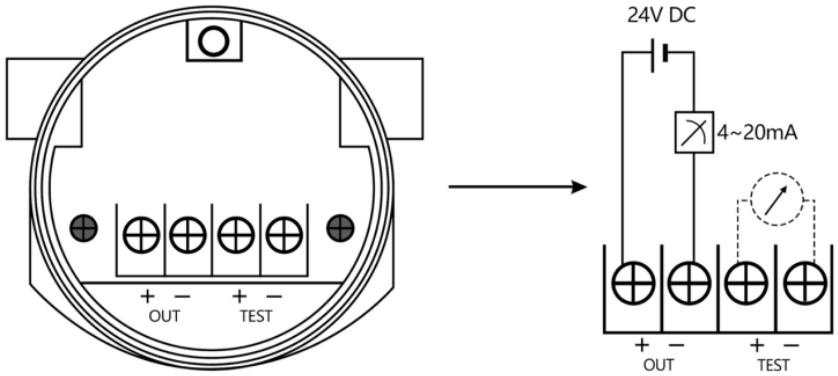
Code	Part	Note
S4	Gas collection cylinder	304
S6		316L
S4	Capillary	304
S6		316L
A12	Junction box material	Cast aluminum alloy ADC12 (default)
M1	Pressure sensor	Silicon Piezoresistive, 316L
FK	Pressure sensor sealing ring	FKM (working temperature: -20~200℃)
NB		NBR (working temperature: -40~120℃)

Structure Drawings



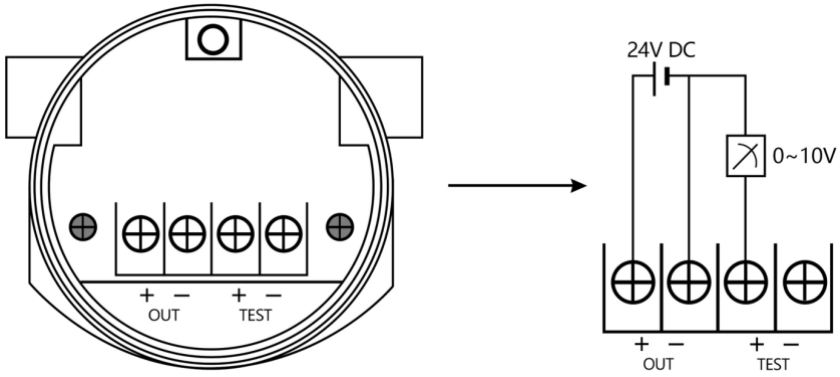
Electrical Connection

2-wire, 4~20mADC or 4~20mADC +HART



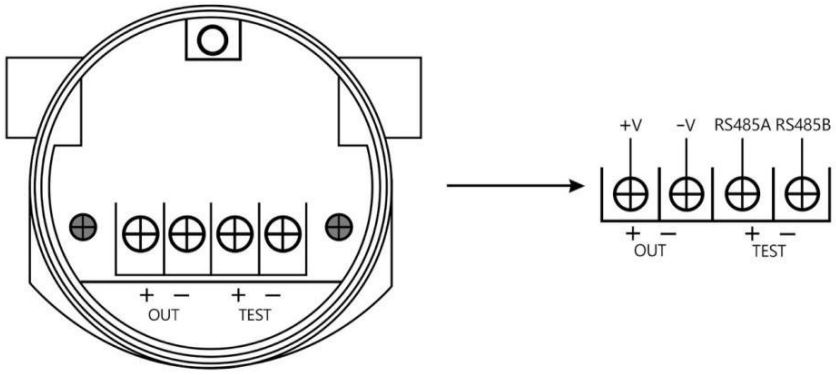
Signal Definition	Power+(+V)	Power-(0V/+OUT)
Terminal Connector	OUT+	OUT-

3-wire, 0~10VDC



Signal Definition	Power+(+V)	Power-(GND)	Signal +(+OUT)
Terminal Connector	OUT+	OUT-	TEST+

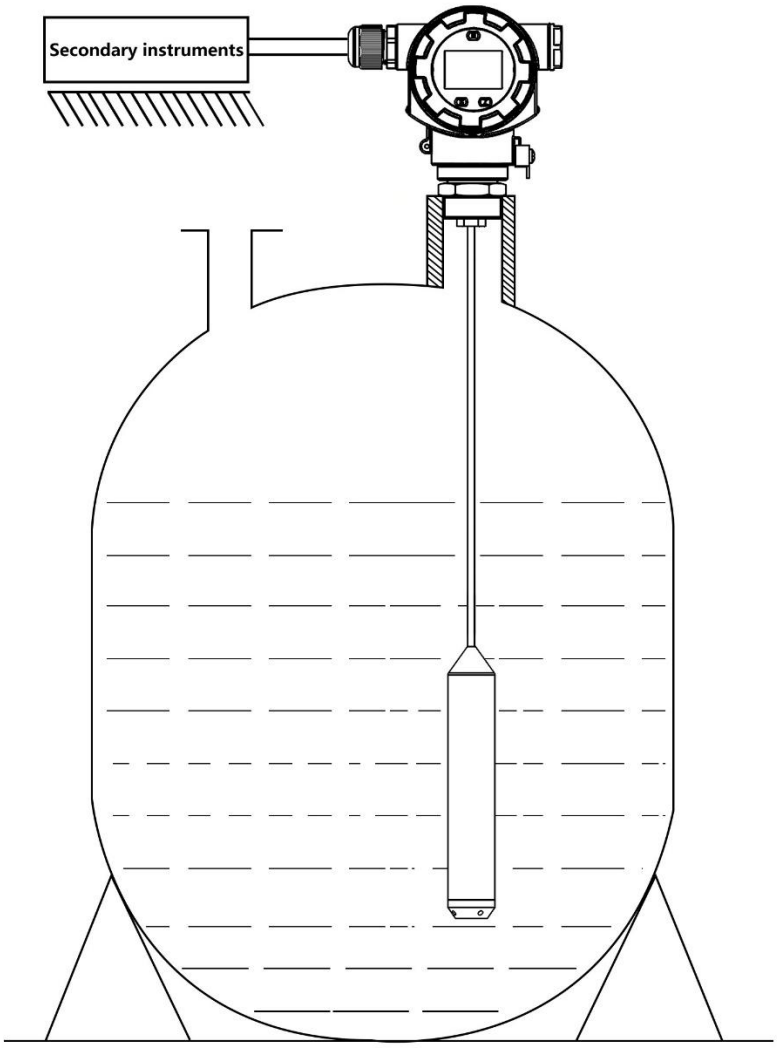
4-wire, Modbus-RTU/RS485



Signal Definition	Power+(+V)	Power-(-V)	RS485A	RS485B
Terminal Connector	OUT+	OUT-	TEST+	TEST-

Installation

Installation in liquid tank



Installation Tips

1. When measuring the liquid level in an open container, place the level transmitter vertically into the bottom of the container
2. Fix the transmitter cable and junction box at the opening of the container
3. Water cannot enter the capillary tube. If water is found in the tube, the probe can be removed, and the water can be drained
4. The capillary tube is thin and cannot be bent repeatedly
5. If there are too many impurities in the measured medium, it is recommended to use a filter cover

Ordering Guide

Model No.	Type							
HPM420-T	Gas collection cylinder type Level Transmitter							
	Level Range	Measuring Range						
	(0 ~ X)mH$_2$O (Ln)	X is the level range Ln is the capillary length						
		Code	Output Signal					
		B1	(4 ~ 20)mA					
		B3	(0 ~ 10)V					
		B7	RS485					
		B9	Relay					
			Code	Mounting				
			M30	M30×1.5				
			G1	G1				
			F25	DN25 flange				
			F50	DN50 flange				
				Code	Gas collection cylinder material			
				S4	304			
				S6	316L			
					Code	Capillary material		
					S4	304		
					S6	316L		
						Code	Sensor	
						M1	316L，silicone piezoresistive	
							Code	Others
							QF	Factory report
							FL	Lightning protection
							LCD	LCD display
							LED	LED display
							ND	Without display
							FK	FKM sealing ring
							NB	NBR sealing ring
								Other customization requirements
Eg：HPM420-T	(0 ~ 5)mH2O (L6)	B1	G1	S4	S4	M1	LCD FK	

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
Electromagnetic Compatibility Directive	2014/30/EU
Certificate No.	6G241223.NHEWC83