# HPM410-C Anti sand and waterweed type Level Transmitter



Nanjing Hangjia Electronic Technology Co., Ltd.

#### **Overview**

HPM410-C Anti sand and waterweed type liquid level transmitter adopts a fully sealed submersible structure. This type of transmitter uses a pressure sensor that has undergone long-term stability and reliability tests and a high-precision signal conditioning dedicated circuit installed in a stainless-steel shell. The integrated structure and standardized signal provide convenience for on-site use and automatic control. The shell of this product adopts a full welding process. At the same time, the connections of various links such as the shell and cable are reliably sealed with multiple designs. The internal full potting process ensures that the product has a good service life.

The unique design of this product is the use of a customized filter ring structure, which can effectively prevent the entanglement of impurities such as water plants in rivers and lakes and the blockage of granular impurities such as silt. The filter ring is easy to disassemble and clean and can be reused many times. This product can continuously and stably monitor the changes in liquid level in a long-term and stable environment of sedimentation and water plants.

## **Application**

- Rivers and Lakes
- Pools and water tanks
- Groundwater, water level monitoring, urban water supply and drainage, etc.
- Marine

#### **Features**

- Filter ring structure
- Anti sand and waterweed design
- Liquids containing sand and other particulate impurities
- Multiple protection and sealing structure design, IP68 level
- Digital compensation in a wide temperature range, good stability
- Lightning protection optional

### **Technical Parameters**

Measuring Medium	Various liquids or gases compatible with contact
	materials
Measuring Range	0~1500mH₂O
	Note: The measurement unit can be converted to

	ftH <sub>2</sub> O@4 $^{\circ}$ C, inH <sub>2</sub> O@4 $^{\circ}$ C, m, mm, etc.		
	When using m, mm, etc. as the unit, the density value of		
	the measured medium needs to be given		
Overload	1.5 times of full range scale		
Output Signal/Power Supply(option1)	2-wire 4~20mA / Vs=8~30V		
Output Signal/Power Supply(option2)	2-wire 4~20mA+HART / Vs=12~32V		
Output Signal/Power Supply(option3)	3-wire 0~5V / Vs=8.5~30V or Vs=3.1~8V (needs to		
	be 0.4V higher than the maximum output voltage.)		
Output Signal/Power Supply(option4)	3-wire 0~10V / Vs=12~30V		
Output Signal/Power Supply(option5)	3-wire Modbus-RTU/RS485 / Vs=10~30V		
Output Signal/Power Supply(option6)	One way relay output/ Vs=18~30V		
Accuracy	±0.5% FS@25°C(typical)		
	±0.2% FS@25°C(optional)		
Long term stability	±0.25%FS/year(typical accuracy)		
	+0.2%FS/vear(ontional accuracy)		
*Accuracy conforms to IEC 60770 (non-linear	error, hysteresis, repeatability)		
Compensation temperature range	0~70°C (0.5G accuracy)		
	-10~80°C (0.2G accuracy)		
	Note: Please consult if the measuring range is $\leq$ 20kPa		
Temperature Coefficient of Zero	±1.0%FS Reference 25°C, within temperature		
	compensation range		
	( $\leq$ 20kPa range, temperature drift $\pm$ 1.5%FS , 0~70°C)		
Temperature Coefficient of Full Scale	±1.0%FS Reference 25°C. within temperature		
• • • • • • • • • • • • • • • • • • • •	compensation range		
	( $\leq$ 20kPa range, temperature drift $\pm 1.5\%$ FS , 0~70°C)		
Working Temperature	-40~80°C		
Measuring medium temperature	-40~80°C		
Storage Temperature	-40~85°C		
Protection level	IP68		
Reverse polarity protection	No damage, circuit does not work		
Electromagnetic Compatibility	Compliant with EN 61326		
Insulation resistance	>20MΩ, 500VDC		
Dielectric strength	<2mA @500VAC (Apply 500VAC 50Hz test voltage		
	for 1 minute without breakdown or arcing)		

## **Structure Material**

Code	Part	Note
S4		304
S6	Probe shell	316L
Ti		titanium or titanium alloy
M1	Pressure sensor	Silicon Piezoresistive, 316L
M2		Silicon Piezoresistive, titanium & titanium alloy
FK	Pressure sensor	Fluorine rubber FKM (working temperature: $-20 \sim 200^{\circ}$ C)
NB	sealing ring	Nitrile rubber NBR (working temperature: -40 ~ 120°C)
C2U	Cable	PU polyurethane cable, external diameter $(7.2\pm0.2)$ mm
C2N	Capie	NBR nitrile cable, external diameter $(7.2\pm0.2)$ mm
MS6	Filter ring	SS316L material
Р	Filter ring	Ceramic material

# Structure Drawings (Unit: mm)



## Installation (Unit: mm)





	Red Black
Plug	Blue
	Yellow Green
	Plug

Wire color	2-wire 4 ~ 20mA	3-wire voltage	Modbus-RTU/RS485
Red	Power supply+ (+V)	Power supply+ (+V)	Power supply+ (+V)
Black	Power supply- (0V/+OUT)	Common (GND)	Power supply- (0V)
Blue	-	Output+(+OUT)	-
Yellow	-	-	RS485A
Green	-	_	RS485B

Gauge pressure products should be referenced to current atmospheric pressure, and the breathable plugs should be kept dry and prevented from falling out.



# **Ordering Guide**



# **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
Standard	EN61326-1:2013
	EN61326-2-3:2013
	EN61000-6-2:2005/AC:2005
	EN61000-6-4:2007+A1:2011
Certificate No.	3Z200408.NHET098