BHPT2013-E Submersible Level Transmitter

Features

- Piezoresistive diffused silicon pressure sensor
- Probe insertion measurement method, easy to install
- For level measurement
- Multiple protective structure design, high protection ability
- LCD option
- Variety of styles, suitable for various industrial applications
- Anti-corrosion stainless steel material adopted, suitable for many occasions

Applications

- Static pressure level
- Liquid tanks
- Sewage
- Industrial water
- Pools
- Wells
- Rivers
- Seawater
- Lakes

Notes:

1 Do not touch the diaphragm with hard objects, which may cause damage to the diaphragm.

2 Please read the Instruction Manual of the product carefully before installation and check the relevant information of the product.

3 Strictly follow the wiring method for wiring, otherwise it may cause product damage or other potential faults.

4 Misuse of the product may cause danger or personal injury.



Product overview

BHPT2013-E Submersible Level Transmitter accurately measures static pressure of the liquid proportional to the level depth using high performance piezoresistive diffused silicon pressure sensor as the measuring element. The result is converted to standard current or voltage signal output through signal conditioning circuit, establishing the linear corresponding relation between the output signal and liquid depth to complete the measurement of the liquid depth. The product has advantages of high precision and small volume. Submerse it directly into liquid, the height between the end of the transmitter to the liquid surface is measured easily. The product is applicable to the measurement and control of the liquid level in the petroleum, chemical industry, power plant, urban water supply and hydrological exploration fields.

BHPT2013-E has passed long-term aging and stability screening with stable and reliable performance and can be used in harsh outdoor environment. Meanwhile, it can display liquid level on site. Zero shift and full scale span shift available.

Notes:

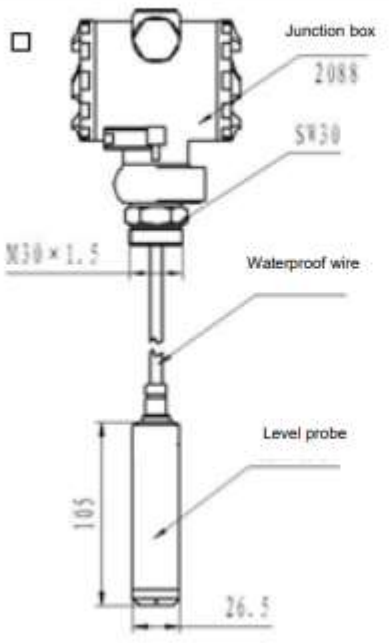
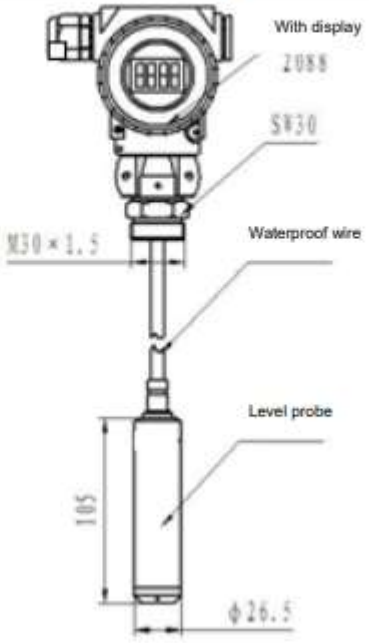
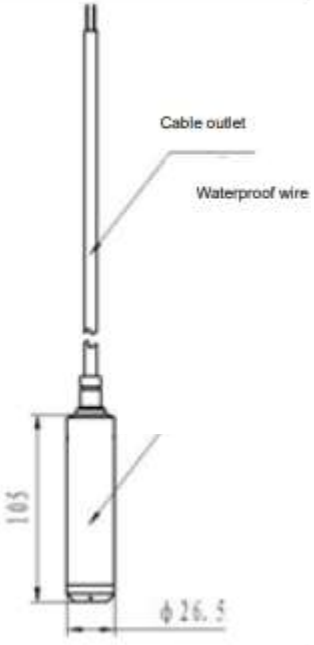
1 Do not misuse documentation.

2 The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.

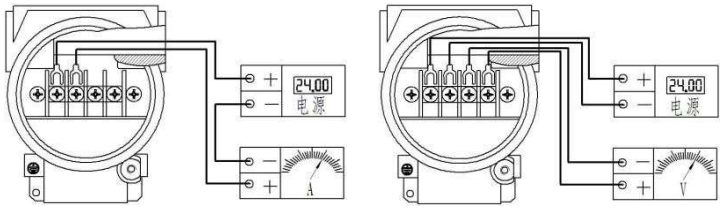
3 Complete installation, operation, and maintenance information is provided in the instructions of the product.

4 Misuse of the product may cause danger or personal injury.

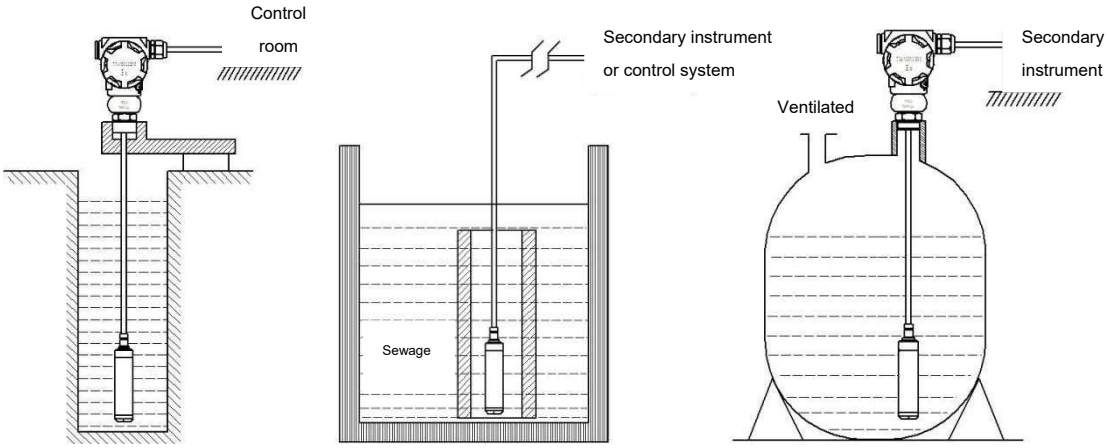
Performance Parameters	
Pressure range	0~0.5m…20mH_2O
Supply & output	4~20mA (18~36V, 24V typical)
	4~20mA with display (12~36V, 24V typical)
	1~5V, 0~5V, 0.5~4.5V, 0~10V (12~32V, 24V typical)
Operating temp.	-20℃~85℃
Medium temp.	-10℃~70℃
Storage temp.	-40℃~125℃
Compensated temp.	0m~10mH_2O: 0℃~60℃
	10m~200mH_2O: -10℃~70℃
Zero temp. coefficient	±1.5%FS (within compensated temp.)
Span temp. coefficient	±1.5%FS (within compensated temp.)
Overpressure	200%FS~300%FS
Mechanical vibration	20g (20~5000HZ)
Shock	100g (11ms)
Accuracy	0.5%FS (Optional 0,25%FS)
Insulation	100MΩ/250VDC
Response time	≤1ms (Up to 90%FS)
Long term stability	±0.2%FS/year
Protection	IP68
Material	Low copper aluminum alloy for junction box; stainless steel for level probe
	Polyurethane wire for cable
Medium compatibility	All kinds of media compatible with stainless steel 304

Code	J1: 2088 housing	J2: 2088 housing with display	J3: Cable outlet
Dimension In mm			

Wiring Method

Wiring method	2 non-polar wires  Current output Voltage output	① **Red wire**: Supply+ **Green wire**: Current output ② **Red wire:** Supply+ **Yellow wire:** Voltage output **Green wire:** Ground

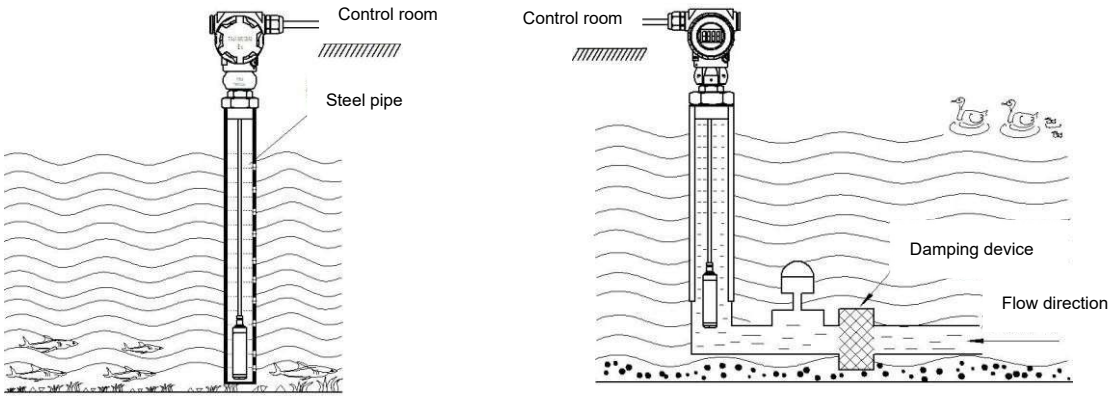
1. Installation in still water (deep wells, pools, liquid tanks, etc.)



Installation tips:

1) When measuring the level of stationary fluid in an open container, place the level transmitter vertically into the bottom of the container and secure the cable connecting the transmitter to the junction box at the opening of the container.
2) When the medium viscosity is relatively large (such as sewage pool), casing or bracket can be installed to ensure that the transmitter can be put into the bottom of the container.
3) When doing an open-air installation, the terminal box of the transmitter should be placed in a ventilated and dry place to avoid direct exposure to light and rain, which may cause the shell temperature to be too high or water to get inside and damage the internal circuit board.

2. Installation in moving water (rivers, lakes, etc.)

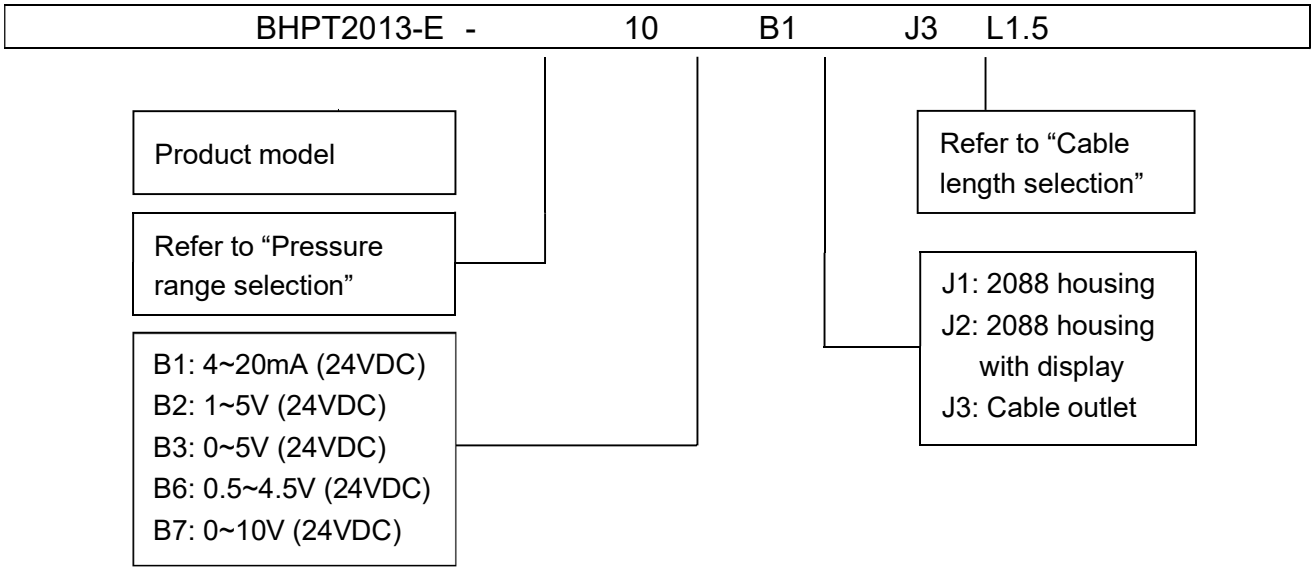


Installation tips:

1) When measuring the water level in flowing water, when the medium fluctuates greatly, a steel pipe can be inserted in the water channel with an inner diameter of about 50 cm. Make several holes of about Φ5 in diameter on the side of the immersed pipe opposite to the flow direction to allow water to enter the pipe and fix the cable and junction box at the outlet of the pipe.
2) When the medium of the water channel fluctuates greatly or the sediment is large, a damping device can be installed to filter the sediment, eliminate the adverse effects of dynamic pressure and wave and ensure the measurement accuracy.
3) When installing the product in lightening intensified area, please indicate “Lightning Protection” when placing an order. Meanwhile, it is recommended that users install lightning protection devices at the site and ensure that the product and power supply are reliably grounded to reduce damage to the transmitter caused by lightning.

Over Pressure – Burts Pressure		
Pressure Range	Over Pressure	Burst Pressure
0.5m H_2O	300%FS	600%FS
1m H_2O	300%FS	600%FS
1.5m H_2O	300%FS	600%FS
2m H_2O	300%FS	600%FS
2.5m H_2O	300%FS	600%FS
3m H_2O	300%FS	600%FS
3.5m H_2O	300%FS	600%FS
4m H_2O	300%FS	600%FS
4.5m H_2O	300%FS	600%FS
5m H_2O	300%FS	600%FS
5.5m H_2O	300%FS	600%FS
6m H_2O	300%FS	600%FS
6.5m H_2O	300%FS	600%FS

7m H_2O	300%FS	600%FS
8m H_2O	300%FS	600%FS
9m H_2O	300%FS	600%FS
10m H_2O	200%FS	500%FS
12m H_2O	200%FS	500%FS
15m H_2O	200%FS	500%FS
18m H_2O	200%FS	500%FS
20m H_2O	200%FS	500%FS



Example: BHPT2013-E--10B1J3L15
Refer to product model THL1203E, with pressure range 10m H_2O, output signal 4~20mA (24VDC supply), electrical connection cable outlet, cable length 15m.

Optional Accessories

1. The part of cable exceeding the standard cable length
2. BHPT2013-E anti-blocking protective cover (with filter)