



Shaanxi Besteetech Importing&Exporting Co. Ltd

E-mail: roxy@besteetech.com

BT8005

Submersible High-temperature Level Transmitter



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1. Introduction

BT8005 Submersible High-temperature Level Transmitter is used to measure high temperature well level and temperature. With the features of full temperature digital temperature compensation compensation data stored in nonvolatile memory.

With its high reliability in performance it is mainly used for measuring and controlling high temperature conditions such as in hot spring and under-ground hot water.

2. Advantages

- **High-Temperature Thermal Resilience:** Specifically designed to measure water levels and fluid temperatures in extreme thermal environments up to 85°C operating temperature with digital temperature compensation.
- **Titanium Alloy Sapphire Sensing Element:** Employs a high-stability titanium alloy sapphire sensor with dry measuring technology for maximum durability against hot and harsh mineral fluids.
- **Fully Welded IP68 & Ex-Proof Construction:** All-welded stainless steel enclosure (316L / SS 1Cr18Ni9Ti optional) with



IP68 rating, Teflon cabling, and **ExiaIIC T6** intrinsically safe explosion-proof certification.

- **Remoable Protective Probe Cap:** Protects the sensitive diaphragm from physical damage while allowing easy removal for periodic cleaning and maintenance.
- **Anti-Surge & Reverse Power Protection:** Built-in protection against electromagnetic interference, power reverse connections, and voltage surges.

3. Technical Parameters

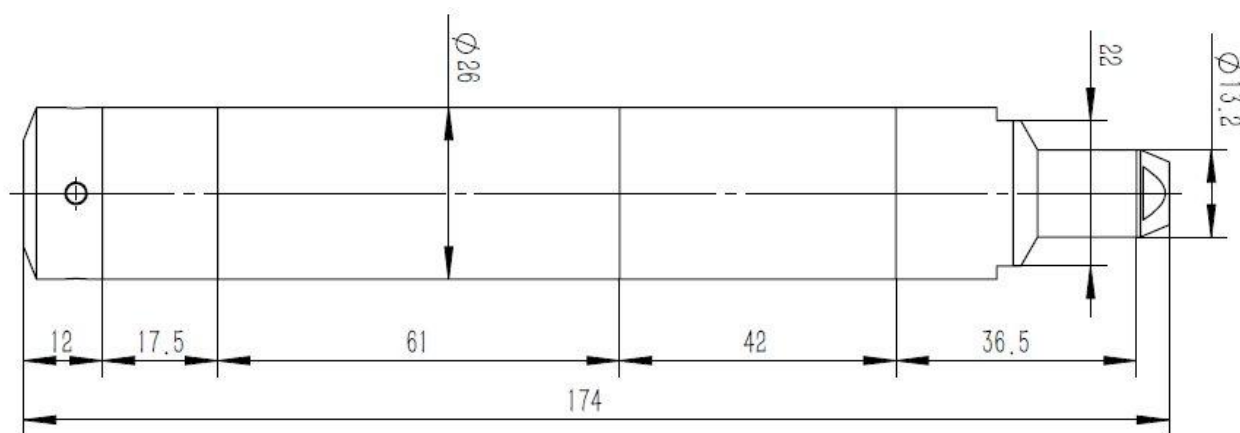
Main performance specification	
Accuracy	$< \pm 0.25\% \text{ F}\cdot\text{S}$
Range	0~10 mH ₂ O...100 mH ₂ O
Long-term stability	0.2%F·S/year (>20m)
	0.1%F·S/year ($\leq 20\text{m}$)
Overload capability	2X F·S
Load	$(U-12)/0.02 \text{ } (\Omega)$
Temperature characteristics	



Compensation temp.	0~70°C
Operating temp.	-20~85°C
Drift of temp.	Zero : 0.05%F.S/°C
	F.S: 0.05%F.S/°C
Storage temp.	-40~125°C
Electrical characteristics	
Power Supply	DC12~24V (typ.24V)
Power Protection	Anti-reverse connection over voltage protection
Output method	Two-wire 4~20mA
Structural characteristics	
Measuring medium	Compatible with stainless steel teflon and fluoro rubber
Pressure interface	Stainless steel cap or G1/2 M20*1.5 male
Housing material	SS 1Cr18Ni9Ti and 316L optional
Cable material	Teflon double wire or gas shield four - core cable

Environmental characteristics	
Protection level	IP68
Explosive-proof grade	ExiaIIC T6
Insulation	100M Ω @50V
Vibration	20g 20~5000Hz
Shock	20g 11ms

4. Parameters



5. Typical Industry Applications

Hot Spring & Geothermal Well Monitoring: Continuous level and depth measurement in high-temperature hot springs and geothermal wells.



Underground Hot Water Extraction: Deep-well water level tracking for municipal geothermal heating stations and thermal resorts.

Industrial High-Temperature Tanks: Level sensing in industrial process vessels, boiler hot water sumps, and chemical treatment basins.

Mining & Hydrological Deep-Well Surveys: Groundwater level measurement in subterranean environments with high thermal gradients.