

BT8008

Ceramic Capacitive Submersible Water Level & Temperature Gauge



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1. Product Overview

The **BT8008 series** is a high-precision, ceramic capacitive immersion-type intelligent water level and temperature gauge engineered for long-term monitoring of groundwater and surface water. Powered by a dry ceramic capacitive sensing element, the BT8008 delivers exceptional long-term stability, strong overload capabilities (5× F.S.), and outstanding corrosion resistance.

Utilizing advanced mixed-signal processing technology, the gauge offers full-scale digital linear calibration and digital temperature compensation across the entire temperature spectrum. Equipped with power supply monitoring and a built-in watchdog timer, it prevents system crashes and guarantees uninterrupted operation in remote hydrology and environmental monitoring installations.

Key Features & Advantages:

Dry Ceramic Capacitive Sensor: Superior long-term drift (<0.05% F.S./year) and high overload protection (500% F.S.).

Ultra-High Accuracy: Level measurement accuracy up to ±0.05% F.S. with temperature accuracy of ±0.2 °C (0~70 °C).

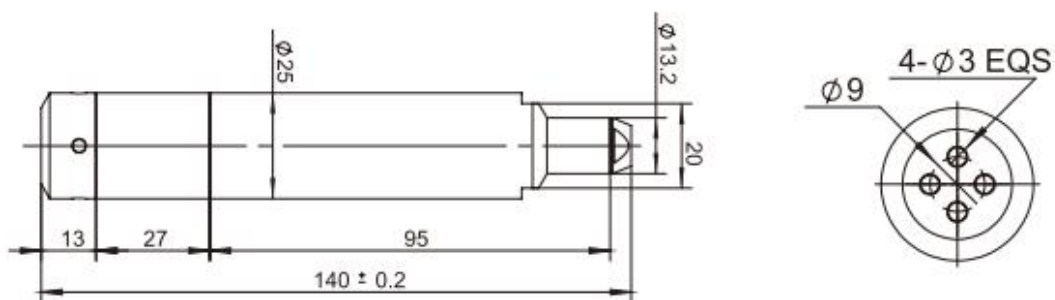
Dual Parameter Monitoring: Simultaneous real-time measurement of water level and water temperature.

Smart & Secure Signal Processing: Digital calibration parameters stored in non-volatile memory with reverse polarity and overvoltage protection.

Industrial Communication: RS485 interface with standard MODBUS-RTU protocol, supporting up to 128 nodes (optional 4–20mA output).

Rugged IP68 Construction: Fully sealed 316L stainless steel (or optional titanium alloy) housing for harsh aquatic environments.

2. Overall Dimensions(cm)



3. Applications

- **Groundwater Monitoring:** Deep well water levels and continuous thermal tracking.
- **Surface Water Hydrology:** Rivers, lakes, reservoirs, and open channel flow telemetry.
- **Environmental & Industrial:** Environmental monitoring stations and process automation via DCS/PLC networks.

4. Technical Parameters

Main Specification	
Accuracy	$\pm 0.25\% \text{ F}\cdot\text{S}(0\sim 2 \text{ m H}_2\text{O})$; $\pm 0.05\% \text{ F}\cdot\text{S}(0\sim 10 \text{ m H}_2\text{O})$
Range	0~0.5 mH ₂ O... 10mH ₂ O
Long-term stability	<0.05% F·S/year
Overload capability	5X F·S
Temp. Accuracy	$\pm 0.2 \text{ }^{\circ}\text{C} (0\sim 70 \text{ }^{\circ}\text{C})$
Temp. Resolution	0.05°C
Temperature Characteristics	
Compensation Temp.	0~70°C
Operating Temp.	-10~80°C
Drift of Temp.	Zero: <0.005%F.S/°C
	F.S: <0.005%F.S/°C

Storage Temp.	-40~125°C
Electrical Characteristics	
Power Supply	DC9~30V (typ.24V)
Power Protection	Anti-reverse connection over voltage protection
Output method	RS485/MODBUS-RTU protocol : 128 nodes or 4~20mA
Structural Characteristics	
Sensor Material	Alumina ceramic gold plating
Housing Material	Stainless steel316L or titanium alloy
Cable Material	Polyurethane or PVC optional
Cable Specifications	Φ7.6m, with Shielding layer and guide hole length customized
Environmental Characteristics	
Protection Level	IP68
Insulation	100MΩ@50V

5.Selection Guide

BT8008	Ceramic Capacitance Input Water Level Gauge		
	Range	0-300 mH2O	
	[0-X] mH2O L	X-Level range, L-Length of cable	



		Code	Output Signal			
		E	RS485			
			Code	Material of structural components		
				Housing	Diaphragm	Process Connection
			S1	316L	Ceramic	316L
				Code	Other parameters	
				PU	Polyamide cable	
				PV	Polyoxyethylene explosive cable	
BT8008	[0-10] mH2O 6	E	S1	PV	Complete model example	