



High Measuring Precision & Good Stability Soil/Liquid Temperature Sensor

Overview

The **BS500-01 Soil/Liquid Temperature Sensor** is designed to accurately measure the temperature of soil or liquid media. It is widely used in automatic weather stations, soil temperature monitoring, and water temperature detection in ponds and reservoirs. The sensor can be directly inserted into soil or submerged in water for reliable readings.

Utilizing a precision thermal resistor as the sensing element, it features built-in signal sampling, amplification, zero drift correction, and temperature compensation. The sensor offers high measurement accuracy, excellent stability, and long-term reliability across diverse environmental conditions.

Features

- ✓ Real-Time Temperature Measurement
- ✓ Good Corrosion Resistance, Suitable for all Kind of Soil
- ✓ High Accuracy
- ✓ Good Linearity
- ✓ All Stainless Steel Probe

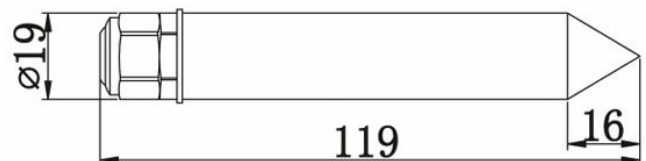
Applications

- ✓ Environmental Monitoring
- ✓ Weather Station
- ✓ Aquaculture
- ✓ Ground Temperature Detection
- ✓ Water Conservancy
- ✓ Agriculture

Dimension

Unit: mm

4-20mA/0-5V/RS485 Output



Parameter Selection Table

- **PT100(IEC60751)**

$T=0^{\circ}\text{C}R=100\Omega$, $T\approx 100+0.385*\Delta t$, Temperature and resistance is direct ratio relation.

- **4 ~ 20mA**

$T=((I_{out}-4)/(20-4)) * (\text{Range}_{max}-\text{Range}_{min}) + \text{Range}_{min}$.

- **0 ~ 5V**

$T=(V_{out}/5) * (\text{Range}_{max}-\text{Range}_{min}) + \text{Range}_{min}$.

- **RS485**

If the transmission distance is over 100m, please add a 120Ω terminal matching resistances on the front end and back end of bus interface respectively. See the modbus communication protocol specification.


Technical Specifications

Item	Technical Specifications
Range	-20 ~ 50°C , -50 ~ 100°C
Supply	5VDC, 12 ~ 24VDC
Accuracy	±0.5°C
Response Time	<1s
Output Signal	PT100/PT1000 Class A (3-Wires), 4 ~ 20mA, 0 ~ 5V, RS485
Operating Temperature	-50°C ~ 80°C
Ingress Protection (Probe)	IP68
Storage	10-60°C @20%-90%RH
Size	4 ~ 20mA, 0 ~ 5V, RS485: Probe: Ø19x119 mm, Transmitting Module: Ø27*120mm PT100: Probe: Ø6 ×50mm
Probe Weight (Unpacked)	145g
Housing Material	304 Stainless Steel

If You Select 4 ~ 20mA, 0 ~ 5V, RS485 Output, Need Add Transmitting Module.

Parameter Selection Table

Remark	Series	Type	Range	Supply	Output	Cable Length	
BS							
	500						
		01					
			A				-20 ~ 50°C
			B				-50 ~ 100°C
			X				Other
				A			5V
				B			12 ~ 24V
				X			Other
					A		PT100 (3 ~ Wires)
					B		4 ~ 20mA
					C		0 ~ 5V
					D		RS485
					X		Other
						5000	Unit(mm) Default
						...	Unit(mm)

For comprehensive details, visit: www.buraq.com/BS500-01 



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HQ: Buraq Center, 11-D, 6th Road, Satellite Town, Rawalpindi, Pakistan. **STZ:** 1st Floor, Alpha-18, NASTP, Old Airport Road, Rawalpindi, Pakistan.



info@buraq.com