



Underground Soil Monitoring, High-Precision Platinum Resistance Temperature Sensor

Overview

The **BS520-01 Soil Moisture & Temperature Sensor** is designed to measure soil moisture and temperature simultaneously. Its stainless-steel probe can be easily inserted into the soil surface or soil profile for quick and accurate measurements. The moisture measurement is based on the FDR (Frequency Domain Reflectometry) principle, which determines soil volumetric water content by measuring the soil's dielectric constant.

The sensor features built-in drift calibration and temperature compensation, allowing stable performance in a wide range of environments. The probe can be permanently installed underground and connected to a data logger for continuous and long-term monitoring.

The temperature measurement uses a high-precision platinum resistance element to ensure reliable temperature readings.

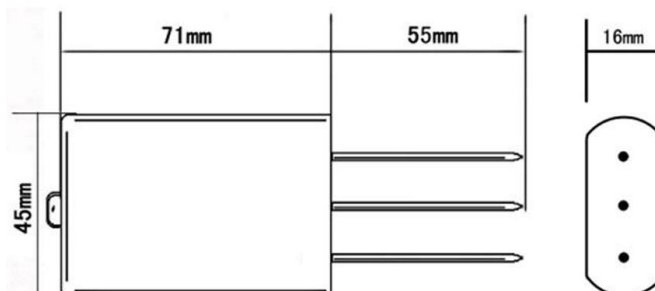
Features

- ✓ High Precision
- ✓ Fast Response
- ✓ Stainless Steel Probe for Durable Field Use
- ✓ Soil Properties Affect Little
- ✓ Directly Buried in Soil
- ✓ Widely Used

Applications

- ✓ Agriculture Irrigation
- ✓ Greenhouse
- ✓ Grass Farm
- ✓ Environment Monitoring
- ✓ Water Conservation
- ✓ Soil Testing

Dimensions

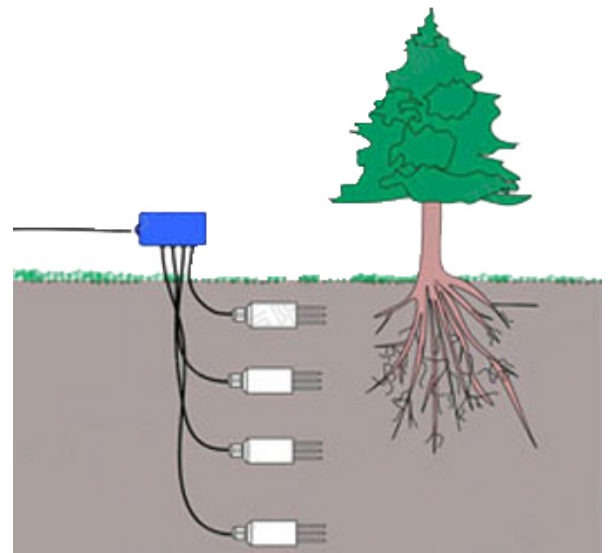


Technical Specifications

Item	Technical Specifications	
	Moisture	Temperature
Range	0-100% (m3/m3)	-30°C ~ 70°C
Accuracy	±3%(0-50%)	±0.3°C
Output Signal	4 ~ 20mA , 0 ~ 5V, 0 ~ 2V, RS485 Optional	
Response Time	<1s	
Supply	5VDC, 12 ~ 24VDC	
Effective Measurement Area	With the Center of the Probe Diameter is 70mm, High 70mm Cylinder	
Housing	ABS	
Dimensions	71*45*16mm (Probe:2* Ø3*55mm,1*Ø4*55mm)	
Operating Temperature	-40°C ~ 80°C	
Ingress Protection	IP68	
Storage	10 ~ 60°C@20%-90%RH	
Probe Material	316L Stainless Steel	

MOUNTING


1. Testing medium should be with uniform intensity.
2. If surface soil water content measurement, the sensor should be insert into soil vertically. Do not shake the sensor when inserted, otherwise the probe will be blended.
3. If multi-layer soil water content measurement, the sensor should be buried in the soil and parallel to the ground. Make sure the probe not be blended.
4. When removing sensors from the soil, please hold the sensor housing shell and do not forcibly pull on the cable. Soil on probes should be brushed tightly.
5. Please keep the sensor in dry & clean conditions.



Parameter Selection Table

Remark	Series	Type	Paramet	Supply	Output	Cable Length	
BS							
	520	01					
			A				Moisture & Temperature
			B				Only Moisture (0-100%)
			C				Only Temperature (-30°C ~ 70°C)
			X				Other
				A			5V
				B			12 ~ 24V
				X			Other
					A		4 ~ 20mA
					B		0 ~ 5V
					C		0 ~ 2V
					D		RS485
					X		Other
						2000	Units:mm (typ)
						...	Units:mm

Example: BS520-01ABA2000 Moisture & Temperature, Supply: 12-24V, Output:4-20mA, Cable Length:2m.

For comprehensive details, visit: www.buraq.com/BS520-01 



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