

3-in-1 Soil Sensor

Model: SS3102

Product Overview

The SS3102 is a multi-parameter soil sensor that simultaneously measures temperature, volumetric moisture content, and electrical conductivity (EC) using a single stainless steel probe. The sensor uses the frequency domain reflectometry (FDR) principle for moisture measurement and provides real-time data via RS485 Modbus RTU communication. Designed for direct burial in soil, the sensor features a fully sealed IP68-rated construction suitable for long-term outdoor deployment.



Applications

- Soil health monitoring and analysis
- Precision irrigation scheduling and control
- Research and field trials
- Crop growth stage management
- Greenhouse and polytunnel automation
- Fertigation system integration

Measurement Specifications		Electrical Specifications	
Temperature Range	-40 to 80°C	Power Supply (Input)	9 - 24V DC
Moisture Range	0 - 100% (m ³ /m ³)	Signal Output	RS485
EC Range	0 - 20,000 µS/cm		

Environmental Specifications		Measurement Accuracy	
Operating Temperature	-30°C to +70°C	Temperature Accuracy	±0.2°C
Operating Humidity	0% to 100% RH	Moisture Accuracy	±2% RH within 0 - 50% (m ³ /m ³)
		EC Accuracy	±3% FS

Environmental Specifications		Cable & Connection	
Housing Material	ABS	Cable Length	3 meters
Probe Material	316 Stainless Steel	Connector Type	M12, 4 Pin Male A Code (PG9)
Dimensions	138mm × 46mm × 16mm		
Ingress Protection	IP68		

Installation Notes

- Insert the probe vertically into soil to ensure full contact with the measurement area
- Avoid installation near metal objects, roots, or stones that may affect readings
- For representative measurements, install at the root zone depth appropriate to the crop
- Ensure the cable is not under tension and is protected from mechanical damage

Certifications & Compliance

CE | UKCA | RoHS



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