

8-in-1 Soil Sensor

Model: SS8102

Product Overview

The SS8102 is a comprehensive soil analysis sensor that measures eight key parameters: temperature, moisture, electrical conductivity (EC), salinity, pH, nitrogen (N), phosphorus (P), and potassium (K). Using advanced electrode technology, the sensor provides real-time soil condition data via RS485 Modbus communication. The IP68-rated stainless steel probe is designed for continuous burial in agricultural soils.



Applications

- Comprehensive soil condition assessment
- Irrigation and fertigation system control
- Variable rate application planning
- Soil salinity monitoring in coastal or irrigated areas
- Nutrient trend analysis and soil fertility assessment
- Soil research and agronomic trials
- Smart farming and IoT 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		
Salinity Range	0 - 20,000 mg/L		
Nitrogen Range	0 - 1,999 mg/kg (mg/L)		
Phosphorus Range	0 - 1,999 mg/kg (mg/L)		
Potassium Range	0 - 1,999 mg/kg (mg/L)		
pH Range	3 - 10		

Environmental Specifications		Measurement Accuracy	
Operating Temperature	-30°C to +70°C	Temperature Accuracy	±0.3°C
Operating Humidity	0% to 100% RH	Moisture Accuracy	±2% RH within 0 - 50% (m ³ /m ³)
		EC Accuracy	±3% FS
		Salinity Accuracy	±3% FS
		pH Accuracy	±0.2
		N/P/K Accuracy	±3% FS (mg/kg or mg/L)



Ladybird IoT

8-in-1 Soil Sensor

Model: SS8102

Physical 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 ensuring full contact between electrodes and soil
- Avoid installation in recently fertilised areas; allow nutrients to distribute evenly
- Install at root zone depth appropriate for the target crop
- For accurate N/P/K readings, ensure good soil-to-probe contact by compacting soil around the sensor
- Calibrate pH readings periodically against laboratory soil tests for best accuracy

Certifications & Compliance

CE | UKCA | RoHS



Ladybird IoT