

# RS485 Soil Moisture & Temperature & EC Sensor



## Features

- Moisture / Temperature / EC all in one
- High reliability and stability
- Universal protocols: MODBUS RS-485
- Wide range power supply: 3.6V ~ 30V
- IP68 rated, suitable for long-term applications
- Can be used in soil, water, nutrient solution, and other substrates
- Strong Anti-interference: made of flame-retardant epoxy resin
- Anti-corrosion, with excellent performance for long-term use
- Easy to use, integrate and install

## Applications

- Agriculture irrigation
- Green house
- Grass farm
- Environment monitoring
- Soil testing
- Other Sensor Applications

## Introduction

This Soil Moisture & Temperature & EC Sensor MODBUS-RTU RS485 (S-Soil MTEC-02A) is designed with industry standards, featuring high precision and high sensitivity and durability. Incorporating three sensors (soil moisture sensor, soil temperature sensor, and soil electrical conductivity) into one, with auto temperature compensation, this sensor ensures the accuracy of measurements regardless of the environment changes. By measuring the dielectric constant of the soil, it can stably measure the soil VWC (volumetric water content) regardless of various soil types. The measurement conforms to current international standards for soil moisture measurement.

The stainless steel probe can be permanently inserted in the soil with quick testing for long-term use. This soil sensor is IP68 rated, very robust and durable, suitable to be applied at long-term monitoring of soil moisture, temperature and electrical conductivity at scientific experiments, water-saving irrigation, gardening, greenhouses, outdoor farming, horticulture, golf turf management, forestry, precision agriculture, and other professional environmental monitoring scenarios. It can also be applied in the water, nutrient solution, and other kinds of substrates where EC level is needed.

## Specifications

General Parameters	
Product Model	S-Temp&VWC&EC-02A
Interface	RS-485
Protocol	MODBUS-RTU RS485
Power Supply	3.6 ~ 30V DC
Current Consumption	6mA@24V DC (quiescent dissipation)
Operating Temperature	-40 °C to +85 °C
The material of the probe	Anti-corrosion special electrode
Sealing Material	Black flame retardant epoxy resin
IP Rating	IP68
Cable Length	5 meters
Installation	All embedded or probe inserted into the measured medium
Device Weight	210g

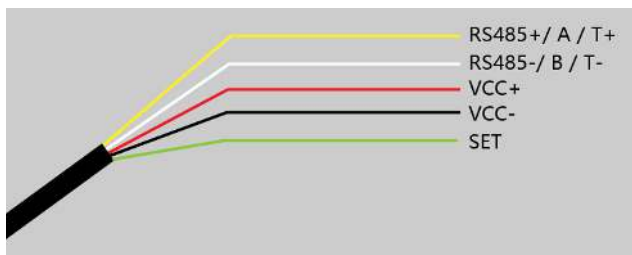
Soil Temperature	
Range	-40 °C to +80 °C
Accuracy	±0.5 °C
Resolution	0.1 °C

Soil Moisture	
Range	From completely dry to fully saturated (from 0% to 100% of saturation)
Accuracy	±2% (0~50%) ±3% (50~100%)
Resolution	0.03% (0~50%) 1% (50~100%)

Electrical Conductivity	
Range	0 ~ 10000 µs/cm
Accuracy	±3%
Resolution	10 µs/cm
Temperature Compensation	Built in temperature compensation sensor, range 0-50°C

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## Wiring Diagram



Refer to the user manual for more details.

## Probe Dimensions

