

# Tubular soil detector

Model ES-S2254



## Introduction

ES-S2254 Tubular Soil Moisture Detector adopts a layered observation structure. By default, a soil temperature and humidity measurement point is configured every 10 cm to observe the soil temperature and humidity within the corresponding range. The detection structure of different heights can be customized according to project requirements, supporting real-time online monitoring of temperature and moisture in different soil layers. At the same time, the monitoring elements such as tilt angle, acceleration, and conductivity can be integrated as an option. PVC high-strength industrial plastic pipe, internal epoxy resin glue potting, is not affected by salt ions in the soil, and agricultural activities such as fertilizers, pesticides, and irrigation will not affect the measurement results.

## Main features

- Multi-layer soil parameter integrated measurement
- Supports real-time online monitoring of temperature and moisture in different soil layers, and optional conductivity, tilt angle, acceleration
- FDR measurement technology, 1GHz high-frequency detection wave
- PVC high-strength pipes, made by potting technology, are completely waterproof

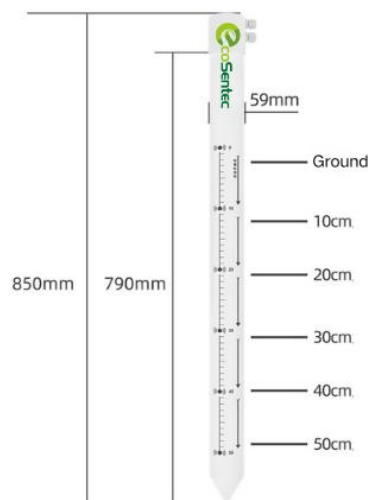
## Compliance

The electromagnetic compatibility in accordance with the following applicable directives:  
EMC 2014/30/EU  
Electromagnetic Compatibility  
EMC 2014/35/EU  
Electromagnetic Compatibility

## Application

The product is suitable for places that need to detect soil moisture and drought information, or real-time detection of meteorology, water and rain, moisture, agricultural conditions, water storage and diversion of water conservancy projects, etc.

## Dimension



\*Default 10 cm per layer, other length can be customized

## Specification

Measuring range	Soil humidity	0~100%
	Soil temperature	-15°C~35°C
	Soil conductivity	0-20000μS/cm
	Tilt angle	-90°~90
Accuracy	Soil moisture	±5% (@50%, 25°C)
	Soil temperature	±0.5°C (25°C)
	Soil conductivity	±3%FS in the range of 0-10000μS/cm; ±5%FS in the range of 10000-20000μS/cm
	Tilt angle (typical accuracy)	(brown soil, 60%RH, 25°C)
		X, Y axis static accuracy ±0.1°, dynamic accuracy ±0.5°
Temperature drift (inclination)	± (0.5°~1°), (-40°C ~ +60°C)	
Measurement point spacing	10cm	
Power supply method	10-30V DC power supply	
Shell material	PVC plastic pipe	
Protection level	IP68 below ground	
Output signal	RS485 (ModBus protocol)	
Power consumption	Three-layer 0.7W; Five-layer 0.96W	
Response time	≤60s	

## Order guide

ES-S2254	Comb Soil detector			
	CODE	Function type		
	A	temperature		
	B	humidity		
	C	conductivity		
	D	tilt angle		
		CODE	Number of layers (default 10cm each layer)	
		1	3 layer	
		2	4 layer	
		4	5 layer	
		5	...more customized	
			CODE	Signal output
			A	RS485
			B	Lora/4G/NB-IOT
ES-S2254	A	1	A	Order example