




SOIL TEMPERATURE Sensor

t002 TTT



-  High accuracy and reliable data
-  Monitoring soil temperature at the desired deepness
-  Long-term stability

Description

TTT is a high-quality temperature sensor that has been manufactured on purpose by Siap+Micros for soil temperature measurement. It is suitable for agrometeorological applications and generally flexible to be used in every environmental monitoring.

The sensor is extremely accurate and it is composed of a 30 cm long graduated plastic rod, equipped with a sensing element mounted on the rod edge. By inserting the rod into the ground, TTT can easily provide the value of soil temperature with respect to a specific variable requested deepness.

The protective body is made of high-quality plastic. The sensing element is based on a Pt100 Platinum thermo-resistance calibrated with a response curve in accordance with Class 1/3 DIN 43760 standard. Furthermore, thermo-resistance is installed into a stainless steel tube, which protects it from corrosion and ensures at the same time an excellent sensibility to temperature.

The sensor is supplied with power and signal cable (12m).



Main features

- **Monitoring soil temperature at the desired deepness**
- **Protected against over tensions**
- **Virtually maintenance free**
- **Very low consumption**

Technical Specifications*

Measurement performance

Temperature [°C]

Transducer	Pt100 1/3 DIN 43760
Measurement range	-30 °C ÷ +60 °C
Accuracy (natural output)	1/3 DIN 43760
Accuracy (I/V/RS485-Modbus outputs)	1/3 DIN 43760 ± 0.1 °C
Resolution	0.03

Operating conditions

Temperature	-30°C ÷ +60°C
Humidity	0% ÷ 100%

Outputs

Natural	Pt100 4 wires
RS485-Modbus	Temperature
Tension	0 ÷ 2V ↔ -30 ÷ 60 °C
Current	4 ÷ 20mA ↔ -30 ÷ 60 °C

Power supply and Consumption

Voltage supply	7 ÷ 30 Vdc		
Power consumption (mA)	Min	Typical	Max
RS485-Modbus/0 ÷ 2 V	-	1	3
4 ÷ 20 mA	5	-	25

Mechanical specifications

Protective body	ABS plastic and stainless steel screws		
Weight	250 g		
Dimensions	Ø = 50 mm; Height = 450 mm (TTT – N); Height = 500 mm (TTT – I/V/S);		
Electrical connections	IP67 / 4-pole male connector		

Ordering codes

Natural output (Pt100)	t002-TTT-N
Current output	t002a-TTT-I
Tension output	t002b-TTT-V
RS485-Modbus serial output	t002c-TTT-S

*Changes on technical performances can be applied upon request of specific calibration