

SOIL SURFACE TEMPERATURE Sensor

t012 TTS



- High accuracy and reliable data
- Long-term stability
- Protective shield to ensure a natural ventilation
- Extra low power consumption

Description

TTS is a sensor which specifically allows to measure the temperature above the soil, preferably at a height of 10 cm, and it is typically used for agrometeorological monitoring. It is besides very versatile being suitable for many different applications, even in harsh and unfavourable environmental conditions.

The sensing element is based on a Pt100 Platinum resistance calibrated with response curve in accordance with Class 1/3 DIN 43760 standard. It has been designed in order to give very reliable performances in the long run, ensuring accurate output data. This sensor is provided with a protective robust screen, which allows to detect the temperature without being influenced by solar radiation. The position of the sensor inside the screen prevents it from being hit by sunlight. The sensor's body is made of high-quality plastic, the protection shield is made of ABS (a resistant plastic material and non-hygroscopic), and UV stabilized material with low thermal characteristics that ensure long-term stability.

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



Main features

- **Very low power consumption**
- **Compact and robust**
- **Protected against over tensions**
- **Virtually maintenance free**

Technical Specifications*

Measurement performance			
Temperature [°C]			
Transducer	Pt100 1/3 DIN 43760		
Measurement range	-30 °C ÷ +60 °C		
Accuracy (pulse/reed contact 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	Plastic material (ABS) and stainless steel screws		
Weight	1 kg		
Dimensions	Ø = 240 mm; Height = 180 mm (TTS – N)		
Electrical connections	IP67 / 4-pole male connector		
Ordering codes			
Natural output (Pt100)	PSM-t012-TTS-N		
Current output	PSM-t012A-TTS-I		
Tension output	PSM-t012B-TTS-V		
RS485-Modbus serial output	PSM-t012C-TTS-S		
*Changes on technical performances can be applied upon request of specific calibration			