



# Th 2

## Soil Temperature Probe

- Highest accuracy
- Minimised soil disturbance
- Punctual temperature pick-up
- Maintenance-free and durable

The durable temperature probe is suitable for a wide range of applications and can be used in soils, fluids, gases etc. It fulfills the highest measuring and mechanical requirements.

The small dimensions and the specially shaped tip with an angle of 60° reduce the soil disturbance to a minimum and ensure a good thermal contact to the soil. A heat conducting substance inside the tip increases the thermal contact of the sensor to the case. This provides a fast response, a punctual temperature pick-up and reduces the influence of the cable's thermal conduction to a minimum.

The sensor is casted in a stainless steel case (IP68), suitable for liquid and solid materials. The sensor is provided with a pull relief and can be removed from the soil by pulling it out with the cable. The cable is EMC- and rodent-protected by its shield.

### Type Th2-h with Pt100

Designed for general purpose applications and specially for long cable lengths, as the 4-wire link reduces errors by the cable resistance. Extremely accurate, highly stable and repeatable response, but lower coefficient than Thermistors. Accuracy class 1/3 DIN B-. No recalibration necessary.

### Type Th2-f with Thermistor

Ideal for Dataloggers as they respond to temperature changes with a relatively large change in resistance. Excellent long term stability for long term applications: less than 0,055 K shift in 4 years at 25°C. Selected for ±0,1 K at 10°C. The non-linear response and negative coefficient are not an issue for environmental measurements in the range of -20 to + 60°C.

### Type Th2-t with Pt1000

Advantage of 3-wire technique and a nearly linear coefficient.



Type	Th2 - h	Th2 - f	Th2 - t
Sensor	<b>Pt100</b>	<b>Fenwall-Thermistor</b>	<b>Pt 1000</b>
Measuring principle	4-wire	3-wire (2-wire)	3-wire
Maximum cable length	up to 200 m	up to 20 m	up to 220 m
Measuring range	-50 ... +100 °C	-50 ... +100° C	-50 ... +100 °C
Output signal	80 ... 140 Ω	150 kΩ ... 150 Ω (not linear)	800 ... 1400 Ω
Tolerance	± 0,1 K at 0°C ± 0,2 K at ± 20°C ± 0,3 K at ± 40°C	± 0,1 K at 10°C ± 0,2 K at 0 ... 70°C	± 0,1K at 0°C ± 0,2 K at ± 20°C ± 0,3 K at ± 40°C

### Technical Specifications

Casing of tip	Stainless steel, Ø 5 mm
Sensor position	10 mm from tip
Temperature pick-up	Lateral from tip up to 15 mm
Isolation	Thermoplastic polyolefin sheath
Total length	60 mm
Diameter	5,8 ... max. 6,0 mm
Response time	In water 40 sec for 90% value
Signal cable	LIYCY, 0,14 mm <sup>2</sup> , PVC

### Description

Description	Type
Temperature probe with Pt100	<b>Th2-h</b>
Temperature probe with Thermistor	<b>Th2-f</b>
Temperature probe with Pt1000	<b>Th2-t</b>

**Note:** Indicate the required cable length (Standard 10 m).  
**Delivery:** Includes linearization table, manual.  
 Optionally available with UMS plug M12/IP67.



Produkt  
Info

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