

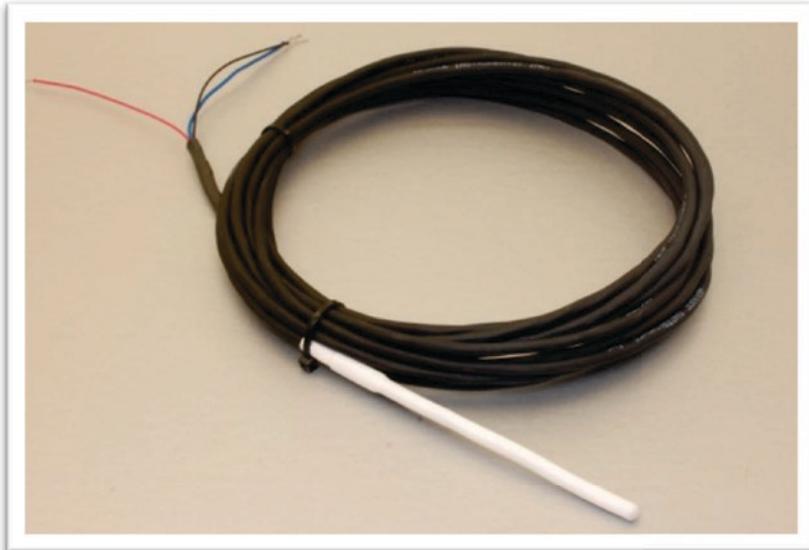
Thermistor Temperature Sensors

ST-100, ST-200



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ST-100: Thermistor

The thermistor temperature sensor is a small thermistor enclosed in a weatherproof housing. It is suitable for measuring air and soil temperatures with a datalogger.

The temperature measurement range is -50 to 70 C with an accuracy of 0.1 C above 0 C.



ST-200: Fine-Wire Thermistor

The fine-wire thermistor is ideally suited for taking measurements of surfaces or small samples where even a narrow field of view infrared radiometer may not be suitable due to the integration over its conical field of view. The small size also provides a more rapid response to changes in temperature than larger sensors.

The sensor is rugged and can be repeatedly pushed into plant tissues with tweezers. The wires are flexible and less sensitive to breakage than similarly-sized fine wire thermocouples.

The measurement range is -50 to 70 C with an accuracy of 0.2 C above 0 C.

SPECIFICATIONS

Measurement Range: -50 to 70 C

Measurement Uncertainty: 0.1 C (from 0 to 70 C) **(ST-100)**

0.2 C (from -25 to 0 C)

0.4 C (from -50 to -25 C)

0.2 C (from 0 to 70 C) **(ST-200)**

0.4 C (from -50 to 0 C)

Measurement Repeatability: < 0.05 C

Non-stability (Long-term Drift): < 0.02 C per year (when used in non-condensing environments where the annual average temperature is less than 30 C; continuously high temperatures or continuously humid environments increase drift rate)

Equilibration Time: 30 s and 1 s for ST-100 and ST-200, respectively

Self-Heating: < 0.01 C (typical, assuming pulsed excitation of 2.5 V DC)

0.08 C at 5 C (maximum, assuming continuous input excitation of 2.5 V DC)

Operating Environment: -50 to 70 C

0 to 100 % relative humidity

Input Voltage Requirement: 2.5 V DC excitation (recommended)

Output Voltage Range: 0 to 2.5 V DC (assuming input excitation of 2.5 V DC)

Current Drain: 0.1 mA DC at 70 C (maximum, assuming continuous input excitation of 2.5 V DC)

Dimensions: 7 cm length, 0.6 cm diameter

Mass: 60 g

Cable: 5 m of shielded, twisted-pair wire.

Additional cable available in multiples of 5 m

Santoprene rubber jacket (high water resistance, high UV stability, flexibility in cold conditions)

Pigtail lead wires