



Rugged, Accurate, Versatile

Can be used in a variety of applications

Overview

The 109 is a rugged, accurate probe that measures air, soil, and water temperature for a variety of applications. It consists of a thermistor encapsulated in an epoxy-filled

aluminium housing. The housing protects the thermistor, allowing the 109 to be buried or submerged. The 109 measures from -50° to $+70^{\circ}\text{C}$.

Benefits and Features

- › Versatile product—measures air, soil, or water temperature
- › Wide temperature measurement range
- › Compatible with most Campbell Scientific data loggers
- › Easy to install or remove
- › Durable

Technical Description

The 109 consists of a thermistor encapsulated in an epoxy-filled aluminium housing. The housing protects the thermistor allowing it to be buried in soil or submerged in water.

This probe outputs a 0 to 2.2 V signal when using 2500 mV excitation.

Specifications

Output	Analog
Operating Temperature Range	-50° to $+70^{\circ}\text{C}$
Sensor Description	Measurement Specialties™ 10K3A1iA Thermistor
Tolerance	$\pm 0.2^{\circ}\text{C}$ (over 0° to 70°C range)
Temperature Measurement Range	-50° to $+70^{\circ}\text{C}$

Steinhart-Hart Equation Error	$\leq 0.03^{\circ}\text{C}$ (-50° to $+70^{\circ}\text{C}$)
Interchangeability Error	$\pm 0.1^{\circ}\text{C}$ (over 0° to 70°C range increasing to $\pm 0.5^{\circ}\text{C}$ at -50°C)
Time Constant in Air	30 to 60 s (in a wind speed of 5 m s^{-1})
Maximum Submergence	15 m (50 ft)
Maximum Cable Length	305 m (1000 ft)
Probe Length	10.4 cm (4.1 in.)

Probe Diameter 0.76 cm (0.3 in.)

Weight 136 g (5 oz) with 3.05-m (10-ft) cable

For comprehensive details, visit: www.campbellsci.eu/109 



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