CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

105E-L

Type E Thermocouple Burial Probe

Rugged, Accurate, Versatile

Can be used in a variety of applications

Overview

The 105E consists of a 24-gage, shielded, type E thermocouple wire that typically is used to measure soil temperature. Because the thermocouple junction is electrically isolated from the media being measured, you can avoid measurement errors caused by differences in ground potential.

Benefits and Features

- Junction is electrically isolated from the soil, thereby avoiding measurement errors due to differences in ground potential
- Compatible with most Campbell Scientific dataloggers

Detailed Description

Type E thermocouples are comprised of a chromel wire and a constantan wire joined at a measurement junction. A voltage potential is generated when the measurement end of the thermocouple is at a different temperature than the reference end of the thermocouple. The magnitude of the voltage potential is related to the temperature difference. Therefore, temperature can be determined by measuring the differences in potential created at the junction of the two wires.

A reference temperature measurement (typically measured at the datalogger wiring panel) is required. Options for measuring the reference temperature include:

- Thermistor built into the CR6, CR800, CR850, CR1000, CR3000, or CR5000 wiring panel
- PRT built into the wiring panel of the CR9050 or CR9051E input module for the CR9000X Measurement and Control System

Specifications

Type	Chromel-Constantan
Typical Output	60 µV/°C
Accuracy	Refer to the *Thermocouple Measurement* section in the datalogger manual.

For comprehensive details, visit: **www.campbellsci.com.au/105e-l**

Operating Temperature Range	-55° to +125°C (of TPE outer jacket)
Probe Diameter	0.8 cm (0.3 in.)
Plug Dimensions	1.8 x 3.3 x 1.0 cm (0.7 x 1.3 x 0.4 in.)
Weight	90 g (0.2 lb) with 3.05-m (10-ft) cable

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