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 is a thermocouple designed to measure soil temperature. It easily interfaces with our dataloggers.

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 data loggers

Technical Description

The 105E consists of a shielded, 24-AWG, type E thermocouple wire. Its junction is electrically isolated from the soil (or other media being measured). Electrical isolation avoids measurement errors due to differences in ground potential.

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 is required for thermocouple measurements. The temperature sensor built into many of our dataloggers' wiring panel typically provides this measurement.

Specifications

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

For comprehensive details, visit: www.campbellsci.eu/105e-l

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