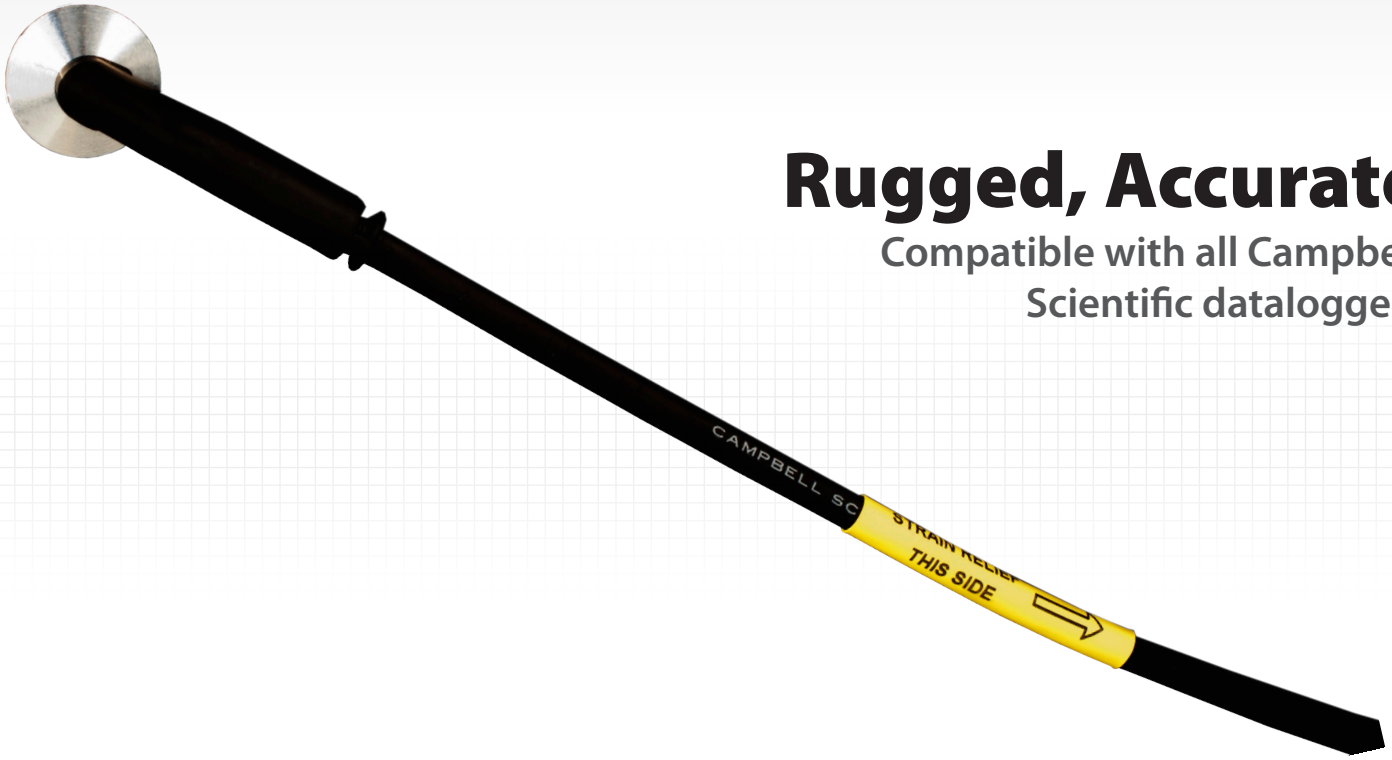
CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

110PV

Surface Mount Thermistor



Rugged, Accurate

Compatible with all Campbell Scientific dataloggers

Overview

The 110PV is a thermistor that measures the temperature of a surface by direct contact. It typically monitors the temperature of a photovoltaic module, but can also monitor the temperature of other devices. This thermistor easily interfaces with our dataloggers, and is ideal for solar energy applications.

Benefits and Features

- Measures temperature across a wide range: -40° to +135°C
- Easy to install—adhesive strips on the 110PV's smooth face adhere to the back of a solar panel or other device
- Aluminum disk protects thermistor and promotes heat transfer from surfaces
- Makes accurate measurements in environments with heavy electromagnetic interference
- Compatible with the CWS900-series interfaces, allowing it to be used in a wireless sensor network

Technical Description

The 110PV consists of a thermistor encased in an aluminum disk. The disk protects the thermistor and promotes heat transfer from surfaces. An adhesive tab on the probe's aluminum disk fastens the 110PV to the measurement surface. If the temperature may exceed 70°C, Kapton tape is also required to secure the probe.

The 110PV can provide the photovoltaic (PV) module temperature for solar energy applications. This measurement is useful since the output of a PV module is affected by its temperature. As the temperature of the PV module increases, its output decreases.

Ordering Information

Temperature Probe for Harsh Environments

110PV-L Surface Mount Temperature Probe with user-specified cable length. Enter cable length (in feet) after the -L. Must choose a cable termination option (see below).

Cable Termination Options (choose one)

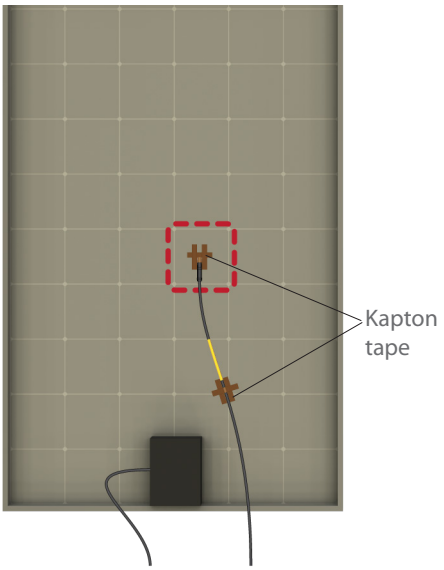
-PT Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.

-PW Cable terminates in a connector for attachment to a prewired enclosure.

-CWS Cable terminates in a connector for attachment to a CWS900-series interface that allows this sensor to be used in a wireless sensor network.

Common Accessory

27015 Roll of Kapton tape for locations where the temperature may exceed 70°C.



Kapton tape is used to fasten the sensor to the back of a solar panel and for cable strain relief when the temperature may exceed 70°C.

Specifications

- Measurement Range: -40° to +135°C
- Survival Range: -50° to +140°C
- Temperature Uncertainty

Temperature	Tolerance
-40°C to 70°C	±0.2°C
71° to 105°C	±0.5°C
106° to 135°C	±1°C

- Steinhart-Hart Linearization Equation Error (maximum): 0.0024°C at -40°C
- Maximum Lead Length: 304.8 m (1000 ft)
- Disk Diameter: 2.54 cm (1.0 in)
- Overall Probe Length: 6.35 cm (2.5 in)
- Overmolded Joint Dimensions

Width	Height	Length
1.12 cm (0.44 in)	1.47 cm (0.58 in)	5.72 cm (2.25 in)

- Disk Material: Anodized Aluminum
- Cable Jacket Material: Santoprene
- Cable/Probe Connection Material: Santoprene
- Weight: 90.7 g with 3.2 m cable (0.2 lb with 10.5 ft cable)