



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
- ▶ Aluminium 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 aluminium disk. The disk protects the thermistor and promotes heat transfer from surfaces. An adhesive tab on the probe’s aluminium disk fastens the 110PV to the measurement surface. If the temperature may exceed 70°C, Kapton tape is also required to secure the probe; Kapton tape is offered as a Common Accessory (see Ordering Info). **Note:** Campbell Scientific does not recommend using epoxy to secure the 110PV to a PV module.

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

Specifications

Sensor	Thermistor with specially designed protective aluminum disk
Measurement Description	Back-of-module temperature

Operating Temperature Range	-40° to +135°C
Temperature Survival Range	-50° to +140°C
Temperature Uncertainty	▶ ±1°C tolerance (106° to 135°C)

	<ul style="list-style-type: none"> » $\pm 0.5^{\circ}\text{C}$ tolerance (71° to 105°C) » $\pm 0.2^{\circ}\text{C}$ tolerance (-40° to +70°C)
Sensitivity	+1°C
Steinhart-Hart Linearization Equation Error	0.0024°C (at -40°C) maximum
Disk Material	Anodized aluminum
Cable Jacket Material	Santoprene

Cable/Probe Connection Material	Santoprene
Maximum Lead Length	304.8 m (1000 ft)
Disk Diameter	2.54 cm (1.0 in.)
Probe Length	6.35 cm (2.5 in.)
Overmolded Joint Dimensions	5.72 x 1.12 x 1.47 cm (2.25 x 0.44 x 0.58 in.)
Weight	90.7 g with 3.2-m cable (0.2 lb with 10.5-ft cable)

For comprehensive details, visit: www.campbellsci.eu/110pv 



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