



## 110PV-L Surface-Mount Thermistor



## Rugged, Accurate

Compatible with most Campbell Scientific data loggers

### Overview

You can use the 110PV thermistor to measure the temperature of a surface by direct contact. It typically monitors the temperature of a photovoltaic module, but you can also use it

to monitor the temperature of other devices. This thermistor easily interfaces with our data loggers, and it is ideal for solar energy applications.

### Benefits and Features

- › Measures temperature across a wide range:  $-40^{\circ}$  to  $+135^{\circ}\text{C}$
- › 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

### Detailed 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  $70^{\circ}\text{C}$ , 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) › ±0.5°C tolerance (71° to 105°C) › ±0.2°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.com/110pv](http://www.campbellsci.com/110pv) 



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