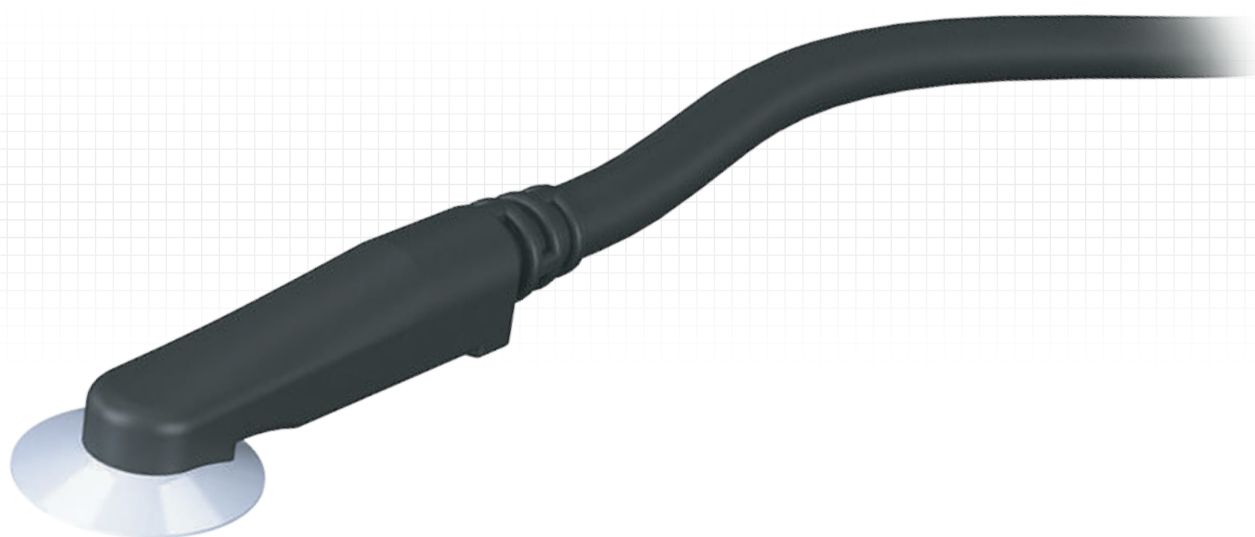


# Proven Rugged Design

Class A accuracy at any cable length



## Overview

The CS240 is a surface mountable PRT that measures back-of-module temperature for solar energy applications. It uses a precision PT-1000 class A PRT to provide the highest level of accuracy.

To withstand the harsh treatment commonly seen in MET station installation, the PRT is safely housed inside a specially designed self-adhesive aluminum disk.

## Benefits and Features

- › Precision PT-1000 class A sensing element
- › Compliant with IEC 60751, DIN EN 60751 (according to IEC 751)
- › Any cable length available—user-selectable and standard lengths offered
- › Rugged design that holds up in harsh conditions and conduit installations
- › Self-adhesive backing for easy mounting that lasts decades
- › 2-wire and 4-wire configuration to satisfy datalogger channel count and accuracy even at long cable lengths
- › Quick sensor head connection for easier installation and replacement

## Technical Description

The CS240 consists of a PT-1000 class A PRT encased in an aluminum disk. The disk protects the PRT, particularly during installation when pulled through conduit, and promotes heat transfer from the surface. An adhesive tab on the disk fastens the CS240 to the measurement surface. If the temperature may exceed 70°C, Kapton tape is also required to secure the probe.

The CS240 provides PV stakeholders with highly accurate back-of-module temperature, even at long cable lengths, for use in power performance modeling and simulation of solar energy applications. Back-of-module temperature is critical for any evaluation of effective irradiance and power conversion.



## Ordering Information

### Surface-Mount Temperature Probe

CS240-L PT-1000 Class A, back-of-module temperature sensor. Must choose a cable length, quick connect, and cable termination option.

#### Cable Length Options (choose one)

- 15 15 ft cable length
- 50 50 ft cable length
- 150 150 ft cable length
- U-L User-defined cable length. Enter length, in feet, after the -L.

#### Sensor Quick Connect Options (choose one)

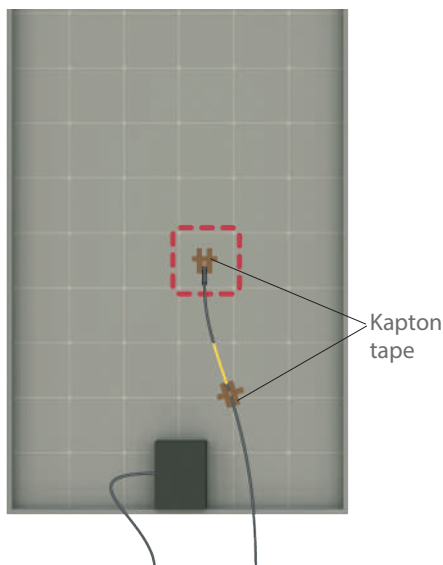
- NQ No quick connect
- Q Quick connect.

#### 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.

### Common Accessory

27015 Heat-resistant Kapton tape with silicone adhesive, 5 yard roll.



Kapton tape is required for cable strain relief. The tape is also used to fasten the CS240 to the back of a solar panel when the temperature may exceed 70°C.

## Specifications

- › Precision 1000 Ohm class A platinum sensing element (PT-1000)
- › Tolerance:  $\pm (0.15 + 0.002t)$
- › Temperature Coefficient TCR = 3850 ppm/K
- › Long-term stability: maximum drift 0.04% after 1000h at 400 °C
- › Measuring Current: 0.1 to 0.3 mA
- › Temperature Range: -40° to 105°C
- › Disk Material: anodized aluminum
- › 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)

- › Cable Jacket Material: black semi-gloss PVC, UL VW-1 sunlight resistant for outdoor use
- › Weight: 90.7 g with 3.2 m cable (0.2 lb with 10.5 ft cable)

### Conductors

- › Wire Size and Type: 24 AWG (7/32) tinned copper
- › Nominal Wire Diameter: 0.61 mm (0.024 in)
- › Insulation Type: PVC
- › UL: AWM 10012 1000V 105°C
- › Filler: fibrillated polypropylene as required for uniform round construction
- › Drain: 24 AWG (7/32) tinned copper (cabled, touching foil)
- › Shield: Aluminum/Mylar (100% coverage, 25% minimum overlap, foil facing in)

### Compliance Information

- › Approvals: UL AWM 2586 1000V 105°C; CSA AWM 600V 105°C FT
- › Conforms with Electromagnetic Compatibility Directive (EMC)
- › Conforms with the Restriction of Hazardous Substances Directive (RoHS2)
- › View EU Declaration of Conformity Documentation at: [www.campbellsci.com/cs240](http://www.campbellsci.com/cs240)

