

Protective Glass Dome and Solar Shield

Compatible with most
Campbell Scientific dataloggers



Overview

The CMP3* is an ISO-second-class pyranometer that monitors solar radiation for the full solar spectrum range. It produces a millivolt signal that is measured directly by a Campbell Scientific

datalogger. The CMP3 can provide solar radiation measurements for a variety of meteorological applications.

Benefits and Features

- › Includes a white snap-on sun shield that reduces the sensor's temperature
- › Measures reflected solar radiation when inverted
- › Provides measurements in direct sunlight, under plant canopies, when the sky is cloudy, and in artificial light
- › Compatible with the CWS900-series interfaces, allowing it to be used in a wireless sensor network
- › Includes bubble level and leveling screws eliminating need for a separate leveling base, which simplifies installation
- › Acceptable for providing the solar radiation data used in stability estimations
- › Dome protects thermopile and allows water to roll off of it

Technical Description

The CMP3 measures solar radiation with a high-quality blackened thermopile protected by a dome. The blackened thermopile provides a flat spectral response for the full solar spectrum range, which allows the CMP3 to be used under plant canopies or lamps, when the sky is cloudy, and for reflected radiation measurements.

The CMP3 includes a white snap-on sun shield that reduces the sensor's temperature. It also has a bubble level and adjusting leveling screws, which enable the sensor to be leveled without using a leveling base. Two CMP3 pyranometers can be mounted back-to-back to make a low-cost albedometer. Contact Campbell Scientific for more information.

**The CMP3 is manufactured by Kipp and Zonen, and then cabled by Campbell Scientific. Prior to December 2008, the CMP3 included Kipp and Zonen's 10 m cable. Because the CMP3 is a second-class pyranometer, it is acceptable for providing the solar radiation data used in stability estimations (EPA Meteorological Monitoring Guidance for Regulatory Modeling Applications, pages 2-10).*



Mounting

The CMP3 includes a bubble level and three adjusting leveling screws, which allow the sensor to be leveled without using a leveling base. Typically the CM225 Solar Sensor Mounting Stand is used to attach the sensor to a crossarm. The CM225 consists of rectan-

gular plate, mounting bracket, U-bolts, washers, lock washers, and nuts. The CMP3 should be mounted away from all obstructions or reflective surfaces that might adversely effect the measurement.

Ordering Information

Solar Radiation Sensor

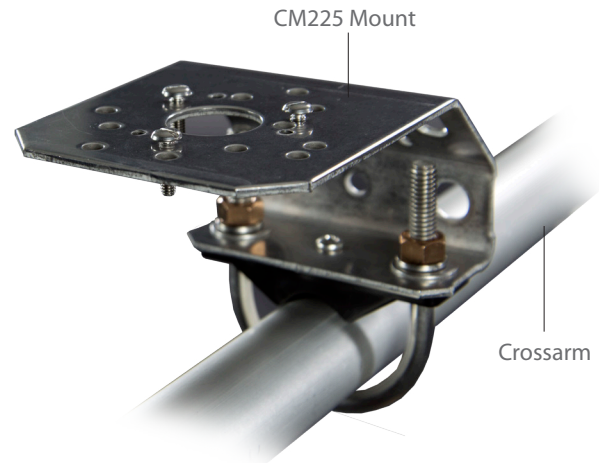
CMP3-L Kipp and Zonen pyranometer with user-specified cable length. Enter cable length, in feet, after the -L. Must choose a cable termination option (see below).

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

Mount

CM225 Solar Sensor Mounting Stand for attaching the sensor to a crossarm.



To attach the CM225 to a crossarm, place the U-bolt in the holes on the bottom of the bracket.

Specifications

- › Light Spectrum Waveband: 300 to 2800 nm
- › Maximum Irradiance: 2000 W/m²
- › Sensitivity: 5 to 20 $\mu\text{V}/\text{W}/\text{m}^2$
- › Operating Temperature Range: -40° to +80°C
- › Temperature Dependence: $\pm 5\%$ (-10° to +40°C)
- › Non-linearity (0 to 1000 W/m²): $< \pm 2.5\%$
- › Tilt Response ($\pm 80^\circ$): $< \pm 2\%$ at 1000 W/m²
- › ISO Classification: Second Class
- › Width: 7.9 cm (3.1 in)
- › Height: 6.7 cm (2.6 in)
- › Dome Diameter: 3.2 cm (1.3 in)
- › Weight with 10 m cable: 600 g (1.2 lb)