

Measure shortwave radiation



This is an amplified version of our standard pyranometer. It comes in 2.5 and 5 volt versions, which allow for applications with less precise measuring capability.

This is a silicon-cell pyranometer, calibrated to measure total shortwave radiation. The evaporation of water from soil and the transpiration of water from plant leaves are largely determined by the intensity of shortwave radiation, which is measured in Joules per meter squared per second or Watts per meter squared.

This cosine-corrected sensor is designed to maintain its accuracy when radiation comes from low zenith angles. This accuracy is shown in the graph below.

The SP-110 closely matches the Kipp & Zonen CM21.

The cosine response and accuracy of the pyranometer have met with the high standards of Campbell Scientific, one of the world's leaders in environmental measurements.

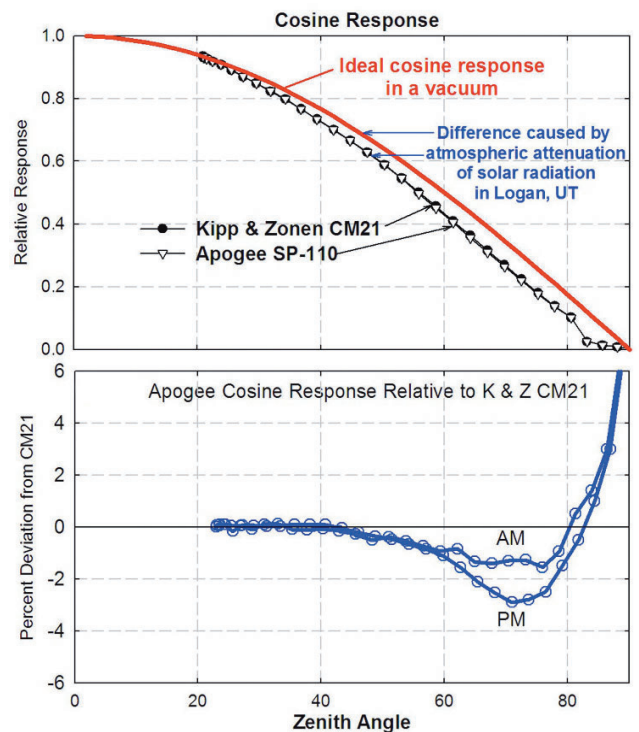
Campbell Scientific installs Apogee pyranometers on weather stations such as the ET107.

Related Products



AL-100

A plate used to keep the sensor head level.



Specifications

Cosine Response

- 45° zenith angle: $\pm 1\%$
- 75° zenith angle: $\pm 5\%$

Absolute Accuracy

- $\pm 5\%$

Repeatability

- $\pm 1\%$

Long-Term Drift

- Less than 3% per year

Operating Environment

- -25 to 55 C
- 0 to 100% relative humidity
- Designed for continuous outdoor use
- Can be submerged in water

Current Draw

- 285 μA

2.5 V Option

- Output: 0 to 2.5 V (2.2 V = full sunlight 1100 W m⁻²)
- Input Power: 2.5 to 5.5 VDC
- Sensitivity: Custom calibrated to exactly 0.5 W m⁻² per mV

5.0 V Option

- Output: 0 to 5 V (4.4 V = full sunlight 1100 W m⁻²)
- Input Power: 5 to 5.5 VDC
- Sensitivity: Custom calibrated to exactly 0.25 W m⁻² per mV

Materials

- Anodized aluminum with cast acrylic lens

Mass

- 70 g (with 5 m lead wire)

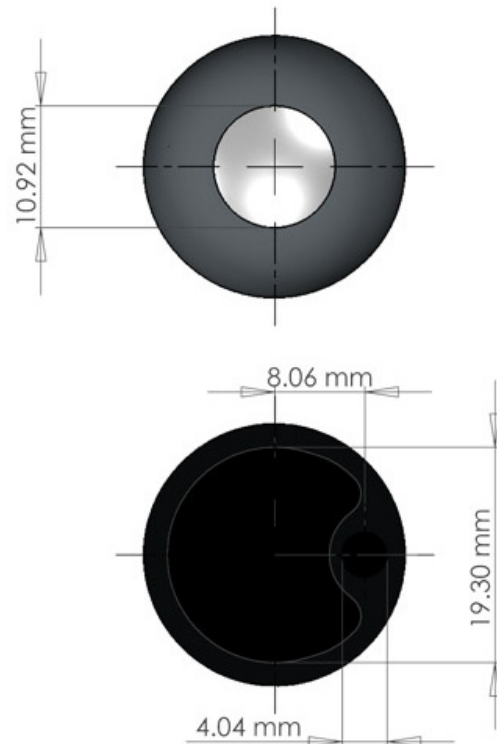
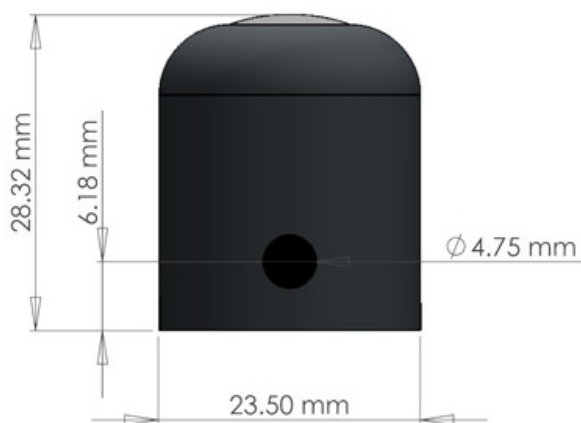
Cable

- 5 meters of twisted-pair wire
- Foil shield
- Santoprene jacket
- Ending in pigtail leads
- Additional cable is available in multiples of 5 meters

Warranty

- 1 year against defects in materials and workmanship

Measurements



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www.apogeeinstruments.com



Scan for more information on UV sensors