

Pyranometer

SP-110

Measure shortwave radiation reaching the Earth's surface



This silicon-cell pyranometer is 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 instrumentation.

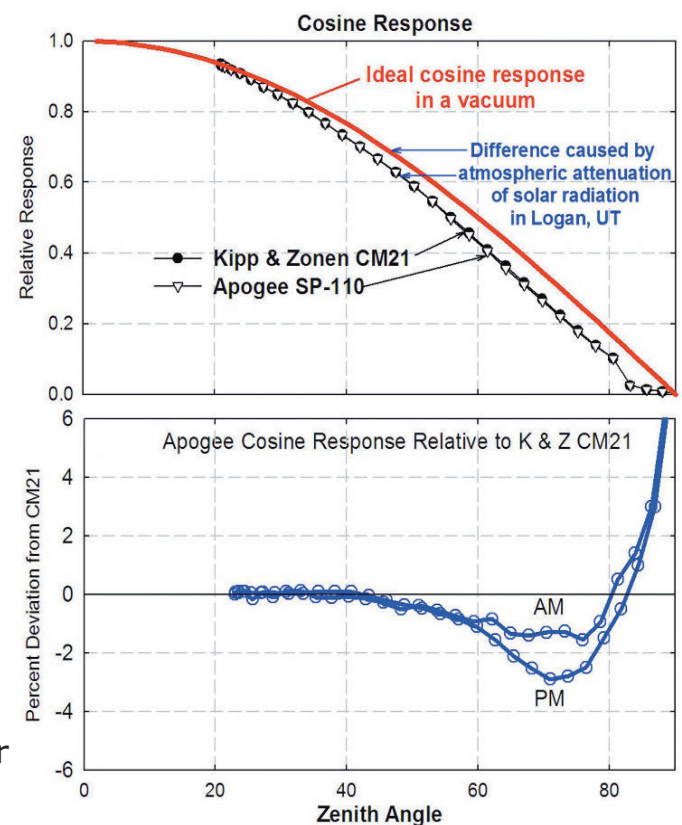
Campbell Scientific installs Apogee pyranometers on weather stations such as the ET107.

Related Product



AL-100

A plate used to keep the sensor heads level.



Specifications

Cosine Response

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

Absolute Accuracy

- $\pm 5\%$

Output

- Responsivity: 0.20 mV per W m⁻²
- In Full Sunlight: 220 mV (1100 W m⁻²)
- Linear Range: 0 - 350 mV (0 - 1750 W m⁻²); 1.75 full sun

Uniformity

- $\pm 3\%$

Repeatability

- $\pm 1\%$

Sensitivity

- Custom calibrated to exactly 5.00 W m⁻² per mV

Operating Environment

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

Materials

- Anodized aluminum with cast acrylic lens

Mass

- 70 g (with 5 m lead wire)

Input Power

- None, self-powered

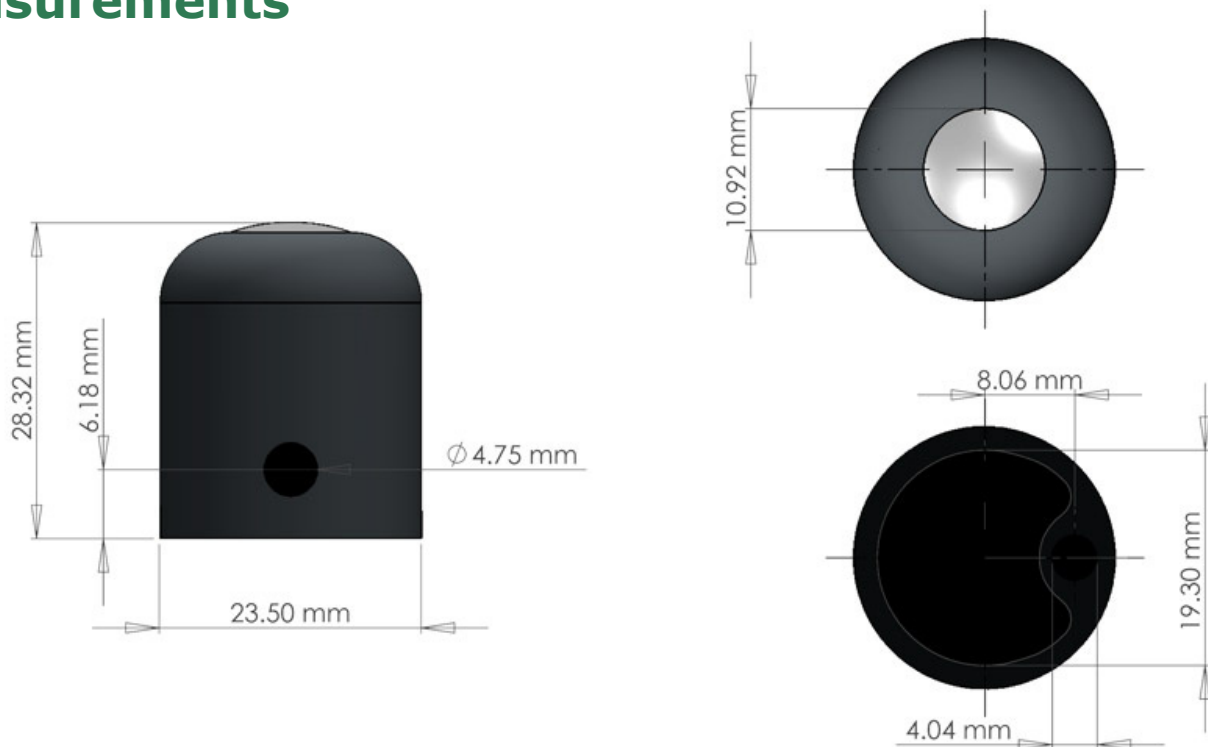
Cable

- 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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