



Accurate and Dependable

Ideal for long-term deployment in harsh conditions

Overview

The CS300, manufactured by Apogee Instruments, measures total sun and sky solar radiation for solar, agricultural, meteorological, and hydrological applications. Its spectral range of 360 to 1120 nanometers encompasses most of the

shortwave radiation that reaches the Earth's surface. This pyranometer connects directly to our dataloggers. Its output can be measured by all of our dataloggers.

Benefits and Features

- › Compatible with most Campbell Scientific data loggers
- › Designed for continuous, long-term, unattended operation in adverse conditions
- › Measurement waveband of 360 to 1120 nm
- › Dome-shaped head prevents water from accumulating on the sensor head

Technical Description

The CS300 uses a silicon photovoltaic detector mounted in a cosine-corrected head to provide solar radiation measurements for solar, agricultural, meteorological, and hydrological applications. Calibrated against a Kipp & Zonen CM21 thermopile pyranometer, the CS300 accurately measures sun plus sky radiation for the spectral range of 360

to 1120 nm. Sensors calibrated to this spectral range should not be used under vegetation or artificial lights.

The standard output is 0.2 mV per $W\ m^{-2}$, which provides a signal of 200 mV in full sunlight ($1000\ W\ m^{-2}$). All of our dataloggers, including the CR200(X) series, can measure this output.

Specifications

Spectral Range	360 to 1120 nm (wavelengths where response is 10% of maximum)
Measurement Range	0 to 2000 W/m^2 (full sunlight $\approx 1000\ W/m^2$)
Absolute Accuracy	$\pm 5\%$ for daily total radiation

Sensitivity	5 mV/ Wm^{-2}
Calibration Factor	5 $W/m^2/mV$
Cosine Correction Error	$\pm 5\%$ at 75° zenith angle; $\pm 2\%$ at 45° zenith angle
Temperature Response	0.04 \pm 0.04% per °C

Response Time	< 1 ms
Long-Term Stability	< 2% per year
Operating Temperature Range	-40° to +70°C
Relative Humidity Range	0 to 100%

Output Sensitivity	0.2 mV/W/m ²
Diameter	2.4 cm (0.9 in.)
Height	2.5 cm (1.0 in.)
Weight	65 g (2.3 oz) with 2-m (6.6-ft) lead wire

For comprehensive details, visit: www.campbellsci.eu/cs300-pyranometer 



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