

Silicon Pyranometer

Apogee's CS300

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 300 to 1100 nm. Sensors calibrated to this spectral range should not be used under vegetation or artificial lights.

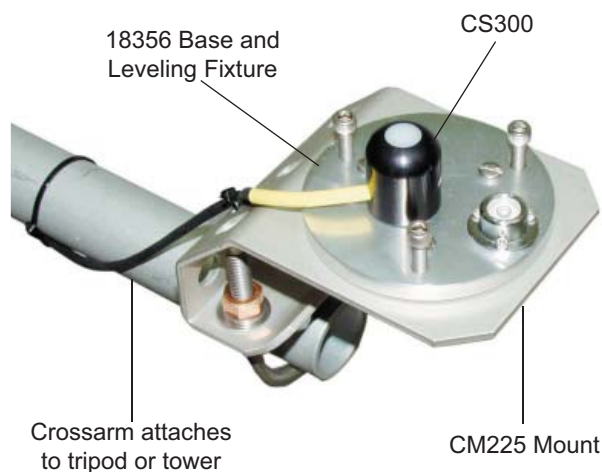
The standard output is 0.2 mV per $W m^{-2}$, which provides a signal of 200 mV in full sunlight ($1000 W m^{-2}$). All of our dataloggers, including the CR200-series, can measure this output.

Construction

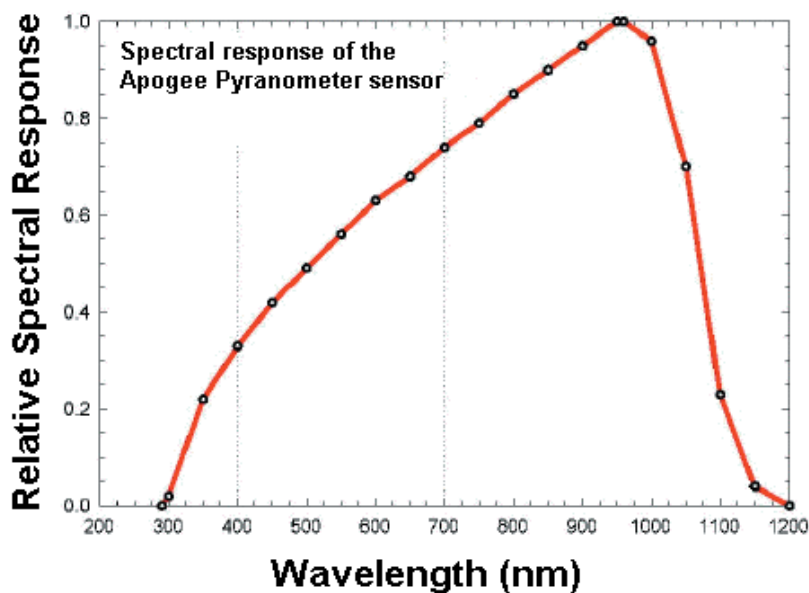
The dome-shaped head prevents water from accumulating on the sensor head. To eliminate internal condensation, the sensor head is potted solid and the cable is shielded with a rugged Santoprene casing.

Sensor Mounts

Accurate measurements require the sensor to be leveled using a 18356 leveling fixture. This leveling fixture incorporates a bubble level and three adjusting screws. The 18356 mounts to a tripod or tower using the CM225 mounting stand. For most applications, Campbell Scientific recommends attaching the CM225 to a CM202, CM204, or CM206 crossarm. The CM225 can also be attached to a tripod or tower mast.



The typical configuration for attaching the CS300 to a tripod or tower is shown above.



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815 W. 1800 N. • Logan, Utah 84321-1784 • (435) 753-2342 • FAX (435) 750-9540 • www.campbellsci.com

Ordering Information

CS300-L	Silicon Pyranometer with user specified lead length. Enter the lead length after the L. For example, CS300-L11, orders an 11' lead length.
18356	Base and leveling fixture required to level the sensor.
17906	CM225 Mount for attaching to the 18356 and sensor to a tripod, tower, or vertical pipe.

Specifications

Power requirements:	none, self-powered
Accuracy:	±5% for daily total radiation
Cosine correction:	cosine corrected up to 80° angle of incidence
Temperature response:	<1% at 5° to 40°C
Long-term stability:	<2% per year
Operating temperature:	-40° to +55°C
Relative humidity:	0 to 100%
Output:	0.2 mV per W m ⁻²
Dimensions:	0.9" (2.4 cm) diameter, 1.0" (2.5 cm) height
Weight:	2.3 oz (65 g) with 2 m lead wire
Measurement range:	0 to 2000 W m ⁻² (full sunlight ≈ 1000 W m ⁻²)
Light spectrum waveband:	300 to 1100 nm



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