



## Accurate and Dependable

Ideal for long-term deployment in harsh conditions

### Overview

The CS300 measures total sun and sky solar radiation for solar, agricultural, meteorological and hydrological applications. Its spectral range of 300 to 1000 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 all Campbell Scientific dataloggers (including the CR200(X) series)
- › Designed for continuous, long term, unattended operation in adverse conditions
- › Measurement waveband: 360 to 1120 nm\*
- › Compatible with the CWS900-series interfaces, allowing it to be used in a wireless sensor network
- › Dome-shaped head prevents water from accumulating on the sensor heat
- › Cost effective solar radiation sensor

### Technical Description

The CS300 uses a silicon photovoltaic detector mounted in a cosine-corrected head to provide solar radiation measurements. Its 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. The CS300 is calibrated against a Kipp & Zonen CM21 thermopile pyranometer to accurately measure sun plus sky radiation.

### Mounting

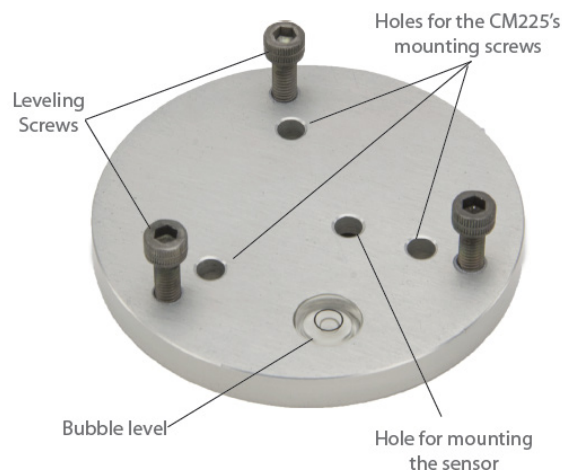
Accurate measurements require the sensor to be levelled using an optional levelling fixture (010355). This levelling fixture incorporates a bubble level and three adjusting screws. The

fixture mounts to a crossarm using the CM225 mounting stand. The CS300 should be mounted away from all obstructions and reflective surfaces that might adversely affect the measurement.

\*Sensors calibrated to the 360 to 1120 nm spectral range should not be used under vegetation or artificial lights.

## Ordering Information

|               |  |
|---------------|--|
| <b>CS300</b>  | Silicon Pyranometer with 3 m cable. Extension cables available to special order. |
| <b>010355</b> | Base and levelling fixture required to level the sensor.                         |
| <b>CM225E</b> | Crossarm mounting bracket.   |



18356 Base and Leveling Fixture

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

## Specifications

- › Power requirements: None, self-powered
- › Light Spectrum Waveband: 360 to 1120 nm
- › Measurement Range: 0 to 2000 W m<sup>-2</sup>  
(full sunlight ≈1000 W m<sup>-2</sup>)
- › Absolute Accuracy: ±5% for daily total radiation
- › Sensitivity: 5 W m<sup>-2</sup> mV<sup>-1</sup>
- › Cosine Correction Error: ±5% at 75° zenith angle; ±2% at 45° zenith angle
- › Temperature Response: -0.04 ± 0.04% per °C
- › Long-term Stability: < 2% per year
- › Operating Temperature Range: -40° to +70°C
- › Relative Humidity Range: 0 to 100%
- › Diameter: 2.4 cm (0.9 in)
- › Height: 2.5 cm (1.0 in)
- › Weight: 65 g (2.3 oz)

