



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: 300 to 1100 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 head

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 leveled using a 18356 leveling fixture. This leveling fixture incorporates a bubble

level and three adjusting screws. The 18356 mounts to a cross-arm or a tripod or tower mast using the CM225 mounting stand.

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



Ordering Information

Silicon Pyranometer

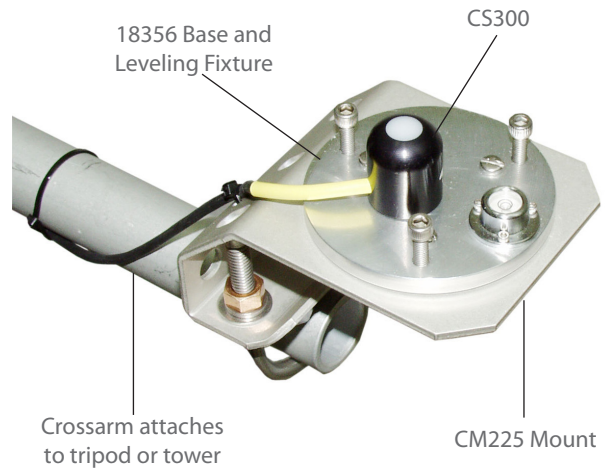
CS300-L Silicon Pyranometer with user specified cable length; enter the cable length after the L. An 11-ft length (CS300-L11) is recommended for a 3-m mounting height. Must choose a cable termination option (see below).

Cable Termination Options (choose one)

- PT** Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
- PW** Cable terminates in connector for attachment to a prewired enclosure.
- CWS** Cable terminates in a connector for attachment to a CWS900-series interface. Connection to a CWS900-series interface allows this sensor to be used in a wireless sensor network

Accessories

- 18356** Base and leveling fixture required to level the sensor.
- CM225** Mount for attaching to the 18356 and sensor to a tripod, tower, or vertical pipe.



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

Specifications

- › Light Spectrum Waveband: 300 to 1100 nm
- › Measurement Range: 0 to 2000 W m⁻² (full sunlight ≈1000 W m⁻²)
- › Absolute Accuracy: ±5% for daily total radiation
- › Sensitivity: .005 kW m⁻² mV⁻¹
- › Cosine Response: ±4% at 75° zenith angle; ±1% at 45° zenith angle
- › Temperature Response: < 1% at 5° to 40°C
- › Long-term Stability: < 2% per year
- › Operating Temperature Range: -40° to +55°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)

