

LP02

Solar Radiation Sensor



The LP02* is an ISO second-class pyranometer that measures solar radiation with a high-quality blackened thermopile protected by a dome. The blackened thermopile provides a flat spectral response for the full solar spectrum range, which allows the LP02 to be used under plant canopies or lamps, when the sky is cloudy, and for reflected radiation measurements.

The LP02 produces a millivolt signal that is measured directly by a Campbell Scientific datalogger. Please note that the LP02 is not compatible with the CR200(X)-series dataloggers.

Mounting

The LP02 includes a bubble level and three adjusting leveling screws, which allow the sensor to be leveled without using a leveling base. The CM225 Solar Sensor Mounting Stand is used to attach the sensor to a mast, crossarm, or pole (1.0-in. to 2.1-in. outer diameter). The CM225 consists of rectangular plate, mounting bracket, U-bolts, lock washers, and nuts.

Two LP02 pyranometers can be mounted back-to-back to make a low-cost albedometer; contact Campbell Scientific for more information.

Ordering Information

Solar Radiation Sensor

LP02-L Hukseflux pyranometer with user-specified cable length. Enter cable length, in feet, after the -L. 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 a 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.

Mounts

CM225 Solar Sensor Mounting Stand for attaching the sensor to a tripod or tower mast or to a CM202, CM204, or CM206 crossarm.



The LP02's bubble level and adjusting screws allow the pyranometer to be leveled without using a leveling base. The cable gland makes it easier for the user to change cables.



To attach the CM225 to a CM202, CM204, or CM206 crossarm, place the U-bolt in the holes on the bottom of the bracket.

**The LP02 is manufactured by Hukseflux. Prior to December 2008, the LP02 included a 15-ft cable instead of a cable with a user-specified length. Second-class pyranometers are acceptable for providing the solar radiation data used in stability estimations (EPA Meteorological Monitoring Guidance for Regulatory Modeling Applications, pages 2-10).*

Specifications

Light Spectrum Waveband: 305 to 2800 nm

Maximum Irradiance: 2000 W m⁻²

Sensitivity (nominal): 15 μ V W⁻¹ m²

Operating Temperature: -40° to +80°C

Temperature Dependence: <0.15%/°C

Dimensions

Width: 3.1 in. (7.8 cm)

Height: 2.3 in. (5.9 cm)

Dome Diameter: 1.2 in. (3.0 cm)

Weight with 15 ft cable: 0.8 lb (363 g)

ISO Classification: Second Class



If the CM225 is attached to a mast, place the u-bolt in the holes in the side of the bracket.

