

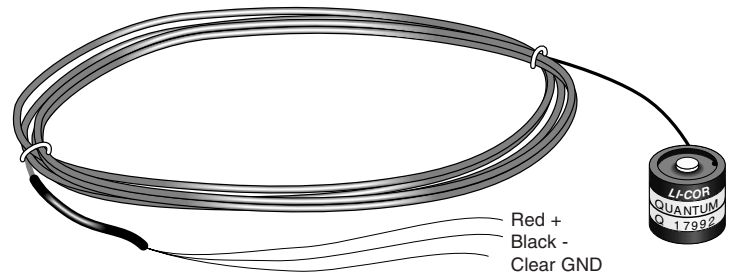
Solar Radiation Sensors

LI-COR's LI190SB Quantum Sensor & LI200S Silicon Pyranometer

LI190SB and LI200S measure solar radiation with a silicon photovoltaic detector mounted in a cosine-corrected head. A shunt resistor in the sensor's cable converts the signal from μA to mV allowing the LI190SB and LI200S to be measured directly by a Campbell Scientific datalogger (CR510, CR10(X), 21X, CR23X and CR7).

LI190SB Quantum Sensor

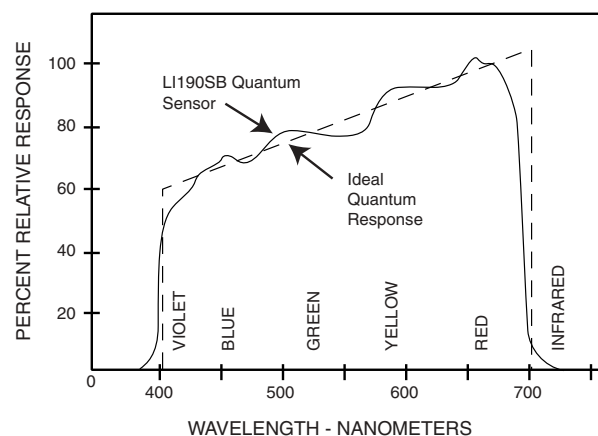
LI190SB accurately measures Photosynthetic Photon Flux Density (PPFD) in both natural and artificial light. PPFD is the number of photons in the 400 to 700 nm waveband incident per unit time on a unit surface. Because PPFD describes photosynthetic activity, the LI190SB is ideal for growth chambers and greenhouses.



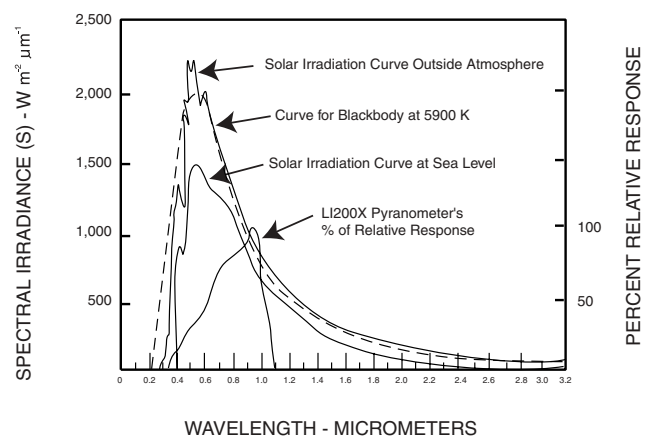
LI190SB Quantum Sensor. The LI200X has a similar appearance and identical wiring.

LI200S Silicon Pyranometer

The LI200S Silicon Pyranometer is calibrated against an Eppley Precision Spectral Pyranometer (PSP) to accurately measure sun plus sky radiation. LI200S is used extensively in solar, agricultural, meteorological, and hydrological applications. The LI200S should not be used under vegetation or artificial lights because it is calibrated for the daylight spectrum (400 to 1100 nm).



LI190SB Spectral Response



LI200S Spectral Response



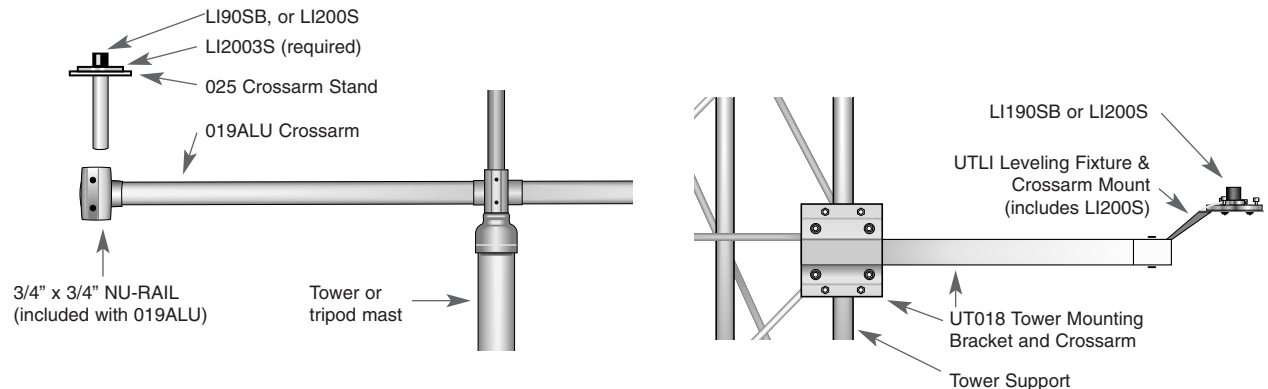
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Sensor Mounts

To ensure accurate measurements, the sensors are leveled with a LI2003S base/leveling fixture which incorporates a bubble level and three adjusting screws. The LI2003S mounts to a tripod or tower as shown below.



Ordering Information

LI190SB-L11 or LI200S-L11: 11' lead length for placing the sensor at 6' to 10' height such as atop the CM6/CM10 (6' and 10') tripod or UT10 10-foot tower, or attached to a leg of the UT30 via a UTLI

LI190SB-L34 or LI200S-L34: 34' lead length for mounting atop a UT30 30-foot tower

(recommended only where shading at lower levels is a problem.)

LI190SB or LI200S -L: User-specified lead length. Enter lead length after the L.

Common Specifications

Stability: < $\pm 2\%$ change over a 1 year period

Response Time: 10 μs

Temperature Dependence: 0.15% per $^{\circ}\text{C}$ maximum

Cosine Correction: Cosine corrected up to 80° angle of incidence

Operating Temperature: -40° to $+65^{\circ}\text{C}$

Relative Humidity: 0 to 100%

Detector: High stability silicon photovoltaic detector (blue enhanced)

Sensor Housing: Weatherproof anodized aluminum case with acrylic diffuser and stainless steel hardware

Size: 0.94" dia x 1.00" H (2.38 x 2.54 cm)

Weight: 1 oz. (28 g)

LI190SB Specifications

Calibration: $\pm 5\%$ traceable to the U.S. National Institute of Standards Technology (NIST)

Sensitivity: Typically 5 μA per 1000 $\mu\text{moles s}^{-1} \text{m}^{-2}$

Linearity: Maximum deviation of 1% up to 10,000 $\mu\text{moles s}^{-1} \text{m}^{-2}$

Shunt Resistor: 604 Ω

Light Spectrum Waveband: 400 to 700 nm

LI200S Specifications

Accuracy: Absolute error in natural daylight is $\pm 5\%$ maximum; $\pm 3\%$ typical

Sensitivity: Typically 80 μA per 1000 W m^{-2}

Linearity: Maximum deviation of 1% up to 3000 W m^{-2}

Shunt Resistor: 100 Ω

Light Spectrum Waveband: 400 to 1100 nm