



## Solar Radiation Sensor S8821

This silicon-cell pyranometer is calibrated to measure total shortwave radiation. The evaporation of water from soil and the transpiration of water from plant leaves are largely determined by the intensity of shortwave radiation, which is measured in Joules per meter squared per second or Watts per meter squared.

This cosine-corrected sensor is designed to maintain its accuracy when radiation comes from low zenith angles. This accuracy is shown in the graph below.





## Technical Specifications

**S8821**

Measurement Range	300 to 3000 nm
Range:	Responsively: 0.20 mV per W m <sup>-2</sup> In Full Sunlight: 220 mV (1100 W m <sup>-2</sup> ) Linear Range: 0 - 350 mV (0 - 2000 W m <sup>-2</sup> ); 1.75 full sun
Stability:	< +/- 2% change over a 1 year period
Temperature Dependence:	+/- 0.15% per °C maximum
Impedance:	147 ohms
Linearity:	+/- 1% for 0 to 3000 Wm <sup>-2</sup>
Response Time:	10 μs
Relative Humidity:	0 - 100%
Detector:	High stability silicon photovoltaic detector (blue enhanced)
Cosine Response	45° zenith angle: ± 1% 75° zenith angle: ± 5%
Absolute Accuracy	± 5%
Sensitivity	Custom calibrated to exactly 5.00 W m <sup>-2</sup> per mV
Operating Environment	-25 to 60 C 0 to 100% relative humidity Designed for continuous outdoor use Can be submerged in water
Mass	70 g (with 5 m lead wire)