



**Spectrafy**  
solar spectral sensors

# SolarSIM-E

The SolarSIM-E automated shadowband leverages Spectrafy's patented spectral sensors to produce highly accurate measurements of global, direct and diffuse irradiance from a single, ISO9060 Class A sensor. In addition, the ability to resolve both broadband and spectral irradiance yields unmatched insights for both research and solar resource assessment applications.

A compelling alternative to more expensive, solar tracker-based solutions and more accurate than traditional silicon-based shadowbands, the SolarSIM-E is fully automated and maintenance free.

The SolarSIM-E takes shadowband measurements to a new level of speed and accuracy. By combining the precision of an ISO9060 Class A pyranometer, the fast-response of photodiode measurements, and the insight of spectral correction, the SolarSIM-E provides an unmatched solution for quantifying the solar resource.

- **All-in-one**

Measure global, diffuse and direct irradiance components, broadband and spectral, with a single instrument.

- **Robust and reliable**

Easy to deploy, fully-automated and low-power. The robust, all-weather motor ensures reliable, maintenance-free operation.

- **Accurate & spectral**

The only shadowband that uses an ISO9060 Class A pyranometer. Automated spectral correction factors boost accuracy even further, resulting in the lowest uncertainty for solar resource assessment.





## SolarSIM-E: Specifications

### General

Compatible with .....	SolarSIM-G
Shadow band geometry .....	5° FOV
Min. measurement interval .....	15 s
Operating temperature range .....	-30 to 65 °C
Power supply .....	12 V
Power consumption .....	10 W / 2 W (stand-by)
Dimensions .....	420 x 150 x 132 mm (L x W x H)
Weight .....	3 kg
Communication .....	RS-485 ASCII, (PC, SoE, datalogger)
Operating humidity range .....	0 to 100% RH

### Measurands

Global horizontal irradiance .....	W/m <sup>2</sup>
Diffuse horizontal irradiance .....	W/m <sup>2</sup>
Direct normal irradiance (automatically calculated) .....	W/m <sup>2</sup>
Global horizontal spectral irradiance .....	(280-4000nm) W/m <sup>2</sup> /nm
Diffuse horizontal spectral irradiance .....	(280-4000nm) W/m <sup>2</sup> /nm
Direct normal spectral irradiance (automatically calculated) .....	(280-4000nm) W/m <sup>2</sup> /nm
Precipitable water vapour (total column) .....	mm

**note:** the SolarSIM-E can also be deployed in filtered orientations

