



Sunshine Duration Sensor S80011

- **No moving parts**
- **Large drying cartridge**
- **Two heater levels**
- **Low power consumption**

This sensor measures sunshine duration. Sunshine duration is defined by the World Meteorological Organization as the time during which the direct solar radiation exceeds 120 W/m^2 . It has no moving parts and uses 3 photo-diodes with specially designed diffusers to make an analogue calculation of when it is sunny. The output is switched high or low to indicate sunny or not sunny conditions. The calculated direct irradiance value is available as a voltage output.

The instrument is designed for continuous outdoor use and the waterproof plug-and-socket cable connection provides for easy installation and servicing. A humidity indicator progressively changes color to show when it is necessary to change the drying cartridge, which is located under a screw-on cover. The recommended recalibration interval is 2 years.

It operates from 12 VDC power and has two levels of built-in heating. Level 1 is to prevent the formation of dew. Level 2 prevents frost, and even ice, forming on the instrument. The heaters are normally switched externally but an optional internal thermostat control is available.





Technical Specifications

S80011

Product Specification

Spectral range	400 – 1100 nm
Sunshine YES output	1.0 ±0.1 V if direct irradiance > 120 W/m ²
Sunshine NO output	0.0 to 0.1 V if direct irradiance < 120 W/m ²
Accuracy of sunshine hours	>90 % in monthly total
Direct radiation output	1 mV per W/m ²
Accuracy of direct output	>90 % for clear sky
Non-stability	<2 % change per year
Response time	<1 ms
Impedance	1 kΩ
Power supply	9 to 15 VDC, 0.1 Watt
Heater level 1 to avoid dew	9 to 15 VDC, 1 Watt
Heater level 2 ice and snow removal	above -15 °C and wind speed <1 m/s 9 to 15 VDC, 10 Watt
Thermal switch (optional)	Heater level 2 on if case temp. <6 °C ±3 °C Heater level 2 off if case temp. >14 °C ±3 °C
Humidity	0 to 100 %
Operating temperature	-40 °C to +70 °C
Weight without cable	930 g.
Cable length	15 m. standard, 25 m. optional