240-CSD3 Sunshine Duration Sensor

- *Waterproof plug-and-socket cable connection for easy installation and servicing*
- *Humidity indicator to show when a change of drying cartridge is necessary*
- *Larger capacity drying cartridge that is easier to change at reduced intervals*
- *Glass tube, instead of plastic, for improved resistance to scratching by storm-blown sand and ice*
- *Operating temperature range -40º to +70º Celsius*

The **Model 240-CSD3 Sunshine Duration Sensor** provides the number of sunshine hours per day. The 240-CSD3 has no moving parts and uses three photo-diodes with specially designed diffusers to make an analog calculation of when it is sunny (direct solar irradiance greater than 120 W/m²). An output is switched high or low to indicate 'sunny' or 'not sunny' conditions. The calculated direct irradiance value is also available.

The 240-CSD3 operates from 12 Vdc power and has built-in heaters to dissipate rain, snow, and frost. These are normally switched externally but an optional internal thermostat control is available.

Sunshine duration sensors are widely used in weather networks to provide the number of sunshine hours per day for tourist information. In agriculture the 240-CSD3 monitors the amount of sunshine received by crops.

Specifications

Spectral range: 400 to 1100 nm
Operating temperature: -40ºC to 70ºC
Sunshine Yes signal: 1 ± 0.1 V if direct irradiance signal > 120 W/m²
Sunshine No signal: 0 ± 0.1 V if direct irradiance signal < 120 W/m²
Accuracy of sunshine hours: > 90 % in monthly total
Analog output signal: 1 mV per W/m² of direct irradiance
Accuracy of direct signal: > 90 % for clear sky
Non-stability: < 2% change per year
Temperature dependence: <0.1 %/K
Response time: < 1 ms
Power requirement: 12 Vdc

Ordering Information

240-CSD3	Sunshine Duration Sensor includes 15 meters cable
240-CSD3-T	Sunshine Duration Sensor, with internal thermostat includes 15 meters cable