


CSD 3


Sunshine Duration Sensor

CSD 3 is used for precise measurement of sunshine duration and normally is measured in hours. It is engineered for continuous outdoor use and is easy to install and service.







No moving parts



Easy installation and servicing



Waterproof plug-and-socket cable connection



Humidity indicator

CSD 3 measures solar radiation through a high quality glass tube. 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 also available.

The waterproof plug-and-socket cable connection enables easy installation and servicing. The standard cable is 15 m long, 25 m is an option. The large drying cartridge with screw-on cap gives extended change intervals, and a humidity indicator shows clearly when this is necessary.

CSD 3 operates from 12 V DC power and has two levels of built-in heating to dissipate rain, snow and frost. These

are normally switched externally, but an optional internal thermostat control is available. A robust mounting arm is fitted to the base of the instrument.

Sunshine duration sensors are widely used in weather networks and holiday resorts to provide the number of sunshine hours per day for tourist information. In health spas and clinics they contribute to the measurements used in treatment and recovery. In agronomy the amount of sunshine received by crops can be used to help forecast yields. In building automation the CSD 3 can be used as an input to the systems for the control of the internal environment, such as the deployment of sun blinds.

Specifications

Spectral range	400 to 1100 nm
Operating temperature	-40 °C to +70 °C
Sunshine signal	1 ±0.1 V (if direct radiation > 120 W/m ²)
Accuracy	> 90 % (monthly sunshine hours)
Analogue output signal	1 mV/Wm ² (direct solar radiation)
Accuracy	> 90 % (direct signal for clear sky)
Non-stability	< 2 % change per year
Temperature dependence	< 0.1 %/°C
Response time	< 1 ms
Power supply	< 0.1 W at 12 V DC (9-15 V DC)
Heating level 1	1 ±0.1 W at 12 V DC (dew removal)
Heating level 2	10 ±1 W at 12 V DC (frost and snow removal)
Thermal switch (optional)	Level 2 ON < 6 °C ±3 °C Level 2 OFF > 14 °C ±3 °C

