

**CSD 3**
SUNSHINE DURATION SENSOR

Kipp & Zonen announces the new CSD 3 Sunshine Duration Sensor. It replaces the successful CSD 1 and CSD 2 sensors, which are widely used in weather and agricultural networks and for tourist information to provide the number of sunshine hours per day. Customer feedback has resulted in a package of improvements incorporated in the new model.

CSD3 has no moving parts and uses 3 photo-diodes with specially designed diffusers to make an analogue 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.



CSD 3 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.

KEY FEATURES OF THE CSD 3 ARE:

- Improved sealing and support arm for durability in extreme conditions
- Glass tube, instead of plastic, for improved resistance to scratching by storm-blown sand and ice
- Larger capacity drying cartridge that is easier to change at reduced intervals
- Humidity indicator to show when a change of drying cartridge is necessary
- Waterproof plug-and-socket cable connection for easy installation and servicing
- Operating temperature range extended, -40 °C to +70 °C



A number of units are already installed in the field. The **CSD 3 Sunshine Duration Sensor** is available through your local Kipp & Zonen distributor. Contact information can be found on

www.kippzonen.com

TECHNICAL DATA

FUNCTIONAL

Spectral range:	400 - 1100 nm
Sunshine Yes signal	1 ± 0.1 V if direct irradiance signal > 120 W/m ²
Sunshine No signal	0 ± 0.1 V if direct irradiance signal < 120 W/m ²
Accuracy of sunshine hours	> 90% in monthly total
Analogue output signal	1 mV per W/m ² 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
Impedance	1 kΩ

ENVIRONMENT

Designed for continuous outdoor use	
Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +80°C
Humidity	0 to 100% rH
Vibration / shock during transport	IEC 721-3-2 2M2

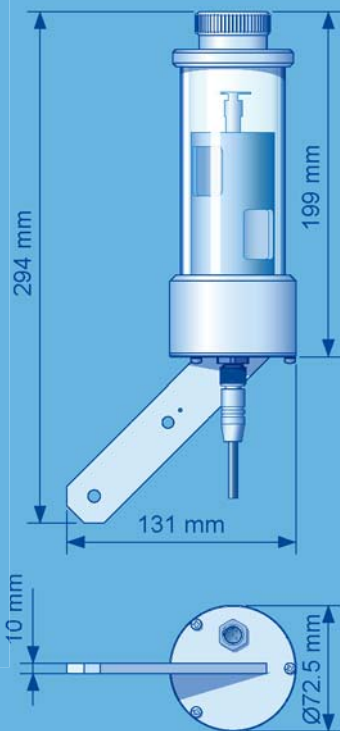
MISCELLANEOUS

Power requirement:

Without heating	< 0.1 W at 12 VDC
Heating level 1 to avoid dew	1 ± 0.1 W at 12 VDC
Heating level 2 ice and snow removal above -15 °C and wind speed < 1 m/s	10 ± 1 W at 12 VDC

Thermal switch (Optional)	
heating level 2 on if case temp.	< 6° ± 3°C
heating level 2 off if case temp.	> 14° ± 3°C

CSD 3 is supplied with a 15 m cable and two spare drying cartridges



Kipp & Zonen B.V. reserve the right to alter specifications of the equipment described in this documentation without prior notice

NEWS RELEASE

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