



SILICON IRRADIANCE SENSOR & PYRANOMETER & WEATHER STATION

Get Your Turnkey Package for Performance Monitoring of PV Systems



Silicon PV sensor with PV module temperature sensors offer a cost-effective, robust and reliable solution for measuring solar radiation. In particular, the spectral sensitivity corresponding to the PV modules as well as the very similar incident angle modifier enable an exact analysis of PV yields using the sensor readings.



SR30 is a pyranometer

of the highest ISO 9060 category class A: This solar radiation sensor is used where the highest measurement accuracy is required. It measures the solar radiation received by a plane surface, in W/m^2 , from a 180° field of view angle. SR30 offers Modbus-RTU over RS-485.

According to IEC 61724-1:2021 class A:

- Calibration uncertainty $\leq 2\%$ at $1\ 000\ W/m^2$
- Range up to $1\ 500\ W/m^2$
- Resolution $\leq 1\ W/m^2$
- Recirculation ventilation and heating against dew and frost deposition



Clima Sensor Ultrasonic US: The combination of sensors to form a complete weather station offers a cost-effective and space-saving alternative to conventional meteorological stations. All important parameters are recorded, measured, pre-processed and output in the smallest possible space. Clima Sensor US offers Modbus-RTU over RS-485.

Excellent reasons for the package

- It is robust and low-maintenance as there are no moving parts.
- It offers redundancy in precipitation detection, due to the ceramic precipitation sensor.
- It can distinguish between precipitation types, thanks to doppler radar.

Accuracy acc. to IEC 61724-1:2021 class A

- Ambient temperature: $\pm 1\ ^\circ C$ (resolution $0.1\ ^\circ C$)
- Wind speed: $\leq 0.5\ m/s$ @ $\leq 5\ m/s$
10% @ $> 5\ m/s$
- Wind direction: $\leq 5^\circ$

Data logging and network solutions: The package is compatible with common data loggers. Access from SCADA systems is supported via Modbus-RTU. However, you can also rely on a Thies Clima All-in-One solution and combine our Data Logger DLU-E.



We look forward to giving you more details:
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CLIMA SENSOR US 4.9200

Combining sensors to a complete weather station

- Wind speed
- Wind direction
- Precipitation, type, intensity and amount
- Temperature
- Rel. Humidity
- Brightness
- Twilight
- Radiation
- Air pressure
- GPS - Position, Time and sun position

Technology Portfolio

- High precision wind measuring with ultrasonic
- Advanced precipitation doppler radar
- GPS & magnetic compass for automatic alignment
- Heated ceramic for precipitation detection
- 4 sensors for hemisphere brightness and twilight
- Highly durable, resistant and UV-stabilised LEXAN®
- Wide operational range of -50...80 °C
- Modbus-RTU

Silicon PV Sensor 7.1419.2x

- Digital silicon irradiance sensor
- Measurement uncertainty acc. IEC 61724-1:2021 class A
- Monocrystalline silicon (50 mm x 33 mm)
- Operating temperature: -35°C to 80°C
- 3 m shielded cable or 4-pole connector
- Powder-coated aluminium, IP 65
- 155 x 85 x 39 mm, approx. 350 to 470 g
- Protocol: Modbus-RTU
- Interface: RS485 up to 38.4 kBaud
- Good price/performance ratio



SR30 Pyranometer 7.1415.06.781

- Hemispherical solar radiation
- Spectrally flat class A pyranometer acc. ISO 9060:2018
- Compliant with IEC 61724-1:2021 class A
- Calibration uncertainty < 1.2 % (k = 2)
- Zero offset < 5 W/m² unventilated
- Calibration traceability to WRR
- Spectral range 285 to 3000 nm
- Measuring range -400 to 4000 W/m²
- Sensitivity (nominal) 15 x 10⁻⁶ V/(W/m²)
- Rated operating temperature range -40 to +80 °C
- Temperature response ± 1 % (-10 to +40 °C) and <± 0.4 % (-30 to +50 °C)
- Temperature sensor Pt100
- Heater 1.5 W at 12 VDC (mandatory acc. IEC 61724-1:2021 class A)

Options:

Adapters, mounting equipment, masts etc

- Mounting options for Silicon PV Sensor
- Tiltable and fixed horizontal alignment



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