Pyranometer and Irradiance Sensors with Module Temperature Sensor

Sensors measure the deviations between the potential power production and the current power production and deliver key statistical values in regard to the quality of the whole plant. Solar-Log™ Monitoring continuously compares the yield data of a plant with the various sensors. If these values deviate from each other, an error message is generated. Depending on the requirements, there are various sensors available for the Solar-Log™.

Sensor Box

The most important element in the Sensor Box is the irradiance sensor. This delivers a reference value for solar radiation and enables conclusions to be drawn about possible power generation problems. The irradiance sensor consists of a single solar cell and should be installed at the same angle as your panels. This helps it to serve as an ideal reference value. Drops in performance even at low levels of radiation can be identified and error messages generated. Due to the built-in internal module temperature sensor, it is easy to analyze reductions in performance.

Benefits of communication between the Solar-Log™ and the Sensor Box:

- Solar-Log™ generates an error message in response to any variance that occurs.

- Errors and malfunctions can be filtered out and analyzed rapidly and reliably.

- The sensor evaluation provides information about the cause of the fault.

- Up to 9 Sensor Boxes can be connected to the Solar-Log[1000].

COMPATIBLE with Solar-Log[200/500/1000/800e]

Do not use with a RS422 inverter on the same bus

The irradiance sensor is equipped with a high-quality monocrystalline cell, which is rugged and specifically designed for long-term use in outdoor locations. The sensors are installed parallel to the panels they are meant to monitor and are connected to the Solar-Log™ via an RS485 interface.

Daily curve with solarization sensor (green), wind sensor (grey), module temperature (red) and yield curve (yellow)

Daily curve with ambient temperature sensor

Daily summary, 1 inverter and wind sensor

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Sensor Box Accessories

Ambient temperature sensor

The optional ambient temperature sensor (PT1000) delivers additional information. One problem that could arise and contribute to low yields is the combination of cold temperatures and sunshine causes a buildup of ice. The sensor can confirm the presence of such a problem.

Wind sensor

The wind sensor enables wind strengths to be tracked and in the event of breakdowns or reduced power output, to better identify storm damage as a possible cause.

Technical data	
Solar cell, laminated behind glass	Mono crystalline silicon (5 cm x 3.3 cm)
Dimensions (h x w x d), housing	14,5 cm x 8,5 cm x 4,0 cm, Powder-coated aluminium housing, protection class IP65
Temperature range	-20 °C to +70 °C
Power supply	via RS485 data cable from Solar-Log™ (10 – 28 V_{DC}), no further power supply required
Tolerance	Irradiance sensor: +/-5 %
Installation	On module assembly rails. Not necessary to open up the sensor.
Connecting cable	4 pin, 3 m, UV and weather resistant
Ambient temperature sensor	PT1000 Measuring range: -40 °C to +85 °C
Wind sensor	Cup anemometer Measuring range: 0-40 m/s, gusts 60 m/s
Warranty	2 years

Type	Art. No.
Sensor Box including irradiance sensor and module temperature sensor	220060
Wind sensor for connection to the Sensor Box, including a 5 m connection cable	220061
Ambient temperature sensor for connection to the Sensor Box, including a 3 m connection cable	220062

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