METEOROLOGICAL SENSORS

In conjunction with controlling of the performance of photovoltaic and solarthermal system the measurement of meteorological signal as global irradiance, wind velocity and direction as well as ambient temperature is essential. We offer all necessary sensors produced by well known manufacturers all at interesting prices.

General Informations

Global Irradiance

The best way for measuring the horizontal global irradiance is a thermo-electric pyranometer with a glass-dome. No silicon sensor meets the standards of the World Meteorological Organization (WMO). For precise measurement of the irradiance we therefore only use and offer pyranometers produced by Kipp & Zonen, Delft, the Netherlands.

Wind Velocity and Wind Direction

Our wind sensors have different output signals to meet the requirements of the connected data acquisition system. The case of the sensor consists of eloxadized aluminium and the cupstar and wind vane are made of plastic. Both sensors have an electronically regulated heating system to prevent the ball-bearings and the external rotation parts from freezing.

Ambient Temperature

We offer two different sensors for the measurement of ambient temperature. Both sensors use a Pt100 sensor according to the specification of EN 60751.

The sensor TMeteo consists of the essential Pt100 sensor and a weather and thermal radiation shield. Therefore this sensors can be installed nearly everywhere.

Our own sensor (Tamb) is realized with a Pt100 in a stainless steel tube mounted in a plastic case. Due to the very reduced thermal radiation shield the sensor must be protected from solar radiation to ensure correct measurement.

PV Module Temperature

The module temperature is measured by a special self adhesive Pt100 sensor on the rear side of the module. The sensor is delivered with a 2 m cable.

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Mencke & Tegtmeyer
Meßgeräte für die Solartechnik

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PYRANOMETER
Global Irradiance

Kipp & Zonen CM 3 / CM 6B / CM 11

- All pyranometers meet the specifications of the WMO and ISO 9060 respectively
- WMO class: Second class / First class / Secondary standard
- Measuring range: 0 to 1400 W/m²
- Sensitivity: 10 - 35 µV per W/m² / 9 - 15 µV per W/m² / 4 -6 µV per W/m²
- Non-linearity: 2,5 % / 1,5 % / 0,6 % (<1000 W/m²)
- Weight: 350 g / 850 g / 850 g

VWIND
Wind Velocity

Cupstar Anemometer

- Measuring range: 0,5 to 50 m/s
- Accuracy: ±3 % from rdg.
- Output signal: 10 (11) Imp. per rotation, 0(4) to 20 mA, 0 to 2(5)(10) V
- Heating: 24 V, max. 20 W
- Ambient temperature: -30 to +70 °C
- Weight: 400 g / 750 g

WRICHT
Wind Direction

Wind Vane

- Measuring range: 0 to 360 °
- Accuracy: 5 °
- Output signal: Graycode, 0(4) to 20 mA, 0 to 2(5)(10) V
- Heating: 24 V, max. 20 W
- Ambient temperature: -30 to +70 °C
- Weight: 1100 g

TMETEO
Ambient Temperature

Pt100 with Weather and Radiation Shield

- Measuring range: -30 to +70 °C /
- Accuracy: 1/3 DIN EN 60751 (corresponding to ±0,3 K)
- Output signal: Pt100, 4 to 20 mA, 0 to 1(10) V
- Voltage supply: 12 to 30 V_{DC}, 24 V_{DC} ±10 % for 0 to 10 V version
- Weather and radiation shield of UV resistant plastic with white lamella
- Dimensions Pt100 / shield: ø 20 mm x 138 mm / ø 120 mm x 140 mm
- Supply cable: 5 m long

TAMB
Ambient Temperature

Pt100 with Polycarbonat Case

- Measuring range: -70 to 200 °C
- Accuracy: 100 Ω ±0,1 Ω (corresponding ±0,3 °C)
- Dimensions Pt100 / case: ø 40 mm x 150 mm / 110 mm x 110 mm x 66 mm
- Weight: 250 g

TMODUL
PV Module Temperature

Self adhesive Pt100 for Surface Temperatures

- Measuring range: -50 to +150 °C /
- Accuracy: 100 Ω ±0,1 Ω (corresponding ±0,3 K)
- Dimensions Pt100: 40 mm x 13 mm
- Supply cable: 2 m lang, PTFE shielded