

SOLAR INVERTER



Sunways irradiation and temperature sensor

The use of locally installed irradiation and temperature sensors enables precise system-specific yield monitoring of the PV systems. Evaluation can be carried out, for example, using the Sunways Portal based on a target/actual comparison. The irradiation and temperature sensors are installed in close proximity to the solar modules.

Product Highlights

- Measurement of irradiation and temperature in close proximity to the solar modules.
- Reliable PV system yield monitoring.
- Robust and weatherproof design for outdoor use all-year-round.

The irradiation and temperature sensors feature integrated temperature compensation across the whole operational range from -20°C to 70°C. The housing is made of powder-coated aluminium with protection class IP 65.

Additional quality features of the irradiation and temperature sensors are top precision and minimal measurement tolerances. Recommended application areas are medium to large PV systems.

Information and Sales

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sunways
Photovoltaic Technology

Technical Data Sunways irradiation and temperature sensor

General

Solar Cells	Monocrystalline silicon (50 mm x 33 mm)
Current shunt	0.12 Ω (TK = 20 ppm / K) for 10 V output
Operating temperature	-20°C to +70°C
Electrical connection	3 m connecting cable

Housing

Material / Protection	type powder-coated aluminium / IP 65
Dimensions / Weight	145 mm x 86 mm x 39 mm / approx. 340 g

Delivery scope

Si sensor
shielded cable, 0.14 mm², UV and heat-resistant, 3 m length
Wire end sleeve

Radiation intensity accuracy

Error in temperature compensation	$\pm 5\%$ in comparison to pyranometer over an operating range of -20°C to 70°C (vertical light incidence)
Linearity of electronic circuit	$\pm 0.3\%$ of ave. for 50 to 1300 W/m ²

Temperature accuracy

Deviation at 25°C	$\pm 1.5^\circ\text{C}$
Nonlinearity	$\pm 0.5^\circ\text{C}$
Deviation at minimum and maximum temperature	$\pm 2.0^\circ\text{C}$

Model overview

	Si-01TC-T-K Irradiation and temperature sensors for connection to Sunways Solar Inverter	Si-12TC Irradiation sensor for connection to Sunways Communicator	Si-12TC-T Irradiation and temperature sensors for connection to Sunways Communicator
Power supply 5 VDC	$\pm 10\%$	12 to 24 V	12 to 24 V
Radiation intensity output signal	0 to 1 V	0 to 10 V	0 to 10 V
Radiation intensity measurement range	0 to 1300 W/m ²	0 to 1200 W/m ²	0 to 1200 W/m ²
Cell temperature output signal	1.235 V+T [°C] * 10 mV / °C	1.235 V+T [°C] * 10 mV / °C	1.84 V + T [°C] * 92 mV / °C
Cell temperature measurement range	-20°C to 70°C	-20°C to 70°C	-20°C to 80°C

