

AMBIENT TEMPERATURE SENSOR

By having a wide temperature measurement range, the ambient temperature sensor is well suited for measuring both outdoor and indoor temperatures.



TECHNICAL DATA

Sensor	PT1000
Measuring range	-40°C to +180°C; -40°F to 356°F
Accuracy	± 0.8°C (in the range -40°C to 100°C) ± 1.5 °F (in the range -40°F to 212°F)
Design	Sensor enclosed in a cylindrical housing of stainless steel
Dimensions	Length 2 in (50mm), Ø 0.24 in (6mm)
Cable	9.8 ft (3m) Cu-cable, 7.8 x 2 mil (2 x 0,5 mm), silicon isolated, ferrules, UV rated
Max. cable length (distance: Sensor Card/Box – sensor)	65 ft (20m)
Fronius Art. Nr.	43,0001,1188

Installation tip: For this sensor, there are no special mounting requirements. The ambient temperature sensor can simply be installed under the pv-modules.

MODULE TEMPERATURE SENSOR

This sensor measures the surface temperature of the pv-modules. By affixing the sensor to the backside of the pv-module, the module temperature can be measured.

Module temperature can affect power output. By measuring module temperature one can monitor the effects on the solar system's performance.



TECHNICAL DATA

Sensor	PT1000
Measuring range	-4 °F to +302 °F
Accuracy	± 0.8°C (in the range -20°C to 100°C) ± 1.5 °F (in the range - 4 °F to 212 °F)
Design	Sensor on an adhesive film for measurement on module back sheets
Dimensions	2 x 1 in (50 x 100 mm)
Cable	9.8 ft (3m) Cu-cable, silicon isolated, ferrules, UV rated
Max. cable length (distance: Sensor Card/Box – sensor)	65 ft (20m)
Fronius Art. Nr.	43,0001,1190

Installation tip: It is recommended to attach the sensor and cable with additional strain-relief using heat resistant adhesive tape.



IRRADIATION SENSOR

This sensor is designed for measuring solar irradiated energy. In most cases the sensor is mounted on the frame of the solar module.

Comparing the amount of irradiated power with the power produced by the inverter provides a detailed analysis on the performance of the pv-system.



TECHNICAL DATA

Sensor	Mono crystalline Si-Sensor
Sensor voltage	approx. 70mV at 1000W/m ² (Calibration constant is written on the sensor)
Accuracy	± 5% (average over a year)
Ambient temperature	-40°C to +85°C; -40 °F to 185 °F
Design	Sensor is mounted on a Z-shaped aluminium profile
Dimensions	l x w x h = 14.2 x 1.6 x 1.6 in (110 x 40 x 40 mm)
Cable	9.8 ft (3m) Cu-cable, ferrules, UV rated
Max. cable length (distance: Sensor Card/Box – sensor)	100 ft (30m)
Fronius Art. Nr.	43,0001,1189

Installation tip: The sensor comes attached to an aluminium profile with an 0.315 in (8 mm) hole making it easy to attach to a fixed surface like a module frame. Make sure that the sensor does not cast any shadow on the module.



WIND SPEED SENSOR

The sensor measures the wind speed at a specific pv-system location.

Used to determine wind load and analyze pv-system cooling capacity, this sensor can be used in combination with other sensors to make an almost complete weather station.



TECHNICAL DATA

Sensor	Cup Anemometer
Output signal	Rectangle: Low $\leq 0.5V$ / High $\geq 3.5V$
Calibration factor	1.45 Hz = 1.6 mph (1km/h) 5.22 Hz = 3.28 ft/ sec (1m/s)
Threshold	8.2 ft/sec (2,5m/s) wind speed
Resolution	3.28 ft/sec; 0.621 mph(1m/s; 1km/h)
Accuracy	$\pm 5\%$ at wind speed ≥ 16.4 ft/sec (5m/s)
Protection Type	IP 54
Ambient temperature	-20°C to +60°C; -4 °F to 140 °F
Dimensions	3.35 x 3.66 x 4.53 in (85 x 93 x 115 mm)
Cable	6.56 yards (2m) Cu-cable, ferrules, UV rated
Max. cable length (distance: Sensor Card/Box – sensor)	100 ft (30m)
Fronius Art. Nr.	42,0411,0027