



SolarSAT temperature sensors

Temperature contact probe SS-PVTEMP-01

The contact probe **SS-PVTEMP-01** measures the temperature of photovoltaic modules in a plant. The sensible element is inserted into an aluminium plate having one side free and the other covered with silicon rubber. Putting the free side in contact with the measuring surface allows for a very precise temperature measurement, as the remaining part of the probe is thermally isolated from the environment.

It is available in two versions: with and without power supply.

Technical data SS-PVTEMP-01

	SS-PVTEMP-01-A	SS-PVTEMP-01-P
Power supply	+12 Vdc \pm 10%	---
Output	0÷5 Vdc	Ohm
Contacts (*)	Supply (1) Ground (2) Output (3)	PT100 side 1 (red) PT100 side 2 (white)
Sensor type	PT100 ohm @ 0°C	
Precision	< 0.5 °C (according to IEC 751 class B)	
Range	-30 ÷ 70 °C	
Time constant	60 s	
Protection level	IP65	
Core material	Aluminium	
Case material	ABS	
Fixing	Gluing	



**PV module
temperature sensor
SS-PVTEMP-01**

(*) electrical contacts are done at the terminal blocks within the waterproof ABS case.

External temperature probe SS-ENTEMP-01

The probe **SS-ENTEMP-01** measures the outdoor environmental temperature. The sensible element is inserted into a steel block, glued with thermally conductive resin to ensure a reliable measurement. The two plates over the sensor ensure a correct measure in every fixing condition, avoiding exposure to direct sunlight.

It is available in two versions: with and without power supply.

Technical data SS-ENTEMP-01

	SS-ENTEMP-01-A	SS-ENTEMP-01-P
Power supply	+12 Vdc \pm 10%	---
Output	0÷5 Vdc	Ohm
Contacts (*)	Supply (1) Ground (2) Output (3)	PT100 side 1 (red) PT100 side 2 (white)
Precision	< 0.5 °C (according to IEC 751 class B)	
Sensor type	PT100 ohm @ 0°C	
Range	-30 ÷ 70 °C	
Time constant	60 s	
Protection level	IP65	
Case material	ABS	



**Environmental
temperature sensor
SS-ENTEMP-01**

(*) electrical contacts are done at the terminal blocks within the waterproof ABS case.



SolarSAT anemometer

Wind speed and direction sensor SS-WIND-01

The **SS-WIND-01** system is composed of a cup anemometer that senses wind intensity and direction. The sensor measuring wind speed is made of a rotating shaft housing three calibrated cups whose rotation operates a reed contact. The sensor detecting wind direction is composed of a wind vane rotating with a potentiometer cursor. Both sensors are in compliance with WMO standards. The system is supplied by 5 Vdc., has a global maximum consumption of 20 mA, provides two voltage outputs in the range 0-5V, one for each physical measurement.

Technical data SS-WIND-01

	Wind speed	Wind direction
Operational range	---	0 ÷ 78 m/s
Measurement range	0 ÷ 280 m/s	0 ÷ 360°
Typical precision	±5%	±7 %
Resolution	0,1 m/s	1 %
Threshold	0,2 m/s	---
Supply	+5 Vdc	+5 Vdc
Output	5÷0 Vdc digital (*)	0÷5 Vdc analog
Contacts	Supply (1) Wind direction (analog) (2) Wind speed (digital) (3) Ground (4)	

Environmental conditions

Temperature	-20 ÷ 70 °C
Humidity	90% without dew
Altitude	not applicable
Protection level	IP55

(*) normally at 5 V; a pulse down to 0 V is produced at every cup revolution



Anemometer
SS-WIND-01

Calibration of SS-WIND-01

The device is calibrated in laboratory, so to guarantee measurement reliability for a period of about 12 months. During such period several in-field controls should be done, aimed at instrumentation cleaning (removal of leaves, dust, etc.) and at verifying their correct operation. Such controls are to be done every three months approximately. After two years from installation it is advisable to perform a new in-laboratory calibration to prolong measurement and operational reliability.