

be4sun

*Irradiation Reference Cell with
Ambient and Module Temperature
Sensors for PV power plants*

IRRADIATION AND TEMPERATURE MONITORING

For professional monitoring solutions in PV installations the measurement of ambient environment conditions is indispensable. The solar irradiation measurement together with the module temperature information is used to determine if the yield of the PV plant is in line with the expectations and allows for automated fault detection in advanced monitoring systems.

FEATURES

- Monocrystalline silicon cell (50 x 50 mm²)
- UV resistant solar glass cell cover with excellent long term stability
- UV resistant and waterproof housing
- High measurement accuracy with low yearly drift
- Internal temperature measurement of reference cell for temperature compensation
- Optional connection of two external digital temperature sensors
- Digital RS-485 Interface
- Fully compatible with be4unity PV plant manager series



be4sun – Reference Cell	
IRRADIATION MEASUREMENT	
Measuring Range	0 ... 1600 W/m ²
Measuring Resolution	0.5 W/m ²
Accuracy	±5% (monthly sum of radiation yield compared to world class 1 pyranometer)
Drift	< 0.3% / year
MECHANICAL	
Material	polycarbonate, UV resistant, weather resistant
Color	light gray
Dimensions (L x W x H)	94 x 94 x 57 mm
Mounting	4 x 4mm cylinder head screws watertight through bottom side optional: stainless steel mounting plate
Protection Degree	IP 54
Operating Temperature	-25 ... +70 °C
ELECTRICAL	
Power Supply	12 ... 30 Vdc
Current Consumption	30 mA (max.)
Connection	1 x cable gland, M16, max. Ø 10 mm 2 x cable gland, M12, max. Ø 6,5 mm 4 x spring type terminal, max. 1,5 mm ²
Interface	RS-485 (half duplex), with galvanic isolation
Protocol	Modbus RTU

be4sun – Temperature Sensor	Ambient	Module
TEMPERATURE MEASUREMENT		
Measuring Range	-55 ... +125 °C	
Measuring Resolution	0.5 °C	
Sensor Type	digital Temperature Sensor	
MECHANICAL		
Material	polycarbonate, UV resistant, weather resistant	
Color	light gray	black
Dimensions (L x W x H)	105 x 105 x 210 mm	52 x 12 x 39
Mounting	2 x 5 mm wall mounting holes in sensor holder pole mount bracket, up to 65 mm diameter (enclosed in delivery)	2 x 3 mm screw holes in housing metallic back plate for adhesive thermal bonding (bonding compound enclosed in delivery)
Protection Degree	IP 65	IP 54
Operating Temperature	-25 ... +70 °C	
ELECTRICAL		
Power Supply	5 Vdc (provided by reference cell sensor electronic)	
Connection	cable gland, M16, max. Ø 10 mm, 2 x screw terminal, max. 1,5 mm ²	preinstalled cable (5 m)