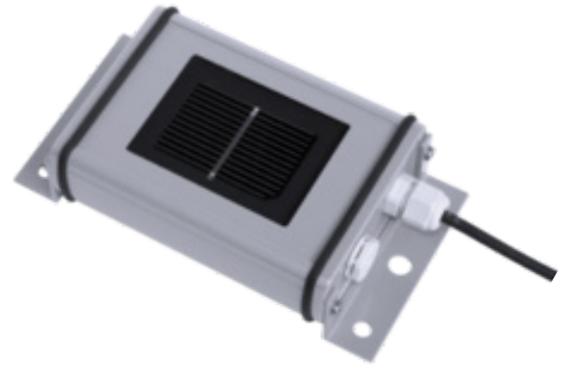


## TECHNICAL DATASHEET SENS'IRRADIATION AND TEMPERATURE SENSOR REFERENCE AC1001-01



### MAINTENANCE

Scope of the regularly check (at least every 2 years): Cleaning of solar cell, external damage, mechanical fastening, cable laying and any damage to the cable.

Should damage be found that degrades the function or safety, the sensor is to be replaced.  
A recalibration is recommended at least every 3 years.

**i** Irradiation sensors that are used for monitoring PV installations must be installed with the same alignment and inclination as the PV generator. The mounting location should be free of shading as far as possible.  
To facilitate maintenance and cleaning of the Si sensor, the Si sensor should be mounted in an easily accessible place (e.g. near roof windows or skylights).

**i** The mounting location at a PV generator must be selected such that snow cannot jeopardise the sensor as it slides off. For this reason do not mount along the drip edge on the PV generator.

**i** The connecting cable should always be laid separated from, e.g. main DC cables or AC cables. The connecting cable is to be laid so it is fixed.  
The minimum bending radius of 15 x cable diameter ( $\varnothing$  approx. 5 mm) is to be observed.  
The voltage drop at the cable has to be considered when calculating the maximum cable length

**i** The pressure equalisation element must not be damaged.  
The cable gland is not allowed to be undone or tightened by the user.  
It is not necessary for the installer or user to open the sensor. If the housing is nevertheless opened, no liability for the sealing can be accepted.

**i** The surge protection concept must be adapted to the specific local situation. This means, for instance, that the measuring cables must be equipped with a separate surge arrester at the entry to a building.  
The sensor must be integrated into the lightning protection concept.

**!** The sensors are designed for safety extra-low voltage (SELV) operation.  
Reversing the polarity or mixing up the connections on the sensor may cause irreversible damage to the sensor.  
The cable shield is to be connected to PE during installation.

**!** The installation and assembly of electrical equipment must be carried out by electrically qualified persons.  
The sensor may not be used with equipment whose direct or indirect purpose is to prevent human death or injury, or whose operation poses a risk to humans, animals or property.

**⚡** Mortal danger due to electrical power  
On the connection of the Si sensor to an inverter, dangerous voltages are present on the inverter (disconnection, secure against switching, follow inverter manual).

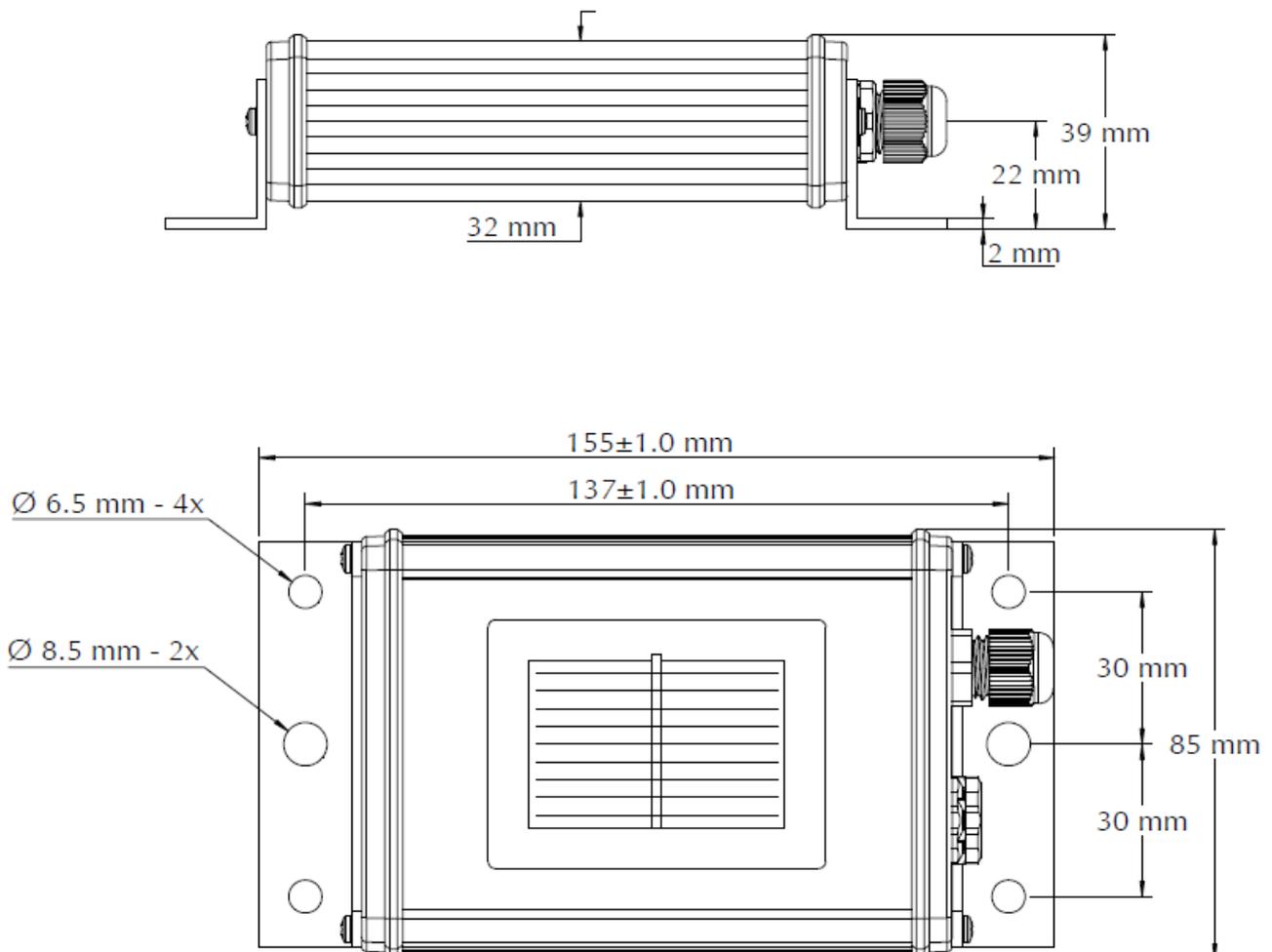
**i** Should it be necessary to clean the Si sensor, a soft cotton cloth, water and a mild cleaning agent can be used for this purpose.

**i** A terminating resistor is usually not required for the RS485 sensors

## TECHNICAL CHARACTERISTICS

Description	IRRADIATION SENSOR
Solar cell	Monocrystalline silicon
Irradiance Measurement	up to 1500 W/m <sup>2</sup>
Cell temperature measurement	-40 to +90°C
Working temperature range	-35 to +80°C
Standard cable length	3m
Voltage supply	12 to 24 VDC
Protocol	Modbus RTU
Interface	RS485 up to 38.4 kBaud
Galvanic isolation	1.000 V between power supply and bus

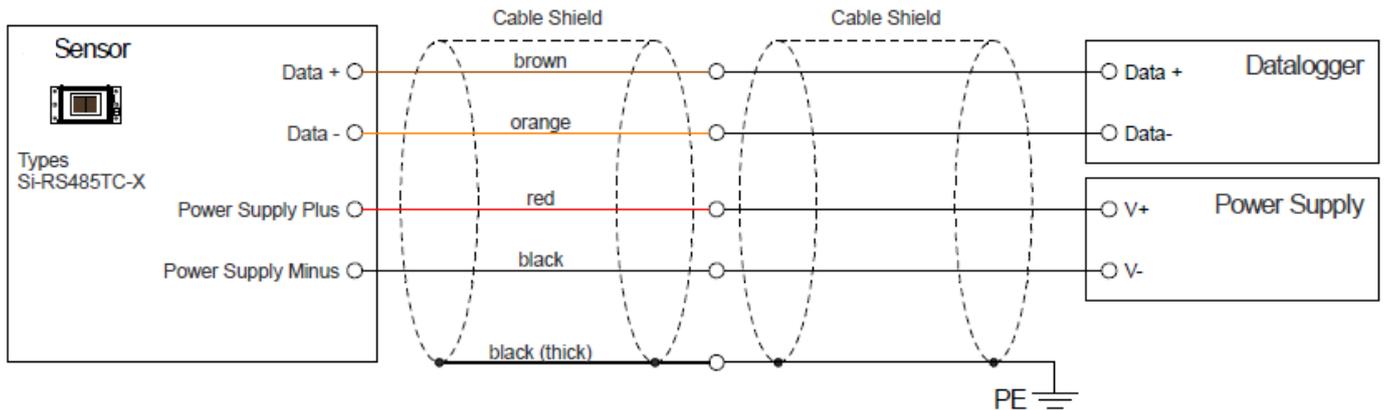
## DIMENSIONS



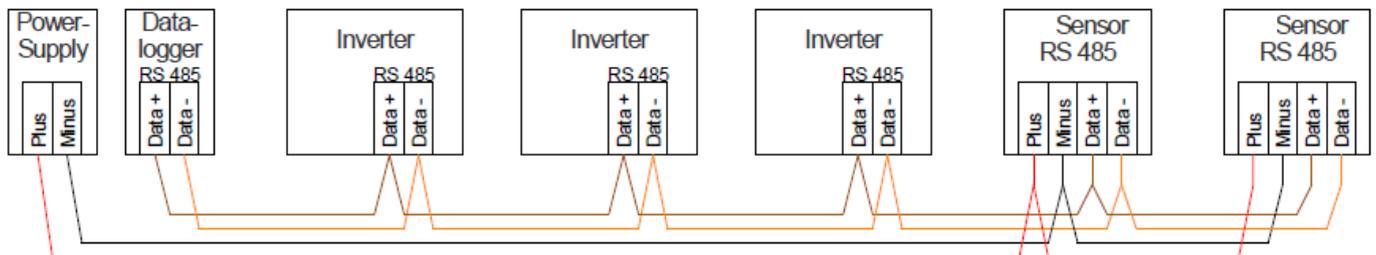
## WIRE INFORMATION

Wire colour	All RS485 sensors
Orange	RS485 Data- / B
Brown	RS485 Data+ / A
Black	Supply (negative)
Red	Supply (positive)
Black (thick)	Shield

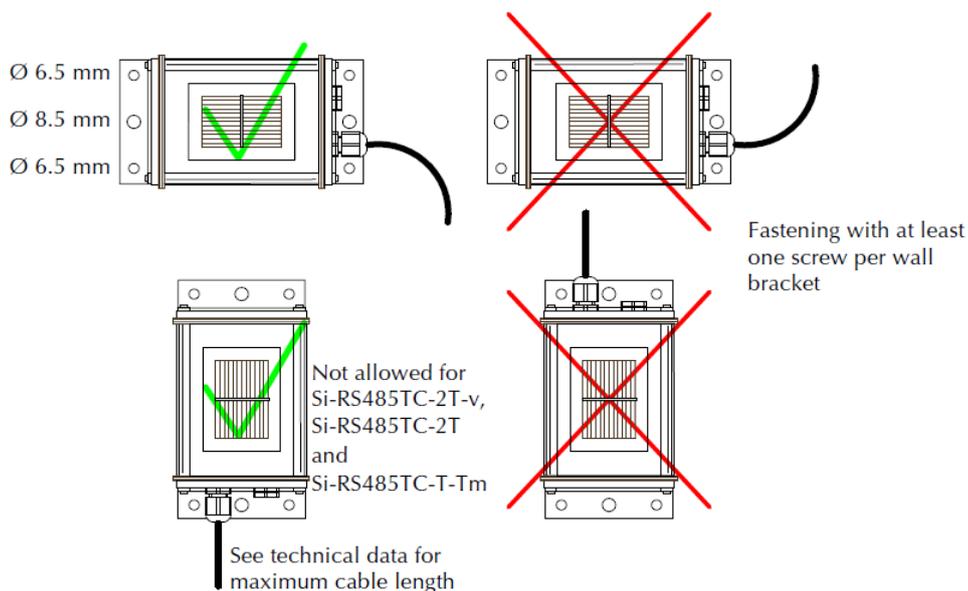
Wiring diagram of Irradiation Sensor

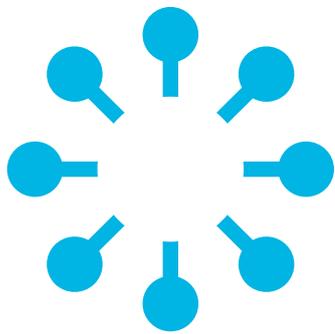


Bus topology



## MOUNTING INSTRUCTION





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