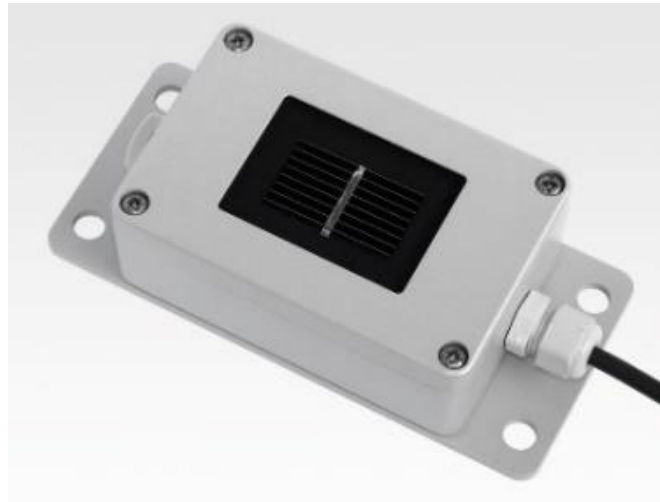


Temperature and Irradiation Sensor

Solar radiation and Temperature

Solar radiation and temperature are the inputs for all solar energy generation systems. Measuring solar irradiance and temperature provides knowledge to make important decisions on future energy yield, efficiency, performance and maintenance, that are high importance factors for the investments!

Our Temperature and Irradiation Sensor is an economical but robust and reliable solution for measuring solar irradiance levels, particularly for monitoring photovoltaic systems. The design of the sensor element, which corresponds to that of a photovoltaic module, make the sensor ideally suited as a reference for monitoring photovoltaic systems.



Installation and Maintenance

Maximum cable length with a cable diameter of 0.14 mm² is 30 m. For cable length bigger than 30m use at least a cable diameter of 0.5 mm².

Sensor 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.

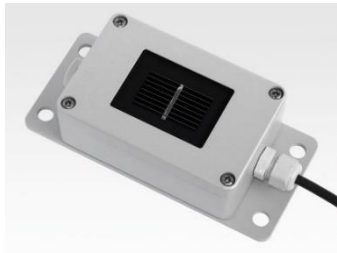
To facilitate maintenance and cleaning of the Si sensor, the Si sensor should be mounted in an easily accessible place (e.g. near roof windows or skylights).

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.

The connecting cable should always be laid separated from, e.g. main DC cables or AC cables.

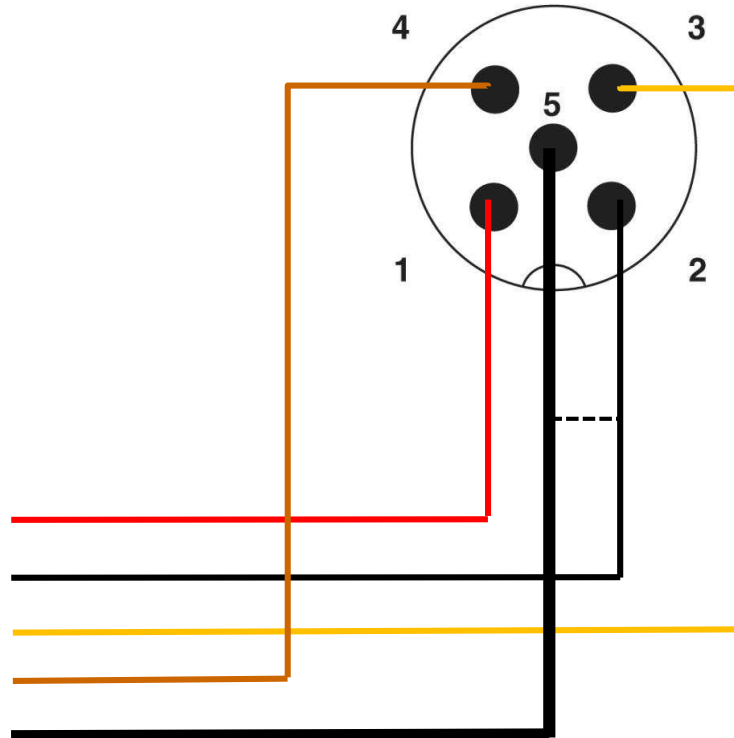
Cable color assignment

Sensor is connected to the inverter's input with a 5-pin RS485 connector (SACC-M12MS-5SC SH) It comes with a 3m long UV-resistant cable (LiYC11Y 4x0.14mm²) and can be extended by using a 5x0.25mm² cable up to 100m

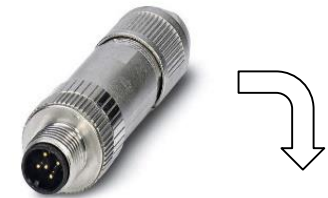


Sensor with connection cable

- Red – Supply Voltage → Pin 1
- Black – Ground → Pin 2
- Orange – Irrad. Signal → Pin 3
- Brown – Temp. Signal → Pin 4
- Black (Thick) – Shielding → Pin 5



5-pin RS485 connector



Note: The Shield must be applied to Pin 2 and Pin 5 !!

RS485 connecting Tips



Slide the pressure nut and the housing over the cable



Strip the cable sheath over a length of 28 mm and trim the braided shield to a length of 12 mm



Fold back the braided shield over the cable sheath, strip approx. 10 mm off the single wires and crimp suitable ferrules to the end of each wire



Close the wires by pressing the spring opener completely into the chambers intended for this



Fold the braided shield back again. Now remove the shield foil from the paper and apply the adhesive foil around the braided shield



Pull the housing up to the male insert and hold it tightly while you screw on the male insert



Screw the pressure nut on the housing. Tighten the pressure nut firmly

REFU Elektronik GmbH

Marktstraße 185 · D-72793 Pfullingen

To contact our Technical Support team, please use this link: service@refu-sol.com

We provide you with advice and support by telephone Monday to Thursday 9 a.m. and 5 p.m., Friday 9 a.m. to 4 p.m. CET.

Please call +49 7121 4332-333