**Warning: Do not bend the cable directly on the housing.
Min. bending radius = 41 mm**

Function

The sensor (829) has been specially developed for measuring the module temperature of photovoltaic (PV) systems.

A Pt100 measuring resistor is used as measuring element, which is protected in a body made of seawater-resistant aluminium. An optimal heat conduction between body and measuring element is achieved by a special casting compound.

The temperature can be measured in a 4-wire circuit via the permanently connected cable. This and the shielded cable make the measurement less sensitive to external interference.

Assembly

To measure the module temperature, the aluminium body of the sensor with its thermally conductive adhesive surface is glued to the module from behind:

- If possible, use gloves.
- Clean the location where the module temperature sensor is to be mounted with heptane or ethanol (degree of purity: technical).
- Use 2 cloths (lint-free disposable cloths). Dry the cleaned area with the second cloth.
- After cleaning, check the 2nd cloth for dirt. (The area must be free of dirt.).
- Remove the protective paper from the adhesive tape. Do not reach onto the adhesive surface.
- Stick the sensor onto the cleaned surface.

Note: The position of the sensor cannot be corrected after gluing!

Electrical Connection

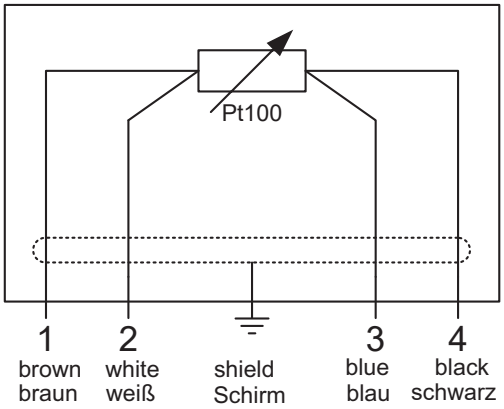
The sensor (829) has an integrated 4 cores shielded sensor cable .

Connect the sensor to the data acquisition system with a 4-wire circuit. Please see the wiring diagram.

If the measuring cable is not long enough to connect the sensor to a data acquisition system, a shielded 4-wire extension cable must connected to the measuring cable over a protected distribution box.

Pin Assignment acc. to DIN EN 50044

Pin assignment · color code:



Ader core	Farbcode DIN EN 50044		color code DIN EN 50044	
1	braun	BR	brown	BN
2	weiß	WS	white	WH
3	blau	BL	blue	BU
4	schwarz	SW	black	BK

Manual
Module Temperature Sensor (829)

Putting into Operation

The sensor (829) is immediately ready for operation after connection to the data acquisition system.

Maintenance

Maintenance of the sensor (829) is not necessary.

The plausibility of the determined temperature value is sufficient for a simple functional check.

In order to check the function of the sensor exactly, a comparison measurement must be carried out at the same point. Note a certain “settling time” of the sensor and the reference thermometer.

Technical Data

Id-No. 00.08290.000030

Measuring element:	Pt100 F 0.3 resp. DIN EN 60751
Measuring range:	-40...+105 °C
Accuracy:	(0.3 + 0,005 · |T|)
Protection class:	IP 67
Weight:	0.4 kg

Electrical parameters:

Measurement current (DC) at 25 °C:	1.0 mA
Maximal permissible peak current at 25 °C:	3.0 mA
Insulation resistance:	> 10 MΩ
Self-heating at 0 °C:	< 0.5 K/mW

Approx. dimensions:

Cable length:	3000 mm
Body thickness:	10 mm
Body Ø:	39.5 mm

Cable:

Length 3 m, shielded, with bending radius = 41 mm
(approval UL/cUL UL-Style 20233)

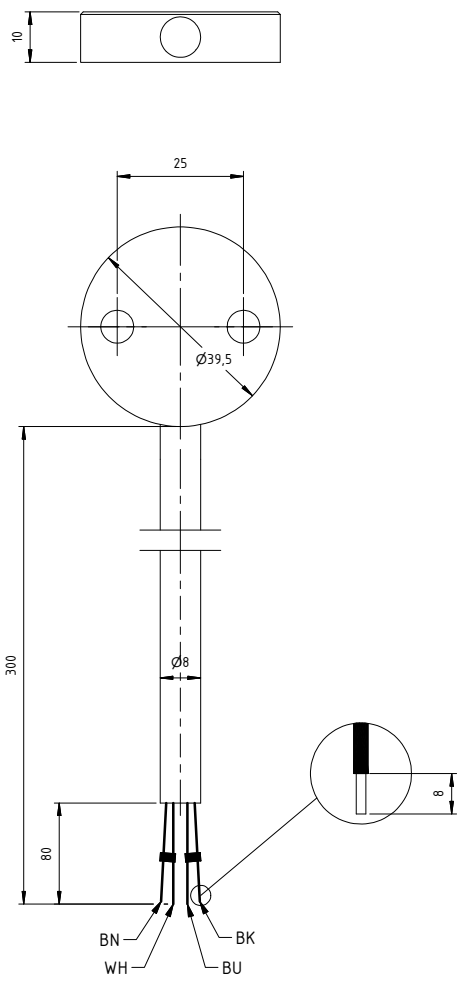
Accessory (please order separately)**:**

PT100 Modbus Converter

Id-No. 00.08790.000000

Quality System certified by DQS according to DIN EN ISO 9001:2008 Reg. No. 003748 QM08

Dimensional Drawing



Please note the loss of warranty and non-liability by unauthorised manipulation of the system. You need a written permission from LAMBRECHT meteo GmbH for changes of system components. These activities must be operated by a qualified technician.

The warranty does not cover:

1. Mechanical damages caused by external impacts (e. g. icefall, rockfall, vandalism).
2. Impacts or damages caused by over-voltages or electromagnetic fields which are beyond the standards and specifications in the technical data.
3. Damages caused by improper handling, e. g. by wrong tools, incorrect installation, incorrect electrical installation (false polarity) etc.
4. Damages which are caused by using the device beyond the specified operation conditions.

LAMBRECHT meteo GmbH
Friedländer Weg 65-67
37085 Göttingen
Germany

Tel +49-(0)551-4958-0
Fax +49-(0)551-4958-312
E-Mail info@lambrecht.net
Internet www.lambrecht.net