



USER MANUAL

829

Module Temperature Sensor



Warranty

Please note the loss of warranty and non-liability by unauthorized manipulation of the system. You need a written permission of the 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.

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



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

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!



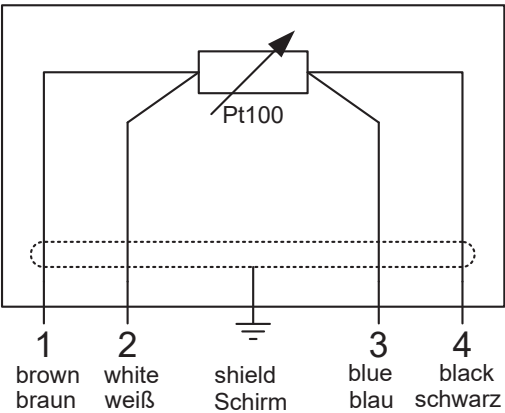
Electrical connection

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 be connected to the measuring cable over a protected distribution box.

Pin assignment according to DIN EN 50044

PIN ASSIGNMENT



COLOR CODES

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

Putting into operation

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

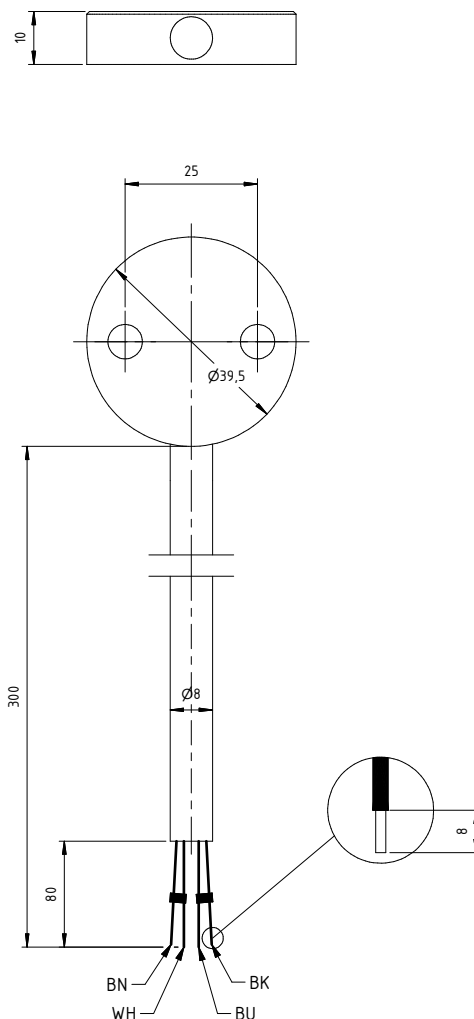
Maintenance

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.

Dimensional drawing



Disposal

LAMBRECHT meteo GmbH is listed and registered at the Stiftung Elektro-Altgeräte Register under:

WEEE-Reg.-Nr. DE 45445814

In the category of monitoring and control instruments, device type: "Monitoring and control instruments for exclusively commercial use".

Within the EU



The device has to be disposed according to the European Directives 2002/96/EC and 2003/108/EC (Waste Electrical and Electronic Equipment). Do not dispose the old device in the household waste! For an environmentally friendly recycling and disposal of your old device, contact a certified disposal company for electronic waste.

Outside the EU

Please follow the regulations in your country regarding the appropriate disposal of waste electronic equipment.



Technical data

MODULE TEMPERATURE SENSOR	
ID	00.08290.000030
Measuring element	Pt100 F 0.3 resp. DIN EN 60751
Measuring/application range	-40...+105 °C
Measuring accuracy	$(0.3 + 0.005 \cdot T)$
Protection class	IP 67
Cable	Length 3 m, shielded, with bending radius = 41 mm (Approval UL/cUL UL-Style 20233)
Weight	0,4 kg
ELECTRICAL PARAMETERS	
Measurement current (DC) at 25 °C	1.0 mA
Maximum 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
ACCESSORY (OPTIONAL)	
ID	00.08790.000000 Pt100 Modbus Converter

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