

Operating Manual for Temperature Transducer

GTMU

Specification:

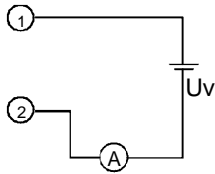
Measuring range:	please refer to type plate
Sensor element:	please refer to type plate - resistance thermometer Pt100 acc. to DIN JEC 751 - thermocouple NiCr-Ni (typ K), class 1 acc. to DIN JEC 584
Sensor accuracy:	please refer to type plate
Output signal:	please refer to type plate
Connection:	4 - 20 mA (two wire); 0 - 10 V (three or four wire)
Auxiliary energy: (supply voltage)	$V_s = 12 - 30 \text{ V DC (4-20mA)}$ $V_s = 18 - 30 \text{ V DC (0-10V)}$ or refer to type plate
Reverse voltage protection:	50V permanent
Permissible impedance (for 4-20mA):	$R_A(\text{Ohm}) < ((V_s - 12\text{V}) / 0.02\text{A})$ <i>Example: for $U_v = 18\text{V}$: $R_A < (18\text{V} - 12\text{V}) / 0.02\text{A} \Rightarrow R_A < 300 \text{ Ohm}$</i>
Permissible load (for 0-...V):	$R_L(\text{Ohm}) > 3000 \text{ Ohm}$
Accuracy electronic:	$< \pm 0.2\% \text{ FS}$
Temperature coefficient:	please refer to type plate: 0.05 % / °C (standard), 0.01 % / °C (optionally at Pt100)
Nominal temperature:	25°C
Operating temperature:	0 to 70°C
Relative humidity:	0 to 95 % r.h. (non-condensing)
Storage temperature:	-45 to 85°C
Mounting position:	any position
Housing:	ABS (IP65), 82 x 80 x 55 mm (without elbow-type plug and pressure connection)
Mounting:	By means of screw thread or mounting holes in housing (accessible after cover has been removed).
Mounting distance:	50 x 70mm, max. shaft diameter of mounting screws is 4mm.
Design-types:	design-type 1: with threaded stem for direct screw connection. design-type 2: with threaded stem at a distance from housing (for higher temperature). design-type 3: indoor /outdoor probe for direct wall mounting. design-type 4: duct type probe with centrally mounted sensor tube arrangement with the shaft of device pointing downwards at a 90° angle design-type 5: measuring transducer for Pt100 or NiCr-Ni sensors already existing. Insertion of sensor cable through PG7 screwing.
Electric connection:	elbow-type plug conforming to DIN 43650 (IP65), max. wire cross section: 1.5 mm ² , wire/cable diameter from 4.5 to 7 mm
Optional:	please refer to type plate - encapsulated PC board for outdoor application.

General installation instructions of elbow-type plug:

To mount the connection cable (2-, 3-, or 4-wire depending on type of device) the angle plug screw has to be loosened and the coupling insert has to be removed by means of a screw driver at the position indicated (arrow). Pull out connection cable through PG glanding and connect to the loose coupling insert as described in the wiring diagram. Replace loose coupling insert onto the pins at the transmitter housing and turn cover cap with PG glanding in the direction desired till it snaps on (4 different starting positions at 90° intervals). Re-tighten the screw at the angle plug.

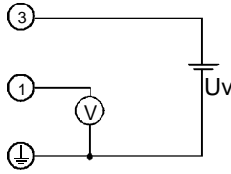
Assignment of elbow-type plug:

2-wire connection (4-20mA)



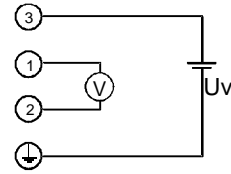
1 = supply voltage +Uv
2 = GND / signal

3- wire connection (voltage)



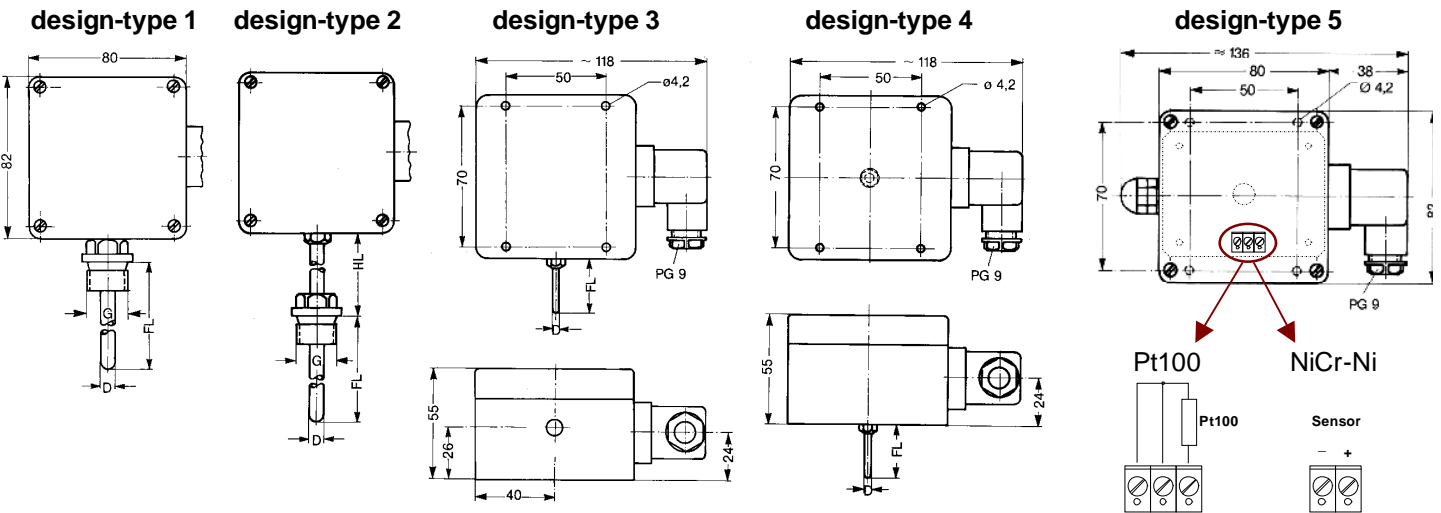
1 = signal +
3 = supply voltage +Uv
⊥ = supply voltage -Uv
signal -

4- wire connection (voltage)



1 = signal +
2 = signal -
3 = supply voltage +Uv
⊥ = supply voltage -Uv

Design-types:



⚠ Safety instructions:

This device has been designed and tested in accordance with the safety regulations for electronic devices. However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advises given in this manual will be adhered to when using the device.

1. Trouble-free operation and reliability of the device can only be guaranteed if the device is not subjected to any other climatic conditions than those stated under "Specification". If the device is transported from a cold to a warm environment condensation may cause in a failure of the function. In such a case make sure the device temperature has adjusted to the ambient temperature before trying a new start-up.
2. General instructions and safety regulations for electric, light and heavy current plants, including domestic safety regulations (e.g. VDE), have to be observed.
3. If device is to be connected to other devices (e.g. via PC) the circuitry has to be designed most carefully. Internal connection in third party devices (e.g. connection GND and earth) may result in not-permissible voltages impairing or destroying the device or another device connected.
4. If there is a risk whatsoever involved in running it, the device has to be switched off immediately and to be marked accordingly to avoid re-starting.

Operator safety may be a risk if:

- there is visible damage to the device
- the device is not working as specified
- the device has been stored under unsuitable conditions for a longer time

In case of doubt, please return device to manufacturer for repair or maintenance.