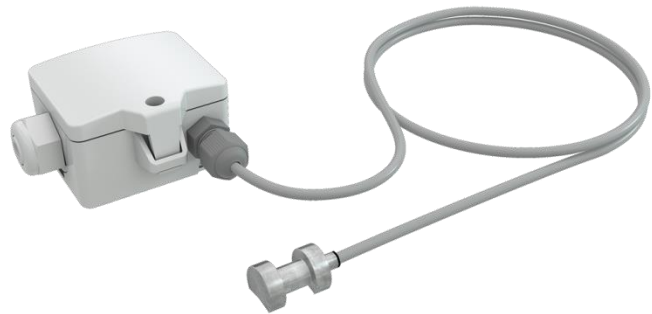


Datasheet

Subject to technical alteration
Issue date: 01.08.2017



Application

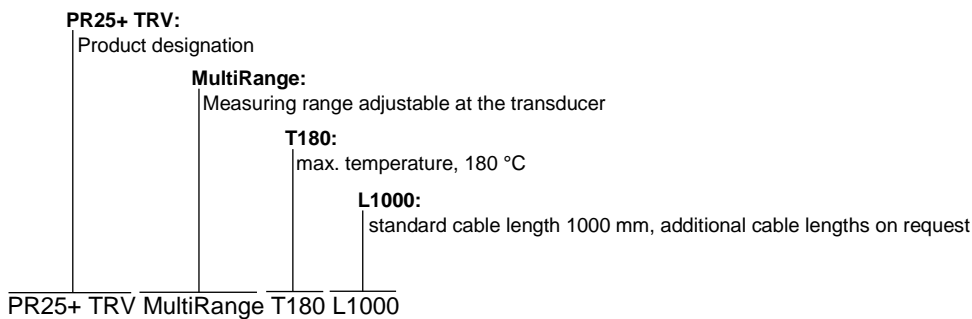
Sensor for temperature measurement of pipes and round surfaces. Designed for control and monitoring applications.

Types Available

Contact sensors -50..+180 °C – active 0..10 V | 4..20 mA

PR25+ TRV MultiRange T180 L1000

PR25+ TRA MultiRange T180 L1000



Security Advice – Caution



The installation and assembly of electrical equipment should only be performed by authorized personnel.

The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

Notes on Disposal



As a component of a large-scale fixed installation, Thermokon products are intended to be used permanently as part of a building or a structure at a pre-defined and dedicated location, hence the Waste Electrical and Electronic Act (WEEE) is not applicable. However, most of the products may contain valuable materials that should be recycled and not disposed of as domestic waste. Please note the relevant regulations for local disposal.

Build-up of Self-Heating by Electrical Dissipative Power

Temperature sensors with electronic components always have a dissipative power, which affects the temperature measurement of the ambient air. The dissipation in active temperature sensors shows a linear increase with rising operating voltage. This dissipative power has to be considered when measuring temperature. In case of a fixed operating voltage ($\pm 0,2$ V) this is normally done by adding or reducing a constant offset value. As Thermokon transducers work with a variable operating voltage, only one operating voltage can be taken into consideration, for reasons of production engineering. Transducers 0..10 V / 4..20 mA have a standard setting at an operating voltage of 24 V =. That means, that at this voltage, the expected measuring error of the output signal will be the least. For other operating voltages, the offset error will be increased by a changing power loss of the sensor electronics. If a re-calibration should become necessary later directly on the sensor, this can be done by means of a trimming potentiometer on the sensor board.

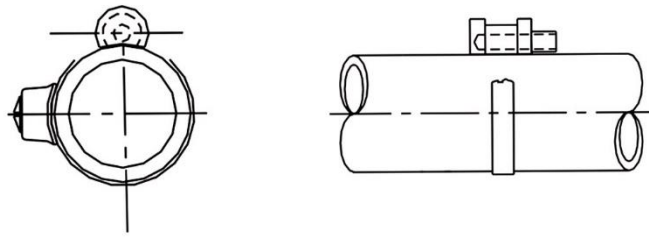
Remark: Occurring draft leads to a better carrying-off of dissipative power at the sensor. Thus temporally limited fluctuations might occur upon temperature measurement.

Technical Data

Measuring values		temperature
Output voltage	TRV	1x 0..10 V, min. load 5 k Ω
Output Amp	TRA	1x 4..20 mA, max. load 500 Ω
Power supply	TRV	15..24 V = ($\pm 10\%$) or 24 V ~ ($\pm 10\%$)
	TRA	15..24 V = ($\pm 10\%$)
Power consumption	TRV	typ. 0,4 W (24 V =) 0,8 VA (24 V ~)
	TRA	typ. 0,5 W (24 V =)
Measuring range temp	TRV TRA	adjustable at the transducer: -50..+50 -20..+80 -15..+35 -10..+120 0..+50 0..+100 0..+160 0..+250 °C, default setting: 0..+160 °C
Accuracy temperature	TRV TRA	$\pm 0,5$ K (typ. at 21 °C)
Enclosure		enclosure USE-S, PC, pure white
Protection		IP65 according to EN 60529
Cable entry		M16 for cable max. $\varnothing=8$ mm, removeable
Connection electrical		removeable plug-in terminal, max. 2,5 mm ² sensor wire active silicone, 1 m (default), 2 m, 4 m, 6 m, for other lengths please request
Pocket		aluminium, $\varnothing=11$ mm, mounting length 28 mm
Ambient condition	Enclosure	-50..+180 °C (only sensor), -35..+70 °C, max. 85% rH short term condensation
Notes		other cable lengths on request

Mounting Advice

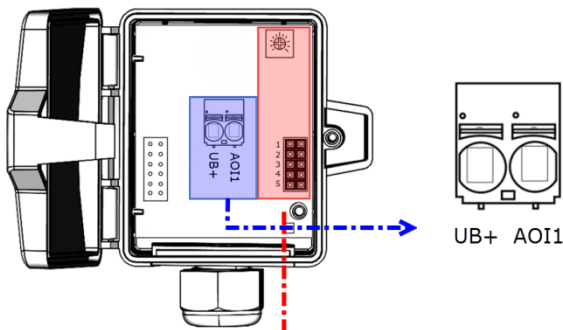
Fixing is done by tightening strap. Use contact fluid for better heat transfer between sensor and measuring medium.



Connection Plan and Configuration

The adjustment of the measuring ranges is made by changing the jumpers in a de-energized state. The output value of the new measuring range is available after 2 seconds.

TRA:
4..20 mA



TRV:
0..10 V | 0..5 V

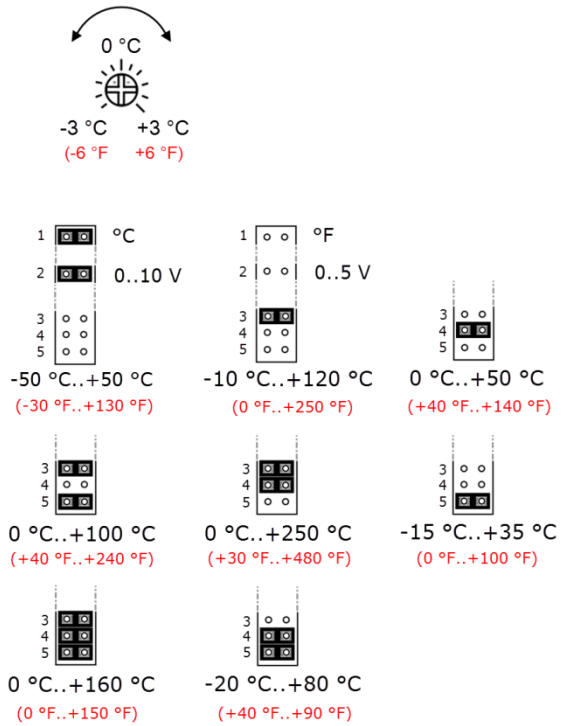
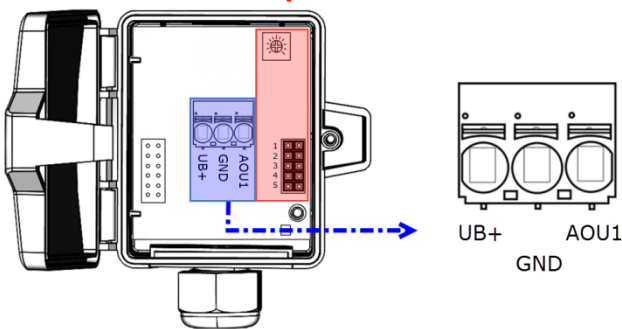
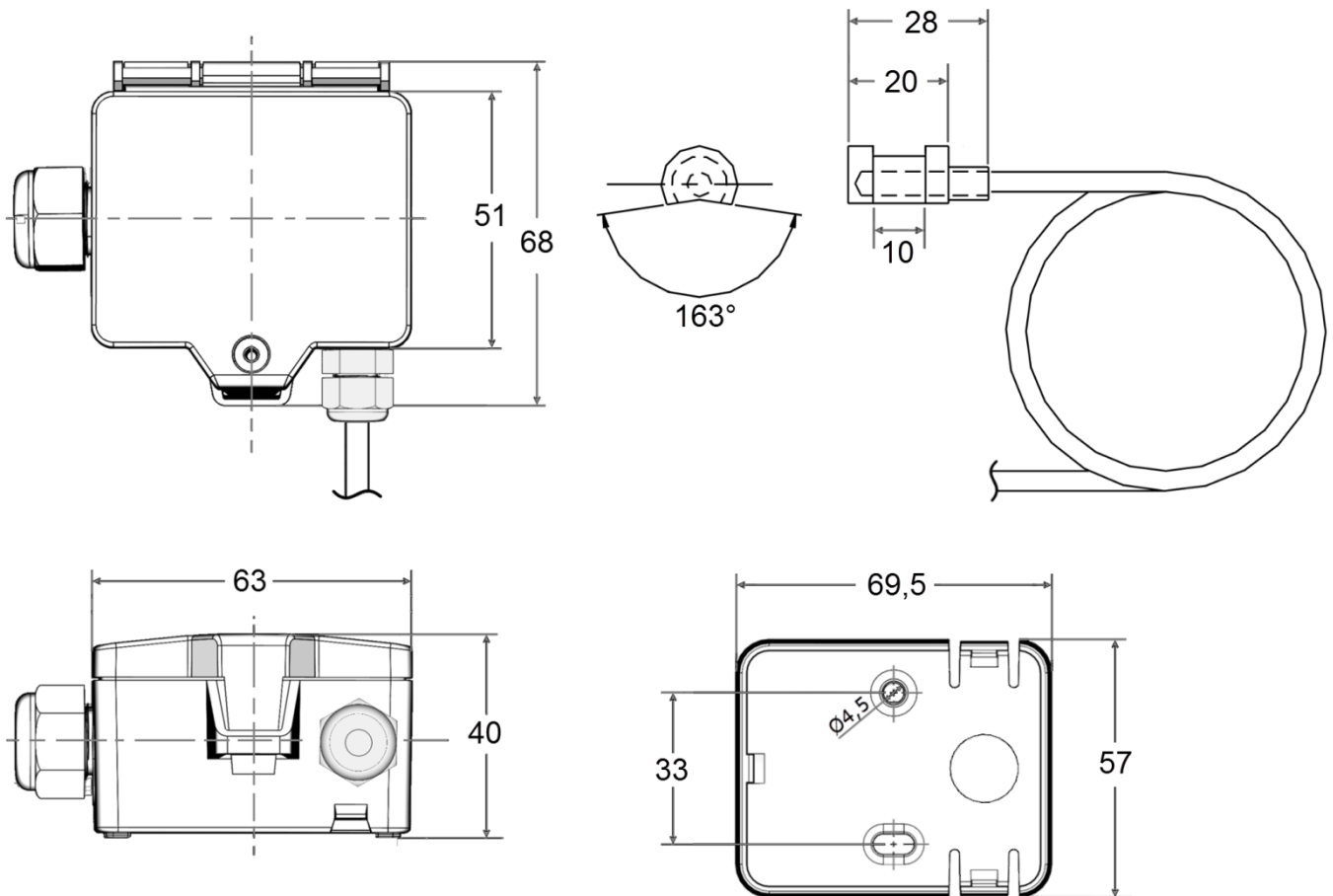


fig. (Measuring range and offset adjustment, default settings: 0 °C..+160 °C | 0 K)

Dimensions (mm)



Accessories (included in delivery)

- Mounting base enclosure USE pure white
- Mounting kit 5
- Cable entry M16 • Cover screw • 2 Rawlplugs • 2 Screws (countersunk head)

Item No. 667722
Item No. 640558

Accessories (optional)

- Mounting clip enclosure USE-S pure white
- Tension clamp for pipes Ø up to 110 mm with contact fluid
- Tension clamp for pipes Ø up to 250 mm with contact fluid
- Tightening strap PA for pipes Ø up to 100 mm with contact fluid
- Syringe thermal contact fluid

Item No. 667739
Item No. 658911
Item No. 648103
Item No. 668071
Item No. 102308

M16 Sealing inserts cable entry (packaging unit 10 pcs.)

for wire with Ø	3 mm	5 mm	7 mm	8 mm
Item No	641036	641012	639248	641340