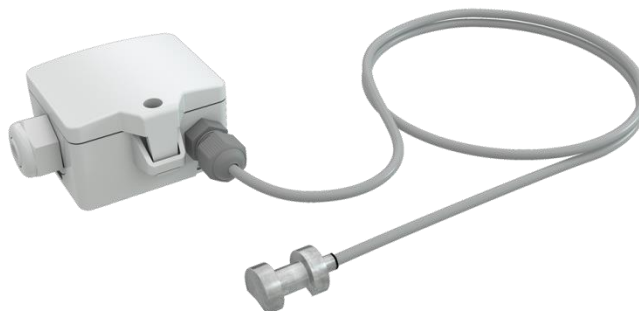


### Datasheet

Subject to technical alteration  
Issue date: 29.03.2018 • A002



### Application

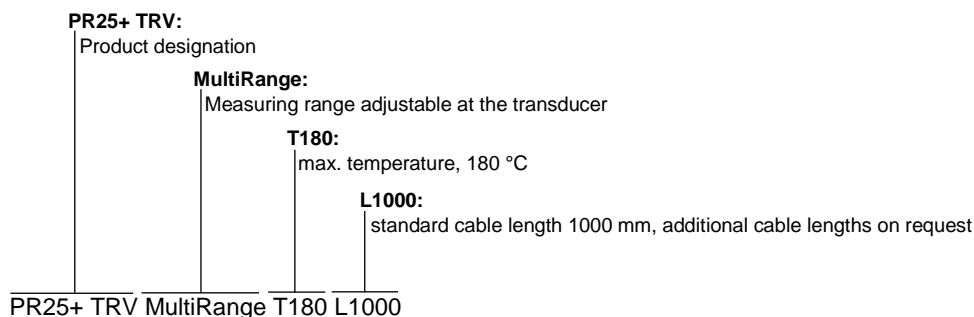
Sensor for temperature measurement of pipes and round surfaces. Designed for control and monitoring applications.

### 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.

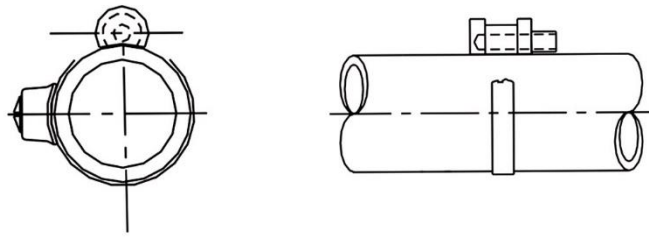
**Remark: Occurring draft leads to a better carrying-off of dissipative power at the sensor. Thus temporally limited fluctuations might occur upon temperature measurement.**

## Technical Data

Measuring values	temperature	
Output voltage	TRV 1x 0..10 V or 0..5 V, configurable via jumper, min. load 5 k $\Omega$	
Output ampere	TRA 1x 4..20 mA, max. load 500 $\Omega$	
Output passive	passive depending on used sensor	
Power supply	TRV 15..24 V = ( $\pm 10\%$ ) or 24 V ~ ( $\pm 10\%$ ) SELV	TRA 15..24 V = ( $\pm 10\%$ ) SELV
Power consumption	TRV typ. 0,4 W (24 V =)   0,8 VA (24 V ~)	TRA typ. 0,5 W (24 V =)
Measuring range temp.	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	$\pm 0,5$ K (typ. at 21 °C within default measuring range)	
Enclosure	enclosure USE-S, PC, pure white	
Protection	IP65 according to EN 60529	
Cable entry	Flextherm M16, for wire $\varnothing=3..7$ mm, removable	
Connection electrical	removable plug-in terminal, max. 2,5 mm <sup>2</sup> , sensor wire active silicone, 1 m (default), 2 m, 4 m, 6 m	
Pocket	aluminium, $\varnothing=11$ mm, mounting length 28 mm	
Ambient condition	enclosure -35..+70 °C, max. 85% rH short term condensation	sensor pocket -50..+180 °C
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

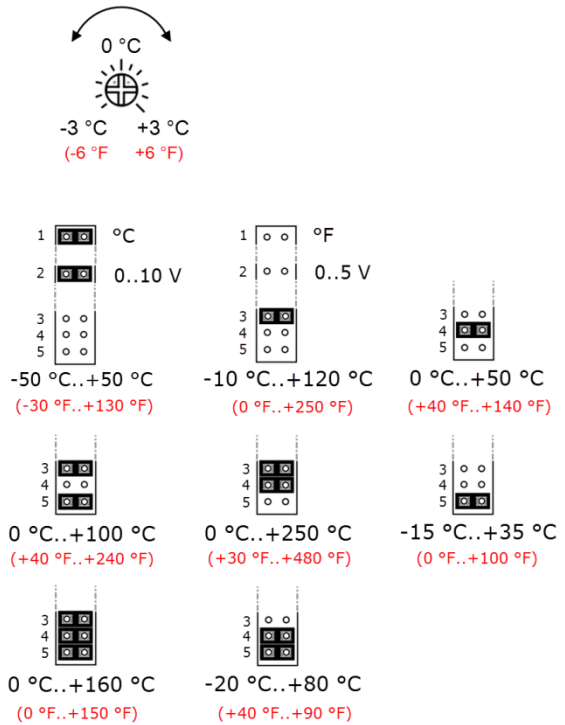
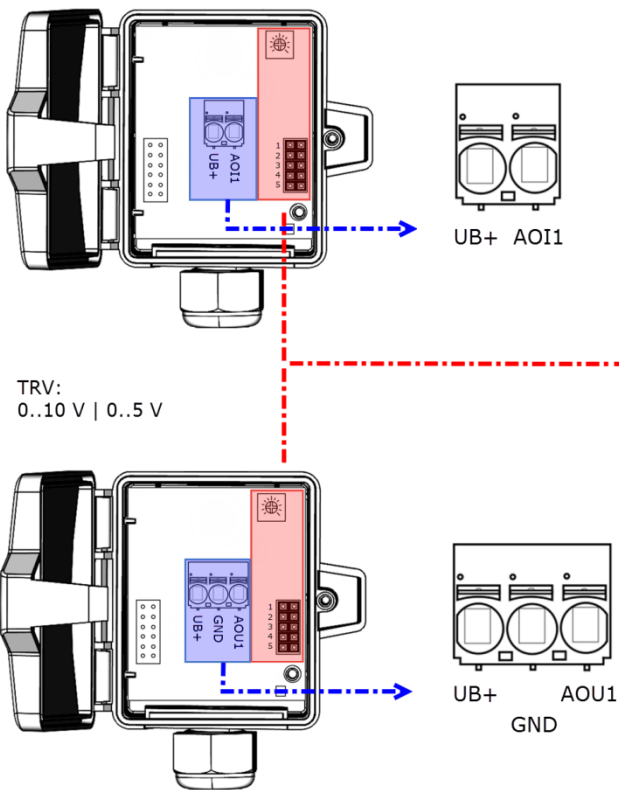
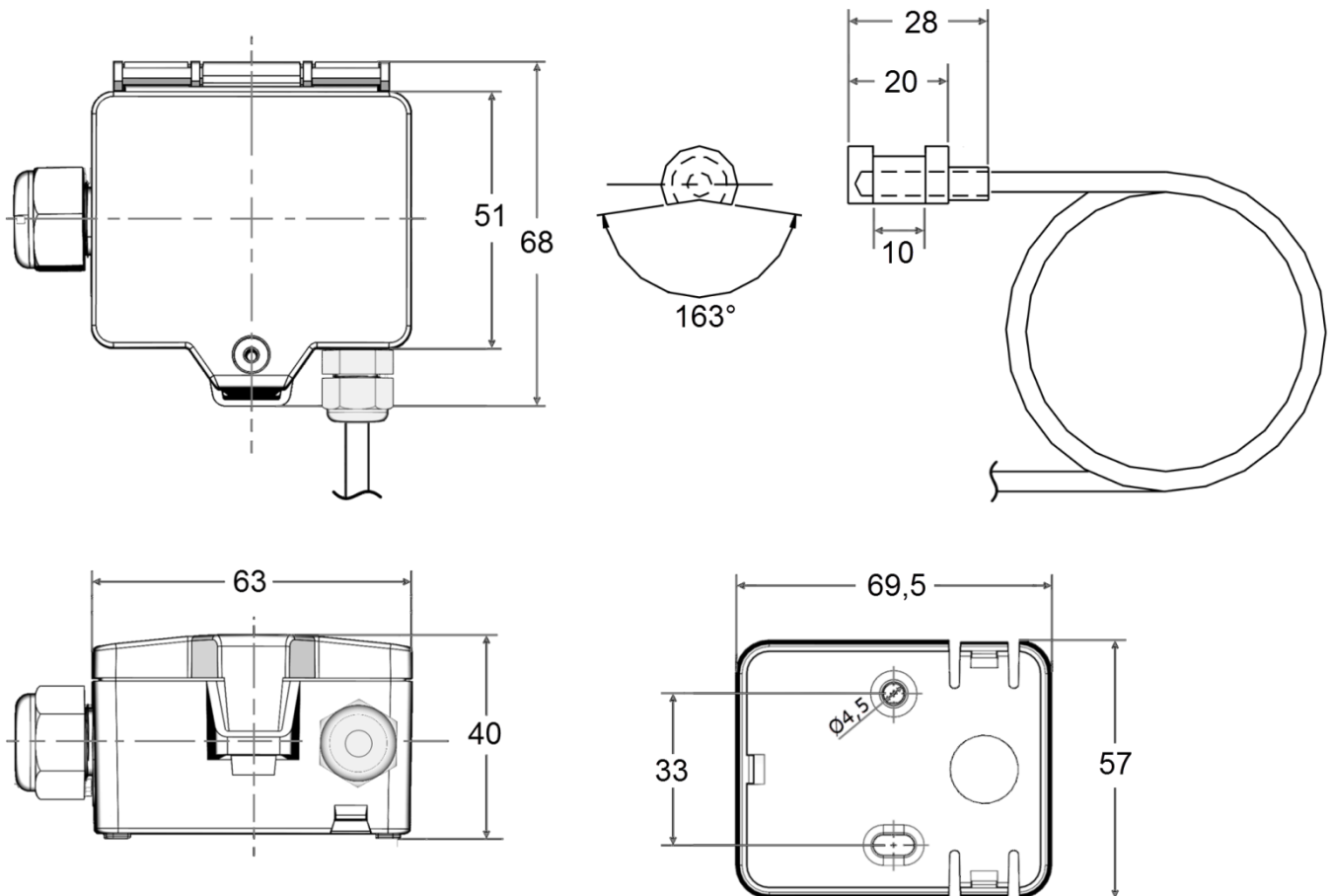


fig. (Measuring range and offset adjustment, default settings: 0 °C..+160 °C | 0 K)

## Dimensions (mm)



## Accessories (included in delivery)

Mounting base enclosure USE pure white

Item No. 667722

Montageset Universal

Art.-Nr.: 698511

• Deckelschraube + Schraubenabdeckung • 2 Dübel • 2 Bohrschrauben (Senkkopf) • 2 Bohrschrauben (Linsenkopf)

## Accessories (optional)

Mounting clip enclosure USE-S pure white

Item No. 667739

Tension clamp for pipes  $\varnothing$  up to 110 mm with contact fluid

Item No. 658911

Tension clamp for pipes  $\varnothing$  up to 250 mm with contact fluid

Item No. 648103

Tightening strap PA for pipes  $\varnothing$  up to 100 mm with contact fluid

Item No. 668071

Syringe thermal contact fluid

Item No. 102308

M16 Sealing inserts cable entry (packaging unit 10 pcs.) for wire with  $\varnothing$  8 mm

Item No. 641340