

Datasheet

Subject to technical alteration
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Application

Cable sensor for temperature measurement in HVAC applications. In conjunction with a Thermowell pocket suitable for temperature measurement in duct applications. Designed for control and monitoring applications.

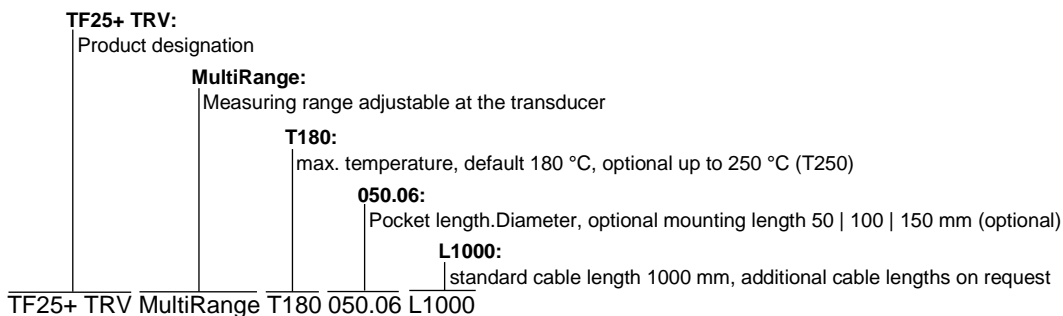
Types Available

Cable sensors -50..+180 °C – active TRV 0..10 V

TF25+ TRV MultiRange T180 050.06 L1000
TF25+ TRV MultiRange T180 100.06 L1000
TF25+ TRV MultiRange T180 150.06 L1000

Cable sensors -50..+180 °C – active TRA 4..20 mA

TF25+ TRA MultiRange T180 050.06 L1000
TF25+ TRA MultiRange T180 100.06 L1000
TF25+ TRA MultiRange T180 150.06 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

Build-up of Self-Heating by Electrical Dissipative Power

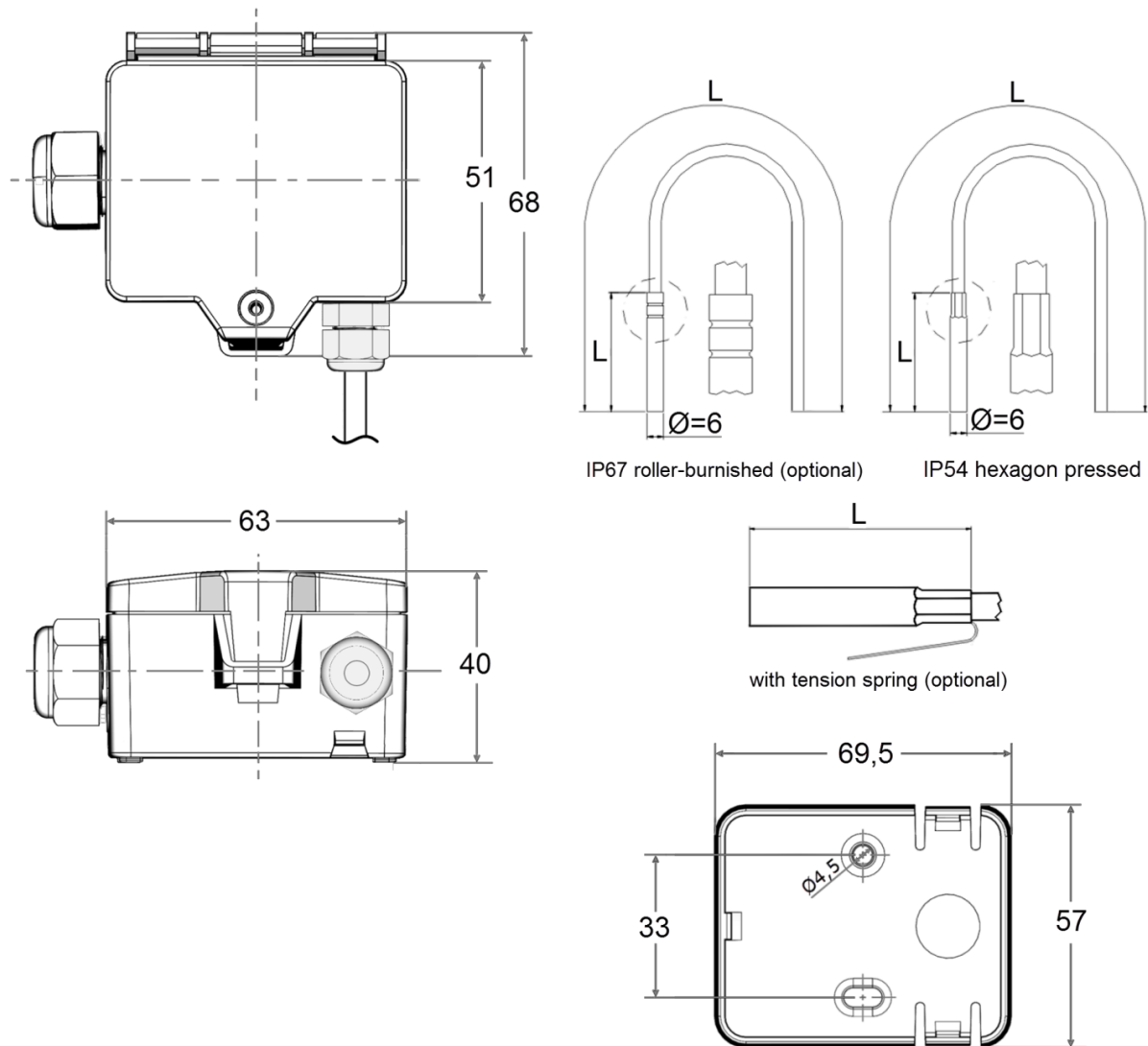
Temperature sensors with electronic components always have a dissipative power, which affects the temperature measurement of the ambient air. The dissipation in active temperature sensors shows a linear increase with rising operating voltage. This dissipative power has to be considered when measuring 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 Ω		
Output ampere	TRA 1x 4..20 mA, max. load 500 Ω		
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 =)	
Output signal range temp. *Scaling analogue output	TRV TRA default setting: 0..+160 $^{\circ}\text{C}$ selectable from 8 temperature ranges -50..+50 -20..+80 -15..+35 -10..+120 0..+50 0..+100 0..+160 0..+250 $^{\circ}\text{C}$, adjustable at the transducer		
Operating temperature range * Max. permissible operating temperature	sensor pocket -50..+180 $^{\circ}\text{C}$ optional -50..+250 $^{\circ}\text{C}$ (T250)	enclosure -35..+70 $^{\circ}\text{C}$	mounting base -35..+90 $^{\circ}\text{C}$
Accuracy temperature	$\pm 0,5$ K (typ. at 21 $^{\circ}\text{C}$ within default measuring range)		
Enclosure	enclosure USE-S, PC, pure white		
Protection	enclosure IP65 according to EN 60529	sensor pocket IP65 according to EN 60529, SI-Protection, hex pressed, optional, Rolled: IP67 according to EN 60529 with SI-Protection	
Cable entry	M16 for cable max. $\varnothing=8$ mm, removable		
Connection electrical	removable plug-in terminal, max. 2,5 mm ²		
Pocket	stainless steel V4A, $\varnothing=4$ mm, mounting length: 50 100 150 mm, tension spring (optional)		
Ambient condition	max. 85% rH short term condensation		
Notes	other cable lengths on request		

Dimensions (mm)



Accessories (included in delivery)

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

Item No. 667722
 Item No. 640558

Accessories (optional)

Mounting clip enclosure USE pure white
 VA-Compression fitting type KL6VA
 Mounting flange MF6 flexible (suitable for $\varnothing=4$ | 6 | 7 mm)
 Mounting flange MF6 (brass)
 Syringe thermal contact fluid

Item No. 667739
 Item No. 103213
 Item No. 399098
 Item No. 003407
 Item No. 102308

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

\varnothing	3 mm	5 mm	7 mm	8 mm
Item No	641036	641012	639248	641340

Thermowell pockets stainless steel / brass for sensors with pocket $\varnothing=6$ mm

length	50 mm	100 mm	150 mm
THMSDS	610995	611008	611015
THVADS	611152	611817	611824

MS-thermowell pocket (brass, suitable up to 16 bar) type THMSDS <xx>.
 VA-thermowell pocket (stainless steel, suitable up to 40 bar) type THVADS <xx>.