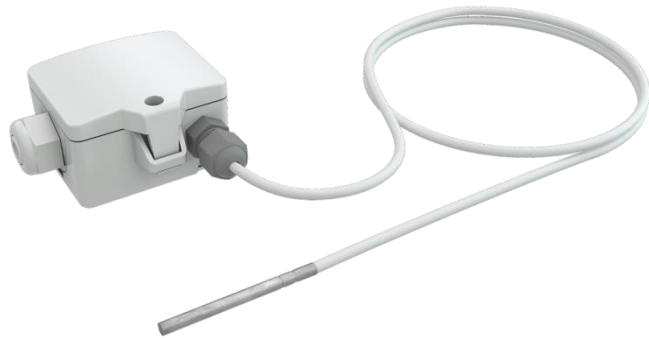


Datasheet

Subject to technical alteration
Issue date: 01.08.2017



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..+160 °C – active TRV 0..10 V

TF14+ TRV MultiRange T160 050.04 L1000
TF14+ TRV MultiRange T160 100.04 L1000
TF14+ TRV MultiRange T160 150.04 L1000

Cable sensors -50..+160 °C – active TRA 4..20 mA

TF14+ TRA MultiRange T160 050.04 L1000
TF14+ TRA MultiRange T160 100.04 L1000
TF14+ TRA MultiRange T160 150.04 L1000

TF25+ TRV:

Product designation

MultiRange:

Measuring range adjustable at the transducer

T180:

max. temperature, default 160 °C, optional up to 260 °C (T260)

050.04:

Pocket length.Diameter, optional mounting length 50 | 100 | 150 mm (optional)

L1000:

standard cable length 1000 mm, additional cable lengths on request

TF25+ TRV MultiRange T160 050.04 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.

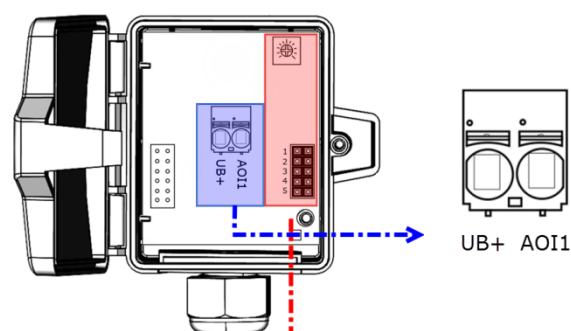
Technical Data

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. 0,35 W (24 V =) 0,82 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		IP54 according to EN 60529, SI-Protection, hex pressed, Rolled: IP67 according to EN 60529 (optional), with SI-Protection,
	Enclosure	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
Pocket		stainless steel V4A, $\varnothing=4$ mm, mounting length: 50 100 150 mm, tension spring (optional)
Ambient condition	enclosure	-35..+70 °C, max. 85% rH short term condensation

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

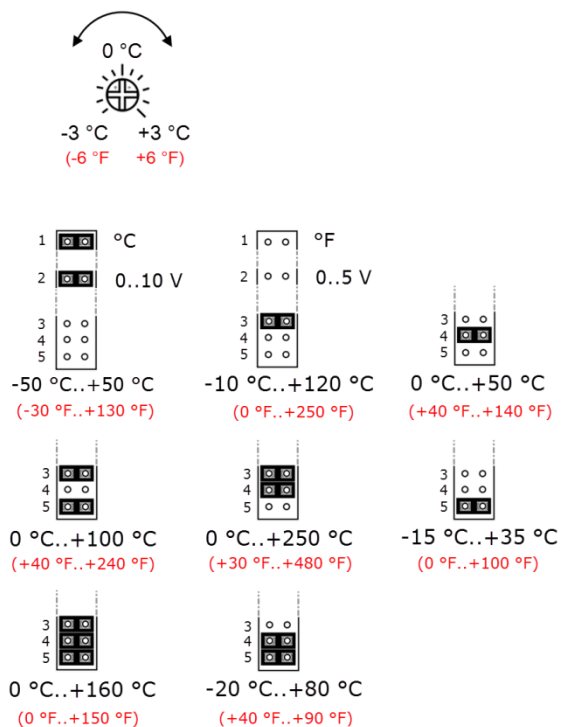
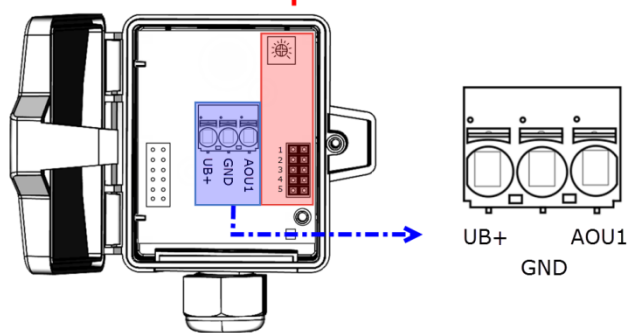
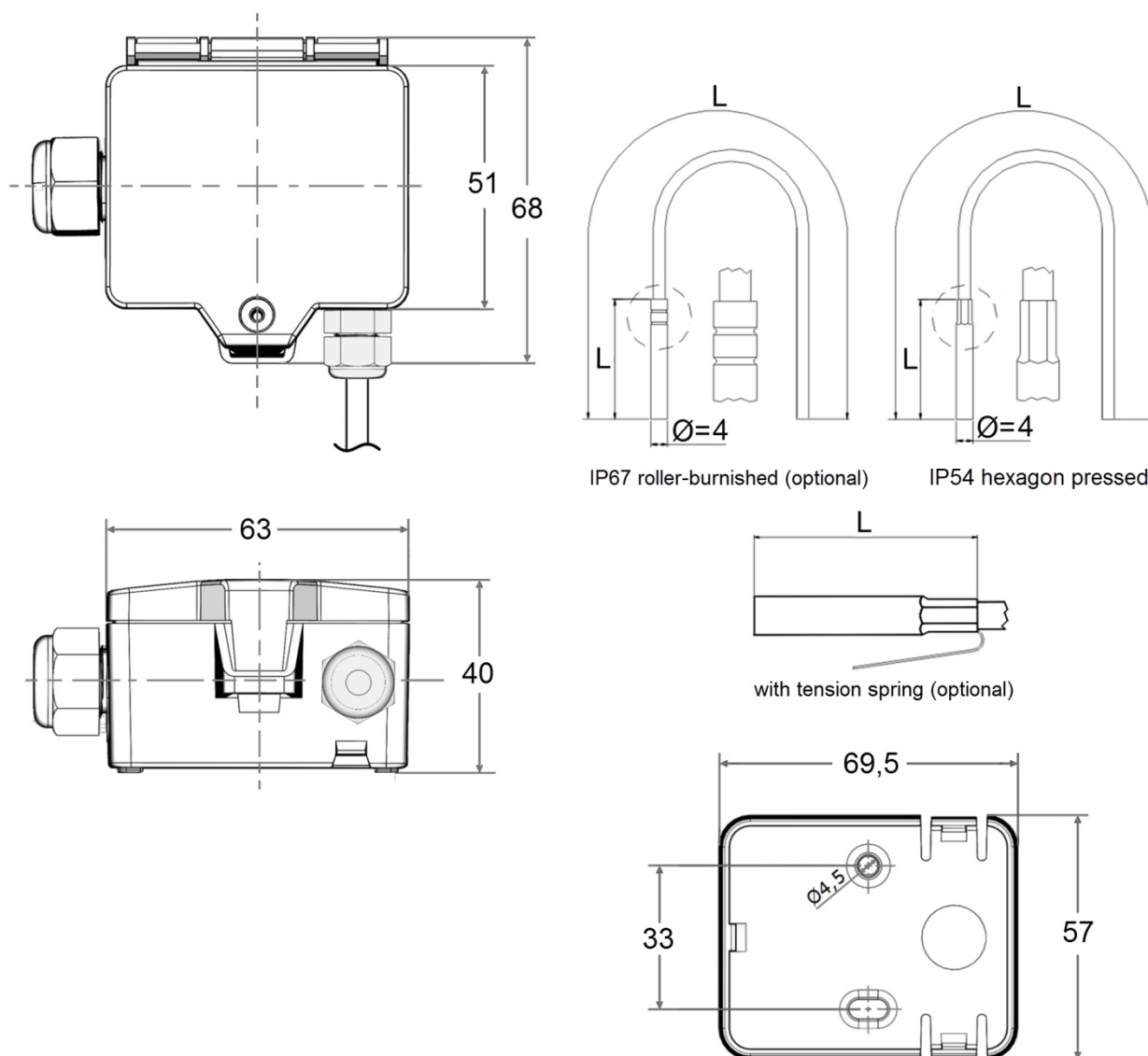


fig. (Measuring range and offset adjustment, default settings: 0 °C..+160 °C | 0 K)

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 pure white
 VA-Compression fitting type KL4VA
 Mounting flange MF6 flexible (suitable for $\text{Ø}=4$ | 6 | 7 mm)
 Mounting flange MF4 (brass)
 Syringe thermal contact fluid

Item No. 667739
 Item No. 103206
 Item No. 399098
 Item No. 102438
 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