TF14+

Cable temperature sensor

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

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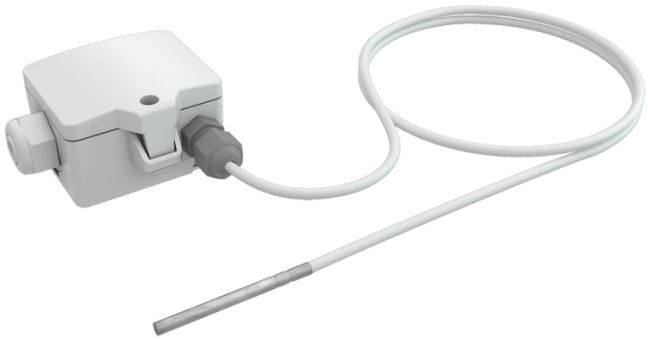


» APPLICATION

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 (-58..+356 °F) – active TRV 0..10 V

- TF14+ TRV MultiRange T180 050.06 L1000
- TF14+ TRV MultiRange T180 100.06 L1000
- TF14+ TRV MultiRange T180 150.06 L1000

Cable sensors -50..+180 °C (-58..+356 °F) – active TRA 4..20 mA

- TF14+ TRA MultiRange T180 050.06 L1000
- TF14+ TRA MultiRange T180 100.06 L1000
- TF14+ TRA MultiRange T180 150.06 L1000

TF14+ TRV:
Product designation

MultiRange:
Measuring range adjustable at the transducer

T180
max. temperature, default 180 °C (356 °F), optional up to 250 °C (T250) (482 °F)

050.04:
Pocket length.Diameter, optional mounting length 50 (1.97) | 100 (3.94) | 150 (5.91) | 200 (7.87) | 400 mm (15.75 in.)

L1000:
standard cable length 1000 mm (3.3 ft.), additional cable lengths on request

TF 14+ TRV MultiRange T180 050.04 L1000

» PRODUCT TESTING AND CERTIFICATION

CE

Declaration of conformity
The declaration of conformity of the products are available on our website
https://www.thermokon.de/direct/en-gb/categories/tf14plus

» NOTES ON DISPOSAL

The crossed-out wheelie bin symbol indicates that the product or removable batteries must not be disposed of with household or commercial waste. Within the EU, you are legally obliged to dispose of the product separately and appropriately in accordance with the national laws of your country. Alternatively, please contact your supplier or Thermokon Sensortechnik GmbH. Further information can be found at: www.thermokon.com

»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

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 (±0,2 V) this is normally done by adding or reducing a constant offset value.

Thermokon transducers can be operated with variable operating voltages. The transducers are set at the factory with a reference operating voltage of 24 V =.

At this voltage, the expected measuring error of the output signal will be the least. Other operating voltages, can cause a measurement deviation changing power loss of the sensor electronics.

A recalibration can be carried out directly on the unit or via a software variable (app or bus).

Remark: Occurring draught 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 *(type-dependent)*	**TRV** 1x 0..10 V or 0..5 V, configurable via jumper, min. load 5 kΩ		
Output ampere *(type-dependent)*	**TRA** 1x 4..20 mA, max. load 500 Ω		
Power supply *(type-dependent)*	**TRV** 15..24 V = (±10%) or 24 V ~ (±10%) SELV	**TRA** 15..24 V = (±10%) SELV	
Power consumption *(type-dependent)*	**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..+150 °F selectable from 8 temperature ranges -30..+130 | 0..+250 | +40..+140 | 0..+150 | +30..+480 | 0..+100 | +40..+240 | +40..+90 °F, adjustable at the transducer		
Operating temperature range ** Max. permissible operating temperature*	**sensor pocket** -58..+356 °F optional -58..+482 °C (T250)	**enclosure** -4..+158 °F	**mounting base** -31..+194 °C
Accuracy temperature	±0,5 K (typ. at 70 °F 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	Flextherm M20, for wire max. Ø=0.18..0.35 in., removable		
Connection electrical	removable plug-in terminal, max. 14AWG		
Pocket	stainless steel V4A, Ø=0.16 in., mounting length: 1.97 | 3.94 | 5.91 in., tension spring (optional)		
Ambient condition	max. 85% rH short term condensation		
Notes	other cable lengths on request		

»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.

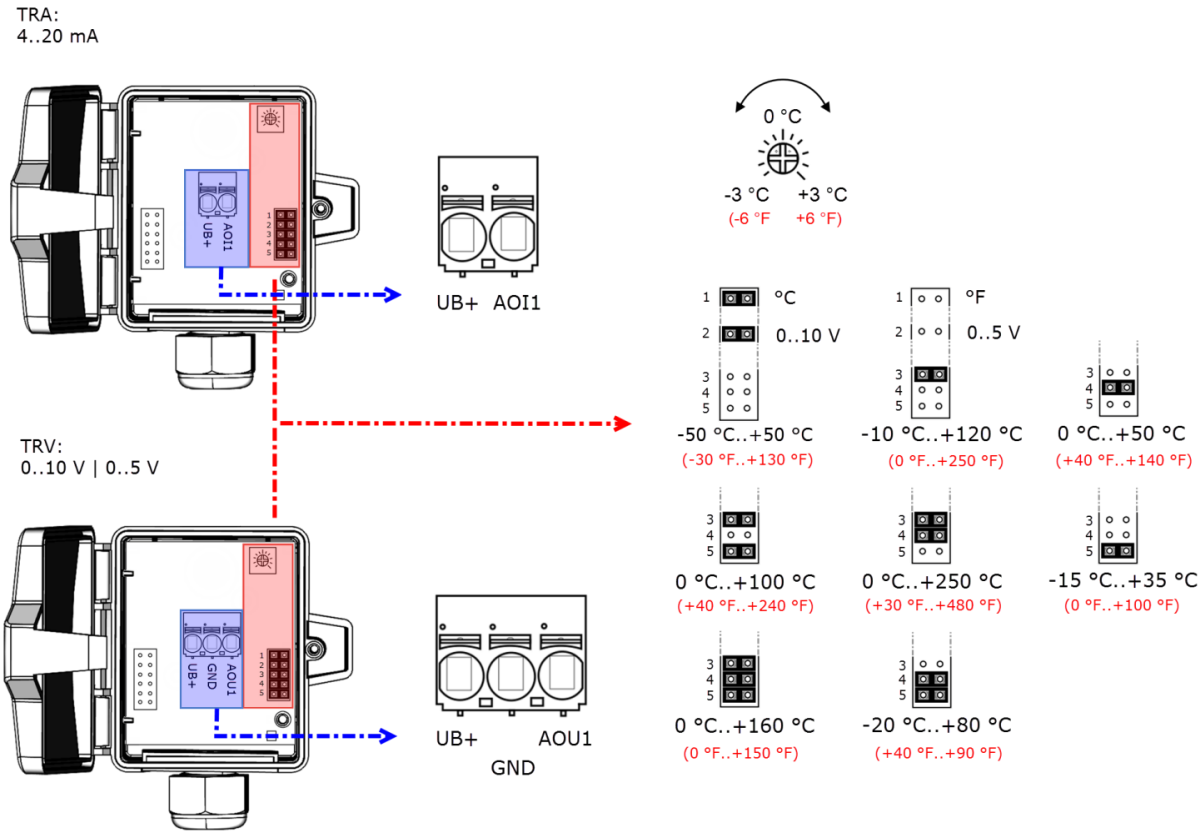
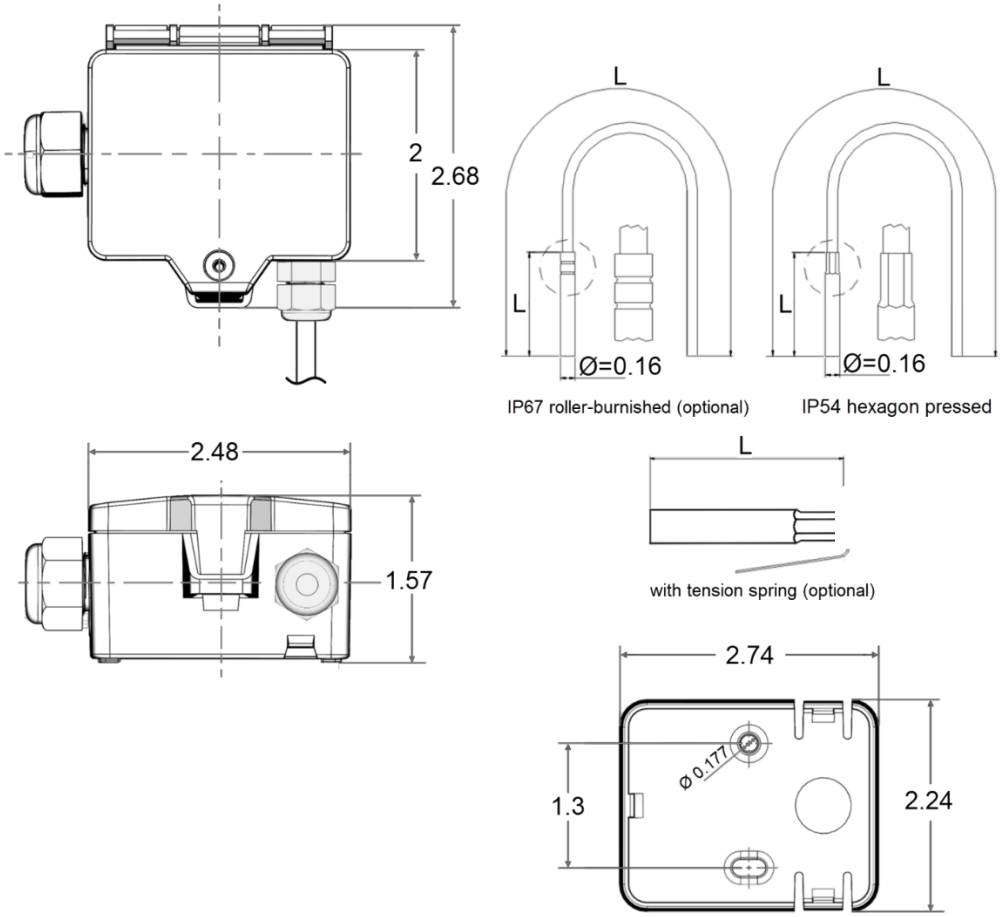


fig. (Measuring range and offset adjustment, default settings: 0 °F..+150 °F | 0 F)

»DIMENSIONS (IN.)



»ACCESSORIES (INCLUDED IN DELIVERY)

Mounting base enclosure USE pure white	Item No. 667722
Mounting kit universal	Item No. 698511

• Cover screw + screw cover• 2 Rawlplugs • 2 Screws (countersunk head) • 2 Screws (rounded head)

»ACCESSORIES (OPTIONAL)

Mounting clip enclosure USE pure white	Item No. 667739
VA-Compression fitting type KL4VA	Item No. 103206
Mounting flange MF6 flexible (suitable for Ø=0.16 | 0.24 | 0.28 in.)	Item No. 399098
Mounting flange MF4 (brass)	Item No. 102438
Syringe thermal contact fluid	Item No. 102308
Sealing insert M20 USE white, 2x Ø=0.28 in. (for 2 wire; PU 10 pieces)	Item No. 641333