

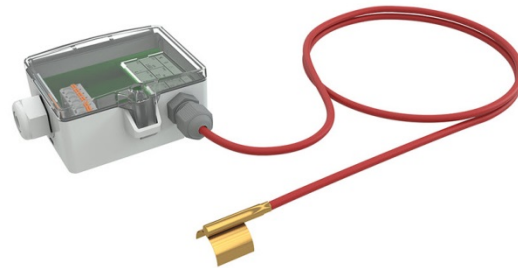
» AF25+ LCD

Contact temperature sensor

thermokon[®]
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
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» APPLICATION

Contact sensor with enclosure USE-M, connection cable and brass strap used to measure the surface temperature of pipes (cold or hot water) and other contact surfaces. LCD models with RGB background light have a transparent cover. Display configuration and threshold values for color changes can be parameterized via Thermokon USEapp. With the option board relay two-point controllers or a 2-stage 2-point controller for temperature can be realized. Tightening strap/tension clamp and thermal contact fluid are available as accessories.

» TYPES AVAILABLE

Contact sensors with display temperature – active 0..10 V | 4..20 mA | relay

AF25+ LCD TRV MultiRange
AF25+ LCD TRA MultiRange
AF25+ LCD TRV MultiRange Relay

» 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 the USEapp software and an optional Bluetooth interface.

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	0..10 V or 0.5 V, min. load 10k Ω (live-zero configuration via Thermokon USEapp)		
Output Amp	4..20 mA, max. load 500 Ω		
Output switch contact	2 floating contacts for 24 V ~ or 24 V = / 3 A		
Power supply	TRV 15..35 V = or 19..29 V ~ SELV	TRA 15..35 V = SELV	
Power consumption	max. 2,5 W (24 V =) 4,3 VA (24 V ~)		
Output signal range temp. *Scaling analogue output	TRV TRA default setting: -20..+80 °C selectable from 8 temperature ranges -50..+50 -20..+80 -15..+35 -10..+120 0..+50 0..+100 0..+160 0..+250 °C, adjustable at the transducer		
Operating temperature range * Max. permissible operating temperature	sensor pocket -50..+135 °C	enclosure -35..+70 °C	mounting base -35..+90 °C
Accuracy temperature	$\pm 0,5$ K (typ. at 21 °C)		
Display	LCD 29x35 mm with RGB backlight		
Enclosure	enclosure USE-M, PC, pure white, cover PC, transparent, with removable cable entry		
Protection	IP65 according to EN 60529		
Cable entry	TRV TRA Flextherm M20, for wire $\varnothing=4,5..9$ mm, removable	Relay M25 with fourfold cable entry for wire with max. $\varnothing=7$ mm, removable	
Connection electrical	removable plug-in terminal, max. 2,5 mm ²		
Pocket	brass, $\varnothing=6$ mm, mounting length 35 mm, standard cable length 1000 mm, additional cable lengths on request		
Ambient condition	max. 85% rH short term condensation		

» PRODUCT TESTING AND CERTIFICATION



Declaration of conformity

The declaration of conformity of the products can be found on our website <https://www.thermokon.de/>.

» CONFIGURATION



The Thermokon bluetooth dongle with micro-USB is required for communication between USEapp and USE-M / USE L (Item No.: 668262). Commercial bluetooth dongles are not compatible.



Application-specific reconfiguration of the devices can be carried out using the Thermokon USEapp. The configuration is carried out in the voltage-supplied state.

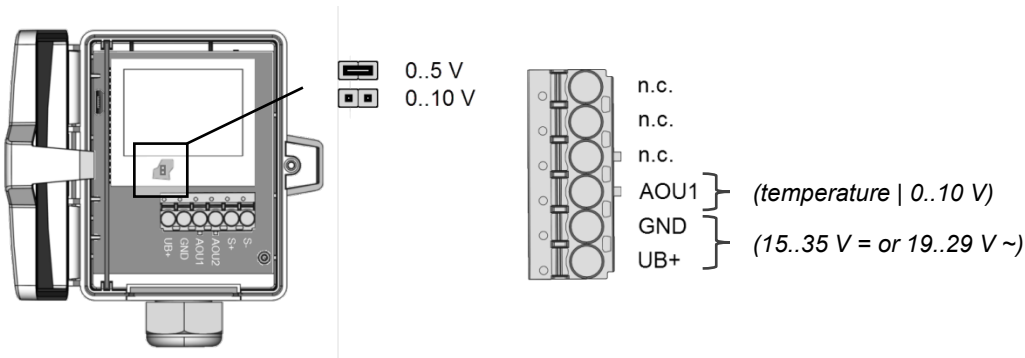


The configuration-app and the app description can be found in the Google Play Store or in the Apple App Store.

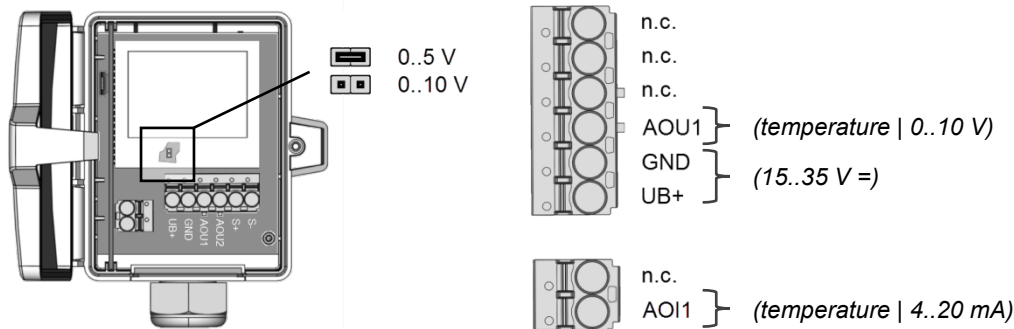
» CONNECTION PLAN

To change the output voltage range (default 0..10 V to 0..5 V) via jumper, the display must be removed from the board first.

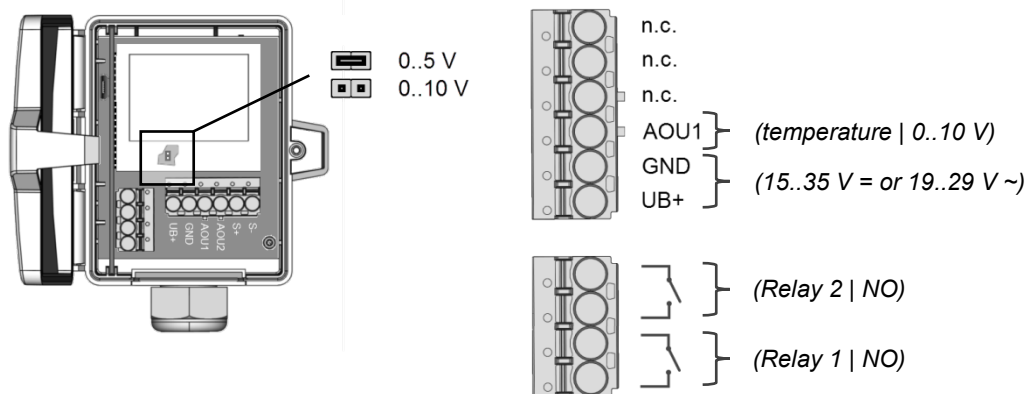
AF25+ LCD TRV MultiRange



AF25+ LCD TRA MultiRange



AF25+ LCD TRV MultiRange Relay



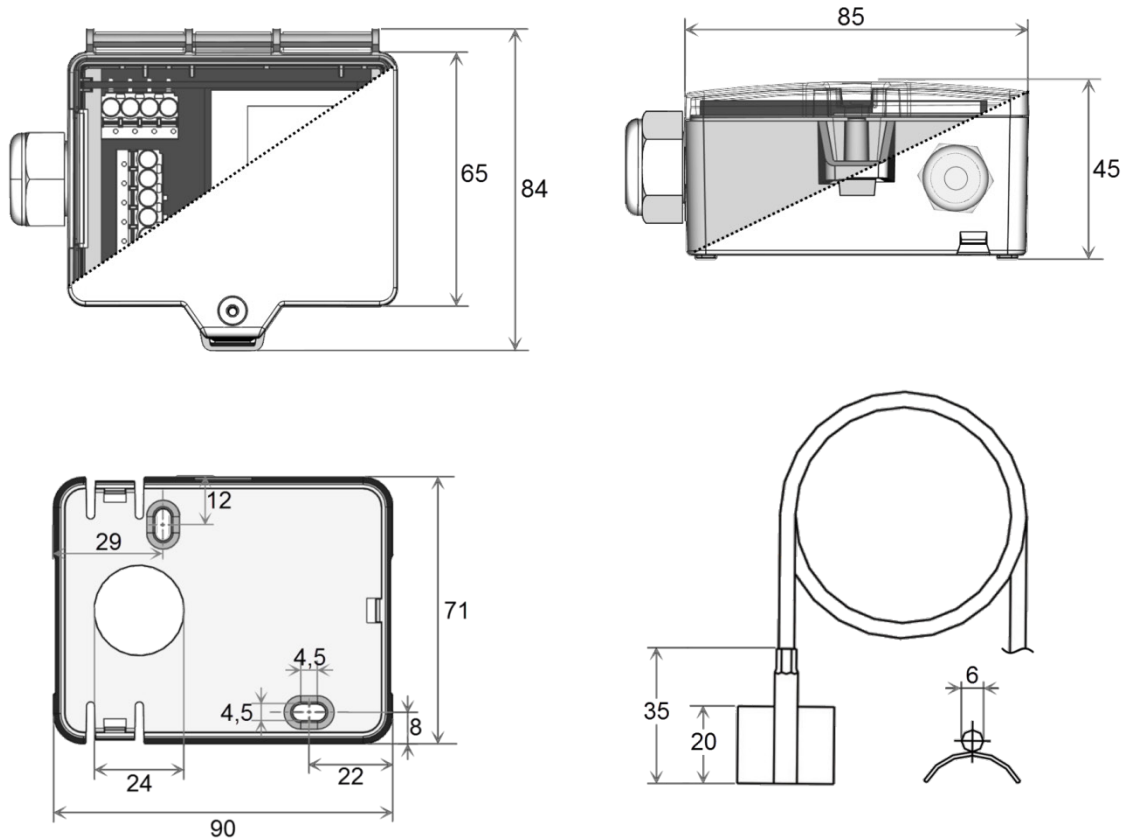
» APPLICATION NOTICE



The housing cover must be completely closed in order to ensure the accuracy and reproducibility of the measured values during a test or service log via USEapp.

The Bluetooth dongle snaps into the socket easily. When removing, please fix the plug-in card (option PCB) so that it is not unintentionally pulled out.

» DIMENSIONS (MM)



» ACCESSORIES (INCLUDED IN DELIVERY)

Mounting base

Item No. 631228

Mounting kit universal

Item No. 698511

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

» ACCESSORIES (OPTIONAL)

Bluetooth dongle

Item No. 668262

Syringe thermal contact fluid

Item No. 102308

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

Cable entry M25 USE white, sealing insert 4x $\varnothing=7$ mm (4 pcs)

Item No. 641364

Sealing insert M20 USE white, 2x $\varnothing=7$ mm (for 2 wire; PU 10 pieces)

Item No. 641333