

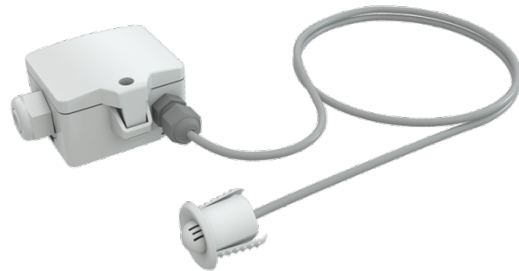
## » RDF18+

Room sensor temperature, flush mounting at ceiling

**thermokon**<sup>®</sup>  
HOME OF SENSOR TECHNOLOGY

### Datasheet

Subject to technical alteration  
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### » APPLICATION

Ceiling sensor for unobtrusive temperature measurement in the ceiling area of room and office spaces. Designed for control and monitoring applications. Replaces RDF18 with the newly developed enclosure USE-S.

### » TYPES AVAILABLE

**Ceiling sensor temperature – active V 0..10 V | A 4..20 mA**

RDF18+ TRV Multirange  
RDF18+ TRA Multirange

### » 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 $\Omega$	
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 °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	
Accuracy temperature	TRV   TRA $\pm 0,5$ K (typ. at 21 °C within default measuring range)	
Enclosure	enclosure USE-S, PC, pure white	
Protection	enclosure IP65 according to EN 60529	sensor head IP30 according to EN 60529
Cable entry	Flextherm M20, for wire $\varnothing=4,5..9$ mm, removable	
Connection electrical	removable plug-in terminal, max. 2,5 mm <sup>2</sup> , connection wire sensor head to plug RJ12: PVC 0,15 m, connection wire bush RJ12 to enclosure: PVC 3 m	
Sensor head	ABS, white, $\varnothing=30$ mm	
Ambient condition	-35..+70 °C, max. 85% rH short term condensation	

## » PRODUCT TESTING AND CERTIFICATION



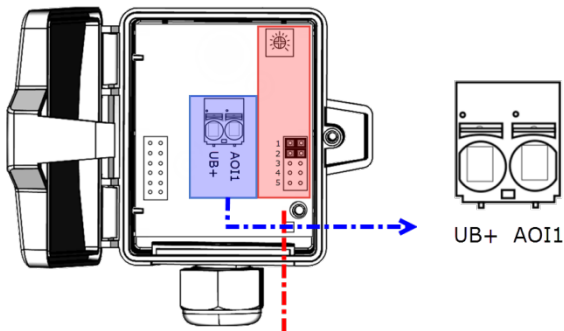
### Declaration of conformity

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

» 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. Jumper 2 has no function for type TRA.

TRA:  
4..20 mA



TRV:  
0..10 V | 0..5 V

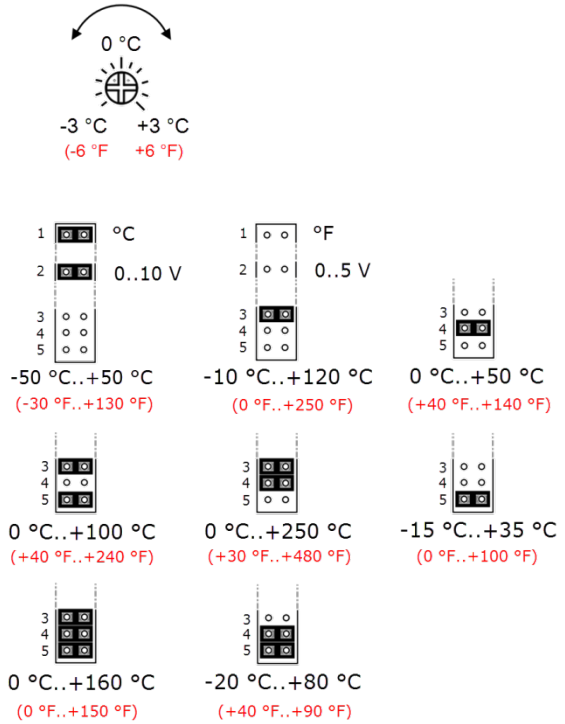
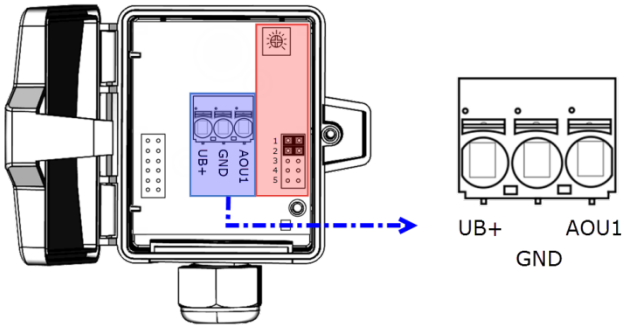
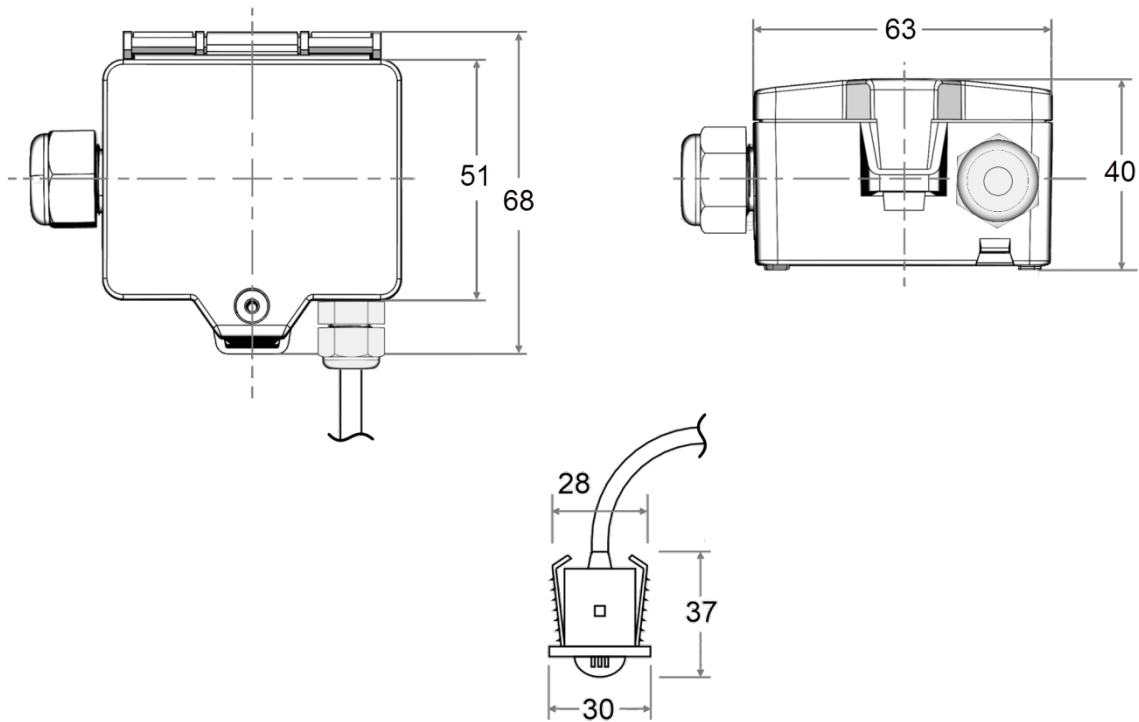


fig. (Measuring range and offset adjustment, default settings: 0 °C..+160 °C | 0 K)

## » DIMENSIONS (MM)



## » ACCESSORIES (INCLUDED IN DELIVERY)

Mounting base enclosure USE pure white

Mounting kit universal

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

Item No. 667722

Item No. 698511

## » ACCESSORIES (OPTIONAL)

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

Item No. 641333