

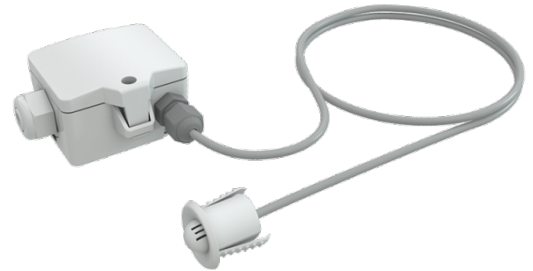
RDF18+

Room sensor temperature, flush mounting at ceiling

thermokon[®]
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
Issue date: 4/17/2025 • A140



» 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

» PRODUCT TESTING AND CERTIFICATION



Declaration of conformity

The declaration of conformity of the products are available on our website
<https://www.thermokon.de/direct/en-gb/categories/rdf18plus>

» NOTES ON DISPOSAL



The crossed-out wheeled 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

» BUILD-UP OF SELF-HEATING BY ELECTRICAL DISSIPATIVE POWER

The electrical power loss of sensors with electronic components can influence the temperature measurement and is dependent on the respective operating voltage. This power loss must be taken into account in the temperature measurement. With a fixed operating voltage (± 0.2 V), this is usually done by adding or subtracting a constant offset value.

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

At this voltage, the expected measurement deviation of the output signal is at its lowest. Other operating voltages can cause a measurement deviation.

Recalibration can be carried out directly on the device or via a software variable (APP or BUS).

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

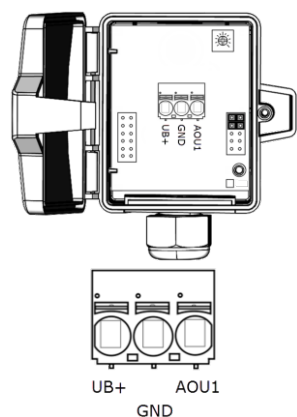
Measuring values	temperature	
Output voltage	TRV 1x 0..10 V or 0..5 V, configurable via jumper, min. load 5 k Ω	
Output ampere	TRA 1x 4..20 mA, max. load 500 Ω	
Power supply	TRV 15..24 V = ($\pm 10\%$) or 24 V ~ ($\pm 10\%$) SELV	TRA 15..24 V = ($\pm 10\%$) SELV
Power consumption	TRV typ. 0,4 W (24 V =) 0,8 VA (24 V ~)	TRA typ. 0,5 W (24 V =)
Output signal range temp. <i>*Scaling analogue output</i>	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	
Accuracy temperature	TRV TRA $\pm 0,5$ K (typ. at 70 °F within default measuring range)	
Enclosure	enclosure USE-S, PC, pure white	
Protection	enclosure IP65 according to EN 60529	sensor head IP30 according to EN 60529
Cable entry	Flextherm M20, for wire max. $\varnothing=0.18..0.35$ in., removable	
Connection electrical	removable plug-in terminal, max. 14AWG	
Sensor head	ABS, white, $\varnothing=1.18$ in.	
Ambient condition	-31..+158 °F, 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. Jumper 2 has no function for type TRA.

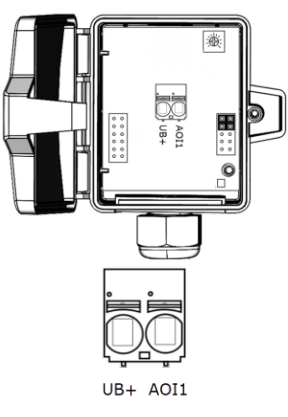
Active

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



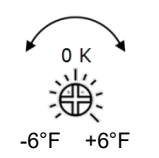
UB+ AO1
GND

TRA
4..20mA



UB+ AO11

Temperature
Offset



0 K
-6°F +6°F

Jumper
1-5

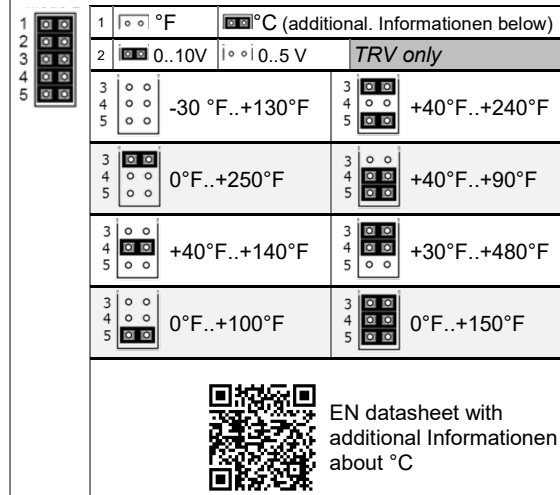
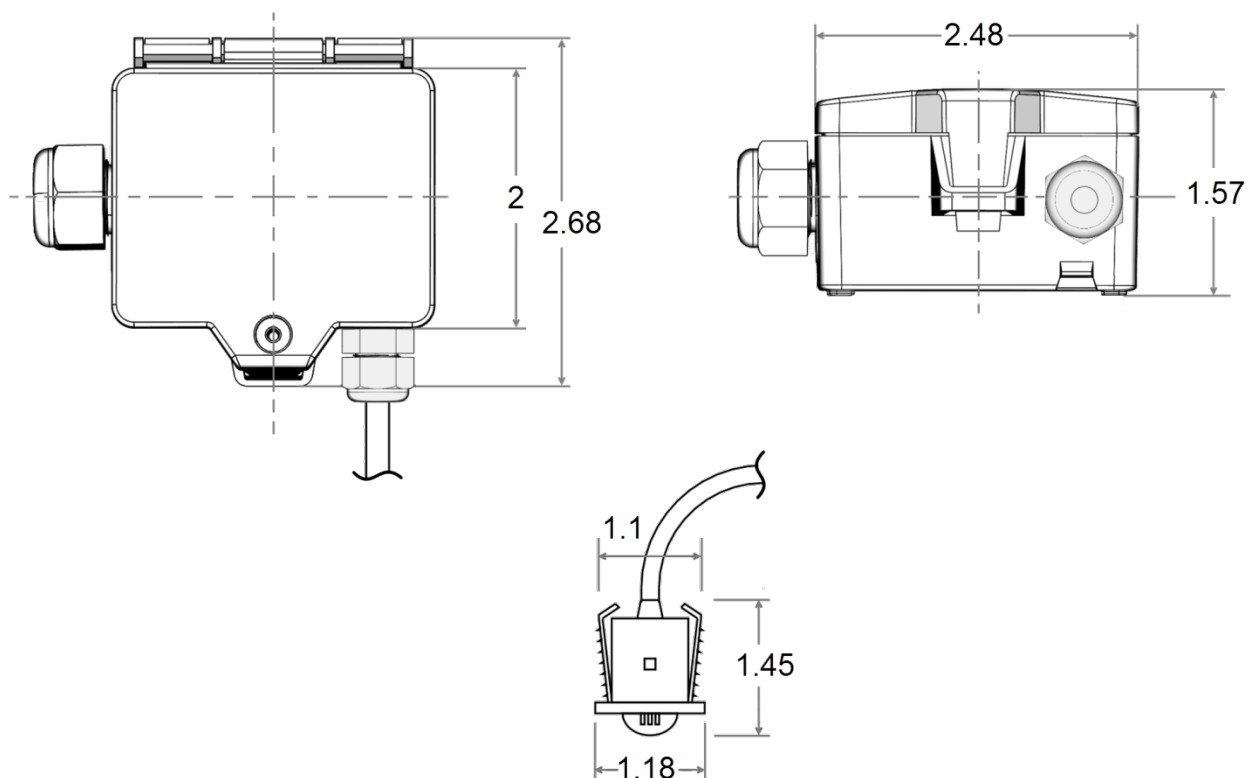


fig. (Measuring range and offset adjustment, default settings: 0 °C..+150 °F | 0 K)

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» 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)

Sealing insert M20 USE white, 2x Ø=0.28 in. (for 2 wire; PU 10 pieces)

Item No. 641333

Conduit Adapter for M20x1,5

Item No. 834834