RDF18 passive | RDF18+ passive

Room sensor temperature, flush mounting at ceiling

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

» APPLICATION

Ceiling flush mounted sensor for temperature measurement in interior spaces to be mounted inconspicuously into ceiling panels thus providing an overall architectural picture.

» TYPES AVAILABLE

Room-ceiling temperature sensor – passive
- RDF18 <sensor>

Room-ceiling temperature sensor – passive, optional with connection housing (Enclosure USE-S)
- RDF18+ <sensor>

<sensor>: PT100/PT1000/NI1000/NI1000TK5000/LM235Z/NTC.../PTC...other sensors on request

» 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/rdf18

» 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

» GENERAL REMARKS CONCERNING SENSORS

Especially with regard to passive sensors in 2-wire conductor versions, the wire resistance of the supply wire has to be considered. If necessary the wire resistance has to be compensated by the follow-up electronics. Due to self-heating, the wire current affects the measurement accuracy. So it should not exceed 1 mA.

When using lengthy connection wires (depending on the cross section used) the measuring result might be falsified due to a voltage drop at the common GND-wire (caused by the voltage current and the line resistance). In this case, 2 GND-wires must be wired to the sensor - one for supply voltage and one for the measuring current.

Sensing devices with transducer should always be operated in the middle of the measuring range to avoid deviations at the measuring end points. The ambient temperature of the transducer electronics should be kept constant. The transducers must be operated at a constant supply voltage (±0,2 V).When switching the supply voltage on/off, onsite power surges must be avoided.

» USE ENCLOSURE WITH UV AND WEATHER RESISTANCE

After some time, outdoor mounted plastics can lose their color and quality. Therefore, all USE housings are made of special white polycarbonate (PC). The light-stable colorants and additives are used to achieve optimum protection of the polymer while maintaining color stability. The titanium dioxide used is specially developed for polycarbonate and offers excellent UV protection through the reflection of the entire light spectrum including the UV component by 340 nm. This effectively counteracts the otherwise occurring photochemical polymer degradation. The colors stay full for a long time without fading. The material is also resistant to cold and frost.
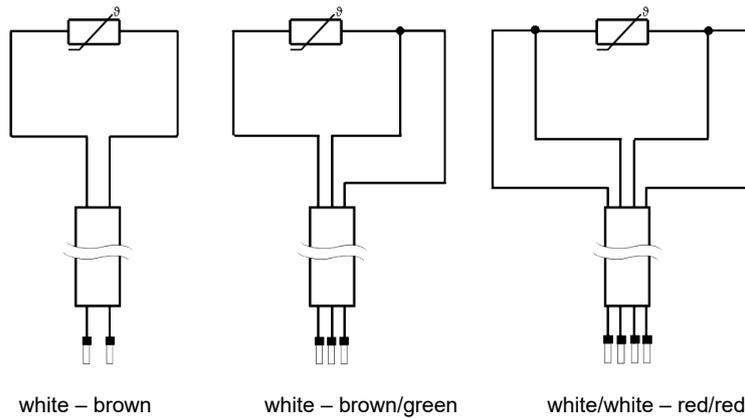
» TECHNICAL DATA

Measuring values	temperature
Output passive	optional, PT100/PT1000/NI1000/NI1000TK5000/LM235Z/NTC.../PTC... other sensors on request
Measuring range temp.	-35..+70 °C
Operating temperature range *max. permissible operating temperature*	-35..+70 °C
Accuracy temperature	depending on used sensor
Sensor	2-wire (standard), 3-wire oder 4-wire
Enclosure (optional)	**RDF18+ passiv** USE-S housing, PC, pure white, IP65 according to DIN EN 60529, cable entry Flextherm M20 for cable with Ø=4.5..9 mm
Protection	IP30 according to EN 60529
Connection electrical	connection wire PVC, 2x Ø=0,25 mm², grey, 1 m (default), 2 m, 4 m, 6 m, for other lengths please request
Pocket	ABS, white, Ø=30 mm
Ambient condition	max. 85% rH non-condensing
Mounting	facet mounting
Notes	active types for temperature and humidity available (see humidity – FT-RDF18+)

» MOUNTING ADVICES
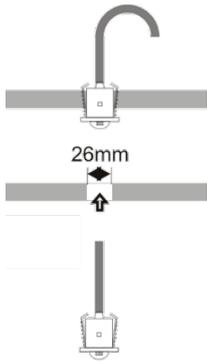
The devices are supplied in an operational status. Installation must be made on representative places for the room temperature, to avoid a falsification of the measuring result. Solar radiation and draught should be avoided. Furthermore, installation near the door (occurring draft) or near the window (colder outer wall) should be avoided. Drill hole min. Ø 26 mm, max. Ø 28 mm.

26mm

» CONNECTION PLAN

white – brown   white – brown/green   white/white – red/red

» DIMENSIONS (MM)

28,0 mm

37,0 mm

30,0 mm

Connection housing USE-S optional (Type RDF18+ passive)

63

51   68

40

69,5

33   Ø4,5   57