

» TF14 passive | TF14+ passive

Cable Temperature Sensor

thermokon[®]
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
Issue date: 02.06.2020 • A110



» APPLICATION

Cable sensor for temperature measurement for HVAC applications. In conjunction with a Thermowell pocket suitable temperature measurement in immersion temperature applications. Designed for control and monitoring applications.

» TYPES AVAILABLE

Cable temperature sensor – passive

TF14 <sensor> T<x> <xxx>.04 L1000

Cable temperature sensor – passive, optional with connection housing (Enclosure USE-S)

TF14+ <sensor> T<x> <xxx>.04 L1000

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

T<x>: max. temperature 100/150/180/250 °C

<xxx>: pocket length 50/100/150/200/400 mm

L1000: standard cable length 1000 mm, additional probe and cable lengths 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

» 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.

» 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 ($\pm 0,2$ V). When switching the supply voltage on/off, onsite power surges must be avoided.

» PRODUCT TESTING AND CERTIFICATION



Declaration of conformity

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

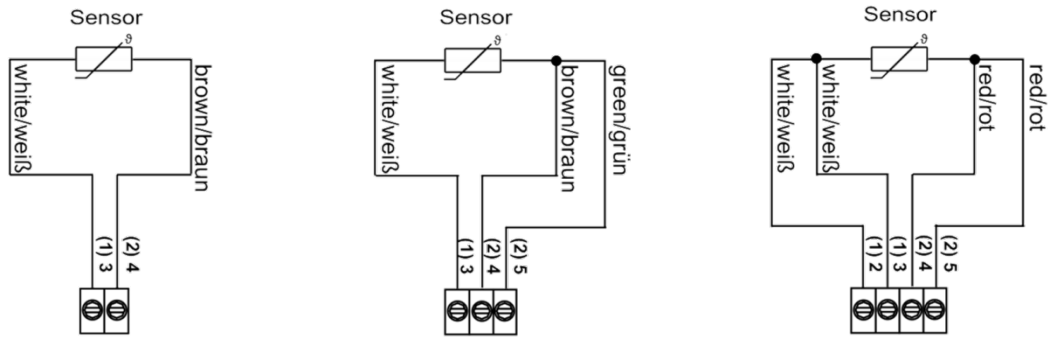
» TECHNICAL DATA

Measuring values	temperature	
Output passive	PT100 PT100 1/3 DIN PT1000 PT1000 1/3 DIN Ni1000 Ni1000TK5000, NTC10k NTC 10k Precon NTC5k NTC20k NTC1,8k	
Measuring range temp.	PT / Ni -50..180 °C -50..+250 °C	NTC -50..+150 °C
Operating temperature range *max. permissible operating temperature	with connection wire PVC -35..+100 °C, Silicone -50..+180 °C, HT-Silicone -50..+250 °C	
Accuracy temperature	depending on used sensor, PT100 PT1000: $\pm 0,3$ K (typ. at 0 °C, Kl.B) , Ni1000: $\pm 0,4$ K (typ. at 0 °C), Ni1000TK5000: $\pm 0,4$ K (typ. at 0 °C), NTC10K: $\pm 0,22$ K (typ. at 25 °C)	
Sensor	2-wire (standard), 3-wire oder 4-wire, sensor cable 1 2 4 6 m	
Enclosure (optional)	TF14+ passive USE-S housing, PC, pure white, IP65 according to DIN EN 60529, cable entry Flextherm M20 for cable with $\varnothing=4.5..9$ mm	
Protection (optional)	Sensor probe IP65 according to EN 60529, 16-point pressed IP67 according to EN 60529, rolling with SI-Protection	Enclosure IP65 according to EN 60529
Pocket	stainless steel Mat. 1.4571, $\varnothing=4$ mm, mounting length 50 100 150 200 400 mm	
Notes	other temperature sensors on request, other probe lengths on request	

» MOUNTING ADVICE

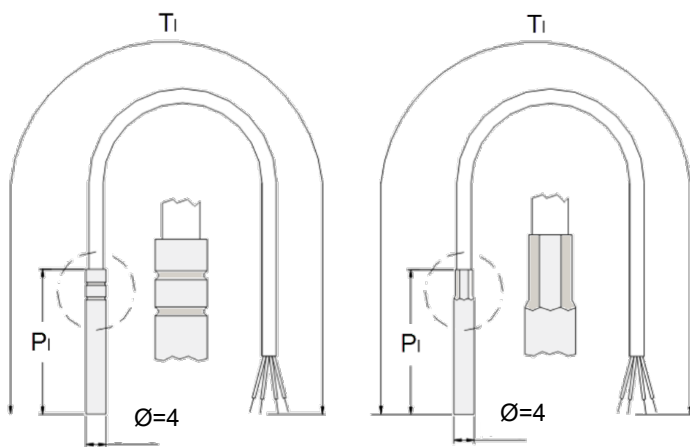
Depending on the application, the cable sensor can be fixed to the ventilation duct by means of a mounting flange or clamping screw connection or be used with an immersion pocket (tank or pipeline). Operation of the sensor with an immersion pocket: Use contact fluid for better heat transfer between sensor and measuring medium. When using our sensing elements in moist rooms or for purposes in refrigeration technology, we recommend to use version IP67.

» CONNECTION PLAN

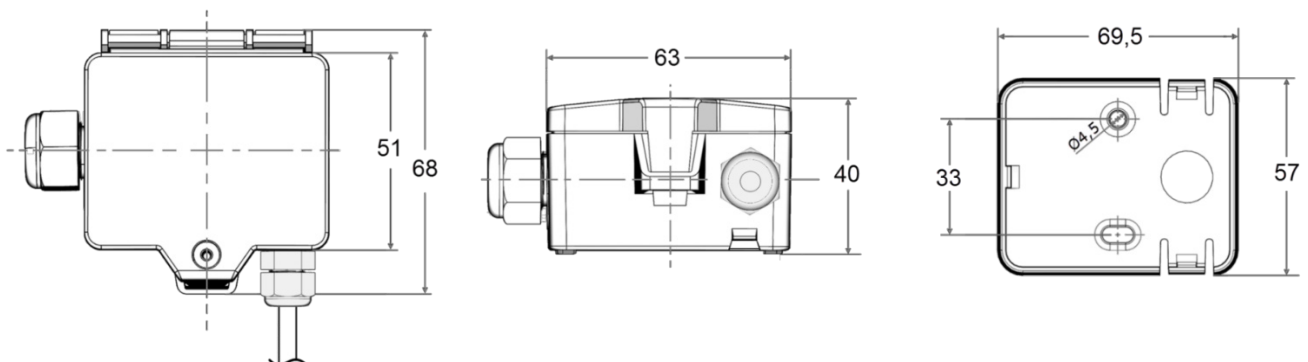


» DIMENSIONS (MM)

- T_i (Total length) = 1 | 2 | 4 | 6 m
- P_i (Pocket length) = 50 | 100 | 150 | 200 | 400 mm



Connection housing USE-S optional (Type TF14+ passive)



» ACCESSORIES (OPTIONAL)

Mounting flange MF4 (brass)

Mounting flange MF6 flexible (incl. inserts for $\text{Ø}=4\text{mm}$ / 6mm)

KL4VA - Compression fittings G 1/4" for $\text{Ø}=4\text{ mm}$ with cutting ring VA, stainless steel

Item No. 102438

Item No. 399098

Item No. 103206