

# TF25 passive | TF25+ passive

Cable Temperature Sensor

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

## Datasheet · 208338

Subject to technical alteration  
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*Illustration similar*

### » 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

- TF25 <sensor> T<x> <xxx>.06 L1000

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

- TF25+ <sensor> T<x> <xxx>.06 L1000

<sensor>: PT100/PT1000/Ni1000/Ni1000TK5000/LM235Z/NTC.../PTC...other sensors on request

T<x>: max. temperature 100/125/150/180 °C

<xxx>: pocket length 50/100/150/200/250 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

### » PRODUCT TESTING AND CERTIFICATION



#### Declaration of conformity

The declaration of conformity of the products are available on our website <https://www.thermokon.de/>.

## » 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 a 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.

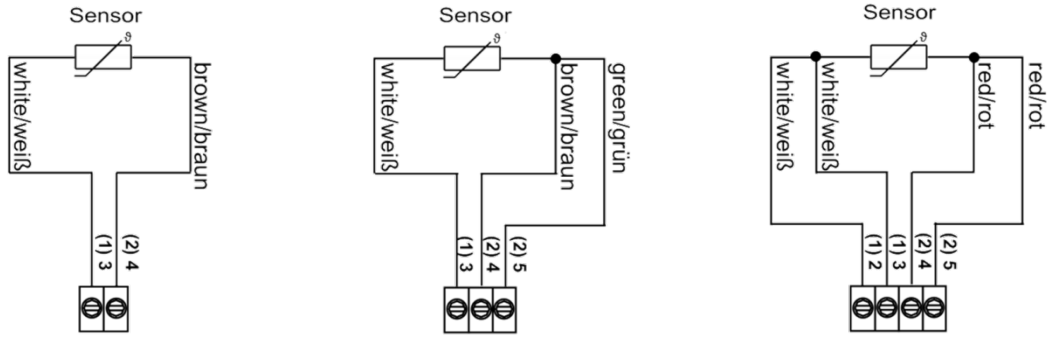
## » TECHNICAL DATA

Measuring values	temperature		
Output passive <i>(optional)</i>	PT100   PT100 1/3 DIN   PT1000   PT1000 1/3 DIN   Ni1000   Ni1000TK5000, NTC10k   NTC 10k Precon   NTC5k   NTC20k   NTC1,8k, LM235Z   DS18B20 1-wire, KTY81-110   KTY81-121   KTY81-122   KTY81-210		
Measuring range temp.	<b>PT / Ni</b> -50..180 °C   -50..+250 °C	<b>NTC / KTY</b> -50..+150 °C	<b>PT</b> -50..+400 °C
Operating temperature range <i>*max. permissible operating temperature</i>	<b>with connection wire</b> PVC -35..+100 °C, Silicone -50..+180 °C, HT-Silicone -50..+250 °C, GI/GI-V2A -50...+400 °C		
Accuracy temperature	depending on used sensor		
Sensor	2-wire (standard), 3-wire oder 4-wire, sensor cable 1   2   4   6 m		
Enclosure <i>(optional)</i>	<b>TF25+ passiv</b> 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 <i>(optional)</i>	SI-Protection IP65 according to EN 60529, 16-point pressed IP67 according to EN 60529, rolling		
Pocket	stainless steel V4A Mat. 1.4571, $\varnothing=6$ mm, mounting length 50   100   150   200   250 mm, tension spring (optional)		
Notes	cable ends with conductor sleeves as standard, other sensors and cable lengths on request, PE connection wire available (please request)	<b>TF25 400 °C (only PT sensors)</b> sensor cable 2 m, mounting length 50 mm	

## » 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**

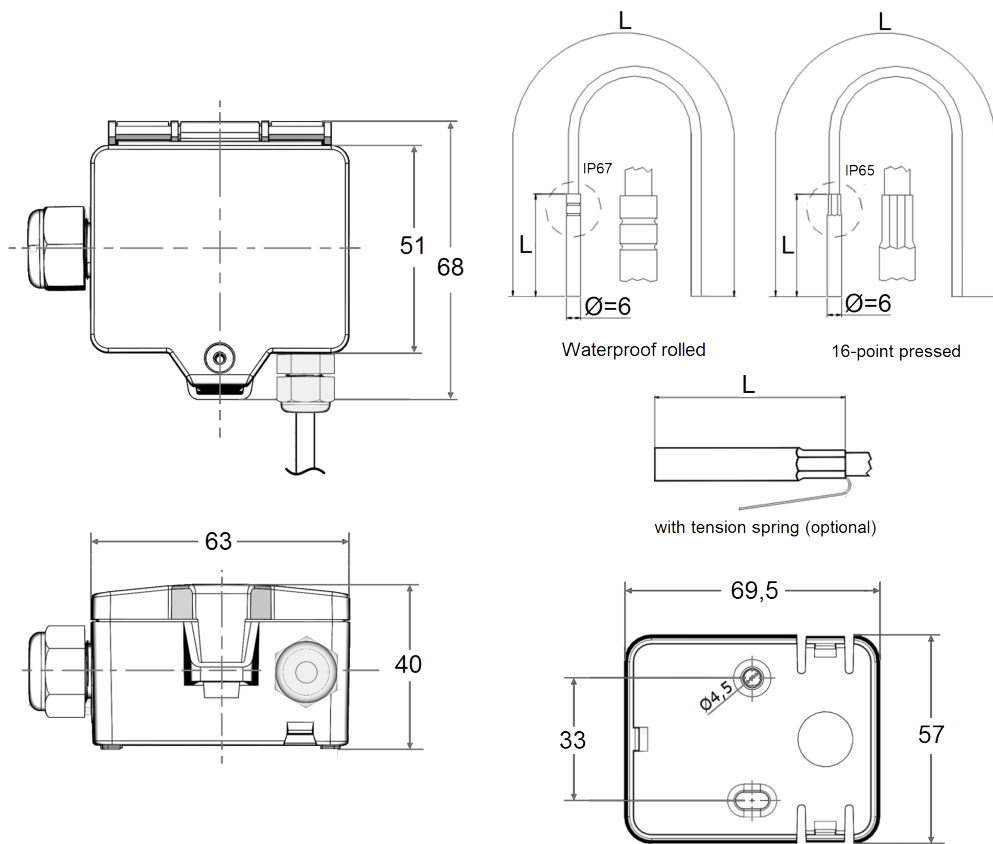


» **DIMENSIONS (MM)**

Total length = 1 | 2 | 4 | 6 m

Probe length = 50 | 100 | 150 | 200 | 250 mm

Connection housing USE-S optional (Type TF25+ passive)



» **ACCESSORIES (OPTIONAL)**

Mounting flange MF6 (brass)

Mounting flange MF7 flexible (incl. inserts for Ø=4mm / 6mm)

Compression fittings G 1/4" for Ø=6 mm with cutting ring VA, stainless steel

Item No. 003407

Item No. 399098

Item No. 103213

**Thermowell pockets stainless steel / brass for sensors with pocket Ø=6 mm**

length	50 mm	100 mm	150 mm	200 mm	250 mm
THMSDS	610995	611008	611015	611022	611763
THVADS	611152	611817	611824	611848	611862

MS-thermowell pocket (brass, suitable up to 16 bar) type THMSDS <xx>.

VA-thermowell pocket (stainless steel, suitable up to 40 bar) type THVADS <xx>.