

AKF10 Ø=7 mm

Duct-/Immersion temperature sensor

thermokon
Sensortechnik GmbH

208369

Datasheet

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Application

Duct-/Immersion temperature sensor for measuring temperature in gaseous media of heating, cooling and air-conditioning systems (e.g. fresh air/exhaust air ducts). Designed for control and display systems.

In conjunction with an immersion pocket also suitable for temperature measurement in liquid fluids (e.g. pipeline systems).

Types Available

AKF10.xxx.07 passive	AKF10, mounting length xxx ^{***} , Ø=7 mm, passive, with sensor according to customer's request [*]
AKF10.xxx.07 TRV MultiRange	AKF10, mounting length xxx ^{***} , Ø=7 mm, active, 0..10 V ^{**}
AKF10.xxx.07 TRA MultiRange	AKF10, mounting length xxx ^{***} , Ø=7 mm, active, 4..20 mA ^{**}

^{*} e.g.: PT100, PT1000, NI1000, NI1000TK5000, LM235Z, NTCxx, PTCxx, for other sensors please request.

^{**} Measuring ranges adjustable at the transducer

^{***} mounting length: 62 | 135 | 192 | 240 | 320 | 392 | 465 mm

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 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 the product may contain valuable materials that should be recycled and not disposed of as domestic waste. Please note the relevant regulations for local disposal.

Technical Data

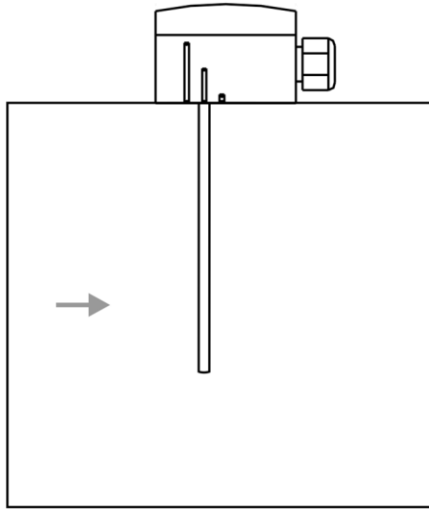
Measuring values	temperature
Output voltage	passive: depending on used sensor TRV: 0..10 V, min. load 5 k Ω
Output Amp	TRA: 4..20 mA, max. load 500 Ω (24 V =)
Power supply	TRV: 15..24 V = (\pm 10%) or 24 V ~ (\pm 10%) TRA: 15..24 V = (\pm 10%)
Power consumption	TRV: typ. 0,35 W (24 V =) 0,82 VA (24 V ~) TRA: max. 20 mA (24 V =)
Measuring range temperature	passive: depending on used sensor TRV/TRA: adjustable at the transducer TRV1/TRA1 -50.. +50 $^{\circ}$ C TRV2/TRA2 -10..+120 $^{\circ}$ C TRV3/TRA3 0.. +50 $^{\circ}$ C TRV4/TRA4 0..+160 $^{\circ}$ C TRV5/TRA5 0..+250 $^{\circ}$ C TRV8/TRA8 -15.. +35 $^{\circ}$ C
Working range temp.	sensor pocket: -50..+160 $^{\circ}$ C, type 260 $^{\circ}$ C: -80..+260 $^{\circ}$ C
Accuracy temperature	passive: depending on used sensor, measuring current typ. <1 mA TRV/TRA: \pm 1% of measuring range (typ. at 21 $^{\circ}$ C)
Enclosure	PA6, pure white
Protection	IP65 according to EN 60529
Cable entry	M16 for wire max. \varnothing =8 mm
Connection electrical	terminal block, max. 1,5 mm ² passive: 2-wire (standard), 3-wire or 4-wire TRV: 3-wire TRA: 2-wire
Pocket	stainless steel 1.4571 mounting length: 62 135 192 240 320 392 465 mm
Ambient conditions	enclosure passive: -35..+90 $^{\circ}$ C, max. 85% rH non-condensing enclosure TRV/TRA: -35..+70 $^{\circ}$ C, max. 85% rH non-condensing
Weight	passive: 100 g TRV/TRA: 115 g
Notes	for other sensors please request, type with display available for active models

Mounting Advices

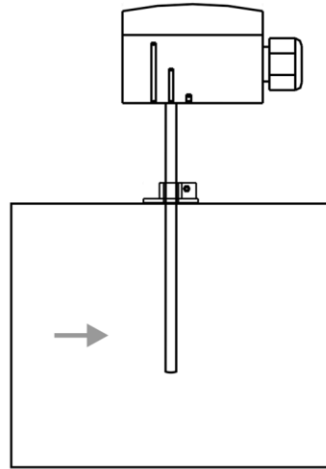
The sensor can be mounted on the ventilation duct either by means of a mounting flange or by screws.

For risk of condensate permeation in the sensor tube respectively in the immersion pocket the bushing must be installed in a position that occurred condensate can run off.

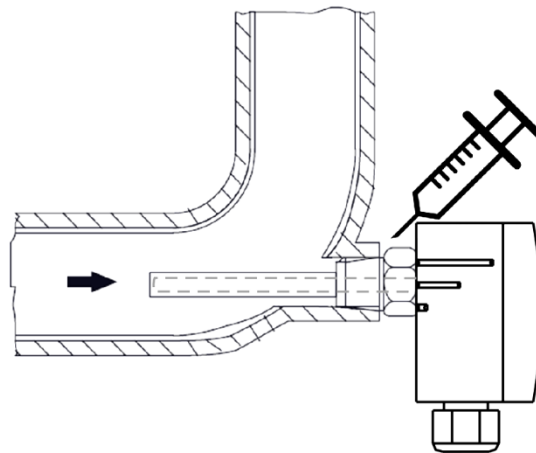
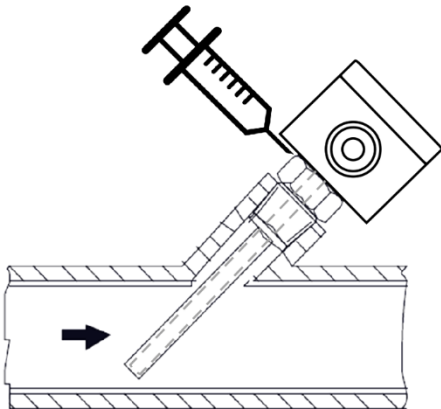
Mounting without mounting flange



Mounting with mounting flange

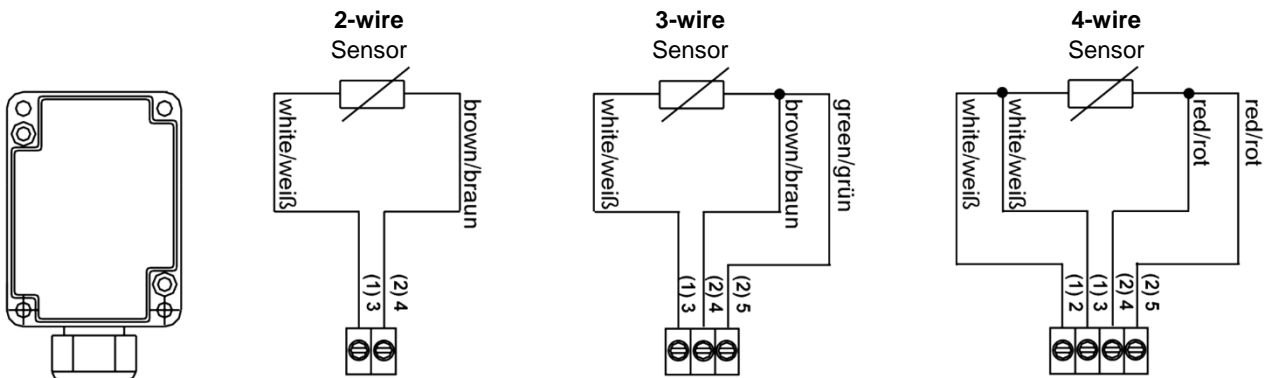


Mounting with immersion pocket for usage in liquid media. Use contact fluid for better heat transfer between sensor and measuring medium.

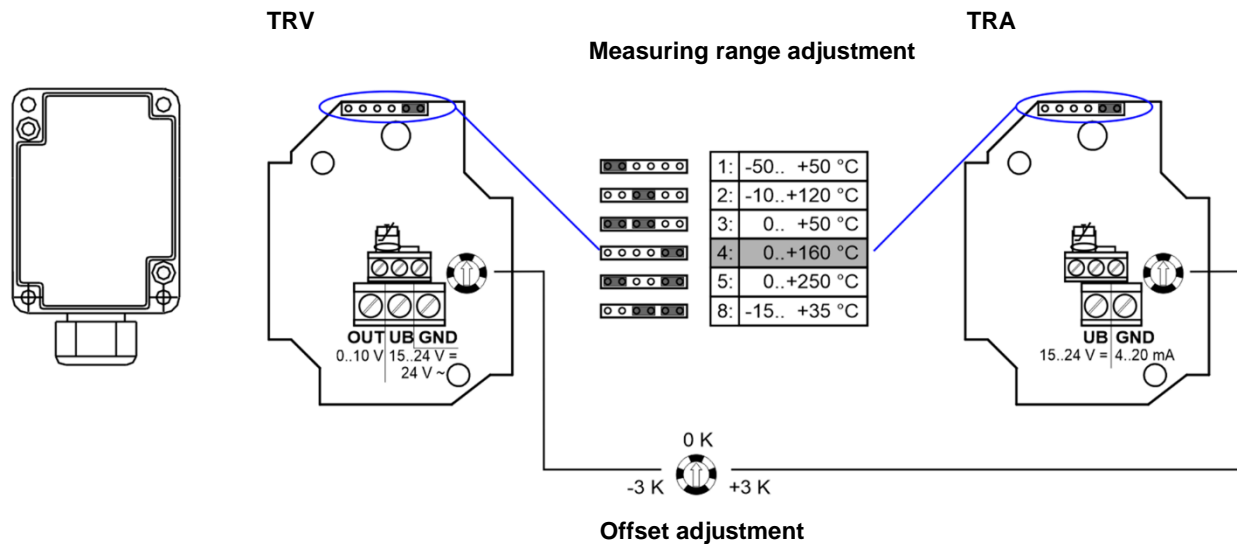


Connection Plan

Passive



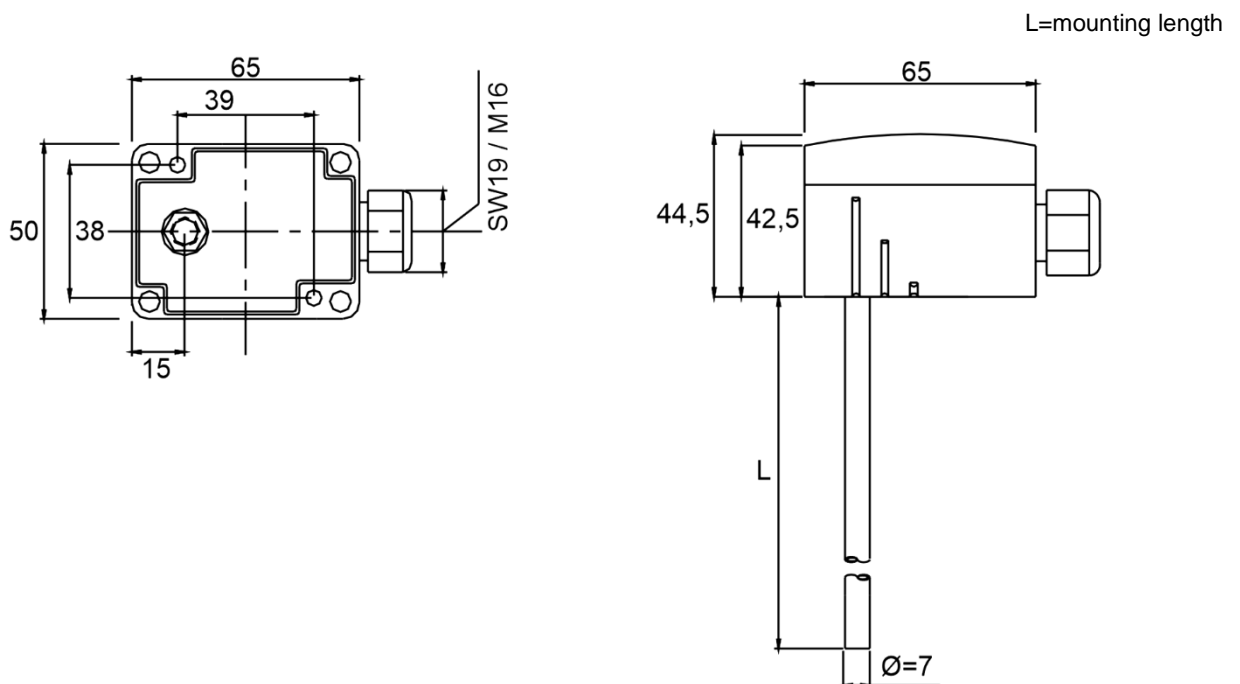
Active



Commissioning

The adjustment of the measuring ranges is made by changing the bonding jumpers (see terminal connection diagram). The output value in the new measuring range is available after 2 seconds.

Dimensions (mm)



Accessories

Mounting flange MF7 flexible (incl. inserts for $\varnothing=4 / 6$ mm)
Mounting flange MF7 (brass)

Item No. 399098
Item No. 102360

Immersion probe stainless steel, suitable up to 40 bar THVAxxx
Immersion probe Messing, suitable up to 16 bar THMSxxx

xxx=length immersion probe, depending on mounting length
xxx= length immersion probe, depending on mounting length

Syringe thermal contact fluid

Item No. 102308