

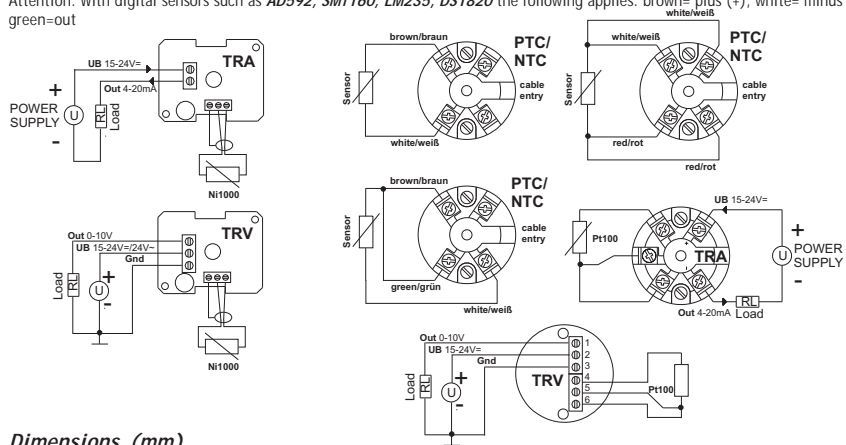
Duct-/Immersion temperature sensors  
**KFK03... MWF... RG03...**

**Optional Accessories**

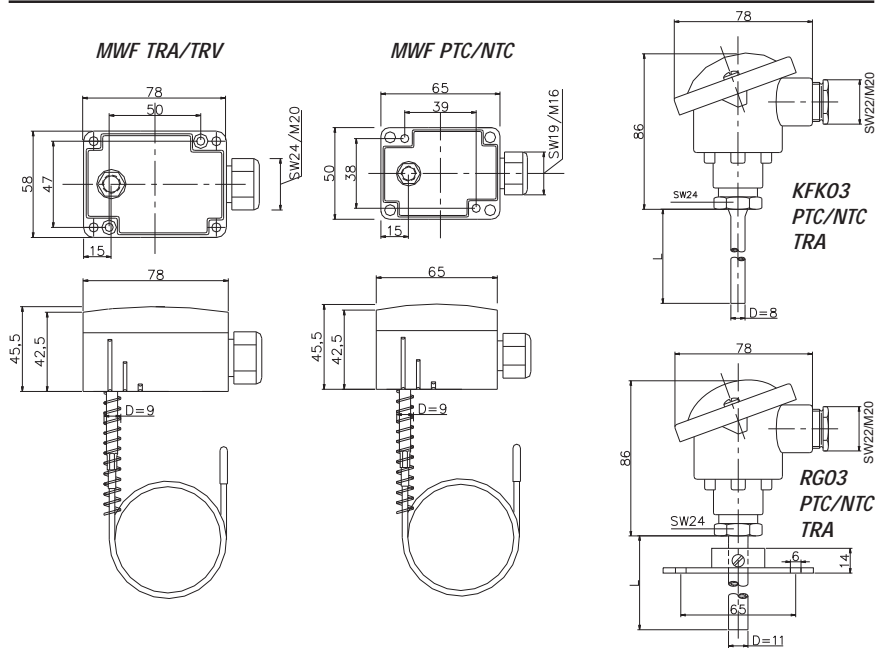
(MF8) Mounting flange with clamp screw joint for D=8mm  
 (MF7/PA) Mounting flange for MWF  
 For model RG03 the mounting flange is included in the delivery range.  
 For model MWF, mounting angles for tightening the sensor wire in the duct are included in the delivery range.

**Terminal Connection Plan**

Attention: With digital sensors such as **AD592, SMT160, LM235, DS1820** the following applies: brown= plus (+), white= minus (-), green=out



**Dimensions (mm)**



**thermokon**<sup>®</sup>  
 Sensortechnik GmbH

**14300... 14400... 14500...**



Duct-/Immersion temperature sensors  
**KFK03... MWF... RG03...**



**Application**

Duct sensor for measuring temperature in gaseous media of heating, cooling and air-conditioning systems (e.g. in fresh air / exhaust air ducts). Designed for locking on control and display systems. Model MWF is specially designed for temperature measurement of average duct temperatures (averaging). Model RG03 is specially constructed for measuring higher temperatures.

**Types Available**

Model	Type	Method of measurement (Output)
KFK03	PTC/NTC	passive, resistance
	TRA	active, 4...20mA
	TRV	active, 0...10V
MWF	Ni1000	passive, resistance
	TRA	active, 4...20mA
	TRV	active, 0...10V
RG03	PTC/NTC	passive, resistance
	TRA	active, 4...20mA
	TRV	active, 0...10V

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### Norms and Standards

<b>Product safety:</b>	EN60730-1 Automatic electr. control devices for domestic use and similar applications
<b>EMV:</b>	EN60730-1 (2000) Interference resistance EN60730-1 (2000) Emitted interference
<b>CE-Conformity:</b>	89/336/EWG Electromagnetic compatibility

### Technical Data

#### Type PTC/NTC:

<b>Measuring element:</b>	KFK03: Sensor according to customer's request e.g. PTC, NTC... MWF: Ni1000 or Ni1000/TK5000 RG03: Only sensor PT100-3 (three-wire) or PT1000 possible
<b>Measuring range:</b>	Depending on sensor used max. operative temperature: KFK03 <sup>1)</sup> : +160°C RG03: +500°C (short-time up to +600°C) MWF: +50°C
<b>Accuracy:</b>	KFK03/RG03: Depending on sensor used, e.g. DIN KL.B+ MWF: Typ. +/-3% of measuring range
<b>Wire current:</b>	Typ. <1mA
<b>Mounting lengths:</b>	KFK03: 100mm/150mm/200mm/250mm RG03: 250mm/500mm MWF: 400mm/3000mm/6000mm (if Ni1000/TK5000: 2500mm/5000mm)
<b>Sensor bushing:</b>	Stainless steel grade 1.4571 MWF: Material PE
<b>Klemmen:</b>	KFK03/RG03: 2pole (two-wire) 3pole (three-wire) 4pole (four-wire) Terminal screw max 1,5mm <sup>2</sup> MWF: 2pole (two-wire) Terminal screw max 1,5mm <sup>2</sup>
<b>Connection head:</b>	KFK03/RG03: Aluminium, Form B MWF: (65mm) Polyamide, Colour white
<b>Temperature max<sup>3)</sup>:</b>	<90°C
<b>Protection:</b>	KFK03/RG03: IP66 MWF: IP65
<b>Cable entry:</b>	KFK03/RG03: M20 MWF: Single entry, M16 for conductor wire with max. D=8mm

#### Type TRA:

<b>Measuring element:</b>	KFK03/RG03: PT100-3-Leiter MWF: Ni1000
<b>Measuring range:</b>	KFK03: TRA1: -50°C...+50°C TRA3: 0°C...+50°C TRA4: 0°C...+160°C TRA5: 0°C...+300°C RG03: TRA5: 0°C...+300°C TRA6: 0°C...+400°C TRA7: 0°C...+600°C MWF: TRA1: -50°C...+50°C TRA3: 0°C...+50°C
<b>Accuracy<sup>2)</sup>:</b>	KFK03/RG03: Typ. +/-0,2°C +/-0,1% of measuring range MWF: Typ. +/-3% of measuring range
<b>Measuring current:</b>	<1mA
<b>Operating voltage:</b>	15-24V=
<b>Power consumption:</b>	max. 20mA
<b>Load:</b>	<500 Ohm
<b>Mounting lengths:</b>	KFK03: 100mm/150mm/200mm/250mm RG03: 250mm/500mm MWF: 400mm/3000mm/6000mm

Duct-/Immersion temperature sensors  
KFK03... MWF... RG03...

<b>Sensor bushing:</b>	Stainless steel grade 1.4571 MWF: Material PE
<b>Clamps:</b>	2pole (two-wire) Terminal screw max 1,5mm <sup>2</sup>
<b>Connection head:</b>	KFK03/RG03: Aluminium, Form B MWF: (78mm) Polyamide, Colour white
<b>Temperature max<sup>3)</sup>:</b>	<70°C
<b>Protection:</b>	IP66
<b>Cable entry:</b>	KFK03/RG03: M20 MWF: single, M20 for conductor wire with max. D=8mm

#### Type TRV:

<b>Measuring element:</b>	KFK03/RG03: PT100-3-Leiter MWF: Ni1000
<b>Measuring range:</b>	KFK03: TRV1: -50°C...+50°C TRV3: 0°C...+50°C TRV4: 0°C...+160°C TRV5: 0°C...+300°C RG03: TRV5: 0°C...+300°C TRV6: 0°C...+400°C TRV7: 0°C...+600°C MWF: TRV1: -50°C...+50°C TRV3: 0°C...+50°C
<b>Accuracy<sup>2)</sup>:</b>	KFK03/RG03: Typ. +/-0,1% of measuring range MWF: Typ. +/-3% of measuring range
<b>Measuring current:</b>	<1mA
<b>Operating voltage:</b>	KFK03/RG03: 15-24V= MWF: 15-24V=/24V- max. 40mA
<b>Power consumption:</b>	KFK03/RG03: max. 20mA MWF: max. 20mA
<b>Load:</b>	KFK03/RG03: min. 3kOhm MWF: min. 5kOhm
<b>Mounting lengths:</b>	KFK03: 100mm/150mm/200mm/250mm RG03: 250mm/500mm MWF: 400mm/3000mm/6000mm
<b>Sensor bushing:</b>	Stainless steel grade 1.4571 MWF: Material PE
<b>Clamps:</b>	3pole (three-wire) Terminal screw max 1,5mm <sup>2</sup>
<b>Connection head:</b>	KFK03/RG03: Aluminium, Form B MWF: (78mm) Polyamide, Colour white
<b>Temperature max<sup>3)</sup>:</b>	<70°C
<b>Protection:</b>	IP66
<b>Cable entry:</b>	KFK03/RG03: M20 MWF: single, M20 for conductor wire with max. D=8mm

<sup>1)</sup> Maximum permissible operative temperature sensor prod. Increased temperature range, e.g. 260°C on request.

<sup>2)</sup> Operating voltage 24V= and 21°C (+/-5K) ambient temperature. Please take care, that the transducer is operated in the measuring range centre, as increased deviations could occur on the measuring range end points. In addition, the ambient temperature of the transducer electronics should be kept constant.

<sup>3)</sup> Maximum permissible ambient temperature connection head, humidity (without dew permeation) <80%r.F.

### Mounting Advice

Model MWF can either be mounted directly on the ventilation duct by means of a mounting flange or by screws. For models KFK03 respectively RG03 the sensor can only be mounted on the ventilation duct by means of a flange.

For risk of condensate permeation in the sensor tube, the pocket must be installed in that way, that occurred condensate can run off.

**Please also note the general remarks in our INFORMATION SHEET THK.**