

Data Sheet

Subject to technical alteration
Issue date: 04.09.2014



Application

Duct-/Immersion temperature sensor for measuring temperature in gaseous and liquid media. Designed for locking on to control and display systems.

Model RG03 is specially constructed for measuring higher temperatures.

Types available

RG03.xxx.11 Sensor	RG03, mounting length xxx**, Ø=11 mm, passive, PT100 3-wire or PT1000*
RG03.xxx.11 TRA	RG03, mounting length xxx**, Ø=11 mm, active, 4..20 mA
RG03.xxx.11 TRV	RG03, mounting length xxx**, Ø=11 mm, active, 0..10 V

* PT100, PT1000.

** Mounting lengths: 250 mm, 500 mm

Security Advice – Caution



The installation and assembly of electrical equipment must be performed by a skilled electrician.

The modules must not be used in any relation with equipment that supports, directly or indirectly, human health or life or with applications that can result in danger for people, animals or real value.

Before connecting devices with electrical power supply the installation must be isolated from power source!

Notes on Disposal

For disposal, the product is considered waste from electrical and electronic equipment (electronic waste) and must not be disposed of as household waste. Special treatment for specific components may be legally binding or ecologically sensible. The local and currently applicable legislation must be observed.

Electrical Connection

The devices are constructed for the operation of protective low voltage (SELV). For the electrical connection, the technical data of the corresponding device are valid.

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.

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.

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.

Technical Data

Mounting lengths:	250 mm, 500 mm
Sensor bushing:	Stainless steel mat. 1.4571
Operating temperature:	0..+500 °C, short time up to +600 °C
Ambient temperature:	Type Sensor: <+90 °C Type TRA/TRV: <+70 °C
Connection head:	Form B, Material Aluminium
Protection:	IP66 according to EN 60529
Type Sensor	
Measuring element:	PT100 3-wire or PT1000
Measuring range:	Depending on sensor used
Accuracy:	Depending on sensor used
Measuring current:	Typ. <1 mA
Clamps:	2pole (two-wire) 3pole (three-wire) 4pole (four-wire) Terminal screw max. 1,5 mm ²
Cable entry:	M20 for cable max. Ø=8 mm
Weight:	approx. 400 g
Type TRA	
Power supply:	15..24 V = ($\pm 10\%$)
Power consumption:	max. 40 mA / 24 V =
Measuring range:	TRA5: 0..+300 °C TRA6: 0..+400 °C TRA7: 0..+600 °C

Output:	4..20 mA, max. load 500 Ω / 24 V =
Measuring element:	PT100, 1/3 DIN, 3-wire
Accuracy@21°C:	Typ. $\pm 1\%$ of measuring range (± 2 °C) <small>(increased deviations could occur on the measuring range end points. So transducer should be operated in the measuring range centre)</small>
Clamps:	2pole (two-wire) Terminal screw max. 1,5 mm ²
Cable entry:	Single entry, M20 for cable max. Ø=8 mm
Weight:	approx. 380 g
Type TRV	
Power supply:	15..24 V = ($\pm 10\%$)
Power consumption:	typ. 40 mA / 24 V =
Measuring range:	TRA5: 0..+300 °C TRA6: 0..+400 °C TRA7: 0..+600 °C
Output:	0..10 V, min. load 3 k Ω
Accuracy@21°C:	Typ. $\pm 1\%$ of measuring range <small>(increased deviations could occur on the measuring range end points. So transducer should be operated in the measuring range centre)</small>
Clamps:	3pole (three-wire) Terminal screw max. 1,5 mm ²
Cable entry:	Single entry, M20 for cable max. Ø=8 mm
Weight:	approx. 380 g

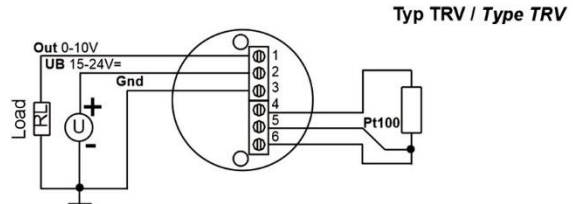
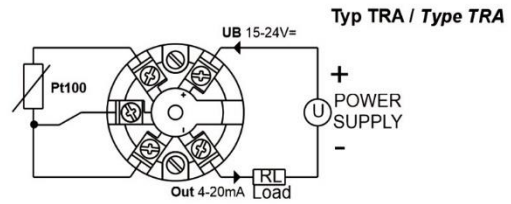
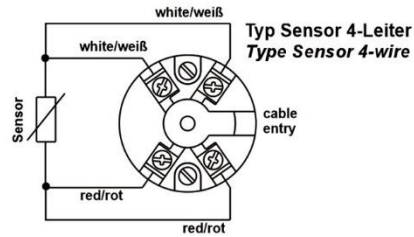
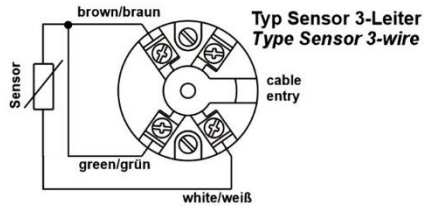
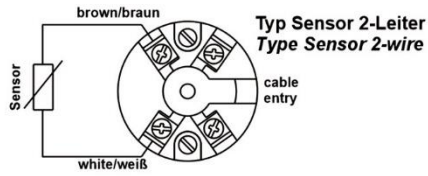
Mounting Advices

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

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.

Please also note the general remarks in our INFOBLATT THK.

Terminal connection plan



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

Dimensions (mm)

