

RG03

High-Temperature sensor

thermokon
Sensortechnik GmbH

Data Sheet

Subject to technical alteration
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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 (e.g. exhaust systems).

Types available

RG03.xxx.11 Sensor	RG03, mounting length xxx*, Ø=11 mm, passive**
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

* Mounting lengths: 250 mm, 500 mm

** PT100 3-wire

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.

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.

Technical Data

Measuring value		temperature
Output voltage	TRV	1x 0..10 V (min. load 3 k Ω)
Output amp	TRA	1x 4..20 mA (max. load 500 Ω)
Power supply		15..24 V = ($\pm 10\%$)
Power consumption	TRV	max. 1 W (24 V =)
	TRA	max. 0,5 W (24 V =)
Measuring range temp	passive	depending on used sensor
	TRV6 TRA6	0..+400 °C
	TRV7 TRA7	0..+600 °C
Working range temp		0..+500 °C, short time up to +600 °C
Accuracy temperature	passive	depending on used sensor
	TRV TRA	$\pm 0,2$ °C/ $\pm 0,1\%$ of measured value (typ. at 21 °C)
Sensor	passive	3-wire
Enclosure		aluminium
Protection		IP66 according to EN 60529
Cable entry		M20 for cable with max. $\varnothing=8$ mm
Connection electrical		terminal block, max. 1,5 mm ²
Pipe	passive	stainless steel Mat. 1.4571, $\varnothing=11$ mmm, mounting lengths: 250 mm, 500 mm
Ambient condition	passive	-25..+90 °C
	TRV TRA	-25..+70 °C
Weight	passive	400 g
	TRV TRA	380 g

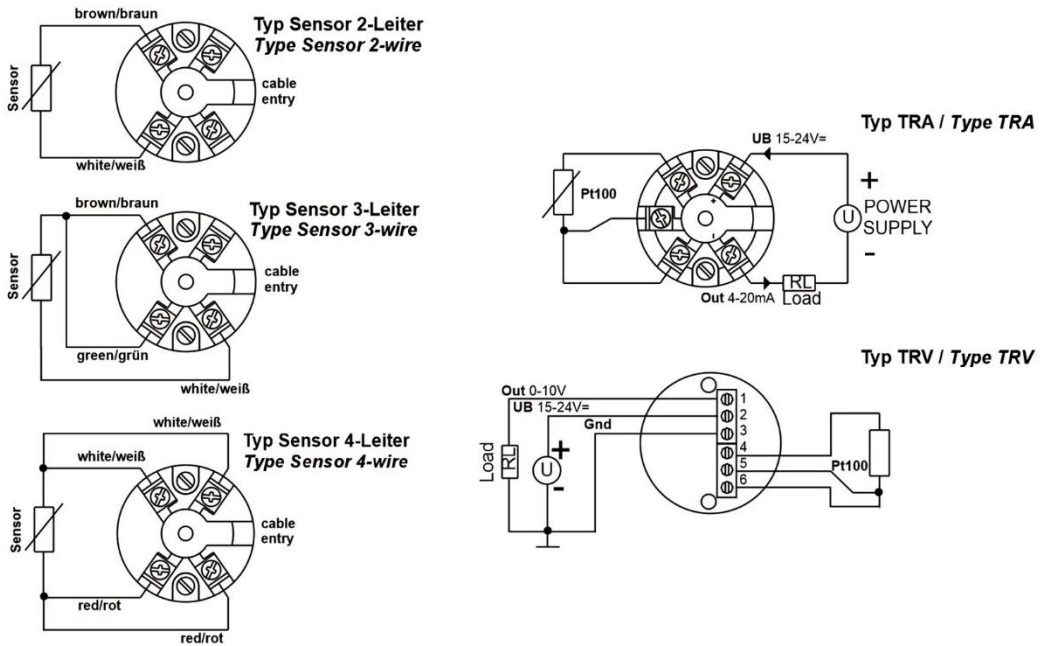
Mounting Advices

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

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)

