

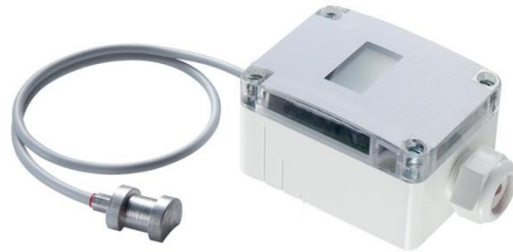
# PR25 LCD

Contact temperature sensor

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

## Datasheet

Subject to technical alteration  
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## Application

Contact temperature sensor for measuring temperature on pipes and arched surfaces.  
Designed for control and monitoring systems.

## Types Available

PR25 LCD	TRA	active, 4..20 mA
PR25 LCD	TRV	active, 0..10 V

\*\* Measuring range (TRA/TRV) 1: -50..+50 °C, 2: -10..+120 °C, 3: 0..+50 °C, 4: 0..+150 °C, 8: -15..+35 °C

## 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

## 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.

## Build-up of Self-Heating by Electrical Dissipative Power

Temperature sensors with electronic components always have a dissipative power, which affects the temperature measurement of the ambient air. The dissipation in active temperature sensors shows a linear increase with rising operating voltage. This dissipative power has to be considered when measuring temperature. In case of a fixed operating voltage ( $\pm 0,2$  V) this is normally done by adding or reducing a constant offset value. As Thermokon transducers work with a variable operating voltage, only one operating voltage can be taken into consideration, for reasons of production engineering. Transducers 0..10 V / 4..20 mA have a standard setting at an operating voltage of 24 V =. That means, that at this voltage, the expected measuring error of the output signal will be the least. For other operating voltages, the offset error will be increased by a changing power loss of the sensor electronics. If a re-calibration should become necessary later directly on the sensor, this can be done by means of a trimming potentiometer on the sensor board.

**Remark: Occurring draft leads to a better carrying-off of dissipative power at the sensor. Thus temporally limited fluctuations might occur upon temperature measurement.**

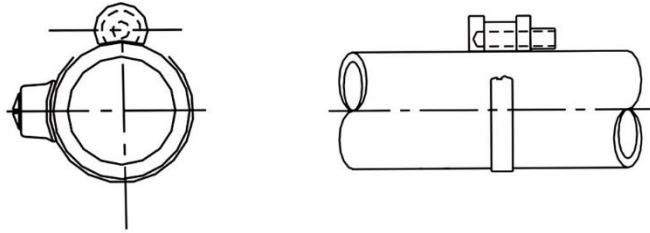
## Technical Data

Measuring values		temperature
Output voltage	TRV	0..10 V, min. load 5 k $\Omega$
Output Amp	TRA	4..20 mA, max. load 500 $\Omega$
Power supply	TRV	15..24 V = ( $\pm 10\%$ ) or 24 V ~ ( $\pm 10\%$ ),
	TRA	15..24 V = ( $\pm 10\%$ )
Power supply	TRV	typ. 0,4 W (24 V =)   1 VA (24 V ~)
	TRA	typ. 0,8 W (24 V =)
Measuring range temp		adjustable at the transducer
	TRV1   TRA1	-50..+50 $^{\circ}\text{C}$
	TRV2   TRA2	-10..+120 $^{\circ}\text{C}$
	TRV3   TRA3	0..+50 $^{\circ}\text{C}$
	TRV4   TRA4	0..+160 $^{\circ}\text{C}$
	TRV5   TRA5	0..+250 $^{\circ}\text{C}$
	TRV8   TRA8	-15..+35 $^{\circ}\text{C}$
Accuracy temperature		$\pm 1\%$ of measuring range (typ.at 21 $^{\circ}\text{C}$ )
Display		LCD 34x21 mm, black/white with backlight white, warning when measuring range is exceeded ('OL') or sensor is defective/disconnected ('check sensor')
Enclosure		PA6, pure white, with quick lock screws, (only active)
Protection		IP65 according to EN 60529
Cable entry		M20 for cable max. $\varnothing=8$ mm
Connection electrical		terminal block max. 1,5 mm <sup>2</sup> connection wire PVC, $\varnothing=25$ mm, sensor wire active silicone, $\varnothing=25$ mm, 1 m (standard), 2 m, 4 m, 6 m, for other lengths please request
Pocket		aluminium, $\varnothing=11$ mm, mounting length 28 mm
Ambient condition	Enclosure	-35..+70 $^{\circ}\text{C}$ , max. 85% rH non-condensing
Weight		150 g
Notes		other sensors and cable lengths on request

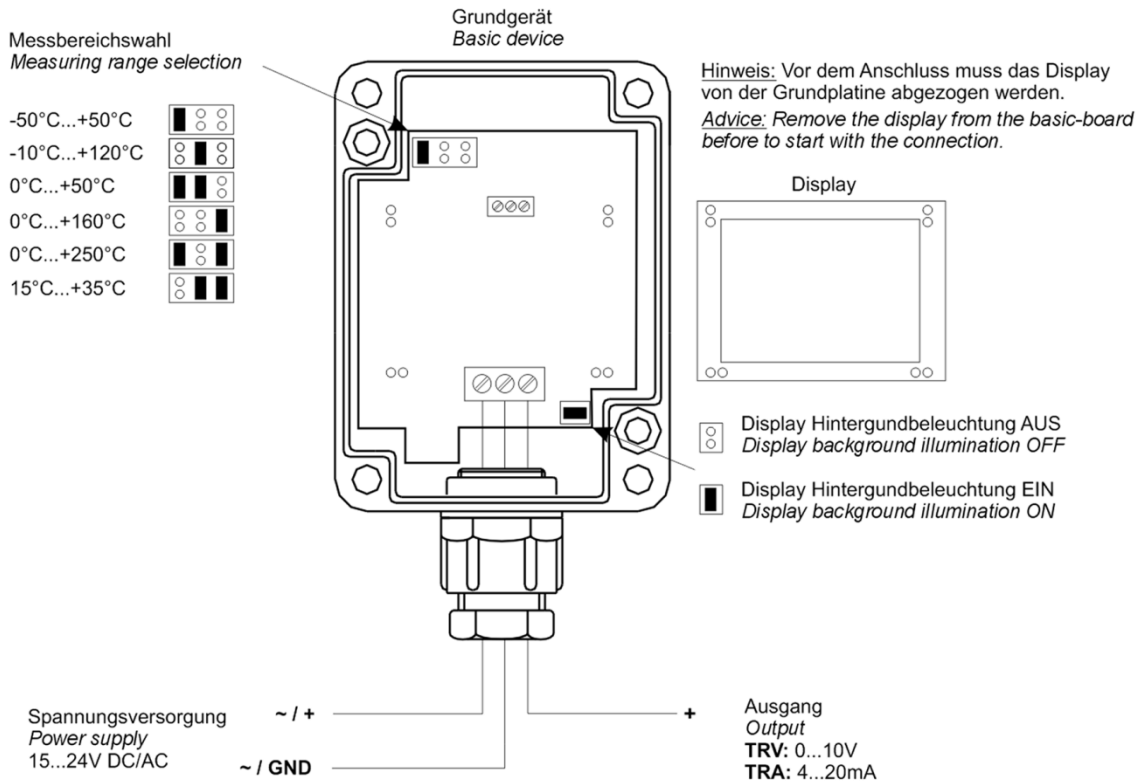
## Mounting Advice

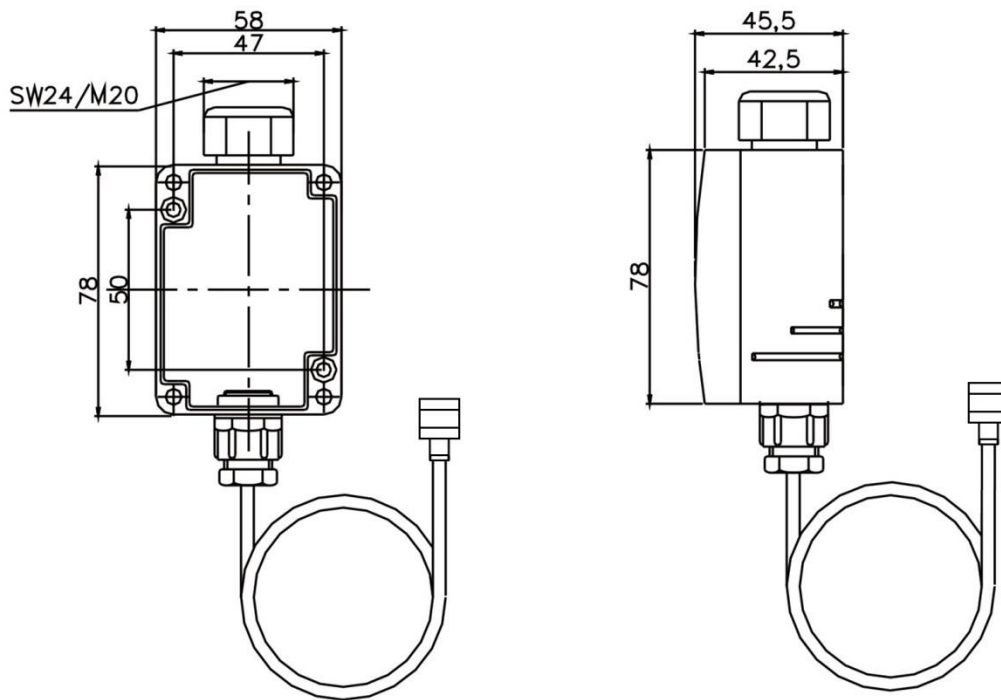
Fixing is done by tightening strap. Use contact fluid for better heat transfer between sensor and measuring medium.

To avoid permeation of condensate, mount the sensor on top of the tube, if possible.



## Connection Plan



**Dimensions (mm)****Accessories (optional)**

Tightening strap 2" with contact fluid  
Tightening strap 900 mm with contact fluid

Item No. 102254  
Item No. 102315