

# AGS54 ext.

Outdoor temperature sensor

thermokon®  
Sensortechnik GmbH

## Datasheet

Subject to technical alteration  
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## Application

Sensor for outdoor temperature measurement: cold rooms, greenhouses, production plants and warehouses. Stainless Steel external probe for faster response.

## Types Available

|                   |        |  |
|-------------------|--------|--|
| AGS54 ext. Sensor | Sensor | passive, with Sensor according to customer's need* |
|                   | TRA    | active, 4..20 mA**                                 |
|                   | TRV    | active, 0..10 V**                                  |

\* e.g.: PT100/PT1000/Ni1000/Ni1000TK5000/LM235Z/NTC.../PTC...and other sensors on request.

\*\* Measuring ranges (TRA/TRV): -50..+50 °C, 0..+50 °C, -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.

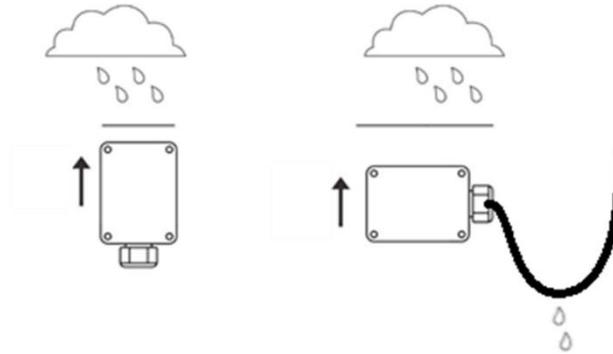
**Remark: Occurring draft leads to a better carrying-off of dissipative power at the sensor. Thus temporally limited fluctuations might occur upon temperature measurement.**

## Technical Data

|                       |   |   |
|-----------------------|---|---|
| Measuring values      |   | temperature   |
| Output voltage        | passive<br>TRV  | depending on used sensor<br>0..10 V, min load 5 k $\Omega$  |
| Output Amp            | TRA   | 4..20 mA, max. load 500 $\Omega$ (24 V =)   |
| Power supply          | TRV<br>TRA  | 15..24 V = ( $\pm 10\%$ ) or 24 V ~ ( $\pm 10\%$ )<br>15..24 V = ( $\pm 10\%$ )                                 |
| Power consumption     | TRV<br>TRA  | typ. 0,4 W (24 V =)   0,8 VA (24 V ~)<br>typ. 0,5 W (24 V =)  |
| Measuring range temp  | passive<br>TRV   TRA<br>TRV1   TRA1<br>TRV3   TRA3<br>TRV8   TRA8 | depending on used sensor<br>adjustable at the transducer<br>-50 °C.. +50 °C<br>0 °C.. +50 °C<br>-15 °C.. +35 °C |
| Accuracy temperature  | passive<br>TRV   TRA  | depending on used sensor<br>$\pm 1\%$ of Measuring range (typ. at 21 °C)  |
| Enclosure             |   | PA6, pure white, with quick lock screws   |
| Protection            |   | IP65 according to EN 60529  |
| Cable entry           | passive<br>TRV   TRA  | M16 for cable max. $\varnothing=8$ mm<br>M20 for cable max. $\varnothing=8$ mm                                  |
| Connection electrical |   | terminal block, max. 1,5 mm <sup>2</sup>  |
| Pocket                |   | stainless steel mat. 1.4305, $\varnothing=6$ mm, L=25 mm  |
| Ambient condition     | Enclosure   | -35..+70 °C, max. 85% rH non-condensing   |
| Weight                | passive<br>TRV   TRA  | ca. 85 g<br>ca. 110 g   |
| Notes                 |   | other sensors on request  |

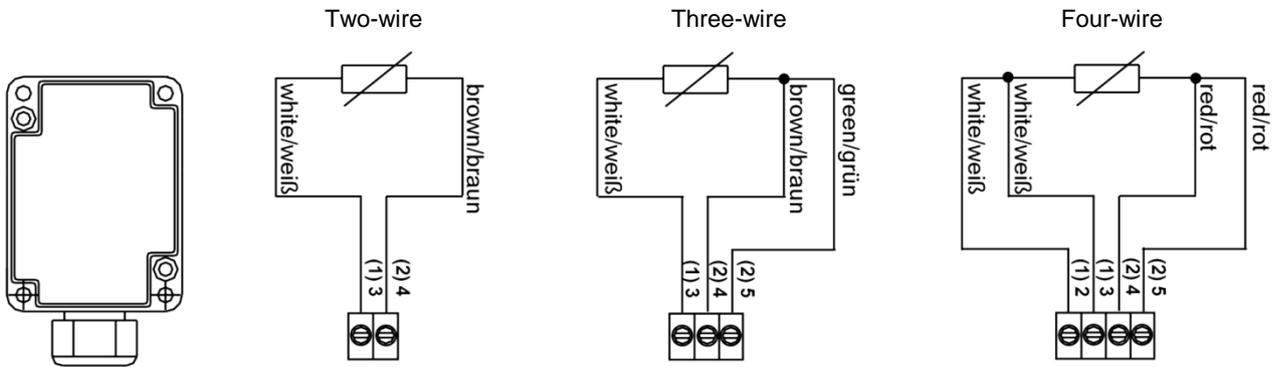
## Mounting Advices

In case of outdoor installation avoid direct rain and sun contact. Probably use sun respectively rain protection. Cable entry from bottom or side. For side cable routing set loop so that precipitation can drain defined.



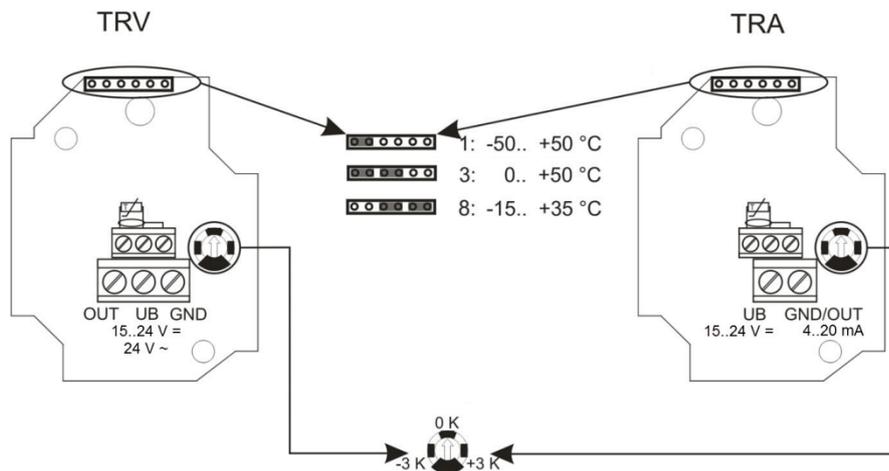
## Connection Plan

### Passive



AGS54 ext. TRV / TRA

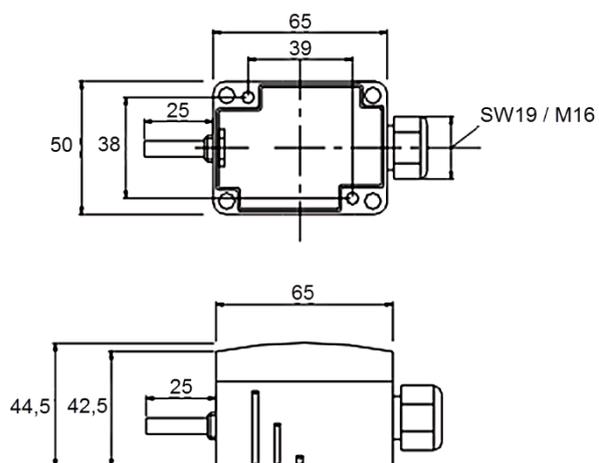
### Measuring range adjustment



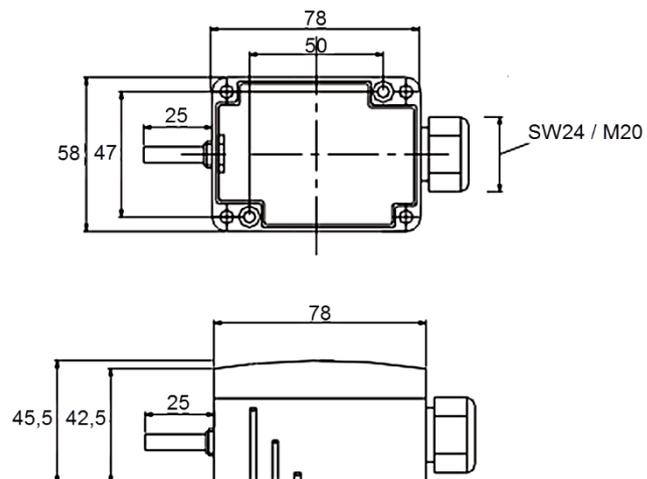
### Offset adjustment

### Dimensions (mm)

AGS54 ext Sensor



AGS54 ext TRA/TRV



### Accessories (optional)

Rawl plugs and screws (2 pcs each)

Item No. 102209