

# AGS54 ext. Modbus

Outdoor temperature sensor

**thermokon**<sup>®</sup>  
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.

## 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.

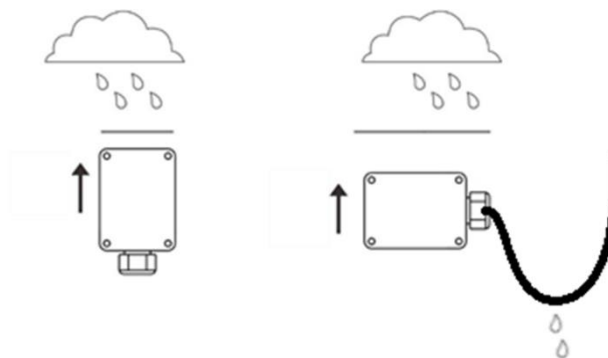
**Remark: Occurring draft leads to a better carrying-off of dissipative power at the sensor. Thus temporally limited fluctuations might occur upon temperature measurement.**

## Technical Data

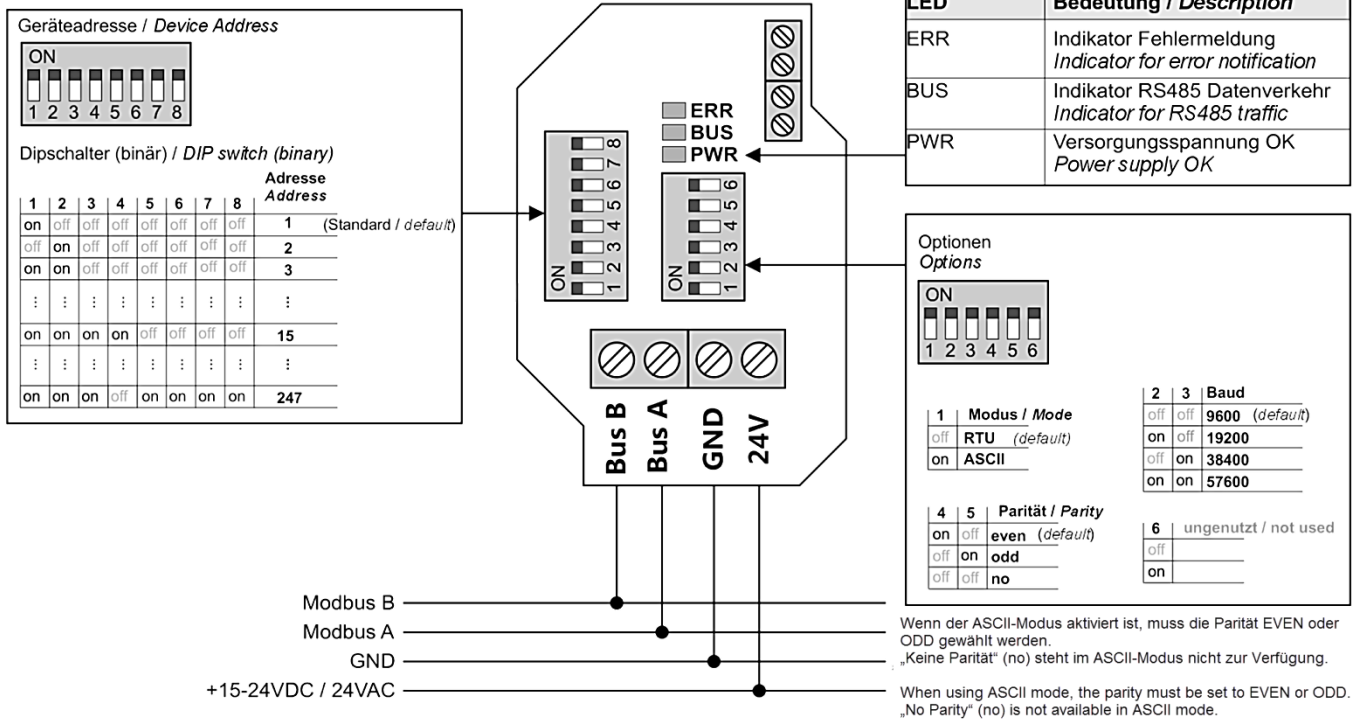
Measuring values	temperature
Network technology	RS485 Modbus, RTU or ASCII, half-duplex, baud rate 9.600, 19.200, 38.400 or 57.600, parity non (2 stopbits), even or odd (1 stopbit)
Power supply	15..24 V = ( $\pm 10\%$ ) or 24 V ~ ( $\pm 10\%$ )
Power consumption	typ. 0,7 W (24 V =)   1,8 VA (24 V ~)
Measuring range temp	-20..+120 C°
Accuracy temperature	$\pm 1\%$ of measuring range (typ. at 21 C°)
Enclosure	PA6, pure white, with quick lock screws
Protection	IP65 according to EN 60529
Cable entry	M20 for cable max. $\varnothing=8$ mm, seal insert for double cable entry for wire max $\varnothing=6$ 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	approx. 100 g

## 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.

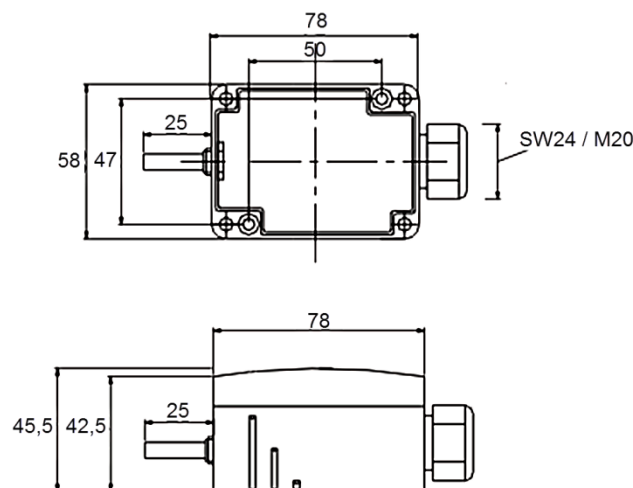


## Connection Plan



Data-address	Function-code	Description	Type
580 <sub>dec</sub> 0x244 <sub>hex</sub> (Input Register)	4	temperature [1/100] °C	SIGNED 16 Bit
581 <sub>dec</sub> 0x245 <sub>hex</sub> (Input Register)	4	temperature [1/100] °F	SIGNED 16 Bit
5 <sub>dec</sub> 0x005 <sub>hex</sub> (Holding Register)	3	temperature offset [1/100] K	SIGNED 16 Bit

## Dimensions (mm)



## Accessories (optional)

Rawl plugs and screws (2 pcs each)

Item No. 102209