» SR65 rH

Wireless sensor for detection of temperature and rel. humidity

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
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»APPLICATION

Wireless sensor for detection of temperature and rel. humidity in outdoor areas, cold stores, greenhouses, production plants and warehouses. Self-powered EnOcean wireless technology. Configuration via airConfig.

»SECURITY ADVICE – CAUTION

The installation and assembly of the device 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.

»GUIDELINES FOR DEVICES WITH SOLAR ENERGY STORAGE

Due to the energy-optimized EnOcean radio technology used in "EasySens" wireless sensors, the devices can work without batteries and self-charge themselves using electric energy generated by integrated solar cells. This makes the devices almost maintenance free and environmentally sound due to not having to replace batteries.

For optimum use, the device should be mounted in a location with sufficient ambient brightness. Minimum illumination of 200 lx (artificial light or ambient) is required for at least 3 to 4 hours each day. (The health and safety regulations at work require a minimum illumination of 500 lx for office workplaces).

The solar cell should be mounted facing towards the window direction if possible. If the device has a temperature sensor, then even periodic direct sun radiation should be avoided due to incorrect false temperature readings.

The mounting position should be selected so that the device will not be obstructed in the future: for example by placement areas, additional furniture or roll-fronted cupboards.

The sensor is supplied in an operational state. If the sensor has been stored in darkness for longer periods, the internal solar energy storage will most likely need to be recharged. This would normally happen automatically during commissioning or during initial start-up in ambient light. If the initial charge is not sufficient, the sensor will reach its full operating state up to 3 to 4 days, if the requirements for minimum illumination per day are met. The sensor will then transmit continuously in darkness as specified f (2/3 days on factory default telegram timing). Depending on the application it is also possible for the devices to operate in darker rooms (with brightness <100 lx) by using the battery back-up option. Batteries to be used are listed in accessories.

The operating time when using batteries will depend on the transmission frequency as well as the component aging and the self-discharge of the battery. Standard operating time will be 5-10 years on factory default telegram timing. Changing of the device from solar to battery operation is done automatically by simply adding a battery to the device.

»APPLICATION NOTICE FOR HUMIDITY SENSORS

Refrain from touching the sensitive humidity sensor/element. Touching the sensitive surface will void warranty.

For standard environmental conditions re-calibration is recommended once a year to maintain the specified accuracy.

When exposed to high ambient temperature and/or high levels of humidity or presence of aggressive gases (i.e. chlorine, ozone, ammonia) the sensor element may be affected and re-calibration may be required sooner than specified. Re-calibration and deterioration of the humidity sensor due to environmental conditions are not subject of the general warranty.

»PRODUCT TESTING AND CERTIFICATION

CE

Declaration of conformity

The declaration of conformity of the products can be found on our website https://www.thermokon.de/.

»INFORMATION ABOUT EASYSENS® (RADIO) / AIRCONFIG GENERAL USAGE

PDF

EasySens® - airConfig

Basic information about EasySens® radio and about general usage of our airConfig software, please download from our website.

»OVERVIEW OF THE RADIO TELEGRAMS

PDF

EEP

The structure of the data contained in the telegram can be found in the EEP (EnOcean equipment profile) list provided by the EnOcean Alliance.

»OVERVIEW OF AIRCONFIG SELECTABLE RADIO TELEGRAMS

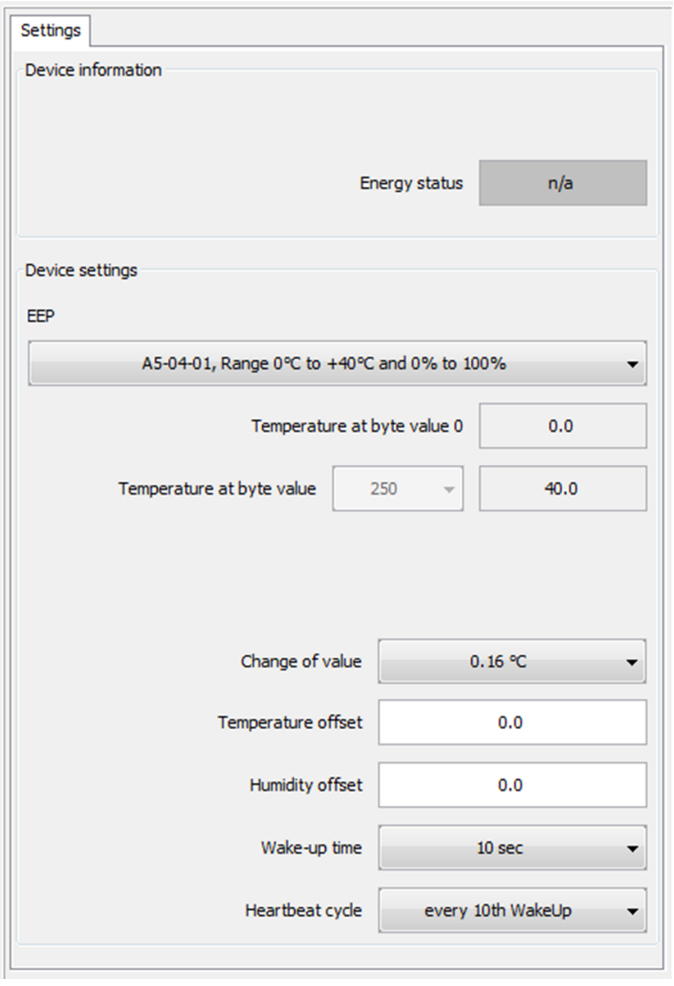
A5-04-02 (default)	
A5-04-01	A5-04-03

»TECHNICAL DATA

Measuring values	temperature, humidity
Radio technology	EnOcean (IEC 14543-3-10)
Frequency	868 MHz
Power supply	solar cell, internal super cap, optional: backup battery LS14250 (3,6 V)
Measuring range temp	-20..+60 °C, Configured via airConfig
Measuring range humidity	0..100% rH ohne Betauung
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Accuracy humidity	±5% between 30..70% rH (typ. at 21 °C)
Air speed	max. 12 m/s
Transmission interval	configured via airConfig, Default: Wake-up time =100 sec. Heartbeat cycle = 10x
Enclosure	PA6, colour pure white, upper housing material PC, transparent, quick lock screws
Protection	IP65 according to EN 60529
Pipe	PA6, black, Ø=19,5 mm, length (optional) =140 | 270 mm
Ambient condition	-25..+65 °C, max. 85% rH, short term condensation
Delivery content	incl. rain protection PA6, white
Notes	integrated battery backup possibility for usage in dark rooms

»CONFIGURATION WITH AIRCONFIG

NO airConfig needed if default settings will be used. airConfig and a EnOcean USB transceiver (i.e. USB300) will be mandatory if the default EEP and other settings shall be changed.



The Device information provides information regarding the **Energy status** of the device.

It is necessary to ensure that the device is full charged or a battery is inserted. The Energy status must be OK to configure the device.

Clicking on the drop-down menu **EEP** to choose the desired measuring range.
The corresponding **Byte values** of the Temperature values are shown below.

Attention: Only operate the sensor in the specified measuring range.

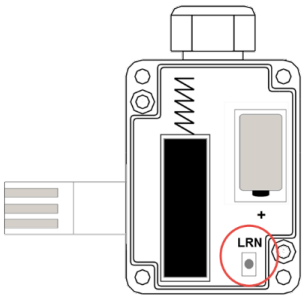
Change of value defines the minimal temperature change required since the last transmission to send a new telegram.

Set **Temperature offset** or **Humidity offset** for individual adjustment.

The **Wake-up** time defines the measuring interval.

Heartbeat cycle defines the maximal number of Wake-ups without transmitting the temperature between 2 transmissions. Receivers monitor this interval to detect missing sensor signals.

Right-click on the device icon and send configuration to initiate the transfer of the new settings. As the sensor will be sleeping it will need to be woken up by pressing the LRN button. Once the configuration has been transferred successfully into the device the sensor will be highlighted in green. Highlighted in red indicates a problem during the transmission.

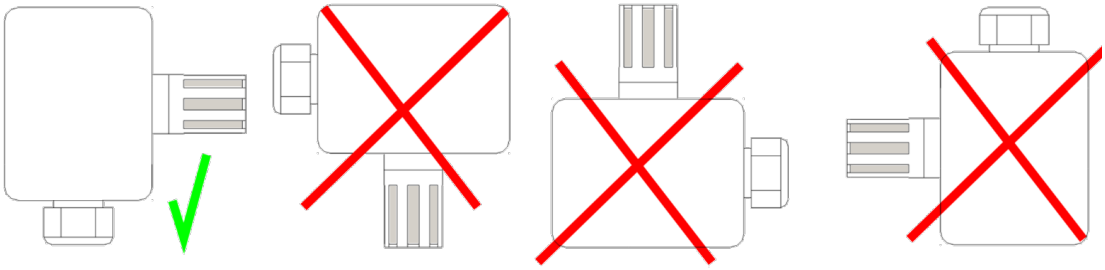


Note:

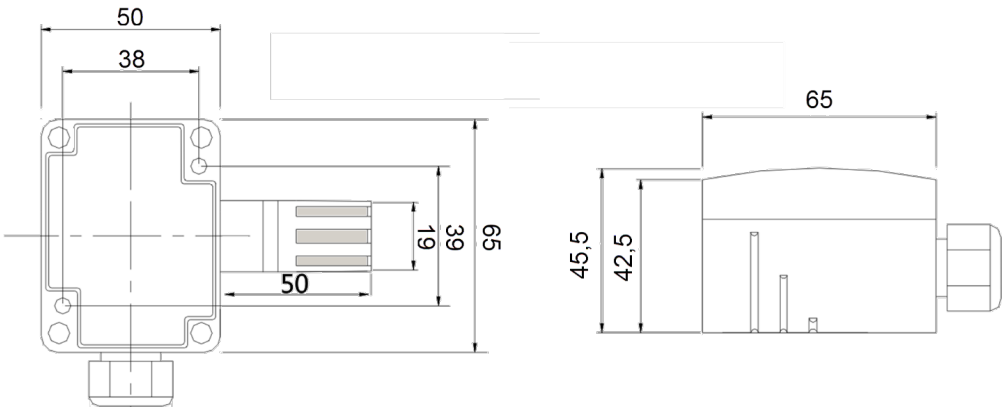
The more frequently a device is programmed to wake up, measure and send data, the more energy is being consumed, which can lead to insufficient energy charge of the sensor by ambient illumination.

»MOUNTING ADVICE

When mounting outdoors, protect the device against direct sun or rain. If necessary use a protective cover.



»DIMENSIONS (MM)



»OPTIONAL ACCESSORIES

Battery LS14250	Item No. 315098
Rain protection PA6, white	Item No. 587709
Filter stainless steel, wire mesh (spare part)	Item No. 231169
Raw plugs and screws (2 pcs. each)	Item No. 102209