» SR-MDS Solar

Solar radio ceiling sensor for light and motion

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
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» APPLICATION

The EasySens self-powered multi sensor detects light and motion. No battery or wiring necessary.

» 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.

» 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.

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

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

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.

»PRODUCT TESTING AND CERTIFICATION

Declaration of conformity

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

»TECHNICAL DATA

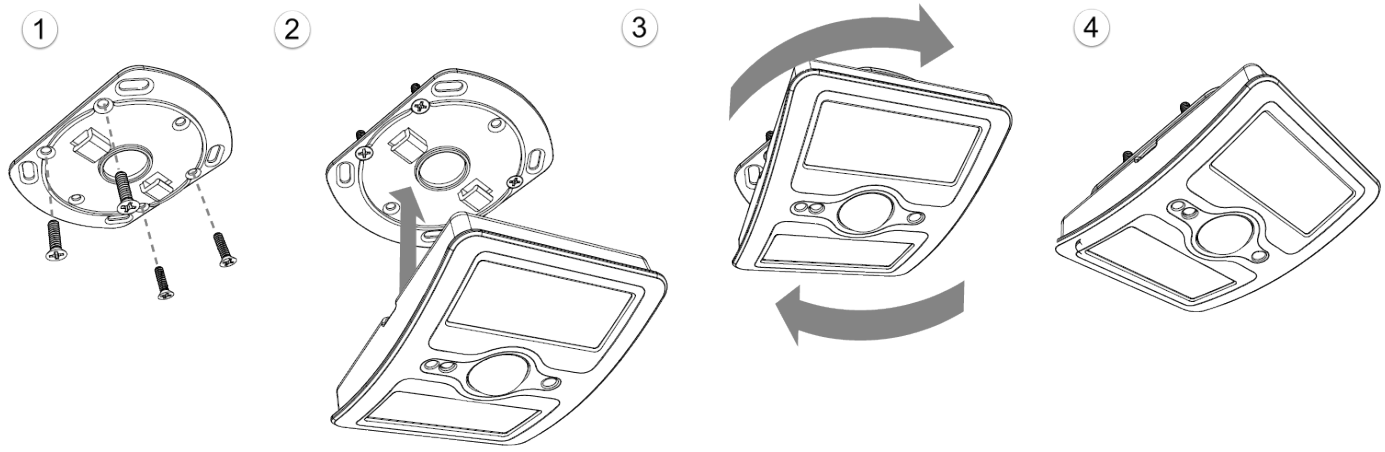
Measuring values	light, motion
Radio technology	EnOcean (IEC 14543-3-10)
Frequency	868 MHz
Power supply	solar cell, internal super cap, maintenance-free, optional: backup battery LS14520
Measuring range light	0..510 Lux (default), 0..1000 Lux (10 Bit), 0..1020 Lux, configured via airConfig
Measuring interval	default 15 min., configured via airConfig, occupancy (30, 60 sec., 10, 15 min), light (10, 20, 30..60 sec)
Transmission interval	default 15 min., configured via AirConfig, occupancy (30, 60 sec., 10, 15 min), light (10, 20, 30..60 sec at change of value)
Detection range	ø=5 m at a mounting height of 2,8 m
Sensor	PIR (passive infrared)
Enclosure	PC, pure white
Protection	IP50 according to EN 60529
Ambient condition	0..+50 °C
Weight	112 g
Mounting	screw mounting onto flat surface
Notes	integrated battery backup possibility for usage in dark rooms

» OVERVIEW OF AIRCONFIG SELECTABLE RADIO TELEGRAMS

EEP A5-08-01 (Standard)	EEP F6-02-01	EEP A5-06-02	EEP A5-07-01
EEP A5-07-02	EEP A5-07-03	EEP A5-08-02	

» MOUNTING ADVICE

Install the mounting plate with screws above the area to be detected.
The sensor is supplied in a functioning condition incl. backup battery. Remove the insulating strip between the battery and the contact before assembly. After prolonged storage of the wireless sensors in darkness the internal solar energy storage is automatically reloaded during the first operating hours in daylight. See notes "solar energy storage.



Mounting height

The mounting height has a direct influence on the range of the motion detection. The optimum height is 2.40 - 3:00 m. All deviating mounting heights will have some effect on the coverage range.

Fixed mounting

The motion sensor should be mounted on a solid flat surface, as any movement of the sensor leads to a false readings.

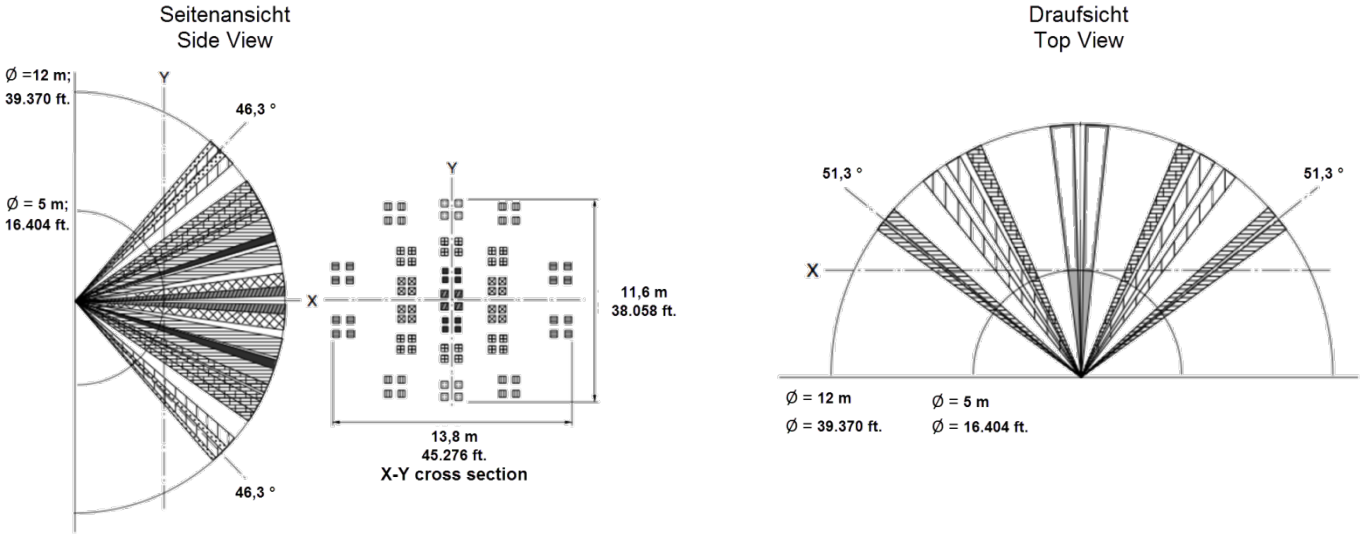
Distance to Lighting devices

Lights emit IR (heat) radiation, no lights should be mounted in the detection range of the sensor, mounting above a luminaire is also not recommended

Distance from sources of interference

To avoid false alarms, ensure interfering sources such as Heaters, lamps, air outlets of air conditioners, etc. are out of the detection range of the sensor. Mounting in Direct sunlight should also be avoided.

Optical detection range



» COMMISSIONING

If the measured values of the sensors are evaluated correctly at the receiver, it is necessary to learn in the devices in the receiver. This is done by means of a "learn button" (LRN) on the sensor.

Connect and disconnect a presence detector

1. Set the learning mode according to the receiver description.
2. Press once on the sensor LRN button to generate a connect / disconnect wireless telegram.

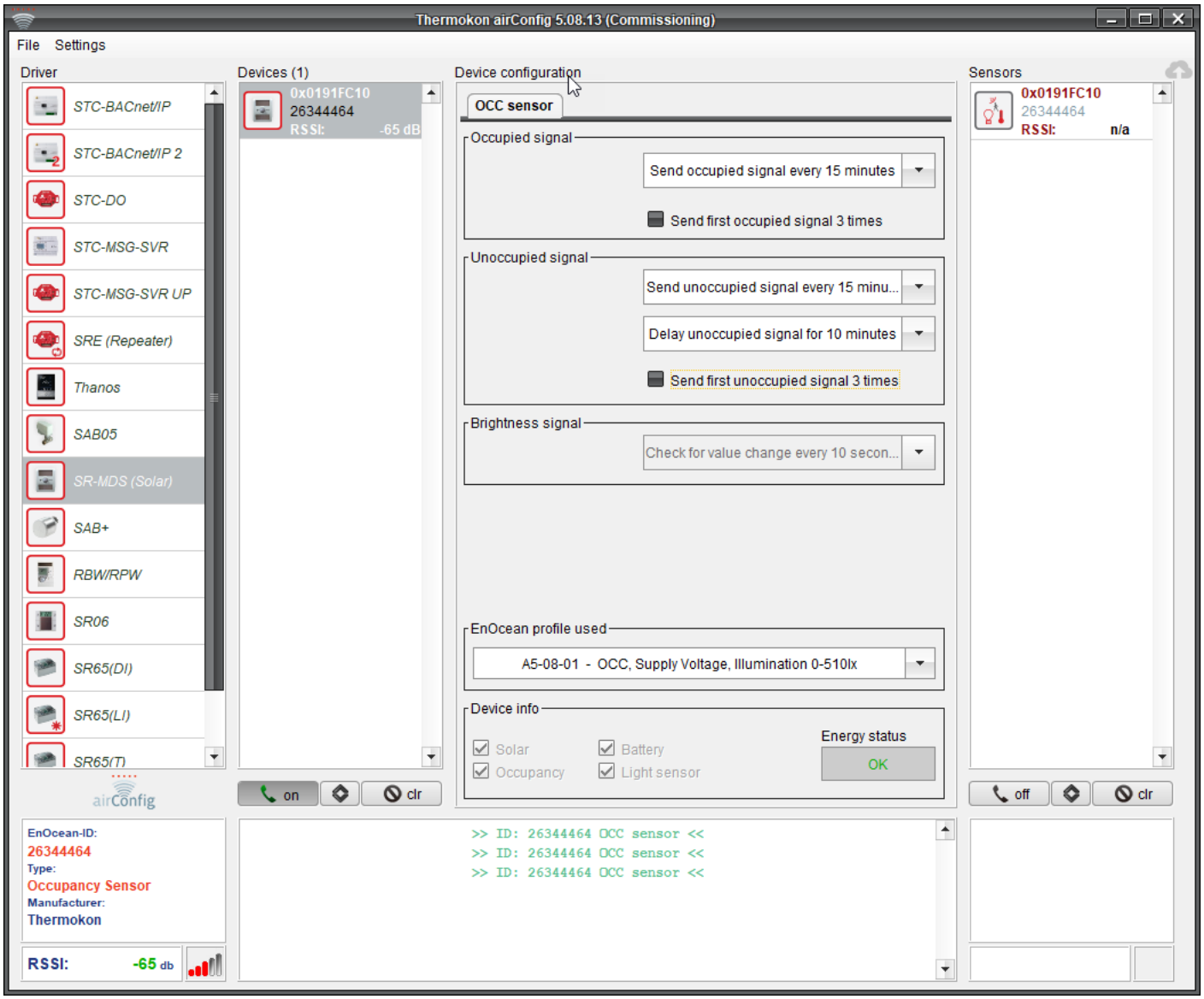
Walk Test – Functional- / walk test

Used to check the walk test, for optical range of the sensor. The sensor must be fitted with a backup battery. During the walk test, no radio telegrams are sent, but the detected movement is indicated by multiple flickering of the LED.

1. Press and hold the LRN button for 3 seconds.
   ➔ The red LED flashes to confirm that the walk test for 5 min. is enabled.
2. Move inside and outside of the sensor detection range to determine the coverage area.
   ➔ The LED flickers multiple times when the unit senses movement.
3. Move within the range of the sensor to see if the movement triggers a reaction.
4. Pressing of the LRN button again ends the walk test. After max. 5 minutes of the walk test is automatically terminated. The red LED lights up briefly to confirm.

Note: Make sure that the sensor is not falsely triggered by activities outside the desired zone, or from other sources of heat and motion.

Configuration of SR-MDS Solar (factory default)

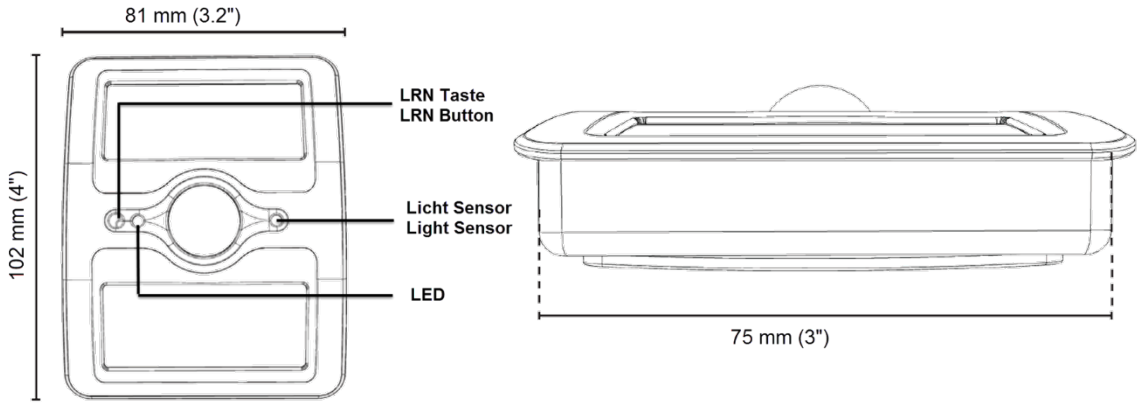


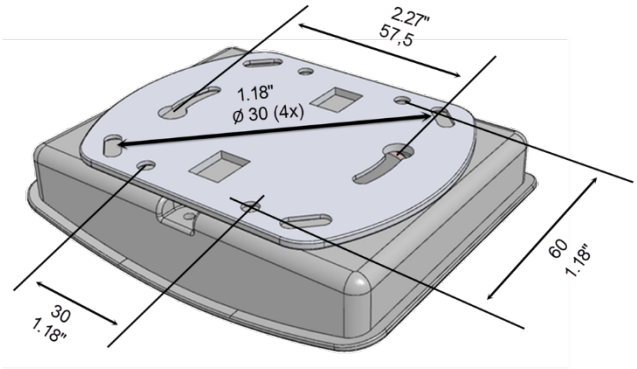
In general the desired EEP must be chosen via the drop down menu “Used EnOcean Equipment Profile”. Depending on the EEP type, parameters for motion or illumination can be selected. Immediately after detecting motion a telegram stating “occupied” is sent. Further motion will not result in sending more telegrams, because the status doesn’t change. Using the drop down menu “Presence signal”, you can select, how often the not changing telegram “occupied” shall be send. If no motion is being detected, the Sensor generates an “unoccupied” telegram and sends it to the receiver after the signal delay as previously set in the drop down menu “Absence signal”. You can also select the frequency of not changing telegrams in that menu. It is possible to send a telegram with changing statuses (unoccupied -> occupied / occupied -> unoccupied), three times with random interruptions in between, by activating the corresponding check box. This may not be mixed up with the three EnOcean specific repeated sub telegrams. If you also count these telegrams, a change of status is send nine times all together.

One must consider: The more frequent a device wakes up, measures data and repetitively sends, the more energy is being consumed, which can eventually not be covered through ambient illumination.

For finishing the configuration, right click on the sensor in the device list and chose “Send data” in the content window to send new parameters to the device.
For accepting parameters of the configuration, the learn-button must be pushed. The green deposit of the sensor symbol disappears, after the configuration has been transmitted successfully. A red deposit displays an error in the transmission of the configuration.

» DIMENSIONS (MM)





» ACCESSORIES

Battery LS14250	Item No. 315098
Raw plugs and screws (each 2 pieces)	Item No. 102209