

Radio motion detector flat
Order-No. : 9420 xx xx

**Operation- and
Assembly Instructions**

1 Safety instructions

Electrical equipment may only be installed and fitted by electrically skilled persons.

Failure to observe the instructions may cause damage to the device and result in fire and other hazards.

The radio communication takes place via a non-exclusively available transmission path, and is therefore not suitable for safety-related applications, such as emergency stop and emergency call.

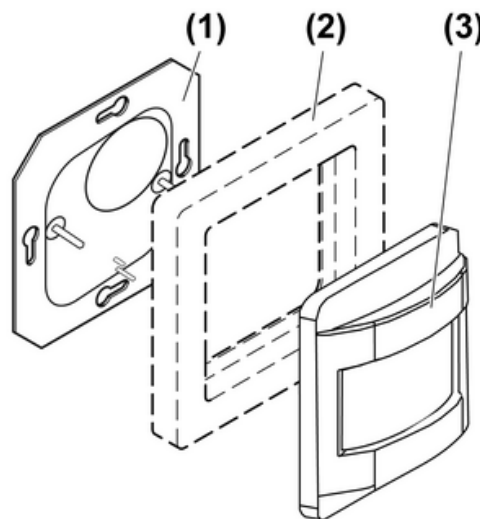
Keep button cells out of reach of children! If button cells are swallowed, get medical help immediately.

Risk of explosion! Do not throw batteries into fire.

Risk of explosion! Do not recharge batteries.

These instructions are an integral part of the product, and must remain with the end customer.

2 Device components



picture 1

- (1) Base plate
- (2) Frame
- (3) Radio motion detector

3 Function

System information

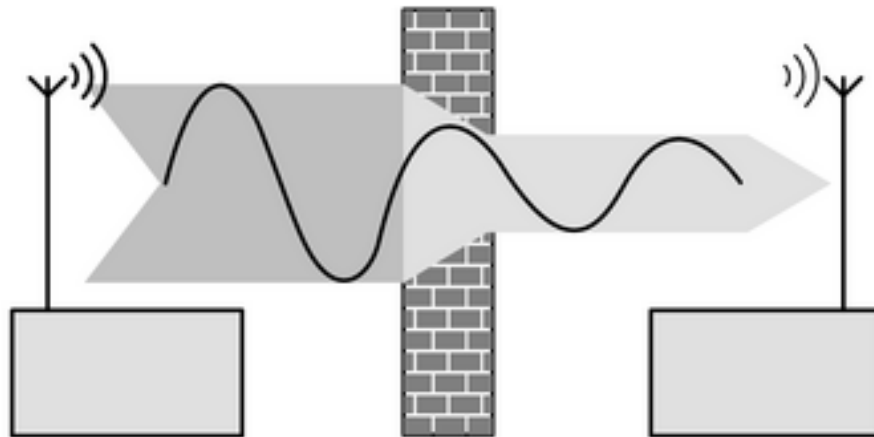
By statute, the reception characteristics and the antenna cannot be changed.

The device may be operated in all EU and EFTA countries.

The declaration of conformity can be viewed on our website.

The range of a radio system from the transmitter to the receiver depends on various circumstances.

The range of the system can be optimised by selecting the optimal installation location, taking into account the structural circumstances.



picture 2: Reduced range due to structural obstacles

Example of penetration of various materials:

Material	Penetration
Wood, Plaster, Plasterboard	approx. 90%
Brick, Chipboard	approx. 70%
Reinforced concrete	approx. 30%
Metal, Metal grid	approx. 10%
Rain, Snow	approx. 1-40%

Intended use

- Motion detector for automatic switch-on of lighting depending on heat motions and ambient brightness
 - Operation in conjunction with radio power pack and suitable radio actuators
 - Surface-mounting
- i** The motion detector is not secured against tampering, and is therefore not suitable for use in alarm systems.

Product characteristics

- The motion detector detects heat motions caused by people, animals and inanimate objects.
- Sensitivity can be set
- Brightness value can be set
- Detection area can be limited using cover plate
- Battery-powered device

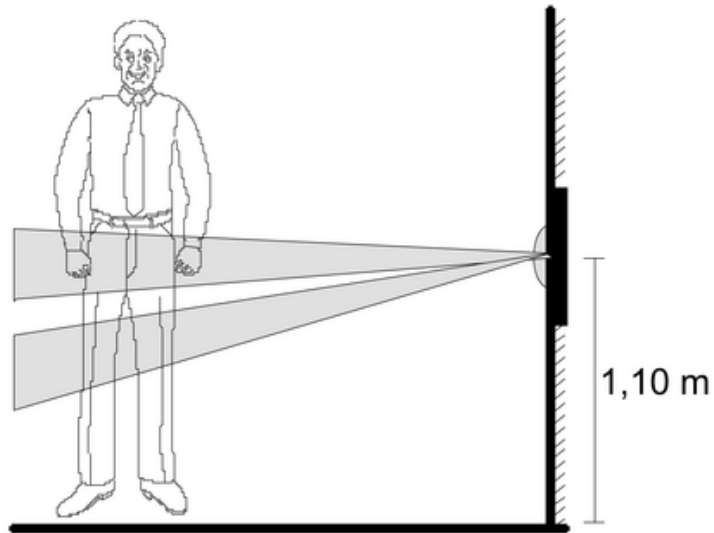
Response when actuators switched on

- A dimmer actuator which is switched on switches on to the stored switch-on brightness when a motion detector telegram is received. When the run-on time elapses, the brightness previously set manually is restored.
- A switched-on radio switch actuator remains switched on when a motion detector telegram is received and after the run-on time elapses.

4 Information for electrically skilled persons

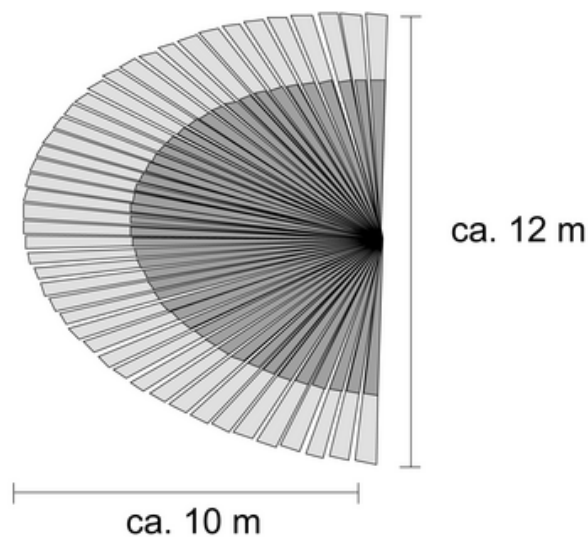
4.1 Fitting and electrical connection

Selecting the installation location



picture 3: Detection planes

At an installation height of 1.10 m the motion detector has a detection field with an aperture angle of 180° in 2 planes (picture 3).



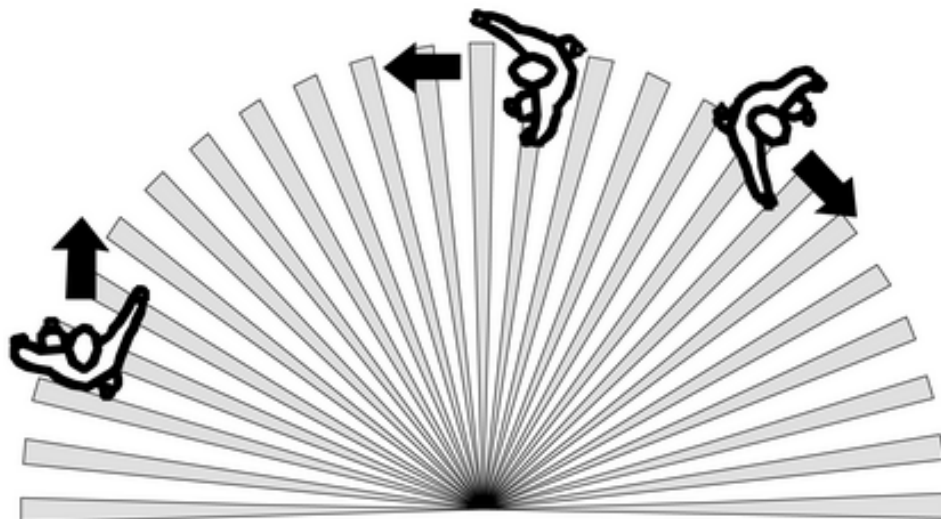
picture 4: Detection area

Size of the detection field: approx. 10 m x 12 m, semi-oval (picture 4). The information on the size of the detection field refer to an installation height of 1.10 m. The nominal range varies for different installation heights.

i The orientation of the upper lens plate does not limit the detection field in space. Therefore in some circumstances even motions outside of the specified detection field may trigger switching operations.

Several basic principles must be taken into account when selecting the installation location.

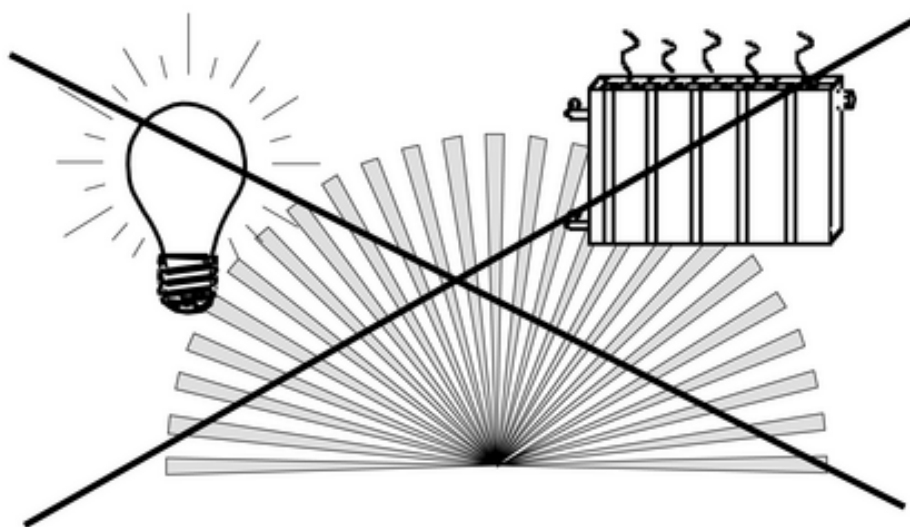
- Select a vibration-free installation location; vibrations can lead to unwanted switching.



picture 5: Installing the motion detector laterally to the direction of movement

The motion detector can detect motions optimally if it is installed laterally to the direction of movement. Otherwise detection is likely to occur too late (picture 5).

- Do not touch the sensor window.



picture 6

- Make sure that there are no sources of interference, such as lamps or heaters, in the detection field (picture 6): select the most appropriate installation location and/or use push-on cover (see "Limiting the detection area").
- i** Reflection of heat radiation from the lighting, or insufficient distance between the motion detector and luminaires may result in repeated switch-on.

Fitting the motion detector

- i** Before fitting, first perform the teaching procedures and adjustments if necessary (see sections "Teaching motion detector in radio receiver" and "Setting the sensitivity and brightness setpoint").
- Insert battery if necessary (see section Changing the battery).

The cover plate for limiting the detection area is preinstalled at the factory! In order to monitor the entire detection area, the cover plate has to be removed.

The "Top" label on the base plate has to be at the top.

- Glue or screw the base plate (1) of the motion detector (3) directly to an even surface.
- Carefully fit motion detector with frame (2) on the guide pins of the base plate. The battery holder must fit in the corresponding aperture in the base plate.

Changing the battery



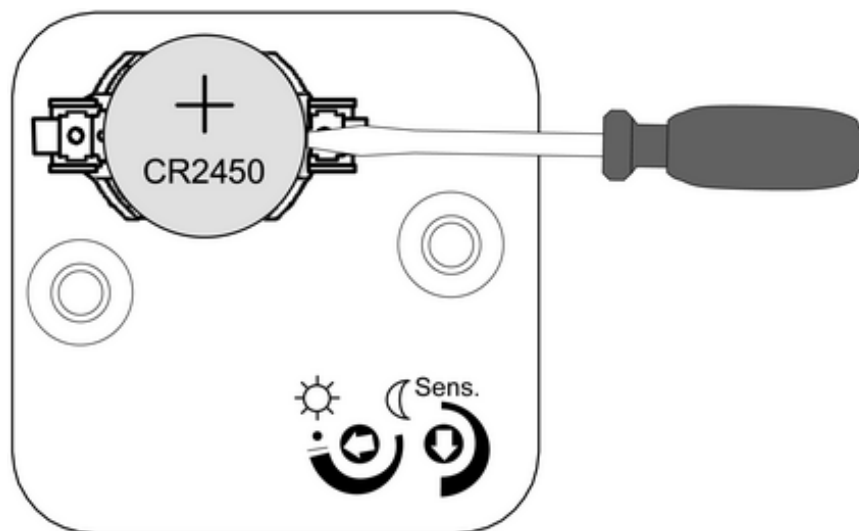
WARNING!

Risk of chemical burns.

Batteries can burst and leak.

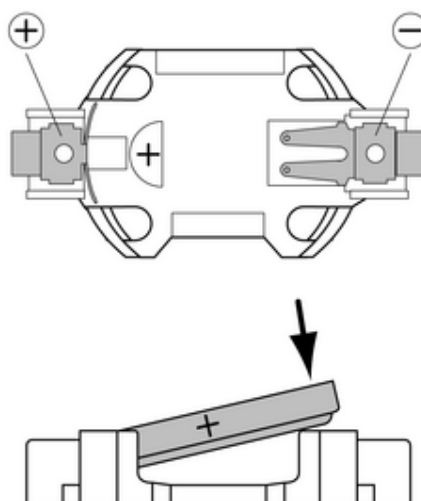
Replace batteries only with an identical or equivalent type.

- Carefully pull motion detector (3) with frame (2) off of the base plate (1) (picture 1).



picture 7: Remove battery

- Remove empty battery carefully using a screwdriver.



picture 8: Insert battery

i Keep contacts of batteries and device free of grease.

- Apply new battery to the positive contact of the battery holder. Observe correct polarity: the positive pole of the battery must be at the top.
- Press gently on battery to snap it in.
- Carefully fit motion detector with frame on the guide pins of the base plate. The battery holder must fit in the corresponding aperture in the base plate.
- **i** After the battery is inserted the red LED lights up for approx. 1 minute. After that the motion detector is in the walking test/teach mode for approx. 10 minutes (see chapter Teaching motion detector in radio receiver). This is displayed by rapid flashing of the LED. No actuator may be in programming mode during this time. Otherwise undesirable teaching will take place.

4.2 Commissioning

Teaching motion detector in radio receiver

In order for a receiver to understand a radio telegram from the motion detector, the receiver has to "learn" this radio telegram. The motion detector can be taught in any number of radio receivers. The teaching procedure only results in an assignment in the radio receiver.

When teaching a radio transmitter, the range of the receiver is reduced to about 5 m. The distance between the radio receiver and the transmitter being taught should therefore be between 0.5 m and 5 m.

- Remove battery from the motion detector for approx. 2 minutes.
- Insert battery again.
After the battery is inserted the red LED lights up for approx. 1 minute. Then the motion detector is in walking test/teach mode for approx. 10 minutes. This is displayed by rapid flashing of the LED. In this mode the motion detector evaluates motions regardless of the brightness. Every telegram transmitted here can be taught in the radio receiver.

- Test the detection area by walking over it and mount push-on cover if necessary (see "Limiting the detection area").

Each telegram transmitted switches the receiver on for approx. 2 seconds.

- **i** If the motion detector does not detect any motion for approx. 2 minutes, then it automatically exists the walking test / teaching mode.

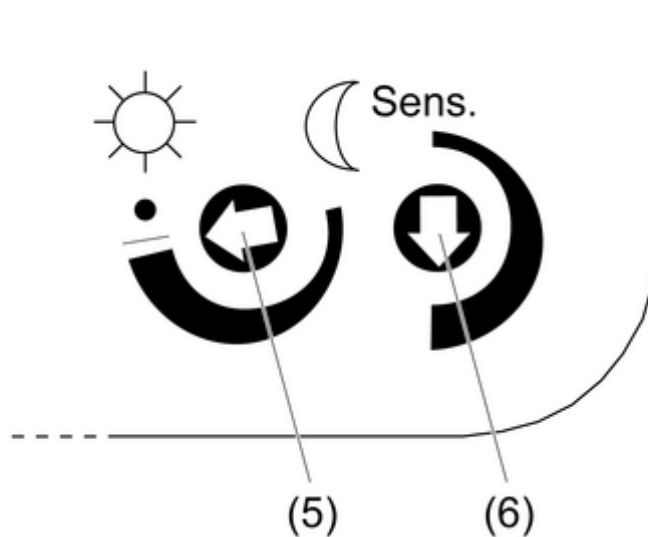
- Switch radio receiver to programming mode (see instructions for receiver).
- Make a motion in the detection field of the motion detector so that it transmits a teaching telegram.

The red LED of the motion detector flashes approx. 4 times.

The radio receiver acknowledges the teaching procedure (see instructions for the receiver).

- Exit programming mode of the radio receiver (see instructions for the receiver).

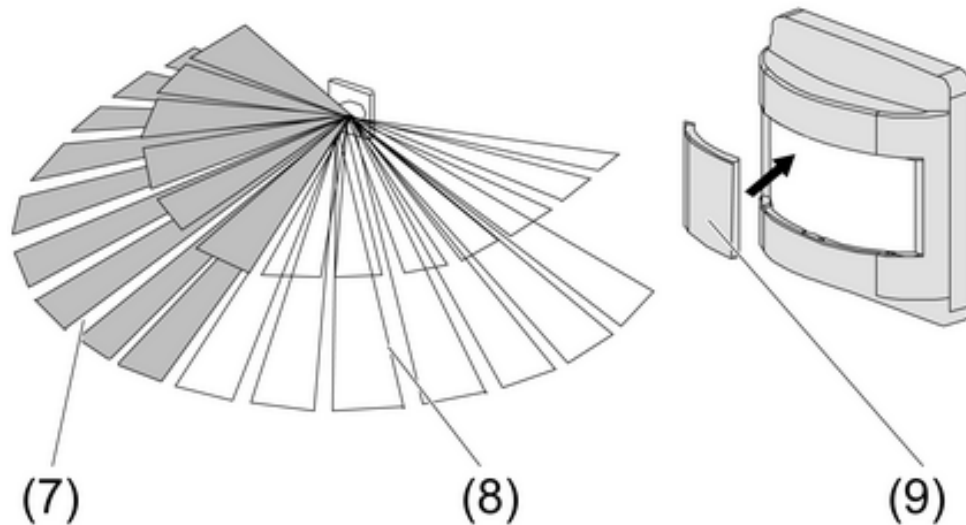
Setting the sensitivity and brightness setpoint



picture 9: Adjusters on the rear

- Carefully pull motion detector with frame off of the base plate.
 - Use the sensitivity controller **Sens.** (6) to adjust the sensitivity of the sensor between maximum and minimum sensitivity (picture 9).
 - Use the brightness setpoint controller (5) to adjust the brightness setpoint:
Symbol Moon: approx. 0 lux,
Just before the Sun symbol end stop: approx. 80 lux,
Sun symbol end stop: brightness-independent switching or daytime operation.
The change in the setting is only applied when no motion is detected for 2 minutes.
- i** Set the brightness setpoint on the radio motion detector to approx. 80 lux in connection with a radio power pack. This value is located just before the end stop in the direction of the Sun symbol. The desired brightness threshold can then be set directly on the radio power pack.
- i** The run-on time is specified by the radio actuators. The run-on time can be set from 10 seconds to 15 minutes on the motion detector power pack. For switch and dimmer actuators the run-on time is approx. 1 minute.

Limiting the detection area



picture 10

The supplied cover plate (9) can be used to mask unwanted detection areas (picture 10). The cover plate can cover up the left (7) or right half (8) of the detection fields, 90° in each case.

i Always use the entire cover plate! Cutting out the cover plate to a smaller angle will result in malfunctions.

- Fit cover plate on sensor window.

5 Appendix



Remove empty batteries immediately and dispose of in an environmentally friendly manner. Do not throw batteries into household waste. Consult your local authorities about environmentally friendly disposal. According to statutory provisions, the end consumer is obligated to return used batteries.

5.1 Technical data

Rated voltage	DC 3 V
Battery type	1×lithium CR 2450
Ambient temperature	+5 ... +35 °C
Relative humidity	max. 65 % (No moisture condensation)
Brightness setting	approx. 0 ... 80 lx (and day operation)
Installation height	1.10 m
Detection angle	180 °
Detection area	approx. 10 x 12 m
carrier frequency	433.42 MHz (ASK)
Transmitting range in free field	typical 60 m
Transmitting power	< 10 mW

5.2 Troubleshooting

LED behind the sensor window flashes approx. 10 times during a transmission.

Cause: battery in the motion detector is almost empty.

Change battery (see section changing the battery).

Motion detector does not respond.

Cause 1: sensitivity **Sens.** of the motion detector is set too low.

Increase sensitivity **Sens.** (see section "Setting the sensitivity and brightness setpoint" and "Run-on time").

Cause 2: battery in the motion detector is empty.

Change battery (see section changing the battery).

Cause 3: Radio range exceeded.

Check the installation situation. Structural obstacles reduce the range.

Using a radio repeater.

Motion detector responds permanently.

Cause 1: sensitivity **Sens.** of the motion detector is set too high.

Decrease sensitivity **Sens.** (see section "Setting the sensitivity and brightness setpoint").

Cause 2: the motion detector is in the walking test / teaching mode.

Wait 2 minutes with no motion in the detection field, otherwise 10 minutes. After that the walking test / teaching mode is exited automatically.

Cause 3: There is a continuous motion in the detection field of the motion detector.

Eliminate cause of the continuous motion.

5.3 Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

Our products are under guarantee within the scope of the statutory provisions.

If you have a warranty claim, please contact the point of sale or ship the device postage free with a description of the fault to the appropriate regional representative.

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