

## Sensotec

### Safety notes



Installation and mounting of electrical devices may only be carried out by qualified electricians.

Failure to observe the instructions can result in damage to the device, fire, or other dangers.

**Danger of electric shock. Isolate before working on the device or load. Take account of all circuit breakers supplying dangerous voltage to the device or load.**

**Danger of electric shock. Device is not suitable for enabling.**

Even when the device is switched off, the load is not DC-isolated from the mains supply.

**Do not connect any LED lamps that are not expressly intended for dimming. These may damage the device.**

**Do not connect any lights with integrated dimmer. These may damage the device.**

**Danger of electric shock. Do not operate the insert without top unit.**

**Enable before installing the top unit: fault possible.**

**Keep button cells out of the reach of children! Consult a doctor immediately if button cells are swallowed.**

**Risk of explosion! Do not throw batteries into fire!**

**Risk of explosion! Do not re-charge batteries.**

**Device is not suitable for use in burglar alarm technology or alarm technology.**

**These instructions are part of the product and must remain with the end customer.**

### Device design

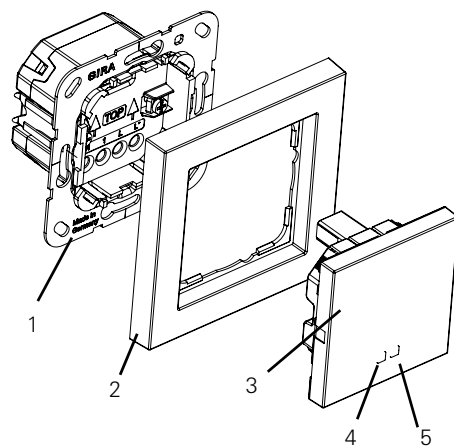


Figure 1: Device design

- 1 Flush-mounted insert
- 2 Frame
- 3 Top unit
- 4 Display LED (blue, red)
- 5 Brightness sensor

## Function

### Proper use

- Automatic dimmed switching (0 to 100%) of room lighting, depending on long-range motion and ambient brightness.
- Dimmed switching of light bulbs, HV halogen lamps and dimmable HV LED lamps (retrofit).
- Motion in the close-up range switches on the room lighting undimmed.
- Operation with flush-mounted insert for room lighting switching and dimming.
- Installation in indoor area on flush-mounted insert.
- Use deep device box.



When connecting dimmable HV LED lamps, only connect lamps of the same type and from one manufacturer.

### Product features

- The Sensotec is an active motion detector. It detects motion in the long detection range regardless of the temperature and switches on the dimmed room lighting.
- Contactless switching prevents soiling. This rules out contamination with viruses or bacteria by the user.
- Expansion of range of detection through auxiliary units.
- Switch-on with bulb-saving soft start.
- Functions can be adjusted with IR remote control.
- The switch-on brightness of the room lighting can be set.
- Teach-in function for adapting the brightness threshold.
- Individual delay time can be adjusted.
- Blue and red display LED.
- Fulfills the specifications of the guidelines in VDI/VDE 6008 Sheet 3.

### Automatic mode

The Sensotec detects the motion of people, animals or objects in the close-up and long ranges.

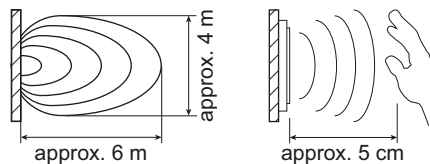


Figure 2: Long range – close-up range

- Long detection range  
The room lighting is switched on to the set brightness value if the range of detection is entered and the brightness threshold is not met. The delay time is re-started with every motion detected.  
The light is switched off when no more motion is detected and the delay time expires.
- Close-up detection range  
Undimmed room lighting is switched on for the duration of the delay time. The delay time is re-started with every long-range motion detected.

### Behaviour after mains failure

- Shorter than 0.2 seconds: Once mains are restored, the old switching condition is returned.
- Longer than 1 second: In automatic mode, the operating mode is restored after max. 60 seconds.

## Main unit operation

Table 1: Display LED

Blue LED	Red LED	Signalling
On	Off	Undimmed room lighting permanently switched on
Off	On	Room lighting permanently switched off
Flashes for approx. 1.5 s	Off	When a setting is confirmed with the remote control
Off	Flashes	Overload protection/short-circuit protection triggered

Operation and the required settings are carried out with the IR remote control. Some settings are executed once during commissioning and should only be changed if ambient conditions change.



Room lighting can also be switched on via a Sensotec as an auxiliary unit or an installation button.

Table 2: IR remote control function buttons

Button	Function
25 %, 50 %, 75 %, 100 %	Set detection sensitivity
- 5 %	Fine-tuning detection sensitivity in 5% decrements until minimum range
+ 5 %	Fine-tuning detection sensitivity in 5% increments until maximum range
1 sec ☀	Short-term operation
30 sec ☀	Delay time 30 seconds
2 min ☀	Delay time 2 minutes
5 min ☀	Delay time 5 minutes
30 min ☀	Delay time 30 minutes
START ☀ / STOP ☀	Set individual delay time
☾	Night mode
☀	Switches on when twilight falls
☀	Setting for staircases
☀	Day mode, switches on regardless of brightness level
TEACH ☀	Save ambient brightness as brightness threshold
TEST	Test mode
RESET	Reset to factory settings

### Room lighting permanent-off

- Briefly press the OFF ☹ button.

Room lighting is permanently switched off. The red LED illuminates.

### Room lighting permanent-on

- Briefly press the ON ☺ button.

Undimmed room lighting is permanently switched on. The blue LED illuminates.

### Setting switch-on brightness for long detection

- Press and hold the OFF ☹ button.  
Room lighting gets darker until minimum brightness 0%.
- Press and hold the ON ☺ button.  
Room lighting gets lighter until maximum brightness 100%.

### Setting main or auxiliary unit operation

A load is always connected to a main unit. A main unit behaves like an individual device. An auxiliary unit switches the room lighting on dimmed in the long range and undimmed in the close-up range.

- Press the Mas./Slave button.

Change from main unit to auxiliary unit operation or from auxiliary unit to main unit operation.

The changeover is signalled by the flashing blue LED. If the blue LED then illuminates continuously for 3 seconds, the device is in main unit operation.



If the room lighting flashes when motion is detected, a main unit has been set as an auxiliary unit. Reconnect the load or change the setting (main/auxiliary unit).

### Setting behaviour for close-up range

**Mode 1:** When motion is detected in the close-up range, the room lighting is switched on undimmed for the duration of the delay time. Further motion in the close-up range switches the room lighting to switch-on brightness.

- or

**Mode 2:** When motion is detected in the close-up range, the room lighting is switched on undimmed for the duration of the delay time. Further motion in the close-up range switches the room lighting off.

- Press the ☹☺ button.

Change between the two modes.

### Setting detection sensitivity (range)

A reduction in the detection sensitivity causes a decrease in the overall detection field.

- Press 25 %, 50 %, 75 % or 100 %.

Detection sensitivity is set.

### Fine-tuning detection sensitivity (range)

- Press - 5 %.  
Detection sensitivity is reduced in 5% decrements to the minimum range.
- Press + 5 %.  
Detection sensitivity is increased in 5% increments to the maximum range.

### Setting fixed delay time

- Press the 1 sec ☀, 30 sec ☀, 2 min ☀, 5 min ☀ or 30 min ☀ button.

### Setting individual delay time

The individual delay time can be set in a range from 1 second to 60 minutes. It can be set back to one of the fixed delay times at any point.

- Press the START ☀ button.  
Delay time starts.
- Once the desired delay time is reached, press the STOP ☀ button.  
The delay time is saved.

### Setting brightness threshold


Either one of four pre-defined brightness thresholds (see table IR remote control function buttons) or an individual brightness threshold can be set (see Saving ambient brightness as brightness threshold).

- Press ☾, ☀, ☀, or ☀.

### Saving ambient brightness as brightness threshold

With the help of the teach function, the ambient brightness can be saved as brightness threshold.

Device is in automatic mode.

- Press and hold the **TEACH**  button for longer than 10 seconds. LED flashes red and then, after approx. 10 seconds, blue.

### Switching on test mode

The test mode serves to check the range of detection.

- Press the **TEST** button. Test mode will stop automatically after 5 minutes or immediately by pressing the **Auto** button.

Table 3: Test setting

Function	Value
Dimming value	100%
Brightness threshold	Day mode
Delay time	1 second

### Executing a reset

Through a reset, the device is reset to factory settings.

- Press and hold the **RESET** button for longer than 3 seconds. LED flashes red and then, after approx. 3 seconds, blue.

Table 4: Factory setting

Function	Value
Automatic mode	On
Dimming value	50%
Detection sensitivity	100%
Brightness threshold	Twilight falls
Delay time	2 minutes
Close-up detection range	Mode 1
Operating mode	Main unit

### Auxiliary unit operation with installation button, NO contact

- Press the button. The room lighting is switched on.

## Mounting and electrical connection



### DANGER!

**Electric shock if live parts are touched.**

**Electric shock may lead to death.**

**Isolate all appropriate circuit breakers before working on the device or load. Cover up live parts in the vicinity!**

### Selecting installation site

In choosing the installation site, the following points should be observed.

- Recommended installation height: 1.10 m.
- Choose a vibration-free installation site. Vibrations may lead to undesired activation.
- Motion detection through doors, glass panes or thin walls is possible.
- Metallic surfaces, e.g. frames, metal doors and frames, dry wall studding, aluminium blinds or metal cabinets, affect the range of detection through attenuation or reflection.
- Observing direction of motion (see Figure 3).
- Detection depends on the reflecting surface, speed, and type of object (person, animal, object, etc.).



Figure 3: Direction of motion



The front and side range can be significantly increased or decreased by reflective surfaces such as brick walls, metal doors or similar surfaces. Slightly rearward detection is possible through thin walls.

### Expanding range of detection

To expand the range of detection, connect further Sensotec units, see connection diagram (Figure 4). The main unit evaluates the motion signals from the auxiliary unit.

If motion is detected in the long range, the room lighting is switched on dimmed.

The room lighting is switched on undimmed when motion is detected in the close-up range of a Sensotec main or auxiliary unit or through pressing an installation button. The room lighting remains switched on for as long as a Sensotec detects motion.

### Mounting and electrical connection

Use a deep device box for wiring 1 x 5 x 2.5 mm<sup>2</sup>, 2 x 5 x 2.5 mm<sup>2</sup> or 2 x 5 x 1.5 mm<sup>2</sup>.

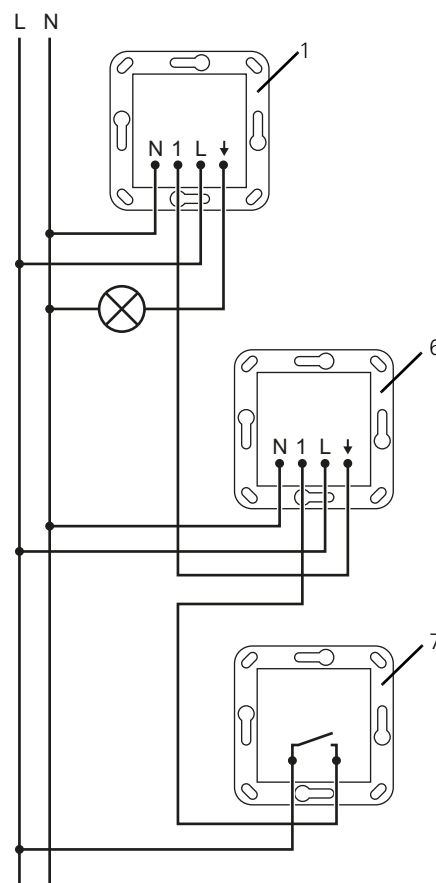


Figure 4: Connection diagram with auxiliary unit

1 Flush-mounted insert main unit

Optional:

6 Flush-mounted insert auxiliary unit

7 Installation button, NO contact

- Connect flush-mounted insert in accordance with connection diagram (Figure 4).



Illuminated installation buttons may only be connected if they have a separate N terminal.

- Only connect auxiliary units to the same phase.
- Mount the insert in the device box. The connection terminals must be at the bottom.



Do not install top unit below mains voltage or replace, as this may cause a fault.

- Install frame and top unit.
- Switch on mains voltage.
- Carry out commissioning.

## Commissioning

### Inserting battery in the IR remote control



Keep battery and device contacts grease-free.



### WARNING!

**Danger of chemical burns. Batteries may burst and leak. Only replace batteries with the same or equivalent type.**

- Insert the enclosed battery correctly (see label on IR remote control).

### Configuring device

For details, see Operation chapter and table 1, 2. The IR remote control is ready for operation.

- Set main or auxiliary unit mode.
- Set brightness threshold.
- Set delay time.
- Set switch-on brightness.
- Set room lighting behaviour in the close-up detection range.

### Checking range of detection

For details, see Operation chapter and table 1, 2. The IR remote control is ready for operation.

- Switch on test mode.
- Check range of detection. Ensure reliable detection and check for interference sources.
- If necessary, set detection sensitivity.

## Technical data

Rated voltage:	AC 230/240 V~
Mains frequency:	50/60 Hz
Ambient temperature:	0 °C to +50 °C
Operating efficiency:	max. 0.5 W
Contact type:	ε
Dimming principle and soft start	Leading edge
Contact rating at 25 °C:	
Light bulb:	4 to 300 W
HV halogen lamps:	4 to 300 W
HV LED lamps:	type 4 up to 60 W
Power reduction per 5 °C transgression from 25 °C:	-10%
Installation height:	1.10 m
Range of detection:	
Close-up range:	approx. 5 cm
Long range:	approx. 6 x 4 m
Brightness:	10 to 1000 lx
Delay time:	1 s to 60 min
Frequency:	5.8 GHz
Transmission power:	<1 mW
Remote control battery:	CR2025
Protection class:	II
Number of auxiliary units:	unlimited
Total length	
Load cable:	300 m
Auxiliary input cable:	300 m
Power boosts:	none
Screw terminals connection	
single-wire:	1.5 to 2.5 mm <sup>2</sup>
fine-wire with core jacket:	1.5 to 2.5 mm <sup>2</sup>

## Troubleshooting

### Device does not switch on

Cause 1: The ambient brightness exceeds the brightness value set.

Set brightness value.

Cause 2: Device does not detect motion. Increase detection sensitivity.

Cause 3: Off is activated.

Switch on automatic mode.

### Device switches on without motion

Cause 1: Interference source in range of detection.

If possible, remove interference sources. Reduce detection sensitivity.

Cause 2: An object (plant, curtain, etc.) is moving in the range of detection.

Remove object.

Reduce detection sensitivity.

Cause 3: The range of detection penetrates doors, glass panes or thin walls and detects motion there.

Reduce detection sensitivity.



Slightly rearward detection is possible through thin walls.

### Device continuously switches on and off when motion is detected

Cause 1: Test mode is switched on.

Cause 2: Short-term operation is switched on.

Switch on automatic mode.

### Motion detector switches off despite motion

Cause 1: The motion detector does not detect any motion.

Increase detection sensitivity.

### Device does not switch off

Cause 1: Interference source in range of detection, motion detector constantly detects motion.

If possible, remove interference sources.

Reduce detection sensitivity.

Cause 2: On is activated.

Switch on automatic mode.

### Device does not react to IR remote control

Cause 1: IR remote control is outside of range.

Move closer to the device.

Cause 2: Battery in IR remote control is empty.

Change battery (see rear of IR remote control).

### Lighting has switched off

Cause 1: Excess-temperature protection triggered.

Disconnect the device and switch off corresponding circuit breakers.

Reduce the connected load.

Leave device to cool for at least 15 minutes.

Switch circuit breakers on again.

Cause 2: Overload protection/short-circuit protection triggered. The red LED flashes.

Disconnect the device and switch off corresponding circuit breakers.

Repair short circuit.

Switch circuit breakers on again.



The short-circuit protection is not based on a conventional fuse, no electrical isolation of the load circuit.

### Device does not switch on in combination with several lamps

Short-circuit protection triggered.

Reduce number of lamps.

Reduce connected load.

Replace lamps with another type.

## Warranty

The warranty is provided in accordance with statutory requirements via the specialist trade.

Please submit or send faulty devices postage paid together with an error description to your responsible salesperson (specialist trade/installation company/specialist electrical trade). They will forward the devices to the Gira Service Center.



Remove empty batteries immediately and dispose of them in an environmentally-friendly way. Do not dispose of batteries with household waste. Local authorities provide information about environmentally-sound disposal. The end consumer is legally required to return used batteries in accordance with legislative requirements.