

Compact presence detector

Order-No. : 1147 02

Operating 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.

Danger of electric shock. Device is not suitable for disconnection from supply voltage.

Danger of electric shock. Always disconnect before carrying out work on the device or load. At the same time, take into account all circuit breakers that supply dangerous voltage to the device or load.

Do not press on the lens. Device can be damaged.

The device is not suitable for use as a burglar alarm or other alarm.

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

2 Device components

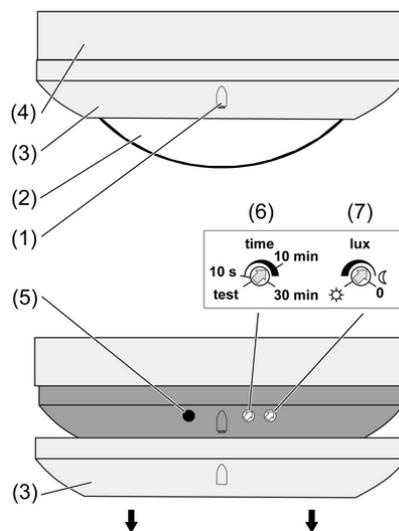


Figure 1: Device components

- (1) Brightness sensor
- (2) Sensor window
- (3) Decor ring
- (4) Connection box
- (5) LED
- (6) Set **time**, run-on time
- (7) Set **lux**, brightness

3 Function

Intended use

- Automatic switching of lighting depending on the heat motion and ambient brightness.
- Ceiling installation, surface-mounted

Product characteristics

- 2-point light control
- Run-on time and brightness value settable
- Test operation for checking the detection area
- Push-on cover for limiting the detection area
- Parallel connection of multiple presence detectors possible
- Manual switch-on and switch-off possible with installation button

Automatic operation

The presence detector detects heat motions of people, animals and objects.

- The light is switched on if someone or something enters the monitored detection area and the brightness is below the set level.
- The light remains switched on as long as there are motions present in the detection area and the brightness is not below the set level.
- The light is switched off if no more movement is detected in the detection area and the run-on time has elapsed.
- The light is switched off if the brightness exceeds twice the set value for longer than 10 minutes.

i The minimum switch-off brightness is 400 lux, even if a lower value is set.

Function of presence detectors that are connected in parallel

Presence detectors that are connected in parallel operate largely independently of each other. Run-on time and brightness are set separately on each presence detector. As soon as a presence detector switches on, this is detected by the other presence detectors. They switch on when there is motion in their detection area, unless the brightness in their detection area is double the set value.

As a general rule, the following applies: the light is switched on when the first presence detector switches on, and is switched off when the last presence detector switches off.

Behaviour in case of a mains failure

- Less than 0.2 seconds: the old switching position is restored after mains return.
- Longer than 0.2 seconds: a self-test is performed after mains return. This takes approx. 30 seconds. The light is switched on during the self-test; operation via extensions is not possible.

4 Operation

Switching on the light

An installation button is connected.

- Press the installation button.

The light is switched on for at least 2 minutes.

i If motions are detected, the light remains on after the 2 minutes have elapsed. The run-on time is set to the time specified on the adjuster.

i If the **time** adjuster is set to **test**, then the light remains switched on as long as the installation button is pressed. The light remains switched off for approx. 1 second after release.

Switching the light off

It is possible to switch the automatic function off in a targeted fashion, e.g. in order to darken a room.

An installation button is connected.

Light is switched on

- Press the installation button.

The light is switched off for 3 minutes. Each detected motion extends the time by 3 minutes. After the 3 minutes have elapsed the presence detector is in automatic mode again. During these 3 minutes the light can only be switched on using the installation button.

- i** In the case of presence detectors connected in parallel the time in each device elapses independently of each other. The result may be unwanted switching-on of the light, if the time has already elapsed in a presence detector and if it detects motions.

Switching of the brightness evaluation

The brightness evaluation can be switched off if the brightness is perceived as too dark after the light is switched off.

An installation button is connected.

The presence detector has switched the light off due to adequate extraneous light, e.g. daylight.

- Press the installation button within 3 minutes after switch-off.

The light is switched on. The light remains switched on as long as the presence detector detects motions. The brightness is not evaluated.

- i** After the run-on time has elapsed, the presence detector switches off and is in automatic mode once again.

5 Information for electrically skilled persons

5.1 Fitting and electrical connection



DANGER!

Electrical shock when live parts are touched.

Electrical shocks can be fatal.

Before carrying out work on the device or load, disengage all the corresponding circuit breakers. Cover up live parts in the working environment.

Selecting the installation location

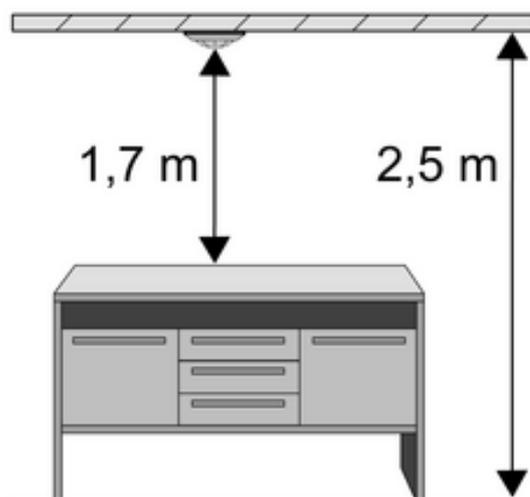


Figure 2

The presence detector is installed on the ceiling, and monitors the surface under it (Figure 2). The presence detector has a detection area of 360°. Die PIR sensor system operates with 6 detection levels and 80 lenses.

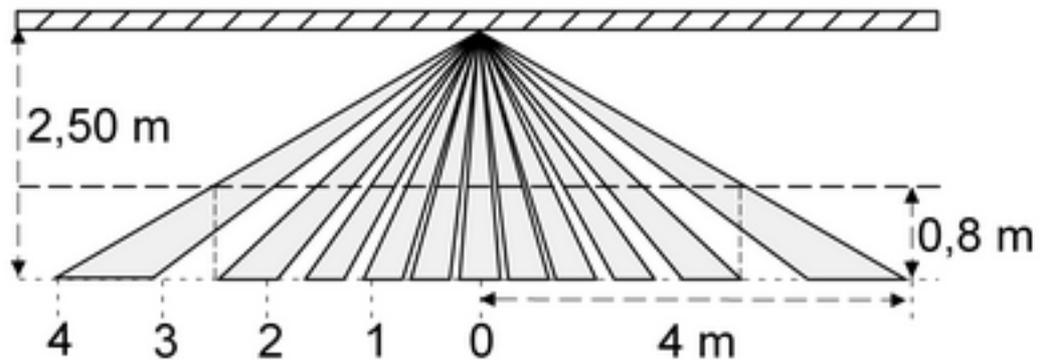


Figure 3: Detection field

The range is approx. 5 m in diameter at table height, e.g. approx. 80 cm. At floor level the range diameter is approx. 8 m (Figure 3).

These data are applicable for installation on the ceiling at an installation height of 2.5 m.

At installation heights greater than 2.5 m the detection area becomes larger, while at the same time the detection density and sensitivity are reduced.

- i** If necessary, the detection area can be limited using the push-on cover (see Limiting the detection area).
 - Select a vibration-free installation location; vibrations can lead to unwanted switching.
 - Avoid interference sources in the detection area. Interference sources, e.g. heaters, ventilation, air conditioners, and cooling light bulbs can lead to unwanted switching.

Preparations for installation

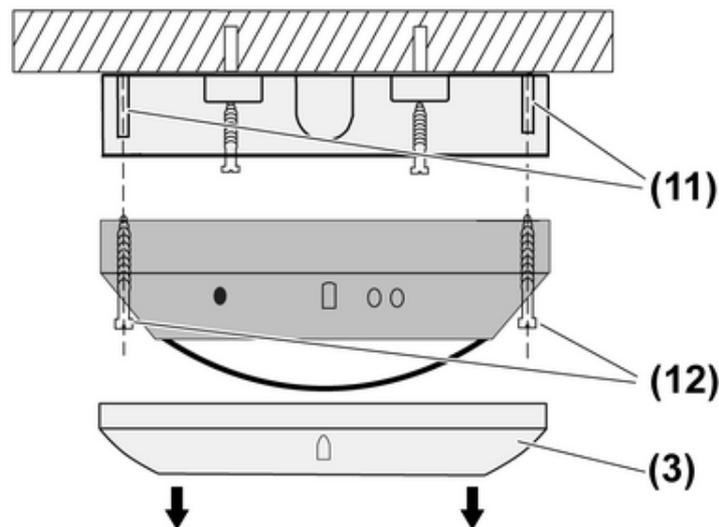


Figure 4: mounting

- (3) Decor ring
- (11) Fastening pins
- (12) Screws

- Pull off decor ring (3) (Figure 4).
- Loosen screws (12).

Installing the connection box

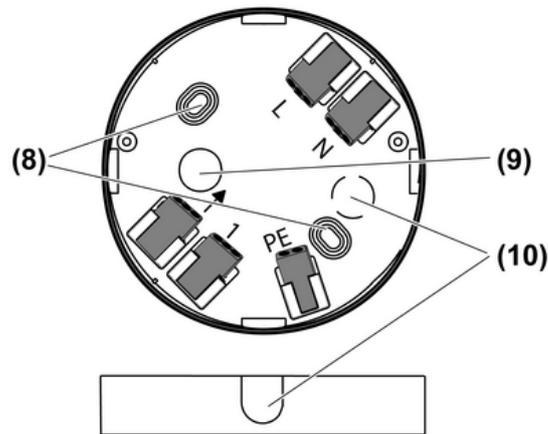


Figure 5: Connection box

(8) Fastening holes

(9) Cable entry, surface-mounted

(10) Thin points for optional cable entries

- For an additional flush-mounted cable entry or surface-mounted cable entry, break out the appropriate thin point (10) (Figure 5).
- Align the presence detector so that the brightness sensor is on the side away from the windows. This reduces the effects of scattered light.
- Fasten connection both (4) with enclosed anchor/screw set through holes (8) (Figure 5).

i Alternatively, the presence detector can also be mounted on a 60 mm appliance box. The screws are not included in the scope of delivery.

Connecting the presence detector

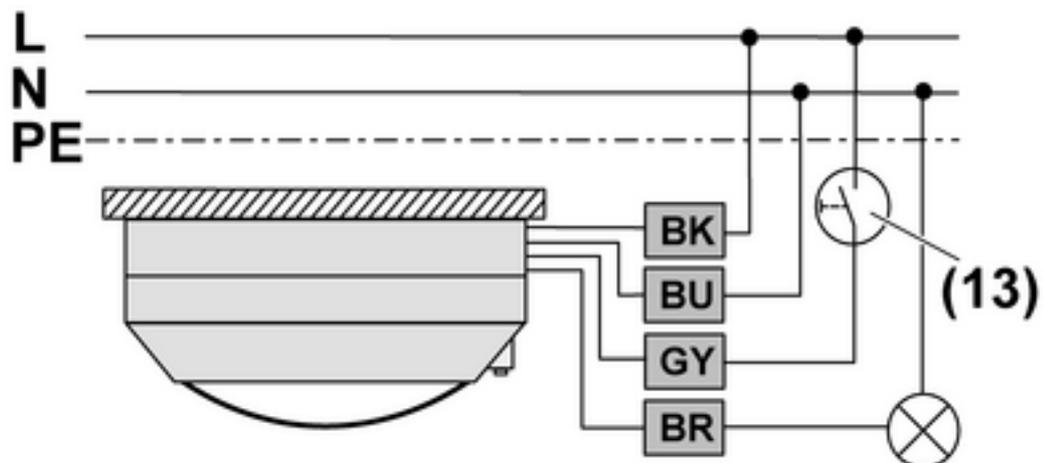


Figure 6: Connection diagram

Max. power cable length 100 m. This takes into account all connecting cables between the presence detector and lamps.

- Connect presence detector according to connection diagram (Figure 6).
- If multiple miniature circuit breakers supply dangerous voltages to the device or load, couple the miniature circuit breakers or label them with a warning, to ensure release is guaranteed.

Connection assignment

black, BK, L	External conductor
brown, BR, ↓	Switched external conductor
blue, BU, N	Neutral conductor
grey, GY, 1	Installation button connection
PE	Earth conductor

- Connect optional installation button (13) (Figure 6). This is only necessary if manual operation is also desired.
- i** Lit installation buttons may only be connected if they have an N terminal.
- Screw presence detector to connection box (4) with screws (12) and mounting pins (11) (Figure 4).

Connecting presence detectors in parallel

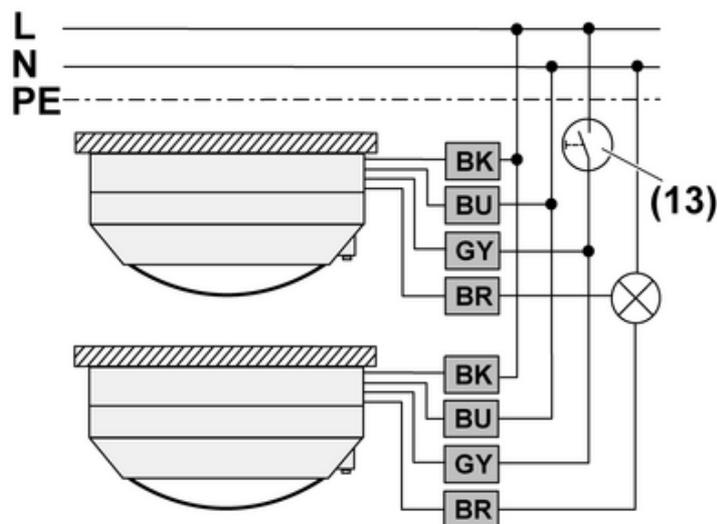


Figure 7: Connection diagram for connection in parallel

Several presence detectors can be connected in parallel to expand the detection area.

Connect all presence detectors to the same external conductor.

Do not connect more than five presence detectors in parallel.

Max. power cable length 100 m. This takes into account all connecting cables between the presence detectors and lamps.

- i** The connection in parallel does not increase maximum connected load.
- Connect presence detector according to connection diagram (Figure 7).

Connection assignment

black, BK, L	External conductor
brown, BR, ↓	Switched external conductor
blue, BU, N	Neutral conductor
grey, GY, 1	Installation button connection

PE	Earth conductor
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- Connect optional installation button (13) to all presence detectors (Figure 7). This is only necessary if manual operation is also desired.
- ❗ Lit installation buttons may only be connected if they have an N terminal.
- Screw presence detector to connection box (4) with screws (12) and mounting pins (11) (Figure 4).

5.2 Commissioning

Testing the detection area

The presence detector is mounted and connected properly.

- Pull off decor ring (3).
- Set **lux** adjuster to ☀ (Figure 1).
The presence detector operates independently of the brightness.
- Turn **time** adjuster to **test** (Figure 1).
The presence detector switches on for approx. 1 second when there is motion.
- Pace off the detection area, paying attention to reliable detection and interference sources. Limit detection area if necessary using the push-on cover.
- ❗ In the case of presence detectors connected in parallel, check the detection areas one after the other. Turn **lux** adjuster to **0** on the presence detectors whose detection areas are not being tested (Figure 1).
- Attach decor ring (3).

Limiting the detection area

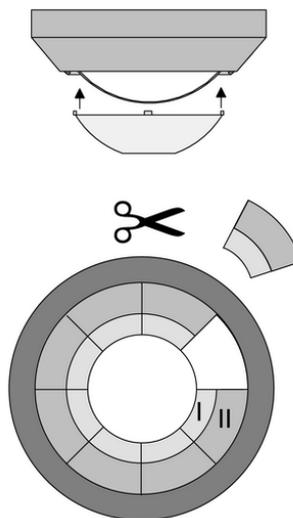


Figure 8: Push-on cover

The push-on cover can be used to limit the detection area, e.g. in order to mask out interference sources.

Cover size	Detection area on the floor
Complete cover	Ø approx 2.2 m
Area I cut out	Ø approx 4 m
Areas I + II cut out	Ø approx 6 m
Without cover	Ø approx 8 m

All data are applicable for an installation height of 2.5 m

- Pull off push-on cover
- Using scissors, cut out push-on cover along the marked lines as required.
- Push on push-on cover

Calibrating the brightness value

Brightness calibration is necessary to prevent light oscillations from occurring. A light oscillation occurs when the presence detector switches off again due to the lighting that has been switched on (brightness value exceeded). The brightness calibration is performed in the lighting situation that is required as workplace brightness. The lighting controlled by the presence detector is switched on. Avoid extraneous light, e.g. from daylight and other lighting. Various lamps, e.g. fluorescent lamps, require some time to reach full brightness. Therefore note the run-in phase of the lamp. The LED (5) can be used as an adjustment aid.

Meaning of the LED with the load switched off

LED off	Monitored surface is too dark, load switches on when motion detected.
LED on or LED flashes	Monitored surface is bright enough, load remains off when motion detected.

Meaning of the LED with the load switched on

LED off	Monitored surface is too dark, load remains switched on when motion detected. When no motion is detected, it is switched off after the run-on time elapses.
LED on	Monitored surface is bright enough due to lighting that is switched on, load remains switched on when motion detected. When no motion is detected, it is switched off after the run-on time elapses.
LED flashes	Monitored surface is very bright due to lighting that is switched on or extraneous light, load switches off after approx. 10 minutes, even if the run-on time is set longer or if motion is detected.

- Pull off decor ring (3).
 - Turn **time** adjuster (7) to **30 min.**
 - Turn **lux** adjuster to ☀.
- LED (5) is off.

i Do not place brightness sensor (1) in shadow, because otherwise correct brightness measurement will not be possible. The measured brightness value consists of the reflected artificial light and daylight, and depends on the reflective characteristics of the surface under the presence detector.

- Switch on presence detector via motion in the detection area.
- Turn **lux** adjuster (7) in ☾ direction until LED (5) lights up.
Presence detector is set to the current brightness.

- i** If **lux** adjuster is on **0**, the presence detector only switches on through operation of an extension. In this case the switch-off brightness is 400 lux.
- Attach decor ring (3).

Setting the switch-off delay

The fewer the motions expected in the monitored area, the longer the run-on time setting should be. This reduces the probability that the presence detector will switch off even though people are present. Use 10 minutes as the default setting value.

- Pull off decor ring (3).
- Turn **time** adjuster (6) in the appropriate direction.
The presence detector is ready for operation
- Attach decor ring (3).

6 Appendix

6.1 Technical data

Rated voltage	AC 230 / 240 V ~
Mains frequency	50 / 60 Hz
Ambient temperature	+5 ... +35 °C
Protection rating	IP 20
Circuit breaker	max. 10 A
Detection angle	360 °
Detection area	
Desk height	Ø approx. 5 m
Floor	Ø approx. 8 m
Switch-off delay	approx. 10 s ... 30 min
Run-on time, test	approx. 1 s
Brightness setting	approx. 10 ... 1000 lx
Connected load at 25 °C	
Incandescent lamps	1000 W
HV halogen lamps	1000 W
Tronic transformers	750 W
Inductive transformers	750 VA
Fluorescent lamps, uncompensated	500 VA
Fluorescent lamps, parallel compensated	400 VA
Electronic ballast	Type-dependent
Switching current at 25 °C	
Ohmic	10 A
Switch-on current max. 4 s at 10% switch-on time	35 A
Minimum switching current AC	100 mA
Contact type	μ
Connection	
Single stranded	1.0 ... 2.5 mm ²
finely stranded with tin-plated conductor ends	0.75 ... 1.5 mm ²
Number of extension units	
Non-illuminated installation buttons	unlimited
Total length of extension unit cable	max. 100 m
Total length power cable	max. 100 m

6.2 Troubleshooting

Presence detector switches does not switch on when there is motion, even though the brightness is too low

Brightness value setting too low.

Turn **lux** adjuster in ☼ direction.

lux adjuster is set to **0**. Initial detection is switched off.

Switch on via extension.

Turn **lux** adjuster in ☀ direction (see Calibrating the brightness).

Switched off via extension.

Switch on via extension.

Presence detector switches on without any detectable motion

Interference sources in the detection area.

Pay attention to interference sources, e.g. heating, ventilation, air conditioners, cooling light bulbs in the detection area.

Possibly limit detection area with the push-on cover (see Limiting the detection area).

Presence detector does not switch off even when there is a great deal of extraneous light.

The brightness value setting is too high.

Turn **lux** adjuster in ☾ direction (see Calibrating the brightness value).

Presence detector switches off, even though people are present and the brightness is too low

Detection problem, the surface to be monitored is not in the detection area, or furniture or pillars are in the way.

Use an additional presence detector (see Connecting presence detectors in parallel).

Run-on time too short. Motion of persons is not detected.

Extend run-on time using **time** adjuster (see Setting the run-on time).

Presence detector switches on and of constantly

time adjuster is set to **test**.

Set run-on time using **time** adjuster (see Setting the run-on time).

Presence detector switches off briefly and then on again immediately

Brightness drops below the brightness value setting after switch-off.

Turn **lux** adjuster in ☀ direction (see Commissioning section)

6.3 Accessories

Not combinable with devices from System 2000.

6.4 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/electrical specialist trade). They will forward the devices to the Gira Service Center.

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