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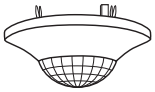
merten™

ARGUS Presence sensor module with IR

Operating instructions



Art. no. MEG5522-00..

Necessary accessories

– Complete the ARGUS Presence sensor module with IR with the corresponding inserts (see function overview).

Accessories

– Surface-mounted housing for ARGUS Presence (Art. no. 550619)
– IR universal remote control (Art. no. MEG5761-0000)

For your safety

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Safe electrical installation must be carried out only by skilled professionals. Skilled professionals must prove profound knowledge in the following areas:

- Connecting to installation networks
- Connecting several electrical devices
- Laying electric cables
- Safety standards, local wiring rules and regulations

Failure to follow these instructions will result in death or serious injury.

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK

The PlusLink carries an electrical current and the outputs may carry an electrical current even when the device is switched off.

- Before working on the device or the loads, Always disconnect the device from the supply via the upstream miniature circuit breaker.
- If one or more PlusLink lines are separately protected in your installation, then they are not electrically isolated from one another. In this case, you should use the PlusLink Expander.

Failure to follow these instructions will result in death or serious injury.

Notice

HAZARD OF EQUIPMENT DAMAGE

The voltage difference between different phases can damage the device.

- Connect all connected devices of one or several PlusLink lines to the same phase or use a PlusLink terminal for cross-phase installation.

Failure to follow these instructions can damage the device.

Notice

HAZARD OF EQUIPMENT DAMAGE

- Ensure that the device is disconnected from its circuit during the insulation resistance test.

Failure to follow these instructions can damage the device.

Getting to know the sensor module

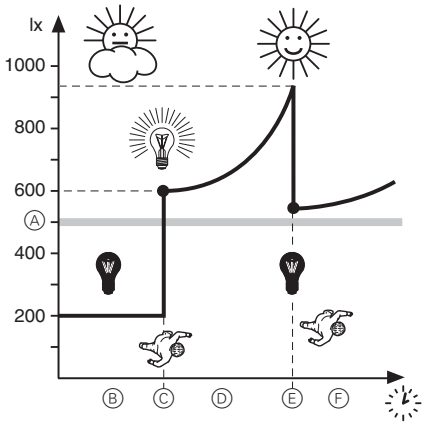
The ARGUS Presence sensor module with IR (referred to below as **sensor module**) is a presence detector for indoor ceiling mounting. The sensor module can be mounted either in a flush-mounted socket or in surface-mounted housing (available as an accessory). It detects moving heat sources (e.g. people) within an adjustable area of detection and starts a staircase lighting function.

The maximum detection radius is approx. 7 m. The angle of detection is 360°. As long as a movement is detected, the connected load remains switched on. The adjustable overshoot time only begins when no further movements are detected (trigger function).

The sensor module is equipped with a light sensor with an adjustable brightness threshold so that the lighting is only switched on below a specified brightness threshold (movement detector function). If there is sufficient natural light, the presence function allows the sensor module to switch off the lighting even when a person is present.

The specified detection radius and brightness threshold refer to average conditions and a recommended mounting height of approx. 2.50 m and should therefore be taken as guide values. The range can vary greatly when the temperature fluctuates.

Example to illustrate the presence function:



Ⓐ Brightness threshold is set to 500 lux.

Ⓑ Lighting is switched off, brightness in the room is 200 lux.

Ⓒ Sensor module detects movement: Lighting (400 lux) is switched on. Overall brightness in the room is now 600 lux.

Ⓓ Daylight and thus the overall brightness in the room increases.

Ⓔ Overall brightness exceeds 900 lux. Daylight on its own is now above the brightness threshold of 500 lux. The lighting is switched off (after the overshoot time has elapsed).

Ⓕ Despite detecting movement, the sensor module does not switch on the lighting since there is still sufficient daylight.

The switchable light control (only in combination with dimmable inserts) keeps the lighting in the room at a constant brightness. The sensor module permanently measures the brightness in the room and keeps it at an adjustable setpoint.

You can switch between the "automatic mode", "24 h on" and "24 h off" modes via an IR remote control.

Function overview of the sensor module on receiving inserts

Complete the sensor module with the receiving inserts for switching or dimming in order to perform **local** light control and other functions.

Switching	
• Electronic switch insert • Relay switch insert	**Sensor module:** brightness-dependent staircase lighting function (automatic or semi automatic mode)
• Electronic switch insert, 2-gang • Relay switch insert, 2-gang	**Sensor module:** Channel 1: brightness-dependent staircase lighting function (automatic mode) Channel 2: brightness-**in**dependent staircase lighting function (automatic mode)

Dimming	
• Universal dimmer insert • 1-10 V insert • DALI insert	**Sensor module:** brightness-dependent staircase lighting function, light control (automatic or semi automatic mode)
• Universal dimmer insert, 2-gang	**Sensor module:** Channel 1: brightness-dependent staircase lighting function, light control (automatic mode) Channel 2: brightness-**in**dependent staircase lighting function, light control (automatic mode)

Function overview of the sensor module on sending insert

Complete the sensor module with the sending central unit insert in order to perform **global** light control via the **PlusLink (PL)** .

Global light control:	
• Central unit insert	**Sensor module:** brightness**in**dependent staircase lighting function

Operating modes and push-buttons

The inserts also have a **PlusLink** input for each channel, which you can use to control the presence detector from another location with the following push-buttons:

- Mechanical push-button
- Plus side controller, 1-gang/2-gang
- Push-button module on central unit insert

You can use these push-buttons to activate various functions and operating modes. The automatic, semi-automatic and presentation operating modes can be used in combination with a light control or with a staircase lighting function.

- **Automatic mode:** the lighting function starts and stops automatically. A push-button can also be actuated to manually start the functions and activate overshoot time.
- **Semi-automatic mode:** the lighting function can only be started manually by pressing the push-button. The functions stop depending on movement and brightness levels or when the push-button is pressed.
- **Presentation mode:** e.g. when a video is shown the lighting remains switched off even if movement is detected. Functions are always activated manually (push-button pressed three times). Functions are always deactivated depending on movement or manually (push-button pressed once).
- **Change setpoint:** The desired brightness level for the light control function can be increased or decreased by holding the push-button down (> 5 s).

The "Plus side controller, 2-gang" or a push-button mod-

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ule on the central unit insert can be used to switch between automatic mode, "24 h on" and "24 h off". When semi-automatic mode is activated it is also possible to switch to the "24 h staircase lighting circuit".

Using the sensor module with alarm systems

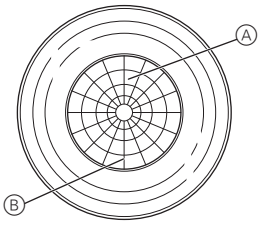
Movement/presence detectors are not suitable for use as components of an alarm system.

Movement/presence detectors can trigger false alarms if the installation site is unsuitable.

Movement/presence detectors switch on as soon as they detect a moving heat source. This can be a person, but also animals or differences in temperature through windows. In order to avoid false alarms, the chosen installation site should be such that undesired heat sources cannot be detected (see section „Selecting the installation site“).

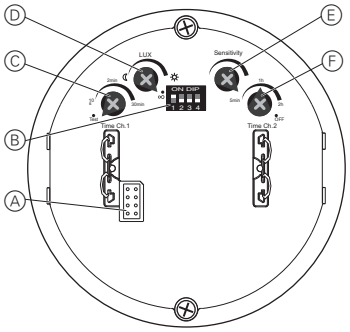
Connections, displays and operating elements

Front:



Ⓐ red LED (in test mode)
Ⓑ green LED (for 24-h staircase lighting circuit)

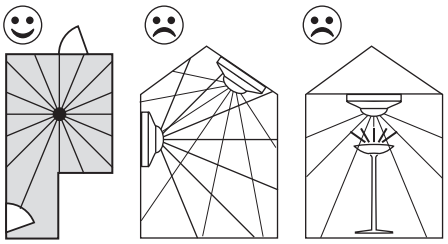
Rear:



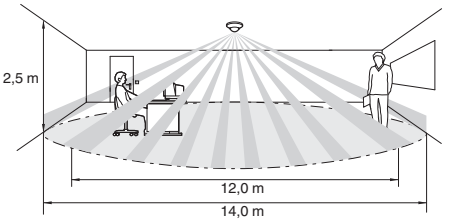
Ⓐ Module interface
Ⓑ DIP switches
1: Presence function/movement detector function
2: 24-h staircase lighting circuit
3: Prewarning for channel 1
4: no function
Ⓒ Potentiometer for channel 1 overshoot time
Ⓓ Potentiometer for brightness threshold
Ⓔ Potentiometer for sensitivity
Ⓕ Potentiometer for overshoot time channel 2 / activation of semi-automatic mode channel 1 ("OFF" position)

Selecting the installation site

- Only mount the sensor module in positions that allow the desired area to be monitored effectively.



- Install the sensor module on the ceiling, if at all possible in the centre of the room.
- Do not install the sensor module on inclines or walls.
- Install the sensor module at least 0.5 m away from lights.
- The recommended mounting height is 2.50 m. Any mounting height which deviates from this will affect the area of detection.
- Maximum area of detection of the sensor module: 360° angle of detection, approx. 7 m detection radius.

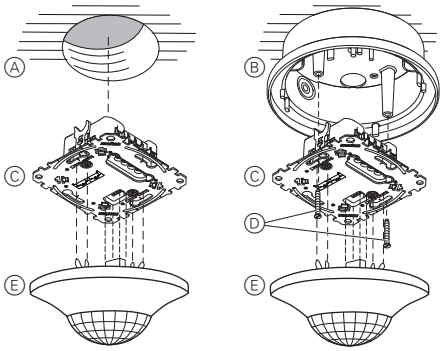


- Inner/outer area of detection
  - inner area of detection (approx. 6 m radius): movement detection of a seated person due to less movement
  - outer area of detection (approx. 7 m radius): movement detection of a person walking due to increased movement
- In order to ensure continuous monitoring, e.g. of a long hall, the areas of detection of the individual sensor modules have to intersect.
- Movement/presence detectors detect objects that radiate heat. You should select an installation site that will not result in undesired heat sources being detected, such as:
  - switched-on lamps in the area of detection
  - open fires (such as in fireplaces)
  - moving curtains, etc., that cause a different temperature in their surrounding environment due to strong sunlight
  - windows where the influence of alternating sunlight and clouds could cause rapid changes in temperature
  - larger heat sources (e.g. cars), that are detected through windows
  - sunlit rooms with reflecting objects (e.g. the floor), which can be the cause of rapid changes in temperature
  - windowpanes heated up by sunlight
  - dogs, cats, etc.
- To prevent faulty operation, the insert should be installed in a wind-resistant flush-mounted socket. With flush-mounted sockets and pipe cabling systems, a draught of air at the rear of the equipment can trigger the sensor module.
- Avoid direct sunlight. This can destroy the sensor in extreme cases.

Installation location for master/slave operation

- In order to ensure the room is as well-lit as possible, put the master in the darkest area of the area used. This means the lighting will still turn on when there is already sufficient ambient brightness is some areas.
- When operating with several master devices in one room (multi master), the individual lighting areas have common borders. This poses the risk that these affect each other (optical feedback). Try to avoid multi-master operation. If this is not possible, place the master in an area that is at the maximum possible distance from the bordering lighting areas.

Mounting the sensor module



Ⓐ Flush-mounted socket
Ⓑ Surface-mounted housing for ARGUS Presence (accessory)
Ⓒ Insert (see function overview)
Ⓓ Screws (included with surface-mounted housing)
Ⓔ Sensor module

When the mains voltage is supplied, the sensor module switches channel 1 on for 30 s and then back off. Channel 2 remains switched off. During the 2 s that ensue, the sensor module does not react to any movement. After this initialisation period has elapsed, the sensor module is ready for operation.

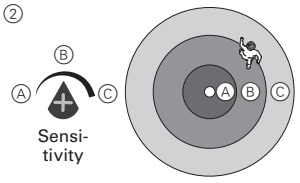
Setting the sensor module

On the rear side of the sensor module, the potentiometer can be used to set the sensor module's sensitivity, brightness threshold and overshoot time.

Additional possible settings using DIP switches:

		Pos. ON (upper)	Pos. OFF (lower)
DIP 1	Presence function	Active	Inactive
DIP 2	24 h staircase lighting circuit via PlusLink	24 h "ON"	24 h "ON" or 24 h "OFF"
DIP 3	Prewarning for channel 1	Active	Inactive
DIP 4	Light control	Active	Inactive

Setting the sensitivity



① Activate the test mode and set the brightness threshold to "infinite".

The red LED lights up when movement is detected.

② Infinitely adjust the sensitivity (max. 7 m detection radius).

③ Walk around the area of detection and check whether the sensor module is switching as desired. Adjust the sensitivity if required.

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Setting the brightness threshold

④ Infinitely set the desired brightness thresho ld.
The sensor module switches below the set brightness threshold.

☾ Detects movement in the dark (approx. 10 lux)

☼ Detects movement during daylight (approx. 1000 lux)

∞ Detects movement **in**dependently of brightness

⑤ Check that the sensor module switches at the desired/set brightness. Adjust the brightness threshold if required.

ℹ In combination with a 2-gang insert, the brightness threshold only applies to channel 1. Channel 2 always switches **in**dependently of brightness.

Adjusting the staircase lighting function

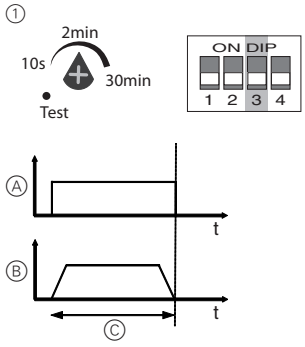
You can set the type of staircase lighting function (without/with prewarning) and the overshoot time.

When setting the switching duration, you specify how long the connected load remains switched on (continuously from 10 s to 30 min.). In the case of a 2-gang insert, the overshoot time for both channels can be adjusted separately.

The prewarning indicates the end of the overshoot time. The loads are switched off briefly and then back on again (in combination with switch inserts), or are dimmed down slowly (in combination with dimmable inserts). The loads are switched off after the warning time has elapsed (30 s, not adjustable).

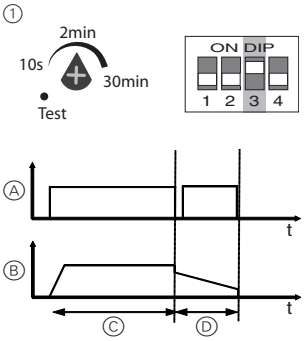
① Select the type of staircase lighting function and set the overshoot time

Staircase lighting function without prewarning



Ⓐ Switching without prewarning
Ⓑ Dimming without prewarning
Ⓒ Overshoot time

Staircase lighting function with prewarning

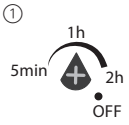


Ⓐ Switching with prewarning
Ⓑ Dimming with prewarning
Ⓒ Overshoot time
Ⓓ Prewarning time (30 s, not adjustable)

ℹ The prewarning only applies to channel 1.

Setting the overshoot time for channel 2

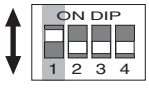
When using a 2-gang insert, the switching duration for channel 2 can be adjusted using a separate potentiometer. The adjustable time period differs from that of channel 1. The default setting for channel 2 is 1 hour. The "OFF" position also activates semi-automatic mode in channel 1.



Activating/deactivating the presence function

In the case of brightness-dependent movement detection, the sensor module constantly monitors the brightness in the room and compares it to the set brightness threshold. If sufficient natural light is available, the sensor module will switch the lighting off even if a person is present.

The sensor module's presence function is activated as a factory default. You can deactivate the function ("OFF") and reactivate it ("ON") using DIP switch 1.



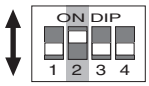
When the presence function has been deactivated, the sensor module continues to carry out the movement detector function.

Adjusting the 24 h staircase lighting circuit

DIP switch 2 can be used to set a 24 h staircase lighting circuit which you can retrieve from another location via PlusLink.

The following options are available for this:

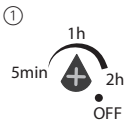
- DIP 2 "ON": **only** switch on the staircase lighting for 24 h via PL
- DIP 2 "OFF": switch the staircase lighting on/off for 24 h via PL



Activating/deactivating semi-automatic mode

Semi-automatic mode for channel 1 is activated via the "OFF" position by the right-hand stop of the potentiometer.

Automatic mode is activated if an overshoot time is selected. Automatic mode is activated as a factory default.

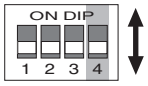


The potentiometer is also used to set the overshoot time of channel 2.

Activating/deactivating light control

(Only in combination with dimmable inserts, see function overview)

The sensor module's light control is deactivated as a factory default. You can activate the function ("ON") and deactivate it ("OFF") using DIP switch 4.



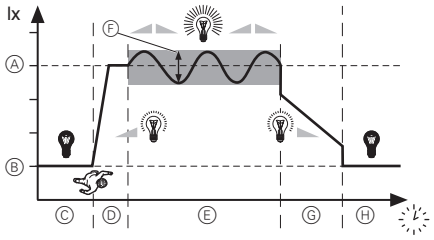
Light control

Basic function of light control

(Only in combination with dimmable inserts)

Light control keeps the lighting in the room at a constant brightness. The sensor module permanently measures the brightness in the room and keeps it at an adjustable setpoint. When movement is detected, the insert initially dims the lighting to the setpoint value. If the ambient brightness changes, the insert dims the lighting accordingly. If sufficient natural light is available, the sensor module will switch the lighting off even if a person is present.

Example to illustrate light control:



Ⓐ Setpoint
Ⓑ Ambient brightness
Ⓒ Lighting switched off
Ⓓ Start phase
Ⓔ Control phase
Ⓕ Control range
Ⓖ Prewarning
Ⓗ Lighting switched off

ℹ In the case of a 2-gang insert, the behaviour of the light control is the same for both channels.

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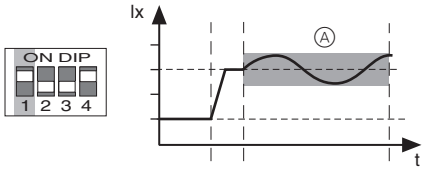
Adjusting the light control

As soon as the light control is activated via DIP switch 4, the other DIP switches take on a new or additional function:

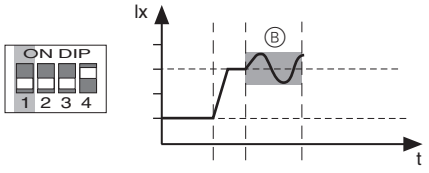
		Pos. ON (upper)	Pos. OFF (lower)
DIP 1	Response speed	Slow	Fast
DIP 2	Setpoint change	Disabled	Via IR remote control or push-button module
	24 h staircase lighting circuit via PL	24 h "ON"	24 h "ON" or 24 h "OFF"
DIP 3	Adjust start phase	50% brightness of the lighting	Setpoint

Adjusting the response speed

The speed with which the sensor module adjusts the light to the setpoint value can be adjusted using DIP switch 1.



Ⓐ slow light control



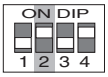
Ⓑ fast light control

Change setpoint

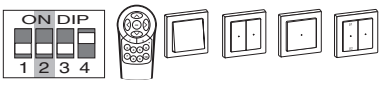
The setpoint is a desired brightness value that should be observed constantly in the room. This value results from the ambient brightness and the lighting.

You can select whether or not the setpoint value may be altered using DIP switch 2. It can be altered with the IR universal remote control, a mechanical push-button, a Plus side controller or a push-button module on the central unit insert.

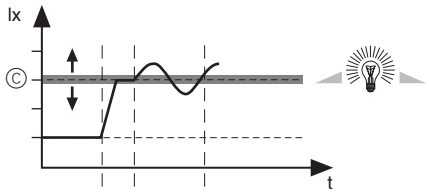
The brightness of the lighting alters accordingly when the setpoint is changed.

Ⓐ 

Ⓐ Setpoint change disabled

Ⓑ 

Ⓑ Setpoint change enabled



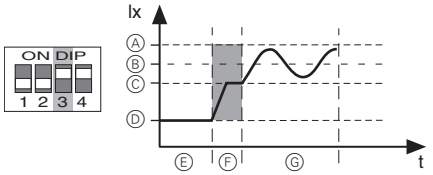
Ⓒ Change setpoint

– with IR universal remote control:
  Push-button 8: increase setpoint
  Push-button 9: reduce setpoint
– with mechanical push-button:
  First actuation: increase setpoint
  Second actuation: reduce setpoint
– with Plus side controller, 1-gang / push-button module, 1-gang on central unit insert
  Upper push-button: increase setpoint
  Lower push-button: reduce setpoint
– with Plus side controller, 2-gang / push-button module, 2-gang on central unit insert:
  Upper right push-button: increase setpoint
  Lower right push-button: reduce setpoint

Adjusting the start phase

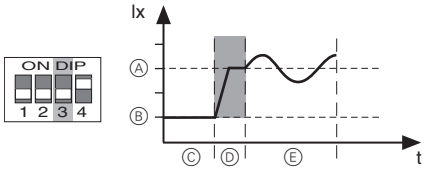
The start phase with which the sensor module switches on the light can be adjusted using DIP switch 3.

Start at 50% brightness of the lighting



Ⓐ max. overall brightness (ambient brightness and lighting)
Ⓑ setpoint
Ⓒ 50% brightness of the lighting
Ⓓ ambient brightness
Ⓔ lighting switched off
Ⓕ start phase
Ⓖ control phase

Start with setpoint

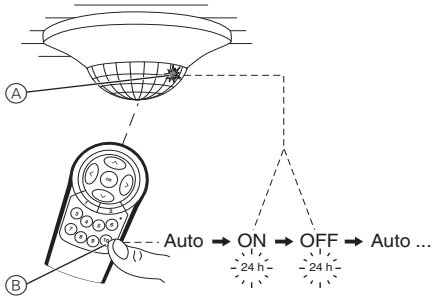


Ⓐ setpoint
Ⓑ ambient brightness
Ⓒ lighting switched off
Ⓓ start phase
Ⓔ control phase

Operating sensor module by IR remote control

The DIP switches do not affect the IR function.

You can toggle between three functions of the sensor module by pressing key 10 on the IR remote control Ⓑ.



- **Auto** function: The sensor module is in automatic mode and switches the loads on when movement is detected and then off again after the overshoot time has elapsed.
- **24 h "ON"**: Load is switched on permanently for 24 h (no movement detection). Green LED Ⓐ lights up.
- **24 h "OFF"**: Load is switched off permanently for 24 h (no movement detection). Green LED Ⓐ lights up.

Controlling the sensor module from another location

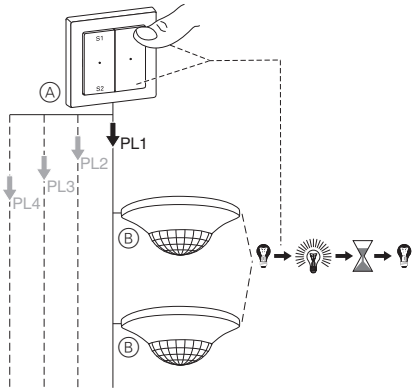
Controlling loads from another location via PlusLink with:

- Push-button module on central unit insert
- Sensor module on central unit insert
- Side controller Plus, 1-gang/2-gang
- Mechanical push-button

Example of global control with push-button module on central unit insert

Starting the staircase lighting function

When the push-button module on the central unit insert Ⓐ is actuated, all local sensor modules Ⓑ in the PL lines start the set staircase lighting function **in**dependently of brightness.



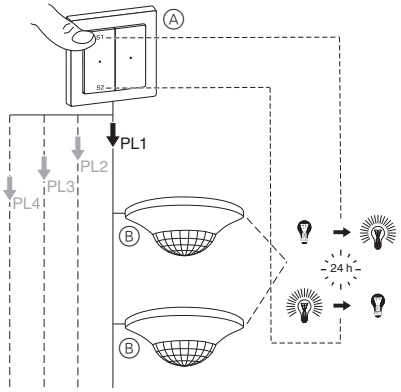
Ⓐ Push-button module on central unit insert (alternatively: side controller Plus for one PL line)
Ⓑ Sensor module in PL line

24-h staircase lighting circuit

- Upper left push-button: switch on the staircase lighting for 24 h
- Lower left push-button: switch off the staircase lighting for 24 h (prerequisite: DIP2 "OFF")

If DIP 2 is switched to "ON", the lighting cannot be switched off for 24 h via the push-button module.

- Upper/lower right push-button: deactivate the 24-h staircase lighting circuit.



Ⓐ Push-button module on central unit insert (alternatively: side controller Plus for one PL line)
Ⓑ Sensor module in PL line

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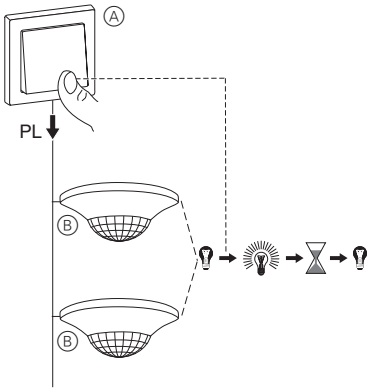
Example of global control with mechanical push-button

When the mechanical push-button Ⓐ is actuated, all local sensor modules Ⓑ in the PL lines start the set staircase lighting function **in**dependently of brightness.



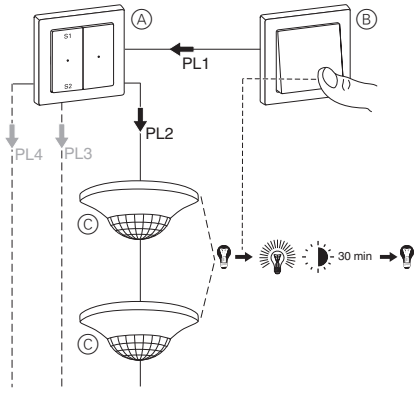
Ⓐ Mechanical push-button
Ⓑ Sensor module in PL line

Example of global control with panic button on the central unit insert

When the panic button Ⓑ is actuated, all local sensor modules Ⓒ in the PL lines start a fixed overshoot time of 30 minutes (panic scene) **in**dependently of brightness.

When a push-button module is used on the central unit insert, the function can be stopped early. Press the right push-button in order to do this.

When the central unit insert is used in combination with a sensor module, the panic function is not available.



Ⓐ Push-button module on central unit insert
Ⓑ Mechanical push-button (panic button)
Ⓒ Sensor module in PL line

Operating modes and push-buttons

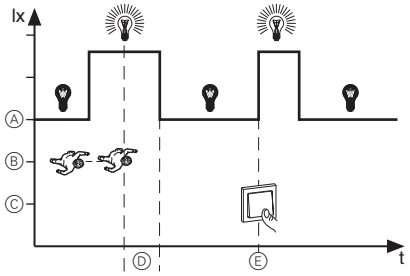
You can use the PlusLink input to access various operating modes with a mechanical push-button, a push-button module on the central unit insert or a Plus side controller. A mechanical push-button is displayed in the following examples. The functions in the 1-gang modules are operated via the upper or lower push-button and the functions in the 2-gang modules via the upper right or lower right push-button.

The automatic, semi-automatic and presentation operating modes can be used in combination with light control or with a staircase lighting function.

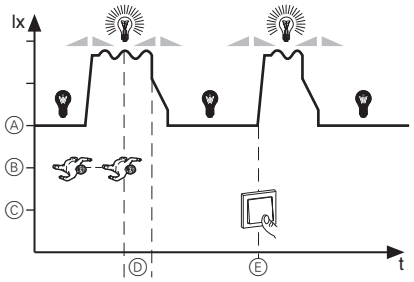
Automatic mode

In automatic mode, you can start light control or the staircase lighting function independently of brightness by actuating a push-button – even beyond the detection range of the presence detector.

Example of a staircase lighting function in automatic mode



Example of light control in automatic mode



Ⓐ Lighting
Ⓑ Movement
Ⓒ Push-button actuation
Ⓓ Overshoot time
Ⓔ Manual start

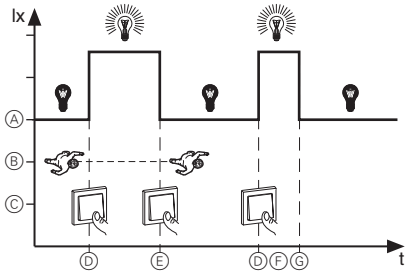
Automatic switching on depends on brightness.

For a light control switching off also depends on brightness. For a staircase lighting function switching off depends on brightness, only if the presence function is selected.

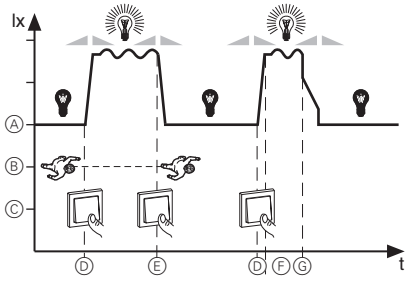
Semi-automatic mode

In semi-automatic mode it is necessary to actuate a push-button in order to start a light control or staircase lighting function. The manual start is independent of brightness and movement.

Example of a staircase lighting function in semi-automatic mode



Example of light control in semi-automatic mode



Ⓐ Lighting
Ⓑ Movement
Ⓒ Push-button actuation
Ⓓ Manual start
Ⓔ Manual stop
Ⓕ Overshoot time
Ⓖ Automatic stop
After automatically switching off, the lighting remains switched off and can only be switched back on manually. Only if a new movement is detected within a period of 5 s after switching off, a new overshoot time starts.

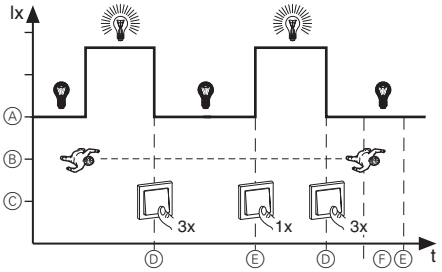
For a light control or staircase lighting function with an activated presence function the lighting is switched off depending on the brightness like in automatic mode.

In contrast to automatic mode, semi-automatic mode is activated via a potentiometer (see section "Setting the sensor module").

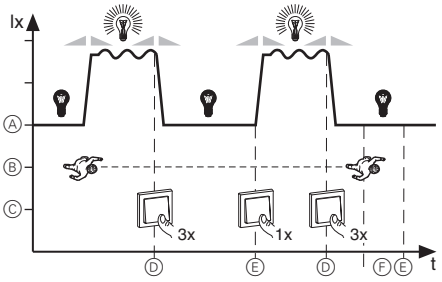
Presentation mode

In presentation mode the lighting remains switched off even if movement is detected.

Example of a staircase lighting function with presentation mode



Example of light control with presentation mode



Ⓐ Lighting
Ⓑ Movement
Ⓒ Push-button actuation
Ⓓ Start presentation mode
Ⓔ End presentation mode
Ⓕ Overshoot time

Activating presentation mode:

Press push-button quickly three times in the space of 3 s (< 0.5 s)

Manually deactivating presentation mode:

Quickly press push-button (< 0.5 s)

Operating the sensor module: global staircase lighting function via PlusLink

Global control via PlusLink is possible with a combination of central unit insert and sensor module.

Example of global control via sensor module on the central unit insert

If the sensor module Ⓐ on the central unit insert detects a movement, it sends a trigger command to all local sensor modules Ⓑ in the PL lines.

The local sensor module Ⓑ checks the ambient brightness. The staircase lighting function only starts if the brightness is below the set detection brightness.

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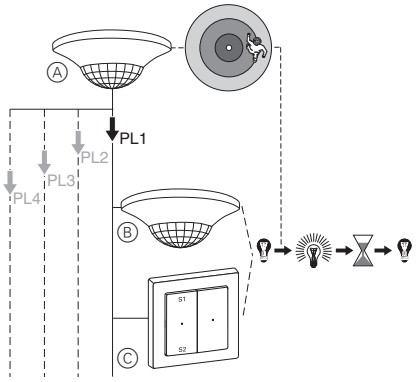
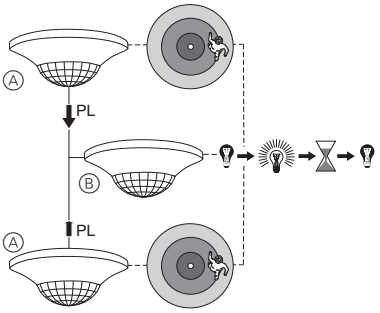
You can also start the staircase lighting function of the push-button modules Comfort and Comfort Plus in the PL lines.



Ⓐ Sensor module on central unit insert (Slave)
Ⓑ Sensor module in PL line 1 (Master)
Ⓒ Push-button modules Comfort or Comfort Plus with set staircase lighting function

Notes:
- Push-button modules Ⓒ without a set staircase lighting function ignore the commands via PlusLink.
- On the central unit insert, the sensor module always sends **in**dependently of brightness.
- The sensor module's DIP switches do not function on the central unit insert (Slave).

Example of two sensor modules on central unit inserts in the PL line



Ⓐ Sensor module on central unit insert (Slave)
Ⓑ Sensor module in PL line (Master)

What should I do if there is a problem?

Load is not switching on.
- The sensitivity is set too low.
  – Reset the sensitivity.
- The brightness threshold is set too low.
  – Reset the brightness threshold.

Load is permanently switched on.
- The overshoot time or the sensitivity is set too high. The sensor module constantly detects new movements and restarts the overshoot time.
  – Reduce the overshoot time or sensitivity.

The sensor module is not reacting. The red LED is flashing quickly.
- The sensor module and insert are not compatible (e.g. blind control insert)
  – Place the sensor module onto a compatible insert (see function overview).

Technical data

Angle of detection:	360°
Number of levels:	6
Number of zones:	136
Number of presence detectors:	4
Recommended mounting height:	2.50 m
Range (can be adjusted under "Sensitivity"):	max. approx. 7 m detection radius
Brightness threshold:	approx. 10 lux to approx. 1000 lux (infinitely adjustable), brightness independent
Overshoot time channel 1:	approx. 10 s to approx. 30 min (infinitely adjustable), test mode (1 s)
Overshoot time channel 2:	approx. 5 min. to approx. 2 hrs. (infinitely adjustable), OFF
Display elements:	1 red LED 1 green LED
DIP switches:	1: Presence function / movement detector function 2: 24-h staircase lighting circuit 3: Prewarning for channel 1 4: Light control
Connection:	module interface with 8 contact pins

Dispose of the device separately from household waste at an official collection point. Professional recycling protects people and the environment against potential negative effects.

Merten GmbH

Fritz-Kotz-Str. 8
51674 Wiehl - Germany
se.com/contact

Schneider Electric

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