

Operating Instructions WG 800 Automatic Switch 180



1. Safety Instructions

Attention: The installation and assembly of electrical equipment may only be performed by a qualified electrician. Not suitable for safety disconnection.

To avoid electric shock, safely disconnect the automatic switch (switch off the automatic circuit breaker) prior to working on it, or before changing the lamp.)

Non-observance of these installation instructions may cause fire or other hazards.

2. Function

Function Principle

The automatic switches respond to thermal movements initiated by persons, animals or objects and trigger a switching process. The automatic switches remain switched on as long as some movements are detected, otherwise they will switch off after their shut-off delay time has elapsed. Optionally, the automatic Switch can also be set to short-time operation. This facilitates the activation of acoustic signal transmitters (bell) to observe an entrance door. The automatic switches have been designed for operation together with a switching insert.



Important: These automatic switches are not suitable for alarm systems.

Depending on the lens used, the nominal installation height is 1.10 or 2.20 m.

The 2.20 m lens automatic switches can also be installed at the height of 1.10 m.

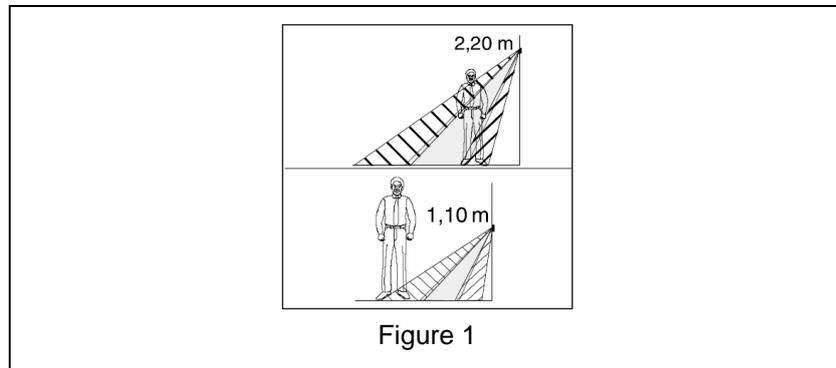


Fig. 1: 2.20 m lens at an installation height of 2.20 m or 1.10 m, respectively.

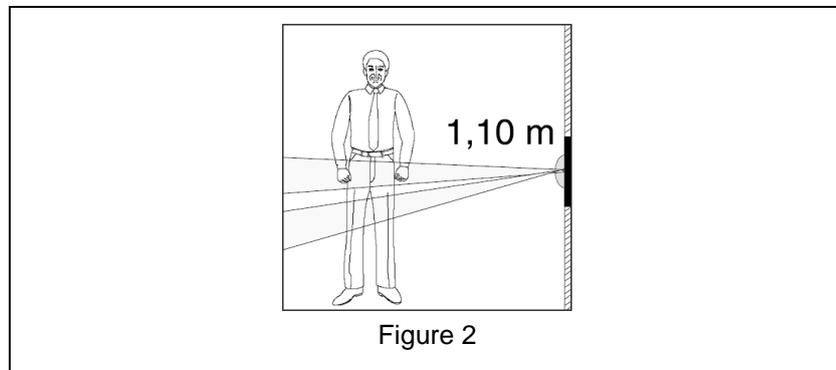
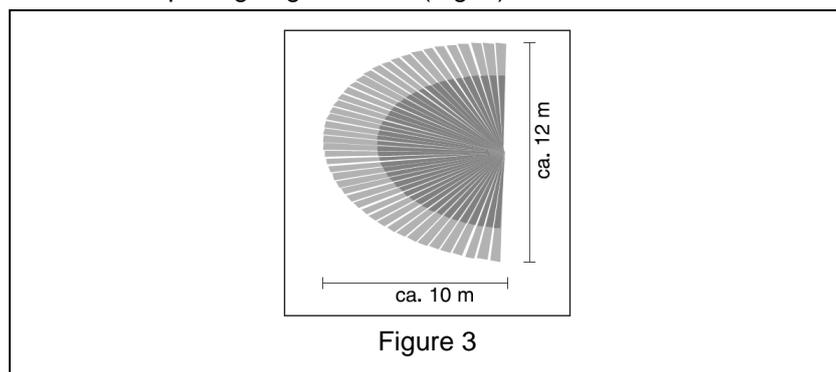


Fig. 2: 1.10 m lens at an installation height of 1.10 m.

For how to connect the inserts, please refer to the operating instructions of the respective insert.

Detection Field of the 1.10 m Lens Version

The 1.10 m automatic switches have a two-level detection field with an opening angle of 180° (Fig. 3).

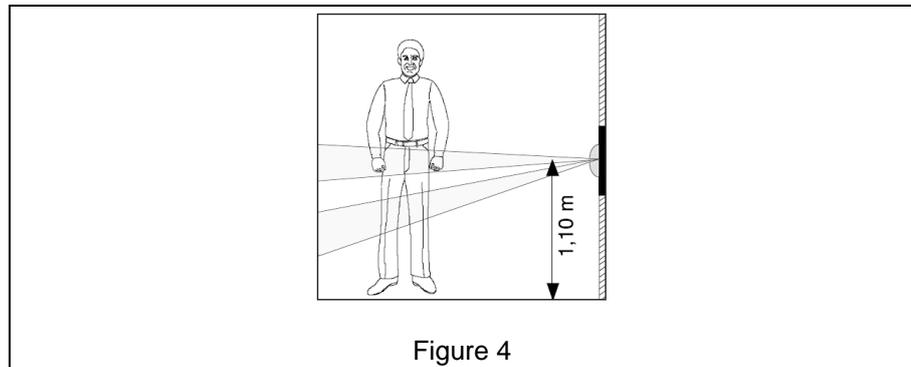


Detection field area (Fig. 3): approx. 10 m x 12 m

The information on the detection field area is referred to an installation height of 1.10 m. For different installation heights, the nominal working range varies.

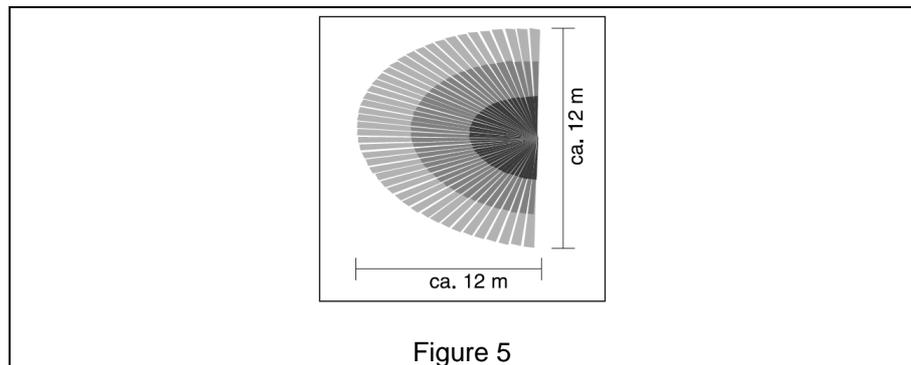
Due to the alignment of the upper lens level, the detection field is spatially not limited. This may, among other things, cause movements out of the specified detection field to trigger switching events (over-ranging).

Important: Due to the almost horizontal alignment of the upper detection level (Fig. 4), the automatic switches using the 1.10 m lens are suitable for indoor use only. Otherwise, direct sun radiation may destroy the automatic switch.



Detection Field of the 2.20 m Lens Version

The 2.20 m automatic switches have a three-level detection field with an opening angle of 180° (Fig. 5).

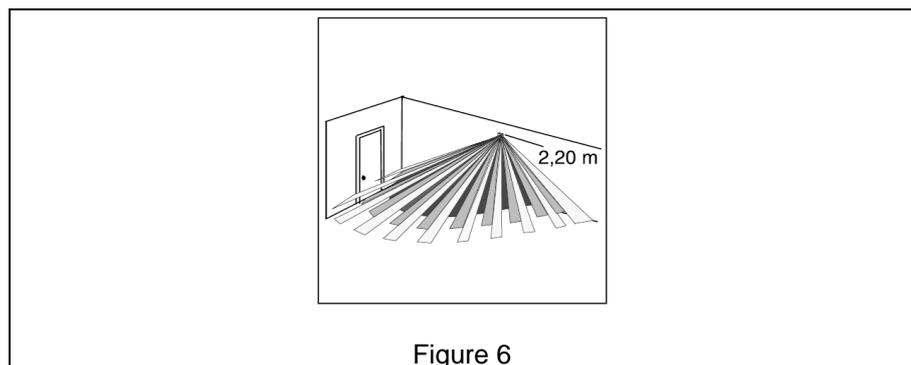


Detection field area: approx. 12 m x 12 m

The information on the detection field area is referred to an installation height of 2.20 m.

Note:

The detection levels of the automatic switches using 2.20 m lenses are inclined from top to bottom (Fig. 6). This permits the outdoor use of the water-protected design (IP 44).



If the installation height deviates from 2.20 m, the working range will vary. A bigger installation height leads to a correspondingly wider reach. It must, however, be noted that the energy radiated by a remote heat signal source may, under certain circumstances, not be sufficient to trip the automatic switch.

3. Installation

Information on the Place of Installation

The automatic switches will detect a movement to an optimum when they are installed laterally to the moving direction (Fig. 7). Otherwise, delayed detection will have to be expected.

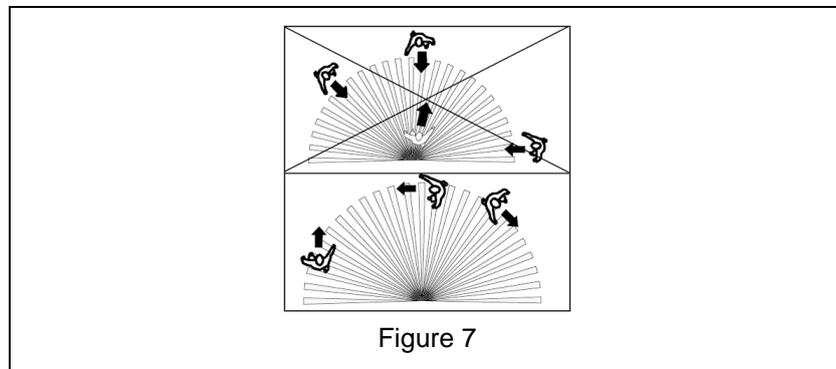


Figure 7

Note: Select the place of installation so that no direct sun radiation falls into the sensor lens. Do not expose the automatic switches to direct sunlight during their installation. Otherwise, the intense thermal radiation may destroy the sensor (Fig. 8).

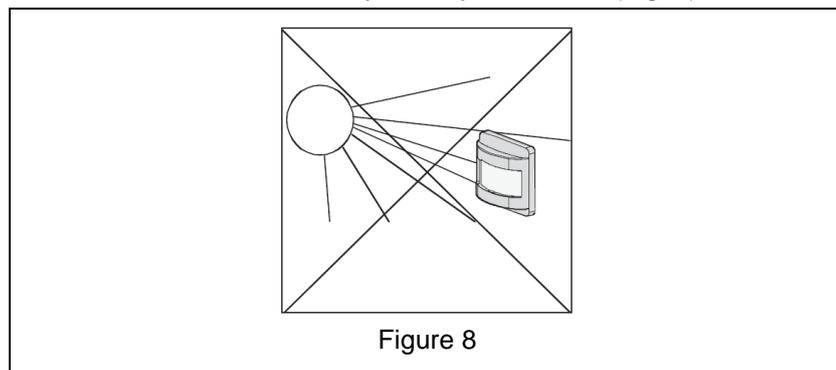


Figure 8

To avoid unintentional switching events, please follow these instructions (Fig. 9) as early as during the installation:

- Exclude interference sources such as lamps or heating radiators from the detection field: Choose a suitable place of installation or use the slip-fit mask (refer to 'How to Use the Slip-Fit Mask').
- Reflection of thermal radiation from the light or too short a distance between the automatic switch and the lamp may re-trigger the automatic switch.

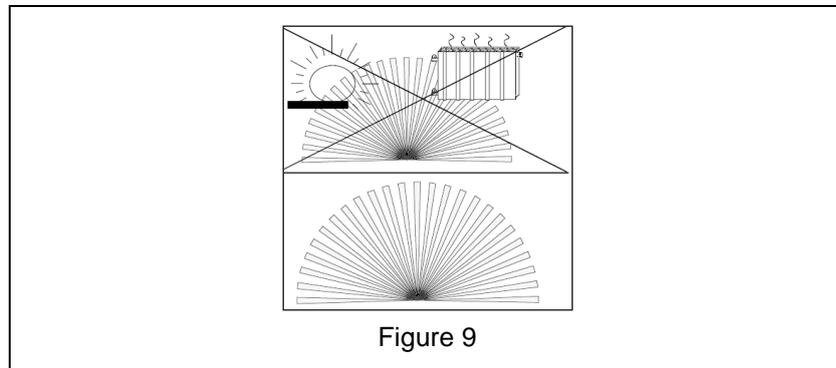


Figure 9

Important: The automatic switch automatically adapt to the ambient conditions. This will render almost impossible any unintentional switching events. Nevertheless, if any unintentional switching events should occur, adapt the sensitivity manually (refer to Para. 4.6), or use the slip-fit mask (refer to Para. 3.2).

4. Mask Function

You can use the attached mask to eliminate interference sources by limiting the detection field. The mask can cover the left or right half of the detection field (90° each) (Fig. 10).

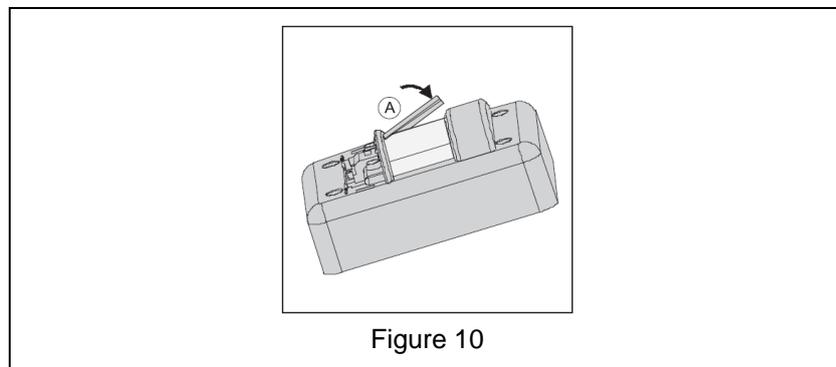


Figure 10

Cutting out the mask for smaller angles will result in malfunctioning.

Detection field with mask element (A) inserted (Fig. 11).

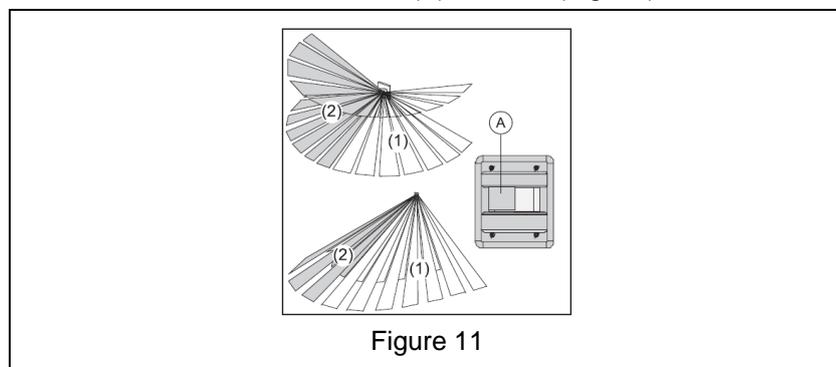


Figure 11

Automatic switch with 1.10 m lens, 2.20 m lens:

(1) observed range.

(2) masked range.

5. Installation of the Automatic Switch

1. Remove the 4 screws in housing (1).

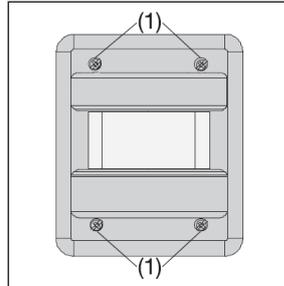


Figure 12

2. Withdraw the cover.
3. Remove the upper half of the housing by placing a screwdriver under the housing latches. Widen the housing and pull upper half away from the latches.
4. Pierce the condensed water opening in the housing base, if needed.
5. Observe the fitting position of the housing base. The top of the housing is marked OBEN-TOP.
6. Fasten the housing base at the fitting location (observe the fitting height to achieve the nominal range).
7. ((Terminal (2) can be used to connect the PE conductor.)

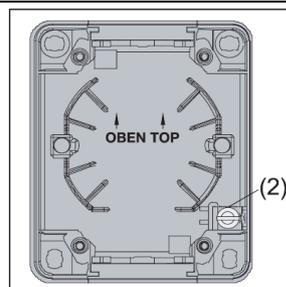
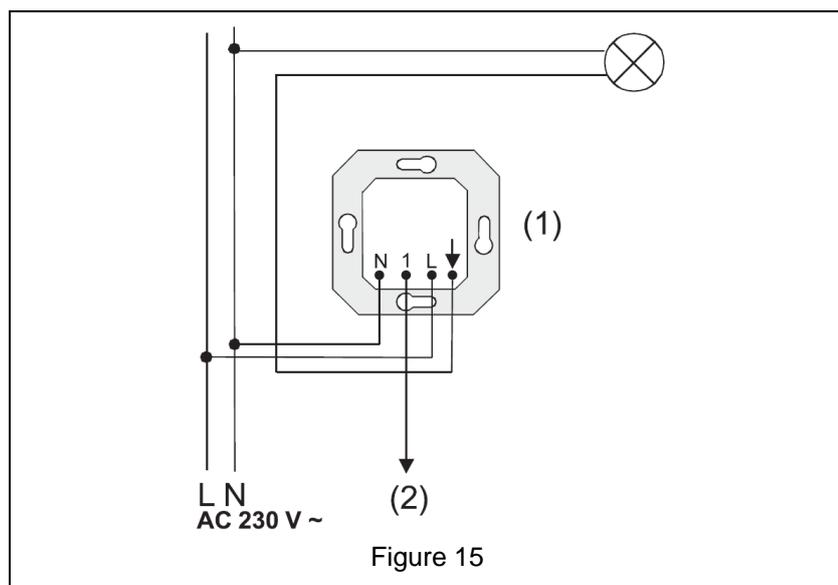
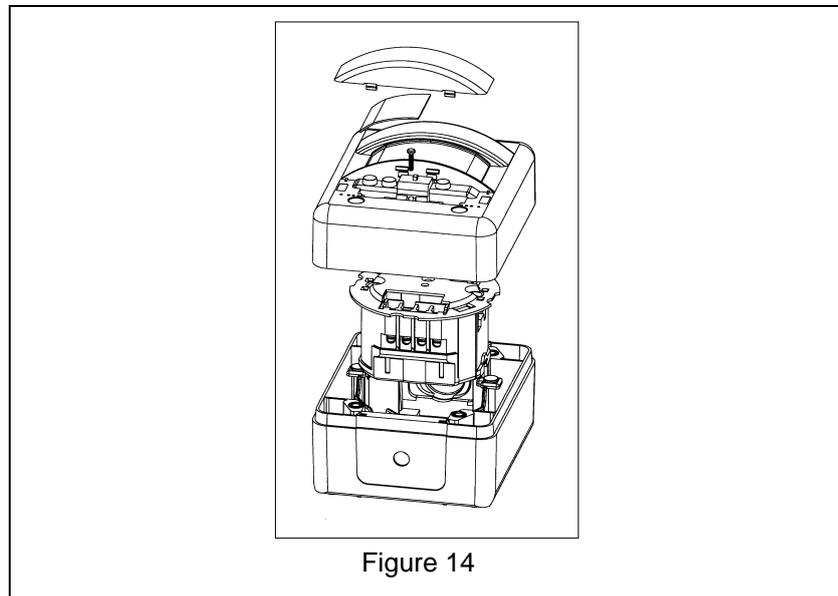


Figure 13

8. Snap on the upper part of the housing. Tools are not necessary.
9. The connecting terminals of the upper housing half must be located at the bottom. Otherwise risk of malfunction.
10. Place insert into housing with a pierced and a closed cable lead-in.
11. Lead the cable into the housing and connect in line with the diagram (Fig. 15).
12. Assemble the components as shown in the figure.
13. The sensor electronics is connected to the relay insert by means of the 6-pole connector. Plug upper part of housing with the sensor electronics correctly into the insert connector.
14. Tighten the housing screws.



Wiring diagram

(1) automatic switch

(2) to extension units

The device must be protected with a 10 A circuit breaker.

6. Settings

The automatic switch has three modes of operation:

Permanent „OFF“

Automatic

Permanent „ON“

The modes are selected with mode switch (1).

Shutoff delay, sensitivity and brightness can be adjusted to individual needs by means of potentiometers. The potentiometers are located behind the mode switch (1) on the front panel of the automatic switches (Fig. 16).

Lever out the mode switch (1) cautiously using a screwdriver. Remove the lock-screw (device is delivered with the lockscrew in place to protect the mode switch in the 'Automatic' position against unauthorized operation). Keep the lock-screw in clip (2) on the inside of the slide.

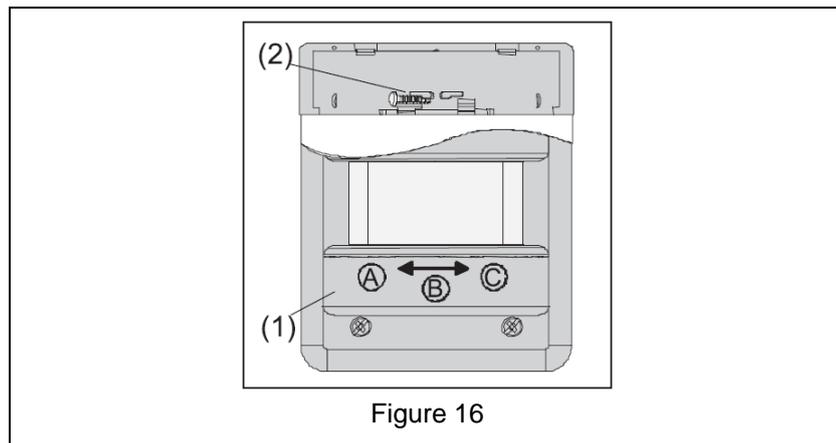


Figure 16

6.1. Shut-Off Delay

The shut-off delay determines how long the light will still stay on after no more movement was detected.

If the automatic switch has switched on, any further movement detected will re-trigger the shut-off delay. This means that the shut-off delay will be re-started from the very beginning. The automatic switch does not include any forced shut-off. This means that continuous movements in the detection field will result in permanent light.

After the shut-off delay has elapsed the automatic switch will shut off.

6.2. Setting the shut-off delay

You can set the shut-off delay within a range from 10 seconds to approx. 30 minutes. This setting is not linear, i. e. longer periods can only be preset within a relatively coarse raster. To vary the shut-off delay, turn potentiometer (5) into the desired direction (Fig. 17).

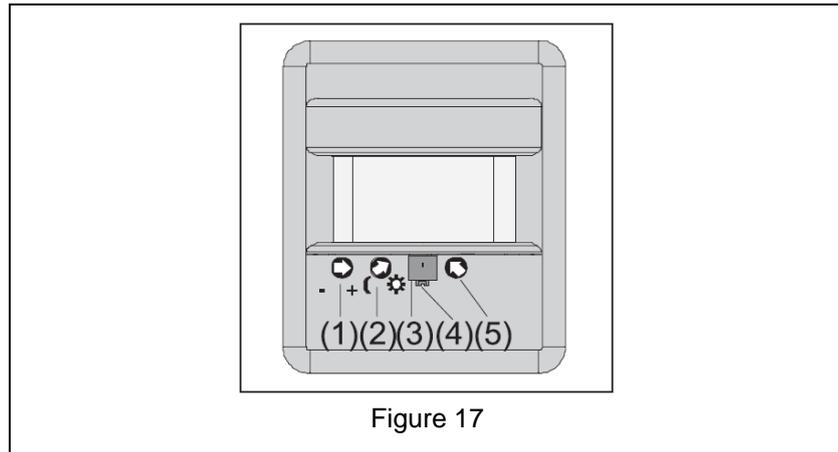


Figure 17

6.3. Setting the Short-Time Mode

For special operation, the automatic switch can also be set to the push-button mode. The push-button mode can be used, for instance, to activate a doorbell. For this mode, potentiometer (5) must be set to the \square symbol (Fig.18).

In the event of a detected movement, the automatic switch now switches on for 0.5 seconds dependent on brightness. If further movements are detected, the device switches on again only after an inhibit delay of 3 seconds has elapsed.

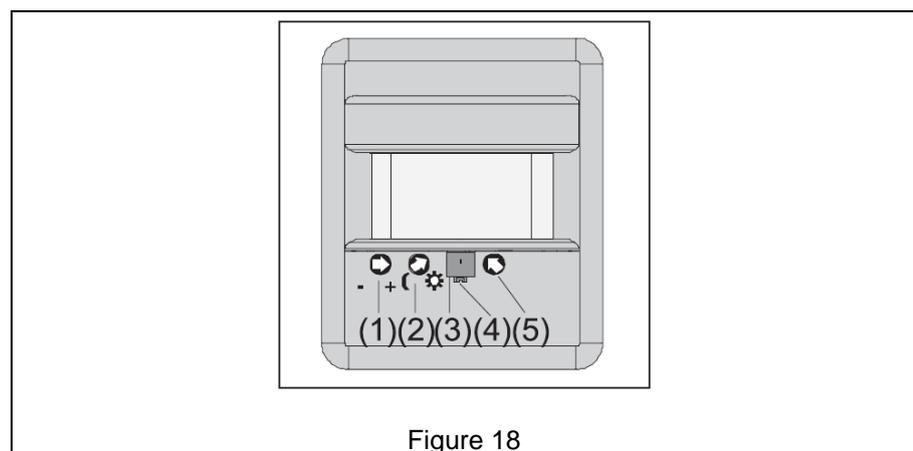


Figure 18

6.4. Setting the Brightness Threshold

Any movements detected will only trigger a switching event if the preset brightness threshold is undercut. The brightness threshold can be set within a range from approx. 0 to 80 lux.

To vary the brightness threshold, turn potentiometer (2) into the desired direction (Fig. 19).

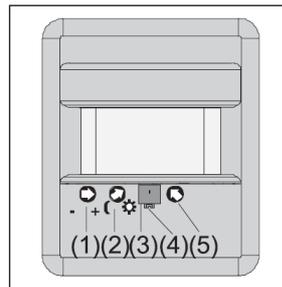


Figure 19

If potentiometer (2) is set fully clockwise to the “sun” symbol, the automatic switch will be in daytime operation, thus switching independently of the brightness.

Note: If the automatic switch should no longer respond to any movement detected when set fully anticlockwise to the “moon” symbol (night operation), please turn back the potentiometer in clockwise sense towards the “sun” symbol.

6.5. Teach Function

You can use the teach function to store the current ambient brightness as brightness threshold. The brightness threshold preset by the potentiometer will then no longer be evaluated. Any other storing of a brightness threshold will overwrite the previous value.

If you want to re-activate the brightness threshold preset by the potentiometer, just detach the automatic switch from the insert and re-plug it.

As an alternative, the stored brightness threshold will be erased once potentiometer (2) is offset approx. half a turn (Fig. 20).

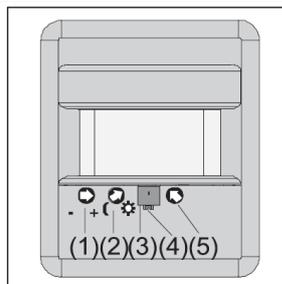


Figure 20

Executing the Teach Function

1. To activate the teach function, fully cover the automatic switch 'Universal' at least three times (approx. 1 s) within 9 s (Fig. 21).
2. Once the automatic switch has detected three light changes, the teach function will be active.
3. To confirm, the light will be switched off when it is ON and then be switched on for 3 s. When the light is OFF, it will be switched on for 3 s.
4. Step back from the automatic switch for the next minute to enable it to correctly measure and store the current brightness.
5. To confirm storage, the light will be switched on for 3 s.
6. Then the automatic switch will change to the preset mode.

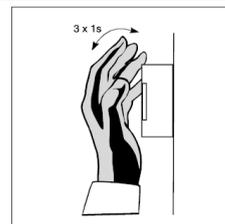


Figure 21

Important:

Any voltage failure exceeding approx. 2 s will lead to the loss of the brightness threshold stored. Storing any value in excess of 80 lux as brightness threshold will set the automatic switch to daytime operation and make it respond independently of the brightness.

6.6. Setting the Sensitivity

If required, you can change the sensitivity of the automatic switches.

Dazu, drehen Sie Potentiometer (1) in die gewünschte Richtung.

Important:

The automatic switch has an internal algorithm which ensures automatic adaptation to the ambient conditions. This will render almost impossible any unintentional switching events.

Normally, the potentiometer should be set to maximum sensitivity (Fig. 22).

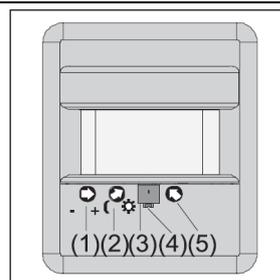


Figure 22

If it should be necessary in some exceptional cases, you can vary the sensitivity manually (see above).

The internal algorithm to avoid unintentional switching events will remain active. Only the „basic sensitivity“ will have been shifted.

6.7. Recommended Test Settings

To check the function and detection behaviour of the automatic switches after its installation, please perform the following settings (already factory-set):

1. Select automatic mode; bring selector (3) into middle position (Fig. 23).
2. Set brightness potentiometer (2) to daytime operation (fully anticlockwise to the “sun” symbol).
3. Set shut-off delay potentiometer (4) to approx. 10 seconds.
4. Set sensitivity potentiometer (1) to maximum value (Fig. 23).

Perform your desired settings after checking.

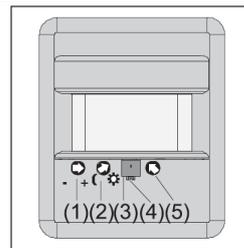


Figure 23

7. Modes of Operation

The automatic switch has three modes of operation which can be set with slide (1) (Fig. 24).

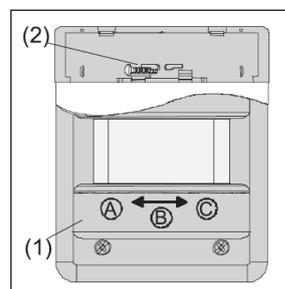


Figure 24

Automatic mode (B) is factory-set, with the slide being locked at this position.

Before you can set any other mode, you must unlock slide (1):

1. Take off slide (1).
2. Remove locking screw (4) (Fig. 24) and keep it in holder (2) on the back of the slide (Fig. 24).
3. Return the slide and set your desired mode of operation.

Permanent “OFF” (A)

switches the light permanently off.

Switching through extensions is not possible.

Automatic Mode (B)

When it detects a movement, the automatic switch will switch on in dependence of the brightness and then switch off after the preset shut-off delay has elapsed, if no more movement is detected.

Switching through extensions is possible.

Exception:

In the short-time mode, the automatic switch will respond in dependence of the brightness (refer to Para. 4.2).

Permanent “ON” (C)

switches the light permanently on.

Switching through extensions is not possible.

7.1. What Will Happen if the Automatic Switch is Detached from the Insert or a Mains Failure Occurs

If the automatic switch is detached from the insert, the respective (ON, OFF) switching state will be maintained. Replugging will make the automatic switch respond in the same way as after a mains failure of longer than 2 s.

Shorter than 200 ms No change of the switching state.

200 ms to approx. 2 s Upon mains recovery, the light will be switched on for the shut-off delay time.

Longer than 2 s Upon system recovery, the automatic switch will make a self-test. This test will last approx. 90 s. During this time, the light will be on. Then it will be switched off and the selected mode will be active:
Permanent „OFF“: OFF
Automatic: ON for shut-off delay
Permanent „ON“: ON .

Important: Any voltage failure exceeding approx. 2 s will lead to the loss of the brightness threshold stored and of the memory value.

8. Insensitivity to Extraneous Light

The insensitivity of the automatic switch to extraneous light causes

- the automatic switches not to interpret any lighting up of a pocket flashlight, for example, as exceeding the brightness threshold in order to respond to any movement detected.
- the automatic switches not to interpret any unintentional short-time shading by a person, for example, as falling below the brightness threshold in order not to respond to any movement detected.

This insensitivity to extraneous light is obtained by a timedelay stage. Only after the time delay has elapsed, any movements detected will be evaluated for the transition from bright to dark or no longer evaluated for the transition from dark to bright.

Time delay: 10 seconds.

Important:

If the automatic switch has just switched off, the 10 s time delay will not be active.

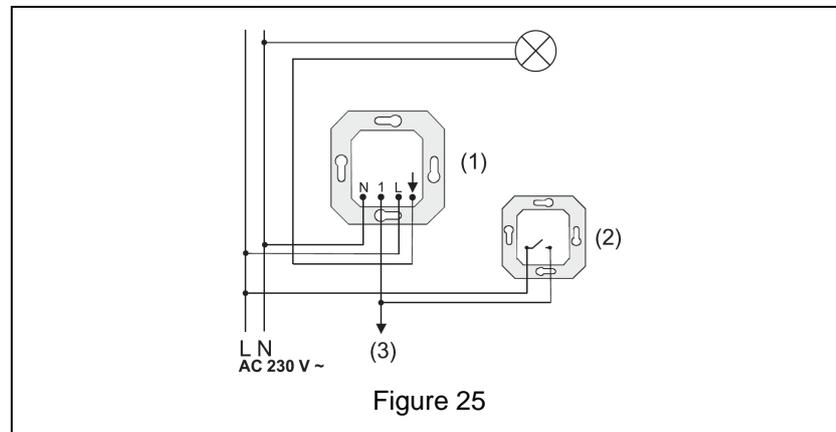
8.1. Operation from Extensions

With mechanical push-buttons (make contact), the lighting can be switched on from several places independent of brightness. Switching off is not possible.

Important:

Illuminated mechanical push-buttons must have a separate N terminal. The automatic switch must be set to automatic operation.

An example of connecting mechanical push-buttons to an automatic switch is shown in Fig. 25.



- (1) automatik-switch
- (2) push-button (not illuminated)
- (3) further extension units

Important

Parallel connection of automatic switches is not permitted.

9. Technical Data

Rated voltage:	AC 230 V~, 50 / 60 Hz
Operating temperature:	approx. -20 °C – 45 °C
Shut-off delay:	approx. 10 s – 30 min
Immunity period:	3 s
Brightness:	infinitely variable from approx. 0 lux to 80 lux and daytime operation
Sensitivity:	approx. 20 % to 100 %
Load rating:	incandescent lamps HV halogen lamps 2300 W Tronic transformers: 1500 W conventional transformers: 1000 VA

Conventional transformers must have a lamp load of at least 85% of their rated load. Total loading including transformer losses must not exceed 1000 VA.

Fluorescent lamps

non-compensated: 1200 VA

parallel compensation: 920 VA

Mixed loads composed of specified load types.

Important:

Observe the peak inrush current of 'energy-saving lamps'.

Check these lamps for suitability before using them.

Number of extensions: unlimited (non-illuminated mechanical push-button with make contact)

Illuminated mechanical push-buttons must have a separate N terminal.

Length of all extension lines taken together: max. 100 m

	Version 1,1 m	Version 2,2 m
Opening angle:	approx. 180°	approx. 180°
Detection field:	approx. 10 m x 12 m	approx. 12 m x 12 m
Installation height:	1.10 m	2.20 m
Number of lenses::	18	26
lens levels::	2	3

Technical specifications subject to change.

10. Guarantee

We accept the guarantee in accordance with the corresponding legal provisions.

Please return the unit postage paid to our central service department giving a brief description of the fault:

ALBRECHT JUNG GMBH & CO. KG

Service-Center

Kupferstr. 17-19

D-44532 Lünen

Service-Line: 0 23 55 . 80 65 51

Telefax: 0 23 55 . 80 61 89

E-Mail: mail.vki@jung.de

General equipment

Service-Line: 0 23 55 . 80 65 55

Telefax: 0 23 55 . 80 62 55

E-Mail: mail.vkm@jung.de

KNX equipment

Service-Line: 0 23 55 . 80 65 56

Telefax: 0 23 55 . 80 62 55

E-Mail: mail.vkm@jung.de

 The CE sign is a free-trade sign intended solely for state authorities and does not contain any assurance of properties.