

Safety instructions

Electrical equipment may only be installed and assembled by a qualified electrician in accordance with the relevant installation standards, guidelines, regulations, directives, safety and accident prevention regulations of the country.

Failure to comply with these installation instructions may result in damage to the device, fire or other hazards.

These instructions are an integral component of the product and must be retained by the end user.

Design and layout of the device (Figure 1)

- (1) Mounting plate
- (2) Mounting adapter
- (3) Motion detectors
- (4) Upper casing
- (5) Mounting device cover
- (6) Cover motion detector

Function

Correct use

- Automatic switching of lighting depending on heat motion and ambient brightness
- manual switching via integrated button
- Only suitable for use in indoor areas with no drip and no spray water.
- Assembly on the wall

Product characteristics

- integrated button for selecting operating modes and special functions
- Lockable integrated button
- Operating mode Automatic, Semi-automatic can be selected
- Display operating mode via LED
- Potentiometer for setting the response brightness, delay time and detection sensitivity
- Additional adjustment of the response brightness via Teach-In function
- Pulse encoder mode for current pulse/stairwell circuits
- Adjustable detection angle for adaptation of the detection area
- Party function
- Presence simulation
- optional extension unit operation via installation button

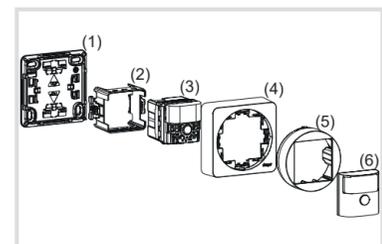


Figure 1: Design and layout of the device

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- Expansion of detection area possible in the case of WXF051 by means of stair motion detector (master/slave configuration)

Operating modes

The motion detector detects heat motion caused by people, animals, or objects.

Automatic mode

- The light will be switched on for the delay time, if movements are detected in the detection area and the set brightness threshold is undershot. Each detected movement restarts the delay time.
- The light will be switched off if no additional movements are detected in the detection area and the set delay time has elapsed.

Semiautomatic mode:

- The light is switched on manually for the delay time via the button on the device or an extension unit button. Each detected movement or each pressing of the button restarts the delay time.
- The light will be switched off automatically if no additional movements are detected in the detection area and the set delay time has elapsed.

Operation

Operating concept (Figure 2)

- (7) Button
 - (8) Status LED (behind lens)
- Operation is executed by pushing the button (7) on the motion detector:

- Keeping the button pressed activates special functions. Selection of the special functions is supported by the LED display (Figure 3).

Automatic mode

- A short press of the button switches the switch mode. The switch mode is displayed via the status LED behind the optics cover of the motion detector.

Semiautomatic mode:

- A short press of the button switches the lighting on.

Select switch mode via button (automatic mode)

The operation button is not disabled (see Disabling/enabling switch mode selection via button).

- Briefly press the button (7) repeatedly until the desired switch mode is selected. (Table 1)

The status LED (6) indicates the selected switch mode.

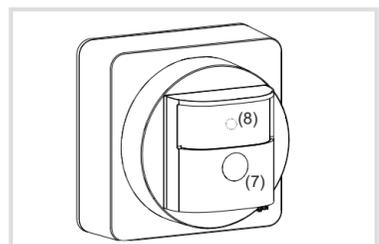


Fig. 2: Operating and display elements

Funktion	Party function	Teach-In	Keylock	Presence simulation
LED display	Red	orange	green	red
Hold time operation button	> 5 s	> 10 s	> 15 s	> 20 s

Fig. 3: Selection of the special functions and LED display

Button operation	LED display	Switch mode
Repeated short press on button	-	Automatic
	green	Permanent ON
	red	Permanent OFF

Table 1: Selection of switch mode and LED display

Disabling/enabling switch mode selection via button

The selection of the switch mode via the button can be locked, e.g. for operation in public buildings.

- Keep the button pressed for more than 15 seconds, until the status LED is flashing green (Figure 3).

Selection of the switch mode via the button is disabled.

or if the button is locked:

- Keep the button pressed for more than 15 seconds, until the status LED is flashing green (Figure 3).

Selection of the switch mode via the button is possible again.

Switch on lighting via push-button extension unit (table 2)

Optionally the lighting can be switched on via a mechanical push-button extension unit. For extension unit operation, the lighting is switched on independently of the set response brightness.

Lighting state	Operation button	Performance of the insert
OFF	Short press	Load is switched on for the set delay time
ON	Short press	Extension of switch-on time by the set delay time

Table 2: Operation via push-button extension unit

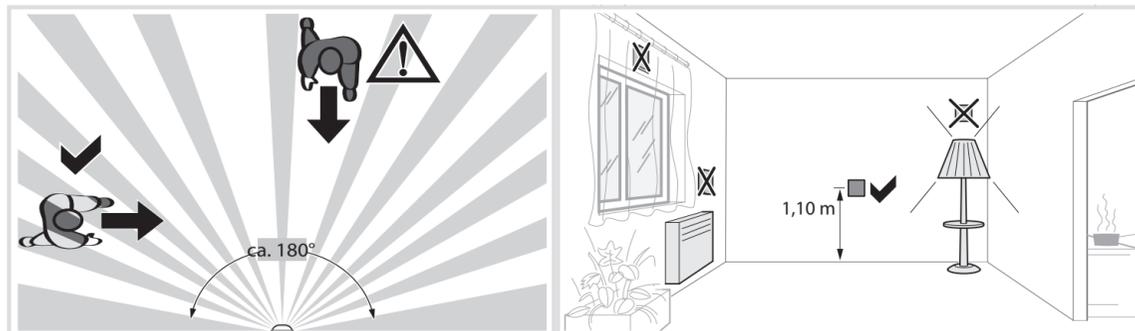


Figure 4: Installation location of the motion detectors and motion orientation

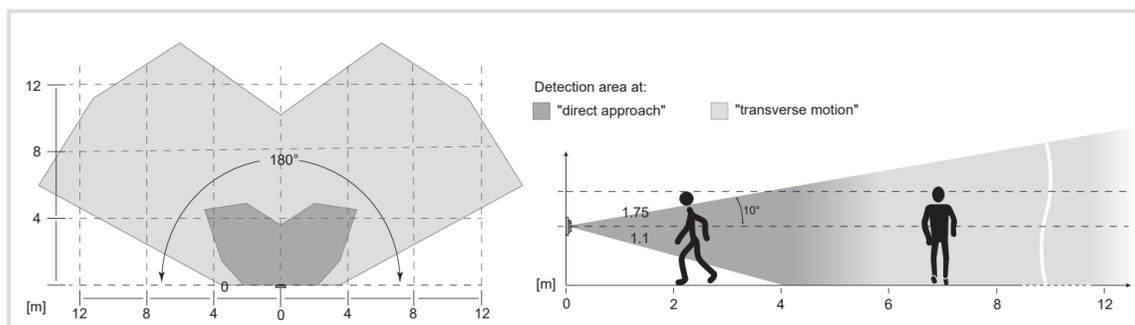


Figure 5: Detection area of the motion detector with nominal installation height 1.1 m

Activating/interrupting party function

The party function switches the lighting on for 2 hours.

- Keep the button pressed for more than 5 seconds, until the status LED is flashing red (Figure 3).

The lighting is switched on for 2 hours. During this time the status LED is flashing red. Upon elapse of 2 hours, the motion detector switches to Automatic/Semi-automatic operation mode.

- Briefly press the button or the extension unit. The party function will be cancelled, the motion detector returns to automatic/semi-automatic operation mode.

Activating/deactivating presence simulation

During operation, the motion detector counts the motion detections in one full hour and saves the result. With active presence simulation at the beginning of the hour with the most detections saved, the light will be switched on for the duration of the delay time, even no motion is detected.

During the presence simulation, presence detection and extension unit commands will continue to be executed normally.

- The presence simulation cannot be activated via the extension unit.

- Keep the button pressed for more than 20 seconds, until the status LED is slowly flashing red (Figure 3).

The presence simulation is active. During this time the status LED lights orange. The motion detector switches the lighting on at the saved time.

To deactivate presence simulation:

- While presence simulation is active, keep the button pressed for more than 20 seconds, until the status LED is slowly flashing red (Figure 3).

The presence simulation will be deactivated and the orange status LED will go out. The motion detector returns to the automatic/semi-automatic operating mode.

Installation and electrical connection

Selecting installation location

- Note recommended installation height of 1.1 m.
- Observe the motion orientation: a distinction is made between "direct approach" and "transverse motion". Motions transverse to the motion detector can be detected better than motions toward the motion detector (Figure 4, Figure 5).
- Select an installation location that is free of vibration. Vibrations can cause undesired switching.
- Avoid sources of interference in the detection area (Figure 5). Sources of interference, e.g. heating elements, ventilation systems, air conditioners and lamps that are cooling down can cause undesired switching (Figure 4).

To avoid disturbing influences, the detection angle can be restricted (see Restriction of the detection area).

! DANGER!
Touching live parts can result in an electric shock!
An electric shock can be lethal!
Disconnect the connecting cables before working on the device and cover all live parts in the area!

Connecting and installing the device

- Mount the mounting plate (1) correctly on a suitable surface (fastening material not within scope of delivery)
- Connect motion detector (3) according to the connecting diagram (Figure 6)
- Insert motion detector (3) into the mounting adapter (2) and snap onto the mounting plate.
- Attach upper casing (4) with mounting device (5) and cover (6) on the motion detector (3).

Commissioning

Basic settings

The basic settings for commissioning can be made directly using the motion detector operating elements. The operating elements for commissioning are located underneath the cover (6).

Removing cover

- Remove cover by hand (Figure 7)

Overview of operation and adjustment elements (Figure 8)

- (7) Button
- (8) Status LED
- (9) Detection angle adjuster
- (10) Response brightness potentiometer
- (11) Delay time potentiometer
- (12) Sensitivity potentiometer

Setting the detection area

The detection angle can be restricted for the right side and for the left side via each adjuster (Figure 8, 9) between 45° ... 90° for each adjuster. This can be carried out on the device. Thus the detection angle can be between 90° and 180° (Figure 9).

- Use the adjusters to set the detection angle for each side.

Further adjustments can be made to the detection area by activating/deactivating the motion sensors (see Setting the function of the detection sensors).

Setting the detection performance

Test mode must be used to test the detection performance. In test mode, the motion detector works independent of brightness. Each detection switches the lighting and status LED on for 1 second. Thereafter motion detection will be deactivated for 2 seconds.

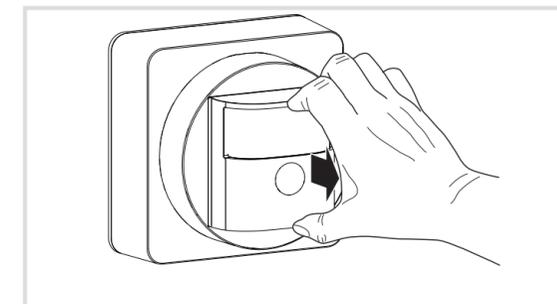


Figure 7: Dismantling of cover

The motion detector is connected and ready for operation.

- Set the response brightness potentiometer (Figure 8, 10) to Test (T).
 - Leave the detection area and observe the switching behaviour.
- If the motion detector switches on without motion in the detection area, then sources of interference are present (see Installation location).
- Reduce the sensitivity if necessary and blank out sources of interference by adjusting the detection angle or removing them.
 - Check the detection area using a detection test and adjust if necessary.

- 1 Test mode ends if no movement is detected for 3 minutes or a brightness value is set.
- 2 If the detection area of a motion detector is too small, it can be extended in the case of WXF051 by using stair motion detectors as extension units.

Setting the response brightness

The response brightness is the brightness value saved in the motion detector; when this value is undershot the motion detector switches the connected load if movements are detected. The response brightness can be set between approx. 5 (L) over 150 Lux (factory setting) to daytime operation (S). The S symbol stands for brightness-independent switching. The response brightness can be variably adjusted in the intermediate areas.

In order to control the lighting in stairwells in accordance with DIN EN12464-1, 2003-3, select the 150 Lux potentiometer setting.

- Turn the response brightness potentiometer (Figure 8, 10) to the desired position.

To save the current ambient brightness as response brightness, use the Teach-In function (see Saving response brightness automatically (Teach-In function)).

Saving response brightness automatically (Teach-In function)

- Keep the button (7) pressed for more than 10 seconds, until the orange status LED (8) is flashing.

The motion detector detects the current ambient brightness and saves it as response brightness.

- The brightness saved via Teach-In is active until a change occurs via the potentiometer.

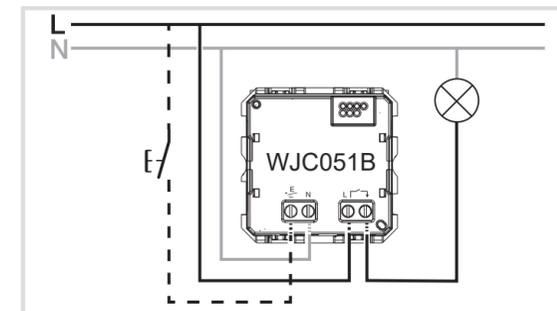


Figure 6: Connection of 3-wire motion detector

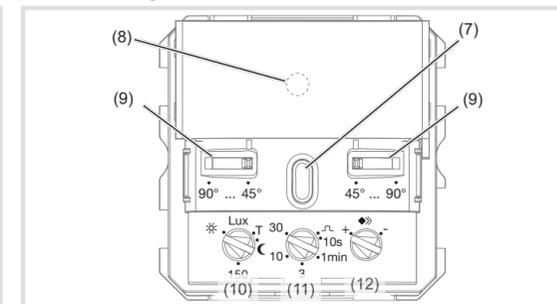


Figure 8: Operation and adjustment elements

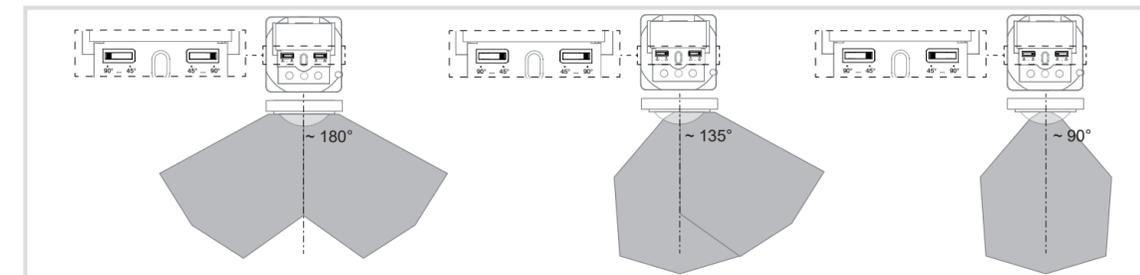


Figure 9: Setting the detection angle

Setting the delay time or pulse encoder mode

The delay time is the period of time saved in the motion detector which is the shortest time that the lighting is switched on for when the response brightness is undershot and motion is detected. The delay time can be set to pulse encoder mode or to the defined values 10 s, 1 min., 3 min. (factory setting), 10 min. and 30 min. Inbetween those values the setting is infinitely variable. Pulse encoder mode is suitable for controlling stair light/current pulse circuits. In pulse encoder mode, the 200 ms switching output is switched on when the response brightness is undershot and movement is detected. Motion detection is then locked for 10 s.

- Turn the delay time potentiometer (Figure 8, 11) to the desired position.
- Note that lights can be worn down due to frequent switching with very short delay times.

Setting the sensitivity

Detection is factory-set to maximum sensitivity. If there are frequent incorrect detections, the sensitivity can be reduced.

- Turn the sensitivity potentiometer (Figure 8, 12) to the desired position.

Expanded settings

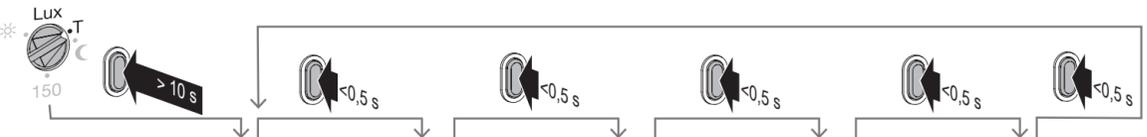
A special menu must be called up for expanded settings. An overview of the expanded settings can be found in Table 3.

Calling up special menu for expanded settings

- Turn the response brightness potentiometer (Figure 8, 10) to Test (T).
- Keep the button pressed for more than 10 seconds, until the status LED flashes blue once. The special menu for **automatic/semi-automatic mode** is activated.
- Press the button briefly and repeatedly to change the function. The sequence of settings and the LED display can be found in Table 3.
- The system will exit the special menu if the button is not pressed for 30 s or if the response brightness potentiometer is moved from the T position. Settings that have not been confirmed will be discarded.

Selecting automatic/semi-automatic mode (see Operating modes)

A description of the operating modes can be found in the **Function - Operating modes** section.



Status LED**	Function	Operating mode	Brightness evaluation in master/slave operation (3-wire device only)	Function of the detection sensors	Reset to factory setting	Load detection (2-wire device only)
The sections describing the individual functions explain how to select and confirm the relevant function.						
Status LED***	Function	Automatic*	Brightness evaluation on master only*	Full detection: left and right sensors active*		Automatic load detection*
Status LED***	Function	Semi-automatic	Brightness evaluation on master and slave	Only left sensor active		LED load detection
Status LED***	Function			Only right sensor active		

* Factory setting ** blinks in blue *** blinks in red

Table 3: Expanded settings in special menu

The motion detector is in the expanded settings special menu (see Calling up special menu for expanded settings).

- Briefly press the button repeatedly until the status LED flashes 1x blue on a cyclical basis. The selection for **automatic/semi-automatic mode** is activated.
- Keep the button pressed for approx. 2 seconds, until the status LED flashes red on a cyclical basis.
- Briefly press the button repeatedly until the LED displays the desired function (see Table 3).
- Keep the button pressed for approx. 2 seconds to confirm the selected function. The LED flashes 1x blue on a cyclical basis.
- Press the button briefly to call up the other submenus.

Setting brightness evaluation in master/slave operation

When using stair motion detectors as extension units, master/slave operation can be used to expand the detection area (WXF051 only). The connection and commissioning processes are described in the operating instructions for the stair motion detector (see Accessories). The brightness evaluation is set in this menu.

- The motion detector is in the expanded settings special menu (see Calling up special menu for expanded settings).
- Briefly press the button repeatedly until the status LED flashes 2x blue on a cyclical basis. The selection for **Brightness evaluation in master/slave operation** is activated.
- Keep the button pressed for approx. 2 seconds, until the status LED flashes red on a cyclical basis.
- Briefly press the button repeatedly until the LED displays the desired function (see Table 3).
- Keep the button pressed for approx. 2 seconds to confirm the selected function. The LED flashes 2x blue on a cyclical basis.
- Press the button briefly to call up the other submenus.

Setting the function of the detection sensors

The motion detector has two detection sensors which, in addition to being adjusted sideways, can be activated/deactivated individually in order to adjust the detection area.

The motion detector is in the expanded settings special menu (see Calling up special menu for expanded settings).

- Briefly press the button repeatedly until the status LED flashes 3x blue on a cyclical basis. The selection for **Function of the detection sensors** is activated.
- Keep the button pressed for approx. 2 seconds, until the status LED flashes red on a cyclical basis.
- Briefly press the button repeatedly until the LED displays the desired function (see Table 3).
- Keep the button pressed for approx. 2 seconds to confirm the selected function. The LED flashes 3x blue on a cyclical basis.
- Press the button briefly to call up the other submenus.

Resetting the device to the factory setting

- When the device is reset to the factory setting, all deviating settings are deleted. The motion detector is in the expanded settings special menu (see Calling up special menu for expanded settings).
- Briefly press the button repeatedly until the status LED flashes 4x blue on a cyclical basis. The selection for **Reset to factory setting** is activated.
- Hold the button down for more than 10 seconds. The device will automatically restart. The LED flashes 3x green. The load is switched on. The restart takes around 30 s. The device must then be recommissioned; standard settings will be used in the meantime.

Appendix

Technical data

Rated voltage	230 V~, + 10%/- 15%
Mains frequency	50 Hz
Standby power consumption	< 0,3 W
Response brightness	approx. 5 ... 1000 lux (∞)
Delay time	Pulse mode 200 ms; approx. 10 s ... 30 min
Sensitivity	approx. 10 ... 100 %
Detection angle	approx. 90 ... 180°
Detection area (1.1 m)	approx. 12 x 16 m
Degree of protection	IP 20
Relative humidity	85% max./20°C
Operating temperature	-5°C ... +45°C
Storage/transport temperature	-20°C ... +60°C
Overheating protection	thermal protection non resettable

Short circuit protection via circuit breaker	max. 10 A
Extension unit cable length	max. 50 m
Load cable length	max. 100 m
Connecting terminals conductor cross-sections	
- rigid	1 x 1.5 ... 2.5 mm ² 2 x 1.5 mm ²
- flexible	1 x 1.5 ... 2.5 mm ²
Mechanical impact resistance	IK07

Incandescent lamps	1500 W
HV halogen lamps	1500 W
LV halogen lamps with electronic transformers or dual-mode transformers	1500 W
NV halogen lamps with conventional transformers	1500 VA
Fluorescent lamps in lead-lag circuit	300 VA
Fluorescent lamps uncompensated	300 VA
Fluorescent lamps parallel compensated	300 VA
Energy-saving lamps	400 W
230 V LED lamps	400 W
Type of contact	Relay, µ-contact, NO contact
Number of extension units and motion detector extension units (WXF054)	max. 5

Operating conditions

Loadtype	Curve	Maximum output power in Watt (W)		
		25°C	35°C	45°C
Ohmic loads	A)	250	225	200
Transformers	B)	250	250	200
LED lamps	C)	70	60	50

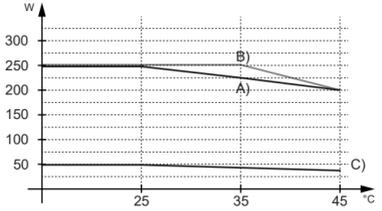
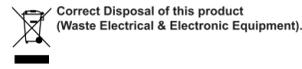


Diagram 1: Graphs of power loss depending on the ambient temperature

- Carry out loading of conventional and electronic transformers according to manufacturer's instructions.
- The performance data includes transformer power dissipation (20 % for inductive transformers and 10 % for electronic transformers).

Accessories

Supporting ring	WXA45..
Frame	WXP..
Design cover	WXD050..
Stair motion detector (for 3-wire device only)	WXF054



(Applicable in the European Union and other European countries with separate collection systems). This marking shown on the product or its literature indicates that it should not be disposed with other household waste at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this product from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this device for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes of disposal.

Usable in all Europe € € and in Switzerland.