

WXF054
Stair motion detector, 1.1 m

gallery

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) Modular supporting ring WXA45.. (not within scope of delivery)
- (2) Motion detectors
- (3) Design cover for motion detector WXD050.. (not within scope of delivery)
- (4) Frame WXP.. (not within scope of delivery)

Function

Correct use

- as extension unit for automatic switching of lighting via connected stair light time switches or 3-wire motion detectors (WXF051) depending on heat motion and ambient brightness
- manual switching via integrated button
- not suitable for stand-alone operation
- only suitable for use in indoor areas with no drip and no spray water.
- installation into wall box with at least 40 mm depth

Product characteristics

- integrated button for selecting operating modes
- lockable integrated button
- potentiometer for setting response brightness, operating mode and detection sensitivity
- adjustable detection angle for adaptation of the detection area

Operating modes

The motion detector detects heat motion caused by people, animals, or objects. When motion is detected, control pulses are triggered to switch on the lighting via the connected switching devices.

Operation with 3-wire motion detector as main unit:

- The light will be switched on for the delay time set on the main unit if movements are detected in the whole detection area (main unit and

extension units) 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 whole detection area and the set delay time has elapsed.

On the main unit, the user can specify whether only the brightness threshold of the main unit is to be used or whether the brightness at the extension units is also to be taken into account.

Operation with stair light time switch:

- The device will send a switch-on pulse if movements are detected in the detection area and the set brightness threshold is undershot. Each detected movement generates a new switch-on pulse.

The switch-on time and the behaviour of the lighting depend on the settings on the stair light time switch.

Operation

Operating concept (Fig. 2)

- (5) Button
- (6) Status LED (behind lens)

Operation is executed by pushing the button (5) on the motion detector:

- A short button press switches the connected lighting on/generates a switch-on pulse.
- Holding down the button activates the party function or keylock. Selection of the special functions is supported by the LED display (Fig. 3).

Switching the lighting via button

The operation button is not disabled (see Disabling/enabling lighting switching via button).

- Briefly press the button (5).
The lighting is switched on at the main unit

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 (Fig. 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 normal operation.
- Briefly press the button.
The party function will be cancelled, the motion detector returns to normal operation.

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 (Fig. 5). Sources of interference, e.g. heating elements, ventilation systems, air conditioners and lamps that are cooling down can cause undesired switching (Fig. 4).
- ! To avoid disturbing influences, the detection angle can be restricted (see Restriction of the detection area).

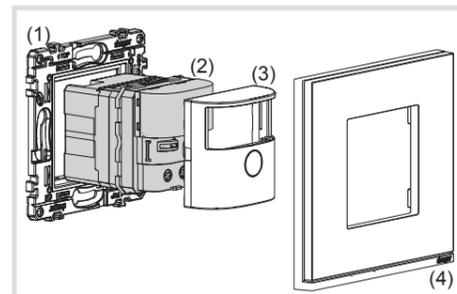


Figure 1: Design and layout of the device

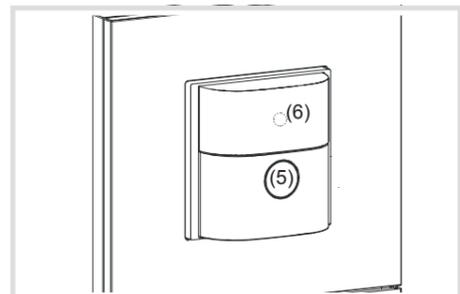


Fig. 2: Operating and display elements

Funktion	Party function	Keylock
LED display	Red	green
Hold time operation button	> 5 s	> 15 s

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

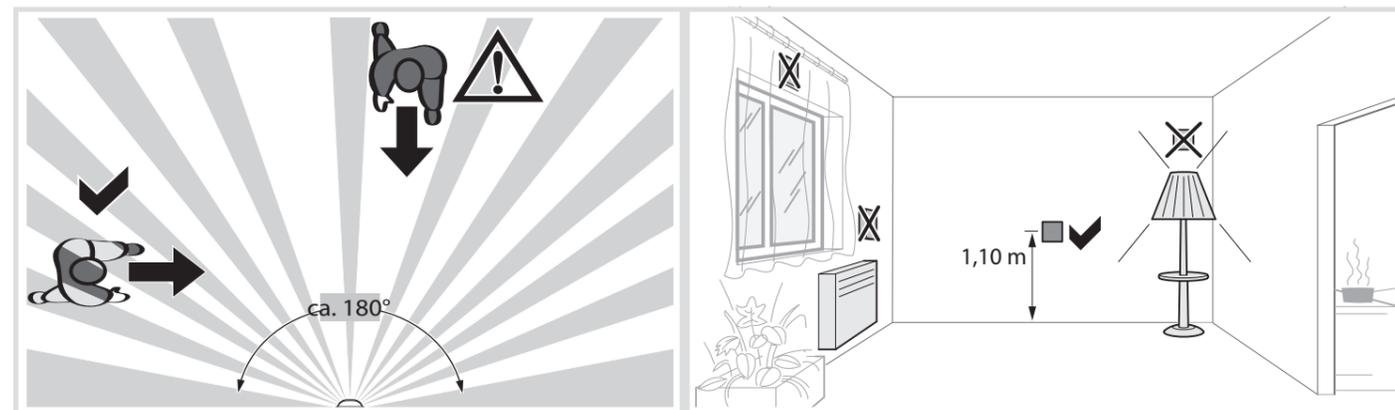


Figure 4: Installation location of the motion detectors and motion orientation

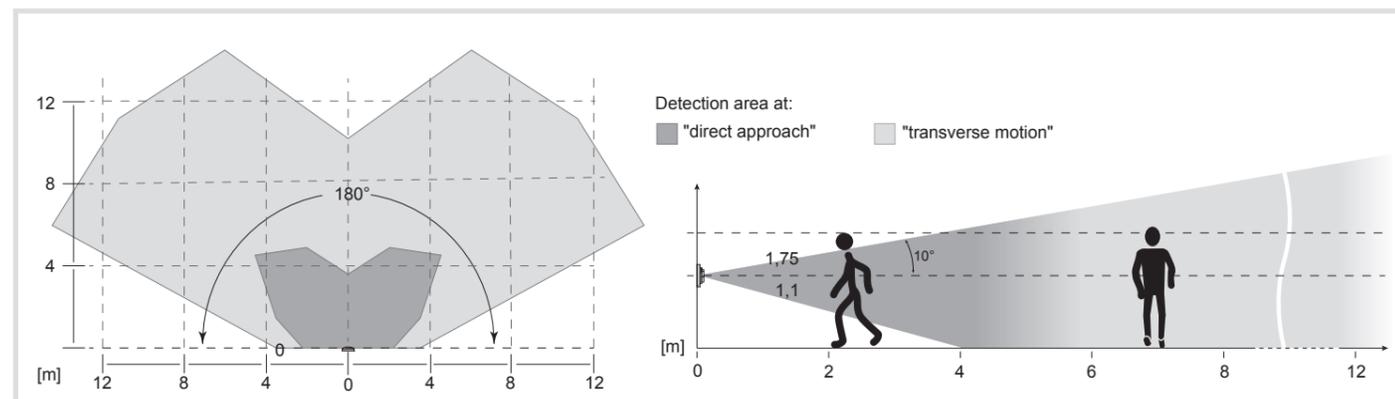


Figure 5: Detection area of the motion detector with nominal installation height 1.1 m

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

- Screw supporting ring (1) to a wall box in the correct position.
- Connect motion detector (2) according to the connecting diagram (figure 6/7).
- Snap motion detector (2) into the supporting ring.
- Snap cover (3).
- Fit frame (4).

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 (3).

Removing cover

- Remove cover by Hand. (Figure 8).

Overview of operation and adjustment elements (figure 9)

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

Setting operating mode

The motion detector provides two operating modes which can be selected via the operating mode potentiometer (Fig. 9, 11):

- 1 Operation with stair light time switch
- 2 Operation with 3-wire motion detector

One of the operating modes must be selected as the potentiometer is set to a neutral position on delivery.

- Turn the operating mode potentiometer to the desired position.

Setting the detection area

The detection angle can be restricted for the right side and for the left side via each adjuster (figure 9, 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° (Fig. 10).

- 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.

The motion detector is connected and ready for operation.

- Set the response brightness potentiometer (Fig. 9, 10) to 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.

Test mode ends if no movement is detected for 3 minutes or a brightness value is set.

If the detection area of a motion detector is too small, it can be extended by using additional stair motion detectors.

Setting the response brightness

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

In operation with a 3-wire motion detector, the response brightness of the device is not evaluated in the factory setting. In order for the response brightness of the stair motion detector to be taken into account, the **Brightness evaluation on master and slave** setting must be selected on the 3-wire motion detector.

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 (Fig. 9, 10) to the desired position.

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 (Fig. 9, 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 1.

Calling up special menu for expanded settings

- Turn the response brightness potentiometer (Fig. 9, 10) to Test (T).

- Keep the button pressed for more than 10 seconds, until the status LED flashes 3 x blue.

The special menu for **Function of the detection sensors** 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.

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 1).

- Keep the button pressed for approx. 2 seconds to confirm the selected function.

The LED flashes 3x blue on a cyclical basis.

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 (∞)
Sensitivity	approx. 10 ... 100 %
Detection angle	ca. 90 ... 180°
Detection area (1.1 m)	approx. 12 x 16 m
Degree of protection	IP 20
Relative humidity	95% max./20°C
Operating temperature	-5°C ... +45°C
Storage/transport temperature	-20°C ... +60°C
Overheating protection	thermal protection, non resettable

Extension unit cable length	max. 50 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

Accessories

Supporting ring	WXA45..
Frame	WXP..
Design cover	WXD050..

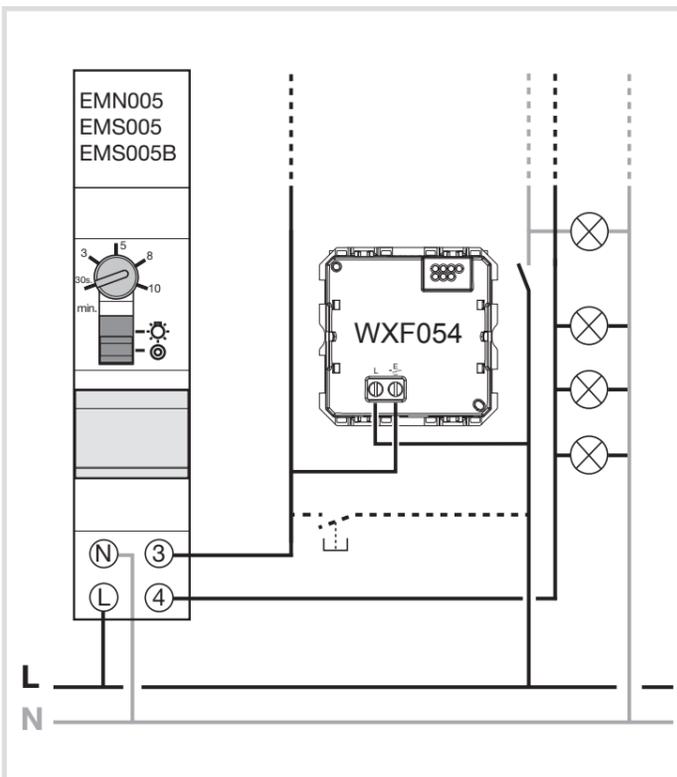


Figure 6: Connection to stair light time switch, e.g. Hager

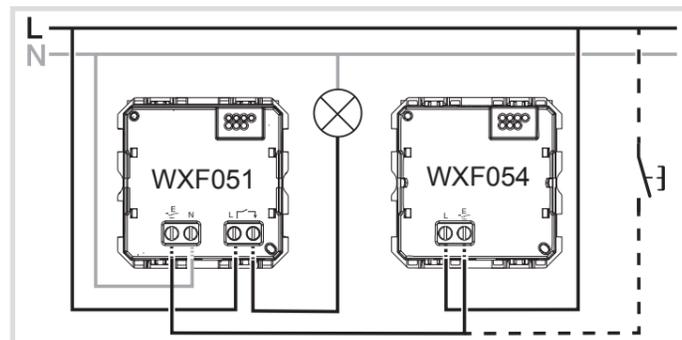


Figure 7: Connection with 3-wire motion detector with optional extension unit push-button

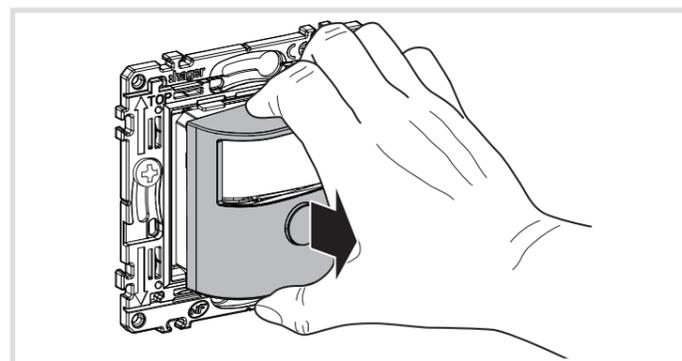


Figure 8: Dismantling of cover

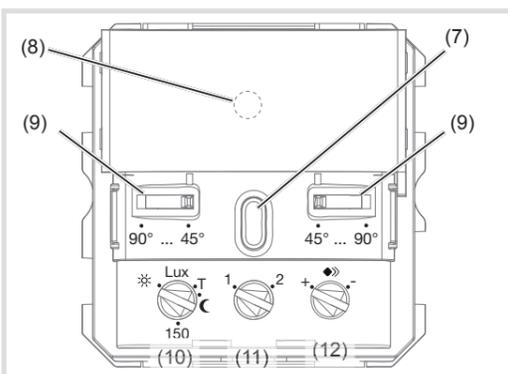


Fig. 9: Operation and adjustment elements

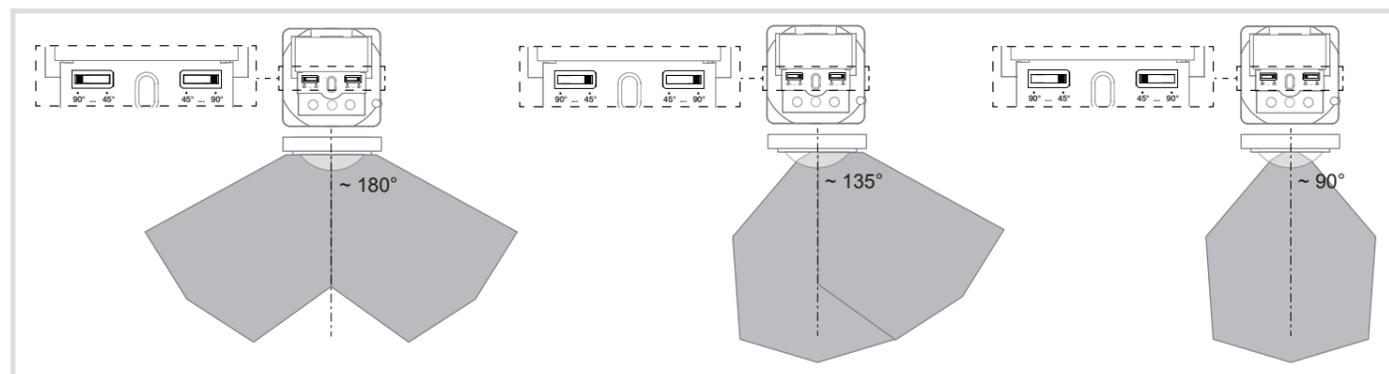
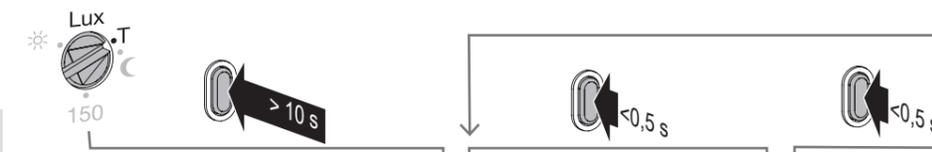


Figure 10: Setting the detection angle



LED display special menu**	Function of the detection sensors	Reset to factory setting
Function	The sections describing the individual functions explain how to select and confirm the relevant function.	
LED***	■	
Function	Full detection: left and right sensors active*	
LED***	■ ■	
Function	Only left sensor active	
LED***	■ ■ ■	
Function	Only right sensor active	

* Factory setting ** flashes blue *** flashes red

Table 1: Expanded settings in special menu