eNet motion detector
Art. no.: FMDW360WW

Operating instructions

1 Safety instructions

Electrical devices may only be mounted and connected by electrically skilled persons.

Serious injuries, fire or property damage possible. Please read and follow manual fully.

The radio communication takes place via a non-exclusively available transmission path, and is therefore not suitable for safety-related applications, such as emergency stop and emergency call.

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

2 Battery safety instructions

This device or its accessories are supplied with batteries in the form of alkaline batteries LR03.

DANGER! Batteries can be swallowed. This can lead directly to death by suffocation.
Keep new and used batteries away from children.
Do not use devices if the battery compartment does not close securely and keep away from children.
If you suspect that a battery has been swallowed or is in any orifice of the body, seek immediate medical attention.

WARNING! Improper handling of batteries can result in explosion, fire or chemical burn due to leakage.

Do not heat or throw batteries into fire.
Do not reverse polarity, short-circuit or recharge batteries.
Do not deform or disassemble batteries.
Replace batteries only with an identical or equivalent type.
Remove empty batteries immediately and dispose of in an environmentally friendly manner.
Exchange all batteries at the same time. Only use batteries of the same type and manufacturer.
Do not combine old and new batteries.

3 Intended use

– Automatic switching of lighting depending on the heat motion and ambient brightness
– Operation only with radio actuators for switching and dimming from the eNet system
– Ceiling mounting, surface-mounted, in dry interiors

4 Function

Product characteristics

– LED for signalling
– Battery-powered device
– Brightness threshold settable
– Run-on time adjustable
– Sensitivity can be set

Can be set with eNet server:

– Disabling of manual commissioning
– Longer run-on time adjustable
– Brightness threshold settable
– Power saving level

– Transmission behaviour

Supplementary functions with eNet Server
– Fully encrypted radio transmission (AES-CCM)
– Operation with eNet server from version 2.2
– Update of the device software
– Reading of error memory

Automatic operation

The device detects heat motions of people, animals and objects.
– The light is switched on via a connected actuator if a person enters the detection field and the brightness threshold is below the set brightness threshold.
– The run-on time restarts with each detected motion.
– The light is switched off if no more movement is detected in the detection field and the run-on time in the actuator has elapsed.

Limiting the switch-on time

If the parameter “Manual switch-off of run-on time” is switched off in the actuator, the light is switched off after 90 minutes at the latest. This is also the case when there is constant motion in the detection field. The light is only switched on again if the brightness drops below the threshold and motions are detected.
If the parameter “Manual switch-off of the run-on time” is activated in the actuator, there is no limitation.

Display of battery status

After transmission, the status LED (4) (Figure 4) flashes slowly after 3 seconds. The batteries are almost empty and should be replaced (see chapter “Inserting batteries”).

5 Operation

For manual operation, a radio hand transmitter, for example, must be connected to the radio actuator in addition to the ceiling detector.

The parameter “Manual switch-off of run-on time” is switched off in the actuator (factory setting).

The radio transmitter can be used to make the following settings:
– The actuator can be switched on independently of the brightness for the run-on time saved in the actuator.
– The run-on time saved in the actuator can be restarted.
– The display brightness can be set in combination with a dimming actuator.

i As long as the sensor detects a movement in the detection field, the actuator remains switched on.

i The actuator cannot be switched off.

The parameter “Manual switch-off of the run-on time” is activated with the eNet Server.

The radio transmitter can be used to make the following settings:
– The actuator can be switched on independently of the brightness for the run-on time saved in the actuator.
– The run-on time saved in the actuator can be restarted.
– The display brightness can be set in combination with a dimming actuator.

i As long as the sensor detects a movement in the detection field, the actuator remains switched on.

– The actuator can be switched off.

i If the actuator was switched off manually, automatic switching on of the sensor is locked for 3 minutes. Any motions that are detected extend the time. Manual switching on via the radio transmitter is possible at any time.

6 Information for electrically skilled persons

Selecting installation location

The sensor is installed on the ceiling and monitors the surface below. The sensor has a detection area of 360° and is more sensitive in the central area than in the peripheral area.

The detection of heat sources by a motion detector and thus the extent of the detection field is influenced by the following criteria: Mounting height, sensitivity setting and direction of movement. Tangential movements can be detected better than radial movements. The range is therefore greater for tangential movements than for radial movements.

i The specifications on the extent of the detection field are general guide values. Discrepancies can occur depending on the installation environment and the intensity of the heat motion.

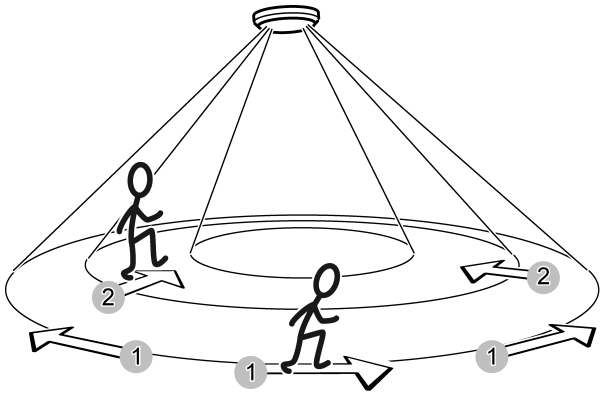

Figure 1: Detection field

1: Range for tangential movement on the ground is approx. Ø 8 m (Figure 1)
2: Range for radial movement on the ground is approx. Ø 5 m (Figure 1)
These specifications refer to mounting on the ceiling at a mounting height of 2.5 m. The detection field becomes larger for mounting heights above 2.5 m, while the detection density and sensitivity are reduced at the same time.

- Select a vibration-free installation location. Vibrations can lead to unwanted switching.
- Avoid interference sources in the detection area. Interference sources can trigger the motion detector, e.g. heat sources such as heating units, outlets from ventilation openings or air conditioners, copiers, printers, coffee machines, draughty doorways, animals etc.

i The detection field can be limited in order to minimise the influence of interference sources. For this, use the push-on cover (see “Limiting the detection field using the push-on cover”).

Fitting the device

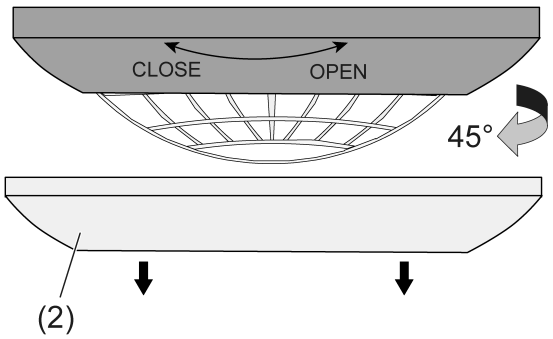

Figure 2: Disconnect sensor from base plate

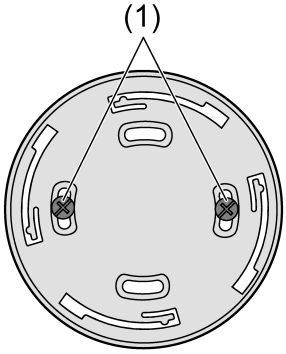

Figure 3: Fasten the base plate

- Pay attention to correct alignment of the base plate already during mounting.
- Align the device so that the brightness sensor (3) (Figure 4) is on the side away from the windows. This reduces the effects of scattered light.
- Pull off decor ring (2) (Figure 2).
- Turn the sensor by approx. 45° in the **OPEN** direction to disconnect it from the base plate (Figure 2).
- Fasten the base plate to the ceiling using screws (1).
- Perform commissioning.

Expanding the detection field

To expand the detection field, multiple motion detectors can be connected to one actuator. The devices work independently of each other. Sensitivity, brightness threshold and run-on time are set for each device. When motion is detected, each motion detector sends a telegram to the actuator. The actuator evaluates the telegrams of the individual motion detectors and switches the load accordingly. The longest run-on time sent is always executed.

7 Commissioning

DANGER!

Mortal danger of electric shock.

During commissioning, cover the parts carrying voltage on radio transmitters and actuators and in their surrounding area.

Notes on commissioning

– The sensor can also be commissioned with eNet Server as an alternative to the commissioning described here.
– The adjusters (5-7) are located behind the decorative ring (2).
– The light guide (3) for brightness detection is also the **Test/Prog.** button
– The status LED (4) is located behind the lens

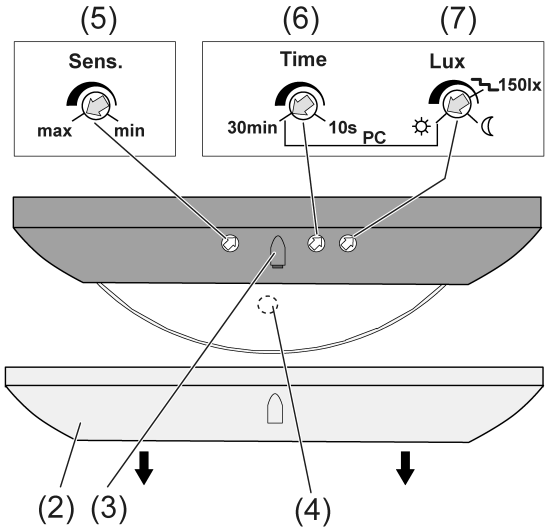

Figure 4: Adjuster

Without eNet Server the commissioning should be carried out in the following order. This prevents an actuator connected to the sensor from saving an undesired run-on time.

– Set the run-on time on the sensor. The adjuster **Lux** (7) must not be set to **PC** for a run-on time of 30 min.
– Insert batteries
– Connect sensor to actuator
– Trigger a telegram on the sensor through movement in the detection field
– Perform walking test
– Set sensitivity and brightness threshold

Default settings

In the delivery condition, the adjusters **Time** (6) and **Lux** (7) are in the **PC** position. The sensor can only be programmed with the eNet server if both adjusters are set to **PC**. Values for the run-on time and the brightness threshold are preset at the factory.

i As soon as one of the two adjusters is shifted from position **PC** and a telegram is subsequently triggered, the sensor operates with the currently set values.

Adjuster	Position	Value
Sens. (5)	**max**	100%
Time (6)	**PC**	2 min
Lux (7)	**PC**	2000 lx

Insert batteries

i Obey the battery safety instructions.

i If the sensor is to be operated with the factory settings, the adjusters **Time** (6) and **Lux** (7) (Figure 4) must be in position **PC** before inserting the batteries. If this is not the case, the values for the run-on time and the brightness threshold are replaced by the values entered at the adjusters. To use the values of the factory setting again, the sensor must be reset to the factory setting (see chapter “Resetting the sensor to factory setting”).

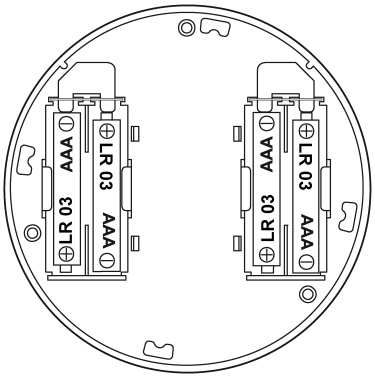

Figure 5: Insert batteries

- Pull off decor ring (2).
- Turn the sensor by approx. 45° in the **OPEN** direction to disconnect it from the base plate (Figure 2).
- Insert batteries with correct polarity (Figure 5).

  The status LED (4) lights up for 1 minute. The sensor performs a self-test. No movements are recorded during this time.
- Place the sensor on the base plate and turn it by approx. 45° in the **CLOSE** direction until the sensor audibly engages.
- Attach decor ring (2).

Setting the sensitivity

i The sensitivity cannot be set via the eNet Server.

- Turn adjuster **Sens.** (5) (Figure 4) in **max** direction for higher sensitivity or in **min** direction for lower sensitivity.

Set run-on time

The run-on time is set between approx. 10 seconds and 30 minutes using adjuster **Time** (6). The run-on time can be set between 10 seconds and 60 minutes using eNet server.

i The actuator saves the first run-on time received. The actuator uses it for every switch-on command of a transmitter, e.g. of a wall transmitter that does not transmit its own run-on time. The run-on time saved in an actuator can only be subsequently changed with the eNet Server or after a factory reset of the actuator.

- Turn adjuster **Time** (6) (Figure 4) to the desired value.

Setting the brightness threshold

The brightness value measured at the sensor corresponds to the brightness below the installation location. If the current brightness value is to be set as the brightness threshold, it is recommended to activate the walking test and then to slowly turn the adjuster **Lux** (7). The status LED (3) indicates for each detected movement whether the brightness threshold is exceeded or not reached (see Testing detection field).

- Turn adjuster **Lux** (7) (Figure 4) to the desired value.

Icon	Brightness threshold
☾	approx. 5 lx
150lx	approx. 150 lx*
☼	Brightness-independent – day operation

* Setting for stairways according to DIN EN12464-1, 2003-03

Resetting sensor to factory setting

The connections to the actuators and to the eNet Server are disconnected and parameters are reset to the factory setting.

i The connections in the actuators and eNet Server are preserved and must be deleted separately.

- Turn adjuster **Time** (6) and **Lux** (7) (Figure 4) to **PC** position.
- Press the **Prog.** (3) button (Figure 4) for longer than 20 seconds.
  The status LED (4) flashes after 4 seconds. The status LED (4) flashes faster after 20 seconds.
- Release the button and press it briefly once again.
  The status LED (4) flashes more slowly for approx. 5 seconds.
  The sensor is reset to the factory setting.

i If adjusters **Time** (6) and **Lux** (7) have not been turned to the PC position, the values for the follow-up time and the brightness threshold are taken over by the adjusters.

Connecting to radio actuator

i Up to 10 radio actuators can be connected to a transmitter in a single step.

- Switch the actuator to programming mode (see actuator instructions).
- Press the **Prog.** (3) button (Figure 4) for longer than 4 Sekunden.
  Status LED (4) (Figure 4) flashes. The sensor is in programming mode for approx. 1 minute.
- Press button **Prog.** (3) briefly.
  The status LED of the actuator lights up for approx. 5 seconds. The sensor is connected to the actuator. The sensor and actuator exit the programming mode automatically.

i If the status LED of sensor (4) flashes 3 times at 1-second intervals for approx. 5 seconds, then the programming procedure was not successful. The actuator is outside radio range, not in programming mode or there are radio faults.

i If the status LED of the actuator flashes 3 times at 1-second intervals for approx. 5 seconds, then the programming procedure was not successful. All memory locations in the actuator or sensor are occupied.

i Press the **Prog.** button once again for longer than 4 seconds to terminate the programming mode prematurely.

Disconnecting connection to an actuator

- Carry out the same steps as when connecting (see the chapter Connecting to radio actuator).
  The status LED of the actuator flashes quickly for 5 seconds. The actuator is disconnected from the sensor. The sensor and actuator exit the programming mode automatically.

Testing the detection field

i The walking test should not be started until the connected actuators have received at least one telegram with the desired settings for the run-on time from the sensor. If this is not the case, the actuators save the 1-second run-on time of the walking test.

i If the sensor detects movement during the walking test, it switches on the connected actuator for approx. 1 second. If the brightness threshold is not reached, the status LED (3) (Figure 4) lights up for approx. 1 second. If the brightness threshold is exceeded, the status LED (3) flashes quickly for approx. 1 second. In order for the shortened run-on time of 1 s to be effective in the actuator during the walking test, a longer run-on time must not be active in the actuator when the walking test is activated. Ideally, the walking test is activated when the actuator is switched off.

- To activate the walking test: Press **Prog** button (3) (Figure 4) for less than 1 second.
- Pace off the detection field, paying attention to reliable detection and interference sources. If necessary, limit the detection field by using the push-on cover or reduce the sensitivity with adjuster **Sens.**.
- If required, adjust the brightness threshold with adjuster **Lux**.

- To exit the walking test: Press **Prog** button (3) briefly or wait for approx. 5 minutes.

Limiting the detection field using the push-on cover

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

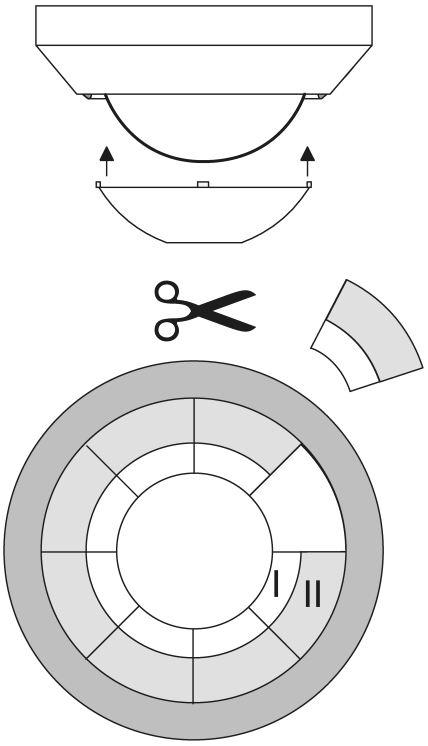

Figure 6: Push-on cover

Size	Tangential detection field (mounting height 2.5 m)
Complete push-on cover	Ø approx. 2.2 m
Area I cut out	Ø approx. 4.0 m
Areas I + II cut out	Ø approx. 6.0 m
without push-on cover	Ø approx. 8.0 m

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

The detection field can alternatively be limited by reducing the sensitivity.

8 Disposal of batteries

Remove empty batteries immediately and dispose of in an environmentally friendly manner. Do not throw batteries into household waste. Consult your local authorities about environmentally friendly disposal. According to statutory provisions, the end consumer is obligated to return used batteries.

9 Technical data

Rated voltage	DC 6 V
Battery type	4×alkaline LR 03

Ambient temperature	-5 ... +45 °C
Degree of protection	IP20
Brightness setting	approx. 5 ... 2000 lx (and day operation)
Sensitivity	25 ... 100%
Run-on time	approx. 10 s ... 30 min (60 min with eNet Server)
Installation height	2.5 m
Detection angle	360°
Detection field	
Radial	Ø approx. 5 m
Tangential	Ø approx. 8 m
Dimensions Ø × H	103 × 42 mm
Transmitting range in free field	typ. 100 m
Radio frequency	868.0 ... 868.6 MHz
Transmission capacity	max. 20 mW
Receiver category	2

10 Parameter list

The device parameters can be changed with the eNet server:

Device and channels

Parameter name	Setting options, Basic setting	Explanations
Function	Motion detection, not used Default setting: Motion detection	**Motion detection** The channel works as a motion detector **Unused** The channel is not displayed in the **eNet SMART HOME app** and is disabled for use in the commissioning interface.

Advanced device settings

Parameter name	Setting options, Basic setting	Explanations
Manual commissioning	On, Off Basic setting: On	Disables manual commissioning for all device channels. In the "Off" setting, the device cannot be reset to the factory setting.

Channel settings

Parameter name	Setting options, Basic setting	Explanations
Brightness evaluation	On, Off Basic setting: On	**On** The currently measured brightness value is also taken into account during each motion detection. **Off** The current brightness value

Parameter name	Setting options, Basic setting	Explanations
		is ignored and the device works brightness-independent (day operation). This setting does not affect the transmission of brightness values to the eNet Server for use in the **eNet SMART HOME app**
Brightness threshold	5 ... 2000 lx Basic setting 2000 lx	A motion signal is evaluated below the set brightness threshold. This only applies to the first detection of a movement (light is not yet switched on).
Run-on time	10 s ... 60 min Basic setting: 2 min	The sensor transmits the set run-on time during each motion detection. Connected actuators remain switched on for this time. Should proprietary run-on times be set in the actuators, then they will be ignored.

Extended channel settings

Parameter name	Setting options, Basic setting	Explanations
Manual commissioning	On, Off Basic setting: On	Blocks manual commissioning for the device channel. In the "Off" setting, the device cannot be reset to the factory setting.
Local Operation	On, Off Basic setting: On	Blocks the device channel for local operation. With this device, the parameter has no function.
Power saving level	Low, Medium, High Basic setting: Low	Extends battery life by reducing measurements and transmissions in locations with frequent movement. The power saving level should be set to High in areas with frequent movement (maximum idle time). The power saving level should be set to Medium in areas with limited movement and a short run-on time (ranging from seconds to a few minutes) (medium idle time). The power saving level can be set to Low in areas with limited movement and a long run-on time (minimum idle time).

Parameter name	Setting options, Basic setting	Explanations
Transmission behaviour	Do not send brightness values / power-optimised Do not send brightness values / power-optimised Send brightness values automatically / power-optimised Send brightness values automatically / information-optimised Basic setting: Send brightness values automatically / power-optimised	**Power-optimised:** If movements are constantly detected, the device sends a telegram after 3 minutes at the latest. This setting should be selected if the telegrams are not used by the eNet Server. **Information-optimised:** If movements are constantly detected, the device sends a telegram after 1 minute at the latest. This setting should be selected if the telegrams are used by the eNet Server, e.g. to control functions. **Do not send brightness values:** The device does not send any brightness values. **Send brightness values automatically:** The device sends the measured brightness values. Der eNet Server can use these to e.g. control brightness-dependent functions.

11 Troubleshooting

Actuator does not switch on

Cause 1: The ambient brightness is greater than the brightness threshold set on the sensor.
Set brightness threshold.

Cause 2: Sensor does not detect any motion.
Increase sensitivity.
Check the push-on cover.

Cause 3: Actuator does not receive any telegrams from the sensor.
Check radio reception.

Cause 4: Sensor and actuator are not connected.
Connect sensor to actuator (see chapter Connecting to radio actuator).

Cause 5: The actuator was switched off manually with a radio transmitter (see chapter Operation).

– Switch on actuator with radio transmitter manually.
– Ensure that there is no motion in the detection field for 3 minutes.

Actuator switches on without any motion

Cause 1: Interference sources in the detection field.
Remove interference sources if possible.
Reduce sensitivity.
Limit the detection field using the push-on cover.

Cause 2: The actuator is connected with a radio transmitter which was used for manual switching on.

Actuator switches off despite motion

Cause 1: Sensor does not detect any motion.

Increase sensitivity.

Cause 2: Detection area is limited by push-on cover.

Check the push-on cover.

Cause 3: The parameter “Manual switch-off of run-on time” is switched off in the actuator. The actuator switches off after 90 minutes, even if the sensor still detects motion.

Actuator does not switch off

Cause 1: Interference sources in the detection field, sensor detects motion constantly.

Remove interference sources if possible.

Reduce sensitivity.

Limit the detection field using the push-on cover.

12 Conformity

Albrecht Jung GmbH & Co. KG hereby declares that the radio system type art. no. FMD-W360WW meets the directive 2014/53/EU. You can find the full article number on the device. The complete text of the EU Declaration of Conformity is available under the Internet address: www.jung.de/ce

13 Warranty

The warranty is provided in accordance with statutory requirements via the specialist trade.

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