ESYLUX

OPERATING INSTRUCTIONS
BASIC EXPRESS MD/PD

ON/OFF

Document no.	Date	Comment
MA02209101	26/02/2024	2. edition

© ESYLUX GmbH
An der Strusbek 40 | 22926 Ahrensburg | Germany

Subject to change without notice.
Reproductions, including translations into other languages or reuse of content for other purposes, may only be authorised by written consent from ESYLUX GmbH.

Table of contents

1. Introduction 5
1.1 Manufacturer/Contact 5
1.2 Product Identification 5
1.3 Content and meaning of the document 6

2. Safety 6
2.1 Intended use 6
2.2 Staff qualifications 7
2.3 Instructions 7

3. Overview 9
3.1 Scope of delivery 9
3.2 Technical data 9

4. Operation 12
4.1 Conditions in which the lighting is switched on 13
4.2 Conditions in which the lighting is switched off 13
4.3 Switching delay – not in pulse mode 13

5. Installation 14
5.1 Mechanical work 14
5.2 Circuit diagram 15
5.3 Electrical work 15

6. Activation 19
6.1 Overview of factory settings 19

7. Settings 19

7.1 Control via external “S” button 19
7.2 Configuring parameters via remote control 20
7.3 REMOTE CONTROL MDi/PDi (EM10425509) 20
7.4 REMOTE CONTROL MDi/PDi temporary settings 21
7.5 Programming the REMOTE CONTROL MDi/PDi 22
7.6 Configuring parameters via ESY app with ESY-Pen 24
7.7 Installing the ESY app 25
7.8 Connecting the ESY-Pen to the ESY app 26

8. Troubleshooting 27

9. Cleaning and Maintenance 28

9.1 Maintenance 28
9.2 Cleaning 28

10. Decommissioning 28

10.1 Disassembly 28
10.2 Disposal 28

1. Introduction

1.1 Manufacturer/Contact

If you have questions about the product, need help with the app or are planning extensions, do not hesitate to get in touch with us:

ESYLUX GmbH
An der Strusbek 40
22926 Ahrensburg
Germany

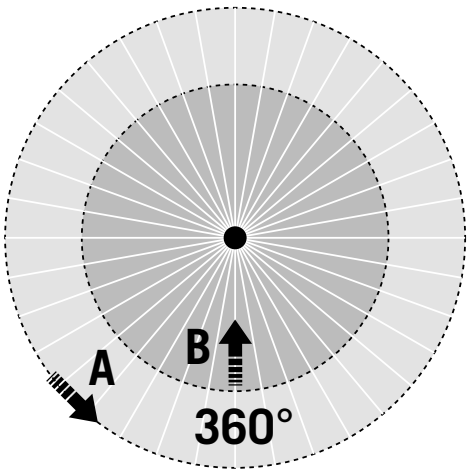
Phone: +49 4102 489-0
E-mail: info@esylux.com
Internet: www.esylux.com

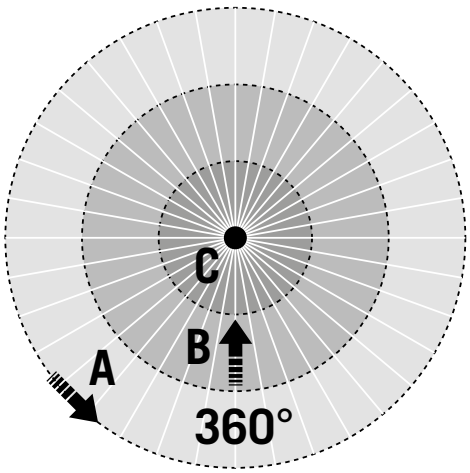
1.2 Product Identification

This document applies to the following products:

Item name	A	B	C	H	H_{max}	Item number
BASIC EXPRESS MD 360° 08 IR 1C FM IP23 WH	8	5	-	2.5	5	EB10431777
BASIC EXPRESS PD 360° 08 IR 1C FM IP23 WH	8	5	4	2.5	5	EB10431784

A: Detection range transverse Ø [m]
B: Detection range frontal Ø [m]
C: Presence range Ø [m]
H: Recommended mounting height [m]
H_{max}: Maximum mounting height [m]





1.3 Content and meaning of the document

This document contains detailed information about the installation, configuration and complex functions of the product.

The current document is available for download as a PDF at www.esylux.com. It can be printed out if required.

- Read the document before using the product.
- Pay particular attention to the safety and warning instructions.
- If you have any questions, contact the manufacturer.
- Keep the document in a safe place.
- If other people use the product, give this document to them.

Information

Important or useful additional information

2. Safety

2.1 Intended use

The product may only be used as follows:

- The product is intended exclusively for indoor use and ceiling mounting with fixed installation.
- The use of unsuitable components, modifications to the product and unauthorised repairs are not permitted.
- The product may only be used if it is in technically fault-free condition.

In the event of improper use, the manufacturer generally excludes any resulting personal injury or property damage.

2.2 Staff qualifications

Installation, commissioning and other work on the 230 V mains may only be carried out by electricians or electrical specialists in keeping with the country-specific regulations.

Configuration and operation can also be performed by individuals with no electrical engineering qualification.

If you need assistance with the configuration, contact an electrical fitter or a qualified electrician.

2.3 Instructions

- Work on the 230-V power system must be carried out by authorised personnel only, with due regard to the applicable installation regulations / standards.
- Switch off the power supply before installing the system.
- On the input side, the device is to be protected against short circuits with a 10-A circuit breaker.
- Protection type IP23 for interior use.

Nevertheless, there are the following residual risks:

⚠ WARNING!

Risk of fatal injury from electric shock.
Working on the 230 V mains can result in death or serious injury.
– Always observe the 5 safety rules:
1. Switch off.
2. Secure against being switched on again.
3. Make sure that no voltage is present.
4. Earth and short-circuit.
5. Cover adjacent live parts.

⚠ WARNING!

Risk of fatal injury from interfering with the device.
Opening and modifying the device can result in death or serious injury – also for any others working on the system.
– Only remove the connection cover of the Powerbox for installation.

⚠ CAUTION!

Risk of injury due to improper installation.
When inserting the device into the installation opening, the raised mounting springs may snap back.
– Do not release the mounting springs before inserting them into the installation opening.

NOTICE

Risk of damage due to improper cleaning.
Cleaning with alcoholic, corrosive or abrasive cleaning agents or scouring pads can damage the surface and lens of the device and cause malfunctions.
– Use a soft cloth dipped in detergent solution for cleaning.

3. Overview

3.1 Scope of delivery

The product scope of delivery comprises:

- Device
- 2 cable tie for strain relief
- Brief instructions for installation and commissioning

3.2 Technical data

	Basic Express
General	
Device category	Ceiling mounted presence or motion detector
Control system	ON/OFF
Status signalling	Single colour LED
User Interface	ESY-App
Ambient temperature	-25 °C to +50 °C
Relative humidity	5-93 %, non-condensing
Conformity	CE, EAC, RoHS, WEEE
Operating voltage	230 V~
µ = contact opening width	≤ 1.2 mm
Target brightness value approx.	10 - 2000 lux
Switching capacity	230 V/50 Hz 2300 W/10 A (cos phi = 1) 1150 VA/5 AX (cos phi = 0,5) 400 VA LED (cos phi > 0,9)

	Basic Express
Max. inrush current	78 A / 5 ms
Switch-off delay time	Short pulse/1 min, 2 min, 5 min, 10 min, 15 min, 30 min (via ESY-App)
Protection type / protection class	IP23 / II
Operating temperature range	-25 °C...+50 °C
Test mode	Not implemented
Push button input	1
Brightness switching hysteresis	Time delay from light to dark: 30 secs Time delay from dark to light: 5 mins

Mounting	
Mounting type	Flush installation
Mounting location	Ceiling
Installation opening Ø	68 mm
Ceiling thickness max.	30 mm
Installation depth	57 mm
Connection type	Push-in terminal
Connectable conductor cross-section	0.5-2.5 mm^2
Stripping length	10 mm
Cable length to a push-button/switch max.	30 m

	Basic Express
Housing	
Outer diameter Ø	79 mm
Housing height	79 mm
Material	UV-stabilised polycarbonate
Colour	White, similar to RAL 9010
Protection class	IP23
Electrical version	
Mains voltage	230 V~ ±10 %
Mains frequency	50-60 Hz
Power consumption	0.4 W
Standby consumption	<0.4 W
Protection class	II

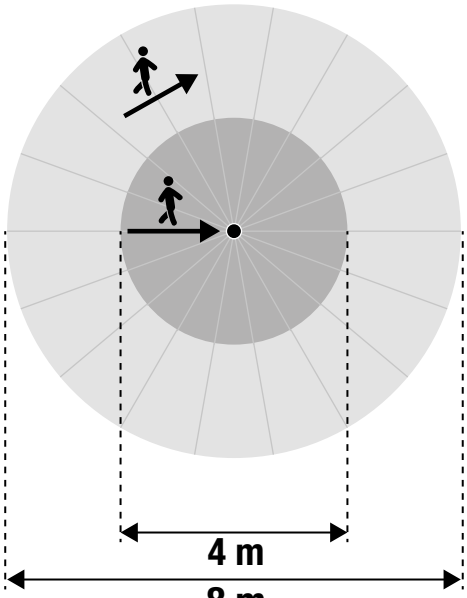
4. Operation

- 360° field of detection, 8 m range at an installation height of 2.5 m.
- Automatically controlled lighting channels when motion is detected.
- With zero-cross switching.

Detection range

2.5 m mounting height	360° field of detection, 8 m range

- Specifications regarding the range of the detector relate to an ambient temperature of approx. 20 °C.
- Movement crossways to the detector is optimal for triggering the detector; head-on approaches to the detector are more difficult to detect and therefore the range of the detector is significantly reduced.



MD / PD ... 8 Basic

- The detector should be positioned depending on the available space and usage requirements.
- Make sure that the detector has a clear line of sight, as infrared beams cannot penetrate solid objects.
- Connect the detector in accordance with the circuit diagram.

4.1 Conditions in which the lighting is switched on

The lighting is switched on if the target brightness value is below the preset lux value and movement is detected in the field of detection. Further movement is acknowledged by the sensor with two short flashes of the **red LED** (the LED can be switched off; see "Configuring parameters via remote control").

Once the lighting has been switched on, the sensor deactivates light measurement for this period.

4.2 Conditions in which the lighting is switched off

The lighting is switched off if no movement is detected in the field of detection and the preset switch-off delay time has elapsed.

4.3 Switching delay – not in pulse mode

When persons are present, in order to avoid sudden changes in brightness caused by undesired switching on / off of the lighting, the detector will only be triggered after a time delay.

Example: a passing cloud could potentially cause unnecessary switching.

Time delay from bright to dark: 30 sec. = **red LED** lights up during this period.

Time delay from dark to bright: 5 min. = **red LED** lights blink during this period.

5. Installation

5.1 Mechanical work

Description
The device is intended for mounting in the ceiling panel of a suspended ceiling.

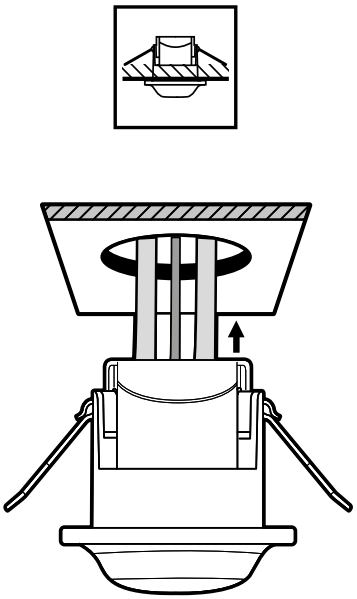
Requirements

- There are no cables in the mounting area that could be damaged during drilling.
- The installation dimensions shown can be adhered to.

⚠ WARNING!

Switch off the power supply before installing the system.

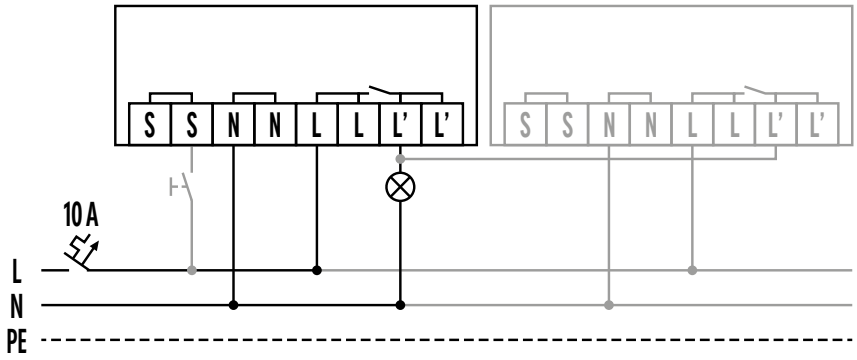
Recessed ceiling mounting for suspended ceilings.



Procedure

1. Drill the installation opening in the ceiling panel.
2. Guide the installation cables downwards through the installation opening. It is best to insert the device into the installation opening only after the installation lines have been connected.

5.2 Circuit diagram



Single connection ————————
Parallel connection - - - - - - - -
L↑ Phase, 230 V
L'↓ Lighting
N Neutral conductor
S↑ Push button

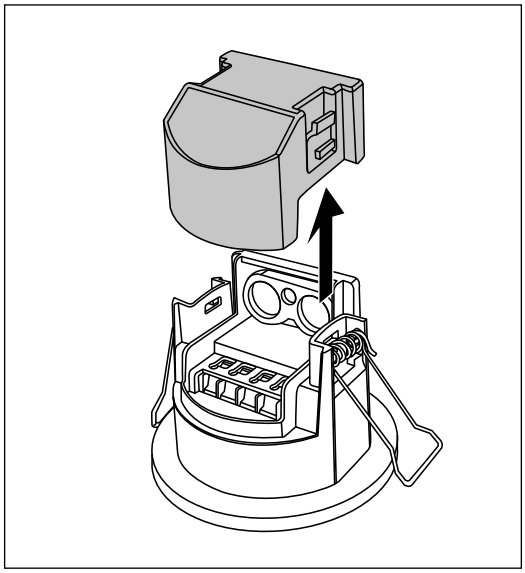
5.3 Electrical work

⚠ WARNING!

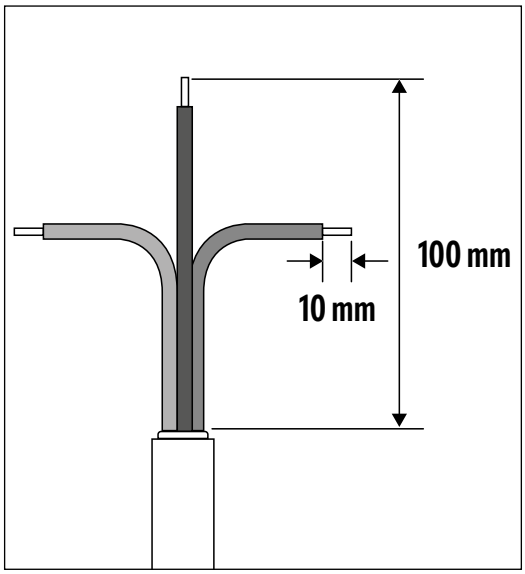
Risk of fatal injury from electric shock.
Working on the 230 V mains can result in death or serious injury.
– Always observe the 5 safety rules:
1. Switch off.
2. Secure against being switched on again.
3. Make sure that no voltage is present.
4. Earth and short-circuit.
5. Cover adjacent live parts.

Procedure

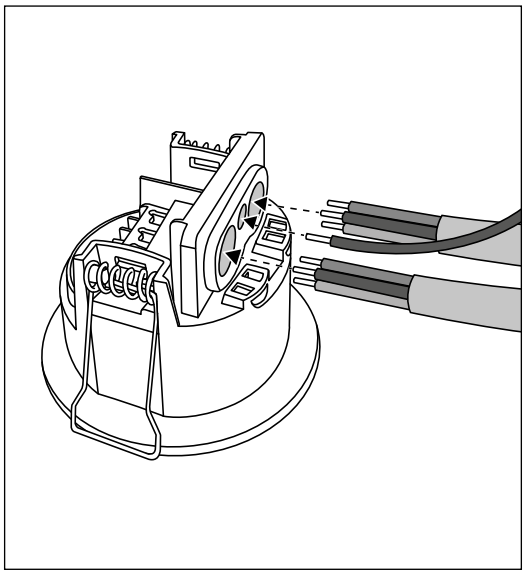
1. Open the transparent terminal cover. The terminal cover is fitted with clips on two side.



2. Remove the covers in the connection cover at the points where cables are to be fed through.
3. Remove the insulation on each of the sheathed cables and individual wires. Wire cross section is 0.5-2.5 mm².

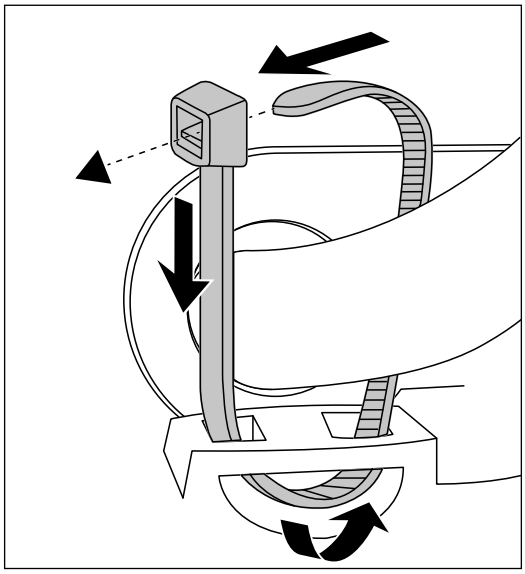


4. Lance the cable inlets on the wire gasket and insert the input and output cables through. Connect the 2-way terminal* to connect earth conductors of input and output cables.

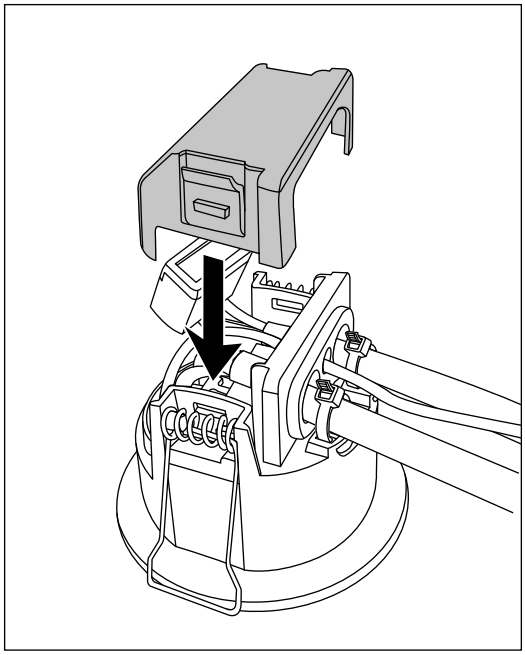


The 2-way terminal is not included in delivery.

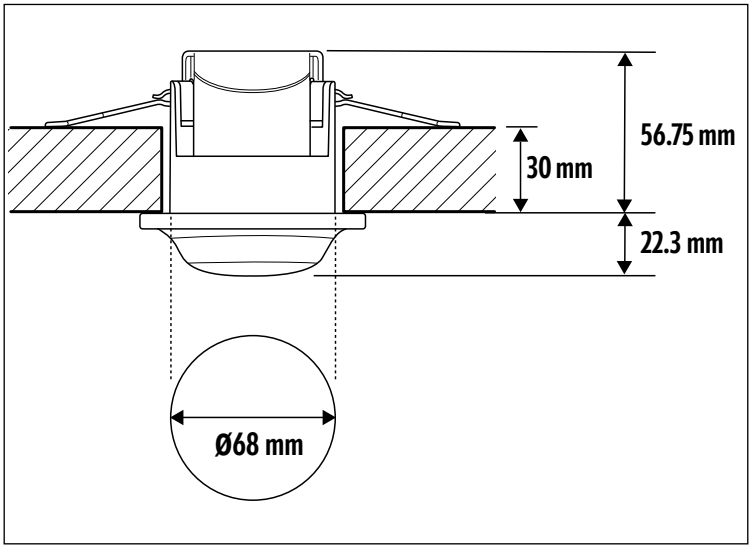
5. After establishing the electrical connection, fix the installation cable to the housing using cable ties (strain relief).



6. Close the terminal cover.



7. Insert the device with the mounting folded up into the installation opening.



6. Activation

Connect the power supply.

A warm-up phase of 45 seconds is initiated. The red LED flashes. During this time, the lighting is switched on.

6.1 Overview of factory settings

Factory settings	
Operating mode	Fully automatic
Brightness switching value	approx. 500 lux
Follow-up time	5 mins
Sensitivity	100 %
LED feedback	ON

The manual setting element values are active on delivery. The values can be overridden at any time by programming the detector using one of the optional remote controls.

7. Settings

7.1 Control via external "S" button

The ceiling-mounted motion detector is equipped with a connection for an external button (S terminal). This can be used to switch the lighting on and off manually.

Modes activated by pressing the external button:

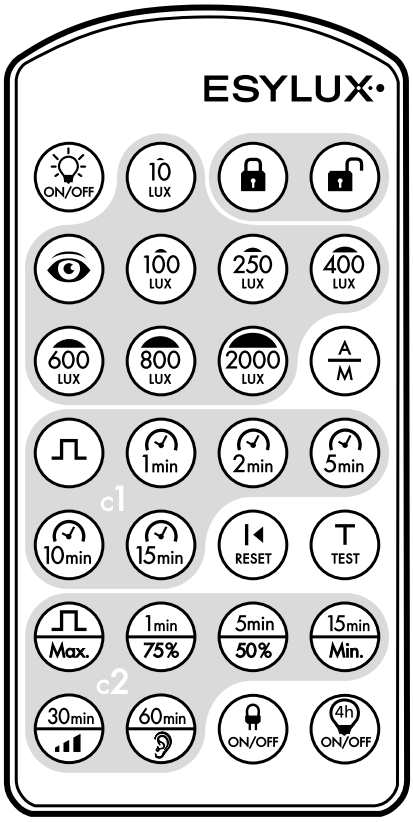
- **Press button for approx. 1 seconds:** The lighting is switched on or off (for the duration of the switch-off delay time).
- **Press button for approx. 3 seconds:** The lighting is switched on or off continuously for 4 hours.

Further parameters can be configured via remote control. Remote controls can be purchased as accessories.

7.2 Configuring parameters via remote control

For optimum reception, when programming the settings, point the remote control at the detector. Please note that if the sensor is exposed to direct sunlight, the standard detection range of approx. 8 m may be dramatically reduced due to the sun's infrared rays.

7.3 REMOTE CONTROL MDi/PDi (EM10425509)



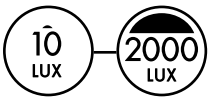
7.4 REMOTE CONTROL MDi/PDi temporary settings

Parameter configurations are only temporarily applied.

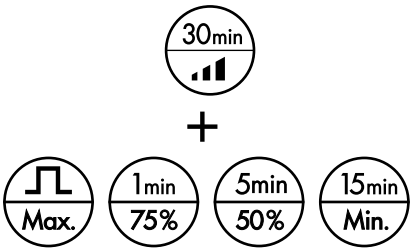
Function	Customised setting
	ON / OFF Switching the lighting ON / OFF manually. **Note:** The **"ON / OFF"** mode can be cancelled by pressing the **"Reset" button**. **"ON" acknowledgement:** Movement detected in the field of detection is acknowledged with two short flashes of the red LED. **"OFF" acknowledgement:** Movement detected in the field of detection is acknowledged with one short flash of the red LED.
	Reset / settings Temporarily set values are cleared and the detector returns to the manually preset operating mode.
	4h ON / OFF The lighting is switched on or off continuously for approx. 4 hours. If no movement is detected in the field of detection and the preset switch-off delay time has elapsed, the detector returns to the previous operating mode. Note: The **"4h ON / OFF"** mode can be cancelled by pressing the **"Reset" button.**

7.5 Programming the REMOTE CONTROL MDi/PDi

Alterations to parameters are applied permanently.

Function	Customised setting
	Enter programming mode The detector goes into programming mode. **Acknowledgement:** The **red LED** lights up permanently and the lighting is switched on continuously.
	Exit programming mode Programming mode will automatically end 5 minutes after the last parameter set without storing the set parameters. **Acknowledgement:** The red LED is switched off.
	**Set the brightness switching value, max. 1000 lux** The detector switches the lighting on if the target brightness value is below the preset lux value and movement is detected in the field of detection. Read-In, 10 lx, 100 lx, 250 lx, 400 lx, 600 lx, 800 lx, 2000 lx. * ***500 lx can be set via factory settings or using the ESY-Pen and ESY-App*** **Acknowledgement:** The **red LED** flashes three times.
	Take a reading of the current ambient light value. The detector switches the lighting on if the target brightness value is below the preset lux value and movement is detected. Acknowledgement: The red LED and the lighting are switched off for approx. 5 seconds while the reading is taken.

Function	Customised setting
	Fully automatic / semi-automatic mode The lighting can be controlled in fully automatic and semi-automatic modes. **Fully automatic:** The lighting is switched on depending on the set lux value and movement being detected. If movement is no longer detected, the preset switch-off delay time will start. The relevant active status can be optionally overridden using the external "S" button. **Acknowledgement:** The **red LED** flashes three times. **Semi-automatic:** Control (activation of the lighting) via the external "S" button. The lighting remains switched on as long as movement is detected and the target brightness value is greater than the preset lux value. **Acknowledgement:** The **red LED** is switched off for approx. 2 seconds.
	Short pulse As soon as movement has been detected in the field of detection, the detector switches the lighting on for approx. 1 second and off for approx. 5 seconds. This function can be used to control automatic stairwell lights, for example. **Acknowledgement:** The red LED flashes once after approx. 5 seconds.
	Switch-off delay time The switch-off delay time starts once movement is no longer detected in the field of detection. **Acknowledgement:** The **red LED** flashes.

Function	Customised setting
	**PIR sensitivity** **Settings:** maximum (100 %), 75 %, 50 %, minimum (25 %)*. ***25%, 50%, 75%, 100% accessible with combination of** **.** The sensitivity of the detector for the purpose of detecting movement can be set. Press the 15 min button twice to set to 30 min. **Acknowledgement:** The red LED flashes three times.
	Detector LEDs ON / OFF The LEDs in the detector can be switched on or off. **Acknowledgement**: **LEDs OFF:** The **red LED** is switched off for approx. 2 seconds. **LEDs ON:** The **red LED** flashes three times.
	Reset The remote control settings are reset and the detector uses the manual potentiometer values. **Acknowledgement:** The **red LED** flashes three times.

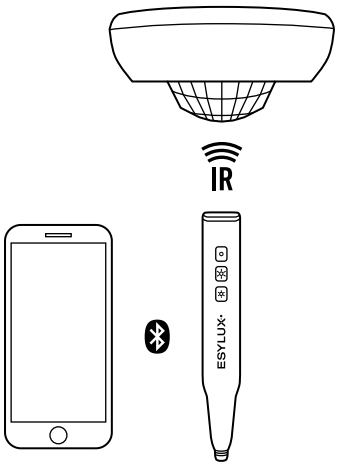
7.6 Configuring parameters via ESY app with ESY-Pen

First, the parameters are changed in the ESY app. Then the ESY-Pen serves as a bridge to transmit the Bluetooth commands from the mobile device to the motion / presence detector using infrared technology.

The infrared interface is located in the head of the ESY-Pen. In order for the ESY-Pen to communicate with the product, the head of the ESY-Pen must be pointed in the direction of the product. The On/Off button flashes red or green

(depending on your selection) when an infrared signal is being transmitted. It is not possible to transfer parameters from the product to the ESY app. Communication between the ESY-Pen and the product is unidirectional.

Note: For optimum signal transmission, maintain a minimum distance corresponding to the mounting height. Direct sunlight can prevent signal transmission.



Communication: smartphone – ESY-Pen – motion / presence detector

7.7 Installing the ESY app

The free ESY app is available in the Google Play Store and Apple App Store for the following mobile devices:

- Apple devices with operating system iOS 12.5.5 or above
- Android devices with Android version 8.0 or above

➢ Scan the QR code to download the ESY app.

To be able to parameterise your product, you must add it to the ESY app product list the first time:

- ➢ Start the ESY app.
- ➢ Press the button **< Select products and configure >**.
- ➢ Press the button **< Add product >** and select your product using the search function or by scanning the bar code on your product.

- ✓ Your product appears in the product list.
- ✓ 9 Parameters can be configured.

To be able to transfer the changed parameters to the unit, you need the ESY-Pen,
which you connect to your mobile device via Bluetooth.

7.8 Connecting the ESY-Pen to the ESY app

1. Switch on the ESY-Pen.

- ➢ Press the **< On / Off button** ⏻ **>** for two seconds.

- ✓ The **< On / Off button** ⏻ **>** lights up red.
- ✓ Both **< function buttons** ☼ + ☼ **>** will light up white when the mobile device is switched on.

2. Activate Bluetooth® on your mobile device.

3. Start the ESY app.

- ➢ In the dashboard, press the **< No connection >** button at the bottom.
- ➢ Select your ESY-Pen **< ESY-Pen Vx.x xxxx >** from the list.
- ➢ Enter the security pin when requested.

- ✓ After it has been successfully connected, your **< ESY-Pen Vx.x xxxx >** will be listed at the bottom of the dashboard.
- ✓ The ESY-Pen is now ready for use.

> **i** If no ESY-Pen (ESY-Pen Vx.x xxxx) is listed, swipe down to update the list. You can find the name and security pin of your ESY-Pen on the identification label on the device.

8. Troubleshooting

Fault	Cause
Lighting does not switch on.	• Ambient light level is above the preset target brightness value • Lighting has been switched off manually • There are people in the field of detection • There are sources of thermal interference in the field of detection, such as heating, air-conditioning or moving objects (e.g. curtains by open windows) • The switch-off delay time has been set too short
Lighting is switched off during the hours of darkness despite the presence of persons	• Ambient light level is above the preset target brightness value • Lighting has been switched off manually
Lighting does not switch off or lighting switches on spontaneously when no persons are present.	• The switch-off delay time has not yet elapsed • There are sources of thermal interference in the field of detection, such as heating, air-conditioning or moving objects (e.g. curtains by open windows)
Push button does not work.	• Device is still in the start-up phase • Illuminated button has been used without a neutral wire connection • Push button is not routed to the "S terminal"
Lighting switches on and off in warm-up phase.	• Detector exposed to too much artificial light
Detector does not respond.	• Check the power supply

9. Cleaning and Maintenance

9.1 Maintenance

The ceiling-mounted motion detector does not contain any components that require maintenance. The device can only be replaced as a complete unit.

9.2 Cleaning

No corrosive cleaning agents or solvents may be used for cleaning and care of the device. Please use a lint-free cloth that is either dry or dampened only with water.

10. Decommissioning

10.1 Disassembly

To disassemble the product, work on the 230 V mains is required. This may only be carried out by electrical fitters or qualified electricians.
After disconnecting from the 230 V mains, further work can also be carried out by persons without electrical engineering qualifications.

10.2 Disposal

This product must not be disposed of with unsorted residual waste. Owners and operators of the product are legally obliged to dispose of all parts of the product properly and according to type:

- Electrical and electronic parts as well as cables belong to category electrical waste.
- Packaging, cardboard boxes, moulded parts and foils are in the respective material recycling category.

You can get further information from your city or municipal administration.