

Operating instructions



**PD-FLAT 360i/6 mini DALI
EP10427503**



**PD-C 360i/8 mini DALI
EP10427510**





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1 Using the manual

This manual is intended to provide valuable information to you as the user and integrator on how to use and configure the device and to take full advantage of the range of functions.

Please store this manual with your documentation for the premises for future reference so you can find the correct answer if questions arise.

If you have any questions that are still unanswered, please visit our website at www.esylux.com or contact our technical helpline directly on +49 (0) 4102 489 489.

2 Safety instructions

- **CAUTION:** Work on the 230 V power system must be performed by authorised personnel only, with due regard to the applicable installation regulations/standards.
- Switch off the power supply/DALI bus voltage before installing the system.
- Observe the applicable safety regulations when working on electrical systems.

3 Intended use

The detector is designed to be connected to DALI systems to automatically control the switching on or dimming of lighting according to ambient light or when movement/ presence is detected.



4 Device description

The ESYLUX ceiling-mounted presence detector is a passive infrared presence detector that responds to moving heat sources, such as people walking. The presence detector is designed for small rooms and passageways that benefit from natural light. Parameters can be configured using the ESYLUX Mobil-PDi/MDi and Mobil-PDi/MDi universal remote controls as well as via the manual setting elements.

NOTE: Use this product only as intended (as described in the user instructions). The device must not be changed, modified or painted – doing so will void any warranty claims. You must check the device for damage immediately after unpacking it. If there is any damage, you should not install the device under any circumstances. If you suspect that safe operation of the device can not be guaranteed, you should turn the device off immediately and make sure that it cannot be operated unintentionally.

5 Included in delivery

Please check the contents of the delivery immediately after unpacking the device.

1. Presence detector
2. 2 x WAGO micro-terminals
3. Locking ring
4. Spring clamp
5. Screw
6. Tool
7. Holding disc for lens mask (PD-C360i/8 mini DALI only)
8. Lens mask to mask fields of detection (PD-C360i/8 mini DALI only)



6 Technical data

PD-FLAT 360i/6 mini DALI / PD-C 360i/8 mini DALI

Operating voltage	DALI 16 V \equiv
Contact	Max. 0.8 mm ² /plug-in terminal
Protection type	IP 55
Operating temperature range	0 °C to +50 °C
Approx. dimensions	H 39 mm / mH 60 mm, \varnothing 33 mm
Installation bore diameter	25 mm
Communication	Broadcast / non-addressable

7 Operating elements

The presence detector has no setting elements. The adjustable parameters can be configured via remote control.

8 Maintenance

The presence detector has no serviceable parts.



9 Cleaning

To clean the detector, use a slightly damp, lint-free cloth and normal domestic soap. Beware of harsh detergents, which can corrode the surface of the detector affecting its ability to detect movement and light.

10 EC Declaration of Conformity

The CE label corresponds to the following directives:

- EMC 2004/108/EC
- RoHS 2011/65/EU

11 Activation

Installation types

Recessed ceiling mounting. The presence detector is mounted in a false ceiling by inserting the device into the hole and clamping it in place using either a spring clamp or locking ring.

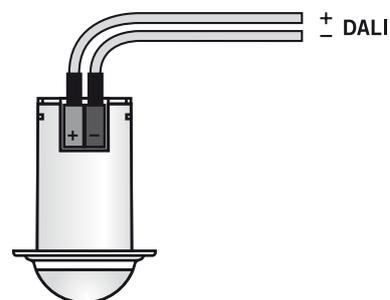
Connecting the device

Switch off the DALI bus before connecting the device. The electrical contact is established using WAGO micro-terminals, each of which can be used to connect up to five cables with rigid wire ranging from 0.6 mm² to 0.8 mm². Observe the polarity. For DALI, avoid ring-shaped connection structures as these can cause problems. Other connection structures are permitted



Wiring diagram

The max. cable length of the DALI bus cable is 300 m when using 1.5 mm² cable.
Laying the DALI bus in combination with the mains cable is not recommended.



Note: The DALI bus is not classified as SELV.

Factory settings

After the power supply is connected, the device switches to Start mode. After approx. 30 seconds, the device is fully booted and ready for operation. The first time the device is switched on, it starts with the factory settings. The next time the device is switched on, it has the most recently configured parameters.

Light value	500 lux
Switch-off delay time	5 minutes
Mode	Fully automatic
Orientation light	On (10%)
Operation mode	Master

The presence detector is a control device with an integrated interface supply. There is no need to address the lights/electronic ballasts. All ballasts are addressed at the same time via the broadcast address. A maximum of 25 DALI/DSi electronic ballasts can be connected.

The detector can be mounted on the ceiling in any orientation.



12 Operation

If the ambient lighting level is higher than the default light value, the connected lighting is switched off.

Automatic switch-on

If the detector is triggered by movement and the ambient lighting level falls below the default light value.

The **red LED** is enabled to indicate motion detection = two short flashes each time movement is detected. Should there be a change in the natural light value, the artificial light will be adjusted accordingly.

Automatic switch-off

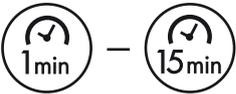
If movement is no longer detected, the lighting is switched off once the set time has elapsed. If the ambient lighting level is higher than the default light value, the lighting is switched off after five minutes.

NOTE: However, should the natural lighting level increase and the ambient lighting level exceed the preset light value, the detector automatically switches the lighting off after five minutes regardless of any movement/presence. The lighting can then be switched manually at any time via remote control or DALI button. For further information, see the instructions for the remote control.



Switch-off delay time

The switch-off delay time is the period of time the lighting remains switched on after the last movement was detected. The time can be set to between one and thirty minutes via remote control.

Function	Customised setting
	<p>Enter programming mode The detector goes into programming mode. Acknowledgement: The red LED lights up permanently and the lighting is switched on permanently.</p>
	<p>Switch-off delay time The switch-off delay time starts once movement is no longer detected in the field of detection. Acknowledgement: the red and blue LEDs flash three times.</p>
	<p>Exit programming mode The set parameters are stored on the detector. Acknowledgement: The red LED is switched off.</p>

Light value

The light value is the ambient lighting level that determines when the detector is activated. When motion is detected below this ambient lighting level, the lighting is switched on. When motion is detected above this ambient lighting level, the detector does not respond.

To determine the ambient lighting level, first open programming mode and exit once the settings have been configured successfully (also see “Switch-off delay time”). In programming mode, the “Eye button” can be used to read and store the current light value.

Delay

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

Example: a passing cloud could potentially cause unnecessary switching.

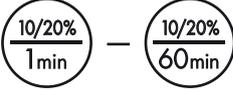
Time delay from dark to light: 5 min. = **red LED** flashes slowly during this period.



Orientation light

Rather than switching off the lighting entirely, the detector can adjust the connected lighting to a pre-defined dimming level once the switch-off delay time has elapsed. The dimming level can be set to 10 %, 20 %, 30 % or 40 %. If the ambient lighting level exceeds the threshold value, the orientation light automatically switches off. If the ambient lighting level falls below the threshold value, the orientation light automatically switches back on.

The orientation light can either be switched on permanently, switched off permanently or operated with a switch-off delay time. The switch-off delay time can be set to between one and thirty minutes via remote control.

Function	Customised setting
	<p>Enter programming mode The detector goes into programming mode. Acknowledgement: The blue LED lights up permanently and the lighting is switched on continuously.</p>
	Press this button to configure the orientation lighting level.
	Press this button to permanently switch on the orientation light
	Press this button to define the separate switch-off delay time for the orientation light.
	Press this button to permanently switch off the orientation light
	<p>Exit programming mode The set parameters are stored on the detector. Acknowledgement: The blue LED is switched off.</p>

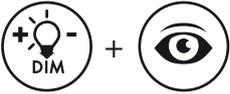


Switch-off warning

Once the switch-off delay time has elapsed, there is a 60 second switch-off warning. The light is dimmed to the orientation lighting level. If a movement is detected or a button is pressed during this period, the detector returns to its previous state. If no movement is detected during the 60 seconds, the detector returns to its original state.

Fully automatic mode

Depending on the preset light value, the light channel switches on automatically when movement is detected. The light channel remains on for as long as movement is detected and as long as the ambient light value does not exceed the preset light value. If movement is no longer detected, the time settings for the respective channels start. The channel can also be switched on and off or dimmed manually via a DALI button (or the remote control).

Function	Customised setting
	<p>Enter programming mode The detector goes into programming mode. Acknowledgement: The blue LED lights up permanently and the lighting is switched on continuously.</p>
	<p>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 blue LED flashes three times.</p>
	<p>Exit programming mode The set parameters are stored on the detector. Acknowledgement: The blue LED is switched off.</p>
	<p>Dimming Pressing the dimming button causes the detector to start dimming the connected lighting. Once the lighting reaches the desired level, the value can be determined using the "Eye button".</p>



Semi-automatic mode

Before switching on the detector, the device must be activated each time using a button. The connected lighting can only be switched on once the user has activated the button. The procedure for switching off the lighting is the same in both semi-automatic and fully automatic mode.

Function	Customised setting
	<p>Enter programming mode The detector goes into programming mode. Acknowledgement: The blue LED lights up permanently and the lighting is switched on continuously.</p>
	<p>Fully automatic / semi-automatic mode The lighting can be controlled in fully automatic and semi-automatic modes. 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 blue LED is switched off for approx. 2 seconds.</p>
	<p>Exit programming mode The set parameters are stored on the detector. Acknowledgement: The blue LED is switched off.</p>

100 h burn-in function

The 100h burn-in function can be selected to burn in fluorescent tubes under full load. If fluorescent tubes are operated in dimmed mode during the first 100 hours, the light output and the lifespan of the tubes are significantly reduced.

For further information, see the operating instructions for the Mobil-PDi/MDi universal remote control (accessories).



Corridor function

In corridor mode, the button can only be used to switch on the device and not to switch it off. This prevents someone from manually switching off the light on a staircase or in a winding corridor while other people are still present.

For further information, see the operating instructions for the Mobil-PDi/MDi universal remote control (accessories).

LED feedback

The **red LED** indicates movement with short flashes. LED feedback can be switched off by pressing “Unlock”, “LED On/Off”, “Lock” on the remote control.

Function	Customised setting
	<p>Enter programming mode The detector goes into programming mode. Acknowledgement: The blue LED lights up permanently and the lighting is switched on continuously.</p>
	<p>Detector LEDs ON/OFF The LEDs in the detector can be switched on or off. Acknowledgement: LEDs OFF: The blue LED is switched off for approx. 2 seconds. LEDs ON: The blue LED flashes three times.</p>
	<p>Exit programming mode The set parameters are stored on the detector. Acknowledgement: The blue LED is switched off.</p>

Sensitivity

The sensitivity of the motion detector is set to the highest level in the factory. If, for example, the circulation of air causes switching errors, the sensitivity level can be reduced via remote control.

For further information, see the operating instructions for the Mobil-PDi/MDi universal remote control (accessories).



Electronic ballast DALI parameters

A number of the parameters for the DALI electronic ballasts are automatically configured by the detector, i.e. adjusted to the optimum setting. This function can be deactivated. Many of the parameters can also be adjusted manually.

For further information, see the operating instructions for the Mobil-PDi/MDi universal remote control (accessories).

Switch input

The presence detector can be connected to a DALI button via a DALI bus. The button can be used to execute the following functions...

Light channel ON/OFF

Light channel dimming UP/DOWN

Simply press or press and hold the button to execute the respective function.

The DALI button must be set to address 15 to communicate with the detector. The address cannot be changed on the detector.



Master/slave function

The detection range of the detector can be extended by adding additional DALI presence detectors from the mini series. It is important to remember that only one detector can function as the “master”, the others must function as “slaves”. The master detector should be installed in the darkest location.

Address 15 is the read address of the master detector and the write address of the slave detector. The addresses are fixed and cannot be changed. The slave detector sends an ON signal to the master detector every thirty seconds if it detects movement. The light measurement and switch-off delay time settings are defined via the master detector. The lighting is switched on if the slave detector detects movement (provided the lighting level does not exceed the light target value on the master detector) or, if the lighting is already switched on, the switch-off delay time is extended.

To turn the master detector into a slave detector, press the “Unlock” button and keep pressing the C2 button until the **green LED** flashes three times. As soon the “Lock” button is pressed, the detector is operating in slave mode.

To turn the slave detector into a master detector, press the “Unlock” button and keep pressing the C1 button until the **red LED** flashes three times. As soon the “Lock” button is pressed, the detector is operating in master mode.

All switch-off delay time settings and light value settings must be configured on the master detector

Function	Customised setting
	<p>Enter programming mode The detector goes into programming mode. Acknowledgement: The blue LED lights up permanently and the lighting is switched on continuously.</p>
	<p>Press button C2</p>
	<p>Exit programming mode The set parameters are stored on the detector. Acknowledgement: The blue LED is switched off.</p>



Twilight switch mode:

In twilight switch mode, the detector acts as a twilight switch. The function can be activated by pressing the “Unlock” button. Then keep pressing the C1 button until the **blue LED** flashes three times. As soon the “Lock” button is pressed, the detector is operating in twilight switch mode.

The standard switching value is 50 lux. However, the light values specified on the remote control can also be selected, or the current light value can be read and stored using the “Eye button” on the remote control.

The switch-off value is always twice the target value. With a switching value of 50 lux, the detector switches on if the lighting level falls below 50 lux and only switches off again if the lighting level exceeds 100 lux. To prevent the detector from responding to every lighting change in the limit range, the dark to light time delay is fixed at five minutes.

In twilight switch mode, the detector does not respond to any connected DALI buttons.

The connected lighting is always corrected to 100% in this mode when switched on.

Function	Customised setting
	<p>Enter programming mode The detector goes into programming mode. Acknowledgement: The blue LED lights up permanently and the lighting is switched on continuously.</p>
	<p>Press button C1</p>
	<p>Exit programming mode The set parameters are stored on the detector. Acknowledgement: The blue LED is switched off.</p>



Querying the active mode:

The “Lock”/C1/C2 button can be used to display the active mode. The colour of the flashing LED indicates which of the following modes are active:

Red LED = Master mode

Green LED = Slave mode

Blue LED = Twilight switch mode

Reset

The reset button is used to reset all of the settings back to the original factory settings.

Function	Customised setting
	<p>Enter programming mode The detector goes into programming mode. Acknowledgement: The blue LED lights up permanently and the lighting is switched on continuously.</p>
	<p>Reset The remote control settings are reset and the detector uses the manual potentiometer values. Acknowledgement: The red and blue LEDs flash three times.</p>
	<p>Exit programming mode The set parameters are stored on the detector. Acknowledgement: The blue LED is switched off.</p>



13 Accessories

Accessories	Item no.	Product designation
Remote control	EP10433993	Mobil-PDi/MDi-universal
Remote control	EP10425899	Mobil-PDi/Dali
Remote control	EM10425547	Mobil-PDi/User
Switch contact	EP10427473	SW DALI Full Automation
Switch contact	EP10427480	SW DALI Semi Automation
Power pack	EC10430008	CU PS DALI



14 Disposal

NOTE: This device must not be disposed of as unsorted household waste. Owners are required by law to correctly dispose of used devices.

Contact your local town council for more information.



15 ESYLUX manufacturer's guarantee

ESYLUX products are tested in accordance with applicable regulations and manufactured with the utmost care. The guarantor, ESYLUX Deutschland GmbH, Postfach 1840, 22908 Ahrensburg, Germany (for Germany) or the relevant ESYLUX distributor in your country (visit www.esylux.com for a complete overview) provides a guarantee against manufacturing/material defects in ESYLUX devices for a period of three years from the date of manufacture. This guarantee is independent of your legal rights with respect to the seller of the device. The guarantee does not apply to natural wear and tear, changes/interference caused by environmental factors or damage in transit, nor to damage caused as a result of failure to follow the user or maintenance instructions and/or as a result of improper installation. Any illuminants or batteries supplied with the device are not covered by the guarantee. The guarantee can only be honoured if the device is sent back with the invoice/receipt, unchanged, packed and with sufficient postage to the guarantor, along with a brief description of the fault, as soon as a defect has been identified. If the guarantee claim proves justified, the guarantor will, within a reasonable period, either repair the device or replace it. The guarantee does not cover further claims; in particular, the guarantor will not be liable for damages resulting from the device's defectiveness. If the claim is unfounded (e.g. because the guarantee has expired or the fault is not covered by the guarantee), the guarantor may attempt to repair the device for you for a fee, keeping costs to a minimum.