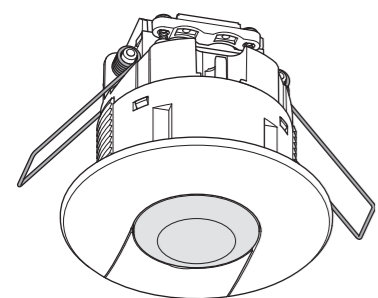


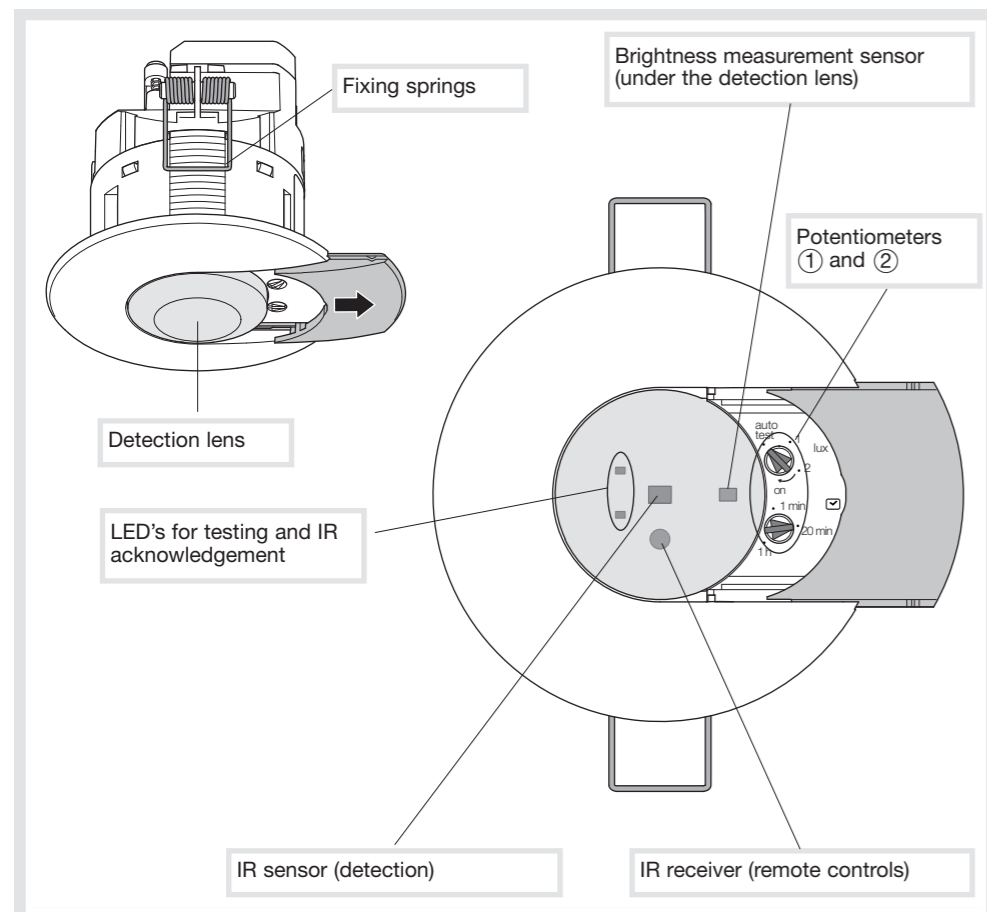
Digital PIR Occupancy Sensors



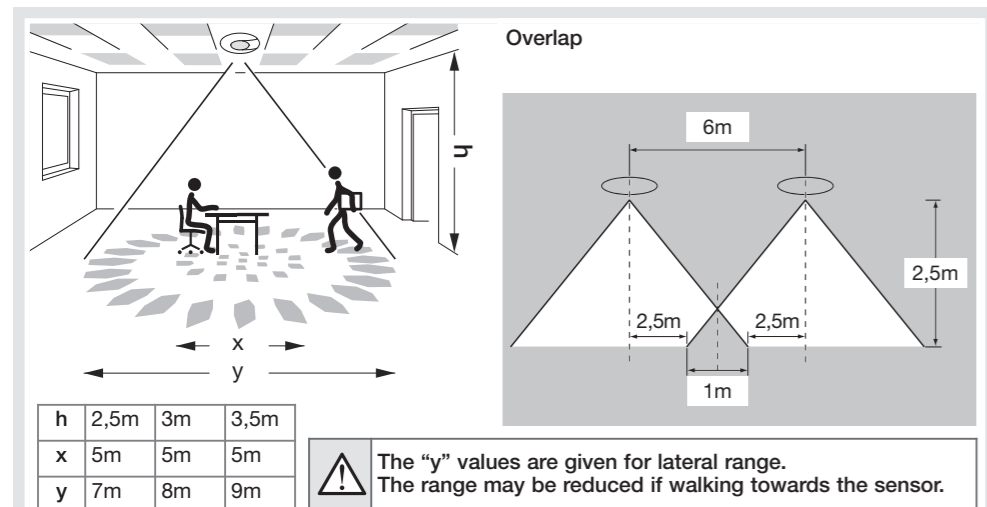
EEK520B, EEK523W  
EEK52.P

6E 7598.d

Description

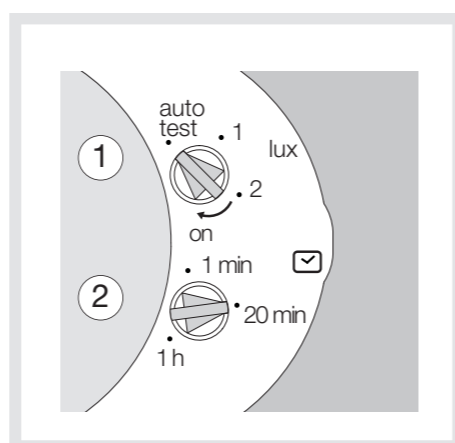


Detection areas



	Occupancy Sensors standalone EEK520B
	Occupancy Sensors with pre-wired lead EEK523W: 3m
	Occupancy Sensors with pre-wired lead and klik.system plug EEK523P: 3m EEK525P: 5m

Settings



Instances of lighting levels

Position of potentiometer	Lux value approximate *	Application
auto test	preset (≈ 400Lux)	
1	200	Corridor
>1 ... 2 <	> 200 ... 400 <	
2	400	Offices
>2 ... On <	> 400 ... 1000 <	
On	1000	Offices

\* The light measurement accuracy (Lux) is affected by the environment (furniture, ground, walls...). If necessary, the level has to be adjusted by potentiometer or remote control.

Remote control for settings

The installer remote control EEK001 can be used to set the following features if the potentiometer is set on "auto test":

- Lux levels (※ ☹ ☺ - +)
- Time (8)
- Absence/presence detection (⬆ ⬆)
- Power up behaviour (⚡)

Override remote control

The user remote control EEK002 allows operators to:

- Switch on/off the light (short press), (on off)
- Dim up/down the light (long press >0,5s.).
- to control scenes 1, 2, 3, 4

A short push recalls a luminosity level and a long push (5s.) memorizes a new level.

Caution:

This device must be installed by a suitably qualified electrician according to the installation's standards.

Product description and operating principles

Occupancy sensors EEK are presence detectors designed to detect low level movements (e.g. person sitting at a desk). Different models are available:

- without lead: EEK520B for stand alone and BESA box mounting,
- with pre-wired lead (3m): EEK523W for use with the KDCS marshalling boxes.
- with pre-wired lead (3m or 5m) and klik.system plug to be interfaced with the KLMB marshalling boxes: EEK52.P.

Detection is by means of a pyro-electric sensor located under the detection lens. The occupancy sensor measures the brightness in the room on a continuous basis and compares it to the level preset on the potentiometer ① (or by means of the remote control EEK001).

Settings

The Lux threshold and time out period can be set by the potentiometers or by using the installer remote control (EEK001).

Test Mode - Walk test

This mode makes it possible to validate the detection area. To select this mode, set the potentiometer ① to the position "auto test". The green or red LED behind the lens is on for 2 seconds after detection. The red LED indicates that the light level measured is lower than current setting. If the green LED is on, the light level measured is higher than current setting. There is a time out of 2 minutes which is reactivated after each detection. The output is also switched during 2s. after each detection. It is also possible to use the remote control EEK001 to set the detector in test mode.

Functional modes

The detector has 2 different modes.

- Presence detection (automatic).
- Absence detection (semi-automatic).

The power up and cell operation can be set for each mode.

Presence detection (automatic mode)

In this mode the light is controlled by motion in the detection area and ambient light levels. If presence is detected whilst the light levels are below the required Lux level, the sensor is activated and regulates the light whilst there is still occupancy and for the time out period afterwards. Once the sensor has deactivated the lights, it will require new occupancy whilst the ambient light levels are below the required Lux level to activate the lights again.

This mode can be changed via the IR remote control EEK001 (default mode is presence detection: automatic).

Absence detection (semi automatic mode)

The sensor needs to be activated by a normally open retractive switch or a user remote control EEK002 input.

Once the sensor is activated, it will regulate the lights whilst there is still occupancy and for the time out period afterwards.

Once the sensor has deactivated the lights, it will require another input from the wallswitch or the remote control to switch the lights on.

Power Up

A parameter of the detector allows the choice of state for the lighting after power up (mains return). During warm up phase, the green or red LED blinks. In the Power up ON state, the lighting will automatically be energised when mains power is initially supplied or returned to the sensor. In the Power up OFF state, the lighting will not be energised and the sensor will not operate during warm up period.

This parameter is modified using the installer remote control EEK001.

States:

- **ON:** The light is immediately switched on for 30s. after power up. In case of detection, the light (in automatic mode) remains on during the time delay; otherwise the light is switched off.
- **OFF:** The detector switches to the selected mode after warm up.

DALI/ DSI recognition

The green LED blinks for this period if a DALI load is recognised. The red LED blinks continuously in case of DALI bus error (unplugged wiring, ...) or DSI load.

Lighting regulation modes

In association with Digital Regulating Ballasts (DALI and DSI), these products offer lighting control functions.

The used protocol is automatically recognised.

Adjustment potentiometers are used to select the operating mode of the occupancy sensor.

- Mode 1: regulation active in auto mode
- Mode 2: regulation active with local set point
- Mode 3: regulation not active.

Mode 1	Mode 2	Mode 3
regulation active	regulation active	regulation inactive

**Mode 1: regulation active in automatic mode**  
After detection, the DALI/DSI output controls the lighting level according to the value set, using the pushbutton input or the remote control. This value is memorised as the new setpoint. The default set point is 400 lux.

The output is controlled for the time set by the potentiometer ②.

**Mode 2: regulation active with local set point (potentiometer).**

After detection, the DALI output controls the lighting level according to the value set by the potentiometer ① or the remote control. This level can be temporarily adjusted via a pushbutton. The light level is fixed. The output is controlled for the time set by the potentiometer ②.

**Mode 3: regulation inactive.**

During presence detection, the detector controls its output at a preset level (100% by default), which can be modified by a pushbutton. The new instructions are saved. The output is controlled for the length of time set by the potentiometer ② or the remote control.

At the end of this time delay, the output is set to a minimum level for 15 min. and is then switched off.

Use of override input

A connected replacer par normally open retractive switch can be used to modify the state of the output.

Short presses override the state of output for the time period set by the potentiometer ②. Long presses are used to modify the level of dimming or the level of brightness (according to the mode).

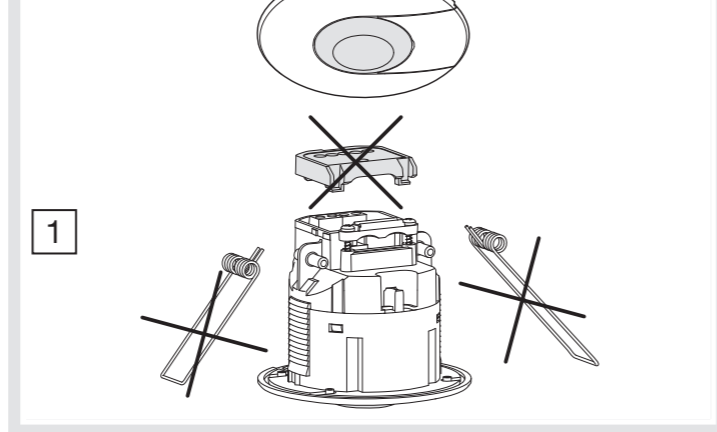
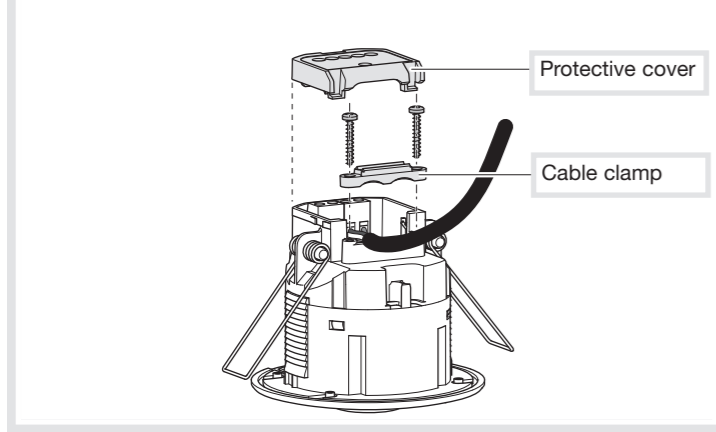
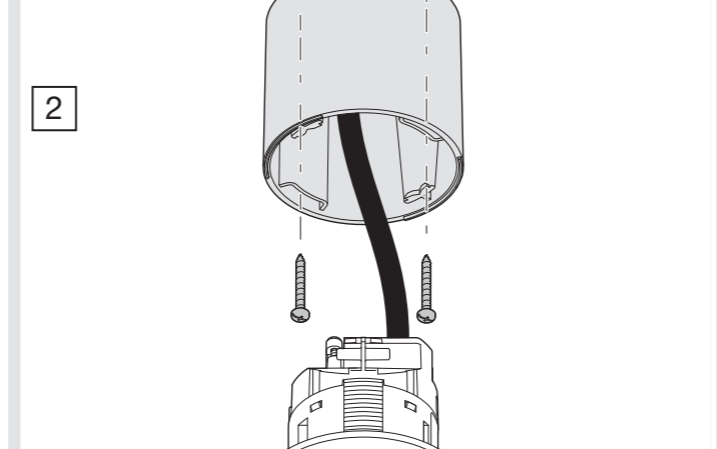
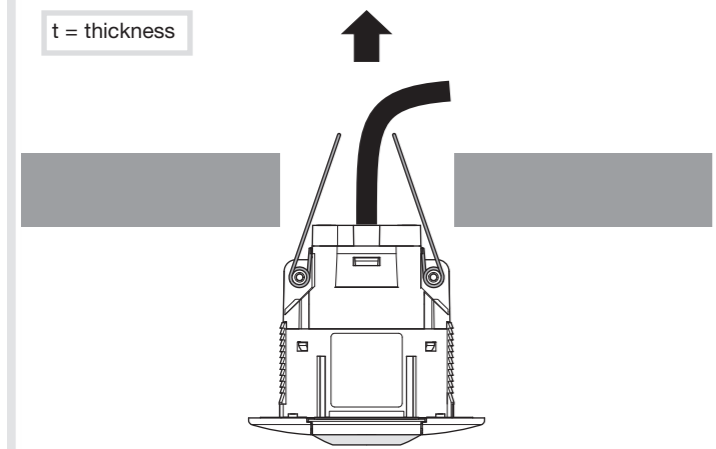
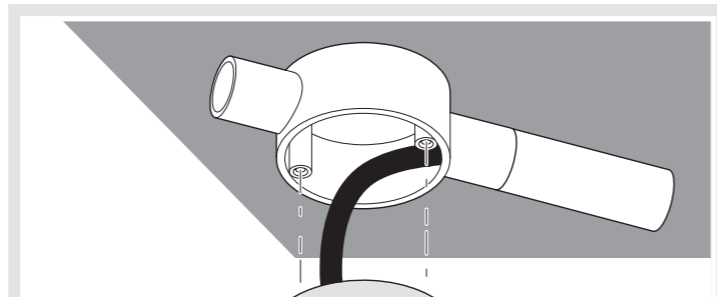
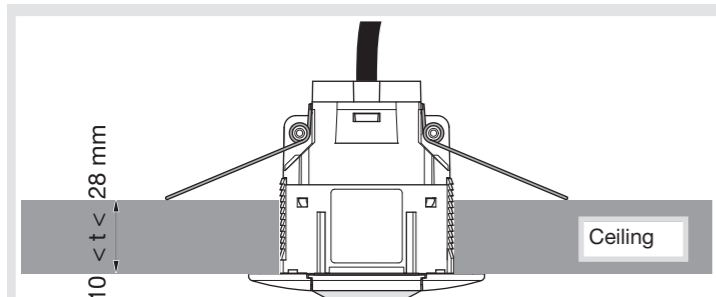
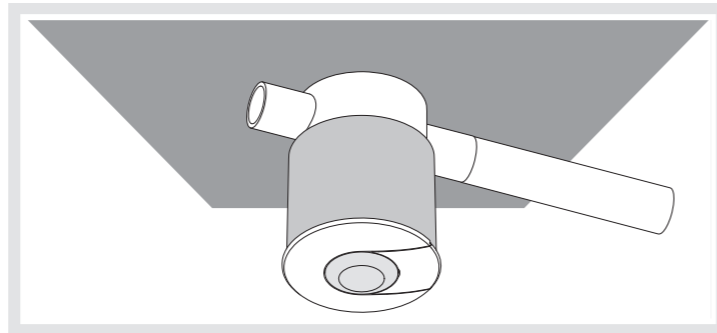
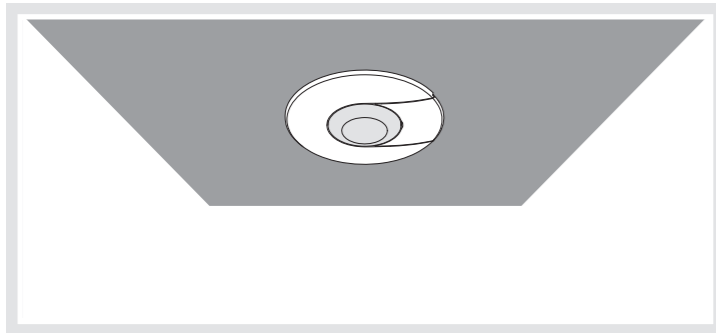
Factory settings	
Luminosity threshold	400 lux
Lighting time	20 min.
Mode	Presence
Power Up	OFF
Active cell (Luminosity Cell)	ON

Action	Settings	Potentiometer
Use Auto settings (factory) or set by the remote control to switch the light automatically for a defined time.	<b>Auto Settings</b> Put the Lux potentiometer on "auto test". The settings are predefined: Lux = 400, time = 20 min, ⚠: test mode for 2 min.	
Automatically switch on the light for a defined time.	<b>Remote control settings EEK001</b> (manual settings inhibited).	
Test and validate the detection zone.	<b>Installer settings</b>	
Test and validate the detection zone.	<b>Test mode</b> Move the potentiometer ① to "auto test". On this position, the remote control EEK001 can be used.	

Setting instructions

Mounting EEK520B

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Ceiling mounting

1. Cut out a 60-63mm diameter hole using a hole saw.
2. Fix the detector by pushing both springs upward then insert them into the hole.
3. Wire the detector according to the recommended connection diagram or plug into the klik.system marshalling box.
4. Mount the protective cover over the terminals and screw the cable clamp.
5. Set potentiometers according to the desired values.

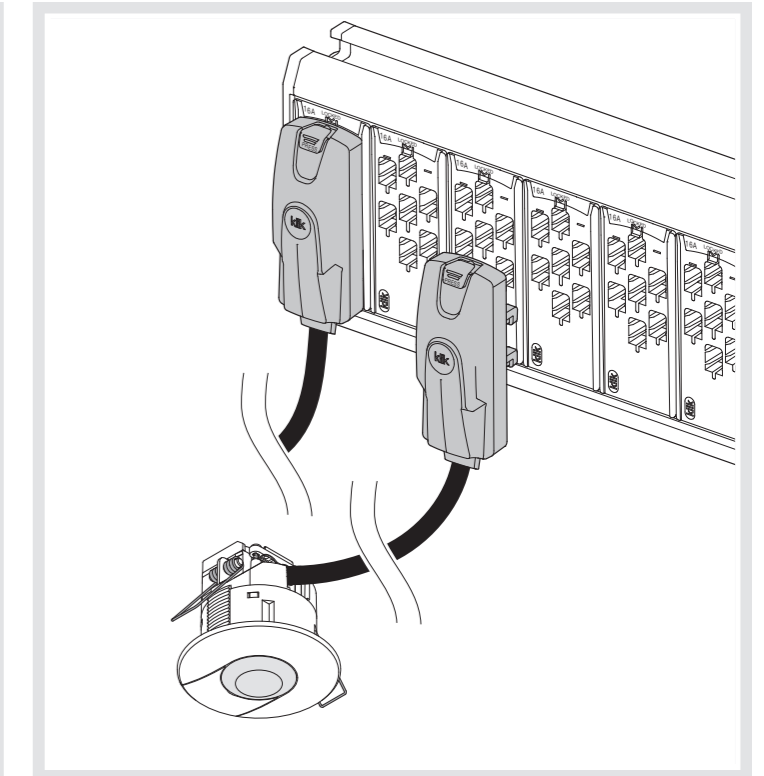
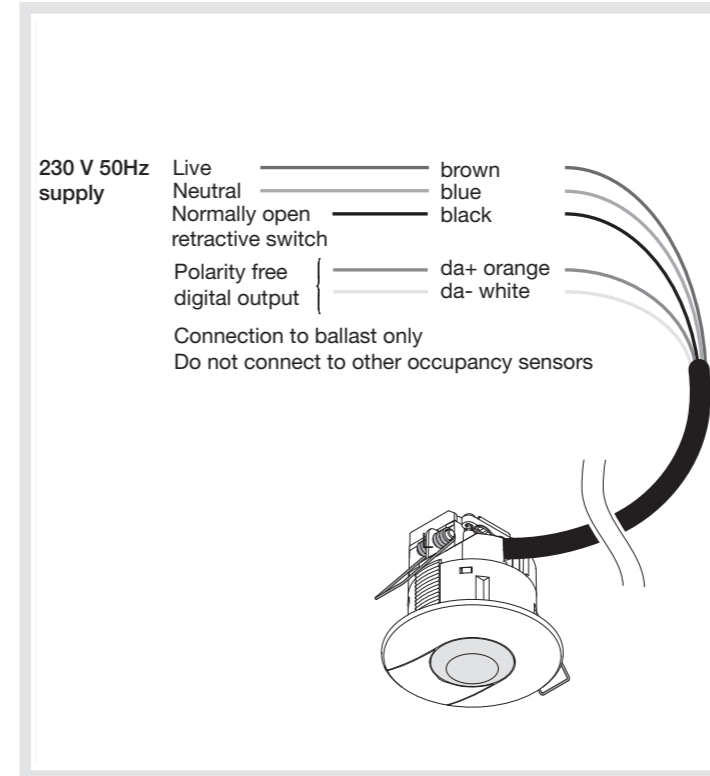
Surface mounting (with accessory EEK005)

1. Mount the BESA Box.
2. Screw the accessory on the BESA Box.
3. Remove the protective cover and the springs from the detector.
4. Wire the detector according to the recommended connection diagram.
5. Push and turn the detector to lock it into the accessory.
6. Open the slider to set the potentiometers according to the desired values.

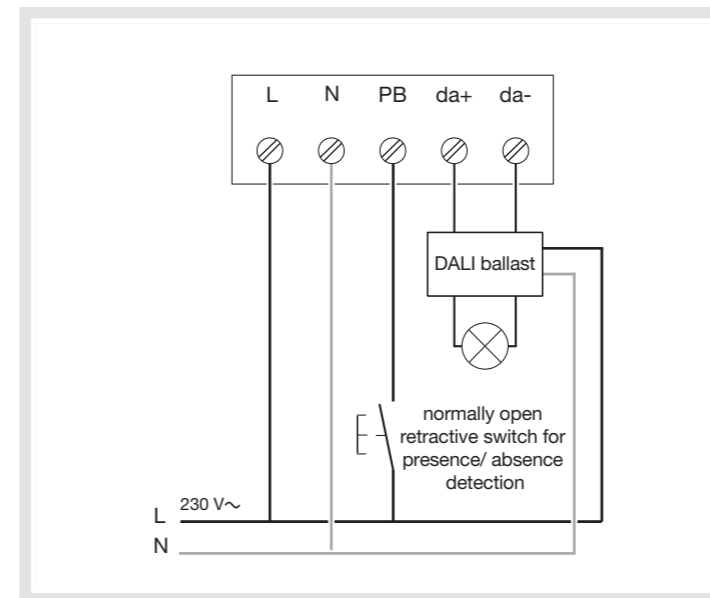
Connection diagrams

With klik KDCS marshalling boxes (EEK523W)

With klik.system KLMB marshalling boxes (EEK52.P)



Direct wiring to a luminaire (EEK520B)



Technical features

- Electrical characteristics**  
 Supply voltage: 230 V ~ +10% -15% 50-60 Hz  
 Consumption with no load: 60 mW  
 DALI/DSI output capacity: 24 ballasts
- Functional characteristics**  
 Lighting output operating time: 1min. → 1h  
 Brightness level: 5 → 1000 Lux  
 Recommended installation height: 2,5 → 3,5m  
 Detection range: Ø 7m  
 (installed product height: 2.5m)  
 Fixing accessories: screws (No 8), protective cover.  
 Products can be connected in parallel.  
 Hole size required: 60mm
- Environment**  
 Operating temperature: -10 °C → +45 °C  
 Storage temperature: -20 °C → +60 °C  
 Class of insulation: II  
 IK 03  
 Index of protection: IP41  
 Fire resistance: 650°C  
 Standards: IEC 60669-1, IEC 60669-2-1 **CE**
- Connection capacity (EEK520B):**  
 0.5mm<sup>2</sup> to 1.5mm<sup>2</sup> flexible,  
 0.5mm<sup>2</sup> to 1.5mm<sup>2</sup> rigid

Implementation requirements

- Requirements for optimal detection:
- Recommended installation distance from ground: 2.5 m → 3.5 m
  - In offices, the detector must be installed above the workstation
  - When associating several detectors, detection areas shall overlap
  - Keep away from environmental disturbances (heat sources, partitions, houseplants, ventilation,...)

Trouble shooting

- False switching of lighting point:  
 Check that the detector is not exposed directly to a heat source or a lighting source, or is not placed above a ventilation grid...
- The range of the detector is too short:  
 Check whether the distance of the device from the ground is sufficient and its location is optimal.
- The light regulation on low brightness levels may fluctuate:  
 check the dimming range of the used ballasts and use preferably 1-100% devices.