**Brightness controller mini**
Art. No. : 2096 LUX

**Operating instructions**

# 1 Safety instructions

**Electrical equipment may only be installed and fitted by electrically skilled persons.**

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

**Do not press on the sensor window. Device can be damaged.**

**Caution. Damage to sensors may result due to high thermal radiation. Avoid direct sunlight penetration in the sensor window.**

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

# 2 Device components
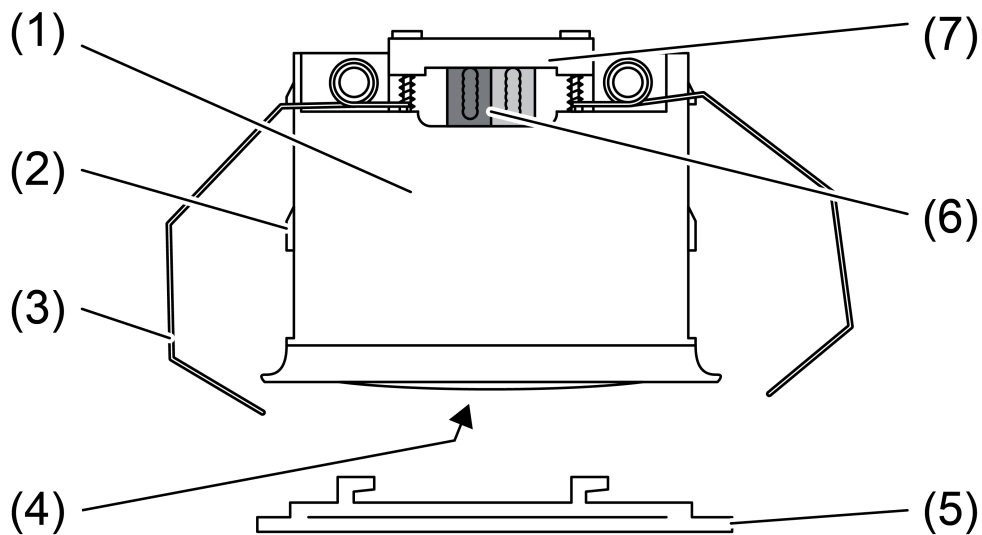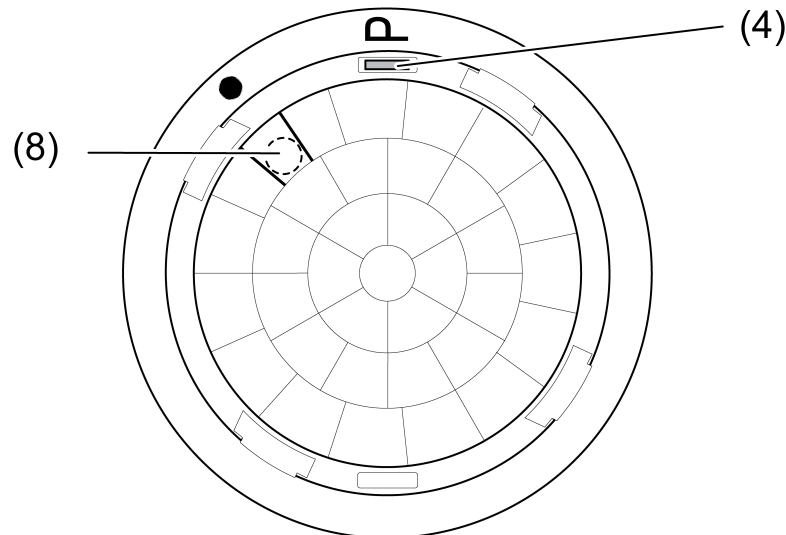


Figure 1: Device components

Figure 2: Top view

(1)  Brightness controller
(2)  Guide for clamping springs
(3)  Spring clamp
(4)  Programming button, red
(5)  Design ring
(6)  Bus connection
(7)  Cable fixation
(8)  Brightness sensor

# 3 Function

## System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite to proper understanding.

The function of this device depends upon the software. Detailed information on loadable software and attainable functionality as well as the software itself can be obtained from the manufacturer´s product database. Planning, installation and commissioning of the device are carried out with the aid of KNX-certified software. The latest versions of product database and the technical descriptions are available on our website.

## Intended use

-   Measurement and control of lighting indoors or in protected outdoor area
-   Clamp mounting in suspended ceilings
-   Ceiling mounting on fixed ceilings in flush-mounted box according to DIN 49073 or surface-mounted housing (see accessories)

## Product characteristics

-   Asymmetrical measuring surface
-   Integrated bus coupling unit
-   Brightness sensor function
-   Brightness limiting values (3 channels) with output functions switching, value transmitter and scene extension
-   Light control with max. 3 channels

# 4 Information for electrically skilled persons

## 4.1 Fitting and electrical connection

### Aligning the device

The brightness sensor (8) is attached on the side and thus enables an asymmetric measuring surface. In this way, for example, it is possible to include several work places in the measurement without any laterally entering light distorting the measurement.
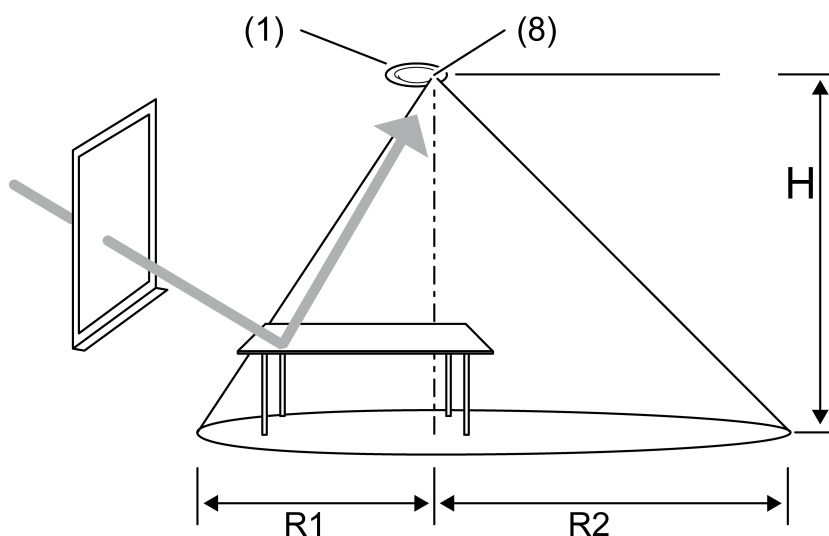


Figure 3

ⓘ  Light falling directly onto the sensor or reflected by shiny surfaces influences the brightness detection.

| Installation height H | R1 | R2 |
| --- | --- | --- |
| 2.20 m | 1.5 m | 2.3 m |
| 2.50 m | 1.8 m | 2.6 m |
| 3.00 m | 2.0 m | 3.0 m |
| 3.50 m | 2.5 m | 3.6 m |
| 4.00 m | 2.8 m | 4.2 m |
| 5.00 m | 3.5 m | 5.2 m |

■  When mounting, align the device so that the brightness sensor (8) is not facing the window(figure 3).

ⓘ  Already when mounting – in flush-mounted box or surface-mounted housing – pay attention to correct alignment.

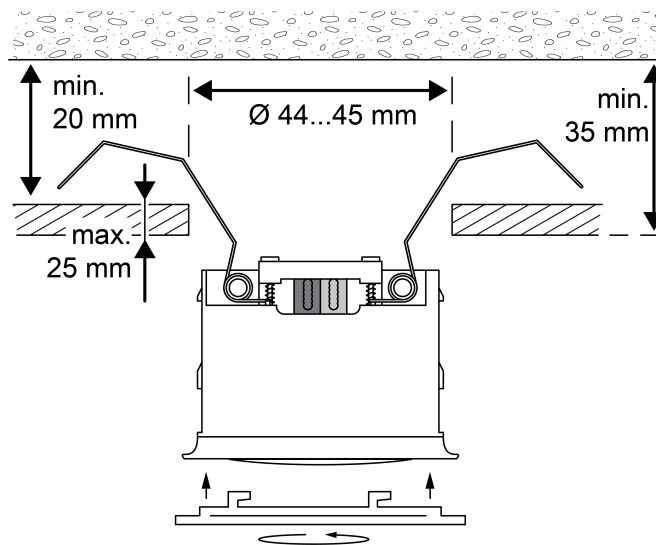## Connecting and fitting the device in the suspended ceiling



Figure 4

The environment in the suspended ceiling must be dry.

Max. thickness of the suspended ceiling approx. 25 mm. Installation depth min. 35 mm. Distance between concrete ceiling and suspended ceiling min. 20 mm.

Ceiling cut-out 44 ... 45 mm.

- Connect bus line.
- Clamp bus line with cable fixation (7).
- Bend back the spring clamps (3) and push the brightness controller (1) into the suspended ceiling.
- Attach the large design ring (5) and rotate it in clockwise direction.

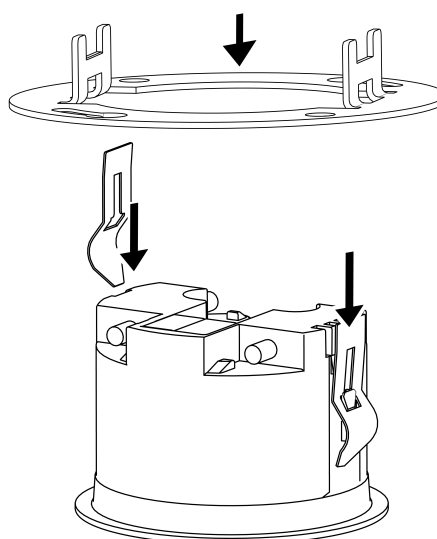## Mounting clamping springs for box mounting



Figure 5

For mounting in flush-mounted box or surface-mounted housing.

- Remove spring clamp (3).

- Push clamping springs (12) in the right orientation on the guides (2) from behind until they snap into place (figure 5).

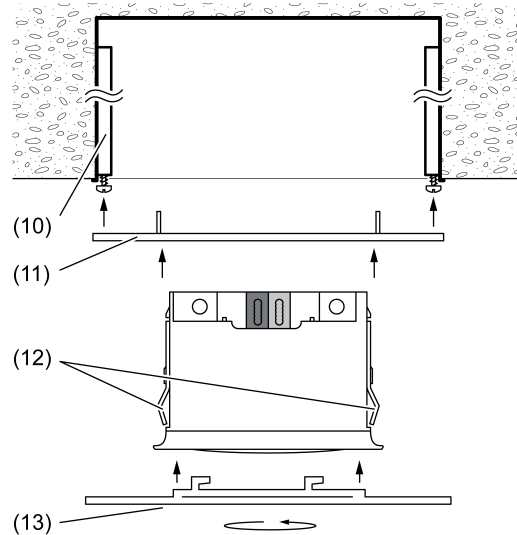**Connecting and fitting the device in a flush-mounted box**



Figure 6

Flush-mounted box (10) is mounted on the ceiling at the designated installation location.

Spring clamps (3) are removed and clamping springs (12) are mounted.

- Mount supporting frame (11) on the flush-mounted boxes (10).
- Connect bus line with connecting terminal.
- Snap the brightness controller into the supporting frame (11).
- Attach the large design ring (13) and rotate it in clockwise direction.

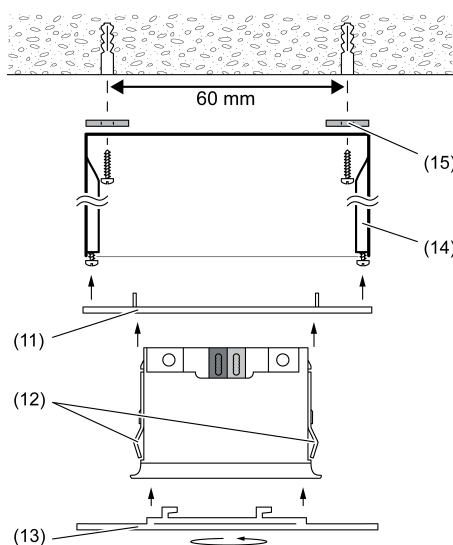**Fitting and connecting device in a surface-mounted housing**



Figure 7

Using a surface-mounted housing (14) (see accessories).

In a humid environment and for IP44 mounting: Provide screw holes of the surface-mounted housing with the supplied seals (15).

Seal the cable entry with the supplied rubber grommet. Cut the rubber grommet appropriately for the bus cable. Route the bus line into the box.

Spring clamps (3) are removed and clamping springs (12) are mounted.

- Mount the surface-mounted housing (14) on the room ceiling at the designated installation location. Hole spacing 60 mm.
- Mount the supporting frame (11) on the surface-mounted housing (14).
- Connect bus line with connecting terminal.
- Snap the brightness controller into the supporting frame (11).
- Attach the large design ring (13) and rotate it in clockwise direction.

## 4.2 Commissioning

**Load the address and the application software**

- When mounted, remove the design ring.
- Switch on the bus voltage.
- Press the red programming button (4).
  The programming LED in the sensor window lights up.
- Assign physical address.
  The programming LED goes out.
- Label device on the side with physical address.
- Load the application software into the device.

# 5 Appendix

## 5.1 Technical data

| | |
|---|---|
| KNX medium | TP |
| Commissioning mode | S-mode |
| Rated voltage KNX | DC 21 ... 32 V SELV |
| Current consumption KNX | max. 10 mA |
| Connection, Bus | Connection terminal |
| Protection class | III |
| Ambient temperature | -25 ... +55 °C |
| Storage/transport temperature | -25 ... +70 °C |
| Relative humidity | 10 ... 100 % (No moisture condensation) |
| Degree of protection | IP 44 |
| Dimensions | |
| Ceiling cut-out Ø×D | 44 × 35 mm |
| Dimensions Ø×H | 53.5 × 38 mm (with design ring) |
| Brightness measurement | |
| Measuring range | 10 ... 2000 lx |
| Accuracy (> 80 lx) | ± 5% |
| Accuracy (≤ 80 lx) | ± 10 lx |

## 5.2 Accessories

| | |
|---|---|
| Flush mounting set | Art. No. PMM-UP-SET-WW |
| Surface mounting set | Art. No. PMM-AP-SET-WW |

## 5.3 Warranty

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

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