

**Flush-mounted brightness controller**  
Order No. : 2102 00  
**Surface-mounted brightness controller**  
Order No. : 2103 00

## Operating instructions

### 1 Safety instructions

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

Failure to observe the instructions may cause damage to the device and result in fire and other hazards.

Do not shorten or grind the rigid fibre-optic rod nor use it for any other purpose.

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

### 2 Device components

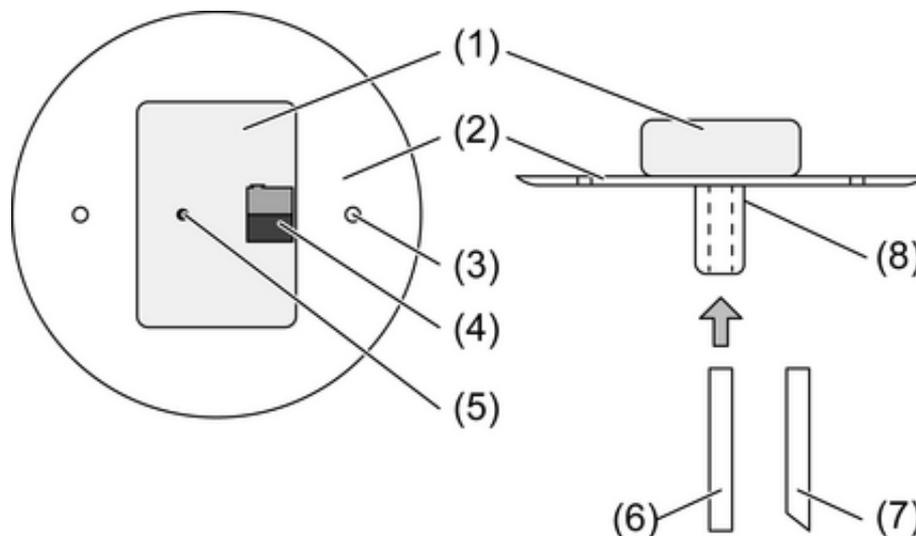


Figure 1: Brightness controller, concealed

- (1) Brightness controller
- (2) Lid
- (3) Screwholes
- (4) Bus connecting terminal
- (5) Programming button
- (6) Rigid fibre-optic rod with straight incidence
- (7) Rigid fibre-optic rod with sloping incidence
- (8) Sensor opening

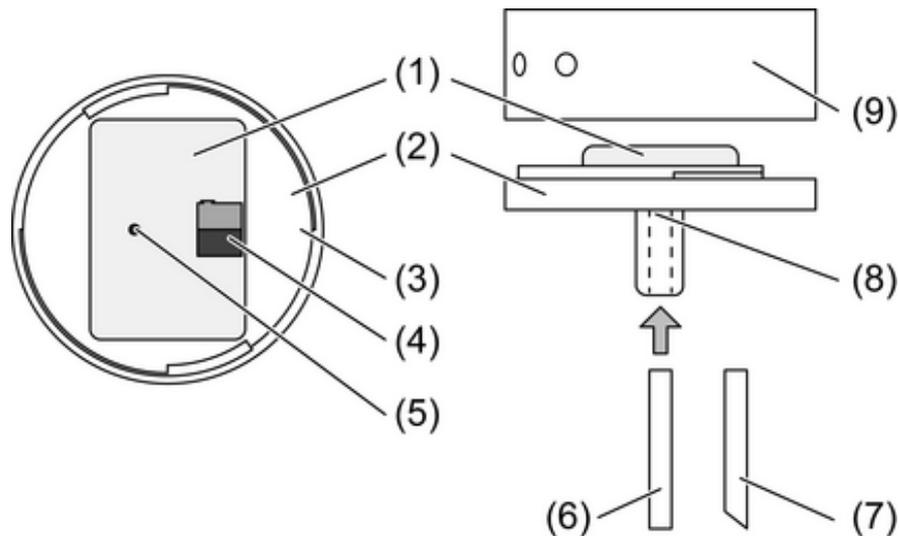


Figure 2: Brightness control, surface-mounted

(9) Surface-mounted housing

### 3 Function

#### Intended use

- Measurement and control of lighting in interior areas
- Ceiling installation on fixed ceilings
- Concealed device: installation in appliance box to DIN 49073

#### Product characteristics

- Continuous constant light control for dimmable lighting
- Switching two-point control for switched lighting
- Integrated bus coupling
- Supply via bus
- Transmission of measured values, switching and dimming values
- Setpoint changeable in operation
- Control can be switched on and off in operation

### 4 Information for qualified electricians

#### 4.1 Installation and electrical connection



#### **DANGER!**

**Electrical shock on contact with live parts in the installation environment.**

**Electrical shocks can be fatal.**

**Before working on the device, disconnect the power supply and cover up live parts in the working environment.**

#### Selecting the installation location

The device measures the brightness on a work surface. Select the installation location such that the work surface is recorded fully.

Light falling directly on the sensor or reflected by shiny surfaces causes incorrect measuring results and impedes control. To ensure fault-free operation, the controller must only measure diffused, reflected light.

- i** When delivered, the light measurement is optimised for installation at a height of 2.50 m directly over a work surface of 0.75 m height with approx. 30 % reflection. With differing situations, please calibrate the controller (see chapter 4.2. Commissioning).

- Install the brightness controller directly above the work surface on the room ceiling (Figure 3).

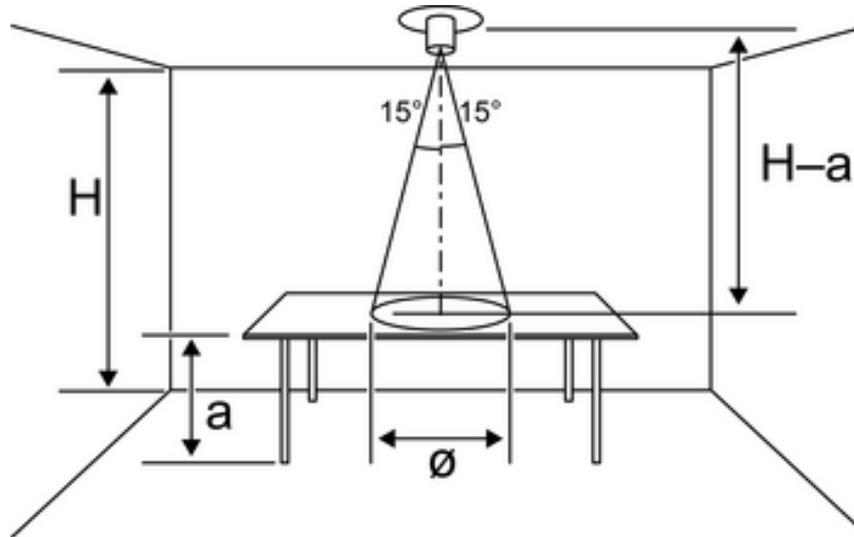


Figure 3: Rigid fibre-optic rod with straight incidence

H Room height

a Height of the work surface

ø Diameter of the measuring surface:  
 $\varnothing = (H - a) \cdot 0.54$

- If installation is not possible directly over the work surface, then install the brightness controller with a side offset (Figure 4). The detection cone is then to the side of the surface to be measured.

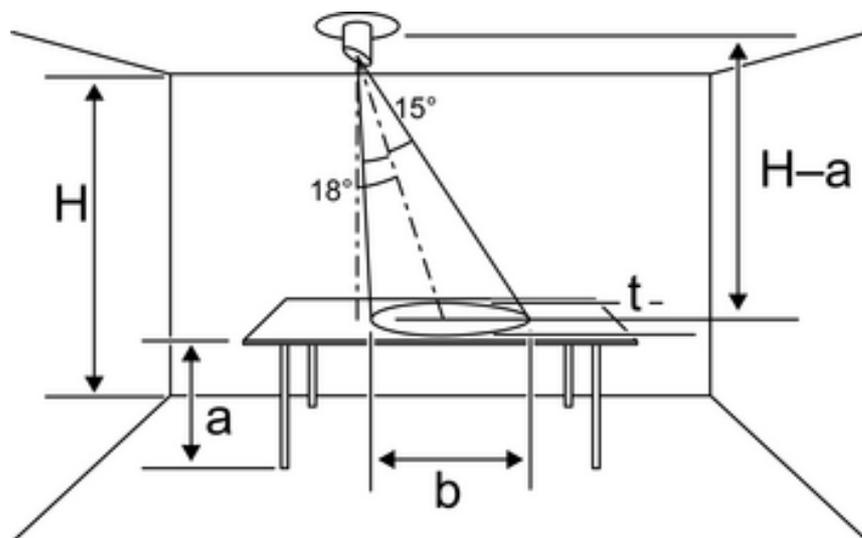


Figure 4: Rigid fibre-optic rod with sloping incidence

b Width of the measuring surface:  
 $w = (H - a) \cdot 0.6$

t Depth of the measuring surface  
 $d = (H - a) \cdot 0.56$

## Connecting and installing a concealed device

Use an appliance box to DIN 49073. The screwholes (3) in the lid (2) fit the contour of the appliance box.

- Connect the device (1) with the bus connection terminal (4) to the bus cable.
- Assign physical address (see chapter 4.2. Commissioning).
- Place the device in the appliance box.
- Screw the lid (3) to the appliance box using the fastening screws provided.

## Installing and connecting the surface-mounted device

- Install the surface-mounted housing (9) on the room ceiling.
- Connect the device (1) to the bus cable with the bus connection terminal (4).
- Assign physical address (see chapter 4.2. Commissioning).
- Place the device with the lid (2) on the surface-mounted housing. Turn the lid to fix it to the surface-mounted housing.

## 4.2 Commissioning

### Loading the physical address and application software

The Programming LED is located in the sensor opening (8) on the front side of the device.

- Switch on the bus voltage
- Press the programming key (5).  
The Programming LED flashes.
- Assign physical address.  
The programming LED goes out.
- Note the physical address on the device label.
- Load the application software into the device.

### Using a rigid fibre-optic rod with straight incidence

The controller is directly above the work surface (Figure 3).

- Insert the rigid fibre-optic rod with a straight incidence (6) approx. 10 mm into the sensor opening (8).

### Using a rigid fibre-optic rod with sloping incidence

The controller is above and to the side of the work surface (Figure 4).

- Insert the rigid fibre-optic rod with a sloping incidence (7) approx. 10 mm into the sensor opening (8).
- Align the rigid fibre-optic rod (7) in such a way that the longer side of the rod points towards the work surface to be measured (Figure 4).

**i** Calibrate the controller when using the rigid fibre-optic rod with sloping incidence (7).

### Calibrate the controller

The installation height, lighting situation and degree of reflection influence the controller. Calibrate the controller for the most accurate constant light control or brightness measurement or if the rigid fibre-optic rod is used with sloping incidence (7).

The controller is calibrated using a bus telegram **Calibrate setpoint**. The controller programming must make the reception of this telegram possible.

Calibrate the controller with as little daylight incidence as possible. If necessary, darken the room.

Use a calibrated light meter.

- Switch on the lighting to be controlled above the work surface.
- Measure the lighting strength on the work surface.
- Set the lighting so that the light meter shows the required setpoint, e.g. 500 lx.
- Send the **Calibrate setpoint** telegram to the controller via the bus.

- i** The technical product documentation contains detailed information on the calibration of the brightness controller.

## 5 Appendix

### 5.1 Technical data

#### Flush-mounted brightness controller, Order No. 2102 00

Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Relative humidity	max. 93 % (No moisture condensation)
Protection class	III
Measuring range	0 ... 2000 lx
Dimensions L×W×H (without cover)	50×35×15 mm
Weight	approx. 30 g
KNX medium	TP 1
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Current consumption KNX	15 mA
Connection mode KNX	Connection terminal

#### Surface-mounted brightness controller, Order No. 2103 00

Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Relative humidity	max. 93 % (No moisture condensation)
Protection class	III
Measuring range	0 ... 2000 lx
Dimensions Ø×H (without fibre-optic cable)	approx. 70 x 33 mm
Weight	approx. 50 g
KNX medium	TP 1
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Current consumption KNX	15 mA
Connection mode KNX	Connection terminal

### 5.2 Warranty

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

Please submit or send faulty devices postage paid together with an error description to your responsible salesperson (specialist trade/installation company/electrical specialist trade). They will forward the devices to the Gira Service Center.

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