

Operating instructions

Universal LED rotary dimming insert Standard
Art. no. 2450 00



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1 Safety instructions

To avoid potential damage, read and follow the following instructions:



Installation only by persons with relevant knowledge and experience in the following areas:

- Five safety regulations and standards for the installation of electrical systems
- Selection of suitable tools, measuring devices, installation materials and, if necessary, personal protective equipment
- Installation of the installation material
- Connection of devices to the building installation under consideration of local connection conditions

Improper installation will endanger your life and the lives of people using the electrical system, and there is a risk of serious damage to property, e.g. through fire. You are at risk of personal liability for personal injury and damage to property.

Consult an electrically skilled person.

Danger of electric shock. The device is not suitable for disconnection from the supply voltage because the mains potential is applied on the load even when the device is switched off. Before carrying out work on the device or load, switch off all corresponding circuit breakers.

Fire hazard. For operation with inductive transformers, each transformer must be fused on the primary side in accordance with the manufacturer's instructions. Only safety transformers according to EN 61558-2-6 (VDE 0570 parts 2-6) must be used.

Instructions are part of the product, so keep them in a safe place.

2 Intended use

- Switching and dimming of lighting
- Operation with suitable cover
- Mounting in appliance box with dimensions according to DIN 49073

3 Product characteristics

Product characteristics

- The device works according to the leading edge phase control or trailing edge phase control principle
- Automatic setting of the dimming principle suitable for the load
- Operation without neutral conductor possible
- Switch-on by bulb-preserving soft start
- Switch on with last brightness set or switch-on brightness saved
- Switch-on brightness can be saved permanently
- Minimum brightness can be saved permanently

- Electronic short-circuit protection with permanent switch-off after 7 seconds at the latest
- Electronic over-temperature protection
- i** Power extension possible by means of power boosters.

4 Operation

Switching light or adjusting brightness

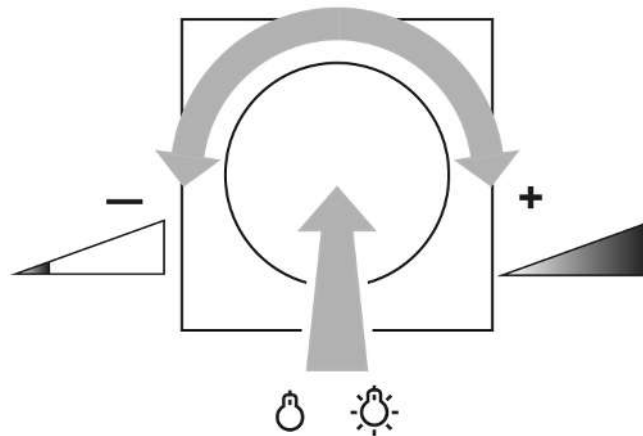


Figure 1: Switching light or adjusting brightness

- Press the setting knob briefly: Light switches on or off (see figure 1).
- Turn the setting knob quickly: Brightness is changed quickly (see figure 1).
- Turn the setting knob slowly: Brightness is changed slowly (see figure 1).

Switching the light on at minimum or maximum brightness

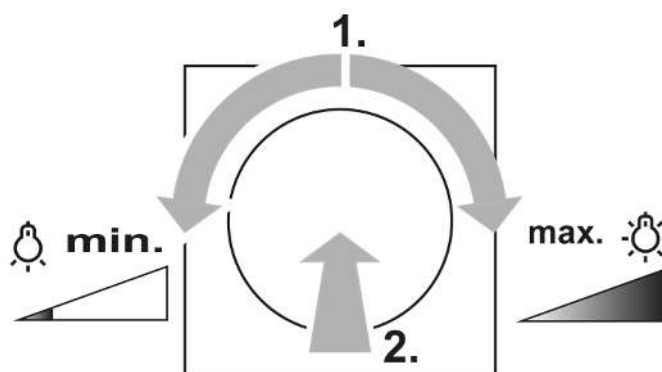


Figure 2: Switching on the light at minimum or maximum brightness

- Turn the setting knob by a quarter turn, then press the setting knob briefly: Light switches on at minimum brightness or maximum brightness (see figure 2).

Saving the switch-on brightness

- Set the brightness.

- Press the setting knob for longer than 4 seconds.
The switch-on brightness is saved. The lighting switches briefly off and on again as confirmation.

Deleting the switch-on brightness

- Press the setting knob briefly: Light switches on at the saved switch-on brightness.
- Press the setting knob for longer than 4 seconds.
The switch-on brightness is deleted. Switching on takes place with the last brightness value set. For confirmation, the light is switched off briefly and switched on again.

5 Information for electrically skilled persons

5.1 Mounting and electrical connection



DANGER!

Electric shock when live parts are touched.

Electric shocks can be fatal.

Always disconnect before carrying out work on the device or installation. To do so, switch off all corresponding circuit breakers, secure them against being switched on again and check that there is no voltage. Cover up any adjacent live parts.

Mounting and electrical connection

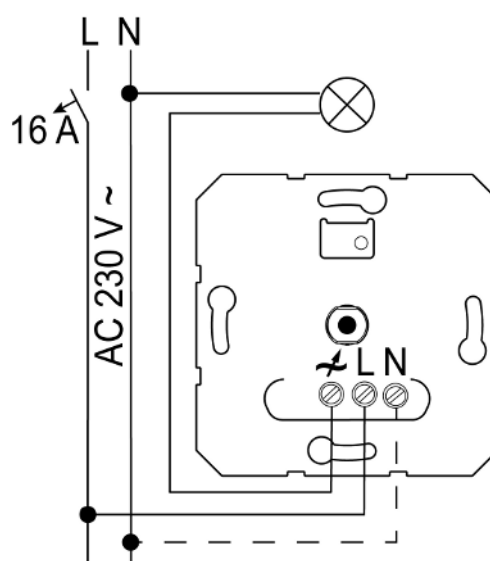


Figure 3: Connection diagram

Connect the 600 W LED lamps or compact fluorescent lamps at most for each 16 A circuit breaker. When connecting transformers, observe the data of the transformer manufacturer.

Operation without neutral conductor possible.

Observe the conductor cross-sections (see technical data).

The dimmer takes into account the different electronic characteristics of most dimmable LED lamps on the market. However, it cannot be guaranteed that in individual cases the desired results may not be achieved.

Resetting the overheating protection / short-circuit protection

If the electronic overheating or short-circuit protection has been activated, separate the dimmer from the grid.

5.2 Commissioning

Setting the minimum brightness

Prerequisite: The dimmer is ready for operation and the load is switched off.

- Press the setting knob for approx. 10 to 15 seconds until the light switches on and off again.
- Press again and hold the knob within 5 seconds. The light switches on at half brightness and slowly dims.
- i** Set the minimum brightness so that the lamp lights up visibly in the lowest dimming position and when switched on at minimum brightness.
- Once the desired minimum brightness is reached, release the setting knob. The minimum brightness is stored and the light is switched off.

Setting the maximum brightness

- Prerequisite: The dimmer is ready for operation and the light is switched on. Press the setting knob for about 10 to 15 seconds.

After approx. 4 seconds, the light switches off briefly and then on again. Keep the setting button pressed.

The light is switched off after about 10 to 15 seconds.

Press again and hold the knob within 5 seconds. The light switches on at maximum brightness and slowly dims.
- Release the adjusting knob when the desired brightness is reached.
- The maximum brightness is saved and the light is switched off.

6 Technical data

Rated voltage

AC 230 V ~

Mains frequency	50/60 Hz
Standby power	approx. 0.35 W
Power loss	approx. 2 W
Ambient temperature	-5 ... +45 °C
Connected load at 25 °C	See table 1
Mixed load	
ohmic-capacitive	20 ... 210 W
capacitive-inductive	not permitted
ohmic-inductive	20 ... 210 VA
ohmic and HV LED	typ. 3 ... 60 W
ohmic and compact fl lamp.	typ. 3 ... 60 W

- i** If the dimmer is adjusted to trailing edge phase control, the maximum connected load for HV-LED lamps is typ. 3 ... 120 W and electronic transformers with LV-LED lamps typ. 20 ... 120 W.
- i** Power specifications including transformer dissipation.
- i** Operate inductive transformers with at least 85% nominal load.
- i** Ohmic-inductive mixed load: max. 50% proportion of ohmic load. Otherwise, an incorrect measurement is possible.
- i** Operation without neutral conductor: Minimum load 50 W. Does not apply to loads with HV-LED and compact fluorescent lamps.

Power reduction	
per 5 °C in excess of 25 °C	-10%
when installed in wooden or dry construction walls	-15%
when installed in multiple combinations	-20%
Power boosters	see power booster instructions
Total length power cable	Max. 100 m
Clampable conductor cross-section	(see figure 4)
Installation depth	24 mm

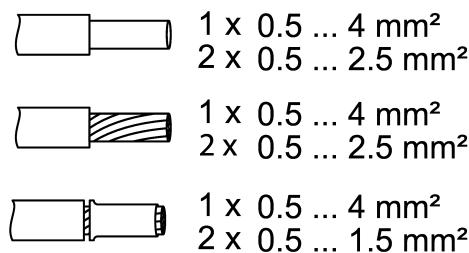
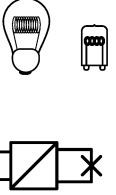


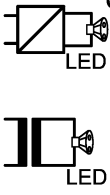


Figure 4: Clampable conductor cross-section

			
<p>W 20...210</p>	<p>W/VA 20...210</p>	<p>W 3...60</p>	<p>W/VA 20...60</p>

- a Incandescent lamps, HV halogen lamps, electronic transformer with LV halogen lamps
- b Inductive transformer with LV halogen lamps
- c HV-LED lamps, compact fluorescent lamps
- d Electronic LED ballast with LED lamps; Inductive transformer with LED lamps

Table 1: lamp loads

7 Troubleshooting

Connected LED lamps or compact fluorescent lamps switch off in the lowest dimming position or flicker

Cause: The set minimum brightness is too low.

Increase minimum brightness.

Connected lamps do not switch on in the lowest dimming position or only after a delay

Cause: The set minimum brightness is too low.

Increase minimum brightness.

Connected LED lamps or compact fluorescent lamps flicker or buzz, no correct dimming possible, device buzzes

Cause 1: Lamps are not dimmable.

Check manufacturer's instructions.

Exchange lamps for another type.

Cause 2: Dimmer is connected without neutral conductor.

Connect neutral conductor if possible, otherwise exchange lamp for another type.

Connected LED lamps or compact fluorescent lamps in the lowest dimming position are too bright; dimming range is too small

Cause 1: The set minimum brightness is too high.

Reduce minimum brightness.

Exchange HV-LED lamps for another type.

The dimmer switches the load off briefly and then on again.

Cause: Short-circuit protection has tripped but now there is no longer a fault.

The dimmer has switched off and the load cannot be switched on again

Cause 1: Overheating protection has tripped.

Disconnect dimmer from mains by switching off circuit breaker.

Reduce the connected load. Exchange lamps for another type.

Let dimmer cool down for at least 15 minutes.

Switch circuit breakers and dimmer on again.

Cause 2: Overvoltage protection has tripped.

Exchange lamps for another type.

Cause 3: Short-circuit protection has tripped.

Disconnect dimmer from mains by switching off circuit breaker.

Eliminate short-circuit.

Switch circuit breakers and dimmer on again.

i Short-circuit protection is not based on a conventional fuse, no metallic separation of the operational current.

Cause 4: load failure.

Check load, replace lamp. For inductive transformers, check primary fuse.

LED lamp is dimly lit when dimmer is switched off

Cause: LED lamp is not suitable for this dimmer.

Use a compensation module, see accessories.

Use another type of LED lamp or an LED lamp of another manufacturer.

8 Accessories

Compensation module LED

Order no. 2375 00

9 Warranty

The warranty is provided by the specialist trade in accordance with statutory requirements. Please submit or send faulty devices postage paid together with a fault 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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