

**Universal LED rotary dimming insert Standard**

Order no.: 2450 00

**Operating instructions****1 Safety instructions**

Electrical devices may only be mounted and connected by electrically skilled persons.

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

Danger of electric shock. Always disconnect before carrying out work on the device or load.

Danger of electric shock. Device is not suitable for disconnection from supply voltage. The load is not electrically isolated from the mains even when the device is switched off.

Risk of destruction if the set operating mode and load type do not match. Set correct operating mode when connecting or exchanging the load.

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 may be used.

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

**2 Intended use**

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

**3 Product characteristics****Product characteristics**

- 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 via bulb-preserving soft start
- Switch on with last saved brightness or saved switch-on brightness
- 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

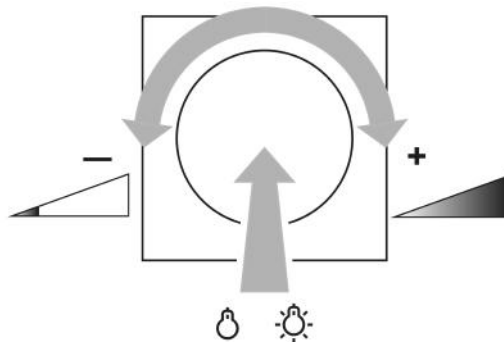


Figure 1: Switching light or adjusting brightness

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

### Switching the light on at minimum or maximum brightness

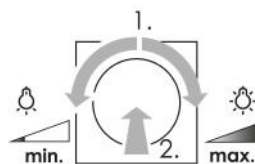


Figure 2: Switching on the light at minimum or maximum brightness

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

### Save switch-on brightness

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

### Delete 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 at 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 Fitting and electrical connection



#### **DANGER!**

Mortal danger of electric shock.

Disconnect the device. Cover up live parts.

## Fitting and electrical connection

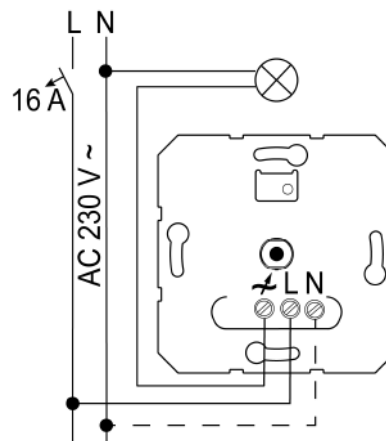


Figure 3: Connection diagram

- i** Connect 600 Watt LED lamps or compact fluorescent lamps at most per 16 ampere circuit breaker. When connecting transformers, observe the data of the transformer manufacturer.
- i** Our dimmers take into account the different electronic characteristics of most LED lamps found on the market. However, it cannot be guaranteed that in individual cases the desired results may not be achieved.

Operation without neutral conductor possible.

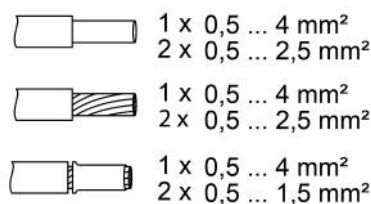


Figure 4: Clampable conductor cross-section

### Reset 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

Precondition: 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. Light switches on at the lowest brightness and slowly becomes brighter.
- i** In the lowest dimming position, a lamp light must be visible.
- Once the desired minimum brightness is reached, release the setting knob. The minimum brightness is stored 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 (Figure 5)	

W 20...210	W/VA 20...210	W 3...60	W/VA 20...60

Figure 5: Connected load

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: maximum 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

## 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: Surge protection has triggered.

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 light bulb. 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 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.

**Gira**  
**Giersiepen GmbH & Co. KG**  
Elektro-Installations-  
Systeme

Industriegebiet Mermbach  
Dahlienstraße  
42477 Radevormwald

Postfach 12 20  
42461 Radevormwald

Deutschland

Tel +49(0)21 95 - 602-0  
Fax +49(0)21 95 - 602-191

[www.gira.de](http://www.gira.de)  
[info@gira.de](mailto:info@gira.de)