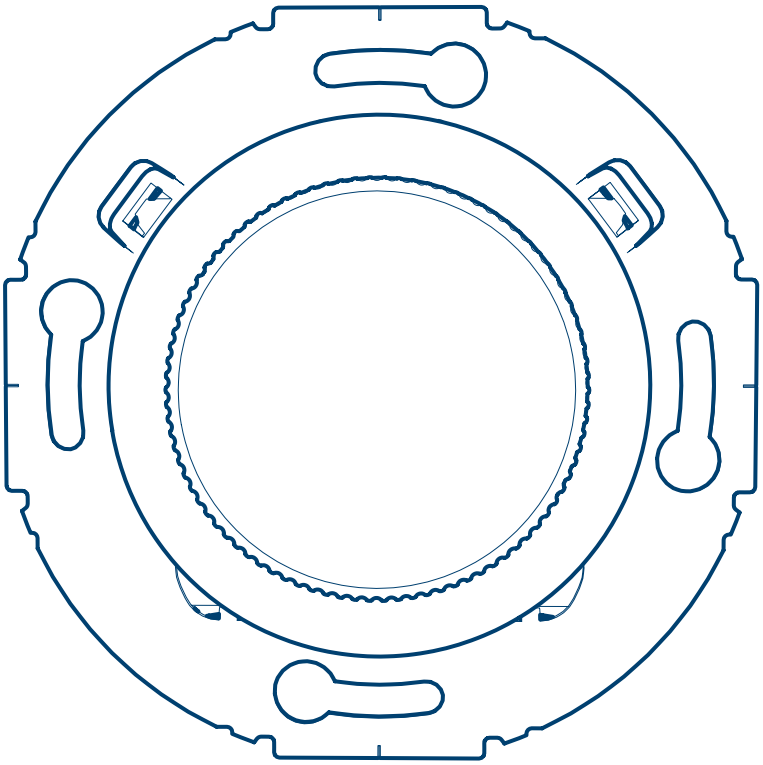
Operating and assembly instructions

Light control

Rotary dimmer



Universal rotary dimmer comfort

WL4011xx, WTN4011xx

CE

hager

EN

1 Safety instructions

Electrical devices may only be installed and assembled by a qualified electrician in accordance with the relevant installation standards, guidelines, regulations, directives, and safety and accident prevention regulations of the country of installation.

Danger due to electric shock. Disconnect mains supply before working on the device or load. Take into account all circuit protection devices that supply dangerous voltages to the device or load.

Failure to comply with these installation instructions may result in damage to the device, fire or other dangers.

Do not operate the device without a cover.

The device is not suitable for safe disconnection of the mains supply. Even when the device is switched off, the load is not galvanically separated from the mains supply.

Risk of destruction if the set operating mode and load type do not match. When connecting or replacing the load, set the correct operating mode.

Fire hazard. When operating with inductive transformers, secure each transformer on the primary side according to manufacturer's specification. Use safety transformers that comply with EN 61558-2-6 (VDE 0570 Part 2-6) only.

These instructions are an integral component of the product and must be retained by the end user.

2 Correct use

- Switch and dim lighting
- Installation into wall box according to DIN 49073
- Only suitable for use in indoor areas with no drip and no spray of water
- Operation with appropriate cover

3 Product characteristics

- The device works in accordance with the phase-cut on or phase cut-off principle
- Automatically or manually setting the dimming principle suitable for the load
- Displays the set operating mode by means of an LED
- Operation without neutral conductor possible
- Switch on using bulb-preserving soft start
- Switch on using the last set brightness or stored switch-on brightness level
- Switch-on brightness level can be permanently stored
- Minimum brightness can be permanently stored
- Extension units can be connected
- Electronic short circuit protection with permanent switch-off after seven seconds at the latest
- Electronic overheating protection

4 Operation

Switch the light or set brightness

Operation at the main unit and a rotary dimmer extension is identical.

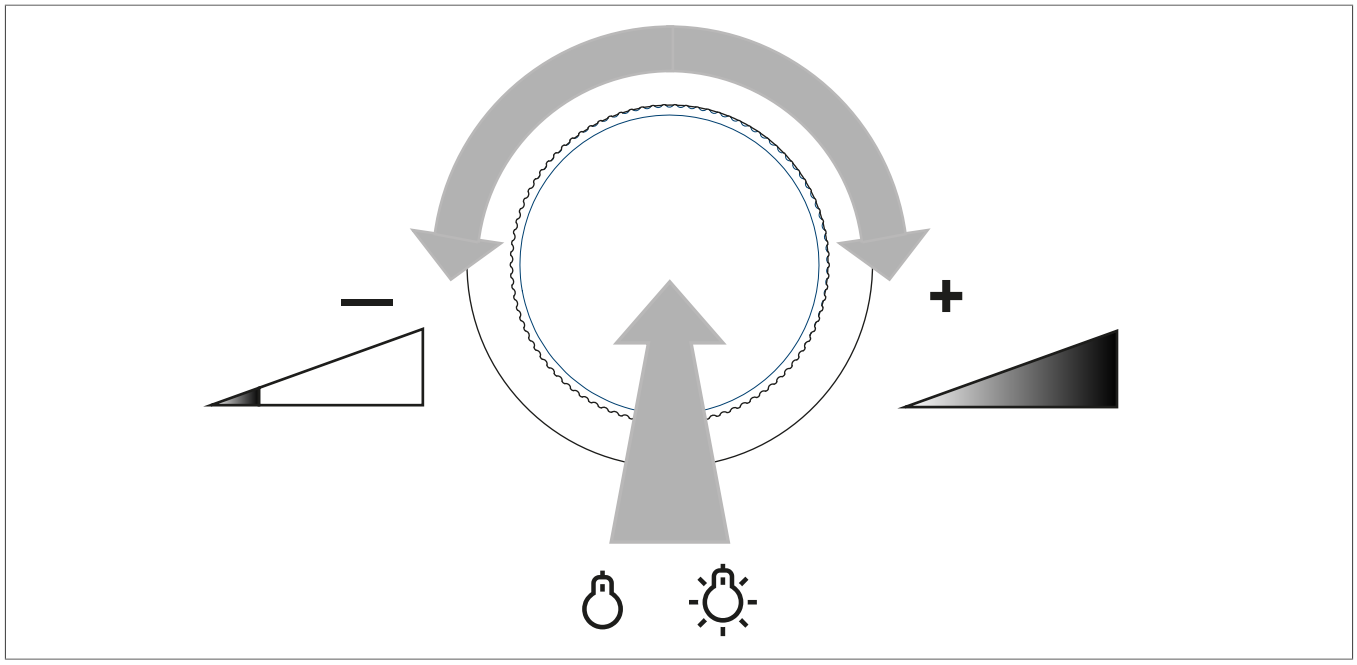


Fig. 1: Switch on the light or adjust the brightness

- Short press setting knob: Light switches on or off (figure 1).
- Turn the setting knob quickly: Brightness is changed quickly (figure 1).
- Slowly turn the setting knob: Brightness is changed slowly (figure 1).

Turn on the light with minimum or maximum brightness

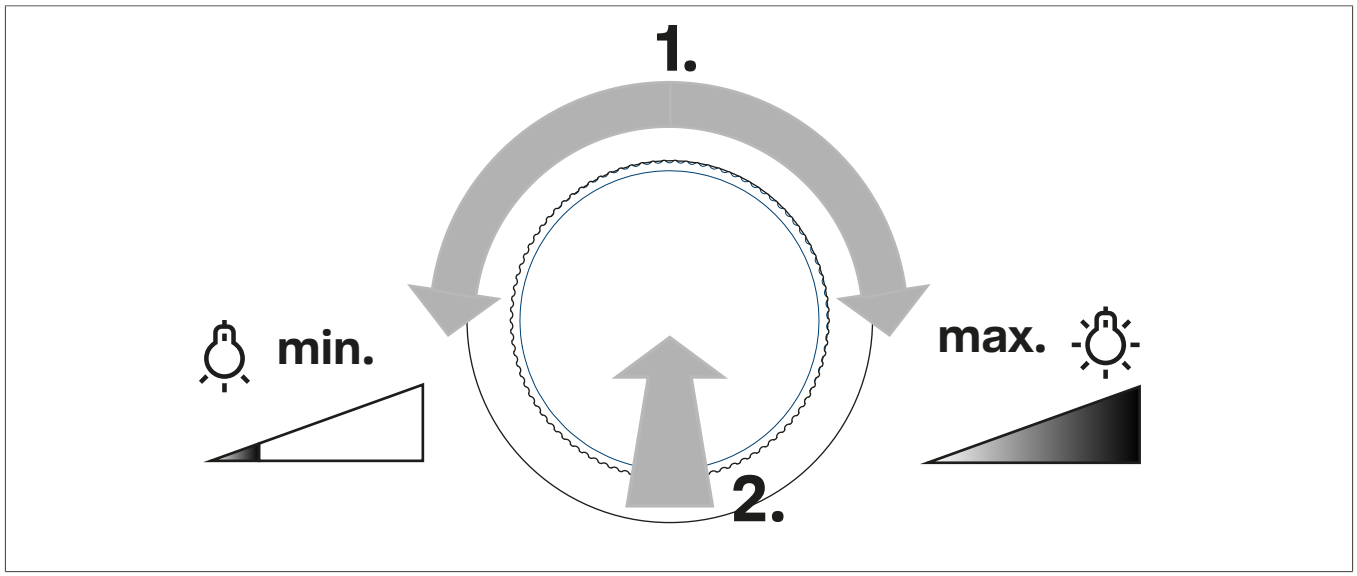


Fig. 2: Turn on with minimum or maximum brightness

☑ The light is switched off.

- Turn the setting knob a quarter of a turn, then short press the setting knob.
  The light switches on at minimum brightness or maximum brightness (figure 2).

Save switch-on brightness level

- Set brightness.
- Press and hold the setting knob for more than four seconds.
  Switch-on brightness level is saved. As confirmation, the lighting switches off briefly and on again.

Delete switch-on brightness level

- Short press setting knob: Light switches on with stored switch-on brightness level.
- Press and hold the setting knob for more than four seconds.
  The switch-on brightness level is deleted. The light is switched on at the last set brightness value. As confirmation, the light switches off briefly and on again.

Operation via push-switch button as extension unit

- Short press: Light switches on or off.
- Press and hold when the light is switched off: Switching on with minimum brightness.
- Press and hold when the light is switched on: Set brightness. The dimming process stops at the respective end value.

- The dimming direction changes with each new long actuation.
- The switch-on brightness level cannot be stored or deleted.

5 Information for qualified electricians

5.1 Installation and electrical connection

Danger

Electric shock when live parts are touched!

An electric shock can lead to death!

- Disconnect all connection cables before working on the device and cover any live parts in the area!

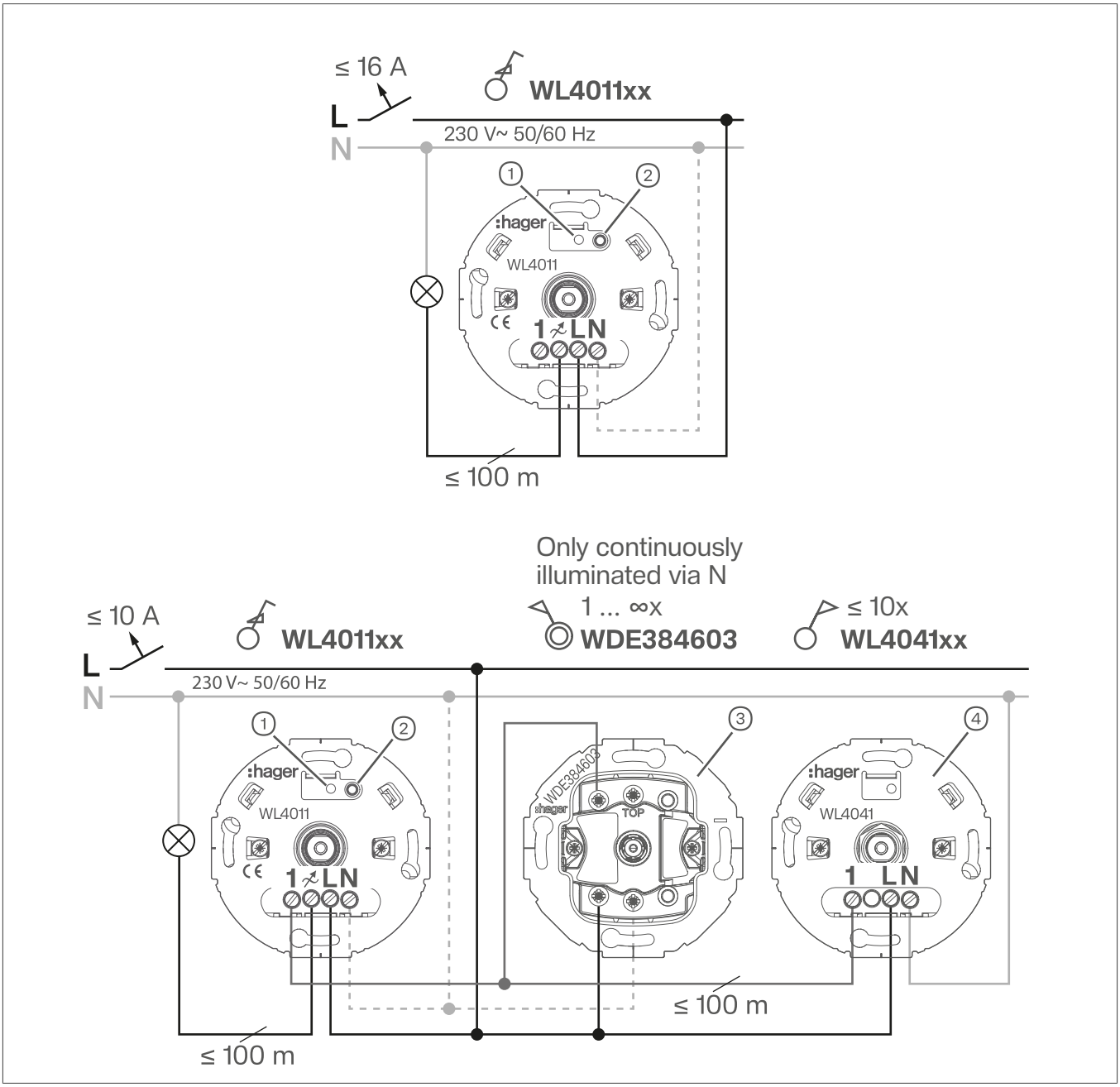


Fig. 3: Connecting diagram individually and with extension units

① Dim mode button
② Indicator LED for the dimming principle
③ Spring-return push-button, NO contact
④ Universal rotary dimmer extension

A maximum power of 600 W for LED or compact fluorescent lamps can be connected to a 16A circuit breaker. When connecting transformers, observe the manufacturer's specifications.

Our dimmers take into account the different electronic characteristics of most LED lamps on the market. However, it cannot be excluded that the desired results will not be achieved in individual cases.

Operation without neutral conductor possible.

Connect lit-up push buttons only, if they are equipped with a separate N terminal.

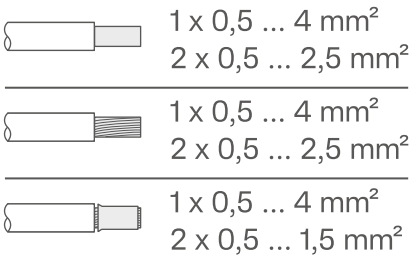


Fig. 4: Clampable conductor cross-sections

The light can be switched by short pressing the dim mode button (1).

Reset overheating protection/short circuit protection

If the electronic overheating protection or short circuit protection has been triggered, disconnect the dimmer from the mains.

5.2 Commissioning

Operating mode: Universal, R,L,C,LED, UNI (Factory setting)

– Automatic load calibration, phase cut-off, phase cut-on or LED phase cut-on.

Operating mode: LED phase cut-off, LED

– Phase cut-off dimmable loads.

Inductive transformers may not be connected.

Operating mode: LED phase cut-on, LED

– Phase cut-on dimmable loads.

Inductive transformers may not be connected.

Set the operating mode and minimum brightness

☑ Load is switched off.

- Press the **dim mode** button (1) until the **indicator LED** (2) lights up.

Indicator LED (2)	**Operating mode**
GN (green)	R, L, C, LED, UNI
RD (red)	LED
BU (blue)	LED

Table 1: Assignment of indicator LED colour to operating mode (dimming principle)

- Short press the **dim mode** button (1) repeatedly until the required operating mode is selected. **Indicator LED** (2) lights up in the colour of the selected operating mode (Table 1).
- Press and hold the **dim mode** button (1) for longer than one second. **Indicator LED** (2) flashes. Light switches on at the lowest brightness and slowly brightens.

Only when the operating mode is changed over to Universal, is the calibration carried out for the load. Continue to press and hold the dim mode button (1).

It must be possible to detect the lamp being illuminated at the lowest dimming position.

- When the desired minimum brightness is reached, release the **dim mode** button (1). **Indicator LED** (2) lights up, operating mode and minimum brightness are set.
- Optionally, change the minimum brightness again: Press the **dim mode** button (1) for longer than one second. Light switches to the lowest brightness and slowly brightens.
- Save settings: Press the **dim mode** button (1) for less than 1 second or do not press it for 30 seconds. **Indicator LED** (2) goes out.

6 Appendix

6.1 Technical data

Nominal voltage	230 V~
Mains frequency	50/60 Hz
Standby power	≤ 0.35 W
Power dissipation	≤ 4 W
Ambient temperature / storage temperature	-5 ... +45°C
Pollution degree	2

Connected load at 25°C:

	UNI		
	20 ... 420 W	20 ... 420 W	20 ... 420 W
	20 ... 420 W/VA	-	-
LED	3 ... 100 W	3 ... 100 W	3 ... 200 W
LED	20 ... 100 W/VA	-	-
LED	20 ... 100 W/VA	20 ... 100 W/VA	20 ... 200 W/VA

Mixed load

ohmic-capacitive	20 ... 420 W
capacitive-inductive	is not permitted
ohmic-inductive	20 ... 420 W
ohmic and HV LED	typically 3 ... 100 W
ohmic and compact fluorescent lamps	typically 3 ... 100 W

Performance specifications including transformer loss.

Inductive transformers with at least 85% of nominal load in universal operating mode.

Resistive-inductive mixed load: a maximum of 50% of resistive load. Otherwise incorrect calibration may be possible.

Operation without neutral conductor: Minimum load 50 W. Does not apply to loads with HV LED and compact fluorescent lamps.

Performance reduction

per 5 °C exceeding 25 °C	-10%
if built into wood or drywall	-15%
if built into a multiple combination	-20%

Number of extension units

Rotary dimmer extension	10
Spring-return push-button	unlimited

Total length of cable

Load cable	≤ 100 m
Extension unit	≤ 100 m

6.2 Troubleshooting

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

The minimum brightness level defined is too low.

- Increase the minimum brightness.

Connected lamps do not switch on or switch on late in the lowest dimming position.

The set minimum brightness is too low.

- Increase the minimum brightness.

Connected LED or compact fluorescent lamps flicker or buzz, correct dimming is not possible, device buzzes.

Lamps are not dimmable.

- Check the manufacturer's specifications. Replace the lamps with another type.

Operating mode (dimming principle) and lamps do not optimally match.

- Check operation in another operating mode; reduce the connected load if necessary. Set the operating mode manually. Replace the lamps with another type.

The dimmer is connected without a neutral conductor.

- If possible, connect the neutral conductor, otherwise replace the lamp with another type.

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

The set minimum brightness is too high.

- Reduce minimum brightness.

Operating mode (dimming principle) does not optimally match the connected HV LED lamps.

- Check operation in another operating mode; reduce the connected load if necessary. Set the operating mode manually. HV- LED- Replace the lamps with another type.

Dimmer briefly switches off and on again.

Short circuit protection has triggered, but in the meantime there is no longer a fault.

The dimmer has switched off and cannot be switched on again.

Overheating protection has tripped.

- Disconnect the dimmer from the mains by switching off the circuit breaker.

LED phase cut-off: Reduce connected load. Replace the lamps with another type.
LED phase cut-on: Reduce connected load. Check operation in the LED phase cut-off setting. Replace the lamps with another type.
Allow the dimmer to cool down for at least 15 minutes.
Switch on the circuit breaker and dimmer again.

Overvoltage protection has tripped.

- LED phase cut-off: Check the operation in the LED phase cut-on setting; reduce the connected load if necessary.

Replace the lamps with another type.

Load failure.

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

Short circuit protection has tripped.

Disconnect the dimmer from the mains by switching off the circuit breaker. Repair short circuit. Switch on the circuit breaker and dimmer again.

Short circuit protection is not based on a conventional fuse, no galvanic isolation of the load circuit.

LED lamp lights up dimly when dimmer is switched off.

LED lamp is not suitable for this dimmer.

Use a different type of LED lamp or an LED lamp from a different manufacturer.

6.3 Accessories

Compensation module LED	WDN9021

6.4 Disposal note

Disposal note

Correct disposal of this product (electrical waste).

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its documentation indicates that it should not be disposed of with other household waste at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this device from other types of waste. Recycle the device responsibly to promote the sustainable reuse of material resources.

Household users should contact either the dealer where they purchased this product, or their local government office, for details of where and how they can take this device for environmentally safe disposal.

Commercial users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial waste for disposal.

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