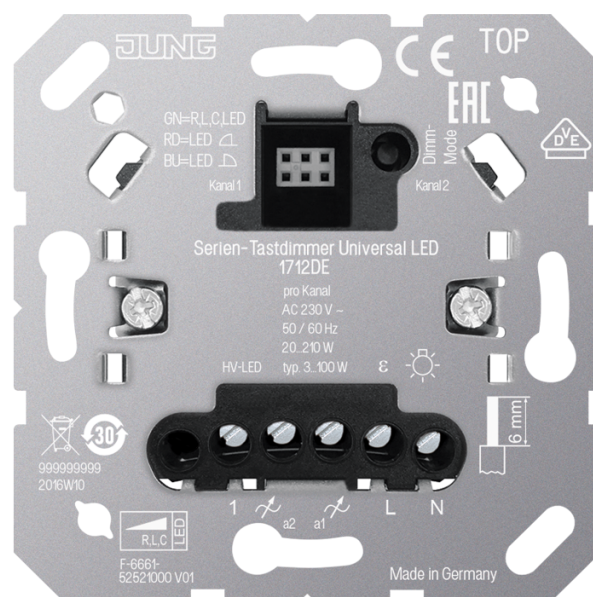


## Operating instructions

**Universal 2-gang touch dimmer insert LED**  
Art. no. 1712DE



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## 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. Device is not suitable for disconnection from supply voltage because mains potential even is applied on the load when the device is switched off. Before carrying out work on the device or load, switch off all associated circuit breakers.

Risk of destruction of the dimmer and load if the set operating mode and load type do not match. Set the correct dimming principle before 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.

This manual is an integral part of the product, and must remain with the end customer.

## 2 Intended use

- Switching and dimming of lighting
- Operation with suitable cover from the systems LB management, JUNG HOME, eNet and KNX RF
- Mounting in appliance box with dimensions according to DIN 49073

## 3 Product characteristics

- Two independent outputs for two light groups
- Asymmetric load distribution possible
- Device works according to the leading edge phase control or trailing edge phase control principle
- Automatic or manual setting of the dimming principle suitable for the load
- Indication of the set operating mode by means LED
- 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
- Connection of extensions possible
- 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

These instructions describe operation with a LB Management push-button 2-gang.

- Left: operation of output **a1**.
- Right: operation of output **a2**.

- i** Both outputs are always operated simultaneously with a LB Management push-button 1-gang.

### Switching the light

- Press briefly: Light switches on or off.

- i** 3-wire extension: Press top to switch on, press bottom to switch off.

### Adjusting the brightness

Light is switched on.

- Long press at the top: Light gets brighter up to maximum brightness.
- Long press at the bottom: Light gets darker to minimum brightness.

### Switching the light on with minimum brightness

- Long press at the bottom: Light switches on with minimum brightness.
- Long press at the top: Light switches on with minimum brightness and gets brighter.

### Saving the switch-on brightness

In the state as supplied, the switch-on brightness is set to maximum brightness.

- Adjust the brightness.
- Press over entire surface for longer than 4 seconds.

Switch-on brightness is saved. For confirmation, the light is switched off briefly and switched on again.


### Deleting the switch-on brightness

- Press briefly: Light switches on at the saved switch-on brightness.
- Press over entire surface for longer than 4 seconds.

The switch-on brightness is deleted. For confirmation, the light is switched off briefly and switched on again. Switching on takes place at the last brightness value set.

### Operation via extensions

Operation essentially corresponds to operation on the main device. 3-wire extension with LB Management push-button 2-gang for independent operation of the outputs, 3-wire extension with LB Management push-button 1-gang and rotary extension only operate output **a1**, 2-wire extension with LB Management push-button 1-gang and push-button for simultaneous operation of both outputs.

-  Push-button: The dimming direction is changed with each new long actuation. Saving or deleting the switch-on brightness is not possible.

## 5 Information for electrically skilled persons

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### **DANGER!**

Mortal danger of electric shock.  
Disconnect the device. Cover up live parts.

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### Mounting and electrical connection

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### **CAUTION!**

Device fault if both outputs are connected to a common load.  
Do not connect outputs to a common load. For power extension, use power boosters.

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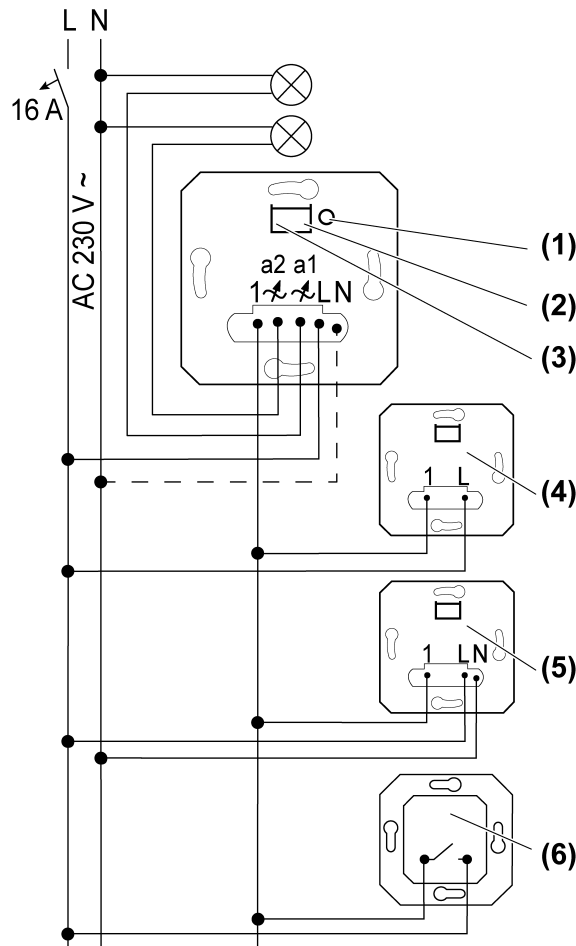


Image 1: Connection diagram with optional extensions

- (1) **Dimming mode** button
- (2) LED display output 2
- (3) LED display output 1
- (4) 2-wire extension
- (5) 3-wire extension, rotary extension
- (6) Push-button, NO contact

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

**i** 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.

An operational lamp must be connected to output **a1**, otherwise the dimmer will not function.

Lit push-buttons must have a separate N terminal.

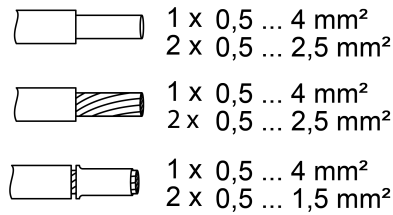


Image 2: Clampable conductor cross-section

- i** The light for both outputs can be switched by briefly actuating the Dimming mode button (switching states: **a1** on **a2** off, **a1** off **a2** on, **a1** and **a2** on, **a1** and **a2** off).

### Reset the overheating protection / short-circuit protection

Disconnect the dimmer from the mains supply.

### Operating mode: Universal, R,L,C,LED (factory setting)

- Automatic calibration to the load, dimming principle, trailing edge phase control, leading edge phase control or LED leading edge phase control
- Incandescent lamps, HV halogen lamps, dimmable HV-LED or compact fluorescent lamps, dimmable electronic or inductive transformers for halogen or LED lamps.

### Operating mode: LED trailing edge phase control, LED

- i** The connection of inductive transformers is not permitted.
- Incandescent lamps, HV halogen lamps, electronic transformers for halogen or LED lamps that can be dimmed according to the trailing edge phase control principle, HV-LED or compact fluorescent lamps that can be dimmed according to the trailing edge phase control principle.

### Operating mode: LED leading edge phase control, LED

- i** The connection of inductive transformers is not permitted.
- Incandescent lamps, HV halogen lamps, electronic transformers for halogen or LED lamps that can be dimmed according to the leading edge phase control principle, HV-LED or compact fluorescent lamps that can be dimmed according to the leading edge phase control principle.

### Setting operating mode and minimum brightness

The operating mode and minimum brightness can be individually set for each output.

- Press the **Dimming mode** button (1) for longer than 4 seconds, until the LEDs (2) and (3) light up (see figure 1).

LED	Dimm-Mode
GN (grün, green)	R,L,C,LED
RD (rot, red)	LED
BU (blau, blue)	LED

Image 3: Assignment of LED colour to dimming principle

- Keep briefly pressing the **Dimming mode** button (1) until the necessary operating mode is selected.

LED (2) or (3) lights up in the colour of the selected operating mode (see figure 3).
- Press the **Dimming mode** button (1) for longer than 1 second and keep it pressed.

LED (2) or (3) flashes. Light switches on at the lowest brightness and slowly becomes brighter.
- i** When changing the operating mode to universal, the calibration to the load is first performed. Keep the Dimming mode (1) button pressed.
- i** In the lowest dimming position, a lamp light must be visible.
- Once the desired minimum brightness is reached, release the **Dimming mode** button (1).

LED (2) or (3) lights up, operating mode and minimum brightness are set.
- Optionally change the minimum brightness again: Press the **Dimming mode** button (1) for longer than 1 second.
- Save the settings: Press the **Dimming mode** button (1) for less than 1 second or do not press for 30 seconds.

LED (2) or (3) goes out.

## 6 Technical data

Rated voltage	AC 230 V ~
Mains frequency	50 / 60 Hz
Standby load depending on the cover	approx. 0.1 ... 0.5 W
Power loss	approx. 4 W
Ambient temperature	-5 ... +45 °C
Connected load per output at 25°C (see figure 4)	



W 20 ... 210	VA 20 ... 210	W 3 ... 50	W/VA 20 ... 50

Image 4: Connected load per output

- i** Operating mode **LED** : max. connected load for LED lamps typ. 3 ... 100 W, electronic transformers with LV-LED typ. 20 ... 100 W.

Mixed load per output

ohmic-capacitive	20 ... 210 W
capacitive-inductive	not permitted
ohmic-inductive	20 ... 210 VA
ohmic and HV LED	typ. 3 ... 50 W
ohmic and compact fl lamp.	typ. 3 ... 50 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

Number of extension units

2-wire, push-button	unlimited
3-wire rotary extension	10
Total length of extension device cable	max. 100 m
Total length power cable	max. 100 m

## 7 Troubleshooting

### Dimmer has no function

Cause: output **a1** is not ready for operation.

Check load on output **a1**.

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

Check operation in another operating mode, reduce connected load as well if necessary.

Set the operating mode manually.

Exchange lamps for another type.

Cause 3: 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.

Cause 2: Operating mode (dimming principle) does not optimally match the connected HV-LED lamps.

Check operation in another operating mode, reduce connected load as well if necessary.

Set the operating mode manually.

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.

LED trailing edge phase control: Reduce the connected load. Exchange lamps for another type.

LED leading edge phase control: Reduce the connected load. Check operation in the LED trailing edge phase control setting. 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.

LED trailing edge phase control: Check operation in the LED leading edge phase control setting, reduce connected load as well if necessary.

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 optimally suited 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

Art. no. KMLED230U

**9 Warranty**

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

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