

Universal dim actuator 1gang flush-mounted
Order-No. : 7534 10 03

Operation- and Assembly 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.

Danger of electric shock on the KNX installation. Do not connect any external voltage to the inputs. Doing so may damage the device(s), and the SELV potential on the KNX bus line will no longer be available.

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.

Danger of electric shock. Before working on the device or before exchanging light bulbs, disconnect mains voltage and switch off circuit breakers.

Do not connect any lights with integrated dimmers. Device can be damaged.

Do not connect any electronic lamps, e.g. switchable or dimmable compact fluorescent lamps or LED lamps. Device can be damaged.

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 Device components

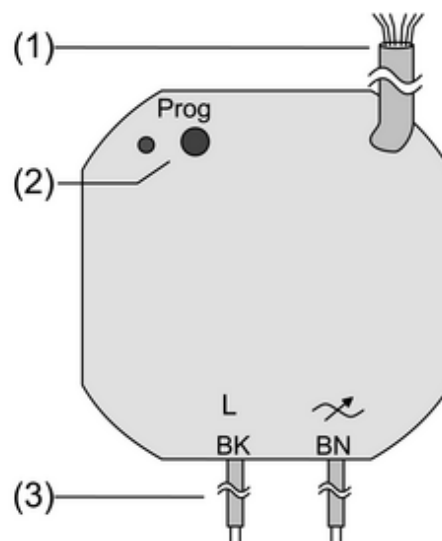


Figure 1: Flush-mounted dimmer actuator

- (1) Control cable
- (2) Programming button and LED
- (3) Connection of mains and power cables

Connection assignment, power cables

BK, black: connection conductor L

BN, brown: dimming output

Connection assignment of control cable

RD, red: KNX+

BK, black: KNX-

GN, green: input 1

YE, yellow: input 2

WH, white: COM input 1

BN, brown: COM input 2

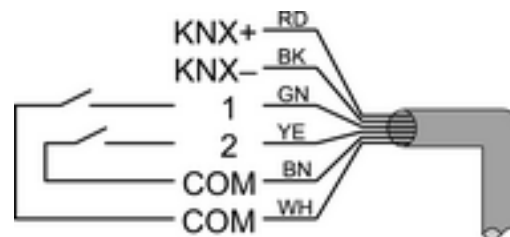


Figure 2: Connection assignment of control cable

3 Function

System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite to proper understanding.

The function of this device depends upon the software. Detailed information on loadable software and attainable functionality as well as the software itself can be obtained from the manufacturer's product database. Planning, installation and commissioning of the device are carried out with the aid of KNX-certified software. The latest versions of product database and the technical descriptions are available on our website.

Intended use

- Switching and dimming of incandescent lamps, 230 V halogen lamps and LV halogen lamps with inductive transformers or Tronic transformers
- Installation in appliance box to DIN 49073

Product characteristics

- Automatic selection of the dimming principle suitable for the load
- Protected against no-load, short-circuit and overheating
- Feedback of the switching position and the dimming value
- Parameterisable switch-on and dimming behaviour
- Timed dimmer: switch-on delay, switch-off delay, staircase lighting timer
- Light scene operation
- Two binary inputs for potential-free contacts, usable as extension inputs for local operation
- Supply via bus, no additional power supply necessary
- Mains failure longer than approx. 0.7 seconds leads to switch-off of the dimmer actuator.

i Ripple-control pulses from the electric power company may be visible in the form of flickering. This does not represent any defect in the device.

4 Information for electrically skilled persons

4.1 Fitting and electrical connection



DANGER!

Electrical shock when live parts are touched.
Electrical shocks can be fatal.

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

Connecting and mounting the device



DANGER!

When connecting the bus/extensions and mains voltage wires in a shared appliance box, the KNX bus line may come into contact with the mains voltage. This endangers the safety of the entire KNX installation. People at remote devices may also receive an electric shock.

Do not place bus/extensions and mains voltage terminals in a shared connection compartment. Use an appliance box with a fixed partition wall (Figure 3) or separate boxes.

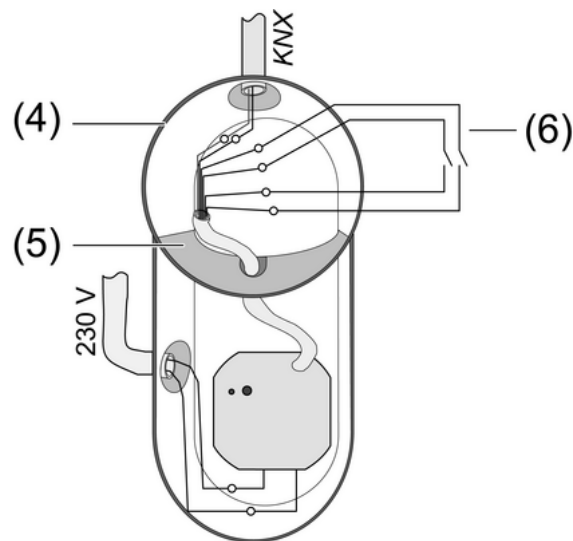


Figure 3: Installation in appliance box

- (4) Appliance box
- (5) Partition
- (6) Potential-free contacts, e.g. for window contact or installation pushbuttons

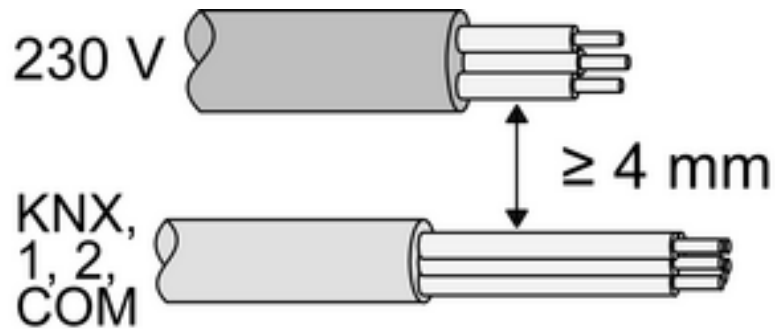


Figure 4: Spacing between mains cable and control cable

Minimum spacing between the mains voltage and bus/extension wires: 4 mm (Figure 4).

Do not exceed permissible total load including transformer power dissipation.

Operate inductive transformers with at least 85% nominal load.

Mixed loads with inductive transformers: ohmic load max. 50%.

Trouble-free operation is only ensured with electronic transformers manufactured by us or with dimmable inductive transformers.



CAUTION!

Danger of destruction from mixed loads.

The dimmer and load may be destroyed.

Do not connect capacitive loads, e.g. electronic transformers, and inductive loads, e.g. inductive transformers, together on the same dimmer output.

- Connect the load (Figure 5). Use the supplied sprung screwless terminals. Flexible cable ends must be tin-plated.
- Connect the device to KNX.
- If necessary, connect potential-free contacts to the inputs (Figure 2).
- Install the device in the appliance box.

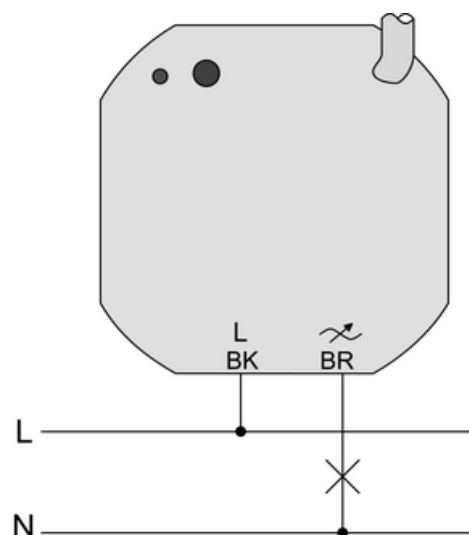


Figure 5: Connection

Function of Inputs 1 and 2 in the as-delivered state

| Input | NO contact | Output |
|-------|-----------------------|------------------|
| 1 | Press briefly | Light on 100% |
| 1 | Press for a long time | Dimming brighter |
| 2 | Press briefly | Light off |
| 2 | Press for a long time | Dimming darker |

4.2 Commissioning

Load the address and the application software

- Switch on the bus voltage
- Assign physical addresses and load application software into the device.
- Note the physical address on the device label.

5 Appendix

5.1 Technical data

| | |
|--------------------------------------|--------------------------------------|
| Rated voltage | AC 230 V ~ |
| Mains frequency | 50 / 60 Hz |
| Ambient conditions | |
| Ambient temperature | -5 ... +45 °C |
| Storage/transport temperature | -25 ... +70 °C |
| Contact type | ε, MOSFET |
| Connected load | |
| Incandescent lamps | 50 ... 210 W |
| HV halogen lamps | 50 ... 210 W |
| Inductive transformers | 50 ... 210 VA |
| Tronic transformers | 50 ... 210 W |
| Mixed loads | |
| Ohmic-inductive | 50 ... 210 VA |
| ohmic-capacitive | 50 ... 210 W |
| capacitive-inductive | not permitted |
| Control cable and inputs | |
| Control cable (preterminated) | YY6x0.6 |
| Input type | Potential-free |
| Total length of extension unit cable | max. 5 m |
| Poll voltage, extension inputs | approx. 5 V |
| Dimensions Ø×H | 53×28 mm |
| Connection mode | Screwless terminal (enclosed) |
| Single stranded | 1.0 ... 2.5 mm ² |
| KNX | |
| KNX medium | TP 1 |
| Commissioning mode | S-mode |
| Rated voltage KNX | DC 21 ... 32 V SELV |
| Power consumption KNX | typical 150 mW |
| Connection mode KNX | Connection terminal on control cable |

5.2 Troubleshooting

Light has switched off

Cause 1: short-circuit in output circuit.

Disconnect device from mains; switch off associated circuit breakers.

Eliminate short-circuit.

Switch mains voltage on again.

Switch device off and then on again.

- i** When a short-circuit occurs the affected output switches off. Automatic restart when short-circuit is eliminated within 100 ms (inductive load) or 7 seconds (capacitive or ohmic load). After that lasting switch-off.
- i** When a short-circuit occurs during the calibration process, the load calibrates itself again after the short-circuit is eliminated.

Cause 2: load failure.

Check load, replace light bulb. For inductive transformers, check primary fuse and replace if necessary.

Cause 3: Output is disabled.

Cancel disabling.

Cause 4: bus voltage failure.

Check bus voltage.

Cause 5: mains voltage failure.

Check mains voltage.

Cause 6: overheating protection has tripped due to overload or too high ambient temperature.

Disconnect device from mains; switch off associated circuit breakers.

Let device cool down for at least 15 minutes.

Check installation situation, ensure cooling, e.g. provide distance from surrounding devices.

Reduce the connected load.

Luminaires flicker or buzz, proper dimming not possible, device buzzes

Cause: wrong dimming principle set

Installation or commissioning error. Disconnect device and luminaire, switch off circuit breaker.

Check installation and correct.

Luminaires flicker irregularly

Cause: ripple-control pulses from the electric utility or distribution network operator.

Use audio frequency suppressors.

5.3 Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

Our products are under guarantee within the scope of the statutory provisions.

If you have a warranty claim, please contact the point of sale or ship the device postage free with a description of the fault to the appropriate regional representative.

Berker GmbH & Co. KG

Klagebach 38

58579 Schalksmühle/Germany

Telefon + 49 (0) 2355/905-0

Telefax + 49 (0) 2355/905-111

www.berker.de