

**Radio universal dim actuator RMD**  
Order-No. : 9455 01 00

**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. Always disconnect before carrying out work on the device or load. At the same time, take into account all circuit breakers that supply dangerous voltage to 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.**

**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.**

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

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

## 2 Device components

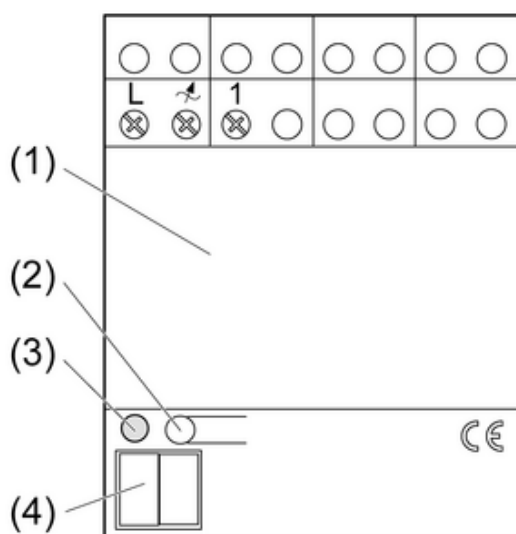


Figure 1

- (1) Dimmer
- (2) Programming button
- (3) LED
- (4) Connection terminal for bus cable

## 3 Function

### Intended use

- Radio-controlled switching and dimming of incandescent lamps, HV halogen lamps and Tronic or dimmable inductive transformers with halogen lamps.
  - Operation with suitable radio transmitters in combination with a radio receiver RMD
  - Suitable for mixed operation up to the specified output (Technical data)
  - Installation in distribution boxes on DIN rail according to DIN EN 60715
- i** No mixed-load operation of Tronic and inductive transformers
- i** It is not possible to teach a combination of presence detector and motion detector.

### Product characteristics

- Connection of extensions possible
- Switch-on via bulb-preserving soft start
- Switch-on brightness can be saved permanently
- Light scene operation possible
- Constant light regulation possible in connection with a radio presence detector
- Run-on time of approx. 1 minute in connection with radio motion detectors
- Electronic short-circuit protection with permanent switch-off after 7 seconds at the latest
- Electronic over-temperature protection
- Automatic setting of the dimming principle suitable for the load

Load type	Electrical behaviour	Dimming principle
Incandescent lamps	ohmic	Phase cut-off
HV halogen lamps	ohmic	Phase cut-off
Tronic transformers with halogen lamps	capacitive	Phase cut-off
Dimmable inductive transformers with halogen lamps	inductive	Phase cut-on

- i** Flickering of the connected lamps due to undershoot of the specified minimum load or through centralised pulses from the power stations. This does not represent any defect in the device.
- i** Brief flickering upon load detection of ohmic loads. No operation is possible during load detection.

## 4 Operation

### Operation with radio transmitter

A radio transmitter has to be taught in order to be able to operate the dimmer.

- i** Observe the instructions for the radio transmitter.

### Operation via 2-wire extension or installation button

#### Switch light

- i** The light is switched on (see chapter 5.2. Commissioning) or off using the stored switch-on brightness.

#### 2-wire extension

- Press button at top or bottom briefly.

#### Installation button:

- Press button briefly.

### Switching the light on with minimum brightness

#### 2-wire extension

- Long press on bottom of button.

Installation button:

- Long press on button.

### Adjust the brightness

Light is switched on.

2-wire extension

- Press button for longer than 0.5 seconds.  
The light gets brighter up to maximum brightness.
- Press button at bottom for longer than 0.5 seconds.  
Light gets darker to minimum brightness.

Installation button:

- i** The dimming direction is changed with each actuation.
- Hold down button until the desired brightness is reached.
- i** The brightness changes as long as the button is pressed. Once the maximum brightness is reached the procedure is reversed and the brightness moves towards the minimum brightness, etc.

## 5 Information for electrically skilled persons

### 5.1 Fitting and electrical connection



#### **DANGER!**

**Electrical shock when live parts are touched.**

**Electrical shocks can be fatal.**

**Before carrying out work on the device or load, disengage all the corresponding circuit breakers. Cover up live parts in the working environment.**

#### Connecting and mounting the dimmer

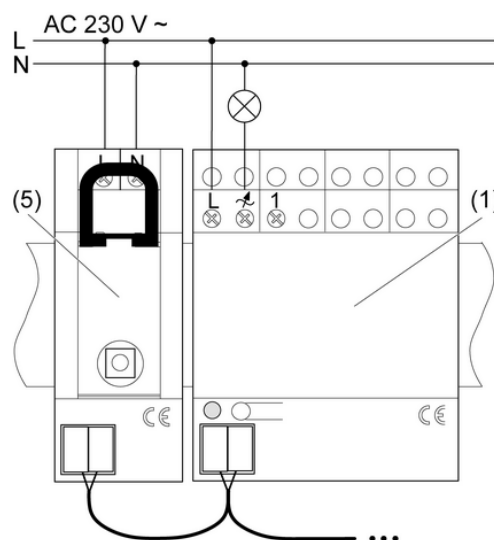


Figure 2: Connecting the dimmer (1) to RMD radio receiver (5)

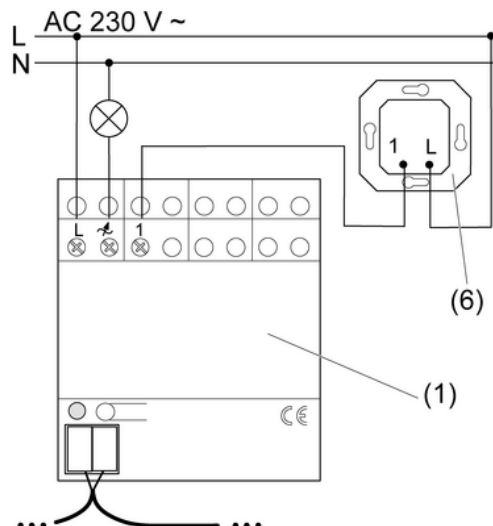


Figure 3: Connecting a 2-wire extension (6)

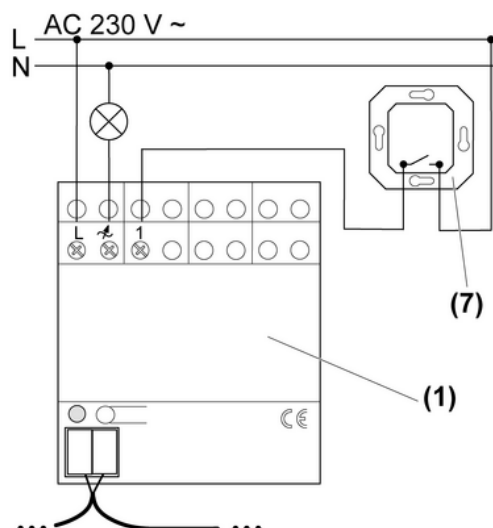


Figure 4: Connecting a non-illuminated installation button (7)

- Mount dimmer (1) on DIN rail.
- Connect dimmer, load and if necessary extension in accordance with the appropriate connection diagram (Figure 3) or (Figure 4).
- i** Lit installation buttons may only be connected if they have a separate N terminal.
- Connect dimmer to terminal (4) via a bus cable with the RMD radio receiver (5) and/or other radio actuators (Figure 2).
- i** The total length of the bus cables between the devices may not exceed 3 m.
- i** The polarity of the bus cables must not be reversed.
- i** For the bus cable, use a shielded cable with twisted conductors and a conductor diameter of 0.8 mm that is designed for a test voltage of 2.5 kV AC. Examples of permissible bus cables are YCM 2×2×0.8 or J-Y(St)Y 2×2×0.8.
- Switch on mains voltage.

The dimmer automatically sets the dimming principle suitable for the load.

- i** The load can be switched on or off by pressing the programming button briefly (for about 1 second).

## 5.2 Commissioning

-  Observe the instructions for the radio transmitter.




### **DANGER!**

**Electrical shock when live parts are touched.**

**Electrical shocks can be fatal.**

**Before working on the device, cover up live parts in the working environment.**

### **Teaching a radio transmitter**


-  If all memory slots are occupied, a radio transmitter which has already been taught must first be deleted. To do this, delete all taught channels and light scenes of the radio transmitter individually.


The distance between the receiver and the radio transmitter is from 0.5 m to 5 m.

Load is switched off.

- Press the programming button for approx. 4 seconds.  
The LED blinks. The device is in programming mode for approx. 1 minute.
- Trigger teach telegram on radio transmitter (see instructions for radio transmitter).  
LED lights up. The radio transmitter has been taught.
- Press the programming button briefly.  
The load switches on. The device is in operating mode.

-  The programming mode is exited automatically after about 1 minute.

-  Teach light scene buttons separately.


-  When a radio transmitter is taught, All On and All Off buttons that are present are automatically also taught.

### **Save switch-on brightness**

A set brightness value can be saved in the dimmer as the switch-on brightness.


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

- Set light to the required brightness.
- Press programming button for longer than 4 seconds.  
Switch-on brightness is saved. For confirmation the lighting switches off briefly and then on again.

-  The saved switch-on brightness is retained in the event of a power failure.

### **Deleting radio transmitters individually**

- Teach the radio transmitter to be deleted again (see Teaching a radio transmitter).  
LED blinks quickly. The radio transmitter has been deleted.

-  If several channels or light scenes of a radio transmitter have been taught, they all must be deleted individually.




### **Deleting all radio transmitters**

Load is switched off.

- Press the programming button for approx. 20 seconds.  
After approx. 4 seconds the LED blinks.  
After approx. 20 seconds the LED flashes.
- During the next 6 seconds, release the programming button and press it again for approx. 1 second.  
LED lights up. The radio transmitters will be deleted.  
LED blinks quickly. All radio transmitters have been deleted.

## 6 Appendix

### 6.1 Technical data

Rated voltage	AC 230 V ~
Mains frequency	50 / 60 Hz
Ambient temperature	0 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Connected load at 35 °C	
 Power specifications including transformer power dissipation.	
 Operate inductive transformers with at least 85% nominal load.	
 For ohmic-inductive mixed load, maximum 50% proportion of ohmic load. Otherwise incorrect calibration of the dimmer may result.	
Incandescent lamps	50 ... 400 W
HV halogen lamps	50 ... 400 W
Inductive transformers	50 ... 400 VA
Tronic transformers	50 ... 400 W
Ohmic-inductive	50 ... 400 VA
ohmic-capacitive	50 ... 400 W
capacitive-inductive	not permitted
Power reduction per 5°C in excess of 35°C	-10 %
Connection	
Single stranded	1.5 ... 4 mm <sup>2</sup>
finely stranded without conductor sleeve	0.75 ... 4 mm <sup>2</sup>
finely stranded with conductor sleeve	0.5 ... 2.5 mm <sup>2</sup>
Fitting width	72 mm / 4 modules
Number of extension units	unlimited
Total length of extension unit cable	max. 100 m
Teachable radio transmitter	max. 30
Power boosters	See power booster instructions



The symbols used to label the dimmer load shows the load type that can be connected to a dimmer and the electric behaviour of a load:  
R = ohmic, L = inductive, C = capacitive

### 6.2 Troubleshooting


#### **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 switches the load off and cannot be switched on again.**

Cause 1: electronic short-circuit protection has tripped.

Eliminate short-circuit.

-  The electronic short-circuit protection is not based on a conventional fuse, no electrical isolation of the load circuit.

Cause 2: overheating protection has tripped.

Disconnect dimmer from mains, also switch associated off circuit breakers.

Let dimmer cool down for at least 15 minutes.

Check the installation situation.

Reduce the connected load.

Switch circuit breakers and dimmer on again.

#### **Device does not respond, or only sometimes.**

Cause 1: battery in the transmitter is empty.

Change the battery.

Cause 2: Radio range exceeded. Structural obstacles reduce the range.

Check the installation situation.

Using a radio repeater.

## **6.3 Accessories**

Radio receiver RMD

Order-No. 9405 01 00

## **6.4 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.

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