

**WBMD400U**  
Universal rotary dimmer

**WBMD400UPB**  
Universal touch dimmer

## Safety instructions

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

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

**Hazard due to electric shock. The device is not suited for safe disconnection of the mains supply. Even when the device is switched off, the load is not galvanically separated from the mains supply.**

**Do not connect any non-dimmable lamps, their transformers or operating devices. Observe manufacturer's data.**

**Hazard of fire. During operation with conventional transformers, fuse each transformer on the primary side according to manufacturer's data.**

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

## Design and layout of the device

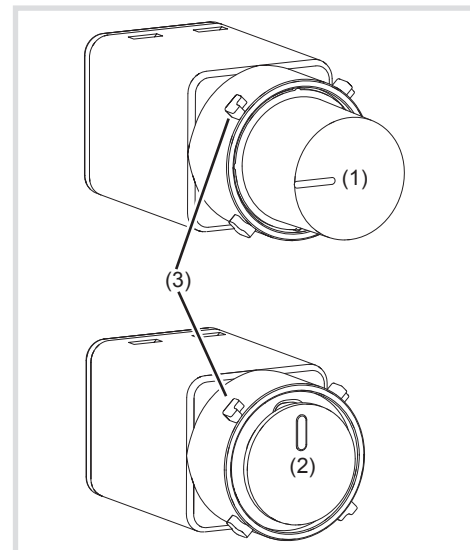


Figure 1a: Front view

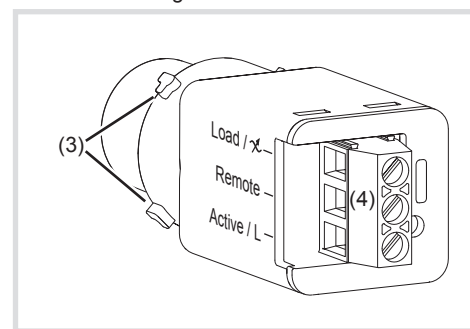


Figure 1b: Rear view

- (1) Rotary knobs
- (2) Button with status LED
- (3) Retaining lugs for Rotoloc® fastening
- (4) Connecting terminals

## Function

### Correct use

- Switching and dimming of incandescent lamps, HV halogen lamps and dimmable 230 V LED lamps; electronic and dual-mode transformers or conventional transformers with low voltage halogen lamps
- Control of motor loads, e.g. ceiling fans
- Only suitable for use in indoor areas with no drip and no spray water
- i** No mixed load operation of capacitive and inductive loads possible at the output.

### Product characteristics

- Automatic or manual setting of dimming principle or as speed controller for motor loads
- Optional fine setting of minimum brightness via button/rotary knob for e.g. 230 V LED lamps
- Automatic saving of switch-on brightness level
- Electronic short circuit protection
- Electronic overload and overheating protection
- Allows connection of extension units (push-button, NO contact) WBMESL

### Performance after mains breakdown

When switched on, the light is restored to the last brightness level defined.

### Dimming principle

During commissioning, the dimmer performs automatic load detection and applies the correct dimming principle for the load connected (phase cut-on, phase cut-off).

- i** Flickering of connected lamps possible due to the load falling below the specified minimum level or replacement of energy-saving or 230 V LED lamps.
- i** Short term flickering during load detection possible. This is not an indication of a fault in the device.

## Operation

### Rotary dimmer operating concept

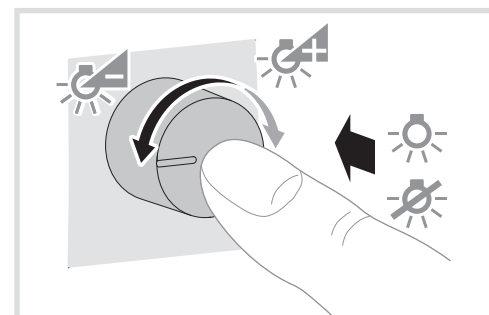


Figure 2: Switching and dimming with rotary dimmer

Load status	Action	Result
OFF	Short press of push-button (< 400 ms)	Switch <b>ON</b> with saved switch-on brightness level.
> 0%	Short press of push-button (< 400 ms)	Switch <b>OFF</b> and save brightness as switch-on brightness level.
OFF	Turn rotary knob to the left	Set to defined minimum brightness.
> 0%	Turn rotary knob to the left	Dim down the light.
OFF	Turn rotary knob to the right	Switch <b>ON</b> with set minimum brightness, dim up the light.
> 0%	Turn rotary knob to the right	Dim up the light.
OFF	Long press of push-button (> 10 s)	Select load type (see <b>Setting the load</b> )
OFF	Long press of push-button (> 15 s)	Fine setting of minimum brightness (see corresponding section)

Table 1: Rotary dimmer operation

### Touch dimmer operating concept

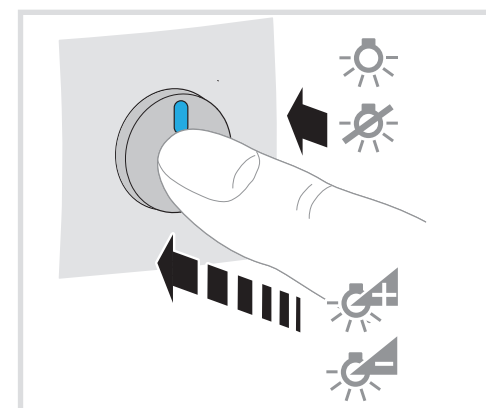


Figure 3: Switching and dimming with touch dimmer

Load status	Action	Result
OFF	Short press of push-button (< 400 ms)	Switch <b>ON</b> with saved switch-on brightness level.
> 0%	Short press of push-button (< 400 ms)	Switch <b>OFF</b> and save brightness as switch-on brightness level.
> 0%	Long press of push-button (> 400 ms)	Dim alternately down and up each time the push-button is pressed longer.
OFF	Long press of push-button (> 7 s)	<b>Set LED status indication</b>
OFF	Long press of push-button (> 10 s)	Select load type (see <b>Setting the load</b> )
OFF	Long press of push-button (> 15 s)	Fine setting of minimum brightness (see corresponding section)

Table 2: Touch dimmer operation

### Set LED status indication touch dimmer

The colours blue and orange can be set in different brightnesses for the status indication. The brightness indicates the switching state (ON/OFF) of the load.

- Switch off load.
  - Press the button for more than 7 but less than 10 seconds.
- The LED display flashes 1x. The device is now in setting mode.

- i** If no further actions are performed within the next 5 seconds, the selection is saved and the dimmer switches to normal operation.
- Briefly press the button repeatedly (< 400 ms) until the desired LED display (Table 3) is activated.

Every time the button is pressed, the selection is indicated by alternate flashing (e.g. bright blue/pale blue)

Repeated short press on button (< 400 ms)	Switching state/LED display
	ON: blue, bright, lit OFF: blue, pale, lit
	ON: orange, bright, lit OFF: orange, pale, lit
	ON: blue, bright, lit OFF: no LED display
	ON: orange, bright, lit OFF: no LED display

Table 3: Set LED status indication

### Setting the load

When the mains voltage is switched on or a load is connected, the dimmer automatically performs load detection. If the lamp type connected (e.g. LED) is not correctly detected, manual adjustment is required.

- Switch off load.
- Press the button for more than 10 but less than 15 seconds.

The connected load flashes once. The device is now in setting mode.

- i** If no further actions are performed within the next 10 seconds, the dimmer switches to normal operation.

- Briefly press the button several times (< 400 s) to activate the desired setting mode (Table 4). The load setting is executed.

- i** If the dimming and switching performance of loads is unsatisfactory after commissioning, especially when circuited to energy-saving lamps and 230 V LED lamps, a fine-setting of the minimum brightness (see next section) must be carried out.

Briefly press button/rotary knob (< 3 s)	Operating mode
1x	Automatic load detection
2x	LED (phase cut-on)
3x	Speed controller (motor loads)

Table 4: Setting the load type

### Fine setting of minimum brightness

- i** Fine setting is not available in the speed controller operating mode.

To prevent poor switch-on behaviour or flickering of the load in the lower dimming range, the dimming angle for minimum brightness (phase cut-on/cut-off) can be set individually for each load type.

### Setting minimum brightness for the rotary dimmer

- Switch off load.
- Hold the rotary knob down for more than 15 seconds.

The connected load will flash once after 10 s and again after 15 s. The device is now in fine-setting mode for the minimum brightness

- i** If no further actions are performed within the next 10 seconds, the dimmer switches to normal operation.

- Turn the rotary knob anticlockwise. This reduces the minimum brightness.
- Turn the rotary knob clockwise. This increases the minimum brightness.
- In the case of optimum brightness: The set value is saved if no further actions are performed within the next 10 seconds. The load is switched off, the dimmer switches to normal operation.

### Setting minimum brightness for the touch dimmer

- Switch off load.
- Hold the button down for more than 15 seconds.


The connected load will flash once after 10 s and again after 15 s. The device is now in fine-setting mode for the minimum brightness

- i** If no further actions are performed within the next 10 seconds, the insert switches to normal operation.

- Briefly press the button repeatedly. The device will switch repeatedly between the various predefined dimming values (brightness levels).
- In the case of optimum brightness: The set value is saved if no further actions are performed within the next 10 seconds. The load is switched off, the dimmer switches to normal operation.

Information for electricians

Installation and electrical connection



**DANGER!**

Touching live parts can result in an electric shock.

An electric shock can be lethal.

Disconnect the connecting cables before working on the device and cover all live parts in the area!

Connection diagram

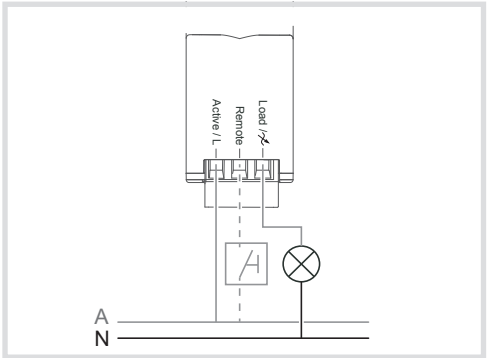


Figure 4: Electrical connection diagram showing push-button/NO contact as extension units (optional)  
Install a miniature circuit breaker of max. 10 A as device protection.

Appendix

Technical data

Operating voltage	230 V~ +10%/-15%
Frequency	50 Hz
Circuit breaker	max. 10 A
Degree of protection	IP20
Power consumption	
- in standby	< 0.1 W
230 V incandescent lamps and halogen lamps	20 ... 250 W
Dimmable conventional transformers	20 ... 250 VA
Dimmable electronic transformers	20 ... 250 W
Dimmable 230 V LED lamps	3 ... 70 W
Number of dimmable LED	max. 10
Ceiling fans (motors)	max. 120 W
Motor inrush current	max. 1.2 A
Cable length, extension units	max. 40 m
Operating temperature	-5 ... 45 °C
Storage temperature	-20 ... 60 °C
Relative humidity (without condensation)	0 ... 65 %
Screw terminals	1 x 2.5 mm² 2 x 1.5 mm²

Operating conditions

Loadtype	Curve	Maximum output power in Watt (W)		
		25 °C	35 °C	45 °C
Ohmic loads	A)	250	250	200
Transformers	B)	250	250	200
LED	C)	70	60	50

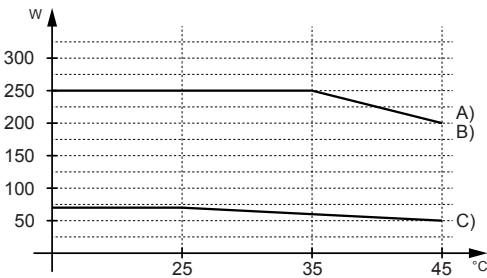


Diagram 1: Graphs showing power against ambient temperature

- i** If two dimmers are installed in the same plate the wired max. load has to be reduced by 20%.
- i** Conventional transformers should be operated with at least 50 % nominal load. Nonetheless, 75% is recommended because in individual cases, depending on the transformer, unstable dimming performance may occur.
- i** Carry out loading of conventional, electronic and dual-mode transformers according to manufacturer's instructions.
- i** Do not use non-dimmable 230 V LED lamps.
- i** In 230 V LED lamps, the power supply to the dimmer can cause the lamp to glow slightly even when it is switched off.

Troubleshooting

**After some time the lamps dim down of their own accord; the LED display flashes in blue.**

The electronic overload protection has tripped.

- Reduce the number of lamps.
- Use lamps from a different manufacturer.

**Dimmer switches off of its own accord; the LED display flashes in orange.**

The electronic overload protection has tripped.

- Check the load connected (excessive load).
- Reduce the number of lamps or use lamps with a lower power rating.

**The load flickers briefly.**

The load type has been changed due to a thermal overload.

- Reduce the number of lamps.
- Use lamps from a different manufacturer.

**The load cannot be dimmed down sufficiently.**

The dimming angle is set too high.

- Decrease the value in fine-setting of the minimum brightness.

**The load switches off while being dimmed down.**

The dimming angle is set too low.

- Increase the value in fine-setting of the minimum brightness.

**The load does not switch on.**

The dimming angle and brightness value are set too low.

- Increase the value in fine-setting of the minimum brightness.

**The load generates noise.**

The load type is set incorrectly.

- Set the load type to automatic load detection. If the error persists, replace the lamp.

**Dimmer switches off of its own accord; no LED display**

The electronic short-circuit protection has tripped.

- Check electrical installation.

**Load flickers while switched off.**

LED load too low.

- Increase LED load at output.

**The connected load cannot be dimmed.**

Lamps are not suitable for dimming.

- Be sure always to use dimmable loads.