Universal LED dimmer module
Operating instructions

Art. no. MEG5300-0001

Complete the universal LED dimmer module with:
• Mechanical retractive push-buttons in design series of free choice

For your safety

DANGER
Risk of serious damage to property and personal injury, e.g. from fire or electric shock, due to incorrect electrical installation.
Safe electrical installation can only be ensured if the person in question can prove basic knowledge in the following areas:
• Connecting to installation networks
• Connecting several electrical devices
• Laying electric cables

These skills and experience are normally only possessed by skilled professionals who are trained in the field of electrical installation technology. If these minimum requirements are not met or are disregarded in any way, you will be solely liable for any damage to property or personal injury.

DANGER
Risk of death from electric shock.
The outputs may carry an electrical current even when the device is switched off. Always disconnect the fuse in the incoming circuit from the supply before working on connected loads.

Getting to know the dimmer module

The universal LED dimmer module (referred to below as dimmer module) is suitable for installation in a deep installation box. The dimmer module is controlled with mechanical push-buttons in parallel operation. Ohmic, inductive or capacitive loads can be switched or dimmed with it:

Dimmable LED lamps
Incandescent lamps (ohmic load)
230 V halogen lamps (ohmic load)
Low-voltage halogen lamps with dimmable wound transformer (inductive load)
Low-voltage halogen lamps with electronic transformer (capacitive load)

The dimmer module automatically recognises the connected load. It is overload-proof, short-circuit-proof, protected from overheating and it has a soft-start function.
The memory function allows the dimmer module to memorise the most recently set brightness value and retrieve it again.
You can set the dimming range and adjust the operating mode (from trailing edge phase to leading edge phase).

CAUTION
The dimmer may be damaged!
• Always operate the dimmer according to the technical data provided.
• Connected dimmers may be damaged if you connect a combination of loads (inductive and capacitive) at the same time.
• The dimmer is designed for sinusoidal mains voltages.
• If transformers are used, only connect dimmable transformers to the dimmer.
• Dimming socket outlets is prohibited. The risk of overload and connecting unsuitable dimmers is too high.
• If a terminal is used for looping, the insert must be protected with a 10 A circuit breaker.

Connections, displays and operating elements

Programming push-button
Status LED
Function potentiometer

Mounting the dimmer module

Do not connect more than three dimmer modules to one cable with 16 A fuse protection.

If you do not install the dimmer module in a single, standard flush mounting box, the maximum permissible load is reduced due to the restricted heat dissipation:

Load reduced by | When installed
--- | ---
25% | In cavity walls*
Several installed together in combination*
30% | In 1-gang or 2-gang surface-mounted housing
50% | In 3-gang surface-mounted housing

* If more than one factor applies, add the load reductions together.

Wiring the dimmer module

The dimming range of the dimmer module can be adjusted.
Depending on the dimming range of the lamp, malfunctions may occur for values near the maximum and minimum brightness. (Refer to the chapter "What should I do if there is a problem?")

Setting the minimum and maximum brightness

The circuit breaker is switched on. (Live working.)
1. Make sure that the connected load is turned off with the programming push-button.
2. Set the function potentiometer to MIN or MAX.

Installing the dimmer module

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### Connecting the mechanical push-button

**DANGER**
Risk of death from electric shock.
However the device is turned off there might be full voltage at the output. Always turn the device in the status of voltage free before starting with work.

### Resetting to default mode

1. Set the function potentiometer to RESET.
2. The circuit breaker is switched on.
3. The dimmer module is in programming mode.
4. The status LED displays the current operating mode.
5. The circuit falls short of the minimum possible brightness value.
6. The load can only be dimmed slightly.

### Operating the dimmer module

- **Short press:** switching on or off
- **Long press:** dimming up or down

### Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage</td>
<td>AC 230 V ~, 50 Hz</td>
</tr>
<tr>
<td>Switching capacity</td>
<td>LED lamps (RC mode): 4-100 VA</td>
</tr>
<tr>
<td></td>
<td>LED lamps (RL LED mode): 4-200 VA</td>
</tr>
<tr>
<td></td>
<td>Incandescent lamps: 5-200 W</td>
</tr>
<tr>
<td></td>
<td>230 V halogen lamps: 5-150 W</td>
</tr>
<tr>
<td></td>
<td>LV halogen lamps with dimmable wind transformer: 5-200 VA</td>
</tr>
<tr>
<td></td>
<td>LV halogen lamps with electronic transformer: 5-200 VA</td>
</tr>
<tr>
<td>Neutral conductor</td>
<td>not required</td>
</tr>
<tr>
<td>Connecting terminals</td>
<td>screw terminals for max. 2.5 mm²</td>
</tr>
<tr>
<td>Extension connection</td>
<td>mechanical push-buttons</td>
</tr>
<tr>
<td>Total cable sections</td>
<td>max. 20 m for 3-wire NYM cable</td>
</tr>
<tr>
<td>Fuse protection</td>
<td>16 A circuit breaker</td>
</tr>
<tr>
<td>Dimensions (HxWxD)</td>
<td>44.5 x 39.5 x 20 mm</td>
</tr>
<tr>
<td>Properties</td>
<td>Short-circuit-proof</td>
</tr>
<tr>
<td></td>
<td>Overload-proof</td>
</tr>
<tr>
<td></td>
<td>Soft start</td>
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<tr>
<td></td>
<td>Resistant to overheating</td>
</tr>
<tr>
<td></td>
<td>Automatic load detection</td>
</tr>
</tbody>
</table>

### What should I do if there is a problem?

- **Allow the dimmer to cool down and reduce the connected load.**
- The load cannot be switched back on.
  - **Allow the dimmer to cool down and reduce the connected load.**
  - Rectify any possible short circuits.
  - Renew defective loads.
- The load is dimmed to the minimum brightness.
  - The circuit is overloaded. -> Reduce load.
  - The circuit falls short of the minimum load. -> Increase load.
  - Dimming range is incorrect. -> Reduce maximum brightness value.

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1. Press the programming push-button shortly 3 times.
   - The dimmer module is in programming mode. The status LED flashes according to the operating mode (see "Displaying the operating mode").
2. According to selection in step 2:
   - Set the minimum or maximum lamp brightness by holding down the programming push-button.
3. The new value will be automatically saved after 8 seconds if the programming push-button is not pressed again during this time.
   - The connected load is automatically switched off.
   - The status LED lights up for 2 seconds.

### Operating mode

The default setting of the dimmer module is the RC mode. The dimmer module automatically recognises inductive load (RL mode). However, not all lamps will work properly with the automatically recognised load. In this case you can switch the operating mode to RL LED.

**Displaying the operating mode**

1. Make sure that the connected load is turned off with the programming push-button.
2. Press the programming push-button shortly 3 times.
3. The status LED displays the current operating mode. It flashes briefly 1-3 times depending on the operating mode.

**Switching the operating mode to RL LED mode**

1. Make sure that the connected load is turned off with the programming push-button.
2. Press the programming push-button shortly 3 times.
3. The circuit breaker is switched on.
4. The dimmer module is in programming mode.
5. The status LED lights up for 2 seconds.
6. The circuit falls short of the minimum possible brightness value.
7. The load can only be dimmed slightly.

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In the operating mode "leading edge phase for LED lamps" (RL LED mode), LED lamps can only be connected at up to 10% of the maximum permissible dimmer load.
Dimmer tool

Merten has tested numerous dimmable LED and energy saving lamps. The dimmer tool provides information on dimmable lamps and the minimum and maximum number of individual lamp models.

http://merten.de/Dimmer-Test.dimmertest.0.html

Dispose of the device separately from household waste at an official collection point. Professional recycling protects people and the environment against potential negative effects.

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