

Universal dimmer - Series **MX**

- DMG 2 (Basic module)
- DME 2 (Upgrade module)
- DMB 2 (Performance upgrade)

1.0 Designated use

The **DMG 2** universal dimmer is a series device. Using both of its outputs, it can dim or switch electrical consumers such as lights with filament bulbs, both high-voltage halogen lamps and low-voltage halogen lamps with series-connected conventional or electrical transformers.

ETS (EIB Tool Software) enables application programs to be selected, specific parameters and addresses to be assigned and transferred to the device. The **DMG 2** basic module can be upgraded by a max. of 2 further modules. You can also combine dimmers and actuators,

- e.g.
- DMG 2 + DME 2 + RME 4** (4 x dim, 4 x switch)
 - DMG 2 + RME 4 + RME 4** (2 x dim, 8 x switch)
 - RMG 4 S + RME 4 S + DME 2** (8 x switch + 2 x dim)
 - RMG 4 C-Last + DME 2 + DME 2** (4 x C-load + 4 x dim)
 - DMG 2 + DME 2 + DME 2** (6 x dim)
 - etc.

2.0 Safety notes

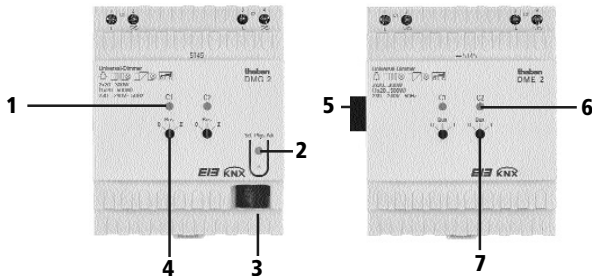


- Do not connect the dimmer in series with other dimmers.
- Do not connect transformers in-between, in a bathroom for example.
=> This may result in overvoltage!
- Only use transformers that have also been approved for dimmer operation.
- The combined operation of varying loads is not permitted. Only the combination of electronic transformers for dimming with phase section control and 230 V AC filament bulbs is permitted.

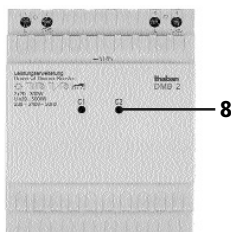
3.0 Description

DMG 2 Basic device

DME 2 Upgrade module



DMB 2 Performance upgrade



- The DMB 2 performance upgrade can be used to double the dimmer output per device to 2 x 600 W/VA or 1 x 1000 W/VA.

DMG 2 (Basic device)

- 1 LED On = Dimmer output value > 0 (the LED flashes on over-temperature or short-circuit)
- 2 Programming key for physical address
- 3 Bus connection: Ensure correct polarity!
- 4 Manual selector switch: Permanently On / Off or Bus

DME 2 (Upgrade module)

- 5 Plug as connection between upgrade module and basic device
- 6 LED On = Dimmer output value > 0 (the LED flashes on over-temperature or short-circuit)
- 7 Manual selector switch: Permanently On / Off or Bus

DMB 2 (Performance upgrade)

- 8 LED On = Dimmer output value > 20 %

Manual switch permanently - ON / OFF - Bus operation

Manual switch in position:



The output status is determined by the messages on the **Bus**.



The output status is in permanently **On** position (**100 %**).

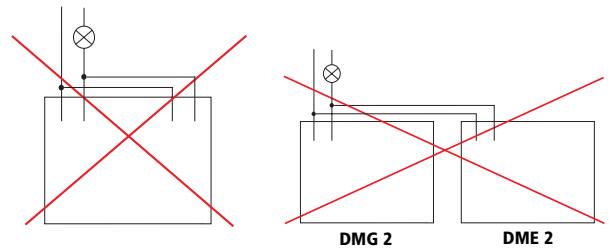
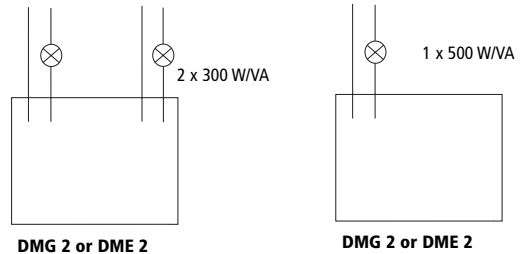


The output status is in permanently **Off** position (**0 %**).

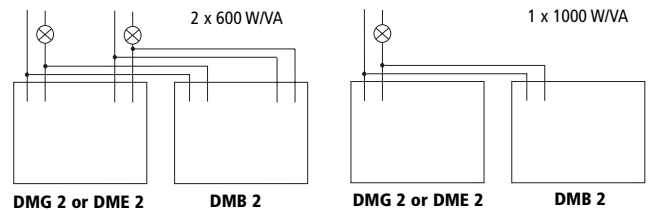
4.0 Electrical connection

The bus line must be arranged, connected and installed in accordance with the valid regulations to DIN-VDE and also the EIB Handbook and ZVEI/ZVEH. Work may be carried out only by trained electricians qualified to EIB. Compliance is required with the national regulations and valid safety requirements. Tampering with or making modifications to the device will invalidate the guarantee.

Connection for dimmer actuators DMG 2, DME 2 and DMB 2



Performance upgrade



5.0 Bus connection / (mains) power failure

- 2 channels must not be connected in parallel (possible only with performance upgrade) => The device would not be able to function!

Information in the event of power failure

- If the power fails, the dimmer will not function.

Information in the event of bus failure

- If a mains supply is available, the dimmer can be operated using the manual switches should the bus fail.
- The output values for when mains power or the bus is restored can be set via the parameters.

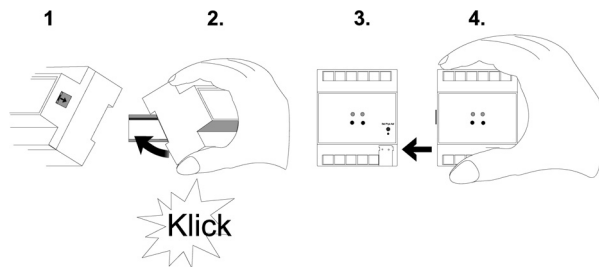
6.0 Upgrading the channels

The **DMG 2** dimmer can be expanded to up to 6 channels by a max. of **2 DME 2** upgrade modules.

- ➡ Move the slide on the right side of the device **DMG 2/ DME 2**.
- ➡ Lock the **DMG 2/ DME 2** modules onto the distributing bus bar.
- ➡ Push the **DMG 2** and **DME 2** modules together.

Connection:

- ➡ Ensure correct polarity of the bus connection terminal.
- ➡ Close the dimmer actuator as shown on the wiring diagram in chapter 4.0. The bus is connected to **DMG 2**.



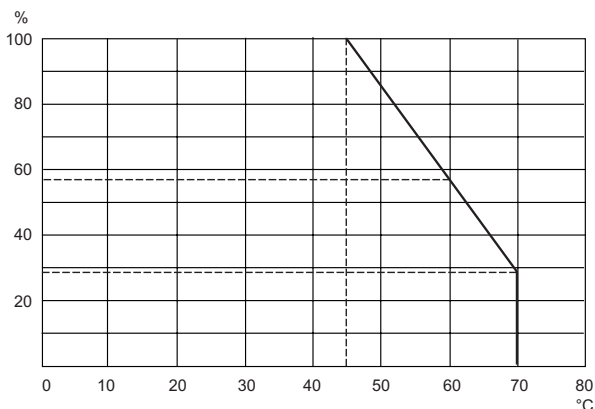
7.0 Technical data



• Protecting against short-circuit

The dimmer features electronic protection, i.e. it switches off for one minute on short-circuit. On sustained short-circuit, this period is extended to 16 minutes.

• Load output (rated output up to 45 °C ambient)



The device's on power draw is very low and connection capacity is self-optimising, so that there are no restrictions or recommendations for certain manufacturers when electronic transformers are used.

The dimmer works by automatic load detection. For dimming small fans (e.g. kitchen or toilet extractors) or conventional transformers without load, a database is available in which the load type can be pre-selected.

	Unit	DMG 2	DME 2	DMB 2	Comment
230 V/ 50 Hz mains power	W / VA	<0,5		<1,5	per channel with open circuit
EIB power supply	mA	máx. 10			
Minimal load	W / VA	10 *			per channel
Channels per module	–	2			
Maximal symmetrical load	W / VA	2 x 300	2 x 300	upgrade by 2 x 300	all channels
Maximal asymmetrical load	W / VA	1 x 500	1 x 500	upgrade by 500	only one channel per module used
Example of asymmetrical load	W / VA	1 x 400 a. 1 x 100	1 x 400 a. 1 x 100	upgrade by 1 x 400 a. 1 x 100	total output per module max. 500
Line length, dimmer-load	m	max. 100 Do not connect any other consumers to lines between load and dimmer.			
Fusing	Automatic cut-out - Characteristic B 16 A				
Terminal cross-section	solid 0.5 mm ² (dia. 0.8) to 4 mm ² Strand with wire end sleeve 0.5 mm ² to 2.5 mm ² Cross head screwdriver PZ 1				
Permitted ambient temperature	-5 °C ... +45 °C (-5T45)				
Protection class	II in accordance with correct installation				
Protection rating	IP 20 in accordance with EN 60529				
Equipment standard	EN 60669, EN 50090				
Housing	45 x 71 x 60 mm (4 TE)				

* Respect the minimum load values issued by the transformer manufacturer!
Automatic load detection only functions correctly with minimum load.

• Power draw (W/VA) and examples of potential module combinations

2 x 300	DMG 2
1 x 350 and 1 x 150	DMG 2
1 x 450 and 1 x 50	DMG 2
1 x 500	DMG 2 (on channel on the module used, the other channel remains unconnected)
2 x 500	DMG 2 + DME 2 (1 channel per module in each case)
2 x 600	DMG 2 + DMB 2 (each of the two DMG 2 channels are upgraded by a DMB 2 channel)
4 x 300	DMG 2 + DME 2
6 x 300	DMG 2 + DME 2 + DME 2
6 x 600	DMG 2 + DME 2 + DME 2 + 3 DMB 2 (each of the two DMG 2 and DME 2 channels are upgraded by a DMB 2 channel)
1 x 1000	DMG 2 + DMB 2 (one DMB 2 channel is upgraded by a DMB 2 channel)
3 x 1000	DMG 2 + DME 2 + DME 2 + 3 DMB 2 (one channel per device used in each case)

The device is suitable for use in conditions with a normal level of pollution. Observe deviating technical data on the device rating plate! Technical changes reserved. The devices comply with European Directives 73/23/EEC (low-voltage directive) and 89/336/EEG (EMC Directive).

If the devices are combined with others for use within a system, ensure that the system as a whole does not cause radio interference.

The ETS database can be found under www.theben.de/downloads/downloads_24.htm. Please refer to the Handbook for detailed functional descriptions.

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