Universal power booster Plus RMD
Order-No. : 165 99 01

Operation- and
Assembly Instructions

1 Safety instructions

Electrical equipment may only be installed and fitted by electrically skilled persons.

Serious injuries, fire or property damage possible. Please read and follow manual fully.

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

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.

A minimum power of 10 kVA is required for operation on isolating transformer networks. Otherwise it is not ensured that the dimmer will correctly recognise the dimming principle suitable for the load. Device can be damaged.

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

2 Device components

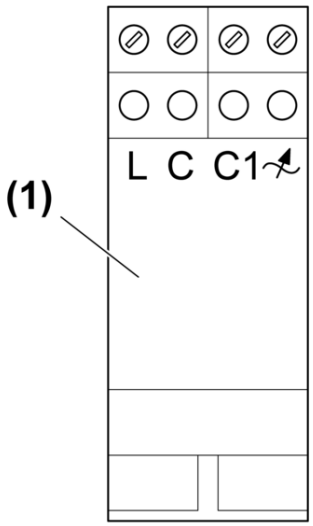

Figure 1: Device components

(1) Power extension

3 Function

Intended use

- Power enhancement for the Tronic or universal dimmers contained in the reference list (see section Technical data)
- Switching and dimming of incandescent lamps, HV halogen lamps and Tronic or dimmable inductive transformers with halogen lamps.
- Suitable for mixed operation up to the specified output (see section Technical data)
- Installation in distribution boxes on DIN rail according to DIN EN 60715

i Lighting systems with an power of more than 1000 W/VA are professional applications.

i No mixed operation of Tronic and inductive transformers.

Product characteristics

- Connection of several power extensions to a single dimmer
- The total power of the connected loads is divided between the dimmer and power extensions.
- Power is supplied to the connected loads via a common power cable
- Operation using upstream dimmer
- Electronic over-temperature protection

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 Brightness differences between the lighting on a dimmer without power extension and a dimmer with power extension are possible.

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

Fitting and connecting the power extension

i To prevent overheating, maintain a distance of 1 module when operating multiple dimmers or power units within the same control cabinet.

i The terminals must be at the top.

■ Snap power extension onto DIN rail.

CAUTION!

Destruction of the devices when connected to the wrong outer conductor.

The dimmer and power extensions will be destroyed.

Connect all devices to the same outer conductor.

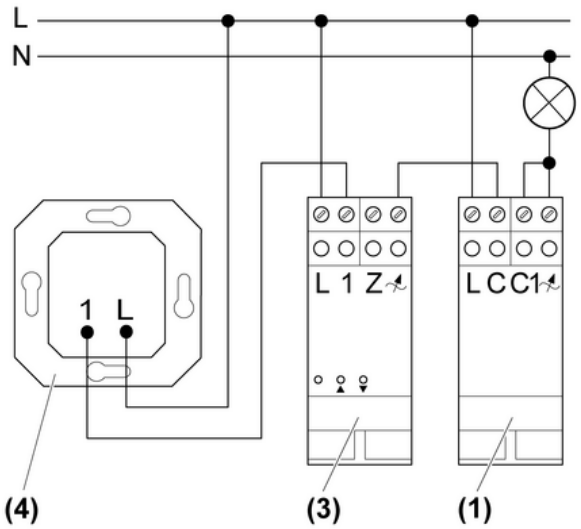

Figure 2: Connection diagram with RMD dimmer

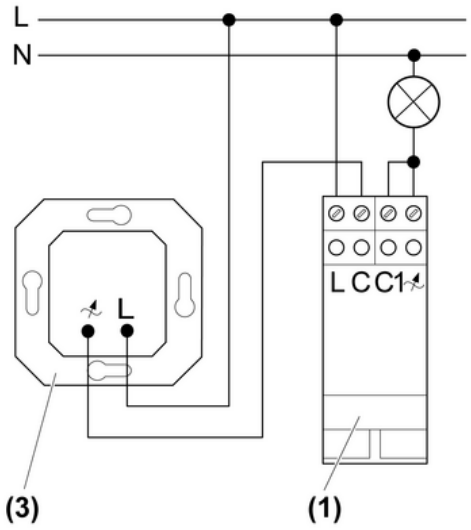

Figure 3: Connection diagram with FM dimmer

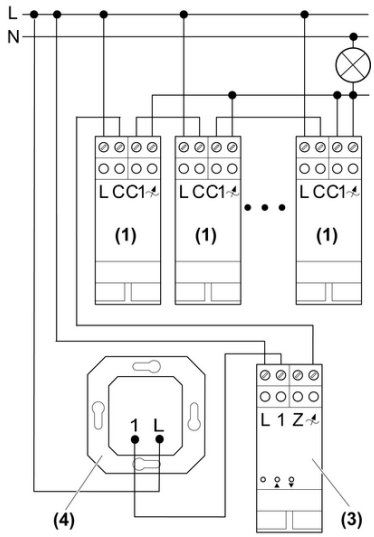

Figure 4: Connection diagram with multiple power extensions

(1) Power extension
(3) Dimmer
(4) Local extension

i Pay attention to the necessary cable cross-section of the common power cable.

i If multiple power extensions are used, add up the minimum loads of all the separate devices.

i In the case of lighting systems with an output of more than 3500 W/VA, the installation must divided across two circuit breakers with the same external conductor.

- Connect the power extension according to the connection diagram, connection diagram with RMD dimmer (Figure 2), connection diagramm with FM dimmer (Figure 3) or connection diagram with multiple power extensions (Figure 4).
- If multiple circuit breakers supply dangerous voltages to the device or load, couple the circuit breakers to ensure tripping.

Calculation example for the number of power extensions required:

P_L	Load to be dimmed, e.g. 2200 W

P_D	Max. dimmer load, e.g. 500 W
P_{LZ}	Max. universal power extension load, e.g. B. 500 W
P_{LZG}	Power that the power extensions have to provide
n	Number of power extensions required

Calculation of the load to be covered by power extensions:
$P_L - P_D = P_{LZG}$
P_{LZG} = 2200 W - 500 W = 1700 W

Number of power extensions required:
$P_{LZG} / _{PLZ} = n$
n = 1700 / 500 = 3.4

4 power extensions are required for the loads assumed in the example.

5 Appendix

5.1 Technical data

Rated voltage	AC 230 V ~
Mains frequency	50 / 60 Hz
Ambient temperature	+5 ... +45 °C
Power loss	5 W

Connected load at 25 °C see reference list (Figure 5)

i Power specifications including transformer power dissipation.

i Operate inductive transformers with at least 85% nominal load.

i For ohmic-inductive mixed load, maximum 50% proportion of ohmic load. Otherwise incorrect calibration of the dimmer may result.

capacitive-inductive	not permitted
Minimum connected load	200 W/VA
Power reduction per 5°C in excess of 45°C	-15 %
Connection	
single stranded	max. 4 mm²
finely stranded with conductor sleeve	0.5 ... 2.5 mm²
finely stranded without conductor sleeve	0.75 ... 4 mm²
Number of power extensions	see reference list
Total length power cable	max. 100 m
Fitting width	36 mm / 2 modules

The icons 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

Best. Nr.		R,C n_{max}	R,C P_{LZ}	R,L n_{max}	R,L P_{LZ}
167 01		10	500 W	5	420 VA
181		10	500 W	5	300 VA
2861		10	500 W	5	420 VA
2861 10 /2834 10		10	500 W	5	420 VA
2867 10		10	500 W	-	-
2874		10	500 W	-	-
2901	a1	10	500 W	-	-
	a2	10	500 W	-	-
2902		10	500 W	5	420 VA
2943		10	400 W	-	-
7531 10 07		10	500 W	5	420 VA
7531 20 07	1-Kanal	10	500 W	5	350 VA
	2-Kanal	10	500 W	5	250 VA
7531 40 17		10	500 W	-	-
9455 01 00		10	500 W	5	420 VA
7531 10 08		10	500 W	5	420 VA
7531 20 13		10	500 W	5	250 VA
7531 40 21		10	500 W	5	250 VA

Figure 5: Reference list

5.2 Troubleshooting

System has switched off.

Cause 1: short-circuit protection has tripped. The power extension behaves like the upstream dimmer.

Eliminate short-circuit.

i The short-circuit protection is not based on a conventional fuse. Thus the load circuit is not interrupted electrically.

Cause 2: overheating protection has tripped.

Disconnect system from mains, switch off circuit breakers.

Let system cool down for approx. 15 minutes.

Check the installation situation.

Reduce the connected load.

Switch circuit breakers and system on again.

i Load is initially distributed to the remaining devices. The further behaviour of the system depends on the dimmer used and the number, utilisation and installation situation of the devices.

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.

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