

Universal amplifier for rail mounting 200-500 W
Art. No. ULZ 1215 REG

Operating 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 device 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

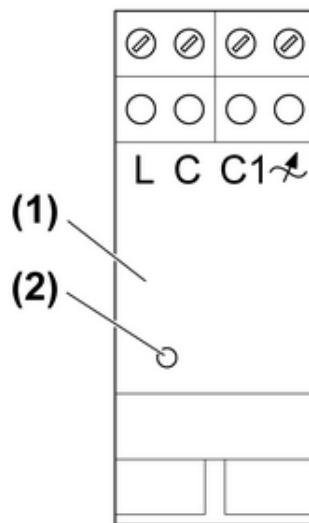





Figure 1: Device components

- (1) Power booster
- (2) LED on/off: power booster on/off



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 EN 60715
-  Lighting systems with an power of more than 1000 W/VA are professional applications.
-  No mixed operation of Tronic and inductive transformers.
-  Operation with HV LED lamps is not possible.

Product characteristics

- Connection of several power boosters to a single dimmer
- The total power of the connected loads is divided between the dimmer and power boosters.
- Power is supplied to the connected loads via a common power cable
- Operation using upstream dimmer
- Electronic over-temperature protection
-  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.
-  Brightness differences between the lighting on a dimmer without powerpower booster and a dimmer with power booster 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 booster

-  To prevent overheating, maintain a distance of 1 module when operating multiple dimmers or power units within the same control cabinet.
-  The terminals must be at the top.
 - Snap power booster onto DIN rail.



CAUTION!

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

The dimmer and power boosters will be destroyed.

Connect all devices to the same outer conductor.

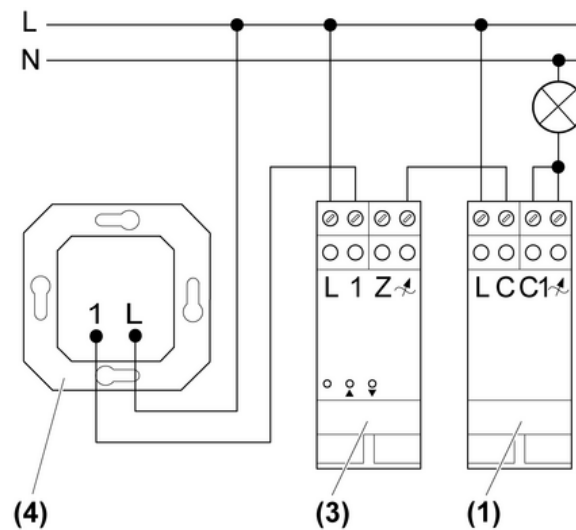


Figure 2: Connection diagram with RMD dimmer

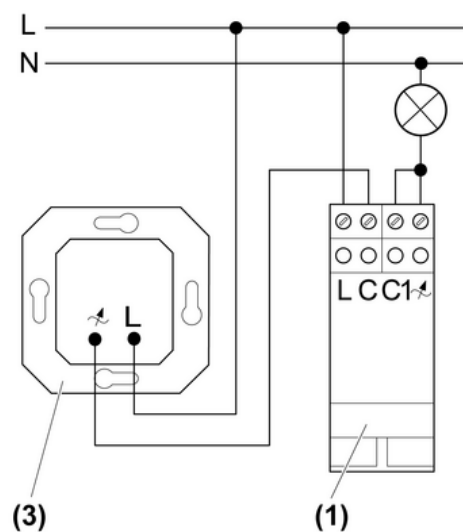


Figure 3: Connection diagram with FM dimmer

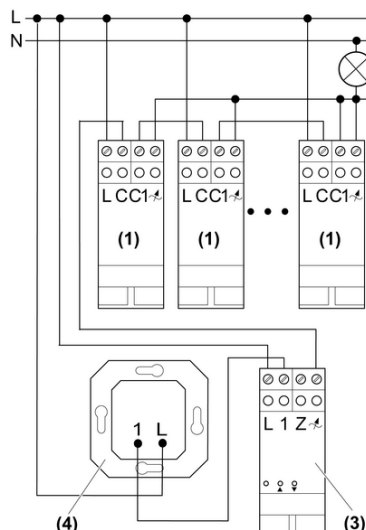


Figure 4: Connection diagram with multiple power boosters

(1) Power booster

(3) Dimmer

(4) Local extension

- i** Pay attention to the necessary cable cross-section of the common power cable.
- i** If multiple power boosters are used, add up the minimum loads of all the separate devices.
- i** In the case of lighting systems with an output of over 3500 W/VA, the installation must be distributed across two miniature circuit breakers with the same conductor.
- Connect the power booster according to the connection diagram, connection diagram with RMD dimmer (figure 2), connection diagram with FM dimmer (figure 3) or connection diagram with multiple power boosters (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 boosters 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 boosters have to provide
n	Number of power boosters required

Calculation of the load to be covered by power boosters:

$$P_L - P_D = P_{LZG}$$

$$P_{LZG} = 2200 \text{ W} - 500 \text{ W} = 1700 \text{ W}$$

Number of power power boosters:

$$P_{LZG} / P_{LZ} = n$$

$$n = 1700 / 500 = 3.4$$

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

5 Appendix

5.1 Technical data




Rated voltage
Mains frequency
Ambient temperature

AC 230 V ~
50 / 60 Hz
+5 ... +45 °C

Power loss

5 W

Connected load at 25 °C see reference list (figure 5)(figure 6)

-  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.

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 boosters

see reference list

Total length power cable

max. 100 m

Fitting width

36 mm / 2 modules


Art. Nr.	 R.C.		 R.L.	
	n _{max}	P _{Lz}	n _{max}	P _{Lz}
UD 1255 REG	10	500 W	5	420 VA
FUD 1254 REG	10	500 W	5	420 VA
FUD 4252 REG	10	500 W	-	-
FUD 1253 EB	10	500 W	5	300 VA
1252 UDE	a1	10 500 W	-	-
	a2	10 500 W	-	-
1254 UDE	10	500 W	5	420 VA
254 UDIE 1	10	500 W	5	420 VA
225 TDE	10	500 W	-	-
243 EX	10	500 W	-	-
247.07 EB	10	400 W	-	-
FM UD 20250 UP	5	350 W	-	-
	4	400 W	-	-
FM UD 5500 REG	5	450 W	-	-
FM UD 420250 REG	10	500 W	5	250 VA
UDS 4 REGHE V02	3	400 W	-	-

Figure 5: Reference list of conventional and radio dimmers



Art. Nr.	 R.C		 R.L	
	n _{max}	P _{LZ}	n _{max}	P _{LZ}
3601 REG	10	500 W	5	420 VA
3602 REG 1-Kanal	10	500 W	5	350 VA
2-Kanal	10	500 W	5	250 VA
3704 REGHE	10	500 W	-	-
3801 REGHE ab V01	10	500 W	5	420 VA
3802 REGHE ab V01	10	500 W	5	250 VA
3804 REGHE ab V01	10	500 W	5	250 VA
3901 REGHE ab V02	10	500 W	5	420 VA
3902 REGHE ab V02	10	500 W	5	250 VA
3904 REGHE ab V02	10	500 W	5	250 VA

Figure 6: Reference list KNX dimmer



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

5.2 Troubleshooting

System has switched off.

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

Eliminate short-circuit.



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.



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.

We provide a warranty as provided for by law.

Please send the unit postage-free with a description of the defect to our central customer service office.

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