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Eltako ELECTRONICS

Universal dimmer switch
EUD12NPN-UC

CE

Power MOSFET up to 400 W. Energy saving lamps ESL up to 100 W and LED up to 100 W. Standby loss 0.1 watt only. With adjustable minimum or maximum brightness and dimming speed. With switching operation for children's rooms and snooze function.

Modular device for DIN EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Universal dimmer switch for R, L and C loads up to 400 watts, depending on ventilation conditions. Dimmable energy saving lamps ESL up to 100 watts and dimmable 230 V LED lamps up to 100 watts. No minimum load required.

Zero passage switching with soft start and soft OFF to protect lamps.

Universal control voltage input 8 to 230 V UC, electrically isolated from the 230 V supply voltage and switching voltage.

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level.

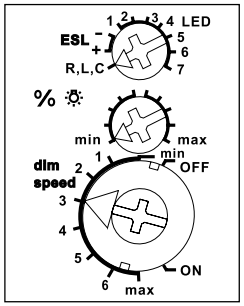
An interruption of control changes the direction of dimming. The setting of the brightness level is stored after switching off.

In case of a power failure the switching position and the brightness level are stored. If applicable the dimmer will be switched on at the stored brightness level after the supply voltage is recovered.

Glow lamp current up to 5 mA starting at 110 V.

Automatic electronic overload protection and over-temperature switch-off.

Function rotary switch



The LED below the rotary switch on the front shows control commands. It starts blinking after 15 seconds if a pushbutton is inhibited.

In operation, **the top rotary switch** determines the load type to which the dimming curve is set:

Position R, L, C is the setting for all load types except for ESL and LED. In particular for 230 V glow and halogen lamps. Automatic detection of load type inductive or capacitive.

The settings +ESL and -ESL consider the special conditions regarding dimmable energy saving lamps: The starting operation is optimized and adapted to the dimming curve. In these settings the special switching operation for children's rooms is not possible and no wound (inductive) transformer must be dimmed. In position -ESL Memory is switched off. This can be of advantage for energy saving lamps because cold energy saving lamps require a higher minimum brightness as it will possibly be stored in Memory for warmer energy saving lamps.

The position LEDs take account of special conditions with dimmable 230 V LED lamps: A number of different dimming curves are available. An updated list with dimming curve assignment for commercially available dimmable 230 V LED lamps is ready for downloading at www.eltako.com/dimming_curve/LED_gb.pdf In these settings no wound (inductive) transformer must be dimmed.

The minimum brightness level (completely dimmed down) or the maximum brightness level (completely dimmed up) is adjustable with the **middle % rotary switch**.

The dimming speed can be adjusted **with the lower dimming speed rotary switch**. The duration of soft start and soft OFF is changed simultaneously.

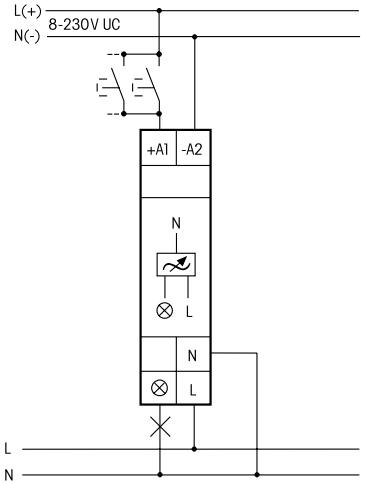
With special switching operation for children's rooms: If the light is switched on by holding down the pushbutton, it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down without modifying the last stored brightness level.

Snooze function: With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down. Holding down the pushbutton during the dimming down process dims up and stops the snooze function.

Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent-lamps and halogen lamps) may be added anytime.

Mixing of L loads and C loads is possible with dimmer switches **EUD12Z** and **EUD12D** in connection with capacity enhancer **LUD12**.

Typical connection



Tecnical data

Incandescent and halogen lamps 230 V (R)	up to 400 W [1]
Inductive transformers (L)	up to 400 W [1)2)3)]
Electronic transformers (C)	up to 400 W [1)3)]
Dimmable energy saving lamps ESL [5]	up to 100 W
Dimmable LEDs [5]	up to 100 W
Max./min. temperature at mounting location	+50°C/-20°C [4]
Standby loss (activ power)	0.1 W

[1] At a load of more than 200 W ventilation clearance of 1/2 module to adjacent devices must be maintained.

[2] Per dimmer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacative (electronic) transformers is not permitted!

[3] **When calculating the load a loss of 20 % for inductive (wound) transformers and a loss of 5 % for capacitive (electronic) transformers must be considered in addition to the lamp load.**

[4] Affects the max. switching capacity.

[5] In the settings ESL and LED no wound (inductive) transformer must be dimmed.

The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex works.

Important Note!

Only skilled electricians may install this electrical equipment otherwise there is the risk of fire or electric shock.

10/2010 Subject to change without notice.