

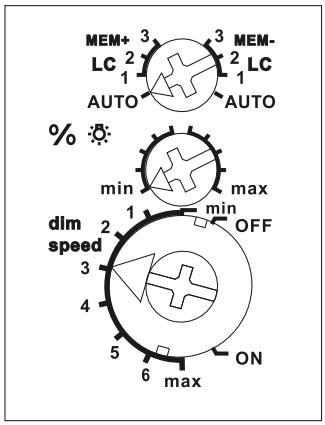
EUD12NPN-UC

Universal dimmer switch. Power MOSFET up to 400 W. Automatic lamp detection. Standby loss 0.2 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 lamps up to 400 W, depending on ventilation conditions, dimmable 230 V LED lamps and dimmable energy saving lamps (ESL) are also dependent on the lamp electronics and the and the dimming technology, **see Technical data page 9-22.**
Switching with soft start and soft OFF to protect lamps.
Universal control voltage input 12 to 230 V UC, electrically isolated from the 230 V supply voltage and switching voltage 230 V ~ 50/60Hz. No minimum load required.
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.
The LED below the top rotary switch on the front shows control commands. It starts blinking after 15 seconds if a pushbutton is inhibited.
During operation, **the upper rotary switch** determines whether the automatic lamp recognition 'AUTO' should be active, or one of the special comfort positions LC1, LC2 or LC3.
If the **MEM+** setting range is selected, the **memory function** is active and the last brightness level set is saved when the device is switched off. If the setting range **MEM-** is selected, the memory function is switched off and it is always switched on with maximum brightness. Dimmable energy-saving lamps must be operated on AUTO and MEM.
AUTO allows the dimming of all light species.
LC1 is a comfort position for dimmable 230 V LED lamps which are not being dimmed down enough when set to AUTO (trailing phase angle) dependent on the construction and must therefore be forced to leading phase angle.
LC2 and **LC3** are comfort positions for dimmable 230 V LED lamps like LC1, but with different dimming curves.
In positions LC1, LC2 and LC3 no inductive (wound) transformers should be used. In addition, the maximum number of dimmable LED lamps can be lower than in the AUTO position dependent on the construction.
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.

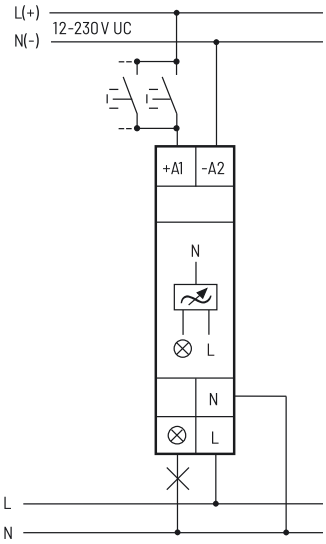
Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.
Mixing of L loads and C loads is possible with the dimmer switch **EUD12D** (page 9-7) in connection with capacity enhancer **LUD12** (page 9-10).

Function rotary switches



Standard setting ex works.

Typical connection



Manuals and documents in further languages:
https://eltako.com/redirect/EUD12NPN-UC

Technical data page 9-22.
Housing for operating instructions GBA14 page 1-48 chapter 1.

EUD12NPN-UC	Universal dimmer switch, Power MOSFET up to 400 W	**Art. No. 21100806**	

Recommended retail prices excluding VAT.

UNIVERSAL DIMMER SWITCHES, CAPACITY ENHANCERS AND 1-10 V CONTROLLERS

Type	EUD12NPN[1)] EUD12D[1)] EUD12DK[1)] LUD12[1)] MFZ12PMD[1)]	EUD61NPN[1)] EUD61M[1)] EUD61NP[1)] EUD61NPL[1)]	EUD12F[1)]	EUD12NPN-BT[1)]
Spacing of control connections/load	6 mm	6 mm EUD61NP: 3 mm	6 mm	6 mm
Incandescent and halogen lamps 230 V (R)	up to 400 W EUD12DK: up to 800 W	up to 400 W EUD61NPL: 200 W	up to 300 W	EUD12NPN-BT/300W-230V: 300W EUD12NPN-BT/600W-230V: 600W
Inductive transformers (L)[2)3)]	up to 400 W EUD12DK: up to 800 W	up to 400 W (not EUD61NPL)	up to 300 W	EUD12NPN-BT/300W-230V: 300W EUD12NPN-BT/600W-230V: 600W
Motor (L)	–	–	–	–
Capacative transformers (C)[3)8)]	up to 400 W EUD12DK: up to 800 W	up to 400 W EUD61NPL: 200 W	up to 300 W	EUD12NPN-BT/300W-230V: 300W EUD12NPN-BT/600W-230V: 600W
Dimmable 230 V LED lamps[5)6)9)]	Trailing edge up to 400 W Leading edge up to 100 W EUD12DK: Trailing edge up to 800 W Leading edge up to 200 W	Trailing edge up to 400 W, NPL: 200 W Leading edge up to 100 W, NPL: 40 W (not EUD61NP)	up to 300 W	EUD12NPN-BT/300W-230V: 300W EUD12NPN-BT/600W-230V: 600W
Dimmable LED lamps 12-36 V DC	–	–	–	–
1-10 V EVG	–	–	–	–
Maximum conductor cross-section (3-fold terminal)	6 mm² (4 mm²)	4 mm²	6 mm² (4 mm²)	6 mm²
Two conductors of same crosssection (3-fold terminal)	2.5 mm² (1.5 mm²)	1.5 mm²	2.5 mm² (1.5 mm²)	2.5 mm²
Screw head	slotted/crosshead, pozidriv	slotted/crosshead	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv
Type of enclosure/terminals	IP50/IP20	IP30/IP20	IP50/IP20	IP50/IP20
Time on	100%	100%	100%	100%
Max./min. temperature at mounting location [4)]	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Standby loss (active power)	0.2 W LUD12: 0.1 W EUD12D und MFZ12PMD: 0.3 W	0.2 W EUD61M: 0.1 W EUD61NPL, EUD61NP: 0.5 W	0.5 W	0.3 W
Control voltage	12..230 V UC EUD12NPN/110-240V: 110-240 V AC	8..230 V UC EUD61NPN-230 V und EUD61NP: 230 V	internal DC voltage	230 V
Glow lamp current	5mA EUD12DK: - EUD12NPN/110-240V: -	-	-	-
Control current 230 V-control input (<5 s)	–	EUD61NP: 0.7 mA EUD61NPN-230V: 4(100) mA	-	2.2 mA
Control current universal control voltage all control voltages (<5 s) 8/12/24/230 V (<5 s)	10(100) mA –	– 2/3/7/4(100) mA	– –	-
Control current central 8/12/24/230 V (<5 s)	3/5/10/4(100) mA	–	–	-/-/-/2(100) mA
Max. parallel capacitance (approx. length) of single control lead at 230 V AC	0.9 µF (3000 m)	0.9 µF (3000 m) EUD61NP: 0.3 µF (1000 m)	-	0.3 µF (1000m)
Max. parallel capacitance (approx. length) of central control lead at 230 V AC	0.9 µF (3000 m)	–	-	0.3 µF (1000m)

* EVG = electronic ballast units; KVG = conventional ballast units [a)] Secondary cable length with a maximum of 2 m. [1)] For loads exceeding half the respective rated load, a ventilation distance of ½ module must be maintained from adjacent devices. For the EUD61, the switching capacity also depends on the ventilation conditions. [2)] Per dimmer or capacity enhancer 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 LED and ESL no wound (inductive) transformer must be dimmed. [6)] Increase of capacity for dimmable 230 V LED lamps and dimmable energy saving lamps ESL see page 9-10. [7)] Only 1 fan motor may be connected. [8)] For LED and 12 V halogen lamps. [9)] Usually applies to 230 V LED lamps. Different lamp electronics may result in restricted dimming areas, on/off problems and a limited maximum number of lamps (up to 10 units), especially if the connected load is very low (e.g. with 5 W LEDs). The comfort positions of the dimmer switches optimize the dimming range, which, however, only gives a maximum power up to 100 W. No inductive (wound) transformers may be dimmed in these comfort positions.

Compliance with: EN 61000-6-3, EN 61000-6-1 and EN 60 669