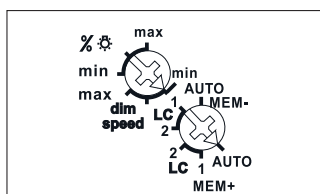


# EUD61NPN-UC



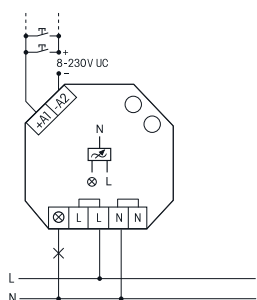
**Universal dimmer switch. Power MOSFET up to 400 W. Automatic lamp detection. Standby loss 0.2 watt only. With adjustable minimum brightness or dimming speed. With switching operation for children's rooms and snooze function.**

## Function rotary switches



Standard setting ex works.

## Typical connection



Manuals and documents in further languages:  
<https://eltako.com/redirect/EUD61NPN-UC>

For installation. 45 mm long, 45 mm wide, 18 mm deep.

Universal dimmer switch for lamps up to 400 watts, depending on ventilation conditions. Dimmable 230 V LED lamps and dimmable energy saving lamps ESL dependent on the lamps electronics and the dimming technology, **see technical data page 9-22.**

### 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 ~ 50/60 Hz supply voltage and switching voltage. 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 (Memory).

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.

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

**With the top rotary switch %/dim speed** either the minimum brightness level (completely dimmed down) or the dim speed can be adjusted. The duration of soft-on and soft-off will be changed with the dimming speed.

**The lower rotary switch** determines in operation whether the automatic lamp detection 'AUTO' should act, or one of the special Comfort settings LC1 or LC2.

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 lamp types.

**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** like LC1, but with different dimming curves.

**In positions LC1 and LC2 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.

**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.**

Technical data page 9-22.

<b>EUD61NPN-UC</b>	Universal dimmer switch, Power MOSFET up to 400 W	<b>Art. No. 61100801</b>	
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# TECHNICAL DATA UNIVERSAL DIMMER SWITCHES, CAPACITY ENHANCERS AND 1-10 V CONTROLLERS



Type	ELD61 <sup>1)</sup>	EUD12NPN <sup>1)</sup> EUD12D <sup>1)</sup> EUD12DK <sup>1)</sup> LUD12 <sup>1)</sup> MFZ12PMD <sup>1)</sup>	EUD61NPN <sup>1)</sup> EUD61M <sup>1)</sup> EUD61NP <sup>1)</sup> EUD61NPL <sup>1)</sup>	EUD12F <sup>1)</sup>	SDS12 SUD12	SDS61	MOD12D	DTD65 <sup>1)</sup> DTD65L <sup>1)</sup> DTD55 <sup>1)</sup> DTD55L <sup>1)</sup>
Spacing of control connections/load	6 mm	6 mm	6 mm EUD61NP: 3 mm	6 mm	6 mm	3 mm	6 mm	3 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	-	-	-	up to 300 W, L: up to 200 W
Inductive transformers (L) <sup>2)3)</sup>	-	up to 400 W EUD12DK: up to 800 W	up to 400 W (not EUD61NPL)	up to 300 W	-	-	-	up to 300 W, L: -
Motor (L)	-	-	-	-	-	-	up to 300 W <sup>7)</sup>	-
Capacitive transformers (C) <sup>3)8)</sup>	-	up to 400 W EUD12DK: up to 800 W	up to 400 W EUD61NPL: 200 W	up to 300 W	-	-	-	up to 300 W, L: up to 200 W
Dimmable 230 V LED lamps <sup>5)6)9)</sup>	-	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	-	-	-	Trailing edge up to 300 W, L: 200 W Leading edge up to 100 W, L: 40 W
Dimmable LED lamps 12-36 V DC	4 A	-	-	-	-	-	-	-
Dimmable energy saving lamps ESL <sup>5)6)9)</sup>	-	up to 400 W EUD12DK: up to 800 W	up to 400 W EUD61NPL: 200 W (not EUD61NP)	up to 300 W	-	-	-	up to 300 W, L: up to 200 W
1-10 V EVG*	-	-	-	-	40 mA 600 VA	40 mA 600 VA	-	-
Maximum conductor cross-section (3-fold terminal)	4 mm <sup>2</sup>	6 mm <sup>2</sup> (4 mm <sup>2</sup> )	4 mm <sup>2</sup>	6 mm <sup>2</sup> (4 mm <sup>2</sup> )	6 mm <sup>2</sup> (4 mm <sup>2</sup> )	4 mm <sup>2</sup>	6 mm <sup>2</sup> (4 mm <sup>2</sup> )	4 mm <sup>2</sup>
Two conductors of same crosssection (3-fold terminal)	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup> (1.5 mm <sup>2</sup> )	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup> (1.5 mm <sup>2</sup> )	2.5 mm <sup>2</sup> (1.5 mm <sup>2</sup> )	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup> (1.5 mm <sup>2</sup> )	1.5 mm <sup>2</sup>
Screw head	slotted/cross-head	slotted/crosshead, pozidriv	slotted/crosshead	slotted/cross-head, pozidriv	slotted/cross-head, pozidriv	slotted/cross-head	slotted/cross-head, pozidriv	slotted/cross-head, pozidriv
Type of enclosure/terminals	IP30/IP20	IP50/IP20	IP30/IP20	IP50/IP20	IP50/IP20	IP30/IP20	IP50/IP20	IP50/IP20
Time on	100%	100%	100%	100%	100%	100%	100%	100%
Max./min. temperature at mounting location <sup>4)</sup>	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Standby loss (active power)	0.1 W	0.1 W EUD12DK: 0.2 W EUD12D and MFZ12PMD: 0.3 W	0.1 W EUD61NP: 0.5 W	0.1 W	1 W SUD12: 0.9 W	1 W	0.3 W	0.14 W, L: 0.5 W
Control voltage	8..230 V UC	8..230 V UC	8..230 V UC EUD61NPN-230 V and EUD61NP: 230 V	internal DC voltage	8..230 V UC	230 V	8..230 V UC	230 V
Control current 230 V-control input (<5 s)	-	-	EUD61NP: 0.7 mA EUD61NPN-230 V: 4(100) mA	-	-	0.5 mA	-	0.4 mA
Control current universal control voltage all control voltages (<5 s)	-	10(100) mA	-	-	-	-	2/3/8/5 (100) mA	-
Control current central 8/12/24/230 V (<5 s)	2/3/7/4(100) mA	-	2/3/7/4(100) mA	-	3/5/10/4(100) mA	-	-	-
Control current central 8/12/24/230 V (<5 s)	-	3/5/10/4(100) mA	-	-	3/5/10/4(100) mA	-	2/3/8/5 (100) mA	-
Max. parallel capacitance (approx. length) of single control lead at 230 V AC	0.3 µF (1000 m)	0.9 µF (3000 m)	0.9 µF (3000 m) EUD61NP: 0.3 µF (1000 m)	-	0.3 µF (1000 m)	0.06 µF (200 m)	0.9 µF (3000 m)	0.3 µF (1000 m)
Max. parallel capacitance (approx. length) of central control lead at 230 V AC	-	0.9 µF (3000 m)	-	-	0.3 µF (1000 m)	-	0.9 µF (3000 m)	-

\* EVG = electronic ballast units; KVG = conventional ballast units<sup>1)</sup> Secondary cable length with a maximum of 2 m.<sup>1)</sup> At a load of more than 200 W (EUD12DK: 400 W, EUD12F: 100 W) a ventilation clearance of 1/2 module to adjacent devices must be maintained. The switching capacity of the EUD61 and DTD depends also on the ventilation conditions.<sup>2)</sup> 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 capacitive (electronic) transformers is not permitted!<sup>3)</sup> **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.**<sup>4)</sup> Affects the max. switching capacity.<sup>5)</sup> In the settings LED and ESL no wound (inductive) transformer must be dimmed.<sup>6)</sup> Increase of capacity for dimmable 230 V LED lamps and dimmable energy saving lamps ESL see page 9-8.<sup>7)</sup> Only 1 fan motor may be connected.<sup>8)</sup> For LED and 12 V halogen lamps.<sup>9)</sup> Usually applies for dimmable 230 V LED lamps and dimmable energy saving 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.

To comply with DIN VDE 0100-443 and DIN VDE 0100-534, a Type 2 or Type 3 surge protection device (SPD) must be installed.