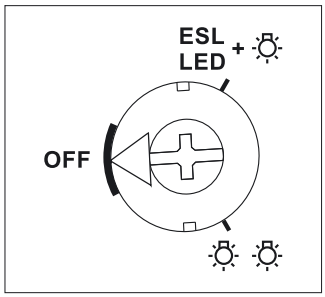


Function rotary switch



Standard setting ex works.

The switching mode **'one lamp'** (☼) or **'additional lamps'** (☼☼) is set with a rotary switch on the front.
This setting must be same as the actual installation, otherwise there is a risk of destruction of the electronics.
Alternative setting for 230 V LED and ESL when the universal dimmer switch in operated in the LED or ESL comfort settings.
See instruction manual.

Manuals and documents in further languages:
https://eltako.com/redirect/LUD12-230V

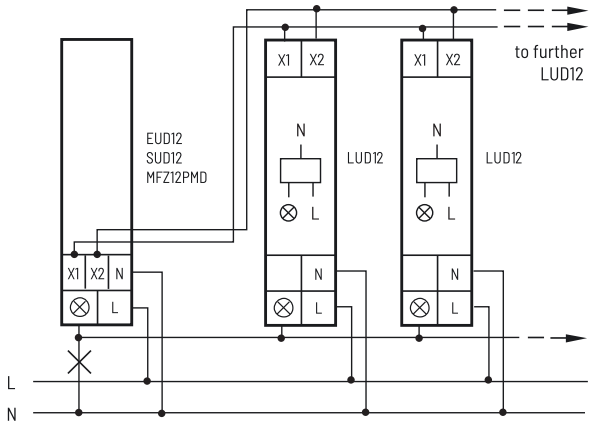
Technical data page 9-22.
Housing for operating instructions GBA14 page 1-48 chapter 1.

LUD12-230V

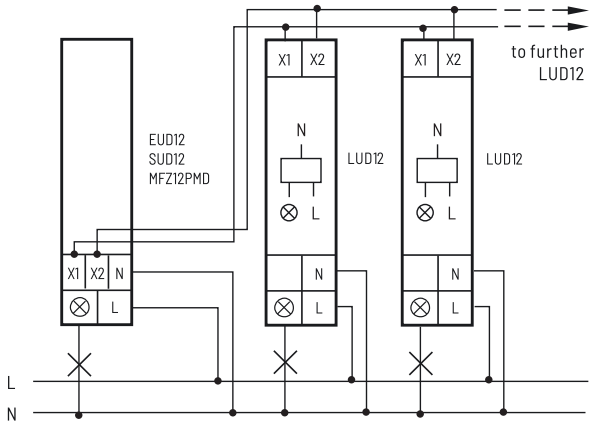
Capacity enhancer for universal dimmer switches. Power MOSFET up to 400 W.
Standby loss 0.1 watt only.

Modular device for DIN EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.
Capacity enhancers LUD12-230V can be connected to the universal dimmer switches EUD12NPN-BT/600W, EUD12D, EUD12DK/800W, SUD12 (1-10 V input) and the multifunction time relay MFZ12PMD. By this the switching capacity for **one lamp** will be increased up to 200 W or **alternatively for additional lamps** up to 400 W per each capacity enhancer.
Dimmable 230 V LED lamps and dimmable energy saving lamps are also dependent on the lamp electronics.
Both switching modes for increase of capacity can be executed simultaneously.
Automatic lamp detection in the 'Capacity increase **with additional lamps'** setting.
Supply voltage 230 V.
Automatic electronic overload protection and over-temperature switch-off.
In the mode 'Increase of capacity with additional lamps' the kind of load of a capacity enhancer LUD12-230V can vary from the kind of load of the universal impulse dimmer switch.
Therefore it is possible to mix L loads and C loads.

Increase of capacity for one lamp (☼), LED and ESL see instruction manual



Increase of capacity with additional lamps (☼☼), LED and ESL see instruction manual



LUD12-230V	Capacity enhancer for universal dimmer switches, Power MOSFET up to 400 W	**Art. No. 21100805**	

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

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

Type	ELD61[a)]	SDS12 SUD12	SDS61	MOD12D
Spacing of control connections/load	6 mm	6 mm	3 mm	6 mm
Incandescent and halogen lamps 230 V (R)	–	–	–	–
Inductive transformers (L)[2)3)]	–	–	–	–
Motor (L)	–	–	–	up to 300 W [7)]
Capacative transformers (C)[3)8)]	–	–	–	–
Dimmable 230 V LED lamps[5)6)9)]	–	–	–	–
Dimmable LED lamps 12-36 V DC	ELD61: 7,5 A	–	–	–
1-10 V EVG	–	40 mA 600 VA	40 mA 600 VA	–
Maximum conductor cross-section (3-fold terminal)	4 mm^2	6 mm^2 (4 mm^2)	4 mm^2	6 mm^2 (4 mm^2)
Two conductors of same crosssection (3-fold terminal)	1,5 mm^2	2.5 mm^2 (1.5 mm^2)	1.5 mm^2	2.5 mm^2 (1.5 mm^2)
Screw head	slotted/crosshead	slotted/crosshead, pozidriv	slotted/crosshead	slotted/crosshead, pozidriv
Type of enclosure/terminals	IP30/IP20	IP50/IP20	IP30/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)	0.1 W	0.5 W	0.5 W	0.3 W
Control voltage	12..230 V UC	8..230 V UC	230 V	12..230 V UC
Glow lamp current	–	–	–	–
Control current 230 V-control input (<5 s)	–	–	0.5 mA	–
Control current universal control voltage all control voltages (<5 s) 8/12/24/230 V (<5 s)	– 2/3/7/4(100) mA	– 3/5/10/4(100)mA	– –	2/3/8/5(100)mA –
Control current central 8/12/24/230 V (<5 s)	–	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 (1000m)	0.3 µF (1000 m)	0.06 µF (200 m)	0.9 µF (3000 m)
Max. parallel capacitance (approx. length) of central control lead at 230 V AC	–	0.3 µF (1000 m)	–	0.9 µF (3000 m)

* 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.

According to DIN VDE 0100-443 and DIN VDE 0100-534, the installation of a surge arrester (SPD) is mandatory.
ELTAKO offers suitable, standard-compliant surge arresters of types 1, 2, and 3 – see Chapter 8, "Surge Arresters."

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