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 (100 m)
Max. parallel capacitance (approx. length) of central control lead at 230 V AC	0.9 µF (3000 m)	–	-	0.3 µF (100 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.

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.

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)

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