

Contacts	ES12DX ^{a)} ES12-200 ^{a)} ES12-110 ^{a)}	ESR12NP	ESR12DDX ^{b)}	ES12Z ^{b)} ESR12Z-4DX ^{b)}	ES61 ^{a)} ESR61M ^{a)}	ESR61NP ^{b)}
Contact material/contact gap	AgSnO ₂ /0.5 mm	AgSnO ₂ /0.5 mm	AgSnO ₂ /0.5 mm	AgSnO ₂ /0.5 mm	AgSnO ₂ /0.5 mm	AgSnO ₂ /0.5 mm
Spacing of control connections/contact control connections C1-C2 or A1-A2/contact	6 mm	3 mm 6 mm	6 mm	6 mm	3 mm ESR61M: 6 mm	3 mm 6 mm
Test voltage contact/contact	ES12-200/110: 2000 V	–	4000 V	4000 V	ESR61M: 2000 V	–
Test voltage control connection/contact	4000 V	2000 V	4000 V	4000 V	2000 V	2000 V
Test voltage C1-C2 or A1-A2/contact	–	4000 V	–	–	4000 V	4000 V
Rated switching capacity	16A/250V AC ⁵⁾	16A/250V AC	16A/250V AC	16A/250V AC ⁵⁾	10A/250V AC	10A/250V AC
Incandescent lamp and halogen lamp load ¹⁾ 230 V, I on ≤ 70A/10ms	2000 W	2000 W	2000 W	2000 W	2000 W	2000 W
Fluorescent lamp load with KVG* in lead-lag or non compensated	1000 VA	1000 VA	1000 VA	1000 VA	1000 VA	1000 VA
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	500 VA	500 VA	500 VA	500 VA	500 VA	500 VA
Compact fluorescent lamps with EVG* and energy saving lamps ESL	I on ≤ 70 A/ 10 ms ²⁾ ES12DX: 15x7 W 10x20W ^{3) 7)}	15x7 W 10x20 W ⁷⁾	I on ≤ 70 A/ 10 ms ^{3) 7)}	I on ≤ 70 A/ 10 ms ²⁾ ESR12Z-4DX: 15x7 W 10x20W ^{3) 7)}	I on ≤ 70 A/ 10 ms ²⁾	15 x 7 W 10 x 20 W ⁷⁾
Max. switching current DC1: 12 V/24 V DC	8 A	–	8 A	8 A	8 A	–
Life at rated load, cos φ = 1 resp. for incandescent lamps 1000 W at 100/h	> 10 ⁵	> 10 ⁵	> 10 ⁵	> 10 ⁵	> 10 ⁵	> 10 ⁵
Life at rated load, cos φ = 0.6 at 100/h	> 4 x 10 ⁴	> 4 x 10 ⁴	> 4 x 10 ⁴	> 4 x 10 ⁴	> 4 x 10 ⁴	> 4 x 10 ⁴
230 V LED lamps	up to 200 W ⁷⁾	up to 200 W ⁷⁾	up to 200 W ⁷⁾	up to 200 W ⁷⁾	up to 200 W ⁷⁾	up to 200 W ⁷⁾
Max. operating cycles	10 ³ /h	10 ³ /h	10 ³ /h	10 ³ /h	10 ³ /h	10 ³ /h
Maximum conductor cross-section (3-fold terminal)	6 mm ² (4 mm ²)	6 mm ² (4 mm ²)	6 mm ² (4 mm ²)	6 mm ² (4 mm ²)	4 mm ²	4 mm ²
Two conductors of same cross-section (3-fold terminal)	2.5 mm ² (1.5 mm ²)	2.5 mm ² (1.5 mm ²)	2.5 mm ² (1.5 mm ²)	2.5 mm ² (1.5 mm ²)	1.5 mm ²	1.5 mm ²
Screw head	slotted/crosshead, pozidriv			slotted/crosshead		
Type of enclosure/terminals	IP50/IP20			IP30/IP20		
Electronics						
Time on (also for central on/off)	100 %	100 %	100 %	100 % ⁶⁾	100 %	100 %
Max./min. temperature at mounting location	+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) 230V	–	0.5 W	0.4 W	0.4 W	–	0.7 W
Standby loss (active power) 12V ⁴⁾	–	–	0.03 W	0.03 W	–	–
Control current 230V-control input local (<10 s)	–	10 mA	–	–	–	10 mA
Control current universal control voltage all control voltages (< 5 s) ± 20% 8/12/24/230V (<10 s) ± 20%	1.5 mA (15 mA) ⊖ 30 (23) mA	– 2/4/9/5 (100) mA	– 2/3/7/3 (50) mA	– 0.1/0.1/0.2/1 (30) mA	1.5 mA (15 mA) ⊖ 30 (23) mA ESR61M: 4 mA	– 2/4/9/5 (100) mA
Control current central 8/12/24/230V (<10 s) ± 20%	–	–	–	2/4/9/5 (100) mA	–	–
Max. parallel capacitance (approx. length) of single control lead at 230V AC	⊖ 0.3 μF (1000 m) A1-A2: 0.06 μF (200 m)	ES: 0.3 μF (1000 m) ER: 3 nF (10 m) C1-C2: 15 nF (50 m)	0.3 μF (1000 m)	0.3 μF (1000 m)	⊖ : 0.3 μF (1000 m) A1-A2: 0.06 μF (200 m) ESR61M: 0.5 nF (2 m)	⊖ 0.06 μF (200 m) A1-A2: 0.3 μF (1000 m)
Max. parallel capacitance (approx. length) of central control lead at 230V AC	–	–	–	0.9 μF (3000 m)	–	–

* EVG = electronic ballast units; KVG = conventional ballast units

^{a)} Bistable relay as relay contact. The relay contact can be open or closed when putting into operation. It will be synchronised at first operation. ^{b)} Bistable relay as relay contact. The switched consumer may not be connected to the mains before the short automatic synchronisation after installation has terminated.

¹⁾ For lamps with 150W max. ²⁾ A 40-fold inrush current must be expected for electronic ballast devices. For steady loads of 1200W or 600W use the current-limiting relay SBR12 or SBR61. See chapter 14, page 14-8. ³⁾ When using DX types close attention must be paid that zero passage switching is activated! ⁴⁾ Standby loss at 24V approx. two times greater than at 12V. ⁵⁾ For ES12-200 and ES12Z-200 maximum current across both contacts 16A for 230V. ⁶⁾ Please consider sufficient ventilation at permanent connection of several impulse switches according to power loss calculation, and if necessary leave a ventilation distance of about ½ module. ⁷⁾ Usually applies for dimmable energy saving lamps and dimmable 230V LED lamps. Due to differences in the lamps electronics, there may be a restriction on the maximum number of lamps; especially if the connected load is very low (for 5W-LEDs).