TECHNICAL DATA ELECTRONIC IMPULSE SWITCHES, ALSO FOR CENTRAL CONTROL

Type	ES12DX [a] ESW12DX [a] ES12-200 [a] ES12-110 [a]	ESR12NP	ESR12DDX [b]	ES12Z [b] ESR12Z-4DX [b]	ES61 [a] ESR61M [a]	ESR61NP [b]	ESR61SSR
Contacts							
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	Opto Triac
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 Test voltage C1-C2 or A1-A2/contact	4000 V –	2000 V 4000 V	4000 V –	4000 V –	2000 V 4000 V	2000 V 4000 V	–
Rated switching capacity	16 A/250 V AC [5]	16 A/250 V AC	16 A/250 V AC	16 A/250 V AC [5]	10 A/250 V AC	10 A/250 V AC	–
230 V LED lamps	up to 200 W [7] with DX up to 600 W [7] I on ≤ 120 A/5 ms	up to 600 W [7] I on ≤ 30 A/20 ms	up to 200 W [7] with DX up to 600 W [7] I on ≤ 120 A/5 ms	up to 200 W [7] with DX up to 600 W [7] I on ≤ 120 A/5 ms	up to 200 W [7] I on ≤ 120 A/5 ms	up to 600 W [7] I on ≤ 120 A/5 ms	up to 400 W [7] I on ≤ 120 A/5 ms
Incandescent lamp and halogen lamp load [1] 230 V, I on ≤ 70 A/10 ms	2000 W ESW12DX: 3300 W	2300 W	2000 W	2000 W	2000 W	2000 W	up to 400 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	up to 400 VA
Compact fluorescent lamps with EVG* and energy saving lamps ESL	I on ≤ 70 A/ 10 ms [2] ES12DX: 15x7 W 10x20 W [3][7]	15x7 W 10x20 W [7]	15x7 W 10x20 W [3][7]	I on ≤ 70A/ 10 ms [2] ESR12Z-4DX: 15x7 W 10x20 W [3][7]	I on ≤ 70A/ 10 ms [2]	15x7 W 10x20 W [7]	up to 400 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	$> 4x10^4$	$> 4x10^4$	$> 4x10^4$	$> 4x10^4$	$> 4x10^4$	$> 4x10^4$	∞
Max. operating cycles	10^3/h	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	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	1.5 mm^2
Screw head	slotted/crosshead, pozidriv				slotted/crosshead		
Type of enclosure/terminals	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20	IP30/IP20	IP30/IP20	IP30/IP20
Electronics							
Time on (also for central on/off)	100%	100%	100%	100%6)	100%	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	+50°C/-20°C
Standby loss (active power) 230 V	–	0.5 W	0.4 W	0.4 W	–	0.7 W	0.3 W
Standby loss (active power) 12 V [4]	–	–	0.03 W	0.03 W	–	–	–
Control current 230 V-control input local (<10 s)	–	10 mA	–	–	–	10 mA	1 mA
Control current universal control voltage all control voltages (<5 s) ± 20% 8/12/24/230 V (<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: 4mA	– 2/4/9/5 (100) mA	–
Control current central 8/12/24/230 V (<10 s) ± 20%	–	–	–	2/4/9/5 (100) mA	–	–	–
Max. parallel capacitance (approx. length) of single control lead at 230 V 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)	30 nF (100 m)
Max. parallel capacitance (approx. length) of central control lead at 230 V 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 150 W max. [2] A 40-fold inrush current must be expected for electronic ballast devices. For steady loads of 1200 W or 600 W 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 24 V approx. two times greater than at 12 V. [5] For ES12-200 and ES12Z-200 maximum current across both contacts 16 A for 230 V. [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 230 V LED lamps and dimmable energy saving lamps. Due to different lamp electronics and depending on the manufacturer, the maximum number of lamps may be limited, especially if the wattage of the individual lamps is very low (e.g. with 2 W LEDs).

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