

# TECHNICAL DATA ELECTRONIC IMPULSE SWITCHES, ALSO FOR CENTRAL CONTROL



Type	ES12DX <sup>a)</sup> ES12-200 <sup>a)</sup> ES12-110 <sup>a)</sup>	ESR12NP	ESR12DDX <sup>b)</sup>	ES12Z <sup>b)</sup> ESR12Z- 4DX <sup>b)</sup>	ES61 <sup>a)</sup> ESR61M <sup>a)</sup>	ESR61NP <sup>b)</sup>	ESR61SSR
<b>Contacts</b>							
Contact material/contact gap	AgSnO <sub>2</sub> /0.5 mm	AgSnO <sub>2</sub> /0.5 mm	AgSnO <sub>2</sub> /0.5 mm	AgSnO <sub>2</sub> /0.5 mm	AgSnO <sub>2</sub> /0.5 mm	AgSnO <sub>2</sub> /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 <sup>5)</sup>	16 A/250 V AC	16 A/250 V AC	16 A/250 V AC <sup>5)</sup>	10 A/250 V AC	10 A/250 V AC	-
Incandescent lamp and halogen lamp load <sup>1)</sup> 230 V, I on ≤ 70 A/10 ms	2000 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 <sup>2)</sup> ES12DX: 15x7 W 10x20 W <sup>3m)</sup>	15x7 W 10x20 W <sup>7)</sup>	15x7 W 10x20 W <sup>3m)</sup>	I on ≤ 70 A/ 10 ms <sup>2)</sup> ESR12Z-4DX: 15x7 W 10x20 W <sup>3m)</sup>	I on ≤ 70 A/ 10 ms <sup>2)</sup>	15x7 W 10x20 W <sup>7)</sup>	up to 400 W <sup>7)</sup>
230 V LED lamps	up to 200 W <sup>7)</sup> I on ≤ 120 A/5 ms	up to 200 W <sup>7)</sup> I on ≤ 30 A/20 ms	up to 200 W <sup>7)</sup> I on ≤ 120 A/5 ms	up to 200 W <sup>7)</sup> I on ≤ 120 A/5 ms	up to 200 W <sup>7)</sup> I on ≤ 120 A/5 ms	up to 200 W <sup>7)</sup> I on ≤ 120 A/5 ms	up to 400 W <sup>7)</sup> I on ≤ 120 A/5 ms
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 <sup>5</sup>	>10 <sup>5</sup>	>10 <sup>5</sup>	>10 <sup>5</sup>	>10 <sup>5</sup>	>10 <sup>5</sup>	-
Life at rated load, cos φ = 0.6 at 100/h	> 4x10 <sup>4</sup>	> 4x10 <sup>4</sup>	> 4x10 <sup>4</sup>	> 4x10 <sup>4</sup>	> 4x10 <sup>4</sup>	> 4x10 <sup>4</sup>	∞
Max. operating cycles	10 <sup>5</sup> /h	10 <sup>5</sup> /h	10 <sup>5</sup> /h	10 <sup>5</sup> /h	10 <sup>5</sup> /h	10 <sup>5</sup> /h	10 <sup>5</sup> /h
Maximum conductor cross-section (3-fold terminal)	6 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> )	6 mm <sup>2</sup> (4 mm <sup>2</sup> )	4 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>
Two conductors of same cross-section (3-fold terminal)	2.5 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> )	2.5 mm <sup>2</sup> (1.5 mm <sup>2</sup> )	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>
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
<b>Electronics</b>							
Time on (also for central on/off)	100%	100%	100%	100% <sup>6)</sup>	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 <sup>4)</sup>	-	-	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: 4 mA	- 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

<sup>a)</sup> Bistable relay as relay contact. The relay contact can be open or closed when putting into operation. It will be synchronised at first operation. <sup>b)</sup> Bistable relay as relay contact. The switched consumer may not be connected to the mains before the short automatic synchronisation after installation has terminated. <sup>1)</sup> For lamps with 150 W max. <sup>2)</sup> 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. <sup>3)</sup> When using DX types close attention must be paid that zero passage switching is activated! <sup>4)</sup> Standby loss at 24 V approx. two times greater than at 12 V. <sup>5)</sup> For ES12-200 and ES12Z-200 maximum current across both contacts 16 A for 230 V. <sup>6)</sup> 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 1/2 module. <sup>7)</sup> Usually applies for dimmable energy saving lamps and dimmable 230 V 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 5 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.