

ES12-200-UC

2 NO contacts potential free 16 (10) A/250 V AC. 230 V LED lamps up to 200 W, incandescent lamp load up to 2000 W. No standby loss.

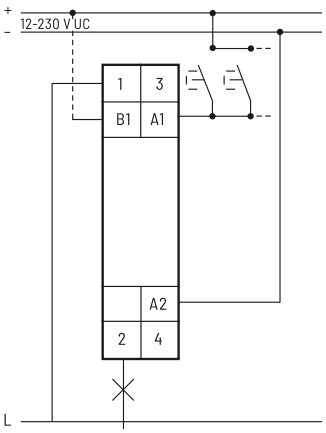
Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.
Either universal control voltage 12 to 230 V UC at the control input A1/A2
or 230 V with glow lamp current up to 5 mA at the control input A1/A2. In addition, terminal B1 must be connected.
The simultaneous use of two potentials at the control inputs is not permitted.
Very low switching noise.
No constant power supply is required unless terminal B1 is connected. This means there is no power consumption in standby mode. When switching loads with more than 10 A or using glow lamps, terminal B1 must also be connected. This results in a standby loss of only 0.4 W.
State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.
By using a bistable relay coil power loss and heating is avoided even in the on mode.
The relay contact can be open or closed when putting into operation. It will be synchronised at first operation.
Same terminal connection as the electromechanical impulse switch S12-200-.
Maximum current across both contacts 16 A for 230 V.
If this impulse switch is in a circuit, which is monitored by a FR12-230V mains disconnection relay, no additional base load is required. However, the monitoring voltage of the FR12-230V must be set to 'max'.

The electronics does not have an internal power supply and therefore no power is consumed in any contact position. A control current flows only during a short control impulse of 0.2 seconds. This activates the microcontroller, reads the last switching state from the non-voltage memory, switches the bistable relay to its opposite state accordingly and rewrites the new switching state to memory

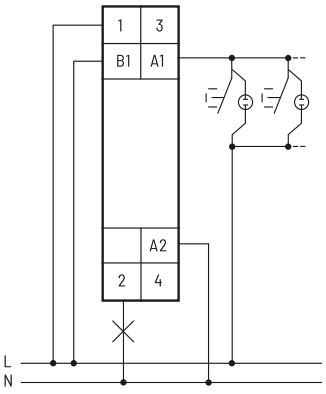
ES12-200-UC	Impulse switch, 2 NO contacts 16(10)A	**Art. No. 21200002**	

Typical connections

Either universal control voltage 12 to 230 V UC



or control voltage 230 V with glow lamp current up to 5 mA



Manuals and documents in further languages:
https://eltako.com/redirect/ES12-200-UC

Technical data page 11-18.
Housing for operating instructions GBA14 page 1-48 chapter 1.

TECHNICAL DATA ELECTRONIC IMPULSE SWITCHES, ALSO FOR CENTRAL CONTROL

Type	ES12DX [a] ESW12DX [a] ES12-200 [a] ES12-110 [a] ES12-100	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 ESR12Z: 4 mm	3 mm ESR61M: 6 mm	3 mm 6 mm	– –
Test voltage contact/contact	ES12-200/110: 2000 V	–	2000 V	ES12Z: 4000 V ESR12Z: 2000 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 ESR12Z: 3000 V	2000 V ESR61M: 4000 V	2000 V 4000 V	–
Rated switching capacity	16 A/250 V AC [5] ES12-200/110: 16(10) A [9]	16 A/250 V AC	16 A/250 V AC	16 A/250 V AC [5] ES12Z: Contact 1/2 16 A/250 V AC, Contact 3/4 10 A/250 V AC	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[8]	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 ES12-100: -	–	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	0.3 mW ES12-100: --	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) ES12-100: -	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). [8] Up to $2x10^4$ switching cycles at 1 s on & 9 s off. [9] For the ES12-200 and ES12-110, terminal B1 must be connected to achieve the full rated switching capacity of 16 A. Without connection, the rated switching capacity is 10 A.

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