

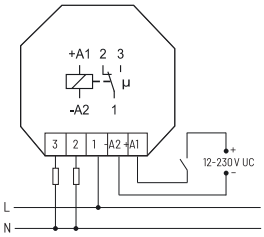
ER61-UC

1 CO contact potential free 10 A/250 V AC. 230 V LED lamps up to 200 W, incandescent lamp load 2000 W. No standby loss.

For installation. 45 mm long, 45 mm wide, 18 mm deep.
State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays. Universal control voltage 12 to 230 V UC. Low switching noise.
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.
This relay is not suitable to feed back the switching voltage signal of a dimmer switch.
Use only relays ESR12DDX-UC, ESR12NP-230V+UC or ESR61NP-230V+UC for this purpose.

The electronics does not have an internal power supply and therefore no standby loss.
The microcontroller is activated when the control contact closes. This switches the bistable relay to the correct direction. The bistable relay switches back either when the control contact opens or when the control voltage falls.

Typical connection



Manuals and documents in further languages:
https://eltako.com/redirect/ER61-UC

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ER61-UC	Switching relay, 1 CO contact 10 A	**Art. No. 61001601**	

TECHNICAL DATA ELECTRONIC SWITCHING RELAYS, CONTROL RELAYS AND COUPLING RELAYS

Type	ESR12NP-230V+UC	ESR12DDX-UC [b] ER12DX-UC [a] ER12DX/110-240V [a] ER12-100-230V ER12-200-UC [a] ER12-110-UC [a] ER12-001-UC [a] ER12-002-UC [a]	ESR61NP-230V+UC [b] ESR61M-UC [a] ETR61-230V ETR61NP-230V ER61-UC [a]	ER12SSR-UC ESR61SSR-230V	KR09 -12V UC, -24V UC, -230V KR09PK-230V	KRW12DX-UC [a]	ER12PK-001-230V
Contacts							
Contact material/contact gap	$AgSnO_2$/0.5 mm			Opto Triac	$AgSnO_2$/0.5 mm	W+$AgSnO_2$/0.5 mm	$AgSnO_2$
Spacing of control connections/contact	3 mm	6 mm	6 mm, ER61: 3 mm		6 mm	6 mm	6 mm
Spacing of control connections C1-C2 or A1-A2/contact	6 mm	6 mm	ESR61NP+M: 6 mm	–	–	–	6 mm
Test voltage contact/contact	–	ESR12DDX, ER12-200/110: 2000 V	ESR61M: 2000 V	–	–	–	2000 V
Test voltage control connections/ contact Test voltage C1-C2 or A1-A2/contact	2000 V 4000 V	4000 V –	2000 V ESR61NP+M+ETR61NP: 4000 V	–	4000 V –	4000 V –	4000 V –
Rated switching capacity	16 A/250 V AC	16 A/250 V AC [3] ER12-001-/002-/110-UC: NO contact 16 A, NC contact 10 A.	10 A/250 V AC ETR61: 5 A/250 V AC	–	6 A/250 V AC	16A/250V AC	16 A/250 V AC
230 V LED lamps	up to 600 W [4] I on ≤ 30 A/20 ms	up to 200 W [4] with DX up to 600 W [4] I on ≤ 120 A/5 ms	up to 200 W [4] ESR61NP: up to 600 W [4] I on ≤ 120 A/5 ms	up to 400 W [4] I on ≤ 120 A/20 ms	up to 50 W [4] I on ≤ 10 A/10 ms	up to 600 W [4] I on ≤ 500 A/2 ms	-
Nominal ohmic load	2300 W	2000 W	2000 W ETR61: 1000 W	up to 400 W	500 W	3300 W [5]	3000 W
Nominal inductive load [7]	1000 VA	1000 VA	1000 VA	–	600 VA	1000 VA	2000 VA
Nominal capacitive load [8]	500 VA	500 VA	500 VA	up to 400 VA [4]	300 VA	500 VA	-
Compact fluorescent lamps with EVG* and energy saving lamps ESL	15x7 W 10x20 W [4]	I on ≤ 70 A/10 ms [1] When using DX types: 15x7 W 10x20 W [2][4]	I on ≤ 70 A/10 ms [1] ESR61NP: 15x7 W, 10x20 W [4]	up to 400 W [4]	52 W	I on ≤ 500 A/2 ms [1]	-
Max. switching current DC1: 12 V/24 V DC	–	8A	8A (not ESR)	–	6 A	–	-
Life at rated load, cos φ = 1 or 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	$>4x10^4$	$>4x10^4$	$>4x10^4$	–	–	$>4x10^4$	$>4x10^4$
Max. operating cycles	10^3/h	10^3/h	10^3/h	10^3/h	10^4/h	10^3/h	10^3/h
Contact position indication	LED (not series 61 and ER12-100-230V)						
Maximum conductor cross-section	series 12: 6 mm^2 (3-fold terminal 4 mm^2), series 61: 4 mm^2						
Two conductors of same cross-section	series 12: 2.5 mm^2 (3-fold terminal 1.5 mm^2), series 61: 1.5 mm^2						
Screw head	series 12: slotted/crosshead, pozidriv, series 61: slotted/crosshead						
Type of enclosure/terminals	series 12: IP50/IP20, series 61: IP30/IP20						
Electronics							
Time on	100%	100%	100%	100%	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
Stand by loss (active power)	0.5 W	– ESR12DDX: 0.4 W	– ESR61NP: 0.7 W, ETR61+ ETR61NP: 0.5 W	– ESR61SSR: 0.3 W	–	–	-
Control current 230 V control input local ±20%	10 mA	-	10 mA, ER61 and ESR61M: -	1 mA	–	–	-
Control current universal control voltage all control voltages mA ± 20%	–	4 (not ESR12DDX, ER12DX/110-240V and ER12-100-230V)	ER61: 2, ESR61M: 4	4	–	4	-
Control current at 8/12/24/230 V (<10 s) mA ± 20%	2/4/9/5(100)[6]	only ESR12DDX: 2/3/7/3(50)	ESR61NP: 2/4/9/5(100) -/-/-/10 ER61: 2/2/2/2 ESR61M: 4/4/4/4	4/4/4/1	-/15/10/11	4/4/4/4	-/-/-/10
Max. parallel capacitance (approx. length) of control lead at 230 V AC	ES: 0.3 µF (1000 m) ER: 3 nF (10 m) C1-C2: 15 nF (50 m)	0.06 µF (200 m) ESR12DDX: 0.3 µF (1000 m)	0.06 µF (200 m)	0.03 µF (100 m)	0.03 µF (200 m)	0.06µF (200 m)	0.03 µF (100m)

* 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] A 40-fold inrush current must be expected for electronic ballast devices. For steady loads of 1200 W or 600 W use the currentlimiting relay SBR12 or SBR61. See chapter 14, page 14-8. [2] When using DX types close attention must be paid that zero passage switching is activated! [3] For ER12-200 maximum current across both contacts 16 A for 230 V. [4] 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). [5] Up to $2x10^4$ switching cycles at 1 s on & 9 s off. [6] Control current 230 V control input locally +-20%: 10 mA. [7] Inductive loads (e.g., conventional ballasts) cause high inrush currents and contact loads. [8] For capacitive loads (e.g., LED drivers with C characteristic), reduced switching capacities apply due to possible inrush current peaks.

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