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Eltako

Digital settable multifunction impulse switch with integrated relay function
ESR12DDX-UC

Only skilled electricians may install this electrical equipment otherwise there is the risk of fire or electric shock!

Temperature at mounting location:
 -20°C up to +50°C.
 Storage temperature: -25°C up to +70°C.
 Relative humidity:
 annual average value <75%.

1+1 NO contacts potential free 16 A/250 V AC. 230 V LED lamps up to 600 W, incandescent lamp load 2000 W. Standby loss 0.03-0.4 watt only.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

With the patented Eltako Duplex technology (DX) the normally potential-free contacts can still switch in zero passage when switching 230 V AC 50 Hz and therefore drastically reduce wear. Simply connect the neutral conductor to the terminal (N) and L to 15 (L) for this. This gives an additional standby consumption of only 0.1 Watt.

Universal control voltage 12 to 230 V UC.
 Supply voltage is same as the control voltage.
 The functions are set with the keys MODE and SET as described in the operating instructions. They are indicated on the display and can be blocked if required.

The accrued switch-on time is continuously displayed. First in hours (h), then in months (m) with 1 digit after the decimal point.

By using bistable relays coil power loss and heating is avoided even in the on mode.

The switched consumer may not be connected to the mains before the short automatic synchronisation after installation has terminated.

Only impulse switch functions: After a power failure the system is disconnected in a definite sequence or the switch position is kept depending on the setting (then + on the display next to function abbreviations). Settings under RSM in the menu guidance. Furthermore, when using these functions,

with the keys MODE and SET, the control inputs A1 and A3 can be defined as central control inputs:

- ZA1** = 'central off' with A1, local with A3;
- ZE1** = 'central on' with A1, local with A3;
- Z00** = no central control.
 'Central on' with A1, 'central off' with A3.
 No local control refer to function RS.

Relays with suitable functions to feed back the switching voltage signal of a dimmer switch.

From 110V control voltage and in the settings 2S, WS, SS and GS glow lamp current up to 5 mA, dependent on the ignition voltage.

With the keys MODE and SET you can select amongst 18 functions:

- OFF** = Permanent OFF
- 2xS** = 2-fold impulse switch with 1 NO contact each, control inputs A1 and A3
- 2S** = Impulse switch with 2 NO contacts
- WS** = Impulse switch with 1 NO contact and 1 NC contact
- SS1** = Impulse multi circuit switch 1+1 NO contacts for switching sequence 0 - contact 1(1-2) - contact 2(3-4) - contacts 1 + 2
- SS2** = Impulse multi circuit switch 1+1 NO contacts for switching sequence 0 - contact 1 - contacts 1 + 2 - contact 2
- SS3** = Impulse multi circuit switch 1+1 NO contacts for switching sequence 0 - contact 1 - contacts 1 + 2
- GS** = Impulse group switch 1+1 NO contacts for switching sequence 0 - contact 1 - 0 - contact 2
- RS** = Impulse switch with 2 contacts, with A1= set and A3 = reset control input
- 2xR** = 2-fold switching relay with 1 NO contact each, control inputs A1 and A3
- 2R** = Switching relay with 2 NO contacts
- WR** = Switching relay with 1 NO contact and 1 NC contact
- RR** = Switching relay (closed-circuit current relay) with 2 NC contacts
- EAW** = Impulse relay for fleeting NO contact and fleeting NC contact with 1+1 NO contacts, wiping time 1 sec each
- EW** = Impulse relay for fleeting NO contact with 1 NO contact and 1 NC contact, wiping time 1sec
- AW** = Impulse relay fleeting NC contact with 1 NO contact and 1 NC contact, wiping time 1sec
- GR** = Group relay 1+1 NO contacts (relay with alternating closing contacts)

ON = Permanent ON

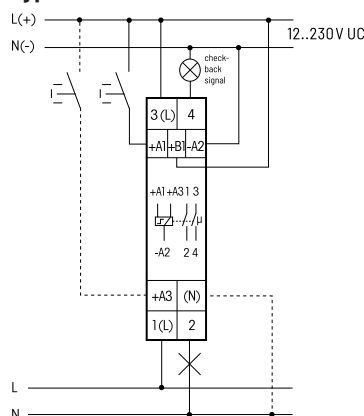
The control inputs A1 and A3 have the same functions except for 2xS, 2xR and RS, if not used as central control inputs.

After setting the required function, the function can be blocked. An arrow on the right of the abbreviation indicates the blocking status.

Program flow chart S2U12DDX-UC:



Typical connection



If N is connected, the zero passage switching is active.

Technical data

Supply voltage and control voltage UC	12..230 V
Rated switching capacity	16 A/250 V AC
230 V LED lamps	up to 200 W ⁽³⁾ with DX up to 600 W ⁽³⁾ I on ≤ 120 A/5 ms
Incandescent lamp load and halogen lamp load ⁽¹⁾ 230 V	2000 W

Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	1000 VA
Fluorescent lamps with KVG* shunt-compensated or with EVG*	500 VA
Compact fluorescent lamp with EVG* and energy saving lamps	15x7 W, 10x20 W ²⁾
Standby loss (activ power)	0,4 W

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

¹⁾ For lamps with 150 W max.

²⁾ If zero passage switching is activated, otherwise I on ≤ 70 A/10 ms.

³⁾ 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).

How to operate the ESR12DDX-UC with display

The left button is named **MODE**. The right button is named **SET**.

Press **MODE** to display the area at the top of the display, which then can be selected by pressing **SET** before you make a change. Each time you press **SET**, you move to the next flashing function. Press **MODE** on the requested function to end the flashing function. Then set by pressing **MODE+SET**.

Retain and only change a function: Press MODE twice.

Action press MODE	Change press SET
RSM flashes	2xS, 2S, WS, SS1, SS2, SS3, GS, RS: It is decided if the system is disconnected in a definite sequence or if the switch position should be kept after a power failure. Then '+' on the display next to the function abbreviation.
Z00 flashes	2S, WS, SS1, SS2, SS3, GS: A1 can be defined as central control input. ZA1 = central off ZE1 = central on

There are no settable subfunctions of the ER functions.

If your input ends with a non flashing display, this is the selected function.

Reset the accrued switch-on time to 0

Press **MODE** and **SET** simultaneously for 2 seconds. The bottom line in the display flashes. Press **SET** to reset to 0.

Lock and unlock

If the automatic function is active (no element is flashing), the setting can be locked against unintentional adjustment and then unlocked. As long as it is locked, an arrow at the top right of the display points to a lock icon on the front panel.

Lock: Press **MODE** and **SET** simultaneously and briefly. **LCK** flashes. Lock by pressing **SET**.

Unlock: Press **MODE** and **SET** simultaneously for 2 seconds. **UNL** flashes. Unlock by pressing **SET**.

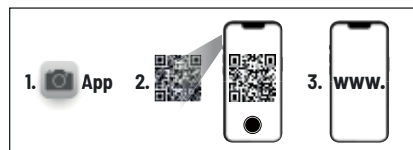


The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex works.

Manuals and documents in further languages:



<http://eltako.com/redirect/ESR12DDX-UC>



Must be kept for later use!

We recommend the housing for operating instructions GBA14.

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