Eltako ELECTRONICS

4-fold impulse switch with integrated relay function ESR12Z-4DX-UC also for central control and group control

CE

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%.

valid for devices from production week 37/14 (see bottom side of housing)

With 4 independent contacts, 1 NO contact each potential free 16A/250V AC, incandescent lamp load up to 2000W. Standby loss 0.03-0.4 watt only.

Modular devices for DIN-EN 60715 TH35 rail mounting. 2 modules = 36mm wide, 58 mm deep.

Eltako Duplex technology (DX) allows you to switch 3 of the 4 normally potential free contacts in zero passage switching when 230V A/C voltage 50Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and the phase conductors to 1(L), 3(L) or 5(L). This results in an additional standby consumption of only 0.1 watt. If the channels are used to control switchgear that has no zero passage switching, (N) should not be connected, otherwise the additional off-delay would have the opposite effect.

Local universal control voltage 8 to 230V UC. In addition universal control inputs central ON and central OFF for 8 to 230V UC, electrically isolated from the local inputs.

With additional group control inputs ON and OFF for 8..230V UC. Same potential like the local control inputs. Groups of these impulse switches can be controlled separately using the group control inputs. Supply voltage like the local control voltage.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

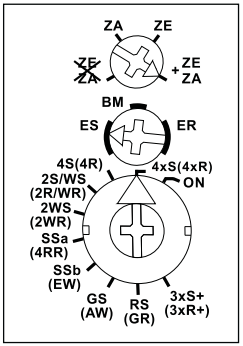
By using a bistable relay coil power loss and heating is avoided even in the on mode.

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

Central commands always have priority, local control inputs are blocked as long as central commands are activated.

In case of a power failure the system is disconnected in a defined mode.

Function rotary switches



With the upper rotary switch this impulse switch with integrated relay function can be partly or completely excluded from central control:

ZE+ZA = central ON and central OFF
ZE = central ON only
ZA = central OFF onl
~~**ZE+ZA**~~ = no central control

Use the middle rotary switch to preselect the functions of the lower rotary switch for **ES** and **ER.** Use ER to select the clamp functions. If **BM** is selected, control can be exerted by a motion detector.

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.

With the lower rotary switch 18 different functions may be selected:

ON = Permanent ON
4xS = 4-fold impulse switch with 1 NO contact each, control inputs A1, A3, A5 and A7
(4xR) = 4-fold switching relay with 1 NO contact each, control inputs A1, A3, A5 and A7
4S = Impulse switch with 4 NO contacts
(4R) = Switching relay with 4 NO contacts
2S/WS = Impulse switch with 3 NO contacts and 1 NC contact
(2R/WR) = Switching relay with 3 NO contacts and 1 NC contact
2WS = Impulse switch with 2 NO contacts and 2 NC contacts
(2WR) = Switching relay with 2 NO contacts and 2 NC contacts
SSa = Impulse multi circuit switch 2+2 NO contacts for switching sequence 0-2-2+4-2+4+6; check back signal 8
(4RR) = closed-circuit current relay with 4 NC contacts
SSb = Impulse multi circuit switch 2+2 NO contacts for switching sequence 0-2-2+4-2+4+6-2+4+6+8
(EW) = Impulse relay for fleeting NO contact with 3 NO contacts and 1 NC contact, wiping time 1 sec
GS = Impulse group switch. Switching sequence 0-2-0-4-0-6-0; check back signal 8
(AW) = Impulse relay fleeting NC contact with 3 NO contacts and 1 NC contact, wiping time 1 sec
RS = Switch with 4 NO contacts, A1 = set control input and A3 = reset control input
(GR) = Group relay 1+1+1+1 NO contacts
3xS+ = 3-fold impulse switch with 1 NO contact each + check back signal 8, control inputs A1, A3 and A5

(3xR+) = 3-fold switching relay with 1 NO contact each + check back signal 8, control inputs A1, A3 and A5

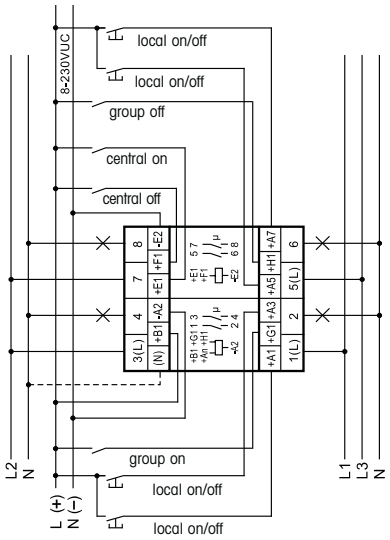
Control with motion detector:
Turn the middle rotary switch to BM. The lower rotary switch then has no function. Connect the motion detector to control input G1.
If the motion detector signals 'Motion', the load contacts 1-2 and 7-8 close.
If the motion detector signals 'No motion', the two load contacts open

Use a sequential mode pushbutton at control input A1 to selected between 3 operating modes:
Mode 1: motion detector; feedback contact 5-6 closed.
Mode 2: ON; load contacts 1-2, 7-8 and feedback contact 3-4 closed.
Mode 3: OFF; all contacts open.

Select mode 1 by pressing a direct mode pushbutton at control input A7; select mode 2 at control input A3; and select mode 3 at control input A5.

The ON central command at E1 switches on the load contacts 1-2 and 7-8.
The OFF central command at F1 switches off the two load contacts.
Central commands always have priority. The local control inputs are blocked during a central command.

Typical circuit with central control and group control



If N is connected the zero passage switching is active at the contacts 1-2, 3-4 and 5-6.

Technical data

Supply voltage and control voltage AC	8..253 V
Supply voltage and control voltage DC	10..230 V
Rated swiching capacity	16 A/250 V AC
Incandescent lamp load and halogen lamp load[1)]	2000 W 230 V
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	1000 VA
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	500 VA
Compact fluorescent lamp with EVG* and energy saving lamps	15 x 7 W 10 x 20 W[2)]
Standby loss (activ power)	0,4 W

[1)] For lamps with 150 W max.

[2)] If zero passage switching is activated, otherwise I on ≤ 70 A/10 ms[3)].

[3)] For electronic ballast gears a 40 fold inrush current has to be calculated. For steady loads of 1200 W use the current-limiting relay SBR12.

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

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.

Must be kept for later use!
We recommend the housing for operating instructions GBA12.

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35/2014 Subject to change without notice.