ESR12Z-4DX-110-240V 4 Fold Impulse Switch With Integrated Relay Function User Guide

Contents

ESR12Z-4DX-110-240V 4 Fold Impulse Switch With Integrated Relay Function

Product Information

Specifications

- Model: ESR12Z-4DX/110-240V
- Type: 4-fold impulse switch with integrated relay function
- Input Voltage: 110-240V
- Application: Central control and group control

Product Usage Instructions

Installation

Only skilled electricians should install this electrical equipment to avoid the risk of fire or electric shock. Follow the installation guidelines provided in the user manual carefully.

Operation

Once installed, the 4-fold impulse switch can be used for central control and group control functions. Refer to the user manual for specific instructions on configuring and using the relay= function.

Maintenance

Regularly inspect the switch for any signs of damage or wear.
Ensure that it is functioning correctly and replace it if any issues are detected.

FAQ

- **Q: Can I install this product myself?**

  A: No, only skilled electricians should install the 4-fold impulse switch to prevent the risk of fire or electric shock.
- **Q: What is the input voltage range of this switch?**

  A: The input voltage range is 110-240V, suitable for various electrical setups.

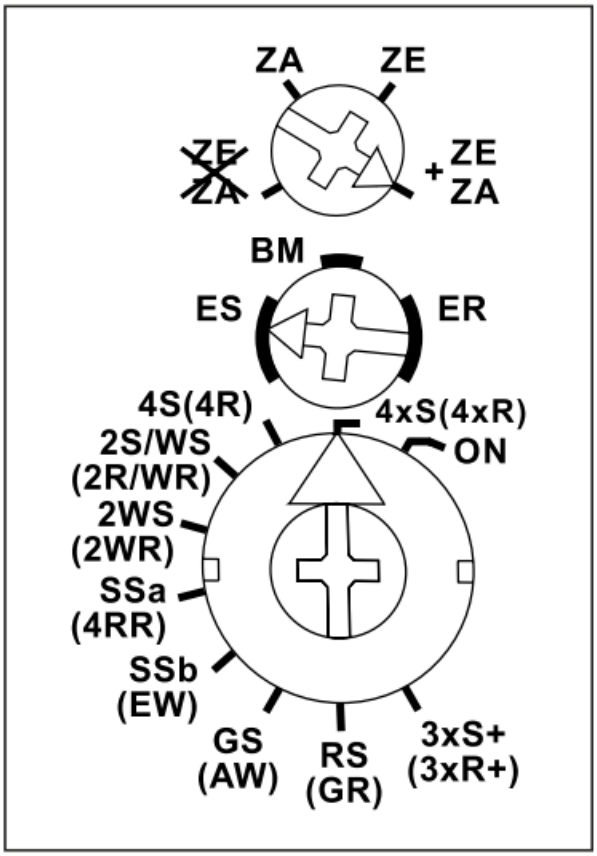
21 400 302 – 1
4-fold impulse switch with integrated relay function ESR12Z-4DX/110-240V also for central control and group control

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%.

With 4 independent contacts, 1 NO contact each 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 devices for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.
ELTAKO Duplex technology (DX) allows you to switch up to 3 of the 4 normally potential free contacts in zero passage switch-ing when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N con-ductor 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 control voltage 110-240 V. In addition control inputs central ON and central OFF for 110-240 V, electrically isolated from the local inputs.
With additional group control inputs ON and OFF for 110-240 V. 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 synchronization 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 only
- 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

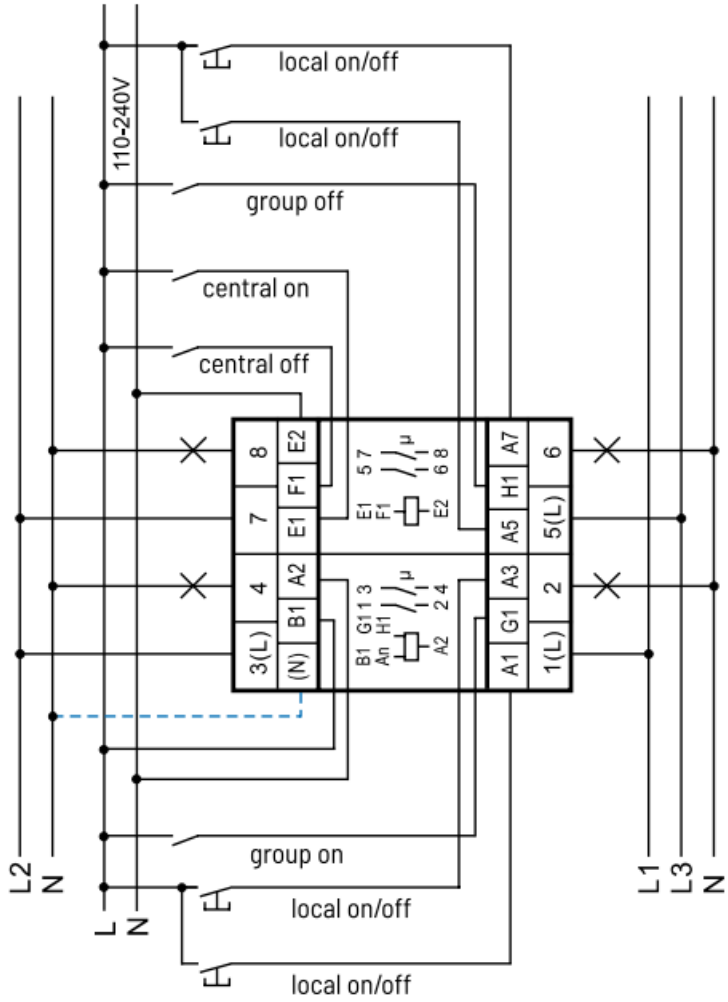
Control with motion detector

Turn the middle rotary switch to BM. The low-er rotary switch then has no function. Con-nect 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 feed-back 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

- 230 V LED lamps up to 200 W 3) with DX up to 600 W 3)
- I on ≤ 120 A/5 ms
- Supply voltage and 110-240 V control voltage local
- Control voltage central 110-240 V
- Rated swiching capacity 16 A/250 V AC
- Incandescent lamp load and 2000 W
- halogen lamp load 1) 230 V
- Fluorescent lamp load 1000 VA with KVG* in lead-lag circuit or non compensated
- Fluorescent lamp load with KVG* 500 VA shunt-compensated or with EVG*
- Compact fluorescent lamp 15×7 W with EVG* 10×20 W 2) and energy saving lamps
- 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).
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).

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

https://eltako.com/redirect/ ESR12Z-4DX*110-240V

Must be kept for later use! We recommend the housing for operating instructions GBA14.

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Documents / Resources

	**ESR ESR12Z-4DX-110-240V 4 Fold Impulse Switch With Integrated Relay Function** [pdf] User Guide ESR12Z-4DX-110-240V 4 Fold Impulse Switch With Integrated Relay Function, ESR12Z-4DX-110-240V, 4 Fold Impulse Switch With Integrated Relay Function, Impulse Switch With Integrated Relay Function, Switch With Integrated Relay Function, With Integrated Relay Function, Integrated Relay Function, Relay Function, Function

References

- **User Manual**