Technical data sheet, installation and operation manual

D2-32, D2-40, D2-50, D2-63, D2-32 red, D2-40 red, D2-50 red, D2-63 red

Overvoltage protection for professionals

Web manual version for browser translation into your native language

Voltage monitoring relay ZUBR D2 (hereinafter referred to as the device) designed to protect electrical equipment from critical mains voltage surges. Equipment sensitive to line voltage deviations: refrigerators, TVs, video and audio equipment, computers, etc. All settings are stored in non-volatile memory.

IN THE BOX

Voltage monitoring relay	1 piece
Installation and operating manual	1 piece
The packing box	1 piece

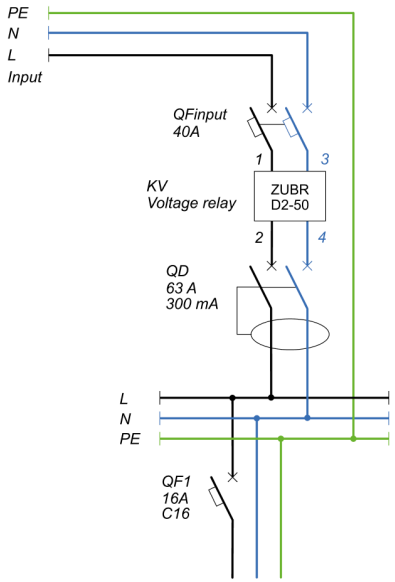
TECHNICAL DATA

Model	D2-32	D2-40	D2-50	D2-63
Rated load current (for category AC-1)	32 A	40 A	50 A	63 A
maximum for 10 min	40 A	50 A	60 A	80 A
Rated load power (for category AC-1)	7300 VA	9200 VA	11500 VA	14400 VA
Voltage limits	upper 230–280 V, lower 100–210 V			
Switch-off time when overvoltage occurs	not more than 0,03 sec			
Switch-off time when undervoltage occurs	0,1–10 sec | ≥ 100 V | not more than 0,03 sec | < 100 V |			
Supply voltage	100–420 V			
Power consumption	not more than 0,35 kWt*h / month			
The number of operating cycles under load	100 000 cycles	not less 10 000 cycles		
The number of operating cycles without load	1000 000 cycles	not less 500 000 cycles		
Relay type	electromagnetic	polarized		
Connection	wire cross section not more than 16 mm²			
Device weight	0,17 kg ±10%			
Overall dimensions	36 x 85 x 66 mm (w x h x d)			
IP to GOST 14254	IP20			

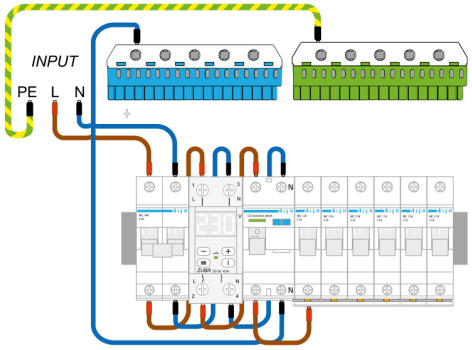
CONNECTION SCHEMES

Supply voltage (100–420 V, 50 Hz) is applied to terminals 1 and 3, with phase (L) connected to terminal 1 and neutral (N) to terminal 3.

The load connection wires are connected to terminals 2 and 4, with phase (L) connected to terminal 2 and neutral (N) to terminal 4.

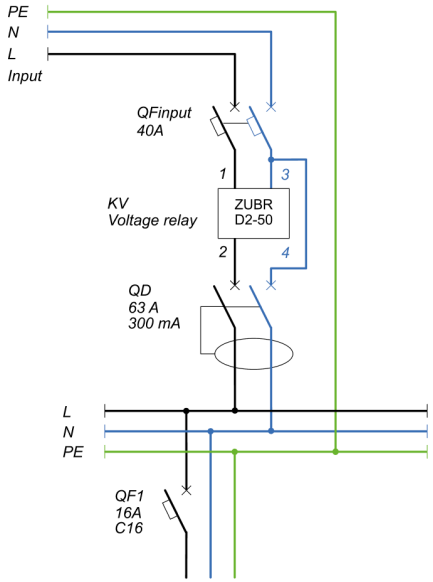


Scheme 1. Electrical diagram with a neutral bypass in ZUBR D2

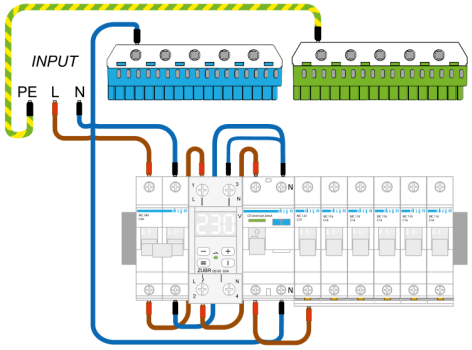


Scheme 2. Wiring diagram with a neutral bypass in ZUBR D2

IMPORTANT. Before the installation and operation of the device, please read by the end of this document. This will help to avoid possible danger, mistakes and misunderstandings.



Scheme 3. Electrical diagram without a neutral bypass in ZUBR D2



Scheme 4. Wiring diagram without a neutral bypass in ZUBR D2

INSTALLATION

The device is intended for indoor installation. Minimize the risk of moisture and liquid ingress at the installation site. The ambient temperature during operation and installation should be between –5...+45 °C.

The appliance is installed in a special box, which allows to conduct the easy installation and operation. Cabinet should be equipped with standard mounting rail 35 mm width (DIN rail). The appliance takes in width of two standard module on 18 mm. The height of the appliance should be in the range 0,5...1,7 m from the floor.

For protection against short circuit and excess capacity in circuit load necessarily need to set in front of the appliance, the automatic circuit-breaker (QF). The automatic switch off is established in the open-phase fault wire, as shown at the schemes 1, 3. To protect person from electric shock leak is set safety shutdown device.

Terminals of the device designed for wire cross section 2 up to 16 mm². It is advisable to use a soft wire, which is tightened in the terminals with a screwdriver with a tip width of no more than 6 mm with a torque of 2,4 N·m. A screwdriver with a blade more than 6 mm wide can cause mechanical damage to the terminals. Doing so will void your warranty claim.

WARRANTY TERMS

The warranty for ZUBR devices is valid for 60 months from the date of sale, provided that the instructions are followed. The warranty period for products without a warranty certificate is counted from the date of production.

If your device is not working properly, we recommend you to read the section "Possible problems" firstly. If you can not find an answer, contact Service center. In most cases, these actions resolve all issues.

If you continue to have issues with the device, please send it to a Service Center or to the store where you purchased the device. If your device is defective due to our fault, we will repair or replace it under warranty terms within 14 business days.

Please look through the full text of the warranty and the data you need to send to your Service center on the website https://www.ds-electronics.company. If you have a warranty case, please, contact the General distributor in your area.

SERVICE CENTER CONTACT:
+38 (091) 481-91-81
Viber WhatsApp Telegram
support@dse.com.ua
@dselectronics_bot

WARRANTY CARD

serial №:

date of sale:

a seller, a seal:

place of a seal

an owner contact for a service center:

EXPLOITATION

After being turned on, the device will display the mains voltage value. If the voltage is within the acceptable range, the load will be activated, indicated by the green indicator. If the voltage exceeds the set limits, the device will turn off the load, and the emergency voltage value will alternate with the fault type screen, where U‾ ‾ indicates exceeding the upper limit, and U_ _ indicates a drop below the lower limit.

Setting voltage limits

(factory setting 253 V / 198 V)

To view the upper limit press "+" button, lower limit press "–" button. To change use "+" and "–" buttons.

Important! During voltage limits settings use technical documentation for protected equipment.

Log of events for 100 notes

The accidents in the log are displayed in order from newest to older. To access the log, use "i", to navigate through the log, use "+" and "–". To quickly view the events, hold down "i".



The value of each event is accompanied by a single flash of display with its number, where "n 0" — is the newest and "n99" — is the oldest.

To reset the log, wait until the device returns to the mains voltage display. Then hold down the "**i**" button for 3 sec until "**rSt**" appears. After releasing the button, the log will be cleared.

Viewing of firmware version

Hold "**i**" for 6 sec. The manufacturer reserves the right to modify the firmware to enhance the device technical characteristics.

Counter of operation cycles

Hold "**i**" for 12 sec. Not discharged.

MENU: Selecting a parameter using the "≡" button

Use the "+" or "–" buttons to change parameters. The first press will cause the parameter to blink, and the next press will change its value. After 10 seconds of inactivity, the display will return to showing the mains voltage.

Parameter	Display	Notes
Time delay before the load is switched on (factory setting 3 sec, range of change 3–999 sec)		It is used to protect compressor equipment. It is recommended to set a delay of turning on load 120–180 sec. It will allow to increase the service life of the compressor.
If a overvoltage or undervoltage events, the device will display the max voltage for 1.5 sec, followed by the current voltage with a flashing dot on the right		If the Delay up than 3 sec, then countdown in seconds will start until the load is turned on. A delay countdown of more than 100 sec will be displayed in the format — the current voltage network with a flashing dot on the right.
Voltage correction (factory setting 0 V, range of change ±20 V)		You can use correction if voltage indications on the screen of the device and your reference device differ.
Pro mode of Switch-off time when undervoltage and overvoltage occurs (factory setting "oFF")		Activate a Pro mode to reduce the number of outages of modern equipment that works stably under certain voltage deviations. Thus, the use of Pro mode allows you not to turn off the equipment in case of safe in size and duration voltage deviations.
Generator Compatibility Mode (factory setting "oFF")		Necessary in case of a shutdown below the lower voltage threshold when operating from a generator. It can also be used with other alternative power sources.
Switch-off time when undervoltage occurs (factory setting 0,1 sec range of change 0,1–10 sec)		The time adjusted in this way will only be valid when the voltage is reduced from 161 to 184 V (when the Pro Mode is on) or from 100 to 210 V (when Pro Mode is off).
Selecting the type of Time delay (factory setting "tAr")		"tAr" — delay is counted from the moment of voltage recovery. "tAo" — delay is counted from the moment the relay is turned off and takes into account response time of the emergency in the total on-delay time.
Hysteresis (factory setting 1 V, range of change 0–5 V)		It is necessary to reduce the number of the device operations by the limit, when the voltage in the network is close to the limit and is not stable.
Maximum continious numbers of relay operations (factory setting 3, range of change 1–5)		Protection against frequent actuations. Limits the number of repeated trips beyond the limit if no more than 20 sec have elapsed between turning on the load and activation of the protection. To disable the function, select "oFF".
Standby brightness (factory setting 100%, range of change 0–100%, step 10%)		If the brightness setting is 0, the screen will turn off completely 30 sec after the last button press. During an emergency, the screen will be 100% lit.

Temperature of the thermal protection sensor

To view the temperature, hold down the "i" button for 24 sec.

Locking the buttons

Hold down the "+" and "–" buttons for more than 6 s until the message "Loc" / "unLoc" appears on the screen.

Factory reset



Hold "**+**" and "**–**" until "**dEF**" message appears on the screen. After release, reset to factory settings and reboot will take place, the event log is cleared.

POSSIBLE PROBLEMS, CAUSES AND WAYS TO OVERCOME THEM

At turning on neither indicator nor screendo not shine

Possible cause: There is no power supply voltage.
It is necessary to: Ensure supply voltage presence.

After turning on on the screen normal voltage level, but load is not turning on

Possible cause: the current voltage in the network is close to the established limits and not stable.

It is necessary to: check the values of the limits; increase their values so that the protected equipment is tolerated to them. In other cases, please, address to a Service centre.

The load is disabled, "oht" flashes on the screen



The temperature inside the enclosure is above 80 °C and the Overheat Protection has tripped.

It is necessary to: check the tightness of the power wires in the device terminals; make sure that the power to be switched does not exceed the permissible load and that the connection cross-section of the wires is correct. If the protection trips more than 5 times a day, the relay will lock and "oht" will be displayed permanently. Eliminate the overheating problem and wait until the temperature inside the relay drops below 60 °C — the relay will indicate this by displaying a dot at the end of "oht." Then, to unlock, press any button on the relay.

The load is disabled, the screen displays "rEP"



The relay was locked to draw attention to the dangerous situation and protect the equipment.

Cause: The maximum number of frequent operations in case of unstable network has been exceeded.

Required: unlock the relay by pressing any button, then press "i" to find out the cause of tripping in the Event log. Take steps to correct the problem, if possible. Note that the relay will unlock automatically 1 hour after the "rEP" is triggered, this measure will keep your equipment partially operational until the network problem is corrected.

Every 5 sec the screen displays "Ert"



Possible cause: open or short circuit of the internal overheating sensor. Control over inner overheating will not be done.

It is necessary to: Send the device to the Service center.

Technical Support Chat

If you haven't found the answer, please contact our technical support engineer

@dselectronics_bot

SAFETY INSTRUCTIONS

Carefully read and become aware of yourself these instructions.

Connection of the device must be done by a qualified electrician.

Before the installation (dismantling) and connection (disconnection) of the device, turn off voltage supply and also act according to the "Rules of an arrangement of electric installations".

Turning on and off or and configure the device should be with dry hands.

Do not connect the device to the network disassembled.

Avoid hitting of water or moisture to the device.

Do not expose the device to extreme temperatures (higher than 40 ºC or below –5 °C) and high humidity.

Never clean the device with the use of chemicals such as benzene, solvents.

Do not store the device and do not use it in areas with the dust.

Do not attempt to disassemble and repair the device.

Do not exceed the landmarks value adaptor and power.

To protect against overvoltage caused by lightning discharges, use a lightning protector.

Protect the children from games with the working device, it is dangerous.

ADDITIONAL INFORMATION

Do not fire and do not throw away the device with the household waste.

After the end of its service life, the product must be disposed of in accordance with applicable law.

Transportation of goods carried in the package, ensuring the safety of the product.

The device is transported by any kind of transport (rail, sea, motor, air transportation).

Date of manufacture is on the back side of device. Application time is unlimited.

The device does not contain harmful substances.

If you have any questions or you something will not clear, call the Service centre the telephone number listed below.

version: d2.1.3G.35.9

RoHS Directive 2011/65/EU

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU

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