ZUBR Technical data sheet, installation and operation manual

D25t, D32t, D40t, D50t, D63t

Overvoltage protection for professionals

Voltage relay ZUBR Dt (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.

IN THE BOX

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

TECHNICAL DATA

Voltage limits	upper 230–280 V lower 100–210 V
Supply voltage	not less than 100 V not more than 420 V
Connection	wire cross section not more than 16 mm²
Device weight	0,21 kg ±10 %
Overall dimensions (w x h x d)	53 x 85 x 66 mm
IP to GOST 14254	IP20

Model		D25t	D32t	D40t	D50t	D63t
Rated load current (for category AC-1)		25 A	32 A	40 A	50 A	63 A
maximum for 10 min		30 A	40 A	50 A	60 A	80 A
Rated load power (for category AC-1)		5 700 VA	7 300 VA	9 200 VA	11 500 VA	14 400 VA
Switch-off time when overvoltage occurs		0,01–0,03 sec		not more than 0,04 sec		
Switch-off time when undervoltage occurs	> 100 V	not more than 1,1 sec		not more than 1,1 sec		
	< 100 V	0,01–0,03 sec		not more than 0,04 sec		
The number of operating cycles under load		not less 100 000 cycles		not less 10 000 cycles		
The number of operating cycles without load not less		not less 1 000 000 cycles		not less 500 000 cycles		
Relay type		electromagnetic		polarized		

INSTALLATION

The appliance is intended for installation inside residences. The risk of moisture or humidity in the installation site should be minimal. The ambient temperature during the installation should be within –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 3 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.

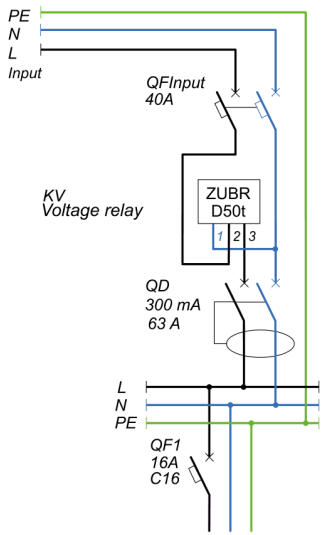
Terminals of the device designed for wire cross section 2 up to 16 mm². It is advisable to use a soft wire, which is tightened in the terminals with a screw-driver with a tip width of no more than 6 mm with a torque of 2.4 N·m. A screwdriver with a blade more than 6 mm wide can cause mechanical damage to the terminals. Doing so will void your warranty claim.

Cutting wires of wiring to which connects voltage relay should meet the value of electric current, which consumes voltage.

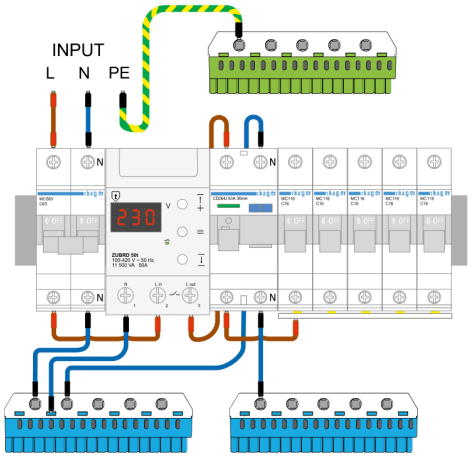
If the rated switching capacity of the device is exceeded, use a contactor (magnetic starter, power relay) designed for the given capacity (see wiring diagram 2).

CONNECTION SCHEMES

Supply voltage (100 — 420 V, 50 Hz) served on terminals 1 and 2, phase (L) is connected to terminal location 2, and the neutral conductor (N) to terminal 1. The connecting wires of the load phases are connected to the terminal 3 and to the neutral terminal block (not included).



Scheme 1. Option of wiring diagram



Scheme 2. Option of the connection diagram

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.

It is prohibited to use the device for protecting equipment powered by sources with a modified sine wave or by uninterruptible power supplies whose output voltage is not a sine wave. Prolonged operation (more than 5 minutes) from such sources may damage the device and lead to non-warranty repair.

If the neutral terminal is not used to connect the neutral to the device, the connection of the mains neutral to the load neutral in terminal 1 of the device is permissible only if it is crimped in a sleeve.

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.

ZUBR

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

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 devi-ce 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 "+", lower limit press "–". To change use "+" and "–".

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

Factory reset

dEF Hold down all three buttons for more than 12 seconds until "dEF" appears on the screen.

After releasing the buttons, the settings will be reset and the device will restart.

Viewing of firmware version

Hold the button "≡" for 6 seconds. The manufacturer reserves the right to modify the firmware to enhance the device technical characteristics.

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 5 seconds of inactivity, the display will return to showing the mains voltage.

Parameter	Display	Notes
Log of events for 50 notes The device stores in non-volatile memory the voltage values at which the load was interrupted.	380 n 0	Log entries are displayed in order from the last to the oldest ("n 0" is the last entry, "n49" is the oldest). To navigate through the general log use the "+" or "–" buttons. When viewing the alarm voltage, the relay will briefly display the alarm number after 1 second. To reset the log, hold down "≡" while viewing the log for 6 seconds until the inscription "rSt.". appears. After releasing the button the log will be cleared and the screen will display: "---".
Time delay before the load is switched on (factory setting 3 sec, range of change 3–999 sec) It is used to protect compressor equipme-nt. 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.	ton t99. 223.	If a voltage surge occurs, the device will first display the maximum value, then the current voltage with a flashing dot on the right. A delay countdown of less than 100 seconds will be displayed in the format ("t99.", "t98."...). A delay countdown of more than 100 seconds will be displayed as the current mains voltage with a flashing dot.
Pro mode of Switch-off time when undervoltage and overvoltage occurs (factory setting "oFF") Does not switch off the protected equipment during voltage deviations that are safe in magnitude and duration. For more details, see the models of disconnection time when the voltage goes out of range described in the Table — Load disconnection time when the voltage goes out of range.	Pro	Pro Mode **OFF**: Upper limit "U ¯ ¯" — 230–280 V — not more than 0,04 sec Pro Mode **OFF**: Lower limit "U_ _" — 100–210 V — 1,1 s Pro Mode **OFF**: Lower limit "U_ _" — < 100 V — not more than 0,04 sec Pro Mode **on**: Upper limit "U ¯ ¯" — > 276 V — not more than 0,04 sec Pro Mode **on**: Upper limit "U ¯ ¯" — 230–276 V — 0,5 s Pro Mode **on**: Lower limit "U_ _" — 184–210 V — 10 s Pro Mode **on**: Lower limit "U_ _" — 161–184 V — 0,5 s Pro Mode **on**: Lower limit "U_ _" — < 161 V — not more than 0,04 sec
Generator Compatibility Mode (factory setting "oFF")	Gnr	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.
Voltage correction (factory setting 0 V, range of change ±20 V)	Cor	You can use correction if voltage indications on the screen of the device and your reference device differ.

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 center.

The load is disconnected, and "oht" flashes on the screen

oht The temperature inside the housing has exceeded 80 °C, triggering the internal overheating protection. "oht" is displayed on the screen once per second.

Cause: Internal overheating of the device, which may be caused by poor contact at the device terminals, high ambient temperature, excessive power of the switched load, or an incorrectly selected wire cross-section.

Required action: Check that the power wires are securely tightened in the device terminals. Make sure that the power of the switched load does not exceed the permissible limit and that the wire cross-section has been selected correctly.

Internal overheating protection features: When the temperature inside the housing drops below 60 °C, the device will resume operation. If the protection is triggered more than 5 times within 24 hours, the device will lock ("oht" will be displayed continuously). The device will remain locked until the temperature inside the housing drops below 60 °C ("oht" will stop flashing) and one of the buttons is pressed.

During overheating, pressing the "≡" button will display the temperature measured by the thermal protection sensor.

Every 5 sec the screen displays "Ert"

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 deive 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 center the telephone number listed below.

version: dtr.3G.8.5

RoHS Directive 2011/65/EU
Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU

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www.ds-electronics.company