

**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

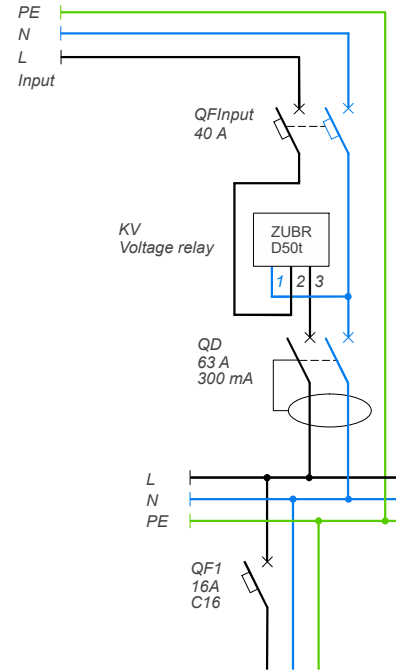
- Voltage relay ZUBR Dt **1 piece**
- Technical data sheet and installation and operation manual and warranty card **1 piece**
- The packing box **1 piece**

TECHNICAL DATA

Voltage limit	upper 220–280 V lower 120–210 V				
Power Volt	not less than not more than	100 V 420 V			
Power consumption, not more than	1,5 kW*h / month				
Device weight	0,21 kg ±10 %				
Overall dimensions	66 x 85 x 53 mm				
Connection, not more than	16 mm ²				
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
Max load current, in 10 minutes (for category AC-1)	30 A	40 A	50 A	60 A	80 A
Rated power (for category AC-1)	5 500 VA	7 000 VA	8 800 VA	11 000 VA	13 900 VA
Break-time at increasing	0,01–0,03 sec		not more than 0,04 sec		
Break-time at lower	> 120 V < 120 V	not more than 1,2 sec 0,01–0,03 sec	not more than 1,2 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 1 000 000 cycles		not less 500 000 cycles		
Relay type	electromagnetic		polarized		

CONNECTION SCHEMES

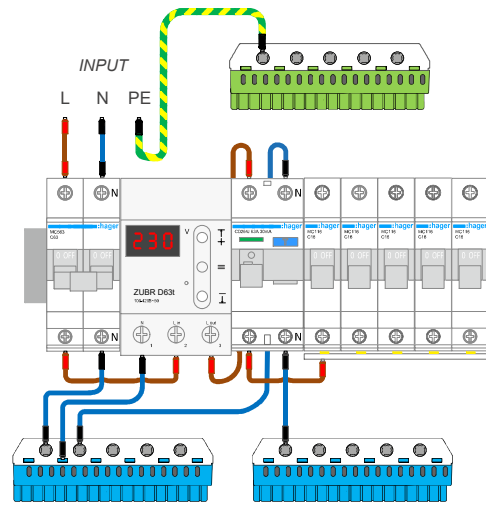
Supply voltage (100 – 420 V, 50 Hz) served on terminals 1 and 2, phase (L) is connected to terminal location 2, and the neutral conductor (N) to terminal 1. The connecting wires of the load phases are connected to the terminal 3 and to the neutral terminal block (not included).



Scheme 1. Option of wiring diagram

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 FORBIDDEN TO USE VOLTAGE RELAY TO PROTECT EQUIPMENT, which runs from the sources of modified sine, uninterruptible power supply output voltage sinusoid are not Long operation (more than 5 minutes) from the following sources voltage may damage ZUBR and lead to not warranty repair.



Scheme 2. Option of the connection diagram

IF A NEUTRAL TERMINAL IS NOT USED TO CONNECT A NEUTRAL WIRE TO THE DEVICE, the connection of the mains neutral wire to the load neutral in terminal 1 of the device is allowed only if it is crimped in the sleeve.

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

It is also necessary to take into account that the load power of 3 000 VA at 220 V will be 4 400 VA at 270 V. Therefore, please, do not allow the relay power handling to exceed its certified value at the maximum voltage deviation to the upper limit. If the relay power handling exceeds its certified value use the electric contactor (magnetic starter, power relay) which is designed for this power capacity (see diagram 3 in the manual with the appendix on the website, which is listed under Contacts section).

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 screwdriver with a tip width of no more than 6 mm with a torque of 2.4 Nm. 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 that you first read the section «Possible problems». If you cannot 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 within 14 business days.

Please see the full text of the warranty and the data you need to send to your Service Center on the website <https://www.ds-electronics.com.ua/en/>. 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

WARRANTY CARD

serial №: _____ date of sale: _____

a seller, a seal: _____ place of a seal: _____

an owner contact for a service center: _____

EXPLOITATION

The device will immediately begin to display the voltage on phase. If the voltage is normal, the voltage will be applied to the load after the set time and the green indicator will light up. If the voltage is over the upper limit, its value will flash alternately with «U₋₋₋», if over the lower limit, its value will flash alternately with «U_{_-}».

Use the «≡» button to navigate through the menu. Use the «+» and «-» buttons to change the parameters. After pressing the button for the first time the parameter will flash, after pressing it for the second time the parameter will change. After 5 sec after pressing — return to the mains voltage display.

All settings are stored in NON-VOLATILE MEMORY

When setting the voltage limits USE THE PROTECTED EQUIPMENT TECHNICAL DOCUMENTATION.

Setting trip limits

(factory setting 242 V / 198 V)

To view the upper limit, press the «+», button, to view the lower limit, press the «-» button. Then use the «+» and «-» buttons to change the limit as necessary.


Viewing of firmware version


Hold the button «≡» for 6 sec. The manufacturer reserves the right to modify the firmware to enhance the device technical characteristics.

Delay in the load starting after a failure

(control is described in table 1)

During a voltage jump before the countdown for 1,5 sec, an emergency situation will be displayed, then for 1,5 seconds the current with a flashing dot to the right.

 The countdown in seconds («t99.», «t98.»...) will start until the load is turned on.

 If you set a delay longer than 100 seconds, the screen will display the current voltage with a flashing dot to the right. If the remaining time is less than 99 seconds, it will display the countdown in seconds.






FOR PROTECTION OF REFRIGERATION equipment, where there is a compressor, 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.

Reset to factory settings

Hold the three buttons «-», «+» and «≡» until «dEF» message appears on the screen. After release, reset to factory settings and reboot will take place, the alarm log is cleared.

Table 2.
Models shutdown exit time voltage beyond

The usual default	Upper limit	220–280 V	see Technical data table
Pr o oFF	Lower limit	120–210 V	1 sec
		< 120 V	see Technical data table
Professional Pr o on	Upper limit	> 264 V	see Technical data table
		220–264 V	0,5 sec
	Lower limit	176–210 V	10 sec
		154–176 V	0,5 sec
	< 154 V	see Technical data table: < 120 V	

Table 1. FUNCTION MENU	Press «≡»	Screen	Notes
Log for 50 accidents The device stores in non-volatile memory the voltage values at which the load was interrupted or «oht» overheat triggering (see page 7).	1 time	 	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: «---».
Delay in the load starting after a failure (factory setting 3 sec, a range of change 3–600 sec)	2 times		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.
Professional model of the tripping time when the voltage goes beyond the limits (factory setting «oFF»)	3 times		Does not disable the protected equipment at safe voltage deviations in value and duration. See the table 2 for more details.
Correction of voltage (factory setting 0 V, a range of change ±20 V)	4 times		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 centre.

The load is disabled, «oht» flashes on the screen


 The temperature inside the housing exceeded 80 °C and triggered protection against internal overheating. The screen shows «oht» once for 1 second.

Possible cause: inner overheating of the device to which can lead: bad contact in the terminals of the device, high ambient temperature, overwhelming power output or incorrectly selected cross-section of wires for connecting.

It is necessary to: check tension of power wires in the device terminals, make sure that the switching load does not exceed the permissible and that the cross section of the wires is selected correctly.

Feature of protection against internal overheating: the device will resume operation if the temperature inside the housing drops below 60 °C. If the protection is triggered more than 5 times within 24 hours, the device will lock until the temperature inside the housing drops below 60 °C («oht» will not flash) and one of the buttons is pressed. To view the temperature of the thermal protection sensor, press «≡» when the device is overheated.

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. Otherwise, control over inner overheating will not be done.

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.

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 °C 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.

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dtr61



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

Manufacturer and vendor: DS ELECTRONICS, LTD
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support@dse.com.ua www.ds-electronics.com.ua/en/