

SR1, SR1 red

Overvoltage protection for professionals

Voltage relay ZUBR SR1 (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.

The device measures voltage according to the TrueRMS principle, which reduces the influence of mains interference on the voltage measurement accuracy when the voltage waveform differs from the sinusoidal. The internal overheat protection and the non-flammable polycarbonate housing increase the safety of the device during operation.

SUPPLY PACKAGE

Voltage relay ZUBR SR1	1 piece
Guarantee card, technical passport, manual	1 piece
Shipping box	1 piece

TECHNICAL DATA

Voltage limit	upper 220–280 V lower 120–210 V
Break-time at increasing	not more than 0,04 sec
Break-time at lower:	> 120 V not more than 1 sec < 120 V not more than 0,04 sec
Power Volt	not less than 100 V not more than 420 V
Delay in the load starting	3–600 sec
Max load current	16 A
Max load power	3 000 VA
The number of operating cycles under load	not less 50 000 cycles
The number of operating cycles without load	not less 20 000 000 cycles
Device weight	0,185 kg ±10 %
Overall dimensions (w x h x d)	106 x 60 x 76 mm
IP to GOST 14254	IP20

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.

SENSOR CONTROL OF THE DEVICE is sensitive to strong electromagnetic fields and interference (e.g. fluorescent lights, induction stoves, etc.), close proximity to which can cause false triggering of the sensor buttons or their blocking. Consider this when installing the device.

CONNECTION

The plug of the device is plugged into a standard 230 V ~ 50 Hz socket. The socket must be rated for a current of at least 16 A. The design of the socket should provide a reliable contact.

To connect the device:

- Insert the plug of the device into the socket;
- Insert the load plug into the socket of the original voltage.

Note that a load capacity of 3000 VA at 220 V will be 4400 VA at 270 V. Therefore, do not exceed the nameplate value of the switching power of the device with the maximum possible voltage deviation upwards.

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.

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), rated not more than 16 A.

To protect against overvoltage caused by lightning strikes, surge arresters must be used together with the device. They are installed at the entrance to the building in accordance with their instructions.

To protect people from electric leakage current, an RCD (residual current device) is installed in the electrical switchboard.

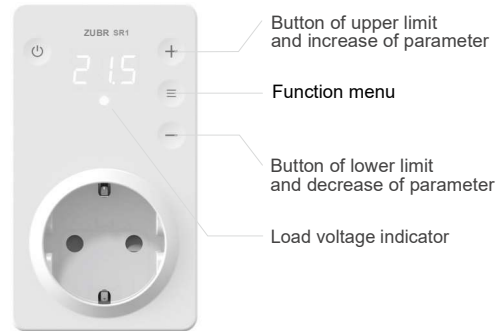
The cross-section of the wires to which the device is connected must match the value of the electric current consumed by the load.

EXPLOITATION

When the device is switched on, the mains voltage is displayed. If it is within the acceptable limits, the load is switched on and the green LED lights up.

To turn the device on/off, hold down «**⏻**» for 4 seconds. The screen will show three dashes one by one, then «**on**» or «**oFF**». After turning off, the device goes to sleep mode. To completely turn off the device, unplug it from the power outlet.

Use the «**+**» and «**-**» buttons to change the parameters, use the «**≡**» button to navigate through the menu — «**≡**» (см. табл. 1). 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.



Button of upper limit and increase of parameter

Function menu

Button of lower limit and decrease of parameter

Load voltage indicator

Setting trip limits

(factory setting 242V / 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.

All settings are stored in NON-VOLATILE MEMORY in the event of a power outage.

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 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.

Locking the controls (protection from children and in public places)

Loc To activate (deactivate) hold down the «**+**» and «**-**» buttons for more than 6 seconds until the message «**Loc**» appears on the screen («**oFF**»).

Delay in the load starting

You can set the time before the load is turned on after a failure. The delay setting 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.

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

223 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.

Reset to factory settings

Hold three buttons («**-**», «**+**» and «**≡**») for more than 12 seconds until «**dEF**» message appears on the screen. After release, reset to factory settings and reboot will take place, the alarm log is cleared.

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. The website address can be found in the instructions in the Contacts section.

SERVICE CENTER CONTACT:
+38 (050) 450-30-15
Viber WhatsApp Telegram
support@dse.com.ua



GUARANTEE CARD

serial №:	date of sale:
a seller, a seal:	place of a seal:
an owner contact for a service center:	

Table 1. FUNCTION MENU

Menu option	Press «≡»	Screen	Notes
Last emergency voltage	1 time		To view. The device stores in non-volatile memory the high or low voltage value at which the load was disconnected, or the «ohT» over-temperature trip.
Delay in the load starting (factory setting 3 sec, a range of change 3–600 sec)	2 time		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 time		Does not disable the protected equipment at safe voltage deviations in value and duration. The details are in table 2.
Correction of voltage (factory setting 0 V, a range of change ±20 V)	4 time		You can use correction if voltage indications on the screen of the device and your reference device differ.
Standby brightness (factory setting 6, a range of change 0...9)	5 time		At brightness 0, the dots on the screen will indicate the presence of: Left — supply voltage; Middle — voltage at the device output. During the emergency situation and the load delay countdown, the screen brightness will be maximal.
Firmware version	hold the button for 15 sec.		The manufacturer reserves the right to modify the firmware to enhance the device technical characteristics.

Table 2. TIME MODELS of the tripping time when the voltage goes beyond

Model	Limit	Voltage	Time
Regular model (default)	Upper	220–280 V	0,04 sec
	Lower voltage limit	120–210 V	1 sec
Pro oFF	Lower voltage limit	< 120 V	0,04 sec
Professional model	Upper voltage limit	> 264 V	0,04 sec
		220–264 V	0,5 sec
	Lower voltage limit	176–210 V	10 sec
		164–176 V	0,5 sec
	< 164 V	0,04 sec	

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.

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: the socket supplying the device or the load plug is not designed for the required power, high ambient temperature or the power of the switched load is exceeded.

It is necessary to: check that the socket, power supply unit or the load plug is rated to the required power, make sure that the switching load does not exceed the permissible.

Operation features of the internal overheating protection: when the temperature inside the enclosure drops below 60 °C, the device will turn on the load and resume operation. If the protection is activated more than 5 times, the device is blocked until the temperature inside the housing drops below 60 °C (the «ohT» stops flashing) and one of the buttons to unblock the device is not pressed. During overheating, pressing the button «≡» will display the temperature of the thermal protection sensor.

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.**

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.

v121_220215



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

Manufacturer and vendor: DS ELECTRONICS, LTD
 04136, Ukraine, Kyiv region, Kyiv, 1–3 Pivnichno-Syretska str.
 +38 (044) 485-15-01, Service Center: +38 (050) 450-30-15
 support@dse.com.ua www.ds-electronics.com.ua/en/