REAL-EL

OPERATION MANUAL



STAB ENERGY-500F
STAB ENERGY-1000F

AUTOMATIC VOLTAGE REGULATOR

Operation Manual

STAB ENERGY–500F
STAB ENERGY–1000F

Congratulations on your purchase of a REAL-EL product!

Please read this Operation Manual before using the unit and retain this Operation Manual in a safe place for future reference.

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1.BUYER RECOMMENDATIONS

• Unpack the device carefully. Make sure there are no accessories left in the box. Check the device for damage; if the product was damaged during transportation, contact the carrier; if the product functions incorrectly, contact the dealer at once.
• Check up the package contents and availability of the warranty card. Make sure the warranty card has a shop stamp, a legible signature or the seller's stamp and purchase date, and product serial number corresponds to that in the warranty card. Remember that at the loss of warranty card or lack of coincidence of numbers the warranty may become invalid.
• Do not switch on the product immediately after you bring it into a room from a cold environment! After unpacking, the product should be kept in conditions of room temperature for at least 4 hours.

2. PACKAGE CONTENTS

• Automatic voltage regulator – 1 pc
• Operation Manual – 1 pc
• Warranty card – 1 pc

Features

• Wide Input Voltage Range: 150–270 V
• LED Voltage Display
• Reliable Toroidal Transformer
• Microprocessor Control
• Zero-Cross Switching
• 6/180s Start Delay
• Comprehensive Protection: Over/Under Voltage, Short Circuit, Overload & Overheat

3. SAFETY MEASURES AND PRECAUTIONS

Before using this device, please read the safety rules carefully:

• It is strongly forbidden to open the cover of the device, there is high voltage inside. If some problems occur, please read the operation manual carefully and contact an authorized service center. For the list of authorized service centers please go to www.real-el.com.

• Do not let liquid get inside the device, it can cause short circuit or electric shock.

• In case there are signs of improper operation of the device (sparking, unusual smells, etc.), unplug the device from the mains immediately and contact your nearest authorized service center.

• It is forbidden to connect the automatic voltage regulator to devices with power consumption higher than its maximum output power. It can cause breakdown of the device.

• This device is not intended for use by persons (including children) with reduced physical, mental capabilities, lack of experience or knowledge; use of the device by such persons is permitted only under the condition of supervision or instructions for the use of household appliances by persons responsible for their safety.

• Children should be supervised by authorized personnel to exclude their playing with the appliance.

• Do not use the appliance with a damaged power cord or plug, or after handling liquids, falling or any other damage. To avoid electric shock, do not attempt to disassemble or repair the appliance yourself. If necessary, contact a specialized service center.

It is strongly forbidden to operate the device in the following conditions:

– in dusty environment or environment containing highly flammable gases;
– at temperature higher than 40 ˚C or lower than 0 ˚C;
– at humidity level higher than 90 %;
– in direct sunlight or next to heating elements;
– in locations exposed to vibration;

• In case of fire use only powder fire extinguisher, as water can cause electric shock.

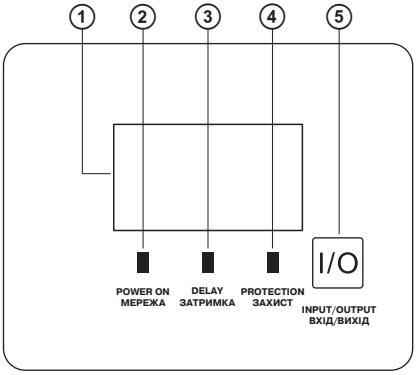
•The automatic voltage regulator should be installed in proximity to power supply, then it will be easier to unplug the device if necessary.

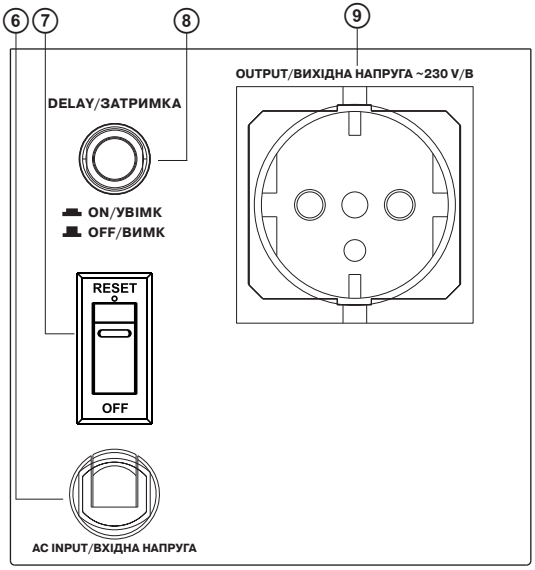


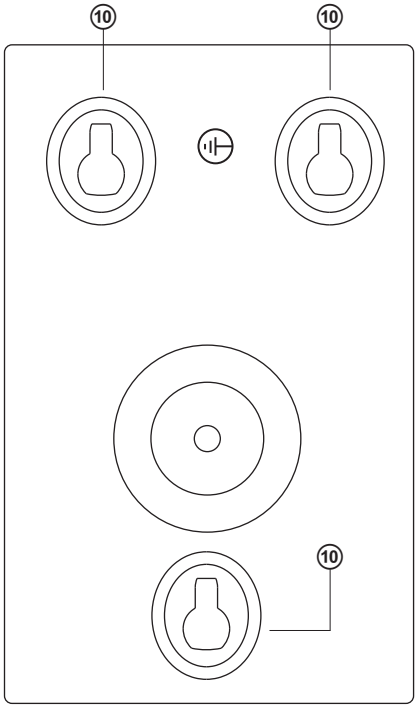
WARNING!
High voltage inside which can cause electric shock.

4. TECHNICAL DESCRIPTION

① Display
« L » — undervoltage protection
« H » — overvoltage protection
« C » — transformer overtemperature protection
② Operating status indicator
③ Switch-on delay indicator
④ Active protection mode indicator
⑤ Input/output voltage display selection button
⑥ Built-in power cable
⑦ ON/OFF switch
⑧ Switch-on delay time selector: 6/180 sec
⑨ Output socket
⑩ Wall-mounting bracket







5. INSTALLATION

AVR can be placed on any work surface without additional fastening or mounted on a wall.

Important! Before installing, make sure that all mounting hardware is securely fixed in the wall.

For wall mounting, proceed as follows:

• Determine the wall material type: wood, brick, concrete, plasterboard/drywall, etc. This is required to select the appropriate mounting hardware.

• Choose an installation location near a mains power outlet, taking into account the length of the stabilizer power cord.

• Install the mounting hardware (must be purchased separately) into the wall according to the position of the mounting holes on the rear panel of the stabilizer.

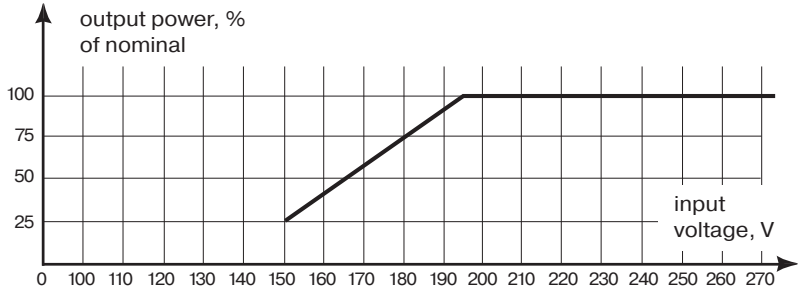
• Secure the stabilizer onto the mounting hardware.

6. CONNECTION AND OPERATION

Warning! Before connecting the AVR, make sure that all consumer devices that are connected to it are turned off.

• Before connecting the stabilizer, make sure that the total power of all consumers is lower than the power of the stabilizer. Also, taking into account starting loads and the power factor of consumers, it is necessary to take a power reserve with a factor of 1.2–1.5, and for such devices as air conditioners, refrigerators and other electric motors — 1.5–2 times.

WARNING! When choosing AVR, you need to know that when the input voltage decreases, the input current increases, and therefore the maximum power of the automatic voltage regulator decreases! This dependence is schematically shown in the graph below:



Note. In the process of selection and further operation, it is necessary to clearly observe this dependence. In case of non-compliance with the specified condition, the right to warranty repair is lost!

Connect consumer appliances only when the AVR is switched off.

• Plug the AVR into a 230 V mains outlet and switch it on using the power switch.

• During normal operation, the digital display shows the output voltage.

• If the input voltage is outside the operating range of 150–270 V, the AVR automatically disconnects the load.

WARNING! If the AVR is not used for a long time, it is recommended to disconnect the AVR and all connected devices from the mains.

7. DELAY Mode

• The DELAY function means that the output voltage supply will be delayed for a specified period after the voltage stabilizer is switched on or after it exits protection mode.
This helps prevent damage to electrical appliances caused by frequent switching on and off.
OFF — 6-second delay;
ON — 180-second delay.
The standard delay time is 6 seconds in UNDELAY mode or 180 seconds in DELAY mode. Press the DELAY button down to select DELAY mode, or move it up to select UNDELAY mode.

Warning!

For electrical appliances with motors and compressors, such as fans, refrigerators, coolers, freezers, air conditioners, pumps, and small electric motors, select Delay mode.

8. SHORT-CIRCUIT PROTECTION

• In the event of a short circuit in the AVR or in the connected electrical appliances, the power switch with fuse function will trip and disconnect the input power supply.
• Check whether any connected electrical appliances have been short-circuited. If so, disconnect them from the device.

Warning!

If a short circuit occurs inside the AVR, do not use the device. Contact an authorized dealer or service center.

9. TROUBLESHOOTING

Error code	AVR status	User Action
L	Undervoltage protection	Wait till input voltage increases to normal range
H	Overvoltage protection	Wait till input voltage decreases to normal range
C	Overtemperature protection for Transformer windings	Wait till the temperature of Transformer windings decreases to normal range

10. NOT A FAULT

Problem	Reason	Explanation
The AVR often clicks.	Relay switching	The phenomenon is normal. The AVR regulates the output voltage.
Input and output voltage indicators are the same within ~230 V ± 10% (207-253V)	The input voltage is within the acceptable range, so voltage correction is not required.	This is normal operation. The AVR corrects the output voltage only when the input voltage exceeds the set regulation thresholds. According to standard EN 50160:2010, the voltage in the mains should be 230V +10%, where 10% is the maximum permissible deviation from the standard value!All connected household devices work normally.

11. TECHNICAL SPECIFICATIONS

Model	STAB-500F	STAB-1000F
Maximum load	500 VA/400 W	1000 VA/800 W
Input voltage	~150–270 V/50 Hz	~150–270 V/50 Hz
Output voltage	~230 ± 8 % V/50 Hz	~230 ± 8 % V/50 Hz
Safety fuse	Automatic	Automatic
Switch time	⩽10 ms	⩽10 ms
Protection against short circuit and overload	auto switch off	auto switch off
Power-on delay	6/180 sec	6/180 sec
Working temperature	0 – 40 °C	0 – 40 °C
Relative humidity	up to 90 % (without condensation)	up to 90 % (without condensation)
Dimensions	125 × 110 × 195 mm	125 × 110 × 195 mm
Weight	2.1 kg	2.45 kg

Notes:
- *The specifications provided in the table are for reference only and cannot serve as grounds for claims.*
- *REAL-EL products are continuously improved. Therefore, the package contents, appearance and technical specifications may be changed without prior notice.*

Models: **STAB ENERGY-500F, STAB ENERGY-1000F**

Manufacturer: ENEL GROUP OU, Katusepapi tn 6, Lasnamäe linnaosa, Tallinn, Harju maakond, 11412, Estonia. Made in China.

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