AUTOMATIC VOLTAGE REGULATOR
USER'S MANUAL

SVR-124 SERIES

Before operating this product, please read these instructions carefully.

PLEASE READ AND SAVE THIS MANUAL

Thank you for selecting this Automatic Voltage Regulator. It provides you with a perfect protection for connected equipments. The manual is a guide to install and use the AVR. It includes important safety instructions for operation and correct installation of the AVR. If you have any problems with the AVR, please refer to this manual before calling customer service.

	This symbol gives information regarding points important for user's own health and safety, operation of stabilizer and the safety of your data.
	This symbol gives information, warnings, and other suggestions.

1. IMPORTANT SAFETY INSTRUCTIONS

This stabilizer is designed to provide all the necessary safety conditions to protect home appliances and electronic office equipments. In case of any questions, refer to your authorized technical service representative.

- In order to avoid any damage to the stabilizer, it is advised to transport it in its own packing.
- In the event of sudden temperature changes such as from cold to the normal working temperature, mist can form inside the stabilizer. It is absolutely essential that the stabilizer be dry before switching it on. Due to this reason wait for at least 2 hours before operating it.
- Once dry, make sure you observe all the conditions in the environment section of the technical specifications table, before connect it to the mains power.

Earth cable should be chosen concerning the current capacity. All units' earth connections, which are connected to stabilizer, should be done with the earth cable. Without earth connection or non-approval earth connected units are dangerous for user's health and have high risk of electronic circuit board faults. When install the stabilizer, if use cable with improper specification can be dangerous for user's health and safety of the unit.

- Place all the cables in a proper place so that they are not stepped on or get caught into people's feet. Before connecting the stabilizer to the mains power make sure you carefully read all the instructions and warnings in the "Installation" section of this manual.
- Don't drop any foreign materials (like clips, nails, etc.) into the stabilizer.

- In emergencies（damage to the cabinet, front panel, or mains connections, splashing of liquid, dropping of any foreign materials into the stabilizer), please switch off the stabilizer, pull out the plug and inform the authorized service center.
- Do not connect any loads to the stabilizer, which exceed its power range.
- When input distortion or resistance is too high, stabilizer may not work properly.
- Keep the packaging for maintenance or moving.
- Wiring must be tight, to prevent falling off and oxidation.

The stabilizer can only be repaired by the authorized technical service personnel.Any attempt to open and to repair by the user on his own could prove to be dangerous.

Intended for installation in a controlled environment.

a. The controlled environment should accord with the requirement of the specification.
b. Do not install or operate your stabilizer in or near water.
c. Do not place stabilizer on an unstable cart, stand or table.
d. Do not place stabilizer under direct sunlight or close to heat emitting sources.
e. Do not place power cord of stabilizer in any area where it may get damaged by heavy objects.

Placing magnetic storage media on top of the stabilizer may result in data corruption.

Special precautions:
When the stabilizer input comes from a generator:

a. Output power capacity of generator must be higher than the rated capacity of stabilizer, otherwise the stabilizer and generator may not work properly;
b. Output frequency of generator must be in range of 45Hz~65Hz, and wave form must be sine wave, otherwise the stabilizer and generator may not work properly.

Remarks:

Digital Automaticr Voltage Stabilizer is single phase.
We reserve the right to change specifications or discontinue models without notice.

2. BEFORE INSTALLATION

Each stabilizer was tested 100% before shipment. Check if the stabilizer has been subjected to any damage after unpacking it according to the follow steps:

A. Contents

Delivered pack includes:

a. Stabilizer 1 piece

b. User's manual 1 piece

B. Visual Observation

a. Check the rating plate/label to verify the rated capacity is according to your purchase order.

b. Make sure appearance of the stabilizer is not damaged. If you notice any damage please contact the authorized dealer.

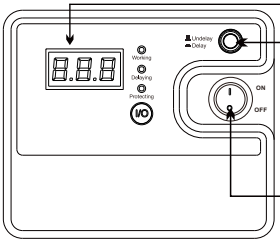
Do not try to operate the stabilizer in this situation!
Do not try to repair the stabilizer by yourself!

3. INTRODUCTION TO THE STABILIZER

Familiarize yourself with the various features and facilities by studying the following diagrams to obtain maximum benefit from the regulator.

A. Front of the stabilizer

Model No.: SVR-124-500VA~1000VA



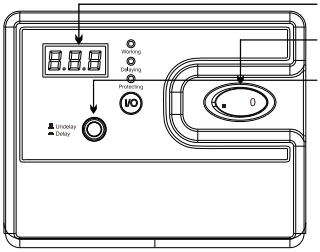
DIGITAL DISPLAY

DELAY BUTTON

DELAY: *output is delayed for 3 minutes after starting up or restore from protection.*
Undelay**:** *output is delayed for 6 seconds after starting up or restore from protection.*

POWER SWITCH

Model No.: SVR-124-1500VA~2000VA



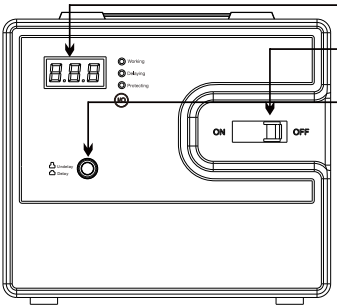
DIGITAL DISPLAY

POWER SWITCH

DELAY BUTTON

DELAY: *output is delayed for 3 minutes after starting up or restore from protection.*
Undelay**:** *output is delayed for 6 seconds after starting up or restore from protection.*

Model No.: SVR-124-3000VA~5000VA



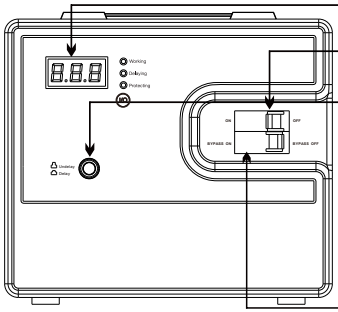
DIGITAL DISPLAY

POWER SWITCH

DELAY BUTTON

DELAY: *output is delayed for 3 minutes after starting up or restore from protection.*
Undelay**:** *output is delayed for 6 seconds after starting up or restore from protection.*

Model No.: SVR-124-8000VA~10000VA



DIGITAL DISPLAY

POWER SWITCH

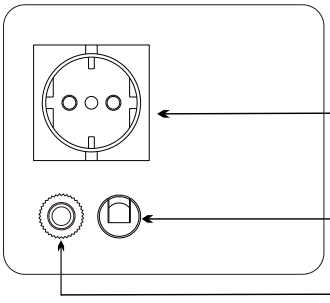
DELAY BUTTON

DELAY: *output is delayed for 3 minutes after starting up or restore from protection.*
Undelay**:** *output is delayed for 6 seconds after starting up or restore from protection.*

BYPASS SWITCH

B. Rear Panel of the AVR

Model No.: SVR-124-500VA~1000VA

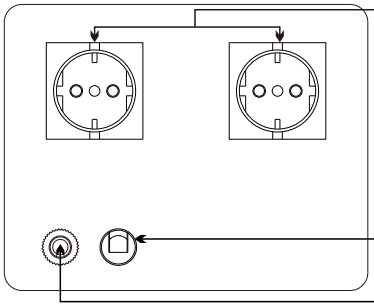


220V OUTPUT

AC INPUT CABLE
plug into the wall socket.

CIRCUIT BREAKER

Model No.: SVR-124-1500VA~2000VA

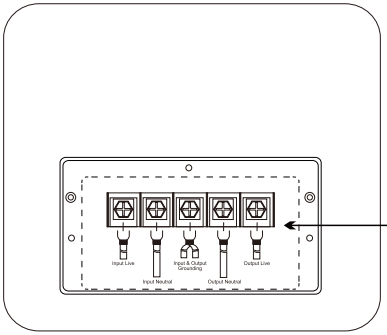


220V OUTPUT

AC INPUT CABLE
plug into the wall socket.

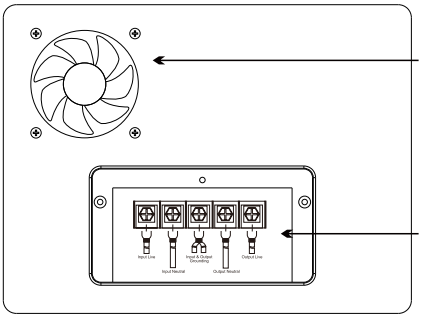
CIRCUIT BREAKER

Model No.: SVR-124-3000VA~5000VA



AC INPUT AND 220 OUTPUT

Model No.: SVR-124-8000VA~10000VA

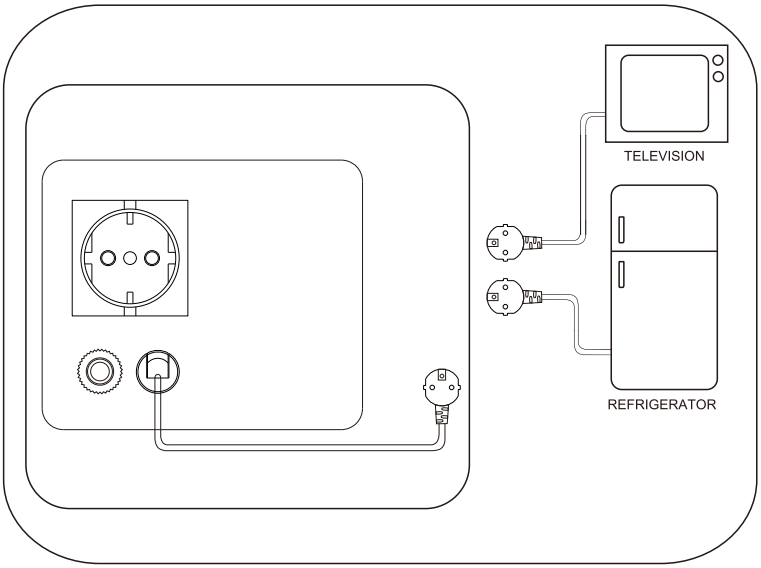


COOLING FAN

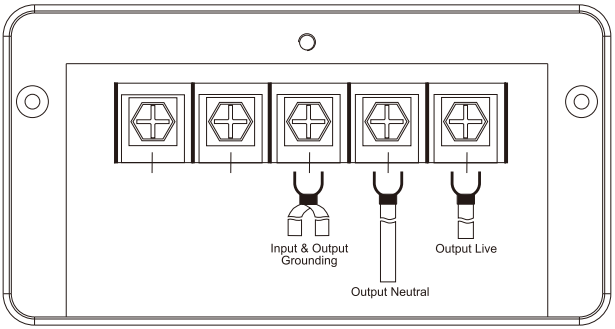
AC INPUT AND 220 OUTPUT

4. CONNECT THE ELECTRICAL APPLIANCES TO REGULATOR

• Make sure all appliances are turned “OFF”
• Make the connections as shown in the diagram below, ensuring that the total starting power needed does not exceed rated maximum output power of the regulator.

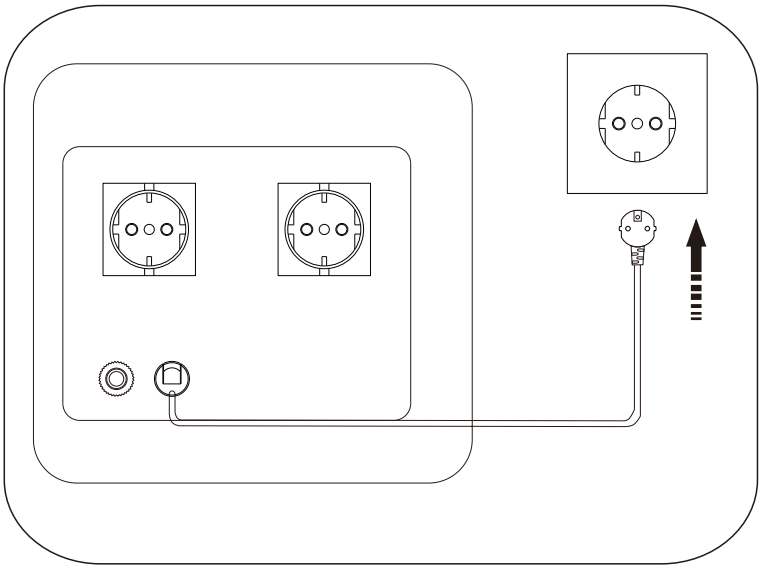


(For models 3000VA and above, unscrew the cover from the rear plate, you will find the terminal block inside. Use the heavy duty cables to connect the electrical appliances to the output terminal.)

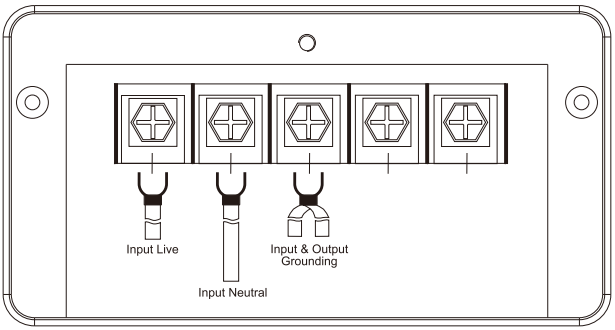


5. CONNECT REGULATOR TO ELECTRICAL MAINS

Plug the AC mains cord to wall mains socket as shown in diagram below.



(For models 3000VA and above, unscrew the cover from the rear plate, you will find the terminal block inside. Use the heavy duty cables to connect the electrical appliances to the input terminal.)



6. SWITCH ON THE STABILIZER

Push the power switch (500VA~ 2000VA) or circuit breakers switch (3000VA and above) to“ON” position.

In Case of Power Failure:

- Switch “OFF” the regulator and all the appliances.
- Repeat above steps when power is restored.
- Switch Regulator “OFF”. Then decrease the loading by un-plugging
- Wait few minutes for models below 2500, then switch power “ON” position.
- For models above 3000VA press the circuit breaker at the panel to restart the unit. Then switch “ON” the appliances one by one ensuring that their combined rated power does not exceed the stabilizer’s rating.

7. LED Indication

A. Three LED indicators

- When the Green LED light is "ON", it indicates Power ON and also that the input voltage and output voltage is normal, the stabilizer is working.
- When the Yellow LED light is “ON” and flash, it indicates that the stabilizer is in delay status, the output will be delayed.
- When the Red LED light is "ON" and flash, it indicates the stabilizer is in a protection status.

B. Digital LED display

On excuting of stabilizer protection, the code of corresponding protection function is displayed.

(See Protection Functions chapter):

L – Input voltage is below admissible level; low-voltage protection operates: AVR is ON, but the load is disconnected; after input voltage level is increased up to the min admissible limit, the load is connected automatically.

H – Input voltage exceeds max admissible level; over-voltage protection operates: AVR is ON, but the load is disconnected; after input voltage falls down below the max admissible value, the load is connected automatically.

C – Over-heat protection operates: AVR is working, however the load is disconnected. Overheat protection might operate in case of overloading or improper operating conditions. The load connects again at transformer temperature falling to normal range

8. VOLTAGE DISPLAY

Single LED display models, please press I/O button to choose input and output voltage display. When press I/O button, LED will flash. It shows input voltage.

9. DELAY OPERATION

This model is designed with a delay feature to protect appliances with compressors which should not be switched on immediately after being switched off.

- All the models now include a delay feature. The default delay time will be 6 seconds or 3 minutes optional. This feature is required for products with motors & compressors to prevent those from being damaged due to frequent switching on & off.
- To select Delay mode, press the DELAY button on front panel. Delay LED will light "ON" & display will indicate "Zero" voltage. Delay time will be 3 minutes.
- When delay time has elapsed, delay LED will switch "OFF" and display will indicate the AC output voltage.
- During time delay, the digital LED displays show remaining time of the delay in seconds.

10.TEMPERATURE PROTECTION

- This stabilizer is equipped with a unique TEMPERATURE PROTECTION CIR CUIT designed to protect the transformer, giving you longer and satisfactory use of the stabilizer.
- If the internal temperature reaches the limit or above, the output power supply will becut "OFF" automatically. There is no number to be shown in the display.
- When the internal temperature returns to normal range, output power will be restored. After the delay time, the display will indicate output voltage.

11. HIGH/LOW VOLTAGE PROTECTION

- This stabilizer is built in with a very specialized feature HIGH / LOW OUTPUT VOLTAGE PROTECTION CIRCUIT.
- This special and unique circuitry is designed to protect connected appliances whenever the output voltage is higher/lower than the normal range.
- If the output voltage is over/ below the normal range, the output power supply will be cut "OFF" automatically.
- Once the input mains power returns to normal range, the stabilizer will restore the output automatically.

12.OVERCURRENT AND SHORT CIRCUIT PROTECTION

- This stabilizer is built in with a very specialized feature OVERCURRENT/ SHORT CIRCUIT PROTECTION CIRCUIT.
- When overcurrent or short circuit happen: for model 500VA to 2000VA, the fuse will burnt (or the pin of mini circuit breaker on the back will trip out) to cut off the input power supply; for model 3000VA and above, the mains switch on the front will automatically bounce to "OFF" position to cut off the input power supply.

• Check if the stabilizer is connected to too much loads, if so, remove the load to its rated capacity, replace the fuse with same rating (or push to reset the mini circuit breaker), for model 3000VA and above, just press the mains switch to “ON” position. Then switch on the stabilizer.

• If above operation can’t solve the problem, it must be short circuit, please refer to the authorized service center.

13. PLACEMENT

For safety and better performance and longer lifespan, please handle and place the stabilizer according to the follow instructions:

A. Moving

a. Cut off input; remove all wires connected to the stabilizer

b. Do not move the stabilizer upside down

c. Rough handling is prohibited

B. Environmental

Keep away from unstable base or sources of excessive vibration. Do not place the stabilizer under direct sunlight or excessive humidity.

Keep away from fre, heat sources.

Keep the stabilizer in well ventilated place. Leave at least a distance of 10 cm between the stabilizer and the walls in order to maintain adequate air-fow.

Keep away from corrosive gas or fuid.

Install the stabilizer in a cool, dry, clean place - away from windows, dust, moisture and cold. To prevent fre or electrical shock, do not expose this unit to rain or water.

14. MAINTENANCES

This stabilizer is basically maintenance free! But regular maintenance can extend the lifespan of stabilizer by the following steps:

Regular inspection

-shut down the stabilizer completely.

-use cotton cloth and detergent to clean the body and ventilation holes.

-check all the terminals, replace the abnormal one with that of the same.

Extraordinary inspection

-When malfunction occurs, or the stabilizer is abnormmal, please measure and check the parameters, refer to the authorized dealer if needed. In thunder and lightning or rainy season, Extraordinary Inspection should be executed to prevent malfunction.

To extend lifespan of the stabilizer, ventilation fans should be replaced every three years.

Maintenance should not be operated when stabilizer is working.

15. CAUTION

• Avoid overloading-
Do not use the stabilizer beyond its maximum output power.

• When connected to any appliance with built-in motor or compressor the starting power is generally several times of the appliance' s listed power rating. Make sure the total starting power capacity of all connected appliances does not exceed the listed maximum output power of the regulator. For color TV's, calculate it at twice its listed capacity.

• Make sure the Regulator is of the same output voltage and frequency as the appliances it is connected to; and the electrical mains voltage is within the listed range of the input voltage of the stabilizer.

• Always place the Regulator in an environment which is:
- well ventilated
- not exposed to direct sunlight or heat source
- out of reach from children
- away from water; moisture; oil or grease
- away from any fammable substance
- secure and no risk of falling.

• If the power cord is damaged, it must be replaced by the authorized dealers or similarly qualifed persons in order to avoid a hazard.

16. SPECIFICATIONS

AC Input Range	140V~260V
Input Frequency	50Hz
AC Output Voltage	220V
Output Frequency	synchronized with input frequency
Output Precision	±8%
Distortion:	<3%
Efficiency	>95%
Delay Time	6/180 seconds selectable
Cooling Mode	natural (1000VA~5000VA) cooling fan(8000VA~10000VA)
Protection	Output High Voltage, Output Low Voltage, Over-heat,Overcurrent, Short Circuit
Noise	<65dB (at 1m distance)
IP Level	IP20
Operating Temperature	-10ºC~40ºC
Safety	CE (EMC+LVD)
Operation Humidity	Max 95%, non-condensing
Storage Temperature	-20ºC~40ºC

*: refer to rating plate on stabilizer for actual specification