FARBER®

User's Manual for

Automatic Voltage Regulator

Special Recommendation For Refrigerator And Air Conditioner

Capacity: 500VA-15000VA

Before operating this product, please read these instructions carefully.

PLEASE READ AND SAVE THIS MANUAL

Thank you for selecting this smart automatic voltage regulator(AVR). It provides you with a perfect protection for connected equipments.

This manual is a guide to install and use the AVR. It includes important safety instructions for operation and correct installation of the AVR. Should you have any problems with the AVR, please refer to this manual before calling customer service.

This symbol gives information regarding the points important for user's health and safety, AVR operation and the safety of your data.

This symbol gives information, warnings, and other suggestions.

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1. IMPORTANT SAFETY INSTRUCTIONS

This AVR provides all the necessary safety conditions to protect the home and office electrical appliances, including information systems. In case of any questions, please refer to the authorized technical service representative.

- In order to avoid any damage to the AVR, 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 AVR. It is absolutely essential that the AVR be dry before switching it on. Due to this reason wait for at least 2 hours before operating it.
- Once it's dry, make sure you observe all the conditions in the environment section of the technical specifications table, before introducing it into the circuit.

Earth cable should be chosen concerning the current capacity. All units' earth connections, which are connected to AVR, should be done with earth cable. Without earth connection or unproved earth connected units are dangerous for user's health, and have high risk of electronic circuit board faults. Using earth cable with improper diameter 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 AVR to the mains power, make sure you carefully read all the instructions and warnings in the "Installation of the AVR" section of this manual.
- Don't drop any foreign materials (like clips, nails etc...) into the equipment.
- In emergencies (damage to the cabinet, front panel, or mains connections, splashing of liquid dropping of any foreign materials into the equipment) switch off the AVR, pull out the plug and inform the authorized service center.
- Do not connect any loads to the AVR, which exceed its power range.
- When input distortion or resistance is too high, AVR may not work properly.
- Wiring must be tight, to prevent falling off and oxidation.

The AVR 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.

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

Special Precautions: When the AVR input comes from a generator:
-- Output power capacity must be higher than the AVR rating, or the AVR and generator may not work properly;
--Output frequency of generator must be in range of 45 to 65Hz, and wave form must be sine wave, otherwise the AVR and generator may not work properly.

2. SPECIFICATIONS

Model No.	Power Capacity	Output Socket	Machine Size (W x H x D)	Input Range	Output Precious	Suitable Appliances
FA-AVR-50V-1000VA	1000VA	1x	220x140x118 mm	50-220V	+/-10%	450W Refrigerator
FA-AVR-100V-1000VA	1000VA	1x	211x150x118 mm	100-280V	+/-8%	450W Refrigerator
FA-AVR-140V-10000VA	100000VA	Terminal	404x264x299 mm	140-260V	+/-8%	2.5Ton Refrigerator
FA-AVR-140V-15000VA	150000VA	Terminal	404x264x299 mm	140-260V	+/-8%	3Ton Refrigerator
FA-AVR-80V-1000VA	1000VA	1x	220x140x118 mm	80-280V	+/-13%	450W Refrigerator
FA-AVR-80V-1500VA	1500VA	1x	235x150x190 mm	80-280V	+/-13%	675W Refrigerator+ Freezer
FA-AVR-80V-8000VA	5000VA	Terminal	310x240x205 mm	80-280V	+/-13%	1.5 ton air conditoner
FA-AVR-100V-3000VA	3000VA	Terminal	220x268x293 mm	100-280V	+/-13%	1 Ton Air Conditioner
FA-AVR-100V-5000VA	5000VA	Terminal	220x268x293 mm	100-280V	+/-13%	1.5 Ton Air Conditioner
FA-AVR-120V-1000VA-S	1000VA	1x	280x200x110 mm	120-260V	+/-13%	450W Refrigerator
FA-AVR-120V-5000VA-S	5000VA	Terminal	380x234x105 mm	120-260V	+/-13%	1.5Ton Air Conditoner

AC Input Voltage Range	50-220Vac,80-280V,120~260Vac, 100~280Vac,140~260Vac
Input Frequency	50/60Hz
Output Voltage	220 Vac
Output Frequency	Synchronized with mains frequency
Distortion Effiency	<3%(compare to input wave form) >0.95
Operation Temperature	-10℃~40℃
Operation Humidity	0-90%(Non-condensing)
Noise	≤56dB(full load,distance at 1 meter)
Delay Time	6s/180s selectable
Protection	Under Voltage,Over Voltage,Overheat,Overload,Short Circuit
IP Class	IP 20
Protection Class	I
Cable Length	1.35m(No cable for the Unit with the termnial output)

3. UNPACK AND CHECK

Each AVR was tested 100% before shipment, check if the AVR has been subjected to any damage after unpacking it according to the following steps:

A. Contents

Delivered pack includes:

AVR.....1 piece

User's manual.....1 piece

B. Visual Observation

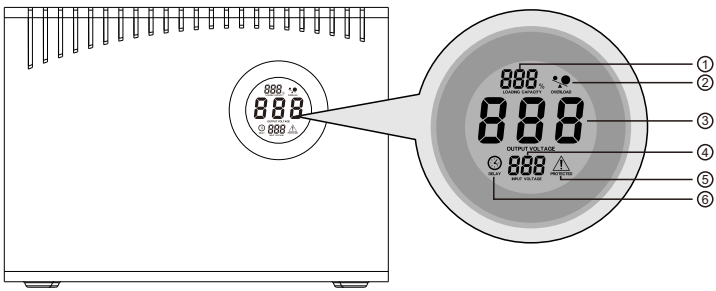
--Check the name plate to verify the rated capacity is according to your purchase order.

--Make sure appearance of the AVR is not damaged. If you notice any damage, contact the transport firm and the authorized dealer.

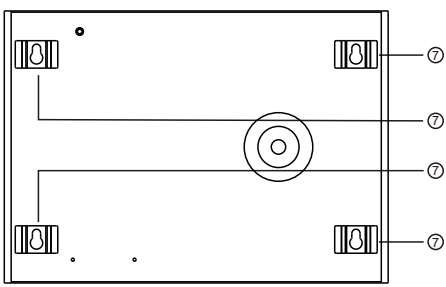
4. INTRODUCTION TO THE AVR

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

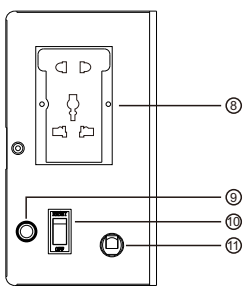
A. Front of the FA-AVR-120V-1000VA-S



B. Rear of the FA-AVR-120V-1000VA-S

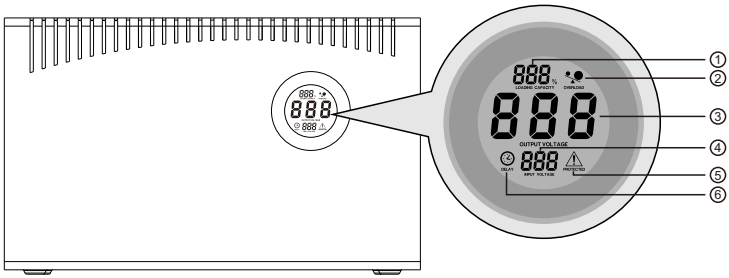


C. Side of the FA-AVR-120V-1000VA-S

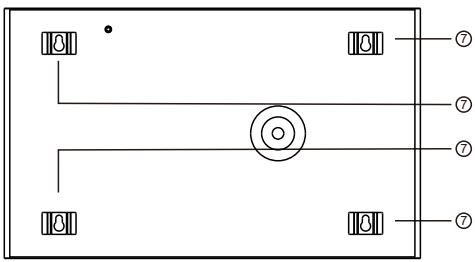


1. LOADING CAPACITY
2. “OVERLOAD” SYMBOL
3. OUTPUT VOLTAGE
4. INPUT VOLTAGE
5. “WARNING” SYMBOL
6. “DELAY” SYMBOL
7. HANGING HOLES
8. OUTPUT SOCKET
9. DELAY BUTTON (6S/180S SELECTABLE)
10. POWER SWITCH
11. AC INPUT CABLE

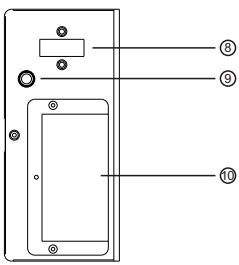
A. Front of the FA-AVR-120V-5000VA-S



B. Rear of the FA-AVR-120V-5000VA-S

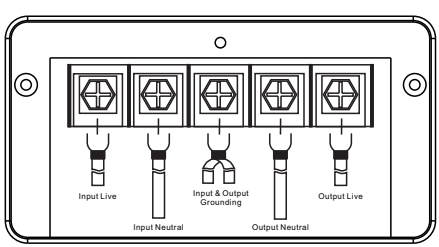


C. Side of the FA-AVR-120V-5000VA-S

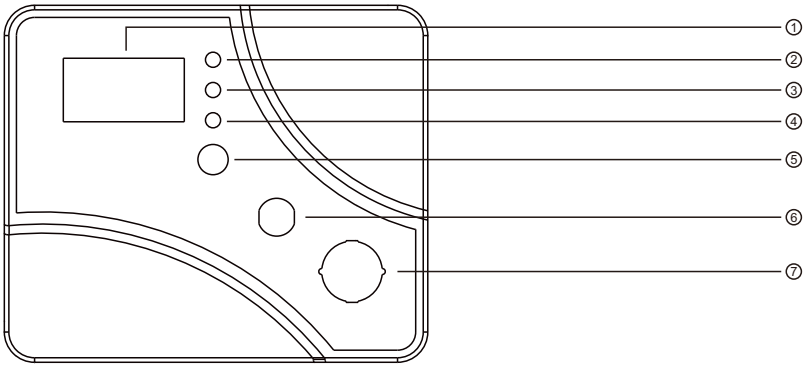


1. LOADING CAPACITY
2. “OVERLOAD” SYMBOL
3. OUTPUT VOLTAGE
4. INPUT VOLTAGE
5. “WARNING” SYMBOL
6. “DELAY” SYMBOL
7. HANGING HOLES
8. POWER SWITCH
9. DELAY BUTTON (6S/300S SELECTABLE)
10. TERMINAL OUTPUT

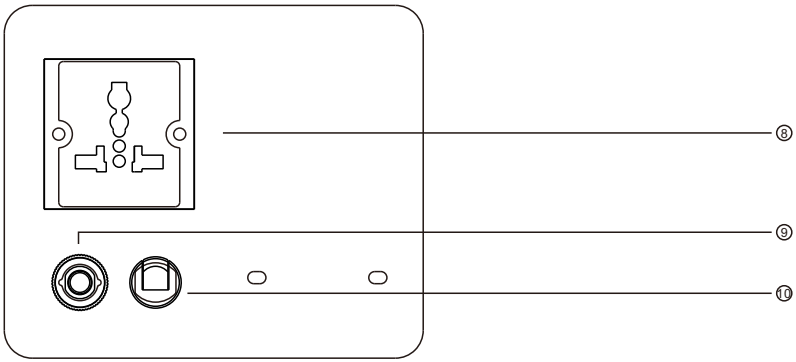
(For model 5000VA and 7000VA, unscrew the cover from the rear plate, you will find the terminal block inside. Use the heavy duty cables to connect the electrical appliances to the output terminal.)



A. Front of the FA-AVR-50V-1000VA

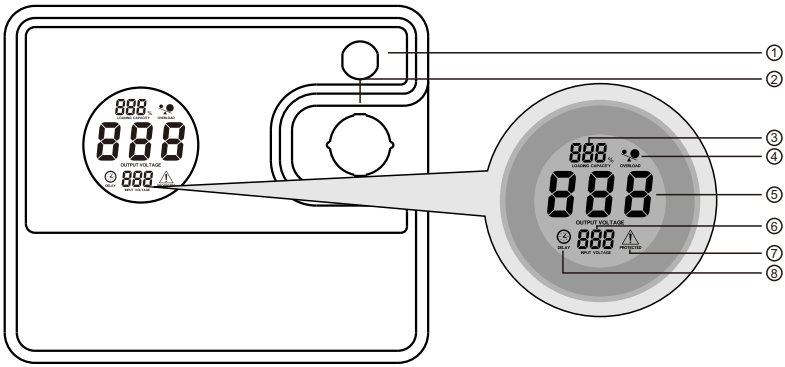


B. Rear of the FA-AVR-50V-1000VA

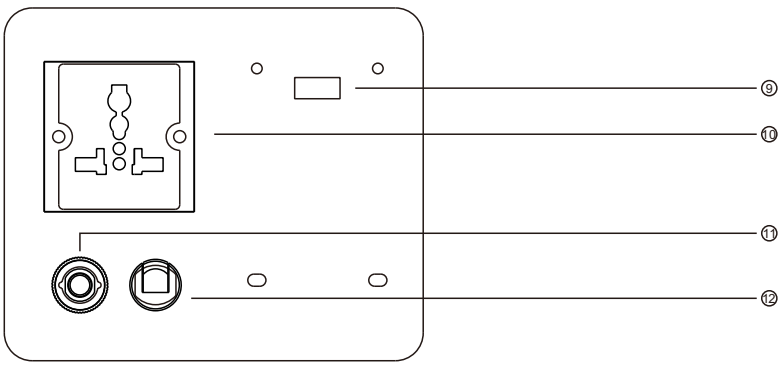


1. INPUT/OUTPUT VOLTAGE
2. GREEN LED INDICATOR (WORING)
3. YELLOW LED INDICATOR (DELAYING)
4. RED LED INDICATOR (PROTECTING)
5. INPUT/OUTPUT SWITCH POWER
6. DELAY BUTTON (6S/180S SELECTABLE)
7. POWER SWTICH
8. OUTPUT SOCKET
9. CIRCUIT BREAKER
10 AC INPUT CABLE

A. Front of the FA-AVR-80V-1000VA

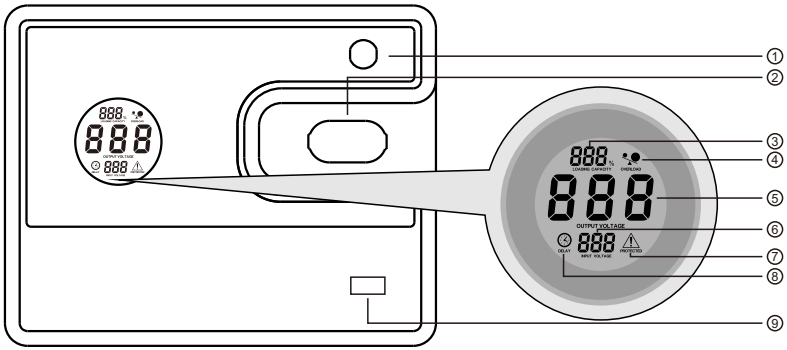


B. Rear of the FA-AVR-80V-1000VA

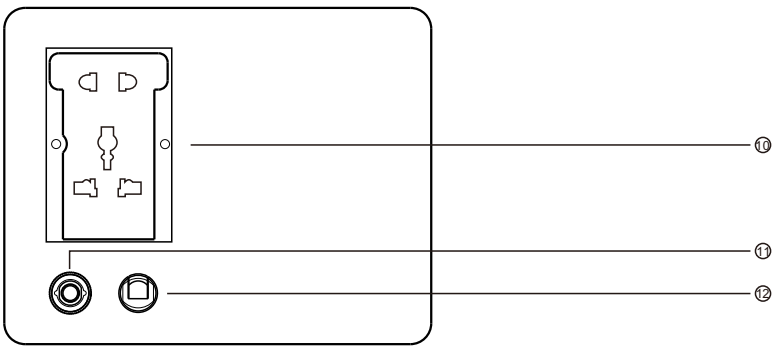


1. DELAY BUTTON (6S/180S SELECTABLE)
2. POWER SWITCH
3. LOADING CAPACITY
4. “OVERLOAD” SYMBOL
5. OUTPUT VOLTAGE
6. INPUT VOLTAGE
7. “WARNING” SYMBOL
8. “DELAY” SYMBOL
9. USB PORT
10. OUTPUT SOCKET
11. CIRCUIT BREAKER
12. AC INPUT CABLE

A. Front of the FA-AVR-80V-1500VA

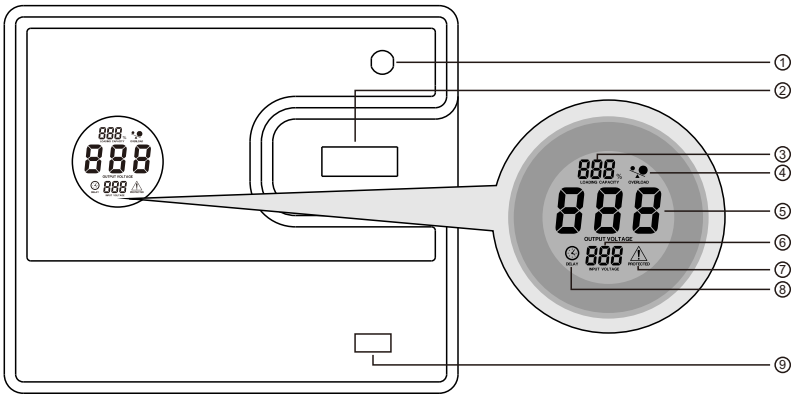


B. Rear of the FA-AVR-80V-1500VA

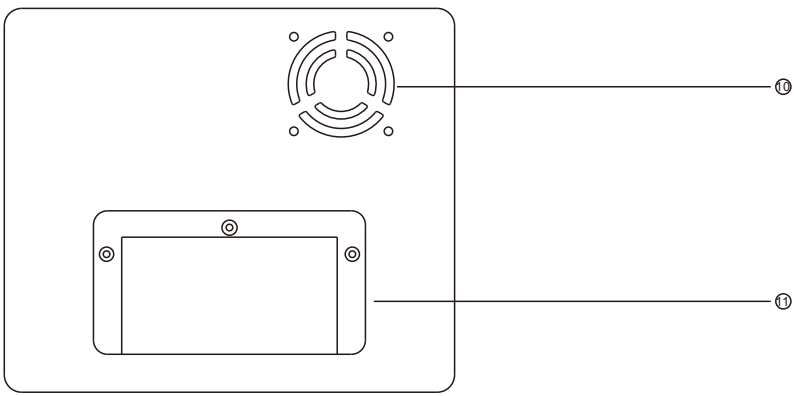


1. DELAY BUTTON (6S/180S SELECTABLE)
2. POWER SWITCH
3. LOADING CAPACITY
4. “OVERLOAD” SYMBOL
5. OUTPUT VOLTAGE
6. INPUT VOLTAGE
7. “WARNING” SYMBOL
8. “DELAY” SYMBOL
9. USB PORT
10. OUTPUT SOCKET
11. CIRCUIT BREAKER
12. AC INPUT CABLE

A. Front of the FA-AVR-80V-8000VA

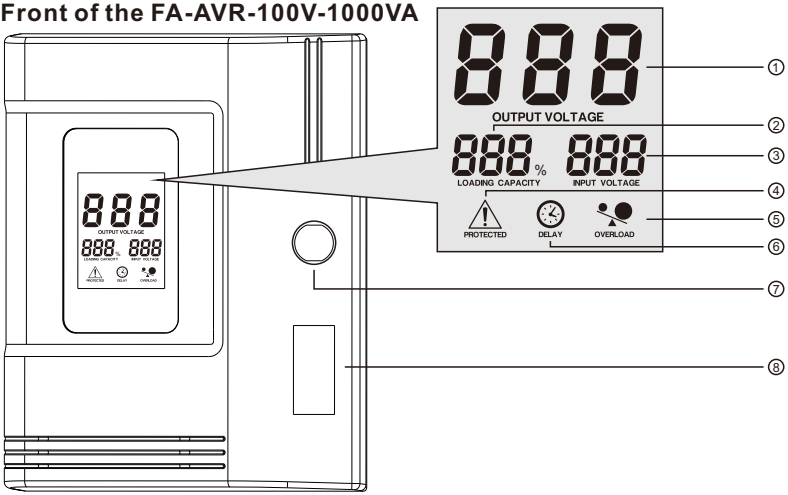


B. Rear of the FA-AVR-80V-8000VA

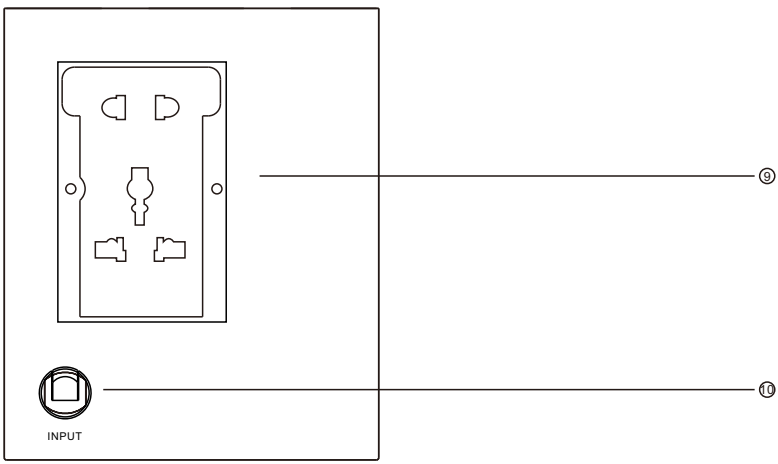


1. DELAY BUTTON (6S/180S SELECTABLE)
2. POWER SWITCH
3. LOADING CAPACITY
4. “OVERLOAD” SYMBOL
5. OUTPUT VOLTAGE
6. INPUT VOLTAGE
7. “WARNING” SYMBOL
8. “DELAY” SYMBOL
9. USB PORT
10. COOLING FAN
11. TERMINAL OUTPUT

A. Front of the FA-AVR-100V-1000VA

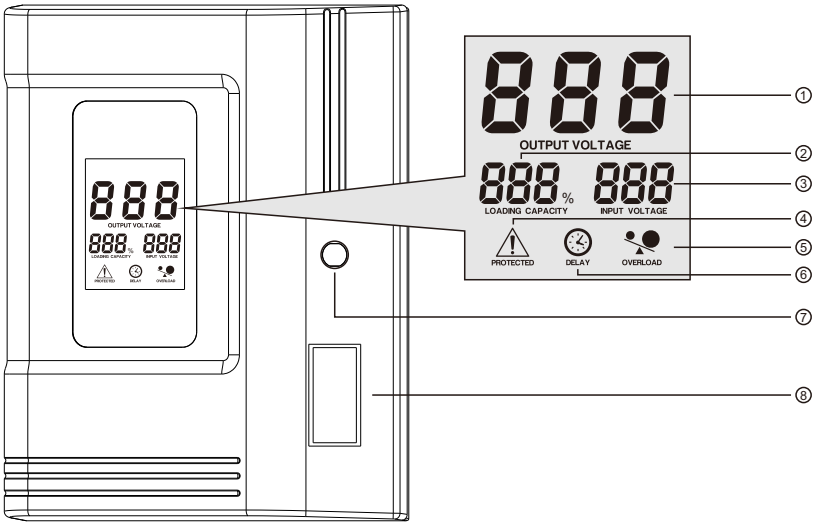


B. Rear of the FA-AVR-100V-1000VA

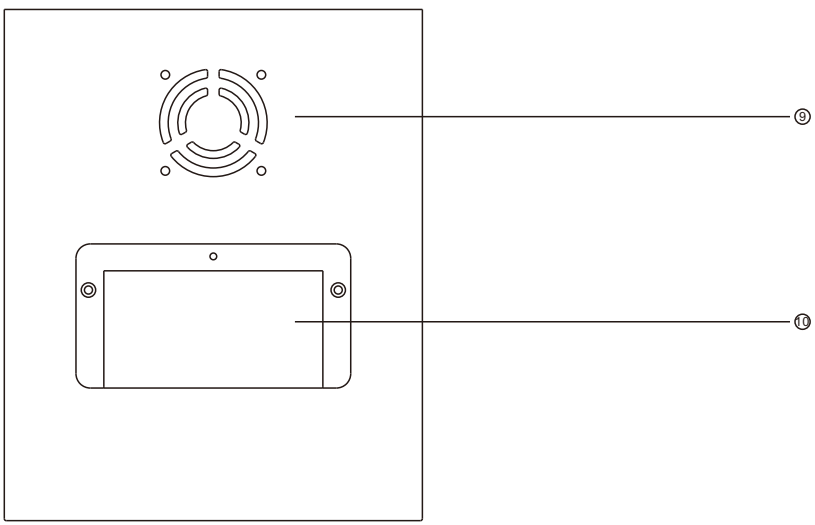


1. OUTPUT VOLTAGE
2. LOADING CAPACITY
3. INPUT VOLTAGE
4. “WARNING: SYMBOL
5. “OVERLOAD” SYMBOL
6. “DELAY” SYMBOL
7. DELAY BUTTON (6S/300S SELECTABLE)
8. POWER SWITCH
9. COOLING FAN
10. TERMINAL OUTPUT

A. Front of the FA-AVR-100V-(3000/5000)VA

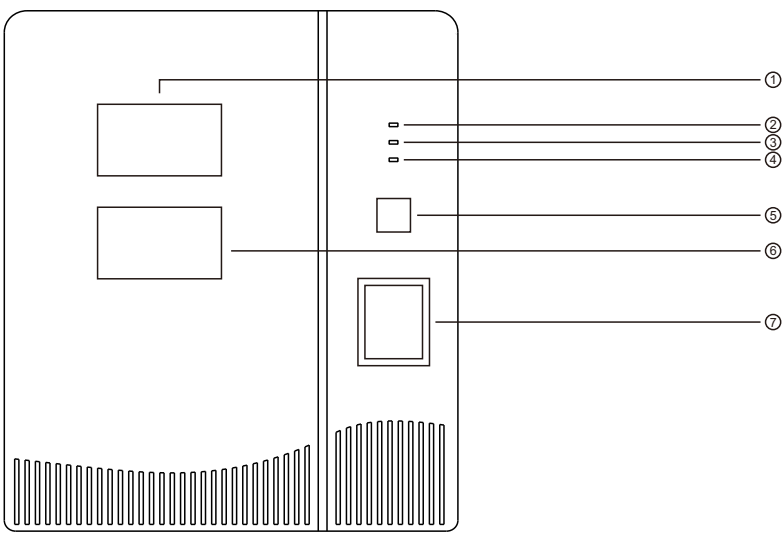


B. Rear of the FA-AVR-100V-(3000/5000)VA

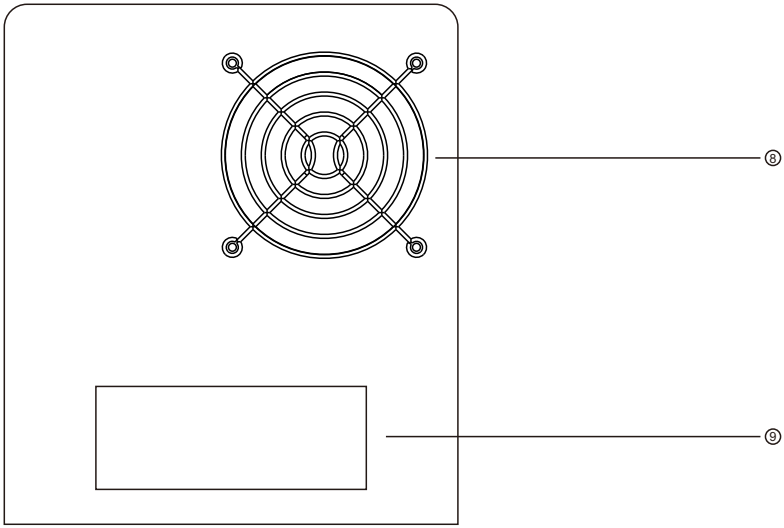


1. OUTPUT VOLTAGE
2. LOADING CAPACITY
3. INPUT VOLTAGE
4. “WARNING: SYMBOL
5. “OVERLOAD” SYMBOL
6. “DELAY” SYMBOL
7. DELAY BUTTON (6S/180S SELECTABLE)
8. POWER SWITCH
9. OUTPUT SOCKET
10. AC INPUT CABLE

A. Front of the FA-AVR-140V-(10000/15000)VA



B. Rear of the FA-AVR-140V-(10000/15000)VA



1. INPUT VOLTAGE
2. GREEN LED INDICATOR(WORING)
3. YELLOW LED INDICATOR(DELAYING)
4. RED LED INDICATOR(PROTECTING)
5. DELAY BUTTON (6S/180S SELECTABLE)
6. OUTPUT VOLTAGE
7. POWER SWTICH
8. COOLING FAN
9. OUTPUT TERMINAL

5. INSTALLATION OF THE AVR

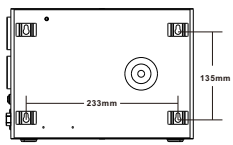
Install the AVR in a cool, dry, clean place, away from windows, dust, moisture and cold to prevent fire or electrical shock, do not expose the AVR to rain or water.

For better performance and longer lifespan, this AVR must be installed on a firm wall!

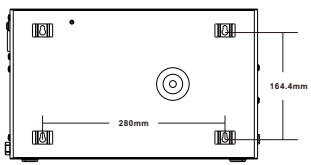
a. Install the AVR in a place where the children can't reach for.
b. Do not install the AVR in or near water.
c. Do not place AVR on an unstable cart, stand or table.
d. Do not place AVR under direct sunlight, excessive humidity.
e. Keep away from fire, heat sources.
f. Keep away from corrosive gas or fluid.
g. Do not place AVR power cord in any area where it may get damaged by heavy objects.

A. Dimension of the Hanging Holes

(1000/1500/2000VA)



(5000/7000VA)



Make sure all the Anchor Bolts/Screws are tightly fastened on the wall! Make sure the four hanging holes of the AVR are tightly fastened with the Anchor Bolts!

B. Size of Screws

It's strongly recommended to use the SLEEVE ANCHOR BOLTS instead of the normal screws.
The head of Anchor Bolt/Screw should be within 6mm~9mm in diameter.

6. OPERATION OF THE AVR

A. Connect the Electrical Appliances to the AVR

- Make sure all appliances are turned "OFF", and put the POWER SWITCH of AVR to "OFF" position.
- Plug the appliances into the output sockets of the AVR, ensuring that the total starting power does not exceed the rated max. power capacity of the AVR.

B. Connect the AVR to Mains Power

- Plug the AC INPUT CABLE into wall mains socket.

C. Switch on the AVR

Put the power Switch to “reset” position, the display will turn on all symbols, after seconds, the input voltage, output voltage and loading capacity symbol keep on , the other symbol turn off. AVR in working status.

Switch on the connected appliance one by one.

In Case of Power Failure:

- Switch "OFF" the AVR and all the appliances.
- Repeat above steps when power is restored.

D. Overheat Protection

- This AVR is equipped with a unique TEMPERATURE PROTECTION CIRCUIT designed to protect the transformer, giving you longer and satisfactory use of the AVR.
- If the internal temperature of the windings of transformer reaches the limit or above, the output will be cut "OFF" automatically, And the output voltage will show “C”.
- When the internal temperature returns to normal range, output power will be restored. After the delay time, the display will indicate output voltage.

E. Output Over Voltage Protection

- This AVR is built in with a very specialized feature OVER VOLTAGE PROTECTION CIRCUIT.
- This special and unique circuitry is designed to protect connected appliances whenever the output voltage is higher than the normal range.
- If the output voltage is over the normal range, the output will be cut "OFF" automatically, And the high voltage symbol “V↑” will light up.
- Once the input mains power returns to normal range, the AVR will restore the output automatically.

F. Output Under Voltage Protection

- When the output voltage is below the normal range, the output will be cut off automatically, And the under voltage symbol”V↓”will light up.
- Once the input mains power returns to normal range, the AVR will restore the output to the loads.

G. Short Circuit Protection.

In case of a short circuit or overload, the POWER SWITCH (integrated with a resettable fuse function) will trip off to cut of the input power supply.

- Check if the AVR is overloaded, if so, please remove some loads.
- Check if the appliances are short circuit, if so, please disconnect them.

H. Overload Protection

When loading capacity reach to 110%, the overload symbol begin to flash, and 30S Countdown, then Overload keep lighting on , the output cut off. In this situation, remove excess the loading firstly and then restart the AVR again.

7.MAINTENACES

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

Regular inspection

--Disconnect the AVR from the mains power 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 specification.

Extraordinary inspection

--When malfunction occurs, or the AVR is abnormal, 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.
--Maintenance should not be operated when AVR is working.

8. OTHERS

This AVR is designed and made by strict standards and quality control system for common use, but if apply to purposes may cause any dangerous to human or other lives, include but not limited to the following case, please refer to our company.

--Apply to traffic system;
--Apply to medical purpose;
--Apply to nuclear, power system;
--Apply to aviation and aerospace;
--Apply to all kinds of safety devices;
--Other special usages.