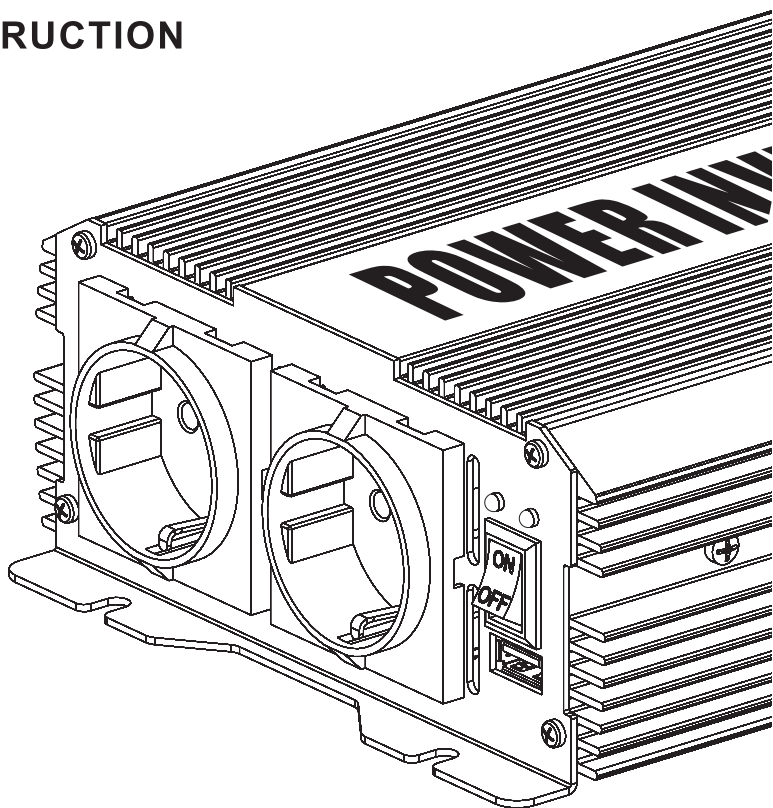


HBA

DC TO AC

POWER INVERTER

USAGE INSTRUCTION



Applicable for 1000W

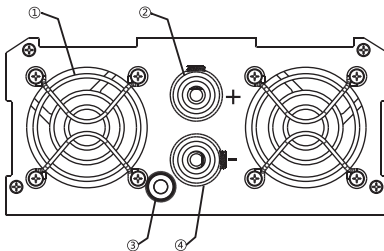
I . Description:

Power Inverters is a kind of product which change the DC electricity to AC electricity then offer power to small electrical equipment and digital products. It has been widely used in cars, steamboats, mobile office, post and telecommunications, public security, emergency and so on.

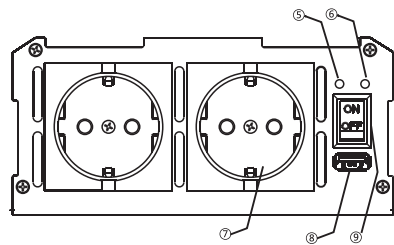
This power inverter adopted the international lead circuit design, with the advantage of small size, light, stable, and high conversion efficiency. It own five protect function such as: input low voltage protection, input over voltage protection, overload protection, over temperature protection, output short circuit protection. These five functions can protect the electrical equipment and the circuit of the car.

Please read this manual carefully before using, it's applicable to 1000W Power Inverter.

II . Products and wiring diagram:



- ① Fan;
- ② DC input "+" terminal;
- ③ Earth stud;
- ④ DC input "-" terminal;



- ⑤ Power light (green light);
- ⑥ Fault light (red light);
- ⑦ AC output socket;
- ⑧ USB port(If have);
- ⑨ ON/OFF Switch

(The above pictures just for references ,may have a little difference from the real products)

III . While connecting with the products:

Connecting in a wrong way will destroy the power inverter as well as the electrical equipment, please follow the following steps and sequence and make sure to use the products in a right way.

1. When use in the car, please connect the inverter with the DC cigar lighter port.
 - a. Connect the red side of the cigar lighter with “+” terminal and fix it, the black side connect with “-” terminal and fix it; Do not mix them or it will destroy the inverter.
 - b. Insert the cigar lighter to the DC port of the car, turn on the power inverter, the green LED light will on.
 - c. Insert the plug of the electric equipment into the AC socket of the inverter.
 - d. Notice: When using the power inverter in the car please do not exceed 150W or it will destroy the inside wire of the car and it will be dangerous.

2. When using outside car or exceed 200W:
 - a. When using outside car or exceed 200W please use the battery clip cable to connect with the battery.
 - b. The battery clip cable have red and black two cables, connecting the red cable with “+” and fix it , connecting the black cable with the “-” and fixed it.
 - c. The clip on the red cable connect with “+” terminal of the battery and the clip on the black connect with the “-” terminal. Do not reverse or it will destroy the power inverter.
 - d. Turn on the power inverter, the green light will on; Insert the plug of the electric equipment into the AC socket of the inverter.

3. Scope of application and related matters:
 - a. Only use for class II appliance
 - b. Scope of electric appliance that inapplicable:

All electric appliances that exceed the rated power of the inverter.

Generally capacitive load and perceptual load appliances are inapplicability: Air condition, high power electric drill, fridge, microwave oven, blender.

We do not recommend using this inverter with appliances which have strict requirement on power supply, such as precise equipments, if use ordinary power inverters with this kind of equipment will affect the measuring data.
 - c. Scope of electric appliance that inapplicable with the USB (Only for inverters with USB port) :

USB is only for charging , do not have data exchange function.

Before charging, please check carefully if the charging current of the appliance is under the inverters current, if it exceed the charging current of the inverter, please do not use, or it may destroy the USB port.

 - ◆ Some appliances must charge with original charger, please don't charge with USB port.
4. Please use the inverter in ventilate condition and make sure the fan is not blocked. Do not put the inverter under rain or in humid place, keep it dry. In order to keep a long lifespan of the inverter, please keep it work under 85% of the related power.
5. The inverter has input low voltage protect function, input over voltage protect function, over load protection function, over temperature protect function and short circuit protect

function. If these happened, the inverter will stop work, if fault removed, inverter can be restarted again.

6. Control method for cooling fan:
 - a. 8099U: load control and temperature control.
 - b. 8099U(SMD): temperature control only.
7. About use extended cable:
 - a. We do not recommend use extended cable between the inverter and the battery, because it will cause loss of DC electricity and affect the performance of the inverter.
 - b. If must use extended we suggest you use high quality cable to reduce the loss of electricity.
8. Other matters:
 - a. This is modified sine wave inverter; When measuring the voltage, please use precise equipment. (RMS)
 - b. When supply power to audio system, radio or TV, the appliance may have interference and this is normal phenomenon.
 - c. When using in cars, please stop using the inverter while the engine stopped.
 - d. Please do not disassemble the inverter, if need to maintenance, please ask professional person to mend it.

IV . Security matters:

1. Please do not operate the inverter while your hand is wet, Keep it away from the touch of children.
2. The temperature of the shell will be high after longtime working, so do not touch it in case of scalded.
3. Do not put metal into the inverter in case of not to electric shock.
4. Do not touch the metal of the socket while insert the plug to the socket of the inverter.
5. Keep the inverter away from explosives.
6. Keep all AC electricity away from the inverter, it will damage the inverter and also may cause electric shock.

V . Protect function and Restart work method:

Function	State description			Restart work method
	LED light	Alarm	AC output	
Input low voltage alarm	Green on Red off	Alarm	AC have output	When the voltage of battery return to related range, alarm stop automatically.
Input low voltage shut down	Green on Red on	Alarm	No AC output	When the voltage of the battery return to related range, the inverter will restart work, green light on, red light off.
Input over voltage shut down	Green on Red on	No Alarm	No AC output	When the voltage of the battery return to related range, the inverter will restart work, green light on, red light off.
Over load protection	Green on Red on	No Alarm	No AC output	Reduce the load to related range, the inverter will restart work, green light on, red light off.
Over temperature shut down	Green on Red on	Alarm	No AC output	When the inside temperature return to related range, inverter will restart to work, green light on, red light off.
Output short circuit (8099U)	Green on Red off	No Alarm	No AC output	When short circuit stoped, inverter restart to work automatically.
Output short circuit [8099U(SMD)]	Green on Red on	No Alarm	No AC output	When short circuit stoped, inverter restart to work manually.

(PS: If with USB port, the USB port can work normally under all kinds of protection condition.)

VI. Waste dispose:

Please do not discard the products when it is useless, otherwise it will cause pollution to the environment.

VII. Specification:

Model	8099U	8099U(SMD)
DC input	DC 12V (DC 11-15V) / DC 24V (DC 22-30V)	
AC output	AC 230V±10%	
Output frequency	50 ± 3Hz	
USB output (if have)	DC 5V MAX 500mA	
Continuous power	1000W	
Peak power	2000W	
Output wave	Modified sine wave	
Efficiency	> 80%	
NO load current	12V input	<0.45A
	24V input	<0.3A
Input low voltage alarm	12V input	DC 10.2 – 10.8V
	24V input	DC 20.4 – 21.6V
Input low voltage shut down	12V input	DC 9.2 – 9.8V
	24V input	DC 18.4 – 19.6V
Input over voltage shut down	12V input	DC 15 – 16V
	24V input	DC 30 – 32V
Overload shut down	1100W~1350W	
Fuse	12V input	20A×6
	24V input	15A×4
The best working temperature	5 ~ 35℃	
Cooling method	Fan	
Accessories	Battery clip cable,Earth wire	