

12/24V DC TO AC POWER INVERTER

POWER: 300W/400W/500W/600W

Instruction Manual



Note: Please read the user manual carefully before using the product

12/24V DC TO AC POWER INVERTER

300W/400W/500W/ 600W

Introduction

Please read this manual carefully before installing and using your inverter, pay special attention to the Caution statements of this manual.

Placement of the inverter

For the best performance of the inverter, it should be placed on a flat surface such as floor or the vehicle. The inverter should be used in locations that meet the following requirements.

1.DRY- keep away from water.

2.COOL- the surround temperature should be less than 50°C. Do not place the inverter on or near a heater.If possible do not place the inverter in direct sunlight.

3.VENTILATED- There should be a few centimeters of space around the inverter for air flow. Do not place anything on or over the inverter during the operation.

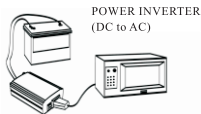
4.SAFETY- Do not place the inverter near flammable materials or in any location which may accumulate flammable gases such as the battery compartment of your car, truck or boat. Never drive the car when the product is connected to the battery with the battery clamps(if you want to use the inverter during driving, it should be then permanently mounted and wired).

Connecting to the power source

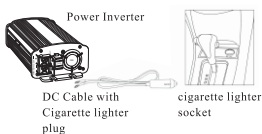
The power source should be able to supply sufficient current to operate the load. As a rough guideline divide the power consumption of the load(in watts) by 10 to obtain the current(in amperes) that the power source must deliver.

Example: Load is rated 150 watts. Then the power source must be able to deliver : 150 divided by 10= 15 amperes.

The inverter can be connected through the cigarette lighter socket or directly to the battery.



Connecting to the battery



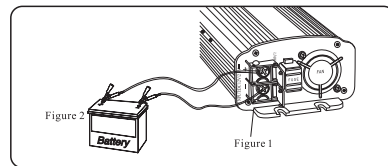
Connecting to cigarette lighter socket

⚠ Caution : the power source should provide a normal (10V-15V or 20-30V) voltage.

Note: if your car's lighter gets hot- it is strongly recommended to connect the inverter to car's accumulator directly, being carefully with the polarity.

⚠ Caution : Never use the inverter with positive ground !

⚠ Caution : Before connection make sure the inverter is turned off.

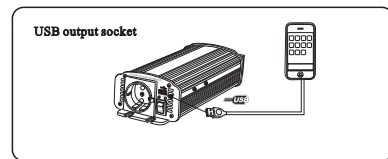


Picture- connecting the inverter directly to the battery

Figure 1 - Loosen the caps on the terminals and slide the lugs between the cap and the base. Then tighten firmly.

Figure 2- Open the alligator clips and attach them to the appropriate battery terminals.

Connect the red alligator clip to the (+) positive battery terminal and the black alligator clip to the (-) Negative battery terminal.



USB output socket

Connect the USB external appliance to the USB port and switch it on.

The USB output on this power inverter provides DC power for external appliances (e.g. Lights, fans, radios).

The USB output is permanently on when the power inverter is connected to a 12V input voltage.



Warning!

The USB output on the power inverter is not designed for transferring data.

Do not connect memory sticks, Mp3 player or similar data storage external appliances.

Do not connect any data transfer cables to the USB port!

Connection of equipment

Most electrical tools, appliances and audio or video equipment have a label indicating power consumption in amps (A) or watts(W).

Total consumption of connected equipment should be within inverter's rated power. If the power consumption is rated in amps, multiply it by the AC voltage(110/220V) to get the wattage. For example, a television rated at 1 amp with output voltage of 220V will use 220 watts inverter.

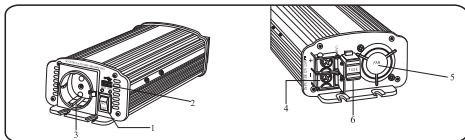
Resistive loads, such as incandescent lights, are easy to start but the larger resistive loads, such as electric stoves or heaters might require more power. Inductive loads, such as TV's and audio players (any devices with a transformer in it), require more current to operate than a resistive load with the same power rating.

Induction motors as well as some televisions may need 2 or 6 times of their power rating to start up. Such devices require repeated switching the inverter power ON/OFF in order to get them started. i.e. compressors and pumps. Since the electrical characteristics of the connected equipment vary widely you might have to try to find out if it can be started at all and how long it can run.

Protection Function

Low Battery Alarm and Shutdown

An alarm will sound when the voltage of the battery drops to 10.6V(21.2V). This indicates that the battery requires recharging. It is recommended that to switch the connected equipment off, since the inverter will shut down automatically when battery voltage drops to 9.5V (19V).



No.	Name
1	ON/OFF switches
2	USB port 5V 2.1A
3	AC outlet
4	DC terminals
5	Cooling fan
6	Fuse External

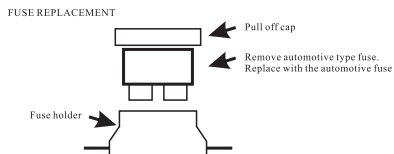
Battery Operating Time

The typical vehicle battery can be used for at least 2 hours depending on the power consumption of the connected equipment.

It is recommended to start the vehicle engine every 2 hours to recharge the battery. This will prevent unexpected shutdowns of the attached equipment and ensure that there is always sufficient battery capacity to start the engine.

Fuse Replacement

In case of reverse polarity, the fuse may be burnt. To replace the fuse, please open the fuse case on the input side board. Then replace the fuse as shown below. Try to find out the cause of the problem before attempting to use the unit again.



Troubleshooting Guide

Problem	Possible Causes	Suggested Solution
Unit does not work	Battery voltage is below 9.5V(19V)	Charge or replace battery
	Attached equipment draws too much power	Reduce load to inverter's rated power
	Inverter is in thermal shutdown condition	Inverter must cool down. Check ventilation. Make sure the load is within it's rated power
	Battery in poor condition	Replace battery
	Reverse Polarity Connection , fuse burn	Change the fuse
Television Interference	Insufficient power or large voltage drop	Check condition of alligator clips. Clean or replace then if necessary.
Buzzing sounds or noise using the audio system	Determined with a usual voltmeter. Input voltage below 10.6V(21.2V)	Use true RMS reading meter keep input voltage above 10.6V(21.2V)
Television Interference	Snow, bad quality images	Locate the inverter as far as possible from TV, antenna and other cables. Adjust the orientation of the inverter, antenna cables and the TV power cord. Make sure that high quality. Shielded antenna cable is used.
Buzzing sounds or noise using the audio system	The power supply of the audio device does not adequately filter the modified sine wave produced by the inverter	Get a sound system that uses a higher quality power supply

Specifications

Model Specification	CAR300-12/24	CAR400-12/24	CAR500-12/24	CAR600-12/24	
Input	DC voltage	12/24V auto			
	Voltage range	12V(10-15VDC)/24V(20-30VDC)			
	No load current	≤0.6A			
	Efficiency	≥85%			
Output	Fuse	25A*2 BVR4*1			
	DC cable	100/110/120VAC or 220/230/240VAC			
	Rated power	300W	400W	500W	600W
	Peak power	600W	800W	1000W	1200W
	USB output	5VDC, 2.1A			
	Wave form	Modified sine wave			
Protection	Frequency	±5%			
	AC voltage regulation	50Hz or 60Hz ±3Hz			
	Output socket	A, B, C, D, E, F, G, H, I, J, K, L, M, N, GFCI			
	Indicator	Green: Power; Red: Protection & Fault			
	Input low voltage alarm	12V(10.6±0.6VDC)/24V(21.2±1.2VDC)			
	Input low voltage protection	12V(10±0.5VDC)/24V(20±1VDC)			
	Input low voltage protection recovery	12V(11.5-12VDC)/24V(23-24VDC)			
	Input over voltage protection	12V(15.5±0.5VDC)/24V(31±1VDC)			
	Overload/Short circuit protection	Automatically restart after protection			
	Over temperature protection	Output cut off; automatically restart when the temperature returns normal			
Environment	Input polarity reverse protection	Fuse blows, the inverter is intact			
	Operating temperature	-20-50°C			
	Working humidity	-30-70°C, 10%-95%RH			
	Storage temperature & humidity	20%-90%RH No condensation			
Others	Dimension	185*108*62mm			
	Packing	Color box			
	Cooling fan	By temperature control			
	Application	Home and office appliances, Power tools and portable equipments, Vehicle and solar power systems, etc.			

Note: the specification change without prior notice.

Disposal instructions:

Home electronic equipment: If you no longer want to use this appliance, please take it to the applicable collection point or deliver it to a public recycling location for old electronic equipment. Electronic equipment shall under no circumstances be disposed of in the same manner as normal household waste (see the crossed-out garbage can symbol above). Further disposal instructions: Hand over the appliance in a condition that will allow for safe recycling and disposal. Remove all batteries from the appliance in advance and prevent any liquid containers from being damaged. Electronic equipment may contain harmful substances. Improper use or malfunction caused by damage may adversely affect human health and harm the environment during recycling.

Warranty and service agreements:

This warranty covers only manufacturing defects. The appliance must not be modified or altered in any way with regards to both form and function. This warranty does not apply in case of improper usage, usage that falls beyond normal use as indicated in the user's manual or if there is damage caused by force majeure (e.g. natural disaster). Only clean and intact appliances will be accepted for warranty and non-warranty repair. The standard warranty period is 24 months starting from the purchase date. In order to make a warranty claim, this warranty card must be submitted along with proof of purchase, including the model number, purchase date and a dealer's stamp.

Model number:.....

Purchase date:

Dealer's stamp and signature:

Date of warranty claim:.....

Defect(s) noted:.....