

FJC

Part # 53500

DC to AC Power Inverter

Instruction Manual

POWER INVERTER 5000W

Modified Sine Wave

USEFUL APPLICATIONS

This power inverter is ideal for running computers, radios, TVs, VCRS, Lamps, Fans, Fax, Machines, Drills, Refrigerators, Microwave Ovens, Ovens..... ETC.



CAUTION: SERIOUS SHOCK HAZARD. This inverter should only be serviced by qualified personnel.

SAFETY INSTRUCTIONS

To ensure reliable service your power inverter must be installed and used properly. Read and understand the installation and operating instructions thoroughly prior to installation and use. Pay particular attention to the WARNING and CAUTION statements in this manual.

PLEASE READ ALL THE INSTRUCTIONS BEFORE USING THIS POWER INVERTER.

INTRODUCTION

The inverter supplies continuous power in the form of household type sockets (110V-120V AC). The inverter has enough power to run almost any household or electronic appliance. Safety features include automatic shut down and a low battery alarm to prevent damage to your battery.

CONTROLS, INDICATORS AND CONNECTORS

The front panel of the inverter provides one bi-color LED indicator. The green LED indicator shows the unit is working correctly when lit. The red LED indicator shows the inverter has been shut down from overload, over voltage or high temperature. The inverter is fitted with an on/off switch, the on/off switch is also used to force reset the inverter circuits in case of overload, over voltage or over temperature. Power is supplied through the front panel AC plugs and DC input power is supplied via the rear panel.

INSTALLATION

Where to install

The power inverter should be installed in a location that meets the following requirements:

- a. Dry- Do not allowing water to drip or splash onto the inverter.
- b. Cool- Ambient air temperature should be between 32°F to 104°F, the cooler the better.
- c. Ventilation- Allow at least 3 inches of clearance around the inverter for airflow. Ensure the ventilation openings on the rear and front of the unit are not obstructed.
- d. Safety- Do not install the inverter in the same compartment as batteries or in any compartment capable of storing flammable liquids such as gasoline.

CABLES

DC to AC inverters converts high amperage/low voltage DC power to low amperage/high voltage AC power. **To operate properly connect inverter DC input terminals direct to batteries with at least #4/0 (0000) size or thicker wire less than 3 foot long.** Too long or too small of cables may result in greater current draw and inadequate power to the inverter.

GROUNDINGS

The power inverter has a lug on the rear panel. This is to connect the chassis of the power inverter to the ground. The ground terminals in the AC outlets on the front panel of the inverters are also connected to the ground lug.

The chassis ground lug must be connected to the grounding point, which will vary depending on where the power inverter is installed. In a vehicle, connect the chassis ground to the chassis of the vehicle. In a boat, connect to the boat's grounding systems. In a fixed location, connect the chassis ground lug to earth.

The neutral (common) conductor of the power inverter AC output circuit is connected to the chassis ground. Therefore, when the chassis is connected to the ground, the neutral conductor will also be grounded. This conforms to the national electrical code requirements the separately derived AC sources (such as inverters and generators) have their neutral tied to the ground in the same way that the neutral conductor from the utility line to the ground at AC breaker panel.

CAUTION

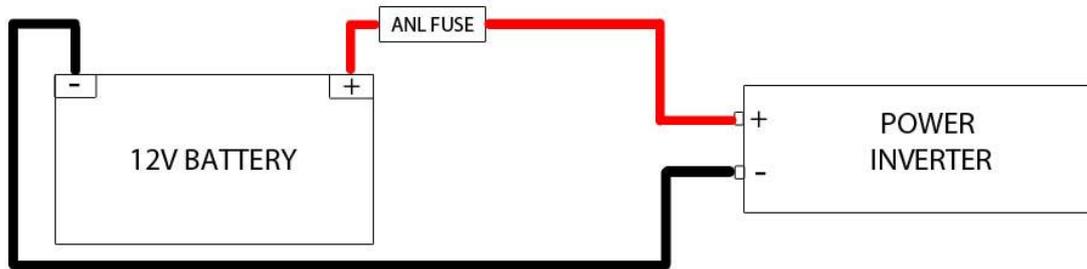
The negative DC input of the power inverter is connected to the chassis. Do not install the power inverter in a positive ground DC system. As positive ground DC system has the positive terminal of battery connected to the chassis of the vehicle or to the ground point.

QUICK HOOK UP AND TESTING

If you would like to quickly hook up the power inverter and check its performance before going ahead with your installation, please follow these guidelines:

1. Unpack and inspect the power inverter, check to see that the power switch in the OFF position.
2. Connect the cable to the power input terminals on the rear panel of power inverter. The red terminal is positive (+) and black terminal is negative (-). Connect the cable into the terminals and tighten the wing nut to clamp the wires securely.
3. Connect the cable from the negative terminal of the inverter to negative terminal of the power source. Make a secure connection. (There will be a spark between the cable from the negative terminal of the inverter when it is first connected to the negative terminal of the battery)

INSTALLATION DIAGRAM



It is recommended to use an ANL inline fuse or circuit breaker (not included) with a rating of 600A as close to the positive battery terminal as possible.

Caution: Loosely tightened connectors result in excessive voltage drop and many cause overheated wires and melted insulation.

4. Before proceeding further, carefully check that the cable you have just connected connects from the negative terminal of inverter to negative output terminal of power source.
5. When connecting the inverter directly to your battery terminals, it is important to connect with right polarity.

Warning

You may observe a brief spark when you make this connection since current may flow to charge capacitors in the power inverter. Do not make this connection in the presence of flammable fumes, as explosion or fire may result.

6. Set the power inverter switch to ON position. Check the indicator in the front panel of the inverter. The Green indicator will light.
7. Set the power inverter switch to OFF position, the indicator lights may blink and the internal alarm may sound momentarily. This is normal. Plug the test load into the AC receptacle on the front panel of inverter. Leave the test load switch off.
8. Set power inverter switch to the ON position and turn the test load on, the inverter should supply power to the load. If you plan to measure the true output R.M.S. voltage of the inverter, a meter that can measure R.M.S. voltage must be used.

CAUTION:

- DO NOT USE THE INVERTER IN A POSITIVELY GROUNDED VEHICLE.

RECOMMENDATION

- If the power inverter makes a beeping sound, turn OFF the power inverter and disconnect all appliances from inverter and disconnect the inverter from the power supply. The beeping sound is the low battery warning, which indicates that the voltage of the battery power supply is getting low. Please restart the vehicle engine before operating the power inverter.
- When you are not using the inverter, turn the power switch to OFF and disconnect the inverter from the power supply.
- Disconnect the inverter when starting the vehicle's engine.

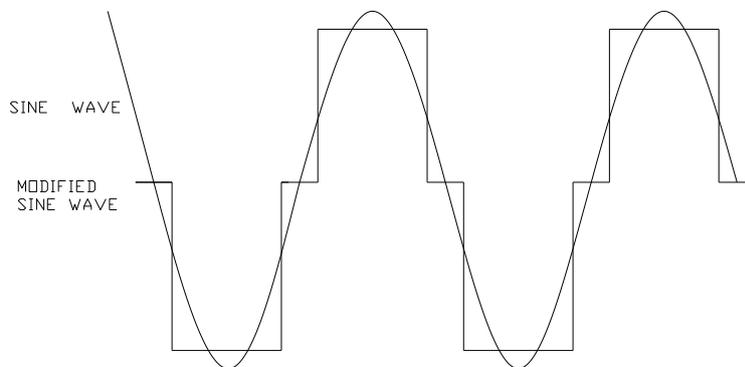
CAUTION:

THE FOLLOWINGS OPERATION WILL DAMAGE THE UNIT:

- REVERSE POLARITY BY CONNECTING THE WIRES TO THE INCORRECT TERMINALS.
- CONNECTING THE BATTERY CHARGER TO RECHARGE BATTERY WITHOUT DISCONNECTING THE INVERTER FIRST.
- CONNECTING THE INVERTER TO POWER SOURCE GREATER THAN 15- VOLT DC.
- OPERATING THE INVERTER AND BATTERY IN OR AROUND WATER.

MEASURING THE AC VOLTAGE

The output waveform of the AC output is a MODIFIED SINE WAVE. To measure the AC output voltage, you must have a TRUE RMS VOLTMETER.



SAFETY PRECAUTIONS:

Do not open the case of the inverter. There is high voltage inside the unit.

Do not let the cord of the inverter or any appliance's cord get wet.

Do not operate the inverter in or around water. The voltage of the unit makes electrical shock hazard if operated in wet conditions.

Do not connect the AC inverter directly to another AC power source.

Keep it away from children, the inverter produces high voltage power and should be treated seriously.

Allow at least 3 inch of clearance around the inverter for airflow. Sound from the fan and air traveling through the inverter is normal.

If you operate the inverter in a moving vehicle, you need to secure the inverter to prevent it from shifting while the vehicle is moving.

If there is any problem with the inverter, turn the on/off switch off and disconnect all plugs from the 115V sockets.

DESCRIPTION:

Peak power- Allow you to power appliances that require a large amount of initial power to work (such as many TVs and motor-power equipments).

Low Battery Alarm- the inverter sounds an audible alarm and turns itself off if the source battery becomes too low.

Auto shutdown/reset protection - the inverter temporarily shuts itself down to protect itself from overheating.

Overload/Short Circuit Protection - the inverter automatically turns itself off if the connected load is too high or if it shorts.

Fuse - the inverter comes with fuse/s already installed

Outlets - allows you to power up many appliances at the same time.

HEAT DISPERSAL:

The inverter generates heat while it is working. This is not a malfunction. However, if the inverter gets too hot while working, it will turn off by itself.

Position the inverter where air flows freely around it to allow the heat to disperse.

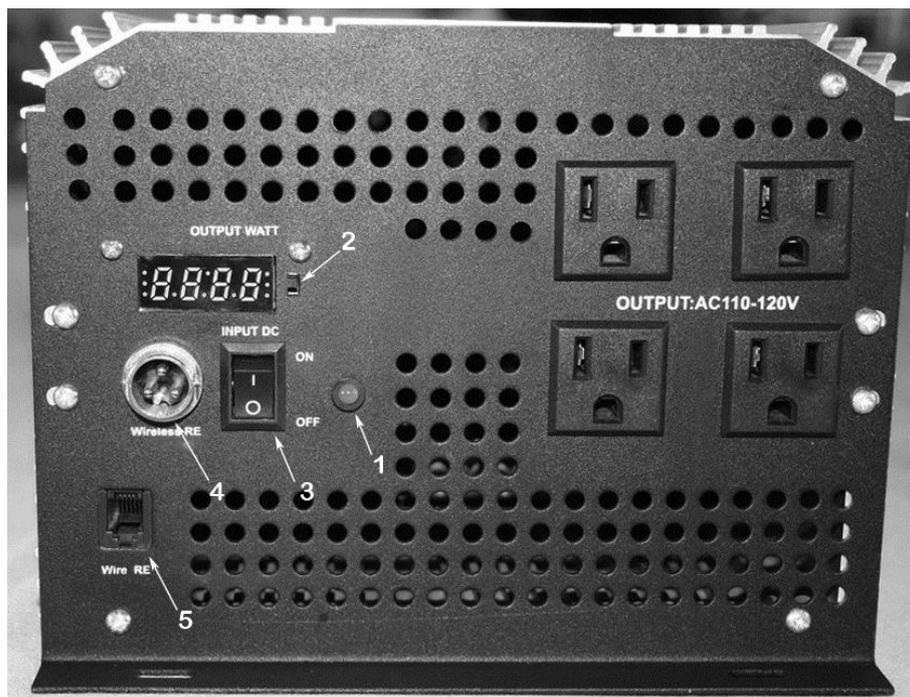
The inverter's thermal protection prevents it from operating when its temperature exceeds 140+/-9 °F (60+/-5 °C). Sound from the fan and air traveling through the inverter is normal.

Table 1

TROUBLE/INDICATION	POSSIBLE CAUSE	SUGGESTED REMEDY
-No AC output-the Green LED light is not on.	-DC input below 10 Volts	-Recharge or replace battery
-Buzzer alarm is sounded when load is switched on.	-DC battery is low	-Recharge or replace the battery.
-No AC output: inverter is cold.	-Poor connection with the battery.	-Disconnect load from inverter. Reconnect the unit to the battery terminal.
-Connected load shuts down constantly and input cable is hot.	-Poor connection with the inverter terminals.	-Tightening up the inverter input DC cables to the inverter terminal nuts.
-Shuts down after operating for a long time.	-Over-temperature -Low Battery	-Disconnect the inverter and let it cool down. -Charge Battery
-Inverter is very hot on normal working load.	-Ventilation is blocked	-Remove the block object and keep the inverter working well ventilated.
-AC Light is on and no AC output.	-Internal Fuses	-Have qualified technician test and replace internal fuses if necessary.

Table 2

ITEM	53500
Max Continuous Power	5000W
Peak Power	10000W
Output Waveform	Modified Sine Wave
Efficiency(full load)	90%
Input Voltage	DC 12V
Input Voltage regulation	DC 10-15V
No Load Current Draw	<1A
Output Voltage	110-120V
Output Frequency	60Hz ±2Hz
Protections	-Over load, short circuit, reverse polarity connection, over voltage, overheating, Low voltage alarm -Automatic reset function
Soft start technology	yes
Operation temperature	0°F to 104°F
Recommended ANL Fuse Size	600A



1. LED Status Indicator
2. LCD Display Selector Switch, UP Position for Watts, Down Position for Voltage
3. On/Off Switch
4. Wireless Remote Receiver Socket (Wireless remote kit sold separately)
5. Wired Remote Socket (Wired remote kit sold separately)

WARRANTY

FJC warrants this inverter for 1 year from date of purchase with proof of purchase. As we cannot control the use of our products, the guarantee shall not exceed the purchase price. We make no other warranty of any kind expressed or implied. This inverter is warranted to be free from defects in material and workmanship under normal use and service for 1 year after the sale of this product by FJC, Inc. FJC's sole obligation under this warranty shall be to repair or replace any defective product or parts thereof, which are returned to our factory. The warranty shall not apply to any product or part which has been subject to misuse, negligence or accident. FJC, Inc. shall not be responsible for any special or consequential damages and the warranty as set forth is in lieu of all other warranties either expressed or implied. However FJC, Inc. makes no warranty or merchantability in respect to this inverter for any particular purpose other than that stated in this manual.

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RETURNS

All merchandise to be returned must have a prior authorization from FJC, Inc. Contact FJC, Inc. before sending any product back to FJC.