Maintenance

Very littie maintenance is required to keep your inverter operating properly. You should clean the exterior of the unit periodically with a damp cloth to prevent accumulation of dust and dirt. At the same time, tighten the screws on the DC input terminals.

AIMS Operating Corp., Inc. dba AIMS Power Warranty Instructions:

This product is designed using the most modern digital technology and under very strict quality control and testing guide lines. If however you feel this product is not performing as it should, please contact us:

techsupport@aimscorp.net or (775)762-5400

We will do our best to resolve your concerns. If the product needs repair or replacement, make sure to keep your receipt/invoice, as that will need to be sent back along with the package and RA# prepaid to AIMS. You have a full 1 year from date of purchase warranty.

This warranty is valid world wide with the exception that freight and duty charges incurred outside the contiguous 48 United States will be prepaid by customer.

Except as provided above, AIMS makes no warranty of any kind, express or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose. In no event shall AIMS be liable for indirect, special or consequential damages. This warranty only applies to AIMS Power branded products. All other name brand products are warranted by and according to their respective manufacturer. Please do not attempt to return non-AIMS Power branded products to AIMS Power.

For additional products such as:

- Modified sine wave inverters
- Pure sine wave inverters
- On Grid Inverters
- Inverter Chargers and Automatic transfer switches
- Custom cut cables
- Batteries
- Solar Products

Please visit our web site: www.aimscorp.net

To find out where to buy any of our products, you may also e-mail: sales@aimscorp.net or call (775)359-6703.

AIMS Power™
a Division of the AIMS Corporation

Fully Automatic DC to AC Inverter & Battery Charger

PART # PWRIC1500 12W

Instruction Manual

Specification

Model NO. PWRIC1500 12W	
INVERTER	
DC input voltage	DC 10-16V
Output power	1500W
Output power surge	3000W
Low battery alarm	10,5+/- 0,5V
Low battery shut down	9,5+/- 0,5V
High battery shut down	16,5+/- 0,5V
Short-circuit protection	YES
No load current	<1.5A
Alarm and Thermal shut down	60°C+/-5°C
DC input fuse	40A*4
CHARGER	
DC charging voltage	DC 15.4V+/- 0.1V
DC charging current	DC 10A+/- 3A MAX
Full charging shutdown	YES
Battery disconnected	NO OUTPUT
Battery error connection piotection	YES
Battery capacity available	DC12V 100-300AH
Dimensions(LxWxH)	403X203X80mm
Net Weight (with cables)	5 KGS
Transfer time	<8ms

Ac input / output voltage : 120V

Ac output socket :

Frequency ±2% : 60Hz

No output voltage, no voltage indication	Inverter switched off	Turn inverter on.
	No power to inverter	Check wiring to inverter
	Internal fuse open	Have qualified service technician check and replace fuse.
	Reverse DC polarity	Have qualified service technician check and replace fuse, OBSERVE CORRECT POLARITY
No output voltage, voltage indicator in upper red zone.	High input voltage	Make sure that inverter is connected to 12V battery. Check regulation of charging system.
Low battery alarm on all the time, voltage indicator below 11 V (l2V ver.)	Poor DC wiring, poor battery condition.	Use proper cable and make Solid connections. Use new battery
No output voltage, Over Heat indicator on,load in excess 1500W:150A (12V)	Thermal shutdown	Allow inverter to cool off. Reduce load if continuous
No output voltage, Over Heat indicator on, load less than: 1500W:150A (12V)	Thermal shutdown	Improve ventilation, make sure ventilation openings of inverter are not obstructed, reduce ambient temperature.
No output voltage, Over Load indicator on.	Short circuit or Wiring error.	Check AC wiring For short circuit or improper polarity(active and neutral reversed)
	Very high power load	Romove load

b.Television interference:
Operation of the power inverter can interfere with television reception on some channels. If this situation occurs, the following steps may help to alleviate the problem.

- Make sure that the chassis ground lug on the back of the power inverter is solidly connected to the ground system of your vehicle, boat or home.

- Do not operate high power loads with the power inverter while watching television.

- Make sure that the antenna feeding your television provides an adequate ("snow free") signal and that you are using good quality cable between the antenna and the television.

- Move the television as far away from the power inverter as possible.

- Keep the cables between the battery and the power inverter as short as possible and twist them together with about 2 to 3 twists per foot. This minimizes radiated interference from the cables.

2. Troubleshooting guide

Problem and Symptoms	Possible Cause	Solution
Low output voltage (110V : 95-105VAC,	Using average reading voltmeter	Use true RMS reading meter See page 5 point 8 of manual
Low output voltage and current indicator in red zone.	Overload	Reduce load
No output voltage	Low input voltage	Recharge battery,
and voltage indicator in lower red zone		check connections and cables.

Introduction

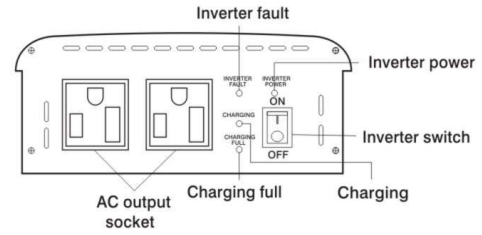
The power inverter series is a member of the most advanced line of mobile AC power systems available.

This model is used in a wide range of applications including remote homes, RVS, sail boats and power boats. It will operate most televisions and VTR's, personal computers, small appliances and tools such as drills, sanders, grinders, mixers and blenders.

To get the most out of the power inverter, it must be installed and used properly. please read the instructions in this manual before installing and using this model.

Name and main function

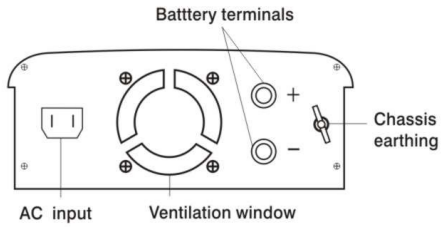
1. Front view



1. On / Off switch:
   Leave in the OFF position during installation.

2. LED display:
   (1) Inverter Power: The LED is lit when the inverter should work properly.
   (2) Inverter Fault: The LED is lit when the inverter is in overload or overheat condition or when the batteries are in low or high voltage condition.
   (3) Charging: The LED is lit when the charger is charging the battery.
   (4) Charging full: The LED is lit when the battery is full.
3. AC output socket: North America

2. Rear view



a. Ventilation window:

Do not obstruct, allow at least 1 inch for air flow.

b.Battery terminals:

Connect to 12V battery or other 12V power source.

"+" is positive, "-" is negative. Reverse polarity connection will blow internal fuse and may damage inverter permanently.

c. Chassis ground lug: Connect to earth ground or to vehicle chassis using #8 AWG wire.

Warning! Operation of the inverter without a proper ground connection may result in an electrical safety hazard.

d. AC input: When active, inverter will throughput AC and power up charger.

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 is in the OFF position.

Some induction motors used in refrigerators, freezers, pumps, and other motor operated equipment require very high surge currents to start. The power inverter may not be able to start some of these motors even though their rated current draw is within the rating of the power inverter.

If a motor refuses to start, observe the battery voltage indicator while trying to start the motor. If the battery voltage indicator drops below 11 volts while inverter is attempting to start the motor, this may be why the motor won't start. Make sure that the battery connections are good and that the battery is fully charged. If the connections are good and the battery is charged, but the voltage still drops below 11 volts, you may need to use a larger battery.

2. Input voltage

The power inverter will operate from input voltage ranging 10 - 15V (12V ver.) If the voltage drops below 10.7V (12V ver.), an audible low battery warning will sound and the voltage indicator will be in the lower red zone. The power inverter will shut down if the input voltage drops below 10V (12V ver.). This protects your battery from being overdischarged.

The power inverter will also shut down if the input voltage exceed 16V (12V ver.). This protects the inverter against excessive input voltage. The voltage indicator will be in the upper red zone. Although the power inverter incorporates protection against overvoltage, it may still be damaged if the input voltage is allowed to exceed 20V (12V ver.).

Troubleshooting

1. Common problems

a.Buzz in audio systems:

Some inexpensive stereo systems and "boom boxes" will emit a buzzing noise from their loudspeakers when operated from the power inverter. This is because the power supply in the device does not adequately filter the modified sine wave produced by the power inverter. The only solution is to use a sound system that incorporates a higher quality power supply.

1. Controls and indicators

The ON / OFF switch turns the control circuit of the power inverter on and off. It does not disconnect power from the power inverter.

When the switch is in the OFF position, the power inverter draws no current from battery. When the switch is in the ON position but with no load, the power inverter draws less than 1.5A (l 2V version) from battery.

2. Battery charger use

a. Set the power switch to the "OFF" position.

b.Connect ac input power cord to a house socket.
Then use red battery cord to connect + of a 12V dc battery to + binding post, and use a black battery cord to connect - battery to - binding post.

c.Push the power switch to "ON" position. If the green led lights, it shows home ac voltage normal, if red led lights, it shows home ac voltage is cut, and battery voltage converts to ac voltage.

d.When connected to any appliance, be sure to turn on inverter first, and then turn on the power switch of the appliance. During operation, if the buzzer alarms, it indicates that the battery voltage is very weak and the inverter shall be stopped in five minutes.

Operating limits

1. Power output

The 1500W inverter will operate most AC loads within its power rating. When determining whether a microwave oven can be operated by the 1500W inverter, remember that the power commonly advertised for microwave ovens is the cooking power the power delivered to the food not the power actually consumed by the microwave oven. The microwave oven will consume 40% to 100% more than its advertised cooking power. Check the rating sticker on the back of the oven to determine its actual power draw. The 1500W inverter will operate small microwave ovens (0.2 to 0.3 cubic foot capacity) that draw about 1700 watts. It will provide 10 to 15 minutes of cooking time. The output power of a 800W inverter is not enough to power a microwave oven.

2. Connect the battery cables to the battery input terminals on the rear panel of power inverter. The red terminal is positive (+) and black terminal is negative (-). Connect the cables onto the terminals and tighten the nuts to clamp the wires securely.

3. Connect the cable from the negative terminal of the inverter to the negative terminal of the power source. Make a secure connection.
Caution! Loosely tightened connectors result in excessive voltage drop and may 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 the negative output terminal of the power source.
Caution! Reverse polarity connection will blow a fuse in the inverter and may permanently damage the inverter. Damage caused by reverse polarity connection is not covered by our warranty.

5. Connect the cable from the positive terminal of inverter to the positive terminal of the power source. Make secure connection.
Warning! You may observe a 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 switch to the ON position. Check the meters and indicators on the front panel of the inverter. The voltage bar graph should indicate 11 to 14 volts depending on the voltage of the power source.
If it does not, check your power source and the connections to inverter. The other indicators should be off.

7. Set the power inverter switch to the 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 the inverter. Leave the test load switch off.

8. Set the 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 such as FLUKE 8060A, BACKMAN 4410 or TRIPLETT 4200 must be used.

Installation

1.Where to install

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

a. Dry - Do not allow water to drip or splash on the inverter.

b. Cool - Ambient air temperature should be between 0℃ and 40 ℃, the cooler the better.

c. Ventilation - Allow at least one inch of clearance around the inverter for air flow. Ensure the ventilation openings on the rear and bottom 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.

2. Cables: Cable length ≦ 2m
DC to AC inverters require high amperage / low voltage DC power to low amperage / high voltage AC power. To operate properly, connect. inverter DC input terminals direct to battery with heaviest wire available see chart below:

Max. Watts Out	Approx. Amps Req'd	Wire Gauge
100 W	10 A	# 18
150 W	15 A	# 14
200 W	20 A	# 12
300 W	30 A	# 10
400 W	40 A	# 8
600 W	54 A	# 6 or 2x# 10
800 W	72 A	# 4 or 2x# 8
1000 W	85 A	# 2 or 2x# 6

3. Grounding

The power inverter has a lug on the rear panel "chassis ground". 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 inverter are also connected to the ground lug.

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

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

Warning! Do not operate the power inverter without connecting it to ground. Electrical shock hazard may result.

Operation

To operate the power inverter, turn it on using the ON / OFF switch on the front panel. The power inverter is now ready to deliver AC power to your loads. If you are operating several loads from the power inverter, turn them on separately after the inverter has been turned on. This will ensure that the power inverter does not have to deliver the starting currents for all the loads at once.