AIMS Operating Corp., Inc. Warranty Instructions:

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

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

We will do our best ro 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 duth 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.

For additional products such as:

- Modified sine wave inverters
- Digital pure sine wave inverters
- Power controllers
- Automatic transfer switch controllers
- Custom cut cables

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.

150 WATT
AIMS Power Inverter

Owner's Manual

Power Inverter PWRINV150W

Welcome

This 400W power inverter by AIMS Power has been manufactured to give you dependable operation. Please read this manual thoroughly before operating your new inverter as it contains information. you need to become familiar with. The manual details the inverter's features and allows you to obtain the performance that will bring you continued enjoyment for many years. Please keep this manual on file for future reference.

How Power Inverters Work

Power inverters convert low voltage DC (direct current) power to 110-volt AC (alternating current) household power. This conversion process thereby allows you to use household products, power tools, and other electronic products away from normal AC power sources (standard 110/120V wall outlets). Depending on the model and its rated capacity, inverters can draw power either from standard 12-volt automobile and marine batteries or from portable high power 12-volt power sources.

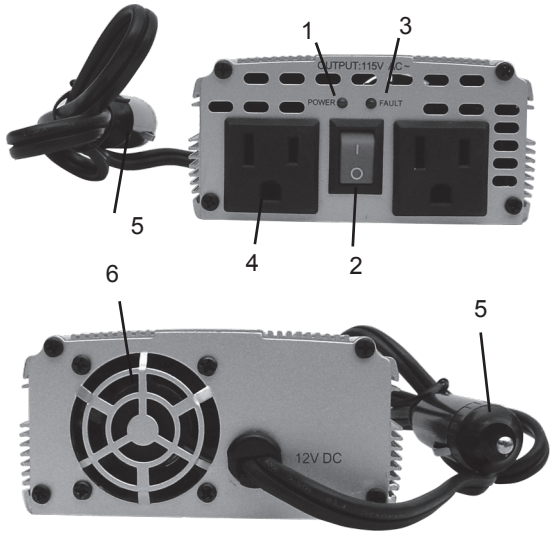
The waveform that is generated by this conversion is a "modified sine wave". The modified sine wave produced by our inverters has a root square mean (RMS) voltage of 110 volts, which is the same as standard household power. The majority of AC voltmeters are calibrated for RMS voltage under the assumption that the measured waveform will be a pure sine wave. Therefore, these meters will not read the RMS modified sine wave voltage correctly. They will read about 20 to 30 volts too low. To accurately measure the output voltage of the inverter, use a true RMS reading voltmeter such as a Fluke 87, Fluke 8060A, Beckman 4410, Triplett 4200 or any voltmeter identified as a "true RMS".

Controls and Components

Front Panel

1. Green LED Indicator Light
2. ON/OFF Power Switch
3. Red LED Indicator Light
4. 110/120 Volt AC Outlets
5. 12 Volt DC Power Cord
6. Cooling Fan

Back Panel



CAUTION

- The inverter is designed to operate from a 12-volt power source only. The unit will not operate from a 6-volt battery or a 24-volt battery. Do not attempt to connect the inverter to any other power source other than a battery with a nominal output voltage of 12 volts or damage to the unit may occur and will void the warranty.
- Do not attempt to extend or otherwise modify the supplied 12-volt power cord, battery cables or battery clips.
- 110 volts can inflict serious injury, damage or death. Improper use of the inverter may result in property damage, personal injury or loss of life.

Getting Started

When you turn on an appliance or tool that operates using a motor or a tube (such as a television), it requires an initial surge of power to start up. This surge of power is referred to as the "starting load" or "peak load". Once started, the appliance or tool requires less power to continue to operate. This is referred to as the "continuous load."

You will need to determine how much power your appliance or tool requires to start up (peak power) and it's continued operating power requirements (continuous load).

Power consumption is rated in either wattage (watts) or amperes (amps). This information is usually stamped or printed on most appliances and equipment. If this information is not indicated on the actual product, check the owner's manual or contact the manufacturer to determine the power consumption. Be sure that the power consumption of the item you wish to operate is rated at 400 watts or less.

Multiply: AMPS x 110 (AC voltage) = WATTS

This formula yields a close approximation of the continuous load of the appliance.

To determine whether the inverter will operate a particular item, run a test. All AIMS Power inverters are designed to automatically shut down in the event of a power overload. This protection feature prevents damage to the unit while test ing items with ratings higher than the 400-watt range.

Connecting the Inverter

Through the Car Cigarette Lighter Socket or 12 Volt Power Port

1. Make sure the ON/OFF power switch located on the front panel of the inverter is in the OFF(O) position.
2. Unscrew the red and black caps from the power input terminals located on the rear of the inverter.

3. Connect the 12-volt power cord to the power input terminals making sure to match the color coded cables to the color coded terminals on the inverter (RED=Positive, BLACK=Negative). Hand-tighten the red and black caps back on the power input terminals. Do not over tighten these caps.
4. Insert the 12-volt power cord firmly into the cigarette lighter socket in your vehicle or any other 12-volt power port.
5. Turn the inverter power switch to the ON(I) position. The GREEN LED Indicator Light should illuminate to confirm that power is running to the inverter.
6. Turn the inverter power switch to the OFF(O) position. (The GREEN LED Indicator Light may "blink" briefly and/or the internal audible alarm may make a momentary "chirp." This is normal).
7. Make sure that the device you intend to operate is turned OFF. Plug the cord from the equipment you wish to operate into one of the AC outlets located on the front panel of the inverter.
8. Turn the inverter power switch to the ON(I) position. Then turn the equipment on.

NOTE: If operating an appliance above 180 -watts, you must use the supplied battery clips for direct connection to the 12-volt power source. Do not use the 12-volt power cord for connection through the cigarette lighter socket.

Directly to the 12 Volt Power Source

1. Make sure the ON/OFF power switch located on the front panel of the inverter is in the OFF(O) position.
2. Unscrew the red and black caps from the power input terminals located on the rear of the inverter.
3. Connect the battery-clip cables to the power input terminals making sure to match the color coded cables to the color coded terminals on the inverter (RED=Positive, BLACK=Negative). Hand-tighten the red and black caps back on the power input terminals. Do not over tighten these caps.
4. Connect the cable from the Negative (-) terminal (BLACK) on the inverter to the Negative terminal on the 12-volt power source. Double check that the connection is secure.
5. Connect the cable from the Positive (+) terminal (RED) on the inverter to the Positive terminal on the power source. Double check that the connection is secure.
6. Follow directions 5-8 in the above section titled " Through the Car Cigarette Lighter Socket or 12 Volt Power Port" .

Notes

- Loose connections can result in severe decrease in voltage, which may cause damage to the component or product you wish to operate.
- The audible alarm may make a momentary "chirp" when the inverter is turned ON(I) or OFF(O). This same alarm may also sound when the inverter is being connected to or disconnected from the 12-volt power source. This is normal.
- If the GREEN LED Indicator Light blinks when you first turn the inverter ON(I), this may indicate an interruption of the power supply. Simply turn the inverter OFF(O) and remove the 12-volt power cord from the cigarette lighter socket (or other 12-volt power source). Firmly re-insert the 12-volt power cord, then turn the inverter ON(I) again. Or, if you are using the cables, try removing and reconnecting the clamps. If this does not fix the problem, try using a different 12-volt power source or check the cigarette lighter fuse.
- If using an appliance above 180-watts, you must use the supplied battery clips for direct connection to the 12-volt power source.
- If using more than one appliance, do not exceed a combined total of 400 watts.

Source of Power

Most automobile and marine batteries will provide an ample power supply to the inverter for 30 to 60 minutes even when the engine is turned off. Actual time may vary depending on the age and condition of the battery and the power demand being placed on it by the equipment being operated.

If you decide to use the inverter while the engine is off, we recommend that you start the engine every 30 to 60 minutes and let it run for approximately 10 minutes to recharge the battery. It is also recommended that the device plugged into the inverter be turned OFF before starting the vehicle engine.

Although it is not necessary to disconnect the inverter when starting the vehicle engine, it may momentarily cease to operate as the battery voltage decreases. When the inverter is not supplying power, it draws very low amperage from the battery. It is recommended that the inverter always be disconnected when not in use.

Blown Automotive Fuses

Depending on the make and model of your automobile, running the power inverter near full capacity from your cigarette lighter socket may result in a blown automotive cigarette lighter fuse. This fuse will need to be replaced with the same type and size fuse. A blown automotive cigarette lighter fuse will not cause damage to your vehicle's wiring.

To avoid blowing an automotive fuse, do not operate the power inverter over 180 watts from your cigarette lighter or other 12-volt power port. You should connect the inverter directly to the 12-volt power source using the supplied battery clips.

Blown Inverter Fuses

Your power inverter is equipped with a 40-amp spade type fuse. With reasonable care, it should not be necessary to replace this fuse.

In general, most blown fuses are the result of reverse polarity hook up of the inverter to a 12-volt power source (positive to negative and/or negative to positive). If the fuse happens to blow, disconnect the appliance or equipment from the inverter immediately. Find the source of the problem, repair it and then install a new fuse of the same type and size located on the rear panel of the inverter.

Note: Always disconnect the power inverter from the 12-volt power source and make sure the inverter is turned OFF before replacing the fuse.

Safety and Usage Precautions

- For best operating results, place the inverter on a flat surface
- Keep inverter dry. Do not expose inverter to rain or moisture.
- DO NOT operate the inverter if you, the inverter, the device being operated, or any surface that may come into contact with the inverter are wet. Water and other liquids can conduct electricity, which may lead to serious injury or death.
- Avoid placing the inverter on or near heating vents, radiators or other sources of heat. Do not place or use the inverter in direct sunlight. Ideal air temperatures should be between 50° and 80° F.
- In order to properly disperse the heat generated from the inverter while it is operating, keep the inverter well ventilated. Keep the area surrounding the inverter clear while in use.
- Do not use the inverter near flammable materials. Do not place the inverter in areas such as battery compartments where fumes or gases may accumulate.

Inverter Protection Features

- **Short Circuit Protection.** The inverter will automatically shut down until short is removed.
- **Low Voltage Alarm.** An alarm will sound when the voltage from the battery discharges to 10.5 +/- 0.5 volts DC. This is an indication that the battery needs to be recharged.
- **Over Voltage Protection.** The RED LED Indicator Light will illuminate and the inverter will automatically turn itself off when the input exceeds 16.5 +/- 1 volt DC.

- **Under Voltage Protection.** The RED LED Indicator Light will illuminate and the inverter will automatically turn itself off when the input is less than 10.0 +/- 0.5 volts DC.
- **Overload Protection.** The RED LED Indicator Light will illuminate and the inverter will automatically turn itself off when the continuous draw of the equipment being operated exceeds 400 watts or the surge draw of the equipment exceeds 800 watts.
- **Thermal Protection.** The RED LED Indicator Light will illuminate and the inverter will automatically turn itself off when the circuit temperature exceeds 150° F.

Notes

- The inverter is equipped with a cooling fan, which is designed to run automatically when the inverter begins to get hot. Automatic shut down of the unit caused by high circuit temperatures will occur when the cooling fan is unable to maintain a cool enough temperature for safe operation.
- In the event of automatic shut down or a continuous audible alarm, turn the inverter power switch to the OFF(O) position until the source of the problem has been determined and resolved.

Television and Audio Suggestions

Although all AIMS Power inverters are shielded and filtered to minimize signal interference, some interference with your television picture may be unavoidable, especially with weak signals. However, here are some suggestions that may improve reception:

- Make sure the television antenna produces a clear signal under normal operating conditions (at home plugged into a standard 110-volt AC outlet). Also, ensure that the antenna cable is properly shielded and/or good quality.
- Change the positions of the inverter, antenna cables and the television power cord.
- Isolate the television, its power cord and antenna cables from the 12-volt power source by running an extension cord from the inverter to the television set.
- Coil the television power cord and the input cables running from the 12-volt power source to the inverter.
- Attach an AC interference filter or similar product between the inverter and the television power cord. These filters are available at most electronic supply stores.

Note: Inexpensive sound systems may emit a "buzzing" sound when operated with an inverter. This is due to the inadequate filters in the sound system. There is no solution to this problem other than purchasing a sound system with a higher quality power supply.

In Review

- Never attempt to operate the inverter from any other power source other than a 12-volt battery.
- The inverter is designed to be connected to the power source with the supplied 12-volt power cord or the battery clips. Do not attempt to modify the cords or battery clips in any way.
- When connecting and using the inverter, make sure that the inverter is positioned far away from any potential source of flammable fumes or gases.
- Make certain that the power consumption of the equipment you wish to operate is compatible with the capacity of the inverter. Do not exceed 400-watts.
- When attempting to operate battery chargers, monitor the temperature of the battery charger for approximately 10 minutes. If the battery charger becomes abnormally warm, disconnect it from the inverter immediately.
- Use only 40 amp spade type fuses for the inverter.
- When operating the inverter with an automobile or marine battery, start the engine every 30 to 60 minutes and let it run for approximately 10 minutes to recharge the battery.
- In the event of a continuous audible alarm or an automatic shut down of the unit, turn the inverter OFF immediately. Do not turn the inverter ON again until the source of the problem has been identified and corrected.
- To avoid battery drain, always disconnect the inverter when not in use.
- Do not expose the inverter to rain or moisture.
- Avoid placing the inverter near sources of heat of in direct sunlight.
- While in use, make sure that the inverter is properly ventilated.
- For best operating results, make sure the unit is placed on a flat surface.
- When operating an appliance at 180 watts and above, use the supplied battery clips for direct connection to the 12-volt power source.

Troubleshooting

PROBLEM: Low or No Output Voltage

	Reason	Solution
	Poor contact with lighter socket or battery terminals.	Unplug and reinsert 12 volt plug or reattach battery clips.
	Using incorrect type of voltmeter to test output voltage.	Use true RMS reading meter.

PROBLEM: Red LED On

	Reason	Solution
	Battery voltage below 10.0 ± 0.5 volts.	Recharge or replace battery.
	Equipment being operated draws too much power.	Use a higher capacity inverter or do not use this equipment.
	Inverter is too hot (thermal shutdown mode).	Allow inverter to cool. Check for adequate ventilation. Reduce the load on the inverter to rated continuous power output
	Unit may be defective.	See Warranty and call Customer service at (775)359-6703

Troubleshooting

PROBLEM: TV Interference

	Reason	Solution
	Electrical interference from the inverter.	Add an AC interference filter on to the TV power cord. Refer to TV and audio section of this manual.

PROBLEM: Low Battery Alarm On All The Time

	Reason	Solution
	Input voltage below10.5 ± 0.5 volts.	Keep input voltage above 10.5±0.5 volts to maintain regulation.
	Poor or weak battery condition.	Recharge or replace battery.
	Inadequate power being delivered to the inverter or excessive voltage drop.	Check condition of cigarette lighter socket. Clean or replace if necessary

PROBLEM: TV Does Not Work

	Reason	Solution
	TV does not turn on.	Try turning the inverter ON/OFF/ON.
		Contact TV manufacturer for start up surge and power consumption.
		A larger inverter may be required.

Specifications:

Maximum Continuous Power	150 Watts
Surge Capacity (Peak Power)	400 Watts
Max Power Efficiency	>80%
Waveform	Modified Sine Wave
Input Voltage Range	11-16VDC
AC Receptacles	110/120V AC, Grounded
Fuse	20 amp (spade type)
Weight	0.85 lbs.
Dimensions	115mm(L) x 96mm(W) x 47mm(H)

Questions?

If you have any questions about this product, please contact our Customer Service Department at (775)359-6703, Monday through Friday, 9 AM to 5 PM PST or visit our website at www.aimscorp.net