

**AIMS POWER™**

[www.aimscorp.net](http://www.aimscorp.net)

**DC to AC**  
**PURE SINE WAVE**  
POWER INVERTER

**USER MANUAL**

MODEL: PWRI100012120S

Product Registration Instructions

Please visit our website at [www.AIMSCorp.net](http://www.AIMSCorp.net) and click on the product registration link at the top of the page.

This will validate your warranty with AIMS Power and ensure that you get fast, expedited customer service if you need to repair or exchange your product.

Thank you for choosing



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USER MANUAL

## Specifications

Item	PWRI100012120S
Continuous output frequency	1000W
Surge power	2000W
Input voltage range	10~16VDC
Input under voltage activation	10.6VDC
Input under voltage protection	10VDC
Input over voltage protection	16VDC
Input voltage	12V
Output voltage	120VAC $\pm$ 10%
Output frequency	60Hz $\pm$ 1Hz
Output waveform	Pure sine wave ( THD $\leq$ 3%)
Conversion efficiency	90%
Overload protection	Yes
Thermal protection	65°C $\pm$ 5°C
Use of advanced microprocessor control	Yes
USB Output	5 VDC, Max 1A
Display	LED indicator
Intelligent cooling	The cooling fan will not run when inverter is turned on, it will start running only when the case temperature reaches about 40°C .
Fuse rec.	40A x4
Dimension(LxWxH)	293 x140x74mm
Weight	2.42Kg
Working temperature	0°C~40°C
Storage temperature	-10°C~45°C
Remote	Optional not included
DC cable size	4Awg (not included)

## 1. BRIEF:

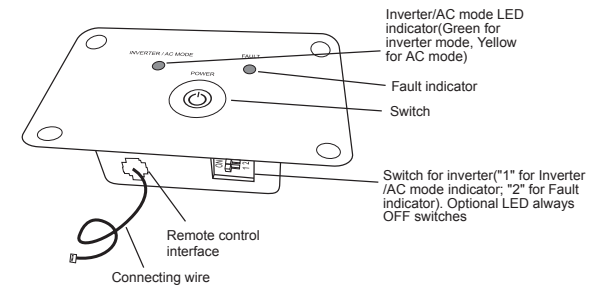
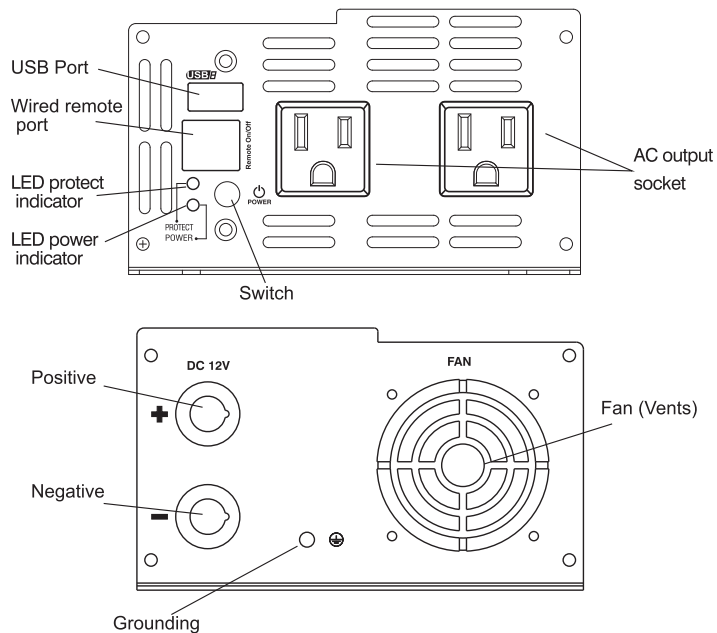
This AIMS Power inverter transforms DC (direct current) electricity in AC (alternating current) power that can be used for running a wide variety of tools and appliances. This inverter is perfect for providing mobile power in cars, boats and work trucks, but can also be used as a backup source of electricity in the event of an electrical failure or for several off-grid applications such as camping.

Please read this instruction manual carefully and make sure your inverter is installed properly before putting it to use.

## 2. WARNING AND SAFETY

- 1) Read the manual before use and keep it for future reference.
- 2) Don't put the inverter under sunshine, nearby heating source, moist or humid environment
- 3) The case of inverter will be hot when used, please avoid touching the material that can't stand of high temperature, such as clothes, sleeping bag and carpet.
- 4) Our power inverter is designed to use with negative ground electrical system! Don't use with positive ground electrical systems (The majority of modern automobiles, RVs, trucks and boats are negative ground).
- 5) Do not disassemble the unit, it may cause fire or electric shock.
- 6) Keep inverter away from children and don't allow them to play with the unit.
- 7) The power inverter will output AC power as utility power, please treat the output terminal as carefully as your home AC socket. Don't put any other things into the output terminal except electrical appliance plug. It may cause shock or fire.
- 8) Disconnect the battery and inverter when no use.

## 3. PARTS LIST

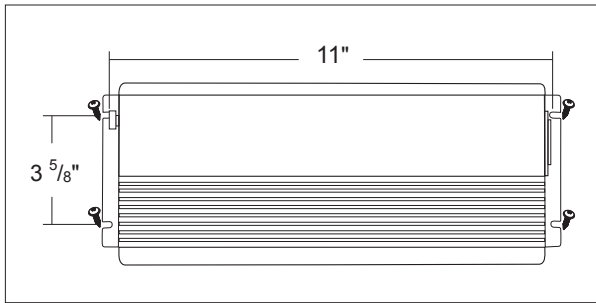


## 4. INSTALLATION

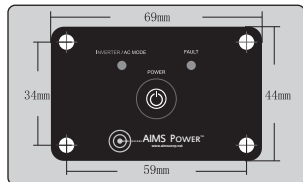
### 1. The requirements of the installation location.

Ensure there is enough space for the installation, and the location should be according to the following requirements:

- 1) Dryness: never drop water or other liquids on the inverter
- 2) Coolness: the ambient temperature should be 0~40°C, and the perfect temperature is 10-25°C. The lower the better in this range of ambient temperature.
- 3) Ventilation: there should be a certain distance between the unit and the surrounding appliance, do not obstruct the vents 3cm or 1 inch minimum is recommended.
- 4) Cleanliness: do not install the unit in a place with dust, timbering residue or particles which may go into the product when the cooling fan turns on.
- 5) There will be some electrical arcing or spark when the inverter connects with the battery, so combustible materials should not be around, such as gasoline, alcohol etc.
- 6) Do not mount the inverter upside down.
- 7) We recommend mounting your inverter on something stable to prevent it from bouncing around, because impact shock could result in damage to your unit. Be sure to use all four mounting screws for optimal stability.



### 3. Assemble the remote control box(Optional equipment)



1) the remote is designed to be mounted on a dash or other surface where a hole should be cut so that it sits flush. This is not a requirement however just a recommendation.

2) The remote cable should be plugged into inverter and the remote before mounted.

Note: Optional remote is not needed for inverter operation. The main power switch will work the power on / off

## 4. USAGE

### How to use inverter

Check the output voltage and capacity of the battery, it should comply with the requirement of the product used (12 volts).

2. Connect your inverter to your battery bank, but be sure not to reverse the polarities of the connection.

3. Press the power on button on your inverter for .5 seconds and a green LED will light up indicating that the inverter is on. The remote also has an on indicator light.

4. Before plugging anything into your inverter, make sure the appliance you're trying to power is shut OFF, then plug it into the AC outlet of your inverter and power on your appliance.

5. Once finished using the inverter, turn off your electrical appliance and the inverter.

Also, if you do not plan to use the inverter for a long period of time, disconnect it from your battery bank.

6. The cooling fan on this product will not run on start up. It will start when the inverter's case reaches about 40°C.

Again, be sure to turn off the inverter when it's not in use. Accidentally leaving the inverter on for a long period of time could result in damaging the product. It may also over discharge your battery battery back causing permanent damage.

7. The USB port on this unit can provide a stable line of 5V DC current. The maximum current is 1000 mA. Be sure to double check your device to make sure it doesn't exceed these requirements.

## 5. BATTERY OPERATING TIME

Battery operating time depends on the capacity (amp hours) of the batteries being used and the amount of power being used (wattage). The calculation for determining operating time is:

[ battery capacity (AH) X battery output voltage (V) ] / power being used (W)

Example: A 12V 200Ah battery with a 600W power load has 4 hours of operating time  
(200 X 12 / 600 = 4)

## 6. SOFT START TECHNOLOGY

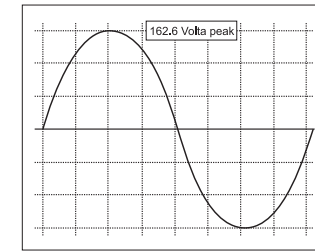
The soft start technology built into this inverter protects the unit from outputting too much AC voltage at once by gradually increasing the amount of power pushed out.

To make sure that you're utilizing this feature, turn on the appliance being used before turning on the inverter. This is especially necessary for products that use an inductive load or electrical motor.

## 7. OUTPUT VOLTAGE & WAVEFORM

The electrical waveform output of this inverter is a pure sine wave, which has the same quality as utility and/or domestic power. This type of waveform is suitable for most all electrical devices, appliances and tools. This pure sine wave unit provides more capabilities than modified sine wave inverters, because it is a cleaner form of power. The pure sine wave also effectively reduces the noise produced while using appliances.

Pure Sine Wave Output  
(120 VAC Model)



## 8. FUNCTION

- 1. Input under-voltage alarm:** When the input DC voltage is lower than 10.6V, the buzzer will whistle intermittently to remind that the inverter will go into under voltage protection. Pay attention to save the data if you are using computer.
- 2. Under voltage protection:** The inverter will automatically shut down when the input DC voltage is lower than 10V. The buzzer will whistle continuously and the green light is off red light on. Please turn off the inverter and use it after recharge the battery.
- 3. Over voltage protection:** The inverter will automatically shut down when the input DC voltage is higher than 16V. The buzzer will whistle continuously and the switch indicator light is on. Please turn off the inverter and adjust the input voltage to the admissible range.
- 4. Overload protection:** The inverter will automatically shut down when the load power is higher than the rated power. The buzzer will whistle continuously. Turn off the inverter and resume to normal operation after taking away the excessive load.
- 5. Thermal protection:** The unit will get hot during operation. If the temperature is higher than 65°C, the inverter will automatically shut down. Then the buzzer will whistle continuously and the green light is off, red light is on. Please turn off the inverter, and continue using it after the temperature goes back to normal temperature naturally. Meanwhile find out the factors caused the fault, such as ventilation, ambient temperature, vent, load power and so on.

## 10. TROUBLESHOOTING TIPS

Fault/Display	Cause	Solutions
No output voltage, buzzer sounds continuously	Low input DC voltage	Recharge or replace the battery
	High input DC voltage	Do not use it when the battery is charging. Check the rated voltage of the battery and make sure that it is in the allowable range of the input voltage
	Overload	Reduce the load power.
	Over temperature	Cut off the load and let it cool naturally for 10 to 30 minutes. Restart it after it resume to normal temperature. The load power is too large and reduce the total load power to the range of rated power. Avoid blocking the vent and improve the ventilation condition. Reduce the ambient temperature.
No output voltage	1. The switch is off. 2. The battery lead isn't connected well	1. Turn on the power switch. 2. Check the joint and make sure it's well connected.
Incorrect output voltage	1. RMS Multimeter measurement error 2. The battery power of RMS Multimeter is low The input voltage is too high or too low	1. Use a true RMS multimeter to measure, such as model FLUKE 177/179. 2. Try to maintain the input voltage in the range of rated power 3. Change the battery of the multimeter then test again.
Cannot drive the load	1. Load power is too large, or the actual power of the appliance exceeds nominal power. 2. The starting power is larger than rated power (such as motor)	1. Reduce the load power, or open the appliance first, then open the inverter, The internal inverter soft-start circuit will buffer start the appliances.
When using with TV or audio, There snowflake on the screen or noise of the audio	Disturbance	1. Separate the inverter and antenna. 2. Use screened antenna

If the inverter still does not work after the aforementioned solutions are tried, please contact AIMS Power tech support at 775-359-6703 ext. 227.

## 11. WARRANTY

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)359-6703

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 RMA# prepaid to AIMS. You have a full 2 years 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
- Low Frequency Inverters
- Solar Charge Controllers
- On Grid Inverters
- Inverter Chargers and Automatic transfer switches
- Custom cut cables
- Batteries
- Solar Panels

Please visit our web site: [www.aimscorp.net](http://www.aimscorp.net)

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