

## AIMS Power PWRI300012120SUL

# AIMS Power 3000 WATT Pure SINE Power Inverter

Model: PWRI300012120SUL | Brand: AIMS Power

## 1. INTRODUCTION AND OVERVIEW

The AIMS Power 3000 Watt Pure Sine Power Inverter is engineered to deliver clean, stable AC power from a 12V DC source, making it an ideal solution for powering sensitive electronics. This robust inverter is perfectly suited for a variety of applications, including use in vehicles, boats, camping setups, and as a reliable backup power source during emergencies. It provides a continuous output of 3000 watts and can handle surge loads up to 6000 watts, ensuring ample power for demanding appliances.

Its design incorporates dual AC outlets, a convenient USB port for charging portable devices, and a direct connect terminal block for hardwiring, offering flexible connectivity options. Built with advanced safety features and efficient cooling, the AIMS Power inverter is a dependable choice for your off-grid and mobile power needs.

## 2. SAFETY INFORMATION

For safe and optimal operation of your AIMS Power Inverter, please adhere to the following safety guidelines:

- Proper Grounding:** Always ensure the inverter is properly grounded to prevent high voltage on the unit's case in the event of an internal short circuit.
- Cable Selection:** Use only high-quality, appropriately sized copper cables for all DC input connections to minimize voltage drop and prevent overheating.
- Ventilation:** Ensure adequate airflow around the inverter. Do not block the cooling fans or vents. Overheating can lead to automatic shutdown and potential damage.
- Qualified Personnel:** Do not attempt to open or service the inverter unless you are a qualified professional. High voltages are present inside the unit.
- Protection Features:** The inverter is equipped with built-in protections against overload, short circuit, high voltage, low voltage, and over-temperature. While these features enhance safety, they should not be relied upon as a substitute for proper installation and usage.
- Environment:** Install the inverter in a dry, well-ventilated area, away from flammable materials, direct sunlight, and excessive dust or moisture.

## 3. PRODUCT FEATURES

The AIMS Power 3000 Watt Pure Sine Power Inverter offers a range of features designed for performance and convenience:

- **Pure Sine Wave Output:** Provides clean, stable power suitable for sensitive electronics, ensuring efficient operation and cooler running motors.
- **High Power Capacity:** Delivers 3000 watts of continuous power and 6000 watts of peak surge power.
- **Versatile AC Outputs:** Features dual standard AC outlets and an AC direct connect terminal block for hardwiring applications.
- **USB Charging Port:** Includes a 2.1 amp USB port for charging portable devices.
- **Advanced Protections:** Equipped with safeguards against overload, over-temperature, high voltage, low voltage, and short circuit, with internal fusing for added safety.
- **High Efficiency:** Operates at up to 90% efficiency.
- **Cooling System:** Dual thermally controlled cooling fans activate automatically to maintain optimal operating temperature.
- **LED Indicators:** Front panel features LED indicators for power and protection status.
- **Optional Remote Control:** Compatible with an optional on/off remote switch (AIMS Power part number REMOTEHF) for convenient operation from a distance.
- **Certifications:** UL 458 & CSA 22.2 listed for safety and reliability.

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## 4. SETUP

### 4.1. DC Connections

Connect the inverter to your 12V DC battery bank using high-quality copper cables. Ensure proper polarity: connect the red terminal on the inverter to the positive (+) terminal of the battery and the black terminal on the inverter to the negative (-) terminal of the battery. Secure all connections tightly to prevent arcing and ensure efficient power transfer.



Figure 1: Rear view of the inverter with DC input terminals and cooling fans.

## 4.2. AC Connections

The inverter provides two standard AC outlets for plugging in your devices. For higher power applications or permanent installations, utilize the AC direct connect terminal block. This allows for hardwiring your AC output directly to your electrical system. Ensure all AC wiring complies with local electrical codes.



Figure 2: Front view of the inverter with AC outlets and control panel.



Figure 3: Front view of the inverter highlighting the hardwire terminal block.

#### 4.3. Mounting

Mount the inverter in a secure location using the convenient mounting holes. Ensure the mounting surface is stable and can support the weight of the unit. Position the inverter in an area that allows for proper air circulation around the cooling fans to prevent overheating.

Video 1: AIMS Power PWRI300012120S - This video demonstrates the inverter's features, including its connections and ability to power various tools like a chop saw and a welder, showcasing its robust performance in an RV setup.

### 5. OPERATING INSTRUCTIONS

To operate the AIMS Power Inverter:

1. Ensure all DC and AC connections are secure and correctly wired.
2. Press the Power button on the front panel to turn on the inverter. The green Power LED indicator should illuminate.
3. Plug your AC devices into the outlets or ensure your hardwired system is connected.
4. Monitor the LED indicators for any fault conditions (red Protect LED).
5. If using the optional remote panel, you can power the inverter on/off from a remote location.

## 6. MAINTENANCE

Regular maintenance ensures the longevity and reliable performance of your inverter:

- **Cleanliness:** Keep the inverter clean and free from dust and debris, especially around the cooling fans and vents. Use a dry cloth for cleaning.
- **Connection Checks:** Periodically inspect all DC and AC connections for tightness and signs of corrosion. Loose connections can cause overheating and reduce efficiency.
- **Ventilation:** Ensure that the area around the inverter remains unobstructed to allow for proper airflow and cooling.
- **Battery Health:** Maintain your battery bank according to the battery manufacturer's recommendations. A healthy battery bank is crucial for inverter performance.

## 7. TROUBLESHOOTING

The AIMS Power Inverter is designed with several protection features. If the inverter shuts down or the red Protect LED illuminates, refer to the following common issues:

Problem	Possible Cause	Solution
Inverter not powering on	Loose DC connections, low battery voltage, blown fuse.	Check and tighten DC connections. Recharge or replace battery. Check internal fuses (professional service recommended).
Red Protect LED on (Overload)	Connected load exceeds inverter's continuous or surge rating.	Reduce the connected load. Disconnect devices and restart the inverter.
Red Protect LED on (Over-temperature)	Inadequate ventilation, blocked fans, high ambient temperature.	Ensure clear airflow around the inverter. Clean fans and vents. Allow unit to cool down.
Red Protect LED on (Low Voltage)	Battery voltage dropped below 9.5V.	Recharge the battery bank. Check battery health.
Red Protect LED on (High Voltage)	Battery voltage exceeded 16V.	Check charging system (e.g., solar charge controller, alternator) for overcharging.
Red Protect LED on (Short Circuit)	Short circuit in AC wiring or connected appliance.	Disconnect all AC loads. Check AC wiring for shorts.

If troubleshooting steps do not resolve the issue, please contact AIMS Power technical support.

## 8. SPECIFICATIONS

Feature	Specification
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Feature	Specification
Continuous Power	3000 Watts
Peak Surge Power	6000 Watts
DC Input Voltage	9.5-16 Volt DC
Output Voltage	120 Volt AC
Wave Form	Pure Sine Wave
Output Frequency	60 Hz
Efficiency (Full Load)	90%
No Load Drain	<1 A (with power switch on)
Battery Low Voltage Alarm	9.8 +/- 0.5 Volt
Battery Low Voltage Shutdown	9.5 +/- 0.5 Volt
High Input Voltage Shutdown	16 V
Operating Temperature (Min)	32°F (0°C)
Operating Temperature (Max)	104°F (40°C) (automatic shutdown)
USB Output	2.1 Amps
Item Weight	15 pounds
Product Dimensions	21.5 x 9.5 x 3.8 inches
Model Number	PWRI300012120SUL
Certifications	UL 458 & CSA 22.2 Listed

## 9. WARRANTY AND SUPPORT

The AIMS Power 3000 Watt Pure Sine Power Inverter comes with a **2-year warranty** covering parts and labor. AIMS Power is committed to providing excellent customer service and technical assistance.

For any technical inquiries, warranty claims, or sales support, please contact AIMS Power directly. All technical support, warranty services, and sales operations are proudly supported from Nevada, USA.

For more information or to purchase an optional remote panel (Part # REMOTEHF), please visit the official AIMS Power website or contact their customer service team.

