AMPINVT 3000W

AMPINVT 3000W Pure Sine Wave Power Inverter User Manual

Model: 3000W | Brand: AMPINVT

1. Product Overview

The AMPINVT 3000W Pure Sine Wave Power Inverter is designed to convert 12V DC power to 110V/120V AC power, providing a continuous output of 3000 watts and a peak output of 9000 watts. This low-frequency solar inverter includes a built-in battery AC charger and an LCD display for monitoring. It is suitable for various applications, including RVs and home use, and supports multiple battery types such as LiFePO4, Sealed, Gel, AGM, Flooded, and Lithium batteries.

Key Features:

- Pure sine wave output: 12V DC to 110V/120V AC, 3000W continuous, 9000W peak.
- Multiple operating modes: AC Input Priority, Battery Priority, ECO Mode, Generator Mode, Unattended Mode.
- Integrated 60A max battery AC charger for various battery types.
- High transfer efficiency (above 90%) with complete isolation of surge interference.
- Super load capacity and built-in AVR stabilizer for stable output.
- High-definition LCD for real-time data monitoring.
- UPS function with 10ms typical transfer time.
- Remote panel available (sold separately).

2. Safety Instructions

Please read all instructions and warnings carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, severe injury, or death. Keep this manual for future reference.

- **Electrical Safety:** Ensure all wiring is performed by qualified personnel and complies with local electrical codes.
- **Battery Connection:** Always connect the battery first before any other connections. Ensure correct polarity (positive to positive, negative to negative).
- **Ventilation:** Install the inverter in a well-ventilated area to prevent overheating. Do not block ventilation openings.
- **Environment:** Avoid installation in areas with flammable materials, excessive dust, moisture, or corrosive gases.

- **Overload Protection:** Do not overload the inverter beyond its continuous power rating. Overloading can damage the unit and connected appliances.
- **Grounding:** Ensure the inverter is properly grounded.
- **Maintenance:** Disconnect all power sources before performing any maintenance or cleaning.

3. Product Components and Connections

Familiarize yourself with the inverter's components and connection points before installation.

Image 3.1: Front and back view of the AMPINVT 3000W Pure Sine Wave Inverter. The front panel features an LCD display and control buttons. The back panel includes battery terminals, AC input/output terminals, and cooling fans.

Image 3.2: Close-up of the inverter's front panel, showing the LCD display, indicator lights (AC, BAT, INV, FAULT), and control buttons (ESC, Up, Down, Enter/Menu, ON/OFF).

Image 3.3: Detailed view of the inverter's rear panel. This includes the AC fuse, AC input terminals (L, N, G), AC output terminals (L, N, G), and standard AC output sockets. The battery terminals (positive and negative) are also visible.

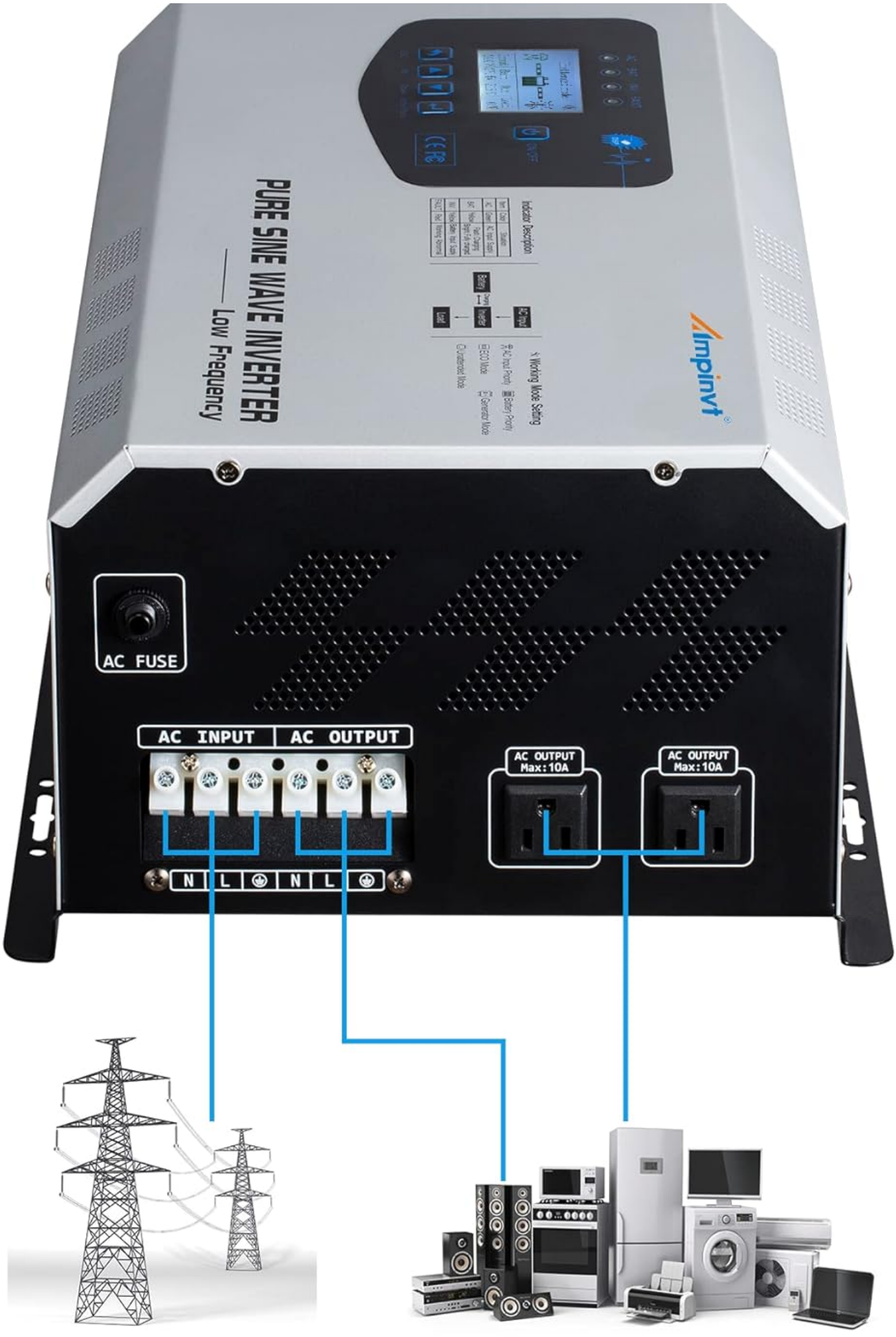

PURE SINE WAVE INVERTER
Low Frequency
Impinvt
Indicator Description
Working Mode Setting
AC Input Priority
Battery Priority
ECO Mode
Generator Mode
Uninterrupted Mode
Load
Inverter
AC Input
AC FUSE
AC INPUT
AC OUTPUT
N L ⏚ N L ⏚
AC OUTPUT Max:10A
AC OUTPUT Max:10A

Image 3.4: A simplified connection diagram illustrating how to connect the AC input (from grid/generator), AC output (to loads), and battery bank to the inverter. This diagram highlights the flow of power.

Image 3.5: Shows the intelligent remote panel connection port on the inverter and an image of the remote screen (17cm x 12cm) which needs to be purchased separately. The remote screen provides an external interface for monitoring and control.

▶ LCD Display

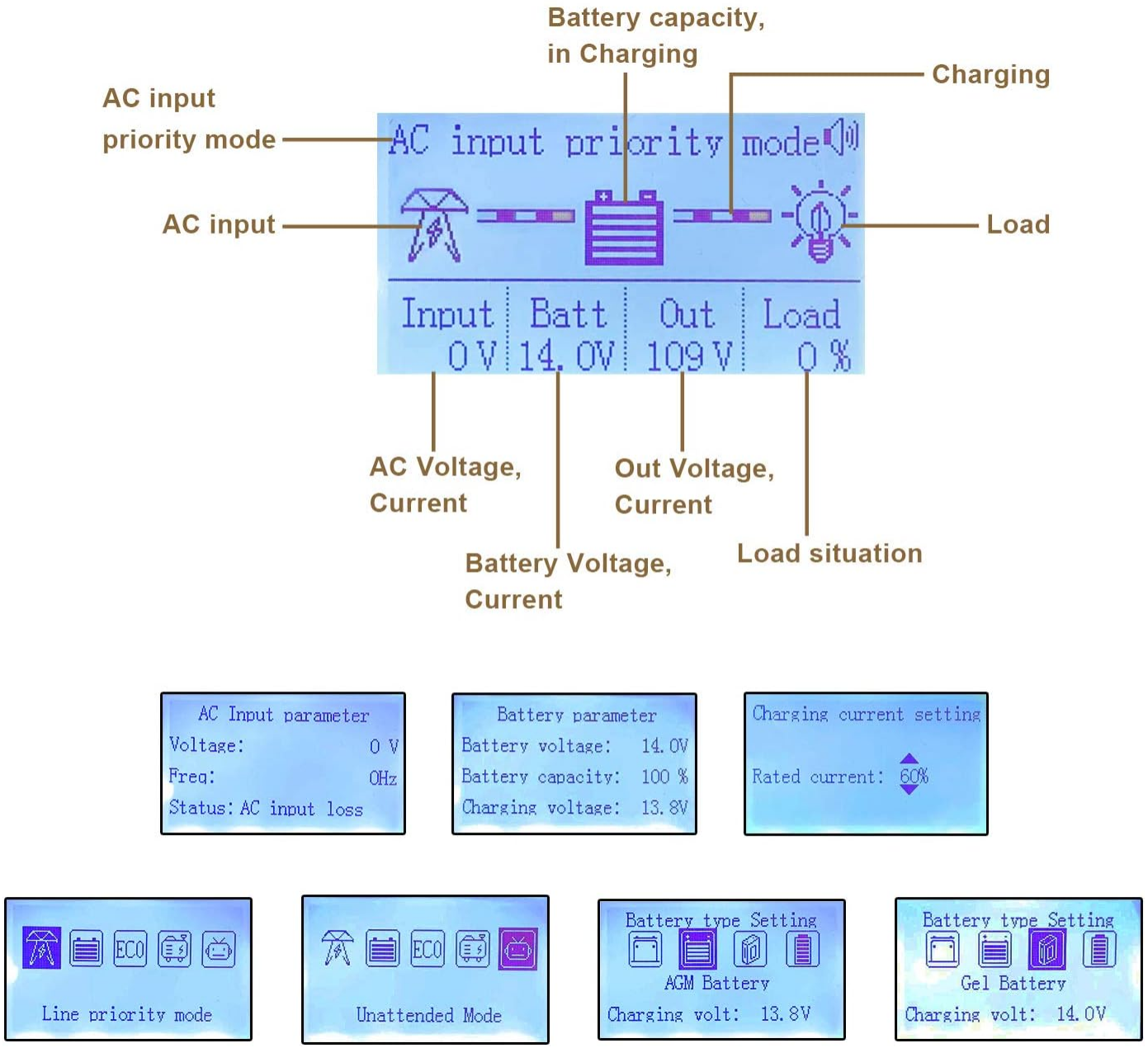


Image 3.6: A detailed view of the LCD display, illustrating parameters such as AC input priority mode, AC input voltage/current, battery voltage/current, output voltage/current, load situation, and battery type settings.

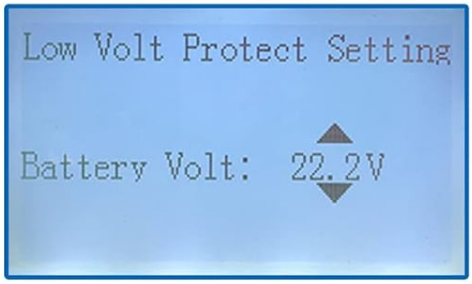
▶ Status Indicator

Identification	Indicator light name	Status
①	AC	AC Normal
②	Battery	Flash: Charging; long bright: full
③	Inverter	Battery inverter power supply
④	Fault	Warning/work abnormal

- LCD Display——⑤: Detailed display information

Identification	Indicator light name	Function
⑥	Return	Return to the previous interface menu or exit the settings interface (do not save the settings)
⑦	UP	Page turning; switching options; adding settings value
⑧	Down	Page turning; switching options; minus setting values
⑨	Confirm	Press and hold for 5 seconds to enter the setting interface; short press to confirm the saving settings to enter the setting submenu
⑩	Turn On/Off	Turn on and shutdown operation

▶ UPS switching voltage is adjustable



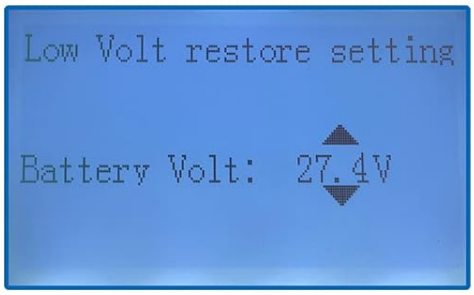


Image 3.7: This image displays the status indicators (AC, Battery, Inverter, Fault) and their meanings. It also shows the LCD display's detailed information and options for setting UPS switching voltages (Low Volt Protect Setting, Low Volt Restore Setting).

4. Setup and Installation

Follow these steps for proper installation of your AMPINVT Pure Sine Wave Inverter. Ensure all safety precautions are observed.

1. **Mounting:** Choose a dry, well-ventilated location for mounting the inverter. Ensure there is sufficient clearance around the unit for airflow.
2. **Battery Connection:**
    - Connect the positive (+) battery cable (red) to the positive (+) terminal on the inverter.
    - Connect the negative (-) battery cable (black) to the negative (-) terminal on the inverter.
    - Ensure connections are tight and secure.

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Video 4.1: This video demonstrates the process of connecting the battery cables to the inverter's terminals, ensuring proper polarity and secure connections. It also shows the connection of mains input and output.

3. **AC Input Connection (if using AC charger or UPS function):**
    - Connect the AC input wires (Live, Neutral, Ground) to the designated AC INPUT terminals on the inverter.
    - Ensure all connections are secure and correctly wired according to local electrical standards.
4. **AC Output Connection:**
    - Connect your AC loads to the AC OUTPUT terminals or directly to the AC output sockets on the inverter.
    - Verify that the total power consumption of your loads does not exceed the inverter's continuous power rating.
5. **Remote Panel (Optional):** If using a remote panel, connect it to the intelligent remote panel connection port using the provided cable.
6. **Initial Power On:** After all connections are secure, press the ON/OFF button on the inverter or remote panel to power on the unit. Observe the LCD display for status and any error messages.

5. Operating Modes

The AMPINVT inverter offers five selectable operating modes to suit different power management needs. These modes can be configured via the LCD display or remote panel.

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Video 5.1: This video demonstrates how to navigate through the different operating modes and settings on the inverter's LCD display, including Mains Priority, Battery Priority, and Unattended Mode.

5.1. AC/Line Priority Mode

In this mode, the inverter prioritizes AC power from the grid or a generator. It will use AC power to supply the loads and automatically charge the battery bank. If AC power is disconnected, the inverter will seamlessly switch to battery power.

5.2. Battery Priority Mode

This mode prioritizes power supply from the battery bank. The inverter will draw power from the batteries until a low voltage protection threshold is reached. At this point, it will switch to mains power. Once the battery is sufficiently recharged (e.g., by solar or AC charging), it will switch back to battery power.

5.3. ECO Mode

ECO Mode is designed for energy saving. If the connected load is less than 10% of the inverter's capacity, the inverter will automatically enter a sleep state and stop output. When the load exceeds 10%, it will automatically boot back to normal inversion mode, providing power to the loads.

5.4. Generator Mode

This mode is used when connecting an unstable 120V generator to the inverter's AC input. The inverter's built-in Automatic Voltage Regulator (AVR) will stabilize the generator's output, automatically matching 50Hz/60Hz municipal frequency and regulating the output voltage within the normal operating range.

5.5. Unattended Mode

In Unattended Mode, if the battery voltage drops below a set low voltage threshold, the inverter enters a standby (power-saving) state. When the battery voltage recovers to a user-defined value (e.g., through solar charging), the inverter will automatically resume normal operation, enabling fully automatic, unattended power management.

6. Maintenance

Regular maintenance ensures optimal performance and longevity of your inverter. Always disconnect all power sources before performing maintenance.

- **Cleaning:** Periodically clean the inverter's exterior and ventilation openings to prevent dust buildup, which can lead to overheating. Use a dry, soft cloth.
- **Connection Check:** Regularly inspect all electrical connections (battery, AC input, AC output) for tightness and signs of corrosion. Tighten any loose connections.
- **Battery Inspection:** Check battery terminals for corrosion and clean if necessary. Ensure battery cables are not damaged.
- **Environment:** Ensure the installation environment remains within recommended temperature and humidity ranges.

7. Troubleshooting

This section provides solutions to common issues you might encounter with your inverter.

Problem	Possible Cause	Solution
Inverter not turning on	Low battery voltage, loose battery connections, blown fuse/breaker.	Check battery voltage and charge if low. Secure battery connections. Inspect and replace fuses/reset breakers.
No AC output	Overload, high/low battery voltage, inverter fault, AC output wiring issue.	Reduce load. Check battery voltage. Refer to LCD for fault codes. Verify AC output wiring.
Overload warning/shutdown	Connected loads exceed inverter's capacity.	Reduce some loads. Restart the inverter. Ensure total load is within continuous rating.
Overheating warning	Poor ventilation, high ambient temperature, blocked fan.	Ensure adequate ventilation. Clean fan and vents. Reduce ambient temperature if possible.
Battery not charging	AC input not connected, AC input voltage too low/high, charger setting incorrect, battery fault.	Verify AC input connection and voltage. Check charger settings on LCD. Inspect battery health.

8. Specifications

Feature	Detail
Product Dimensions	16.7 x 10.2 x 6.7 inches
Item Weight	44 pounds
Brand	AMPINVT
Recommended Uses For Product	Home
Power Source	Battery Powered
Wattage (Continuous)	3000W
Peak Output Power	9000W
Battery Capacity (System compatibility)	100 Amp Hours

Feature	Detail
DC Input Voltage	12V
AC Output Voltage	110V/120V
Transfer Efficiency	>90%
UPS Transfer Time	10 msec typical
Max AC Charger Current	60A
Compatible Battery Types	LiFePO4, Sealed, Gel, AGM, Flooded, Lithium

9. Warranty and Support

AMPINVT provides a comprehensive warranty and customer support for its products.

- **Warranty:** The product comes with a one-year warranty for free maintenance or product replacement services.
- **Customer Service:** AMPINVT has established Customer Service Centers in the USA since 2019. For technical assistance or warranty claims, please contact AMPINVT customer support.