EPEVER IP2000-42-PLUS

EPEVER IPower-Plus Series IP2000-42 Plus Pure Sine Wave Inverter User Manual

Model: IP2000-42-PLUS

1. Introduction

Thank you for choosing the EPEVER IPower-Plus Series IP2000-42 Plus Pure Sine Wave Inverter. This device converts 48V DC battery power into 230V AC pure sine wave electricity, suitable for powering various household appliances, recreational vehicles, and off-grid systems. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your inverter.

The IPower-Plus series features a 180-degree rotatable LCD screen, compatibility with lithium batteries, and a USB port. It incorporates surge current suppression to protect battery cells and the Battery Management System (BMS) from damage. The inverter also boasts low idle power loss and a standby mode for energy efficiency.

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, or severe injury.

- Ensure proper ventilation around the inverter to prevent overheating.
- Do not expose the inverter to water, rain, snow, or spray.
- Do not operate the inverter if it has been damaged in any way.
- All electrical work should be performed by qualified personnel.
- Disconnect all power sources before performing any maintenance or wiring.
- Ensure correct polarity when connecting DC input cables to avoid damage to the inverter and battery.
- Keep children away from the inverter.

3. Product Features

- **Pure Sine Wave Output:** Provides high-quality AC power suitable for sensitive electronics.
- **180-Degree Rotatable LCD Display:** Allows for flexible viewing angles of operational data.

- **Lithium Battery Compatibility:** Designed to work seamlessly with lithium battery systems.
- **USB Port:** Integrated USB port for charging small electronic devices.
- **Surge Current Suppression:** Protects battery cells and BMS from high inrush currents.
- **Low Idle Loss & Standby Mode:** Maximizes energy efficiency when no load is connected.
- **RS485 Communication Interface:** Enables remote monitoring and management via PC software or mobile app.
- **Comprehensive Protection Functions:** Includes input reverse polarity, overvoltage, low supply voltage, overload, short-circuit, and overheating protection.

4. Setup and Installation

Before installation, ensure the inverter is placed in a dry, well-ventilated area, away from direct sunlight, heat sources, and flammable materials. Maintain adequate clearance around the inverter for proper airflow.

4.1 Physical Installation

Mount the inverter securely on a stable surface using appropriate fasteners. Ensure the mounting location can support the weight of the inverter (6.5 kg).

Figure 1: General view of the EPEVER IPower-Plus Inverter.

4.2 DC Input Connection (Battery)

Connect the DC input cables from your 48V battery bank to the inverter's DC input terminals. Ensure the positive (+) terminal of the battery connects to the positive (+) terminal of the inverter, and the negative (-) terminal of the battery connects to the negative (-) terminal of the inverter. Use appropriately sized cables to minimize voltage drop and ensure safe operation.

Figure 2: DC Input terminals and cooling fans.

4.3 AC Output Connection

Connect your AC loads to the inverter's AC output terminals. The inverter provides a single AC output. Ensure that the total power consumption of your connected devices does not exceed the inverter's continuous output power (2000W).

Figure 3: AC Output terminals, ON/OFF switch, USB, and RS485 ports.

4.4 Communication Port (Optional)

The RS485 isolated communication interface allows for remote monitoring and control. Connect a compatible communication cable to the RS485 port for PC software or mobile application integration. The port provides a 5V 200mA output.

5. Operating Instructions

5.1 Powering On/Off

1. Ensure all connections are secure before powering on.
2. To power on the inverter, switch the ON/OFF button to the 'ON' position. The LCD display will illuminate, showing operational status.
3. To power off the inverter, switch the ON/OFF button to the 'OFF' position.

5.2 LCD Display

The 180-degree rotatable LCD screen provides real-time information such as input DC voltage, output AC voltage, output frequency, power consumption, and error codes. Refer to the detailed product manual for specific display indicators and navigation.

5.3 USB Output

The integrated USB port can be used to charge compatible electronic devices. Connect your device's USB cable to the inverter's USB port.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your inverter.

- **Cleaning:** Periodically clean the exterior of the inverter with a dry cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Connection Checks:** Regularly inspect all electrical connections (DC input and AC output) to ensure they are tight and free from corrosion. Loose connections can cause overheating and damage.
- **Ventilation:** Ensure that the inverter's cooling fans and vents are not obstructed. Proper airflow is crucial to prevent overheating.

7. Troubleshooting

If you encounter issues with your inverter, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No AC Output	Inverter is off; Low battery voltage; Overload; Short circuit	Turn on inverter; Charge battery; Reduce load; Check for short circuits in wiring/appliances.
Overload Alarm	Connected load exceeds inverter capacity	Reduce the total power of connected appliances.
Overheating Alarm	Poor ventilation; Excessive ambient temperature; Prolonged high load	Ensure clear ventilation paths; Move inverter to a cooler location; Reduce load.
Low Voltage Alarm	Battery voltage is too low	Charge the battery or replace if faulty.
Input Reverse Polarity	DC input cables connected incorrectly	Immediately disconnect power and correct the polarity.

If the problem persists after attempting these solutions, please contact customer support.

8. Specifications

Feature	Specification
Model Number	IP2000-42-PLUS

Feature	Specification
System Battery Voltage	48V DC
Continuous Output Power	2000W
Peak Output Power (5s)	4000W
Output Voltage	230V AC (-7%~+3%)
Output Frequency	50/60Hz ±0.2%
Max. Efficiency	>94.5% (30% load)
No-Load Current	<0.5A
RS485 Interface Output	5V DC/200mA
Protection Class	IP20
Unit Dimensions (L x W x H)	42.1 x 23.2 x 12.3 cm
Net Weight	6.5 kg
Recommended Uses	Off-grid households, recreational vehicles, backup power
Certifications	CE, RoHS

9. Warranty and Support

The EPEVER IPower-Plus Series IP2000-42 Plus Inverter comes with a**2-year manufacturer's warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use.

For technical support, warranty claims, or further assistance, please contact your authorized EPEVER dealer or the manufacturer's customer service. Please have your model number (IP2000-42-PLUS) and purchase information ready when contacting support.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question