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WZRELB RBP300012

WZRELB RBP300012 Pure Sine Wave Power Inverter Instruction Manual

Model: RBP300012 | Brand: WZRELB

1. Introduction

This manual provides detailed instructions for the safe and efficient operation of your WZRELB RBP300012 3000W 12V Pure Sine Wave Solar Power Inverter. This device converts 12V DC battery power into 110-120V AC pure sine wave electricity, suitable for a wide range of household and sensitive electronic appliances. Please read this manual thoroughly before installation and operation to ensure proper use and to prevent damage to the unit or connected devices.

Key Features:

- 3000W continuous power, 6000W peak power pure sine wave output.
- Converts 12V DC to 110-120V AC at 60Hz.
- Dual US outlets for convenient power access.
- LED displays for monitoring DC input voltage and AC output voltage.
- Comprehensive safety protections: Over voltage, Low voltage, Overload, Short circuit, Over heat, Polarity reverse (fuse), and Ground protection.
- Intelligent cooling fan operates based on temperature, prolonging battery life and reducing noise.
- Compact and robust design, ideal for mobile and off-grid applications.
- High-quality pure copper inductance ensures true pure sine wave AC output.

Image: The WZRELB Pure Sine Wave Inverter is suitable for various applications including RVs, boats, and home solar systems, providing stable and reliable power.

2. Safety Precautions

Adhering to these safety guidelines is crucial for your safety and the longevity of the inverter:

- **Do NOT connect the inverter directly to grid power.** This unit is designed for DC to AC conversion only.
- **Ensure correct polarity:** Reverse connection of positive and negative terminals is strictly forbidden and will cause severe damage.
- **Avoid Overload:** Do not exceed the inverter's continuous power rating. For inductive loads (e.g., motors, compressors, refrigerators, microwaves), choose an inverter with a continuous power 3-10 times higher than the appliance's rated power due to high startup surge requirements.
- **Proper Power-Up Sequence:** Always turn on the inverter first, then turn on your loads. When shutting down, turn off the loads first, then the inverter. This prevents unstable output during startup and protects your appliances.
- **Cable Sizing:** Use the provided standard battery cables. Using undersized or excessively long cables can lead to significant voltage drop and prevent the inverter from delivering full output. Ensure cable specification

is at least AWG 4, and thicken if length exceeds 24 inches.

- **Ventilation:** Ensure adequate ventilation around the inverter. The cooling fan activates when the internal temperature exceeds 50°C (122°F).
- **Fuse Protection:** The inverter has built-in fuses. Spare fuses are included in the package.
- **Red Light Flashing:** A flashing red light indicates that the input voltage is slightly high.
- **Installation Environment:** Install the inverter in a dry, well-ventilated area, away from direct sunlight, heat sources, and flammable materials.

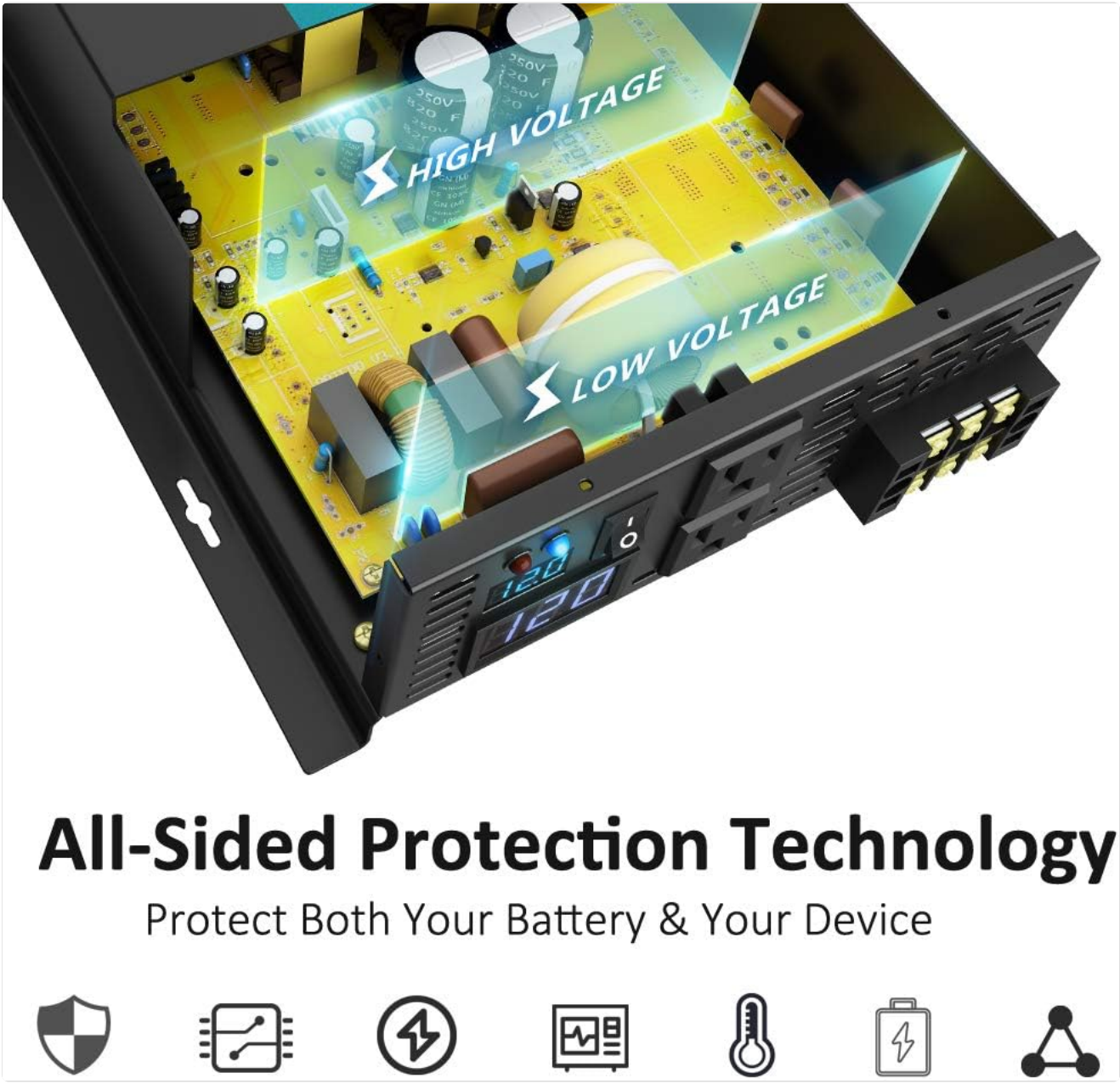

Image: The inverter features all-sided protection technology to safeguard both your battery and connected devices from high and low voltage conditions.

3. Package Contents

Verify that all items are present in your package:

- WZRELB 3000W 12VDC Pure Sine Wave Inverter x 1
- Battery Cables x 4 (2 positive, 2 negative)
- User Manual x 1 (this document)
- Cable Lugs (for secure connections)

Image: The package includes the 3000-watt inverter, four battery cables, the user manual, and cable lugs for installation.

4. Product Overview

Front Panel:

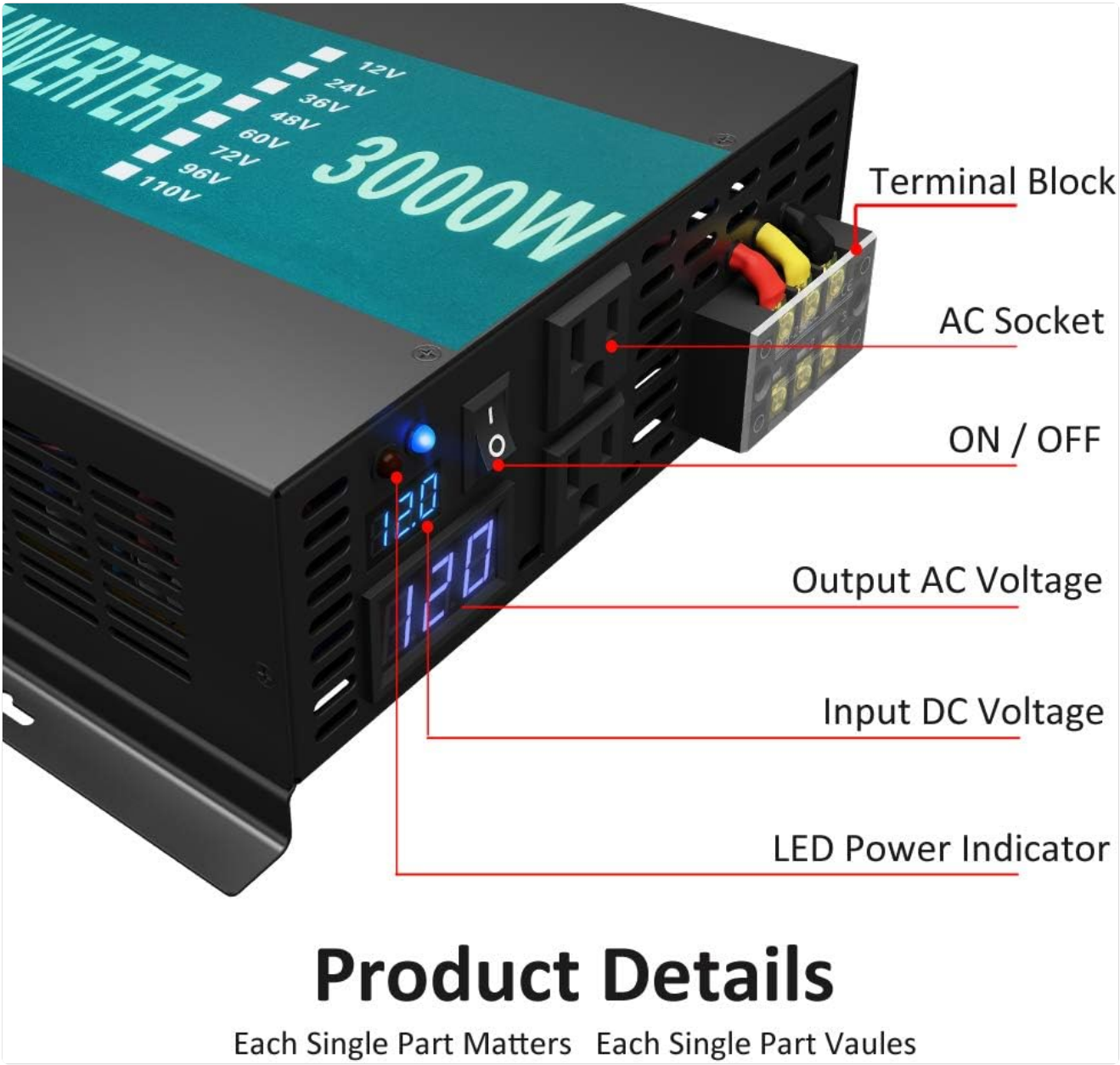

Image: The front panel features dual US type AC sockets, a terminal block for direct wiring, an ON/OFF switch, LED power indicator, and digital displays for input DC voltage and output AC voltage.

- **AC Socket:** Standard US type outlets for connecting AC appliances.
- **Terminal Block:** For direct hardwire connections of AC loads.
- **ON/OFF Switch:** Main power switch for the inverter.
- **Output AC Voltage Display:** Shows the current AC output voltage.
- **Input DC Voltage Display:** Shows the current DC input voltage from the battery.
- **LED Power Indicator:** Illuminates when the inverter is powered on.

Rear Panel:

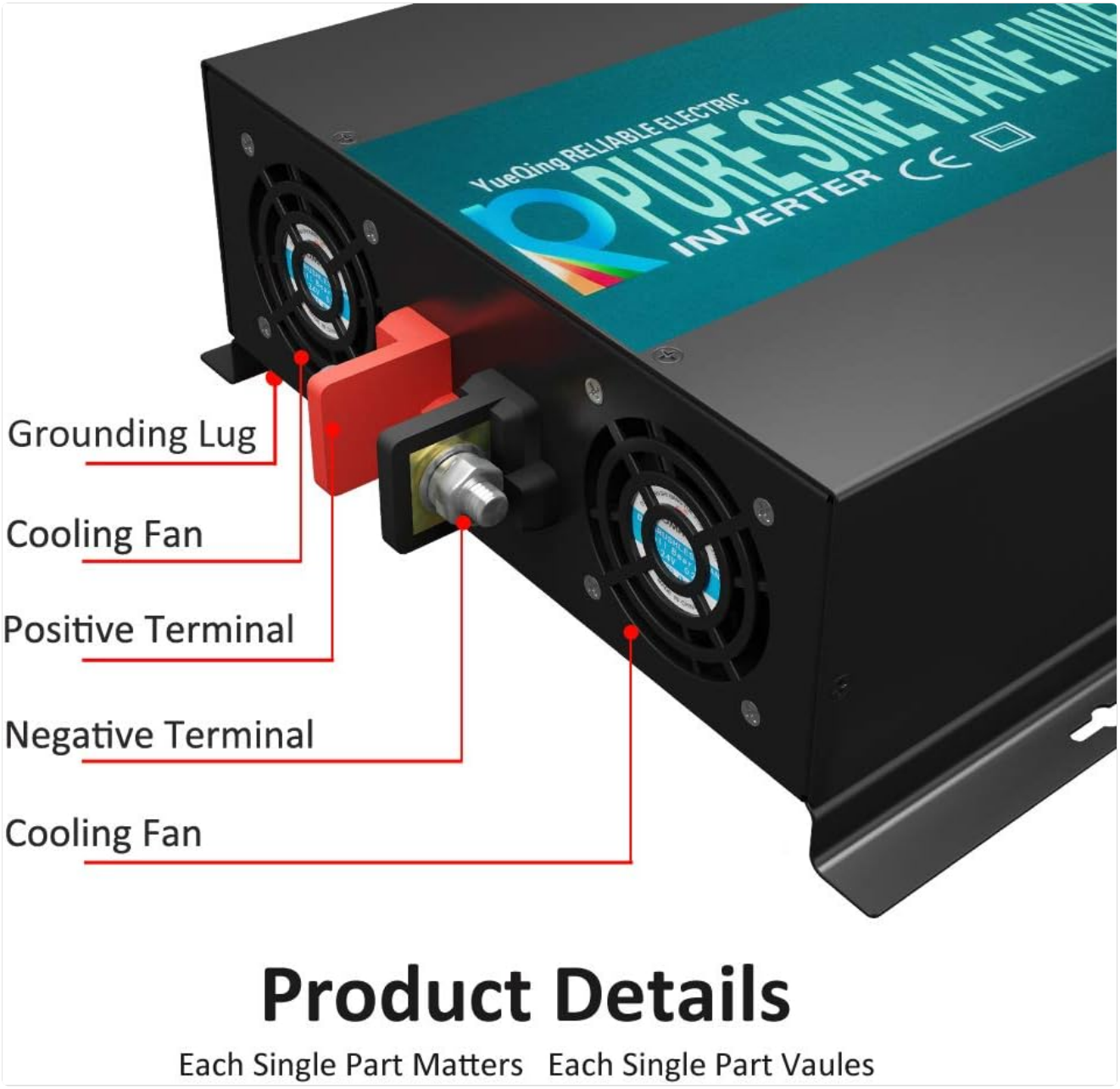

Image: The rear panel shows the positive and negative DC input terminals, cooling fans, and the grounding lug.

- **Positive Terminal (+):** Red terminal for connecting the positive battery cable.
- **Negative Terminal (-):** Black terminal for connecting the negative battery cable.
- **Cooling Fans:** Two intelligent cooling fans for heat dissipation.
- **Grounding Lug:** For connecting the inverter to an earth ground.

5. Installation

Follow these steps for safe and proper installation:

5.1 DC Connection:

1. Ensure the inverter's ON/OFF switch is in the "OFF" position.
2. Connect the positive (red) battery cables to the positive (+) terminal of the inverter.
3. Connect the negative (black) battery cables to the negative (-) terminal of the inverter.
4. Connect the other end of the positive (red) cables to the positive (+) terminal of your 12V battery system.
5. Connect the other end of the negative (black) cables to the negative (-) terminal of your 12V battery system.

6. Tighten all terminal connections securely using the provided nuts and washers. Loose connections can cause overheating and damage.

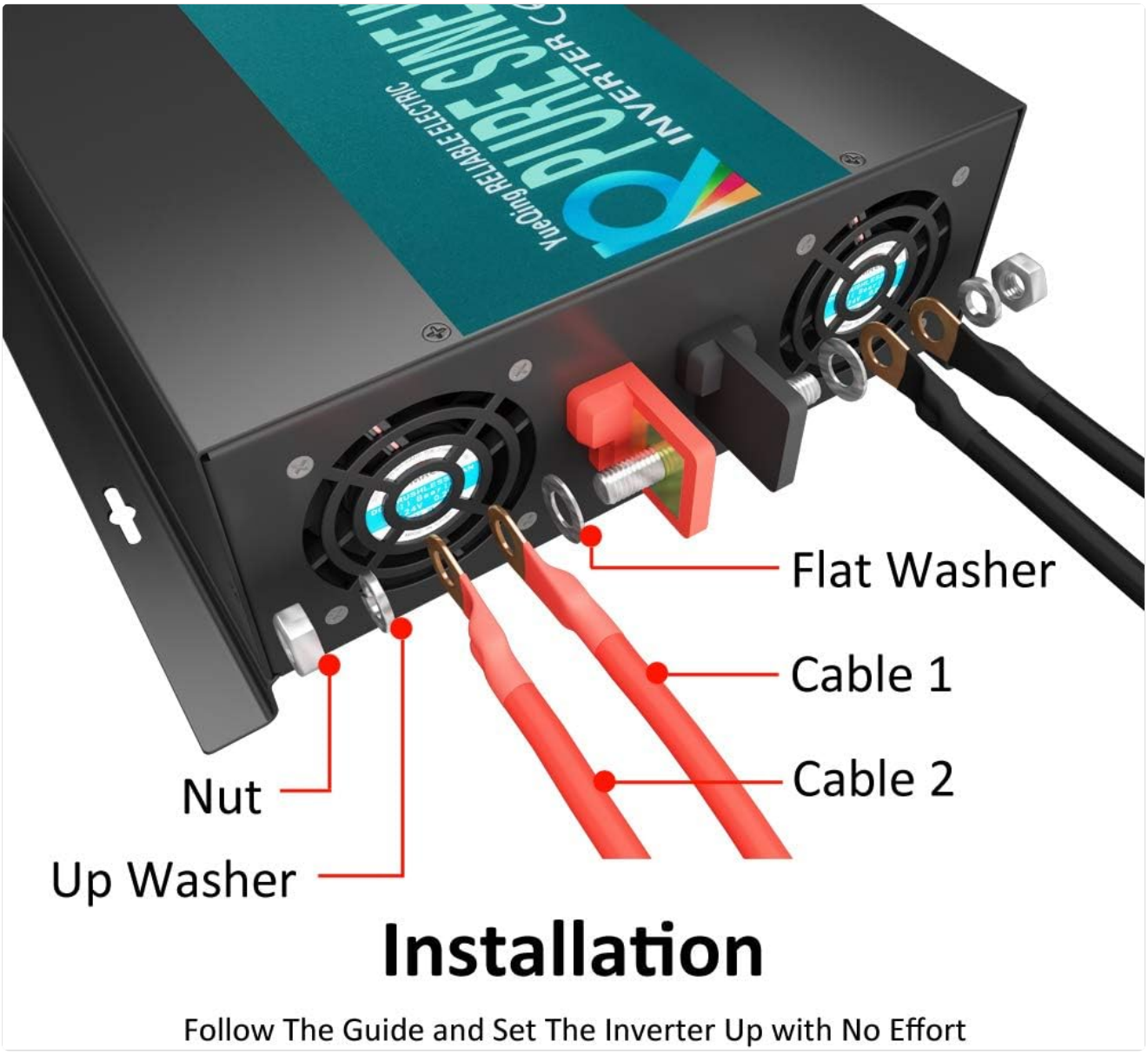

Image: Detailed view of connecting the battery cables to the inverter's positive and negative terminals, ensuring proper use of flat washers, up washers, and nuts for secure installation.

Important: A reverse connection of positive and negative is strictly prohibited and will damage the inverter. Always double-check polarity before making connections.

5.2 Cable Requirements:

It is critical to use appropriately sized cables for optimal performance and safety. The inverter comes with standard battery cables. If you use your own cables, ensure they are at least AWG 4. If the cable length exceeds 24 inches, consider using thicker gauge cables to minimize voltage drop, which can affect inverter performance and trigger low voltage alarms.

5.3 Grounding:

For safety, connect the grounding lug on the inverter's rear panel to a proper earth ground. This helps protect against electrical shock in case of a fault.

Image: This composite image illustrates the DC connection process, the importance of tightening terminals, and a crucial warning against overloading, especially with inductive loads.

6. Operating Instructions

6.1 Powering On/Off:

1. Before powering on, ensure all DC connections are secure and correct.
2. Flip the ON/OFF switch on the inverter's front panel to the "ON" position. The LED power indicator should illuminate, and the voltage displays will show readings.
3. Once the inverter is stable (after a few seconds due to soft start function), you can connect and turn on your AC appliances.
4. To power off, first turn off all connected AC appliances.
5. Then, flip the ON/OFF switch on the inverter to the "OFF" position.

6.2 Load Considerations:

Understanding your load type is essential for optimal inverter performance and to prevent overloading:

- **Resistive Loads:** Appliances like laptops, TVs, electric cookers, and LED lights. For these, choose an inverter with continuous power higher than the appliance's rated power. It is best to use about 80% of the inverter's rated power.
- **Inductive Loads:** Appliances with motors or compressors, such as microwaves, water pumps, air conditioners, and refrigerators. These require a significantly higher surge power at startup (3-10 times their continuous rating). For such appliances, select an inverter whose continuous power is 3-7 times higher than your appliance's rating. For refrigerators, a 10 times higher power inverter is recommended.

7. Maintenance

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

- **Keep Clean:** Periodically clean the exterior of the inverter with a dry, soft cloth. Ensure ventilation openings and cooling fans are free from dust and debris.
- **Check Connections:** Regularly inspect all DC and AC connections for tightness. Loose connections can cause resistance, heat buildup, and power loss.
- **Battery Health:** Ensure your battery system is well-maintained and fully charged. A low battery can cause the inverter to shut down or enter protection mode.
- **Environment:** Maintain a cool, dry, and well-ventilated environment for the inverter.

8. Troubleshooting

Here are solutions to common issues you might encounter:

Q: Why can't the inverter be turned on?

- **A:** Ensure the battery is fully charged. The inverter may be in low-voltage protection if the battery power is low.
- **A:** Due to the soft start function, turn on the inverter first, then turn on your loads. Otherwise, the output may not be stable or normal.
- **A:** Check for overload. If the load exceeds the inverter's capacity, it will shut down.

Q: Why does the inverter automatically shut down when running loads?

- **A:** Check if a fuse or breaker is installed in your system. For a 3000W 12V DC version, a 300Amp fuse between the inverter and battery is recommended.
- **A:** Verify that standard cables are used and all connections are secure. If using four cables, ensure all are connected. If using your own cables, ensure they are larger than AWG 4, and thicken if length exceeds 24 inches to prevent voltage drop.
- **A:** The battery capacity might be too small. For a 3000W 12VDC inverter, a battery system of ≥ 300AH is recommended. If the DC LED reading drops significantly under load, your battery capacity may be insufficient. Consider adding more batteries.

Q: Can the output voltage be adjusted?

- **A:** The output voltage may deviate due to load or other factors. The output voltage can be reset within a certain range by the user. Refer to the detailed user guide (PDF) for advanced settings.

9. Specifications

Feature	Specification
Model Name	RBP300012
Wattage (Continuous)	3000 watts
Wattage (Peak)	6000 watts
DC Input Voltage	12V DC (Range: 10V-15V)
AC Output Voltage	110-120V AC
Frequency	60Hz
Efficiency	85%-90%

Feature	Specification
Low Voltage Alarm	9.5V-10.5V
Low Voltage Shut Down	9V-10V
Over Voltage Shut Down	15.5V
Cooling Method	Intelligent Cooling Fan (activates > 50°C)
Product Dimensions	16.2 x 9.7 x 3.7 inches
Item Weight	11.5 pounds

10. Warranty and Support

WZRELB provides an 18-month warranty for this product, ensuring prompt reply and friendly customer service. For further assistance, detailed diagrams, or specific technical inquiries, please refer to the official PDF documents:

- Installation Manual (PDF)
- User Guide (PDF)

For customer service, please contact WZRELB directly through their official channels or the retailer where the product was purchased.

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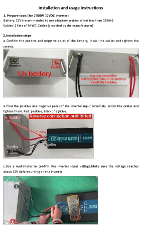
Related Documents - RBP300012

	WZRELB 3000W 12VDC Inverter Installation and Usage Guide A concise guide for installing and using the WZRELB 3000W 12VDC Pure Sine Wave Inverter, including important notes on battery connection, cable specifications, and appliance load compatibility.
	WZRELB 7000W Split Phase Pure Sine Wave Inverter - 48V DC to 120V/240V AC Detailed overview of the WZRELB 7000W Split Phase Pure Sine Wave Inverter, featuring 48V DC input, 120V/240V AC output, 4 AC outlets, AC hardwire terminal, and high efficiency up to 91.6%. Ideal for automotive and off-grid applications.
	WZRELB U5 Series Pure Sine Wave Inverter (1000W-5000W) - Enhanced Performance Explore the WZRELB U5 Series Pure Sine Wave Inverters, available from 1000W to 5000W. These inverters offer superior performance and reliability, featuring an extra-thick 2.0mm PCB for enhanced load handling and durability.

	WZRELB 2500W Pure Sine Wave 12VDC Power Inverter Installation and Usage Guide Step-by-step installation and usage instructions for the WZRELB 2500W Pure Sine Wave Power Inverter (12VDC input). Includes preparation, connection, safety notes, and load management tips.