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> WZRELB 8000W 24V Pure Sine Wave Split Phase Power Inverter User Manual

WZRELB SP8K24RC

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Model: SP8K24RC | Brand: WZRELB

1. PRODUCT OVERVIEW

The WZRELB 8000W 24V Pure Sine Wave Split Phase Power Inverter is designed to convert 24 Volt DC battery power into 120V and 240V AC electricity. This high-efficiency inverter is suitable for off-grid applications, backup power during outages, and powering various appliances in homes, cabins, RVs, trailers, semi-trucks, and boats. It features a robust design with multiple protection mechanisms to ensure safe and reliable operation.



Figure 1: WZRELB 8000W 24V Pure Sine Wave Split Phase Power Inverter

2. KEY FEATURES

- **High Power Output:** Provides 8000 watts of continuous power and 16000 watts of peak surge power, capable of handling demanding loads.
- **Pure Sine Wave Output:** Delivers clean and stable AC power, suitable for sensitive electronics and appliances.
- **Split Phase Capability:** Converts 24V DC to 120V and 240V AC simultaneously, supporting a wide range of electrical systems.
- **Multiple AC Outputs:** Equipped with two dual 120V outlets (max 4000W each) and hardwire terminals for 3-wire (240VAC, 8000W max) and 4-wire ($L1+L2=240V$, $L1+N=120V$, $L2+N=120V$) connections.
- **High Efficiency:** Achieves up to 91.6% efficiency, minimizing energy loss.
- **LCD Display:** An interactive LCD provides real-time monitoring of battery status, working temperature, and 120V/240V output voltage.
- **Wireless Remote Control:** Allows for convenient ON/OFF switching from up to 100ft indoors or 150ft in open areas.
- **Comprehensive Protections:** Includes temperature-controlled cooling fans, low and high voltage alarm/shutdown, overload protection, short circuit protection, over temperature protection, internally fused design, and battery reverse polarity protection.
- **Wide Battery Compatibility:** Compatible with AGM, gel, flooded, lead-acid, and lithium-ion batteries.

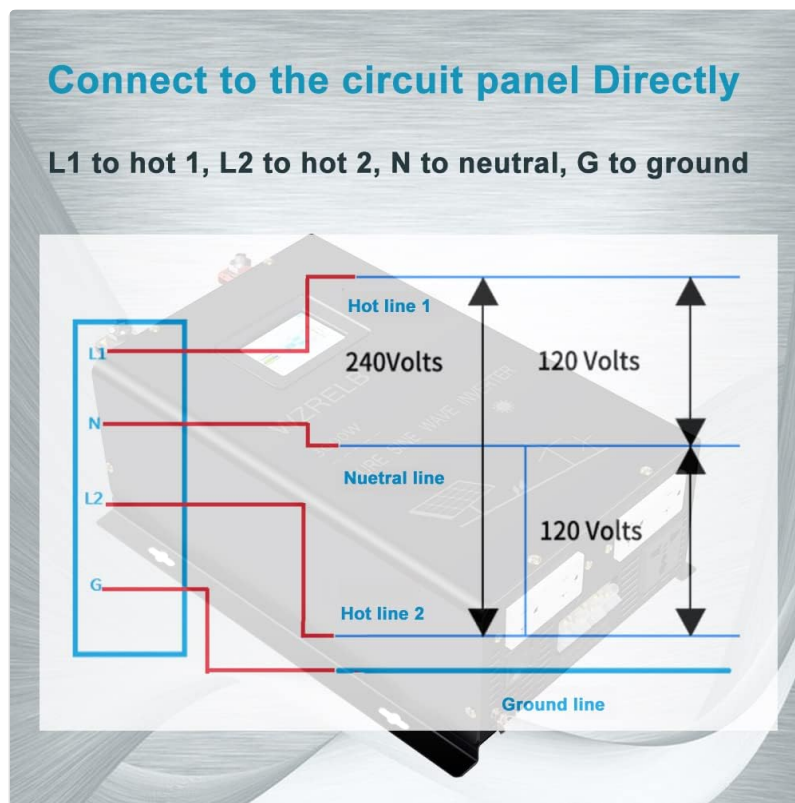


Figure 2: Inverter LCD Display for real-time monitoring



Figure 3: Wireless Remote Controller

3. SPECIFICATIONS

Specification	Value
Brand	WZRELB
Model Name	SP8K24RC
Power Source	Battery Powered
Input Voltage	24 Volts DC
Output Voltage	120 Volts AC, 240 Volts AC
Continuous Output Power	8000 Watts
Peak Output Power	16000 Watts
Electrical Output Waveform	Pure Sine Wave
Efficiency	Up to 91.6%
Item Dimensions (L x W x H)	23" x 12" x 6.2"
Item Weight	37 Pounds
Recommended Uses	Home, Off-grid, RV, Trailer, Semi-truck, Boat
Manufacturer	Yueqing Reliable Electric Co.,Ltd.

4. SETUP AND INSTALLATION

4.1 Battery Connection (24V System)

The inverter requires a 24V DC battery system. If using 12V batteries, connect two 12V batteries in series to achieve 24V. Ensure all connections are secure to maintain stable current flow.



Figure 4: Inverter with wiring diagram for split phase output

4.2 DC Connection Guide (Spark-Proof)

Follow these steps for a safe DC connection:

1. **Connect Negative Cable First:** Attach the black cable to the negative terminal of the battery, then connect the other end of the black cable to the negative terminal of the inverter.
2. **Contact Spark-Proof Nut:** After connecting the red cable to the battery, briefly contact the other side of the red cable to the spark-proof nut on the inverter for 3-5 seconds. This helps to prevent sparks during the final connection.
3. **Connect Positive Cable:** Securely connect the red cable to the positive terminal of the inverter to complete the wiring.

Note: Use all cables provided with the inverter. If 4 cables are provided, use 2 black for Negative and 2 red for Positive.

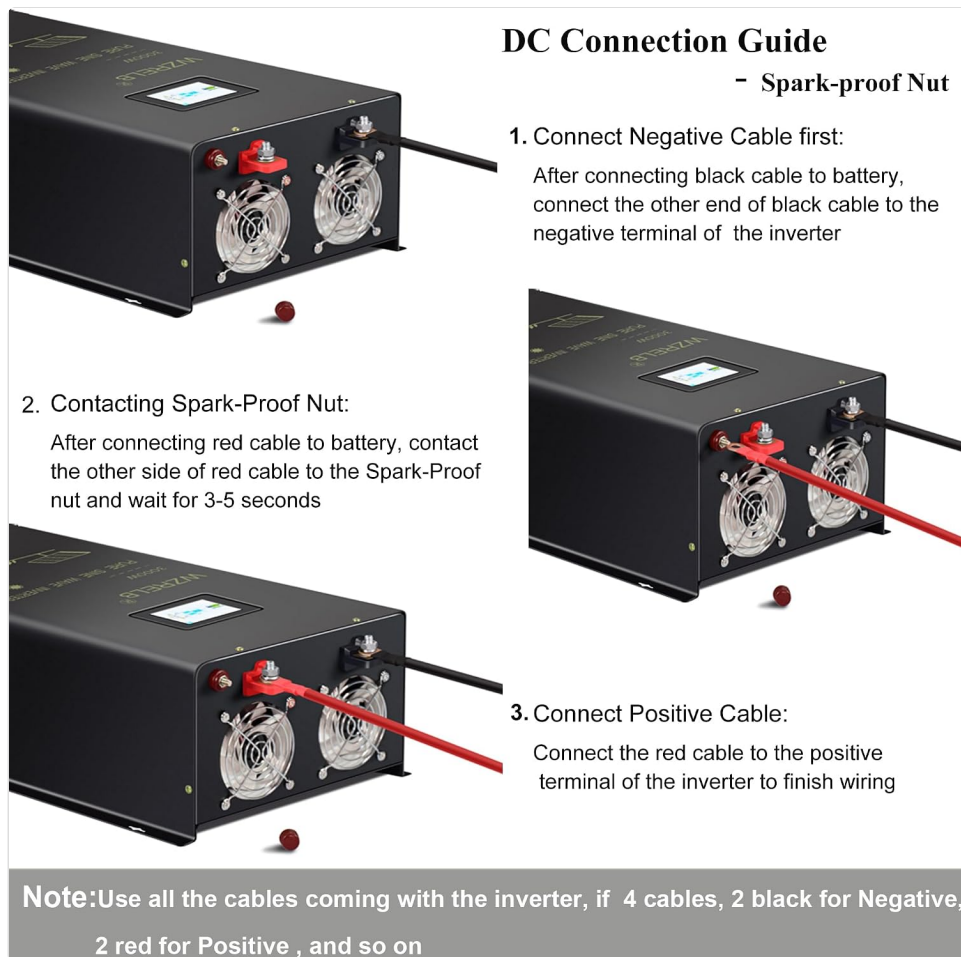


Figure 5: Step-by-step DC Connection Guide

4.3 AC Output Connections

The inverter offers multiple AC output options:

- **Dual 120V Outlets:** Two standard US outlets, each supporting a maximum of 4000W.
- **Hardwire Terminals (3-wire):** For 240VAC output, with a maximum capacity of 8000W (L+N=240V).
- **Hardwire Terminals (4-wire Multi-mode):** Supports L1+L2=240V, L1+N=120V, and L2+N=120V configurations, allowing simultaneous 120VAC and 240VAC output.

Important: The total amperage for the hardwire connection should not exceed 25A.



Figure 6: AC Output Panel with 120V outlets and hardwire terminals

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

Once the battery and AC connections are securely made, use the ON/OFF switch on the inverter's front panel or the wireless remote controller to power the unit on or off. The LCD display will illuminate, indicating operational status.

5.2 Monitoring with LCD Display

The LCD display provides critical information:

- **Status:** Indicates normal operation or fault conditions.
- **Battery Voltage and Capacity:** Shows the current DC input voltage and estimated battery charge level.
- **Working Temperature:** Displays the internal temperature of the inverter.
- **AC Output Voltage and Amperage:** Shows the output for AC1 (120V), AC2 (120V), and the combined 240V output, including frequency.

5.3 Connecting Appliances

Connect your 120V or 240V appliances to the appropriate outlets or hardwire terminals. Ensure the total power consumption of connected devices does not exceed the inverter's continuous output rating (8000W) or the individual outlet/terminal limits. The inverter's soft-start feature helps manage initial power surges from inductive loads.

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Video 1: Official product video demonstrating the unboxing, key features, installation steps, and various applications of the WZRELB 8000W 24V Pure Sine Wave Split Phase Power Inverter.

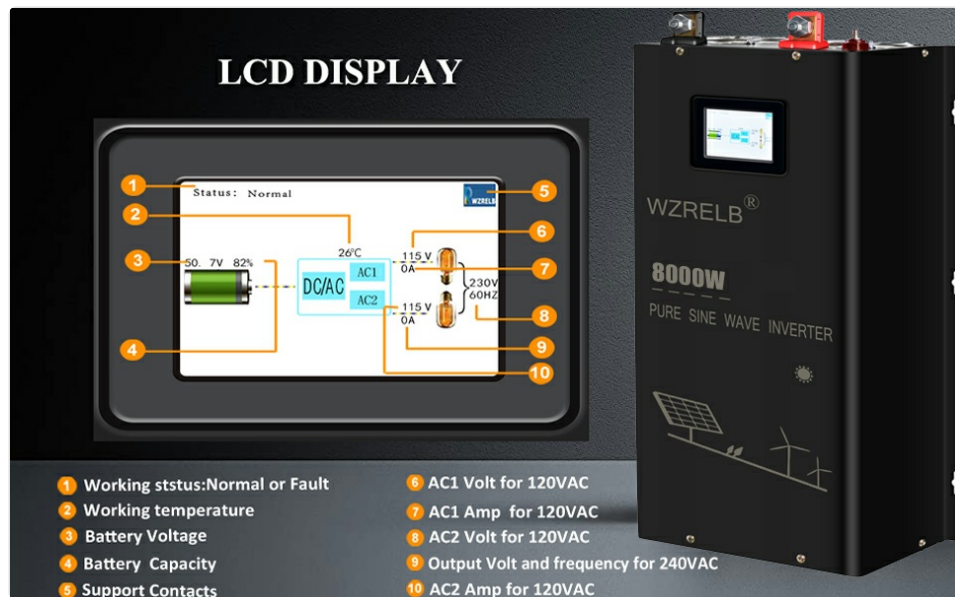


Figure 7: Inverter powering multiple appliances

6. MAINTENANCE

To ensure optimal performance and longevity of your WZRELB inverter, regular maintenance is recommended:

- **Keep Clean:** Periodically clean the exterior of the inverter with a dry cloth. Ensure ventilation openings are free from dust and debris to allow proper airflow for the cooling fans.
- **Check Connections:** Regularly inspect all DC and AC connections for tightness. Loose connections can cause overheating and reduced performance.
- **Battery Health:** Monitor your battery bank's health and charge levels. Ensure batteries are properly maintained according to their manufacturer's guidelines.
- **Fan Operation:** The inverter features temperature-controlled cooling fans. Ensure they operate freely when the unit heats up. Do not obstruct the fan vents.

7. TROUBLESHOOTING

The WZRELB inverter is equipped with multiple protection features. If an issue occurs, the LCD display may show an error status. Refer to the following common issues and their potential solutions:

- **Overload Protection:** If the inverter shuts down due to overload, reduce the connected load. The LCD may indicate an overload status. Disconnect some appliances and restart the inverter.
- **Low Voltage Protection:** If the battery voltage drops too low, the inverter will shut down to protect the batteries. Recharge your batteries or check battery connections. The LCD will show low voltage status.
- **High Voltage Protection:** If the input DC voltage exceeds the safe limit, the inverter will shut down. Verify your battery charging system and battery voltage. The LCD will show high voltage status.
- **Short Circuit Protection:** In case of a short circuit on the AC output, the inverter will immediately shut down. Disconnect all AC loads and inspect wiring for any shorts before restarting.

- **Over Temperature Protection:** If the internal temperature becomes too high, the inverter will shut down. Ensure adequate ventilation and clear any obstructions from the cooling fans. Allow the unit to cool down before restarting.
- **Battery Reverse Polarity:** The inverter has protection against incorrect battery polarity. Always double-check positive and negative connections before powering on.

If you encounter persistent issues not resolved by these steps, please contact customer support.

8. WARRANTY AND SUPPORT

The WZRELB 8000W 24V Pure Sine Wave Split Phase Power Inverter comes with a **1-year warranty** from the date of purchase. This warranty covers manufacturing defects and malfunctions under normal use conditions.

For technical assistance, warranty claims, or any questions regarding your inverter, please contact WZRELB customer support. Have your model number (SP8K24RC) and purchase details ready when contacting support.

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