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RDYMONKEY ZLPOWER GS-III-12000W-48V

ZLPOWER 12000W 48V Hybrid Solar Inverter User Manual

Model: ZLPOWER GS-III-12000W-48V | Brand: ZLPOWER

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your ZLPOWER 12000W 48V Hybrid Solar Inverter. This low-frequency, split-phase pure sine wave inverter is designed for off-grid systems, solar hybrid applications, and home backup power, converting 48V DC to 120V/240V AC. Please read this manual thoroughly before installation and use, and retain it for future reference.



Figure 1.1: ZLPOWER 12000W 48V Hybrid Solar Inverter.

2. SAFETY INFORMATION

Always observe the following safety precautions to reduce the risk of electric shock, fire, or injury:

- Installation must be performed by qualified personnel.
- Ensure all wiring complies with local and national electrical codes.

- Do not disassemble the inverter. There are no user-serviceable parts inside.
- Keep the inverter away from flammable materials, moisture, and direct sunlight.
- Ensure proper ventilation around the unit to prevent overheating.
- Always disconnect power before performing any maintenance or wiring.



Figure 2.1: Inverter's Multiple Intelligent Protection Systems, including overload, short circuit, overheating, and voltage fluctuation protection.

3. PRODUCT OVERVIEW

3.1 Key Features

- **Heavy Duty Off-Grid Inverter:** 12KW pure sine wave inverter, peaks at 36,000W for 20s. Features a pure copper transformer for stable 120V/240V AC output.
- **Battery Compatibility:** Supports AGM, GEL, lead acid, lithium-ion, and LiFePO4 batteries with lithium battery communication.
- **Built-in Dual MPPT Solar Controller:** Includes two 80A MPPT solar charge controllers (optional). Maximum charging current is 200A, adjustable via LCD.
- **Energy Management:** Offers AC priority, DC priority, or smart mode for optimal energy usage.
- **External WiFi-module:** Equipped for mobile monitoring.
- **Safety Certifications:** UL 1741 Standard ETL Certified.

8KW/10KW/12KW PURE SINE WAVE POWER INVERTER

Split Phase Pure Sine Inverter Charger DC 48V AC Input:240V,AC Output:120V/240V



Figure 3.1: Key specifications of the ZLPOWER Hybrid Solar Inverter.

3.2 Components

The inverter features a robust design with clearly labeled connection points and an intuitive display.

WIRING TERMINAL

1. Battery Positive
2. Battery Negative
3. Terminal block
4. AC input switch
5. AC output switch
6. On / off switch
7. Grounding terminal
8. RS-232 (Optional)
9. CAN/RS485/USB
10. Remote switch
11. DC FAN
12. Generator start signal
13. AC FAN



Figure 3.2: Wiring Terminal Layout.

The front panel includes an LCD screen for monitoring and configuration:

LCD SCREEN DISPLAY

LCD SHOWS THE SOLAR CAPACITY.



Figure 3.3: LCD Screen Display.

4. SETUP & INSTALLATION

4.1 Unboxing and Initial Inspection

Carefully unbox the inverter and inspect for any shipping damage. Ensure all components listed in the packing list are present. The following video demonstrates the unboxing process:

Video 4.1: Inverter unboxing and initial setup. This video demonstrates how to safely unpackage the ZLPOWER hybrid solar inverter and prepare it for installation, including removing the shipping brackets.

4.2 Mounting

The inverter should be mounted in a well-ventilated area, away from direct sunlight and moisture. Ensure sufficient clearance around the unit for airflow. Use appropriate mounting hardware for your wall type.

SOLAR INVERTER DIMENSIONS



12KW

NET WEIGHT:157.63LBS



Outdoor Camping



Outdoor homework



Emergency backup



Night Market Stalls

Figure 4.1: Solar Inverter Dimensions and typical applications.

4.3 Wiring Connections

Refer to the wiring terminal diagram (Figure 3.2) and the typical application diagram (Figure 4.2) for correct connections. Ensure all connections are secure and properly torqued.

TYPICAL APPLICATION OF GSLL SERIES HYBRID INVERTER

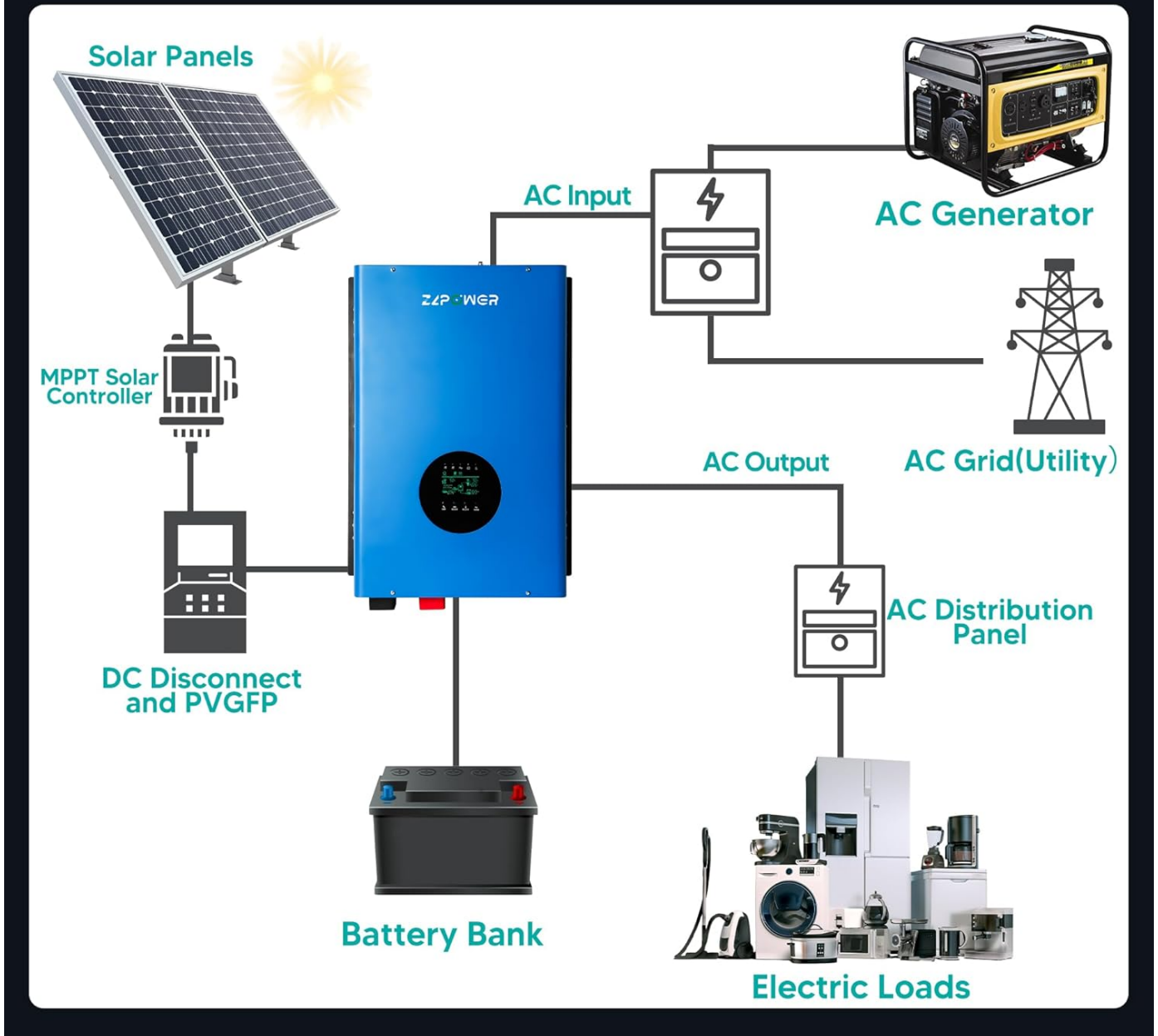


Figure 4.2: Typical Application of GSLL Series Hybrid Inverter.

4.4 Battery Connection

This inverter is compatible with various battery types. Select the appropriate battery type on the LCD screen during initial setup. Connect the battery bank to the designated 48VDC terminals, ensuring correct polarity.

COMPATIBLE WITH MULTIPLE BATTERY TYPES



Figure 4.3: Compatible Battery Types.

4.5 WiFi Module Connection

The inverter is equipped with an external WiFi module for mobile monitoring. Follow these steps to connect and set up the monitoring application:

1. Install the external WiFi plug into the designated port on the inverter.
2. Download the SmartESS app from your mobile device's app store. Android App | iOS App
3. Follow the in-app instructions to connect to the WiFi datalogger, create an account, and add your inverter.



Figure 4.4: Wireless Router Connection and App Setup.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

To power on the inverter, ensure all connections are secure, then switch on the DC breaker (if applicable) and the AC input/output switches. Finally, press the main power button on the inverter. To power off, reverse the sequence.

5.2 LCD Display and Navigation

The LCD screen provides real-time operational data and allows for configuration adjustments. Use the 'CONF', 'SELECT', and 'ENTER' buttons to navigate menus and change settings. The display shows information such as input voltage, output voltage, battery status, and solar charging data.

5.3 Charging Modes

The inverter offers flexible charging modes:

- **AC Priority:** The inverter primarily uses AC utility power to charge batteries and power loads. Solar power acts as a supplementary source.
- **DC Priority:** The inverter prioritizes solar power and battery power for loads. AC utility power is used only when solar/battery power is insufficient.
- **Smart Mode:** An intelligent mode that optimizes power usage based on availability and load demand.

The maximum charging current is 200A and can be adjusted from 0% to 100% via the LCD screen.

6. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your inverter:

- **Cleaning:** Periodically clean the exterior of the inverter and ensure ventilation openings are free from dust and debris. Use a

dry cloth.

- **Connections:** Annually check all electrical connections for tightness and signs of corrosion.
- **Battery Inspection:** Follow the manufacturer's guidelines for your specific battery type regarding maintenance and inspection.
- **Environment:** Ensure the installation environment remains within the specified temperature and humidity ranges.

7. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
Inverter not powering on	No DC input from batteries; DC breaker off; Main power switch off	Check battery connections and voltage; Ensure DC breaker is on; Turn on main power switch.
No AC output	AC output switch off; Overload; Short circuit; Low battery voltage	Turn on AC output switch; Reduce load; Check for short circuits; Charge batteries.
Overload alarm	Connected load exceeds inverter capacity	Reduce the total load connected to the inverter.
High temperature warning	Insufficient ventilation; Ambient temperature too high	Ensure clear airflow around the inverter; Relocate to a cooler environment if necessary.

If the issue persists after following these steps, please contact ZLPOWER customer support.

8. SPECIFICATIONS

Detailed technical specifications for the ZLPOWER 12000W 48V Hybrid Solar Inverter:

Specification	Value
Model Name	GS-III-12000W-48V
Wattage	12000 watts
Peak Wattage	36000W (for 20s)
Power Source	Solar and Battery Powered
Input Voltage	48V DC
Output Voltage	120V/240V AC
Frequency	Selectable 50Hz/60Hz
MPPT Solar Charge Controllers	Two 80A MPPT (optional)
Max Charging Current	200A
Product Dimensions	27.95 x 19.69 x 11.81 inches
Item Weight	99 pounds
Certifications	UL 1741 Standard ETL Certified

9. WARRANTY & SUPPORT

ZLPOWER offers a **60-month warranty** for the GS Series 12KW hybrid solar inverter. This warranty covers manufacturing defects and ensures peace of mind for your investment. Additionally, ZLPOWER provides **lifetime technical support** to assist with any installation, operation, or troubleshooting queries.

For support, please refer to the contact information provided with your product or visit the official ZLPOWER website. We are committed to ensuring your ZLPOWER product works properly and will provide timely assistance for all quality-related issues and replacement services.

