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SGPWATT LFPV12K48V240VSP

SUNGOLDPOWER 12000W 48V 240Vac Split Phase Pure Sine Wave Inverter

Model: LFPV12K48V240VSP | Brand: SGPWATT

1. Introduction

This instruction manual provides essential information for the safe and efficient installation, operation, and maintenance of your SUNGOLDPOWER 12000W 48V 240Vac Split Phase Pure Sine Wave Inverter. This heavy-duty inverter is designed for off-grid power systems, converting DC power from batteries into stable AC power for various home and office appliances. It features a 120A AC charger and provides 120V/240Vac split phase output.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in serious injury or death, and damage to the inverter or other equipment.

- Read all instructions thoroughly before attempting installation or operation.
- Installation must be performed by qualified personnel familiar with electrical systems and safety standards.
- Ensure the inverter is properly grounded to prevent electrical shock.
- Disconnect all power sources (AC input, DC input, and battery) before performing any maintenance or servicing.
- Do not operate the inverter in wet conditions or expose it to water.
- Ensure adequate ventilation around the inverter. Do not block the fans or air vents. A minimum clearance of 30cm (12 inches) is recommended around the unit.
- Do not open the inverter casing unless specifically instructed by SUNGOLDPOWER technical support. There are no user-serviceable parts inside.
- Verify correct DC input voltage (48Vdc) and AC input/output voltage (240Vac split phase) before connecting. Incorrect voltage can cause severe damage.

3. Product Overview

3.1 Key Features

- **Heavy Duty Inverter:** 12000W continuous power, 36000W peak power for 20 seconds.
- **Input:** DC 48V and AC 240V.
- **Output:** 120V/240Vac split phase pure sine wave.
- **Battery Charger:** Integrated 120A AC charger.
- **Adjustable Charge Current:** 0-100% charge current adjustment.
- **DIP Switch Settings:** Configurable utility/battery priority and low voltage cut-off.
- **Automatic Generator Start (AGS):** For seamless power management.
- **Automatic Transfer Switch:** Between AC sources and battery sources.
- **Remote Control:** Convenient remote monitoring and control.
- **Battery Compatibility:** Supports AGM, gel, lead acid, lithium ion, and LiFePO4 batteries.
- **Multi-stage Charging:** Optimized charging for various battery types.
- **Protections:** Over/low voltage, over temperature, and overload protection.

3.2 What's in the Box

- 1 x SUNGOLDPOWER 12KW 48V Split Phase Inverter
- 1 x Remote control with 32 feet cable
- 1 x Battery temperature sensor with 32 feet cable
- 1 x User's Manual
- 2 x Protective Terminal Caps (Red and Black)



Figure 1: Inverter and Included Accessories

3.3 Inverter Components

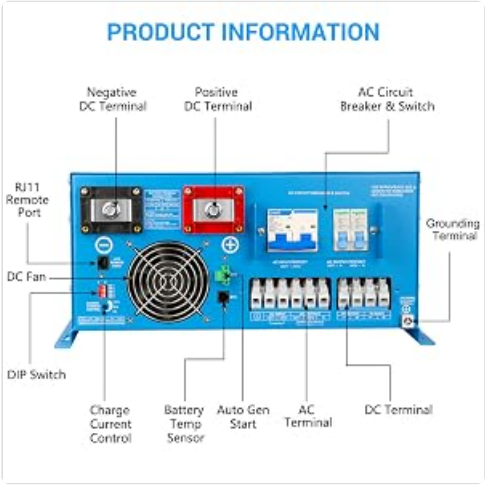


Figure 2: Inverter Rear Panel Connections

The inverter features clearly labeled terminals and controls on its rear panel for easy connection and configuration. These include:

- **Negative DC Terminal:** For connecting the negative battery cable.
- **Positive DC Terminal:** For connecting the positive battery cable.
- **AC Circuit Breaker & Switch:** For AC input and output protection and control.
- **Grounding Terminal:** For safety grounding connection.
- **AC Terminal:** For AC input (utility/generator) and AC output (loads).
- **Auto Gen Start (AGS) Port:** For connecting an automatic generator start signal.
- **Battery Temp Sensor Port:** For connecting the included battery temperature sensor.
- **Charge Current Control:** Dial or switch to adjust battery charging current.
- **DIP Switch:** For configuring various inverter parameters.
- **DC Fan:** Internal cooling fan.
- **RJ11 Remote Port:** For connecting the remote control unit.

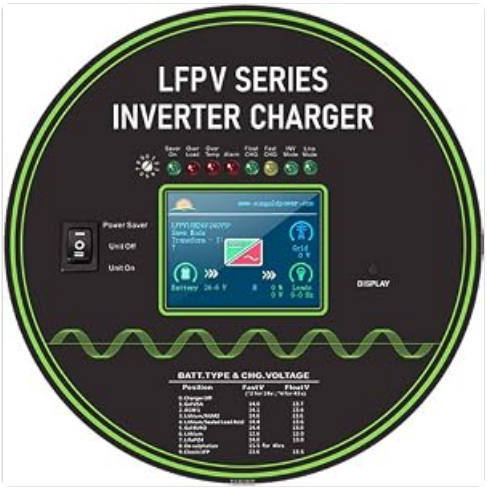


Figure 3: Inverter Display Panel

The front display panel provides real-time operational status, including battery voltage, grid status, load percentage, and various indicator lights for power, overload, temperature, and charging modes. It also includes a Power Saver switch and Unit On/Off switch.

4. Setup and Installation

Before proceeding with installation, ensure all safety precautions in Section 2 are understood and followed.

4.1 Mounting the Inverter

- Choose a dry, well-ventilated location, away from direct sunlight, heat sources, and flammable materials.
- Mount the inverter vertically on a sturdy, non-combustible surface.
- Ensure at least 30cm (12 inches) of clear space around all sides of the inverter for proper airflow and cooling.

4.2 Wiring Connections

Refer to the wiring diagram below for proper connection sequence. Always connect the battery first, then AC input, and finally AC output loads.



Figure 4: Typical Application Wiring Diagram

- **Battery Connection:** Connect the 48V battery bank to the DC input terminals (Positive to Positive, Negative to Negative) on the inverter. Use appropriately sized cables and fuses.
- **AC Input Connection:** Connect the utility grid or a generator to the AC input terminals. Ensure the AC input voltage matches the inverter's specifications (240Vac).
- **AC Output Connection:** Connect your home or office appliances (loads) to the AC output terminals. The inverter provides 120V/240Vac split phase output.
- **Grounding:** Connect the grounding terminal of the inverter to a reliable earth ground.
- **Remote Control:** Plug the remote control cable into the RJ11 port.
- **Battery Temperature Sensor:** Connect the sensor to the designated port and place the sensor near the battery bank for accurate temperature monitoring.
- **Automatic Generator Start (Optional):** If using an AGS system, connect it to the AGS port according to the generator's instructions.

Figure 5: Example User Installations

5. Operating Instructions

5.1 Powering On/Off

- **To Power On:** Ensure all connections are secure. Switch the DC circuit breaker (if present) to ON, then switch the inverter's Unit On/Off switch to ON. The display will illuminate, and the inverter will begin its startup sequence.
- **To Power Off:** Disconnect all AC loads. Switch the inverter's Unit On/Off switch to OFF. Then, switch off the DC circuit breaker and disconnect the battery.

5.2 DIP Switch Settings

The DIP switches on the rear panel allow configuration of various operational parameters. Refer to the detailed manual for specific switch combinations for:

- Utility/Battery Priority: Determines whether the inverter prioritizes AC input (utility/generator) or battery power.
- Low Voltage Cut-Off: Sets the battery voltage level at which the inverter will shut down to protect the batteries from over-discharge.
- Output Frequency: Typically 50Hz or 60Hz.
- Battery Type: Selects the charging profile suitable for your battery chemistry (AGM, Gel, Lead Acid, Lithium, LiFePO4).

5.3 Charge Current Adjustment

The charge current control allows you to adjust the battery charging current from 0% to 100%. This is useful for optimizing charging based on battery capacity and type. Consult your battery manufacturer's specifications for recommended charging rates.

5.4 Remote Control Operation

The included remote control provides convenient access to monitor the inverter's status and adjust basic settings from a distance. Refer to the remote control's specific instructions for its full functionality.

6. Maintenance

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

- **Visual Inspection:** Periodically inspect the inverter and all connections for any signs of damage, corrosion, or loose wiring.
- **Cleaning:** Keep the inverter's exterior clean and free of dust. Ensure the ventilation openings and fans are not obstructed. Use a soft, dry cloth for cleaning. Do not use liquids or abrasive cleaners.
- **Battery Maintenance:** Follow the battery manufacturer's maintenance guidelines for your specific battery type. Ensure battery terminals are clean and tight.
- **Ventilation:** Regularly check that the inverter's cooling fans are operating correctly and that airflow is unobstructed.

7. Troubleshooting

This section provides solutions to common issues. For problems not listed here, contact SUNGOLDPOWER technical support.

Problem	Possible Cause	Solution
Inverter does not power on.	No DC input power; loose battery connections; inverter switch off.	Check battery voltage and connections. Ensure DC breaker is ON and inverter switch is ON.
No AC output.	Overload; low battery voltage; AC output breaker tripped.	Reduce load. Check battery voltage and charge if low. Reset AC output breaker.
Overload warning/shutdown.	Connected loads exceed inverter capacity.	Disconnect some loads. Restart the inverter. Ensure total load is within continuous wattage.
Over temperature warning/shutdown.	Insufficient ventilation; high ambient temperature; blocked fans.	Ensure adequate clearance around the inverter. Clean any dust from vents/fans. Allow unit to cool.
Battery not charging.	AC input not connected; AC input breaker tripped; incorrect DIP switch settings for battery type.	Verify AC input connection and voltage. Check AC input breaker. Review DIP switch settings for battery type.

8. Specifications

Feature	Specification
Brand	SGPWATT
Model Name	LFPV12K48V240VSP
Continuous Output Power	12000 Watts
Peak Output Power	36000 Watts (for 20 seconds)
DC Input Voltage	48 Volts DC
AC Input Voltage	240 Volts AC
AC Output Voltage	120 Volts / 240 Volts AC (Split Phase)
Output Waveform	Pure Sine Wave
AC Charger Current	120 Amps
Item Dimensions (L x W x H)	27.6" x 16.5" x 7.9"
Item Weight	160 Pounds
UPC	768494639600

9. Warranty and Support

Your SUNGOLDPOWER 12000W Inverter is covered by a **24-month (2-year) manufacturer's warranty** from the date of

purchase. This warranty covers defects in materials and workmanship under normal use.
SUNGOLDPOWER also provides **lifetime technical service** for this product. If you encounter any issues or have questions regarding the installation, operation, or maintenance of your inverter, please contact SUNGOLDPOWER customer support for assistance.
Please retain your proof of purchase for warranty claims.

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