Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

LVYUAN 24V-3000W-60A

LVYUAN 24V-3000W-60A All-in-one Solar Hybrid Charger Inverter User Manual

Model: 24V-3000W-60A (LVYUAN-3000W-24V-PSWC)

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your LVYUAN 24V-3000W-60A All-in-one Solar Hybrid Charger Inverter. This device integrates a 3000W 24V Pure Sine Wave Power Inverter and a 60A MPPT Solar Controller, designed for off-grid solar power systems. Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. Key Features

- Integrated 3000W 24V Pure Sine Wave Inverter and 60A MPPT Solar Charge Controller.
- Converts DC 24V battery power to AC 120V for household appliances.
- Three selectable output modes: PV priority, Mains priority, and Inverter priority.
- Four charging modes: PV priority, Mains priority, Hybrid charging, and Only Solar.
- LCD screen and three LED indicators for dynamic display of system data and operating status.
- ON/OFF rocker switch for AC output control.
- Power saving mode to reduce no-load loss.
- Intelligent variable speed fan for efficient heat dissipation.
- Supports multiple battery types: Lithium (with activation by PV solar or mains), Lead-acid.
- Equipped with UPS function for automatic switching to battery/inverter system during power outages when connected to a commercial power supply.
- Comprehensive protection features including short circuit, overvoltage, undervoltage, overload, and reverse protection.



Figure 2.1: The LVYUAN All-in-one Inverter combines a solar charge controller, pure sine wave inverter, and UPS functionality.

3. Product Overview

3.1 Front Panel



Figure 3.1: Front view of the inverter, highlighting the LCD display and operational buttons.

The front panel features the LCD display, LED indicators, and control buttons for monitoring system status and adjusting settings.

3.2 Rear Panel and Connections



Figure 3.2: Rear panel connections and components.

1. **LCD Display:** Shows system data and operating status.
2. **LED Indicator:** Provides quick status updates (AC/INV, CHARGE, FAULT).
3. **Touch Buttons:** Used for navigation and setting adjustments (SET, UP, DOWN, ENT).
4. **AC Input Port:** Connects to grid power for charging or bypass.
5. **AC Output Port:** Connects to AC loads.
6. **USB Port:** For communication or data logging.
7. **RS485 Port:** For communication with external devices.
8. **Dry Node Port:** For remote control or signaling.
9. **Grounding Screw Hole:** For safety grounding.
10. **Input Breaker:** Overcurrent protection for AC input.

11. **Cooling Fan:** Dissipates heat from the unit.
12. **Battery Port:** Connects to the battery bank.
13. **PV Port:** Connects to solar panels.
14. **ON/OFF Switch:** Controls the main power to the unit.

3.3 LCD Display and Control Buttons

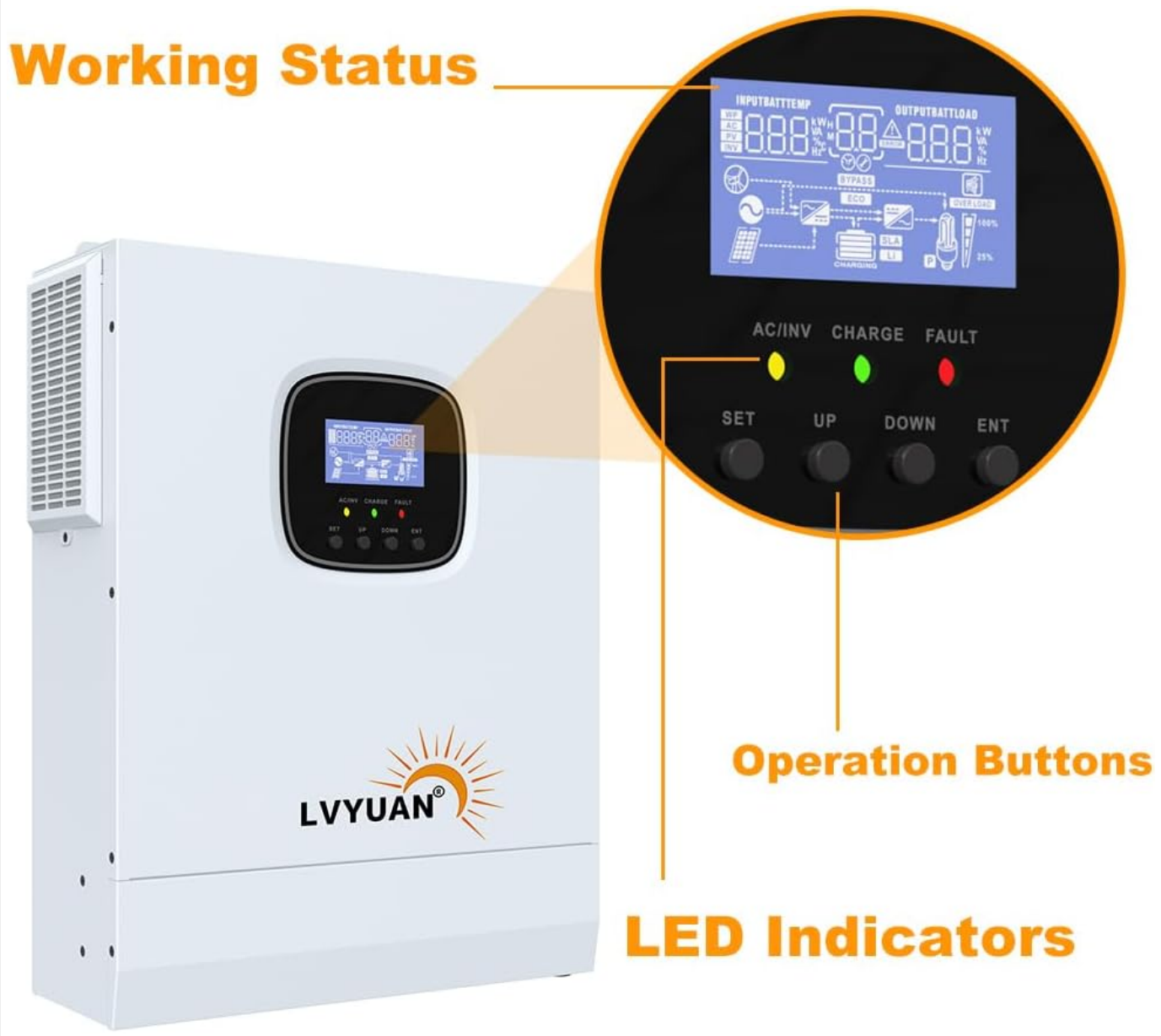


Figure 3.3: Detailed view of the LCD display and control buttons.

The LCD provides real-time information on input/output voltage, current, power, battery status, and operational modes. The buttons (SET, UP, DOWN, ENT) allow users to navigate menus and configure system parameters.

4. Setup and Installation

4.1 Safety Precautions

- Ensure all power sources (solar, battery, grid) are disconnected before installation or maintenance.
- Installation should be performed by qualified personnel.
- Wear appropriate personal protective equipment (PPE).

- Ensure proper grounding of the unit.
- Do not expose the unit to rain, snow, or liquids.
- Install in a well-ventilated area, away from flammable materials.

4.2 Mounting

Mount the inverter vertically on a sturdy, non-flammable surface. Ensure adequate clearance around the unit for proper airflow and cooling. Avoid direct sunlight and high humidity environments.

4.3 Wiring Connections

Follow these steps for wiring connections. Refer to Figure 3.2 for port locations.

1. **Grounding:** Connect the grounding screw hole to an appropriate earth ground.
2. **Battery Connection:** Connect the 24V battery bank to the Battery Port. Ensure correct polarity (+ to + and - to -).
3. **Solar Panel (PV) Connection:** Connect your solar array to the PV Port. Ensure the PV input voltage does not exceed the maximum specified limit (e.g., 105VDC as per customer review, though not explicitly in specs).
4. **AC Input Connection (Optional):** If using grid power for charging or bypass, connect the AC input to the AC Input Port.
5. **AC Output Connection:** Connect your AC loads to the AC Output Port.
6. **Communication Ports (Optional):** Connect USB or RS485 for monitoring if desired.



Figure 4.1: Bottom view illustrating connection terminals.

4.4 Battery Compatibility

The inverter supports various 24V battery types, including Lead-acid (AGM, GEL) and Lithium batteries. Lithium batteries can be activated via PV solar or mains power. Ensure your battery bank voltage matches the inverter's 24V requirement.



Figure 4.2: Compatible battery types for the 24V system.

5. Operating Modes

The LVYUAN inverter offers flexible operating modes to suit various power management needs.

5.1 Output Modes

- **PV Priority Mode:** Solar power is prioritized to supply loads and charge batteries. Grid power is used only when solar power is insufficient.
- **Mains Priority Mode:** Grid power is prioritized to supply loads and charge batteries. Inverter (battery) power is used only when grid power is unavailable.
- **Inverter Priority Mode:** Battery power is prioritized to supply loads. Grid power is used only when battery voltage is low.

5.2 Charging Modes

- **PV Priority:** Solar power is the primary source for charging batteries.
- **Mains Priority:** Grid power is the primary source for charging batteries.
- **Hybrid Charging:** Utilizes both solar and grid power for charging, prioritizing solar.
- **Only Solar:** Batteries are charged exclusively by solar power.



Figure 5.1: Overview of the four available charging modes.



Figure 5.2: LCD display showing dynamic system status and operation.

6. Maintenance

- **Regular Inspection:** Periodically check all wiring connections for tightness and signs of corrosion.
- **Cleaning:** Keep the inverter's exterior clean and free of dust. Ensure cooling fan vents are unobstructed. Use a dry cloth for cleaning.
- **Battery Health:** Monitor battery voltage and health according to battery manufacturer guidelines.
- **Environmental Conditions:** Ensure the operating environment remains within specified temperature and humidity ranges.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates.

7. Troubleshooting

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

Problem	Possible Cause	Solution
No AC Output	ON/OFF switch is off; Low battery voltage; Overload; Fault condition.	Turn on the ON/OFF switch. Check battery voltage and charge if low. Reduce load. Check LCD for fault codes and refer to manual.
Battery Not Charging	PV input disconnected or insufficient; Mains input disconnected; Incorrect charging mode selected; Battery fault.	Verify PV and Mains connections. Check solar panel output. Select appropriate charging mode. Inspect battery connections and health.
Fault Code Displayed	Specific system error (e.g., PV overvoltage, battery over-discharge).	Note the fault code from the LCD. Refer to the full product manual (if available) for specific code meanings and solutions. For PV-related faults, verify PV input voltage is within limits.
Inverter Shuts Down Unexpectedly	Overload; Over-temperature; Low battery voltage; Short circuit.	Reduce connected load. Ensure proper ventilation. Charge batteries. Check for short circuits in wiring.

8. Specifications

Feature	Detail
Model	24V-3000W-60A (LVYUAN-3000W-24V-PSWC)
Rated Power	3000 watts
Battery Voltage	24V
MPPT Solar Charge Controller Current	60A
Inverter Type	Pure Sine Wave
Product Dimensions	15 x 11 x 4.05 inches
Item Weight	15.4 pounds
Power Source	Solar Powered
Recommended Uses	Home, Off-Grid Systems

9. Warranty and Support

For warranty information, please refer to the documentation included with your purchase or contact LVYUAN customer support directly. Keep your purchase receipt as proof of purchase.
For technical assistance, troubleshooting, or service inquiries, please contact LVYUAN customer support through their official website or the contact information provided with your product.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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

Answered questions about this manual

What do the fault codes A01 and A09 mean on the LVYUAN 24V-3000W-60A inverter, and why is it not generating power?

Based on the LVYUAN 24V-3000W-60A manual and common industry standards for this type of hybrid inverter, the codes A01 and A09 typically refer to the following issues: A01 (Fan Fault): This usually indicates that...

Read full answer

Open the live page

https://manuals.plus/asin/B0C5R9NDC3

More documents and user manuals: **https://manuals.plus/**