

LMFLXOFD POW-LVM3.6M-24V

LMFLXOFD 3600W Hybrid Pure Sine Wave Solar Inverter User Manual

Model: POW-LVM3.6M-24V

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your LMFLXOFD 3600W Hybrid Pure Sine Wave Solar Inverter. Please read this manual thoroughly before installation and use, and retain it for future reference.

1.1 Product Overview

The LMFLXOFD 3600W Hybrid Pure Sine Wave Solar Inverter is a versatile device designed to provide uninterrupted power supply for various electrical equipment. It integrates a 3600W continuous pure sine wave AC output, a built-in 120A MPPT solar charge controller, and supports a maximum open circuit voltage of 500VDC. This inverter is suitable for residential, office, commercial, and industrial applications, offering reliable power for most heavy appliances.



Image 1.1: LMFLXOFD 3600W Hybrid Pure Sine Wave Solar Inverter with solar panels.

1.2 Safety Instructions

- **Electrical Safety:** All electrical installations must be performed by qualified personnel in accordance with local electrical codes.
- **Ventilation:** Ensure adequate ventilation around the inverter to prevent overheating. Do not block ventilation openings.
- **Environment:** The inverter is rated IP20 for indoor use only. Avoid exposure to water, moisture, direct sunlight, and corrosive substances.
- **Battery Safety:** When connecting batteries, ensure correct polarity. Improper connection can cause damage to the inverter and batteries.
- **Maintenance:** Disconnect all power sources (solar, battery, AC grid) before performing any maintenance or cleaning.
- **Children:** Keep the device out of reach of children.

2. PRODUCT FEATURES

The LMFLXOFD 3600W Hybrid Pure Sine Wave Solar Inverter offers a range of advanced features for optimal performance and user convenience:

- **Pure Sine Wave Output:** Provides 3600W continuous AC output, suitable for sensitive electronics.
- **Integrated MPPT Controller:** Built-in 120A MPPT solar charge controller with an efficiency of up to 99.9%, supporting a maximum PV input of 4200W and an MPPT voltage range of 60-450VDC.
- **Hybrid Functionality:** Supports battery-free operation when solar panels and AC power are connected.
- **Wide Application:** Suitable for various applications including residential, RV camping, and emergency power.
- **Battery Compatibility:** Compatible with lead-acid and lithium batteries, and can operate without batteries.
- **Comprehensive Protection:** Features 360° protection including short circuit, overcurrent, overvoltage, overload, backfill, over-temperature, undervoltage, and overcharge protection.
- **Intelligent Display:** LCD high-definition display shows operating mode, load, input, and output status. User-configurable feedback buttons enhance human-computer interaction.
- **Communication Interfaces:** Supports CAN, USB, and RS485 for remote monitoring and control.



Image 2.1: Key features of the 3600W Solar Inverter.



Image 2.2: Inverter specifications and MPPT controller detail.

3. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your inverter. Follow these guidelines carefully.

3.1 Mounting the Inverter

- Choose a dry, well-ventilated indoor location away from direct sunlight, heat sources, and flammable materials.
- Ensure sufficient clearance around the inverter for proper airflow (at least 20 cm on all sides).
- Mount the inverter vertically on a sturdy wall using appropriate fasteners.

3.2 Wiring Connections

All wiring should be performed by a qualified electrician. Ensure all power sources are disconnected before making any connections.

1. **PV Input Connection:** Connect the solar panel array to the PV input terminals. Observe correct polarity (+/-).



Image 3.2: Inverter applications for RVs and home energy systems.

4. OPERATING INSTRUCTIONS

4.1 Powering On/Off

- **Power On:** After all connections are secure, switch on the battery breaker (if applicable), then the AC input breaker, and finally the PV input breaker. The inverter will initiate its startup sequence.
- **Power Off:** To shut down the system, first disconnect the AC output loads, then switch off the PV input breaker, followed by the AC input breaker, and finally the battery breaker.

4.2 LCD Display and Buttons

The inverter features an LCD display and user-friendly buttons for monitoring and configuration. The display shows real-time operating status, including input voltage, output voltage, load percentage, battery status, and fault codes.

- **ESC Button:** Exits the current menu or returns to the previous screen.

- **UP/DOWN Buttons:** Navigate through menu options or adjust settings.
- **ENTER Button:** Confirms selection or enters a submenu.

4.3 Operating Modes

The inverter supports various operating modes, which can be configured via the LCD display. Refer to the detailed settings menu in the full product manual for specific mode configurations (e.g., Utility Priority, Solar Priority, Battery Priority).

4.4 Communication Interfaces

The inverter is equipped with CAN, USB, and RS485 communication ports, allowing for remote monitoring and data logging. Connect to a compatible monitoring device or computer using the appropriate cable and software (not included) for advanced system management.

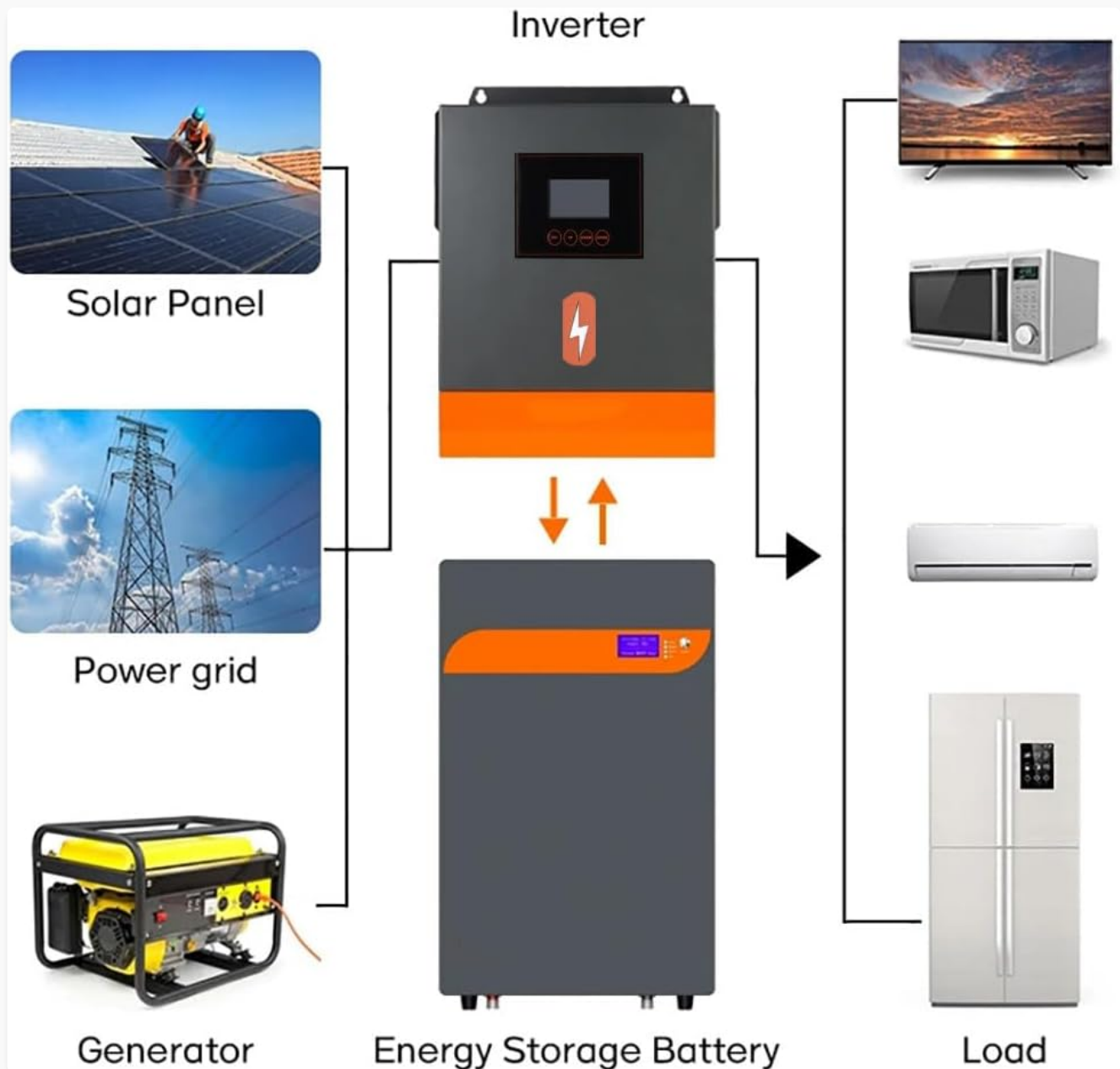


Image 4.1: Power flow diagram for the hybrid solar system.

5. MAINTENANCE

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

- **Cleaning:** Periodically clean the exterior of the inverter with a dry, soft cloth. Do not use liquid cleaners or solvents. Ensure ventilation openings are free from dust and debris.
- **Connection Check:** Annually inspect all electrical connections (PV, battery, AC input/output) for tightness and signs of corrosion. Tighten any loose connections.
- **Environmental Check:** Ensure the installation environment remains within the specified temperature and humidity ranges and is free from excessive dust or moisture.
- **Battery Inspection:** If using lead-acid batteries, check electrolyte levels and terminal conditions as per battery manufacturer guidelines.

6. TROUBLESHOOTING

This section provides guidance on common issues. For complex problems, contact customer support.

6.1 Common Issues and Solutions

- **No Power Output:** Check all input power sources (PV, battery, AC grid) and their respective breakers. Verify battery voltage is within the operating range.
- **Low Power Output:** Ensure solar panels are clean and not shaded. Check for proper battery charging. Reduce connected load if it exceeds the inverter's rated power.
- **Inverter Overheating:** Ensure adequate ventilation. Clean any dust from the cooling fins. Reduce ambient temperature if possible.
- **Display Not Working:** Check the main power supply to the inverter.

6.2 Protection Features and Error Codes

The inverter incorporates multiple protection mechanisms. If a fault occurs, the inverter may display an error code on the LCD and shut down to protect itself and connected equipment. Refer to the full product manual for a complete list of error codes and their meanings.

Safety Protection



Short Circuit Protection



Over-Load Protection



Over Current Protection



Backfill Protection



Over Voltage Protection



Over-Temperature Protection



Under Voltage Protection



Over Charge Protection

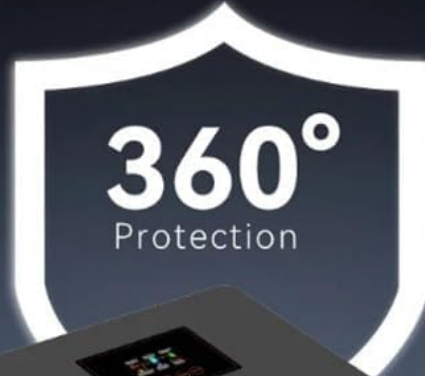


Image 6.1: Inverter 360-degree safety protection features.

7. SPECIFICATIONS

| Parameter | Value |
|----------------|-----------------|
| Model | POW-LVM3.6M-24V |
| Rated Power | 3600W |
| Peak Power | 7200W |
| Input Voltage | DC 24V |
| Output Voltage | 110/120VAC |
| Waveform | Pure Sine Wave |

| Parameter | Value |
|------------------------------|---|
| MPPT Voltage Range | 60-450VDC |
| Maximum Open Circuit Voltage | 500VDC |
| Maximum PV Input Power | 4200W |
| Maximum Input Current | 16A |
| Maximum Charging Current | 120A |
| Tracking Efficiency | 99.9% |
| Conversion Time | 10ms |
| Display | LCD Screen |
| Communication Interface | CAN, USB, RS485 |
| Protection Rating | IP20 (Indoor) |
| Cooling Type | Air Cooling |
| Dimensions (L*W*H) | 423mm * 334mm * 110mm (approx. 16.65 x 13.15 x 4.33 inches) |
| Weight | 9kg (approx. 19.8 lbs) |



Image 7.1: Inverter dimensions.

8. WARRANTY AND SUPPORT

LMFLXOFD is committed to providing quality products. If you encounter any issues or require assistance with your 3600W Hybrid Pure Sine Wave Solar Inverter, please contact our customer support team. We are available 24 hours a day to assist you.

For support, please refer to the contact information provided with your purchase or visit the official LMFLXOFD website.