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› XWJNE 3000W Pure Sine Wave Power Inverter (Model: 25IVBTK-3KW-24V-120) - User Manual

XWJNE 25IVBTK-3KW-24V-120

XWJNE 3000W Pure Sine Wave Power Inverter User Manual

Model: 25IVBTK-3KW-24V-120

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your XWJNE 3000W Pure Sine Wave Power Inverter. This inverter converts 24V DC power to 120V AC power, suitable for various applications including off-grid systems, RVs, trucks, and home backup power. It features a pure sine wave output, ensuring compatibility with sensitive electronics, and includes an LCD display and remote control for convenient monitoring and operation.

Please read all instructions carefully before installation and use to prevent damage or injury. Always ensure proper grounding and adhere to all safety precautions.



Figure 1.1: XWJNE 3000W Pure Sine Wave Power Inverter with included cables, remote, and fuses.

2. PACKAGE CONTENTS

Verify that all items are present in the package:

- 1 x XWJNE 3000W Pure Sine Wave Power Inverter
- 2 x 2.62ft 1AWG Positive Battery Cable (Red)
- 2 x 2.62ft 1AWG Negative Battery Cable (Black)
- 1 x Remote Controller with Cable
- 1 x 1.64ft Ground Wire
- 2 x 40A 32V Fuses (Spare)
- 1 x Instruction Manual
- 1 x Wrench

How does the screen display?



Figure 2.1: All components included in the product packaging.

3. PRODUCT OVERVIEW

3.1 Front Panel Features

The front panel of the inverter provides various connection points and indicators:

- **Power Switch:** Toggles the inverter on/off.
- **Fault/Power Indicators:** LEDs indicating operational status or fault conditions.
- **USB Ports:** Includes 2 x QC 18W USB-A ports, 1 x QC 24W USB-A port, and 1 x PD 60W Type-C port for charging various devices.
- **Remote Control Socket:** For connecting the wired remote control.
- **AC Output:** 2 x 120V GFCI (Ground Fault Circuit Interrupter) AC outlets for connecting appliances.
- **AC Terminal Block:** For hardwiring AC loads directly.

Pure Sine Wave Inverter

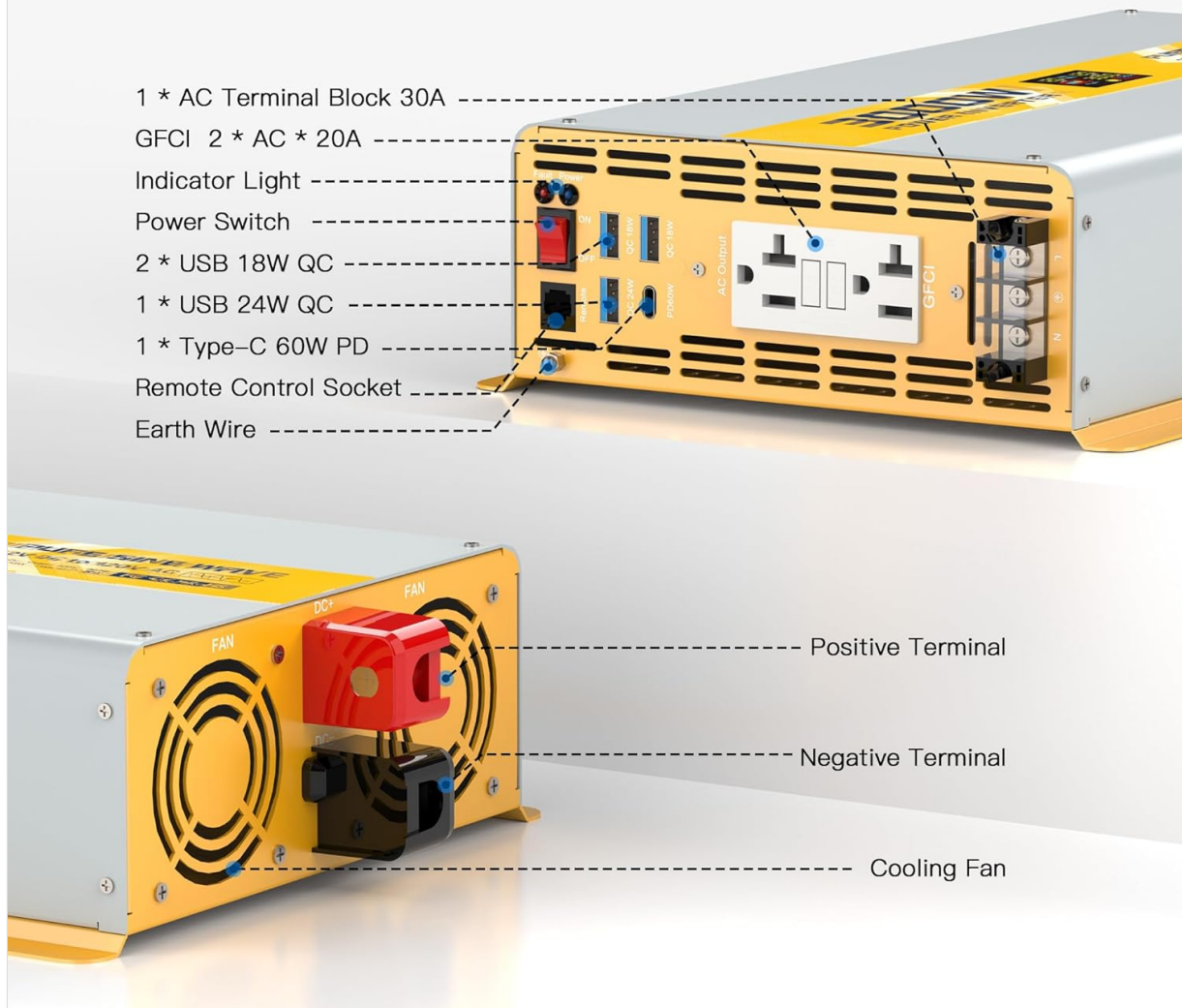


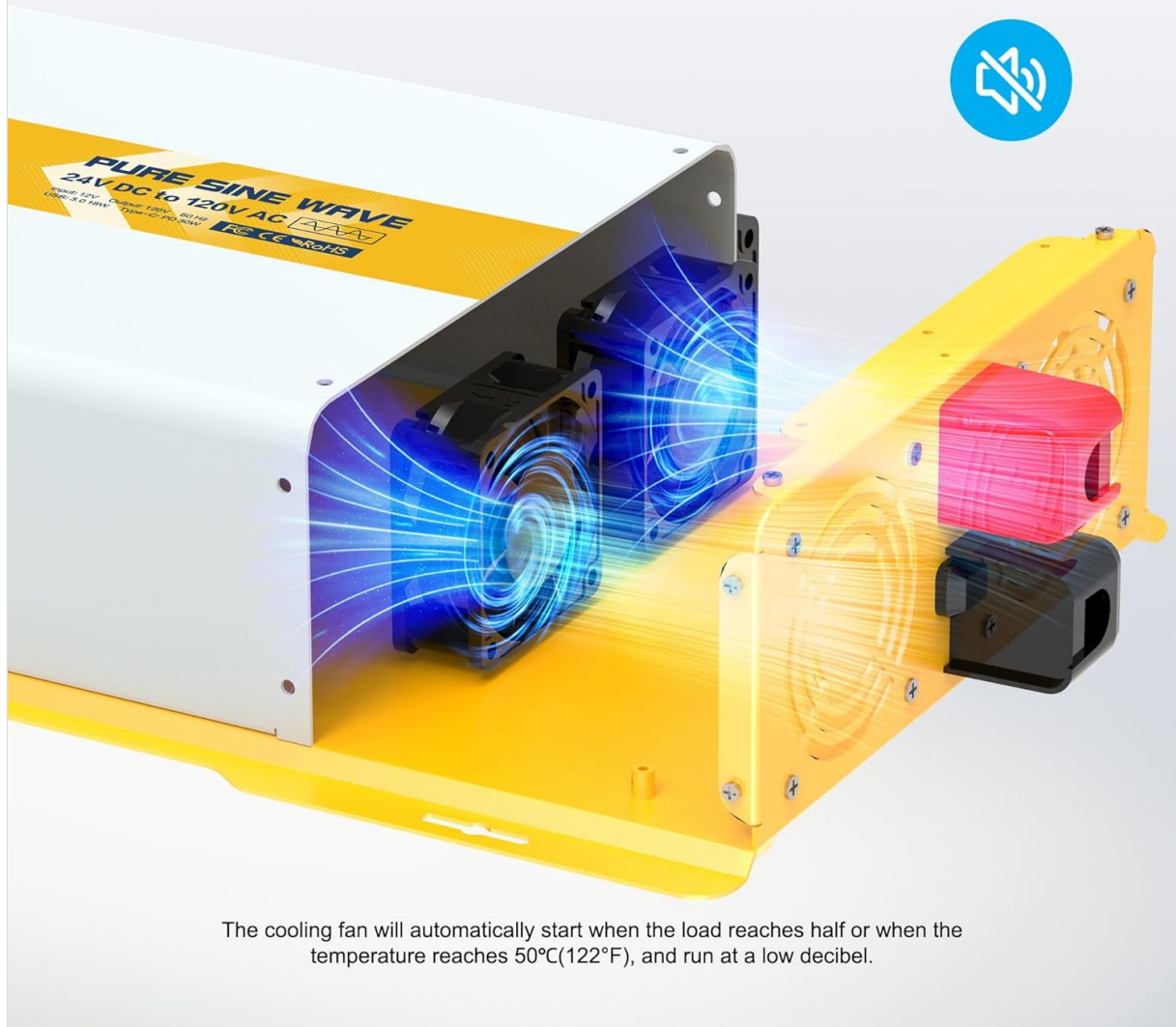
Figure 3.1: Front panel showing AC outlets, USB ports, and control switches.

3.2 Rear Panel Features

The rear panel is equipped with the DC input terminals and cooling fans:

- **DC Input Terminals:** Positive (Red) and Negative (Black) terminals for connecting to your 24V DC battery bank.
- **Cooling Fans:** Two high-efficiency cooling fans automatically activate when the internal temperature exceeds 45°C (113°F) or the load is over half, ensuring optimal performance and durability.

2 high-efficiency cooling fans



The cooling fan will automatically start when the load reaches half or when the temperature reaches 50°C(122°F), and run at a low decibel.

Figure 3.2: Rear panel showing DC input terminals and cooling fans.

3.3 LCD Display

The integrated LCD screen provides real-time operational data:

- **Input Voltage:** Displays the DC voltage from the battery.
- **AC Output Voltage:** Shows the 120V AC output.
- **Loads Power:** Indicates the current wattage being drawn by connected devices.
- **Battery Power:** Visual representation of the battery charge level.
- **Working Temperature:** Displays the internal temperature of the inverter.
- **Frequency:** Shows the output frequency (60Hz).
- **Pure Sine Wave Indicator:** Confirms pure sine wave output.
- **Normal Working/Fault Indicators:** Icons to quickly identify operational status or abnormal problems.

Box Including



Figure 3.3: LCD display showing input/output voltage, wattage, battery level, and temperature.

3.4 Remote Control

The wired remote control allows you to monitor the inverter's status and control its power from a convenient location, especially when the inverter is installed in a less accessible area. The remote displays the same information as the inverter's main LCD screen.

Updated Remote Control Switch



Figure 3.4: Remote control unit for convenient operation and monitoring.

4. SETUP

4.1 Battery Connection

Connect the inverter to a 24V deep-cycle battery bank. Ensure the battery has a discharge level of 80% or more for optimal performance. Use the provided 2.62ft 1AWG positive (red) and negative (black) battery cables. Connect the red cable to the positive (+) terminal of the inverter and the battery, and the black cable to the negative (-) terminal of the inverter and the battery. Always ensure correct polarity.



Figure 4.1: Proper connection of the inverter to a 24V battery bank.

The inverter can be integrated into various systems, including off-grid solar setups. The diagram below illustrates a typical connection for basic power supply.



Figure 4.2: Typical inverter connection for standalone and off-grid solar systems.

4.2 Grounding

Connect the provided 1.64ft ground wire to the inverter's grounding screw and to a reliable earth ground

point. This is crucial for safety, especially with GFCI outlets.

4.3 Remote Control Connection

Plug the remote control cable into the designated remote socket on the inverter's front panel. The remote will then display the inverter's status and allow for remote power control.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

To power on the inverter, press the main power switch on the front panel to the 'ON' position. The LCD display will illuminate, and the cooling fans will briefly activate. To power off, switch the main power switch to the 'OFF' position.

5.2 Connecting AC Loads

Plug your 120V AC appliances into the GFCI outlets on the front panel. For higher power or permanent installations, use the AC terminal block for hardwiring. The pure sine wave output ensures compatibility with sensitive electronic devices like laptops, TVs, refrigerators, and stereos.



Figure 5.1: Inverter providing power to electronic devices, demonstrating pure sine wave output.

5.3 Using USB Ports

Connect your USB-compatible devices to the available USB-A (QC 18W, QC 24W) or Type-C (PD 60W) ports for fast charging.

6. PROTECTION MECHANISMS

The inverter is equipped with six comprehensive protection mechanisms to ensure safe operation and protect connected devices:

- **Under-Voltage Protection:** Safeguards against battery over-discharge.
- **Over-Voltage Protection:** Protects the inverter and devices from excessive input voltage.
- **Overload Protection:** Prevents damage from excessive power draw.
- **Over-Temperature Protection:** Activates cooling fans and shuts down if internal temperature becomes too high.
- **Short-Circuit Protection:** Guards against short circuits in the output.
- **Reverse Polarity Protection:** Prevents damage from incorrect battery connections.



Figure 6.1: GFCI outlets and visual indicators for safety protections.

7. SPECIFICATIONS

Feature	Specification
Model Number	25IVBTK-3KW-24V-120
Continuous Power	3000W
Peak Power	6000W
Input Voltage	24V DC
Output Voltage	120V AC
Output Frequency	60Hz
Output Waveform	Pure Sine Wave
THD	<3%
Efficiency	>90%
No-Load Current	<1A
USB-A Output	2 x QC 18W, 1 x QC 24W
USB-C Output	1 x PD 60W
Product Dimensions	10.24 x 12.99 x 23.62 inches
Item Weight	16 pounds

7.1 Load Compatibility

The inverter is compatible with a wide range of loads. Refer to the table below for general guidance on wattage compatibility with different inverter sizes. This 3000W model can power most common household and outdoor appliances.








DIFFERENT POWER INVERTERS AND LOADS							
Whether for outdoor RV Trucks or home backup power, our extensive product line will cover your needs!							
							
1200W	✓	✓	✓	✗	✗	✗	✗
2000W	✓	✓	✓	✓	✓	✗	✗
3000W	✓	✓	✓	✓	✓	✓	✓

Figure 7.1: General load compatibility for various inverter wattages.

7.2 Battery Capacity Requirements

For optimal performance and to prevent battery damage, ensure your battery bank meets the recommended capacity for the inverter's wattage. For the 3000W inverter, it is recommended to use at least 3 x 100Ah, 2 x 150Ah, or 2 x 200Ah deep-cycle batteries.

ENSURES LONGER USE

Compatible with many different batteries to ensure high quality and stable output

Inverter Size / Battery Qty	100Ah	150Ah	200Ah
1200W	≥1	≥1	≥1
2000W	≥2	≥2	≥1
3000W	≥3	≥2	≥2

Figure 7.2: Recommended battery configurations for different inverter sizes.

8. TROUBLESHOOTING

The LCD display provides detailed fault codes and indicators to help diagnose and resolve common issues. Refer to the display and the table below for guidance:

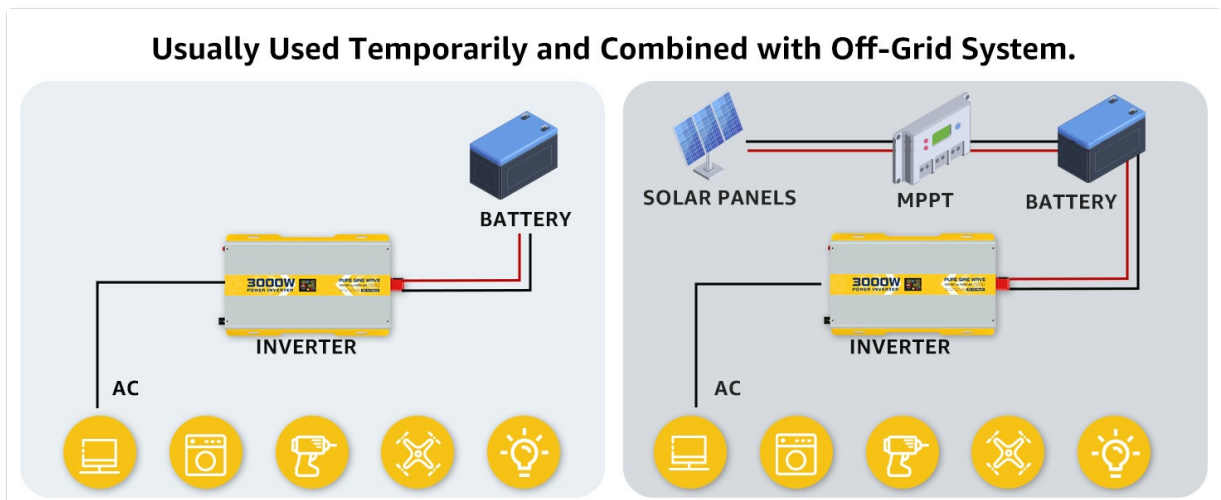


Figure 8.1: Common fault displays and their corresponding protection states.

Powerful value display and fault detection

Based on the problem display you can quickly see what the problem is and make adjustments.

F01 Parameter Configuration Fault	F07 Output Overload
F02 Sampling Circuit Fault	F08 Over-temperature Protection
F03 DC Bus Voltage too Low	F09 Other power source connected with the output cables
F04 Other power source connected with the output cables	F10 Battery Overvoltage
F05 Output Short Circui	F11 DC Bus Overvoltage
F06 Output Overcurrent	F12 Battery Undervoltage
	F13 Data Read Error

Figure 8.2: Detailed fault codes and their explanations for troubleshooting.

9. MAINTENANCE

The inverter is designed for durability with a sturdy metal structure that also aids in heat dissipation. The

smart cooling fans will automatically activate when the internal temperature exceeds 45°C (113°F) or the load is over half, ensuring the inverter operates within appropriate temperature ranges. Keep the inverter in a well-ventilated, cool, and dry environment. Regularly check battery connections for tightness and corrosion.

10. SUPPORT

For any questions or assistance, 24-hour customer service is available to help you with your XWJNE Power Inverter.

11. PRODUCT VIDEOS

The following video provides an overview of the XWJNE Pure Sine Wave Inverter, demonstrating its features and basic operation. Please note that this video features a 2000W model, but the general functionality and accessories are similar to the 3000W model.

Video 11.1: Overview of the XWJNE 2000W Pure Sine Wave Inverter, including unboxing and basic connections. (Note: This video features a 2000W model, but general features apply to the 3000W model.)