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Anjfylque ANJ-4000W-24V-WIFI

Anjfylque 4200W-24V-WIFI Hybrid Inverter User Manual

Model: ANJ-4000W-24V-WIFI

1. Introduction

This manual provides essential information for the safe and efficient operation of your Anjfylque 4200W-24V-WIFI Hybrid Inverter. This device is designed to integrate solar power, utility grid power, and battery storage to provide a reliable and flexible energy solution for both off-grid and grid-tied systems. Please read this manual thoroughly before installation and use, and retain it for future reference.

2. Safety Instructions

Important Safety Information:

- Installation and maintenance must be performed by qualified personnel only.
- Disconnect all power sources (PV, battery, and AC grid) before performing any wiring or maintenance.
- Ensure proper grounding of the inverter to prevent electrical shock.
- Do not expose the inverter to rain, snow, liquids, or excessive dust.
- Ensure adequate ventilation around the inverter to prevent overheating.
- Handle batteries with care. Wear appropriate personal protective equipment.
- Do not attempt to repair the inverter yourself. Contact qualified service personnel.

3. Package Contents

Verify that all items are present in the package:

- 1 x Anjfylque 4200VA Hybrid Inverter
- 1 x Wi-Fi Antenna
- 1 x User Manual (English)
- 2 x PV Connectors

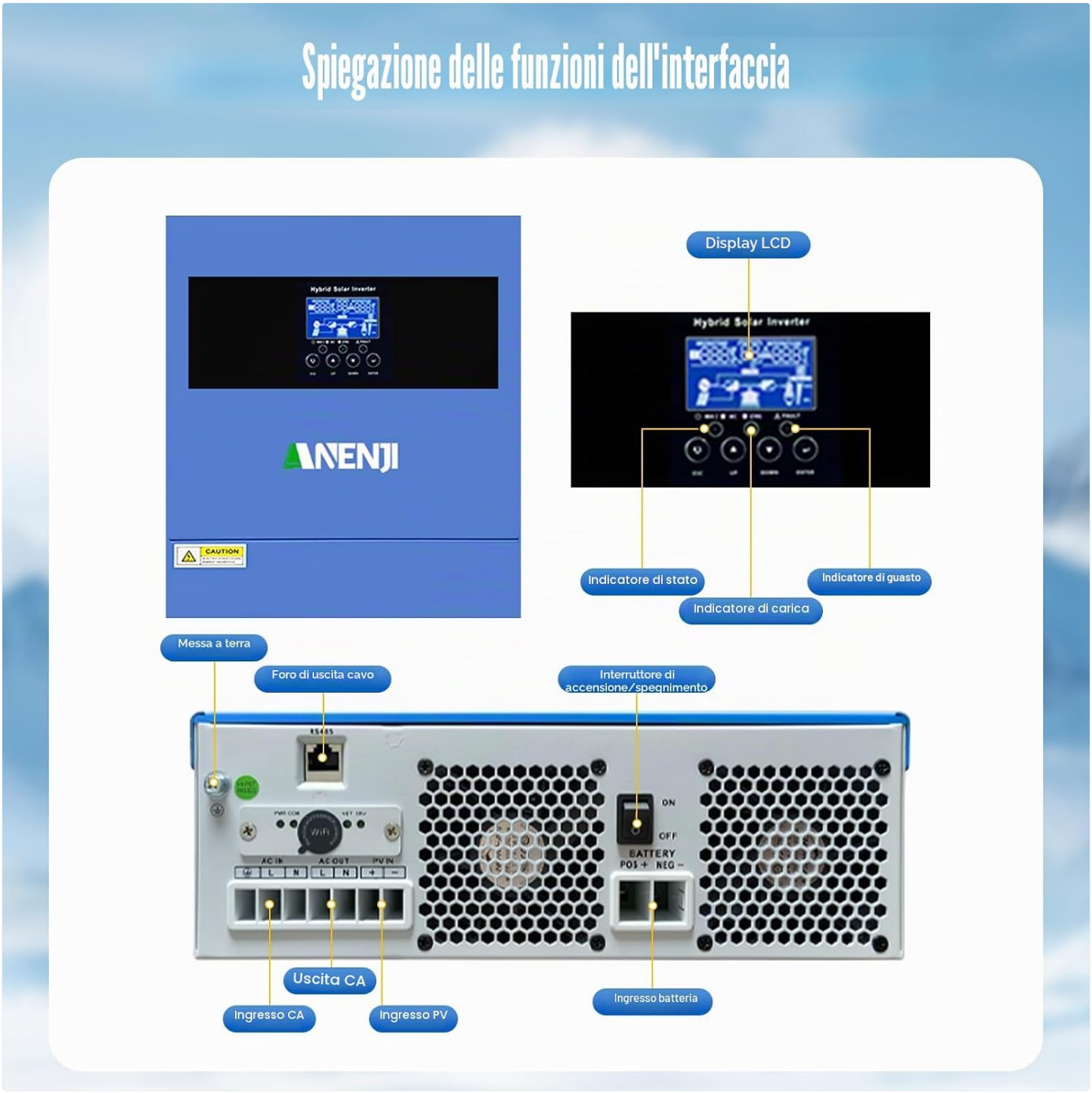
4. Product Features

The Anjfylque 4200W-24V-WIFI Hybrid Inverter offers advanced features for efficient power management:

- **4200W Hybrid Power with 100A MPPT:** Processes a maximum power of 4200W with an integrated 100A MPPT solar charge controller.
- **Flexible Operation:** Supports conventional operation with 24V batteries or direct power from PV panels or AC grid without battery connection. Note: For pure PV operation, the starting voltage must not be below 130V DC.
- **8-Layer Integrated Protection:** Comprehensive protection against short circuits, overcurrent, overvoltage, undervoltage, overload, overcharge, overheating, and deep discharge.
- **BMS Compatibility:** Compatible with 24V lead-acid (AGM/Gel/Flooded) and modern 24V lithium batteries, including BMS communication for intelligent battery management.
- **Real-time Diagnostics:** LCD display shows live system data and operating status. Three dynamic LED screens provide basic system parameters.
- **Configurable Modes:** Four selectable charge modes (Grid Priority, Solar Priority, Hybrid Mode, Pure PV) and three configurable output priorities (PV, Grid, Battery).
- **Thermal Management:** Temperature-controlled fan system automatically adjusts cooling levels.
- **Pure Sine Wave Output:** Provides 230V pure sine wave voltage for all appliances, including sensitive electronics.



Front view of the Anjfylque hybrid inverter, featuring its blue casing, central LCD screen for status monitoring, and control buttons below the screen. A caution label is visible at the bottom left.



This image highlights the high efficiency of the inverter's Maximum Power Point Tracking (MPPT) technology, stated as 99.9%. It also details the maximum PV input specifications: 4500W power, 500VDC voltage, and 15A current, emphasizing its ability to maximize solar energy harvest.

5. Setup and Installation

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

5.1 Mounting Location

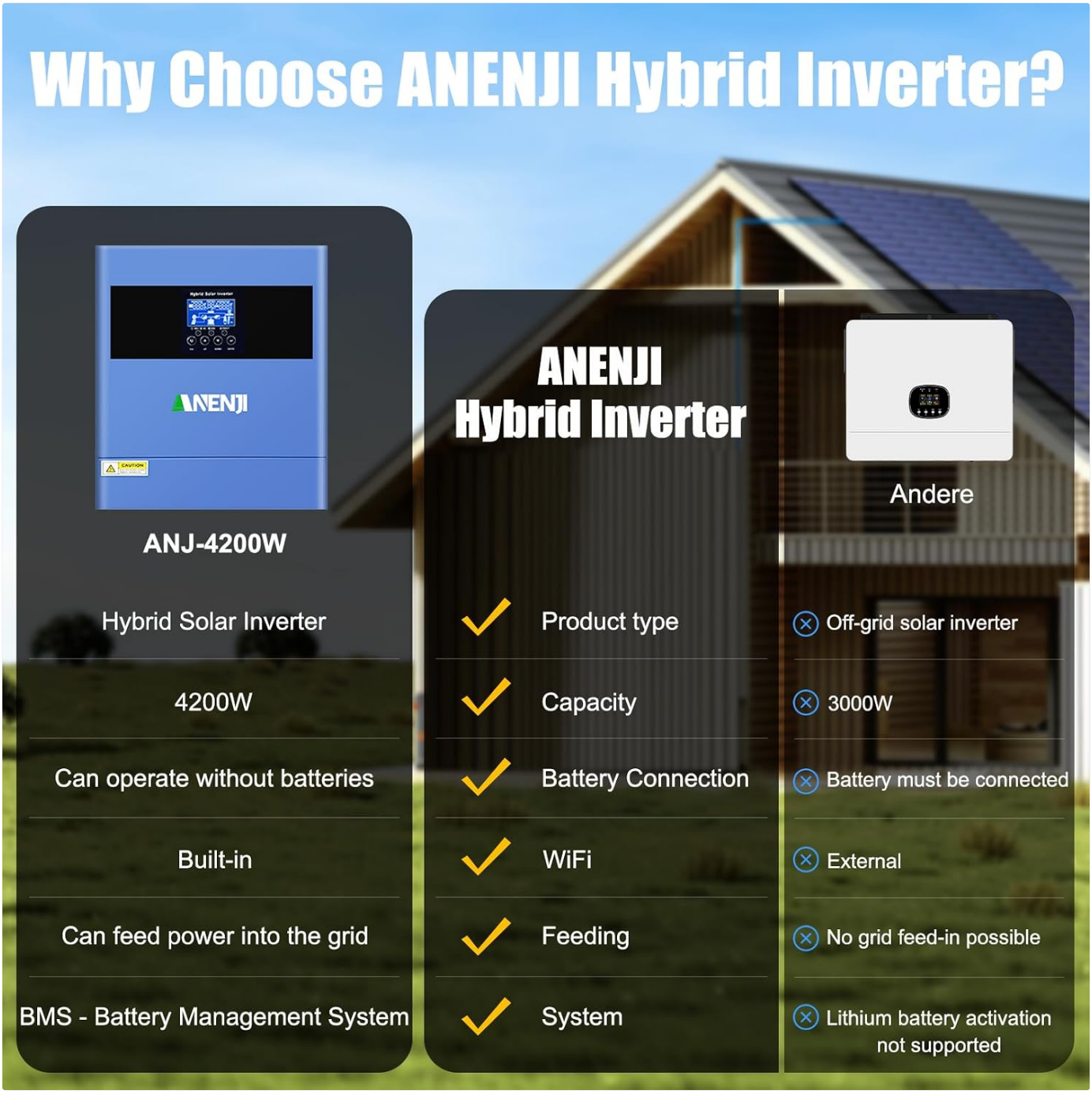
- Choose a dry, well-ventilated area, protected from direct sunlight, high temperatures, and moisture.
- Ensure sufficient clearance around the inverter for proper airflow and cooling.
- Mount the inverter vertically on a sturdy surface.

5.2 Wiring Connections

All wiring must comply with local electrical codes and standards. Use appropriate cable sizes for all connections.



The rear panel of the inverter is shown, highlighting the various connection terminals. These include AC input and output ports, PV input terminals for solar panels, battery connection terminals (positive and negative), a grounding point, and a port for the Wi-Fi antenna. A power switch is also visible.



This diagram provides a clear explanation of the inverter's interface. It shows the LCD display, which provides real-time system information, and three LED indicators for status, charge, and fault. Below the display, control buttons are present. The diagram also points out the grounding terminal, cable outlet, AC output, AC input, PV input, battery input, and the power on/off switch on the rear panel.

1. **Grounding:** Connect the inverter to a reliable ground source using the designated grounding terminal.
2. **Battery Connection:** Connect the 24V battery bank to the BATTERY terminals, ensuring correct polarity (positive to positive, negative to negative). The inverter is compatible with lead-acid and lithium batteries with BMS.
3. **PV Input Connection:** Connect your solar panel array to the PV INPUT terminals. Ensure the maximum open circuit voltage does not exceed 500V DC and the MPPT voltage range is between 60-500V DC.
4. **AC Input Connection:** Connect the utility grid power to the AC INPUT terminals.
5. **AC Output Connection:** Connect your household loads to the AC OUTPUT terminals.
6. **Wi-Fi Antenna:** Install the provided Wi-Fi antenna to enable remote monitoring capabilities.

After all connections are securely made, ensure the power switch is in the OFF position before proceeding to power up the system.

6. Operating Instructions

6.1 Powering On/Off

- **To Power On:** Ensure all connections are correct. Turn on the battery breaker (if applicable), then the PV array breaker (if applicable), and finally the AC input breaker (if applicable). Switch the inverter's power button to the ON position. The LCD display will light up, and the inverter will begin its startup sequence.
- **To Power Off:** First, turn off the AC output breaker, then the AC input breaker, followed by the PV array breaker, and finally the battery breaker. Switch the inverter's power button to the OFF position.

6.2 LCD Display and LED Indicators

The LCD display provides real-time operational data, including input/output voltage, current, power, battery status, and error codes. The three LED indicators provide a quick visual status:

- **State LED:** Indicates the inverter's operational status (e.g., green for normal operation).
- **Charge LED:** Indicates battery charging status.
- **Fault LED:** Illuminates when an error or fault occurs. Refer to the LCD for specific error codes.

6.3 Configuration Settings

Use the buttons below the LCD display to navigate through the menu and configure settings. Key configurable parameters include:

- **Charge Mode Priority:** Select how the inverter prioritizes charging sources:
  - **Grid Priority:** Utility grid is the primary charging source.
  - **Solar Priority:** Solar panels are the primary charging source.
  - **Hybrid Mode:** Combines PV and grid/battery charging.
  - **Pure PV Operation:** Relies solely on solar power.
- **Output Source Priority:** Define the preferred power source for your loads:
  - **PV Output:** Prioritizes solar power for loads.
  - **Grid Output:** Prioritizes utility grid power for loads.
  - **Battery Output:** Prioritizes battery power for loads.
- **Battery Type:** Configure the inverter for the specific type of 24V battery connected (e.g., AGM, Gel, Flooded, Lithium with BMS).

6.4 Thermal Management

The inverter features a temperature-controlled fan system that automatically activates and adjusts its speed to dissipate heat, ensuring optimal operating temperatures and prolonging component life.



This graphic explains the core functionalities of the hybrid inverter. It visually represents the pure sine wave output, the 50-60Hz AC output, support for lithium batteries, and the integrated 100A MPPT solar charge controller. It shows how the inverter combines these elements with an 80A AC charger.

7. Maintenance

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

- **Cleaning:** Periodically clean the inverter's exterior and ventilation openings to prevent dust accumulation, which can hinder cooling. Use a soft, dry cloth.
- **Connection Checks:** Annually inspect all electrical connections (PV, battery, AC input/output, grounding) to ensure they are tight and free from corrosion.
- **Battery Inspection:** If using lead-acid batteries, check electrolyte levels and terminal cleanliness as per battery manufacturer guidelines. For lithium batteries, monitor BMS data if accessible.
- **Environmental Check:** Ensure the installation environment remains within specified temperature and humidity ranges.

8. Troubleshooting

If you encounter issues with your inverter, refer to the LCD display for error codes. Common issues and general troubleshooting steps are provided below:

8.1 LCD Error Codes

The inverter's LCD display will show specific error codes in case of a malfunction. These codes are crucial for diagnosing the problem. For example, **Fault Code 09** typically indicates an internal hardware failure. Always consult the comprehensive user manual (provided with the product) for a complete list of error codes and their corresponding solutions.

8.2 General Troubleshooting

- **No Power/Display Off:** Check if the inverter's power switch is ON. Verify battery connections and voltage. Check AC input breaker.
- **No AC Output:** Check if the AC output breaker is ON. Ensure the inverter is not in fault mode. Verify load connections.
- **Low Output Power:** Check PV input for sufficient solar irradiance. Verify battery charge level. Ensure the load does not exceed the inverter's rated power.
- **Overheating:** Ensure ventilation openings are clear. Reduce load if ambient temperature is high.

If the problem persists after following these steps, contact customer support.

9. Specifications

Feature	Specification
Brand	Anjfylque
Model Name	ANJ-4000W-24V-WIFI
Rated Power	4200 VA / 4000 W
Input Voltage (DC)	24 V DC
Output Voltage (AC)	230 V AC
Output Frequency	50 Hz
Output Waveform	Pure Sine Wave
Max PV Input Voltage	500 V DC
MPPT Voltage Range	60-500 V DC
Max Solar Charge Current	100 A
Max AC Charge Current	80 A
Max Combined Charge Current (PV+AC)	100 A
Compatible Batteries	24V Lead-Acid (AGM, Gel, Flooded) and 24V Lithium (with BMS)
Item Dimensions (L x W x H)	40 x 25 x 10 cm
Weight	Approx. 6.2 kg
UPC	704444533222

10. Warranty Information

The Anjfylque 4200W-24V-WIFI Hybrid Inverter comes with a **5-year manufacturer's warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims. For detailed terms and conditions, refer to the warranty card included with your product or contact customer support.

11. Support

For technical assistance, troubleshooting, or any questions regarding your Anjfylque Hybrid Inverter, please contact the manufacturer's customer support. Refer to the product packaging or the official Anjfylque website for the most current contact information. When contacting support, please have your model number (ANJ-4000W-24V-WIFI) and purchase details readily available.

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