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Anjfylque 6000W-48V-Parallel-WIFI

Anjfylque 6000W 48V Hybrid Solar Inverter Instruction Manual

Model: 6000W-48V-Parallel-WIFI

1. Product Overview

The Anjfylque 6000W 48V Hybrid Solar Inverter is designed to convert 48V DC power to 120V AC, featuring a 120A MPPT solar charge controller. This inverter supports both battery-connected and batteryless operation, offering flexibility for various solar power systems. It includes an integrated WiFi module for monitoring and supports parallel operation of up to 6 units for expanded power capacity.



Figure 1.1: Front view of the Anjfylque 6000W 48V Hybrid Solar Inverter.

Key Features:

- **High Power Output:** 6000W rated power, 12000W peak surge power.
- **Dual MPPT Charger:** Max PV input 9000W, 500VDC, 120A charging current.
- **Parallel Capability:** Supports up to 6 units for a total of 36kW.
- **Battery Compatibility:** Works with Lead-Acid and Lithium-Ion batteries.
- **Operation Modes:** Supports operation with or without batteries.
- **Monitoring:** LED capacitive touchscreen and integrated WiFi module.
- **Pure Sine Wave Output:** Provides stable and clean power for sensitive electronics.

2. Safety Instructions

Please read all instructions and warnings carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or severe injury. Keep this manual for future reference.

- Ensure all wiring is performed by qualified personnel.

- Disconnect all power sources (PV, battery, AC utility) before servicing or cleaning the inverter.
- Do not disassemble the inverter. There are no user-serviceable parts inside.
- Install the inverter in a well-ventilated area, away from flammable materials and direct sunlight.
- Ensure proper grounding of the inverter.
- Verify that the battery voltage and type are compatible with the inverter settings.

3. Installation and Setup

3.1 Unpacking and Inspection

Upon receiving the inverter, carefully unpack it and inspect for any shipping damage. If any damage is found, contact your supplier immediately. Ensure all components listed in the packing list are present.

3.2 Mounting the Inverter

Mount the inverter vertically on a sturdy wall or support structure. Ensure adequate clearance around the unit for proper ventilation. The recommended clearances are 20 cm (8 inches) on top and bottom, and 5 cm (2 inches) on the sides.



Figure 3.1: Illustration of the inverter's compact size and mounting orientation.

3.3 Wiring Connections

Refer to the connection diagram below for proper wiring. All connections must be secure and correctly polarized.



Figure 3.2: Wiring diagram for the hybrid solar inverter, illustrating connections for solar panels, generator, utility grid, battery, and home appliances.

3.3.1 Battery Connection

- Connect the battery positive (+) and negative (-) terminals to the corresponding battery terminals on the inverter.
- Ensure correct polarity to prevent damage.
- The inverter supports 48V battery systems.

3.3.2 PV Array Connection

- Connect the solar panel array to the PV input terminals.
- Ensure the PV array open-circuit voltage (Voc) does not exceed 500VDC.
- The MPPT operating voltage range is 125VDC-425VDC.

3.3.3 AC Input Connection

- Connect the AC utility grid or generator to the AC input terminals.

- The maximum AC input voltage is 120VAC.

3.3.4 AC Output Connection

- Connect your loads (home appliances) to the AC output terminals.
- The inverter provides 120V AC pure sine wave output.



Figure 3.3: Detailed view of the inverter's connection ports, including AC input/output, PV, battery, and communication ports.

3.4 Initial Power-Up

1. Ensure all wiring connections are secure and correct.
2. Turn on the battery breaker (if applicable).
3. Turn on the PV array breaker (if applicable).
4. Turn on the AC utility/generator breaker (if applicable).
5. Switch the ON/OFF rocker switch on the inverter to the**ON** position.
6. Observe the LED indicators and the capacitive touchscreen for system status.

4. Operating Modes

The inverter offers various operating modes to optimize energy usage based on your preferences and available power sources.

4.1 Output Priority Modes

These modes determine the primary power source for your loads:

- **UTL Mode (Utility Priority - Default):** The load is primarily supplied by the utility grid. Solar energy charges the battery. If the utility fails, the inverter switches to battery power.
- **SOL Mode (Solar Priority):** The load is primarily supplied by solar energy. If solar energy is insufficient, the load is supplied from the grid.
- **SBU Mode (Solar-Battery-Utility):** Solar energy primarily supplies the load. If solar energy is unavailable, the load is supplied from the battery. If the battery voltage is low, the utility grid will supply the load and charge the battery.
- **SUB Mode (Solar-Utility-Battery):** Solar energy primarily charges the battery and then supplies the load. If solar energy is unavailable, the load is supplied from the grid. If the grid fails, the load is supplied from the battery.

4.2 Charging Modes

The inverter allows configuration of battery charging methods via setting [16]:

- **Hybrid Charging (Default):** Batteries are charged using both solar and grid power.
- **Limited Solar Charging:** Prioritizes solar charging, using grid power only when solar is insufficient or unavailable.
- **Pure Solar Charging:** Batteries are charged exclusively by solar power.

4.3 Batteryless Operation

The inverter can operate without a connected battery. In this configuration, the photovoltaic voltage must be at least 125 Vdc to supply the load directly from the PV array or AC power source.

4.4 Monitoring and Display

The inverter features an LED capacitive touchscreen for real-time monitoring of system data and operating status. Three LED indicators provide dynamic visual feedback on the inverter's status. Error codes are displayed on the screen to assist with troubleshooting.



Figure 4.1: Illustration of pure sine wave output powering various household appliances.

5. Maintenance

Regular maintenance ensures optimal performance and longevity of your inverter.

- **Cleaning:** Periodically clean the inverter's exterior with a dry, soft cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Connection Checks:** Annually inspect all wiring connections (PV, battery, AC input/output) for tightness and signs of corrosion. Re-tighten if necessary.
- **Environmental Check:** Ensure the installation environment remains within specified temperature and humidity ranges.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates for improved performance or new features.

6. Troubleshooting

If you encounter issues with your inverter, refer to the following common troubleshooting steps. The LED capacitive touchscreen will display error codes to help diagnose problems.

Common Issues and Solutions:

- **No Power Output:**
  - Check all input power sources (PV, battery, AC utility) are connected and active.
  - Verify the ON/OFF switch is in the 'ON' position.
  - Check for any tripped breakers or blown fuses.
- **Inverter Not Charging Battery:**
  - Ensure PV panels are receiving sufficient sunlight and are connected correctly.
  - Check battery connections and voltage.
  - Verify charging mode settings (refer to Section 4.2).
- **Error Code Displayed:**
  - Note the specific error code displayed on the touchscreen.
  - Refer to the full user manual (if provided separately) for a comprehensive list of error codes and their solutions.
  - Common error codes relate to over-voltage, under-voltage, over-temperature, or short circuits.
- **Abnormal Noise:**
  - Ensure the inverter is properly mounted and not vibrating against a surface.
  - Check for loose internal components (*contact support if suspected*).

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

7. Specifications

Specification	Value
Brand	Anjfylque
Model Name	ANJ-6KP-LV-WIFI
Model Number	6000W-48V-Parallel-WIFI
Rated Output Power	6000 Watts
Peak Output Power	12000 Watts
Input Voltage (DC)	48 Volts
Output Voltage (AC)	120 Volts
Frequency	60 Hz
Electrical Output Waveform	Pure Sine Wave

Specification	Value
Max PV Input Power	9000W
Max PV Open Circuit Voltage	500VDC
MPPT Operating Voltage Range	125VDC - 425VDC
Max Solar Input Current	27A
Max Solar Charging Current	120A
Max AC Charging Current	100A
Max Combined Charging Current (PV+AC)	120A
Battery Voltage Range	40V - 60V
AC Input Voltage Range	90V - 140V
AC Input Frequency Range	55Hz - 65Hz / 60Hz
Bypass Overload Current	50A
Operating Temperature	-10°C to +55°C
Noise Level	<45dB
Communication	WiFi (Integrated), Optional 4G, GPRS, Bluetooth, LAN, RS485, CAN
Item Dimensions (L x W x H)	12"L x 13"W x 4.5"H
Item Weight	10 Kilograms
Energy Specifications Met	UL

8. Warranty and Support

8.1 Warranty Information

This Anjfylque Hybrid Solar Inverter comes with a**5-Year Manufacturer Warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

The warranty does not cover damage caused by improper installation, misuse, unauthorized modifications, natural disasters, or external factors.

8.2 Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact Anjfylque customer support. Refer to the contact information provided with your purchase or visit the official Anjfylque website for support resources.

When contacting support, please have your product model number (6000W-48V-Parallel-WIFI) and purchase date readily available.

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