Anern AN-SCI-ECO-6200

Anern 6.2KW Hybrid Solar Inverter User Manual

Model: AN-SCI-ECO-6200 | Brand: Anern

1. Introduction

This manual provides essential information for the safe and efficient operation of your Anern 6.2KW Hybrid Solar Inverter. Please read this manual thoroughly before installation and use, and keep it for future reference. This inverter is designed to provide reliable power for various applications, integrating solar power, battery storage, and grid power management.

Figure 1: Anern 6.2KW Hybrid Solar Inverter

2. Safety Instructions

WARNING: Failure to follow these safety instructions may result in serious injury or death, and damage to the equipment.

- Installation must be performed by qualified personnel in accordance with local electrical codes and regulations.
- Do not attempt to disassemble, repair, or modify the inverter. Contact qualified service personnel for any repairs.
- Ensure all connections are secure and correctly polarized before powering on the system.
- Always disconnect all power sources (PV, battery, grid) before performing any maintenance or wiring.
- The starting power of inductive load devices must be at least three times the rated power of the inverter.
- Install appropriate circuit breakers for each circuit as instructed.
- Keep the inverter away from flammable materials, moisture, and direct sunlight.

3. Product Overview

3.1 Key Features

- **Hybrid On/Off Grid Operation:** Supports both grid-tied and off-grid configurations.
- **Dual PV Input / Dual AC Output:** Features two PV inputs sharing a common MPPT for simplified wiring and dual AC outputs for flexible load management.
- **Remote Monitoring:** Integrated WIFI module for remote monitoring via mobile application.
- **Pure Sine Wave Output:** Provides stable, high-quality AC power, protecting electronic devices and extending their lifespan.
- **Battery Compatibility:** Compatible with lead-acid, gel, and lithium batteries (user-defined settings available for lithium).
- **Comprehensive Protection:** Includes overcurrent, low voltage, short-circuit, overheating, overload, reverse polarity, and overvoltage protection.

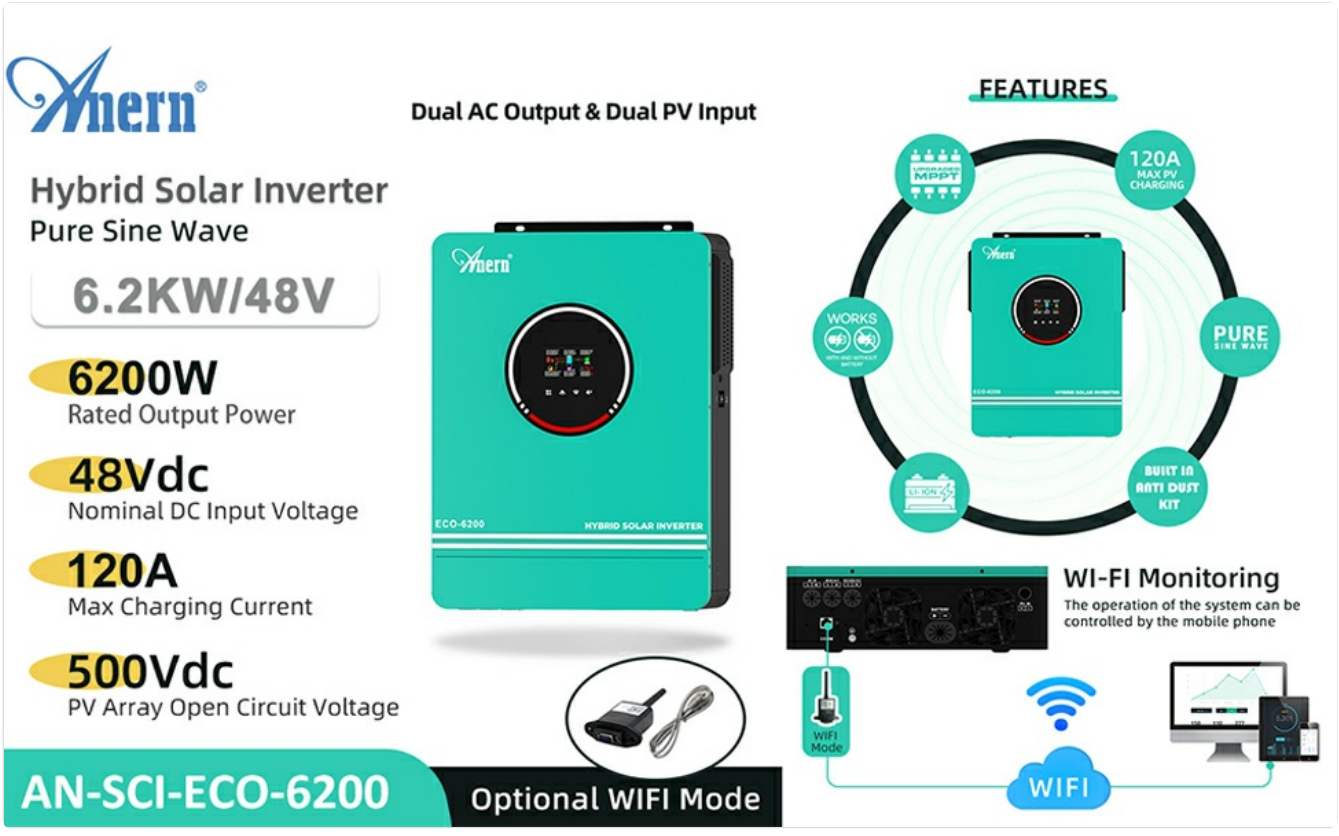

Figure 2: Key Features and Protections

3.2 Included Components

The package includes:

- 1 x Anern 6.2KW Hybrid Solar Inverter
- 1 x User Manual
- 1 x WIFI Module
- 1 x WIFI Module Cable (1 Meter)

Figure 3: Inverter and WIFI Module

3.3 Product Dimensions

Figure 4: Product Dimensions (55L x 43W x 21H cm)

4. Setup and Installation

4.1 Installation Guidelines

- Mount the inverter in a well-ventilated area, away from direct sunlight and heat sources.
- Ensure sufficient clearance around the inverter for proper airflow.
- The inverter is suitable for outdoor, backup, solar installations, and construction site tools.

4.2 Wiring Diagram

Refer to the detailed wiring diagram below for correct connections of PV modules, AC input, AC output, and batteries.

It is recommended to connect solar modules in series.

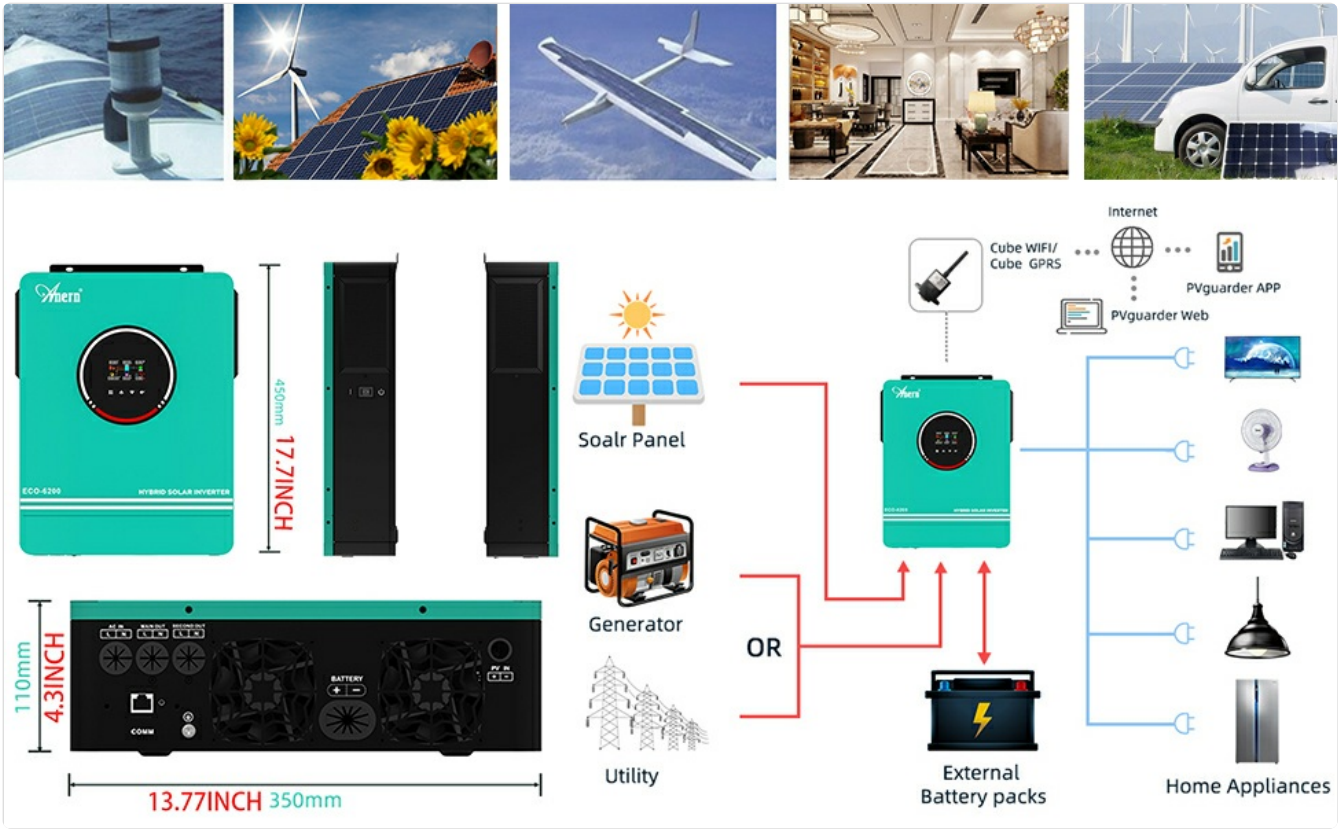

Figure 5: System Wiring Diagram

4.3 Battery Connection

The inverter supports 48V lead-acid and lithium batteries. For lithium batteries, ensure compatibility with the battery's Battery Management System (BMS). The inverter may not communicate with all battery brands. If using a lithium battery, configure it by selecting the "User-defined" battery type in program 05 on the inverter's LCD.

- Recommended cable and terminal size for battery: 2 AWG / 25mm².
- Recommended fuse for battery: 150A.

Figure 6: Battery Compatibility

4.4 Startup Sequence

Follow this sequence to power on the system:

1. Connect the battery.
2. Start the inverter.
3. Connect the circuit breakers for PV, grid, and load.

To power off, follow the reverse order.

5. Operating Instructions

5.1 Charging Modes

The inverter offers three charging modes to meet diverse user application requirements:

- **Solar Energy Priority:** Solar power is prioritized for charging the battery and powering loads.
- **Solar + Utility Simultaneously:** Both solar and grid power are used concurrently for charging and powering loads.
- **Solar Only Battery Charging:** Only solar energy is used to charge the battery.

5.2 Output Modes

The inverter provides two output modes to cover the electrical needs of a wide range of equipment:

- **Solar Priority Output, then Utility:** Solar power is prioritized for loads, then supplemented by utility power.
- **Solar Output Priority, then Battery, then Grid:** Solar power is prioritized, then battery power, and finally grid power for loads.

Figure 7: Charging and Output Modes

5.3 WIFI Monitoring

The included WIFI module enables remote monitoring of your inverter's performance and data via a mobile application. This allows you to retrieve desired data and manage your solar inverter system at any time.

5.4 LCD Display

The inverter features a high-resolution RGB LCD screen that is easy to read even in daylight. It displays various operating modes and system parameters, providing clear visual feedback on the inverter's status.

6. Maintenance

- Regularly inspect all wiring connections for tightness and corrosion.
- Keep the inverter's ventilation openings clear of dust and debris to ensure proper cooling.
- Clean the exterior of the inverter with a dry cloth. Do not use liquid cleaners.
- Periodically check battery terminals for corrosion and clean if necessary.

7. Troubleshooting

If the inverter is not functioning as expected, perform the following basic checks:

- Verify all power connections (PV, battery, grid, load) are secure and correct.
- Check all circuit breakers and fuses for trips or damage.
- Ensure the battery voltage is within the operational range.
- Consult the LCD display for any error codes or warnings and refer to the full manual for specific interpretations.
- If the issue persists, contact customer support for assistance.

8. Specifications

Feature	Specification
Model Number	AN-SCI-ECO-6200
Manufacturer	Anern
Power	6.2 KW
Output Power	6200 Watts
Peak Output Power	9300 Watts
Inverter Power (VA)	6210 VA
Input Voltage	48 Volts (DC)
Output Voltage	220-240 Volts (AC)
Output Waveform	Pure Sine Wave
Max. PV Open Circuit Voltage	500VDC
MPPT Voltage Range	90VDC~450VDC
Max. Charging Current	120A (MPPT) / 100A (AC Charger)
Battery Capacity	120 Amp-hours (recommended)
Efficiency	98%
Display Type	LCD
Product Dimensions (L x W x H)	55L x 43W x 21H cm
Item Weight	11.2 Kilograms
Included Components	WIFI Module
Recommended Uses	Outdoor, backup, solar installations, construction tools
Energy Specifications Met	CE
Country of Origin	China

9. Warranty and Support

9.1 Warranty Information

The Anern 6.2KW Hybrid Solar Inverter comes with a 3-year warranty for spare parts. The warranty covers replacement of broken parts due to manufacturing defects under normal use conditions.

9.2 Customer Support

For technical assistance, warranty claims, or any questions regarding your inverter, please contact Anern customer

support. You can typically find contact information on the product packaging or the official Anern website. Please have your product model number and purchase details ready when contacting support.