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> SRNE Off Grid Inverter 48V MPPT Solar Inverter 5KW Hybrid Single Phase 110V 120V Power Inversor 5000W All in One HF4850U80-H User Manual

QHYXT HF4850U80-H

SRNE Off Grid Inverter HF4850U80-H User Manual

Model: HF4850U80-H

1. INTRODUCTION

This user manual provides essential information for the safe and efficient operation of the SRNE Off Grid Inverter, Model HF4850U80-H. This 5KW hybrid single-phase inverter is designed to provide reliable power for various applications, integrating solar charging, AC input, and battery management. Please read this manual thoroughly before installation and operation.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury or damage to the inverter:

- Installation must be performed by qualified personnel.
- Ensure all connections are secure and correct before powering on.
- Do not expose the inverter to rain, snow, spray, or any liquids.
- Do not disassemble the inverter. There are no user-serviceable parts inside.
- Ensure proper ventilation around the inverter to prevent overheating.
- Disconnect all power sources (PV, AC, Battery) before performing any maintenance or wiring.
- Use appropriate personal protective equipment (PPE) during installation and maintenance.

3. PRODUCT OVERVIEW

The SRNE HF4850U80-H is a high-frequency, pure sine wave hybrid inverter designed for off-grid solar power systems. It features multiple charging modes and output options to ensure uninterrupted power supply.

3.1 Key Features

- Rated power: 5000W, 48VDC.
- MPPT PV input range: 120V~450V DC, max. 500V DC.
- Maximum PV Charge Current: 80A.

- Pure sine wave AC output.
- Two output modes: mains bypass and inverter output.
- Four charging modes: Only Solar, Mains Priority, Solar Priority, and Mains & Solar hybrid charging.
- Power saving mode to reduce no-load loss.
- Compatible with Lithium and Lead-acid batteries.

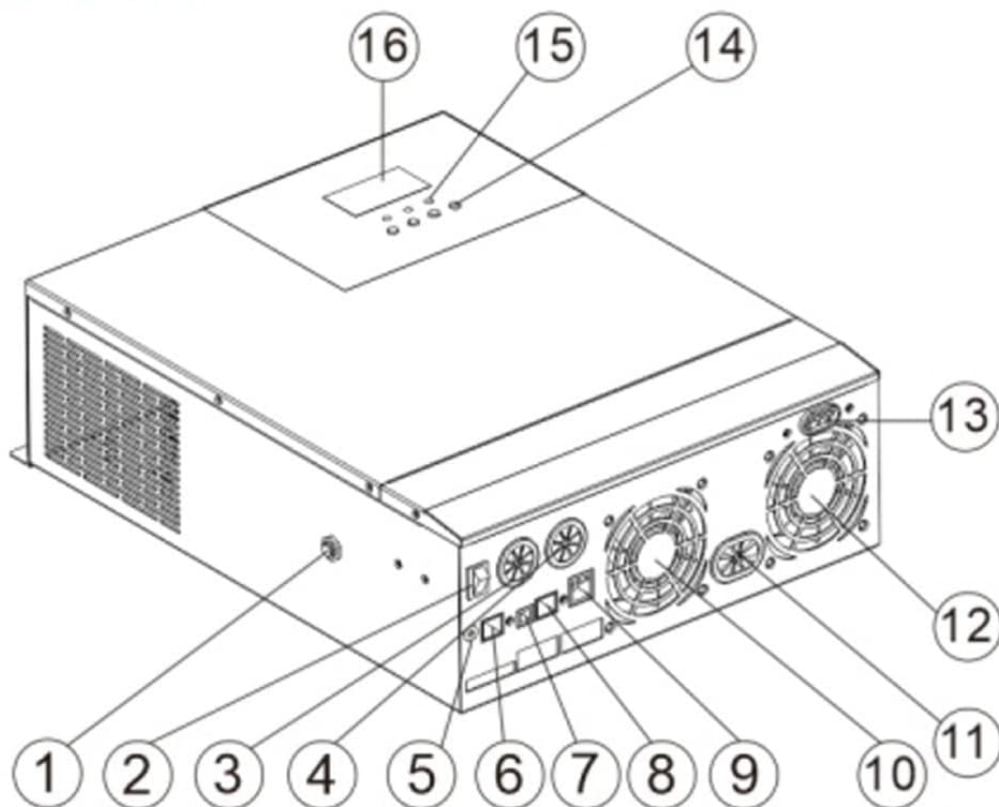
3.2 Component Identification

Refer to the diagrams below for identification of the inverter's external components and connection points.



Figure 3.2.1: Front and side view of the SRNE Off Grid Inverter HF4850U80-H, showcasing its compact design and ventilation.

Appearance



①	Overload protector	⑨	Dry contact port
②	ON/OFF rocker switch	⑩	Cooling fan
③	AC input port	⑪	Battery port
④	AC output port	⑫	Cooling fan
⑤	Grounding screw hold	⑬	PV port
⑥	RS485-2 communication port	⑭	Touch the key lightly
⑦	USB communication port	⑮	Indicator light
⑧	RS485-1 communication port	⑯	LCD screen

Figure 3.2.2: Detailed diagram of the inverter's appearance with numbered components.

Table 3.2.1: Component Identification

No.	Component	No.	Component
1	Overload protector	9	Dry contact port
2	ON/OFF rocker switch	10	Cooling fan
3	AC input port	11	Battery port
4	AC output port	12	Cooling fan
5	Grounding screw hold	13	PV port

No.	Component	No.	Component
6	RS485-2 communication port	14	Touch the key lightly
7	USB communication port	15	Indicator light
8	RS485-1 communication port	16	LCD screen



Figure 3.2.3: Close-up view of the inverter's rear panel, showing AC input/output, USB, RS485, battery, and PV connections.

4. SETUP AND INSTALLATION

Proper installation is critical for the safe and efficient operation of your inverter. Ensure all local electrical codes are followed.

4.1 System Diagram

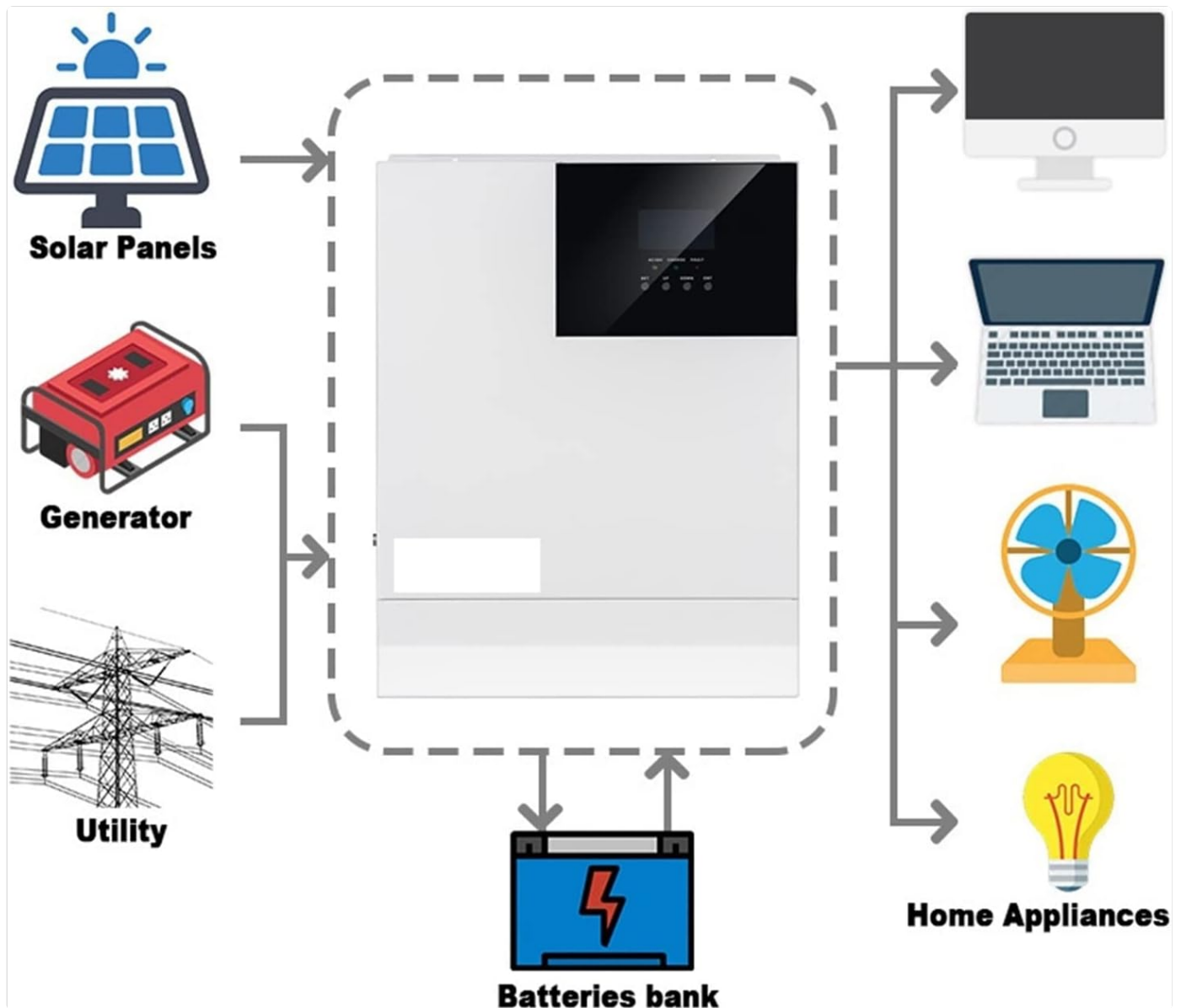


Figure 4.1.1: Overview of the inverter's role in a typical off-grid power system, connecting solar panels, generator, utility, and battery bank to power home appliances.

4.2 Mounting the Inverter

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

4.3 Wiring Connections

Follow these steps for wiring connections. Refer to Figure 3.2.3 for port locations.

1. **Grounding Connection:** Connect the grounding screw hold (5) to a reliable earth ground.
2. **Battery Connection:** Connect the battery bank to the Battery port (11). Ensure correct polarity (positive to positive, negative to negative). The inverter supports 48VDC battery systems.
3. **PV Input Connection:** Connect your solar panel array to the PV port (13). Ensure the PV voltage is within the MPPT range of 120V-450V DC.
4. **AC Input Connection:** Connect the utility grid or generator to the AC input port (3).
5. **AC Output Connection:** Connect your loads (home appliances) to the AC output port (4).
6. **Communication Ports:** Connect RS485-1 (8), RS485-2 (6), or USB (7) communication cables as needed for monitoring or advanced control.

7. **Dry Contact Port:** Utilize the dry contact port (9) for external control signals if required.

Important: Double-check all connections for tightness and correct polarity before proceeding to power on.

5. OPERATING INSTRUCTIONS

This section details how to operate your SRNE Off Grid Inverter and configure its settings.

5.1 Powering On/Off

1. Power On:

- Ensure all wiring is complete and secure.
- Switch on the battery breaker (if applicable).
- Switch on the PV array breaker (if applicable).
- Switch on the AC input breaker (if applicable).
- Press the ON/OFF rocker switch (2) on the inverter to the 'ON' position. The LCD screen (16) will illuminate, and the indicator lights (15) will show status.

2. Power Off:

- Switch off the AC output breaker (if applicable) to disconnect loads.
- Press the ON/OFF rocker switch (2) on the inverter to the 'OFF' position.
- Switch off the AC input breaker.
- Switch off the PV array breaker.
- Switch off the battery breaker.

5.2 LCD Display and Buttons

The LCD screen (16) displays real-time operating status, system parameters, and fault codes. Use the touch keys (14) to navigate menus and adjust settings.

- **MENU:** Enters the main menu or confirms a selection.
- **UP/DOWN:** Navigates through menu options or adjusts values.
- **ESC:** Exits the current menu or cancels an operation.

5.3 Charging Modes

The inverter supports four charging modes, configurable via the LCD menu:

- **Only Solar (CSO):** Prioritizes solar power for charging.
- **Mains Priority (CUP):** Prioritizes utility/generator power for charging.
- **Solar Priority (CSP):** Solar power is the primary charging source; utility/generator acts as a backup.
- **Mains & Solar Hybrid (CMU):** Combines both mains and solar power for charging.

5.4 Output Modes

The inverter offers two output modes:

- **Mains Bypass:** Loads are directly powered by the utility grid. The inverter acts as a bypass.
- **Inverter Output:** Loads are powered by the inverter, drawing power from batteries or solar.

6. 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. Ensure ventilation openings and cooling fans (10, 12) are free from dust and debris. Do not use liquid cleaners.
- **Connections:** Annually check all electrical connections for tightness and signs of corrosion. Re-tighten if necessary.
- **Environment:** Ensure the installation environment remains dry, well-ventilated, and within the specified temperature range.
- **Battery Health:** Monitor battery voltage and health according to battery manufacturer guidelines.

Note: Do not attempt to open the inverter casing. All internal servicing must be performed by authorized service personnel.

7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter. For problems not listed here, contact customer support.

Table 7.1: Common Troubleshooting Guide

Problem	Possible Cause	Solution
Inverter not turning on	No battery connection; Battery voltage too low; ON/OFF switch off; Blown fuse/breaker.	Check battery connections and voltage; Ensure ON/OFF switch is on; Check and reset overload protector (1) or external breakers.
No AC output	Overload; Short circuit; Inverter in fault mode; AC output breaker tripped.	Reduce load; Check for short circuits in wiring; Check LCD for fault codes; Reset AC output breaker.
Battery not charging	PV voltage too low/high; No AC input; Charging mode incorrect; Battery fault.	Check PV array voltage; Verify AC input presence; Adjust charging mode settings; Inspect battery health.
Overload protector (1) trips frequently	Excessive load connected to inverter.	Reduce the total power consumption of connected appliances. Ensure total load does not exceed 5000W.

8. SPECIFICATIONS

Technical specifications for the SRNE Off Grid Inverter HF4850U80-H.

Table 8.1: Technical Specifications

Parameter	Value
Model Name	SRNE Off Grid Inverter HF4850U80-H
Rated Power	5000W
DC Voltage	48VDC
MPPT PV Range	120V~450V DC
Max PV Voltage	500V DC
Max PV Charge Current	80A
AC Output Type	Pure Sine Wave
AC Output Voltage	110V/120V (Single Phase)
Recommended Uses	Home, Household appliances, Small electronics, Travel, Camping, Recreational Vehicle

Parameter	Value
Power Source	Solar Powered
Manufacturer	QHYXT
Country of Origin	China

9. WARRANTY AND SUPPORT

For warranty information and technical support, please contact your point of purchase or the manufacturer directly. Keep your purchase receipt as proof of purchase for warranty claims.

Manufacturer: QHYXT

For further assistance, refer to the official QHYXT website or contact their customer service department.

