

Y&H Y&H 6.2KW

Y&H 6.2KW On/Off-Grid Solar Hybrid Inverter User Manual

Model: Y&H 6.2KW

Brand: Y&H

1. INTRODUCTION

This document provides comprehensive instructions for the installation, operation, and maintenance of the Y&H 6.2KW On/Off-Grid Solar Hybrid Inverter. This multi-function inverter/charger integrates the capabilities of an inverter, solar charger, and battery charger to deliver reliable, uninterruptible power support in a compact design. The intuitive LCD display and user-configurable buttons allow for easy adjustment of settings such as battery charging current, AC/solar charger priority, and acceptable input voltage, adapting to various application requirements.

2. KEY FEATURES

- **Pure Sine Wave Output:** Provides clean and stable power suitable for sensitive electronics.
- **On/Off-Grid Capability:** Supports both grid-tied and off-grid solar power system configurations.
- **Integrated MPPT Solar Charger:** Features a built-in 120A MPPT solar charger for efficient solar energy harvesting.
- **Wide PV Input Voltage Range:** Accommodates a high PV input voltage range (90~450VDC) for flexible solar panel configurations.
- **Dual Load Output:** Offers two load output ports with configurable voltage settings for enhanced power management.
- **Battery Compatibility:** Supports various battery types including lithium, lead-acid (AGM, GEL, Flooded), with automatic lithium battery activation. Can operate without a battery.
- **WIFI & GPRS Communication:** Enables remote monitoring and parameter adjustment via mobile applications (IOS and Android). *Note: WIFI module is optional and not included in the standard package.*
- **One-Key Restoration:** Allows for quick restoration to factory settings, preventing issues from incorrect configurations.
- **Built-in Anti-Dust Kit:** Designed for enhanced durability in harsh environments.
- **Smart Battery Charge Design:** Optimizes battery life through intelligent charging algorithms.

3. IMPORTANT SAFETY NOTES AND LIMITATIONS

- **Utility Bypass Mode:** In utility bypass mode, the device cannot be connected to two-phase 220V AC (L1-L2 cannot be connected to L-N).
- **Inverter Mode Output Priority:** When the device is connected to two-phase 220V in inverter mode, do not select utility priority for the output priority to avoid safety hazards.
- **Autotransformer Connection:** Do not connect the AC output of the device to an autotransformer, as this may affect the normal service life of the device.
- **Output Voltage:** This inverter provides a single-phase/A Hot Leg 230V output and cannot output 110V AC.
- **Parallel Operation:** This Y&H off-grid solar inverter all-in-one does not support parallel operation and does not support phase separation.

4. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your inverter. Please follow these guidelines carefully.

4.1 System Overview

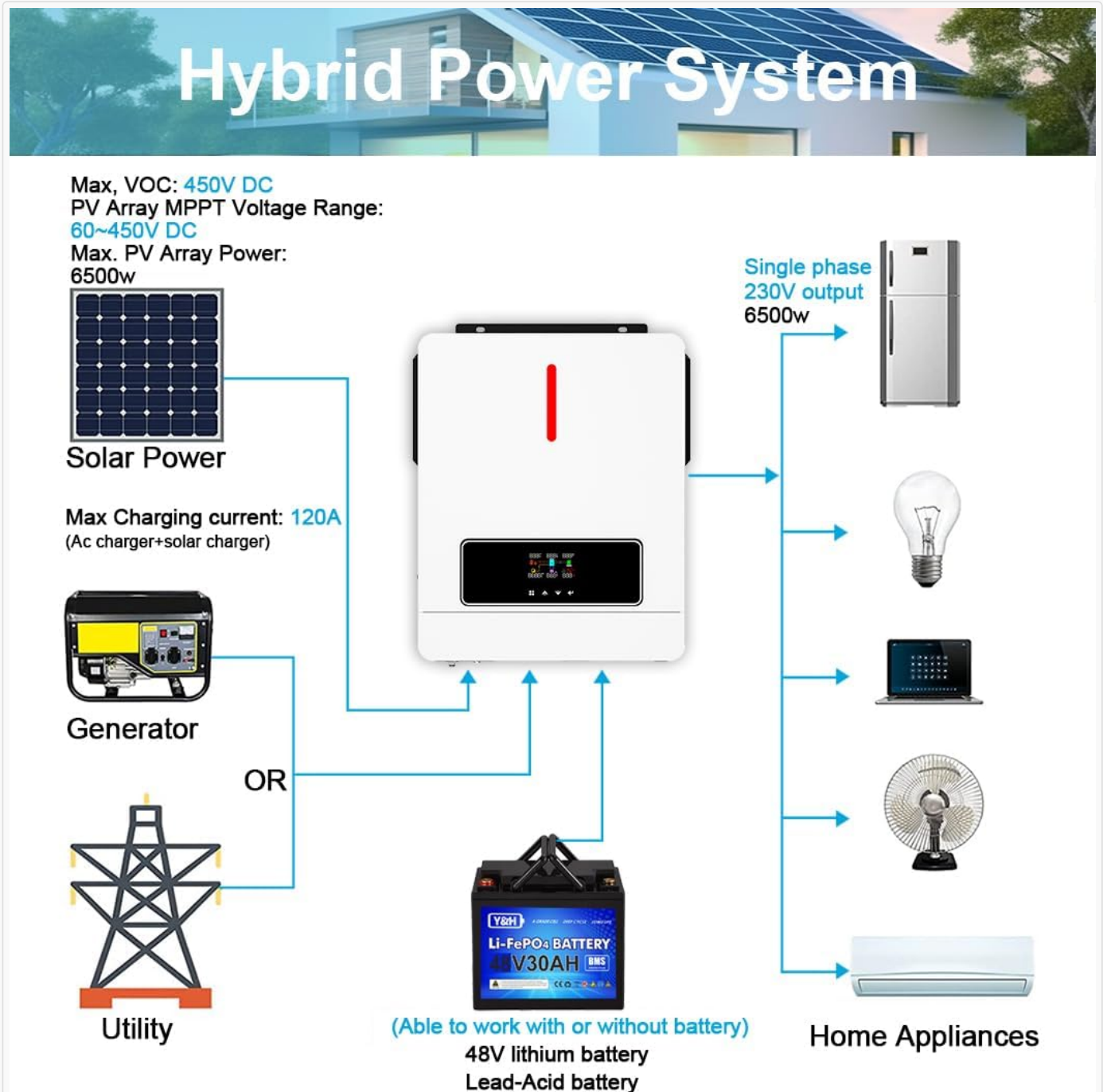


Figure 4.1: Hybrid Power System Diagram. This diagram illustrates the various components that can be integrated with the Y&H Hybrid Inverter, including solar panels, generator, utility grid, and battery storage, to power home appliances. It shows the maximum VOC (450V DC), PV array MPPT voltage range (60-450V DC), and maximum PV array power (6500W).

The inverter can be integrated into a comprehensive hybrid power system, drawing power from solar panels, a generator, or the utility grid, and storing it in a battery (optional) to supply various home appliances.

4.2 Physical Dimensions and Placement



Figure 4.2: Inverter Dimensions and Key Features. This image displays the physical dimensions of the 6200W solar inverter (420mm height, 310mm width, 110mm depth) and highlights key features such as 120A MPPT solar charge controller, 6500W max PV array power, 450VDC max PV array open circuit voltage, pure sine wave output, 50/60Hz auto frequency, and one-click restoration to original settings.

Ensure adequate space for ventilation around the inverter. The dimensions are approximately 420mm (height) x 310mm (width) x 110mm (depth).

4.3 Battery Connection

ALL-IN-ONE INVERTER

Fit for Lead-Acid and Lithium Battery
(Seal, Gel, and Lithium battery, need to be set via the "User-Defined").

Note:

Use a circuit breaker between the battery and the inverter.



AGM, GEL, Flooded Lithium
and User-defined



Recommended battery cable size:

Model	Wire Size	Cable (mm ²)	Torque value (max)
4.2/6.2KW	1x 2AWG	25	2 Nm

Figure 4.3: Battery Compatibility and Recommended Cable Size. This image shows that the inverter is compatible with Lead-Acid (AGM, GEL, Flooded) and Lithium batteries. It also provides a table recommending a wire size of 1x 2AWG (25 mm²) and a maximum torque value of 2 Nm for the 4.2/6.2KW models. A note emphasizes the importance of using a circuit breaker between the battery and the inverter.

The inverter is compatible with AGM, GEL, Flooded Lead-Acid, and Lithium batteries. For Lithium batteries, settings may need to be adjusted via "User-Defined" mode. Always use a circuit breaker between the battery and the inverter for safety. For 4.2KW/6.2KW models, the recommended battery cable size is 1x 2AWG (25 mm²) with a maximum torque value of 2 Nm.

4.4 WIFI Communication (Optional)

The indispensable WIFI communication function!

You can monitor the working status of the inverter from your mobile phone at any time and anywhere. Flexible setting of the required parameters.



Monitor your system



Change parameters



Optional

WIFI module is not included in the package



Figure 4.4: WIFI Communication Function. This image highlights the optional WIFI communication feature, allowing users to monitor the inverter's working status and change parameters remotely via a mobile phone. It shows a WIFI module connected to the inverter and a QR code for setup. A crucial note indicates that the WIFI module is not included in the package.

The inverter supports WIFI communication for remote monitoring and parameter adjustment. The WIFI module is an optional accessory and is not included in the standard package. If you have the module, connect it to the designated port and follow the instructions for mobile app setup.

5. OPERATING INSTRUCTIONS

Understanding the operational modes and settings of your inverter is key to maximizing its performance.

5.1 Charging Modes

Four Safe Charging Modes. Three Output Modes.



Solar Charging



Utility Charge
(Solar as backup power)



Solar Priority
(Utility as backup power)



Solar+Utility Charging



Figure 5.1: Four Safe Charging Modes. This image illustrates the four available charging modes: Solar Charging (PV priority), Utility Charge (Solar as backup power), Solar Priority (Utility as backup power), and Solar+Utility Charging. It also indicates three output modes: PV Priority, Utility Priority, and Load SBU Priority.

The inverter offers four charging modes to optimize battery charging based on available power sources:

1. **Solar Charging (PV Priority):** Solar power is the primary source for charging.
2. **Utility Charge (Solar as backup power):** Utility grid is the primary source, with solar as backup.
3. **Solar Priority (Utility as backup power):** Solar power is the primary source, with utility as backup.
4. **Solar+Utility Charging:** Both solar and utility power are used for charging.

5.2 Output Modes

The inverter supports three output priority modes:

- **PV Priority:** Solar power is prioritized for load supply.
- **Utility Priority:** Utility grid power is prioritized for load supply.

- **Load SBU Priority:** Prioritizes Solar, then Battery, then Utility for load supply.

5.3 Dual Load Output Function

Enter the dual output functional voltage point



Setting range is from 40.0V to 46.0V for 6.2KW model.

When the battery voltage falls below the setting range, the Main OUT port stops working. Only the Second Out port works. For areas with frequent power outages and loads that can't be blacked out, you can set the battery voltage to 46 V. Keep more battery capacity in case of emergency. **[If the battery voltage is higher than 46V, the Main OUT port will continue to work.]**

Figure 5.2: Dual Output Voltage Point. This image shows the AC IN, Main OUT, and Second OUT ports on the inverter. It explains that for the 6.2KW model, the setting range for the dual output voltage point is 40.0V to 46.0V, with increments of 0.1V. If the battery voltage falls below this range, the Main OUT port stops working, and only the Second OUT port remains active. This feature is useful for critical loads during power outages.

The 6.2KW model features a dual load output function. The setting range for the battery voltage at which the Main OUT port stops working is from 40.0V to 46.0V, adjustable in 0.1V increments. When the battery voltage drops below this set threshold, the Main OUT port will cease operation, while the Second OUT port will continue to provide power. This allows for critical loads to remain powered during extended outages by reserving battery capacity. If the battery voltage rises above 46V, the Main OUT port will resume operation.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Y&H inverter.

- **Cleanliness:** Keep the inverter clean and free from dust. The built-in anti-dust kit helps, but periodic cleaning of vents is recommended.
- **Connections:** Periodically check all electrical connections (PV, battery, AC input/output) to ensure they are secure and free from corrosion.
- **Battery Health:** Monitor battery voltage and health, especially if using lead-acid batteries, to ensure optimal charging and discharge cycles.
- **Environment:** Ensure the inverter is operating within its specified temperature and humidity ranges.

7. TROUBLESHOOTING

This section provides guidance for common issues you might encounter.

Problem	Possible Cause	Solution
Inverter not turning on.	No DC input from battery/PV; Battery voltage too low; Loose connections.	Check battery connections and voltage; Ensure PV input is sufficient; Verify all wiring.
No AC output.	Overload; Short circuit; Battery low; Inverter fault.	Reduce load; Check for short circuits; Recharge battery; Consult manual for error codes.
Solar charging not working.	PV array voltage too low/high; MPPT charger fault; Shading on panels.	Check PV array voltage; Ensure panels are clean and unshaded; Verify MPPT settings.
WIFI communication issues.	WIFI module not connected; Network issues; Incorrect app settings.	Ensure WIFI module is properly installed; Check local network connectivity; Reconfigure app settings.

For more detailed troubleshooting, refer to the complete user manual or contact Y&H customer support.

8. SPECIFICATIONS

Parameter	Value
Model Name	Y&H 6.2KW
Product Dimensions	42 x 31 x 11 cm
Weight	9.74 kg
Wattage	6500 watts (Max PV Power)
Output Power	6200 Watts
Input Voltage (DC)	450 Volts (Max PV Open Circuit Voltage)
PV Array MPPT Voltage Range	60~450Vdc
Max. Charging Current	120A (MPPT Solar Charger)
Total Power Outlets	2 (Dual Output)
Power Source	Solar Powered

Parameter	Value
Efficiency	High Efficiency
Included Components	MPPT 120A Solar Charger

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Y&H website or contact your authorized dealer. Keep your purchase receipt as proof of purchase for any warranty claims.

Contact Information: Please visit [Y&H Official Brand Page](#) for more information or contact customer service through your point of purchase.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question