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Y&H Voc34-46V

Y&H 1400W Grid Tie Inverter Instruction Manual

Model: Voc34-46V

1. INTRODUCTION AND OVERVIEW

The Y&H 1400W Grid Tie Inverter is designed to convert direct current (DC) electricity generated by solar panels into alternating current (AC) electricity, which can then be fed into the utility grid. This inverter features Maximum Power Point Tracking (MPPT) technology for optimal energy harvesting and produces a pure sine wave output, ensuring compatibility with household appliances. It is suitable for use with 24V or 36V PV panels, with a recommended DC input voltage range of 30-45V.



Figure 1: Y&H 1400W Grid Tie Inverter with included AC power cord.

2. SAFETY INFORMATION

- **Electrical Connections:** Ensure all DC connections are secure and properly tightened to prevent loose connections and potential short circuits, which can lead to smoke emission. The inverter features an aluminum alloy casing designed to minimize fire risk.
- **Grid Connection:** Do not use this inverter with a bidirectional meter in your local power grid. Connecting to a bidirectional grid may cause excess power from the inverter to be fed back, potentially increasing electricity costs. For bidirectional power grids, consider using the Y&H SUN-Inverter series.
- **Voltage Compatibility:** Verify that the input voltage and power of your solar panels do not exceed the specified range for this inverter.
- **Qualified Personnel:** Installation and maintenance should only be performed by qualified personnel familiar with electrical systems and solar power.
- **Ventilation:** Ensure adequate ventilation around the inverter to prevent overheating.

3. PRODUCT FEATURES

- **Maximum Power Point Tracking (MPPT):** The inverter's MPPT range is 30V - 39V, ensuring high efficiency (over 99%) by reacting sensitively and locking onto the maximum power point quickly.
- **Pure Sine Wave Output:** Provides clean and stable AC power suitable for sensitive electronics.
- **Stackable Design:** Features a parallel modular components design, allowing for flexible system expansion and scalability.
- **Protection Features:** Includes Over Current Protection, Over Temperature Protection, Reverse Polarity Protection, and Island Protection for enhanced safety and reliability.
- **Aluminum Alloy Casing:** Durable and designed to minimize fire risk.

4. SETUP AND INSTALLATION

Follow these steps for proper installation of your Y&H Grid Tie Inverter:

1. **Identify DC Input Terminals:** Locate the positive (+) and negative (-) DC input terminals on the inverter. These are typically color-coded (red for positive, black for negative) and may have fuse holders.

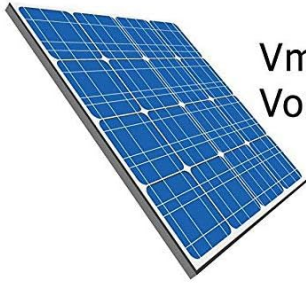


Figure 2: DC Input Terminals and Fuses.

2. **Connect DC Input Source:** Connect your solar panel(s) or battery bank to the DC input terminals. Ensure the V_{mp} (Maximum Power Voltage) of your solar panel is within the inverter's MPPT range (30V-39V) and the V_{oc} (Open Circuit Voltage) is within 34-46V. For 24V solar panels, the V_{mp} must be higher than 26V. If using multiple panels, connect them in parallel. If using a battery, a 36V battery bank is recommended for testing purposes, as 24V batteries are not compatible.

ACCEPTED DC INPUT SOURCE

1. Solar Panel 24 V



Vmp: 28-39V
Voc: 36-46V

2. Battery Bank (36 V)



Note: 24V Solar Panel's Vmp must be higher than **26 V**
If you've got more panels, they must be connected in parallel

24V Battery is not compatible with this unit. For testing Purpose, you should use at least **36V** battery bank

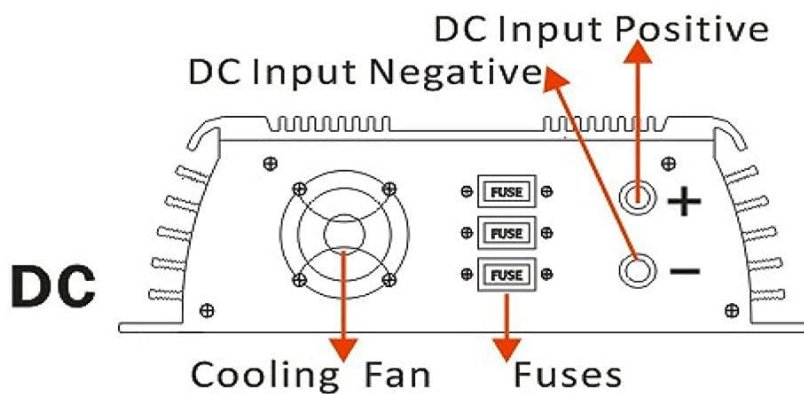


Figure 3: Accepted DC Input Sources (Solar Panel and Battery Bank).

- 3. Connect AC Output:** Connect the inverter's AC output to a standard household outlet using the provided AC power cord. Ensure the outlet is part of a stable utility grid.

Output :

Connect to the outlet using attached AC cord.

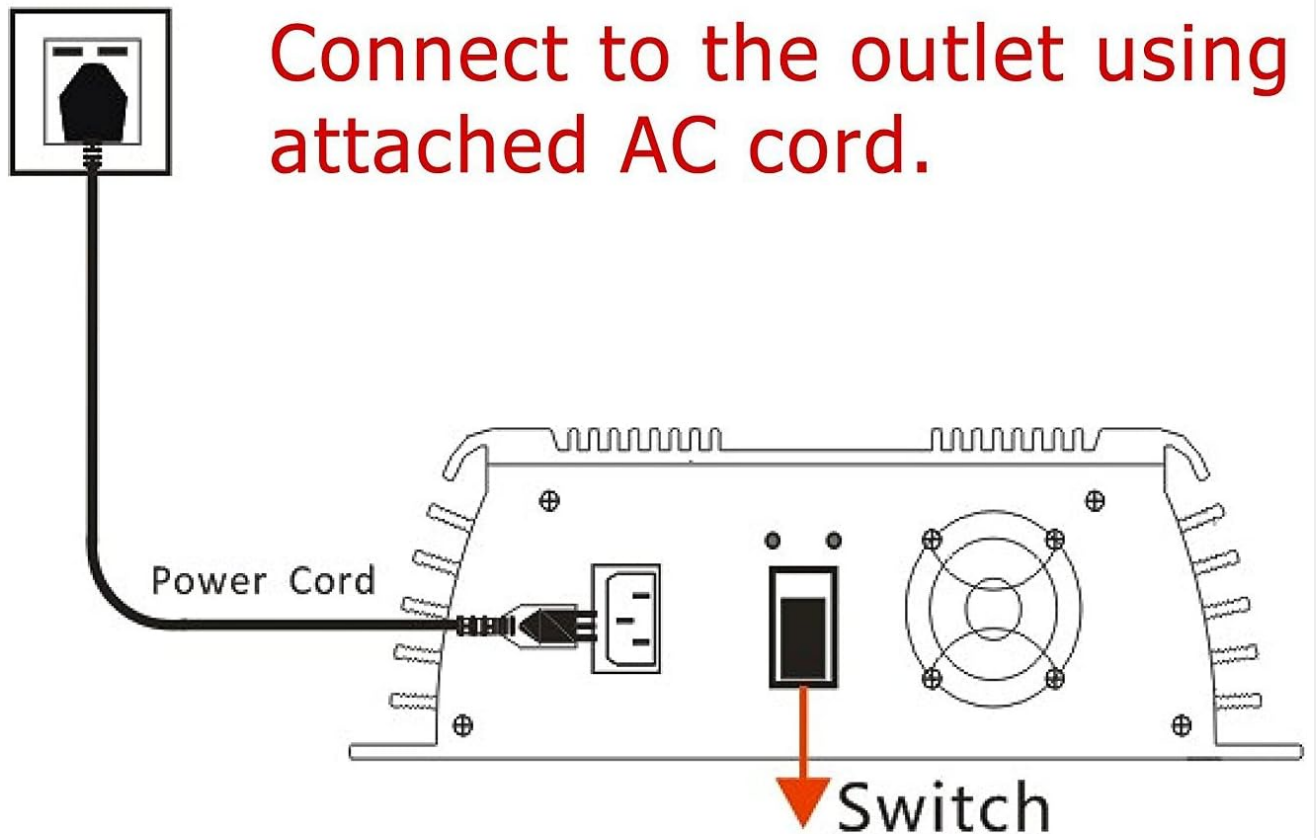


Figure 4: AC Output Connection to Grid.

4. **Power On:** Once all connections are secure, turn on the inverter's power switch. The blue LED indicator should light up, indicating operation.



Figure 5: AC Output Port and Power Switch.

5. **Observe Operation:** The inverter will begin converting DC power to AC power and feeding it into your home's electrical system.

Installation and Wiring Demonstration Video



Video 1: This video demonstrates the basic wiring and testing procedure for the Y&H 1400W Grid Tie Inverter, showing how to connect DC input and AC output, and initiate operation.

5. OPERATING INSTRUCTIONS

Once installed and powered on, the inverter operates automatically. It will continuously track the maximum power point of your solar panels to optimize energy production and feed AC power into your grid. The blue LED indicator confirms active operation.

- **Monitoring:** You can monitor the inverter's performance using compatible energy monitoring devices (not included).
- **Shutdown:** To shut down the system, first disconnect the AC power cord from the grid, then disconnect the DC input from the solar panels or battery.

6. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your inverter:

- **Cleaning:** Periodically clean the exterior of the inverter to prevent dust buildup, especially around the cooling fan

and heat sinks. Use a soft, dry cloth.

- **Connection Checks:** Annually inspect all electrical connections (DC input and AC output) to ensure they remain tight and free from corrosion.
- **Ventilation:** Ensure that the inverter's ventilation openings are not obstructed.

7. TROUBLESHOOTING

If the inverter is not operating as expected, consider the following:

- **No Power Output:**
 - Check if the DC input voltage from your solar panels is within the specified operating range (30-45V).
 - Verify that the AC power cord is securely plugged into a live grid outlet.
 - Ensure the inverter's power switch is in the 'ON' position.
 - Inspect the fuses on the DC input side (Figure 2). Replace if blown.
- **Low Power Output:**
 - Confirm that your solar panels are receiving adequate sunlight and are not shaded.
 - Check the V_{mp} of your solar panels to ensure it falls within the inverter's optimal MPPT range.
 - Ensure all connections are secure and free from resistance.
- **Overheating:**
 - Ensure the inverter is installed in a well-ventilated area.
 - Clear any obstructions from the cooling fan.

For persistent issues, refer to the Warranty and Support section for contact information.

8. SPECIFICATIONS


Specification	Value
Brand	Y&H
Model Name	Voc34-46V
Wattage	1400 watts
Power Source	Solar Powered
DC Input MPPT Range	30V - 39V
DC Input Open Circuit Voltage (Voc)	34V - 46V (for 24V/36V PV Panel)
AC Output Voltage	110V/120V
Item Weight	4.82 pounds
Package Dimensions	15.71 x 8.5 x 4.41 inches
Date First Available	March 11, 2021

9. WARRANTY AND SUPPORT

Y&H provides a **1-year warranty** for this product, along with a **30-day free return policy**. If you encounter any product problems or have questions regarding installation, operation, or troubleshooting, please contact Y&H customer support. Your satisfaction is a top priority, and the technical team is available to assist you.

For support, please refer to the contact information provided with your purchase or visit the official Y&H website.

Related Documents - Voc34-46V

	<p>Y&H GTN Grid-Tie Inverter Connection and Operation Manual</p> <p>Comprehensive guide for connecting and operating Y&H GTN series grid-tie inverters, covering unpacking, parameter settings, connection methods for solar panels and batteries, LED indicators, troubleshooting, and after-sales support.</p>
	<p>Y&H 3200W Solar Hybrid Inverter - User Manual</p> <p>Comprehensive user manual for the Y&H 3200W Solar Hybrid Inverter (SP-3200W-24V-M80A), detailing specifications, features, and operational indicators for off-grid pure sine wave power systems.</p>
	<p>Y&H 8.2KW/10.2KW Hybrid Solar Inverter User Manual</p> <p>Comprehensive user manual for the Y&H 8.2KW and 10.2KW Hybrid Solar Inverter, detailing installation, operation, safety, and specifications for reliable solar power solutions.</p>
	<p>Y&H MPS-VIII ECO 6.2KW 48V Solar Hybrid Inverter User Manual</p> <p>Comprehensive user manual for the Y&H MPS-VIII ECO 6.2KW 48V Solar Hybrid Inverter. This guide covers installation, operation, safety, and technical specifications for the pure sine wave inverter with 120A MPPT charge controller.</p>
	<p>Y&H Solar Grid Micro Inverter User Manual</p> <p>User manual for Y&H Solar Grid Micro Inverters, detailing technical specifications, LED indicator functions, connection guides, and system diagrams for models T-120 through T-700.</p>



[GMI Series Grid Tie Micro Inverter User Manual](#)

User manual for the GMI Series Grid Tie Micro Inverters, detailing specifications, safety precautions, LED indicators, installation procedures, and wiring schematics for models GMI260, GMI300, and GMI350.