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> Y&H 3200W Solar Hybrid Inverter DC24V to AC230V,Off-Grid Pure Sine Wave Inverter with 80A MPPT Solar Charger+AC Charger,Max PV 3000W DC55-450V Input,fit for 24V Lead-Acid/Lithium Battery 3200W-24V-M80A

## Y&H SP-3200W-24V-M80A

# Y&H 3200W Solar Hybrid Inverter User Manual

Model: SP-3200W-24V-M80A

## 1. INTRODUCTION

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This user manual provides detailed instructions for the installation, operation, and maintenance of your Y&H 3200W Solar Hybrid Inverter. This advanced off-grid pure sine wave inverter integrates an 80A MPPT solar charger and an AC charger, designed to efficiently manage power for 24V lead-acid and lithium battery systems. It supports a maximum PV input of 3000W with a DC voltage range of 55-450V.

Please read this manual thoroughly before installation and operation to ensure safe and optimal performance of the inverter.



Figure 1.1: Front view of the Y&H 3200W Solar Hybrid Inverter.

## 2. SAFETY INFORMATION

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Always adhere to the following safety precautions to prevent injury and damage to the inverter:

- Ensure all connections are secure and correctly polarized before powering on the unit.

- Do not attempt to disassemble or repair the inverter yourself. Refer to qualified personnel for servicing.
- Install the inverter in a well-ventilated area, away from flammable materials and direct sunlight.
- Verify that the input voltage from solar panels and batteries is within the specified range.
- This inverter outputs 220/230/240V AC. It is not designed for direct 110V AC output. A step-down converter (not included) is required for 110/120V appliances.
- Avoid installing the inverter near bedrooms due to potential fan noise (50-70 dB).



Figure 2.1: The inverter features comprehensive protection mechanisms including short circuit, overload, over current, backfill, over voltage, over temperature, under voltage, and over charge protection.

### 3. SETUP AND INSTALLATION

Proper installation is crucial for the inverter's performance and longevity. Follow these guidelines:

#### 3.1 Component Identification

# Port Introduction

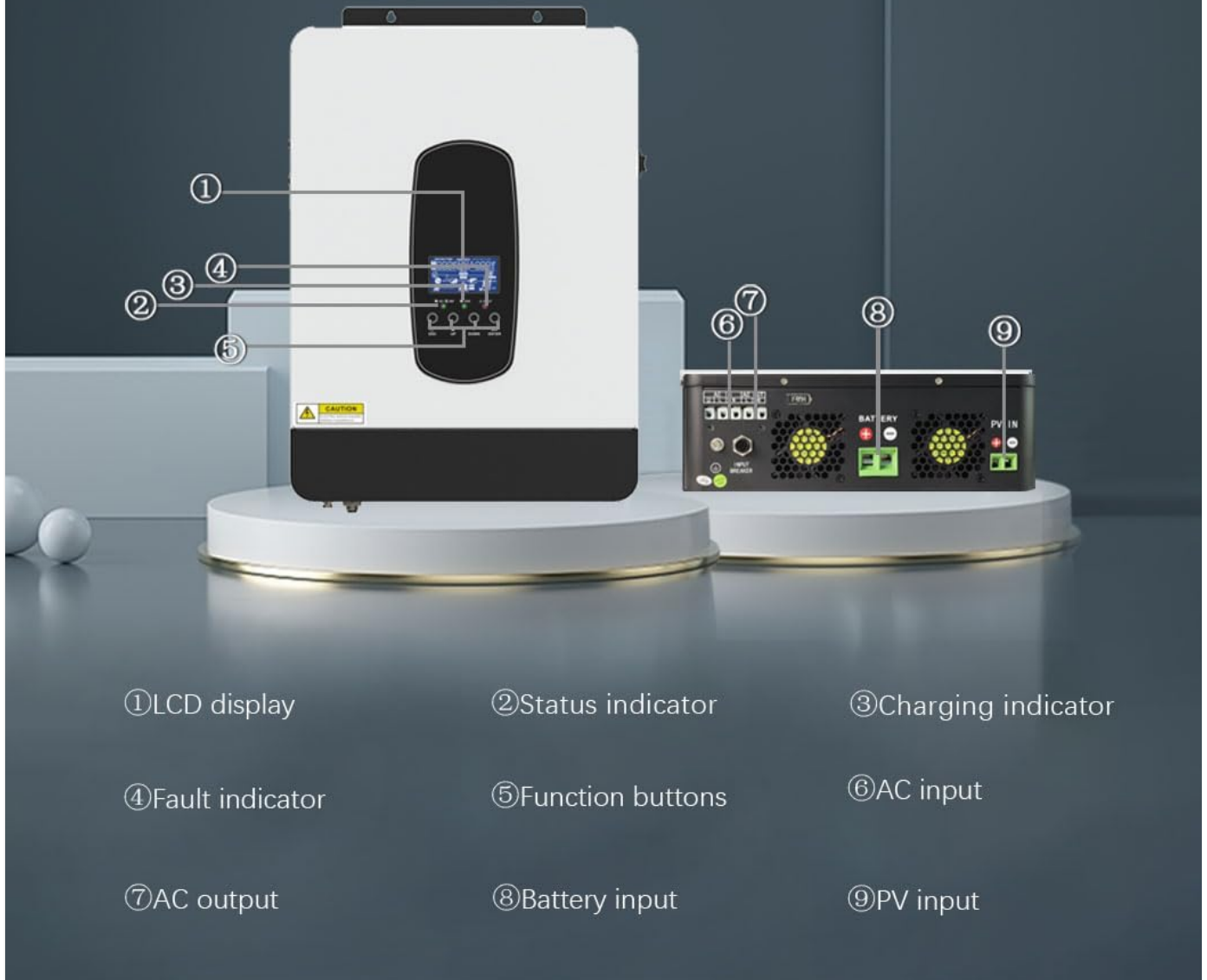


Figure 3.1: Key components and ports of the inverter. (1) LCD display, (2) Status indicator, (3) Charging indicator, (4) Fault indicator, (5) Function buttons, (6) AC input, (7) AC output, (8) Battery input, (9) PV input.

## 3.2 Wiring Connections

Refer to the wiring diagram below for correct connection of solar panels, batteries, and AC loads. Ensure all cables are of appropriate gauge and connections are tight.

# Wiring and technical specifications

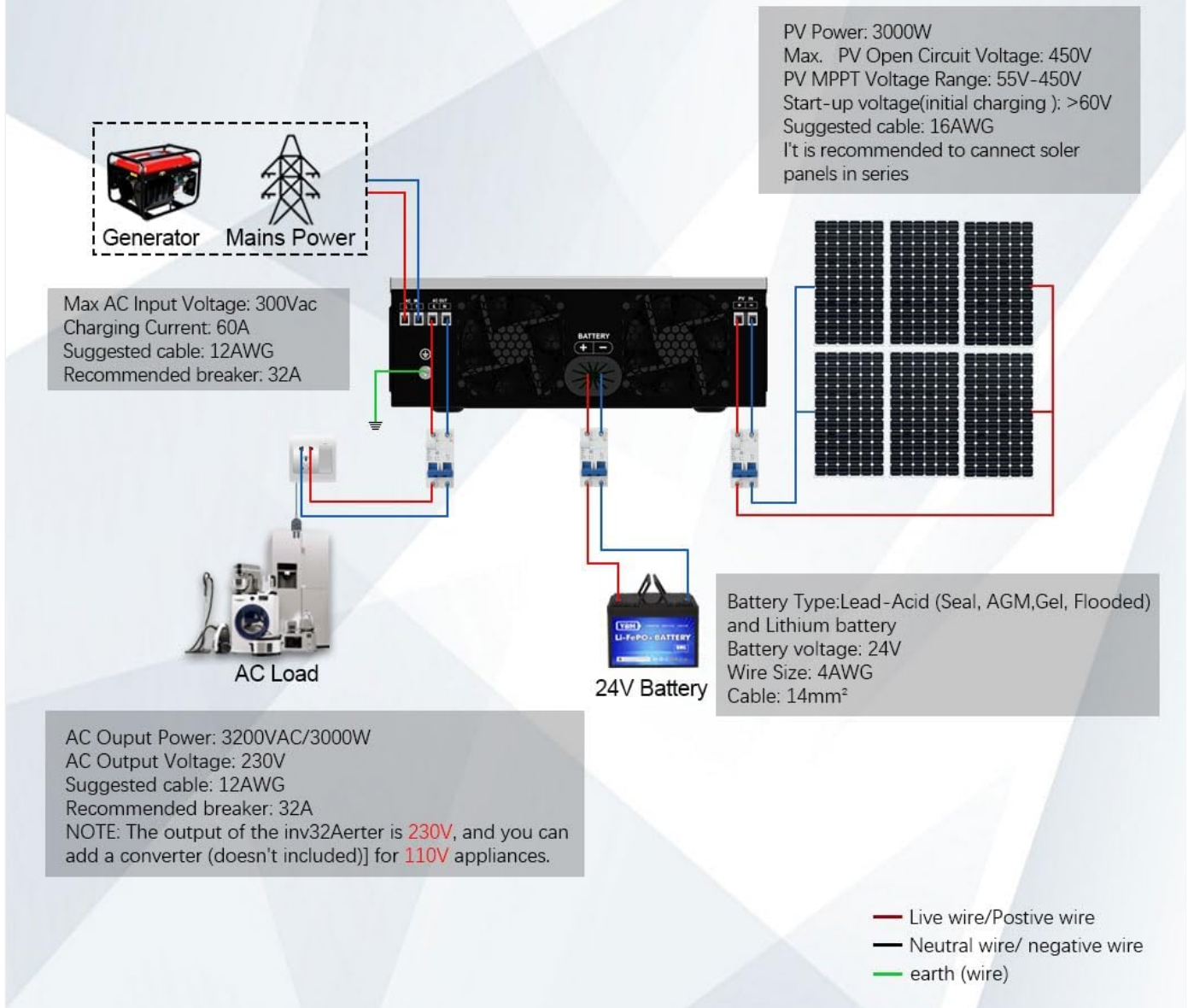


Figure 3.2: Wiring diagram illustrating connections for generator/mains power, AC load, 24V battery, and solar panels. Recommended cable sizes are 12AWG for AC input/output and 16AWG for PV input. Battery wire size 4AWG.

- **Solar Panel Connection:** Max PV input power is 3000W. Voltage range: 55-450Vdc. Max. PV Input VOC: 450V DC. Starting voltage >60V. Recommended PV cable size: 16AWG. It is recommended to connect solar panels in series.
- **Battery Connection:** Compatible with 24V Lead-Acid (Seal, AGM, Gel, Flooded) and Lithium batteries. Ensure correct polarity. Battery wire size: 4AWG.
- **AC Input/Output:** Nominal Input Frequency: 50/60Hz. Output Power: 3000W, surge Capacity: 6000W. Max AC Input Voltage: 300Vac. Charging Current: 60A. Suggested cable: 12AWG. Recommended breaker: 32A.
- **Load Connection:** The inverter provides a single phase/hot leg 230V output. For 110/120V US home appliance equipment, a separate converter (not included) is required to step down the voltage.

## Seamless connection of multiple batteries



Lithium Battery BMS Communication. Battery BMS must be PylonTech



Figure 3.3: The inverter supports seamless connection with multiple battery types including FLD (Flooded), LI (Lithium), SLD (Sealed), AGM, and GEL. Lithium Battery BMS Communication must be PylonTech.

## 4. OPERATING INSTRUCTIONS

The Y&H Solar Hybrid Inverter offers flexible operating modes to suit various power management needs.

### 4.1 Display and Indicators

The LCD display and three LED indicators provide dynamic system data and operating status. Use the function buttons (ESC, UP, DOWN, ENTER) to navigate through settings and monitor parameters.



Figure 4.1: The inverter features an LCD screen and LED indicators for dynamic display of system data and operating status. It also highlights advanced pure sine wave technology, intelligent temperature control, and multiple protection features.

## 4.2 Charging Modes

The inverter supports four charging modes:

- **Only Solar (OSO):** Prioritizes solar power for charging.
- **Mains First (CSO):** Prioritizes utility power for charging.
- **Solar First (SNU):** Prioritizes solar power, then utility power for charging.
- **Mains & Solar Hybrid (SNU Default):** Utilizes both mains and solar for charging.

## 4.3 Output Modes

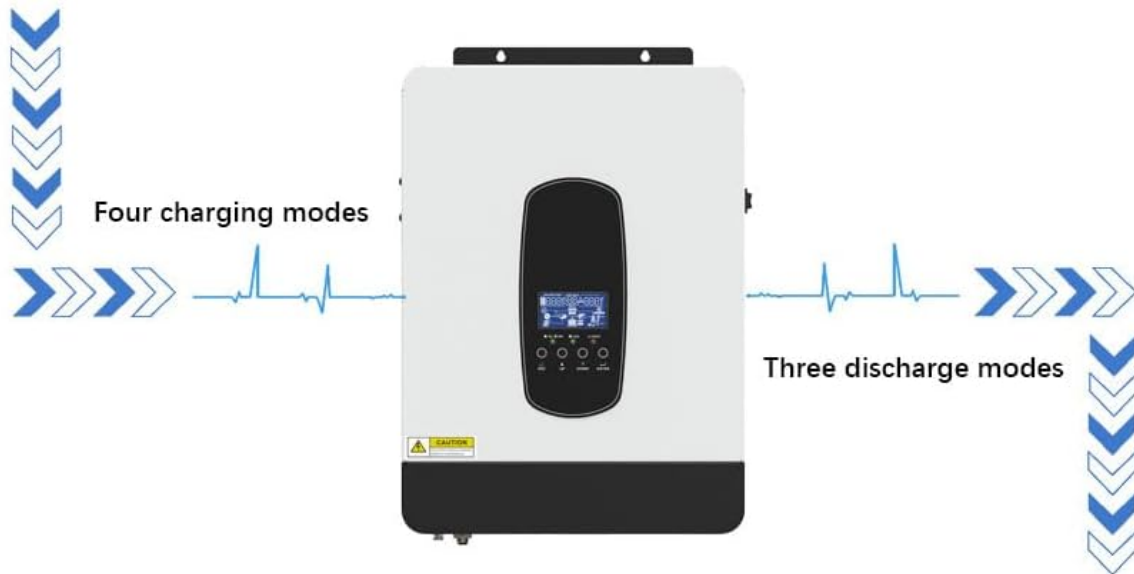
Three output modes are available to ensure uninterrupted power supply:

- **Solar First (SUB Default):** Prioritizes solar power for loads.
- **Mains First (USB):** Prioritizes utility power for loads.

- **SBU Priority:** Prioritizes solar, then battery, then utility for loads.

# Maximize energy use and reduce electricity bills

## 16 sets C50



## 01 sets SBU



Figure 4.2: Visual representation of the four charging modes (CSO Solar First, Utility First, SNU Solar and Utility, OSO Only Solar) and three discharge modes (SUB Solar First, USB Utility First, SBU Priority).

### 4.4 Remote Monitoring

The inverter supports cloud monitoring for remote access. Users can monitor the PV system status from a mobile phone or website anytime, anywhere (monitoring module not included).



Figure 4.3: The inverter supports cloud monitoring, allowing users to check its operation remotely via mobile phone or website.



Figure 4.4: The Y&H inverter is capable of powering a wide range of household and office loads, including ovens, rice cookers, lamps,

televisions, fans, washing machines, and refrigerators.

## 5. MAINTENANCE

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Regular maintenance ensures the longevity and efficient operation of your inverter:

- Keep the inverter clean and free from dust. Use a dry cloth for cleaning.
- Ensure proper ventilation around the unit. Do not block air vents.
- Periodically check all electrical connections for tightness and signs of corrosion.
- Monitor the LCD display for any error codes or unusual readings.
- Inspect cables for any damage or wear. Replace damaged cables immediately.

## 6. TROUBLESHOOTING

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If you encounter issues with your Y&H Solar Hybrid Inverter, refer to the following common troubleshooting steps:

- **No Power Output:** Check AC input and battery connections. Ensure solar panels are receiving sufficient sunlight and producing voltage within the specified range. Verify circuit breakers are not tripped.
- **Inverter Shutting Down:** This could indicate an overload, over-temperature, or battery low voltage condition. Reduce the load, ensure adequate ventilation, or check battery charge level.
- **Fluctuating AC Output:** Check all wiring connections for looseness. Ensure stable input from both solar and utility sources. If the issue persists, contact customer support.
- **Error Codes on LCD:** Consult the full user guide (PDF link provided in product details) for specific error code definitions and resolutions.

For complex issues or if troubleshooting steps do not resolve the problem, please contact Y&H customer support.

## 7. SPECIFICATIONS

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Detailed technical specifications for the Y&H 3200W Solar Hybrid Inverter (Model: SP-3200W-24V-M80A):

Feature	Specification
Product Dimensions	11.1 x 4.13 x 4.1 inches
Item Weight	14.12 pounds
Item Model Number	SP-3200W-24V-M80A
Brand	Y&H
Recommended Uses	Camping, Recreational Vehicle, Boat, Home
Power Source	Battery Powered
Wattage (Surge Capacity)	6000 watts
Max PV Input Power	3000W
PV Voltage Range	55-450Vdc

Feature	Specification
Max PV Input VOC	450V DC
Starting Voltage	>60V
Max Charge Current	80A (MPPT)
Nominal Input Frequency	50/60Hz
Output Voltage	AC 220/230/240V (Single phase/A Hot Leg)
Battery Compatibility	24V Lead-Acid (Seal, AGM, Gel, Flooded) and Lithium battery

## 8. WARRANTY AND SUPPORT

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### 8.1 Warranty Information

Specific warranty details for the Y&H 3200W Solar Hybrid Inverter are typically provided with your purchase documentation. Please refer to the warranty card or contact your retailer for precise terms and conditions. Generally, Y&H products are covered by a manufacturer's warranty against defects in materials and workmanship.

### 8.2 Customer Support

For technical assistance, troubleshooting, or any questions regarding your Y&H Solar Hybrid Inverter, please contact Y&H customer support. You can typically find contact information on the product packaging, the official Y&H website, or through your point of purchase. Y&H is committed to customer satisfaction and has a professional technical team available to assist you.

You may also find additional resources and FAQs on the [Y&H Brand Store on Amazon](#).



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For the most up-to-date information, please visit the official Y&H website or refer to the PDF user guide.

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