IIUUAYUVI IIUUAYUVI

IIUUAYUVI Solar Inverter Hybrid 1.5KW 12V 80A User Manual

Model: IIUUAYUVI

1. Introduction

This manual provides essential information for the safe and efficient operation of your IIUUAYUVI Solar Inverter Hybrid. This multi-function inverter/charger integrates an inverter, solar charger, and battery charger to provide uninterrupted power support. It is designed for various applications, including home appliances and personal computers, and can power motor-type appliances such as tube lights, fans, refrigerators, and air conditioners.

The comprehensive LCD display allows for user-configurable settings, including battery charging current, AC/solar charger priority, and acceptable input voltage ranges.

2. Features

- Pure sine wave inverter output.
- Configurable input voltage range for home appliances and personal computers via LCD settings.
- Adjustable battery charging current based on application via LCD settings.
- Configurable AC/Solar Charger priority via LCD settings.
- Compatibility with mains voltage or generator power.
- Automatic restart function when AC power recovers.
- Overload, over temperature, and short circuit protection.
- Smart battery charger design for optimized battery performance.
- Cold start function.
- WIFI/GPRS connectivity option.
- Compatible with lithium batteries.

3. Basic System Architecture

The following illustration outlines the fundamental components for a complete operational system with this inverter/charger:

- **Inverter/Charger Unit:** The core component.
- **Battery Bank:** For energy storage.
- **PV Modules (Solar Panels):** For solar energy input.
- **Generator or Utility Grid:** As an alternative or supplementary power source.
- **AC Loads:** Appliances and devices powered by the inverter.

Consult with your system integrator for specific architectural requirements based on your installation needs.

4. Setup and Installation

Proper installation is crucial for the safe and efficient operation of the inverter. Always ensure power is disconnected before making any connections.

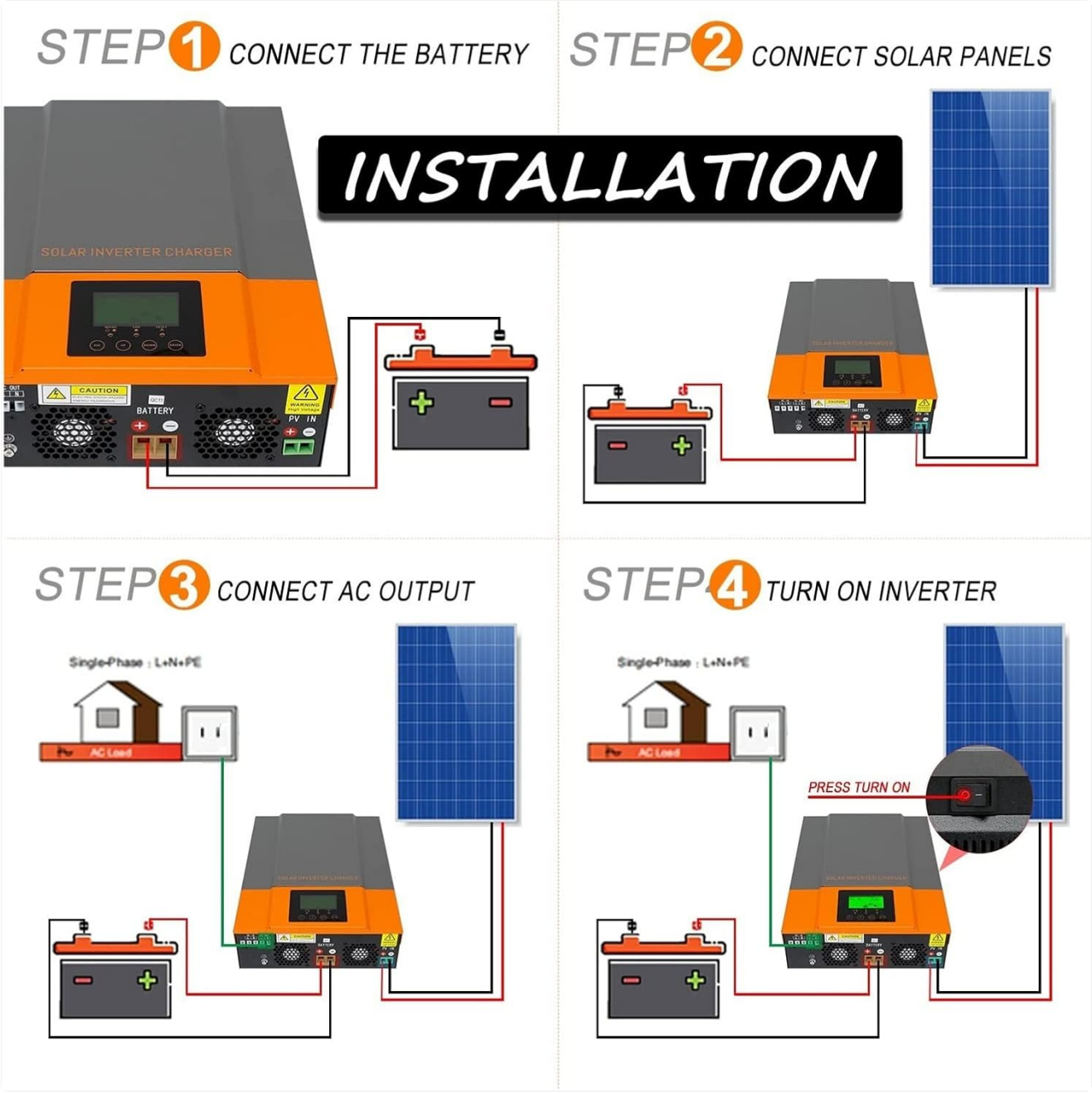

Figure 4.1: Step-by-step installation guide for the solar inverter charger.

1. **Step 1: Connect the Battery**
   Connect the positive (+) and negative (-) terminals of your battery bank to the corresponding battery input terminals on the inverter. Ensure correct polarity to prevent damage.
2. **Step 2: Connect Solar Panels**
   Connect your PV modules (solar panels) to the PV input terminals on the inverter. Observe correct polarity for the solar array. Ensure the maximum PV input voltage does not exceed 450V.
3. **Step 3: Connect AC Output**
   Connect your AC loads (e.g., household appliances) to the AC output terminals of the inverter. Ensure proper wiring for single-phase L+N+PE configuration.
4. **Step 4: Turn On Inverter**
   Once all connections are securely made and verified, turn on the inverter using the power switch. The LCD display will illuminate, indicating operation.

Figure 4.2: Detailed view of the AC input/output, battery, and PV input terminals on the inverter's rear panel.

WARNING: High voltage is present. Exercise extreme caution during installation and operation. Always consult a qualified electrician if you are unsure about any wiring procedures.

5. Operating Modes

The inverter offers various configurable charging and output modes to suit different power requirements and energy management strategies.

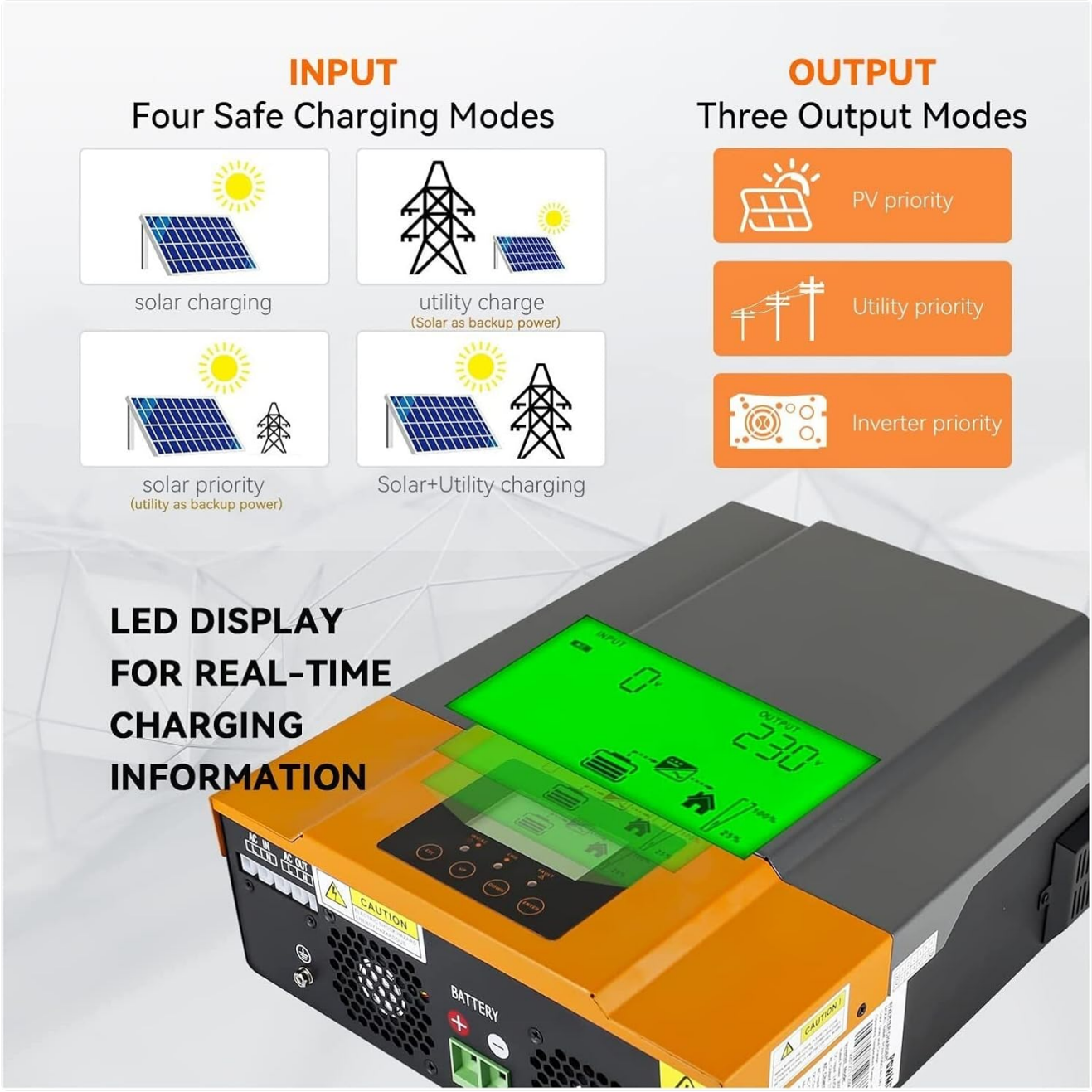

Figure 5.1: Overview of input charging modes, output priority modes, and the real-time LED display.

5.1. Input Charging Modes

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

- **Solar Charging:** Prioritizes charging the battery exclusively from solar panels.
- **Utility Charge (Solar as Backup Power):** Charges the battery primarily from the utility grid, with solar power acting as a backup.
- **Solar Priority:** Charges the battery primarily from solar power. If solar power is insufficient, the utility grid will supplement or take over charging.
- **Solar + Utility Charging:** Charges the battery simultaneously from both solar panels and the utility grid for faster charging.

5.2. Output Priority Modes

The inverter offers three output priority modes to manage power delivery to your loads:

- **PV Priority:** Prioritizes using power directly from solar panels to supply loads. If solar power is insufficient, it will

draw from the battery or utility.

- **Utility Priority:** Prioritizes using power from the utility grid to supply loads. The inverter will switch to battery/solar only if the utility power is unavailable.
- **Inverter Priority:** Prioritizes using power from the inverter (drawing from battery, charged by solar or utility) to supply loads.

5.3. Real-Time Information Display

The integrated LED display provides real-time charging and operational information, allowing users to monitor system status and configure settings easily.

6. Maintenance

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

Figure 6.1: Features like dust-proof design and dual cooling fans contribute to the inverter's durability and performance.

- **Cleaning:** Periodically clean the exterior of the inverter with a dry, soft cloth. Do not use liquid cleaners.

- **Ventilation:** Ensure that the cooling fans and ventilation openings are free from dust and obstructions. The inverter features a dust-proof design and dual cooling fans to prevent dust ingress and dissipate heat effectively, but regular checks are recommended.
- **Connections:** Periodically check all electrical connections (battery, solar, AC) for tightness and corrosion. Loose connections can lead to overheating and poor performance.
- **Environment:** Ensure the inverter is installed in a clean, dry, and well-ventilated area, away from direct sunlight, moisture, and flammable materials.
- **Battery Health:** Monitor your battery bank's health according to the battery manufacturer's recommendations.

7. Troubleshooting

This section provides guidance for common issues. For complex problems, contact technical support.

- **No Power/Inverter Not Turning On:**
  Check if the main power switch is in the 'ON' position. Verify battery connections and ensure the battery voltage is within the operating range. Check for any tripped circuit breakers or blown fuses.
- **No AC Output:**
  Check if the inverter is displaying any error codes on the LCD. Ensure AC output connections are secure. Verify that the battery has sufficient charge. Check for overload conditions; disconnect some loads and restart the inverter.
- **Battery Not Charging:**
  Verify solar panel connections and ensure they are receiving adequate sunlight. Check utility grid connection if AC charging is enabled. Ensure charging current settings are correctly configured via the LCD.
- **Overload Warning:**
  Reduce the number of connected loads. The inverter has overload protection, which may shut down the unit to prevent damage.
- **Over Temperature Warning:**
  Ensure the inverter's ventilation openings are clear and the cooling fans are operating. Move the inverter to a cooler, better-ventilated location if necessary.

8. Specifications

Refer to the product label and the following specifications for detailed technical information.

Figure 8.1: Side view of the inverter, displaying the product label with detailed specifications.

Specification	Value
Model Number	IIUUAYUVI
Rated Power	1.5KW (1500W)
Battery Voltage	12V
Max PV Array Open Circuit Voltage	450V

Specification	Value
Max Solar Charger Current	80A
AC Output Voltage	220V-240V AC
Frequency	50/60HZ
Waveform	Pure Sine Wave
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	1.52 pounds
Manufacturer	IIUUAYUVI

9. Safety Information

Please read and adhere to all safety warnings to prevent injury or damage to the inverter and connected equipment.

- **Electrical Shock Hazard:** This device operates with high voltages. Do not open the casing unless you are a qualified technician.
- **Proper Grounding:** Ensure the inverter is properly grounded according to local electrical codes.
- **Ventilation:** Maintain adequate clearance around the inverter for proper airflow to prevent overheating.
- **Environment:** Do not install the inverter in areas with flammable gases, excessive dust, or moisture.
- **Battery Safety:** Always wear protective eyewear and gloves when working with batteries. Ensure batteries are properly ventilated.
- **Children and Pets:** Keep the inverter and all associated wiring out of reach of children and pets.

DANGER: High voltage. Risk of electric shock. Disconnect all power sources before servicing.

10. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact your retailer. Keep your purchase receipt as proof of purchase for warranty claims.

When contacting support, please have your model number (IIUUAYUVI) and a detailed description of the issue ready.