GOWE GWE-1030728

GOWE 2KW Off-Grid Solar System User Manual

Model: GWE-1030728

1. Introduction

This manual provides comprehensive instructions for the installation, operation, maintenance, and troubleshooting of your GOWE 2KW Off-Grid Solar System. This system is designed to provide reliable power for various applications, including rural electrification, small home power systems, and other industrial and commercial uses. Please read this manual thoroughly before installation and operation to ensure safe and efficient use of the product.

2. Product Components Overview

The GOWE 2KW Off-Grid Solar System typically includes the following main components:

- Solar Panels (Mono-Crystalline Silicon PV Module)
- Pure Sine Wave Inverter (2000W rated power)
- LCD Display Solar Charge Controller (60A, 24V)
- Solar Cables (20M)

Image 2.1: GOWE Monocrystalline Solar Panel. This image shows a single black monocrystalline solar panel with a white frame, standing upright on a green factory floor, indicating its robust construction and typical appearance.

Image 2.2: GOWE 2000W Pure Sine Wave Inverter. This image displays a silver-colored pure sine wave inverter with black accents, featuring cooling fins, power switches, and AC output sockets on the front panel, highlighting its design and connectivity options.

Image 2.3: GOWE 60A LCD Display Solar Charge Controller. This image shows a black solar charge controller with an LCD

screen and yellow control buttons, along with clearly labeled terminals for solar, battery, and load connections, illustrating its user interface and wiring points.

3. Setup and Installation

3.1 Safety Precautions

- Ensure all components are disconnected from power sources before installation.
- Wear appropriate personal protective equipment (PPE), including gloves and eye protection.
- Avoid touching live wires or terminals.
- Install the system in a well-ventilated area, away from flammable materials.
- Consult a qualified electrician for complex installations or if you are unsure about any steps.

3.2 Component Placement

- **Solar Panels:** Install panels in a location with maximum sun exposure throughout the day, free from shading. Ensure proper mounting for wind resistance.
- **Charge Controller:** Mount the controller in a cool, dry, and well-ventilated indoor area, close to the battery bank.
- **Inverter:** Place the inverter in a dry, well-ventilated area, away from direct sunlight and heat sources. Ensure adequate clearance for cooling.
- **Battery Bank:** (*Note: Batteries are not included with this system*) Place batteries in a well-ventilated area, protected from extreme temperatures. Ensure proper ventilation to dissipate hydrogen gas.

3.3 Wiring Connections (Recommended Order)

Follow these steps carefully to connect the system components. Incorrect wiring can damage the system or pose a safety hazard.

1. **Connect Battery to Charge Controller:** Connect the positive (+) and negative (-) terminals of your 24V battery bank to the corresponding battery terminals on the solar charge controller. Ensure correct polarity. The controller's LCD display should power on.
2. **Connect Solar Panels to Charge Controller:** Connect the positive (+) and negative (-) output from your solar panel array to the corresponding solar input terminals on the charge controller. Ensure correct polarity. The controller should indicate solar charging.
3. **Connect Inverter to Battery:** Connect the DC input terminals of the pure sine wave inverter directly to the battery bank. Use appropriately sized cables and fuses/breakers for safety. Ensure correct polarity.
4. **Connect AC Loads to Inverter:** Plug your AC appliances into the AC output sockets of the inverter. Do not overload the inverter beyond its rated capacity (2000W).

Always double-check all connections for tightness and correct polarity before powering on the system.

4. Operating Instructions

4.1 Charge Controller Operation

The 60A LCD display charge controller provides real-time information and control over the charging process.

- **LCD Display:** The display shows battery voltage, charging current, load current, and various system parameters. Refer to the controller's specific manual for detailed navigation.

- **Intelligent Control:** The controller features PWM high-efficiency charging, temperature compensation, and various protections to optimize battery life and system performance.
- **Load Output:** The controller has a DC load output. Use this for DC loads if applicable, ensuring the total load does not exceed the controller's rated load current.

4.2 Inverter Operation

The 2000W pure sine wave inverter converts DC power from your batteries into usable AC power for your appliances.

1. **Power On:** Once the inverter is correctly connected to the battery bank, switch the inverter's power button to the "ON" position. The power indicator light should illuminate.
2. **AC Output:** The inverter will now provide AC power (110V/120V/220V/230V/240V, 50/60Hz depending on model) through its output sockets.
3. **Overload Protection:** The inverter has built-in overload protection. If the connected load exceeds 2000W (or 4000W surge), the inverter may shut down. Reduce the load and restart the inverter.
4. **Monitoring:** Pay attention to any fault indicators on the inverter.

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your solar system.

- **Solar Panels:**
  - Periodically clean the surface of the solar panels with a soft cloth and water to remove dust, dirt, and debris. This maximizes sunlight absorption.
  - Inspect panels for any physical damage, cracks, or delamination.
- **Connections:**
  - Annually check all electrical connections (solar panel to controller, controller to battery, battery to inverter) for tightness and corrosion. Tighten any loose connections.
- **Battery Bank:** (If lead-acid batteries are used)
  - Regularly check electrolyte levels and top up with distilled water if necessary.
  - Keep battery terminals clean and free of corrosion.
  - Ensure proper ventilation around the battery bank.
- **Inverter and Controller:**
  - Keep the inverter and controller free from dust and obstructions to cooling vents.
  - Ensure they are mounted in a dry, well-ventilated environment.

6. Troubleshooting

This section provides solutions to common issues you might encounter with your GOWE solar system.

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
No power output from inverter	Inverter not switched on. Low battery voltage. Overload or short circuit. Loose battery connections.	Switch inverter ON. Check battery charge; allow solar panels to charge batteries. Reduce connected load; check for short circuits in appliances. Check and tighten battery cables.
Charge controller LCD off or no charging	Battery not connected or low voltage. Solar panels not connected or insufficient sunlight. Reverse polarity connection.	Connect battery correctly; ensure battery voltage is above minimum operating level. Check solar panel connections; ensure panels are in direct sunlight. Verify correct polarity for all connections.
Low system efficiency	Dirty solar panels. Partial shading on panels. Degraded batteries.	Clean solar panels regularly. Remove any obstructions causing shade. Test battery health; consider replacement if necessary.

For issues not listed here, or if problems persist, please contact GOWE customer support.

7. Specifications

Component/Parameter	Detail
System Reference No.	BPS2000W
Solar Panel Rated Output Power	2000W
Suitable for Max Daily Power Consumption	11000WH
Rated Output AC Capacity	2000W
Solar Panel Type	Mono-Crystalline Silicon PV Module, A-class (10pcs)
Max Power (per panel)	200W
Vmp (per panel)	36.26V / 5.55A
Solar Panel Size (per panel)	1580*808*35mm (62.2"L x 31.81"W x 1.38"H)
Solar Panel Weight (per panel)	15.3kg (33.7 lbs)
Charge Controller Voltage	12V/24V (Auto-sensing)
Charge Controller Current	60A
Charge Controller Features	PWM high-efficiency charging, LCD display, intelligent control, temperature compensation, various protections

Component/Parameter	Detail
Inverter Type	Pure Sine Wave Inverter
Inverter Input Voltage	DC12V/24V
Inverter Rated Power	2000W
Inverter Surge Power	4000W
Inverter Output Voltage	AC110V/120V/220V/230V/240V (model dependent)
Inverter Frequency	50/60Hz
Inverter Efficiency	90%
Battery Recommendation (Not Included)	12V/250AH per piece, recommend 4pcs (for 24V system)
Recommended Battery Type	Lead-acid battery
Cable Length	20M (1 piece)
Certifications	CE, RoHS
Product Model Number	GWE-1030728
UPC	827674437587

8. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact GOWE customer service directly. Ensure you have your product model number (GWE-1030728) and purchase details ready when contacting support.
You can typically find support contact information on the official GOWE website or through your original point of purchase.

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