ECO-WORTHY L03SR10KWYTJ-2

ECO-WORTHY 20000W 48V UL1741 Solar Inverter Instruction Manual

Model: L03SR10KWYTJ-2

1. Introduction

This manual provides detailed instructions for the ECO-WORTHY 20000W 48 Volt Pure Sine Wave Solar Inverter. This inverter is designed for off-grid solar systems, offering stable 120V/240V split-phase or 120V single-phase output. It features built-in dual MPPT solar controllers and supports parallel connection for scalable power needs. Please read this manual thoroughly before installation and operation to ensure proper use and safety.

2. Safety Information

WARNING: Improper installation or operation can lead to serious injury or death. Always follow safety guidelines.

- This inverter is designed for off-grid use only and is not grid-tie capable. Do not connect it to the utility grid.
- Installation should be performed by a licensed electrician or experienced installer to ensure compliance with local electrical codes and best practices.
- Ensure all connections are secure and correct polarity is observed to prevent damage to the inverter or connected equipment.
- The inverter is UL1741 certified for North American safety standards, ensuring a high level of safety

when installed and operated correctly.

- Do not attempt to open or repair the inverter yourself. Refer to qualified service personnel.
- Ensure adequate ventilation around the inverter to prevent overheating.

3. Product Overview

The ECO-WORTHY 20000W Solar Inverter integrates a solar inverter, inverter charger, and dual MPPT charge controllers into a single unit. It is compatible with various 48V battery types and offers advanced features for efficient power management.

Figure 1: Front view of the ECO-WORTHY 20000W Solar Inverter.

Key Features:

- **Dual MPPT & High Charging Capacity:** Features two independent MPPT solar controllers, supporting dual 5500W PV input (11,000W total) and up to 200A max battery charging. Max open-circuit voltage of 500VDC allows flexible solar array design.
- **Expandable System:** Supports parallel connection of up to 6 units for a total output of 60KW, allowing for scalable power solutions.
- **Battery Compatibility:** Compatible with multiple 48V battery types, including AGM, Gel, Flooded, and

Lithium batteries. Communication ports include CAN, USB, and RS485 for seamless integration.

- **Smart Monitoring & TOU Energy Control:** An LED display provides real-time system status. A standard WiFi module enables remote monitoring via a mobile app. Built-in Time-of-Use (TOU) charging and discharging functions optimize power usage based on electricity rates.
- **Certified Safety:** UL1741 certified for North American safety standards, equipped with 14 comprehensive protection functions.

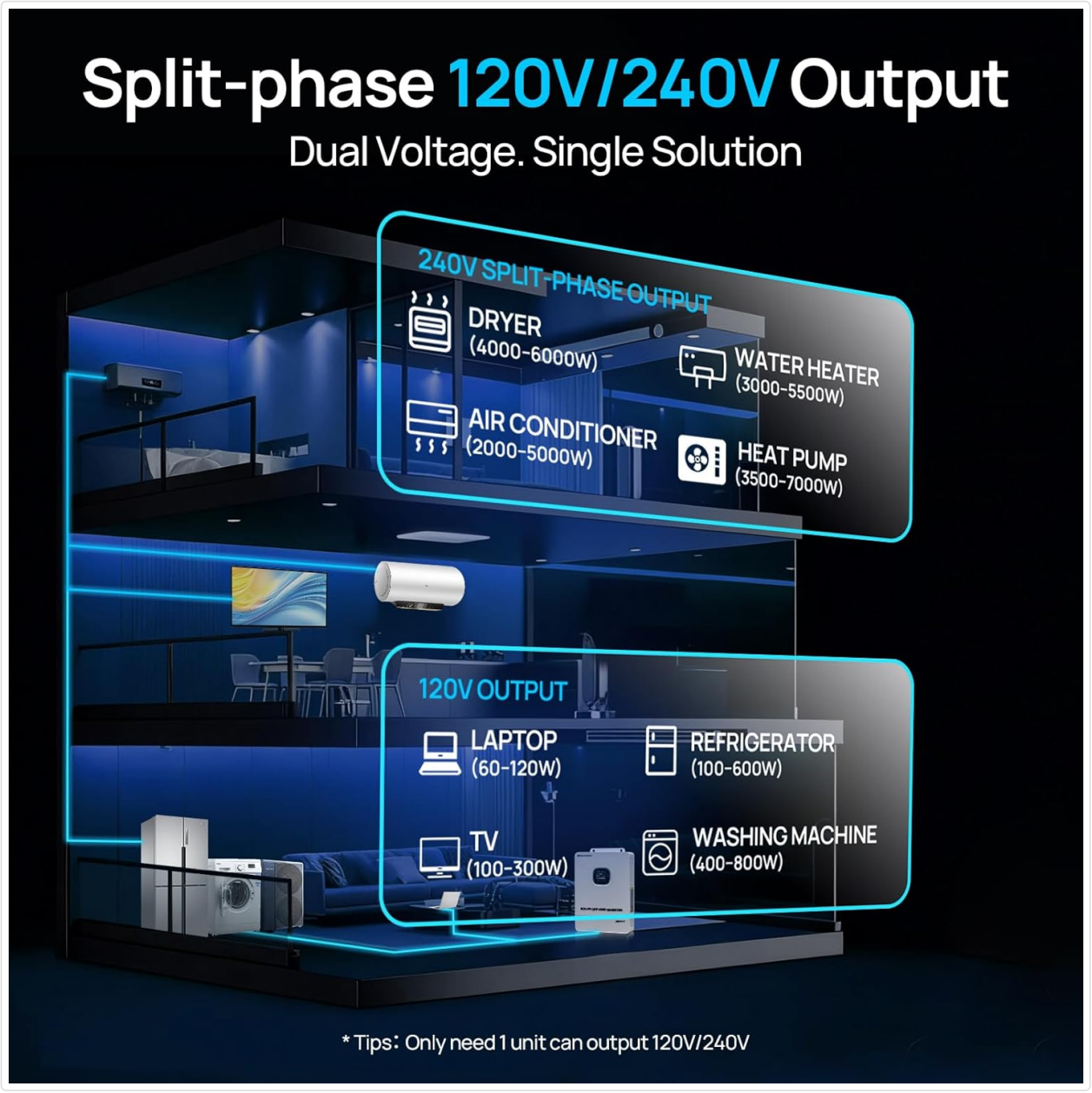

Figure 2: The inverter supports both 120V single-phase and 120V/240V split-phase output, powering various household appliances.

Figure 3: Key specifications and certifications for the 10KW Pure Sine Wave Inverter.

Figure 4: Smart monitoring capabilities via WiFi and mobile application.

Figure 5: Safety and performance features, including 14 protection functions and dual PV input.

Figure 6: Compatibility with various 48V battery types, including AGM, Gel, Flooded, and Lithium.

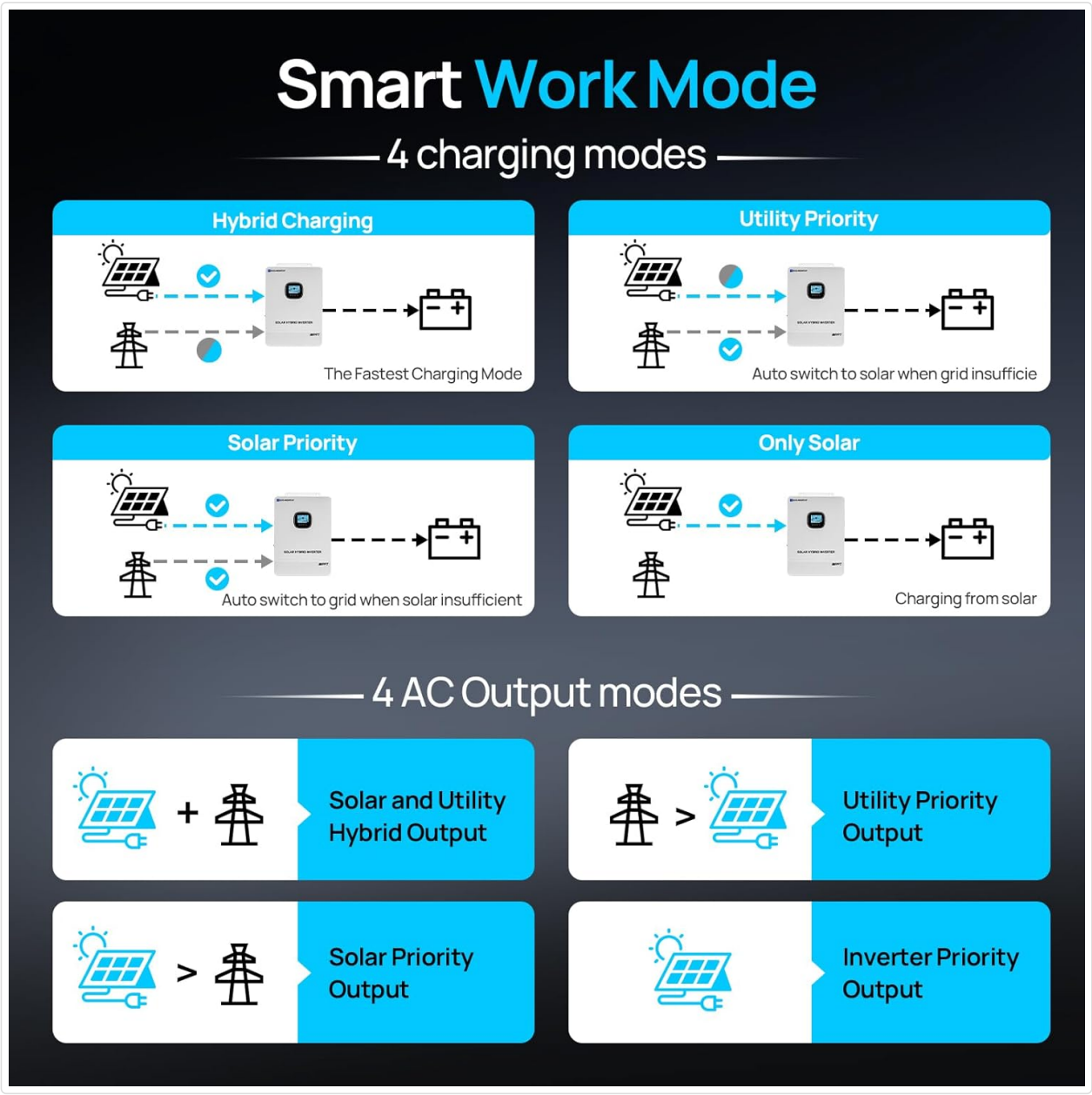

Figure 7: Overview of the 4 smart charging modes and 4 AC output modes.

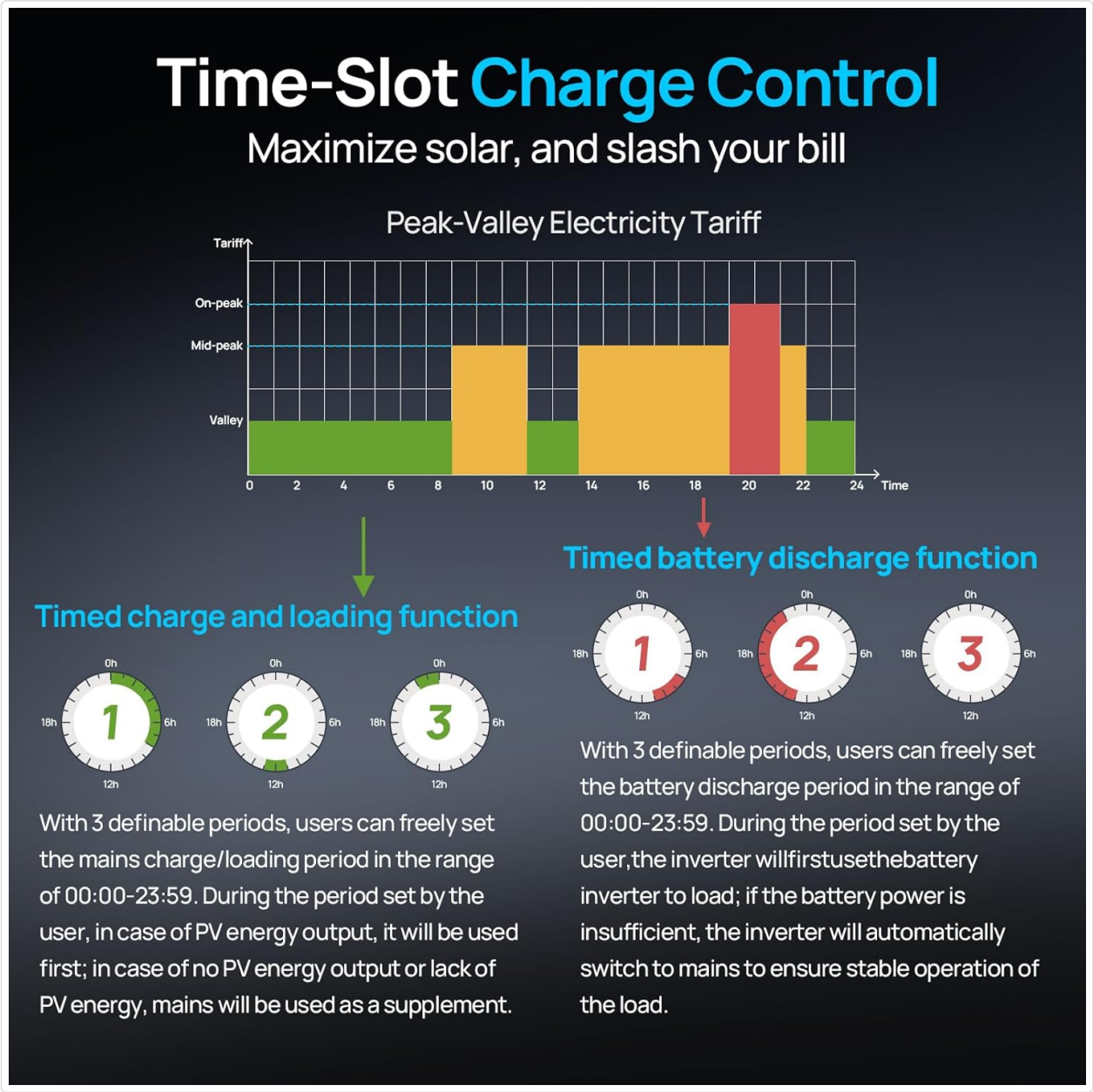

Figure 8: Time-Slot Charge Control for maximizing solar usage and managing electricity costs.

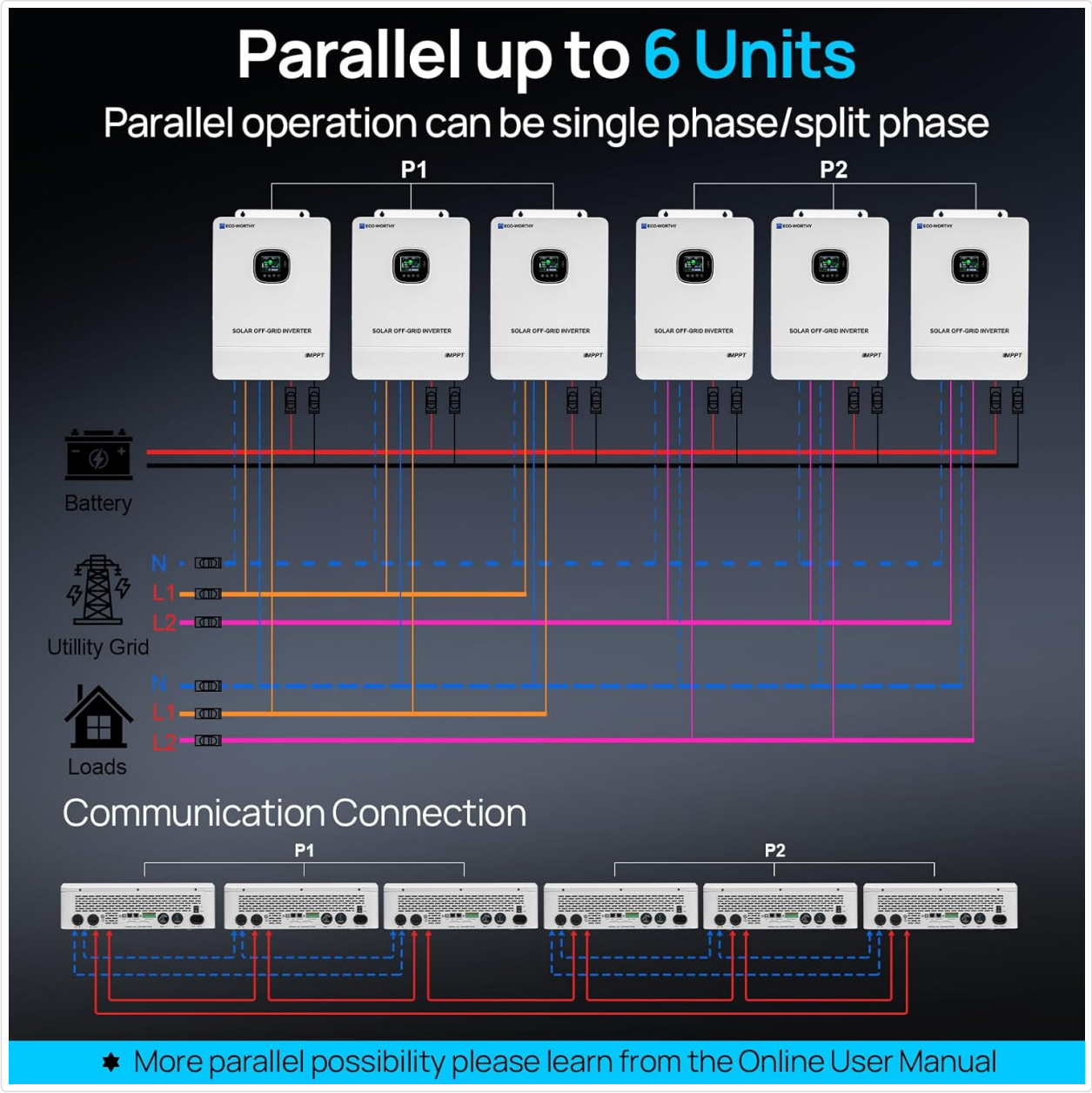

Figure 9: Parallel connection capability for up to 6 units to increase total output power.

4. Setup and Installation

This 10kW all-in-one inverter requires permanent installation involving both DC and AC wiring. For optimal performance and compliance with local electrical codes, installation by a licensed electrician or experienced installer is recommended. DIY users with prior electrical knowledge should follow the manual carefully.

4.1. Setting Up Timed Charging and Discharging

This video provides a step-by-step guide on how to configure the inverter for timed charging during off-peak hours and discharging during peak hours, helping to optimize energy usage and save on electricity costs.

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Video 1: Setting Up ECO-WORTHY Inverter Timed Charge & Discharge. This video demonstrates how to configure the inverter's timed charging and discharging functions to optimize energy usage based on electricity pricing.

4.2. Parallel Connection and Parameter Setting

For increased power output, multiple inverters can be connected in parallel. This video guides you through the process of connecting two 10kW inverters in parallel to achieve 120V/240V split-phase power output and the

necessary parameter settings.

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Video 2: 10kW Inverter Parallel Connection And Parameter Setting. This video illustrates the physical connection and parameter configuration for parallel operation of two 10kW inverters.

5. Operating Instructions

The inverter features a clear LED display for real-time system status and easy operation. Utilize the control buttons to navigate through menus and adjust settings.

5.1. Charging Modes:

- **Hybrid Charging:** Fastest charging mode.
- **Utility Priority:** Switches to solar when grid is insufficient.
- **Solar Priority:** Switches to grid when solar is insufficient.
- **Only Solar:** Charges exclusively from solar power.

5.2. AC Output Modes:

- **Solar and Utility Hybrid Output:** Combines solar and utility power.
- **Utility Priority Output:** Prioritizes utility power.
- **Solar Priority Output:** Prioritizes solar power.
- **Inverter Priority Output:** Prioritizes inverter output.

Refer to the display and the detailed parameter settings in the Setup and Installation section (and accompanying videos) for specific configurations.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your ECO-WORTHY Solar Inverter.

- **Cleaning:** Keep the inverter's exterior clean and free from dust. Ensure ventilation openings are unobstructed.
- **Connections:** Periodically check all electrical connections for tightness and signs of corrosion.
- **Environment:** Ensure the inverter is installed in a dry, well-ventilated area, away from direct sunlight and extreme temperatures.
- **Firmware Updates:** Check the ECO-WORTHY website for any available firmware updates to ensure your inverter has the latest features and bug fixes.

7. Troubleshooting

If you encounter issues with your inverter, refer to the following general troubleshooting tips. For specific fault codes or complex problems, contact technical support.

- **No Power Output:** Check battery connections, AC input/output connections, and ensure the inverter is turned on. Verify battery voltage is within the operating range.
- **Fault Codes:** Note any fault codes displayed on the LED screen. These codes provide specific information about the issue. Refer to the full user manual (if provided separately) or contact support with the code.
- **Overload Protection:** If the inverter shuts down due to overload, reduce the connected load and restart

the unit.

- **Battery Communication Error:** Ensure communication cables are correctly connected and the battery communication protocol is set appropriately in the inverter settings (refer to Setup & Installation videos).

8. Specifications

Feature	Value
Brand	ECO-WORTHY
Model Name	20000W Off-Grid Inverter UL1741
Wattage	20000 watts
Voltage	48 Volts
Input Voltage	48 Volts (DC)
Output Power	20000 Watts
Output Voltage	120 Volts (AC)
Electrical Output Waveform	Pure Sine Wave
Frequency	60 Hz
Item Dimensions L x W x H	24.41"L x 17.52"W x 5.12"H
Power Source	Solar and Battery Powered
Energy Specifications Met	UL
UPC	810198854442

9. Warranty Information

The ECO-WORTHY 20000W Solar Inverter comes with a**1 Year Manufacturer Warranty**. Please retain your proof of purchase for warranty claims. For detailed warranty terms and conditions, refer to the official ECO-WORTHY website or contact customer support.

10. Technical Support

For any technical assistance, questions regarding settings, or help with fault codes, please contact ECO-WORTHY customer service:

Email: customer.service@eco-worthy.com

Website: www.eco-worthy.com