Redodo 12V 40A DC to DC Charger with MPPT and 1000W Pure Sine Wave Inverter

Redodo 12V 40A DC to DC Charger with MPPT and 1000W Pure Sine Wave Inverter User Manual

Model: 12V 40A DC to DC Charger with MPPT and 1000W Pure Sine Wave Inverter
Brand: Redodo

1. Introduction

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of your Redodo 12V 40A DC to DC Charger with MPPT and 1000W Pure Sine Wave Inverter. Please read this manual thoroughly before using the product to ensure safe and efficient operation.

Package Contents

- 1 x Redodo 12V 40A DC to DC Charger
- 1 x Redodo 1000W Pure Sine Wave Inverter
- User Manual

2. Key Features

The Redodo 12V 40A DC to DC Charger and 1000W Pure Sine Wave Inverter offer advanced features for reliable power management:

- **Dual Input with MPPT Technology:** Charges service battery from starter battery or solar panels with high efficiency.
- **Support Reverse Charging:** Protects starter battery and alternator by allowing charging from the service battery. Activates LiFePO4 batteries.
- **Compact Design & Easy Setup:** Small footprint for convenient installation in vehicles. Features built-in Anderson connectors for simplified wiring.
- **Pure Sine Wave Inverter:** Provides stable 1000W continuous power (2000W peak) suitable for sensitive electronics, ensuring lower power consumption and high conversion efficiency.
- **Digital LCD Screen:** Displays real-time information including battery power, input/output voltage, and output power for easy monitoring.

Product Overview

Figure 2.1: The Redodo 12V 40A DC to DC Charger and 1000W Pure Sine Wave Inverter. The charger is a compact silver unit with multiple cable connections, while the inverter is a larger white rectangular unit with power terminals.

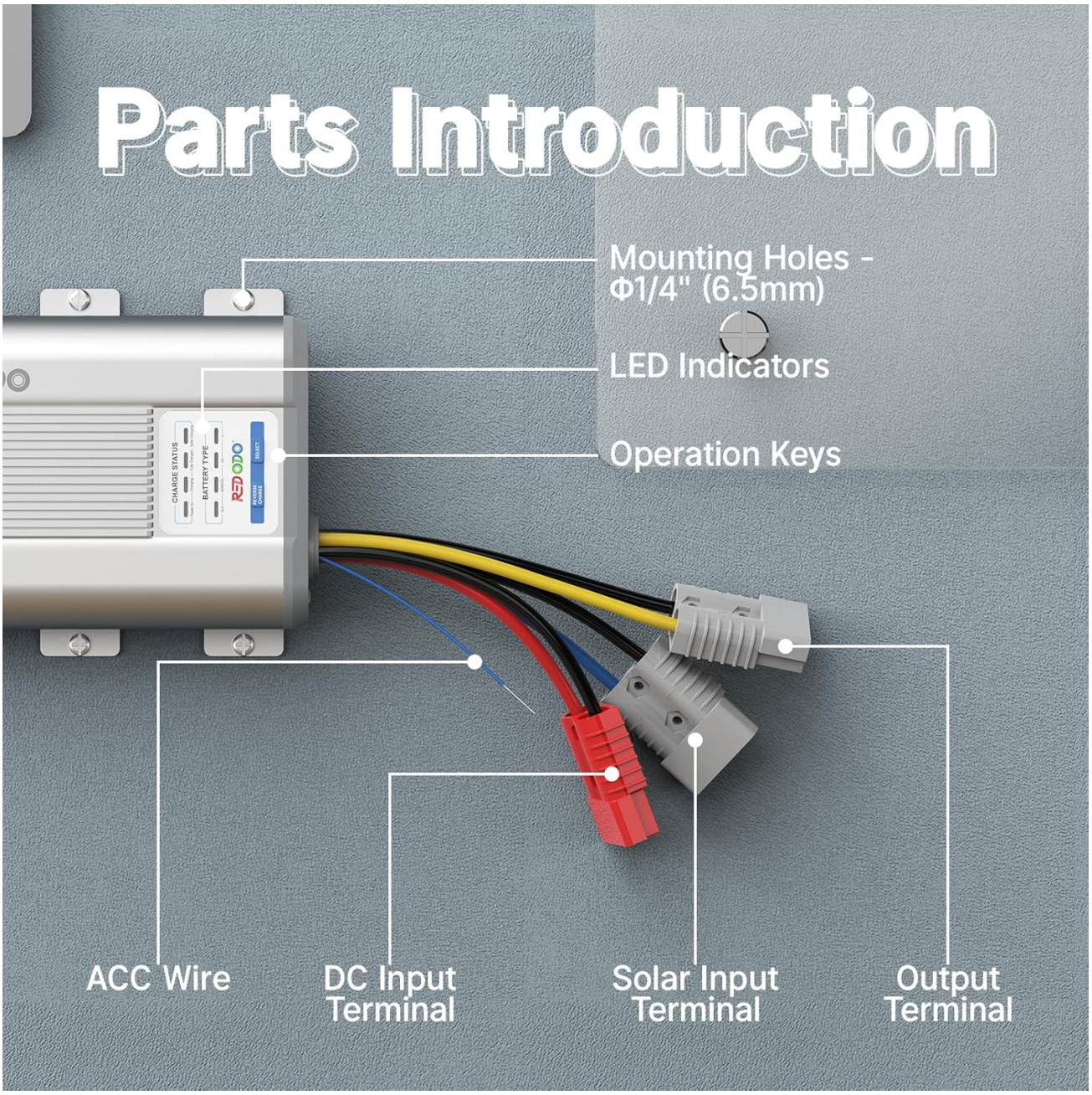

Figure 2.2: Detailed view of the DC to DC Charger's components, including mounting holes, LED indicators, operation keys, ACC wire, DC input terminal, solar input terminal, and output terminal. These clearly labeled parts facilitate correct wiring and operation.

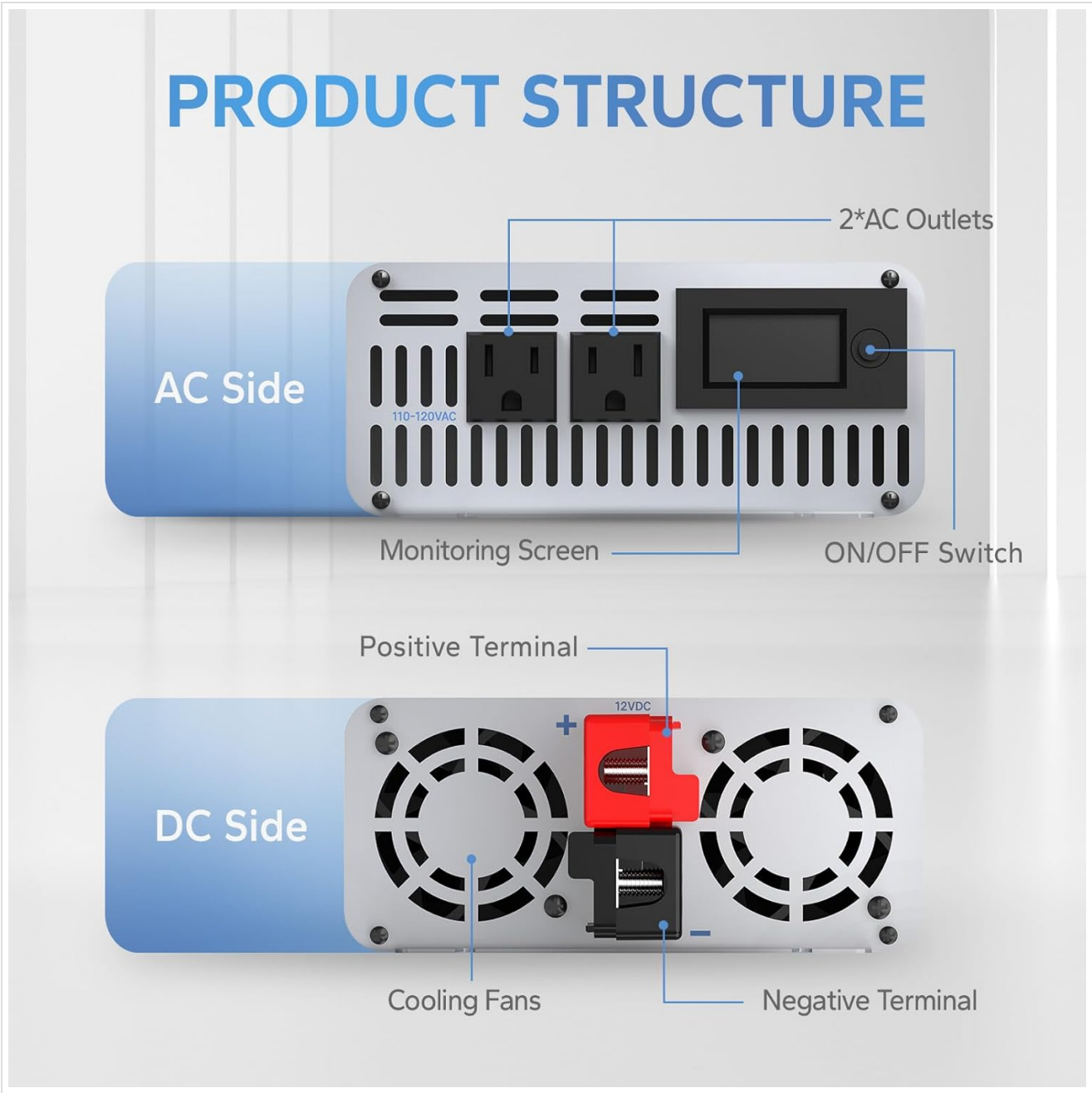

Figure 2.3: Structural diagram of the 1000W Pure Sine Wave Inverter, showing the AC side with two AC outlets, a monitoring screen, and an ON/OFF switch. The DC side illustrates the cooling fans, positive terminal, and negative terminal. This layout ensures efficient power conversion and heat dissipation.

Figure 2.4: Diagram illustrating the multiple safety protections integrated into the charger, including over-charge protection, over-voltage protection, overheating protection, reverse polarity protection, and BMS protection (for LiFePO4 batteries). These features ensure ultra-safe operation.

Figure 2.5: An internal view of the inverter highlighting its comprehensive safety protections, such as low-voltage protection, over-voltage protection, overheat protection, output overload protection, and output short circuit protection. These mechanisms safeguard both the inverter and connected devices.

3. Setup and Installation

Safety Precautions

- Ensure all power sources are disconnected before installation.
- Install the unit in a well-ventilated area, away from flammable materials and moisture.
- Use appropriate wire gauges and fuses for all connections as specified in the wiring diagram.
- Do not attempt to open or modify the unit. Refer all servicing to qualified personnel.

Installation Steps

1. **Mounting the Units:** Choose a secure, dry, and well-ventilated location for both the DC to DC charger and the inverter. Use the mounting holes provided on each unit to secure them firmly.

2. **Connecting the DC to DC Charger:**
    - Connect the **DC Input Terminal** (typically from the starter battery) to your vehicle's primary battery.
    - Connect the **Solar Input Terminal** (if applicable) to your solar panels.
    - Connect the **Output Terminal** to your service battery (e.g., LiFePO4, AGM, GEL, SLA, CA).
    - Connect the **ACC Wire** to an ignition-controlled power source (e.g., ACC terminal) to enable ignition-controlled charging.
3. **Connecting the 1000W Pure Sine Wave Inverter:**
    - Connect the **Positive Terminal** and **Negative Terminal** of the inverter directly to your service battery using appropriate heavy-gauge cables. Ensure correct polarity.
    - Plug your AC appliances into the **AC Outlets** on the inverter.
4. **Verify Connections:** Double-check all wiring for correct polarity and secure connections before applying power.

Figure 3.1: A typical wiring diagram for the Redodo power system, showing connections between a solar panel, MPPT charge controller (DC-DC charger), 12V 100Ah battery, and a 2000W inverter. This diagram illustrates how the components integrate to provide power for various applications.

4. Operating Instructions

Powering On/Off

To power on the inverter, press the **ON/OFF Switch** located on the AC side of the unit. To power off, press the switch again. The DC to DC charger will automatically activate when an input voltage is detected from the starter battery or solar panels, and the ACC wire is connected (if used).

Monitoring Status

Both the DC to DC charger and the inverter provide visual indicators for operational status:

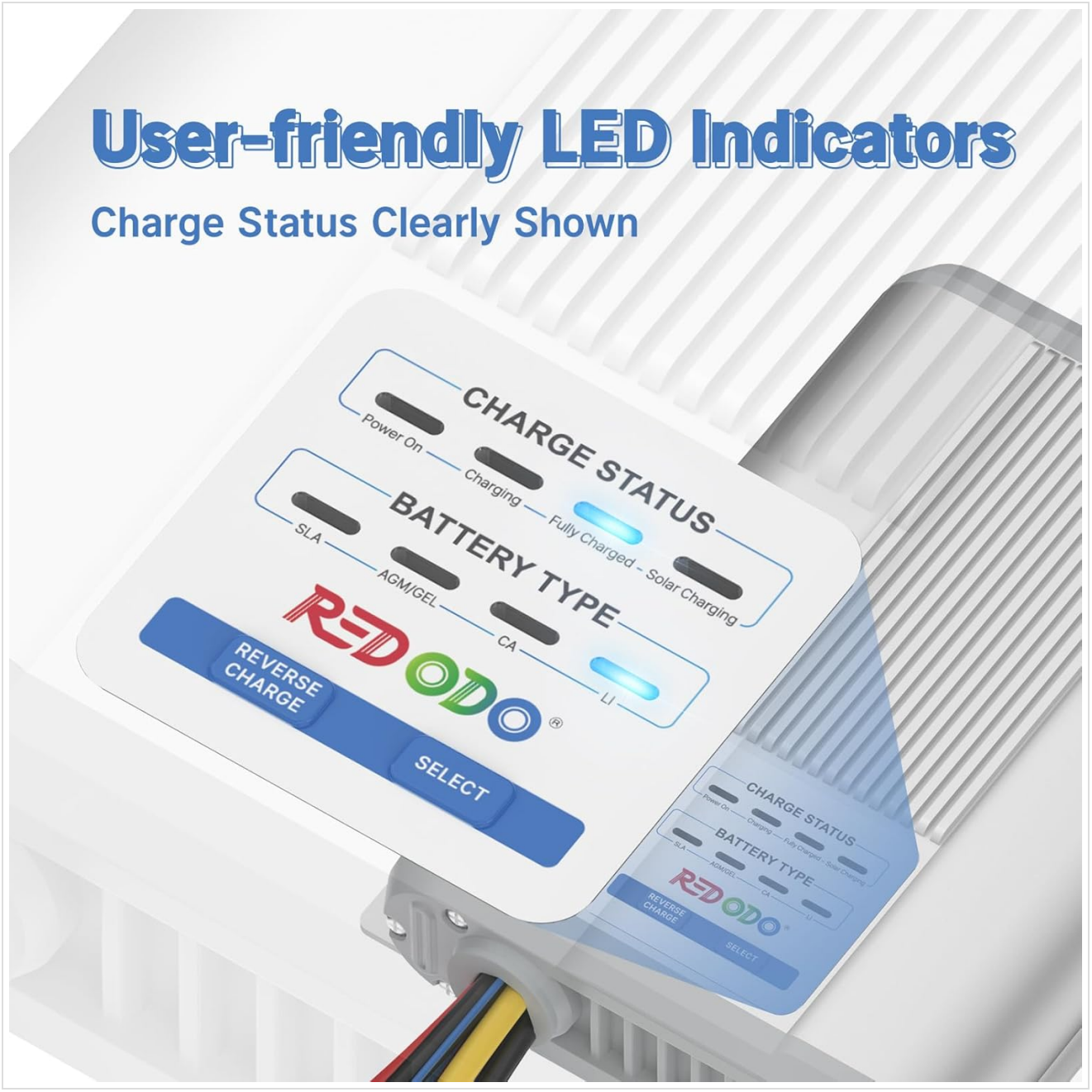

Figure 4.1: The user-friendly LED indicators on the DC to DC charger clearly show the charge status (Power On, Charging, Fully Charged, Solar Charging) and the selected battery type (SLA, AGM/GEL, CA, Li). These indicators provide quick visual feedback on the charger's operation.

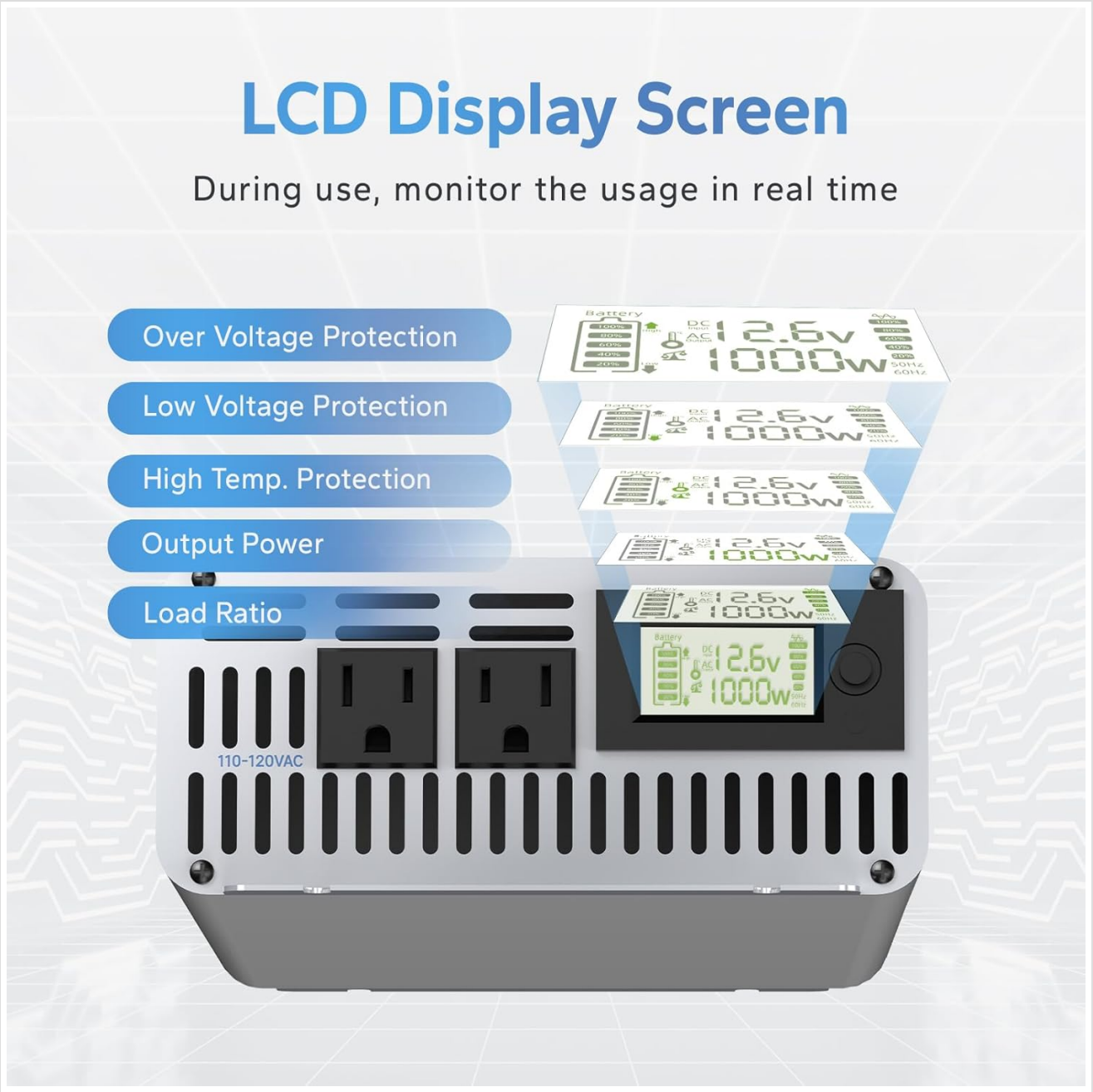

Figure 4.2: The LCD display screen on the 1000W inverter provides real-time monitoring of critical parameters such as battery power supply, battery input voltage, AC output voltage, output power, and load ratio. It also indicates various protection statuses like over-voltage, low-voltage, and high-temperature protection.

Battery Type Selection (DC to DC Charger)

The DC to DC charger supports various battery types. To select the correct battery type, press the **SELECT** button on the charger until the corresponding LED indicator for your battery type (SLA, AGM/GEL, CA, or LiFePO4) illuminates. This ensures optimal charging parameters for your specific battery.

Figure 4.3: The Redodo DC to DC charger offers flexible battery compatibility, supporting Lithium (LiFePO4), AGM/GEL, Sealed Lead Acid (SLA), and CA batteries. Users can easily select the appropriate battery type via the charger's interface.

Reverse Charging

The 12V 40A DC to DC charger features a reverse charging function, allowing the service battery to charge the starter battery. This feature helps protect the starter battery and alternator from over-discharge. To activate reverse charging, press the **REVERSE CHARGE** button on the charger. Ensure this feature is used judiciously to avoid over-discharging the service battery.

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your Redodo charger and inverter:

- **Cleaning:** Periodically clean the exterior of both units with a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners. Ensure ventilation openings are free from dust and debris.
- **Connection Check:** Regularly inspect all electrical connections (input, output, solar, ACC) for tightness and corrosion. Loose connections can lead to overheating and poor performance.
- **Environmental Inspection:** Ensure the installation environment remains dry, well-ventilated, and free from

excessive heat or cold.

- **Storage:** If storing the units for an extended period, disconnect them from all power sources and store in a cool, dry place.

6. Troubleshooting

This section provides solutions to common issues you might encounter:

Problem	Possible Cause	Solution
Charger not charging	No input voltage; Incorrect battery type selected; Loose connections; Over-temperature.	Check input power source (starter battery/solar); Verify battery type setting; Secure all connections; Allow unit to cool down.
Inverter not providing AC output	Low battery voltage; Overload; Over-temperature; Loose DC input connections; Inverter OFF.	Charge battery; Reduce load; Allow unit to cool; Check and tighten DC input cables; Turn inverter ON.
LCD screen not displaying	No power to inverter; Faulty unit.	Ensure inverter is powered on and connected to battery; Contact customer support if issue persists.
Unit making unusual noise	Cooling fan obstruction; Internal component issue.	Check for obstructions around cooling fans; Disconnect power and contact customer support.

7. Specifications

Detailed technical specifications for the Redodo 12V 40A DC to DC Charger with MPPT and 1000W Pure Sine Wave Inverter:

Feature	Detail
Brand	Redodo
Model Name	12V 40A DC to DC Charger with MPPT and 1000W Pure Sine Wave Inverter
Power Source	Solar Powered (for charger)
Input Voltage	12 Volts (DC)
DC to DC Charger Output Current	40A
Inverter Continuous Power	1000W
Inverter Peak Power	2000W
Inverter Output Waveform	Pure Sine Wave

Feature	Detail
Color	White (Inverter), Silver (Charger)
ASIN	B0D9CS7HC2
Date First Available	July 13, 2024

8. Warranty and Support

Redodo is committed to providing high-quality products and excellent customer service. Your product comes with comprehensive support:

- **Lifespan:** Designed for a 10-year lifespan.
- **Guarantee:** Includes a 5-year guarantee from the date of purchase.
- **Customer Response:** Expect a response within 24 hours for support inquiries.
- **Local Warehouses:** Supported by local warehouses for efficient service and parts.

For technical assistance, warranty claims, or any other inquiries, please visit the official Redodo website or contact their customer support directly. Keep your purchase receipt as proof of purchase for warranty purposes.

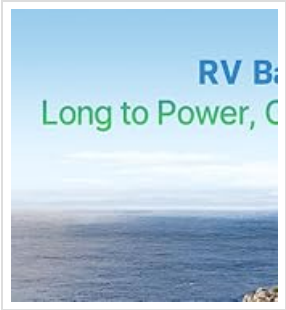

Figure 8.1: Overview of Redodo's commitment to product longevity and customer support, highlighting a 10-year lifespan, 5-year guarantee, 24-hour response time, and local warehouse support.