Redodo R12V2KW-Y

Redodo 3000W Pure Sine Wave Inverter Charger (Model R12V2KW-Y) Instruction Manual

Comprehensive guide for safe and efficient operation.

1. Introduction

This manual provides essential information for the safe installation, operation, and maintenance of your Redodo 3000W Pure Sine Wave Inverter Charger. This unit integrates a 3000W pure sine wave 12V DC to 120V AC inverter with a 45A battery charger, designed for uninterruptible power supply in off-grid, RV, and home backup scenarios. It supports a continuous power output of 3000W and a surge power of up to 9000W, making it suitable for a wide range of appliances. Please read this manual thoroughly before use to ensure optimal performance and safety.

2. Safety Instructions

Always prioritize safety when installing and operating electrical equipment. Failure to follow these instructions may result in serious injury or damage to the equipment.

- **Read All Instructions:** Familiarize yourself with the product's features and operation before use.
- **Qualified Personnel:** Installation and maintenance should be performed by qualified personnel.
- **Ventilation:** Ensure adequate ventilation around the inverter to prevent overheating.
- **Avoid Water:** Do not expose the inverter to water, rain, or excessive moisture.
- **Correct Wiring:** Always connect positive to positive and negative to negative terminals. Reverse polarity can cause severe damage.
- **Battery Type:** Ensure the inverter settings match your battery type (Gel, AGM, SLA, CAL, LiFePO4).
- **Cable Size:** Use appropriate cable sizes for DC and AC connections to prevent overheating and power loss.
- **Pre-Charge Circuit:** For safe battery connection, especially with lithium batteries, use a pre-charge circuit to prevent sparks and potential damage. Refer to the "Battery Connection" section for details.
- **Emergency Shutdown:** Know how to quickly disconnect power in an emergency.

3. Package Contents

Verify that all items are included in your package:

- Redodo 3000W Pure Sine Wave Inverter Charger Unit

- Remote Control Panel
- Remote Control Cable
- Battery Cables (Positive and Negative)
- Inverter Mounting Screws
- Heat Shrink Tubing
- Copper Wire Connectors
- Plastic Anchors
- Slotted Screwdriver
- User Manual

Image: Contents of the Redodo 3000W Inverter Charger package, including the main unit, remote control, cables, and mounting hardware.

4. Product Overview

4.1 Key Features

- **Integrated Inverter & Charger:** Combines a 3000W pure sine wave inverter (12V DC to 120V AC) and a 45A battery charger for a compact, efficient power solution.
- **Uninterruptible Power Supply (UPS):** Automatically switches between battery and grid power during outages, ensuring continuous electricity.
- **High Power Output:** Delivers 3000W continuous power with a 9000W surge capability, suitable for demanding appliances like air conditioners and refrigerators.
- **Wide Battery Compatibility:** Supports Gel, AGM, Sealed Lead-Acid (SLA), Calcium (CAL), and LiFePO4 batteries, including lithium battery activation.
- **Remote Control & LCD Display:** Features a remote control and a real-time LCD screen for monitoring output voltage, AC input, battery voltage, and load percentage from a convenient location.
- **Multiple Protections:** Built-in safeguards against overload, over-temperature, over-voltage, output load short circuit, and low-voltage.

4.2 Component Identification

Image: Detailed diagram of the Redodo 3000W Inverter Charger showing the front and back panels with labeled components such as battery terminals, remote control port, dip switches, AC outlets, and AC input/output terminal blocks.

1. Battery Negative Terminal
2. Battery Positive Terminal
3. Remote Control Port
4. Setting Dip Switch (for Grid On/Inverter On, Grid On/100-120VAC Priority)
5. Ground Terminal
6. Charger Input Protection Circuit Breaker

7. Inverter Output Protection Circuit Breaker
8. AC Outlet (Continuous Output Power: 1000W, 110-120VAC, 60Hz)
9. AC Input Terminal Block
10. AC Output Terminal Block (Continuous Output Power: 3000W, 110-120VAC, 60Hz)

Note: Maximum total continuous output power is 3000W.

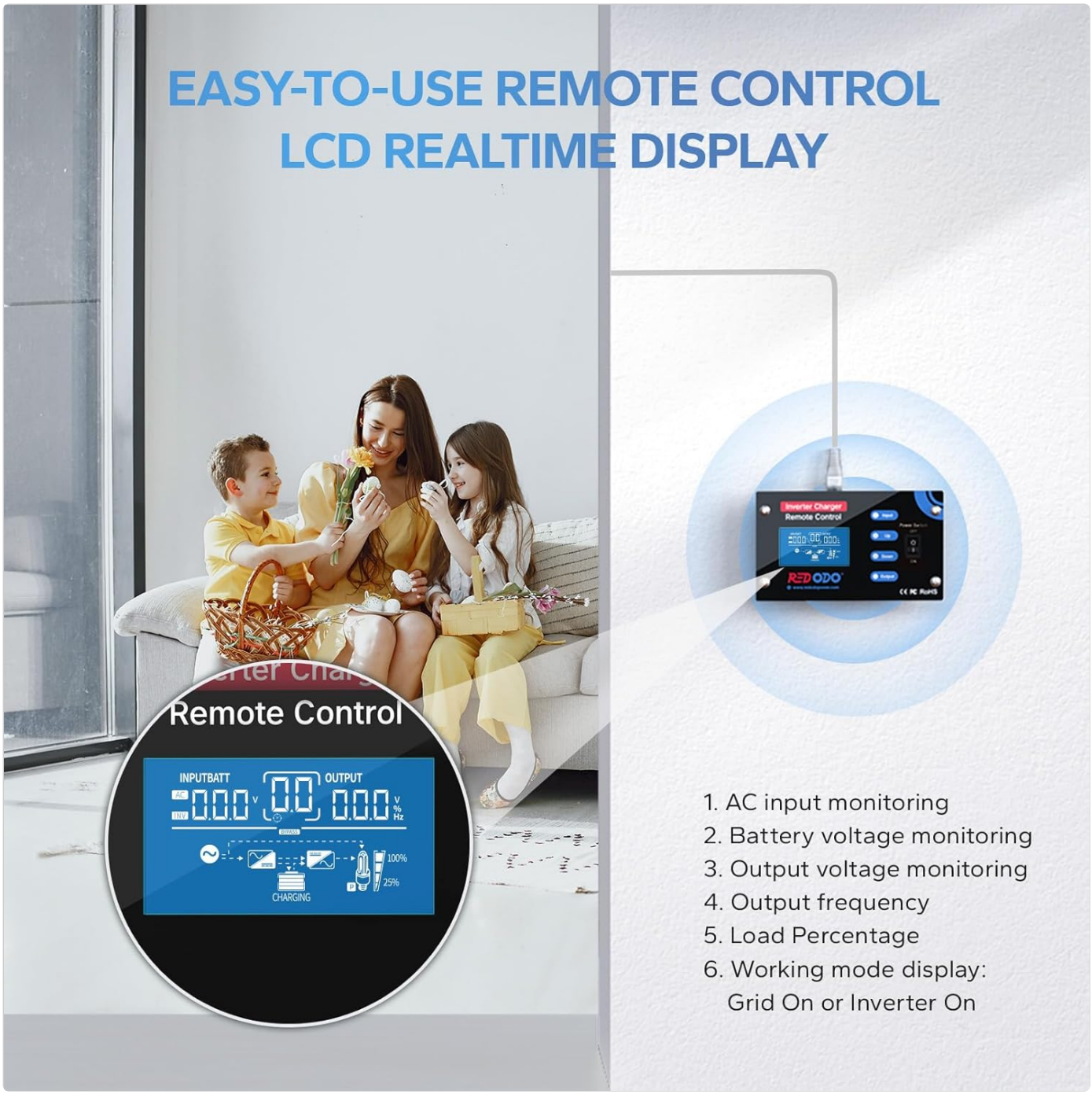

Image: Close-up of the power switch on the Redodo 3000W Inverter Charger, indicating its ON/OFF positions and associated status indicators for Grid On and Inverter On modes.

The remote control and LCD display provide real-time information and allow for convenient operation, even when the inverter is installed in an inaccessible location.

5. Setup

5.1 Mounting the Inverter

Choose a dry, well-ventilated location for mounting the inverter. Ensure sufficient clearance around the unit for proper

airflow and cooling. Use the provided mounting screws and anchors to secure the inverter to a stable surface.

5.2 Battery Connection

Before connecting the battery, ensure the inverter is turned OFF. Always connect the positive (red) terminal first, followed by the negative (black) terminal. Use the provided battery cables and ensure connections are secure.

Your browser does not support the video tag.

Video: This tutorial demonstrates the safe connection of a battery bank to an inverter-charger, emphasizing the importance of setting battery type and priority settings, and using appropriate cable sizes. It also shows how to use a resistor for a pre-charge circuit to prevent sparks during negative terminal connection.

Important: Pre-Charge Circuit for Safety

To prevent sparks and potential damage from a sudden rush of current, especially when connecting to lithium batteries, it is crucial to use a pre-charge circuit. This involves briefly connecting a resistor between the negative terminal of the battery and the negative input of the inverter before making the final connection. This slowly charges the inverter's capacitors. Refer to the video above for a visual guide on implementing a pre-charge circuit.

5.3 AC Input/Output Connection

Connect your AC input source (grid power or generator) to the AC Input Terminal Block. Connect your AC loads to the AC Output Terminal Block or directly to the AC Outlets. Ensure all connections are secure and follow local electrical codes.

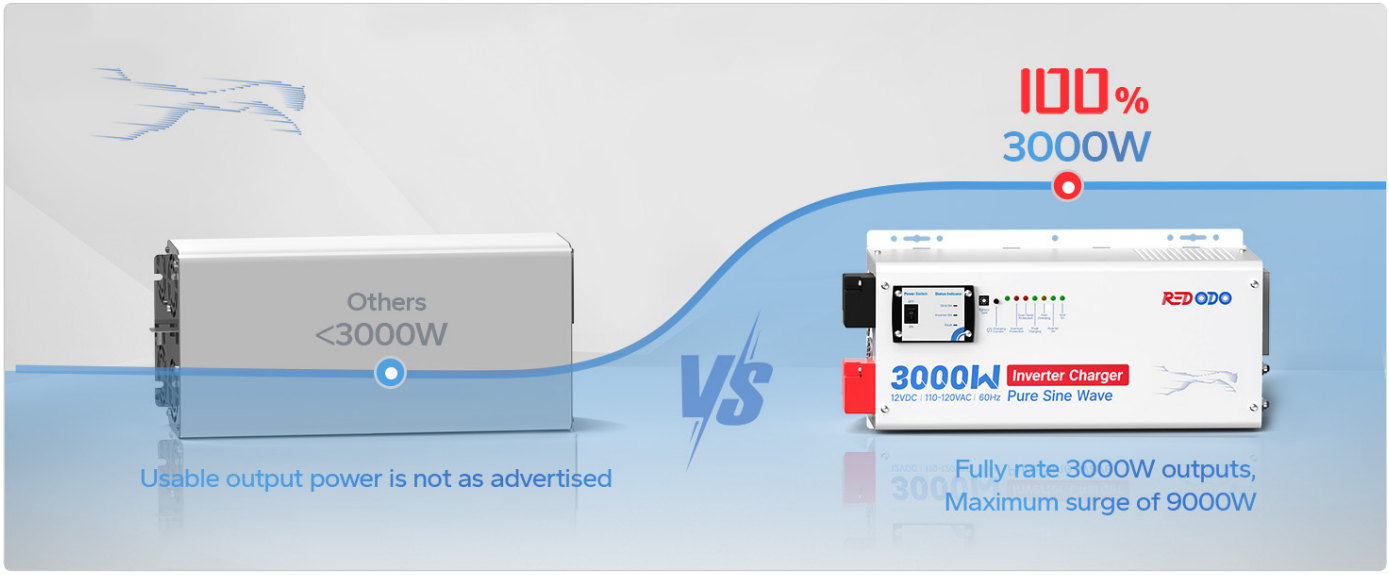

Image: A connection diagram illustrating how the Redodo 3000W Inverter Charger integrates with utility power, a generator, solar panels (via MPPT), a battery bank, and various home appliances, demonstrating its role in an uninterruptible power system.

6. Operating Instructions

6.1 Powering On/Off

To power on the inverter, press the ON/OFF switch located on the unit or the remote control panel. The LCD display will illuminate, showing system status. To power off, press the switch again.

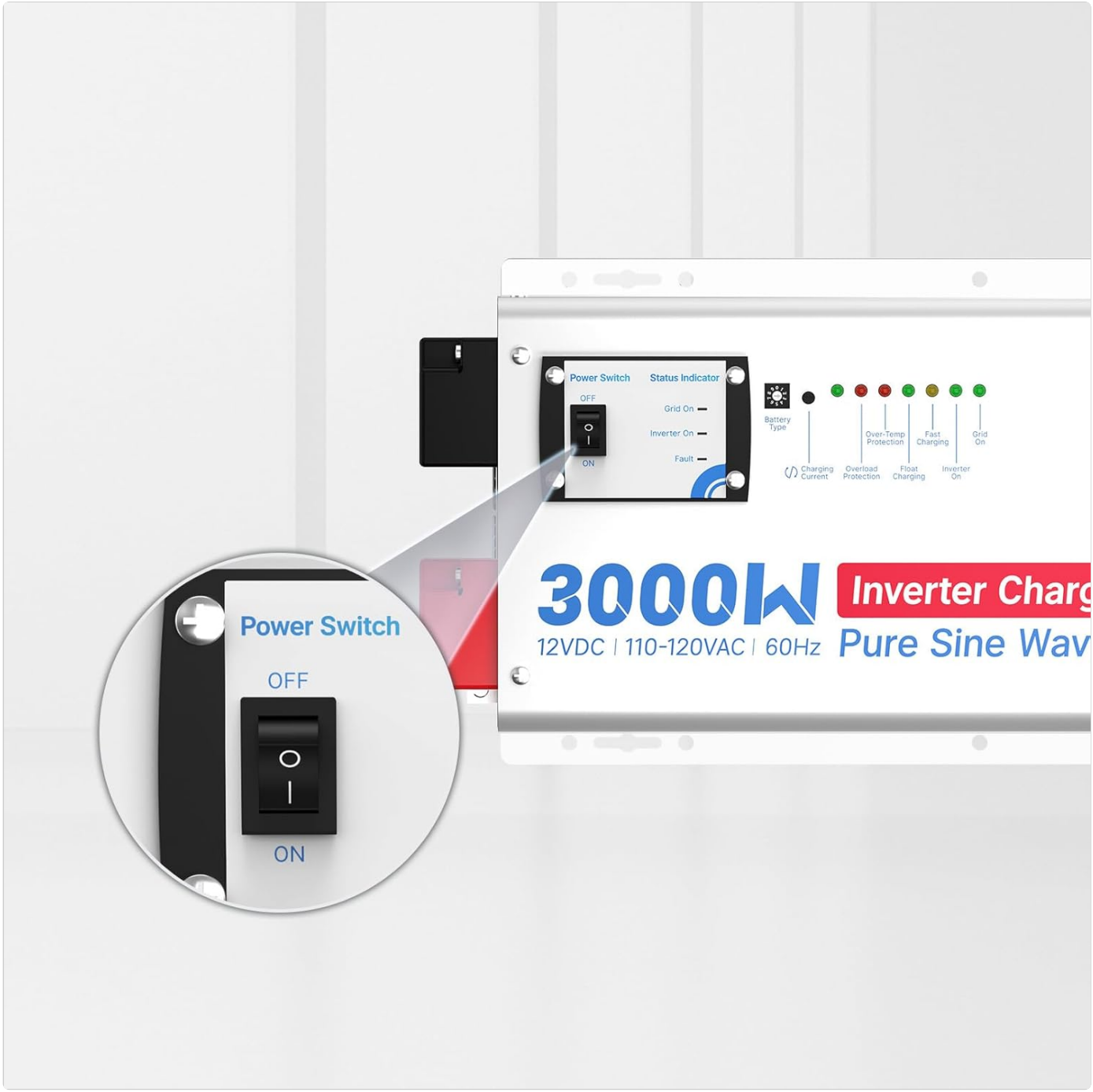

Image: Close-up of the power switch on the Redodo 3000W Inverter Charger, indicating its ON/OFF positions and associated status indicators for Grid On and Inverter On modes.

6.2 Monitoring with LCD Display

The LCD display provides real-time operational data. Use the navigation buttons on the remote control or the unit to cycle through different display modes, including:

- AC Input Voltage and Frequency
- Battery Voltage
- Output Voltage and Frequency
- Load Percentage
- Working Mode (Grid On or Inverter On)

6.3 Setting Battery Type and Priority

The inverter-charger is compatible with various battery types. It is crucial to set the correct battery type and power priority settings using the dip switches or the remote control interface. Refer to the detailed instructions in the full user manual for

specific settings for Gel, AGM, SLA, CAL, and LiFePO4 batteries.

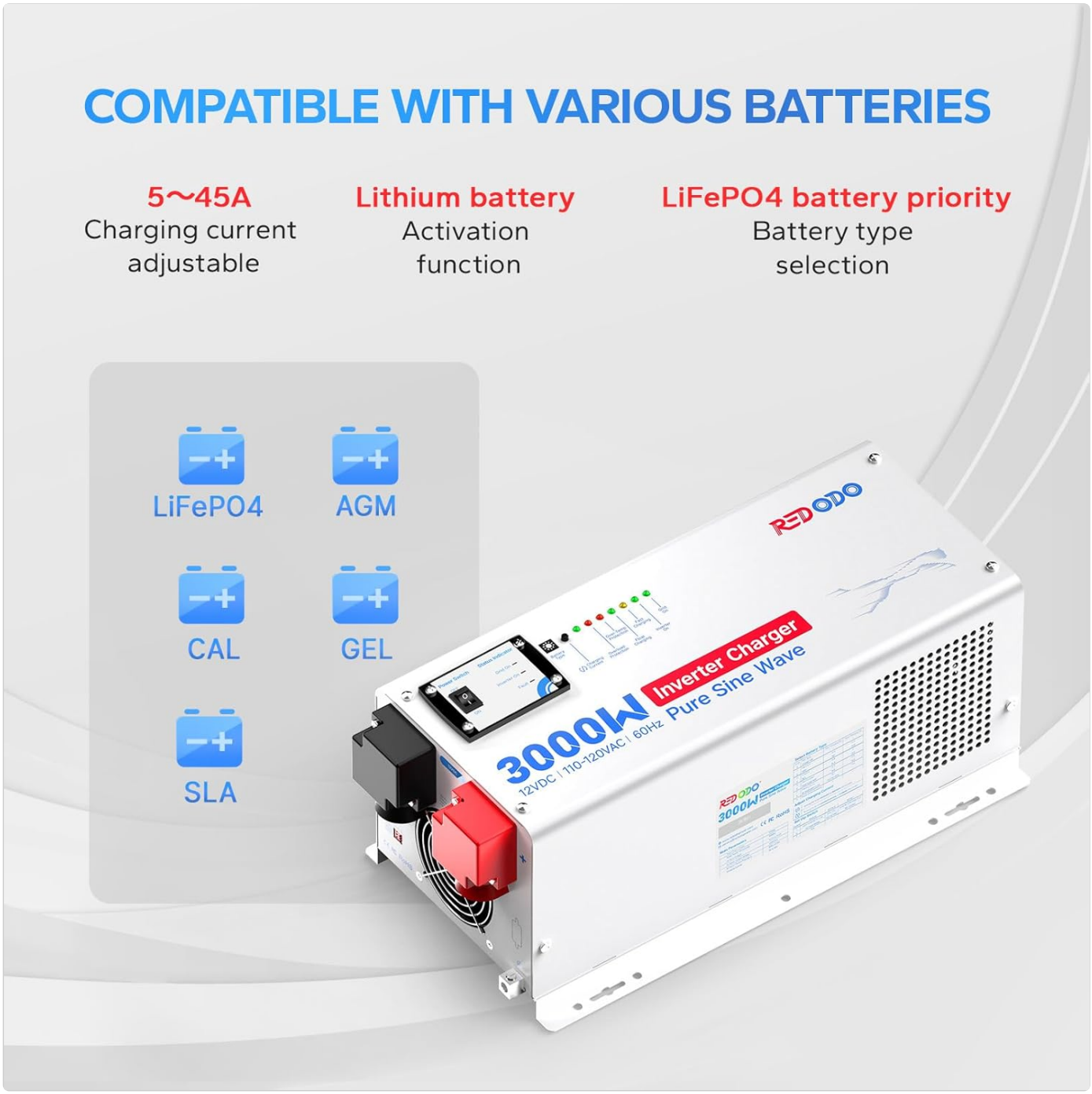

Image: Illustration showing the Redodo 3000W Inverter Charger's compatibility with various battery types (LiFePO4, AGM, CAL, GEL, SLA) and its adjustable charging current and battery type selection features.

7. Maintenance

Regular maintenance ensures the longevity and safe operation of your Redodo Inverter Charger.

- **Cleaning:** Keep the inverter clean and free from dust and debris. Use a dry cloth for cleaning. Do not use liquid cleaners.
- **Ventilation:** Periodically check that the ventilation openings are not blocked.
- **Connections:** Inspect all electrical connections regularly for tightness and corrosion. Tighten any loose connections.
- **Battery Health:** Monitor battery voltage and health. Ensure batteries are properly charged and maintained according to their manufacturer's guidelines.
- **Storage:** If storing the inverter for an extended period, disconnect it from all power sources and store it in a cool, dry place.

8. Troubleshooting

This section provides solutions to common issues. For more complex problems, contact customer support.

Problem	Possible Cause	Solution
Inverter not turning on	Low battery voltage, loose connections, faulty switch.	Check battery voltage and charge if low. Secure all battery and AC connections. Ensure the ON/OFF switch is in the 'ON' position.
No AC output	Overload, short circuit, over-temperature, low battery.	Reduce load. Check for short circuits in connected appliances. Allow inverter to cool down. Charge battery. Check circuit breakers.
Remote control not working	Loose cable connection, faulty remote.	Ensure the remote control cable is securely connected to the remote control port. Test the inverter using the main ON/OFF switch on the unit.
Excessive fan noise	High internal temperature due to heavy load or poor ventilation.	Reduce load on the inverter. Ensure adequate ventilation and clear any obstructions from the fan vents.

Your browser does not support the video tag.

Video: This video provides a connection guide for a VEVOR Inverter Charger, demonstrating the steps for proper wiring and setup, which can be helpful for general troubleshooting of connection issues.

9. Specifications

Feature	Detail
Model Name	3000W Pure Sine Wave Inverter Charger
Model Number	R12V2KW-Y
Brand	Redodo
Wattage	3000 watts (Continuous), 9000 watts (Surge)
Input Voltage	12V DC
Output Voltage	120V AC
Output Frequency	60Hz
Charger Current	45A
Product Dimensions	16.54 x 7.28 x 7.09 inches
Item Weight	51.9 pounds
Recommended Uses	Home, Off-grid Cabin, RV

10. Warranty and Support

For warranty information, technical support, or any inquiries regarding your Redodo 3000W Pure Sine Wave Inverter Charger, please refer to the official Redodo website or contact their customer service directly. Keep your purchase receipt

for warranty claims.
Redodo is committed to providing multi-channel support and technical assistance. You can expect a response within 24 hours.

- **Online Support:** Visit the Redodo official website for FAQs and support resources.
- **Email Support:** Contact Hello@redodopower.com for assistance.