

## EDECOA 3500W 24V ETRC Pure Sine Wave Power Inverter

# EDECOA 3500W 24 Volts Pure Sine Wave Power Inverter

## USER MANUAL

### 1. Introduction

Thank you for choosing the EDECOA 3500W 24 Volts Pure Sine Wave Power Inverter. This device is designed to convert DC 24V battery power into stable AC 110V/120V electricity, making it ideal for various applications including trucks, motorhomes, boats, and off-grid power needs. This manual provides essential information for the safe and efficient operation, setup, and maintenance of your inverter.

Please read this manual thoroughly before installation and use, and keep it for future reference.

### 2. Safety Instructions

**WARNING: Failure to follow these safety instructions may result in serious injury or damage to the inverter.**

- Ensure proper ventilation around the inverter. Do not block cooling vents.
- Keep the inverter away from water, moisture, flammable materials, and direct sunlight.
- Connect the inverter only to a 24V DC power source. Connecting to a different voltage may cause damage.
- Always connect the ground wire properly before connecting the battery cables.
- Do not open the inverter casing. There are no user-serviceable parts inside.
- Disconnect the battery before performing any maintenance or cleaning.
- Avoid connecting loads that exceed the inverter's continuous power rating (3500W) or peak power rating (7000W).
- Ensure all connections are tight and secure to prevent overheating and arcing.
- Keep out of reach of children.

### 3. Product Overview

#### 3.1 Package Contents

Upon unpacking, ensure all the following items are present:

- EDECOA 3500W Pure Sine Wave Power Inverter
- Battery Cables (1 pair, red and black)
- ET-RC Remote Controller (with 4-meter cable)

- Accessory Bag (includes terminal rings, spare fuses, etc.)
- User Manual (this document)



Figure 3.1: EDECOA 3500W Pure Sine Wave Power Inverter with included accessories.

### 3.2 Inverter Components and Features

The inverter features multiple input/output ports and indicators for safe and efficient operation.

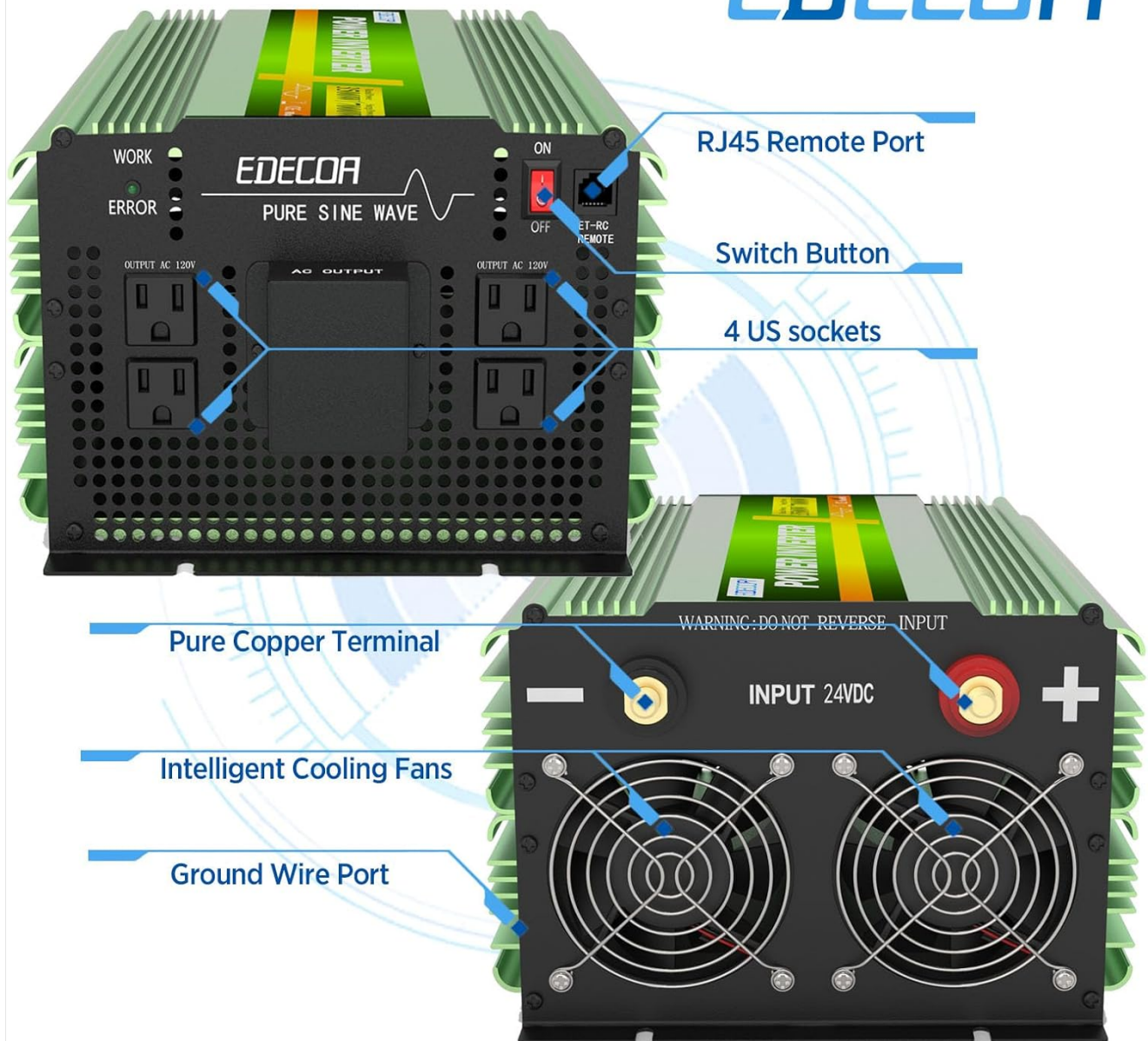


Figure 3.2: Front and Rear Panel Overview.

- **AC Outlets (US Sockets):** Four standard US sockets for connecting appliances up to 1800 watts.
- **AC Terminal Block:** For connecting appliances requiring higher power, up to 3500 watts continuous.
- **DC Input Terminals:** Red (+) and Black (-) terminals for connecting to the 24V DC battery.
- **Ground Wire Port:** Essential for safety, connect to a proper ground.
- **Intelligent Cooling Fans:** Two fans for efficient heat dissipation, activating based on temperature.
- **RJ45 Remote Port:** For connecting the ET-RC remote controller.
- **Power Switch:** Main ON/OFF switch for the inverter.
- **WORK/ERROR Indicators:** LEDs to show operational status or fault conditions.

### 3.3 ET-RC Remote Controller

The included remote controller provides convenient monitoring and control of the inverter from a distance.





Figure 3.3: ET-RC Remote Controller Display and Functions.

- **LCD Display:** Shows real-time information including battery capacity, load level, temperature, fan status, frequency, DC input voltage, AC output voltage, and protection indications.
- **Power Button:** To turn the inverter ON/OFF remotely.
- **Dual USB Ports (5V 2.1A):** For charging small electronic devices.
- **4-meter RJ45 Cable:** Provides flexible placement of the remote controller.

### 3.4 Protection Features

The inverter is equipped with multiple protection mechanisms to ensure safe operation and prolong its lifespan.



Figure 3.4: Inverter Protection System and Beep Codes.

- **Input Low Voltage Protection:** Shuts down if input voltage drops too low.
- **Input Over Voltage Protection:** Shuts down if input voltage exceeds safe limits.
- **Overload Protection:** Shuts down if connected load exceeds capacity.
- **Over Temperature Protection:** Shuts down if internal temperature becomes too high.
- **Reverse Polarity Protection:** Protects against incorrect battery connection.
- **Automatic Voltage Regulation (AVR):** Maintains stable output voltage.
- **Intelligent Power Management (IPM):** Optimizes power delivery.
- **Intelligent Fan Control (IFC):** Fans activate only when needed, reducing noise and power consumption.

## 4. Setup

### 4.1 Choosing a Location

Select a location for the inverter that is:

- Dry and well-ventilated.
- Away from direct sunlight, heat sources, and flammable materials.
- Secure and stable, preventing accidental movement.

- Accessible for connections and maintenance.

## 4.2 Connection Guide

**IMPORTANT: Ensure the inverter's power switch is in the "OFF" position before making any connections.**

1. **Grounding Connection:** Connect a suitable ground wire from the inverter's ground terminal to a reliable earth ground point (e.g., vehicle chassis, building ground). This is crucial for safety.
2. **Battery Connection:**
  - Connect the RED battery cable to the RED (+) terminal on the inverter and the positive (+) terminal of your 24V battery bank.
  - Connect the BLACK battery cable to the BLACK (-) terminal on the inverter and the negative (-) terminal of your 24V battery bank.
  - Ensure all connections are tight and secure. Loose connections can cause overheating and arcing.
3. **Remote Controller Connection:** Plug the RJ45 cable from the ET-RC remote controller into the RJ45 port on the inverter's front panel.
4. **AC Output Connection:**
  - For standard appliances, plug them directly into the 4 US AC outlets.
  - For high-power appliances (over 1800W, up to 3500W), use the AC Terminal Block. Consult a qualified electrician for proper wiring to the terminal block.

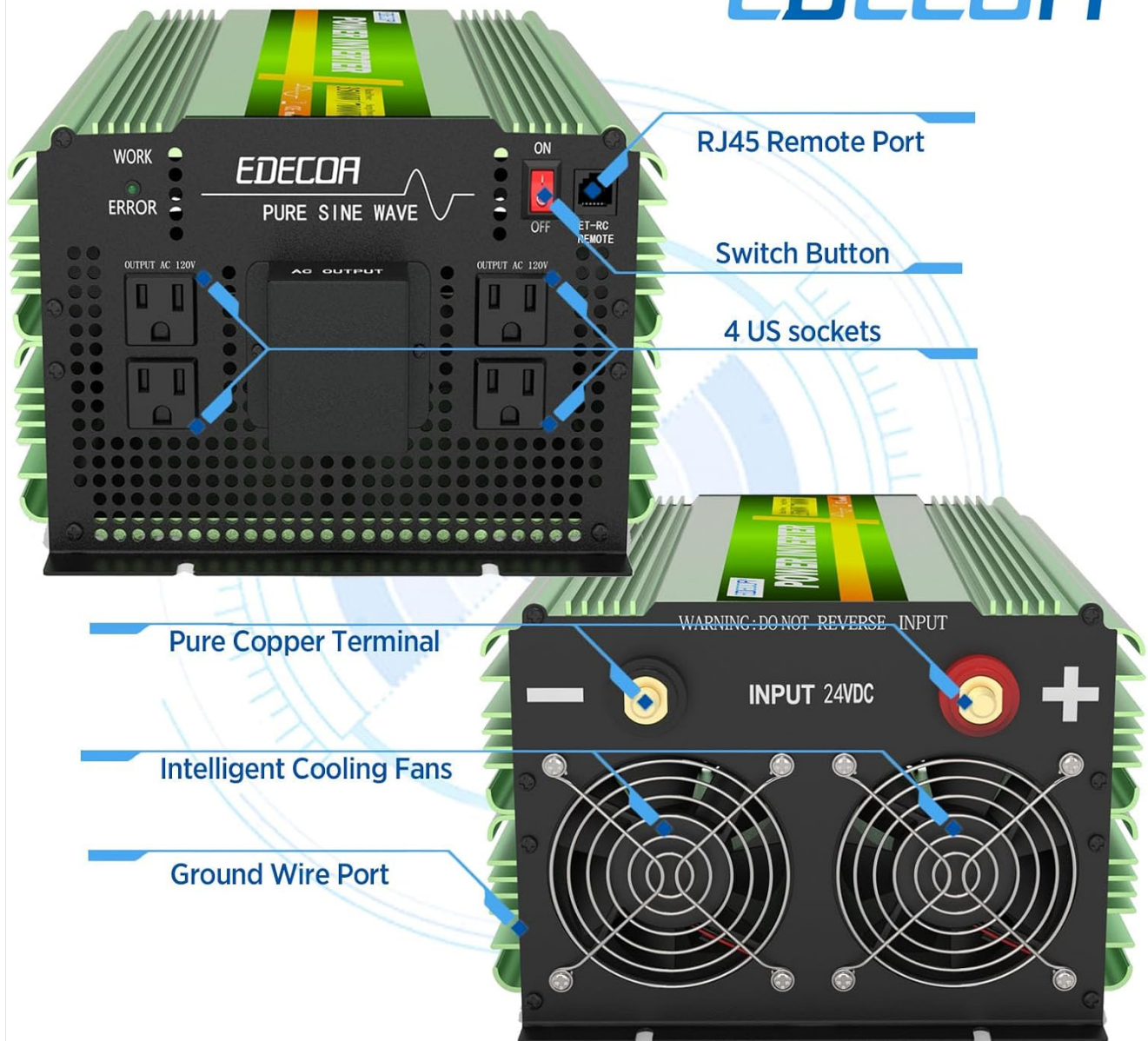


Figure 4.1: Inverter Connection Points.

## 5. Operating Instructions

### 5.1 Powering On/Off

#### 1. To Power On:

- Ensure all connections are secure.
- Flip the main power switch on the inverter to the "ON" position. The "WORK" indicator should light up.
- Alternatively, if the main switch is ON, press the power button on the ET-RC remote controller.

#### 2. To Power Off:

- Disconnect all appliances from the inverter.
- Flip the main power switch on the inverter to the "OFF" position.
- Alternatively, press the power button on the ET-RC remote controller.

### 5.2 Understanding the LCD Display (ET-RC Remote)



The LCD display provides critical operational data:

- **Battery Capacity:** Indicates the remaining charge in your battery bank.
- **Load Level:** Shows the percentage of the inverter's capacity currently being used by connected appliances.
- **Temperature:** Displays the internal temperature of the inverter.
- **Fan Status:** Indicates if the cooling fans are active.
- **Frequency:** Shows the output AC frequency (e.g., 60Hz).
- **DC Input Voltage:** Displays the voltage of your 24V battery bank.
- **AC Output Voltage:** Shows the output AC voltage (e.g., 110V/120V).
- **Protection Indication:** Icons or messages will appear if a protection feature is activated (e.g., overload, low voltage).



Figure 5.1: Remote Controller in Use.

### 5.3 Connecting Appliances

Once the inverter is powered on and stable, you can connect your AC appliances. Always ensure the total wattage of connected appliances does not exceed the inverter's continuous power rating (3500W).



- For appliances with standard plugs, insert them into the AC outlets.
- For high-power appliances connected via the terminal block, ensure they are properly wired and secured.
- Monitor the load level on the remote display to avoid overloading.



Figure 5.2: Inverter powering a typical household appliance.

## 6. Maintenance

- **Cleaning:** Periodically clean the exterior of the inverter with a dry, soft cloth. Ensure cooling vents are free from dust and debris. Do not use liquid cleaners.
- **Connections:** Regularly check all electrical connections (battery cables, ground wire, AC output) to ensure they are tight and free from corrosion.
- **Ventilation:** Ensure the area around the inverter remains clear to allow for proper airflow and cooling.
- **Storage:** If storing the inverter for an extended period, disconnect it from the battery and store it in a cool, dry place.

## 7. Troubleshooting

This section outlines common issues and their potential solutions. Refer to Figure 3.4 for protection beep codes.

Problem	Possible Cause	Solution
No power output / Inverter not turning on	Loose battery connections; Low battery voltage; Inverter switch OFF; Blown fuse.	Check and tighten battery cables; Recharge battery; Turn inverter switch ON; Check and replace internal fuses (if accessible and safe, otherwise contact support).
Inverter shuts down with 2 beeps (Low Voltage)	Battery voltage is too low.	Recharge or replace the battery. Reduce load.
Inverter shuts down with 3 beeps (Over Voltage)	Input voltage is too high.	Verify battery voltage is 24V. Disconnect from charging source if overcharging.
Inverter shuts down with 4 beeps (Over Temperature)	Overheating due to excessive load or poor ventilation.	Reduce load; Ensure proper ventilation; Clean cooling vents. Allow inverter to cool down.
Inverter shuts down with 5 beeps (Overload)	Connected load exceeds inverter's capacity.	Reduce the total wattage of connected appliances. Check appliance starting surge power.
Fan not running	Normal operation (fans activate only when needed); Fan malfunction.	Fans are temperature-controlled. If inverter is hot and fans are not running, contact support.

## 8. Specifications

Feature	Specification
Model	3500W 24V ETRC Pure Sine Wave Power Inverter
Continuous Output Power	3500 Watts
Peak Output Power (<10ms)	7000 Watts
DC Input Voltage	24 Volts DC
AC Output Voltage	110V / 120V AC
Output Waveform	Pure Sine Wave
AC Outlets	4 US Sockets + 1 AC Terminal Block
Remote Control	ET-RC LCD Display Remote (4-meter cable)
USB Output	2 x 5V 2.1A
Product Dimensions (L x W x H)	13.77 x 9.5 x 6.5 inches (35 x 24.1 x 16.5 cm)
Item Weight	18.96 pounds (8.6 kg)
Manufacturer	EDECOA

Feature	Specification
Country of Origin	China



Figure 8.1: Inverter Dimensions.

## 9. Warranty and Support

EDECOA products are manufactured to high-quality standards. For warranty information, technical support, or service inquiries, please refer to the warranty card included with your product or visit the official EDECOA website. Keep your purchase receipt as proof of purchase for warranty claims. For further assistance, please contact EDECOA customer service through the platform where you purchased the product.