

## Luminous Eco Watt Neo 600VA

# Luminous Eco Watt Neo 600VA Square Wave Inverter User Manual

Model: Eco Watt Neo 600VA | Brand: Luminous

## 1. INTRODUCTION

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This manual provides essential information for the safe and efficient operation of your Luminous Eco Watt Neo 600VA Square Wave Inverter. Please read these instructions carefully before installation and use, and retain this manual for future reference.

The Luminous Eco Watt Neo series is designed to provide reliable power backup for homes, offices, and small commercial applications. It features Intelligent Square Wave technology, advanced microprocessor control, fast battery charging, and user-friendly LED indicators for optimal performance and extended battery life.

## 2. IMPORTANT SAFETY INSTRUCTIONS

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**WARNING: Failure to follow these instructions may result in electric shock, fire, or serious injury.**

- Ensure the inverter is installed in a well-ventilated area, away from direct sunlight, heat sources, and flammable materials.
- Do not expose the inverter to rain, moisture, or excessive dust.
- Always connect the inverter to a properly grounded electrical outlet.
- Before performing any maintenance or cleaning, disconnect the inverter from both AC mains and the battery.
- Do not open the inverter casing. There are no user-serviceable parts inside. Refer all servicing to qualified service personnel.
- Keep children and unauthorized persons away from the inverter and battery.
- Ensure correct battery polarity (+VE to +VE, -VE to -VE) when connecting the battery. Incorrect connection can cause damage to the inverter and battery.
- Use only compatible batteries as specified in the specifications section.

## 3. PACKAGE CONTENTS

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Verify that all items are present in the package:

- 1 x Luminous Eco Watt Neo 600VA Inverter Unit
- 1 x Operating Manual (this document)
- 1 x Warranty Card

## 4. PRODUCT OVERVIEW

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Familiarize yourself with the components of your Luminous Eco Watt Neo Inverter.

### 4.1 Front Panel



*Figure 4.1: Front Panel with LED Indicators and On/Off Switch*

The front panel features various LED indicators and the main power switch:

- **On/Off Switch:** Powers the inverter on or off.
- **Mains LED:** Indicates when the inverter is receiving AC power from the grid.
- **Charging LED:** Illuminates when the battery is being charged.
- **Eco Mode LED:** Indicates that the inverter is operating in Eco Mode.
- **UPS Mode LED:** Indicates that the inverter is operating in UPS Mode.
- **Low Battery LED:** Warns when the battery charge is low.
- **Overload LED:** Indicates an overload condition.

### 4.2 Rear Panel



*Figure 4.2: Rear Panel with Connection Ports*

The rear panel provides all necessary connection points:

- **Battery Terminal (+VE):** Connects to the positive terminal of the battery.
- **Battery Terminal (-VE):** Connects to the negative terminal of the battery.
- **AC Input:** Connects the inverter to the AC mains supply.
- **Output:** Provides AC power for connected appliances.
- **Fuse:** Overcurrent protection for the inverter.
- **Battery Selector Mode Switch:** Allows selection of battery type for optimized charging.
- **UPS/Eco Mode Switch:** Toggles between UPS and Eco operating modes.

## 5. INSTALLATION AND SETUP

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Follow these steps for proper installation of your inverter:

### 5.1 Site Selection

- Choose a cool, dry, and well-ventilated location.
- Ensure sufficient clearance around the inverter for air circulation.
- Avoid areas with direct sunlight, high humidity, or corrosive gases.
- Place the inverter on a flat, stable surface.

## 5.2 Battery Connection

1. Ensure the inverter is switched OFF and disconnected from the AC mains.
2. Connect the red cable from the inverter's +VE terminal to the positive terminal of the 12V battery.
3. Connect the black cable from the inverter's -VE terminal to the negative terminal of the 12V battery.
4. Double-check all connections for tightness and correct polarity.
5. The inverter is compatible with 1 x (12V) battery with capacity between 80 Ah and 220 Ah (Flat Plate, Tubular, SMF types).



Figure 5.2: Home Inverter Battery Buying Guide

This guide provides recommendations for battery capacity based on your home size and typical appliance usage, helping you select the appropriate battery for your inverter system.

## 5.3 AC Mains Connection

1. Plug the inverter's AC input cord into a grounded wall socket.
2. Ensure the wall socket provides a stable 110V AC input.

## 5.4 Appliance Connection

1. Connect your appliances (e.g., CFLs, tube lights, ceiling fans, bulbs, LED TVs, refrigerators) to the output socket on the rear panel of the inverter.
2. Ensure the total load does not exceed the inverter's peak load capacity of 352 Watts. Recommended running load should be at 75% of peak load.



Figure 5.4: Recommended Appliances and Wattage

This image illustrates the typical wattage consumption of common household appliances, helping you manage the load on your inverter. For example, an LED bulb consumes 9W, a 40" LED TV 75W, a 1200mm fan 80W, and an LED tubelight 18W.

## 6. OPERATION

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### 6.1 Powering On/Off

- To power on the inverter, press the On/Off switch on the front panel. The relevant LEDs will illuminate.
- To power off the inverter, press the On/Off switch again.

### 6.2 Operating Modes (ECO & UPS)

The inverter offers two operating modes, selectable via a switch on the rear panel:

- **UPS Mode:** In this mode, the output voltage is maintained within a narrow range (180V to 260V) to ensure the safety of sensitive appliances like computers. This mode provides stable power, but may switch to battery backup more frequently during minor voltage fluctuations.
- **Eco Mode:** In Eco Mode, the voltage range is extended, allowing the inverter to tolerate wider input voltage fluctuations before switching to battery power. This reduces battery usage and extends battery life, making it suitable for less sensitive appliances.

### 6.3 LED Indicators

Monitor the front panel LEDs for the inverter's status:

- **Mains:** Green light indicates AC mains power is available and the inverter is charging the battery.
- **Charging:** Yellow light indicates the battery is currently being charged.
- **Eco Mode:** Blue light indicates the inverter is operating in Eco Mode.
- **UPS Mode:** Green light indicates the inverter is operating in UPS Mode.
- **Low Battery:** Red light indicates the battery charge is critically low. The inverter will soon shut down to protect the battery.
- **Overload:** Red light indicates that the connected load exceeds the inverter's capacity. Disconnect some appliances immediately.

## 7. MAINTENANCE

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Regular maintenance ensures optimal performance and longevity of your inverter and battery.

### 7.1 General Cleaning

- Keep the inverter clean and free from dust. Use a soft, dry cloth to wipe the exterior.
- Ensure ventilation openings are not blocked.

### 7.2 Battery Maintenance

- For tubular or flat plate batteries, regularly check the electrolyte level and top up with distilled water if necessary.
- Keep battery terminals clean and free from corrosion. Apply petroleum jelly to prevent corrosion.
- Ensure the battery is fully charged periodically, especially if not used for extended periods. The inverter's three-stage smart charging helps maintain battery health.

### 7.3 Fuse Replacement

- If the inverter stops providing output power and the fuse appears blown, disconnect the inverter from both AC mains and the battery.
- Carefully replace the fuse on the rear panel with a fuse of the same rating. Refer to the specifications for the correct fuse rating.
- If fuses blow frequently, contact customer support as there may be an underlying issue.

## 8. TROUBLESHOOTING

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This section addresses common issues you might encounter with your inverter. If the problem persists, contact Luminous customer support.

| Problem                 | Possible Cause   | Solution  |
|-------------------------|--|---|
| Inverter not turning on | <ul style="list-style-type: none"> <li>Battery not connected or loose connection.</li> <li>Battery discharged.</li> <li>Main power switch off.</li> <li>Blown fuse.</li> </ul> | <ul style="list-style-type: none"> <li>Check battery connections and ensure correct polarity.</li> <li>Charge the battery by connecting to AC mains.</li> <li>Press the On/Off switch.</li> <li>Check and replace the fuse if necessary.</li> </ul> |

| Problem                          | Possible Cause   | Solution  |
|----------------------------------|--|---|
| Overload LED is on               | Too many appliances connected.<br>Appliance drawing excessive power. | Disconnect some appliances to reduce the load.<br>Ensure total load is within 352 Watts.                                |
| Low Battery LED is on            | Battery is discharged.<br>Charging issue.                            | Connect to AC mains to charge the battery.<br>Check AC input connection and mains supply.                               |
| No output power in inverter mode | Battery discharged.<br>Overload condition.<br>Inverter fault.        | Check battery status and charge if needed.<br>Reduce connected load.<br>Contact customer support if the issue persists. |

## 9. TECHNICAL SPECIFICATIONS

| Feature                     | Specification   |
|-----------------------------|---|
| Model Name                  | Eco Watt Neo 600VA  |
| Inverter Type               | Square Wave   |
| VA Rating                   | 600VA/12V   |
| Peak Load                   | 352 Watts   |
| Input Voltage               | 110 Volts (AC)  |
| Voltage (Battery)           | 12 Volts  |
| Frequency                   | 50 Hz   |
| Battery Compatibility       | 1 x (12V) battery, Capacity 80 Ah - 220 Ah (Flat Plate, Tubular, SMF) |
| Charging Technology         | Three-stage smart charging  |
| Operating Modes             | ECO & UPS Mode  |
| Item Dimensions (L x W x H) | 33L x 33W x 18H Centimeters   |
| Item Weight                 | 7.6 Kg  |
| Color                       | Blue  |
| Manufacturer Part Number    | LUMINSECOW650   |
| UPC                         | 736283259889  |

*Note: Specifications are subject to change without prior notice for product improvement.*

## 10. WARRANTY INFORMATION

The Luminous Eco Watt Neo 600VA Inverter comes with a **2-year warranty** from the date of purchase. For detailed terms and conditions of the warranty, please refer to the warranty card supplied along with the product. Keep your purchase receipt as proof of purchase for warranty claims.

## 11. CUSTOMER SUPPORT

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For any technical assistance, service requests, or inquiries, please contact Luminous customer support:

- **Manufacturer:** Luminous Power TECHNOLOGIES Pvt. Ltd.
- **Contact Number:** 18001033039
- **Manufacturer Address:** VILLAGE DEV NAGAR PO GAGRET TEHAMB DISTT. UNA HIMACHAL PRADESH - 177201
- **Packer Address:** Plot No. 150, Sector-44, Gurugram Haryana-122003

You can also visit the official Luminous website for more information and support resources.