House of Green Energy

**LENTO INDUSTRIES PVT. LTD.**

# 2100 VA 25.6V Lithium Battery Inverter

**Model No - LI-ION 2500**

---

## Thank You for Choosing Lento

Dear Customer,

Thank you for purchasing the [LI-ION 2500] Lithium Battery Inverter. We appreciate your trust in our products and are committed to delivering safe, reliable, and efficient power backup for your home or business.

Please read this manual carefully before installation and operation to ensure safe use and to get the most out of your product. Keep this manual for future reference.

For any queries, support, or service requirements, please contact our customer care team using the details below.

Warm regards,

House of Green Energy

| | |
|---|---|
| **Customer Support** | [+91-9311811396] |
| **Email** | [service@lentoindia.com] |
| **Website** | [www.lentoindia.com] |

# Table Of Contents

**About the LI-ION 2500**


| | |
|---|---|
| **Definition / Product Overview** | **1** |
| **Side / Front Pannel** | **2** |
| **Screen** | **3 to 4** |
| **Setting** | **4** |
| **Some Safety Measures** | **5** |
| **Personal Precautions** | **6** |
| **Salient Features** | **7** |
| **Installation** | **8** |
| **Start Operation** | **9** |
| **Maintenance** | **10** |
| **Troubleshotting Guide** | **10** |
| **Applications** | **11** |
| **WIRING LAYOUT** | **12** |

## STANDARD DEFINITION

Inbuilt Lithium-Ion Battery Inverter/UPS

An inbuilt lithium-ion battery inverter is an integrated power backup device that combines a power inverter and a lithium-ion battery within a single enclosure. It converts DC (Direct Current) power stored in its internal lithium-ion battery into AC (Alternating Current) power to run electrical appliances during a power outage or as a standalone power source. Unlike conventional inverters that require an external battery, this unit houses the battery, inverter circuitry, charge controller, and Battery Management System (BMS) together, offering a compact, maintenance-free, and space-saving solution with faster charging, longer life cycles, and higher energy efficiency compared to traditional lead-acid battery inverters.

## Key Features

1. Pure sine wave AC output for all kind of loads and appliances.

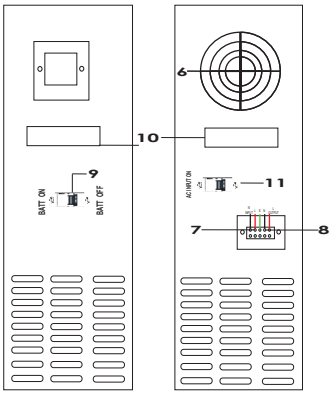
2. Multi-stage protection: overload, short-circuit, over/under-voltage, over-temperature, reverse polarity

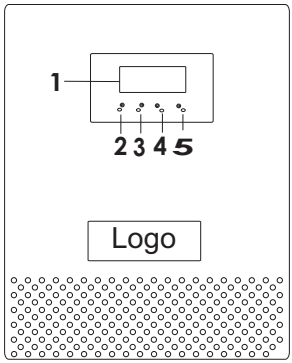
## Product Overview

The [LI-ION 2500] is a pure sine wave, standalone lithium battery inverter designed to convert DC power stored in a lithium (LiFePO4 ) battery bank into stable AC power for home, commercial, backup, or off-grid applications. Built with intelligent battery management compatibility, multi-stage protection, and a compact,fan-cooled design, it delivers reliable power for essential loads during outages or continuous off-grid use.

## About HOME UPS

**Front / Right Left Side Panel**




| *Position No.* | *Function* | *Remarks* |
|---|---|---|
| 1 | LCD Display | Wide Display for better system information |
| 2 | Switch for Setting Menu | For Function Setting with its led |
| 3 | Switch for Function Change | For Function Change with its led |
| 4 | ON/OFF Switch | Use to Inv/UPS turn on/off with its led |
| 5 | Switch for default RESET setting | For factory reset of all settings. |
| 6 | Cooling fan | For maintaining temperature. |
| 7 | Mains Input | For mains input connection. |
| 8 | Inverter Output | For inverter O/P connection. |
| 9 | Battery mcb | To connect the battery. |
| 10 | Handle | To carry this product. |
| 11 | Input MCB | For input protection. |

## ABOUT THE Li-ion 3000

| Message displayed on LCD | Description |
|---|---|
| DSP SINEWAVE<br>HOME UPS | Initializing the system as soon as the DC MCB is turned on |
| UPS Switch : Off<br>Mains : Off | Inverter switch is OFF. Also if the AC Mains is OFF(mains disconnected from grid) |
| UPS Switch : On<br>Mains : Off | Inverter switch is ON. The AC mains is OFF(mains disconnected from grid.) |
| UPS Switch : On<br>Mains : Low | Inverter switch is ON. The AC mains is Low (Mains voltage low at input) |
| UPS Switch : On<br>Mains : Hi | Inverter switch is ON. The AC mains is High(Mains voltage high at input) |
| UPS Switch : On<br>Mains : Cut | Inverter switch is ON. The AC mains is Cut (Mains voltage cut by UPS) |
| I/P Volt : 220.0 V<br>I/P Freq : 50.0 Hz | Displays status of AC mains voltage and frequency at the input. |
| O/P Volt : 220.0 V<br>O/P Freq : 50.0 Hz | Displays the Output voltage status and frequency given at the output. |
| Batt Volt : 12.5V<br>O/P Load : 000% | Displays the Battery voltage and load %. |
| Batt Volt : 13.5V<br>Battery Charging/Charged | Display of the battery voltage during Mains charging along with status |
| Charging Mode: Hi/Lo<br>Batt Mode : LiFePo4 | Displaying that Charging mode Hi Or Lo and Battery Type Which is selected LiFePo4. |
| UPS Mode : On/Off | Displaying that UPS Mode Status ON or Off. Default Mode is Off. |

| Message displayed on LCD | Description |
|---|---|
| **Grid Charge : On/Off**<br>**Inv Type:Solar/Normal** | Displaying that Grid charge Mode Status ON or Off and Inverter type which is selected. |

## Front panel Selection parameter

| Sr. No. | *Function* | *Remarks* |
|---|---|---|
| 1 | On Pressing "MENU" button once - Charging Current present Setting will be displayed. | **High** **Low**<br>While "Charging Current"setting is displayed pressing the "CHANGE" button will alternate between the available charging current options. Charging current will have two options "LO" and "HI" as displayed above. |
| 2 | On pressing "MENU" button again, selected "BATTERY TYPE" will be displayed. | This is a Lithium ion based product, so there is no bettery selection option. |
| 3 | On Pressing "MENU" button once - Grid Charging Enable disable present Setting will be displayed. | **Enable** **Disable**<br>While "Grid Charging Mode" setting is displayed, pressing the "CHANGE" button will alternate between the available charging mode options. Charging mode will have two options "GCE(Grid Charging Enable)" and "GCD(Grid Charging Disable)" as displayed above.Default value "GCE". |
| 4 | On Pressing "MENU" button once - UPS/Inverter present Setting will be displayed. | **Enable** **Disable**<br>While "UPS/INVERTER MODE" setting is displayed, pressing the "CHANGE" button will alternate between the available Setting options. UPS MODE will have two options "UPD" and "UPE" as displayed per battery above.Default Selection is "UPD". |
| 5 | On Pressing "MENU" button once - Battery Low alarm setting. | **11.5**<br>This is a Lithium ion based product, so battery default low alarm setting is 11.5v. |

## Some Safety Measures

**Important Precautions**

The Output Side of the UPS's AC Wiring should never be connected to domestic power or a generator. This condition is far worse than a short circuit. If the unit survives this condition, it will shut down until corrections are made.

Installer should ensure that the **LI-ION 2500** AC output should not be connected to its AC input.

Never disconnect the battery cable or while the LI-ION 2500 UPS is delivering power or battery charger is operating. Always turn the switch off first and disconnect input from mains.

**General Precautions**

* Before installing, connecting any wiring, or using the LI-ION 2500 read all instructions of this instruction manual.
* CAUTION-Do not install or connect any extra battery(s) to this unit unless instructed to do so. Failure to comply with this instruction can cause damage or complete failure of the unit.
* Do not expose the system to rain, snow or liquids of any type.
* Do not disassemble the system; take it to a authorized service centre when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
* Be extra cautious when working with metal tools on, or around batteries. The potential exists to drop a tool and short-circuit the battery(s) or other electrical parts resulting in sparks that could cause an explosion.

**GROUNDING INSTRUCTIONS:**

System should be grounded with earth properly.

## Personal Precautions

* Someone should be within range of your voice to come to your aid when you work on inverter.
* Have plenty of fresh water and soap nearby in case battery acid contacts skin clothing or eyes.
* Wear complete eye protection and clothing protection. Avoid touching eyes while working on inverter. Wash hands when done.
* Do not connect the external charger to charger one battery.
* Before touching the terminal makes sure that the system is OFF and AC Mains to the inverter is also OFF.
* Never smoke or allow a spark or flame in vicinity of the batteries.
* Be sure that the area around the inverter is well ventilated. Be sure inverter terminals should be always clean; Be careful not to allow corrosion to come in contact with eyes.

## Slient Features

* Wide LCD display for better system information.
* DSP/MCU based design with absolute and stable sine wave output voltage & frequency.
* User friendly, feather touch control and selection switches with LED indication on front panel.
* Deep discharge battery charging from mains.
* More back-up being a sine wave UPS (ASIC Control).
* No humming Noise (Silent UPS).
* Setting for UPS mode / Normal mode.
* Protections such as Mains MCB , Overload, Short circuit, Battery low available with LCD available.
* Mains available, battery charging/Charged and its voltage indication provided on LCD display.
* Quiet operation of AC motors and other inductive loads, unlike a modified sine wave.

## INSTALLATION

- **Where to Install:**

  The system should be installed in a location that meets the following requirements:

  **Dry-** LI-ION 2500 should be Kept Away from the contact of water.

- **Cool and Ventilated-** The ambient air temperature around the system should be between 0º C and 40º C (32º F and 104º F), the cooler the environment is the better it is for the system. At least 2 inches (5 cm) of clearance should be provided around the system for air flow.

  **SAFE-** Do not install the LI-ION 2500 UPS in the same compartment capable of storing flammable liquids such as gasoline.

  **CAUTION: TO PREVENT FIRE, DO NOT COVER OR OBSTRUCT VENTILATION OPENINGS. DO NOT INSTALL THE SYSTEM IN A ZERO CLEARANCE COMPARTMENT. OVERHEATING MAY RESULT.**

- **How to Install**

**Wiring Of Inverter to Mains**

1. Connect wire from inverter output to the load you can use inverter output (L) & (N) Nuteral to the load oro if wiring nuteral (N) is common with mains nuteral (N) then you can use output line(L) form the inverter.

2. Connect inverter input (L) & (N) to the main line which is come form grid.

3. Ensure that AC input supply is properly connected to the 3 way terminal of the system such that the line is connected to 'L' , neutral is connected to 'N' and Earth connected to 'E'. AC input supply should remain ON once the system is installed. Take out from 15A output socket.

## Start Operation

Once the AC, input & output wiring have been installed and connected,take a moment to re-examine all the connections and make sure they are secured and connected to proper terminals.

1. Turn on the inverter battery MCB and system energies check LCD display is turn on.

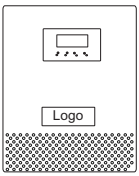
2. Press ON/OFF switch to turn it ON. The system should run a load without the AC input now you can turn on some load to check proper output.

3. To charge your batteries with the mains, connect AC power to the system by plugging in AC power and turning on the mains line. This LCD shows the mains voltage status and battery status and charging sections working properly. Any AC load powered by the system should also work at this point since portion of the AC power is passed through this **Li-on 2500.**

4. Disconnect or turn Off the Mains AC Power. The system should transfer to battery mode immediately. This will be indicated by a clicking sound as the internal transfer relay changes the position. The system will begin to take power from the battery(s) and use it to power the load. And the load continues to operate uninterrupted.

The above steps will complete a functional test of the LI-ION 3000 UPS. If all areas pass, the system is ready for use. If any of the above mentioned area fails, figure out reason before proceeding or contact to the service support.

**LI-ION 2500**




| Input wire | output wire |
|---|---|
| 2.5 square mm | 1.5 square mm |

## Maintenance

Very little maintenance is required to keep your **Li-on 2500** operating properly. You should clean the exterior of the unit periodically with a damp cloth to prevent accumulation of dust and dirt. Though the connected Solar Panels are required to be washed regularly to avoid accumulation of dust particles on them and to obtain higher efficiency.

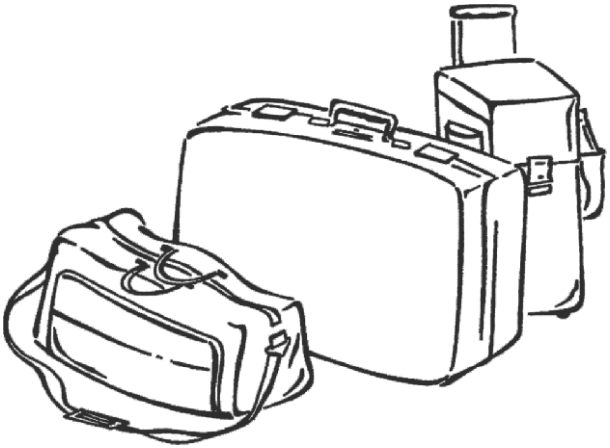
## Troubleshooting Guide

| Problem and Symptoms | Possible Cause | Solution |
|---|---|---|
| No output voltage, display shows overload | Overload | Disconnect the excessive load from the inverter & get the house wiring checked |
| No output Voltage display shows over temperature | Thermal shutdown | Check air ventilation than call the service support. There is overheat problem in the system |
| Mains display fuse trip with buzzer beep | Mains fuse trip | Check the mains fuse/MCB at the back panel and reduce the load connected to the system. Beep sound will be no more when the switch is in off condition |
| No output voltage; display shows short circuit | Output short circuit | Check wiring and remove all loads from UPS, than set the front ON/OFF switch |
| Battery mode but no power | Battery Low | Check display if low battery condition is present. Remove all loads and reset the ON/OFF switch. Allow the battery to charge when the mains is resumed before running the system on the battery again |

## Applications

* Power Backup for Household as well as the computer. Emergency Power System.
* Small water pumps and all motor based applications. Small Drills
* T.V. set, Fan, Tube lights etc. Conditions Apply

## GOING ON VACATIONS



**Switch Off the Inverter ON/OFF Switch placed on front Panel**
**Battery will continue to charge**

## WIRING LAYOUT

