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Model: iCruze 5000+

1. INTRODUCTION

The Luminous iCruze 5000+ is a high-capacity Pure Sine Wave Inverter designed to provide reliable power backup for various applications, including large homes, offices, and shops. This 4000VA/48V inverter ensures a stable and clean power output, protecting sensitive electronic appliances and enhancing their longevity. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your iCruze 5000+ inverter.



Figure 1: Front view of the Luminous iCruze 5000+ Pure Sine Wave Inverter. This image displays the front panel of the unit, featuring a digital display that shows operational status and battery percentage. Indicators for 'Mains On', 'UPS', 'Smart Chg', and 'Battery Charged' are visible. The inverter has a light grey casing with integrated ventilation grilles.

2. KEY FEATURES

- **Pure Sine Wave Output:** Provides clean power, safe for all types of appliances, including sensitive electronics.
- **High Overload Handling Capacity:** Designed to manage temporary power surges effectively.
- **Advanced Battery Management:** Optimizes battery charging and discharging cycles, extending battery life by up to 70%.
- **Intelligent Battery Charging Mechanism:** Adapts charging based on battery type and condition for efficient and safe charging.
- **Installation and Maintenance Friendly:** Designed for ease of setup and routine upkeep.
- **Digital Display:** Provides real-time information on inverter status, battery charge, and other critical parameters.
- **Comprehensive Protections:** Includes safeguards against DC Low Voltage/Over Voltage, Deep Discharge, High Temperature, Overload, Reverse Polarity, and Short Circuit.
- **Fast Charging:** Ensures quick replenishment of battery power.
- **MCB Protection:** Integrated Miniature Circuit Breaker for enhanced safety.

3. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your Luminous iCruze 5000+ inverter. It is highly recommended that installation be performed by a qualified electrician or authorized service personnel.

3.1 Site Selection

- Choose a well-ventilated area, free from direct sunlight, moisture, and dust.
- Ensure sufficient clearance around the inverter for proper airflow and heat dissipation.
- The surface should be flat, stable, and capable of supporting the weight of the inverter and batteries.
- Keep the inverter away from flammable materials and sources of heat.

3.2 Battery Connection

- The iCruze 5000+ requires **four (4) 12V batteries** for operation.
- Ensure batteries are of the same type and capacity. Supported battery types include Flat Plate, Tubular, and VRLA (SMF).
- Connect the batteries in series to achieve the required 48V DC input.
- Always connect the positive (+) terminal of the inverter to the positive (+) terminal of the battery bank and the negative (-) terminal of the inverter to the negative (-) terminal of the battery bank.
- Tighten all battery terminal connections securely to prevent sparking and power loss.

3.3 Mains Input and Output Connections

- Connect the mains input cable from your household power supply to the designated input terminal on the inverter.
- Connect your appliances or household wiring to the inverter's output terminals.
- Ensure proper grounding of the inverter unit to prevent electrical hazards.

Warning: Incorrect wiring can cause damage to the inverter, batteries, and connected appliances, and poses a risk of electric shock. Always consult a qualified professional for installation.

4. OPERATING INSTRUCTIONS

4.1 Powering On/Off

- **To Power On:** After ensuring all connections are secure, press the power button located on the front panel. The digital display will illuminate, and the inverter will initiate its self-test sequence.
- **To Power Off:** Press and hold the power button until the display turns off. Disconnect the mains supply if the inverter is to be stored or serviced.

4.2 Understanding the Digital Display

The front panel digital display provides critical operational information:

- **Mains On:** Indicates that the inverter is receiving power from the utility grid.
- **UPS:** Indicates that the inverter is operating in UPS mode, providing power from the batteries.
- **Smart Chg:** Indicates that the intelligent battery charging mechanism is active.
- **Battery Charged:** Indicates that the batteries are fully charged.
- **Percentage Display:** Shows the current battery charge level or other operational parameters.

4.3 Connecting Appliances

The Luminous iCruze 5000+ is capable of running a wide range of appliances, including:

- Fans
- Laptops
- LED TVs
- Lights
- Mixer Grinders
- Other household and office electronics within the inverter's capacity.

Ensure the total load connected does not exceed the inverter's VA rating (4000VA) to prevent overload and ensure optimal performance.

5. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your Luminous iCruze 5000+ inverter.

- **Keep Clean:** Periodically clean the inverter's exterior with a dry, soft cloth. Ensure ventilation grilles are free from dust and obstructions.
- **Check Battery Terminals:** Inspect battery terminals regularly for corrosion. Clean any corrosion with a wire brush and apply petroleum jelly to prevent future buildup. Ensure connections remain tight.
- **Battery Water Level (for Tubular/Flat Plate batteries):** If using non-sealed batteries, check the electrolyte level every 1-2 months and top up with distilled water if necessary. Do not overfill.
- **Ventilation:** Ensure the inverter always has adequate ventilation. Do not block air vents.
- **Avoid Overloading:** Do not connect appliances that exceed the inverter's rated capacity.
- **Professional Inspection:** Consider having the inverter inspected by an authorized service technician annually.

Caution: Always switch off the inverter and disconnect the mains supply before performing any maintenance.

6. TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For complex problems, contact Luminous customer

support.

6.1 Inverter Not Turning On

- Check if the battery connections are secure and correctly polarized (+ to + and - to -).
- Verify that the batteries are charged. If deeply discharged, the inverter may not start.
- Ensure the power button is pressed correctly.

6.2 No Output Power

- Check if the inverter is in UPS mode (if mains power is off).
- Verify that the output circuit breaker (MCB) on the inverter is not tripped.
- Ensure connected appliances are switched on and functioning correctly.
- Check for overload indication on the digital display. Reduce load if necessary.

6.3 Batteries Not Charging

- Ensure mains power is available and connected to the inverter.
- Check the mains input fuse or circuit breaker.
- Verify battery connections are clean and tight.
- If the "Smart Chg" indicator is not lit, there might be an internal issue requiring service.

6.4 Overload Indication

- The inverter will typically beep and display an overload warning if the connected load exceeds its capacity.
- Immediately disconnect some appliances to reduce the load.
- Restart the inverter after reducing the load.

7. SPECIFICATIONS

Feature	Specification
Model Name	iCruze 5000+
Brand	Luminous
VA Rating	4000VA
Technology	Pure Sine Wave
Battery Voltage	48V (requires 4 x 12V batteries)
Max Charging Current	21 Amperes
Supported Battery Types	Flat Plate, Tubular, VRLA (SMF)
Net Weight	31.9 kg (Inverter unit only)
Item Weight (from spec)	9 kg 700 g (Note: This might be a shipping weight or packaging weight, refer to Net Weight for unit weight)
Recommended Uses	Big Homes (3 BHK & above), Offices, Shops
Protections	DC Low Voltage / Over Voltage, Deep Discharge, High Temperature, Overload, Reverse Polarity, Short Circuit
Other Features	Digital Display, Fast Charging, MCB Protection

8. SAFETY INFORMATION

Please read and adhere to the following safety precautions to prevent injury, electric shock, fire, or damage to the inverter and connected equipment.

- **Electrical Hazard:** Do not open the inverter casing. There are no user-serviceable parts inside. Refer all servicing to qualified personnel.
- **Water and Moisture:** Keep the inverter away from water, rain, snow, spray, or any liquid.
- **Ventilation:** Ensure adequate ventilation. Do not block or cover the ventilation openings.
- **Flammable Materials:** Do not install or operate the inverter near flammable materials or gases.
- **Grounding:** Always ensure the inverter is properly grounded.
- **Battery Safety:** Batteries contain corrosive acid and produce explosive gases. Wear protective eyewear and gloves when handling batteries. Ensure proper ventilation in the battery area.
- **Children and Pets:** Keep the inverter and batteries out of reach of children and pets.
- **Overload:** Do not overload the inverter beyond its rated capacity.
- **Emergency:** In case of smoke, unusual odors, or abnormal operation, immediately switch off the inverter, disconnect the mains supply, and contact customer support.

9. WARRANTY AND SUPPORT

Luminous provides a warranty for the iCruze 5000+ inverter against manufacturing defects. The specific terms and duration of the warranty are detailed in the warranty card provided with your product. Please retain your purchase receipt

for warranty claims.

For technical assistance, service requests, or warranty inquiries, please contact Luminous customer support through their official website or the contact information provided in your product documentation. When contacting support, please have your model number (iCruze 5000+) and purchase details ready.

For more information, visit the official Luminous website:www.luminousindia.com