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Redox Gamma 10A LiPo 1-6S AC/DC

Redox Gamma Professional LCD Touch Battery Charger User Manual

Model: Gamma 10A LiPo 1-6S AC/DC

1. Introduction

Thank you for choosing the Redox Gamma Professional LCD Touch Battery Charger. This versatile charger is designed for a wide range of RC battery types, offering advanced charging, discharging, and balancing functions. It features an intuitive touchscreen interface and can be powered by AC (230V) or DC (12V) sources, making it suitable for both home and field use.

1.1 Safety Precautions

Please read and understand all safety instructions before using the charger. Failure to do so may result in property damage, personal injury, or death.

- Never leave the charger unattended while in use.
- Ensure proper ventilation around the charger to prevent overheating.
- Do not charge damaged or swollen batteries.
- Always connect the balance lead (if applicable) when charging Lithium-based batteries.
- Keep the charger away from moisture, heat, and flammable materials.
- Use only the provided or recommended cables and adapters.
- Keep out of reach of children.

2. Package Contents

Verify that all items listed below are included in your package:

- Redox Gamma Professional LCD Touch Battery Charger
- AC Power Cord
- DC Input Cable (e.g., XT60 to Alligator Clips)
- Various Charging Cables (e.g., T-Plug, XT60, JST, Futaba)
- Balance Board Adapter



Figure 2.1: Assortment of charging cables and a balance board adapter included with the Redox Gamma charger. These accessories facilitate connection to various battery types and balance ports.



Figure 2.2: The AC power cord provided for connecting the charger to a standard wall outlet (230V AC input).

3. Product Overview

Familiarize yourself with the various parts and ports of your Redox Gamma charger.

3.1 Front and Top Panel



Figure 3.1: Top view of the Redox Gamma charger, highlighting the central LCD touchscreen display for user interaction and the integrated cooling fan for thermal management.

- **LCD Touchscreen:** Main interface for settings, monitoring, and operation.
- **Cooling Fan:** Activates automatically to dissipate heat during operation.

3.2 Side Panel (Output)



Figure 3.2: Side view of the charger displaying the main output ports (red and black banana plug sockets) and the multi-pin balance socket for connecting battery balance leads.

- **Output Ports (Red/Black):** Connect the main charging leads to these ports.
- **Balance Socket:** Connect the balance board or battery balance lead here for cell balancing.

3.3 Rear Panel (Input & Auxiliary)



Figure 3.3: Rear view of the charger, showing the AC 100-240V input, DC 11-18V input, PC Link (USB) port, and Temperature Sensor port.

- **AC 100-240V Input:** For connecting the AC power cord to a wall outlet.
- **DC 11-18V Input:** For connecting to an external 12V DC power source (e.g., car battery).
- **PC Link (USB):** For firmware updates or data logging (cable not always included).
- **Temp Sensor:** For connecting an optional external temperature sensor (not included).

4. Setup

4.1 Power Connection

1. **AC Power (Home Use):**
    - Connect the provided AC power cord to the "AC 100-240V INPUT" port on the rear of the charger.
    - Plug the other end of the AC power cord into a suitable wall outlet.
2. **DC Power (Field Use):**
    - Connect the DC input cable (e.g., XT60 to alligator clips) to the "DC 11-18V INPUT" port on the rear of the charger.
    - Connect the other end of the DC input cable to a 12V DC power source (e.g., car battery, power supply), ensuring correct polarity.

The charger will power on, and the LCD touchscreen will illuminate.

4.2 Battery Connection

1. Identify the correct charging cable for your battery's main connector.
2. Connect the main charging cable to the red (+) and black (-) output ports on the side of the charger.
3. Connect the other end of the main charging cable to your battery's main connector.
4. For Lithium-based batteries (LiPo, LiHV, LiIon, LiFe), connect the battery's balance lead to the balance board adapter, then connect the adapter to the balance socket on the charger. Ensure the correct cell count (e.g., 2S, 3S, 6S) is matched.

Always double-check all connections for correct polarity and secure fit before proceeding.

5. Operating Modes

The Redox Gamma charger features an intuitive graphical icon menu. Navigate through the menu using the touchscreen to select desired functions.

5.1 Battery Type Selection

The charger supports the following battery types:

- **LiPo, LiHV, LiIon, LiFe:** 1-6S (Lithium Polymer, High Voltage Lithium Polymer, Lithium Ion, Lithium Iron Phosphate)
- **NiMH, NiCD:** 1-18S (Nickel-Metal Hydride, Nickel-Cadmium)
- **Pb:** 2-24V (Lead-Acid)
- **SMART I / II / III:** Specific smart battery protocols.

Select the correct battery type from the main menu before starting any operation.

5.2 Main Functions

- **Charge:** Standard charging mode. Set current (up to 10A) and cell count/voltage.
- **Balance Charge:** Charges Lithium batteries while balancing individual cell voltages. Highly recommended for LiPo/LiHV/LiIon/LiFe.
- **Fast Charge:** Charges Lithium batteries faster, but may not fully balance cells.
- **Storage Charge:** Charges or discharges Lithium batteries to their optimal storage voltage (typically 3.85V/cell for LiPo) to prolong battery life.
- **Discharge:** Discharges the battery to a set voltage or capacity. Set current (up to 2A) and termination voltage.
- **Cycle:** For NiMH/NiCD batteries, performs charge/discharge cycles to refresh the battery.

5.3 Advanced Features

- **Battery Monitor:** Check basic battery parameters such as cell resistance, individual cell voltage, and overall capacity.
- **System Terminate Voltage Control (TVC):** Advanced menu for precise configuration of termination voltage.
- **Power Supply Simulation:** The charger can simulate a power supply (5.0 - 27.0V).
- **Independent Lithium Cell Balancer:** Features 3 programmable speed modes for balancing.



Figure 5.1: The LCD touchscreen displaying the intuitive graphical menu, allowing users to select various charging modes and access settings.

6. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the charger's exterior. Do not use solvents or abrasive cleaners.
- **Storage:** Store the charger in a cool, dry place away from direct sunlight and extreme temperatures.
- **Inspection:** Regularly inspect cables and connectors for any signs of wear or damage. Replace damaged components immediately.
- **Ventilation:** Ensure the cooling fan and vents are free from dust and obstructions.

7. Troubleshooting

Problem	Possible Cause	Solution
Charger does not power on.	No power supply; loose connection; faulty power cord.	Check AC/DC power connection; ensure power source is active; try a different power cord if available.
"Connection Break" error.	Battery not connected; loose main leads; loose balance lead.	Verify all battery connections (main and balance) are secure and correct.
"Cell Count Error" or "Voltage Mismatch".	Incorrect cell count selected; faulty balance lead; damaged battery.	Ensure selected cell count matches battery; check balance lead for damage; inspect battery for damage.
Charger overheats.	Poor ventilation; excessive charging current; faulty fan.	Ensure clear airflow around charger; reduce charging current; contact support if fan is not operating.
Touchscreen unresponsive.	Temporary software glitch; physical damage.	Power cycle the charger. If issue persists, contact customer support.

8. Specifications

Feature	Detail
Input Voltage	AC 100-240V / DC 11-18V
Max Charge Power	100W (AC) / 150W (DC)
Max Discharge Power	10W
Charge Current Range	0.1 - 10.0A
Discharge Current Range	0.1 - 2.0A
Balance Current	0.4A
LiPo/LiHV/LiIon/LiFe Cell Count	1-6S
NiMH/NiCD Cell Count	1-18S
Pb Battery Voltage	2-24V
Display	LCD Touchscreen, 128x64 pixels, adjustable brightness/contrast
Cooling	Active fan cooling
Safety Features	Overload, overcharge, short-circuit, overheating protection

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the retailer/manufacturer directly. Keep your proof of purchase for warranty claims.

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