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SKYRC T100

SKYRC T100 Dual Balance Battery Charger User Manual

Model: T100

1. Introduction

The SKYRC T100 is a versatile twin-channel battery charger designed for various battery chemistries, including LiPo, LiFe, LiIon, LiHV, NiMH, NiCd, and Pb. It features two independent charging circuits, allowing simultaneous charging of two different batteries. Each channel provides up to 50W of charging power with a maximum charging current of 5.0A. The charger includes a high-contrast LCD display, precise voltage readings (3 decimals), and 10 battery memory profiles for convenience. It also supports AGM and Pb Cold Charge modes, along with comprehensive security monitoring features.



Image 1.1: Front view of the SKYRC T100 Dual Balance Battery Charger, showing the LCD screen, control buttons, and dual output ports.

2. Safety Instructions

Read all instructions and warnings carefully before using this product. Improper use can lead to fire, injury, or property damage. Always adhere to the following safety guidelines:

- Never leave the charger unattended while it is connected to a power source or charging/discharging batteries.
- Ensure the charger is placed on a heat-resistant, non-flammable, and non-conductive surface.
- Keep the charger and batteries away from flammable materials, liquids, and heat sources.
- Always use the correct battery type and cell count settings for the battery being charged. Incorrect settings can cause severe damage or fire.
- Do not charge damaged, swollen, or leaking batteries.
- Ensure proper ventilation around the charger during operation to prevent overheating.
- Keep out of reach of children and pets.

- Disconnect the charger from the power source and batteries when not in use.



Image 2.1: Example of a LiPo battery safety charging bag. It is recommended to use such a bag when charging LiPo batteries to mitigate fire risks.

3. Package Contents

Upon opening the package, verify that all items are present and in good condition:

- 1x SKYRC T100 Dual Balance Battery Charger
- 1x AC Power Cable
- 1x User Manual (this document)

4. Product Overview

Familiarize yourself with the components and controls of your SKYRC T100 charger.

4.1 Front Panel

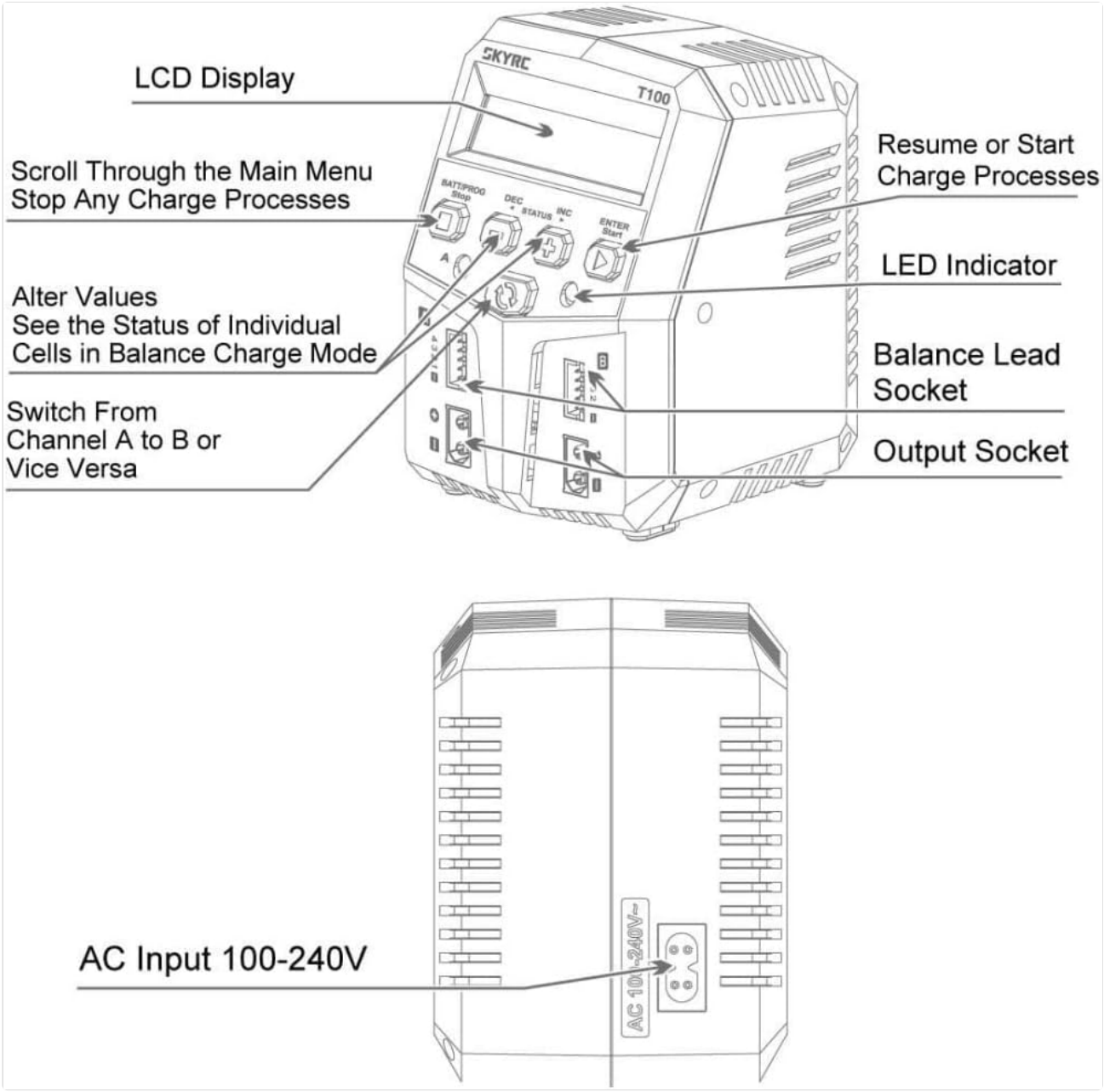

Image 4.1: Labeled diagram of the SKYRC T100 charger, highlighting key components.

- **LCD Display:** Shows charging status, battery information, and menu options.
- **BATT/PROG (Stop) Button:** Scrolls through the main menu or stops any active charge process.
- **DEC (Status) Button:** Decreases values, navigates menu options, or views individual cell status in balance charge mode.
- **INC (Status) Button:** Increases values, navigates menu options, or views individual cell status in balance charge mode.
- **ENTER (Start) Button:** Confirms selections, enters sub-menus, or starts/resumes charge processes.
- **Channel Switch Button:** Toggles between Channel A and Channel B displays/settings.
- **LED Indicators (A & B):** Indicate the status of each charging channel.
- **Balance Lead Sockets (A & B):** For connecting battery balance leads (2S-4S).
- **Output Sockets (A & B):** For connecting main battery charge leads.

4.2 Rear Panel



Image 4.2: Rear view of the SKYRC T100 charger, showing the AC power input port.

- **AC Input 100-240V:** Power connection port for the included AC power cable.

5. Specifications

The following table details the technical specifications of the SKYRC T100 charger:

Feature	Specification
Input Voltage	AC 100-240V
Charge Circuit Power	Max 2x 50W
Charge Current Range	0.1A - 5.0A
Balance Current	Max 0.1A - 5.0A
LiPo/LiFe/LiIon/LiHV Cell Count	2S - 4S
NiMH/NiCd Cell Count	6S - 8S
Pb Battery Voltage	6V - 12V
Display Type	High-contrast LCD

Feature	Specification
Battery Memory Profiles	10
Dimensions (L x W x H)	100 x 90 x 127 mm (3.94 x 3.54 x 5 inches)
Weight	500g (1.1 lbs)



Image 5.1: Dimensional drawing of the SKYRC T100 charger.

6. Setup

Follow these steps to prepare your SKYRC T100 charger for operation:

1. **Unpack the Charger:** Carefully remove the charger and all accessories from the packaging.
2. **Placement:** Place the charger on a stable, level, heat-resistant, and non-flammable surface. Ensure there is adequate space around the charger for ventilation.
3. **Connect Power:** Plug the included AC power cable into the AC input port on the rear of the charger. Then, plug the other end into a suitable AC wall outlet (100-240V). The charger will power on, and the LCD display will illuminate.
4. **Initial Check:** Verify that the display shows the default standby screen or a welcome message.

7. Operating Instructions

This section guides you through the process of charging various battery types using the SKYRC T100.

7.1 Menu Navigation

The charger's functions are accessed via the control buttons:

- Use **BATT/PROG** to cycle through main menu options.
- Use **DEC** and **INC** buttons to adjust values or navigate within sub-menus.

- Press **ENTER** to confirm a selection or enter a sub-menu.
- Long press **ENTER** to start a charging process.
- Press **BATT/PROG** (Stop) to stop an ongoing process.
- Use the **Channel Switch Button** to switch between Channel A and Channel B settings and displays.

7.2 Connecting Batteries

Before connecting, ensure the battery is in good condition and the correct charging leads are available.

1. **Main Charge Lead:** Connect the main power lead of your battery to the corresponding output socket (A or B) on the charger. Ensure correct polarity.
2. **Balance Lead (for LiPo/LiFe/LiIon/LiHV):** For lithium-based batteries, connect the balance lead of the battery to the appropriate balance port (A or B) on the charger. This is crucial for safe and balanced charging.

7.3 Charging Lithium Batteries (LiPo/LiFe/LiIon/LiHV)

1. **Select Channel:** Use the Channel Switch Button to select Channel A or B.
2. **Select Battery Type:** Navigate the main menu to select the correct battery type (e.g., LiPo, LiFe).
3. **Select Charge Mode:** Choose between 'Balance Charge', 'Fast Charge', 'Storage', or 'Discharge'. 'Balance Charge' is recommended for regular use.
4. **Set Current:** Adjust the charge current (in Amps) using the INC/DEC buttons. A common guideline is 1C (e.g., for a 3000mAh battery, set to 3.0A). Refer to your battery's specifications.
5. **Set Cell Count:** Confirm the correct cell count (e.g., 3S, 4S) for your battery. The charger may auto-detect, but always verify.
6. **Start Charge:** Long press the ENTER button to start the charging process. The charger will perform a safety check. Confirm to proceed.
7. **Monitor:** The display will show real-time charging data. You can press the DEC/INC (Status) buttons to view individual cell voltages during balance charging.
8. **Completion:** The charger will beep and display a 'Full' or 'End' message when charging is complete. Disconnect the battery.

7.4 Charging NiMH/NiCd Batteries

1. **Select Channel:** Use the Channel Switch Button to select Channel A or B.
2. **Select Battery Type:** Navigate to 'NiMH' or 'NiCd'.
3. **Select Charge Mode:** Choose 'Charge' or 'Discharge'.
4. **Set Current:** Adjust the charge current.
5. **Start Charge:** Long press ENTER to start.
6. **Completion:** The charger uses Delta Peak detection to determine full charge. Disconnect when complete.

7.5 Charging Pb (Lead-Acid) Batteries

1. **Select Channel:** Use the Channel Switch Button to select Channel A or B.
2. **Select Battery Type:** Navigate to 'Pb'.
3. **Set Voltage:** Select the correct voltage for your Pb battery (e.g., 6V, 12V).
4. **Set Current:** Adjust the charge current.
5. **Start Charge:** Long press ENTER to start.
6. **Completion:** Disconnect when charging is complete.

8. Maintenance

Proper maintenance ensures the longevity and safe operation of your charger.

- **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, moisture, and extreme temperatures.
- **Cable Inspection:** Regularly inspect all cables and connectors for signs of wear, damage, or corrosion. Replace damaged cables immediately.
- **Ventilation:** Ensure the cooling vents are free from dust and obstructions.

9. Troubleshooting

If you encounter issues with your SKYRC T100 charger, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Charger does not power on	No power from AC outlet; loose power cable connection; faulty power cable.	Check AC outlet with another device; ensure power cable is securely connected to charger and wall; try a different power cable if available.
"Connection Break" error	Battery not connected properly; main charge lead or balance lead disconnected.	Ensure both the main charge lead and balance lead (for lithium batteries) are securely connected to the charger and battery.
"Cell Voltage Error" or incorrect cell count detected	Incorrect cell count setting; damaged balance lead; faulty battery cell.	Verify the cell count setting matches the battery; inspect balance lead for damage; check battery voltage with a multimeter.
Charger gets hot during operation	Normal operation (some heat is expected); poor ventilation; excessive charge current.	Ensure adequate ventilation around the charger; reduce charge current if heat is excessive and not normal for the current setting.
Battery not charging or charging slowly	Incorrect charge current setting; faulty battery; charger malfunction.	Verify charge current setting; test with a known good battery; contact support if issue persists.

10. Warranty and Support

The SKYRC T100 charger is 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 SKYRC website. Keep your purchase receipt as proof of purchase for any warranty claims.

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