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› SKYRC iMAX B6 Mini Professional Balance Charger/Discharger User Manual

SKYRC B6 Mini

SKYRC iMAX B6 Mini Professional Balance Charger/Discharger User Manual

Model: B6 Mini

1. INTRODUCTION

The SKYRC iMAX B6 Mini is a high-performance, micro-processor controlled charge/discharge station with battery management suitable for use with all current battery types. It features an integrated equalizer for up to 6-cell LiPo, LiFe, and Lilon batteries. With a maximum charge power of 60W and a discharge power of 5W, it can handle a wide range of charging and discharging tasks. This manual provides essential information for safe and efficient operation of your charger.



Image 1.1: The compact design of the SKYRC iMAX B6 Mini charger, shown held in a hand, highlighting its portable size and clear LCD display.

2. SAFETY PRECAUTIONS

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

- Always place the charger and the battery on a heat-resistant, non-flammable, and non-conductive surface during operation. Avoid surfaces like car seats, carpets, or similar materials.
- Keep all flammable and volatile materials away from the operating area.
- Never leave the charger unattended while it is connected to a power source or charging/discharging.
- Ensure proper ventilation around the charger to prevent overheating.
- Do not attempt to charge damaged, swollen, or leaking batteries.
- Always use the correct battery type and settings for charging. Incorrect settings can lead to severe damage or fire.

- Avoid short-circuiting the output terminals.
- Keep out of reach of children.

3. PACKAGE CONTENTS

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

- 1x SKYRC B6 Mini Charger
- 1x T Plug with Banana connector Charging Cable
- 1x DC Cable with Alligator Clip Charging Connector
- 1x T Plug with Alligator Clip connector Charging Cable
- 1x T Plug with Futaba connector Charging Cable
- 1x T Plug with JST connector Charging Cable
- 1x T Plug with XT60 connector Charging Cable



Temperature Threshold

If the temperature limit is reached, the process will be terminated.

*This function is available by connecting optional temperature probe, which is not included in the package.



* Temperature Probe
SK-600040

Built-in Cooling Fan

With cooling fan built-in, it has better heat transfer function.



Image 3.1: Contents of the SKYRC iMAX B6 Mini package, including the charger unit and a variety of charging cables and adapters.

4. PRODUCT OVERVIEW

4.1 Front Panel

The front panel features an LCD screen for displaying information and four buttons for navigation and control:

- **BATT/PROG (Stop):** Used to select battery type/program mode and stop current operation.
- **DEC (Status):** Decreases values or navigates left/up; also displays status.
- **INC (Status):** Increases values or navigates right/down; also displays status.
- **ENTER (Start):** Confirms selections and starts charging/discharging processes.

4.2 Side Panels and Connections

The sides of the charger provide various input and output ports:

- **PC LINK:** Micro USB port for connecting to a computer for firmware updates or PC control.
- **DC 11-18V Input:** Power input for the charger.
- **Temperature Sensor Port:** For connecting an optional temperature probe (SK-600040) to monitor battery temperature during charging.
- **Output Ports:** Red (+) and Black (-) banana plug ports for connecting the main charging cable to the battery.
- **Balance Sockets (2-6S XH Plug-in):** Multiple ports for connecting balance leads of LiPo/LiIon/LiFe batteries for cell-by-cell voltage monitoring and balancing.



Image 4.1: Rear view of the charger, detailing the PC Link, DC 11-18V input, and Temperature Sensor ports.

2-6S XH Plug-in Balance Sockets



Image 4.2: Detailed view of the 2-6S XH plug-in balance sockets on the side of the charger, essential for balanced charging of lithium batteries.

4.3 Key Features

- **Lithium Battery Meter:** Plug your LiPo/LiIon/LiFe balance plug into the charger to quickly view individual cell voltage readings.
- **Internal Resistance Meter:** Measure the internal resistance of each cell in your lithium battery to assess cell health and performance.
- **Built-in Cooling Fan:** Enhances heat dissipation for stable operation during charging and discharging.
- **Temperature Threshold:** When an optional temperature probe is connected, the charging/discharging process will terminate if the set temperature limit is reached, preventing overheating.



Image 4.3: Illustration of the built-in cooling fan and the temperature sensor port, highlighting features for thermal management.

5. SETUP

Follow these steps to set up your SKYRC iMAX B6 Mini charger:

1. **Connect Power Input:** Connect the DC input cable to the charger's DC 11-18V input port. Connect the other end to a suitable 11-18V DC power supply (not included). Ensure the power supply can provide sufficient current for your charging needs (e.g., 5A for 60W output).
2. **Power On:** Once the power supply is connected, the charger will power on and display the initial screen.
3. **Connect Battery:** Connect your battery to the charger using the appropriate charging cable. For lithium batteries (LiPo, LiFe, Lilon), always connect both the main discharge lead (to the output ports) and the balance lead (to the corresponding balance socket).

6. OPERATING INSTRUCTIONS

The iMAX B6 Mini offers various charging and discharging modes for different battery types. Use the **DEC** and **INC** buttons to navigate menus and adjust values, and **ENTER** to confirm. Use **BATT/PROG** to go back or stop a process.

6.1 Program Selection

From the main screen, press **BATT/PROG** to cycle through different battery types and program menus:

- LiPo BATTERY
- LiFe BATTERY
- Lilon BATTERY
- NiMH BATTERY
- NiCd BATTERY
- Pb BATTERY
- SAVE DATA

- LOAD DATA
- USER SETTING
- BATTERY METER
- RESISTANCE

6.2 Lithium Battery Charging (LiPo/LiFe/Lilon)

For lithium batteries, you can choose from several modes:

- **Balance Charge:** Recommended mode. Charges the battery while balancing individual cell voltages.
- **Charge:** Charges the battery without balancing.
- **Fast Charge:** Charges faster but may not fully balance.
- **Storage:** Charges or discharges the battery to a specific voltage for long-term storage.
- **Discharge:** Discharges the battery to a set voltage.

Steps for Balance Charging (Example: LiPo):

1. Select **LiPo BATTERY** program.
2. Press **ENTER** to enter the LiPo menu.
3. Use **DEC/INC** to select **LiPo BALANCE**. Press **ENTER**.
4. Set the desired charge current (e.g., 1.0A for a 1000mAh battery) using **DEC/INC**.
5. Set the battery voltage (e.g., 7.4V for 2S, 11.1V for 3S) using **DEC/INC**. The charger will automatically detect the cell count if the balance lead is connected.
6. Press and hold **ENTER** for 3 seconds. The charger will perform a battery check.
7. Confirm the settings (e.g., R:2S S:2S). Press **ENTER** to start charging.
8. To stop charging, press **BATT/PROG (Stop)**.

6.3 NiMH/NiCd Battery Charging

For NiMH/NiCd batteries, the charger offers Charge, Auto Charge, Discharge, and Cycle modes.

Steps for Charging (Example: NiMH):

1. Select **NiMH BATTERY** program.
2. Press **ENTER** to enter the NiMH menu.
3. Select **NiMH CHARGE** or **NiMH AUTO CHARGE**.
4. Set the desired charge current. For AUTO CHARGE, set the current limit.
5. Press and hold **ENTER** to start charging.

6.4 Pb Battery Charging

For Lead-Acid (Pb) batteries, the charger offers Charge and Discharge modes.

Steps for Charging (Example: Pb):

1. Select **Pb BATTERY** program.
2. Press **ENTER** to enter the Pb menu.
3. Select **Pb CHARGE**.
4. Set the desired charge current and voltage.
5. Press and hold **ENTER** to start charging.

7. MAINTENANCE

- Keep the charger clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Store the charger in a cool, dry place away from direct sunlight and extreme temperatures.
- Regularly inspect cables and connectors for any signs of wear or damage. Replace damaged components immediately.
- Ensure the cooling fan is not obstructed to maintain proper airflow.

8. TROUBLESHOOTING

If you encounter issues with your iMAX B6 Mini, refer to the following common problems and solutions:

- **"CONNECTION BREAK" Error:** This usually indicates a poor connection between the battery and the charger. Check all main power leads and balance leads to ensure they are securely connected.
- **"INPUT VOLTAGE LOW" Error:** The input DC power supply voltage is too low. Ensure your power supply provides 11-18V DC and can deliver sufficient current.
- **Charger Not Responding:** Disconnect all power and battery connections, wait a few seconds, then reconnect the DC input. If the issue persists, contact support.
- **Battery Not Balancing:** Ensure the balance lead is correctly plugged into the appropriate balance port on the charger. Check for any damaged balance wires on the battery.

9. SPECIFICATIONS

Feature	Specification
Brand	SKYRC
Product Dimensions	1.97"D x 5.51"W x 5.91"H (approx. 50mm x 140mm x 150mm)
Item Weight	11.36 ounces (approx. 322g)
Input Voltage	DC 11-18V
Circuit Power	Max. Charge Power 60W / Max. Discharge Power 5W
Charge Current Range	0.1-6.0A
Discharge Current Range	0.1-2.0A
LiPo/LiFe/Lilon Cells	1-6S
NiMH/NiCd Cells	1-15S
Pb Battery Voltage	2-20V



Image 9.1: Dimensional drawing of the SKYRC iMAX B6 Mini, indicating its physical size.

10. WARRANTY AND SUPPORT

Your SKYRC iMAX B6 Mini charger is a genuine product. You can verify its authenticity using the anti-fake holographic serial number located on the back of the charger. This number can be inputted into SkyRC's official website for verification.

For further support, firmware updates, or information regarding optional accessories like the WiFi module (SK-600075) for smartphone control, please visit the official SKYRC website. The WiFi module allows control via a smartphone app (iOS and Android).

For more information on the WiFi module and app, visit: <http://www.skyrc.com/qrcode/?key=chargerlink-wifi>



Image 10.1: The back panel of the charger, showing the location of the anti-fake holographic serial number for authenticity verification.

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