iDili EBC-A50L

iDili EBC-A50L 50A Lithium Battery Discharge Charger Tester User Manual

Model: EBC-A50L

1. Introduction

This manual provides detailed instructions for the safe and effective operation of the iDili EBC-A50L 50A Lithium Battery Discharge Charger Tester. This device is designed for testing the capacity and performance of various lithium batteries, including LiFePO4 and Li-ion ternary power batteries, with support for up to 50A charge/discharge current and programmable 6-step workflows. Please read this manual thoroughly before using the device.

2. Safety Instructions

- Always operate the device in a well-ventilated area to prevent overheating.
- Ensure all connections are secure before initiating any test. Loose connections can cause sparks or damage.
- Do not exceed the specified voltage and current limits of the device or the battery being tested.
- Keep the device away from water, moisture, and flammable materials.
- Use only the provided accessories and cables.
- In case of smoke, unusual odors, or abnormal operation, immediately disconnect power and cease use.
- This device is not a toy. Keep out of reach of children.
- Refer to the battery manufacturer's safety guidelines for the specific battery type being tested.

3. Package Contents

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

- 1 x iDili EBC-A50L Main Unit
- 1 x Test Clip Cable
- 1 x USB Data Cable

- 1 x Power Cord



Figure 3.1: Contents of the iDili EBC-A50L package. Shown are the main unit, test clip cable, USB data cable, and power cord, alongside packaging materials.

4. Product Overview

The iDili EBC-A50L features a robust design with an intuitive interface for battery testing.



Figure 4.1: Front view of the iDili EBC-A50L unit, displaying the LCD screen, control buttons (ON, SET, INC, DEC), and battery connection ports.



Figure 4.2: Detailed view of the EBC-A50L's control panel, highlighting the LCD display, power button, and navigation buttons for setting parameters.



Figure 4.3: Physical dimensions of the iDili EBC-A50L unit, showing its length (30.5cm), width (20.5cm), and height (14cm).

4.1. Controls and Indicators

- **LCD Display:** Shows real-time testing data, parameters, and program steps.
- **ON Button:** Powers the device on/off.
- **SET Button:** Enters parameter setting mode or confirms selections.
- **INC Button:** Increases values or navigates up/right in menus.
- **DEC Button:** Decreases values or navigates down/left in menus.
- **Battery Connection Ports:** Positive (+) and Negative (-) terminals for connecting the battery under test.

5. Specifications

Feature	Specification

Feature	Specification
Model	EBC-A50L
Input Voltage	AC 110V
Voltage Range	0-5V
Current Range	0.1-50A
Product Dimensions (LxWxH)	305x205x140mm
Supported Battery Types	LiFePO4, Li-ion Ternary Power Batteries
Programmable Steps	6-Step Workflows

6. Setup

1. **Unpack the Device:** Carefully remove the EBC-A50L unit and all accessories from the packaging. Inspect for any signs of damage.
2. **Placement:** Place the device on a stable, flat, and well-ventilated surface. Ensure adequate clearance around the unit for airflow.
3. **Power Connection:** Connect the provided power cord to the AC 110V input on the rear of the EBC-A50L and then to a suitable power outlet.
4. **Battery Connection:**
    - Identify the positive (+) and negative (-) terminals on the battery to be tested.
    - Connect the red test clip cable to the positive (+) terminal of the EBC-A50L and then to the positive (+) terminal of the battery.
    - Connect the black test clip cable to the negative (-) terminal of the EBC-A50L and then to the negative (-) terminal of the battery.
    - Ensure all connections are firm and correct polarity is observed.



Figure 6.1: The EBC-A50L unit connected to a battery using the red (positive) and black (negative) test clip cables.

5. **USB Data Connection (Optional):** If using software for data logging or control, connect the USB data cable from the EBC-A50L to your computer. Install any necessary drivers or software as per manufacturer instructions (not provided in this manual).

7. Operating Instructions

The EBC-A50L supports programmable 6-step workflows for comprehensive battery testing.

1. **Power On:** Press the **ON** button to power on the device. The LCD display will illuminate.
2. **Select Test Mode:** Use the **SET** button to cycle through available test modes (e.g., discharge, charge, capacity test).
3. **Configure Parameters:**
    - Once a mode is selected, use the **INC** and **DEC** buttons to adjust parameters such as discharge current, charge current, voltage cutoff, capacity cutoff, and time limits.
    - Press **SET** to confirm each parameter and move to the next.
4. **6-Step Programmable Workflow:**
   The device allows for complex testing sequences. Each step can be configured with specific parameters (e.g., constant current discharge, constant voltage charge, rest periods). The display will show the current step and its

settings.

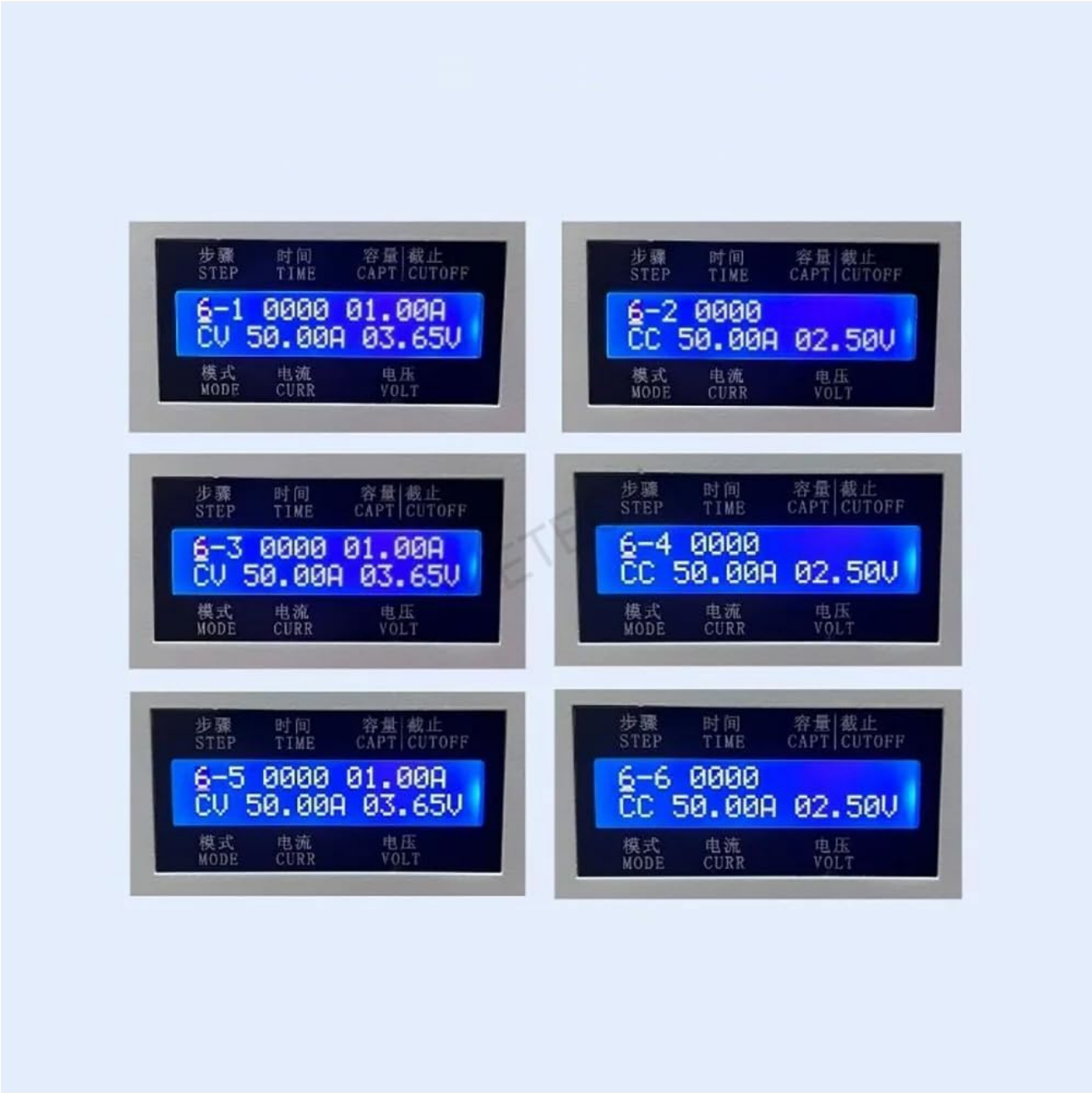


Figure 7.1: Examples of the EBC-A50L's LCD display showing various configurations for the 6-step programmable workflow, including settings for current, voltage, and capacity cutoff.

- Navigate between steps using the **INC** and **DEC** buttons while in program setup mode.
- For each step, set the desired mode (e.g., CC for Constant Current, CV for Constant Voltage), current, voltage, and cutoff conditions (time, capacity).
- Refer to the on-screen prompts and the device's internal menu for specific step configuration details.

5. **Start Test:** After configuring all parameters and steps, press the **ON** button (or a designated start button, if applicable) to begin the test.
6. **Monitor Progress:** The LCD display will show real-time data such as current voltage, current, elapsed time, and accumulated capacity.
7. **End Test:** The test will automatically stop when the programmed cutoff conditions are met. You can manually stop a test at any time by pressing the **ON** button.
8. **Review Results:** After the test concludes, the device will display summary results. Use the navigation buttons to review detailed data if available.

8. Maintenance

- **Cleaning:** Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off and disconnected from all power sources before cleaning.
- **Storage:** Store the EBC-A50L in a cool, dry place away from direct sunlight and extreme temperatures.
- **Cable Inspection:** Regularly inspect the power cord and test clip cables for any signs of damage, fraying, or exposed wires. Replace damaged cables immediately.
- **Ventilation:** Ensure the ventilation openings are clear of dust and debris to maintain proper airflow and prevent overheating.

9. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	No power supply; faulty power cord; device malfunction.	Check power cord connection and wall outlet. Try a different power cord if available. Contact support if issue persists.
Test does not start.	Incorrect battery connection; parameters not set; safety interlock.	Verify battery polarity and secure connections. Ensure all test parameters are correctly configured. Check for any error messages on the display.
Inaccurate readings.	Poor connections; faulty test leads; device calibration needed.	Ensure test leads are securely connected and in good condition. Replace leads if damaged. Contact support for calibration information.
Device overheats.	Blocked ventilation; excessive load; high ambient temperature.	Ensure ventilation ports are clear. Reduce test current if possible. Operate in a cooler environment.

10. Warranty and Support

Specific warranty information for the iDili EBC-A50L is not provided in this manual. For warranty details, technical support, or service inquiries, please refer to the documentation included with your purchase or contact the retailer/manufacturer directly.
Manufacturer: iDili
Model Number: EBC-A50L
Date First Available: May 29, 2025

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Example: How do I reset this device or fix this error?

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