ToolkitRC M8D

ToolkitRC M8D Dual Channel Smart Charger Instruction Manual

Model: M8D | Brand: ToolkitRC

1. Introduction

The ToolkitRC M8D is a high-performance dual-channel smart charger designed for various battery types, including Lipo, LiHV, LiFe, LiIon, LTO, NiMh, and Pb. Featuring a capacitive touchscreen with a 3.5-inch flip screen, it offers intuitive operation and comprehensive monitoring capabilities. This manual provides essential information for safe and efficient use of your M8D charger.

2. Safety Information

- **Never leave the charger unattended** while it is connected to a power source or charging/discharging batteries.
- Ensure proper ventilation around the charger during operation to prevent overheating.
- Always use the correct battery type and cell count settings to avoid damage to the battery or charger.
- Keep the charger away from moisture, heat, and flammable materials.
- For safe disposal of old or damaged batteries, utilize the integrated **Battery Destruction Function**.
- Children must be supervised by adults when operating the charger.

3. Product Features

- **Touchscreen Interface:** Capacitive 3.5-inch IPS LCD with 480*320 resolution for intuitive control.
- **Dual Channels:** Independent 8S output for simultaneous charging of two batteries.
- **High Power Output:** Up to 1600W charging power (50A SYNC) or 800W (30A ASYN) per channel.
- **Fast Charging:** 65W USB-C output with PD QC PPS AFC FCP SCP PE SFCP support for mobile devices.
- **Adjustable Screen:** 80-degree adjustable flip screen for optimal viewing.
- **Efficient Cooling:** Dual fans with infinitely adjustable speed for quiet and effective heat dissipation.
- **Data Logging:** TF card slot for charging and discharging data storage and analysis.
- **Battery Destruction Function:** Provides a safer method for disposing of used batteries.

Figure 3.1: The ToolkitRC M8D charger showcasing its touchscreen display and dual charging ports.

Figure 3.2: The new user interface design of the M8D, optimized for touchscreen interaction.

Figure 3.3: The 3.5-inch flip screen of the M8D, adjustable up to 80 degrees for better viewing angles.

Figure 3.4: The M8D providing 65W fast charging via its USB-C port to a laptop.

Figure 3.5: Illustration of the battery destruction function for safe disposal of used batteries.

Figure 3.6: The dual fan system of the M8D, designed for efficient and quiet cooling.

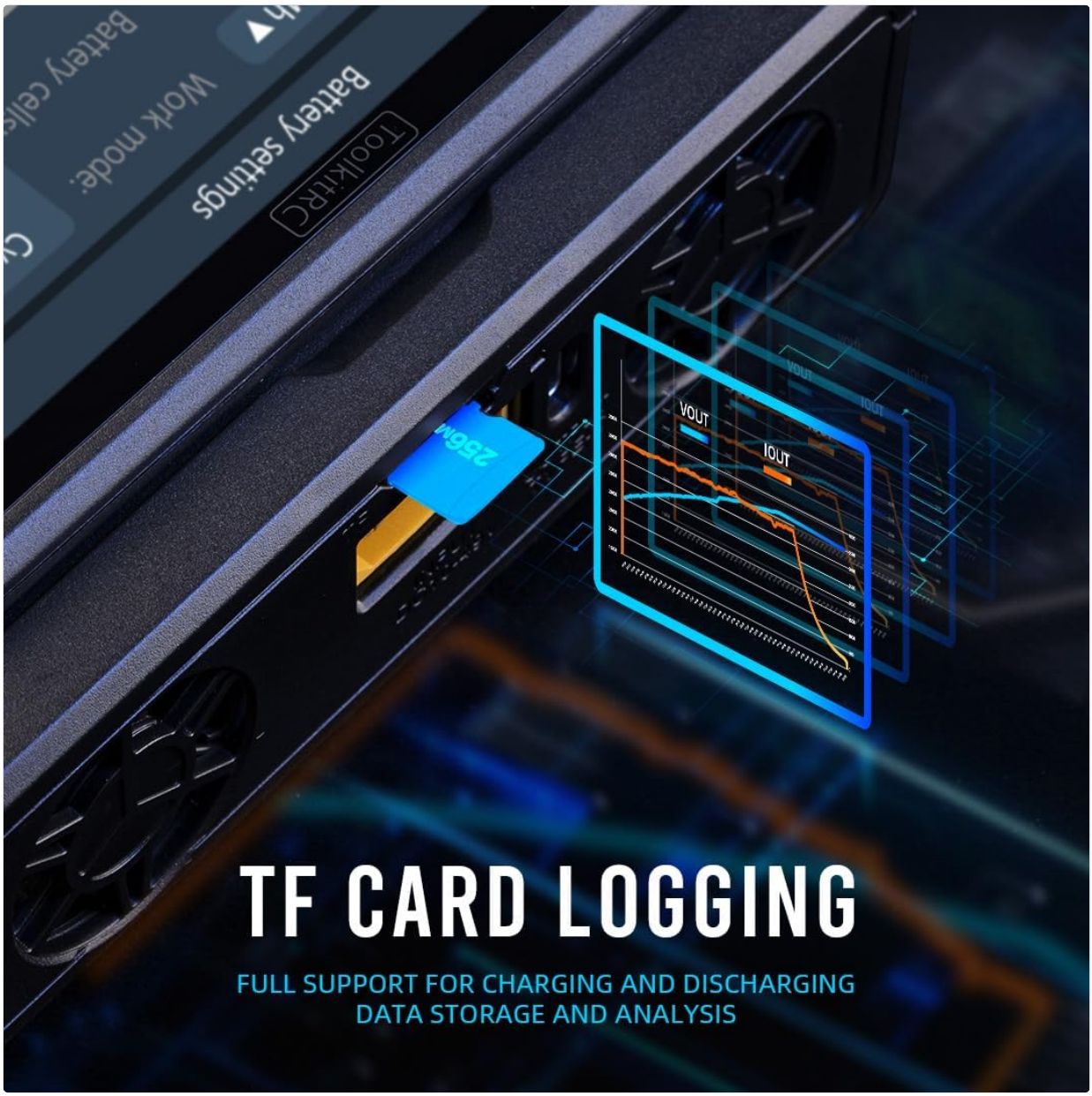

Figure 3.7: The TF card slot on the M8D for logging charging and discharging data.

4. Setup

4.1 Connecting Power

Connect the charger to a DC power source (10.0-49.0V @MAX 60A) using the XT90 input port. The charger supports a wide input voltage range.

4.2 Connecting Batteries

Plug your battery's main power connector (XT90) into one of the charger's output ports (CHA or CHB). Connect the battery's balance lead to the corresponding balance port next to the main output. Ensure all connections are secure.

4.3 Initial Power-On

Once powered, the M8D will display its main interface. Remove any protective film from the screen for optimal touch responsiveness.

5. Operating Instructions

5.1 Navigating the User Interface

The M8D features a capacitive touchscreen and a super dial for navigation. Tap on screen elements to select or adjust settings. Use the dial for fine-tuning values or scrolling through menus.

5.2 Selecting a Task

From the main screen, select the desired task for each channel:

- **Charge:** Standard charging mode.
- **Balance:** Charges and balances individual cell voltages.
- **Discharge:** Discharges the battery.
- **Storage:** Charges or discharges the battery to a safe storage voltage.
- **Battery Destruction:** Safely discharges the battery to 0V for disposal.

5.3 Setting Battery Parameters

After selecting a task, configure the battery parameters:

- **Battery Type:** Select Lipo, LiHV, LiFe, LiIon, LTO, NiMh, or Pb.
- **Cell Count:** Automatically detected, but can be manually adjusted if needed (1-8S for Lipo/LiHV/LiFe/LiIon/LTO, 1-20S for NiMh, 1-15S for Pb).
- **Charge/Discharge Current:** Set the desired current in Amps.
- **Cell Voltage:** For balance charging, the target voltage per cell is typically 4.2V for Lipo.

5.4 Monitoring Progress

The screen displays real-time information during operation:

- Individual cell voltages.
- Total battery voltage.
- Current (A) and Power (W).
- Charged/Discharged capacity (mAh).
- Internal resistance of cells.
- Temperature of the charger.

5.5 System Settings

Access system settings by long-pressing the system button. Here you can adjust:

- Backlight duration.
- Volume and completion tones.
- Display theme (bright/dark).
- Language.
- Perform self-tests and calibration.

6. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the charger's exterior. Avoid liquid cleaners.
- **Screen Protection:** Apply the provided screen protector to prevent scratches on the display.
- **Ventilation:** Ensure the dual fans are free from obstructions to maintain optimal cooling performance.
- **Storage:** When not in use, store batteries at their recommended storage voltage using the charger's storage function to prolong battery life.

7. Troubleshooting

- **"Under Voltage" Error:** This may occur if the input power source is insufficient or if the battery cells are severely depleted. Ensure your power supply meets the charger's requirements and check individual cell voltages.

- **Screen Unresponsiveness:** If the touchscreen is not responding as expected, try restarting the charger. Ensure the screen is clean and free from debris.
- **Charger Overheating:** Check that the dual fans are operating correctly and are not obstructed. Reduce the charging current if overheating persists.
- **Incorrect Cell Count Detection:** Verify that the balance lead is correctly connected and that the battery type setting matches the connected battery.
- **Self-Test:** Utilize the system settings menu to run a self-test on the charger's components for diagnostics.

8. Specifications

Feature	Specification
Product Dimensions	130mm x 97mm x 42mm (5 x 1.7 x 3.8 inches)
Product Weight	450g (1.3 pounds)
LCD	IPS 3.5 inch LCD, 480*320 resolution
Touch Panel	Capacitive
Input Voltage	DC 10.0-49.0V @MAX 60A
Battery Type Support	Lipo, LiHV, LiFe, LiIon, LTO (1-8S); NiMh (1-20S); Pb (1-15S)
Balance Current	2000mA @ 4.2V
Charging Power	800W @MAX 30A*2 (ASYN); 1600W @MAX 50A (SYNC)
Discharge Power	800W @MAX 30A (Recycle mode); 40W @10.0A (Normal mode)
USB-C Output	5.0-20.0V @65W (PD QC PPS AFC FCP SCP PE SFCP)

Figure 8.1: Detailed dimensions of the ToolkitRC M8D charger.

9. Warranty and Support

This product is manufactured by havcybin. For specific warranty details and support, please refer to the manufacturer's official website or contact their customer service. Protection plans may be available for purchase separately, offering extended coverage for 2 or 3 years, or a complete protection plan covering multiple eligible purchases.