Bestpriceic M6DAC

ToolkitRC M6DAC Dual Channel Smart Charger Instruction Manual

Model: M6DAC | Brand: Bestpriceic

1. Introduction

The ToolkitRC M6DAC is an advanced dual-channel smart charger and discharger, engineered for a wide range of battery chemistries including LiPo, LiHV, LiFe, Lion (1-6S), NiMh (1-16S), and Pb (1-10S). This versatile device supports both AC (100-240V) and DC (7-28V) power inputs, providing flexible charging solutions. With its high power density and precise balancing capabilities, the M6DAC is an essential tool for hobbyists and professionals requiring efficient battery management.

This manual provides detailed instructions for the safe and effective operation of your M6DAC charger. Please read it thoroughly before use.

2. Safety Precautions

To ensure safe operation and prevent damage to the device or injury, observe the following precautions:

1. The M6DAC supports input voltages of DC 7-28V or AC 100-240V. Always ensure the power supply voltage matches the charger's requirements. When connecting DC power, pay close attention to positive and negative polarity.
2. Do not operate this product near heat sources, in humid environments, or in the presence of flammable or explosive gases.
3. Always use this product under supervision to prevent accidents.
4. When the product is not in use, disconnect the input power promptly.
5. When using the charging function, set the charge current to match the battery's specifications. Avoid setting excessively high currents, as this can damage the battery.

3. Product Overview

The M6DAC charger features a compact design with a clear display and intuitive controls.



Figure 3.1: Front view of the M6DAC charger. This image highlights the 3.5-inch IPS LCD display, the rotary encoder for navigation, the CH.EXIT button, and the two XT60 output ports for connecting batteries.



Figure 3.2: Rear view of the M6DAC charger. This image displays the AC power input socket, the DC input port (XT60), and the USB-C port for firmware updates and external device charging.

Key Components:

- **3.5-inch IPS LCD Display:** Provides clear, real-time information on charging status, battery parameters, and settings.
- **Rotary Encoder:** Used for navigating menus and adjusting parameters. Press to confirm selections.
- **CH.EXIT Button:** Used to exit menus or stop current operations.

- **Dual XT60 Output Ports:** For connecting batteries for charging or discharging.
- **Balance Ports (2-6S):** For precise cell voltage balancing during charging.
- **AC Input (100-240V):** Integrated power supply for direct wall outlet connection.
- **DC Input (7-28V):** For connecting to an external DC power source.
- **USB-C Port:** Supports 65W output for charging compatible devices and for firmware upgrades.

4. Setup

4.1 Connecting Power

The M6DAC supports two types of power input:

- **AC Power:** Connect the included AC power cable to the AC input socket on the rear of the charger, then plug it into a standard wall outlet (100-240V).
- **DC Power:** Connect a DC power source (7-28V) to the DC input XT60 port on the rear of the charger. Ensure correct polarity.

Once power is connected, the charger's display will illuminate, indicating it is ready for operation.

5. Operating Instructions

5.1 General Navigation

Use the rotary encoder to scroll through menu options and adjust values. Press the rotary encoder to confirm a selection or enter a submenu. Press the CH.EXIT button to go back to the previous screen or stop an ongoing process.

5.2 Charging Batteries

1. Connect your battery's main discharge lead to one of the XT60 output ports on the front of the charger.
2. For LiPo, LiHV, LiFe, and Lion batteries, also connect the balance lead to the corresponding balance port next to the XT60 port.
3. On the display, select the desired charging mode (e.g., LiPo Charge, LiHV Balance Charge).
4. Adjust the battery type, cell count (S), and charging current (A) using the rotary encoder. Ensure these settings match your battery's specifications.
5. Confirm the settings to begin charging. The display will show real-time charging parameters such as voltage, current, capacity charged, and individual cell voltages.



Figure 5.1: Display showing charging parameters. This image illustrates the detailed information available during charging, including total voltage, current, capacity, and individual cell resistances.

5.3 Discharging Batteries

The M6DAC supports two discharge modes: recovery mode and internal consumption mode.

1. Connect the battery as described for charging.
2. Select the discharge mode from the menu.
3. Set the desired discharge current and target voltage.
4. Confirm to start discharging.

5.4 Balance Management

When charging LiPo, LiHV, LiFe, or Lion batteries, connecting the balance lead ensures that individual cell voltages are equalized, which is crucial for battery health and longevity. The M6DAC automatically balances cells during the charging process when the balance lead is connected.

5.5 USB-C Output (65W)

The M6DAC features a powerful 65W USB-C output port, supporting various fast-charging protocols (PD, QC, AFC, FCP, SCP, PE, SFCP, VOC). This port can be used to charge compatible mobile phones, tablets, and even some laptops.





65W FAST CHARGE OUTPUT

Supports most contemporary mobile devices-
including mobile phones, tablets and laptops.





Figure 5.2: M6DAC providing 65W fast charge output. This image shows the charger connected to a laptop, illustrating its capability to power or charge modern portable electronic devices via the USB-C port.

6. Maintenance

Proper maintenance ensures the longevity and reliable performance of your M6DAC charger.

- **Cleaning:** Regularly wipe the charger's exterior with a soft, dry cloth. Do not use solvents or abrasive cleaners. Ensure no dust or debris accumulates in the ventilation slots.
- **Storage:** Store the charger in a cool, dry place away from direct sunlight and extreme temperatures. Disconnect all power and batteries when not in use.
- **Firmware Upgrades:** The USB-C port can be used for firmware upgrades. Refer to the manufacturer's official website for the latest firmware and instructions. Keeping the firmware updated can improve performance and add new features.

7. Troubleshooting

If you encounter issues with your M6DAC charger, consider the following common troubleshooting steps:

- **Charger Not Powering On:** Verify that the AC or DC input power is correctly connected and within the specified voltage range. Check power cables for damage.
- **Charging Not Starting:** Ensure the battery type, cell count, and current settings match the connected battery. Check that all battery leads (main and balance) are securely connected.
- **Error Messages:** If an error message appears on the display, consult the manufacturer's support resources or the full user manual (if available) for specific error code meanings and resolutions. Common errors relate to input voltage, battery connection, or internal faults.
- **Control Dial/Button Unresponsive:** Ensure the device is clean and free from debris around the controls. If issues persist, contact customer support.

8. Specifications

Feature	Specification
Item Type	RC Charger
Material	Plastic + PCB
Input Voltage (DC)	7-28V @ MAX 30A
Input Voltage (AC)	100-240V @ MAX 2.5A
Battery Type Support	LiPo, LiHV, LiFe, Lion (1-6S); NiMh (1-16S); Pb (1-10S)
Balance Current	1000mA @ 2-6S
Balance Accuracy	<0.005V
Charging Power (Asynchronous)	0.1-15A @ 350W * 2

Feature	Specification
Charging Power (Sync Mode)	0.1-25A @ 700W
Discharge Power (Recovery Mode)	0.1-15A @ 350W * 2
Discharge Power (Internal Consumption)	0.1-3A @ 15W * 2
USB-C Output	65W @ 20V @ 3.25A (Firmware Upgrade)
USB-C Protocols	PD, QC, AFC, FCP, SCP, PE, SFCP, VOC
Battery Voltage Range	1.0V-5.0V @ 1-6S
Battery Internal Resistance	1-100mR @ 1-6S
Display	LCD IPS 3.5 inch, 480*320 resolution
Product Dimensions	127 x 106 x 57mm (5 x 4.17 x 2.24 inches)
Product Weight	520g (1.15 lbs)
Color	Black
Manufacturer Recommended Age	18 years and up
Certifications	UL, CE, FCC

9. Warranty Information

Warranty terms and conditions for the ToolkitRC M6DAC charger are typically provided by the manufacturer or the point of purchase. Please refer to the documentation included with your product or contact the seller directly for specific warranty details, duration, and claim procedures.

10. Support

For technical assistance, product inquiries, or support regarding your ToolkitRC M6DAC charger, please contact the seller or manufacturer. Contact information can usually be found on the product packaging, the seller's website, or the manufacturer's official support page.