ToolkitRC M8AC

ToolkitRC M8AC Multifunctional Lithium Battery Charger User Manual

Model: M8AC

1. INTRODUCTION

This manual provides essential instructions for the safe and efficient operation of your ToolkitRC M8AC Multifunctional Lithium Battery Charger. Please read this manual thoroughly before use to ensure proper functionality and to prevent damage to the device or batteries.

2. SAFETY INFORMATION

Always observe the following safety precautions:

- Never leave the charger unattended during operation.
- Ensure proper ventilation to prevent overheating.
- Do not charge damaged or swollen batteries.
- Verify battery type and cell count settings before charging.
- Keep the charger away from moisture, heat, and direct sunlight.
- Use only approved power adapters and cables.
- This device is not a toy. Keep out of reach of children.

The M8AC includes comprehensive security protection features such as short circuit, voltage, current, capacity, temperature, time-out, and cut-off protection, along with V0 flame-retardant materials.

Figure 2.1: Comprehensive Security Protection Features.
This image displays the various safety protections integrated into the ToolkitRC M8AC charger, including short circuit, voltage, current, capacity, temperature, time-out, and cut-off protection, highlighting its robust design.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- M8AC Charger × 1
- AC Input Cable × 1
- USB Cable × 1
- Quick Manual × 1
- Screen Protector × 1

Figure 3.1: M8AC Package Contents.
This image shows the ToolkitRC M8AC charger alongside its packaging, AC input cable, USB cable, and quick manual, illustrating everything included in the box.

4. PRODUCT OVERVIEW

The ToolkitRC M8AC is a multifunctional smart charger designed for various battery types, featuring both AC and DC input capabilities and a 65W USB-C fast charge output. It integrates advanced balancing technology and a clear IPS LCD display.

Figure 4.1: M8AC Product Dimensions.

This image provides a dimensional view of the ToolkitRC M8AC charger, indicating its length (108mm), width (113mm), and height (62mm).

Figure 4.2: M8AC Rear Panel.

This image shows the rear panel of the M8AC charger, highlighting the AC 100-240V input, DC 7-35V input, and the integrated cooling fan.

Key Features:

- Integrated AC Power Supply (65W fast charging).
- High Balance Current (1000mA) with <0.005V accuracy.
- Smart 2.4″ IPS LCD Display for clear visibility.
- Multifunctional capabilities including adjustable power supply, signal measurement, signal output, and ESC testing.
- Supports LiPo, LiHV, LiFe, LiIon, LTO (1-8S), NiMH (1-20S), and Pb (1-12S) batteries.

Figure 4.3: M8AC Smart AC Charger Overview.

This image highlights the M8AC's capabilities, including 200W AC power, 600W DC power, and a maximum charging current of 20A, along with icons for internal power supply, multifunctionality, and 65W fast charging.

Figure 4.4: Integrated Design.
This image emphasizes the M8AC's highly integrated, lighter, smaller, and simpler design, indicating an upgrade from previous models with an internal power supply for easier charging.

5. SETUP AND CONNECTIONS

5.1 Power Input

The M8AC supports two types of power input:

- **AC Input:** Connect the provided AC input cable to the AC port (100-240V) on the rear of the charger and plug it into a wall outlet.
- **DC Input:** Connect a DC power source (7-35V) to the XT60 input port on the rear of the charger. Ensure correct polarity.

5.2 Battery Connection

Connect your battery to the main output port (XT60) and the balance port (if applicable) on the side of the charger. Ensure the balance lead is connected correctly for balanced charging.

5.3 USB-C Output

The charger features a USB-C output (MAX 20.0V@65W) for charging compatible devices such as smartphones, tablets, and laptops.

Figure 5.1: USB-C Fast Charging.
This image demonstrates the M8AC charger's capability to deliver 65W USB-C fast charging, shown connected to a laptop, indicating its versatility for powering other electronic devices.

6. OPERATING INSTRUCTIONS

Navigate the charger's menu using the scroll wheel and buttons. The 2.4″ IPS LCD display provides clear information.

Figure 6.1: IPS LCD Display Clarity.
This image compares the viewing angles of a standard TN display versus the M8AC's 2.4″ IPS LCD display, demonstrating the superior clarity and color accuracy of the IPS screen from wide angles.

6.1 Main Functions

- **Charge:** Standard charging mode. Select battery type, cell count, and desired current.
- **Discharge:** Discharges the battery. Set discharge current and cut-off voltage.
- **Storage:** Charges or discharges the battery to a safe storage voltage.
- **Balance:** Balances individual cell voltages during charging or discharging.
- **Recycle Mode:** High power discharge mode (0.1-20A@600W).
- **Normal Mode:** Standard discharge mode (0.1-3A@20W).

6.2 Measurement Functions

The M8AC can measure various parameters:

- **Voltage:** 1.0V-5.0V per cell (1-8S).
- **Internal Resistance:** 1-99mΩ per cell (1-8S).
- **PWM Signal:** 880us-2200us @ 20-400Hz.
- **PPM Signal:** 880us-2200us × 8 CH @ 20-50Hz.
- **SBUS Signal:** 880us-2200us × 16 CH @ 20-100Hz.

6.3 Output Functions

The charger can also generate signals and act as a power supply:

- **PWM Output:** 500us-2500us @ 20-1000Hz.
- **PPM Output:** 880us-2200us × 8CH @ 50Hz.
- **SBUS Output:** 880us-2200us × 16CH @ 74Hz.
- **Power Supply:** 1-20A @ 1-35V (CC+CV mode).
- **ESC Test:** Test Electronic Speed Controllers.

Figure 6.2: Multifunctional Capabilities.
This image illustrates the M8AC's diverse functions beyond just charging, including adjustable power supply, measurement of resistance and signals, signal output, and ESC testing, making it a comprehensive tool for RC enthusiasts.

7. SPECIFICATIONS

Category	Parameter	Value
Charge/Discharge	Input Voltage	AC 100-240V @ MAX 2.5A, DC 7-35V @ MAX 25A
	Battery Type Support	LiPo/LiHV/LiFe/LiIon/LTO (1-8S); NiMH (1-20S); Pb (1-12S)
	Balance Current	1000mA @ 4.2V
	Balance Accuracy	<0.005V
	Charging Power	0.1-20A @ 600W
	Discharging Power (Recycle Mode)	0.1-20A @ 600W
	Discharging Power (Normal Mode)	0.1-3A @ 20W
USB-C Output	Output Power	MAX 20.0V @ 65W
	Upgrade Function	Yes
Measurement	Voltage Measurement	1.0V-5.0V @ 1-8S
	Internal Resistance Measurement	1-99mΩ @ 1-8S
	Signal Measurement (PWM/PPM/SBUS)	PWM: 880us-2200us @ 20-400Hz; PPM: 880us-2200us × 8 CH @ 20-50Hz; SBUS: 880us-2200us × 16 CH @ 20-100Hz
Output	PWM Output	500us-2500us @ 20-1000Hz
	PPM Output	880us-2200us × 8CH @ 50Hz
	SBUS Output	880us-2200us × 16CH @ 74Hz
	Power Supply Output	1-20A @ 1-35V (Mode: CC+CV)
General	Product Size	108 × 113 × 62mm (4.25 × 4.45 × 2.44 inches)
	Product Weight	500g (1.1 lbs)
	LCD Display	IPS 2.4″ LCD 320 × 240px
	Color	Black

8. MAINTENANCE

- Keep the charger clean and free from dust. Use a soft, dry cloth for cleaning.
- Regularly check cables and connectors for signs of wear or damage. Replace if necessary.
- Store the charger in a cool, dry place when not in use.
- Do not attempt to disassemble or repair the charger yourself. Refer to qualified service personnel.

9. TROUBLESHOOTING

- **Charger not powering on:** Ensure AC or DC input power is correctly connected and within specified voltage range. Check power cables for damage.
- **Battery not charging:** Verify battery type and cell count settings match the connected battery. Check battery and balance lead connections. Ensure battery is not severely over-discharged or damaged.
- **Error message on display:** Refer to the quick manual for specific error codes. Common errors relate to input voltage, battery connection, or internal temperature.
- **Slow charging:** Check the set charge current. Ensure the power supply can deliver sufficient current and voltage.

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included with your product or visit the official ToolkitRC website. Keep your purchase receipt as proof of purchase.

Manufacturer: newstartrc

Model: M8AC

Related Documents - M8AC

M9 Manual V1.0 2021.12 ToolkitRC www.toolkitrc.com ToolkitRC Technology (Shenzhen) Co., Ltd @ToolkitRC 2021	**[ToolkitRC M9 Balance Charger Manual](#)** Comprehensive guide to the ToolkitRC M9 multi-function balance charger, covering features, settings, safety, and operation for various battery types.
M8AC Manual V1.0 2025.02 ToolkitRC www.toolkitrc.com ToolkitRC Technology (Shenzhen) Co., Ltd @ToolkitRC 2025	**[ToolkitRC M8AC Balance Charger User Manual](#)** Comprehensive user manual for the ToolkitRC M8AC balance charger, covering setup, charging/discharging functions, safety, system settings, and specifications.

M8AC Manual V1.0 2025.02 ToolkitRC www.toolkitrc.com ToolkitRC Technology (Shenzhen) Co., Ltd 1　　　　@ToolkitRC 2025	**[ToolkitRC M8AC Battery Charger User Manual](#)** Detailed user manual for the ToolkitRC M8AC multifunctional battery charger, covering product description, safety, quick start, charge/discharge settings, advanced functions, and specifications.
M7 Manual V1.0 2021.01 ToolkitRC www.toolkitrc.com ToolkitRC Technology (Shenzhen) Co., Ltd 1　　　　@ToolkitRC 2025	**[ToolkitRC M7 Charger Manual V1.0](#)** User manual for the ToolkitRC M7 multifunctional tool chain product, detailing its features, operation, and safety guidelines for balanced charging and discharging.
M8AC Manual V1.0 2025.02 ToolkitRC www.toolkitrc.com ToolkitRC Technology (Shenzhen) Co., Ltd 1　　　　@ToolkitRC 2025	**[ToolkitRC M8AC Balance Charger Manual](#)** This manual provides detailed instructions and specifications for the ToolkitRC M8AC balance charger, covering its features, operation, safety precautions, and technical details.
M8D Manual V1.0 2024.05 ToolkitRC www.toolkitrc.com ToolkitRC Technology (Shenzhen) Co., Ltd 1　　　　@ToolkitRC 2024	**[ToolkitRC M8D Dual Smart Charger Manual V1.0](#)** Comprehensive user manual for the ToolkitRC M8D Dual Smart Charger, covering features, setup, charging settings, system configurations, and specifications. Learn how to charge various battery types efficiently and safely.

Documents - ToolkitRC – M8AC

M8AC

Manual V1.0
2025.02

[ToolkitRC M8AC Battery Charger User Manual](#)
Detailed user manual for the ToolkitRC M8AC multifunctional battery charger, covering product description, safety, quick start, charge/discharge settings, advanced functions, and specifications.
lang:en score:50 filesize: 1.86 M page_count: 37 document date: 2025-02-18

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Manual V1.0
2025.02

[ToolkitRC M8AC Balance Charger User Manual](#)
Comprehensive user manual for the ToolkitRC M8AC balance charger, covering setup, charging/discharging functions, safety, system settings, and specifications.
lang:en score:43 filesize: 1.86 M page_count: 37 document date: 2025-02-18

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Manual V1.0
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[ToolkitRC M8AC Balance Charger Manual](#)
This manual provides detailed instructions and specifications for the ToolkitRC M8AC
balance charger, covering its features, operation, safety precautions, and technical
details.
lang:en score:40 filesize: 1.93 M page_count: 37 document date: 2025-02-18

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使用手册 V1.0
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DC 7-35V 2 3 4 5 3 2025 2
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lang:i-klingon score:28 filesize: 2 M page_count: 32 document date: 2025-02-13