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› LIMETA R4 EVO Smart Battery Charger Instruction Manual

LIMETA R4 EVO

LIMETA R4 EVO Smart Battery Charger Instruction Manual

Model: R4 EVO

Brand: LIMETA

1. INTRODUCTION

This manual provides detailed instructions for the safe and efficient operation of your LIMETA R4 EVO Smart Battery Charger. Please read this manual thoroughly before use and retain it for future reference.

Safety Precautions

- Use only with compatible rechargeable batteries as specified in this manual.
- Do not attempt to charge non-rechargeable batteries. This may lead to explosion, rupture, or leakage, causing personal injury or property damage.
- Ensure correct battery polarity when inserting batteries into the charger slots.
- Do not expose the charger to water, moisture, or extreme temperatures.
- Keep out of reach of children.
- Disconnect the power supply before cleaning or when not in use.
- Do not disassemble or modify the charger.

2. PACKAGE CONTENTS

- 1x LIMETA R4 EVO Smart Battery Charger
- 1x USB Type-C Cable
- (Power adapter/supply is NOT included and must be provided by the user.)

3. PRODUCT OVERVIEW

The LIMETA R4 EVO is a versatile smart charger designed for various cylindrical rechargeable batteries. It features an intuitive IPS LCD display and multiple operating modes.



Image: The LIMETA R4 EVO Smart Battery Charger, shown with four AA/AAA sized batteries inserted and a USB Type-C charging cable.

Components:

- **Battery Slots:** Four independent slots for cylindrical batteries. The design accommodates up to four small batteries (AA, AAA) or two large batteries (e.g., 18650, 26650) simultaneously.
- **IPS LCD Display:** A 320x240 pixel color display provides real-time information on charging status, battery type, voltage, current, capacity, time, and temperature.
- **Control Buttons:** Navigation buttons (Up, Down, Select) for menu interaction and mode selection.
- **USB Type-C Input Port:** For connecting the charger to a power source.

Six slots independent charging

4+2



* It is recommended to use a charging head with power not less than 9V/2A

Image: The charger illustrating its flexible slot configuration, allowing for four smaller batteries or two larger batteries to be charged independently.

4. SPECIFICATIONS

Feature	Detail
Model	R4 EVO
Supported Battery Count	1 to 4 cylindrical batteries
Supported Battery Sizes	AAA, AA, 10440, 10500, 12500, 13500, 14500, 14650, 16650, 17650, 17670, 18650, 18700, 20650, 20700, 21700, 22650, 26650, 26700
Supported Battery Types	Li-Ion, LiFe, LiHv, NiMH, NiZn, Eneloop
Operating Voltage Range (Input)	5V to 12V (Supports QC, PD protocol)
Charge Current Range	0.1A to 3.0A (Horizontal slots), 0.1A to 1.5A (Vertical slots)
Discharge Current Range	0.1A to 1.5A (Horizontal slots), 0.1A to 1.0A (Vertical slots)
Operation Modes	Charge, Discharge, Store, Destroy, Cycle, Activate, Analyze
Display	320x240 IPS LCD
Temperature Sensors	6 internal sensors

Feature	Detail
Working Temperature	0°C to 40°C
External Ports	USB Type-C input
Firmware Update	Supported
Protection Features	Reverse Polarity, Overheating, Overcapacity
Product Dimensions	120mm (L) x 92mm (W) x 34mm (H) / 4.72 x 3.62 x 1.34 inches
Item Weight	200 Grams / 7.1 ounces

製品サイズ

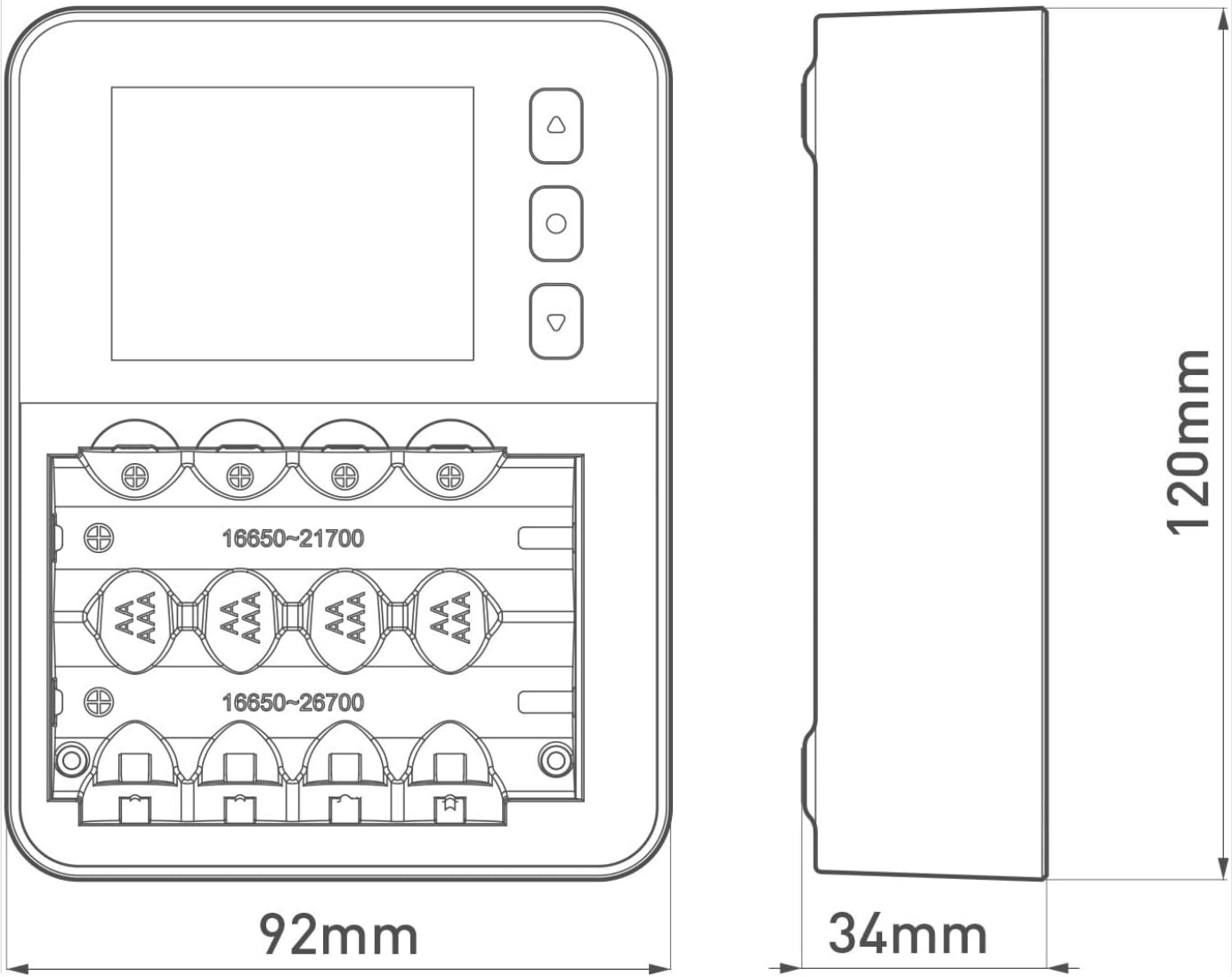


Image: Technical diagram illustrating the physical dimensions of the LIMETA R4 EVO charger.

5. SETUP AND INITIAL USE

5.1 Power Connection

1. Connect the provided USB Type-C cable to the charger's Type-C input port.
2. Connect the other end of the USB Type-C cable to a compatible USB power adapter (not included). For optimal performance, use a power adapter that supports QC/PD protocols and provides at least 9V/2A output, with a maximum of 36W.
3. The charger's display will illuminate, indicating it is powered on.



Image: The LIMETA R4 EVO charger demonstrating its compatibility with various battery types and highlighting the Type-C input for power.

5.2 Inserting Batteries

1. Ensure the charger is powered on.
2. Insert one or more compatible cylindrical rechargeable batteries into the charging slots. Observe the correct polarity (+ and - terminals). The charger features physical and hardware anti-reverse connection protection.
3. The charger will automatically detect the battery type and display initial information on the IPS LCD screen.

6. OPERATING MODES

The R4 EVO offers seven distinct operating modes. Use the control buttons to navigate the menu and select the desired mode for each battery slot.



4槽独立充電：各スロットで充電状態を個別監視（過充電/過放電/過電圧/過電流保護付き）

プロ向け機能分析モード：

充電→放電→再充電で電池の実容量・内部抵抗を測定（劣化診断に最適）

活性化（リフレッシュ）機能：

過放電（0V）したニッケル電池を超低速充電で復活 ※復旧不能時は電池交換推奨

Image: The charger's display showing a menu with options for different operating modes, including Charge, Discharge, Cycle, Analyze, and Activate.

6.1 Charge Mode

This is the standard mode for recharging batteries. The charger will automatically detect the battery type and apply an appropriate charging current. You can monitor the charging progress, voltage, current, and capacity on the display.

6.2 Discharge Mode

This mode discharges the battery to a safe low voltage. It can be used to prepare batteries for storage or to assess their discharge capacity.

6.3 Store Mode

Designed for batteries that will not be used for an extended period. The charger will automatically adjust the battery voltage to a preset storage level by either charging or discharging as needed. This helps preserve battery health over time.

6.4 Destroy Mode

This function completely discharges the battery to 0V, typically before disposal. This process helps prevent potential hazards like explosions or combustion when discarding battery waste. Use this mode responsibly for safe battery disposal.

6.5 Cycle Mode

In this mode, the battery undergoes a series of charge and discharge cycles (up to 30 cycles configurable). This is useful for testing battery performance, capacity, and overall durability over multiple uses.

6.6 Activate Mode

Specifically for NiCd or NiMH batteries that may not charge due to extremely low voltage. This mode performs a low-current charge, discharge, and recharge cycle to attempt to reactivate the battery. It may require up to three cycles. If activation is unsuccessful after multiple attempts, the battery may be permanently damaged and should be disposed of properly.

6.7 Analyze Mode

This mode is used to assess the actual operational capacity of a battery, especially for underperforming ones. It can also be used to match batteries with similar capacities for optimal performance in multi-battery devices.

Real-time Status Monitoring



Image: The charger's display showing real-time charging status, including voltage, current, and capacity, alongside icons representing various protection features.

7. MAINTENANCE

7.1 Cleaning

- Ensure the charger is disconnected from the power source before cleaning.
- Wipe the exterior of the charger with a soft, dry cloth.
- Do not use abrasive cleaners or solvents.

- Keep the battery slots free from dust and debris.

7.2 Firmware Updates

The R4 EVO supports firmware updates to enhance performance and add new features. Refer to the official LIMETA website for the latest firmware and instructions on how to update using the ISDGo(PC) software. For example, firmware V2.0 offers improved charging efficiency for NiMH and Li-ion batteries, and support for 1.5V Li-ion batteries.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Charger does not power on.	No power supply, faulty cable, or adapter.	Ensure the USB Type-C cable is securely connected. Try a different USB power adapter and cable.
"Battery polarity reversal!" error displayed.	Battery inserted with incorrect polarity.	Remove the battery and reinsert it with the correct positive (+) and negative (-) orientation.
Battery not charging or "Damaged Battery" error.	Battery is severely over-discharged, damaged, or incompatible.	Try the "Activate Mode" for NiMH/NiCd batteries. If the battery is damaged, dispose of it properly. Ensure the battery type is supported.
Slow charging speed.	Insufficient power from the adapter.	Use a power adapter that supports QC/PD protocols and provides sufficient wattage (e.g., 9V/2A or higher).
Charger or battery becomes excessively hot.	Overheating protection activated, faulty battery, or poor ventilation.	Disconnect power immediately. Allow to cool. Ensure proper ventilation. If a specific battery consistently overheats, discontinue use and dispose of it.



Image: The charger's display indicating a "Battery polarity reversal!" error, prompting the user to correct battery insertion.

9. WARRANTY AND SUPPORT

LIMETA products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the official LIMETA website or contact their customer service department. Keep your purchase receipt as proof of purchase for warranty claims.

For the latest information and firmware updates, visit:[ISDT Official Website \(for ISDGo software\)](#)

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