Nitecore UMS4

Nitecore UMS4 Intelligent USB-C Four-Slot Quick Battery Charger User Manual

Model: UMS4

1. Product Overview

The Nitecore UMS4 is an intelligent USB-C four-slot battery charger designed for rapid and efficient charging of various rechargeable battery types. It features an LCD display for real-time charging information and supports multiple input sources for versatile use.

Image 1.1: The Nitecore UMS4 Intelligent USB-C Four-Slot Quick Battery Charger, shown with an included battery organizer.

Key Features:

- Intelligent USB-C Four-Slot Superb Charger.
- Capable of charging 4 batteries simultaneously and controlling each slot independently.
- Up to 3,000mA charging speed in a single slot (with QC input).
- Compatible with Li-ion, Ni-MH, and Ni-Cd batteries with automatic detection.
- Automatic detection of battery power level and automatic selection of appropriate voltage and charging mode (LiFePO4 and 3.8V Li-ion batteries excluded).
- Automatic selection between 3 charging modes (CC, CV, and -dV/dt).
- Energy-efficient LCD display for real-time charging information.
- Capable of manually selecting the charging cut-off voltage and the charging current.
- Automatic termination upon charging completion.
- Reverse polarity protection and short circuit protection.

- Over-discharged battery activation.
- Li-ion battery restoration.
- Overtime charging protection.
- Automatic detection of battery internal resistance and display of battery health.
- Made from durable and fire-retardant PC materials.

2. Setup and First Use

2.1 Connecting the Power Supply

Connect the Nitecore UMS4 charger to a power source using a USB-C cable. The charger supports various USB input sources, including USB adapters, power banks, and solar panels. For optimal charging speed, use a Quick Charge (QC) compatible power adapter.

Image 2.1: The USB-C input port on the side of the UMS4 charger, illustrating compatibility with USB adapters, power banks, and solar panels.

2.2 Inserting Batteries

Insert compatible rechargeable batteries into the charging slots. The charger features spring-loaded contacts to accommodate various battery sizes. Ensure correct polarity (+ and -) when inserting batteries. The LCD display will activate and show charging information for each inserted battery.

The UMS4 is compatible with a wide range of battery types and sizes, including:

- **IMR/Li-ion/LiFePO4:** 10440, 14500, 16340 (RCR123), 16650, 17350, 17500, 17650, 17670, 17700, 18350, 18490, 18500, 18650, 18700, 20700, 21700, 22500, 22650, 25500, 26500, 26650, 26700
- **Ni-MH/Ni-Cd:** AA, AAA, AAAA, C, D

3. Operating Instructions

3.1 LCD Display Information

The LCD display provides real-time information about the charging process for each slot. This includes battery health, charging status, charging mode, voltage, current, and charged volume.

Image 3.1: Detailed view of the UMS4 LCD display, showing various charging parameters such as charged volume, charging time, charging current, battery voltage, charging mode, cut-off voltage, and battery type.

3.2 Automatic and Manual Mode Selection

Upon battery insertion, the UMS4 automatically detects the battery type and capacity, then selects the appropriate charging current and voltage. For LiFePO4 and 3.8V Li-ion batteries, manual selection is required.

The charger automatically selects between three charging modes: Constant Current (CC), Constant Voltage (CV), and -dV/dt, based on the battery type and capacity.

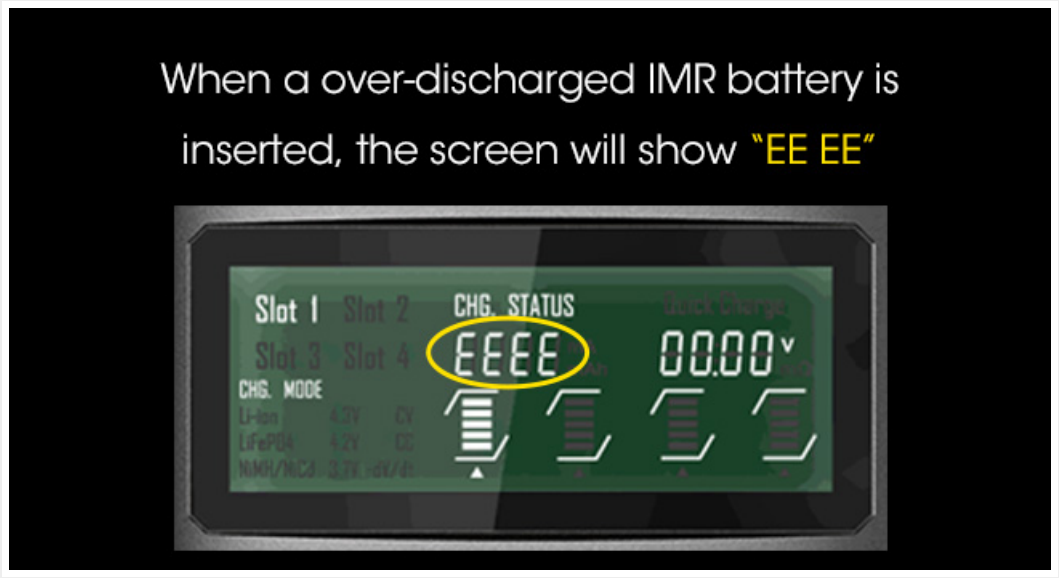

Image 3.2: The UMS4 display showing automatic selection of charging modes (CC, CV, -dV/dt) based on battery type and capacity.

3.3 Adjusting Charging Parameters

To manually adjust charging parameters:

1. Press the **C** button to select the desired slot.
2. Press and hold the **V** button to enter manual setting mode.
3. Use the **C** button to cycle through options (charging voltage, charging current).
4. Use the **V** button to adjust the selected value.
5. Confirm your selection by pressing and holding the **V** button, or wait for the setting to automatically apply after a few seconds of inactivity.

Image 3.3: Animated demonstration of selecting charging voltage (4.3V, 4.2V, 3.7V) and charging current (300mA - 3000mA) on the UMS4 display.

3.4 IMR Battery Optimization

The UMS4 incorporates a charging program specifically optimized for IMR batteries. This program monitors the entire charging process to ensure the cut-off voltage remains within safe limits, extending battery lifespan.

Image 3.4: The Nitecore UMS4 charger with IMR batteries, highlighting its optimized charging program for these battery types.

4. Maintenance and Care

- Keep the charger clean and dry. Use a soft, dry cloth to wipe the surface.
- Avoid exposing the charger to extreme temperatures, direct sunlight, or high humidity.
- Do not attempt to disassemble or modify the charger, as this will void the warranty and may cause damage.
- Store the charger in a cool, dry place when not in use.

Image 4.1: An included battery organizer, useful for safe storage and transport of batteries.

5. Troubleshooting

5.1 "EE EE" Error Message

If the display shows "EE EE", it indicates one of two conditions:

- **Over-discharged IMR Battery:** The battery is severely discharged. The UMS4 has an over-discharged battery activation feature that attempts to revive such batteries. If the error persists, the battery may be beyond recovery.
- **Damaged Battery:** The charger has detected a damaged or faulty battery. Remove the battery immediately and dispose of it safely. Do not attempt to charge damaged batteries.

Image 5.1: Animated display of the "EE EE" error message when an over-discharged IMR battery is inserted.

Image 5.2: Animated display of the "EE EE" error message when a damaged battery is detected.

5.2 Charger Not Powering On

- Ensure the USB-C cable is securely connected to both the charger and the power source.
- Try a different USB-C cable and/or power adapter to rule out faulty accessories.
- Verify that the power source is functional.

5.3 Batteries Not Charging

- Check battery polarity. Ensure batteries are inserted correctly.
- Clean the battery contacts and charger contacts with a dry cloth to remove any dirt or residue.
- Ensure the battery type is compatible with the UMS4 charger.

- If charging LiFePO4 or 3.8V Li-ion batteries, ensure manual mode selection for voltage is correctly set.

6. Technical Specifications

Feature	Specification
Input	DC 5V/2A 12V/1.5A
Output Voltage	4.35V ±1% / 4.2V ±1% / 3.7V ±1% / 1.48V ±1%
Output Current (QC Mode)	3,000mA*1 (MAX), 2,000mA*2 (MAX), 1,000mA*4 (MAX)
Output Current (Standard Mode)	2,000mA*1 (MAX), 1,000mA*2 (MAX), 500mA*4 (MAX)
Compatible with (IMR/Li-ion/LiFePO4)	10440, 14500, 16340 (RCR123), 16650, 17350, 17500, 17650, 17670, 17700, 18350, 18490, 18500, 18650, 18700, 20700, 21700, 22500, 22650, 25500, 26500, 26650, 26700
Compatible with (Ni-MH/Ni-Cd)	AA, AAA, AAAA, C, D
Dimensions	159mm × 107mm × 41mm (6.26" × 4.21" × 1.61")
Item Weight	255.4g (9.01 oz)

Note: Charging cable not included.

7. Warranty and Support

The Nitecore UMS4 charger is manufactured with high-quality materials and processes. It is certified by RoHS, CE, FCC, and CEC, ensuring compliance with international safety and environmental standards. The product is insured worldwide by Ping An Insurance (Group) Company of China, Ltd.

For specific warranty terms and conditions, or for technical support, please refer to the official Nitecore website or contact your local distributor.