

## BONAI BN-16

# User Manual for BONAI Universal LCD Smart Battery Charger and Rechargeable D Batteries

Brand: BONAI | Model: BN-16

## 1. INTRODUCTION

This manual provides comprehensive instructions for the safe and efficient operation of your BONAI Universal LCD Smart Battery Charger and the included 10000mAh D rechargeable batteries. Please read this manual thoroughly before first use to ensure proper functionality and to prevent damage to the product or injury.

## 2. IMPORTANT SAFETY INSTRUCTIONS

- Use only with compatible Ni-MH/Ni-CD rechargeable batteries (AA, AAA, C, D, 9V). Do not attempt to charge alkaline, lithium, or any other non-rechargeable batteries.
- Do not disassemble, modify, or attempt to repair the charger or batteries. Refer all servicing to qualified personnel.
- Avoid exposing the charger or batteries to water, high humidity, direct sunlight, or extreme temperatures.
- Ensure proper polarity when inserting batteries into the charger. Incorrect insertion can cause damage or fire.
- Keep out of reach of children.
- Unplug the charger from the power outlet when not in use or before cleaning.
- Do not operate the charger if it has been damaged in any way.
- The charger features multiple protection technologies including over-charge, over-current, over-voltage, short-circuit, and over-heat protection to ensure safe operation.

# Multiple Protection Technology

Advanced MCU control and  $-\Delta V$  function, over-heat and over-current protection short-circuit protection, and defectiver battery detection

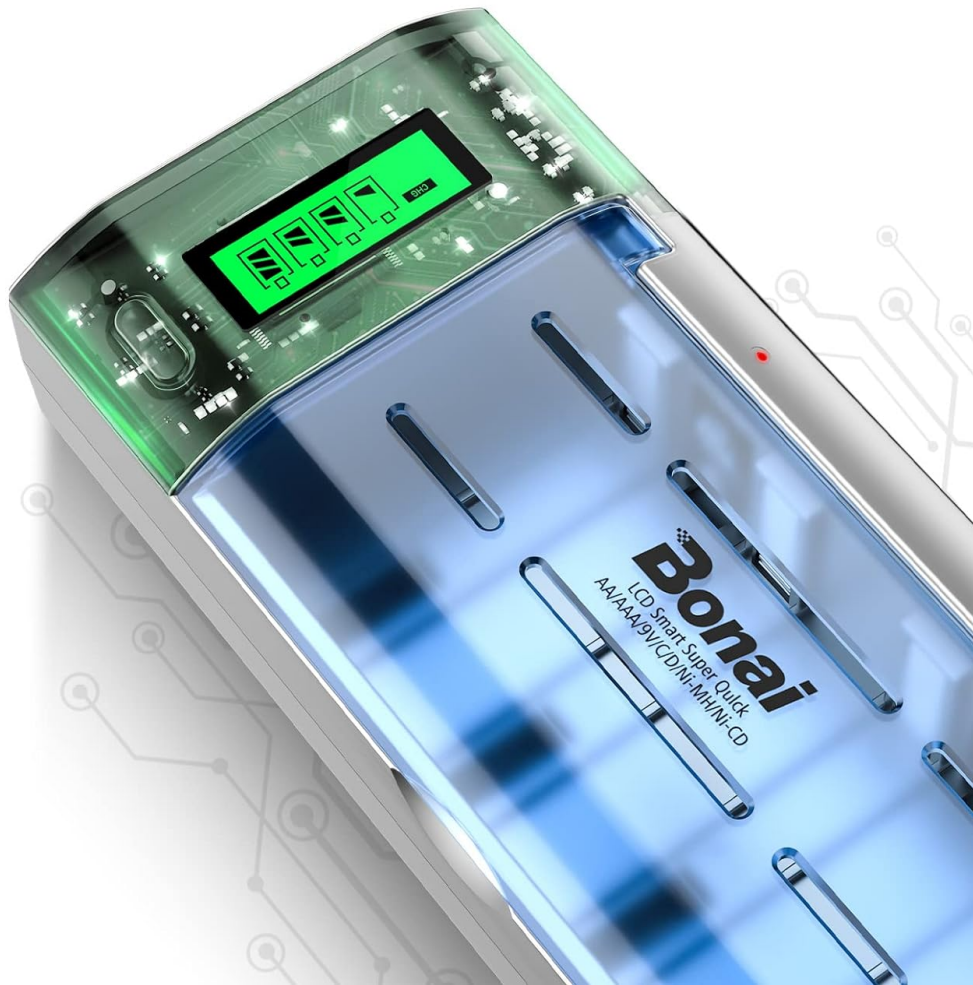


Figure 2.1: The charger incorporates multiple safety features including over-charge, over-current, over-voltage, short-circuit, temperature, and reverse current prevention.

## 3. PACKAGE CONTENTS

- 1 x BONAI Universal LCD Smart Battery Charger
- 4 x BONAI 10000mAh D Ni-MH Rechargeable Batteries
- 1 x Power Cable (integrated or separate, depending on region)
- 1 x User Manual (this document)

## 4. PRODUCT FEATURES

### 4.1 Charger Features

- **Universal Compatibility:** Capable of charging 1 to 4 AA/AAA/C/D Ni-MH/Ni-CD batteries or 1-2

9V Ni-MH/Ni-CD rechargeable batteries simultaneously.

- **Independent Charging Slots:** Each battery slot charges independently, allowing for flexible charging of different battery types and capacities at the same time.
- **LCD Display:** A clear LCD screen displays the charging status of each individual AA/AAA/C/D battery. A separate LED indicator shows the status for 9V batteries.
- **Discharge Function:** Features a discharge function for Ni-MH/Ni-CD AA/AAA/C/D batteries to help optimize battery life and performance by reducing memory effect.
- **Advanced Safety Protections:** Includes over-charge, over-current, over-voltage, short-circuit, and over-heat protection to ensure safe and reliable charging.

## Universal Batteries Charger

for 1~4 AA/AAA/C/D and 1~2 9V Ni-MH Ni-CD rechargeable batteries

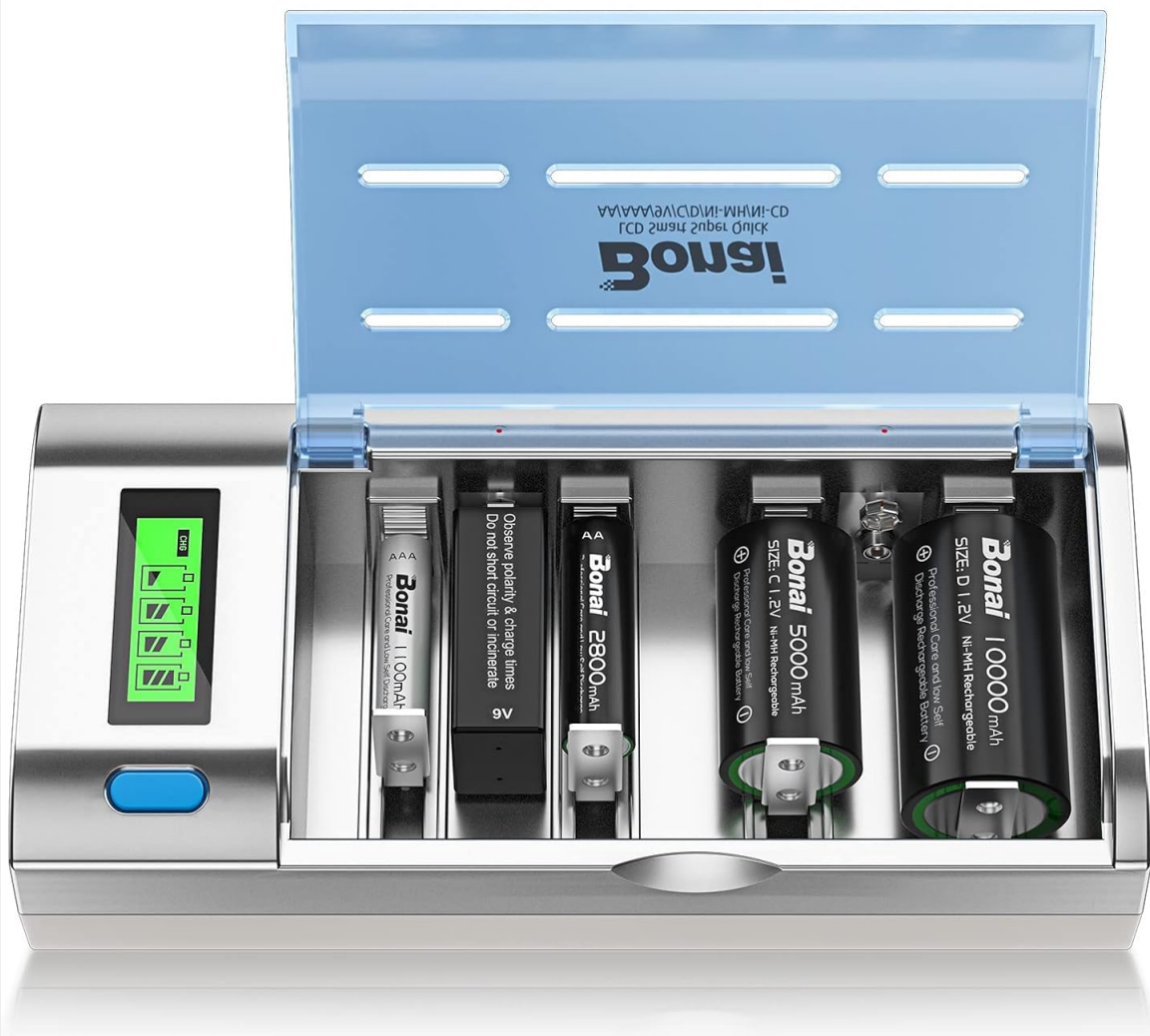


Figure 4.1: The charger supports multiple battery sizes including C, D, AA, AAA, and 9V.

<b>LCD Indicator</b>	<b>CHG</b>	<b>DISCHG</b>			<b>ERROR</b>
<b>Status</b>	Charging	Discharging	Fully Charged	Charging Process	Batteries Wrongly Install/Broken Batteries

Discharge function

LCD screen displays charging progress

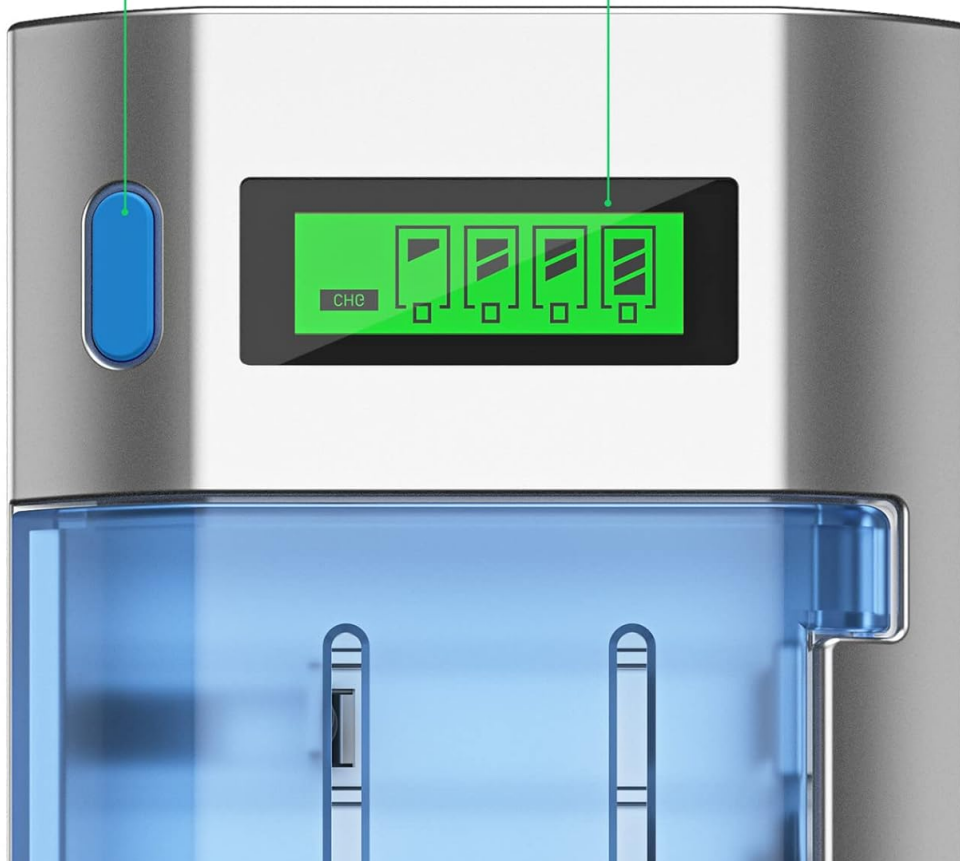


Figure 4.2: The LCD indicator provides clear status updates for charging, discharging, fully charged, and error conditions.

#### 4.2 Battery Features (BONAI 10000mAh D Batteries)

- **High Capacity:** 10000mAh capacity provides extended power for high-drain devices.
- **Long Cycle Life:** Can be recharged over 1200 times, offering significant cost savings and environmental benefits compared to disposable batteries.
- **Low Self-Discharge:** Designed to retain 80% of their charge even after 3 years of non-use, making them ready when you need them.
- **Eco-Friendly:** Free from harmful heavy metals such as mercury (Hg), cadmium (Cd), and lead (Pb).

## Combined Benefits of Alkaline & Rechargeable Batteries

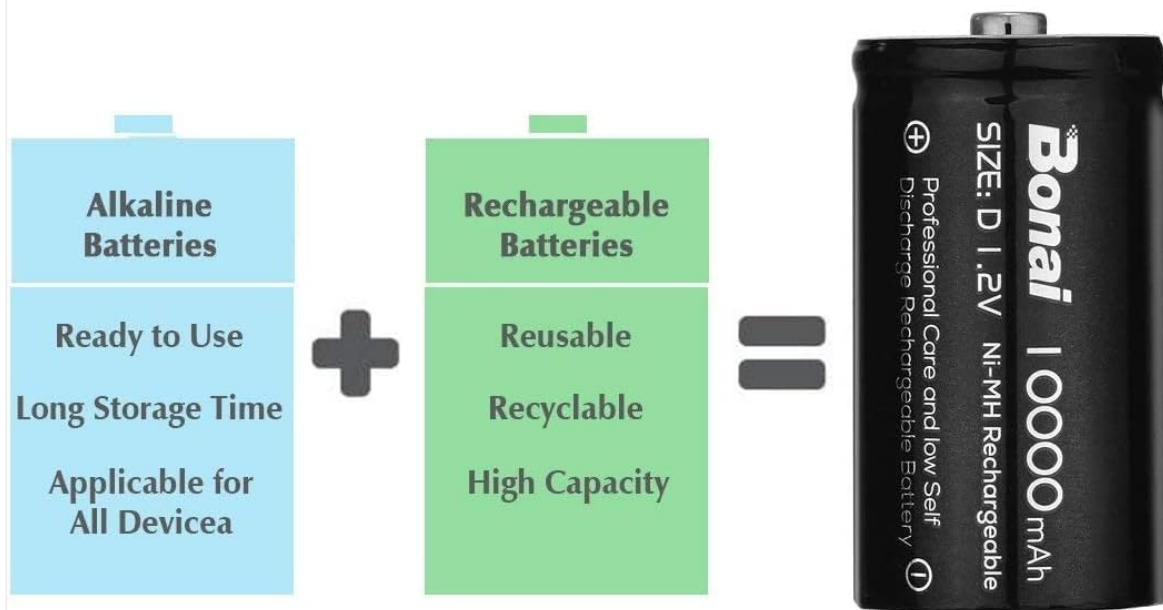


Figure 4.3: Rechargeable batteries offer reusability, recyclability, and high capacity, combining benefits with the ready-to-use and long storage time aspects of alkaline batteries.

## Low self-discharge

General Rechargeable Battery will lose power if not used for a long time.

BONAI low self-discharge technology holds a 75% rate capacity after 3 years of no use.

### BONAI battery rechargeable



### General battery rechargeable



Figure 4.4: BONAI low self-discharge technology allows batteries to retain a high percentage of charge over extended periods of non-use.



Figure 4.5: BONAI batteries are manufactured without harmful heavy metals, promoting environmental responsibility.



Figure 4.6: BONAI D batteries are suitable for a wide range of household and electronic devices.

### 4.3 Product Overview Video

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Video 4.1: An overview of the BONAI CD batteries charger, demonstrating its features and functionality. This video highlights the charger's design, battery compatibility, and ease of use.

## 5. SETUP

1. Unpack the BONAI Universal LCD Smart Battery Charger and all accessories from the packaging.
2. Place the charger on a flat, stable, and dry surface, away from direct sunlight or heat sources.
3. Connect the power cable to the charger's input port and then plug the other end into a standard wall outlet (AC 100-240V, 50/60Hz). The LCD screen will briefly illuminate, indicating the charger is powered on.



Figure 5.1: The BONAI charger ready for use with D batteries inserted and connected to power.

## 6. OPERATING INSTRUCTIONS

### 6.1 Charging Batteries

1. Ensure the charger is plugged into a power outlet.
2. Insert one or more compatible Ni-MH/Ni-CD batteries (AA, AAA, C, D, or 9V) into the respective charging slots. Ensure correct polarity (+ and - ends) as indicated on the charger and battery. For AA/AAA/C/D batteries, the adjustable sliders will accommodate different lengths. For 9V batteries, align the terminals correctly.
3. For AA/AAA/C/D batteries, the LCD screen will display the charging progress for each individual battery. For 9V batteries, a dedicated LED indicator will show charging status.
4. Charging times are approximately 5 hours for AA/AAA/C/D batteries and 12 hours for 9V batteries. The charger will automatically cut off power when batteries are fully charged to prevent overcharging.
5. Once charging is complete (LCD shows full bars or 9V LED turns off), remove the batteries from the charger.

## Efficiently and Conveniently

Smart LCD display shows the charging status of each battery(AA/AAA/C/D) and the LED indicator shows 9V battery is charged fully or not

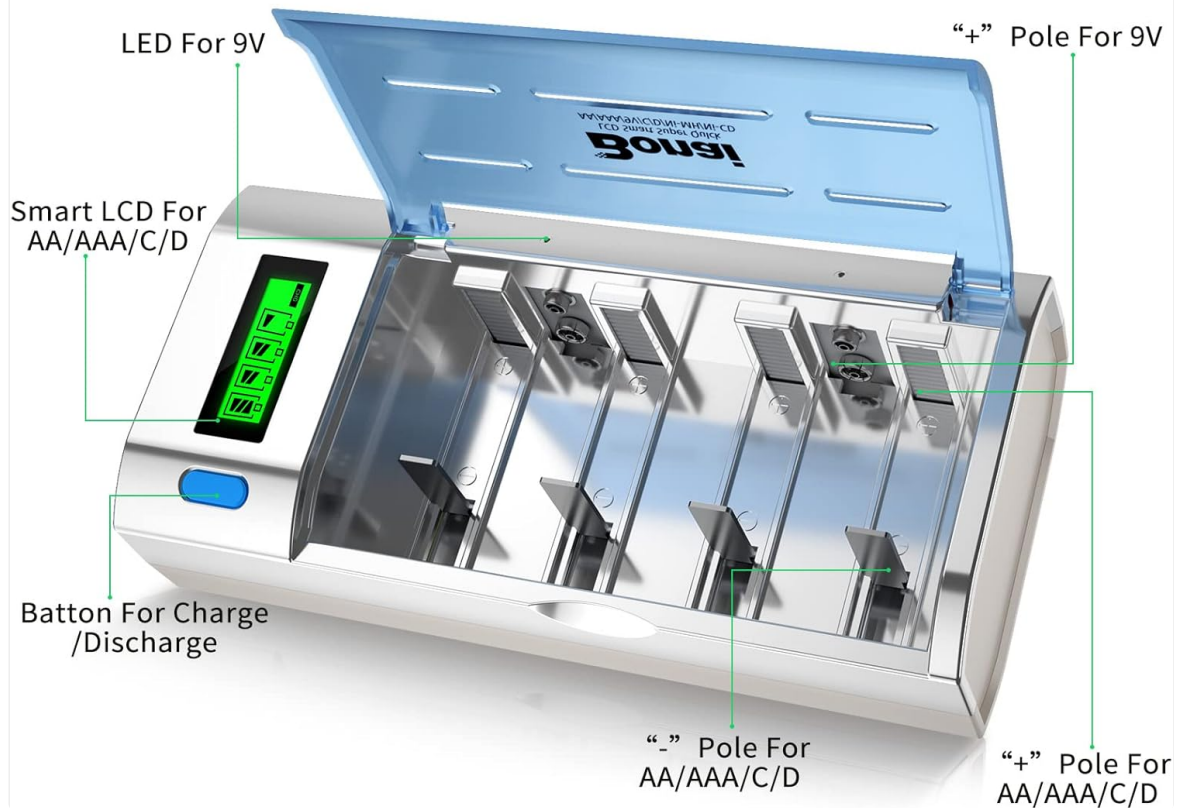


Figure 6.1: The charger's smart LCD displays charging status for AA/AAA/C/D batteries, while a separate LED indicates 9V battery status.

### 6.2 Discharging Batteries (for AA/AAA/C/D Ni-MH/Ni-CD only)

1. Insert the Ni-MH/Ni-CD AA/AAA/C/D batteries you wish to discharge into the appropriate slots.
2. Press the "Discharge Function Button" (usually labeled "CHG/DISCHG" or similar) located near the LCD screen. The LCD will indicate that the battery is discharging.
3. Once the discharge cycle is complete, the charger will automatically switch to charging mode.
4. This function is useful for reducing the memory effect in Ni-MH/Ni-CD batteries, helping to maintain their capacity over time.

## 7. MAINTENANCE

- Clean the charger regularly with a soft, dry cloth. Do not use liquid cleaners or solvents.
- Ensure the charging slots are free of dust and debris to maintain good contact with batteries.
- Store the charger and batteries in a cool, dry place when not in use.
- For long-term storage, it is recommended to store Ni-MH batteries with a partial charge (around 40-50%) to preserve their lifespan.

## 8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Charger not powering on.	No power from outlet; loose connection; damaged cable/charger.	Check power outlet with another device. Ensure cable is securely connected. If damaged, do not use and contact support.
Battery not charging / LCD shows "ERROR".	Incorrect battery type (non-rechargeable); incorrect polarity; faulty battery; poor contact.	Ensure battery is Ni-MH/Ni-CD. Reinsert battery with correct polarity. Clean battery terminals and charger contacts. Replace faulty battery.
Batteries not fully charging or losing charge quickly.	Battery memory effect (Ni-CD/Ni-MH); aged batteries; low capacity batteries.	Use the discharge function for Ni-MH/Ni-CD batteries. Batteries have a limited lifespan; consider replacing old batteries. Ensure batteries match the charger's supported capacity range.
Charger or batteries become warm during charging.	Normal operation; excessive heat indicates an issue.	Slight warmth is normal. If excessively hot, remove batteries immediately and unplug the charger. Ensure adequate ventilation. Contact support if problem persists.

## 9. SPECIFICATIONS

Feature	Detail
Brand	BONAI
Model Number	BN-16
Compatible Battery Types	Ni-MH / Ni-CD (AA, AAA, C, D, 9V)
Input Voltage	9 Volts (AC input range typically 100-240V)
Output Voltage	9 Volts (DC)
Charging Time (AA/AAA/C/D)	Approximately 5 Hours
Charging Time (9V)	Approximately 12 Hours
D Battery Capacity	10000mAh (included D batteries)
Package Dimensions	10.08 x 4.09 x 2.24 inches

Feature	Detail
Item Weight	2.05 pounds (0.93 Kilograms)

## 10. WARRANTY AND SUPPORT

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BONAI is committed to providing high-quality products and excellent customer service. If you encounter any issues with your BONAI charger or batteries, please do not hesitate to contact our customer support team.

For assistance, please visit the official BONAI store or contact us via the platform where you purchased the product. We are dedicated to helping you resolve any concerns.

*Note: Specific warranty terms and conditions may vary. Please refer to your purchase documentation or contact customer service for detailed warranty information.*