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› ECOBOXX Infinity 4A Battery Charger User Manual

## ECOBOXX 4A

# ECOBOXX Infinity 4A Battery Charger User Manual

Model: 4A

## 1. INTRODUCTION

The ECOBOXX Infinity 4A Battery Charger is a versatile and intelligent charging solution designed for 6V and 12V lead-acid (STD, AGM, Gel, Flooded) and LiFePO4 batteries. It functions as a charger, maintainer, trickle charger, float charger, and battery desulfator. Featuring an 8-stage charging process and Bluetooth app monitoring, this device provides optimized charging and real-time battery status updates. Its IP65 rating ensures protection against dust and low-pressure water.

## 2. SAFETY INFORMATION

Read all safety instructions before using the charger. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **General Safety:** Use the charger only as intended. Do not operate if the charger or cables are damaged. Keep out of reach of children.
- **Battery Connection:** Connect the charger to the battery terminals correctly (positive to positive, negative to negative). Ensure a secure connection.
- **Ventilation:** Ensure adequate ventilation when charging lead-acid batteries, as they can produce explosive gases.
- **Environmental Conditions:** Do not expose the charger to rain or excessive moisture. The IP65 rating provides protection against dust and low-pressure water jets, but it is not submersible.
- **Proposition 65 Warning:** This product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

### 2.1. Protection Features

The ECOBOXX Infinity 4A charger incorporates multiple protection mechanisms:

- **Reverse Polarity Protection:** Prevents damage if battery connections are reversed (excluding LiFePO4 batteries).
- **Short-Circuit Protection:** Automatically shuts off in case of a short circuit.
- **Overheating Protection:** Monitors internal temperature and reduces output or shuts down if overheating occurs.

- **Over Voltage Protection:** Safeguards against excessive voltage output.
- **Anti-spark Technology:** Minimizes sparks during connection.
- **Thermal Compensation:** Adjusts charging based on ambient temperature.
- **IP65 Rating:** Provides complete protection against dust ingress and protection against low-pressure water jets from any direction.



Image: Complete protection features of the ECOBOXX Infinity 4A charger.

### 3. PACKAGE CONTENTS

Verify that all items are present in the package:

- ECOBOXX Infinity 4A Battery Charger Unit
- Battery Clamps (Red and Black)
- AC Input Cable (200cm / 6.60ft)
- DC Output Cable with Clamps (200cm / 6.60ft)

# WHAT'S IN THE BOX & DIMENSIONS



Double black output cable: 200cm/6.60ft



Double black input cable: 200cm/6.60ft



Net Weight: 0.64KG / 1.41lbs

Image: Charger dimensions and cable lengths.

## 4. PRODUCT OVERVIEW

Familiarize yourself with the components and indicators of your ECOBOXX Infinity 4A Battery Charger.



Image: Labeled diagram of charger components.

- **Battery Voltage Selection:** Indicates whether 6V or 12V mode is active.
- **Charging Status Indicator:** Displays the current charging progress.
- **Bluetooth Indicator:** Shows Bluetooth connection status.
- **Mode Button:** Used to cycle through battery types (STD, AGM, Li).
- **Error Indicator:** Illuminates to signal a fault or error condition.
- **Battery Type Selection:** Indicates the selected battery chemistry (STD, AGM, LiFePO4).
- **Charging Percentage Status:** Visual representation of charge level.

## 5. SETUP AND CONNECTION

### 5.1. Connecting to the Battery

1. Ensure the charger is unplugged from the AC power outlet.
2. Connect the red positive (+) clamp to the positive battery terminal.
3. Connect the black negative (-) clamp to the negative battery terminal.

4. Ensure connections are firm and secure.



Image: Charger connected to a car battery.

## 5.2. Connecting to AC Power

1. Once the battery clamps are securely connected, plug the charger's AC power cord into a standard 120VAC 60Hz wall outlet.
2. The charger will power on and begin its diagnostic process.

## 5.3. Bluetooth App Setup (InfinityLink)

The InfinityLink mobile app allows for real-time monitoring and control.

1. Download the "InfinityLink" app from the Google Play Store or Apple App Store.
2. Enable Bluetooth on your mobile device.
3. Open the InfinityLink app and follow the on-screen instructions to pair with your ECOBOXX Infinity 4A charger. The charger's Bluetooth indicator will confirm connection.

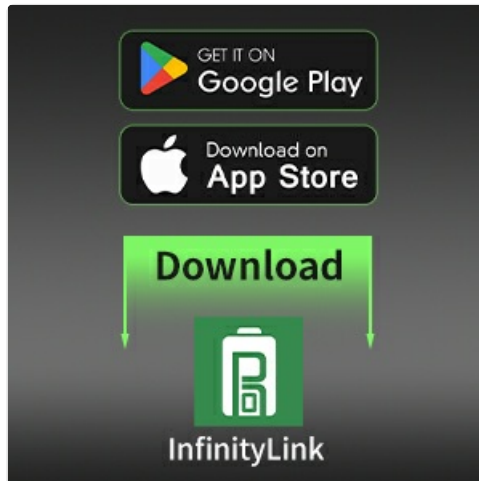


Image: InfinityLink app download options.

## 6. OPERATING INSTRUCTIONS

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### 6.1. Selecting Battery Type and Voltage

1. Upon connecting to power, the charger will automatically detect the battery voltage (6V or 12V).
2. Press the **Mode Button** on the charger to cycle through the battery types: STD (Standard Lead-Acid), AGM (Absorbed Glass Mat), and Li (LiFePO4). Select the type that matches your battery.
3. The corresponding indicator light will illuminate.



Image: Pressing the Mode button on the charger.

### 6.2. 8-Stage Multi-Charging Process

The charger employs an advanced 8-stage charging algorithm for optimal battery health and longevity. It can charge dead batteries (STD/AGM from 0.8V, Li from 0V).

1. **Diagnostic I:** Checks battery condition.

2. **Desulfation (STD/AGM):** Recovers sulfated batteries.
3. **Pre-Charge:** Gently charges deeply discharged batteries.
4. **Bulk:** Charges the battery to approximately 80% capacity.
5. **Absorption:** Charges the battery to 100% at a decreasing current.
6. **Diagnostic II:** Performs a battery test to ensure charge retention.
7. **Float:** Maintains the battery at 100% charge.
8. **Pulse (STD/AGM):** Applies maintenance pulses to keep the battery optimized.

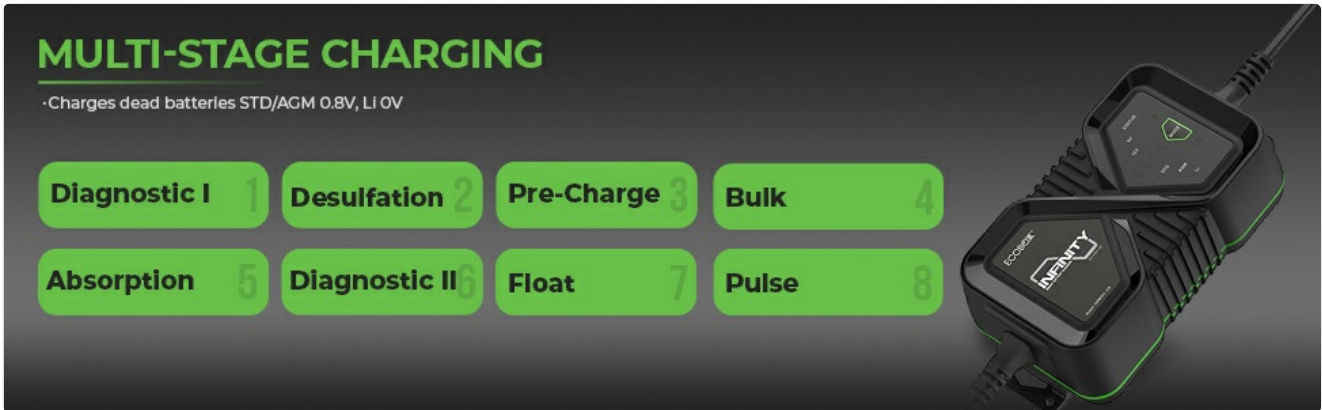


Image: 8-Stage Multi-Charging Process.

### 6.3. Monitoring with the Bluetooth App

The InfinityLink app provides comprehensive monitoring capabilities:

- **Real-time Data:** View current charging status, voltage, and current.
- **Charging History:** Access historical charging data and graphs.
- **Error Warnings:** Receive notifications for any detected issues.
- **Device Settings:** Adjust certain charger parameters.
- **Firmware Upgrade:** Update charger firmware via the app.

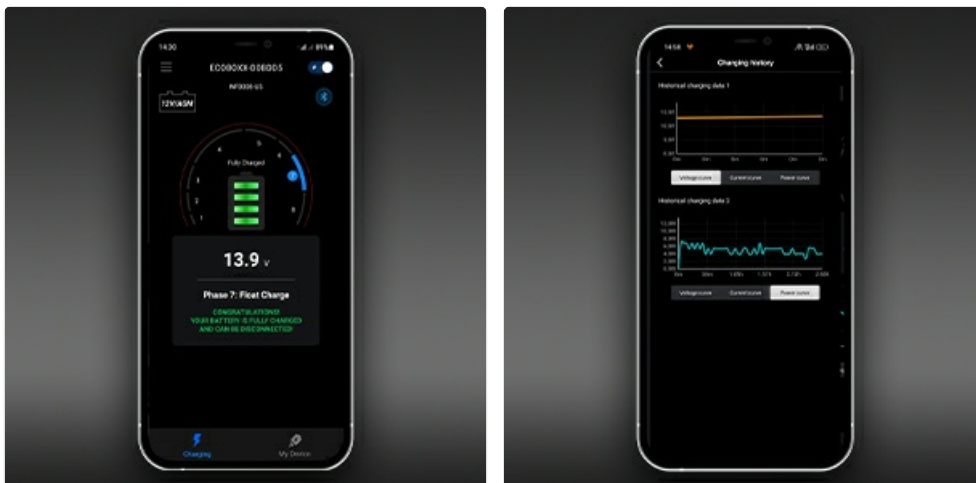


Image: InfinityLink app showing charging status and history.

## 7. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your charger.

- **Cleaning:** Disconnect the charger from power and battery before cleaning. Use a dry cloth to wipe the casing. Do not use harsh chemicals or abrasives.

- **Cable Inspection:** Regularly inspect the AC power cord and DC output cables for any signs of damage, cuts, or fraying. Do not use if damaged.
- **Storage:** Store the charger in a cool, dry place when not in use. Avoid extreme temperatures and direct sunlight.
- **Battery Terminals:** Keep battery terminals clean and free of corrosion for efficient charging.

## 8. TROUBLESHOOTING

If you encounter issues with your ECOBOXX Infinity 4A charger, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Charger does not power on.	No AC power; faulty outlet; damaged cable.	Check AC power connection and outlet. Inspect power cord for damage.
Charger not charging battery.	Incorrect battery type selected; poor battery connection; deeply discharged battery; battery fault.	Ensure correct battery type is selected. Check battery clamp connections. Allow charger to attempt recovery on deeply discharged batteries. If error persists, battery may be faulty.
Error indicator is lit.	Reverse polarity; short circuit; internal fault; battery fault.	Disconnect and re-connect ensuring correct polarity. Check for short circuits. If error persists, contact support.
Bluetooth app not connecting.	Bluetooth disabled on device; app not paired; charger out of range.	Ensure Bluetooth is enabled. Re-pair the device in the app. Move closer to the charger.

## 9. SPECIFICATIONS

Detailed technical specifications for the ECOBOXX Infinity 4A Battery Charger (Model INFB 004).

Item	Specification
Model Number	INFB 004 (4A)
AC Input Voltage	120VAC 60Hz
DC Output Voltage	6V / 12V
Maximum Input Power	80W
Type of Charger	Automatic Charger
Types of Batteries	STD (Sealed Lead Acid), AGM, Li (LiFePO4)
Accepted Battery Voltage	6V / 12V
Battery Capacity	4-120Ah
Charging Current	4A

Item	Specification
Charging Stages	8 stages for STD (Sealed lead acid), AGM; 6 stages for Li (LiFePO4)
Dimensions (WxDxH)	6.38" x 3.15" x 1.91"
Net Weight	1.41 lbs (0.64 KG)
IP Rating	IP65

Model number	Item	AC Input voltage	DC output voltage	Maximum input power	Type of charger	Types of batteries	Accepted battery voltage
INFB 001		120VAC 60HZ	6V / 12V	25W	Automatic charger	STD (Sealed lead acid etc.) and AGM	6V / 12V
INFB 004		120VAC 60HZ	6V / 12V	80W	Automatic charger	STD (Sealed lead acid etc.), AGM, Li (LiFePO4)	6V / 12V
INFB 008		120VAC 60HZ	12V	140W	Automatic charger	STD (Sealed lead acid etc.), AGM, Li (LiFePO4)	12V

Model number	Item	Battery capacity	Charging current	Charging stage	Dimensions (WxDxH)	Net Weight	IP
INFB 001		2A-60Ah	1A	3 stage	4.29"x2.24"x2.09"	0.42 lbs	
INFB 004		4A-120Ah	4A	8 stages for STD (Sealed lead acid), AGM; 6 stages for Li (LiFePO4)	6.38"x3.15"x1.91"	1.41 lbs	IP65
INFB 008		10A-250Ah	2A/8A	8 stages for STD (Sealed lead acid), AGM; 6 stages for Li (LiFePO4)	7.68"x3.74"x2.17"	1.63 lbs	IP65

Image: ECOBOXX Charger Specifications Table.

## 10. WARRANTY AND SUPPORT

### 10.1. Warranty Information

The ECOBOXX Infinity 4A Battery Charger comes with a **3-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accident, unauthorized modification, or neglect.

### 10.2. Customer Support

For technical assistance, warranty claims, or any questions regarding your ECOBOXX product, please contact ECOBOXX customer support. Refer to the official ECOBOXX website or your purchase documentation for the most current contact information.

You can also visit the [ECOBOXX Store on Amazon](#) for more product information and support resources.

