

EFFORTWAY BC-200 Pro

EFFORTWAY BC-200 Pro 20A 12V/24V Smart Battery Charger User Manual

Model: BC-200 Pro | Brand: EFFORTWAY

1. INTRODUCTION

The EFFORTWAY BC-200 Pro is an intelligent battery charger designed for charging and maintaining various 12V and 24V batteries. It supports 12V LiFePO4 batteries and 12V/24V lead-acid batteries, including WET, MF, EFB, GEL, and AGM types. This charger features a 6-stage charging process, trickle charge mode, and multiple safety protections, making it suitable for a wide range of vehicles and applications.



Figure 1: EFFORTWAY BC-200 Pro Smart Battery Charger

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.

- **Electrical Safety:** Ensure the charger is connected to a properly grounded outlet. Do not expose the charger to rain or wet conditions.
- **Battery Safety:** Batteries can produce explosive gases. Ensure adequate ventilation when charging. Avoid open flames or sparks near the battery.
- **Eye and Skin Protection:** Always wear eye protection and gloves when working with batteries. Battery acid is corrosive.
- **Reverse Polarity Protection:** The charger includes reverse connection protection, but always double-check connections before starting.
- **Children and Pets:** Keep the charger and batteries out of reach of children and pets.

- **Damaged Equipment:** Do not operate the charger if it has been damaged. Contact support for assistance.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- EFFORTWAY BC-200 Pro Smart Battery Charger Unit
- Battery Clamps (Red for Positive, Black for Negative)
- AC Power Cord
- User Manual

4. PRODUCT FEATURES

- **Universal Compatibility:** Charges 12V LiFePO4 and 12V/24V Lead-acid batteries (WET/MF/EFB/GEL/AGM). Suitable for marine and deep-cycle batteries with capacities from 15AH-150AH.
- **Variable Charging Currents:** Offers charging currents of 12V (5A, 10A, 20A) and 24V (5A, 10A). For batteries under 100AH, a charging current less than 20A is recommended.
- **6-Stage Charging Process:** Ensures safer and more efficient charging. Automatically transitions to trickle/float charging mode once fully charged to maintain battery health.
- **Multi-functionality:** Functions as a charger, maintainer, trickle charger, desulfator, and reconditioner.
- **Auto-off Mode:** Stops charging when the battery is full to prevent overcharging.
- **Repair Mode:** Can initiate charging for batteries with 0V voltage. Effective for sulfated, undervoltage, and long-term idle batteries.
- **Automatic Voltage Identification:** Automatically identifies 12V/24V battery systems and allows current selection.
- **Intelligent LCD Display:** Shows current, voltage, battery type, battery capacity, and charging mode.
- **Intelligent Protection:** Adapts to temperature changes, adjusting charging speed. Provides short circuit, reverse connection, low voltage, overheating (with smart cooling fan), and leakage protection.

ALL IN ONE SMART CHARGER



Soft start for 0V



Auto 12V/24V



One-Click Repair



One-Click Charging

Figure 2: All-in-one smart charger compatibility

DIFFERENT KINDS OF PROTECTION



Over-charge protection



Short circuit protection



Reverse connection protection



Undervoltage protection



Overtemperature protection



Leakage protection



Figure 3: Intelligent protection features

TEMPERATURE ADAPTIVE

The charging voltage is automatically adjusted according to the ambient temperature to prevent overcharging or undercharging.



Summer Mode

Temperatures Above 28 Degrees Celsius
Reduce Charging Voltage



Winter Mode

Increase Charging Voltage When The
Temperature Is Below 10°C



Figure 4: Temperature adaptive charging

5. SETUP INSTRUCTIONS

Follow these steps to set up your EFFORTWAY BC-200 Pro battery charger:

1. **Connect to AC Power:** Plug the charger's AC power cord into a standard 110V AC wall outlet. The charger's display will illuminate.
2. **Turn On the Charger:** Locate the power switch on the back of the charger and turn it to the 'ON' position.
3. **Connect Battery Clamps:**
 - Connect the **RED (+)** clamp to the positive terminal of the battery.
 - Connect the **BLACK (-)** clamp to the negative terminal of the battery.

Ensure a secure connection. Avoid touching the clamps together once connected to the battery.

4. **Select Battery Type:** Press the "Battery Selection" button to cycle through the available battery types (LiFePO4, GEL, AGM, Standard). Select the type that matches your battery.

5. **Select Charging Current:** Press the "Current Selection" button to choose the desired charging current (e.g., 5A, 10A, 20A).
6. **Start Charging:** Press the "Start/Stop" button to begin the charging process. The LCD display will show charging status, voltage, and current.

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Video 1: Demonstrates the setup and operation of the EFFORTWAY BC-200 Pro battery charger, including connecting to power, turning on, connecting battery clamps, selecting battery type and current, and starting the charging process.



Figure 5: Front panel controls and LCD display



Figure 6: Rear panel with power switch and intelligent temperature control fan

6. OPERATING INSTRUCTIONS

The BC-200 Pro offers various modes for optimal battery care:

6.1. Charging Mode

Once charging begins, the charger automatically enters a 6-stage charging process. The LCD will display real-time charging information. When the battery reaches approximately 85% charge, it will enter a slower charging mode to protect the battery and ensure a full charge.

6-stage Smart Car Battery Charger

12V 5A/10A/20A and 24V 5A/10A
6- Stage Automatic Charging



Figure 7: 6-stage automatic charging process

6.2. Trickle/Float Charge Mode

After the battery is fully charged, the charger automatically switches to trickle/float charge mode. This mode maintains the battery at an optimal charge level, preventing overcharging and ensuring the battery is ready for use, even during long periods of inactivity.

6.3. Repair Mode

The repair mode is designed to recondition sulfated, undervoltage, or long-term idle batteries. If a battery voltage is 0V, the repair mode can be used to attempt to initiate charging. To activate, select the repair mode option on the charger's interface.

Bringing the battery back to life

12V/24V automatic recognition:
The charger can support automatic recognition of 12v/24v lead-acid batteries and can choose the current size as needed

Zero V charging:
When the battery voltage is 0V, the repair mode can be used to start charging.

One click repair:
It has a good repair and activation effect on sulfurized batteries, undervoltage batteries, and long-term idle batteries.



Figure 8: Repair mode functionality

7. MAINTENANCE

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

- **Cleaning:** Disconnect the charger from power and the battery before cleaning. Use a dry, soft cloth to wipe the exterior. Do not use harsh chemicals or abrasives.
- **Storage:** Store the charger in a cool, dry place when not in use. Ensure cables are neatly coiled and not kinked.
- **Inspection:** Regularly inspect the charger, cables, and clamps for any signs of damage, wear, or corrosion. Replace damaged components immediately.
- **Ventilation:** Ensure the charger's cooling fan and vents are free from obstructions during operation to prevent overheating.

8. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
Charger not turning on	No AC power; Power switch off	Check AC outlet; Ensure power switch is ON.

Problem	Possible Cause	Solution
No charging activity	Incorrect battery connection; Battery too deeply discharged; Incorrect battery type selected	Verify clamp connections (red to +, black to -); Try Repair Mode for deeply discharged batteries; Select correct battery type.
Error message on display	Reverse polarity; Short circuit; Overheating	Disconnect and re-connect clamps correctly; Check for short circuits in cables; Allow charger to cool down.
Charger stops prematurely	Battery fully charged; Overheating; Internal fault	Check battery charge level; Ensure proper ventilation; Contact support if issue persists.

9. SPECIFICATIONS

Feature	Specification
Brand	EFFORTWAY
Model Number	BC-200 Pro
Color	Black
Product Dimensions (D x W x H)	6.69" x 7.68" x 4.72"
Item Weight	2.9 Pounds
Input Voltage	110 Volts
Output Voltage	12 Volts, 24 Volts
Current Rating	20 Amps
Amperage	20 Amps
Connector Type	Battery Clamp Connector
Specification Met	FCC, UL



Figure 9: Product dimensions

10. WARRANTY AND SUPPORT

10.1. Warranty Information

The EFFORTWAY BC-200 Pro Smart Battery Charger comes with a **1-Year Manufacturer Warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

10.2. Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact EFFORTWAY customer support through the retailer's platform or visit the official EFFORTWAY website for contact details.

