

Carbest 174287081

Carbest 6/12V Battery Charger User Manual

Model: 174287081

INTRODUCTION

The Carbest 6/12V Battery Charger is a sophisticated, micro-processor controlled device designed for efficient and safe charging of various vehicle batteries. It features an intuitive LCD display for optimal data presentation and supports a 5-stage charging program, including controlled trickle charging. This manual provides essential information for the safe and effective operation of your Carbest battery charger.

SAFETY INSTRUCTIONS

Please read all safety instructions carefully 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 grounded outlet. Do not expose the charger to rain or wet conditions. Disconnect power before making or breaking connections to the battery.
- **Battery Compatibility:** This charger is designed for 6V and 12V lead-acid batteries, including AGM, Gel, and Wet types. Do not attempt to charge non-rechargeable batteries or battery types not specified.
- **Ventilation:** Ensure adequate ventilation during charging, especially for wet batteries, as they can produce explosive gases. Do not charge in a confined area.
- **Personal Protection:** Wear eye protection and gloves when working with batteries. Avoid touching battery acid.
- **Damage:** Do not operate the charger if it has been dropped or damaged. Contact qualified service personnel for repair.
- **Children:** Keep the charger and its accessories out of reach of children.

PRODUCT OVERVIEW

The Carbest battery charger features a robust design with an integrated LCD display and intuitive controls. Below is an image of the charger with its main components.



Image: Carbest 6/12V Battery Charger. The charger unit is blue and black, featuring an LCD screen and a red 'MODE' button. It is connected to red and black battery clamps.

Key Components:

- **Charger Unit:** The main body containing the micro-processor and charging circuitry.
- **LCD Display:** Provides real-time information on charging status, voltage, and selected mode.
- **Mode Button:** Used to select different charging programs or view information on the display.
- **Battery Clamps:** Red (+) and Black (-) clamps for connecting to the battery terminals.
- **AC Power Cord:** For connecting the charger to a mains power outlet.

SETUP

1. **Prepare the Battery:** Ensure the battery terminals are clean and free of corrosion. If charging a wet battery, check the fluid levels and top up with distilled water if necessary.
2. **Connect to Battery:**
 - Connect the **red (+)** positive clamp to the positive battery terminal.
 - Connect the **black (-)** negative clamp to the negative battery terminal.
 - For vehicles, connect the negative clamp to the vehicle chassis away from the battery and fuel line if the battery is still in the vehicle and the negative terminal is grounded to the chassis. Consult your vehicle's manual.
3. **Connect to Power:** Plug the AC power cord into a standard 220-240V AC/50Hz wall outlet. The charger will power on and the LCD display will illuminate.
4. **Initial Check:** The charger will perform an initial diagnostic check of the battery. The display will show the battery voltage.

OPERATING INSTRUCTIONS

The Carbest charger utilizes a micro-processor controlled 5-stage charging program for optimal battery health.

1. **Automatic Mode Selection:** Once connected, the charger will automatically detect whether it is a 6V or 12V battery and begin the appropriate charging cycle.
2. **Understanding the LCD Display:** The LCD display provides real-time information such as battery voltage, charging

current, and charging stage. Refer to the display for progress.

3. **5-Stage Charging Program:**

- **Desulphation:** If detected, this stage uses pulse charging to break down lead sulphate that may have built up in neglected batteries.
- **Soft Start:** Gently introduces current to the battery to ensure it can accept a charge.
- **Bulk Charge:** Charges the battery to approximately 80% capacity at maximum current (4.0A).
- **Absorption Charge:** Charges the battery to 100% capacity at a decreasing current.
- **Float/Trickle Charge:** Maintains the battery at full charge by providing a small, constant current, preventing self-discharge. This is the controlled trickle charging function.

4. **Diagnostic and Revival Function:** The charger includes a diagnostic function to assess battery health. For deeply discharged or sulfated batteries, the revival function attempts to restore battery capacity. This process is automatic.
5. **Charging Completion:** The LCD display will indicate when charging is complete, typically by showing "FULL" or a similar message, and transitioning to the float/trickle charge stage.
6. **Disconnecting:** First, unplug the charger from the AC power outlet. Then, disconnect the black (-) negative clamp, followed by the red (+) positive clamp.

MAINTENANCE

- **Cleaning:** Clean the charger casing with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the clamps are clean and free of corrosion.
- **Storage:** Store the charger in a cool, dry place when not in use. Keep cables neatly coiled to prevent damage.
- **Cable Inspection:** Periodically inspect the power cord and battery cables for any signs of damage, fraying, or exposed wires. Do not use if damaged.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Charger does not turn on.	No power from outlet; faulty connection; internal fault.	Check power outlet with another device. Ensure power cord is securely plugged in. Verify battery clamps are correctly connected. If problem persists, contact support.
Battery not charging or charging slowly.	Poor connection; deeply discharged battery; incorrect battery type; battery fault.	Ensure clamps are clean and have good contact. Allow more time for deeply discharged batteries. Confirm battery type is compatible. Battery may be faulty and unable to hold a charge.
LCD display shows an error message.	Reverse polarity; short circuit; battery fault.	Disconnect charger immediately. Check battery clamp connections for correct polarity (+ to + and - to -). Inspect cables for damage. If error persists, the battery may be faulty.

SPECIFICATIONS

Charging Power	4.0 Ampere
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Display	LCD Display
Battery Compatibility	6V / 12V (AGM, Gel, Wet)
Charging Program	Microprocessor controlled, 5-stage
Additional Functions	Diagnostic and Revival Function, Controlled Trickle Charging
Protection Class	IP65
Max. Battery Capacity	120Ah
Input Voltage	220-240V AC / 50Hz, max. 70W
Output Voltage	max. 14.7V DC / 4.0 A
Dimensions (LxWxH)	18 x 8 x 5 cm
Weight	0.5 kg

WARRANTY AND SUPPORT

For warranty information or technical support, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.

Manufacturer: Carbest

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