

1. Overview

The PCHH BC-108 is a heavy-duty, automatic battery charger and maintainer designed for 12V and 24V lead-acid batteries. It features multiple charging modes, safety protections, and an LCD display for monitoring the charging process.



This device is compatible with a wide range of vehicles and equipment, including cars, trucks, motorcycles, boats, lawn mowers, and RVs. It supports various battery types such as AGM, GEL, Wet/Flooded, EFB, Calcium, and deep-cycle batteries.

2. Specifications

- **Input Voltage:** 100V-130V AC

- **Output Voltage:** 12V / 24V (Auto-detect)
- **Output Current:** 0-15A
- **Battery Capacity Range:** Charge & maintain 4-400Ah
- **Working Temperature:** -4°F (-20°C) to 104°F (40°C)
- **Product Dimensions:** 11.4"D x 5.8"W x 8.6"H
- **Product Weight:** 12.4 lb (5.6 kg)
- **Cable Length:** AC cord 6 ft, DC cables 4 ft
- **Warranty:** 3 years

3. Features & Controls



3.1 LCD Display

The digital display shows real-time information during charging:

- Battery voltage (V)
- Charging current (A)
- Battery charge percentage (%)
- Charging mode status

3.2 Charging Modes

- **Fast Charge Mode:** For medium to large batteries, provides higher current for quicker charging.
- **Trickle Charge Mode:** For smaller batteries (under 30Ah), provides lower current to prevent damage.
- **Repair Mode:** Attempts to revive deeply discharged batteries (above 3V) that may not accept a normal charge.
- **Winter Mode:** Adjusts charging parameters for cold weather conditions to ensure a complete charge.

3.3 Operation Modes

- **Auto Shut-off:** Automatically stops charging when the battery reaches full charge.
- **Maintain Mode:** After full charge, switches to a pulse maintenance current to prevent sulfation and extend battery life.

3.4 Safety Protections

The charger includes built-in protection against:

- Reverse polarity connection
- Short circuits
- Overcharging
- Overheating
- Over-voltage
- Over-current

4. Usage Guide



4.1 Safety Precautions

WARNING: Always read and follow these safety instructions before use.

- Use only with 12V or 24V lead-acid batteries. Do not use with lithium-ion or other battery chemistries.
- Ensure the charger is placed on a stable, dry, and well-ventilated surface.
- Keep away from flammable materials and sources of ignition.
- Do not disassemble or modify the charger.
- Disconnect both AC power and battery connections before performing any maintenance.

4.2 Connection Procedure

1. **Power Off:** Ensure the charger is unplugged from the AC outlet and all switches are in the OFF position.
2. **Battery Preparation:**
 - For vehicles: Turn off the ignition and all electrical accessories.
 - If possible, remove the battery from the vehicle and place it in a well-ventilated area.
 - Clean battery terminals if corroded.

3. **Connect Clamps:**

- Connect the RED positive (+) clamp to the battery's positive terminal.
- Connect the BLACK negative (-) clamp to the battery's negative terminal or a clean, unpainted metal part of the chassis (for vehicles).
- Ensure clamps have a secure connection.

4. **Select Mode (if applicable):** Choose the appropriate charging mode based on battery size and condition (Fast/Trickle, Repair/Normal).

5. **Connect to Power:** Plug the charger's AC cord into a standard 120V household outlet.

6. **Power On:** The charger will automatically detect battery voltage (12V/24V) and begin the charging process. The LCD display will illuminate and show status.

4.3 **During Charging**

- Monitor the display for charging progress, voltage, and current.
- The charger will automatically adjust the charging rate as needed.
- In Auto Shut-off mode, the charger will stop and indicate when the battery is fully charged.
- In Maintain mode, the charger will continue to provide a maintenance current after full charge.

4.4 **Disconnection Procedure**

1. Unplug the AC power cord from the wall outlet.
2. Disconnect the BLACK negative (-) clamp from the battery or chassis.
3. Disconnect the RED positive (+) clamp from the battery.

5. Troubleshooting

Problem	Possible Cause	Solution
Charger does not power on	No AC power; Loose connections; Blown fuse in household circuit	Check wall outlet; Ensure plug is fully inserted; Check household circuit breaker/fuse.
Display shows "0.0A" or no current	Battery is fully charged; Poor clamp connection; Battery voltage too low (<3V)	Check clamp connections; Try using Repair mode for deeply discharged batteries.
Reverse polarity alarm/indicator	Clamps connected to wrong battery terminals	Immediately disconnect power and clamps. Reconnect correctly: RED to positive (+), BLACK to negative (-).
Charger stops unexpectedly	Overheating; Safety protection triggered; Loose connection	Allow charger to cool in a ventilated area; Check all connections; Restart.
Battery does not hold charge	Battery may be old, damaged, or sulfated	Try using Repair/Maintain mode. Battery may need replacement if it cannot be revived.

6. Care & Maintenance

- Store the charger in a cool, dry place when not in use.
- Periodically inspect the AC cord, DC cables, and clamps for damage, cracks, or exposed wires. Do not use if damaged.
- Keep the charger's ventilation slots clean and unobstructed.
- Clean the clamps with a wire brush if they become corroded.
- Coil cables loosely for storage; avoid sharp bends or kinks.

7. Compatibility

Supported Battery Types: All lead-acid batteries including Wet/Flooded, AGM (Absorbent Glass Mat), GEL, EFB (Enhanced Flooded Battery), Calcium, MF (Maintenance-Free), and deep-cycle.

Compatible Applications:

- Automotive: Cars, Trucks, SUVs, Classic Cars
- Motorcycles: Dirt Bikes, Scooters, Mopeds, ATVs, UTVs
- Recreational: RVs, Campers, Trailers, Golf Carts (12V/24V)

- Marine: Boats, PWCs, Jet Skis
- Power Equipment: Lawn Mowers, Lawn Tractors, Snowmobiles

Note: This is a battery charger and maintainer. It is **NOT** a jump starter. It must be plugged into an AC outlet to operate.

8. Electrolysis Use (Optional)

The charger can be used as a DC power supply for electrolysis, a process used for rust removal from metal objects like cast iron.

CAUTION: This is an advanced application. Proper research and safety precautions for electrolysis are required before attempting. This manual does not provide detailed electrolysis instructions.

Ensure the charger is set to the appropriate DC voltage and current limits for the electrolysis setup.

Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.