EAFC 12V 12A 240W Automatic Pulse Repair Charger

EAFC 12V 12A 240W Automatic Pulse Repair Battery Charger User Manual

Model: 12V 12A 240W Automatic Pulse Repair Charger

1. Introduction

Thank you for choosing the EAFC 12V 12A 240W Automatic Pulse Repair Battery Charger. This device is a fully automatic, microprocessor-controlled battery charger designed to efficiently charge and maintain various types of 12V lead-acid batteries, including Calcium, Gel, AGM, Wet, and EFB batteries. It features advanced pulse repair technology to help restore drained and sulfated batteries, extending their lifespan. The smart LCD touch digital display provides real-time information on voltage, current, temperature, and charging status, automatically adjusting to summer or winter modes for optimal performance.

2. Important Safety Information

Please read and understand all safety information and operating instructions before using this battery charger. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Do not charge lithium batteries.** This charger is designed exclusively for 12V lead-acid batteries (2Ah-150Ah).
- Always wear eye protection and protective clothing when working with batteries.
- Ensure adequate ventilation during charging to prevent the buildup of explosive gases.
- Never short-circuit the output clamps.
- Keep the charger away from water, rain, or excessive moisture.
- Do not operate the charger if it has been dropped or damaged.
- Disconnect the AC power before making or breaking connections to the battery.
- Keep out of reach of children.

3. Product Overview

3.1 Components

The EAFC Battery Charger consists of the main charging unit with an integrated LCD display, AC power cord, and attached positive (red) and negative (black) battery clamps.

Front view of the EAFC 12V 12A Automatic Pulse Repair Battery Charger, showing its orange and black casing, digital display, and attached red and black battery clamps.

3.2 Key Features

- **Smart Automatic Charging:** Fully automatic 7-stage charging process protects against overcharging.
- **Wide Battery Compatibility:** Suitable for most 12V lead-acid battery types including Calcium, Gel, AGM, Wet, and EFB (2Ah-150Ah).
- **Pulse Repair Function:** Helps restore drained and sulfated batteries.
- **Smart LCD Touch Digital Display:** Shows voltage, current, temperature, and charging status. Automatically detects outdoor temperature for summer/winter mode.
- **Multiple Protections:** Includes polarity protection, output short protection, non-battery link protection, over-temperature protection, short circuit protection, overcurrent protection, overheat protection, fire protection, low

voltage protection, over voltage protection, reverse protection, and electric shock protection.

- **Improved Extension Power Cord:** Designed for convenient use without hanging.

A detailed view of the charger's LCD screen, displaying voltage, current, temperature, and various charging indicators like 'Winter/Summer Mode', 'AGM/GEL', 'WET', 'Motorcycle', and 'Repair' functions.

4. Setup Guide

4.1 Unpacking

- Carefully remove the charger and all accessories from the packaging.
- Inspect the charger for any signs of damage. Do not use if damaged.
- Retain packaging for future storage or transport.

4.2 Connecting the Charger

Ensure the charger is disconnected from the AC power outlet before connecting to the battery.

1. Identify the positive (+) and negative (-) terminals on your battery. The positive terminal is usually larger and marked with a plus sign.
2. Connect the **red (+)** clamp of the charger to the**positive (+)** terminal of the battery.
3. Connect the **black (-)** clamp of the charger to the**negative (-)** terminal of the battery. For vehicles, if the battery is still installed, connect the black clamp to the vehicle chassis away from the battery and fuel line.
4. Ensure both connections are secure and free from corrosion.
5. Plug the charger's AC power cord into a standard 110-220V AC, 50-60Hz electrical outlet.

The EAFC battery charger placed next to a car battery, with its red and black clamps correctly connected to the battery terminals, illustrating a typical charging setup.

5. Operating Instructions

5.1 Charging Process

Once connected to the battery and plugged into AC power, the charger will automatically begin the charging process.

1. The LCD display will illuminate and show real-time information including battery voltage, charging current, ambient temperature, and battery power percentage.
2. The charger will automatically detect the battery type and condition, and select the appropriate charging mode (e.g., Car, Motorcycle, AGM, GEL, Lead Acid).
3. The charger will also automatically detect the outdoor temperature and switch between summer and winter charging modes to optimize charging efficiency and prevent overcharging or undercharging in extreme temperatures.
4. The 7-stage charging process will proceed automatically. The display will indicate the charging progress.
5. Once the battery is fully charged, the charger will automatically stop charging and switch to maintenance mode, preventing overcharge. The display will show "FUL" or similar indication.

5.2 Mode Selection

The charger features a touch switch mode technology. While the charger automatically detects the battery type and temperature, you can use the "MODE SELECTION" button on the charger to manually cycle through available modes if needed, such as Car, Motorcycle, AGM, GEL, or Repair. The selected mode will be indicated on the LCD display.

5.3 Pulse Repair Function

The pulse repair function is designed to help restore deeply discharged or sulfated batteries. This function uses high and low frequency pulse technology to break down sulfate crystals that build up on battery plates, which can impede charging. To activate, select the "Repair" mode. Note that the effectiveness of the repair function varies depending on the battery's condition and age, and does not guarantee full restoration for all batteries.

An illustrative image explaining the high and low frequency pulse repair technology used by the charger to restore undervoltage and long idle time batteries, aiming to activate and improve battery condition.

6. Maintenance

Proper maintenance ensures the longevity and safe operation of your EAFC Battery Charger.

- **Cleaning:** Disconnect the charger from AC power and the battery before cleaning. Wipe the casing with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Cable Inspection:** Regularly inspect the AC power cord and battery clamps for any signs of damage, fraying, or corrosion. Replace if damaged.
- **Storage:** Store the charger in a cool, dry place when not in use. Keep it away from direct sunlight, excessive heat, and moisture.
- **Battery Maintenance:** For optimal battery life, ensure battery terminals are clean and free of corrosion before charging.

7. Troubleshooting

If you encounter issues with your charger, refer to the table below for common problems and solutions.

Problem	Possible Cause	Solution
Charger not turning on / No display	No AC power; Loose connection; Faulty outlet.	Check AC power cord connection; Try a different outlet; Ensure battery clamps are properly connected.
Charger not charging battery	Incorrect battery type; Battery too deeply discharged; Reversed polarity; Loose connections.	Ensure battery is 12V lead-acid (2Ah-150Ah); Check battery voltage (if extremely low, charger may not detect); Verify correct polarity (+ to +, - to -); Secure all connections.
"Error" or specific protection indicator on display	Short circuit; Over-temperature; Reverse polarity; Non-battery link.	Disconnect charger, check for shorted clamps or reversed connections, allow to cool if overheated, then reconnect.
Pulse repair not effective	Battery is severely damaged or too old.	The repair function cannot restore all batteries. Consider battery replacement if repair is unsuccessful.

8. Technical Specifications

Specification	Value
Input Voltage	110-220V AC, 50-60Hz
Output Voltage	12V
Output Current	12A
Rated Power	240W
Battery Capacity Range	2Ah - 150Ah
Compatible Battery Types	Calcium, Gel, AGM, Wet, EFB (Lead-Acid)
Thermal Protect	65°C +/- 5°C
Dimensions (L×W×H)	158 × 95 × 62 mm (6.22 × 3.74 × 2.44 inches)
Item Weight	Approx. 560g (1.23 lbs)
Cooling	Fan

Specification	Value
Compliant Standards	CE, FC, Rohs, PSE

9. Warranty and Support

EAFC products are manufactured to high-quality standards. Please refer to the product packaging or the retailer's website for specific warranty terms and conditions applicable to your purchase. For technical support, troubleshooting assistance, or inquiries regarding your EAFC 12V 12A 240W Automatic Pulse Repair Battery Charger, please contact the seller or manufacturer through the platform where the product was purchased.