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ULTRA POWER EP6012F4

ULTRA POWER 4A 14.6V LiFePO4 Smart Battery Charger

USER MANUAL

Introduction

Thank you for choosing the ULTRA POWER 4A 14.6V LiFePO4 Smart Battery Charger. This manual provides essential information for the safe and efficient operation, maintenance, and troubleshooting of your new charger. Please read this manual thoroughly before first use to ensure optimal performance and longevity of your batteries.

Safety Information

Always prioritize safety when operating electrical devices. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Ensure the charger is used in a well-ventilated area.
- Do not expose the charger to rain, moisture, or extreme temperatures.
- Always disconnect the charger from the power outlet before making or breaking connections to the battery.
- This charger is designed specifically for 12.8V-14.6V LiFePO4 batteries. Do not attempt to charge other battery types.
- Keep out of reach of children.
- The charger features multiple protection mechanisms including overcurrent protection, overvoltage protection, overload protection, short-circuit protection, and reverse polarity protection.

MULTI-LEVEL SECURITY PROTECTION

Fully protected system
keep your devices safety



Reverse Polarity
Protection



Short-circuit
Protection



Over Current
Protection



Over Charger
Protection



Over Heat
Protection



Full Charged
Stop Protection

Image: The charger highlighting its multi-level security protection features, including reverse polarity, short-circuit, over current, over charger, over heat, and full charged stop protection.

Product Overview and What's in the Box

The ULTRA POWER Smart Battery Charger is a microprocessor-controlled 4-stage charger designed for optimal charging and maintenance of LiFePO4 batteries.

Package Contents:

- ULTRA POWER 4A LiFePO4 Smart Battery Charger
- SAE Connector Cable
- 5.5x2.5 DC Plug Cable
- Lotus Plug Cable
- Fish Clips (Alligator Clips) Accessory Cable
- User Manual

WHAT'S IN THE BOX

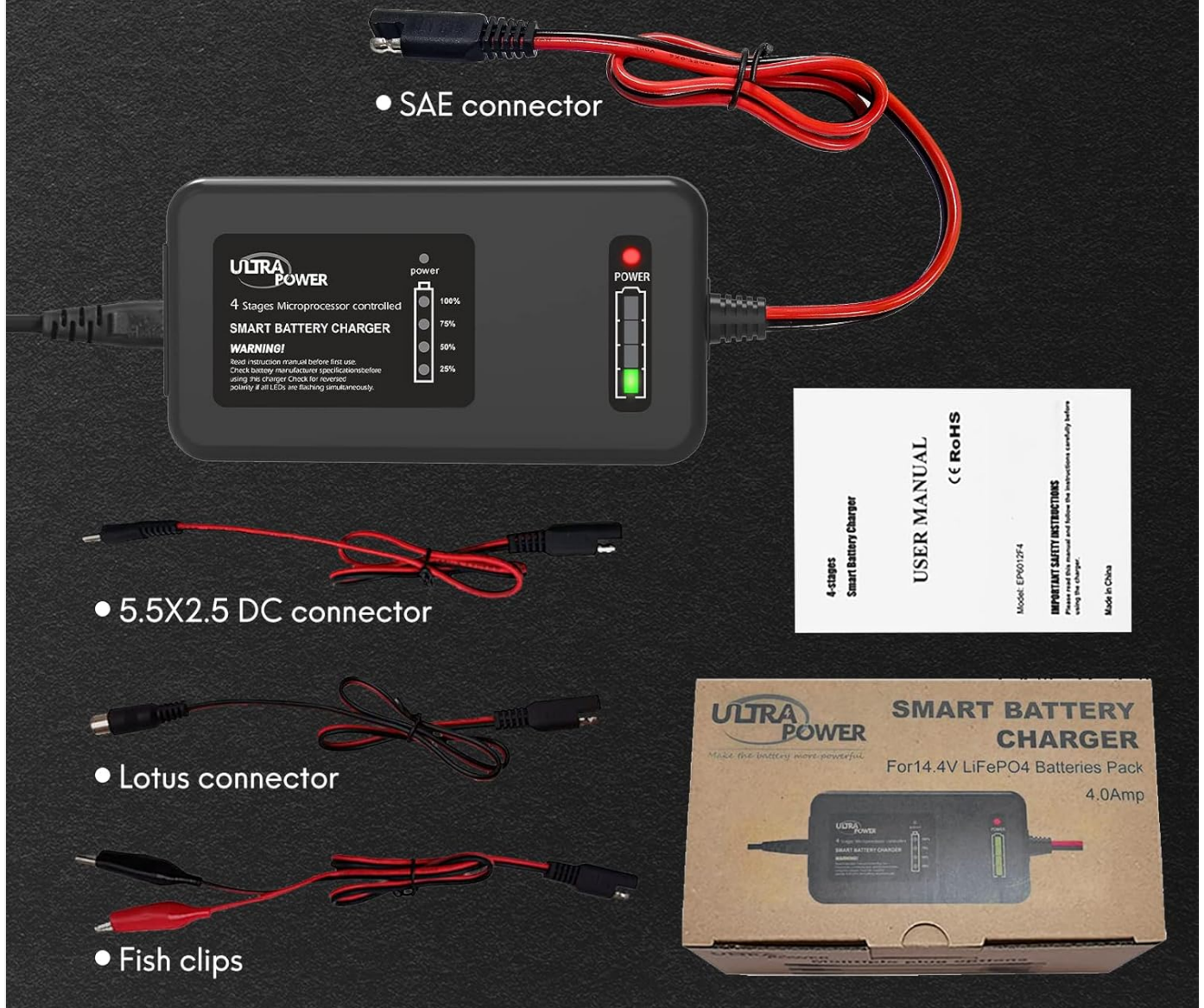


Image: A view of the ULTRA POWER Smart Battery Charger along with all its included accessories: SAE connector, 5.5x2.5 DC connector, Lotus connector, and fish clips, neatly arranged next to the user manual and product box.

Specifications

Feature	Specification
Brand	ULTRA POWER
Model	EP6012F4
Product Type	Electronics
Output Voltage	12.8 Volts (14.6V charging)

Feature	Specification
Charging Current	4 Amps
Battery Composition	Lithium (LiFePO4)
Special Features	Overcurrent protection, Overvoltage protection, Overload protection, Moisture protection, Short-circuit protection, Electrical protection.
Product Weight	490 g (1.08 Pounds)
Product Dimensions	6.6 x 11.7 x 4.8 cm
Color	Black

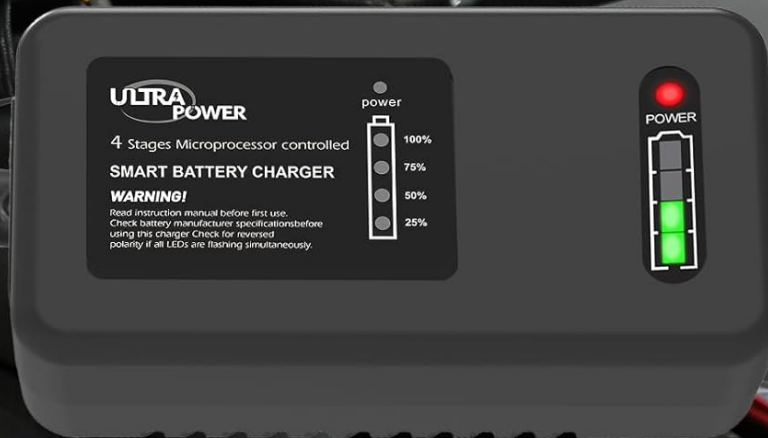
Setup

Before connecting the charger, ensure your battery is a 12.8V-14.6V LiFePO4 type. Verify the battery's voltage and capacity are compatible with a 4A charger.

- 1. Choose the Right Connector:** Select the appropriate accessory cable (Fish Clips, 5.5x2.5 DC plug, or Lotus plug) for your battery connection.
- 2. Connect to Battery:**
 - For Fish Clips: Connect the red clip to the positive (+) terminal of the battery and the black clip to the negative (-) terminal. Ensure a secure connection.
 - For DC or Lotus Plugs: Connect the plug to the corresponding port on your battery or device.
- 3. Connect to Charger:** Plug the chosen accessory cable into the SAE connector on the charger.
- 4. Connect to Power Outlet:** Plug the charger's AC power cord into a standard 110VAC 60Hz wall outlet.

The charger will automatically begin the charging process once connected correctly. The power LED will illuminate red, and the charge status LEDs will indicate the battery's charge level.

WIDER APPLICATION



SUPPORT 14.6V LITHIUM (LIFEPO4) BATTERIES



Image: The ULTRA POWER charger connected to a car battery, illustrating its wider application for various vehicles and devices that use 14.6V Lithium (LiFePO4) batteries, such as motorcycles, e-bikes, scooters, golf carts, jeeps, drones, and boats.

Operating Instructions

The ULTRA POWER charger utilizes a smart 4-stage microprocessor-controlled charging process to optimize battery health and charging efficiency.

Charging Stages:

- **Stage 1: Diagnose Battery Status / Automatic Activate "Sleep Battery"**
The charger first analyzes the battery's condition. It can reactivate 0V batteries, detecting batteries down to 2-volt.
- **Stage 2: Soft Start**
Charging begins with an echelon constant current to gently prepare the battery for full charging.
- **Stage 3: Main Charge (Constant Current/Constant Voltage)**
The charger delivers a steady 4-Amp current until the battery reaches approximately 80% capacity, then switches to constant voltage charging to safely reach full charge.

- **Stage 4: Maintenance Mode / Automatic "Re-charging"**

Once fully charged, the charger automatically cuts off the output. It then continuously monitors the battery's health and will automatically re-charge if the battery voltage drops, ensuring optimal performance and longevity without overcharging.

LED Indicators:

The charger features 4 LEDs to display the battery status and a power indicator LED.

- **Power LED (Red):** Illuminates when the charger is connected to a power outlet.
- **Charge Status LEDs (Green):** Indicate the battery's charge level:
 - 25%
 - 50%
 - 75%
 - 100% (All four LEDs illuminated)
- **Fault Alarm:** If all LEDs are flashing simultaneously, check for reversed polarity or other connection issues.

AUTOMATIC CHARGING



Image: The ULTRA POWER charger demonstrating its automatic charging capabilities, including automatic battery activation (detects down to 2-volt), a 4-grid power display (25%, 50%, 75%, 100%), and an automatic cut-off mode once fully charged.

Maintenance

Proper maintenance ensures the longevity of your charger and batteries.

- Keep the charger clean and dry. Wipe with a soft, dry cloth.
- Store the charger in a cool, dry place when not in use.
- Inspect cables and connectors regularly for any signs of damage. Do not use if cables are frayed or connectors are damaged.
- Ensure proper ventilation around the charger during operation to prevent overheating.

Troubleshooting

Problem	Possible Cause	Solution
Charger not turning on (Power LED off)	No power from outlet; Loose connection.	Check wall outlet with another device; Ensure AC cord is securely plugged in.
All charge status LEDs flashing simultaneously	Reverse polarity connection; Faulty battery; Short circuit.	Disconnect immediately. Recheck battery connections for correct polarity (+ to + and - to -). If issue persists, battery may be faulty or there's a short circuit.
Battery not charging or charging slowly	Incorrect battery type; Battery deeply discharged; Poor connection.	Ensure battery is LiFePO4 12.8V-14.6V. The charger can reactivate 0V batteries, but very deeply discharged batteries may take longer. Check all connections for tightness.
Charger feels warm	Normal operation; Insufficient ventilation.	It is normal for the charger to feel warm during operation. Ensure it is in a well-ventilated area and not covered. If it becomes excessively hot, disconnect and allow to cool.

Warranty Information

This product is covered by a manufacturer's warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to the documentation included with your purchase or contact the seller directly. Extended warranty plans may also be available for purchase.

Support

For technical assistance, product inquiries, or warranty claims, please contact ULTRA POWER customer support through the retailer where you purchased the product. Please have your model number (EP6012F4) and purchase details ready when contacting support.