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› JSDSOLAR 24V 20A LiFePO4 Battery Charger Instruction Manual

**jsdsolar 24V 20A**

# JSDSOLAR 24V 20A LiFePO4 Battery Charger Instruction Manual

Model: 24V 20A

Brand: JSDSOLAR

## 1. INTRODUCTION

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The JSDSOLAR 24V 20A LiFePO4 Battery Charger is specifically engineered for efficient and safe charging of 25.6V LiFePO4 deep cycle rechargeable batteries. This manual provides essential information for proper setup, operation, and maintenance to ensure optimal performance and longevity of your battery and charger.



Image 1.1: JSDSOLAR 24V 20A LiFePO4 Battery Charger. This image displays the main charger unit, its attached alligator clips for battery connection, and the AC power cord.

## 2. SAFETY INSTRUCTIONS

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

- This charger is designed exclusively for **25.6V LiFePO4 batteries**. Do not attempt to charge other battery types (e.g., lead-acid, Ni-Cd, Ni-MH) as this may cause damage to the charger, battery, or personal injury.
- Ensure proper ventilation during charging. Do not cover the charger or operate it in an enclosed space.
- Avoid contact with water, moisture, or flammable materials.
- Keep the charger and battery out of reach of children and pets.
- Do not disassemble, modify, or attempt to repair the charger. Refer all servicing to qualified personnel.

- Always connect the charger to the battery before plugging it into the AC power source. Disconnect from AC power before disconnecting from the battery.
- Verify correct polarity (+ to + and - to -) when connecting the alligator clips to the battery terminals. Reverse polarity connection protection is built-in, but incorrect connection should still be avoided.
- The charger features multiple protection mechanisms including over-temperature, output short-circuit, reverse polarity, and output over-voltage protection.



**100%**

## Reliable Safety Protections

Maintain the good battery performance & extend its lifespan.

-  **Output Over-Voltage Protection**
-  **Temperature Protection**
-  **Output short-Circuit Protection**
-  **Reverse Polarity Connection Protection**

\*Automatically cut off when the battery is full charging

Image 2.1: Reliable Safety Protections. This graphic highlights the charger's built-in safety features: output over-voltage protection, temperature protection, output short-circuit protection, and reverse polarity connection protection.

### 3. PACKAGE CONTENTS

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Please check the package contents upon receipt to ensure all items are present and undamaged:

- JSDSOLAR 24V 20A LiFePO4 Battery Charger Unit
- AC Power Cord
- User Manual (this document)



Image 3.1: What's in the Box. This image shows the JSDSOLAR 24V 20A LiFePO4 Battery Charger, its AC power cord, and the included user manual.

## 4. PRODUCT OVERVIEW

### 4.1 Features

- **Dedicated LiFePO4 Charging:** Specifically designed for 25.6V LiFePO4 batteries.
- **Advanced Charging Algorithm:** Utilizes a 2-stage Constant Current/Constant Voltage (CC/CV) charge algorithm for efficient and safe charging.
- **Intelligent LED Indicators:** Provides clear feedback on charging status and diagnostic information.
- **Pre-Charge Function:** Activates Battery Management Systems (BMS) in LiFePO4 batteries, allowing charging to start even from 0V.
- **High Efficiency:** Delivers a constant current of 20A and a constant voltage of 29.2V for rapid charging.
- **Robust Protection:** Includes over-temperature, output short-circuit, reverse polarity, and output over-voltage protection.
- **Durable Construction:** Made from aluminum alloy with surface oxidation treatment for high hardness and oxidation resistance.
- **Integrated Cooling:** Features a built-in cooling fan to maintain optimal operating temperature.

# 3 Charging Stages

Extend the LiFePO<sub>4</sub> Battery Cycle Times

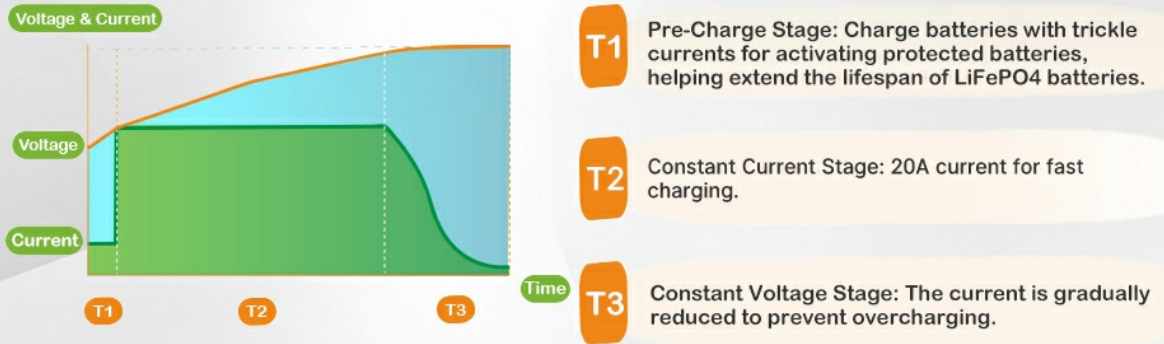


Image 4.1: Three Charging Stages. This diagram illustrates the charger's 3-stage charging process: T1 (Pre-Charge) for activating protected batteries, T2 (Constant Current) for fast charging at 20A, and T3 (Constant Voltage) where current is gradually reduced to prevent overcharging.

## 4.2 Components

- **Charger Unit:** The main body housing the charging circuitry and cooling fan.
- **AC Input Port:** For connecting the AC power cord.
- **DC Output Cables:** Permanently attached cables with red (+) and black (-) alligator clips for connecting to the battery.
- **LED Indicators:** Located on the charger unit to display operational status.

# 29.2V 20A LiFePO4 Battery Charger

Easy Operation & High Safety



Image 4.2: Charger Components. This image provides a detailed view of the charger, highlighting the LED indicators on the side and the robust alligator clips for battery connection.

## 5. SETUP

Follow these steps to set up your JSDSOLAR LiFePO4 Battery Charger:

1. **Prepare the Battery:** Ensure your LiFePO4 battery is clean and its terminals are free from corrosion.
2. **Connect to Battery:** Connect the **red (+) alligator clip** from the charger to the **positive (+) terminal** of your battery. Connect the **black (-) alligator clip** from the charger to the **negative (-) terminal** of your battery. Ensure a secure connection.
3. **Connect to AC Power:** Plug the AC power cord into the charger's input port, then plug the other end of the AC power cord into a standard 100-240V AC wall outlet.
4. **Verify BMS Compatibility:** Ensure your battery has a Battery Management System (BMS) with a minimum 20A rating to safely handle the charger's output.

Image 5.1: Easy Operating Steps. This graphic illustrates the simple three-step process for connecting the charger: first, attach alligator clips to the battery; second, plug the charger into an AC outlet; and third, observe the LED indicators for charging status.

## 6. OPERATING INSTRUCTIONS

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Once the charger is properly connected to both the battery and the AC power source, it will automatically begin the charging process. The intelligent LED indicators will provide real-time feedback on the charging status.

- The charger will automatically detect the battery and initiate the appropriate charging stage, including the Pre-Charge function if the battery's BMS needs activation.
- The charging process will continue until the battery reaches full capacity, at which point the charger will automatically cease charging to prevent overcharging.
- Always disconnect the AC power cord from the wall outlet first, then disconnect the alligator clips from the battery terminals when charging is complete or if you need to interrupt the process.

## 7. LED INDICATORS

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The charger is equipped with an LED indicator to communicate its operational status:

LED State	Meaning
Blue (Flashing)	Charging (Normal operation)
Green (Solid)	Charged (Battery full)
Red (Flashing)	Fault (Under protection, e.g., over-temperature, short-circuit, reverse polarity)
Green (Flashing)	Not Connected (Standby mode, waiting for battery connection)

## 8. MAINTENANCE

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Proper maintenance ensures the longevity and reliable operation of your charger:

- **Cleaning:** Keep the charger unit clean and dry. Use a soft, dry cloth to wipe away dust or debris. Do not use liquid cleaners.
- **Storage:** When not in use, store the charger in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Cable Inspection:** Regularly inspect the AC power cord and DC output cables, including the alligator clips, for any signs of damage, fraying, or loose connections. Replace if damaged.
- **Ventilation:** Ensure the built-in cooling fan and ventilation openings are free from obstructions to allow for proper airflow.

## 9. TROUBLESHOOTING

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If you encounter issues with your charger, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
Charger not turning on / No LED activity	No AC power; Faulty AC cord; Internal fault.	Check AC power outlet and connections. Try a different outlet. Inspect AC cord for damage. If problem persists, contact support.
Battery not charging / LED flashing Red	Incorrect battery connection (reverse polarity); Battery type incompatibility; Battery BMS in protection mode; Short circuit.	Verify correct polarity of alligator clips. Ensure battery is 25.6V LiFePO4. Disconnect and reconnect battery to reset BMS. Check for short circuits in wiring.
Charger feels excessively hot	Poor ventilation; Overload; Internal fault.	Ensure charger is in a well-ventilated area. Clear any obstructions from the cooling fan. If overheating persists, disconnect immediately and contact support.
Charging takes longer than expected	Battery capacity larger than expected; Battery deeply discharged; Environmental factors.	Refer to battery specifications for expected charging times. Ensure charger is operating in optimal conditions.

## 10. SPECIFICATIONS

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Detailed technical specifications for the JSDSOLAR 24V 20A LiFePO4 Battery Charger:

- **Model:** 24V 20A
- **Input Voltage:** 100-240V AC, 50/60Hz, 8A Max
- **Output Voltage:** 29.2V DC
- **Output Current:** 20A
- **Maximum Output Power:** 584W
- **Designed For:** 25.6V LiFePO4 Batteries
- **Charging Algorithm:** 2-stage CC/CV with Pre-Charge function
- **Protection Features:** Over-temperature, Output Short-Circuit, Reverse Polarity, Output Over-Voltage
- **Product Dimensions:** 10.35" (L) x 7.2" (W) x 2.28" (H) (26.3cm x 18.3cm x 5.8cm)
- **Item Weight:** 3.63 pounds (1.65 kg)
- **Housing Material:** Aluminum Alloy

# Dedicated LiFePO4 Battery CHARGER

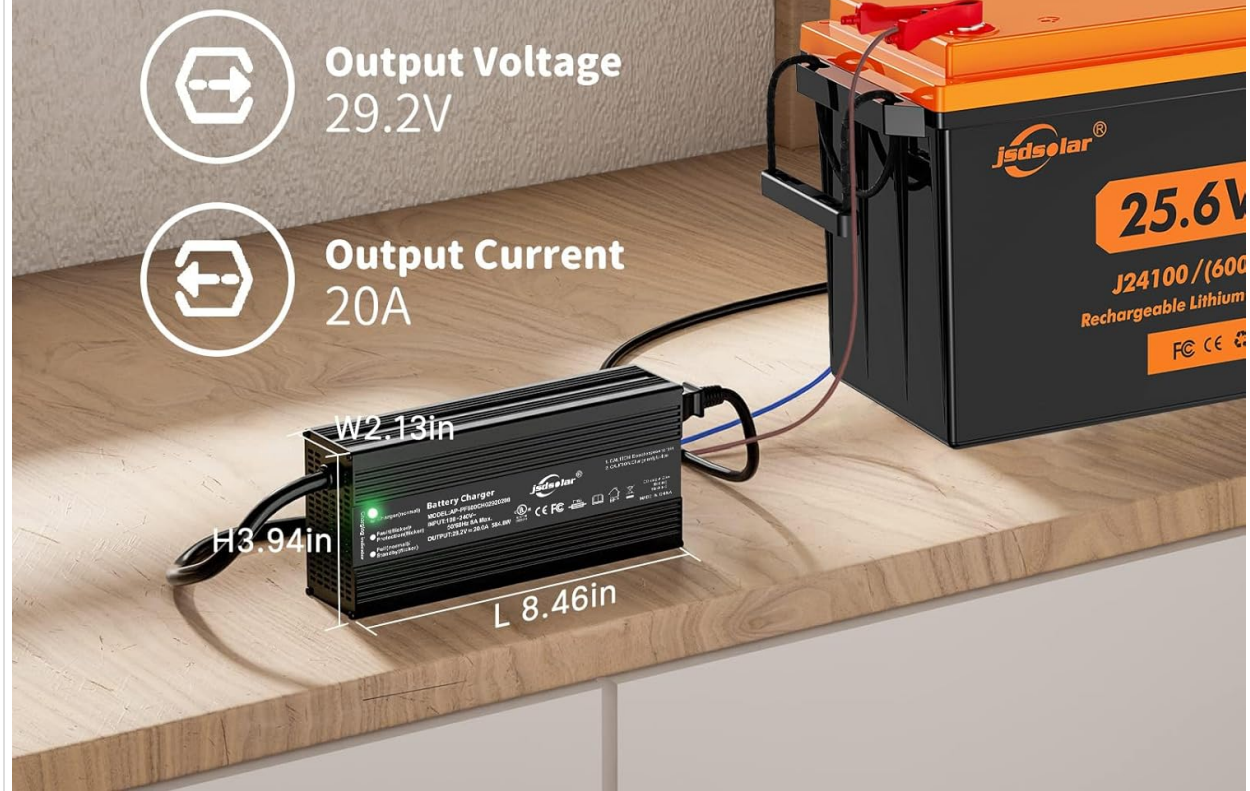


Image 10.1: Charger Specifications. This image displays the charger connected to a battery, with key specifications highlighted: Output Voltage 29.2V, Output Current 20A, and the physical dimensions of the charger (L 8.46in, W 3.94in, H 2.13in).

## 11. WARRANTY AND SUPPORT

The JSDSOLAR 24V 20A LiFePO4 Battery Charger comes with a **2-Year Warranty** from the date of purchase, covering defects in materials and workmanship under normal use.

For technical support, warranty claims, or any questions regarding your product, please contact JSDSOLAR customer service through the retailer where the product was purchased or visit the official JSDSOLAR website for contact information.

Please retain your proof of purchase for warranty service.