

## Litime L12V40A-BCHA-H-Y

# LiTime 14.6V 40A Lithium Battery Charger Instruction Manual

Brand: Litime | Model: L12V40A-BCHA-H-Y

## 1. PRODUCT OVERVIEW

The LiTime 14.6V 40A Lithium Battery Charger is designed for efficient and safe charging of 12V LiFePO4 batteries. It features advanced charging technology and multiple protection mechanisms to ensure optimal battery performance and longevity.

### Key Features:

- **40A Fast Charging:** Delivers rapid and efficient charging, capable of fully charging a 12V 200Ah battery in approximately 5 hours.
- **Anderson Connector & Smart Battery Activation:** Equipped with a robust Anderson plug for secure connections and a smart activation function to revive deeply discharged (zero-volt) LiFePO4 batteries.
- **Smart 3-Stage Charging:** Automatically transitions through Pre-Charge, Constant Current, and Constant Voltage stages for safe and stable charging cycles.
- **Real-time Status Display:** An integrated LED indicator clearly displays the charger's operational status: standby, charging, fully charged, or fault conditions.
- **Wide Voltage Input & Multi-Protection:** Compatible with 100-240V AC input. Features a built-in cooling fan and comprehensive safety features including short circuit, overcurrent, reverse polarity, over/undervoltage, and over-temperature protection. Certified FCC, CE, RoHS, PSE.

## 14.6V 40A Mountable LiFePO4 Battery Charger



**Li Time**



Output Voltage: 14.6V DC

Output Current: 40A

Rated Input Voltage: 100-240V AC

## Charger Won't Activate?

✗ Just plugged in a second battery and it won't charge?

✓ Quick Fix



Image: Detailed overview of the charger, highlighting AC input (AC Port, On/Off Switch, Mounting Holes) and DC output (DC Output Cable, LED Indicator, Cooling Fan).

## 2. PRODUCT COMPONENTS

The LiTime 14.6V 40A Lithium Battery Charger package includes the following items:

- 1x LiTime 14.6V 40A Lithium Battery Charger
- 1x AC Cable
- 1x DC Cable with Anderson Connector
- 1x M8 OT Terminal (for battery connection)
- Fastener Packs (for mounting)
- 1x User Manual



Image: Contents of the product box, including the charger, AC cable, DC cable, M8 OT terminal, fastener packs, and user manual.



Image: Close-up of the charger's cables, highlighting PVC insulated jacket, high quality copper wire, and pure copper M8 OT terminals.

### 3. SPECIFICATIONS

| Feature            | Specification              |
|--------------------|----------------------------|
| Model Number       | L12V40A-BCHA-H-Y           |
| Input Voltage      | 100-240V AC                |
| Output Voltage     | 14.6V DC                   |
| Output Current     | 40A                        |
| Product Dimensions | 11.54 x 5.31 x 3.29 inches |
| Item Weight        | 6.17 pounds                |
| Certifications     | FCC, CE, RoHS, PSE         |

### 4. SAFETY PRECAUTIONS

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

- **Voltage Compatibility:** Ensure the charger voltage matches the battery voltage.
- **Secure Connections:** Always ensure terminals are tight to prevent overheating or melting.
- **Correct Polarity:** Connect red to positive (+) and black to negative (-).
- **Ventilation:** Place the charger in a stable, well-ventilated area to prevent overheating.
- **No Disassembly:** Do not open, dismantle, or modify the charger. This may cause malfunction and void the warranty.
- **Environmental Conditions:** Avoid using in thunderstorms, near water, heat sources, sparks, flames, flammable gas, or hazardous chemicals.
- **Physical Damage:** Do not puncture, drop, crush, burn, penetrate, shake, or throw the charger.

### Precautions for LiTime Battery Chargers

1

The charger voltage must match the battery voltage

2

Ensure terminals are tight to prevent overheating or melting

3

Check Polarity  
Red = Positive, Black = Negative

4

For adjustable voltage chargers, ensure adjustable chargers match the battery voltage before connecting

5

Place the charger in a stable, well-ventilated place when using it

6

Do Not Disassemble  
Disassembly may cause the charger to malfunction and void the warranty

Image: The charger features 6 safety protections: Output Over-voltage, Reverse Polarity Connection, Output Under-voltage, Output Short-circuit, Output Over-current, and Over-temperature Protection.



Image: Visual guide on precautions: matching charger voltage to battery, ensuring tight terminals, checking polarity, placing charger in well-ventilated area, and not disassembling the charger.

## 5. SETUP AND INSTALLATION

Follow these steps to properly connect your LiTime charger to your LiFePO4 battery:

1. Ensure the charger's On/Off switch is in the OFF position.
2. Connect the DC output cable to the battery terminals: Red (+) to positive, Black (-) to negative. Ensure connections are secure.
3. Connect the Anderson connector from the DC cable to the charger's DC output port.
4. Connect the AC input cable to the charger's AC port and then plug it into a 100-240V AC power outlet.

### Find the Perfect LiFePO4 Charger for Your Environment



#### With Standard Charger

For RVs, homes, garages, and other indoor charging



#### With Upgraded Waterproof Charger

IP65 Waterproof, safe in boats or outdoor wet conditions



Image: Diagram showing how to easily connect the Anderson connector between the charger and the battery.

Your browser does not support the video tag.

Video: A demonstration of connecting the 12V/14.6V 40A LiFePO4 Battery Charger to a battery, showing the process of attaching the clamps and plugging in the AC cable.

## 6. OPERATING INSTRUCTIONS

Once the charger is properly connected and plugged into a power source, you can begin the charging process.

### Charging Process:

1. Turn on the charger's On/Off switch. The LED indicator will illuminate to show the charging status.



- 2. Monitor the LED indicator for real-time status updates.
- 3. Once the battery is fully charged, turn off the switch and disconnect the charger.



Image: Step-by-step visual guide on how to charge the battery using the LiTime charger.

LED Indicator Status:

- **LED Flashes Green:** Charger is on standby.
- **LED Always on Red:** Battery is charging.
- **LED Always on Green:** Battery is fully charged.
- **LED Flashes Red:** Charger fault or under protection.



|           |                 |
|-----------|-----------------|
| 14.6V 10A | 14.6V 40A DC-DC |
| 14.6V 20A | 14.6V 60A DC-DC |
| 14.6V 40A | 29.2V 40A       |
| 14.6V 60A | 43.8V 18A       |
| 14.6V 80A | 53.8V 10A       |
| 29.2V 20A | 53.8V 30A       |



|                  |                  |
|------------------|------------------|
| 14.6V 10A        | 14.6V+18.25V 5A  |
| 14.6V+29.2V 10A  | 14.6V+18.25V 10A |
| 14.6V+43.8V 10A  | 14.6V+18.25V 20A |
| 14.6V 10A 2-Bank | 43.8V 10A        |
| 14.6V 10A 3-Bank | 43.8V 25A        |
| 14.6V 10A 4-Bank | 58.4V 18A        |

Image: Visual representation of the LED indicator states for charging status.

Smart 3-Stage Charging Modes:

The charger automatically adjusts its output based on the battery's state of charge.

1. **Pre-Charge Stage (T1):** For deeply discharged batteries, the charger sends a gentle, limited current to safely raise the voltage and activate the battery.
2. **Constant Current Charging Stage (T2):** Once the battery is active, the charger delivers full 40A current until the battery voltage reaches the set value.
3. **Constant Voltage Charging Stage (T3):** The charger switches to constant voltage, gradually decreasing current as the battery approaches full charge. Charging stops when the battery is fully charged.



## LED Indicator





-  **LED Always on Red**  
Battery is charging
-  **LED Always on Green**  
Battery is fully charged
-  **LED Flashes Green**  
Charger is on standby
-  **LED Flashes Red**  
Charger fault or under protection

Image: Graph illustrating the three charging stages (Pre-Charge, Constant Current, Constant Voltage) with corresponding voltage and current curves over time.

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Video: An animated explanation of the 3-stage charging process for a LiFePO4 battery, from 0% to 100%.

## Lithium Battery Activation Function:

The charger can restore deeply discharged (slept or weak) LiFePO4 batteries to their normal voltage, extending battery lifespan.



Image: Illustration of the charger activating a deeply discharged LiFePO4 battery.

## 7. MAINTENANCE

To ensure optimal performance and longevity of your charger, follow these maintenance guidelines:

- Keep the charger clean and free from dust and debris.
- Ensure proper ventilation around the charger during operation.
- Regularly inspect cables and connectors for any signs of wear or damage.
- Store the charger in a dry, well-ventilated area when not in use.

## 8. TROUBLESHOOTING

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

| Problem   | Possible Cause  | Solution  |
|---|---|---|
| Charging indicator flashes red when charging.                                       | Under Over-temperature Protection                                   | Cool down the charger to normal temperature.                |
| Charging indicator flashes red after connected.                                     | Under Reverse Polarity Connection / Output Short-Circuit Protection | Connect the charger to the battery correctly.               |
| Charging indicator flashes red after connected.                                     | Under Output Over-voltage Protection                                | Make sure the connected battery is a 12.8V LiFePO4 battery. |
| The charger does not charge and the LED is off after being connected to grid power. | Poor connection   | Make sure all connections are correct and tight.            |
| The charger does not charge and the LED is off after being connected to grid power. | Charger Internal Damage   | Contact support for further solutions.                      |



Image: Troubleshooting guide for when the charger won't activate, providing a quick fix solution for charging multiple batteries.

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Video: A guide on what to do if your LiFePO4 battery is not working or appears faulty.

## 9. WARRANTY AND SUPPORT

The LiTime 14.6V 40A Lithium Battery Charger comes with a manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty card included in your package or visit the official LiTime website.

For technical support, troubleshooting assistance, or warranty claims, please contact LiTime customer service:

- Email: [service@litime.com](mailto:service@litime.com)
- Website: [www.litime.com](http://www.litime.com)