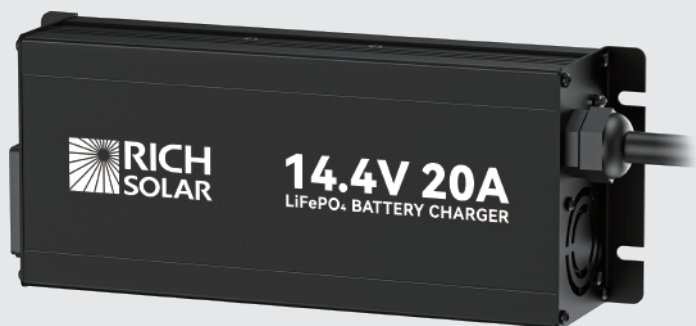




User Manual

LiFePO₄ Battery Charger



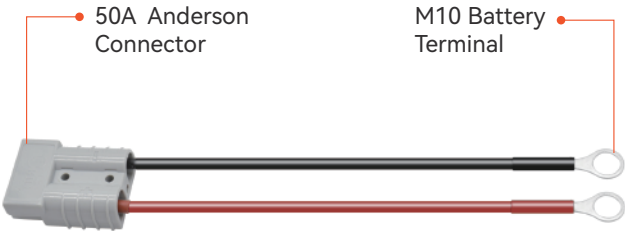
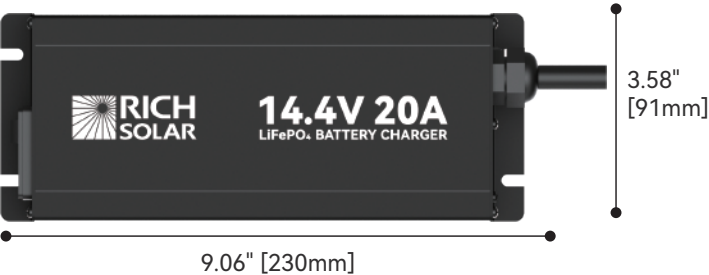
MODEL: RS-BC12V20

THIS MANUAL CONTAINS IMPORTANT SAFETY AND OPERATING INSTRUCTIONS FOR LiFePO₄ BATTERY CHARGER. PLEASE READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS EXACTLY.

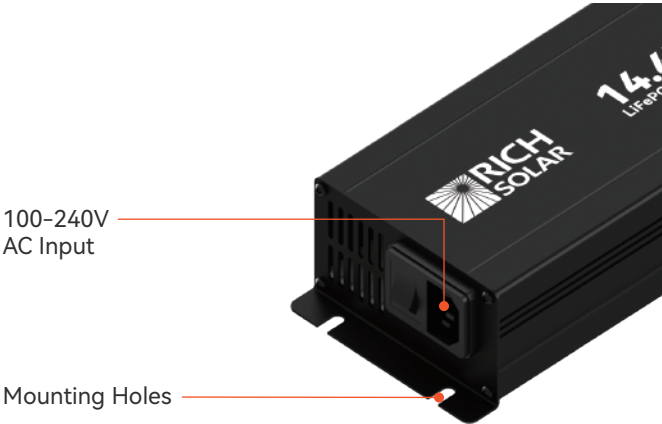
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PRODUCT OVERVIEW

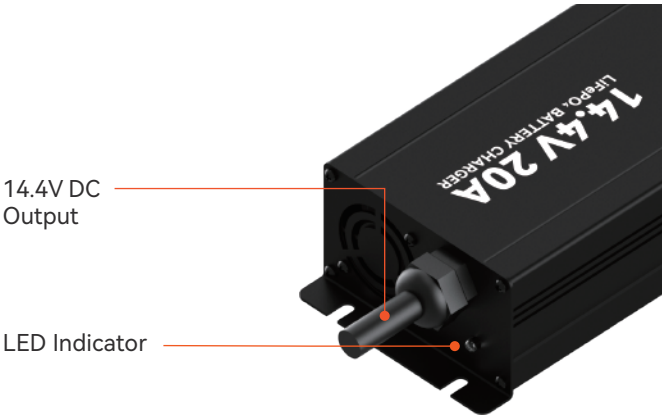
14.4V 20A LiFePO₄ Battery Charger



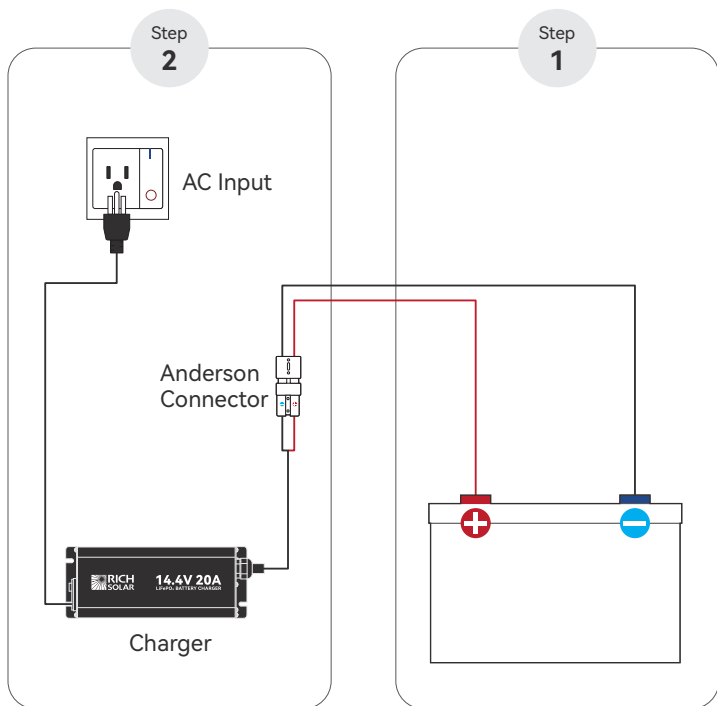
AC SIDE



DC SIDE



HOW TO CONNECT







Step 1 Connect the DC output cable to the battery, **+** to **+**, **-** to **-**, then connect the Anderson connector.

Step 2 Connect the AC input cable to the AC port and then to the grid power.

Step 3 Disconnect the Anderson connector or the grid power after charging is complete.

LED INDICATOR

LED Status	Charger Status
 LED Always on Red	Battery is charging
 LED Always on Green	Battery is fully charged
 LED Flashes Red	Charger fault or under protection (overtemperature protection, output short-circuit protection, reverse polarity connection protection, output over-voltage protection).
 LED Flashes Green	Battery is on standby

SPECIFICATIONS

Input Voltage	100V to 240V AC; 47Hz to 63Hz
Max Input Current	4A
Output Voltage	14.4V±0.2VDC
Output Current	20A
Temperature Range	Operating: -20°C to 40°C / -4°F to 104°F Storage: -40°C to 70°C / -40°F to 158°F
Dimensions	9.06x3.58x2.07in / 230x91x52.5mm
Net Weight	3.75lb / 1.70kg

CHARGING MODES

Pre-Charge stage (T1)

When the battery voltage is lower than its normal standard and cannot withstand high-current charging, the charger will charge it at a limited current.

This charging mode will be able to activate and repair the battery and extend the battery's lifetime. When the output voltage reaches the normal value, the charger will automatically switch to the next stage.

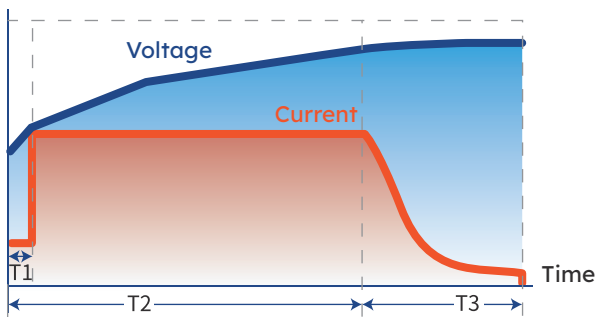
Constant Current Charging stage (T2)

When the battery is in the main charging time, the charger will charge the battery with a 20A current, When the battery voltage rises above the set value, the charger will automatically switch to the next stage.

Constant Voltage Charging Stage (T3)





The charger switches to the Constant Voltage Charging Stage and the charging current gradually decreases. When the charging voltage or current reaches the set value, the charger automatically turns off the output voltage and the battery charging is completed.

Voltage & Current







* The charging curves are as above

MAINTENANCE & USE PRECAUTIONS

1. Check the battery specifications carefully before charging to ensure that the LiFePO_4 battery matches the charger technical data.
2. Make sure the charger is properly connected to the battery ( to ,  to ) to avoid a short circuit.
3. The input/output connectors must be firmly connected during charging.
4. Unplug the input/output cable of the charger immediately once the charger or battery is found to be abnormal or damaged during charging.
5. **Do not** use other input cables or extend the output connection cable personally, or please contact RICH SOLAR at support@richsolar.com to get some advice if you need it.
6. **Do not** open, dismantle, or modify the charger.
7. Never use it in a thunderstorm.
8. Please keep the charger and battery away from water, heat sources, sparks, flames, flammable gas, and hazardous chemicals.
9. **Do not** place rods or other metal objects in vents or other openings.
10. Place the charge in a well-ventilated area with sufficient heat dissipation to prevent overheating and damage.

TROUBLESHOOTING

If the charger does not work properly, the following methods can help you solve the general problem quickly. If you still cannot rule out the possibility of failure, please contact RICH SOLAR at support@richsolar.com

Problem	Possible Cause	Solution
LED flashes red when charging.	Under Over Temperature Protection	Cool down the charger to normal temperature, and the charger will resume charging.
LED flashes red after connected.	Under Reverse Polarity Connection Protection / Output Short-Circuit Protection	Connect the charger to the battery correctly,  to  ,  to  .
	Under Output Over-Voltage Protection	Make sure the connected battery is a 12.8V Lithium battery.
The charger does not charge and the LED is off after being connected to grid power.	Ac port is not tightly or correctly connected.	Reconnect the AC input cable to the AC input port tightly.
	Charger Internal Damage	Contact us support@richsolar.com for further solutions.



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