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› Power Queen 14.6V 20A LiFePO4 Battery Charger Instruction Manual

Power Queen 14.6V 20A

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Model: 14.6V 20A

PRODUCT OVERVIEW

The Power Queen 14.6V 20A LiFePO4 battery charger is specifically designed for 12V (12.8V) LiFePO4 lithium batteries. It features an advanced 2-stage constant current/constant voltage (CC/CV) charging algorithm to optimize battery life and performance. Equipped with intelligent LED indicators, this charger provides real-time status updates. Its robust design includes multiple safety protections and an integrated cooling fan for reliable operation.

- **Dedicated LiFePO4 Charging:** Optimized for 12V LiFePO4 batteries with a special 2-stage CC/CV algorithm.
- **0V Activation Function:** Capable of activating BMS-protected LiFePO4 batteries.
- **High Efficiency:** Delivers 20A constant current for fast charging, capable of fully charging a 100Ah battery in approximately 5 hours.
- **Comprehensive Protection:** Includes over-temperature, output short-circuit, reverse polarity, and output over-voltage protection.
- **User-Friendly:** Simple connection process with clear LED status indicators.
- **Durable Construction:** Made from aluminum alloy with an integrated cooling fan for enhanced heat dissipation and longevity.

TECHNOLOGIE DE VENTILATEUR DE REFROIDISSEMENT INTELLIGENT

Le ventilateur de refroidissement intégré assure un fonctionnement sûr et stable pendant une longue période.



Image Description: This image displays the Power Queen 14.6V 20A LiFePO4 battery charger protected by a shield icon, illustrating its comprehensive safety features. These include protection against under-voltage, reverse polarity, over-voltage, over-current, short-circuits, and over-temperature, all designed to prolong battery life.

VOYANT LED EN TEMPS RÉEL



LED Toujours Rouge:
La batterie est
en charge



LED Toujours Vert:
La batterie est
complètement chargée



LED Clignote Vert:
Le chargeur
est en veille



LED Clignote Rouge:
Défaut du chargeur
ou sous protection

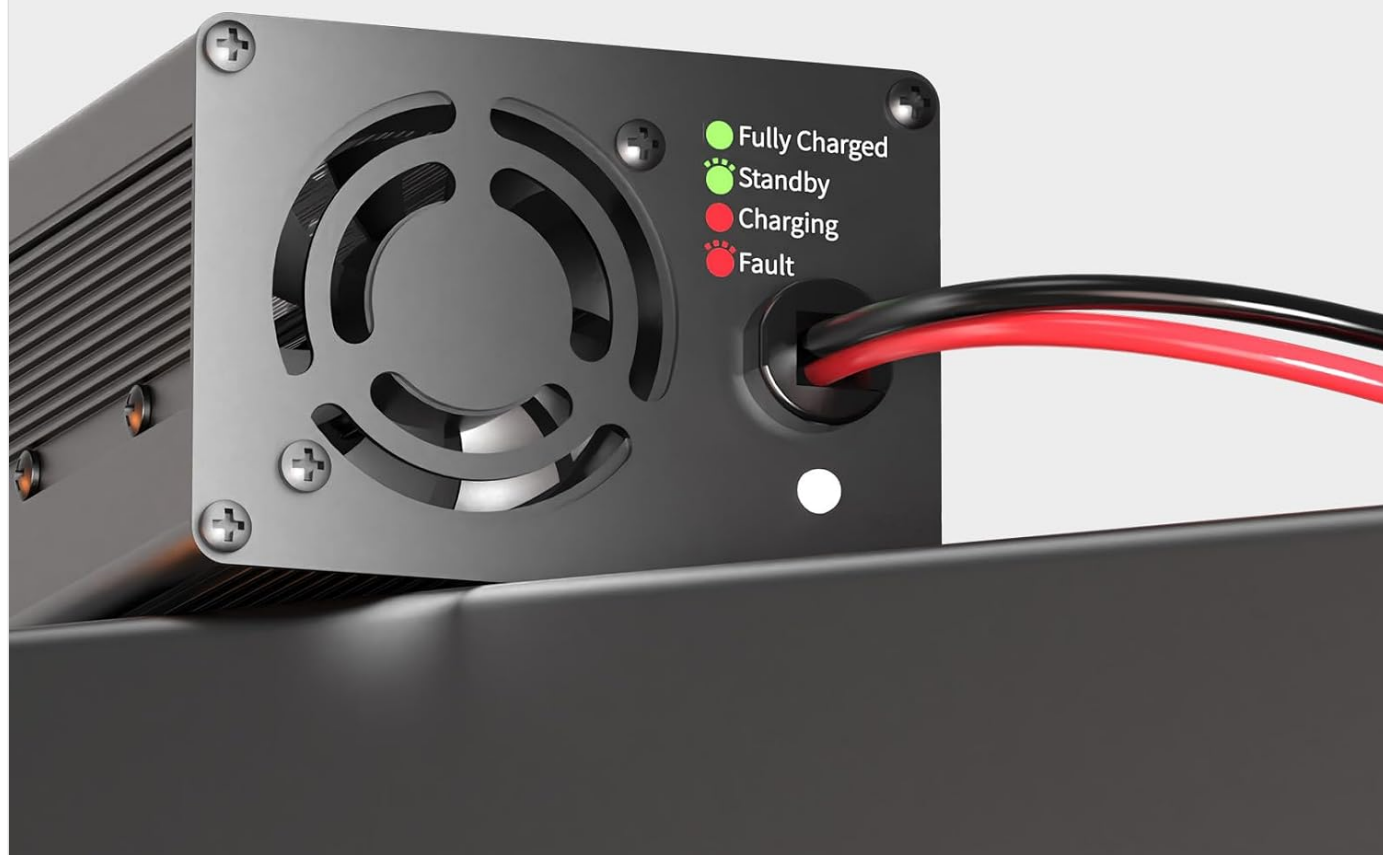


Image Description: A close-up view of the Power Queen 14.6V 20A LiFePO4 battery charger, highlighting its intelligent cooling fan technology. The integrated fan ensures safe and stable operation by effectively dissipating heat during prolonged use.

SETUP INSTRUCTIONS

Before connecting the charger, ensure that the battery is a 12V (12.8V) LiFePO4 type and that the charging environment is dry and well-ventilated.

1. **Inspect the Charger and Battery:** Verify that both the charger and the battery are free from any visible damage.
2. **Connect to Battery:** Connect the charger's output cables to the battery terminals. Ensure correct polarity:
 - Connect the **RED** positive (+) clamp/connector to the battery's positive (+) terminal.
 - Connect the **BLACK** negative (-) clamp/connector to the battery's negative (-) terminal.

The charger is equipped with reverse polarity protection, but always ensure correct connection to prevent potential issues.

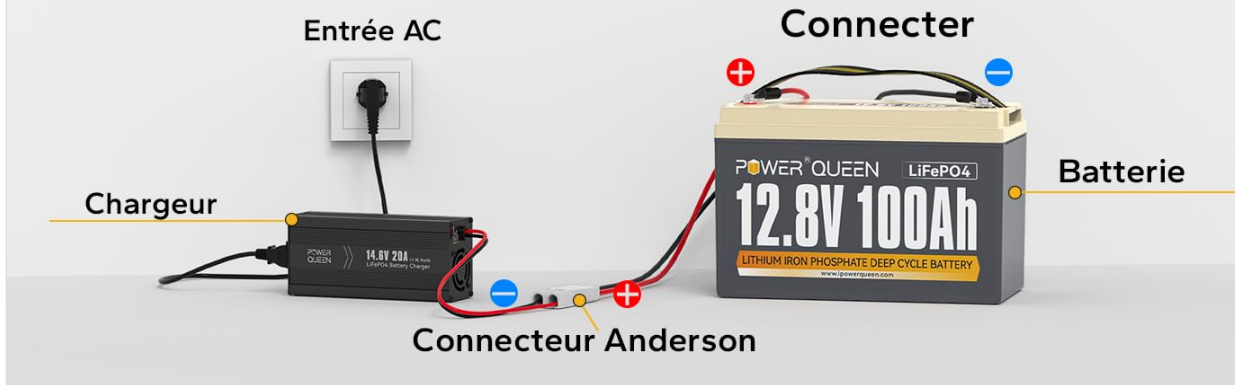


Image Description: This diagram illustrates the correct connection procedure for the Power Queen 14.6V 20A LiFePO4 battery charger. It shows the charger connected to a 12.8V 100Ah LiFePO4 battery via an Anderson connector, with the charger's AC input plugged into a wall outlet.

3. **Connect to Power Outlet:** Once the charger is securely connected to the battery, plug the charger's AC input cable into a standard 230V AC power outlet.
4. **Initial Status Check:** Observe the LED indicators on the charger. The charger will typically enter a standby mode or begin charging immediately, indicated by the LEDs.

OPERATING INSTRUCTIONS

The Power Queen LiFePO4 charger operates automatically once connected. Follow these guidelines for optimal performance.

Charging Process

The charger employs a 2-stage Constant Current (CC) / Constant Voltage (CV) charging algorithm, which is ideal for LiFePO4 batteries. It also features a 0V activation function for deeply discharged batteries.



Image Description: This graph illustrates the three stages of the charging process for the Power Queen LiFePO4 battery charger. It shows the voltage and current curves over time, detailing the pre-charge (T1), constant current (T2), and constant voltage (T3) phases.

- **T1 Pre-charge Level:** A low current is applied to activate and repair the battery in case of abnormal voltage. This function helps recover deeply discharged batteries.
- **T2 Constant Current Charging Stage:** The battery enters the main charging phase, where the charger delivers a constant current of 20A.
- **T3 Constant Voltage Charging Stage:** The charging current gradually decreases until the complete charging process is finished, ensuring the battery reaches its full capacity safely.

PROTECTION COMPLÈTE

Prolongez la Durée de Vie de la Batterie



Protection Contre la
Sous-Tension de Sortie



Protection Contre
L'Inversion de Polarité



Protection Contre
la Surtension de Sortie



Protection Contre la
Surintensité de Sortie



Protection Contre les
Courts-Circuits de Sortie



Protection Contre
la Surtempérature

Image Description: This image shows the Power Queen 14.6V 20A LiFePO4 battery charger connected to a 12.8V 100Ah LiFePO4 battery, illustrating its capability to rapidly activate BMS-protected lithium batteries.

LED Indicators

The charger features LED indicators to display the current status of the charging process.

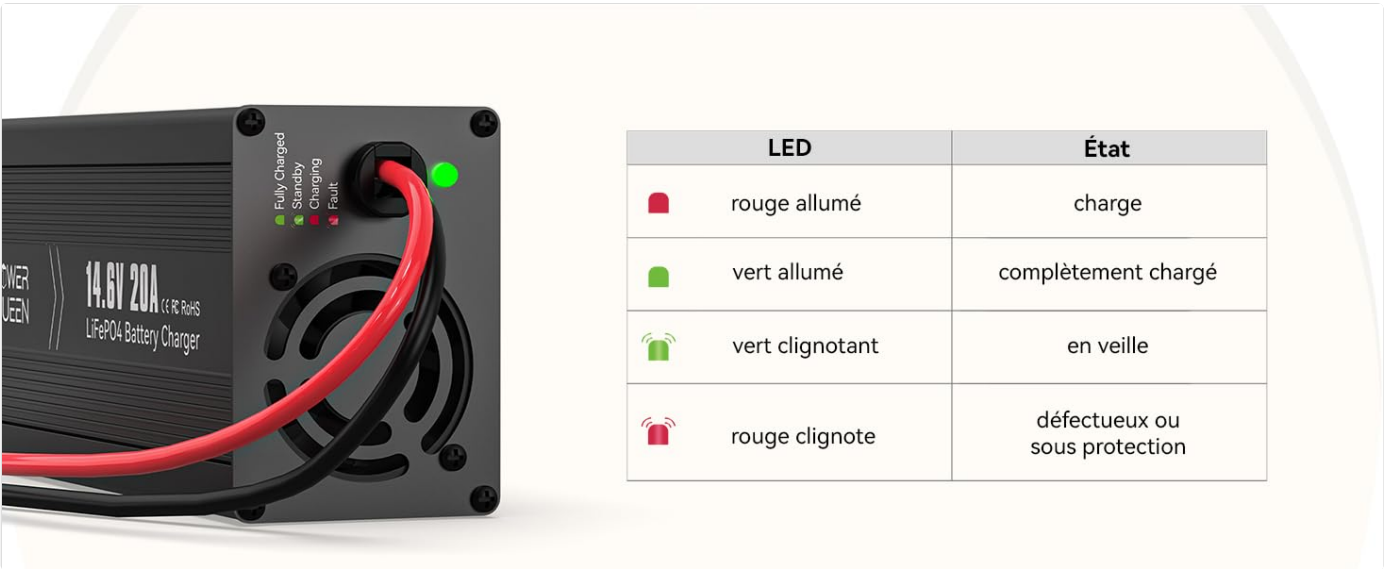


Image Description: This image displays the LED indicators on the Power Queen charger along with a table explaining each status: Red solid (charging), Green solid (fully charged), Green blinking (standby), Red blinking (fault or under protection).

LED Status	Meaning
Red Solid	Battery is charging
Green Solid	Battery is fully charged
Green Blinking	Charger is in standby mode
Red Blinking	Charger fault or under protection (e.g., reverse polarity, over-temperature)

Estimated Charging Times

The charging time depends on the battery's capacity and its current state of charge. Below are approximate charging times for common LiFePO4 battery capacities:

CONÇU SPÉCIFIQUEMENT POUR LES BATTERIES LiFePO4 12V



1 heure
20Ah



2,5 heure
50Ah



5 heure
100Ah



7 heure
140Ah



Pour référence seulement

Image Description: This image shows the Power Queen charger connected to a battery, with icons indicating estimated charging times for different LiFePO4 battery capacities: 1 hour for 20Ah, 2.5 hours for 50Ah, 5 hours for 100Ah, and 7 hours for 140Ah.

- 20Ah LiFePO4 Battery: Approximately 1 hour
- 50Ah LiFePO4 Battery: Approximately 2.5 hours
- 100Ah LiFePO4 Battery: Approximately 5 hours
- 140Ah LiFePO4 Battery: Approximately 7 hours

These times are for reference only and may vary based on battery condition and ambient temperature.

MAINTENANCE

Proper maintenance ensures the longevity and safe operation of your Power Queen LiFePO4 battery charger.

- **Cleaning:** Regularly wipe the charger's exterior with a dry, soft cloth. Do not use abrasive cleaners or solvents. Ensure ventilation openings are clear of dust and debris.
- **Storage:** When not in use, store the charger in a cool, dry place, away from direct sunlight and extreme

temperatures. Disconnect it from both the battery and the power outlet.

- **Cable Inspection:** Periodically check the AC input cable and DC output cables (including connectors) for any signs of wear, cuts, or damage. Replace damaged cables immediately.
- **Ventilation:** Ensure the integrated cooling fan is not obstructed during operation. Adequate airflow is crucial for heat dissipation.

TROUBLESHOOTING

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 power outlet; Damaged AC cable.	Check AC power connection. Test outlet with another device. Inspect AC cable for damage.
Red LED blinking (Fault)	Reverse polarity connection; Output short-circuit; Over-temperature; Output over-voltage.	Disconnect from battery and power. Reconnect ensuring correct polarity (+ to +, - to -). Check for short circuits in cables. Allow charger to cool if hot. If problem persists, contact support.
Green LED blinking (Standby) but not charging	Battery already fully charged; Poor connection to battery; Battery voltage too low for activation (below 0V).	Verify battery charge level. Ensure secure connection to battery terminals. If battery is below 0V, the charger's 0V activation function should attempt to recover it; if not, the battery might be severely damaged.
Slow charging or not reaching full charge	Battery capacity larger than expected; Battery degradation; High ambient temperature.	Refer to estimated charging times. Ensure charger is in a well-ventilated area. If battery is old, its capacity might have degraded.

If the issue persists after following these steps, please contact Power Queen customer support.

SPECIFICATIONS

Detailed technical specifications for the Power Queen 14.6V 20A LiFePO4 Battery Charger.

Feature	Detail
Model Number	14.6V 20A
Brand	Power Queen
Input Voltage	230 Volts AC
Output Voltage	14.6 Volts DC
Output Current	20 Amperes
Compatible Battery Type	12V (12.8V) LiFePO4 Batteries
Charging Algorithm	2-stage Constant Current / Constant Voltage (CC/CV)

Feature	Detail
Special Features	0V Activation Function, Integrated Cooling Fan
Safety Protections	Over-temperature, Output Short-circuit, Reverse Polarity, Output Over-voltage
Output Connector Type	Crocodile Clips (Anderson connector compatible)
Product Dimensions (L x W x H)	21.5 cm x 10 cm x 5.4 cm
Item Weight	1.3 Kilograms
Certifications	Energy Star Compliant

ACTIVATION RAPIDE DE LA BATTERIE AU LITHIUM



Capable d'activer rapidement les batteries LiFePO4 protégées par BMS

Image Description: This image details the compact dimensions (207mm x 90mm x 64mm) and cable lengths (AC cable: 120cm, DC cable: 120cm, Anderson connector cable: 25cm) of the Power Queen 14.6V 20A LiFePO4 battery charger, highlighting its portability.

WARRANTY INFORMATION

The Power Queen 14.6V 20A LiFePO4 Battery Charger comes with a**5-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage resulting from misuse, accident, modification, unauthorized repair, or improper installation.

Please retain your proof of purchase for warranty claims.

CUSTOMER SUPPORT

For any questions, technical assistance, or warranty claims, please contact Power Queen customer support. We offer**24/7 online customer service** to assist you.

You can typically find contact information on the Power Queen official website or through your purchase platform.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question