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› [Renogy](#) /

› [Renogy DC to DC Charger 12V 60A User Manual](#)

Renogy 60A

Renogy DC to DC Charger 12V 60A User Manual

Brand: Renogy | Model: 60A

INTRODUCTION

Product Overview

The Renogy DCC12 Series DC to DC Charger is designed to efficiently charge your auxiliary or house batteries from your vehicle's alternator or starter battery. This multi-stage smart charger is compatible with various battery types, including AGM, Flooded, Gel, and Lithium deep cycle batteries, ensuring optimal and automatic charging. It incorporates multiple electronic protections for enhanced safety and isolates input from output to prevent incorrect voltage transmission. Its compact and robust design makes it suitable for a wide range of applications, including RVs, commercial vehicles, boats, and yachts.

Key Features

- **Compatible Multiple Battery Types:** Compatible with a multitude of alternator types, the Renogy 12V DC to DC charger offers correct charging for AGM, Flooded, Gel, and Lithium batteries.
- **Smart Multi-Stage Charging:** The 60A DC to DC smart charger will charge your house batteries from the starter battery by 3-stage charging (Bulk, Boost, and Float), to make sure it optimally and automatically charges to 100%.
- **Various Protections For Ultra Safety:** The Renogy on-board battery charger with high-quality offers Over-voltage Protection, Over-temperature Protection, and Reverse Polarity Protection to ensure the operation safety. It also isolates the input and output to prevent voltage transmission errors and interfere with house battery charging.
- **Protect Your Starter Battery:** The DC-DC battery charger is capable of identifying whether the generator is started, to prevent over-discharge of the starting battery and protect the generator.
- **Reliable Quality & Easy Installation:** The compact and robust design of the dc to dc charger makes it suitable for all conditions, and also resolves your concern about the limited room in your vehicle.

WHAT'S IN THE Box

- 1 x Renogy 12V 60A DC to DC Battery Charger (Charge Controller)

PRODUCT OVERVIEW



A top-down view of the Renogy 12V 60A DC to DC Battery Charger, showcasing its black and blue casing with ventilation grilles.

Compatible Multiple Battery Types

Unlimit your battery choice



FLOODED BATTERY



GEL BATTERY



LITHIUM BATTERY



AGM BATTERY

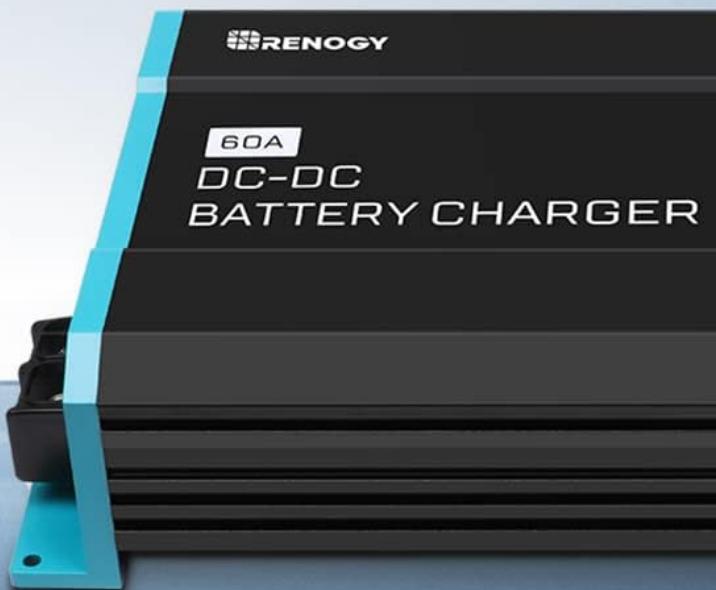


Illustration showing the Renogy DC to DC Charger's compatibility with Flooded, Gel, Lithium, and AGM battery types.

Smart 3-stage Charging



Graphic illustrating the 3-stage charging process (Bulk, Boost, Float) provided by the Renogy DC to DC Charger, with a boat in the background.

Various Protections For Ultra Safety



Over-temperature
Protection



Reverse Polarity
Protection



Over-voltage
Protection

Diagram highlighting the safety features of the Renogy DC to DC Charger, including Over-temperature Protection, Reverse Polarity Protection, and Over-voltage Protection.

Product Display



1. Power LED
2. Fault LED
3. Dip Switches
4. RJ11 Temperature Sensor Port (Model: RTSDCC, requires separate purchase)
5. D+ Ignition Terminal
6. LC Terminal – Current Limiting Terminal
7. Positive DC Output Terminal
8. Negative DC Output Terminal

1. Negative DC Input Terminal
2. Positive DC Input Terminal
3. Ventilation Fans



Detailed view of the Renogy DC to DC Charger's terminals and controls, including Negative DC Input, Positive DC Input, Ventilation Fans, Power LED, Fault LED, Dip Switches, RJ11 Temperature Sensor Port, D+ Ignition Terminal, LC Terminal, Positive DC Output Terminal, and Negative DC Output Terminal.



Collage of images showing various applications for the Renogy DC to DC Charger, such as RVs, commercial vehicles, and different types of boats.

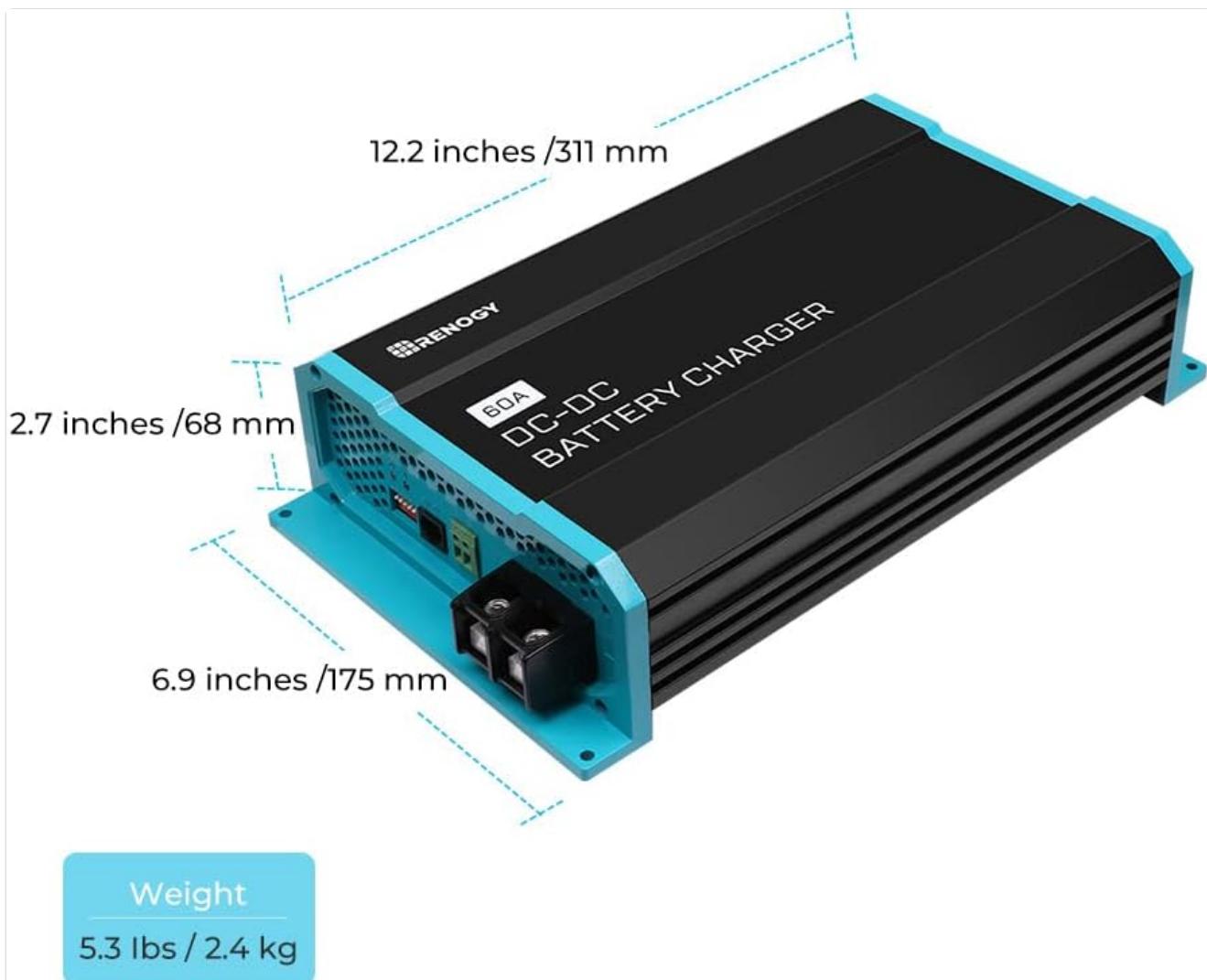


Image displaying the physical dimensions (12.2 inches length, 6.9 inches width, 2.7 inches height) and weight (5.3 lbs / 2.4 kg) of the Renogy DC to DC Charger.

SETUP AND INSTALLATION

Wiring Connections

The Renogy DC to DC Charger requires proper wiring to function correctly. Ensure all connections are secure and follow polarity guidelines.

Required Cables (Not Included)

- 4-gauge cables for connecting the starter battery and deep cycle battery to the charger.
- 16-gauge wire for the D+ signal cable.

Connecting the Charger

Connect the positive and negative terminals of your starter battery to the corresponding input terminals on the DC to DC charger. Similarly, connect the positive and negative terminals of your deep cycle (house) battery to the output terminals of the charger. Ensure all connections are tightened securely.

D+ Signal Connection

The D+ signal input is crucial for activating the charger. This input should be wired to a 12V source that becomes active when the vehicle's engine is running (e.g., ignition switch). This ensures the charger only operates when the alternator is providing power.

Optional Temperature Sensor

An optional temperature sensor (sold separately) can be connected to the RJ11 port. This sensor allows the charger to continuously adjust the charging voltage based on the battery temperature, optimizing charging efficiency and battery lifespan.

This video provides a visual guide on how to connect the Renogy DC to DC Charger to both a starter battery and a deep cycle battery, including the D+ signal wire and the optional temperature sensor. It also demonstrates how to set the battery type using the DIP switches.

Battery Type Selection (DIP Switches)

The charger features DIP switches to select the appropriate battery type for your deep cycle battery. Refer to the table below for the correct switch settings based on your battery chemistry.

| Battery Type | DIP Switch 1 | DIP Switch 2 | DIP Switch 3 | DIP Switch 4 | DIP Switch 5 |
|-------------------|--------------|--------------|--------------|--------------|--------------|
| Lithium (LiFePO4) | ON | ON | OFF | OFF | OFF |
| AGM | OFF | ON | OFF | OFF | OFF |
| Gel | ON | OFF | OFF | OFF | OFF |
| Flooded | OFF | OFF | OFF | OFF | OFF |

Ensure the correct battery type is selected to prevent damage to your battery and ensure optimal charging performance.

OPERATING INSTRUCTIONS

Once the charger is correctly installed and the battery type is set, the unit is ready for operation.

Automatic Charging

The Renogy DC to DC Charger automatically begins charging the deep cycle battery when the vehicle's engine is running and the D+ signal is active. The power indicator LED on the charger will illuminate green, indicating that the charger is on and actively charging.

Multi-Stage Charging

The charger utilizes a 3-stage charging algorithm (Bulk, Boost, and Float) to ensure your deep cycle battery is charged optimally and automatically to 100% capacity, prolonging its lifespan.

Protection Features

The charger is equipped with various protection features for safe operation, including Over-voltage Protection, Over-temperature Protection, and Reverse Polarity Protection. These features safeguard both the charger and your batteries.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Renogy DC to DC Charger.

- Periodically inspect all wiring connections to ensure they are secure and free from corrosion.
- Keep the charger's ventilation fans and grilles clear of dust and debris to ensure proper airflow and prevent overheating.
- Clean the exterior of the charger with a dry, soft cloth. Do not use harsh chemicals or abrasive cleaners.
- If an optional temperature sensor is used, ensure it remains securely attached to the battery and is not damaged.
- Store the charger in a dry, well-ventilated area when not in use for extended periods.

TROUBLESHOOTING

This section addresses common issues you might encounter with your Renogy DC to DC Charger.

| Problem | Possible Cause | Solution |
|--|---|--|
| Charger not turning on (Power LED off) | No D+ signal; Loose wiring; Blown fuse; Low starter battery voltage. | Check D+ signal connection to ensure it's active when the engine is running. Verify all wiring connections are secure. Check inline fuses on both input and output lines. Ensure starter battery voltage is above the minimum operating threshold. |
| Fault LED illuminated | Over-temperature; Over-voltage; Reverse polarity. | Check for obstructions around ventilation fans. Allow unit to cool down. Verify input/output voltages are within specifications. Recheck wiring for correct polarity. |
| Battery not charging optimally | Incorrect battery type setting; Faulty temperature sensor (if used); Undersized cables. | Verify DIP switch settings match your battery type. Check temperature sensor connection and function. Ensure cable gauge is sufficient for the current draw. |

If the issue persists after attempting these solutions, please contact Renogy customer support.

SPECIFICATIONS

| Feature | Detail |
|--------------------------|--|
| Model Number | 60A |
| Product Dimensions | 12.2 x 6.9 x 2.7 inches (311 x 175 x 68 mm) |
| Item Weight | 5.29 pounds (2.4 kg) |
| Output Voltage | 12 Volts (DC) |
| Compatible Battery Types | AGM, Flooded, Gel, Lithium (LiFePO4) |
| Charging Stages | 3-Stage (Bulk, Boost, Float) |
| Safety Protections | Over-voltage, Over-temperature, Reverse Polarity |

WARRANTY AND SUPPORT

Warranty Information

Renogy products are designed for reliability and performance. For detailed warranty information regarding your DC to DC Charger, please refer to the warranty card included with your product or visit the official Renogy website.

Customer Support

Should you require technical assistance, troubleshooting, or have any questions about your Renogy DC to DC Charger, please contact Renogy Customer Support. Contact details can be found on the official Renogy website or in your product packaging.