

# REGO

## Dual Input DC-DC On-Board with MPPT Battery Charger

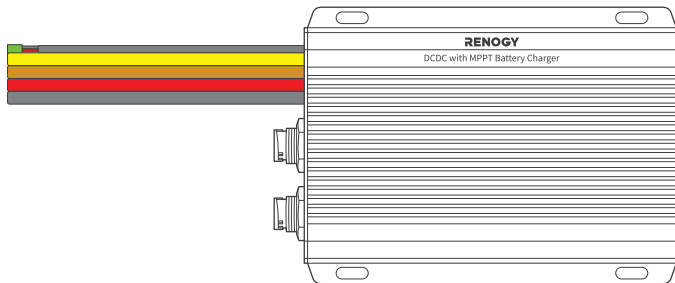
12V/24V | 50A | IP67

RBC2125DS-21W



Find Your Energy Freedom™

VERSION A0



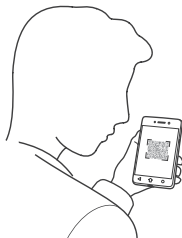
## QUICK GUIDE

## Before Getting Started

The quick guide provides important operation and maintenance instructions for REGO 12V/24V 50A IP67 Dual Input DC-DC On-Board with MPPT Battery Charger (hereinafter referred to as battery charger).

Read the quick guide carefully before operation and save it for future reference. Failure to observe the instructions or precautions in the quick guide can result in electrical shock, serious injury, or death, or can damage the battery charger, potentially rendering it inoperable.

## Online Manual



Quick Guide



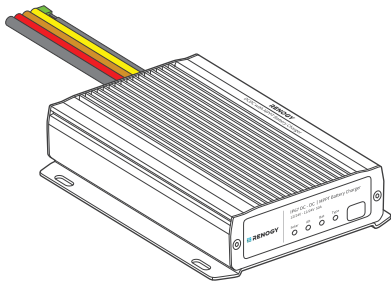
User Manual



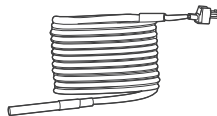
## Table of Contents

## What's In the Box?

REGO 12V/24V 50A IP67  
Dual Input DC-DC On-Board  
with MPPT Battery Charger × 1



Quick Guide × 1

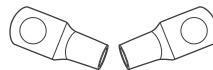


Battery Temperature  
Sensor (1.5 m) × 1

ST4\*20 mm



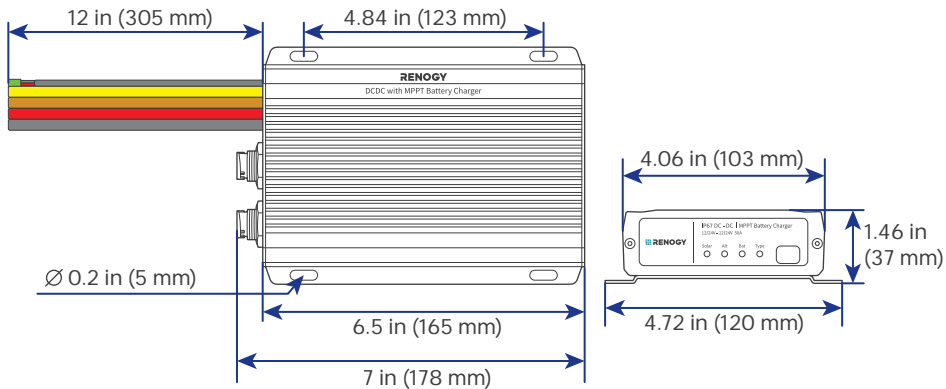
Mounting Screws × 4



5/16 in Lugs  
(M8 Ring Terminals) × 2

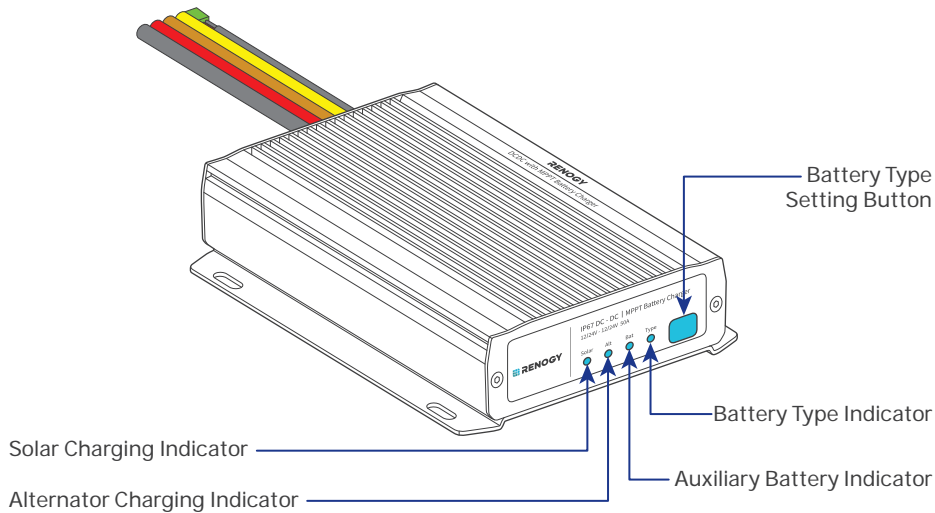
 Make sure that all accessories are complete and free of any signs of damage.

## Dimensions



⚠ Dimension tolerance:  $\pm 0.2$  in (0.5 mm)

## Get to Know **REGO** Battery Charger



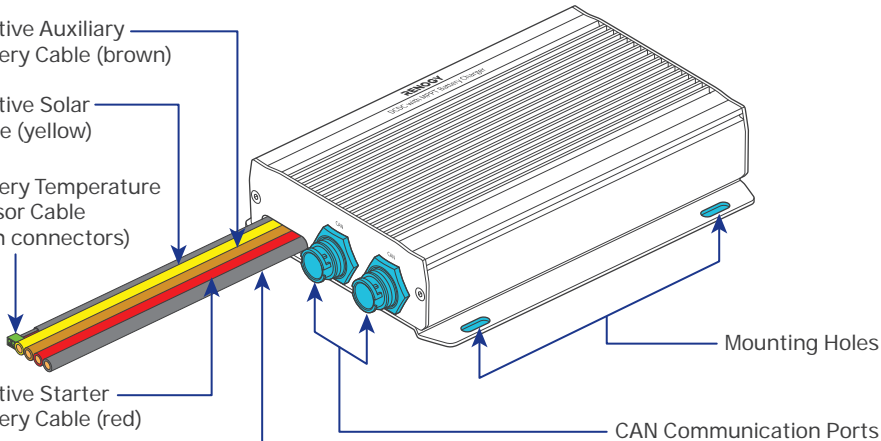
Positive Auxiliary  
Battery Cable (brown)

Positive Solar  
Cable (yellow)

Battery Temperature  
Sensor Cable  
(with connectors)

Positive Starter  
Battery Cable (red)

Negative Common  
Cable (black)



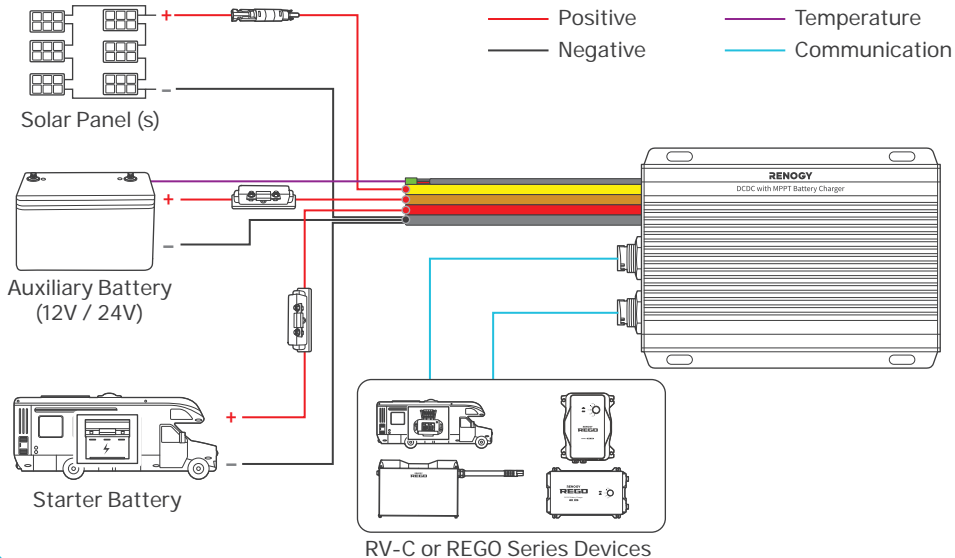
Mounting Holes

CAN Communication Ports

⚠ The battery temperature sensor cable can only be used with lead-acid batteries.

⚠ For CAN Communication Ports wiring details, refer to the [REGO Battery Charger User Manual](https://www.renogy.com/support/downloads) at <https://www.renogy.com/support/downloads>.

# REGO Battery Charger System Setup

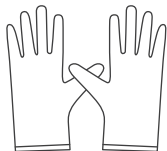




## Required Tools



Phillips  
Screwdriver (#1)



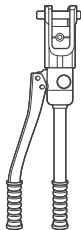
Insulating Gloves



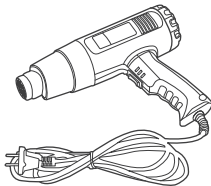
Wire stripper



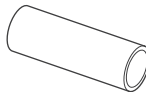
Insulation Tape



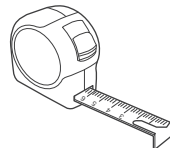
Manual Hydraulic Pliers




Heat Gun



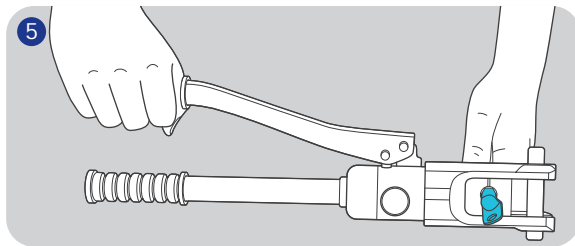
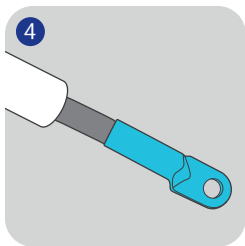
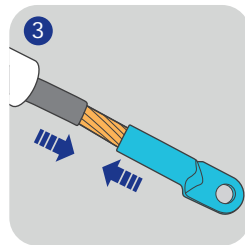
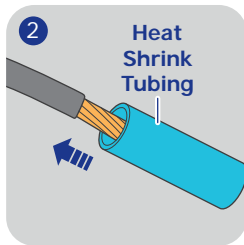
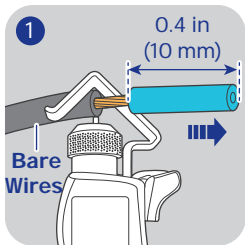
Heat Shrink Tubing

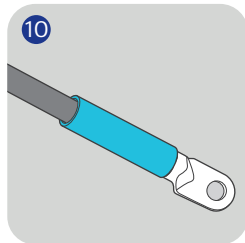
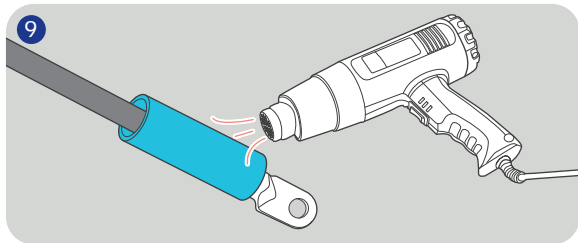
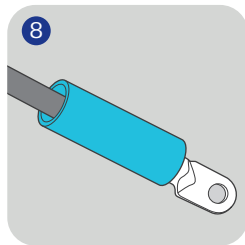
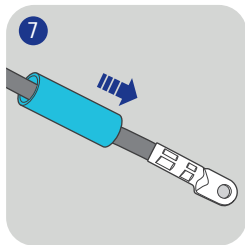
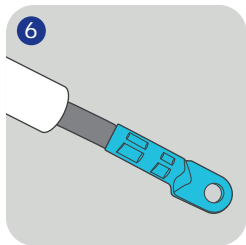


Measuring Tape

 Prior to installing and configuring the battery charger, prepare the recommended tools, components, and accessories.

## How to Install the 5/16 in Lugs (M8 Ring Terminals)?

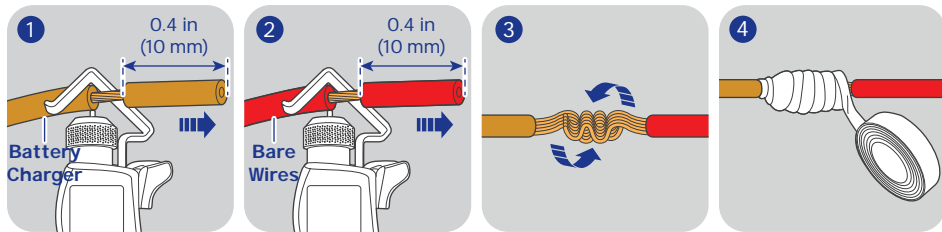




⚠ 附带的5/16 in Lugs (M8 Ring Terminals)用于连接Auxiliary Battery.

## 如何将Cables连接到REGO Battery Charger

本指南以Positive Auxiliary Battery Cable (brown)并采用扭绞方式接线为例。



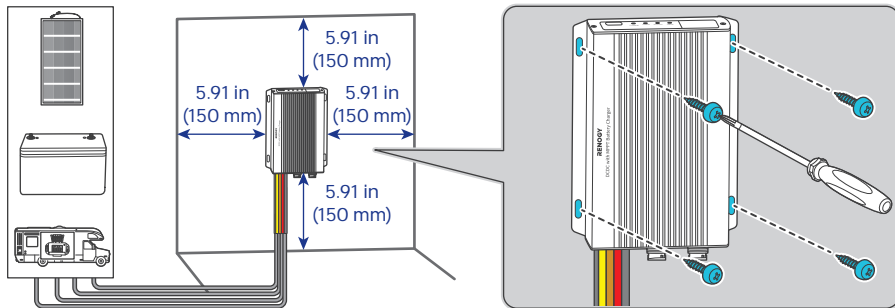
⚠ 接线前请Wear Insulating Gloves.

⚠ 允许使用绝缘套管、接线盒或焊接方式接线。若battery charger安装在户外，接线处需注意防水。

⚠ 所有设备正极接线完成后，再Tape over the Negative Common Cable (black) of cutoff areas.

## Step 1. Plan a Mounting Site

The battery charger requires adequate clearance for installation, wiring and ventilation. The minimum clearance is provided below.



-31°F to 176°F  
-35°C to 80°C



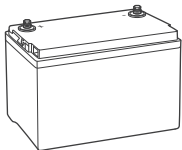
% 0% to 95%



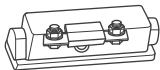
⚠ The battery charger should be installed on a vertical surface protected from direct sunlight.

## Step 2. Connect the Battery Charger to a Auxiliary Battery

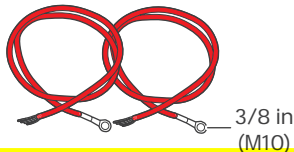
### Recommended Components & Accessories



\*12V/24V Battery  
(11V to 32V)



\*ANL Fuse  
(60A) × 1



Battery Adapter Cables  
(4 AWG) × 2

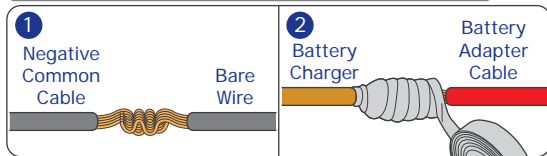


Bare Wire (4 AWG) × 1

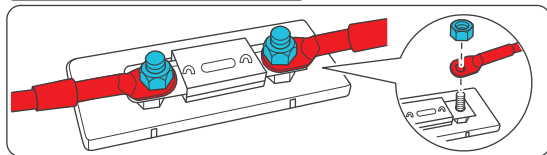
- ⚠ Accessories marked with "\*" are available on [renogy.com](https://www.renogy.com).
- ⚠ For installation details, see the user manual of the battery in use.
- ⚠ The battery charger can only be connected to deep-cycle gel-sealed lead-acid batteries (GEL), flooded lead-acid batteries (FLD), sealed lead-acid batteries (SLD/AGM) or lithium iron phosphate batteries (LI).



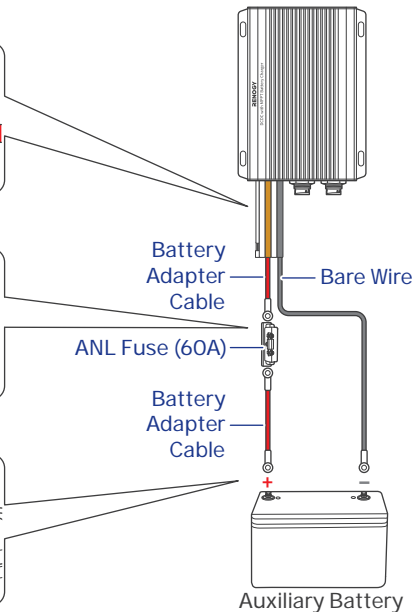
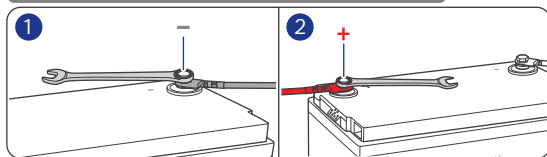
### STEP-1 Install cables on the battery charger



### STEP-2 Install an ANL fuse

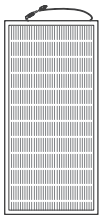


### STEP-3 Install the cables on the battery

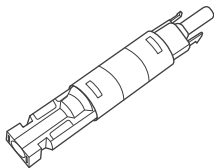


## Step 3. Connect the Battery Charger to a Solar Panel (s)

### Recommended Components & Accessories



\*Solar Panel (s)



\*Solar Panel Fuse

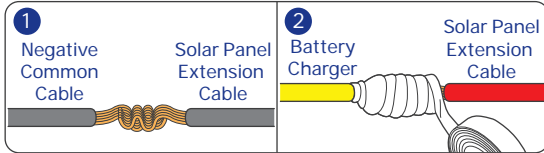


\*Solar Panel Extension Cables (4 AWG) × 2

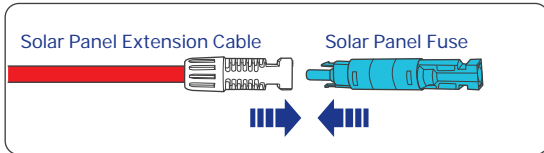
- ⚠ Accessories marked with "\*" are available on [renogy.com](https://www.renogy.com).
- ⚠ Connecting the battery charger to a solar panel (s) exceeding 720W ( $\leq 50V$ ) results in damage to the battery charger.
- ⚠ battery charger连接12V电池时，solar panel (s)最大充电电流为50A；连接24V电池时，solar panel (s)最大充电电流为25A.
- ⚠ The appropriate current rating for the solar panel fuse should be determined by multiplying the total amperage of the solar panel array by 1.56.



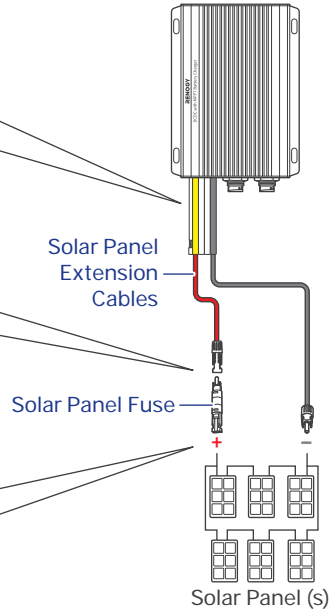
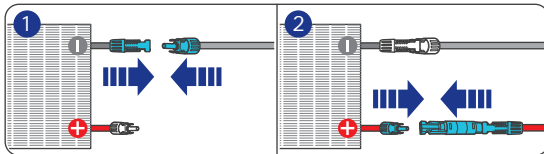
### STEP-1 Install cables on the battery charger



### STEP-2 Install a solar panel fuse



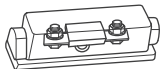
### STEP-3 Install the cables on the Solar Panel (s)



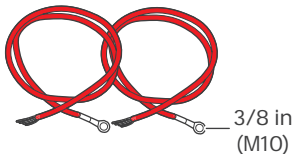
## Step 4. Connect the Battery Charger to a Starter Battery

因车辆启动电池与车辆发电机相连，所以安装充电器之前，请先查阅车辆用户手册或咨询车辆厂商确保发电机功率不超过660W，输出电流在75A to 100A 范围内。

### Recommended Components & Accessories



\*ANL Fuse  
(100A) × 1



Battery Adapter Cables  
(4 AWG) × 2



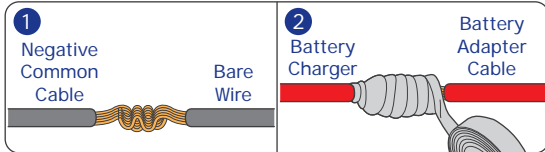
Bare Wire (4 AWG) × 1

⚠ Accessories marked with "\*" are available on [renogy.com](https://www.renogy.com).

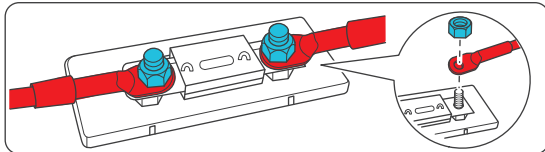
⚠ 启动电池接线方式请以实际为准，本指南以3/8 in Lugs (M10 Ring Terminals)为例。

⚠ 启动电池电压低于12.7V(12V系统)/25.4V(24V系统)时，启动电池停止给生活电池充电。

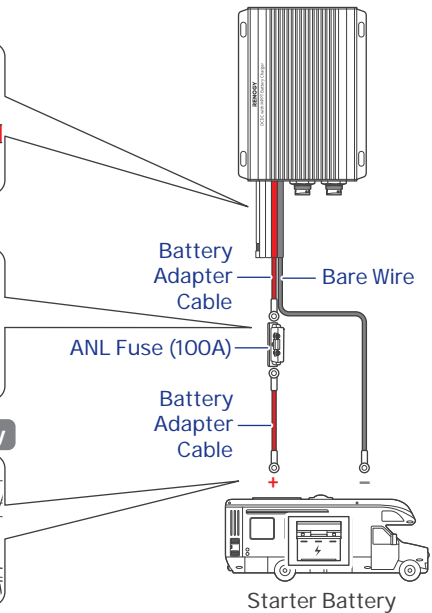
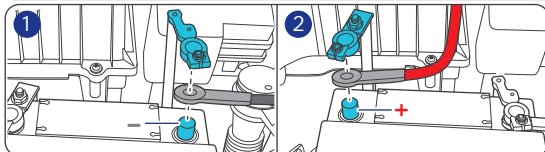
### STEP-1 Install cables on the battery charger



### STEP-2 Install an ANL fuse



### STEP-3 Install the cables on the RV starter battery



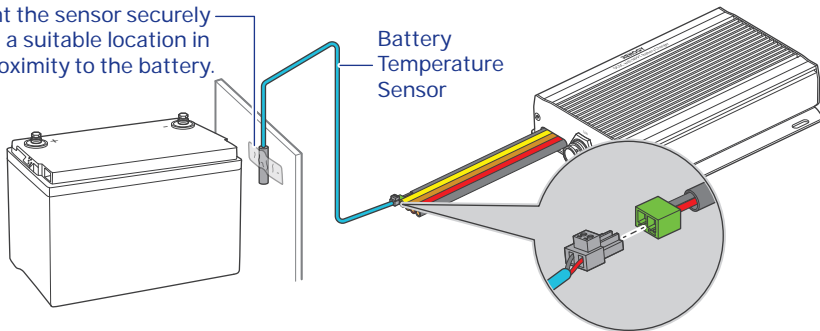


## Step 6. Install a Battery Temperature Sensor

The temperature sensor measures the surrounding temperature of the battery and compensates the floating charge voltage when the battery temperature is low.

⚠ Do not use the temperature sensor on a LiFePO4 (LFP) battery which comes with a battery management system (BMS).

Mount the sensor securely  
at a suitable location in  
close proximity to the battery.



## LED Indicators

battery charger通电后自动开机，LED灯将根据工作状态点亮。

### Solar Charging Indicator

○ **Off:** 没有充电

● **Solid:** MPPT充电

● **Slow flash (2s):** 提升充电

单闪: 浮充充电

**Fast flash (0.5s):** 均衡充电

双闪: 限流充电

### Alternator Charging Indicator

○ **Off:** 没有充电

● **Solid:** 发电机给Auxiliary Battery充电

● **Flash:** Solar Panel给Starter Battery充电

### Battery Type Indicator

● **Solid:** FLD

● **Solid:** GEL

● **Solid:** SLD/AGM

● **Solid:** 12V LI

● **Solid:** 24V LI

● **Solid:** User Mode

### Auxiliary Battery Indicator

○ **Off:** No battery detected

● **Solid:** 满电状态

● **Solid:** 电压正常

● **Solid:** Undervoltage warning

● **Slow flash (2s):** 过放告警

**Fast flash (0.5s):** overvoltage/  
超温 warning

Solar

Alt

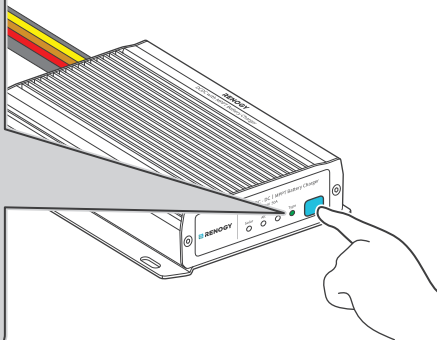
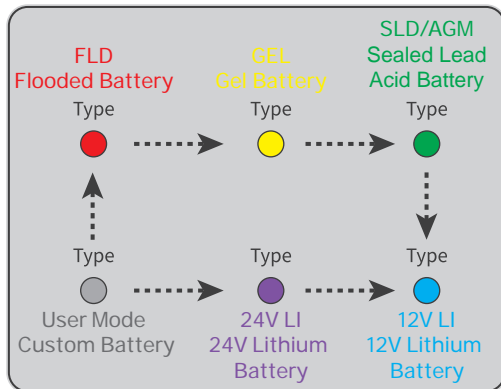
Bat

Type

## Set a Battery Type

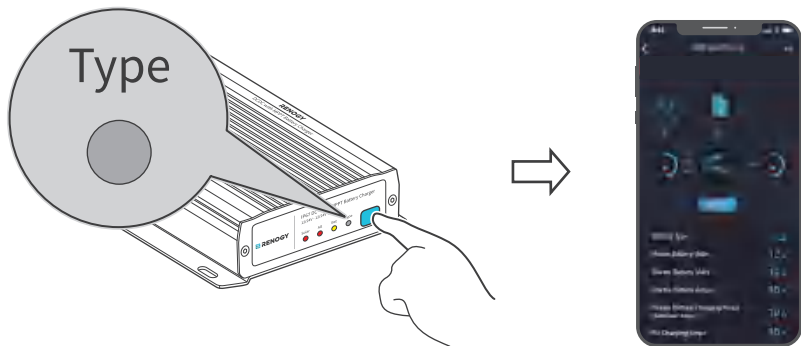
Upon installing the battery charger, set a correct battery type by using the Battery Type Setting Button. 对于非锂电池，battery charger可自动识别其电压（12V or 24V）。

**⚠** It is essential to ensure that the battery type setting is configured correctly to avoid any potential damage to the battery charger because any damage to the battery charger resulting from an incorrect battery type setting voids the warranty.



## USER Mode

Setting the battery type to User Mode allows you to customize your battery parameters. You can modify the parameters in the DC Home app.



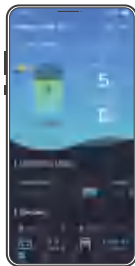
⚠ 自定义参数时，请Read the user manual of the specific battery or contact the battery manufacturer for help if necessary.

⚠ battery charger预设参数以及可设置参数详细内容请访问[renogy.com](http://renogy.com)查看user manual.



## Monitor the Battery Charger

Download the DC Home app. Login to the app with your account.



DC Home App



GTE IT ON

Google Play



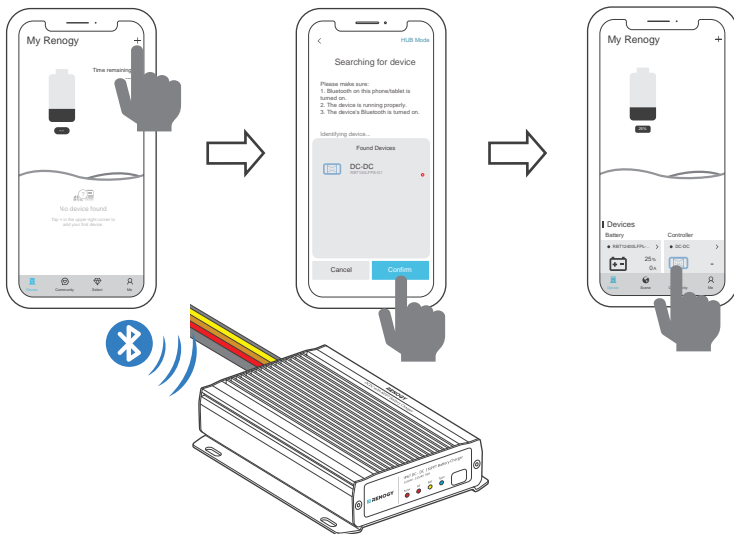
Download on the

App Store

- ⚠️ CAN Communication相关内容请访问[renogy.com](http://renogy.com)查看user manual.
- ⚠️ The version of the DC Home app might have been updated. Illustrations in the user manual are for reference only. Follow the instructions based on the current app version.
- ⚠️ To ensure optimal system performance, keep the phone or RENOGY ONE within 10 feet (3 m) of the battery charger.
- ⚠️ You can receive fault alarms on DC Home and Renogy ONE when the battery charger is faulty. Please login to the DC Home app or Renogy ONE for troubleshooting details.

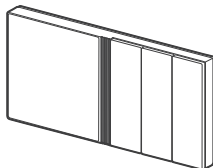
## Short-Range Monitoring via DC Home App

Pair the battery charger with the DC Home app. Monitor and modify the parameters of the battery charger via the app.

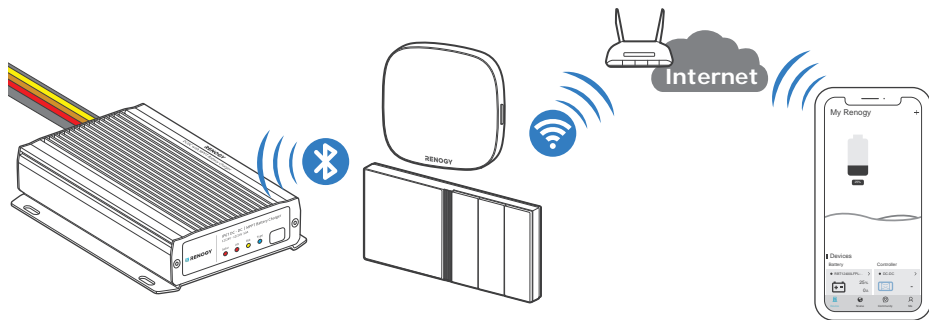


# Wireless Long-Range Monitoring

## Recommended Components



\*RENLOGY ONE Core or Renogy ONE M1



## Important Safety Instructions

### ■ General

- Wear proper protective equipment and use insulated tools during installation and operation. Do not wear jewelry or other metal objects when working on or around the battery charger.
- Keep the battery charger out of the reach of children.
- Do not dispose of the battery charger as household waste. Comply with local, state, and federal laws and regulations and use recycling channels as required.
- In case of fire, put out the fire with a FM-200 or CO<sub>2</sub> fire extinguisher.
- Installing the battery charger improperly on a boat may cause damage to components of the boat. Have the devices installed by a qualified electrician.
- Do not expose the battery charger to flammable or harsh chemicals or vapors.
- Clean the battery charger regularly.
- Do not puncture, drop, crush, penetrate, shake, strike, or step on the battery charger.
- Do not open, disassemble, repair, tamper with, or modify the battery charger.
- Connect the negative prior to the positive terminal when connecting any device.
- It is recommended that all cables should not exceed 10 meters because excessively long cables result in a voltage drop.
- The cable specifications listed in the quick guide account for critical, less than 3% voltage drop and may not account for all configurations.

### ■ Battery Charger Safety

- Install the battery charger on a vertical surface - protected from direct sunlight, high temperatures, and water. Make sure there is good ventilation.

- Keep the battery charger away from heating equipment.
- Do not insert foreign objects into the battery charger.
- Confirm the polarities of the devices before connection. A reverse polarity contact can result in damage to the battery charger, thus voiding the warranty.
- Do not touch the connector contacts while the battery charger are in operation.
- Disconnect all connectors from the battery charger before maintenance or cleaning.

### ■ Battery Safety

- Do not use batteries if there is any damage.
- Do not touch the exposed electrolyte or powder if the battery is damaged.
- Risk of explosion! Never install the battery charger in a sealed enclosure with flooded batteries!
- Do not install the battery charger in a confined area where battery gases can accumulate.
- Prior to installing the battery charger, ensure all battery groups are installed properly.

### ■ Solar Panel Safety

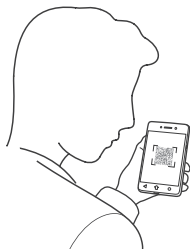
- Do not use the solar panel(s) if there is any damage.
- Prior to connecting the battery charger to the solar panel(s), shade the solar panel(s).
- Battery charger必须先连接电池，再连接太阳能组件。否则，太阳能组件的开路电压可能会损坏 battery charger。

## Renogy Support

To discuss inaccuracies or omissions in this quick guide or user manual, visit or contact us at:

 | [renogy.com/support/downloads](https://renogy.com/support/downloads)

 [contentservice@renogy.com](mailto:contentservice@renogy.com)



Questionnaire Investigation



To explore more possibilities of solar systems, visit Renogy Learning Center at:

 | [renogy.com/learning-center](https://renogy.com/learning-center)

**For technical questions about your product in the U.S.,** contact the Renogy technical support team through:

 | [renogy.com/contact-us](https://renogy.com/contact-us)



1(909)2877111

**For technical support outside the U.S.,** visit the local website below:

Canada |  | [ca.renogy.com](https://ca.renogy.com)

China |  | [www.renogy.cn](https://www.renogy.cn)

Australia |  | [au.renogy.com](https://au.renogy.com)

Japan |  | [renogy.jp](https://renogy.jp)

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## FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- (1) Reorient or relocate the receiving antenna.
- (2) Increase the separation between the equipment and receiver.
- (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- (4) Consult the dealer or an experienced radio/TV technician for help.



## FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

## Disclaimer

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Renogy aims to empower people around the world through education and distribution of DIY-friendly renewable energy solutions.

We intend to be a driving force for sustainable living and energy independence.

In support of this effort, our range of solar products makes it possible for you to minimize your carbon footprint by reducing the need for grid power.



## Live Sustainably with Renogy

Did you know? In a given month, a 1kW solar energy system will...



Save 170 pounds of coal from being burned



Save 300 pounds of CO<sub>2</sub> from being released into the atmosphere



Save 105 gallons of water from being consumed



## Renogy Power **PLUS**

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