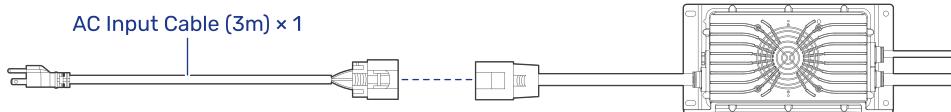
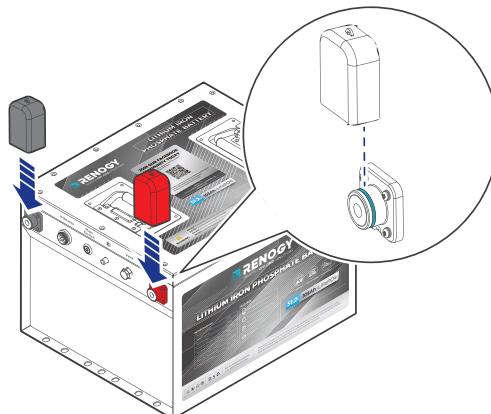


Step 8. AC Input Wiring

As shown in the illustration below, connect the AC input cable to the AC connector on the battery charger.

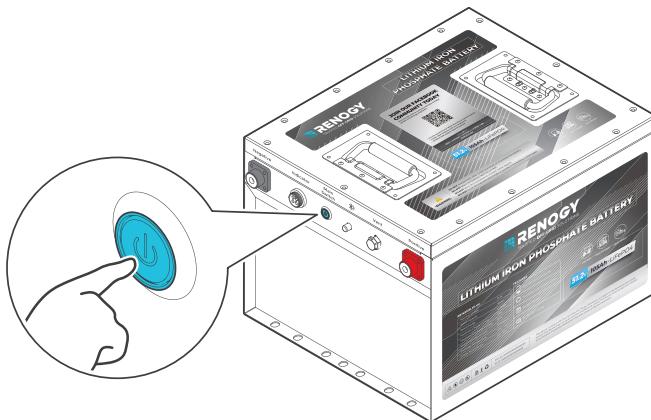


Step 9. Install Insulation Sleeves



Operation

Power On/Off



■ Power On

To power on the battery, press and hold the On/Off Switch for 1s and after 1s, the switch LED lights up with the battery turned on.

■ Power Off

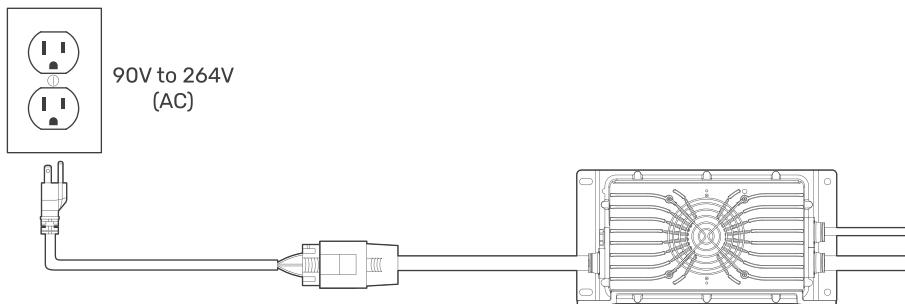
To power off the battery, press the On/Off Switch. After 1s, The switch LED will turn off, indicating the battery is powered off.

How to Charge the Battery?

Renogy 51.2V 105Ah Lithium Iron Phosphate Battery may be received at a partial state of charge (SOC) depending on the time between manufacturing and shipping. It is crucial to fully charge the battery before its initial use by using the included battery charger. For details, see "[Battery Charging/Discharging Logics](#)" in this manual.

Connect the AC input cable (3m) to a power outlet, and the battery charger will start charging the battery. You can check the charging status of the battery charger through the charger LED indicator on the charger.

Additionally, you can monitor the battery level through any or all of the following: the battery indicator, the additional charger indicator, and the DC Home app. For details, see "[Monitoring](#)" in this manual.



Monitoring

You can check the operating status of your battery and battery charger through any or all of the following:

- Charger LED indicator
- Included battery indicator
- Additional charger indicator
- DC Home app (free of charge)

These monitoring devices facilitate real-time monitoring of the battery and the battery charger, offering comprehensive control and enhanced flexibility.

Charger LED Indicator



Charging: Flickering red at an interval of 1s

Battery Level: 80%-100%: Flickering green at an interval of 1s

Charge completed: Solid green

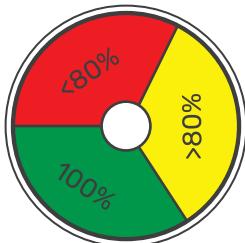
Additionally, the LED indicator provides alarms and visual alerts for various abnormalities. The LED illuminates in different patterns specific to faults on the battery charger or connected battery.

Fault	Graphic Expression (One Cycle)
Hardware Fault	Red/Green/Off/Off/Off/Off
DC Bus Voltage Fault	Red/Green/Red/Green/Off/Off

Fault	Graphic Expression (One Cycle)
High/Low DC Voltage Protection	Red/Green/Red/Green/Red/Off
Battery Not Connected	Red/Green/Red/Green/Red/Green
Battery Temperature Protection	Green/Red/Off/Off/Off/Off
CPU Temperature or Transformer Overtemperature Protection	Green/Red/Green/Off/Off/Off
Output Short Circuit Protection	Green/Red/Green/Red/Off/Off

Additional Charger Indicator

You can also check the battery level via the additional charger indicator.



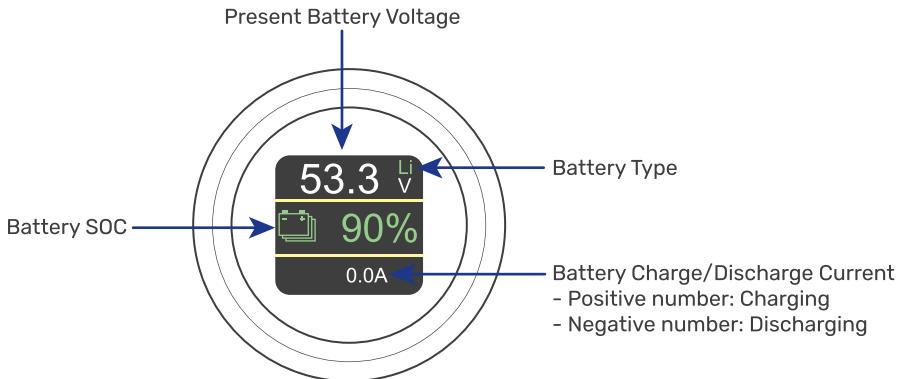
Battery Level 100%: Solid green

Battery Level >80%: Solid yellow

Battery Level <80%: Solid red

Battery Indicator

It is recommended to monitor the battery via the included battery indicator through CAN communication. After proper wiring, you can monitor the following data of the battery:



DC Home app

In addition to the included battery indicator, you can monitor the battery performance in the Renogy DC Home app remotely by pairing it with the app via Bluetooth.

Prior to monitoring via the app, please pay attention to the following:

- ⓘ Ensure the Bluetooth of your phone is turned on.
- ⓘ 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 within 10 feet (3 m) of the battery.

Step 1: Download and login to the latest DC Home app on your smart phone.



DC Home App

GET IT ON
Google Play

Download on the
App Store

Step 2: Open the DC Home app. Tap + to search for new devices.

Step 3: Tap **Confirm** to add the newly found battery to the device list.

Step 4: Tap the battery icon to enter the device information interface.



Battery Charging/Discharging Logics

Charging Logic

Featuring high charging efficiency and long lifespan in a compact size, the battery charger charges the battery at up to 20A and 58.4V. The built-in temperature sensor allows the battery charger to work reliably at an extreme temperature range of -40°F to 122°F or -40°C to 50°C. Additionally, the IP66 design ensures its waterproof performance.

■ Charging Profile

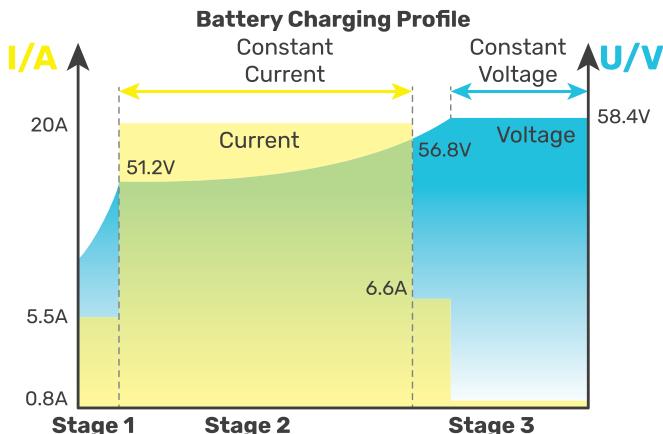
The battery charger follows a standard three-stage charging process:

Stage 1: Charge at 5.5A with a voltage limit of 51.2V until the battery voltage reaches 51.2V.

Stage 2: Charge at 20A with a voltage limit of 56.8V. If the battery voltage does not reach 56.8V, transit to Stage 3 after 10 hours.

Stage 3: Charge at a constant voltage of 58.4V with a current limit of 6.6A. Charging ends when the current drops to 0.8A, or the system shuts off after 5 hours if the current does not reach 0.8A.

The standard charging process typically takes around 7 hours to fully charge the battery and requires battery temperatures to be between 32°F and 113°F (0°C and 45°C) for safe charging.



■ Status Indicators

You can get the charging status by checking the embedded LED on the battery charger.

Battery/Charger Status	LED Status
Charging	Flickering red at an interval of 1s
Battery Level: 80%–100%	Flickering green at an interval of 1s
Charge completed	Solid green

■ Protections

The battery charger offers multiple protection mechanisms listed in the table below:

Protection Function	Description
Reverse Polarity Protection	Prevents prevent damage in case of reverse connection of positive and negative terminals.
Short Circuit Protection	Automatically shuts down output during a short circuit. Charging resumes after the fault is resolved and the battery is reconnected.
Overcurrent Protection	The output current remains stable, avoiding overcurrent charging due to mains power or environmental fluctuations.
Temperature Protection	When the charger's internal temperature exceeds the preset limit, the charging current is reduced. If the battery temperature exceeds 60°C (140°F), charging stops. Charging resumes automatically when temperatures normalize.