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Choosing to go solar is a huge step toward being sustainable. Go green with Renogy without compromising on a comfortable lifestyle.

GO SOLAR

 **RENOGY**[®]

Solar 440W 3.84kWh Extension Solution

QUICK GUIDE

VERSION A0



Find Your Energy Freedom



Before Getting Started

The quick guide provides important installation instructions for Renogy Solar 440W 3.84kWh Extension Solution. For detailed operation and maintenance tips, refer to the user manual of the specific product at renogy.com/support/downloads.

Read the quick guide carefully before installation. Failure to observe the instructions or precautions in the quick guide can result in electrical shock, serious injury, or death, or can damage the included products, potentially rendering them inoperable.

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Statutes and Regulations

The mechanical and electrical installation of solar panels should refer to the appropriate regulations, including electrical code, building code and electrical connection requirements. These regulations vary depending on the location of the installation, e.g., building rooftop installation, vehicle-mounted applications, etc. Requirements may also vary with the voltage of the installation system, the nature of the current (DC or AC). Please contact your local authority for specific terms.

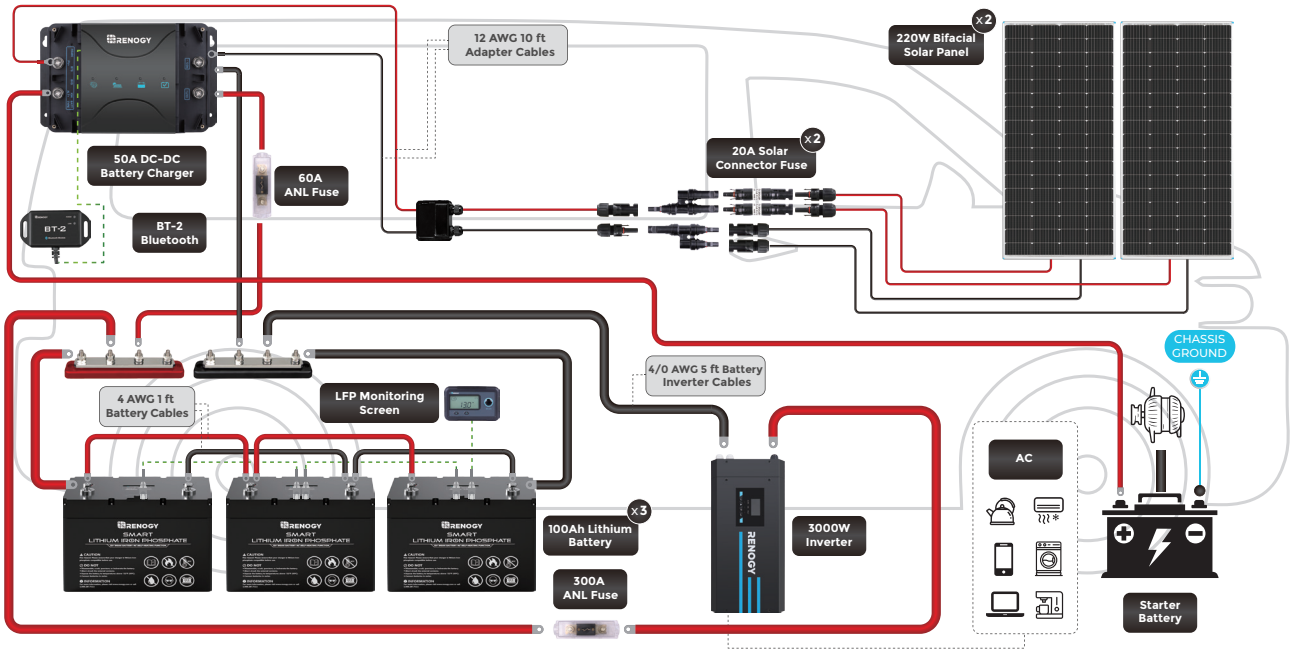
DC Home App



DC Home App

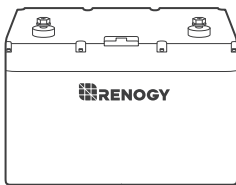


1. System Wiring



2. Get to Know Renogy Solar 440W 3.84kWh Extension Solution

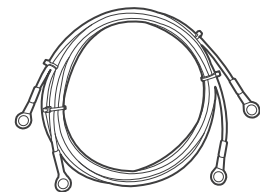
Battery



100Ah Lithium Battery x 3

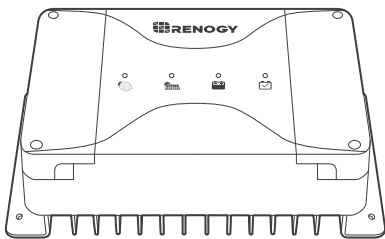


4 AWG 1 ft Battery Interconnect Cable x 4

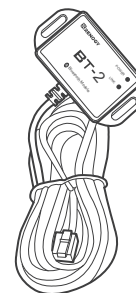


4/0 AWG 5 ft Battery Cables (Battery to Busbar) x 1

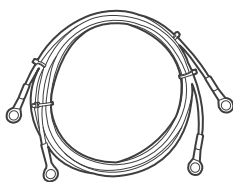
DC-DC Battery Charger



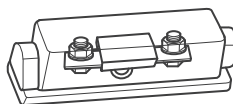
50A DC-DC Battery Charger with MPPT x 1



Renogy BT-2 Bluetooth Module (New Version) x 1



4 AWG 8 ft Double Ring Tray Cables (Battery Charger to Busbar and Starter Battery) x 2

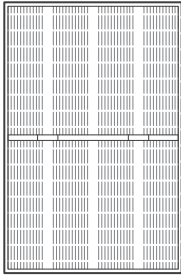


60A ANL Fuse x 1

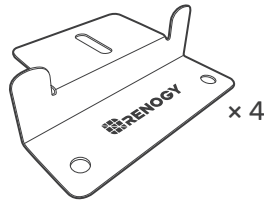


8 AWG 2 ft ANL Fuse Cable x 1

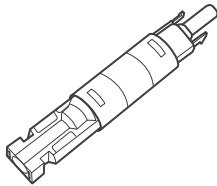
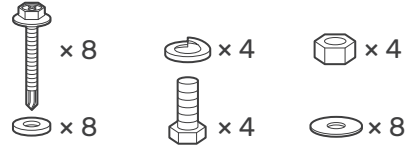
■ Solar Panels



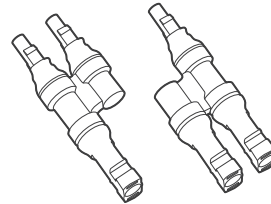
220W Bifacial Solar Panel x 2



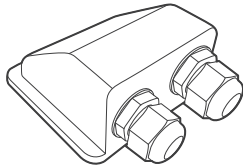
Solar Panel Mounting Z Bracket x 2



20A Solar Connector Fuse x 2



Solar Branch Connector (MMF + FFM Pair) x 1

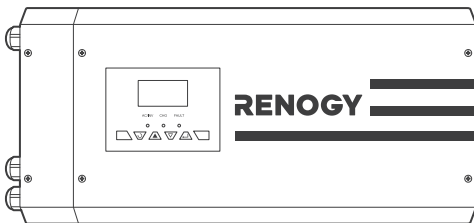


Solar Entry Gland x 1

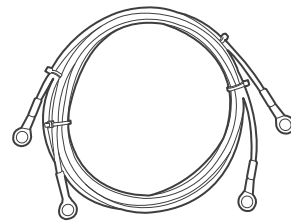


12 AWG 10 ft Solar Panel to Battery Charger Adapter Kit x 1

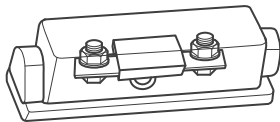
■ Inverter Charger



3000W PCL1 Inverter Charger x 1



4/0 AWG 5 ft Battery Inverter Cables (Inverter to Busbar) x 1

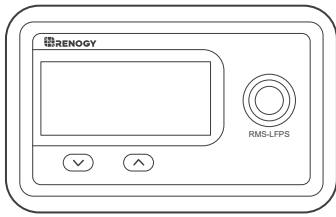


300A ANL Fuse x 1

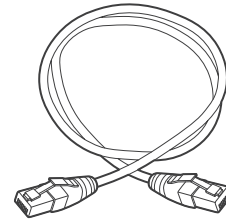


4/0 AWG 1 ft ANL Fuse Cable x 1

■ Battery Monitor

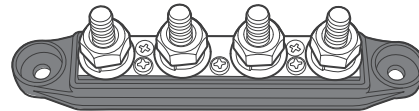
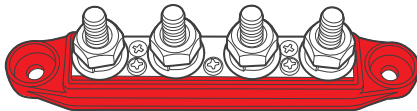


Monitoring Screen for Smart Lithium Battery × 1



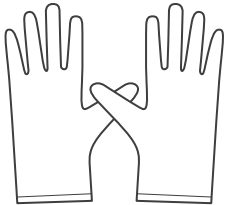
RJ45 Communication Cable × 2

■ 4P Busbar Pair



4P Busbar Pair (Red and Black) × 1

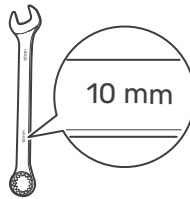
3. Required Tools & Accessories



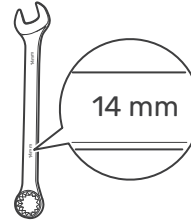
Insulating Gloves



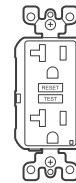
Phillips Screwdriver (#2)



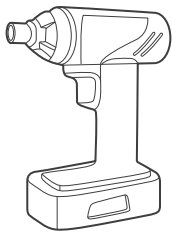
Wrench (7/16 in)



Wrench (9/16 in)



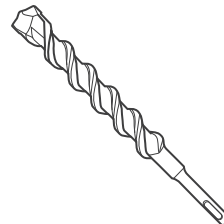
Ground Fault Circuit Interrupter (GFCI) (≥30A)



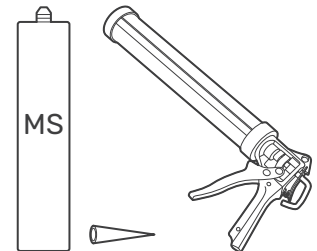
Impact Drill



Phillips Driver Bit (#2)



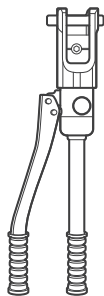
Masonry Drill Bit (21/64 in)



MS Adhesive and MS Applicator Gun



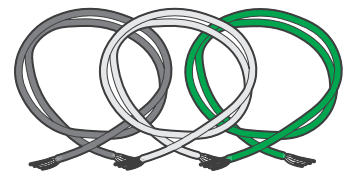
Wire Stripper



Manual Hydraulic Pliers

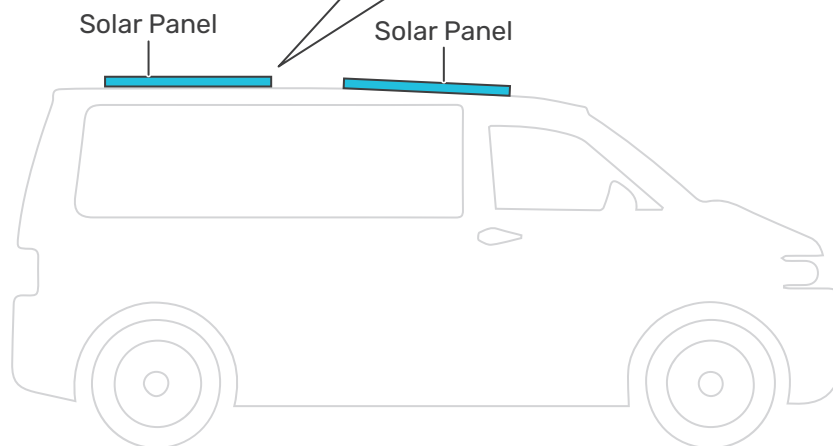
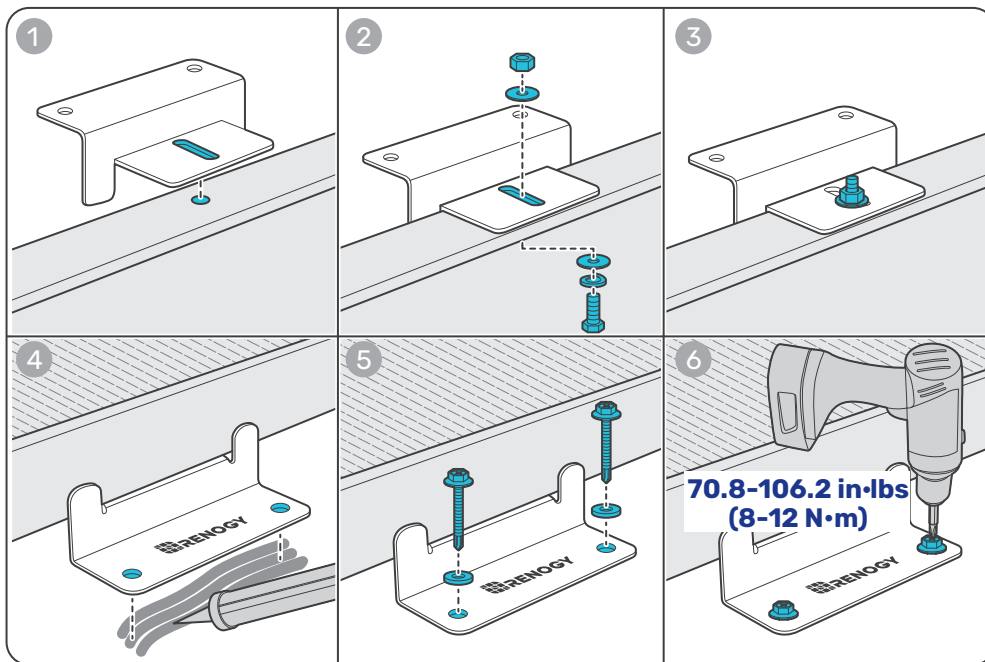


Slotted Screwdriver (4 mm)



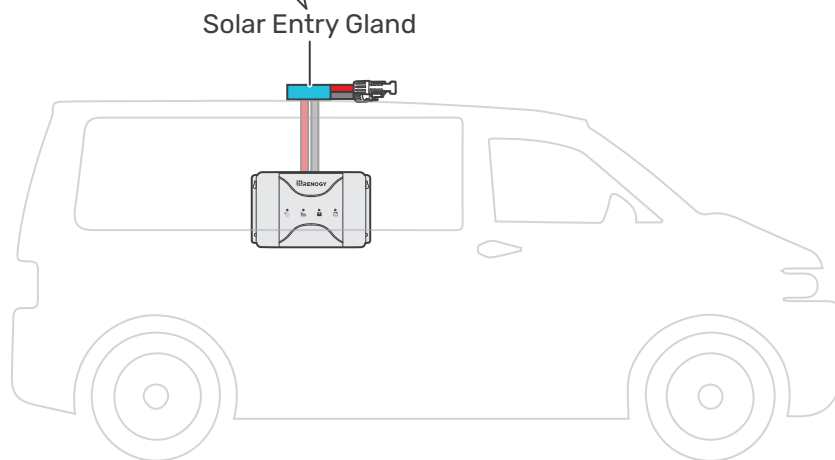
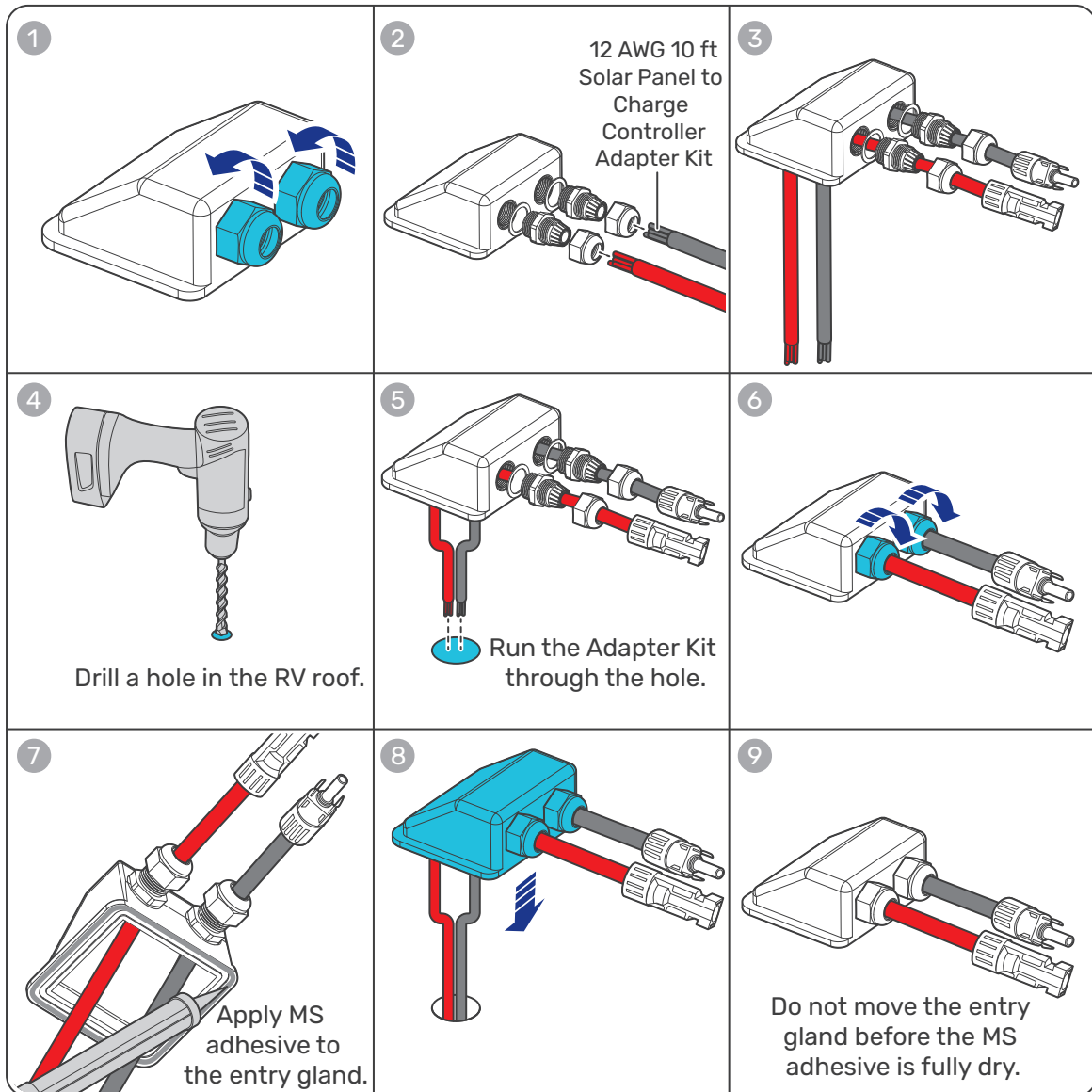
Bare Wires (8 AWG) × 3

4. How to Install the Solar Panel Mounting Z Bracket

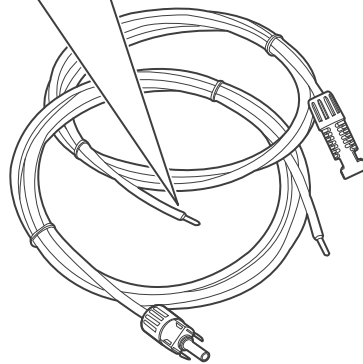
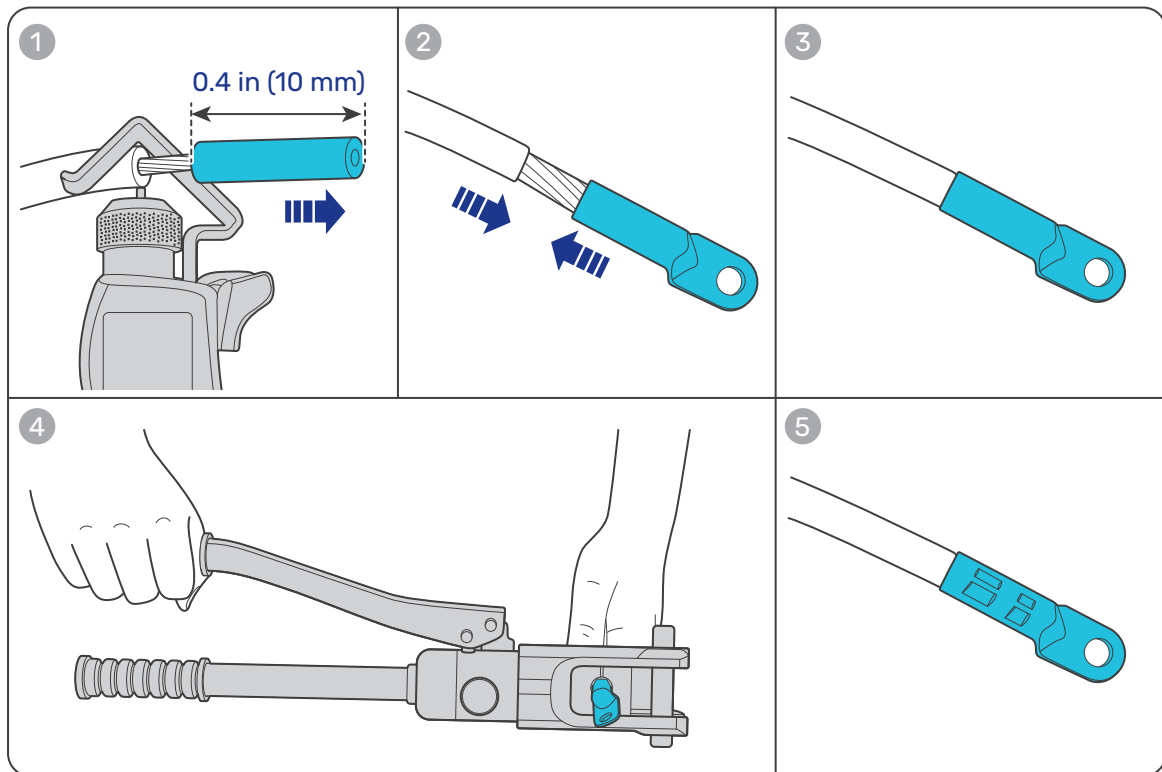


Note: To ensure optimal performance of the bifacial solar panels, you can install the panels with a Solar Panel Flat Roof Tilt Mount. For details, see renogy.com/solar-panel-flat-roof-tilt-mount/.

5. How to Install the Solar Entry Gland



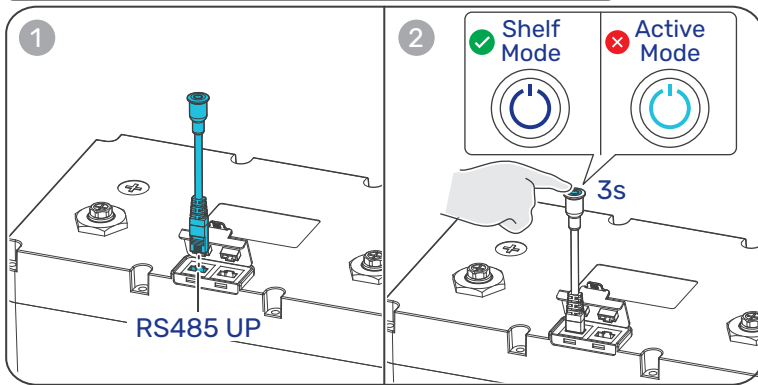
6. How to Install the 3/8 in Lugs (M8 Ring Terminals)



12 AWG 10 ft Solar Panel to Battery Charger Adapter Kit

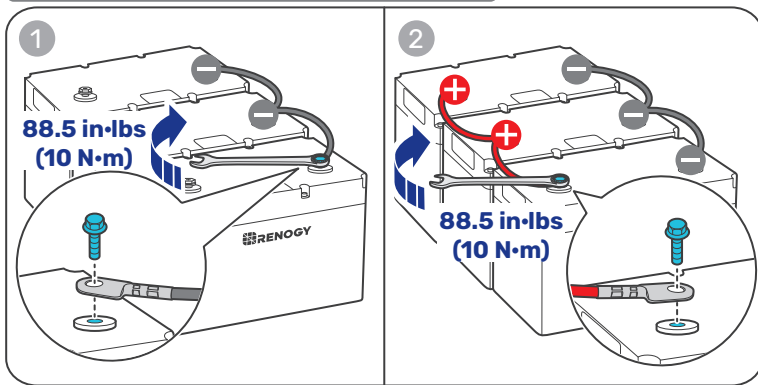
Step 1. Connect the Batteries in Parallel

Step-1 Ensure that all batteries are in shelf mode.

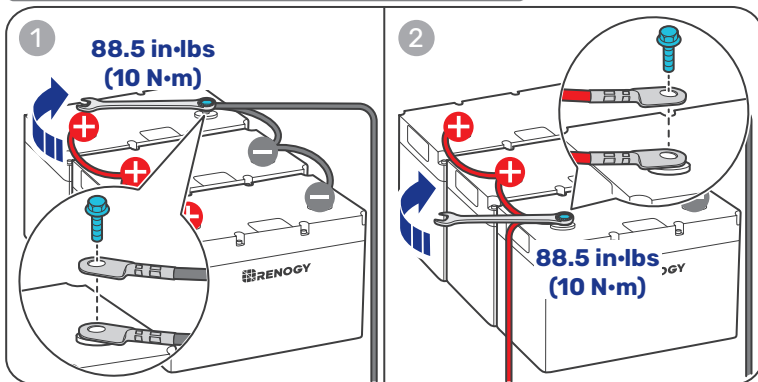


4 AWG 1 ft Battery Interconnect Cables

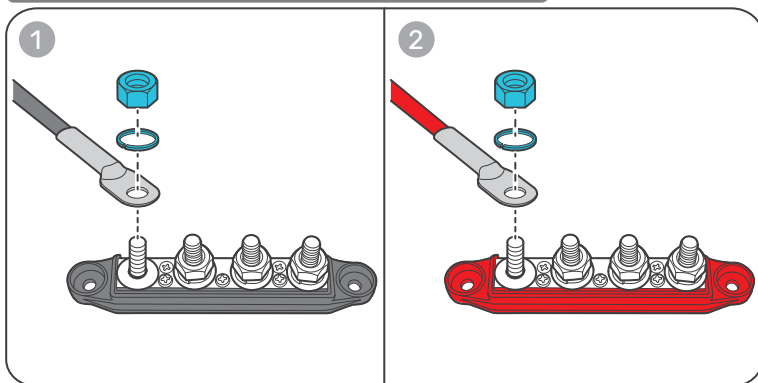
Step-2 Connect the batteries in parallel.



STEP-3 Install the cables on the batteries.



STEP-4 Install the cables on the busbar pair.



100Ah Lithium Batteries

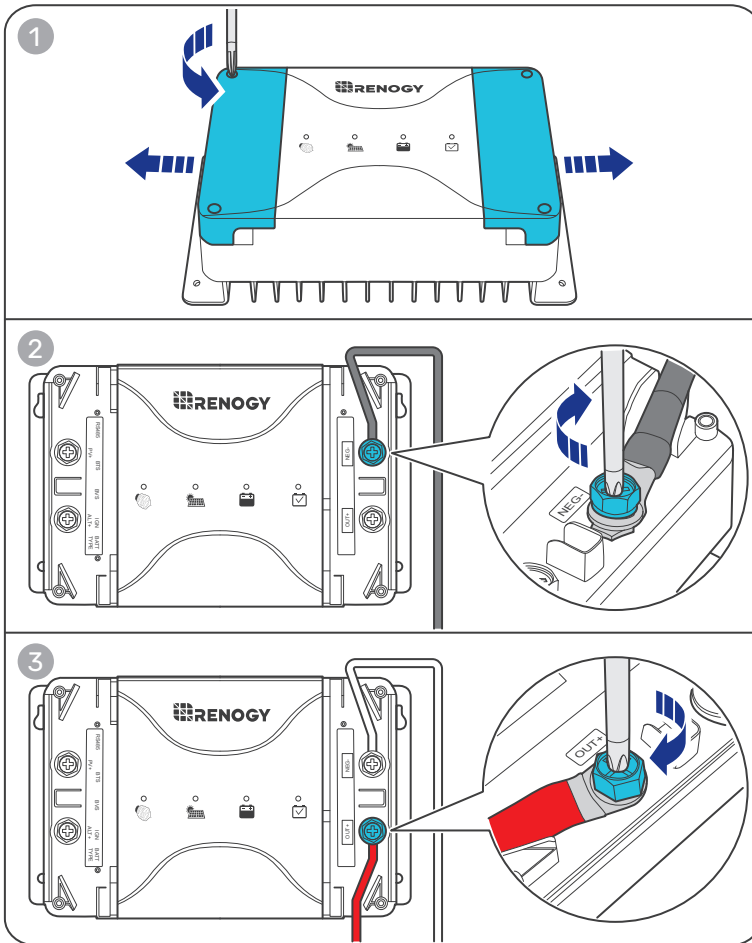
4/0 AWG 5 ft Battery Cables

Busbar Pair

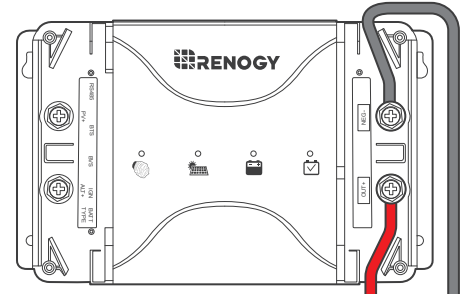
Step 2. Connect the Battery Charger to the Batteries

Note: Connect the batteries first and then the solar panels to avoid irreversible damage to the battery charger.

STEP-1 Install the cables on the battery charger.

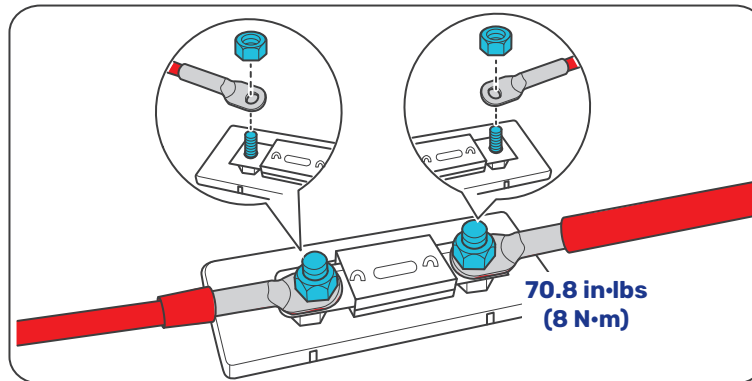


50A DC-DC Battery Charger with MPPT



4 AWG 8 ft Double Ring Tray Cables

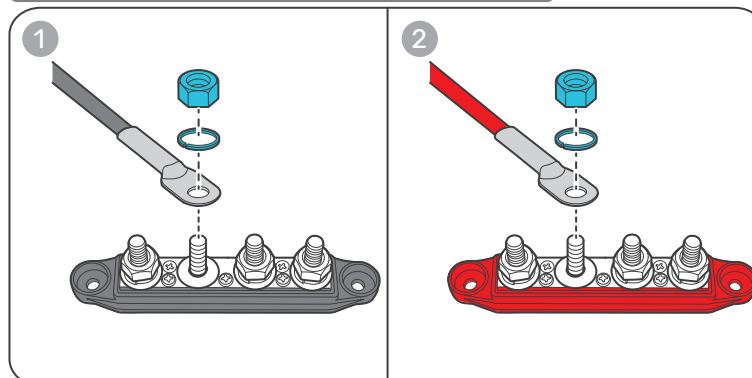
STEP-2 Install a 60A ANL fuse



60A ANL Fuse

8 AWG 2 ft ANL Fuse Cable

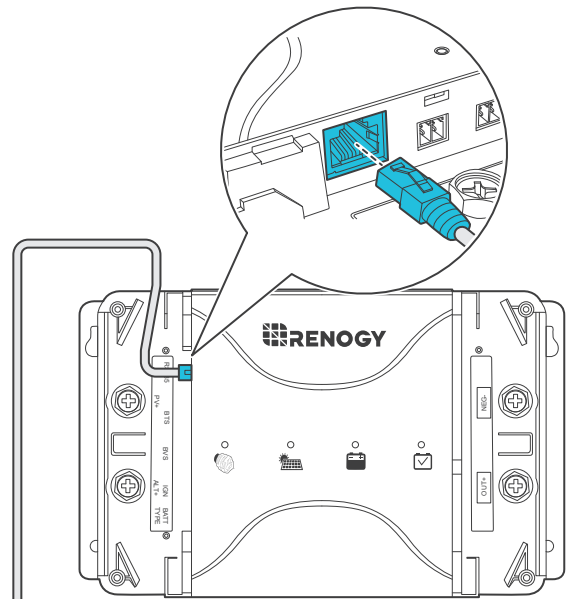
STEP-3 Install the cables on the busbar pair.



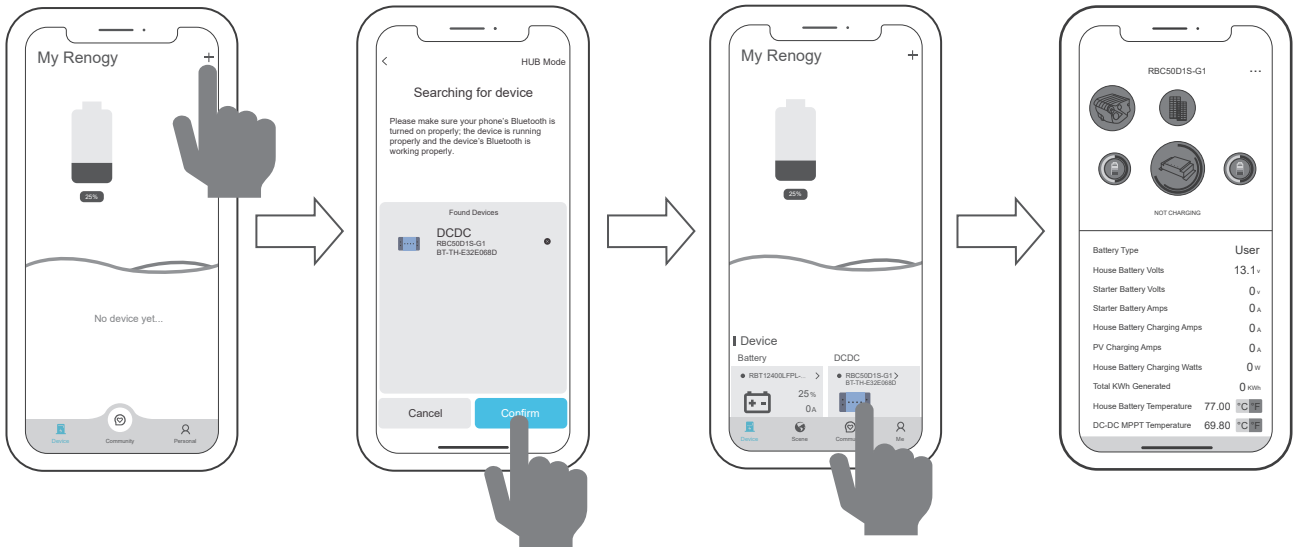
Busbar Pair

Step 3. Connect the Bluetooth Module to the Battery Charger

BT-2 Bluetooth Module



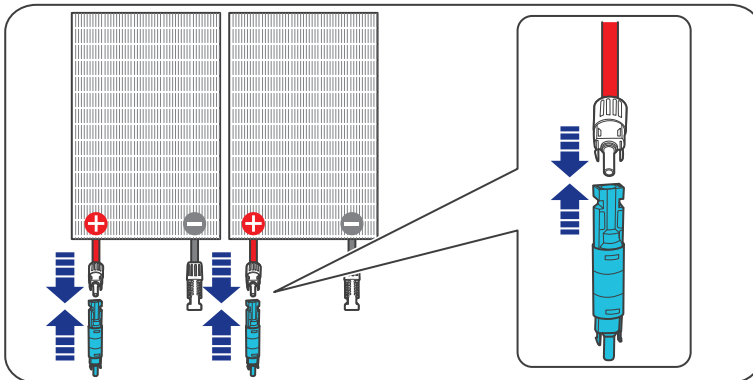
50A DC-DC Battery Charger with MPPT



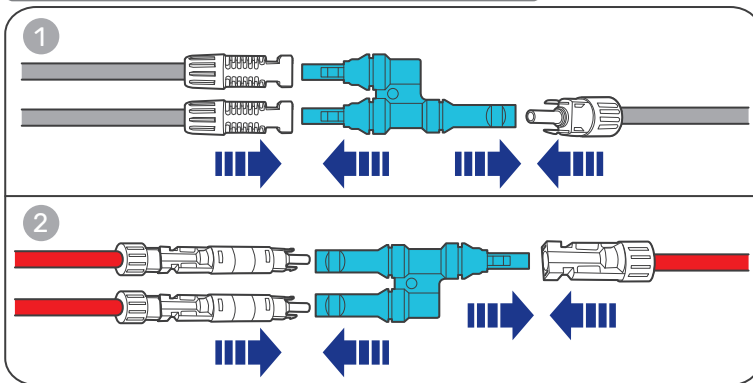
Step 4. Connect the Solar Panels to the Battery Charger

Note: Connect the batteries first and then the solar panels to avoid irreversible damage to the battery charger.

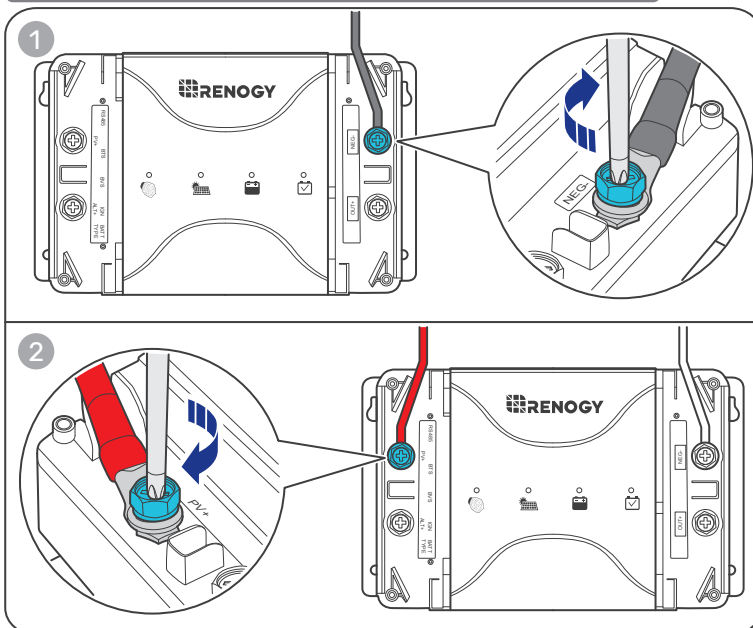
STEP-1 Install 20A Solar Connector Fuses



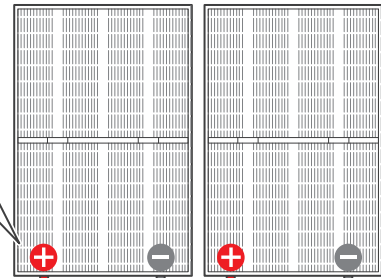
STEP-2 Connect the solar panels in parallel.



STEP-3 Install the adapter kit on the battery charger.



220W Bifacial Solar Panels



20A Solar Connector Fuse

Solar Branch Connector

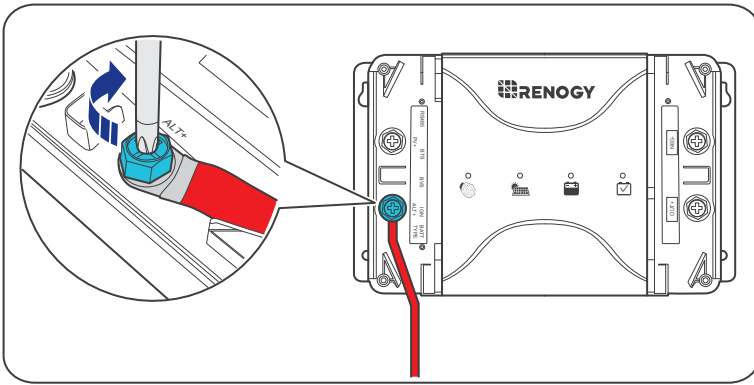
12 AWG 10 ft Adapter Kit

Solar Entry Gland

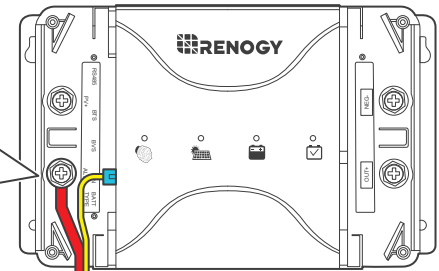
50A DC-DC Battery Charger with MPPT

Step 5. Connect the Battery Charger to the RV Starter Battery

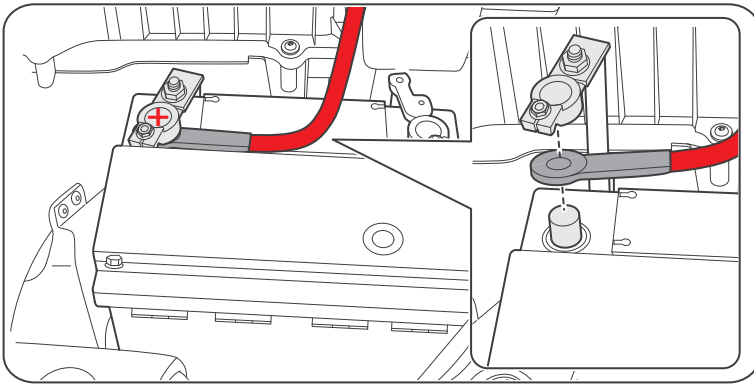
STEP-1 Install the cable on the battery charger.



50A DC-DC Battery Charger with MPPT



STEP-2 Install the cable on the RV starter battery.

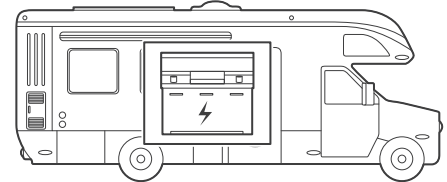


4 AWG 8 ft
Double Ring
Tray Cables

IGN
Signal
Wire

+

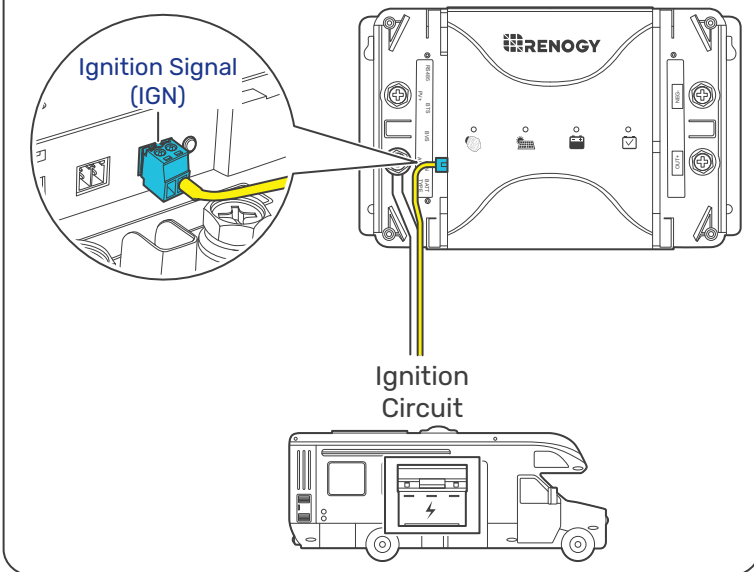
Ignition
Circuit



Starter Battery

STEP-3 Install the signal wire to RV ignition circuit.

For smart alternator only



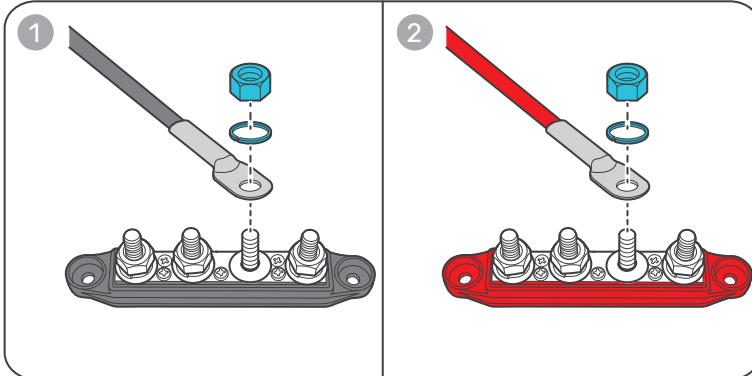
Ignition Signal
(IGN)

Ignition
Circuit

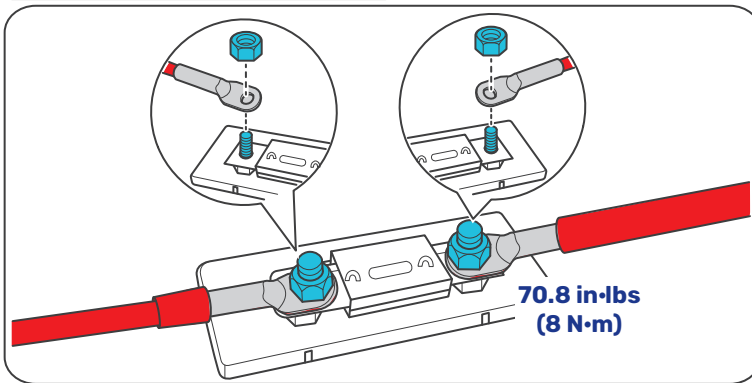
Step 6. Install the Inverter Charger and Loads

DC Input Wiring

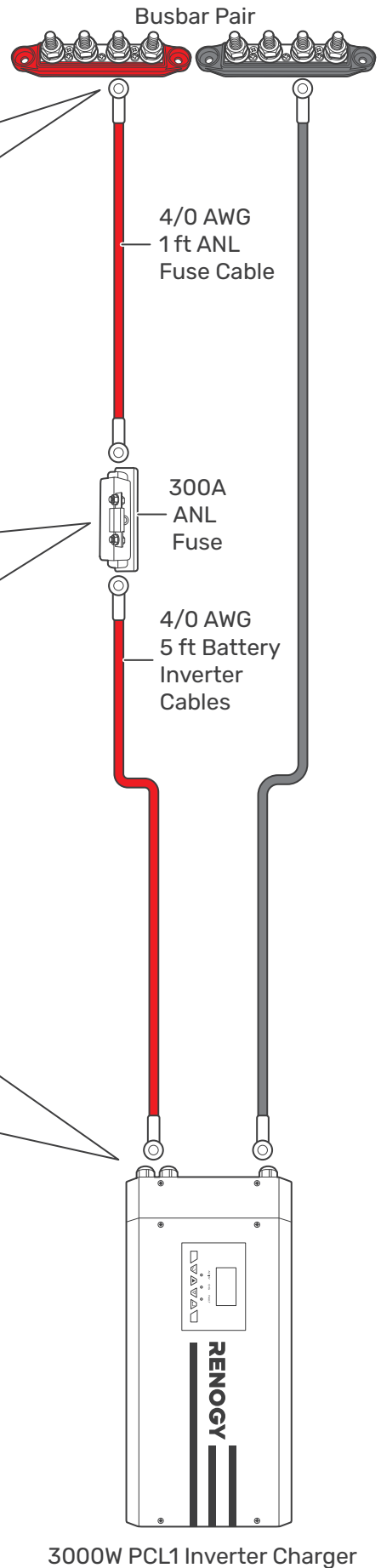
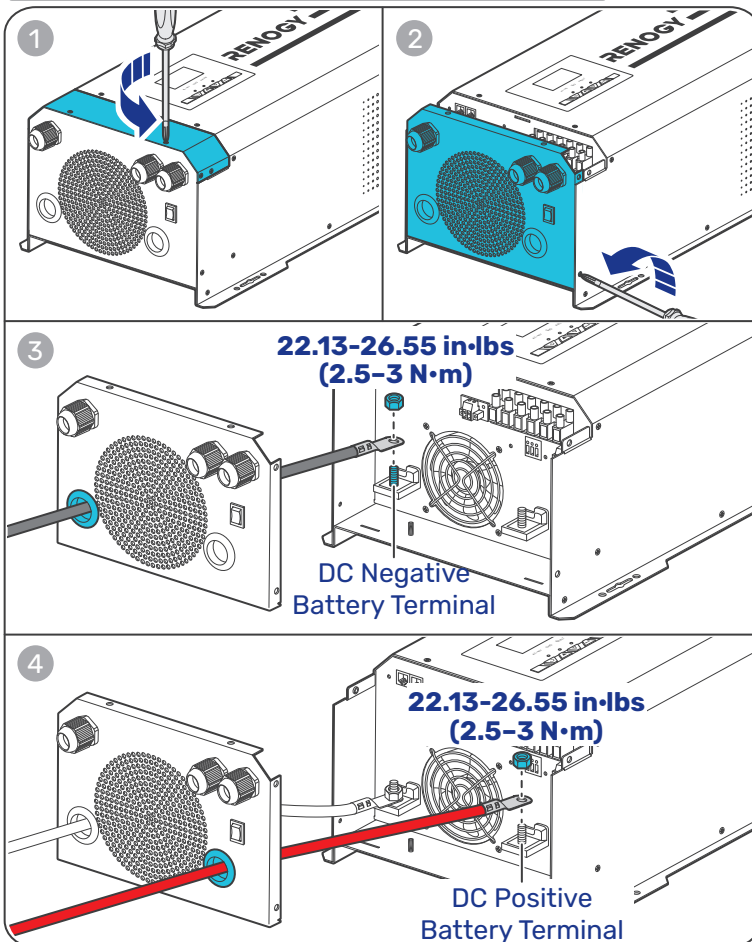
STEP-1 Install the cables on the busbar pair.



STEP-2 Install a 300A ANL fuse



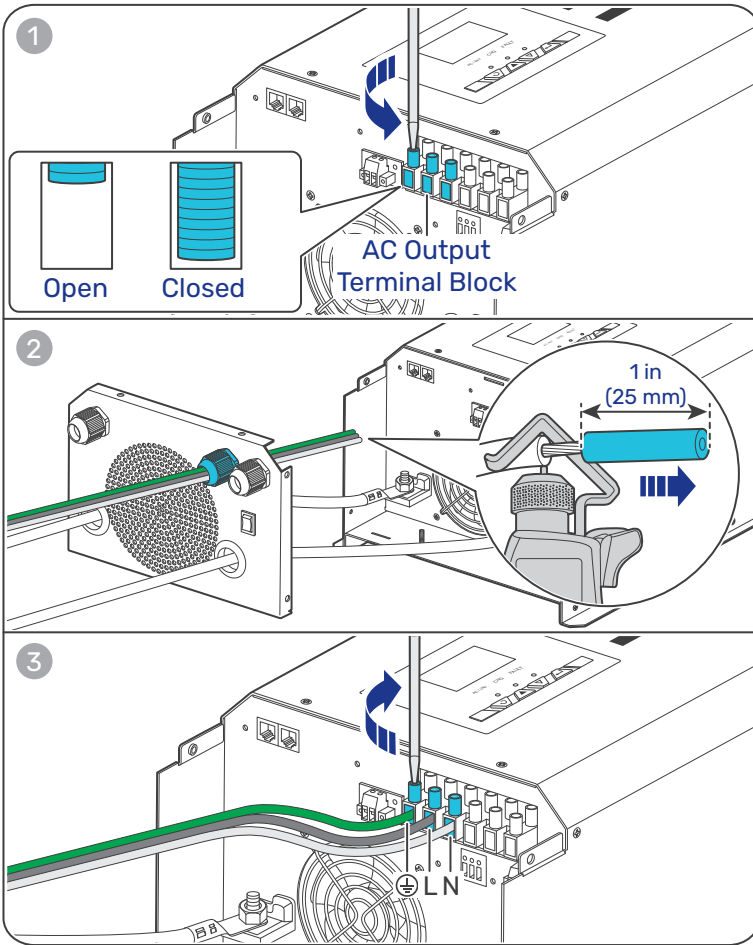
STEP-3 Install the cables on the inverter charger.



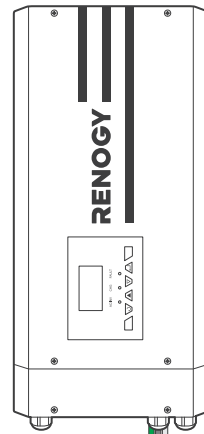
3000W PCL1 Inverter Charger

AC Output Wiring

STEP-1 Install the bare wires on the inverter charger.

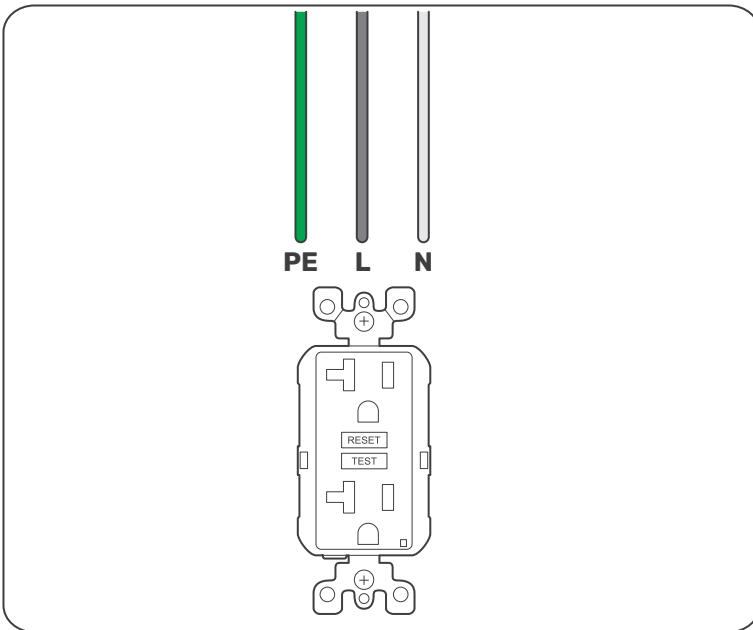


3000W PCL1 Inverter Charger

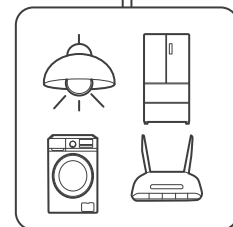


Bare Wires (8 AWG)

STEP-2 Install the bare wires on the GFCI.



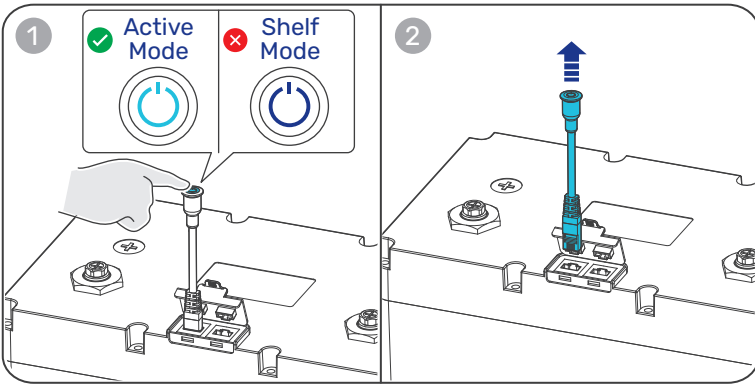
Ground Fault Circuit Interrupter



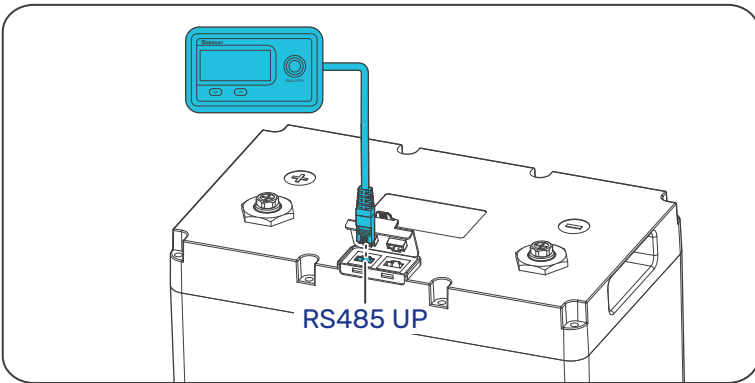
AC Loads
(120V Single Phase,
3000W Max.)

Step 7. Communication and Monitoring Wiring

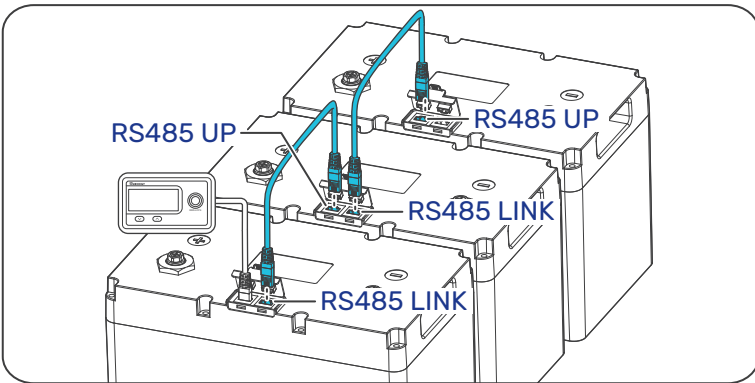
Step-1 Ensure that all batteries are in active mode.



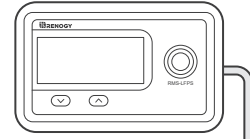
Step-2 Install the monitoring screen on the first battery.



Step-3 Install the communication cables on the batteries.



Monitoring Screen for Smart Lithium Battery



RJ45 Communication Cable

RJ45 Communication Cable

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Australia |  | au.renogy.com

Japan |  | renogy.jp

South Korea |  | kr.renogy.com

Germany |  | de.renogy.com

United Kingdom |  | uk.renogy.com

Other Europe |  | eu.renogy.com

Safety Information

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 devices.
- Keep the devices out of the reach of children.
- Do not dispose of the devices 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 CO₂ fire extinguisher.
- Installing the devices improperly on a boat may cause damage to components of the boat. Have the devices installed by a qualified electrician.
- Do not expose the devices to flammable or harsh chemicals or vapors.
- Clean the devices regularly.
- Do not puncture, drop, crush, penetrate, shake, strike, or step on the devices.
- Do not open, disassemble, repair, tamper with, or modify the devices.
- Connect the negative prior to the positive terminal when connecting any device.

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 and inverter charger in a sealed enclosure with flooded batteries! Do not install the battery charger, and inverter charger in a confined area where battery gases can accumulate.
- Prior to installing the devices, ensure all battery groups are installed properly.

Battery Charger, and Inverter Charger Safety

- Install the devices indoors on a vertical surface - protected from direct sunlight, high temperatures, and water. Make sure there is good ventilation.
- Keep the devices away from heating equipment.
- Do not insert foreign objects into the devices.
- Confirm the polarities of the devices before connection. A reverse polarity contact can result in damage to the devices, thus voiding the warranty.
- Do not touch the connector contacts while the devices are in operation.
- Disconnect all connectors from the devices before maintenance or cleaning.
- Ensure the inverter charger is firmly grounded to a building, vehicle, or earth grounded. Keep the inverter charger away from EMI receptors such as TVs, radios, and other audio/visual electronics to prevent damage / interference to the equipment.

Solar Panel Safety

- Do not install the solar panel on a surface constructed from combustible material.
- Do not expose the solar panel to direct flame or heat sources.
- Keep the solar panel away from explosives and corrosive substances.
- Do not step, walk, stand, or jump on the solar panel. Localized heavy loads may cause damage to the solar cells, which will ultimately compromise the performance of the solar panel.
- Do not bend the solar panel. Bending the solar panel will cause damage to the cells and affect panel performance.
- Do not immerse the solar panel in water.



Renogy Empowered

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 CO₂ from being released into the atmosphere



Save 105 gallons of water from being consumed



Renogy Power **PLUS**

Renogy Power Plus allows you to stay in the loop with upcoming solar energy innovations, share your experiences with your solar energy journey, and connect with like-minded people who are changing the world in the Renogy Power Plus community.



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