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

GO SOLAR

Solar 440W 3.84kWh Extension Solution

Find Your Energy Freedom

RENOGY

QUICK GUIDE
VERSION A0
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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Disclaimer

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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

Download on the

[QR Code Image]
1. System Wiring

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

**Battery**

- 100Ah Lithium Battery \( \times 3 \)
- 4 AWG 1 ft Battery Interconnect Cable \( \times 4 \)
- 4/0 AWG 5 ft Battery Cables (Battery to Busbar) \( \times 1 \)

**DC-DC Battery Charger**

- 50A DC-DC Battery Charger with MPPT \( \times 1 \)
- 4 AWG 8 ft Double Ring Tray Cables (Battery Charger to Busbar and Starter Battery) \( \times 2 \)
- 60A ANL Fuse \( \times 1 \)
- 8 AWG 2 ft ANL Fuse Cable \( \times 1 \)
**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

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### 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
- Slootted 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

1. Drill a hole in the RV roof.
2. Run the Adapter Kit through the hole.
3. Apply MS adhesive to the entry gland.
4. Do not move the entry gland before the MS adhesive is fully dry.

12 AWG 10 ft Solar Panel to Charge Controller Adapter Kit
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.**

1. RS485 UP

2. 100Ah Lithium Batteries

**Step-2 Connect the batteries in parallel.**

1. 4 AWG 1 ft Battery Interconnect Cables

2. 4/0 AWG 5 ft Battery Cables

**STEP-3 Install the cables on the batteries.**

1. 88.5 in-lbs (10 N·m)

2. 88.5 in-lbs (10 N·m)

**STEP-4 Install the cables on the busbar pair.**

1. Busbar Pair

2. 4/0 AWG 5 ft Battery Cables
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.**

1. 50A DC-DC Battery Charger with MPPT

2. 4 AWG 8 ft Double Ring Tray Cables

3. 8 AWG 2 ft ANL Fuse Cable

**STEP-2 Install a 60A ANL fuse**

1. 60A ANL Fuse

2. 70.8 in-lbs (8 N·m)

**STEP-3 Install the cables on the busbar pair.**

1. Busbar Pair

2. 4 AWG 8 ft Double Ring Tray Cables
Step 3. Connect the Bluetooth Module to the Battery Charger

HUB Mode
Searching for device
Please make sure your phone’s Bluetooth is turned on properly; the device is running properly and the device’s Bluetooth is working properly.

Cancel Confirm

BT-2 Bluetooth Module

50A DC-DC Battery Charger with MPPT

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

STEP-1 Install the cable on the battery charger.

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

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

For smart alternator only
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.**

**STEP-4 Secure the inverter charger.**

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**Busbar Pair**

- 4/0 AWG 1 ft ANL Fuse Cable
- 300A ANL Fuse
- 4/0 AWG 5 ft Battery Inverter Cables
- 70.8 in·lbs (8 N·m)
- 22.13-26.55 in·lbs (2.5–3 N·m)
- 22.13-26.55 in·lbs (2.5–3 N·m)

**300W PCL1 Inverter Charger**
AC Output Wiring

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

1. Install the bare wires on the inverter charger.

2. Install the bare wires on the GFCI.

STEP-2 Install the bare wires on the GFCI.

3. Install the bare wires on the GFCI.

3000W PCL1 Inverter Charger

Bare Wires (8 AWG)

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.
Renogy Support

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

renogy.com/support/downloads  contentservice@renogy.com

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

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  1(909)2877111

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

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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 band 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 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.

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 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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