

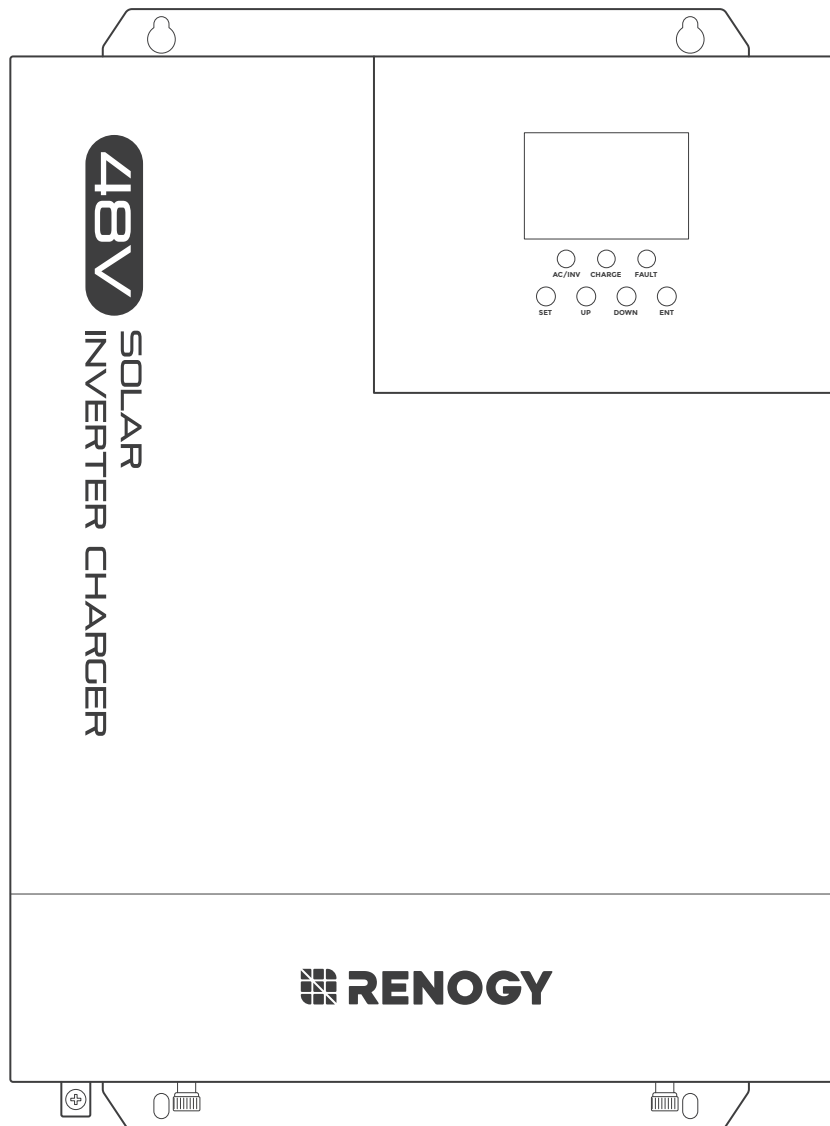
Renogy

Pure Sine Wave Solar Inverter Charger

48V | 3500W

RIV4835PCS-1SS

VERSION A1



QUICK GUIDE

Before Getting Started

The quick guide provides important operation and maintenance instructions for RENOGY 48V 3500W Pure Sine Wave Solar Inverter Charger (hereinafter referred to as inverter 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 inverter charger, potentially rendering it inoperable.

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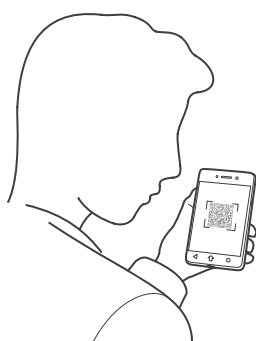
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Online Manual



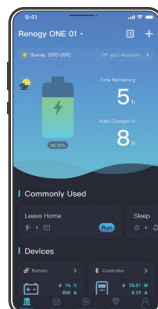
Quick Guide



User Manual



DC Home App



DC Home App

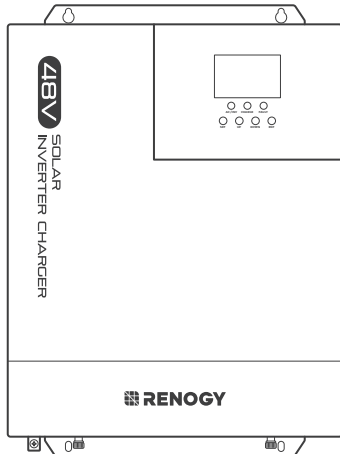


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What's In the Box?

RENOGY 48V 3500W Pure Sine Wave Solar Inverter Charger × 1



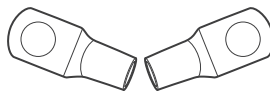
Quick Guide × 1



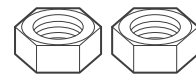
Wired Remote Control × 1



RJ12 Network Cadle (5m) × 1



Ring Terminals (M6) × 2



Screw Nuts (M6) × 2

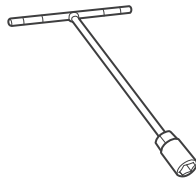


Make sure that all accessories are complete and free of any signs of damage.

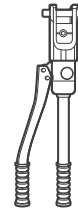
Required Tools



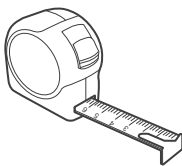
Phillips Screwdriver (#1)



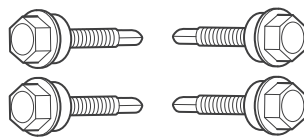
Socket Wrench (7/16 inches)



Manual Hydraulic Pliers



Measuring Tape



Self-tapping Screws (ST6) × 4



Wire Stripper



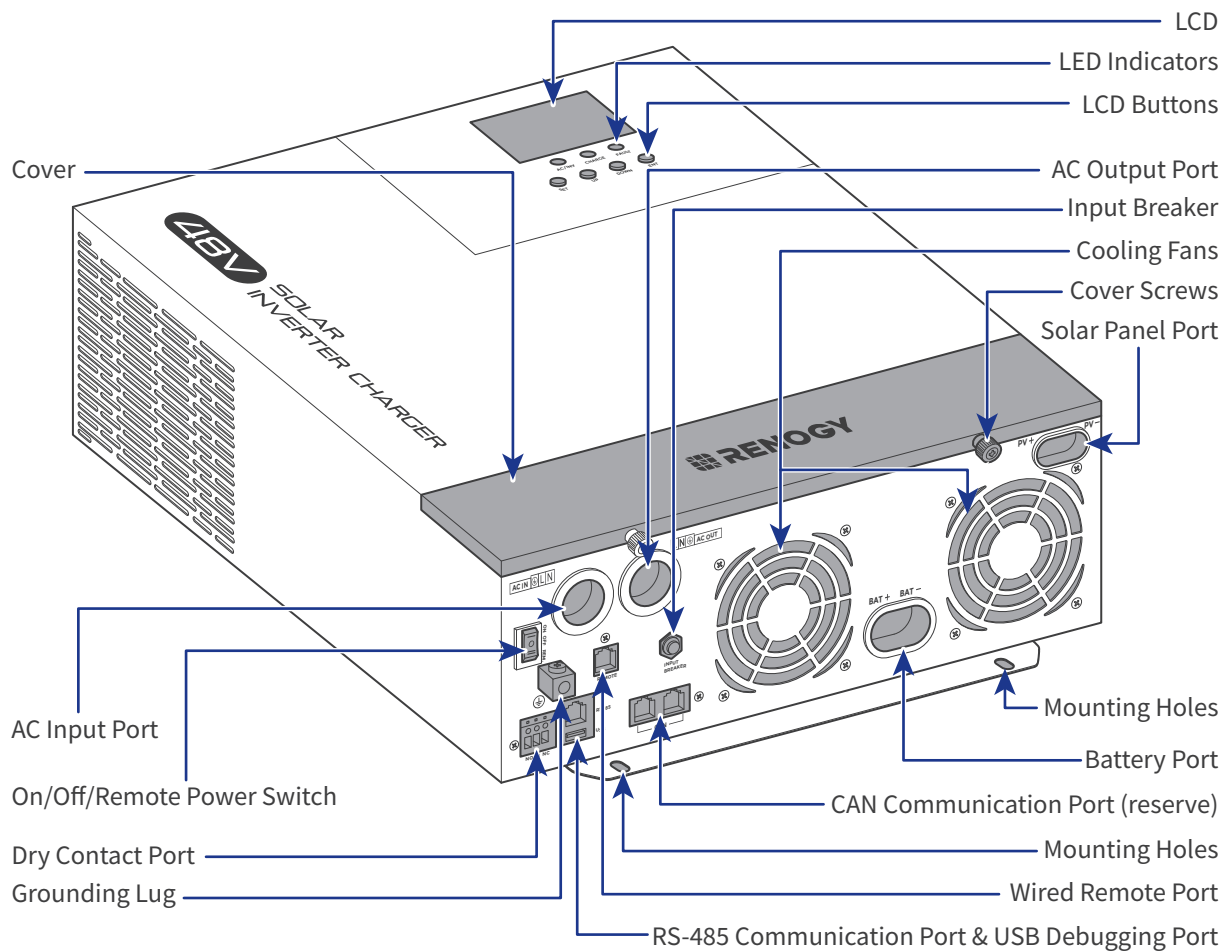
Prior to installing and configuring the inverter charger, prepare the recommended tools, components, and accessories.



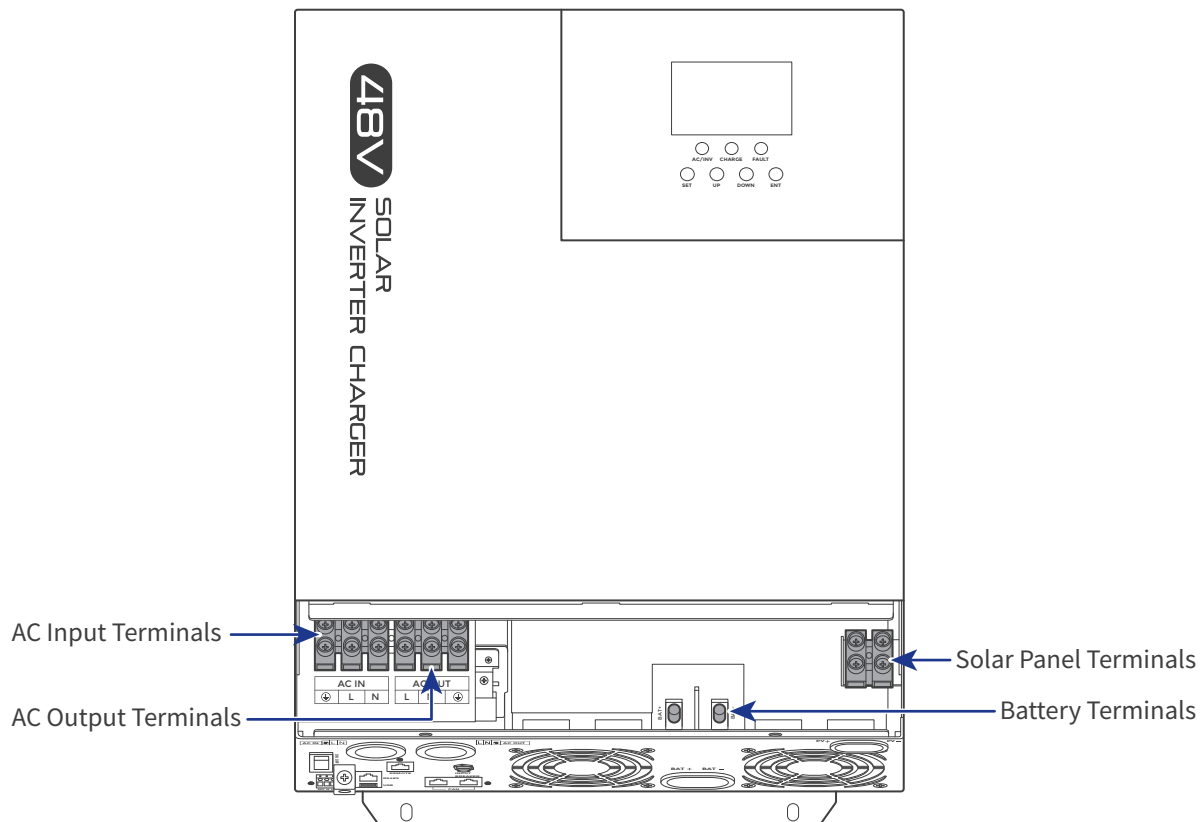
Choose proper mounting screws specific to your installation site. This guide takes self-tapping screws for wooden walls as an example.

Get to Know RENOGY Solar Inverter Charger

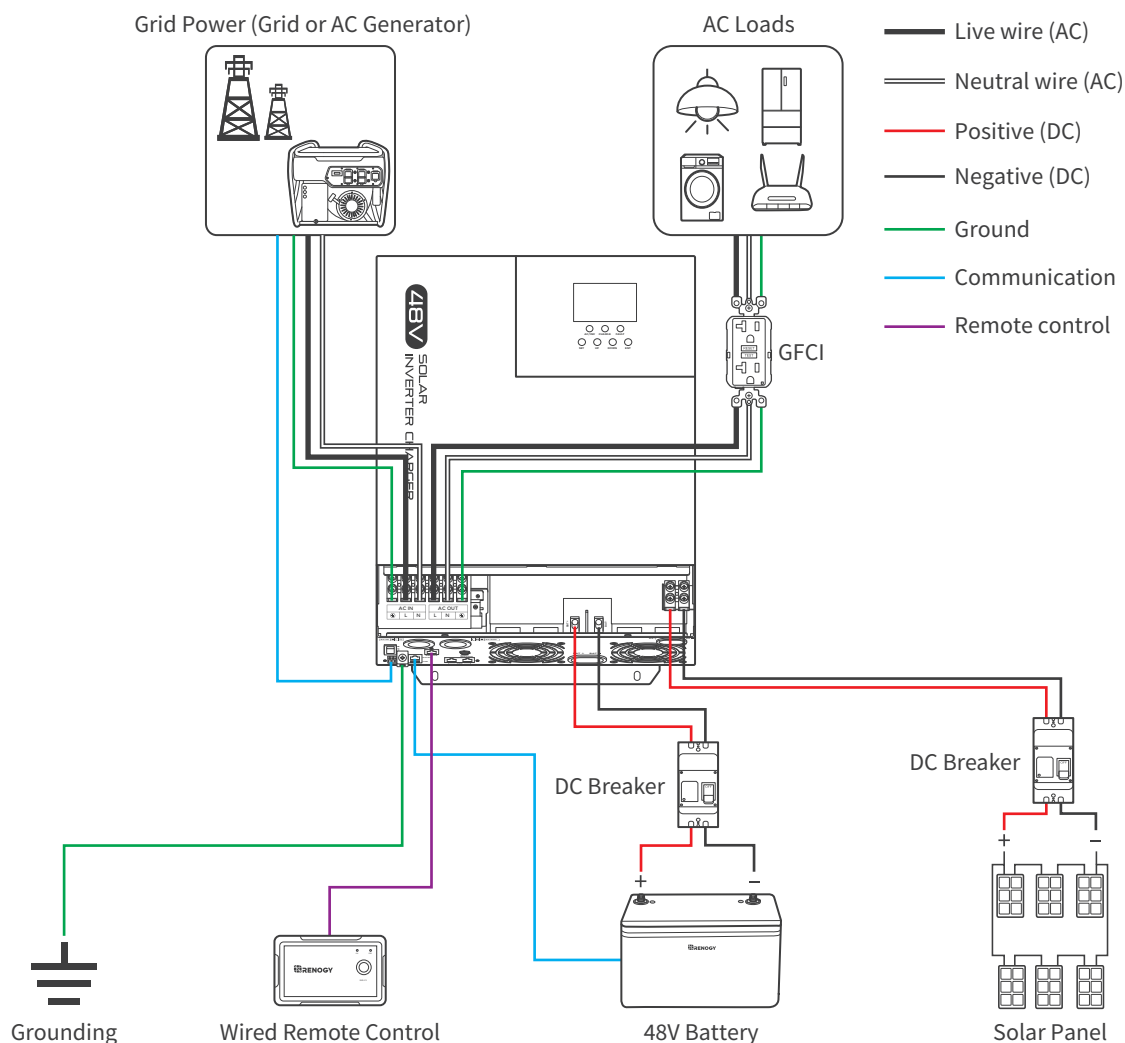
Exterior



Interior (with the Cover removed)



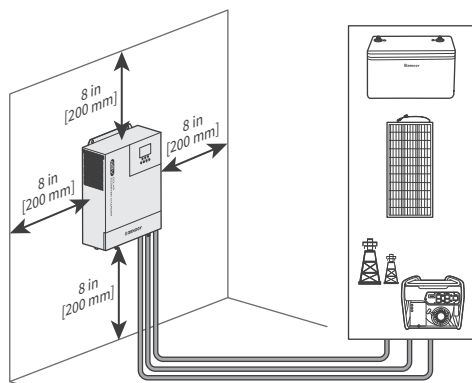
System Setup



⚠ The wiring diagram only shows the key components in a typical DC-coupled residential energy storage system for the illustrative purpose. The wiring might be different depending on the system configuration. Additional safety devices, including disconnect switches, emergency stops, and rapid shutdown devices, might be required. Wire the system in accordance with the regulations at the installation site.

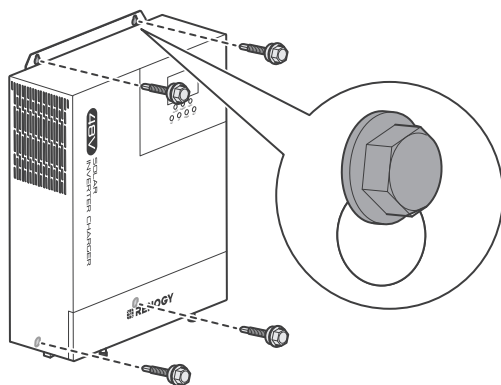
Step 1. Plan a Mounting Site

The inverter charger requires adequate clearance for installation, wiring and ventilation. The minimum clearance is provided below. Ventilation is highly recommended if it is mounted in an enclosure. Select a proper mounting site to ensure the inverter charger can be safely connected to the battery, solar panel(s), and grid/AC generator with the relevant cables.



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

Step 2. Mount the Inverter Charger

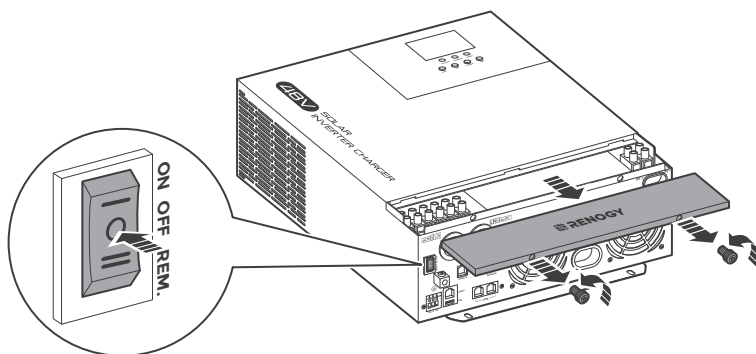


Mount the inverter charger to a wall via the self tapping screws (not provided).



Make sure the inverter charger is secured to the wall to prevent it from falling.

Step 3. Remove the Cover



First, ensure the On/Off/Remote Power Switch is in the OFF position.

Second, turn the two Cover Screws counterclockwise either by hand or by using a Phillips screwdriver, and remove the Cover.

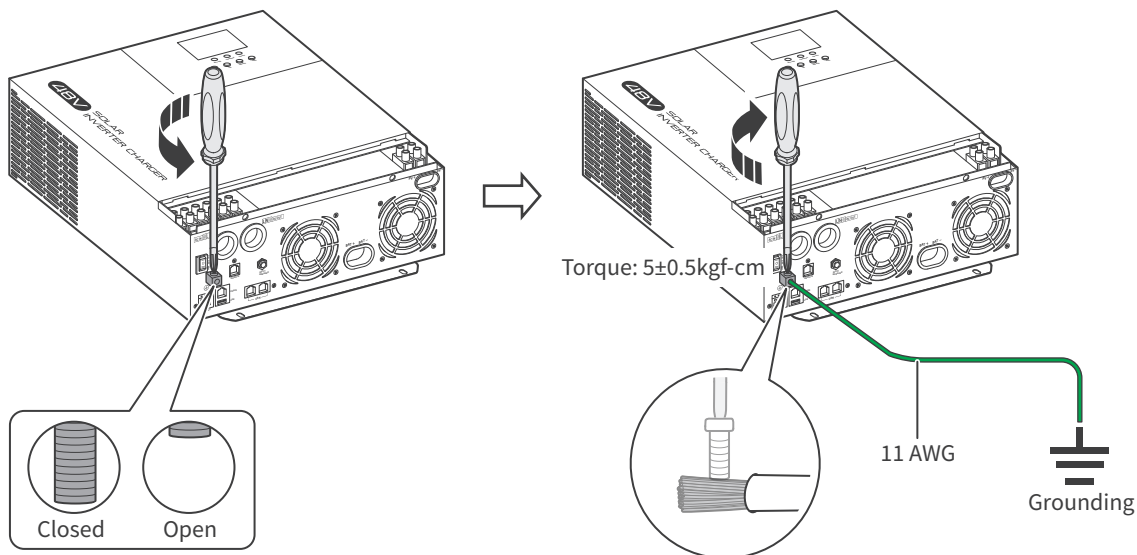
Step 4. Ground the Inverter Charger

Recommended Accessories



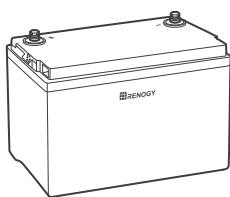
Bare Wire (11 AWG)

Strip part of the insulation according to the grounding lug depth of the inverter charger.

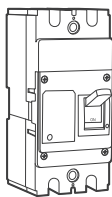


Step 5. Connect the Inverter Charger to a Battery

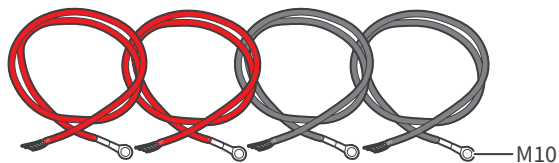
Recommended Components & Accessories



*48V Battery



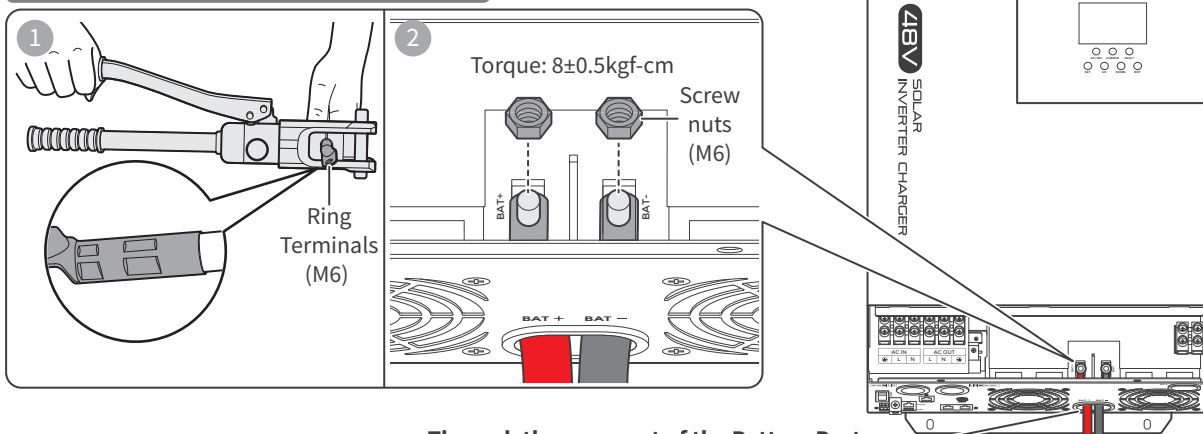
*2P DC Molded Case
Circuit Breaker (160A)



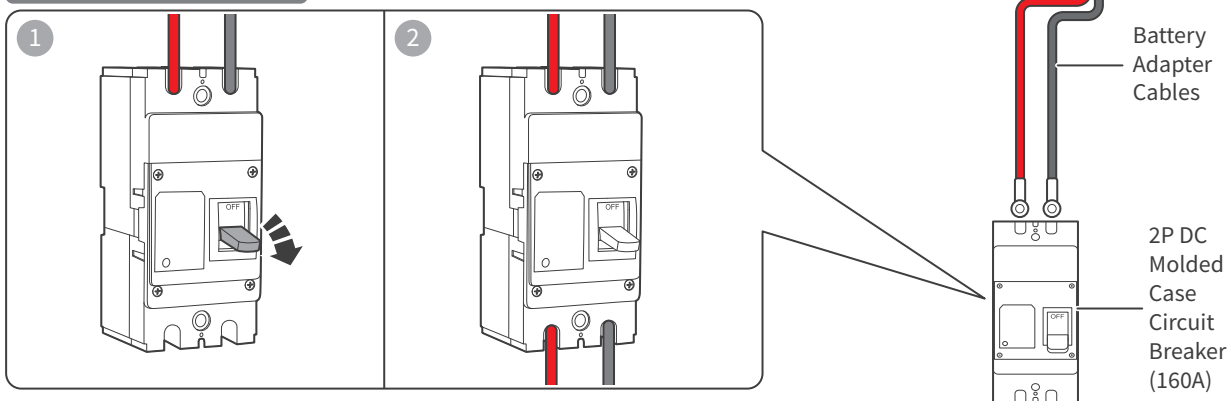
Battery Adapter Cables (2 AWG) × 4

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

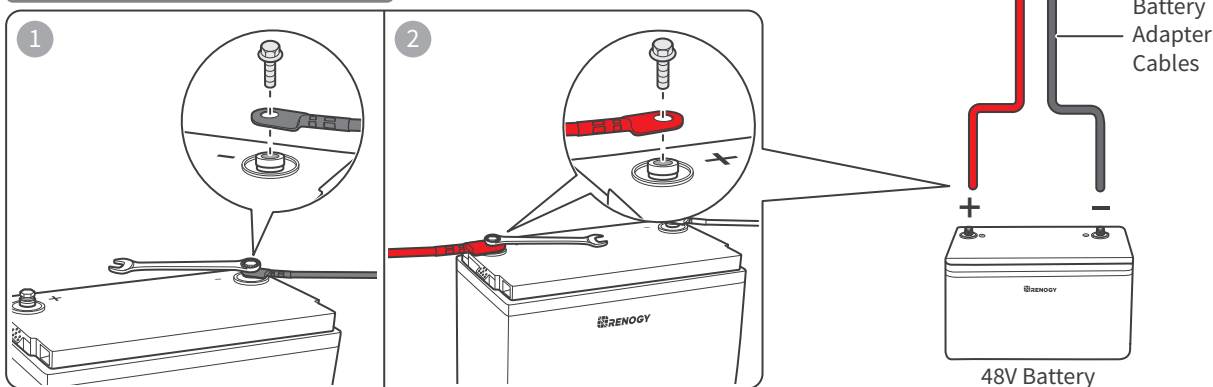
STEP-1 Install cables on the inverter charger



STEP-2 Install a DC breaker

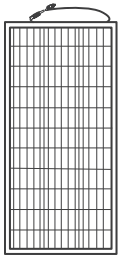


STEP-3 Install cables on the battery

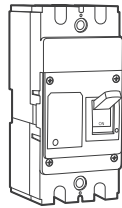


Step 6. Connect the Inverter Charger to a Solar Panel

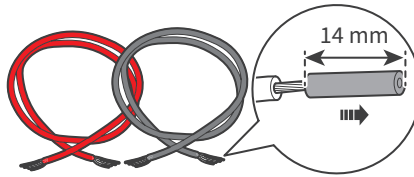
Recommended Components & Accessories



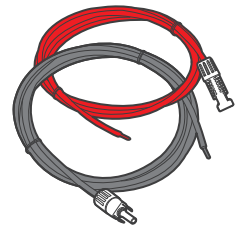
*Solar Panel



2P DC Molded Case
Circuit Breaker



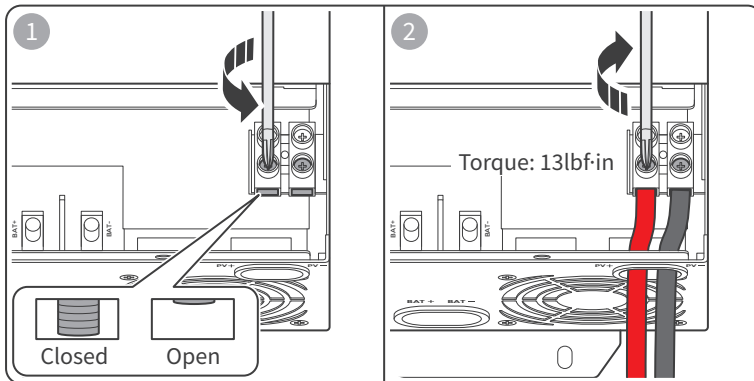
Bare Wires (6 AWG) × 2



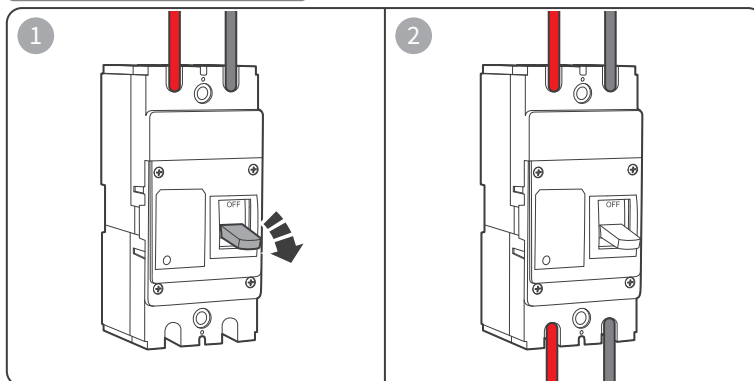
Solar Panel
Extension Cables (6 AWG)

- ⚠ Connecting the inverter charger to a solar panel exceeding 4400W (60V~150V, ≤ 50A) results in damage to the inverter charger.
- ⚠ The appropriate current rating for the circuit breaker should be determined by multiplying the total amperage of the solar panel array by 1.56.
- ⚠ Accessories marked with "*" are available on [renogy.com](https://www.renogy.com).

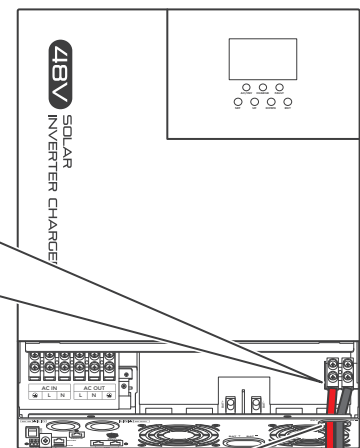
STEP-1 Install bare wires on the inverter charger



STEP-2 Install a DC breaker



Through the grommet of the Solar Panel Port

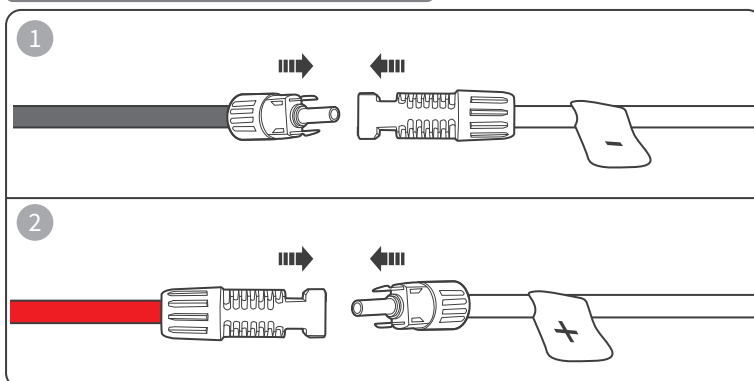


Bare Wires

2P DC Molded Case
Circuit Breaker

Solar Panel
Extension Cables

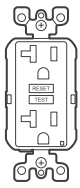
STEP-3 Install cables on the solar panel



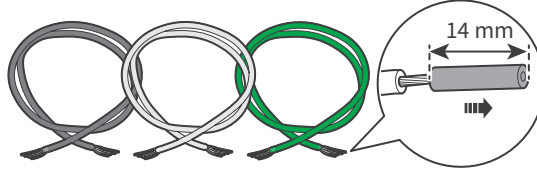
Solar Panel

Step 7. Connect the Inverter Charger to AC Loads (Appliances)

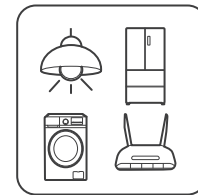
Recommended Components & Accessories



Ground Fault Circuit Interrupter (≥40A)



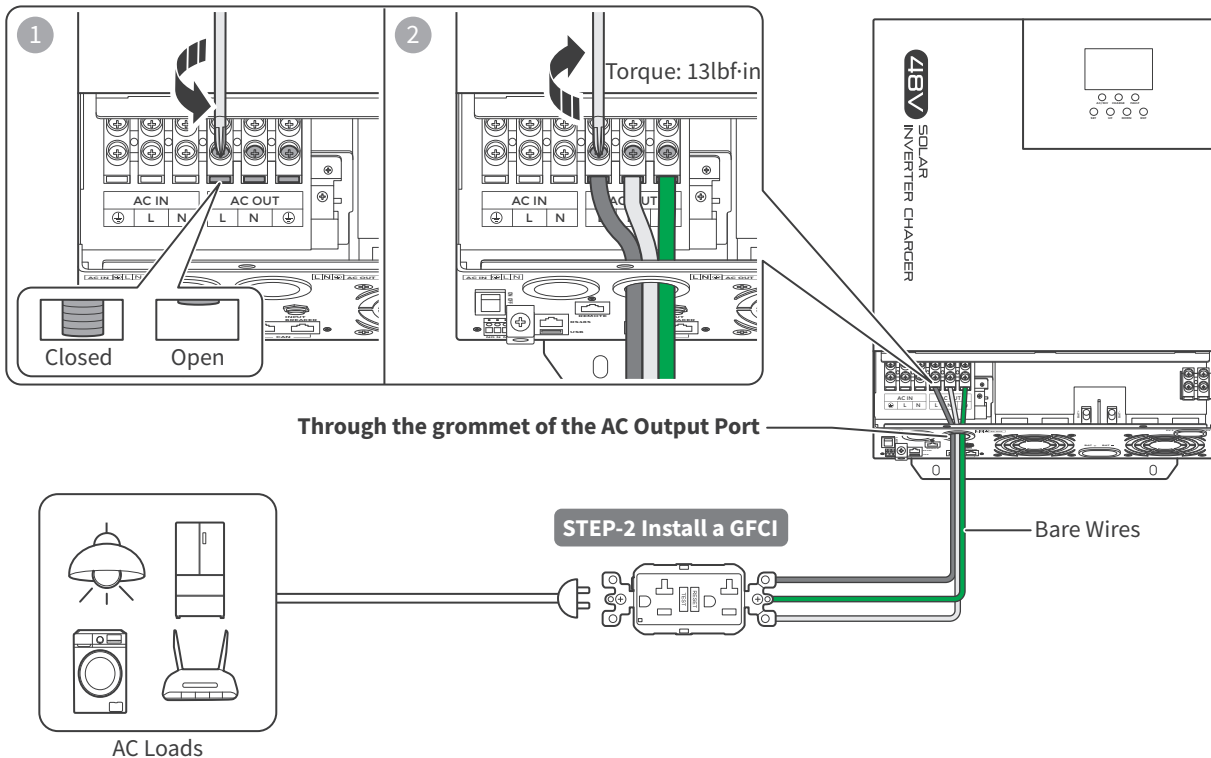
Bare Wires (8 AWG) × 3



AC Loads
(120V Single Phase, 3500W Max.)

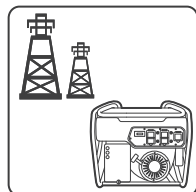
⚠ For details on the wiring method, refer to the user manual for your specific GFCI.

STEP-1 Install bare wires on the inverter charger

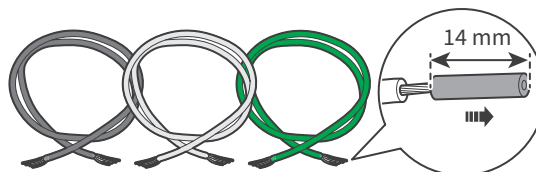


Step 8. Connect the Inverter Charger to the Grid (Optional)

Recommended Components & Accessories



Grid Power
(Grid or AC Generator)
(120V Single Phase, 40A Max.)

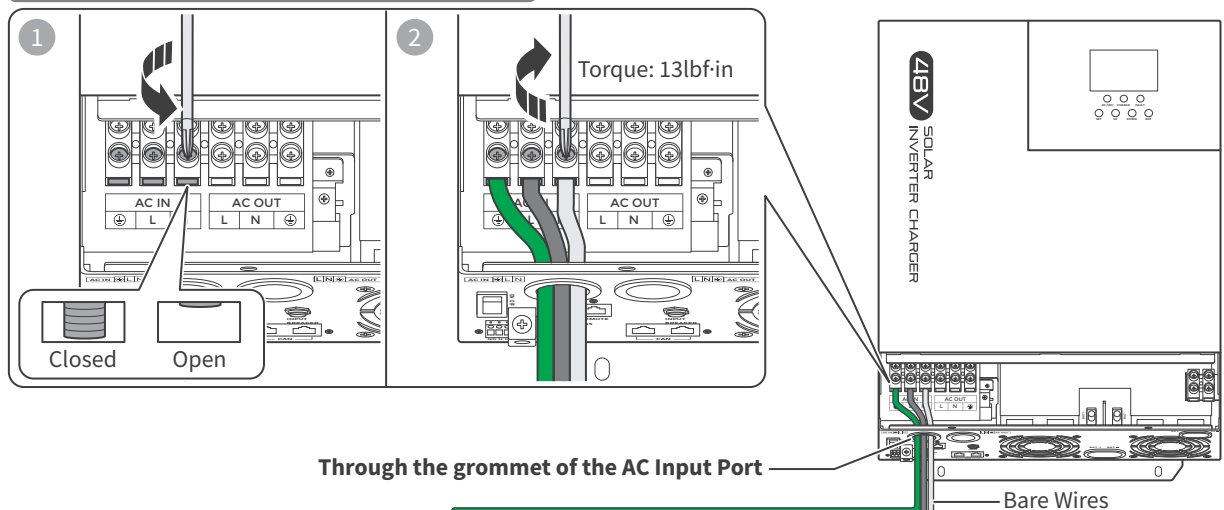


Bare Wires (8 AWG) × 3

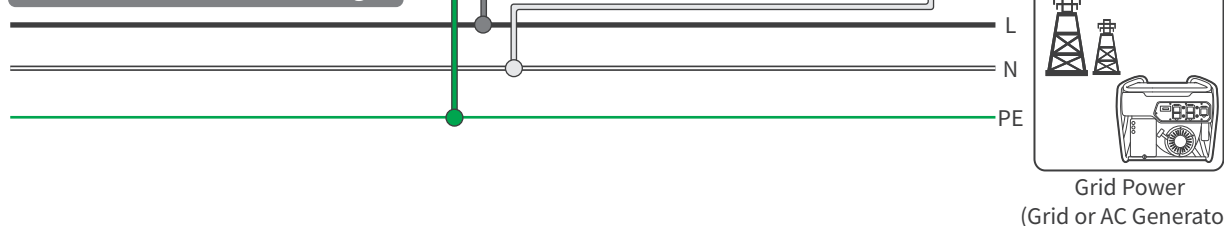
⚠ Risk of electrical shock! Ensure the grid or the AC generator is powered off prior to connecting the inverter charger to the grid or the generator.

⚠ For wiring details, see the user manual of the generator in use.

STEP-1 Install bare wires on the inverter charger



STEP-2 Install bare wires on the grid



Step 9. Connect the Inverter Charger to an AC Generator (Optional)

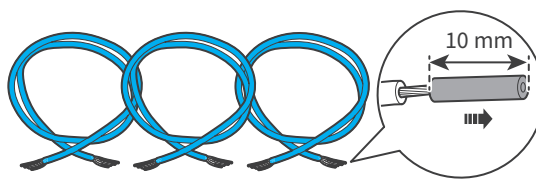
The inverter charger can automatically enable or disable the connected AC generator if the generator supports auto power on/off.

- When the battery voltage is lower than the value set in Parameter 04, the generator is automatically powered on to supply the battery and loads.
- When the battery voltage is higher than the value set in Parameter 05, the generator is automatically powered off, and the loads are powered by the battery only.

Recommended Tools & Accessories

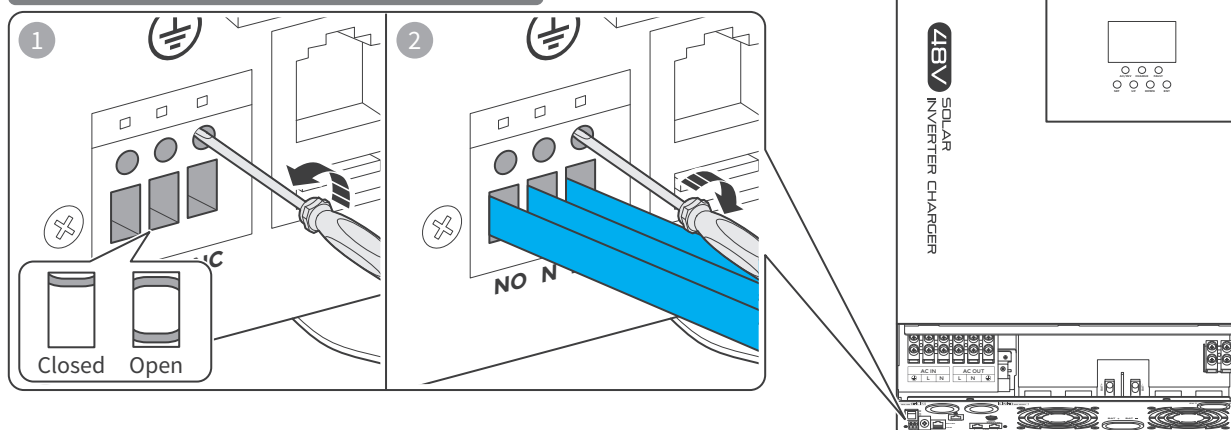


Slotted Screwdriver (1 mm)

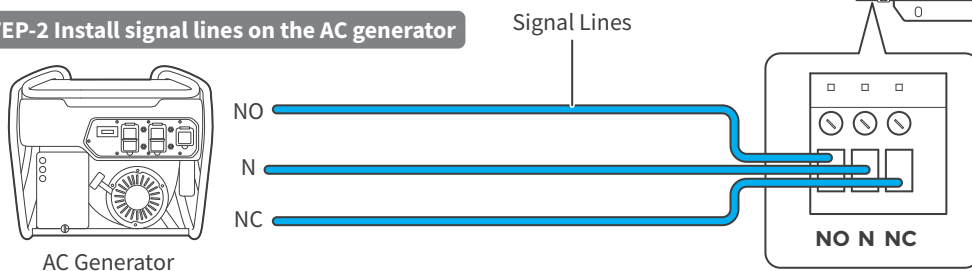


Signal Lines × 3

STEP-1 Install signal lines on the inverter charger



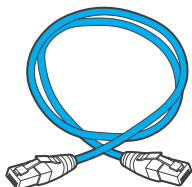
STEP-2 Install signal lines on the AC generator



- ⚠ Some generators only have NC and N (common static contact) or NO and N. You can connect them on demand.
- ⚠ For wiring details, see the user manual of the generator in use.

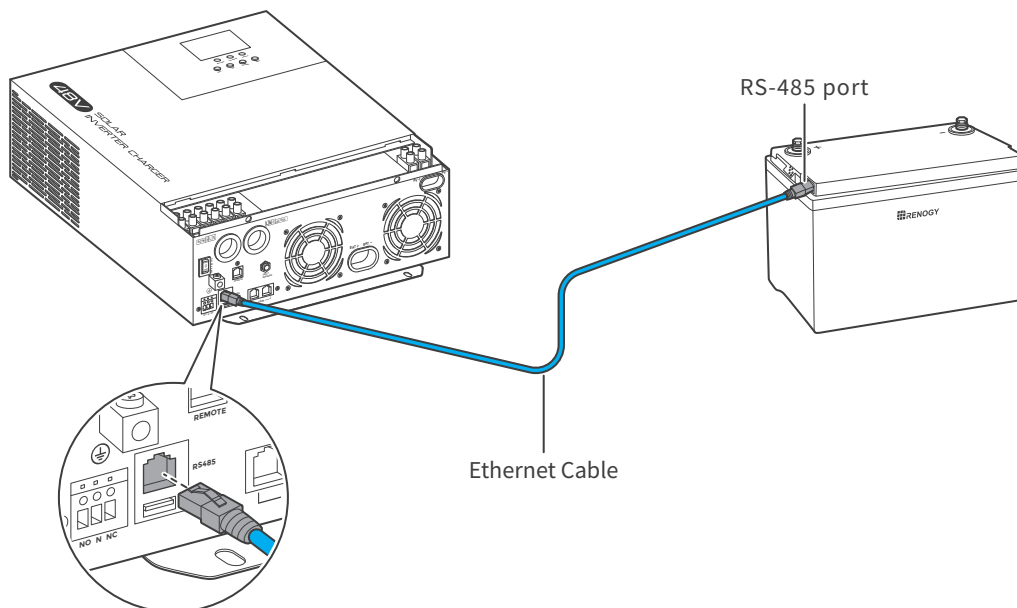
Step 10. Install the RS-485 Communication Cable (Optional)

Recommended Accessories



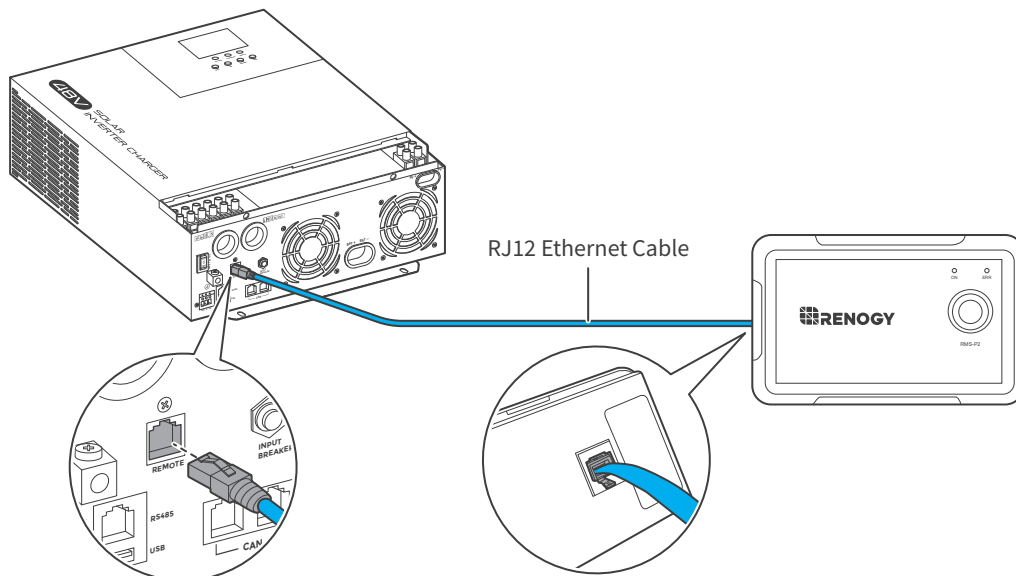
Ethernet Cable (CAT5 or above)

For the connected battery that is integrated with a battery management system (BMS) and that supports RS-485 communication, connect the inverter charger to the battery via an Ethernet cable. This enables the inverter charger to collect charge and discharge data from the battery based on which the inverter charger adjusts the charge and discharge current, prolonging the battery lifecycle.

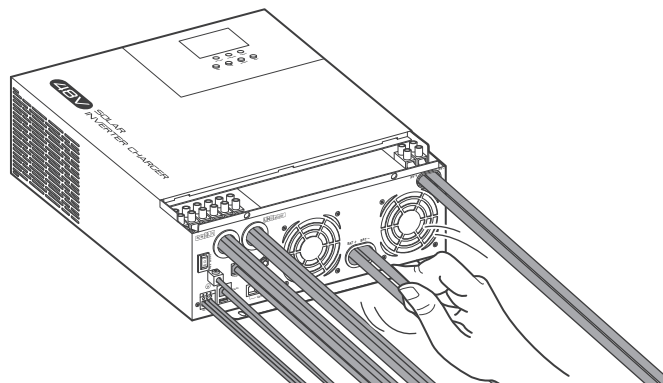


Step 11. Install a Wired Remote Control

You can use a Wired Remote Control to power on or off the inverter charger remotely.

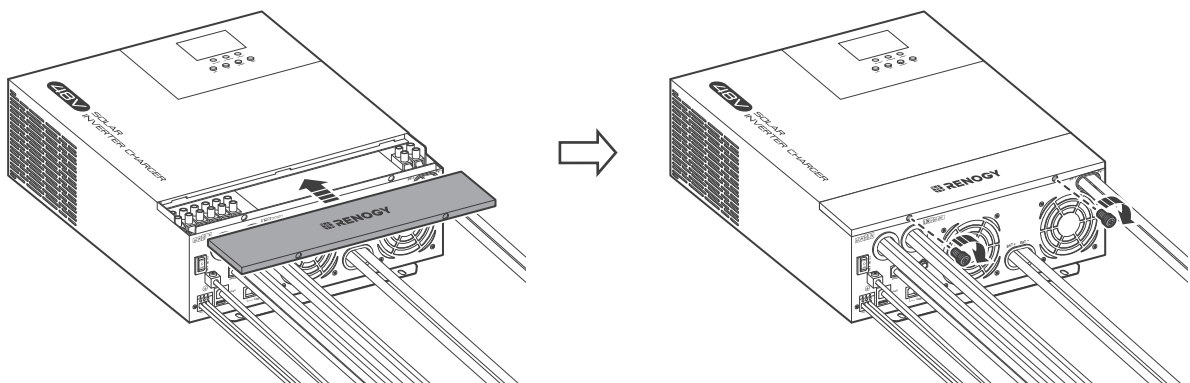


Step 12. Wire Inspection



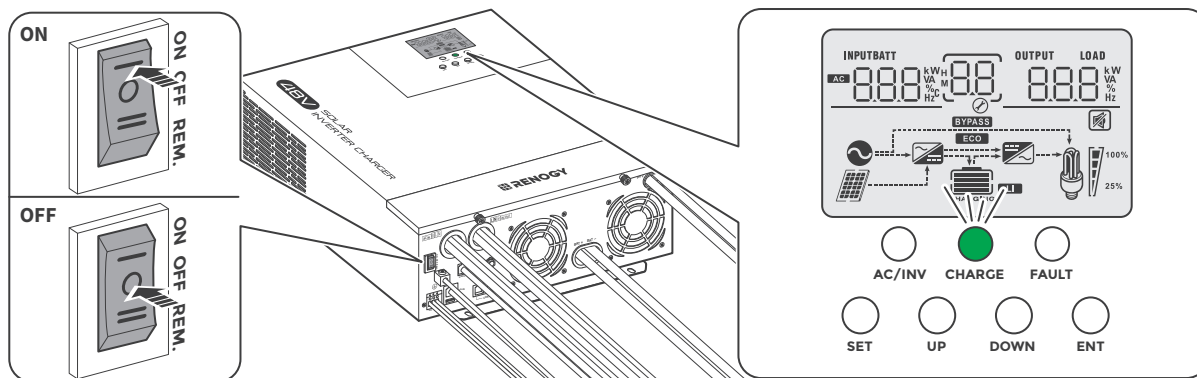
⚠ Check and make sure all cable connections are tight and secure.

Step 13. Install the Cover



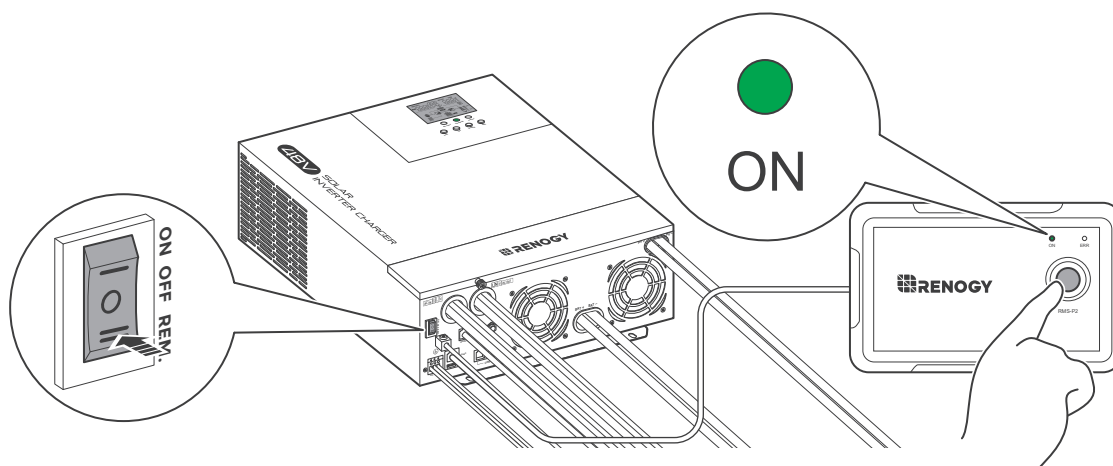
Power On/Off

Through On/Off/Remote Power Switch



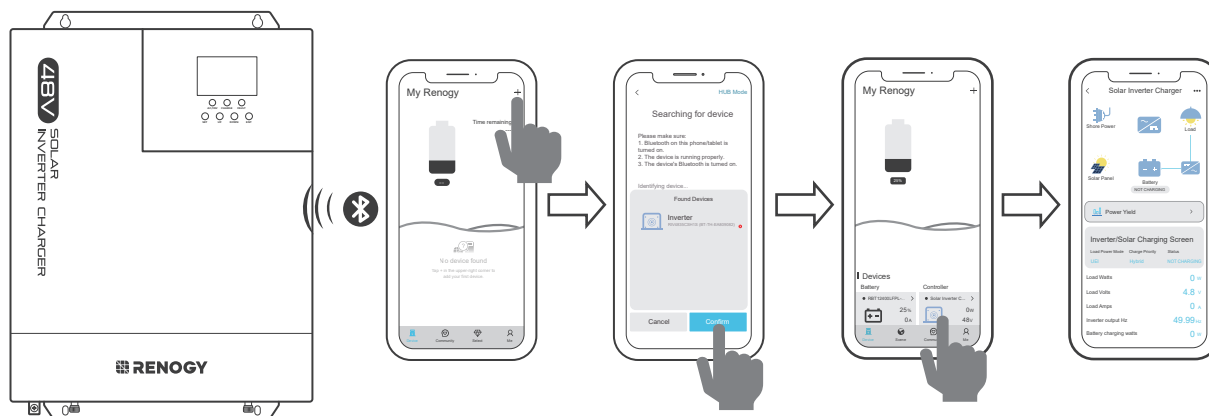
Through Wired Remote Control

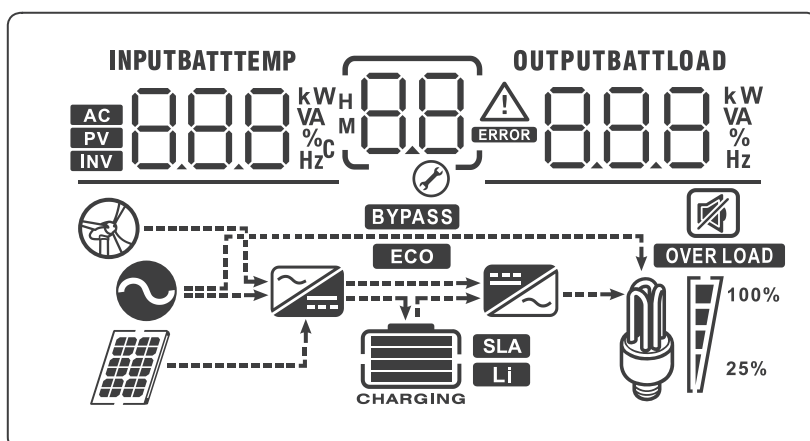
Push the On/Off/Remote Power Switch to REM. Press the RMS-P2 button to power on or off the inverter charger.



Remote Control over DC Home

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



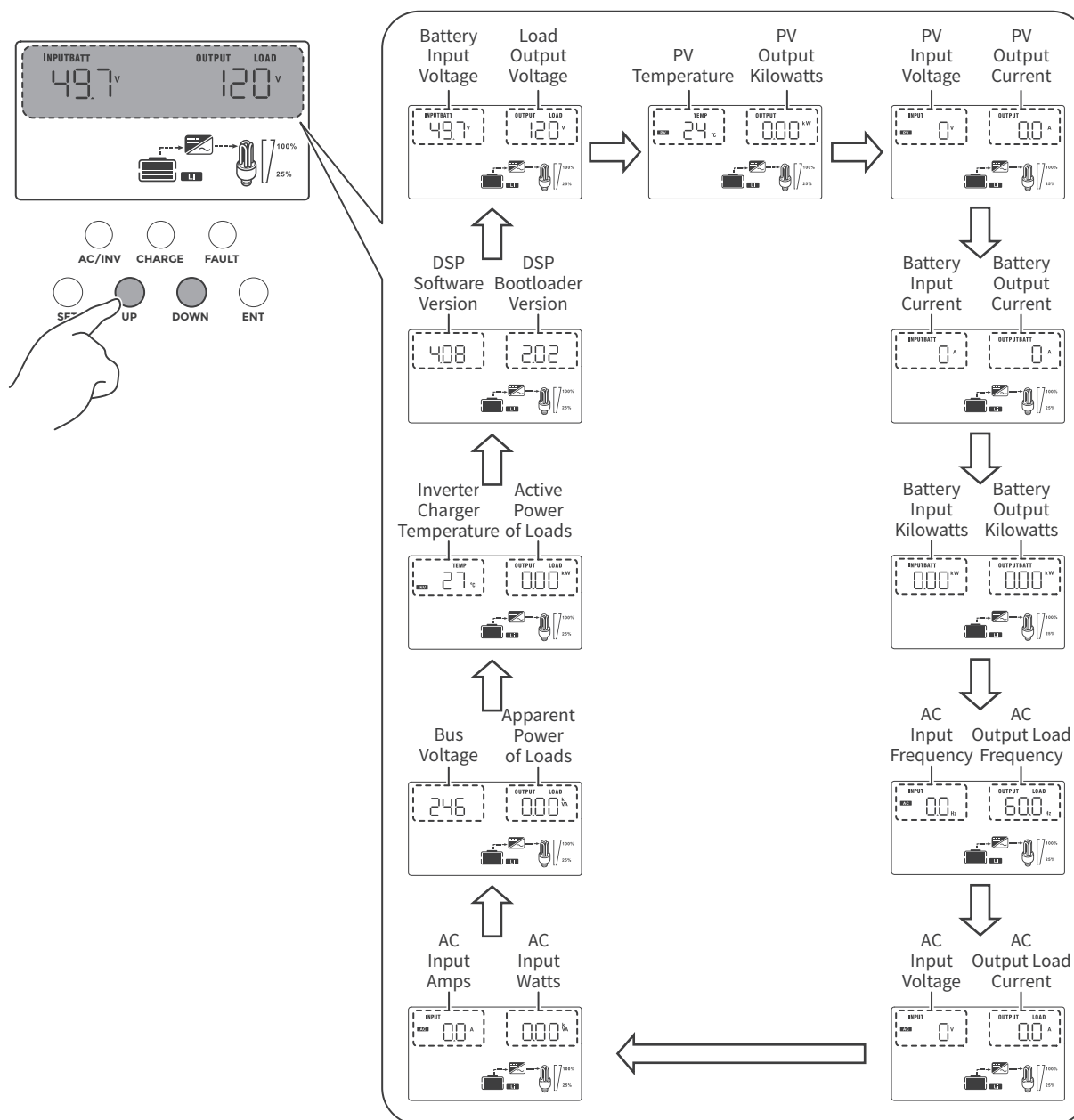


Icon	Function	Icon	Function
	Indicates the inverter charger is connected to an AC source.		Indicates that the inverter charger is in inverter mode.
	Indicates that the inverter charger is in the wide voltage AC input mode (APL mode).	BYPASS	Indicates that the inverter charger is in the power bypass mode.
	Indicates that the inverter charger is connected to a solar panel.	OVER LOAD	Indicates that the inverter charger is overloaded.
	Indicates the battery level: 0 %~24% 25%~49% 50%~74% 75%~100%		Indicates load occupation level (how much power is consumed by loads): 0 %~24% 25%~49% 50%~74% 75%~100%
Li	Indicates that the inverter charger is connected to a lithium battery.		Indicates that the buzzer is not enabled.
SLA	Indicates that the inverter charger is connected to a sealed lead acid battery.		Indicates the inverter charger is in fault mode.
CHARGING	Indicates that the battery is being charged.	ECO	Indicates the inverter charger is operating under ECO power saving mode.
	Indicates the inverter charger is in AC/PV charging mode.		Indicates that the inverter charger is in setting mode.
	Indicates the inverter charger is powering AC loads.		Displays error code when the inverter charger is not in setting mode. Displays parameter code when the inverter charger is in setting mode.
AC	Indicates AC input.	PV	Indicates solar input.
INV	Indicates the operating status of the inverter.		

Icon	Function	Icon	Function
INPUTBATTEMP 	Shows battery voltage, total battery charge current, charge power, AC input voltage, AC input frequency, PV Input voltage, internal heatsink temperature, and software version.	OUTPUTBATLOAD 	Indicates output voltage, output current, output power, output visual power, battery discharge current, and software version. In the setting mode, the settings under the currently set parameter item code are displayed.

Checking Parameters

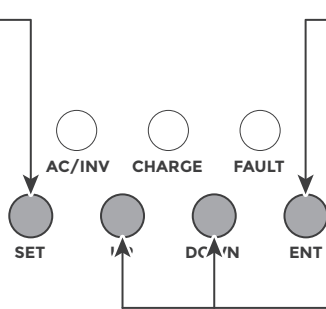
On the LCD, press the "UP" and "DOWN" buttons to turn the page to view the real-time performance data of the inverter charger.



LCD Buttons

SET

Switch between the main interface and the settings interface.



ENT

● Setting mode:

Press ENT to enter the parameter interface.

● Parameter interface:

Upon completion of parameter editing, press ENT to return to the setting mode interface.

Up & DOWN

● Main interface:

Press **UP/DOWN** to view the real-time performance data of the inverter charger.

● Setting mode interface:

Press **UP/DOWN** to select the parameter on demand.

● Parameter interface:

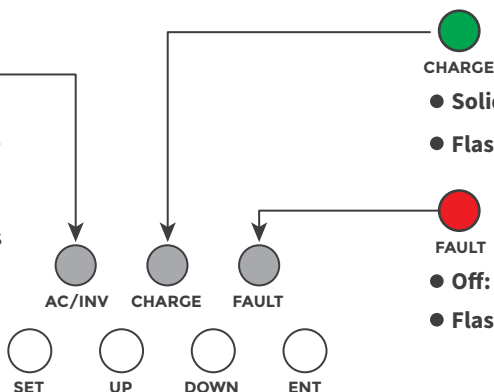
Press **UP/DOWN** to modify the parameter value.

LED Indicators



AC/INV

- **Solid:** The loads are powered by the grid or the generator.
- **Flashing:** The loads are powered by the battery or solar panels in battery mode.



CHARGE

- **Solid:** The battery is fully charged.
- **Flashing:** The battery is being charged.

FAULT

- **Off:** No fault
- **Flashing:** System fault



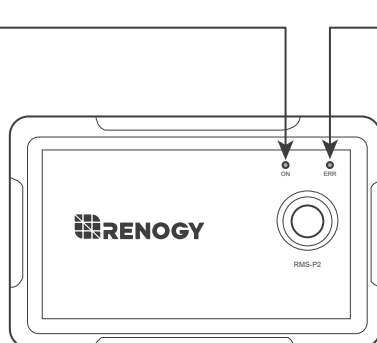
If the FAULT indicator is flashing, refer to "[Troubleshooting](#)" for details.

You can also check the operating status of the inverter charger via LEDs on the connected Wired Remote Control.



ON

- **On:** The inverter charger is on.
- **Off:** The inverter charger is off.



ERR

- **Off:** No fault
- **Flashing:** System fault

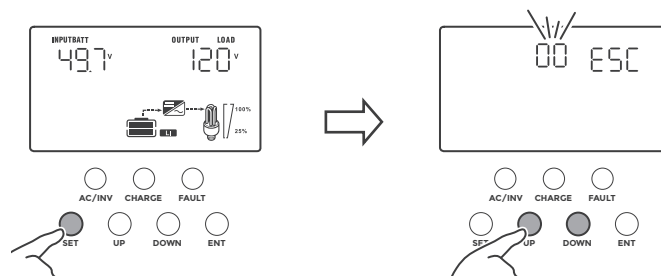


If the ERR indicator is flashing, refer to "[Troubleshooting](#)" for details.

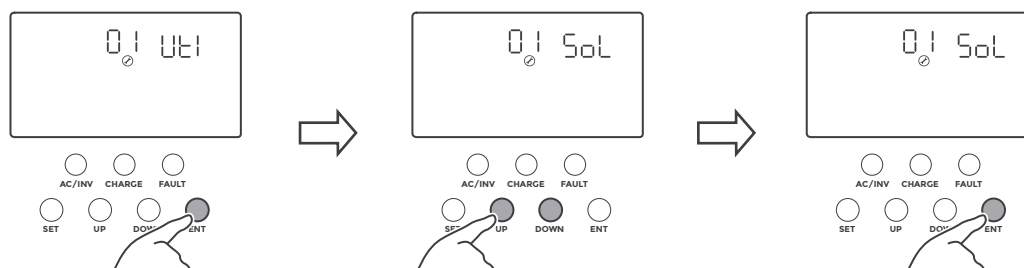
Configure the Inverter Charger

Enter Parameter Setting Mode

Press the **SET** button to enter the parameter-setting mode during which the parameter code “00” flashes. You can press the **UP** and **DOWN** buttons to select the parameter that you want to configure.

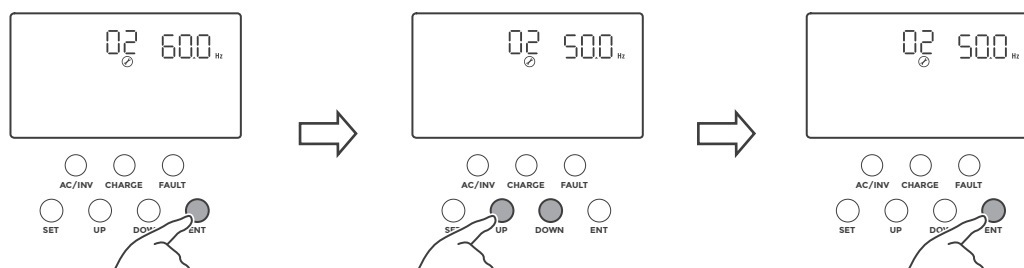


Load Working Mode (Parameter 01)



Icon	Function
Uti	Default. The loads are first powered by the grid, and then by solar panels and the connected battery when the grid power is not available.
Sbv	The loads are first powered by the connected solar panels, and then by both solar panels and the battery if the solar energy is not enough to power all connected loads. The grid supplies the loads only when battery voltage drops to the set point in Parameter 04.
Sol	The loads are first powered by the connected solar panels, and then by both solar panels and the battery if the solar energy is not enough to power all connected loads. The grid supplies the loads only when one of the following occurs: 1. Solar energy is not available; 2. Battery voltage drops to the set point in Parameter 04.

Output Frequency (Parameter 02)



Icon	Function
600 _{Hz}	Default. The AC output frequency of the inverter charger is 60 Hz.
500 _{Hz}	The AC output frequency of the inverter charger is 50 Hz.



Set Parameter 02 to a proper value based on the connected load specifications. An improper AC output frequency results in damage to the loads.