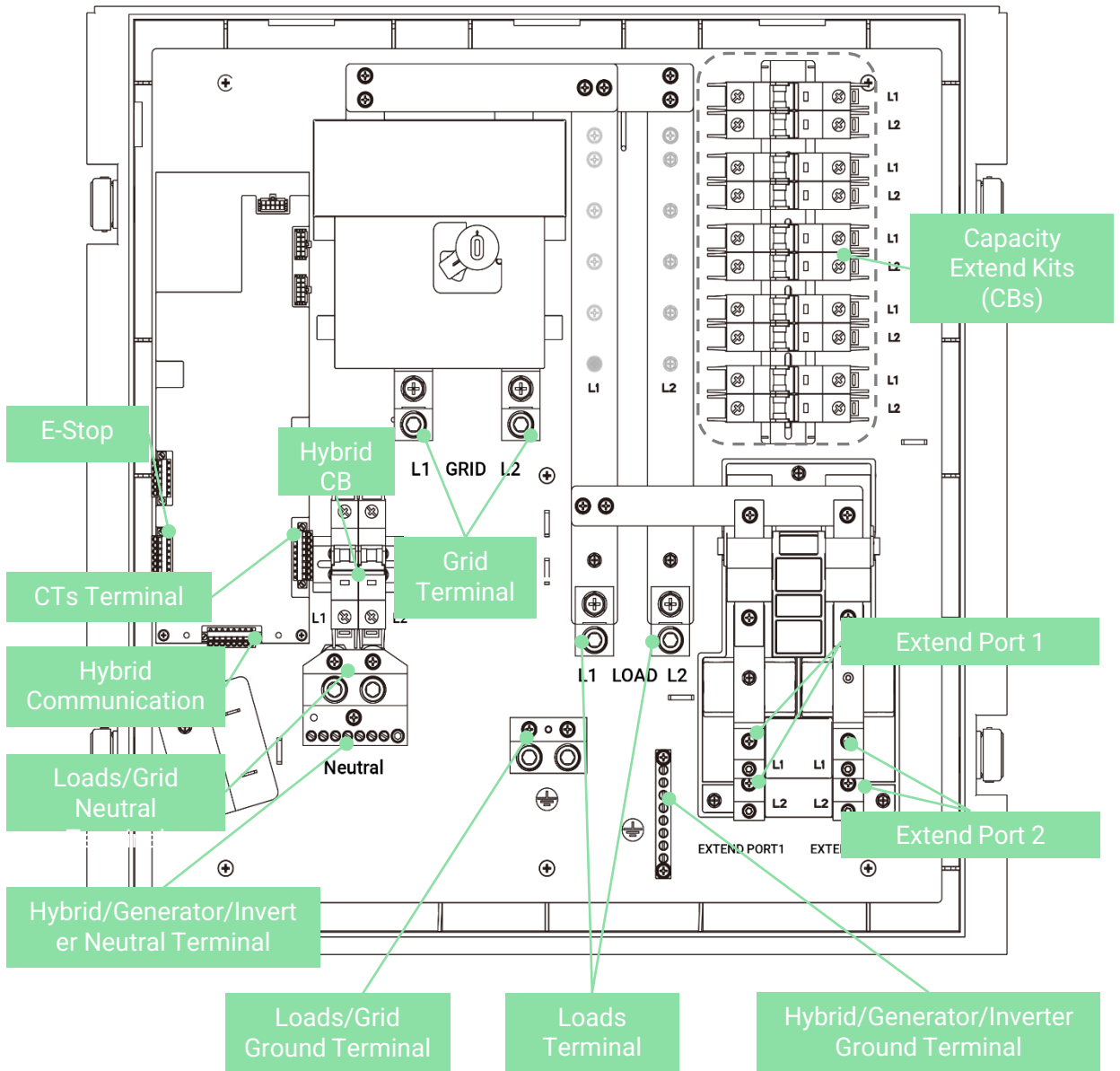


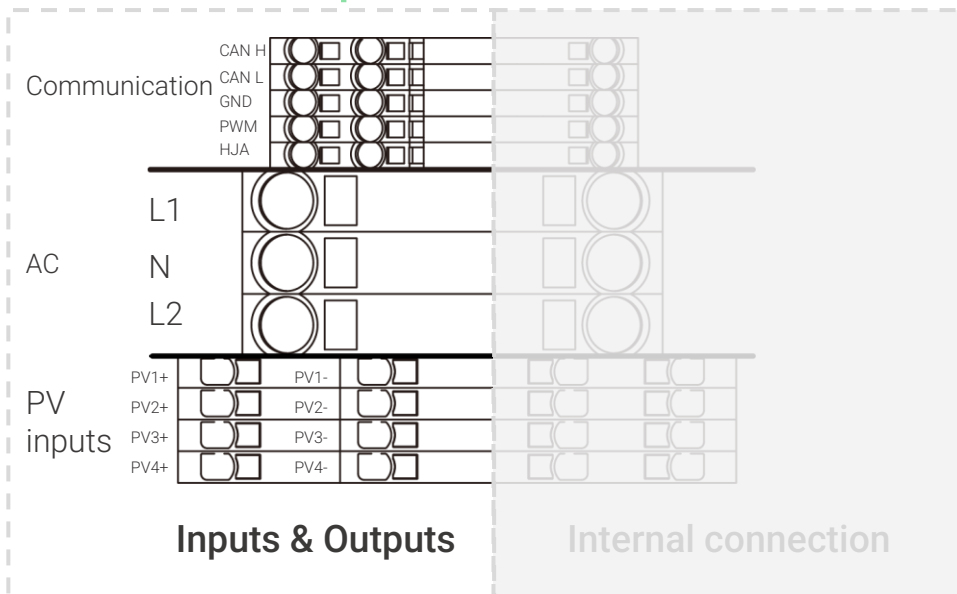
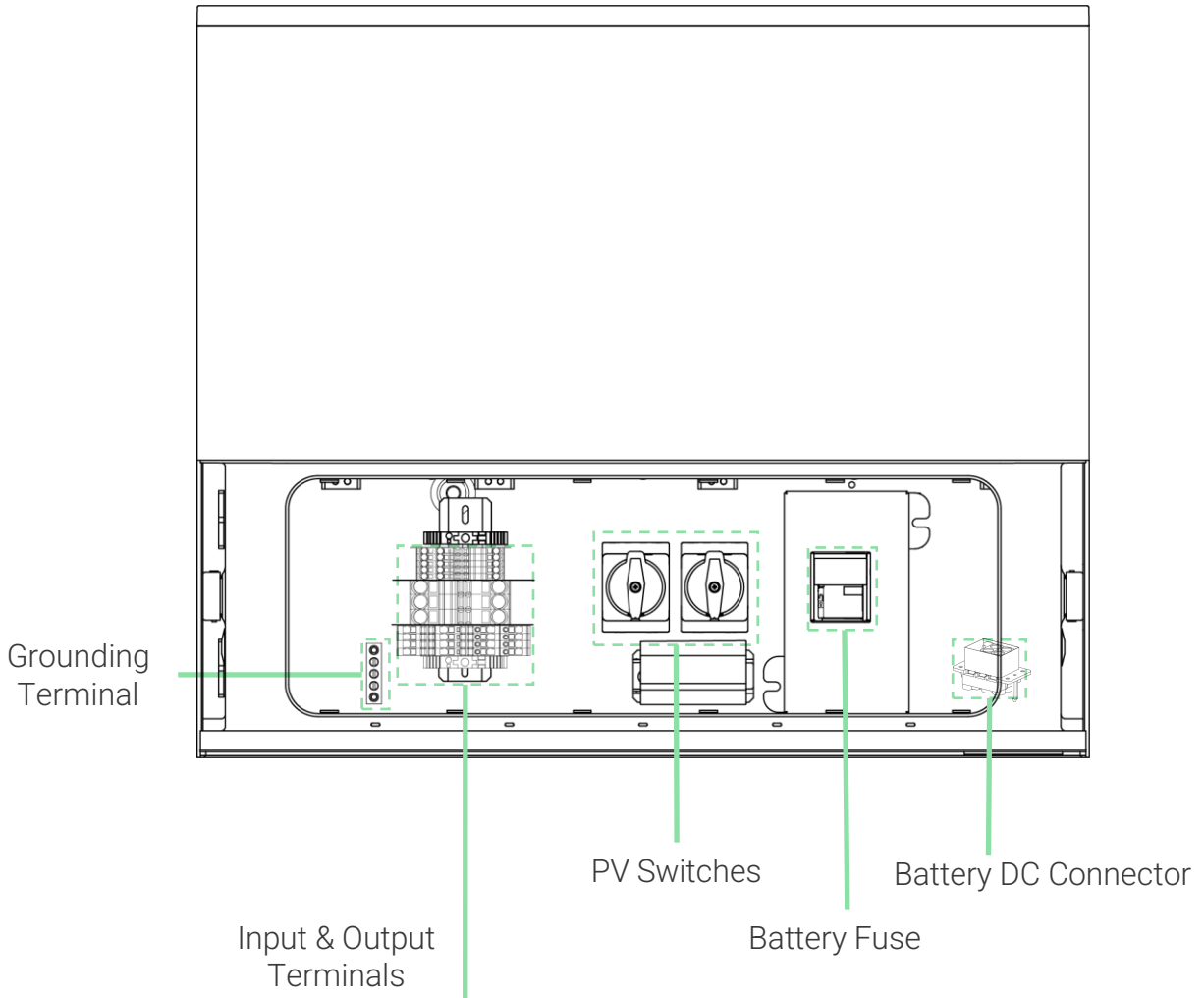
QUICK INSTALLATION GUIDE

This Quick Installation Guide provides a set of instructions on the standard product installation process. Please refer to the Installation Manual for more details or contact the EP service team in case you have any questions.

Smart Gateway Overview



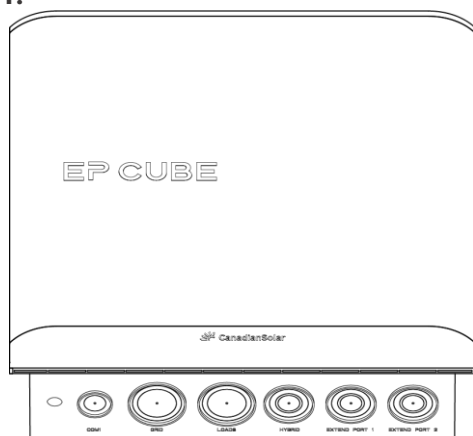
Hybrid Inverter Overview



Unpacking

In the Smart Gateway Box

1.



2.



3.



4.



5.



6.



1. Smart Gateway

2. Smart Gateway Bracket A2_1pcs

3. Smart Gateway Bracket A_M6_2pcs

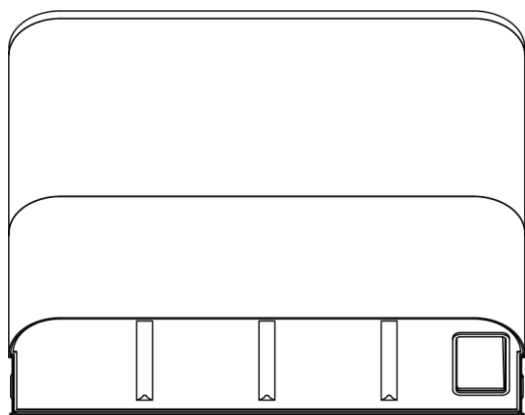
4. CTs_2pcs

5. User Manual_1pcs

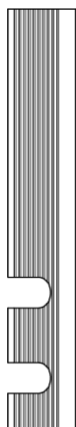
6. Warranty Letter_1pcs

In the Hybrid Inverter Box

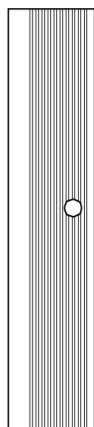
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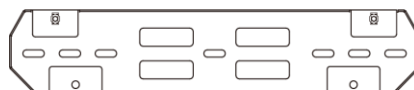
2.



3.



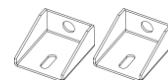
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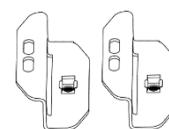
5.



6.



7.



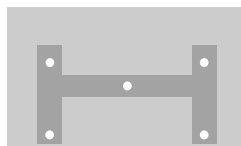
8.



9.



10.



11.



12.



1. Hybrid Inverter

2. Inverter Side Cover A_1pcs

3. Inverter Side Cover B_1pcs

4. Hybrid Bracket C_1pcs

5. Inverter Side Bracket D_2pcs

6. Inverter Bracket B1_2pcs

7. Inverter Bracket B2_2pcs

8. Communication Cable_1pcs

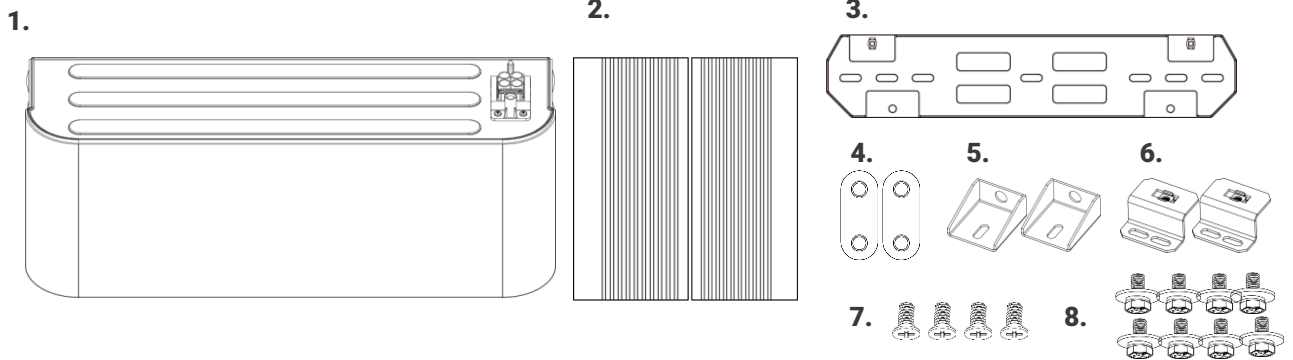
9. Resistor_1pcs

10. Hybrid Drill template_1pcs

11. Inverter Side Bracket D_M5_4pcs

12. Inverter Bracket B_M6_8pcs

In the Battery Modules Box



1. Battery module

2. Battery Side Cover B_2pcs

3. Hybrid Bracket C_1pcs

4. Bracket Side Bracket F_2pcs

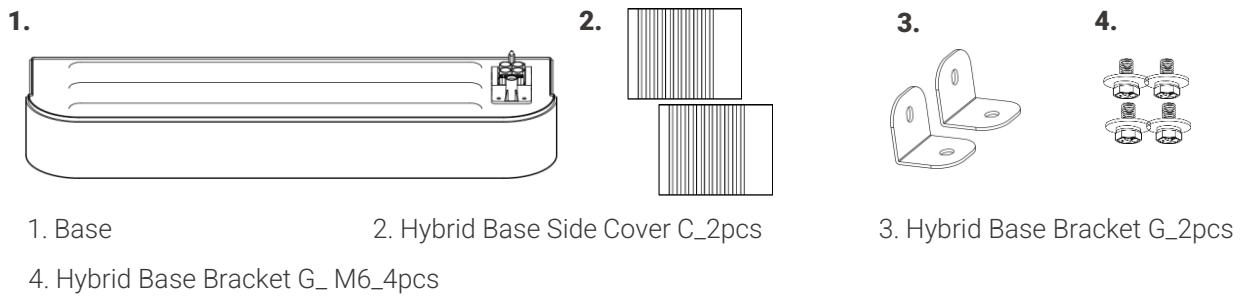
5. Battery Bracket B1_2pcs

6. Battery Bracket B2_2pcs

7. Battery Side Bracket F_M5_4pcs

8. Battery Bracket B_M6_8pcs

In the Base Modules Box



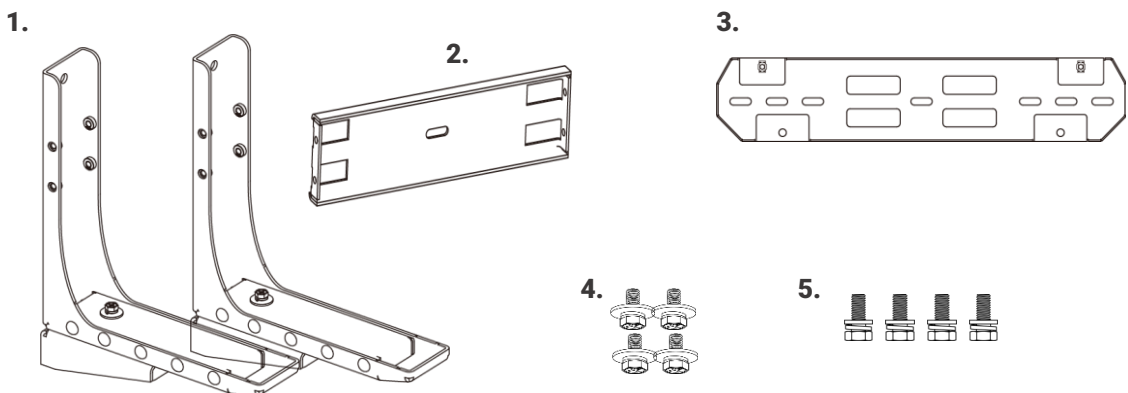
1. Base

2. Hybrid Base Side Cover C_2pcs

3. Hybrid Base Bracket G_2pcs

4. Hybrid Base Bracket G_M6_4pcs

In the Optional Brackets Box



1. Wall Bracket E1_2pcs

2. Wall Bracket E2_1pcs

3. Hybrid Bracket C_1pcs











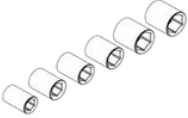
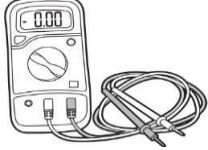
4. Wall Bracket E_M6_4pcs

5. Wall Bracket E_M8_4pcs

Unpacking

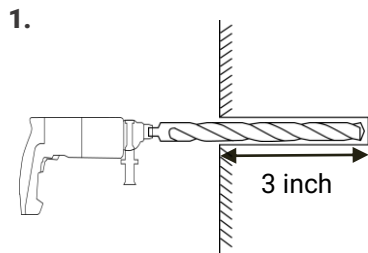
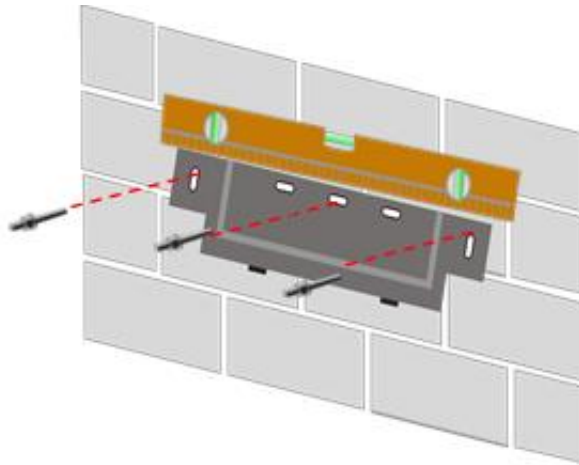
Tools

Required Tools

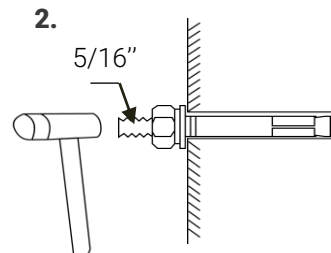
 <p>Electric Drill</p>	 <p>25/64" 5/16"</p>	 <p>1-1/8" to 2-1/4" Hole Saw Set</p>	 <p>Hammer</p>
 <p>Screwdriver Set</p>	 <p>1/8" 5/32" 5/32" 5/16"</p>	 <p>Marking Pen</p>	 <p>Wire Stripper 26 AWG to 0 AWG</p>
 <p>Level Tool</p>	 <p>Tape Measure</p>	 <p>Socket Set</p>	 <p>Multi-meter</p>

Install Smart Gateway

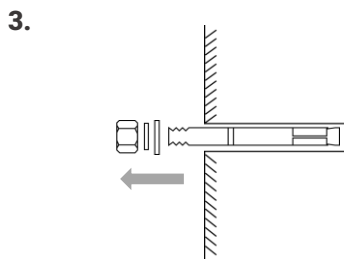
- 1 Choose an installation position for Smart Gateway and Install Bracket A2 on the wall. Place bracket on the wall to mark drill positions.



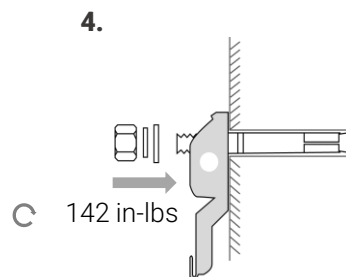
Drilled into a Concrete/Masonry wall up to 3-4 inch.



Use 6pcs 5/16" expansion bolts to fix the bracket to the wall

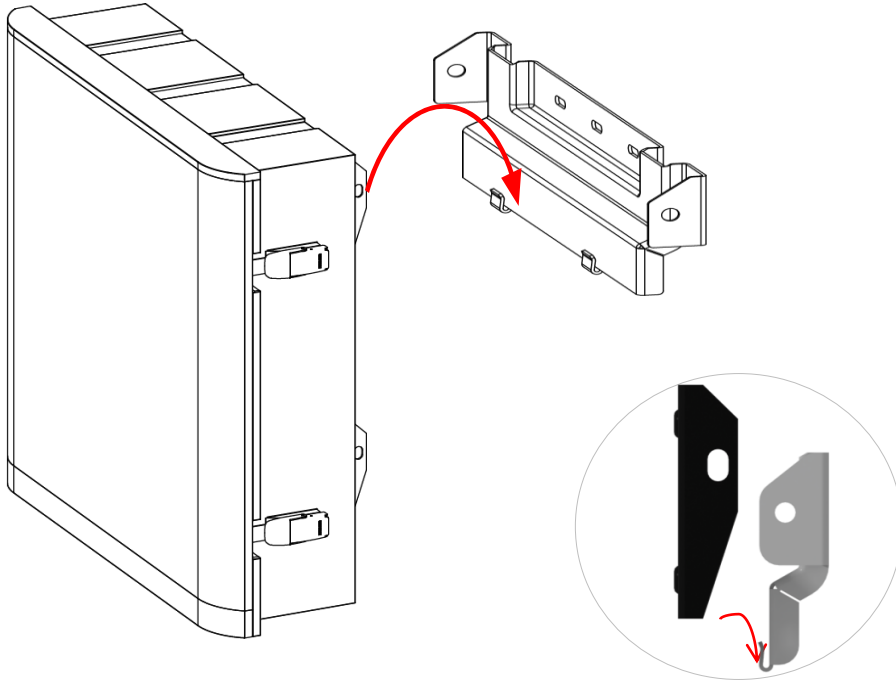


Wall Anchors/bolts/fastener are to be supplied by the installer, and observe the regional building code.

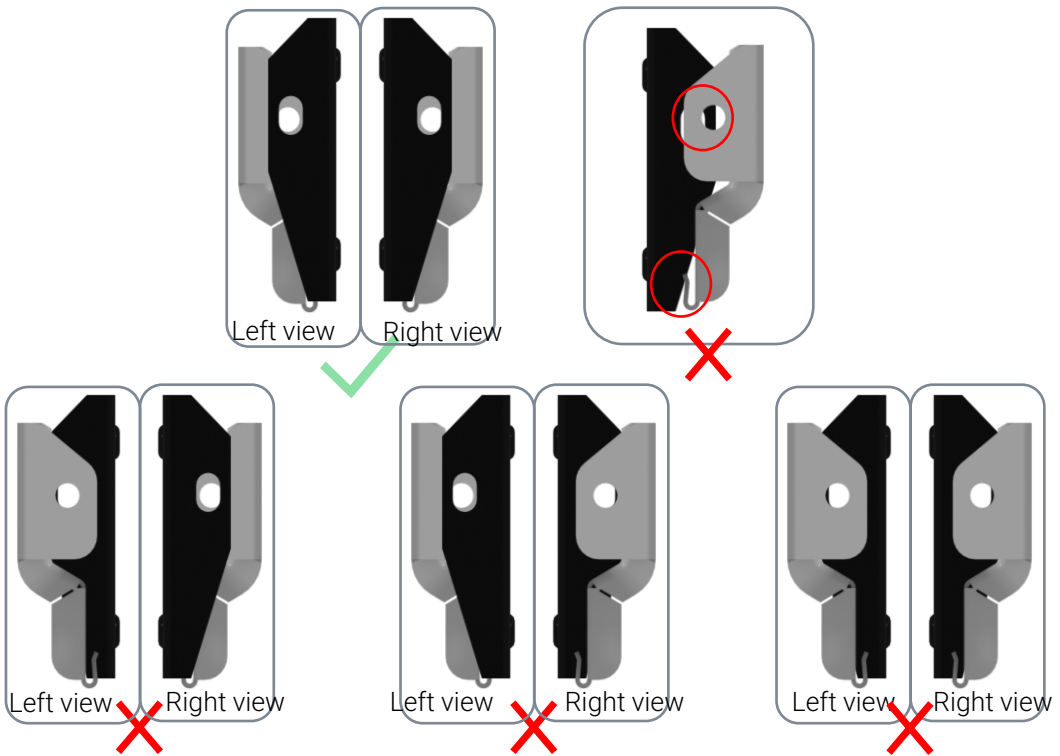


Tighten the screws to torque of 142in-lbs. See Mounting Details in the *Installation Manual* for additional details.

2 Hang SG Bracket A1 on the SG Bracket A2 on the wall

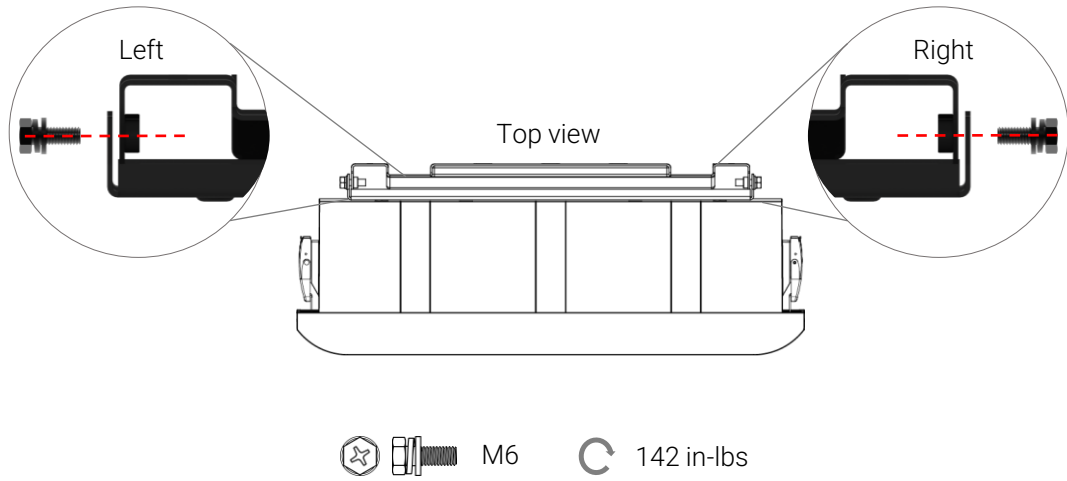


3 Check: if the brackets are properly installed?



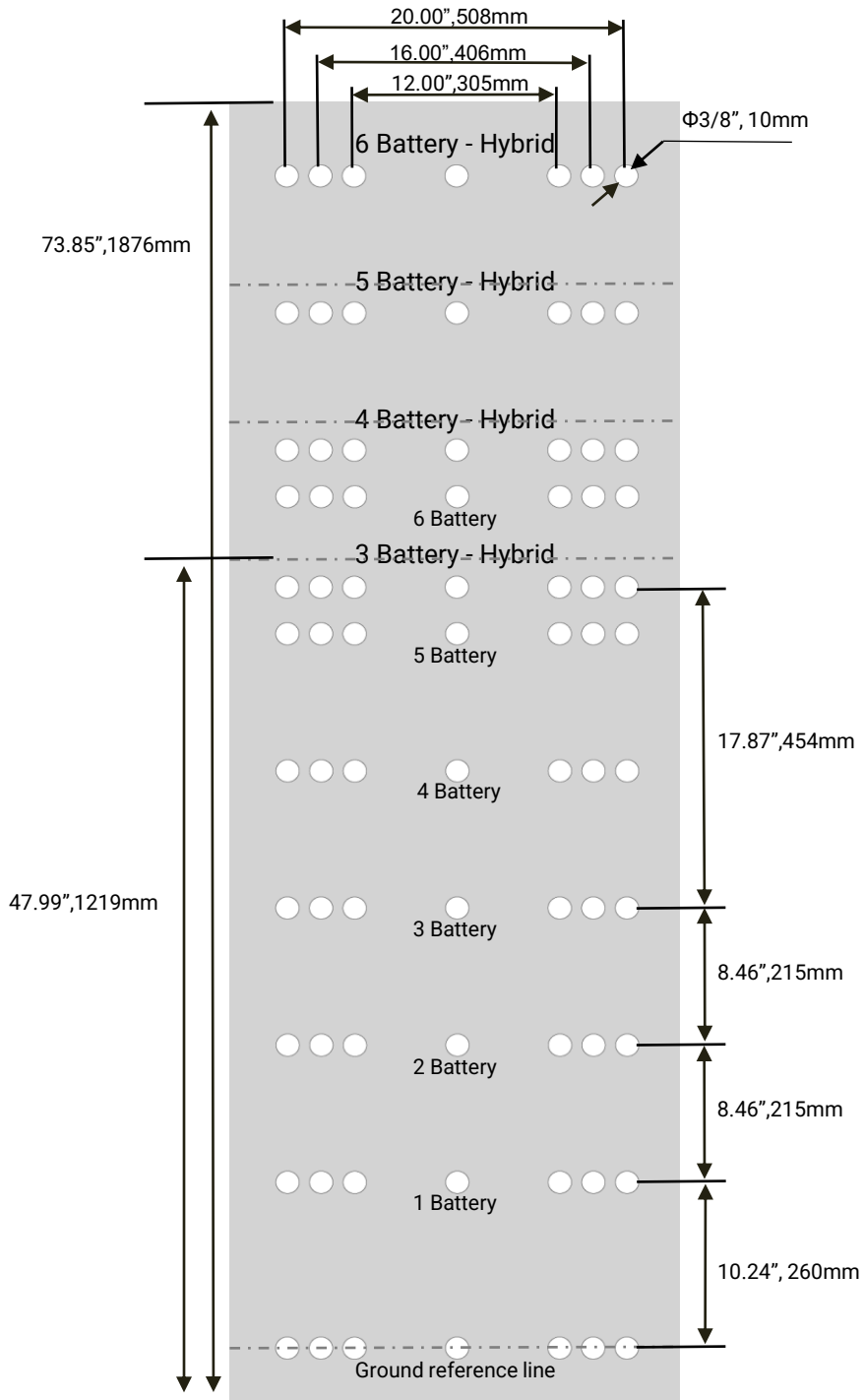
INSTALLATION

- 4 Fasten the brackets together on both sides with screws.



Drill Template

Hybrid

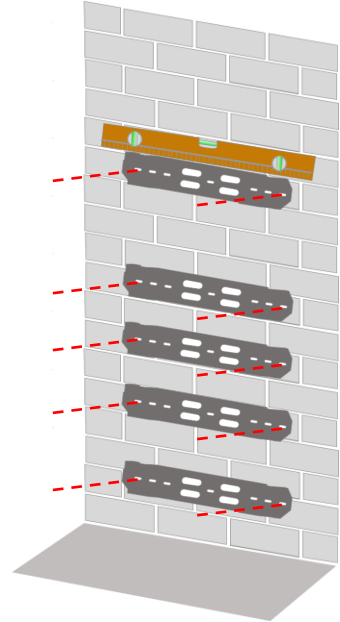
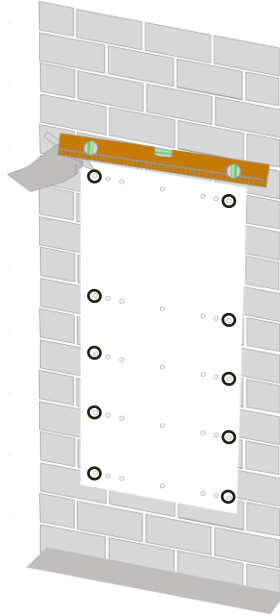
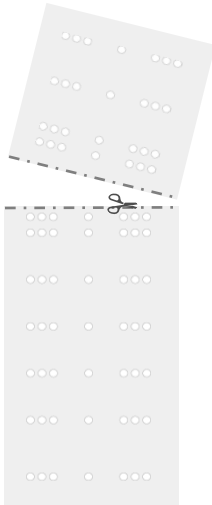


PREPARATION

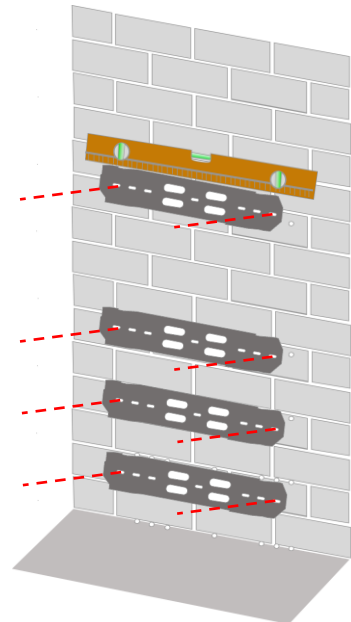
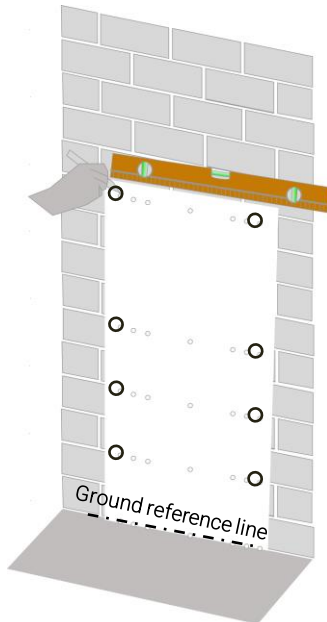
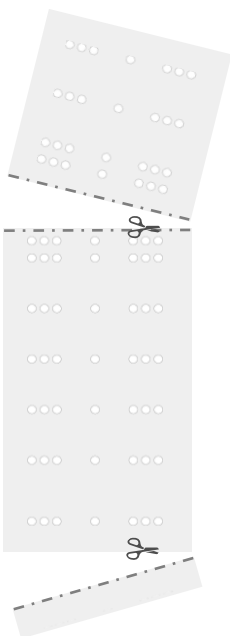
Install Hybrid

Wall Mounting (Extra Bracket C required (provided in the optional brackets box))

Tear down the spare piece of drill template

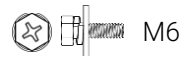
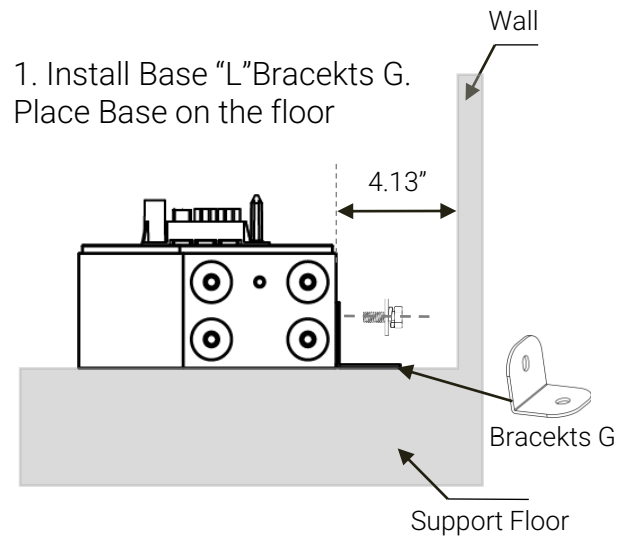
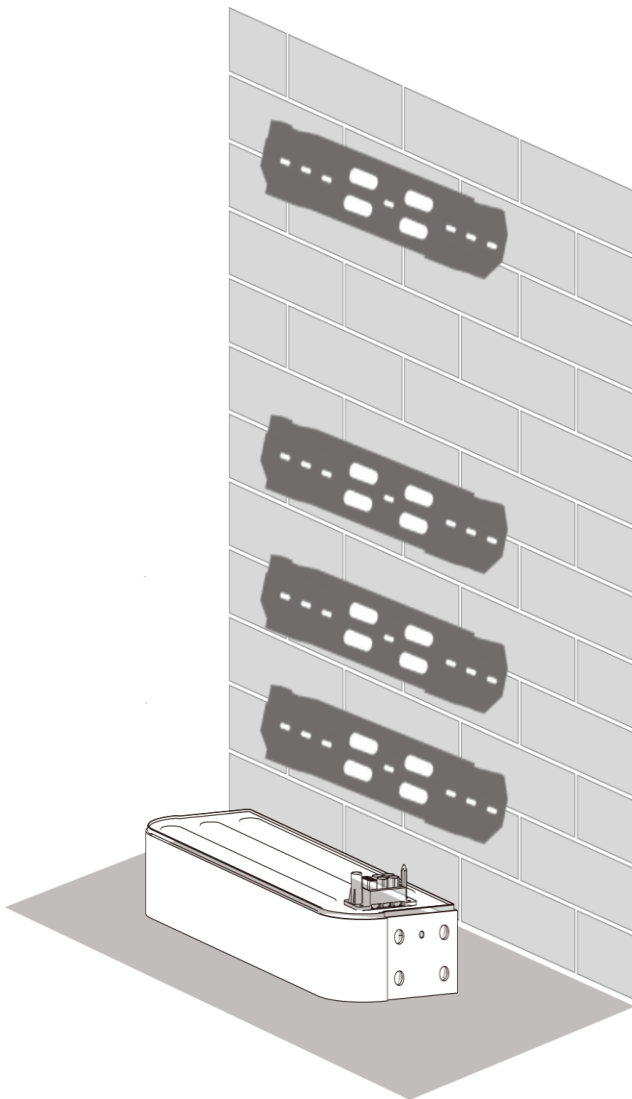


Floor Mounting

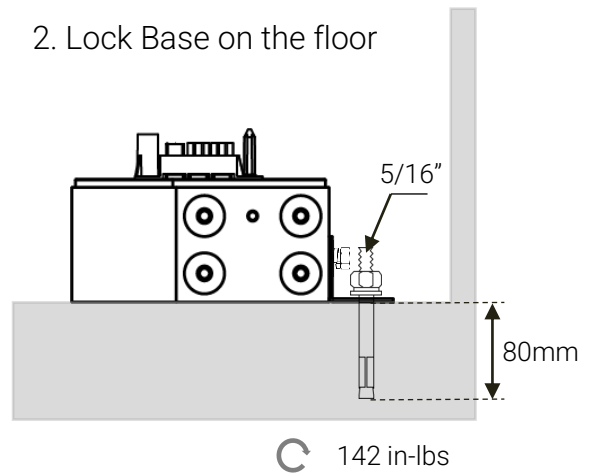


Install Base (for floor mounting)

Place the Base on a level flat concrete floor. Keep a minimum distance of 105mm between the Base and the adjacent wall. **(Bolts not included in package)**

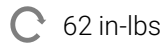
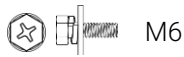
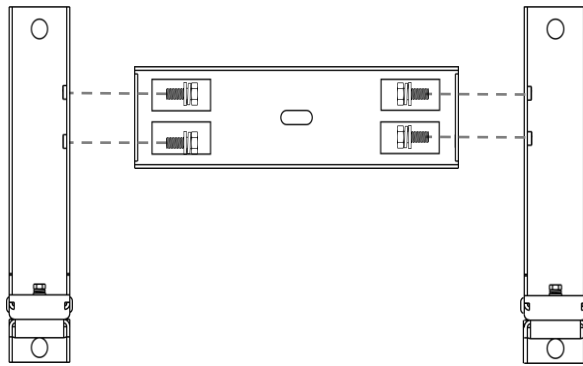


2. Lock Base on the floor

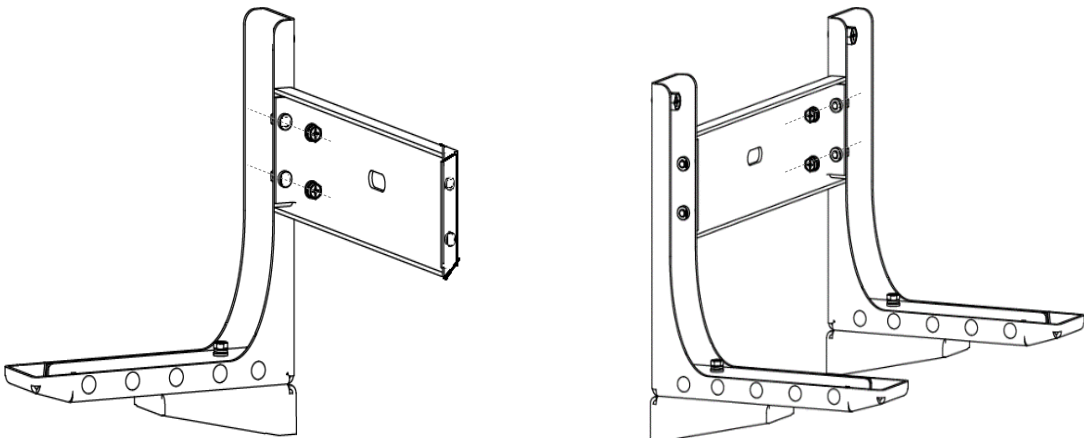


Install Base (for wall mounting)

2 Assemble support bracket E

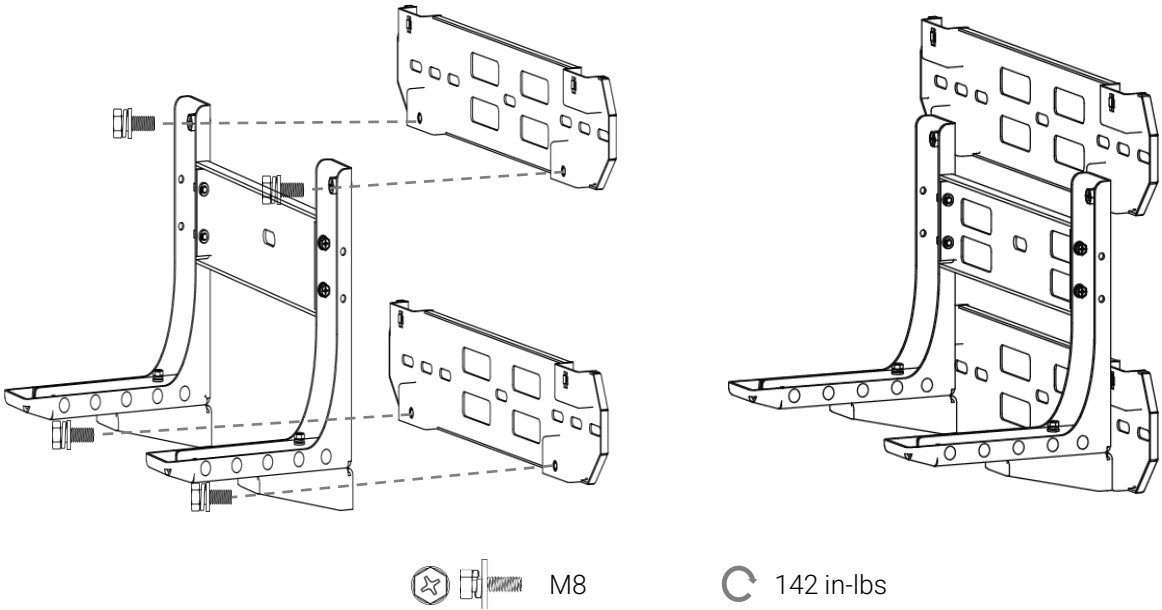


Attach Bracket E1 to Bracket E2 from the left and right sides with the bolts (M6* 0.63").

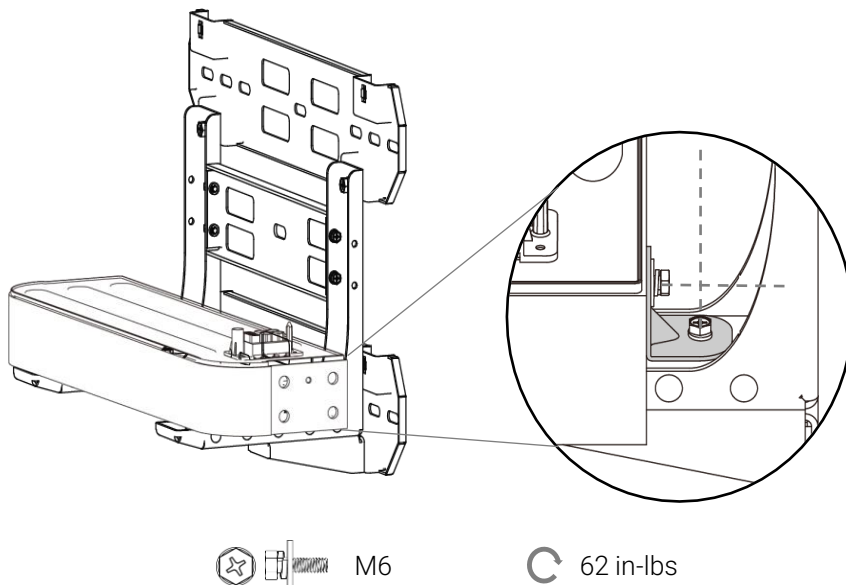


Install Base (for wall mounting)

- 3 Fasten both brackets together (support bracket E to mounting bracket C)

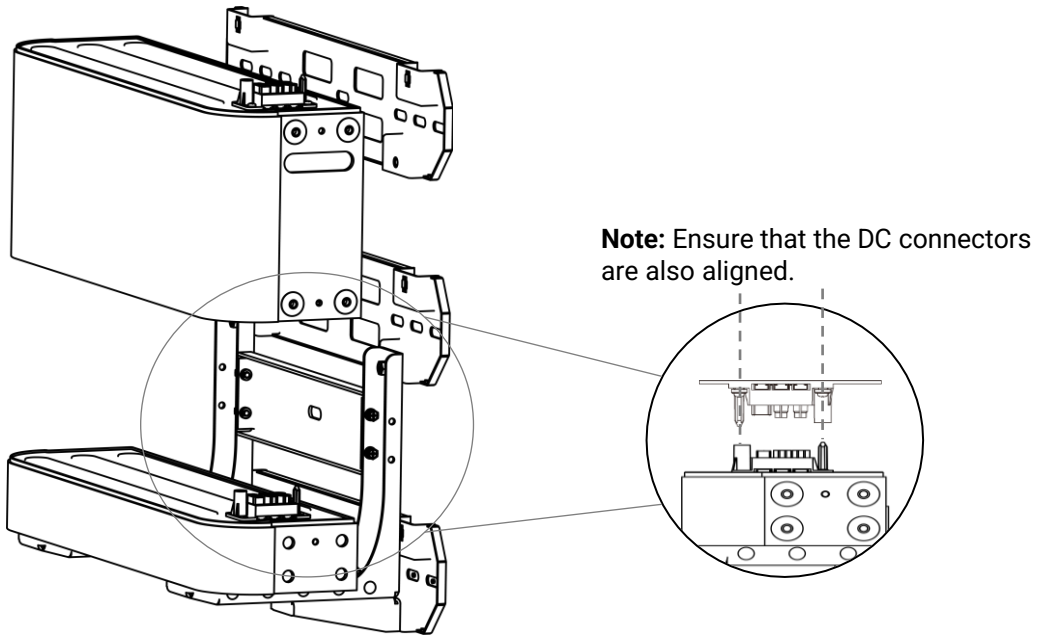


- 4 Align the front edge of Base with the edge of bracket E. Fasten Base on support bracket E through bracket G.

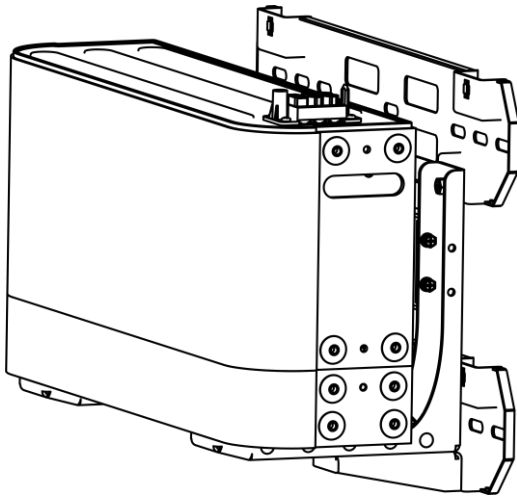


Install Battery Modules

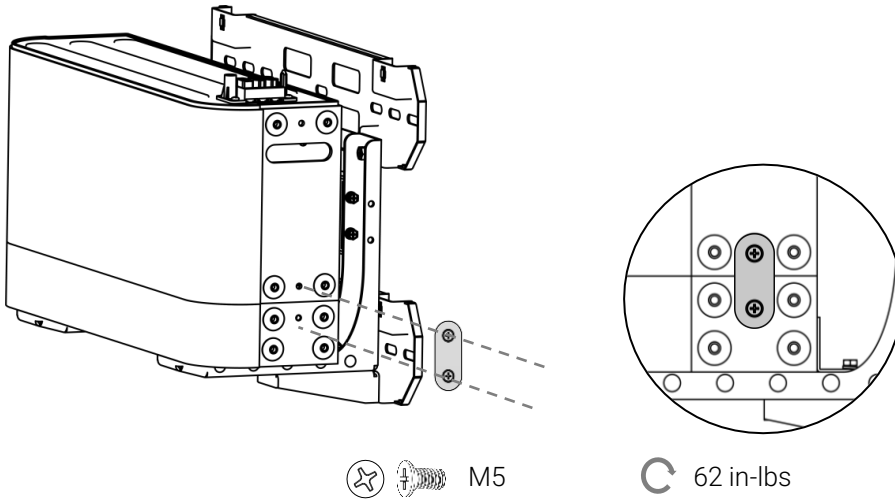
- 1 Align Battery Module with Base.



- 2 Place Battery Module on Base

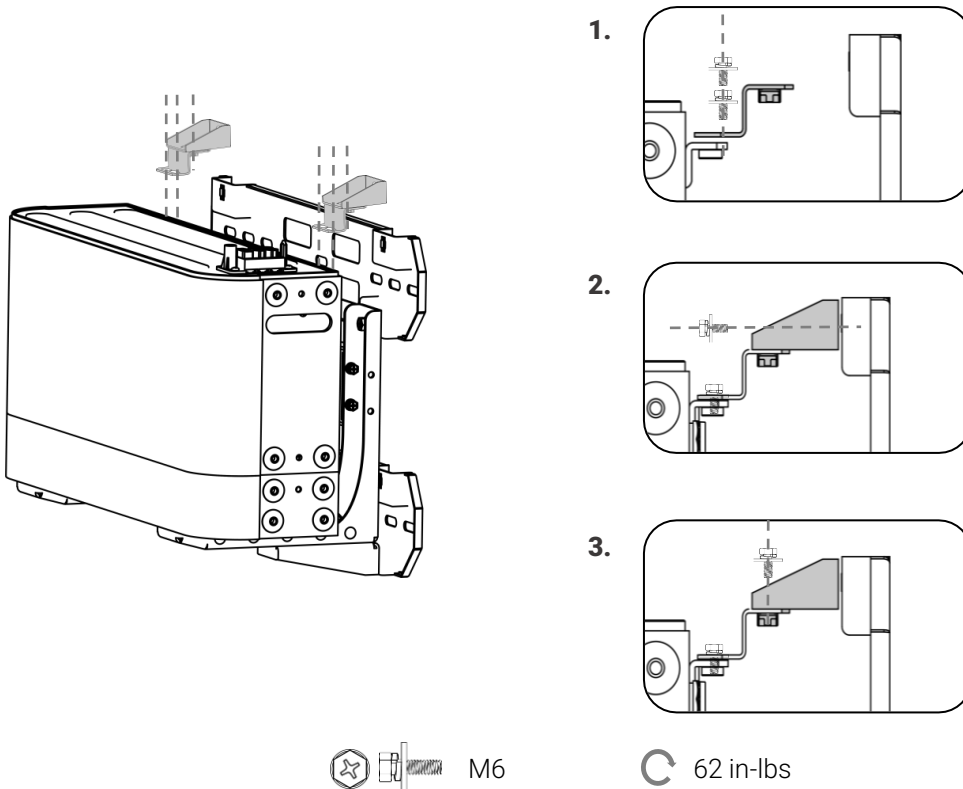


3 Install Bracket F on both sides to fasten Battery Module and Base.

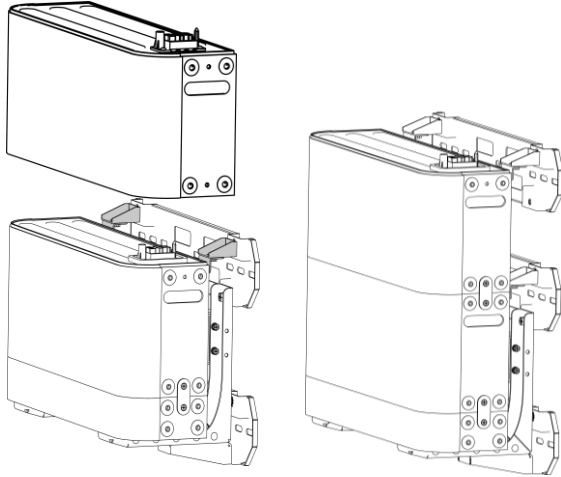


4 Use wall brackets B1 and B2 to fasten the battery module to wall bracket C.

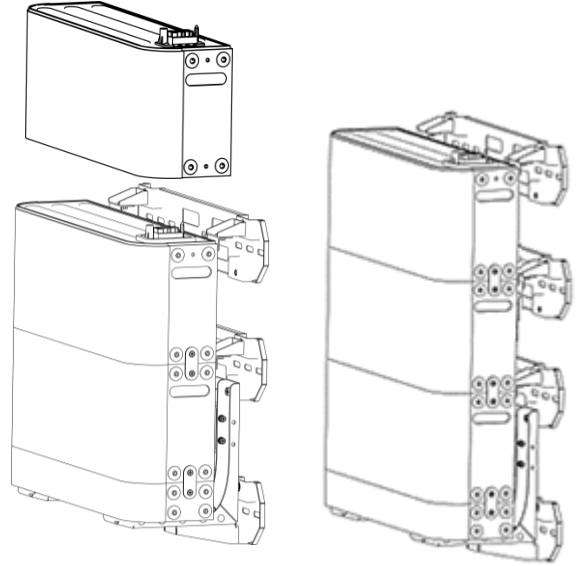
Steps:



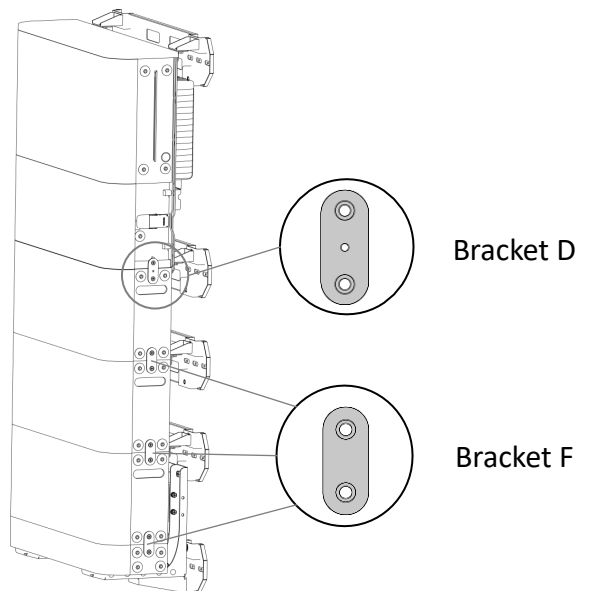
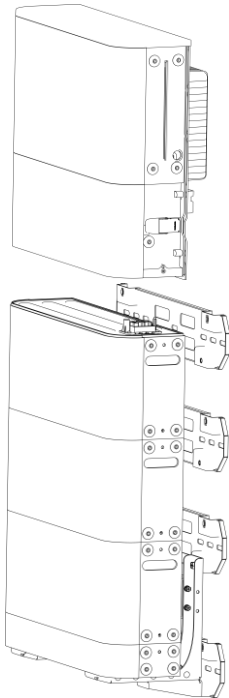
2nd Battery Module Installation



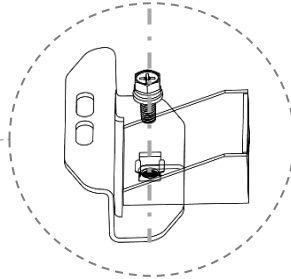
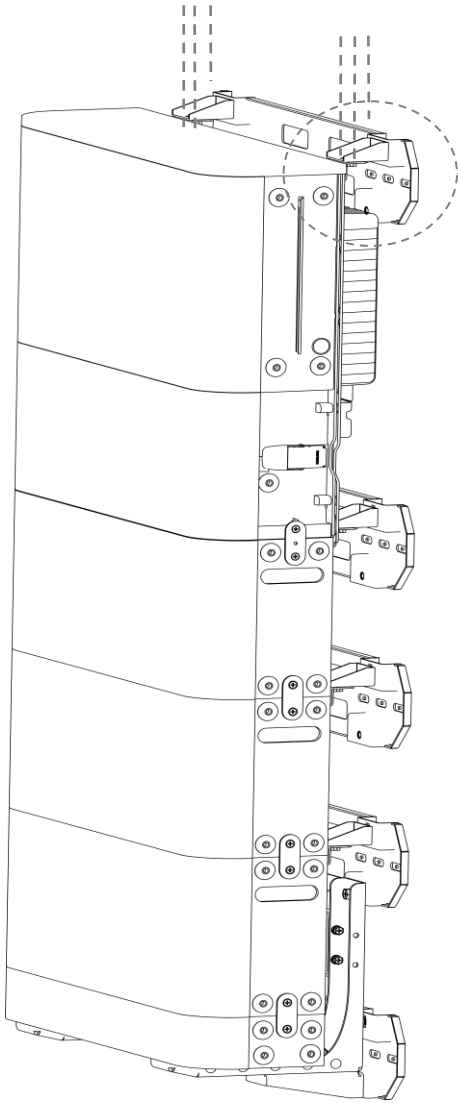
3rd Battery Module Installation



Hybrid Inverter Installation

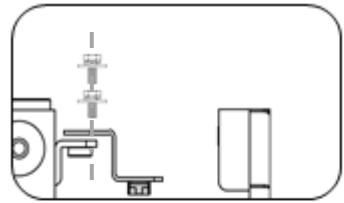


Hybrid Inverter Installation

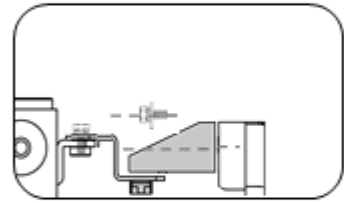


Steps:

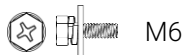
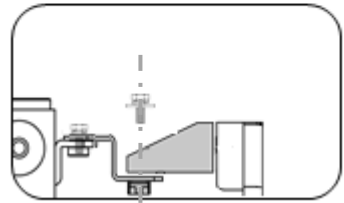
1.



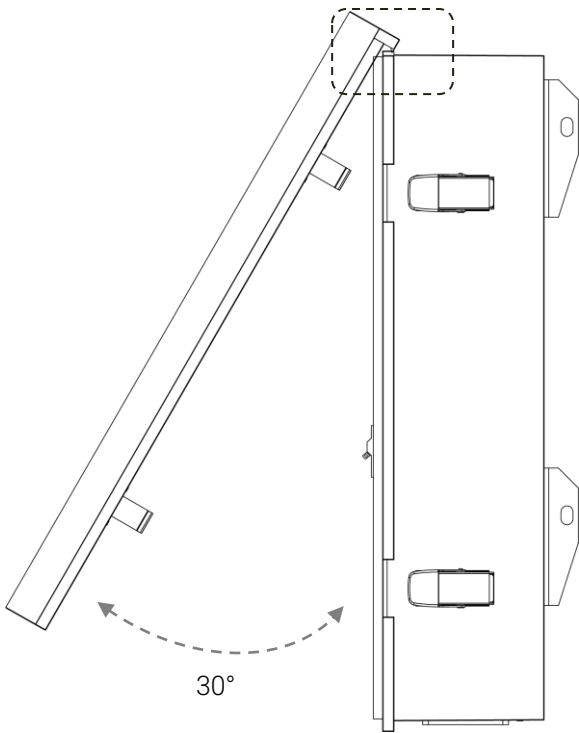
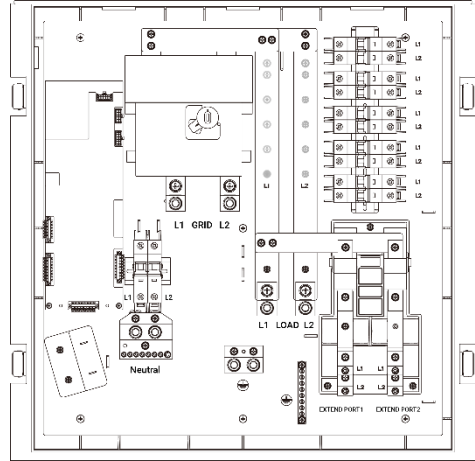
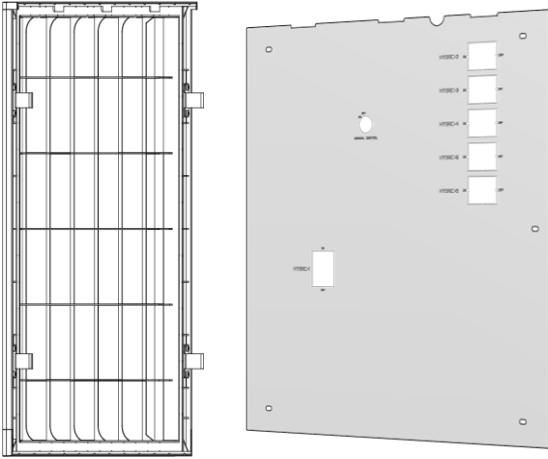
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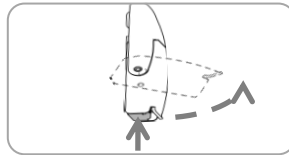
3.



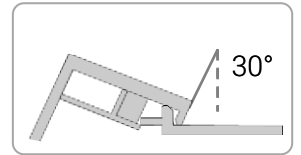
Open Smart Gateway



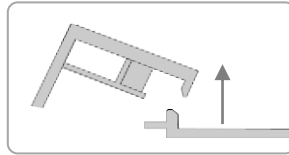
Steps to Open



1. Unlock the Locks

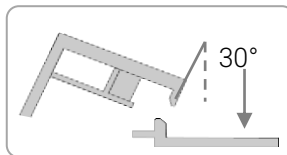


2. Flip the panel to 30°

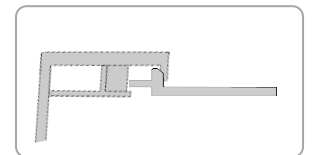


3. Move upward and remove the panel

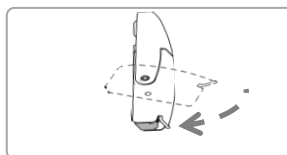
Steps to Close



1. Align the panel at an angle, and place it on SG



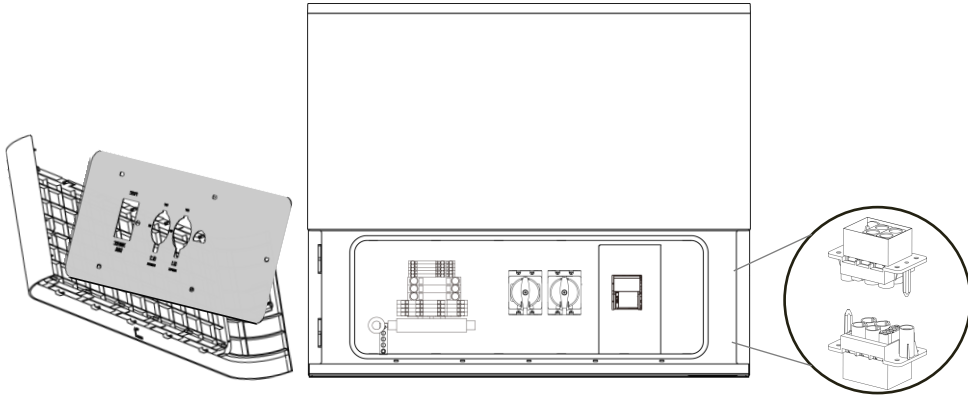
2. Release the panel, then align it with the SG borders



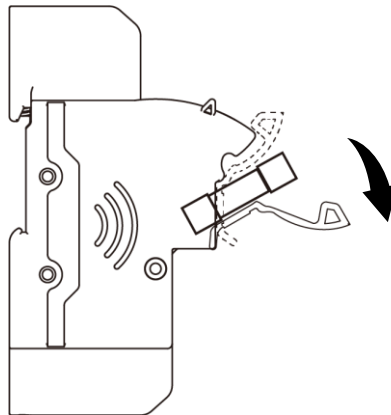
4. Lock the panel

Connect the DC Connector

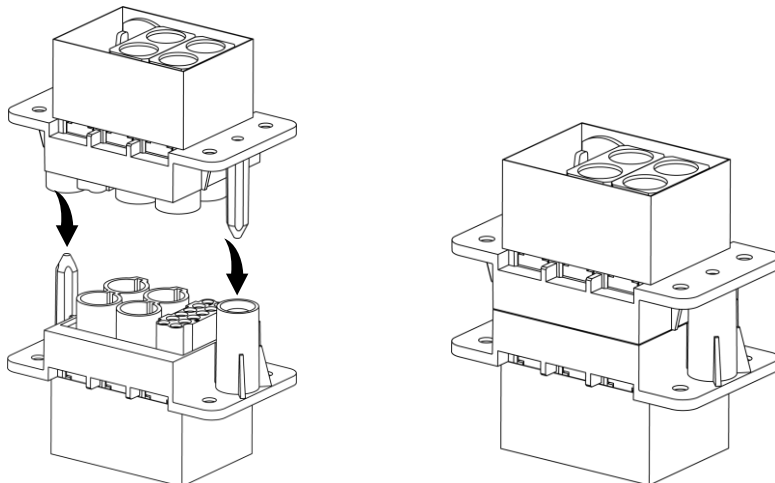
- 1 Unlock the latches, then remove the front panel and dead front cover of Hybrid.



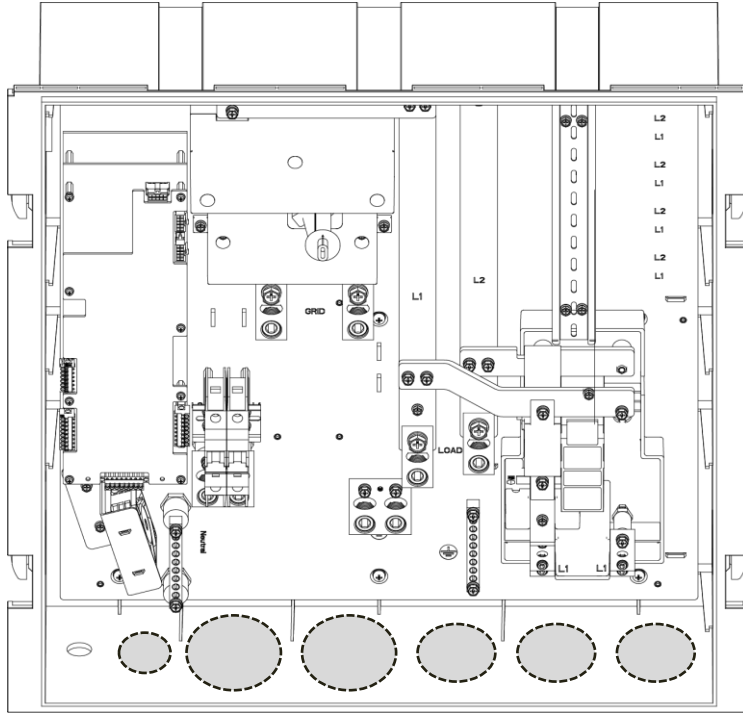
- 2 Disconnect Fuse.



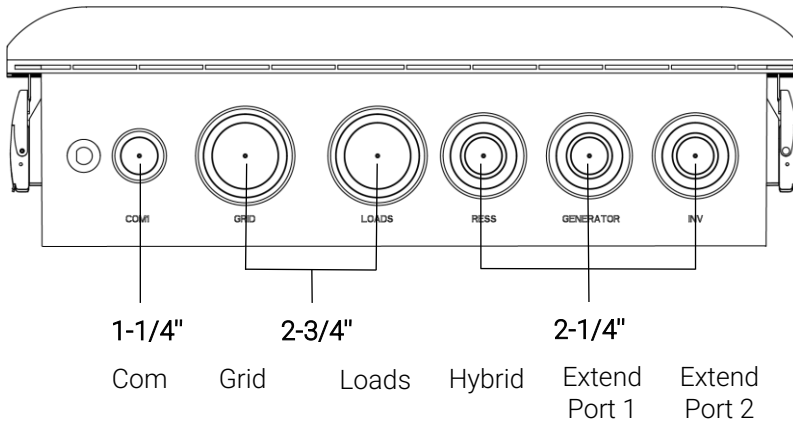
- 3 Ensure that fuse has been disconnected. Then plug in the DC connector of the Hybrid Inverter.



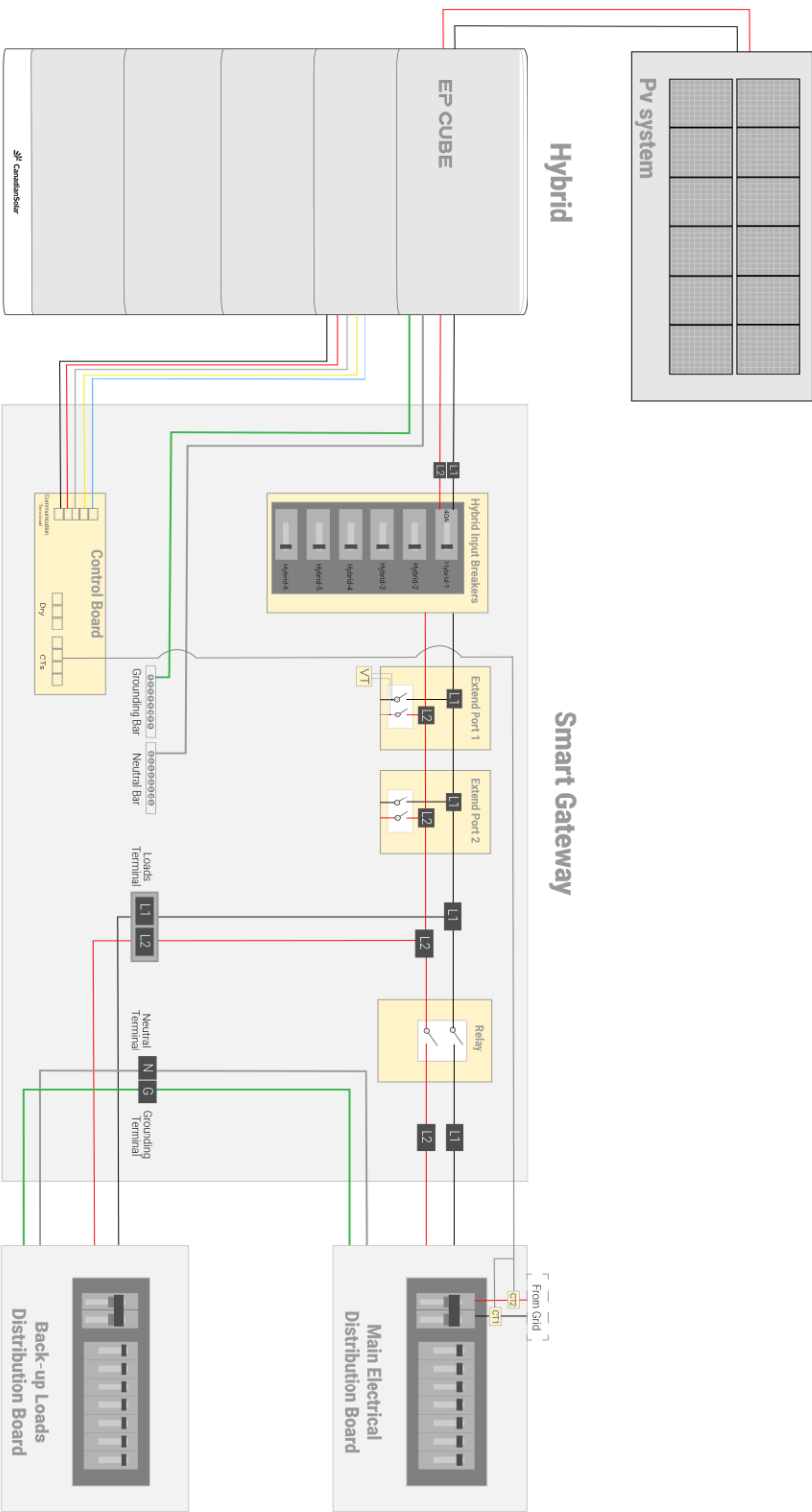
Smart Gateway Knockouts for Cables



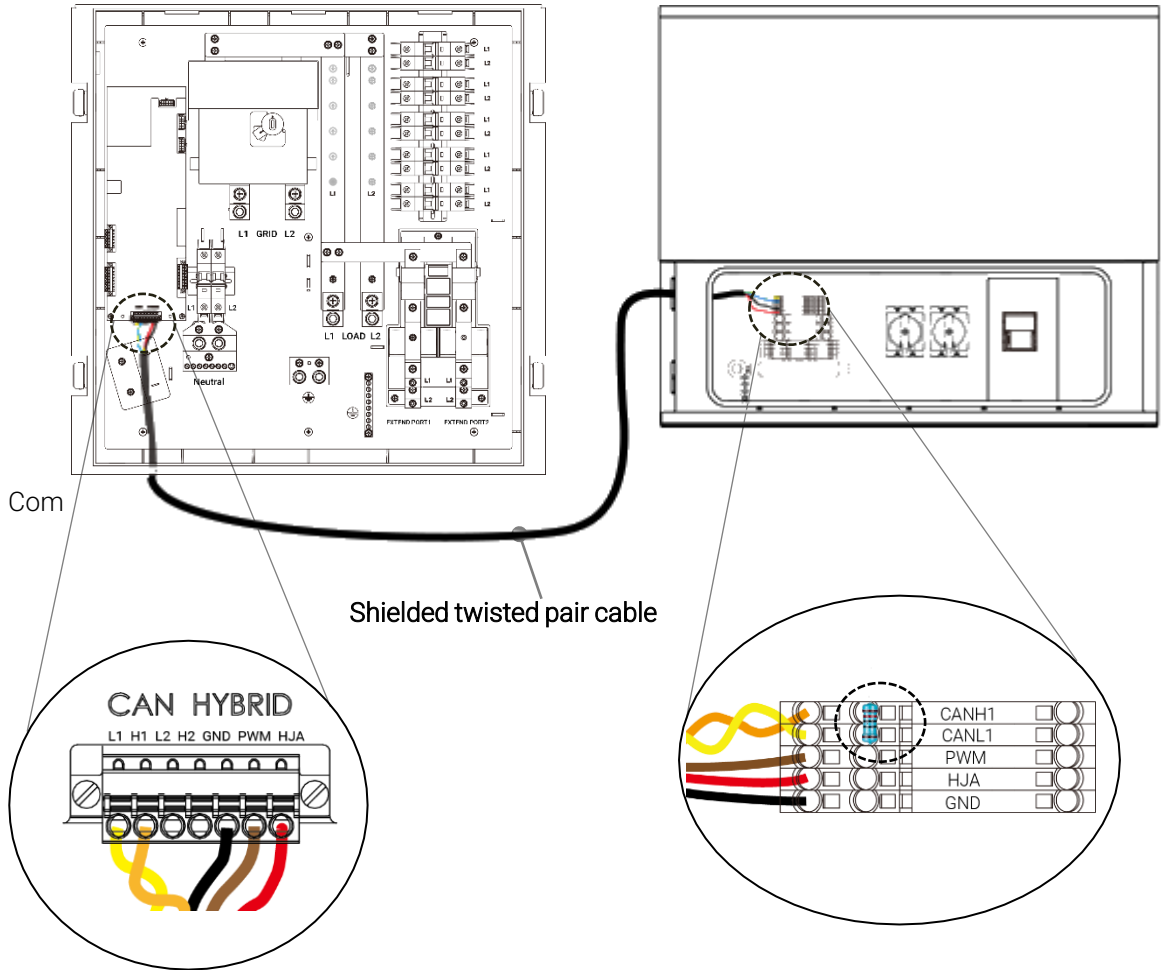
Smart Gateway Knockouts Sizes



System Diagram



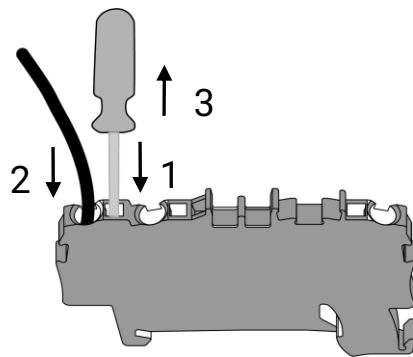
Hybrid and Smart Gateway Communication Connection



Pay attention to wire colors and labels

Wire Color	SG Terminal	Hybrid Terminal
Yellow	L1	CANL1
Orange	H1	CANH1
Black	GND	GND
Brown	PWM	PWM
Red	HJA	HJA

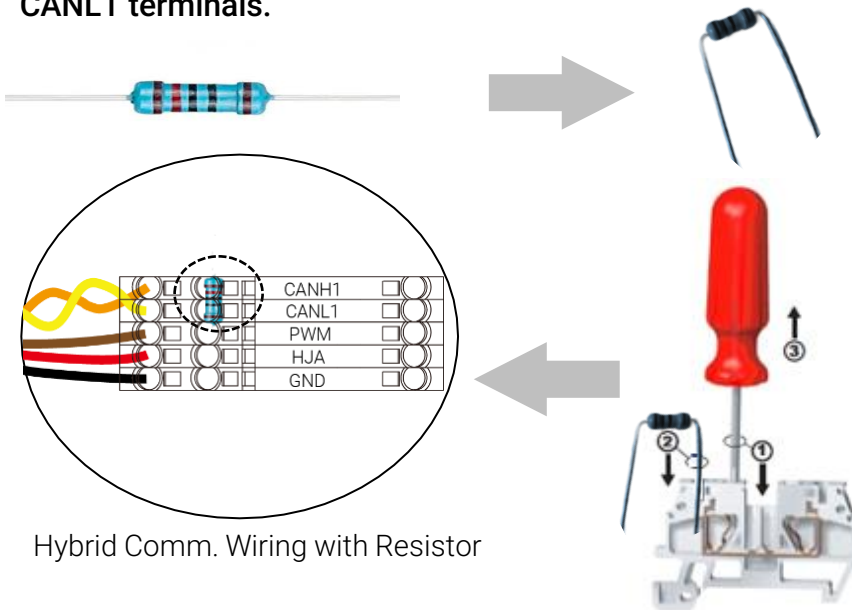
Terminal wiring steps



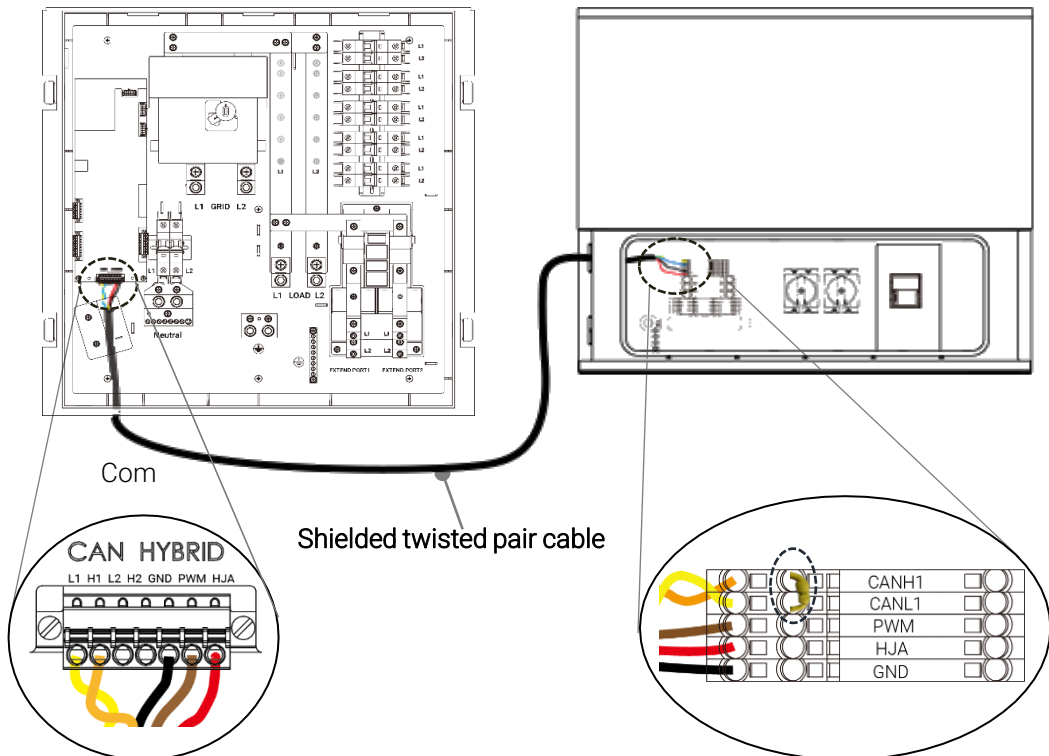
1. Press button 2. insert cable 3. release button

Hybrid and Smart Gateway Communication Connection

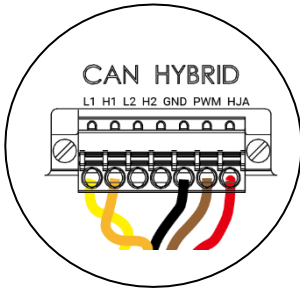
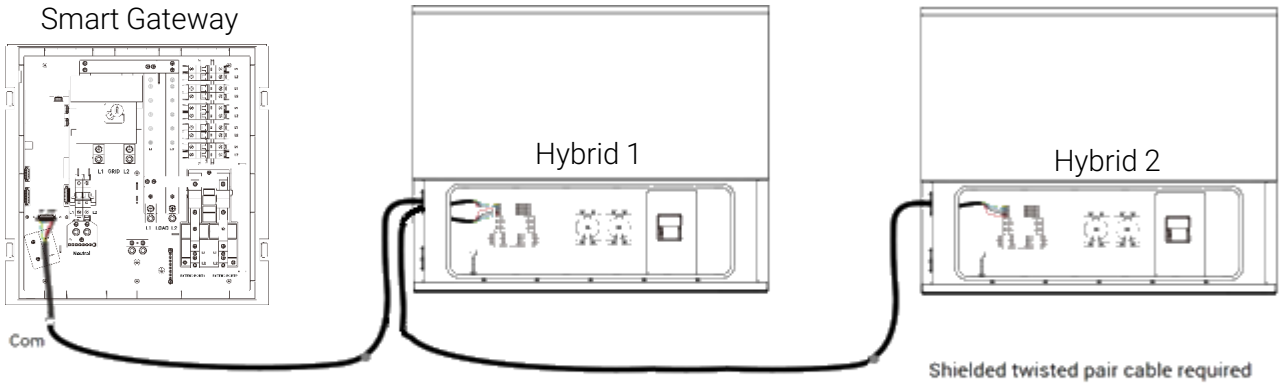
If communication resistor is not installed, install it between the CANH1 & CANL1 terminals.



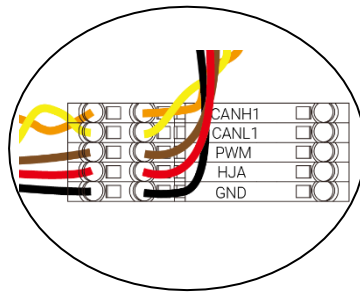
If communication resistor already pre-installed, then just complete the communication wiring process



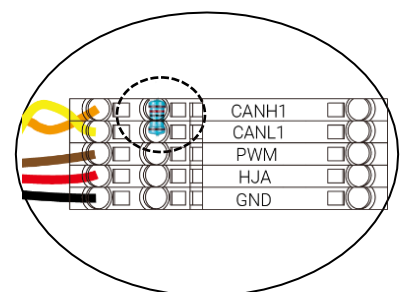
Hybrid and Smart Gateway Communication (Parallel Hybrid)



Smart Gateway Comm. Wiring



Hybrid 1 Comm. Wiring



Hybrid 2 Comm. Wiring & installed Resistor

Standard cable length is 10m, cannot be extended.

Extension may cause communication failure.

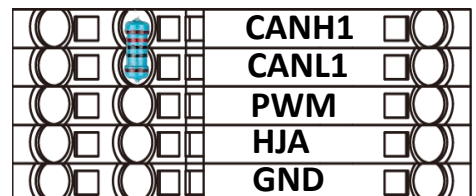
Do not use any other cable to avoid any product malfunction.

If communication resistors are not pre-installed, then install the resistor on final hybrid.

Communication cable is included, pay attention to colors of the wires.

Wire Color	SG Terminal	Hybrid Terminal
Yellow	L1	CANL1
Orange	H1	CANH1
Black	GND	GND
Brown	PWM	PWM
Red	HJA	HJA

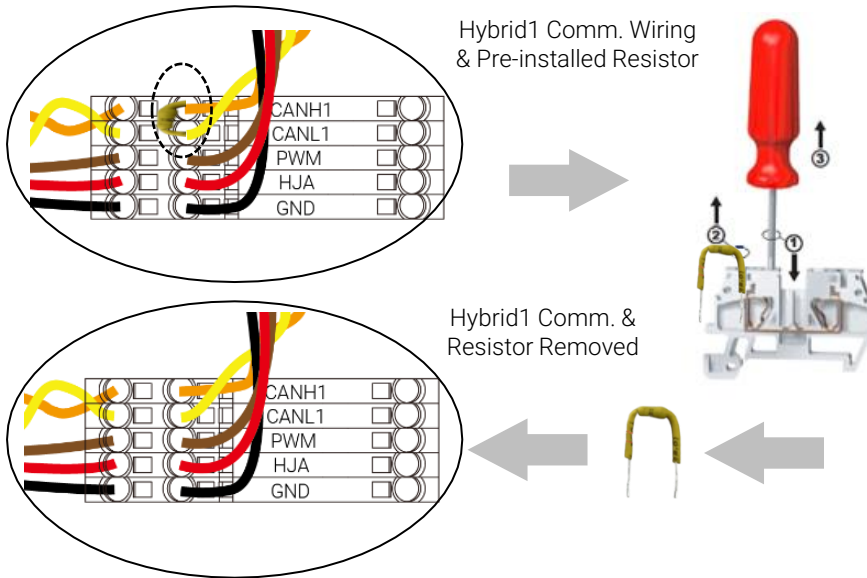
Only install CAN termination resistor between CANH1 and CANL1 on the final hybrid. (farthest away from SG)



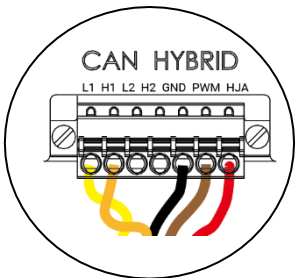
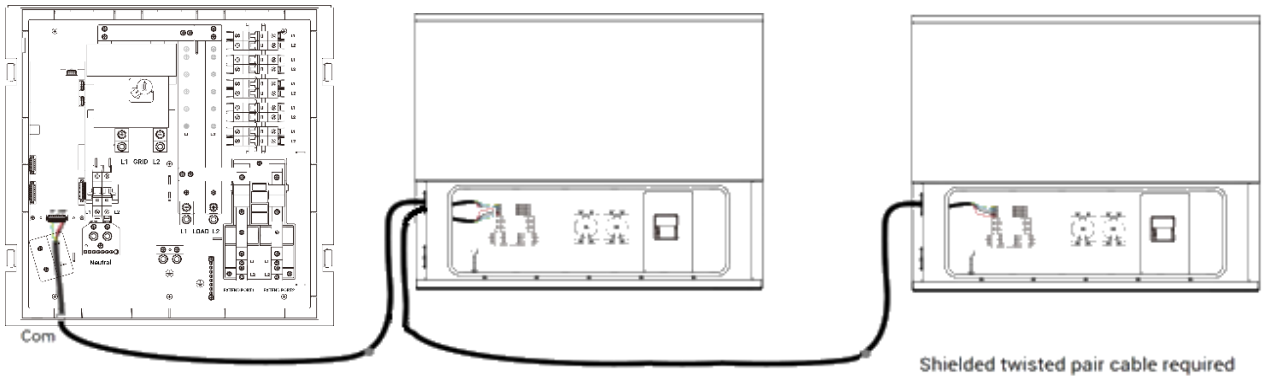
* Follow the previous steps to install the resistor on Hybrid Comm. Terminals.

Hybrid and Smart Gateway Communication (Parallel Hybrid)

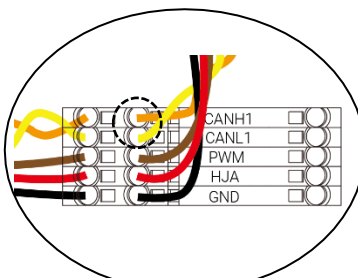
If communication resistors are pre-installed, uninstall it from hybrid units connected between SG and final Hybrid .



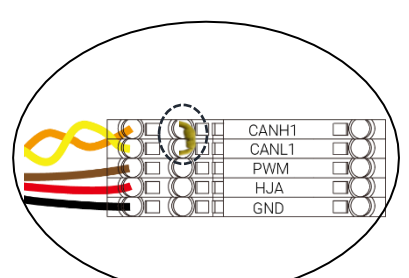
Keep the resistor in place on final hybrid.



Smart Gateway Comm. Wiring

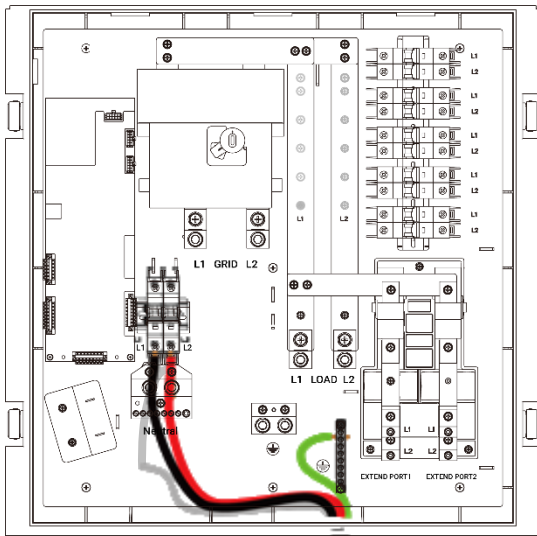


Hybrid 1 Comm. Wiring & Pre-installed Resistor Removed

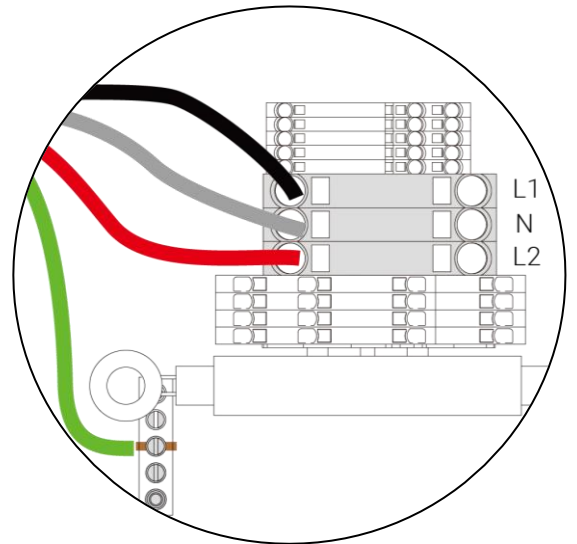
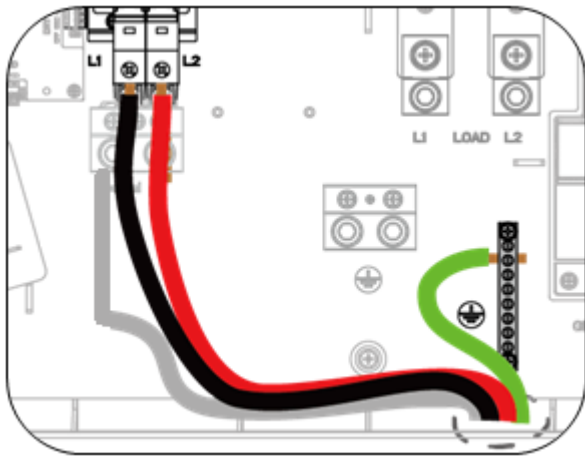
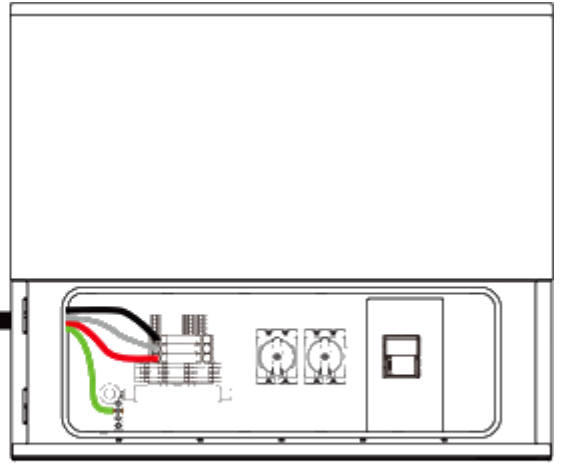






Hybrid 2 Comm. Wiring with Preinstalled Resistor

Hybrid to Smart Gateway AC Connection



Hybrid



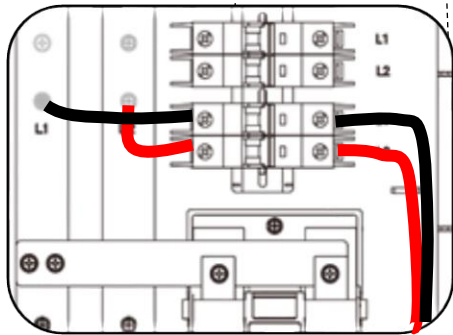
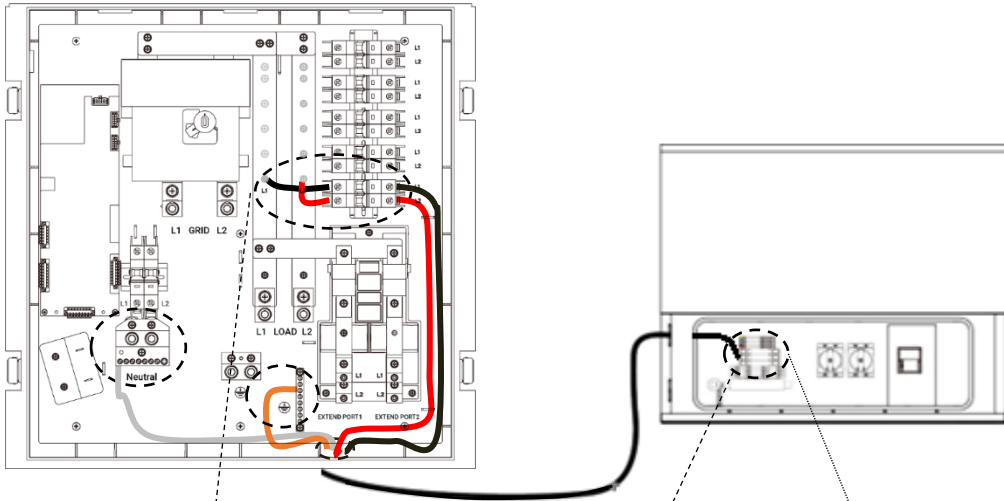
-  6-8 AWG
-  6-8 AWG
-  6-8 AWG
-  9-4 AWG

-  40 in-lbs
-  5/32"

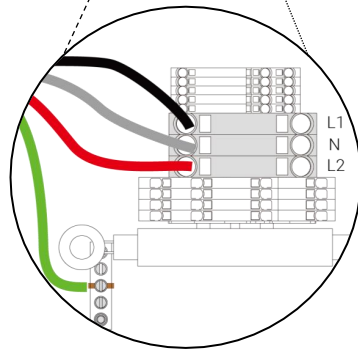


Note: While making connections on neutral terminal, ensure to terminate neutral cables on lower terminals first, and work your way from lower terminals to upper terminals. i.e. first connect neutral wires of Hybrids, Generator/PV inverter, and then connect neutral wires of Load and Grid.

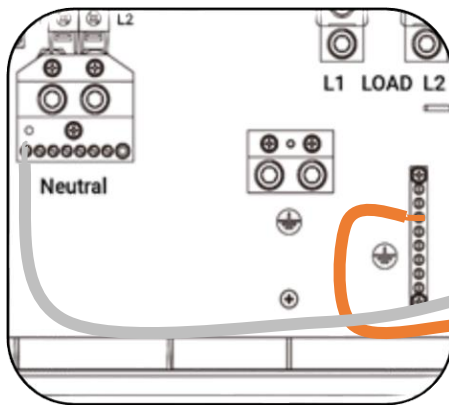
Hybrid to Smart Gateway AC Connection (Hybrid2)








Hybrid 2 Circuit Breaker



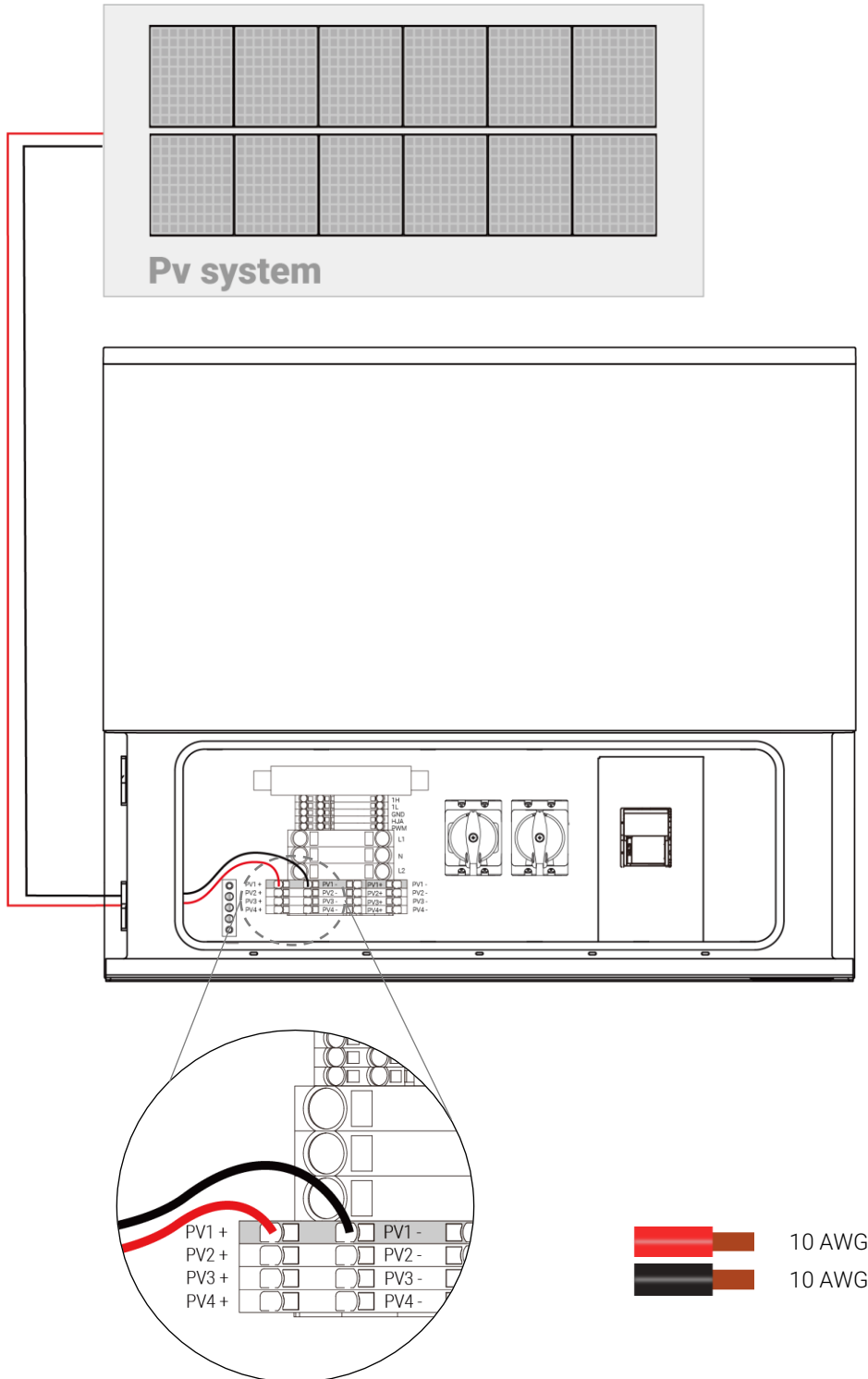
Hybrid 2 AC Output



Neutral & Ground Cable

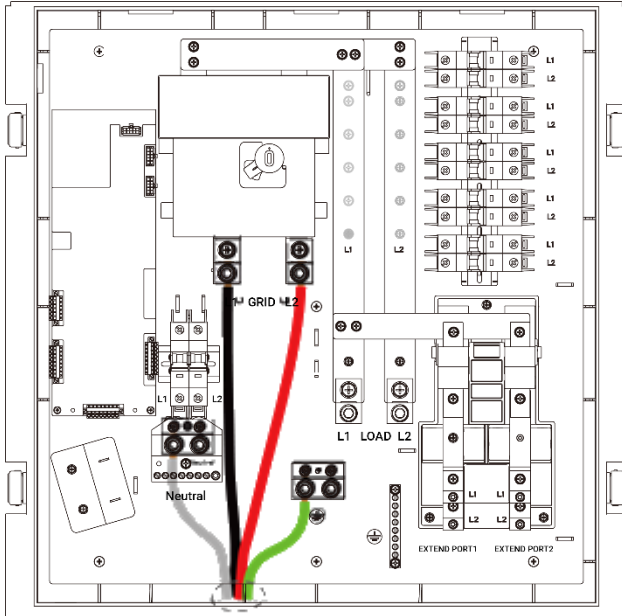
-  6-8 AWG
 -  6-8 AWG
 -  6-8 AWG
 -  9-4 AWG
-  40 in-lbs
 -  5/32"

PV Connection



WIRING

Grid Cables Connection



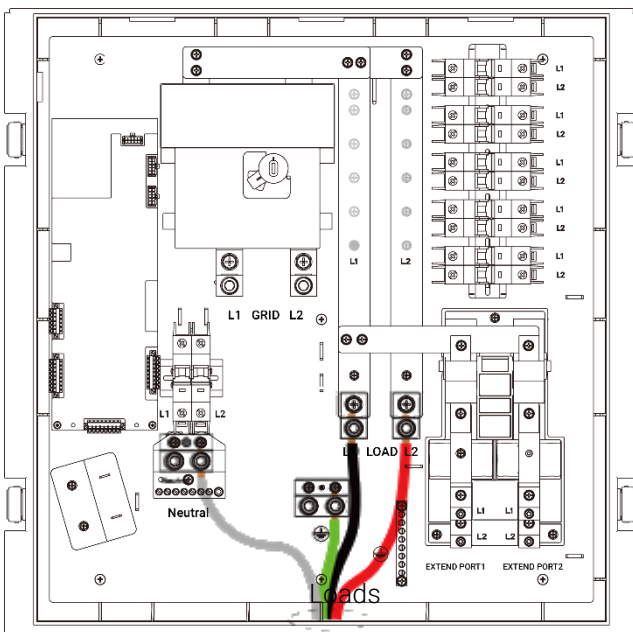
4 - 2/0 AWG
 4 - 2/0 AWG
 4 - 2/0 AWG
 3/0 - 4/0 AWG



110 in-lbs
 275 in-lbs
 5/16"

Grid

Loads Cables Connection



4 - 2/0 AWG
 4 - 2/0 AWG
 4 - 2/0 AWG
 3/0 - 4/0 AWG

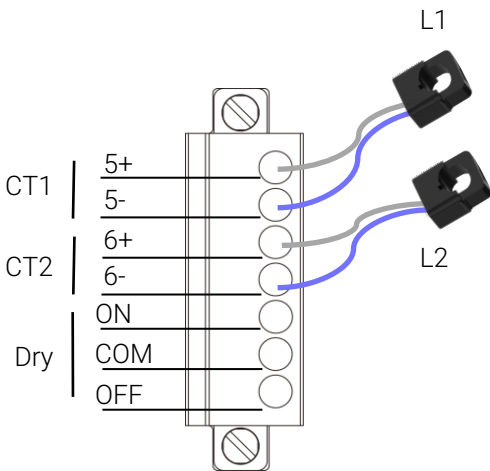
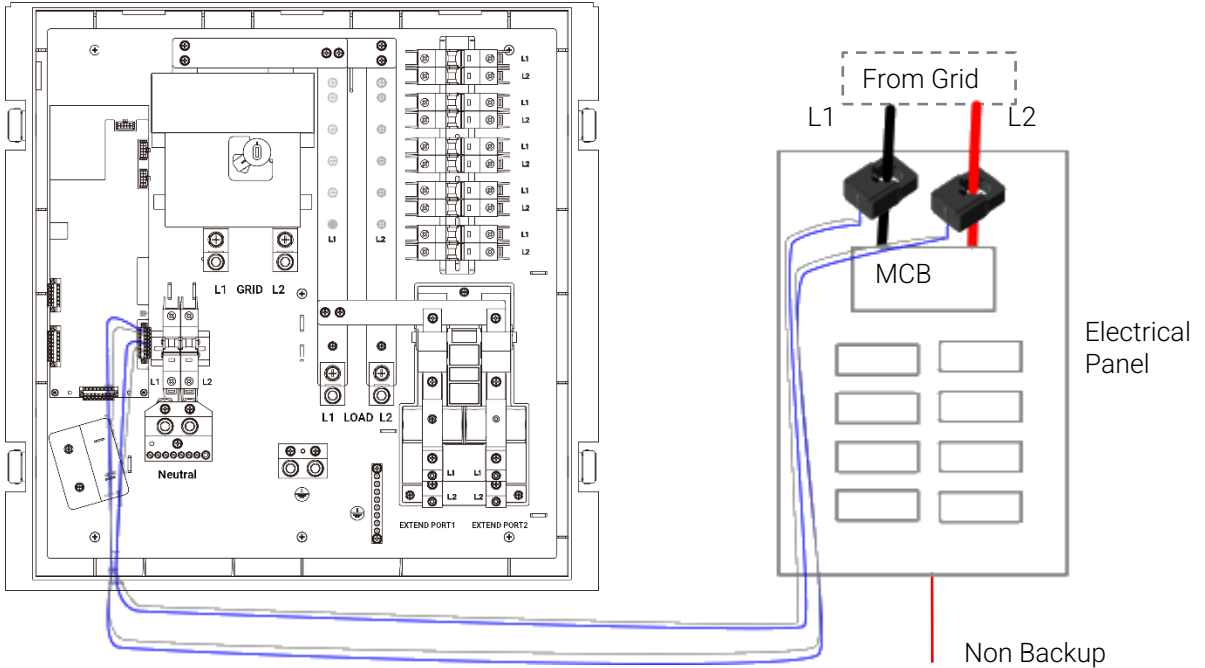


110 in-lbs
 275 in-lbs
 5/16"

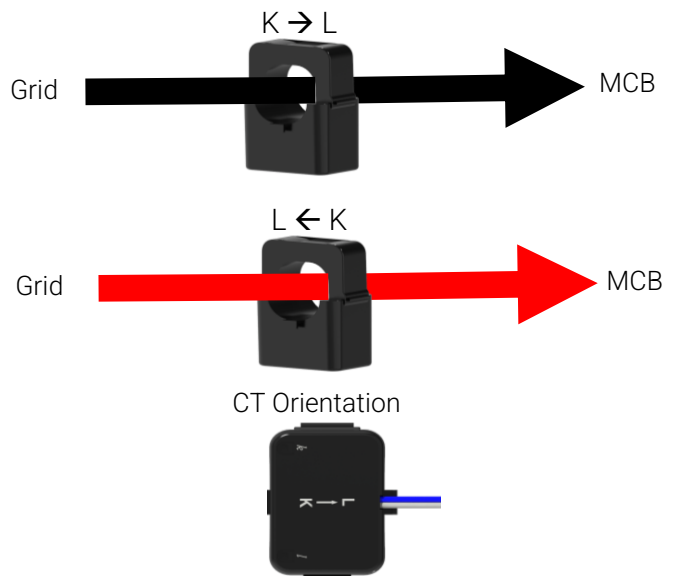
Install the CTs

Install CTs sensor on L1 and L2 between grid and MCB. Connect the CTs cables to SG CT terminal.

- Standard cable length of 10m (32.8 feet), can be extended up to 90m (295 feet).
- Recommended cable gauge & standard: 22AWG and UL1015.



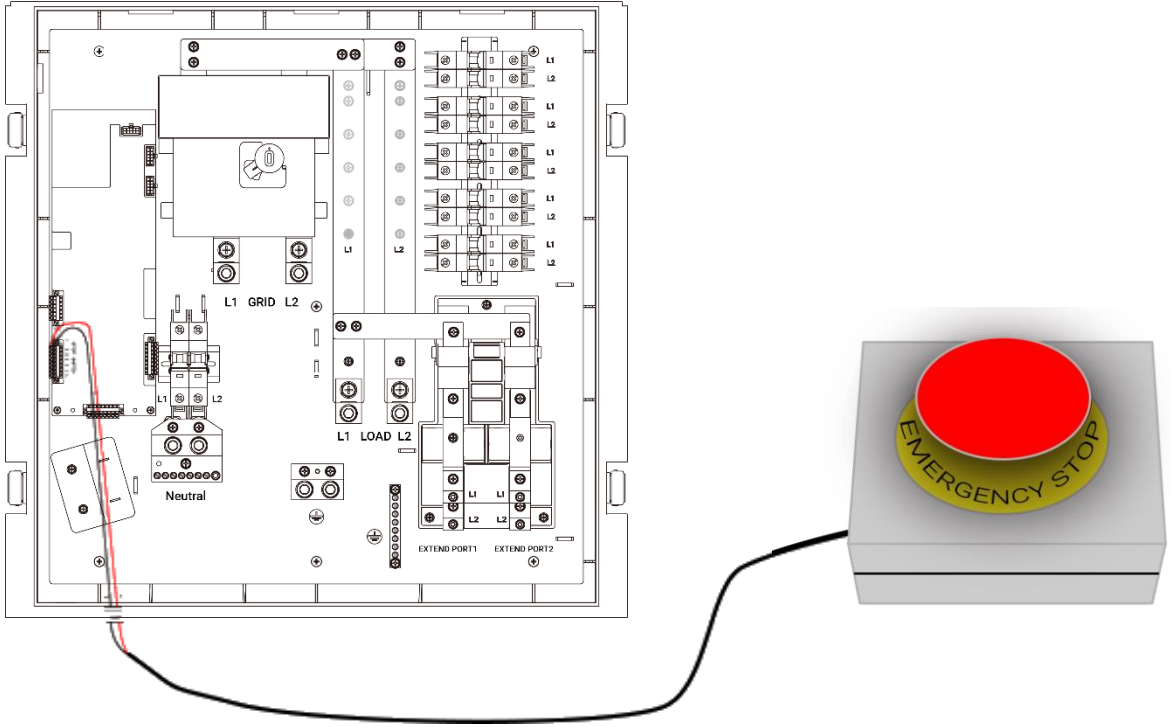
Terminal for CTs connection



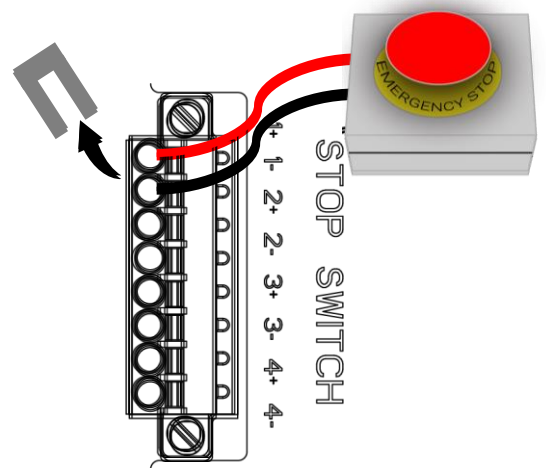
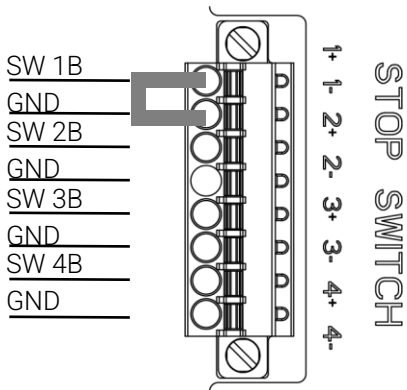
The CT's orientation on L1 shall be from Grid to MCB ($k \rightarrow L$). For L2 shall be from MCB to Grid ($k \rightarrow L$) as shown in pictures above.

E-Stop Connection (Optional)

Install an Emergency Stop Switch as per the local codes or standard requirements.



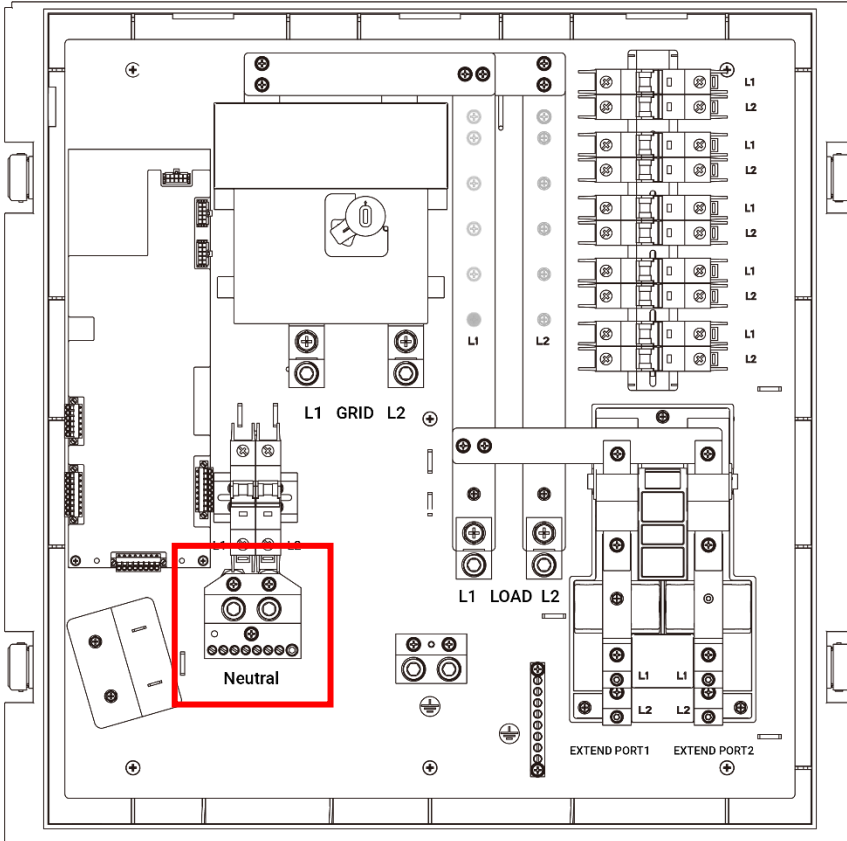
Emergency stop switch



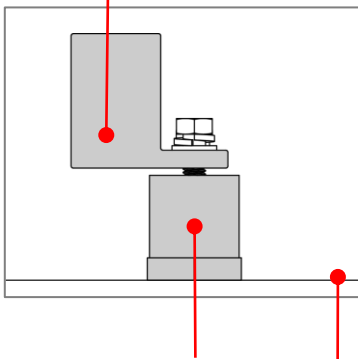
Remove the connector, insert E-stop cables to the terminal.

Neutral-Ground Bonding (Optional)

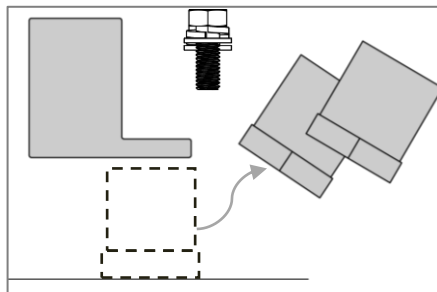
If Smart Gateway is installed as the unique distribution device (Without Electrical Distribution Board), bond Neutral to Ground.



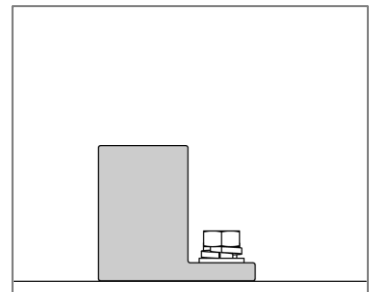
Neutral Terminal



Insulation pillars Support panel (grounded)



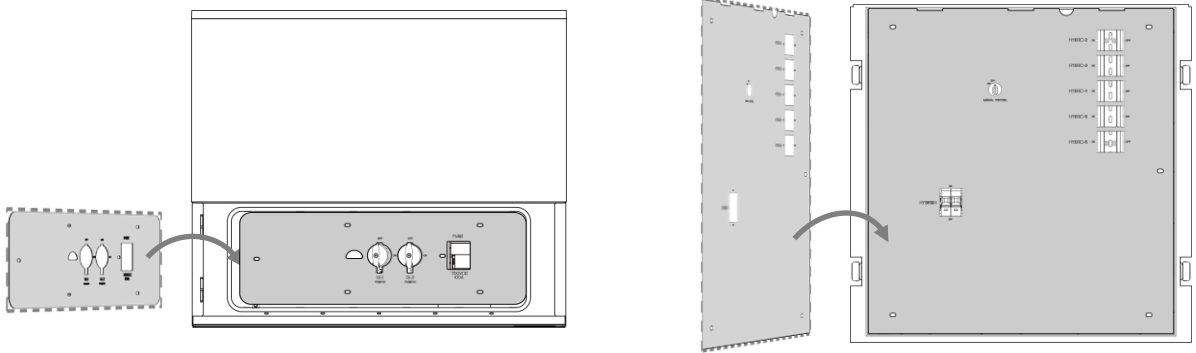
Remove the insulation pillars



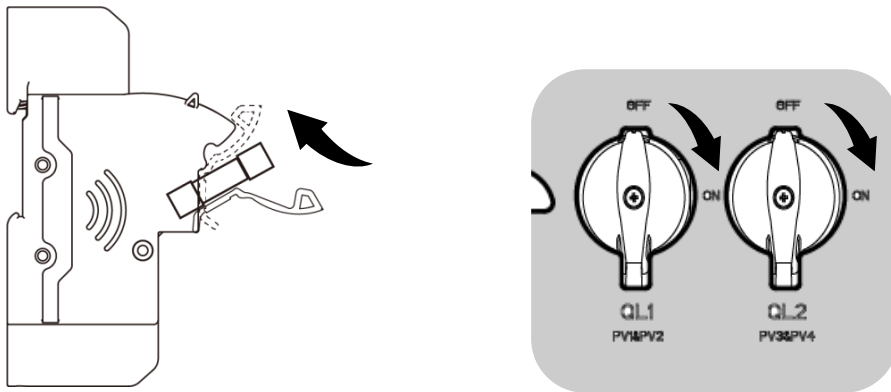
Bond Neutral to support panel

Energize Smart Gateway and Hybrid

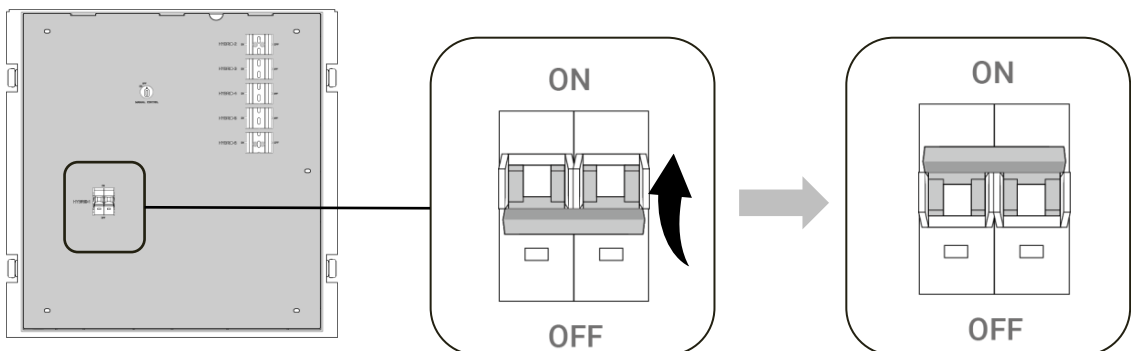
1. Re-install the deadfront covers on SG and Hybrid.



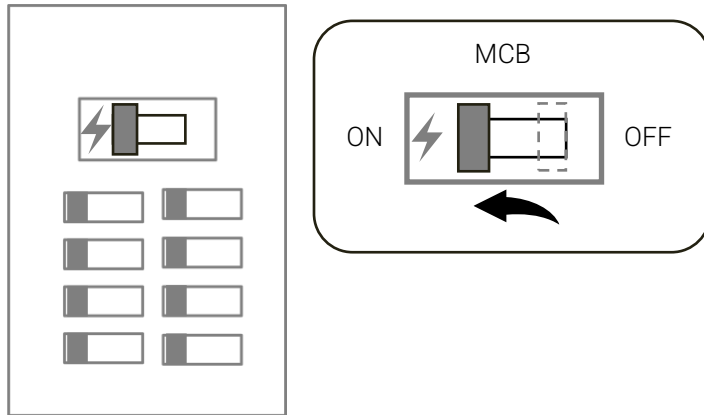
2. Connect the Battery Fuse, and then turn on the PV switches in the Hybrid Inverter.



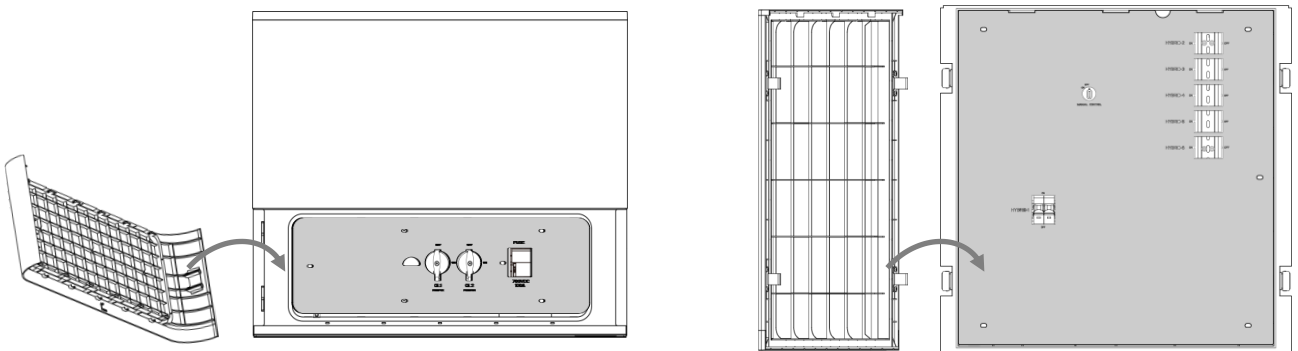
3. Turn on Hybrid-1 Circuit Breaker in SG.



4. Turn on SG Grid input power MCB in electric panel.

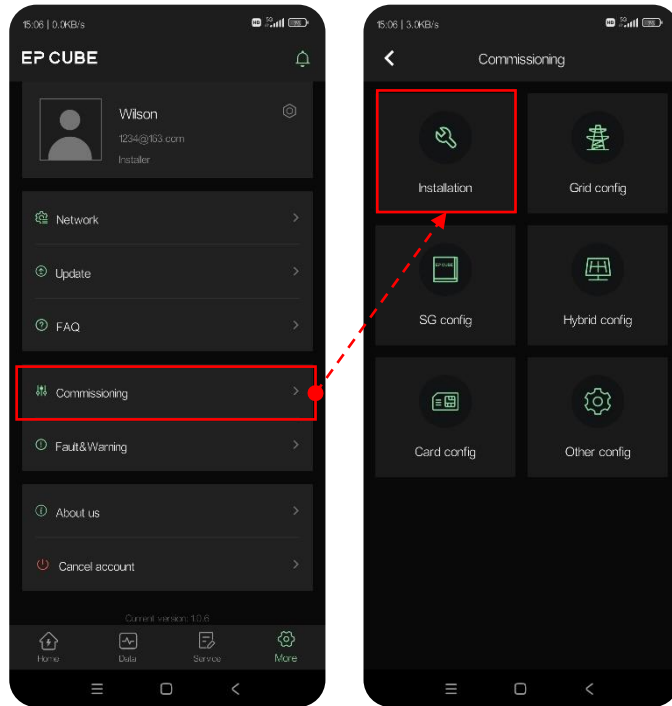


5. Install the front panels.

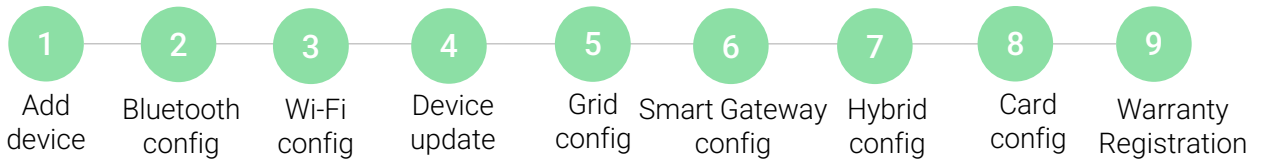


Note: Do not turn on the EP Cube Hybrid and Smart Gateway by pressing down the power on/off buttons on both Hybrid and Smart Gateway, at this stage (prior to commissioning process).

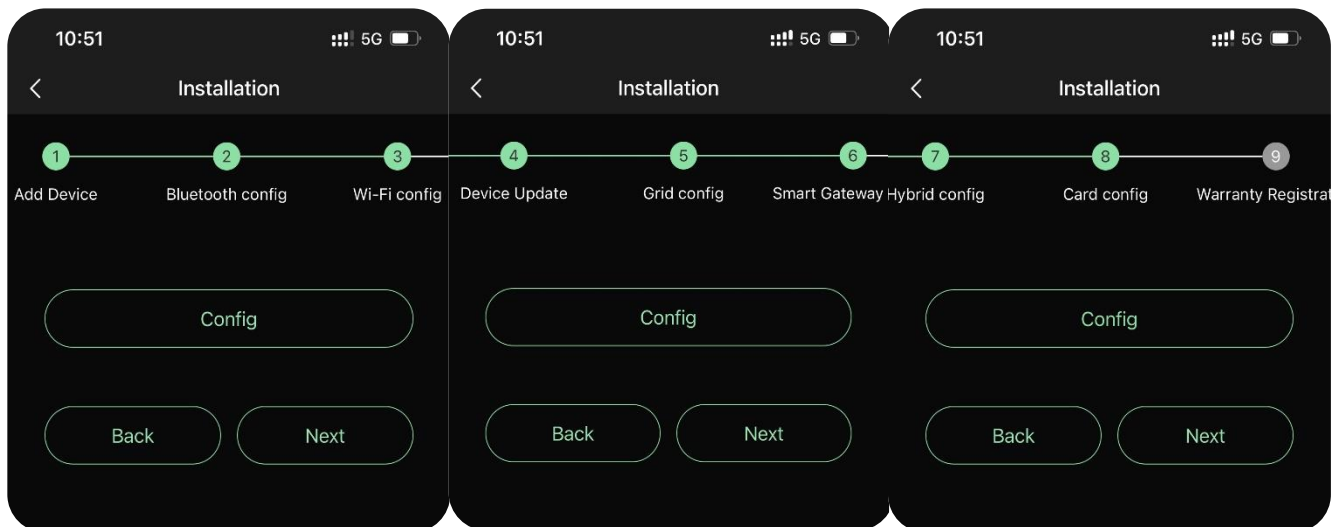
Commissioning Via EP Cube APP



Log in with the installer account, Click More ----> Commissioning ----> Installation.



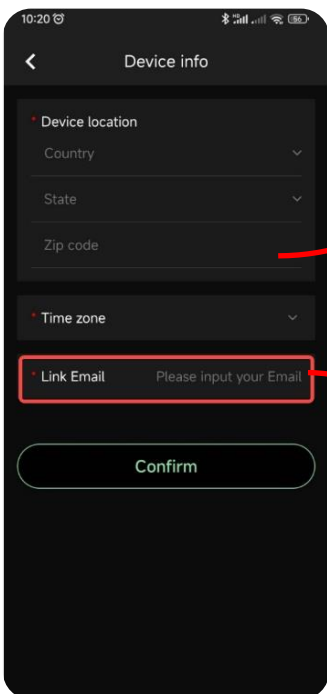
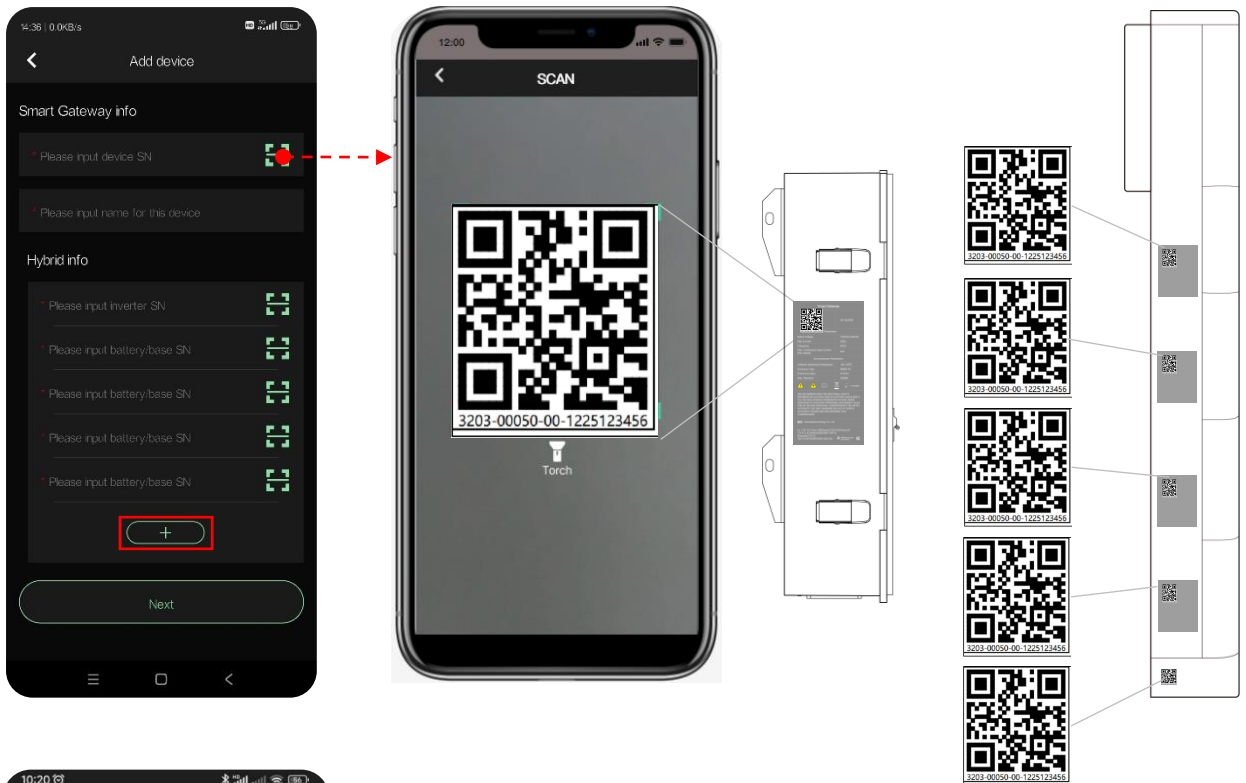
Follow the step-by-step process till the end to complete the system configuration.



COMMISSIONING

- 1
Add device
- 2
Bluetooth config
- 3
Wi-Fi config
- 4
Device update
- 5
Grid config
- 6
Smart Gateway Hybrid config
- 7
Hybrid config
- 8
Card config
- 9
Warranty Registration

Add SG, Hybrid, battery modules and base according to your system configuration. Scan the QR code to add the SN of each module or input the SN individually.

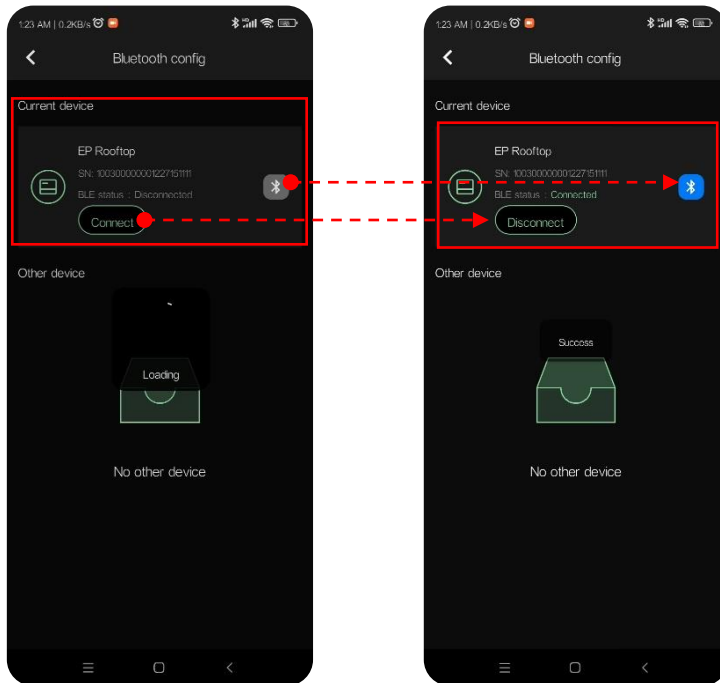


Device Location	Country	Choose country name from the list
	State	Choose state name from the list
	Zip Code	Write area zip code
Time Zone	Time zone	Choose applicable time zone from the list
Link Email	Email	Input customer's email address

Note: Installer must ensure that End User Account has been already created on EP Cube App to successfully link it at add device step during commissioning process.



In the second step, the Bluetooth configuration is completed. Click on your desired device to set it as the current device. And click connect button.



Allow EP Cube to connect to nearby devices via Bluetooth.

Once allowed, you will be asked to turn on Bluetooth. Click confirm and the phone's Bluetooth will be turned on.

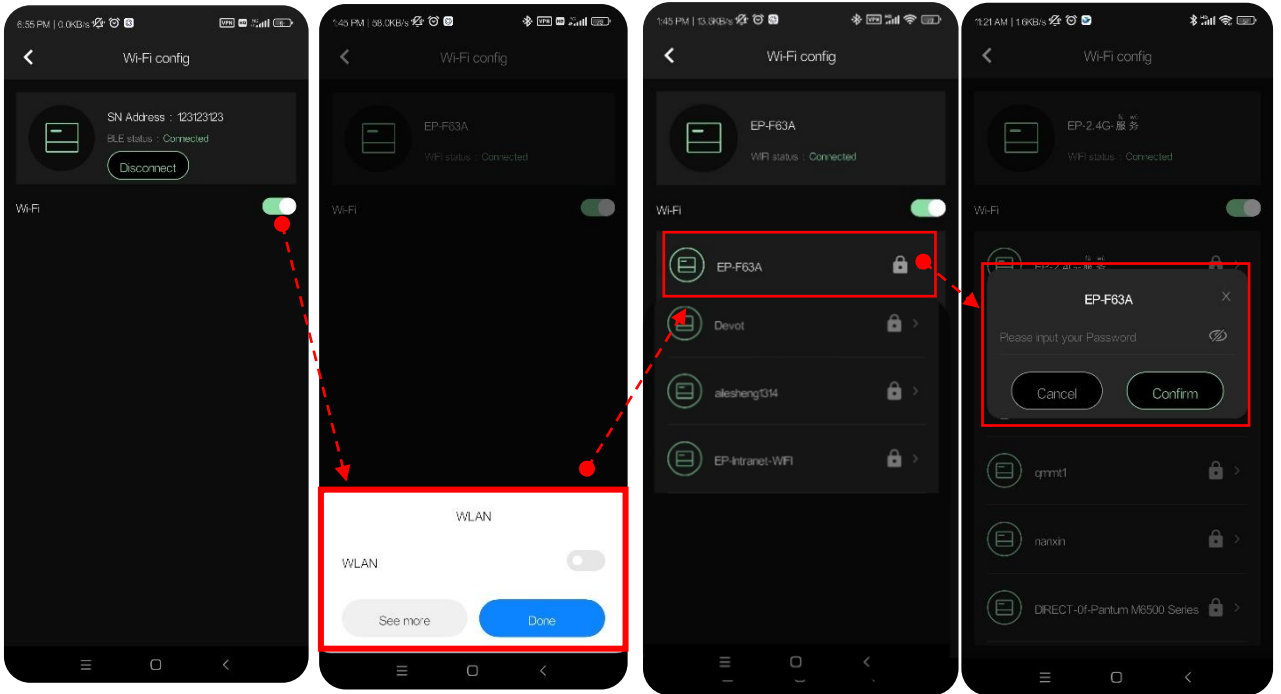
In the next step, select your newly added device and click on the connect button of the selected device. The Bluetooth status will change to connected and Bluetooth icon will turn blue.



- 1- Turn on your phone's Bluetooth
- 2- Choose your added device
- 3- Click on connect button
- 4- Upon success, Bluetooth icon will turn blue
- 5- A disconnect button will appear now instead of connect.

- 1 Add device
- 2 Bluetooth config
- 3 Wi-Fi config
- 4 Device update
- 5 Grid config
- 6 Smart Gateway config
- 7 Hybrid config
- 8 Card config
- 9 Warranty Registration

Note: EP Cube can only connect with 2.4Ghz WIFI Networks.



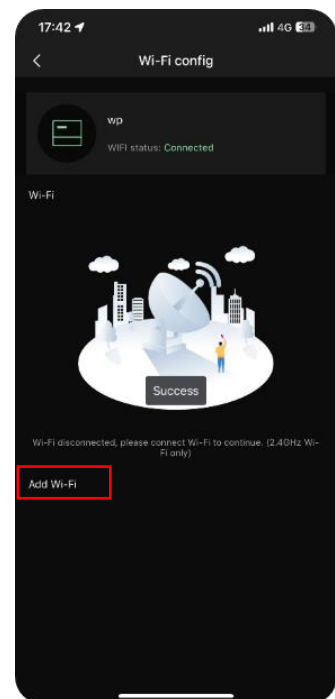
Turn on WIFI

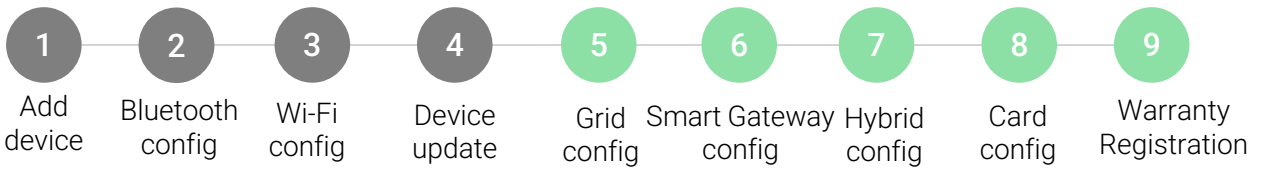
Input the password and confirm

Note: Ensure that your installation site must have WIFI coverage and strong signal strength.

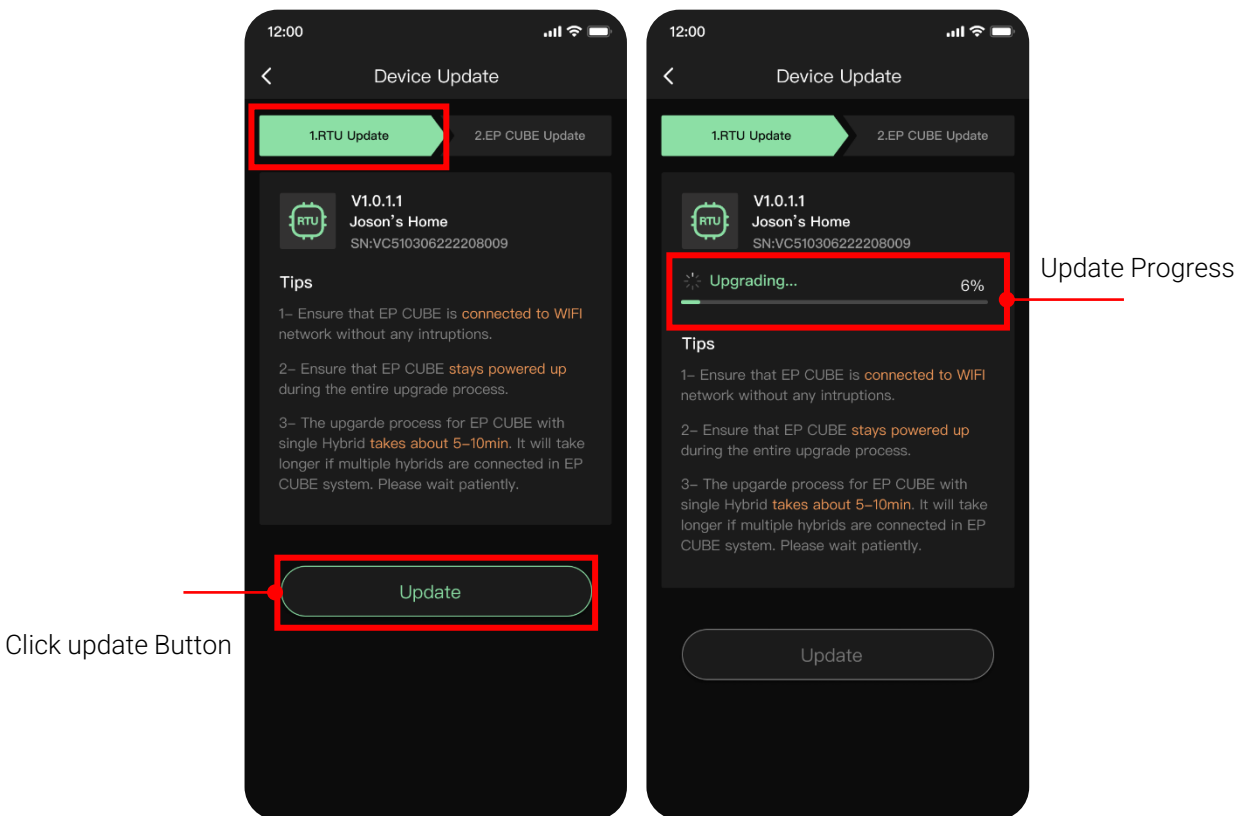


** For the iOS version, the list of WIFI networks will not be displayed. If your iPhone is connected to a WIFI network, only that network will be displayed. To add a new WIFI, click add WIFI Button to add desired WIFI name and Password.





In this step firmware of the RTU Module and EP CUBE are updated to latest available version automatically. In 1st step, click the update button to start RTU update process. Pay attention to the tips on the screen.



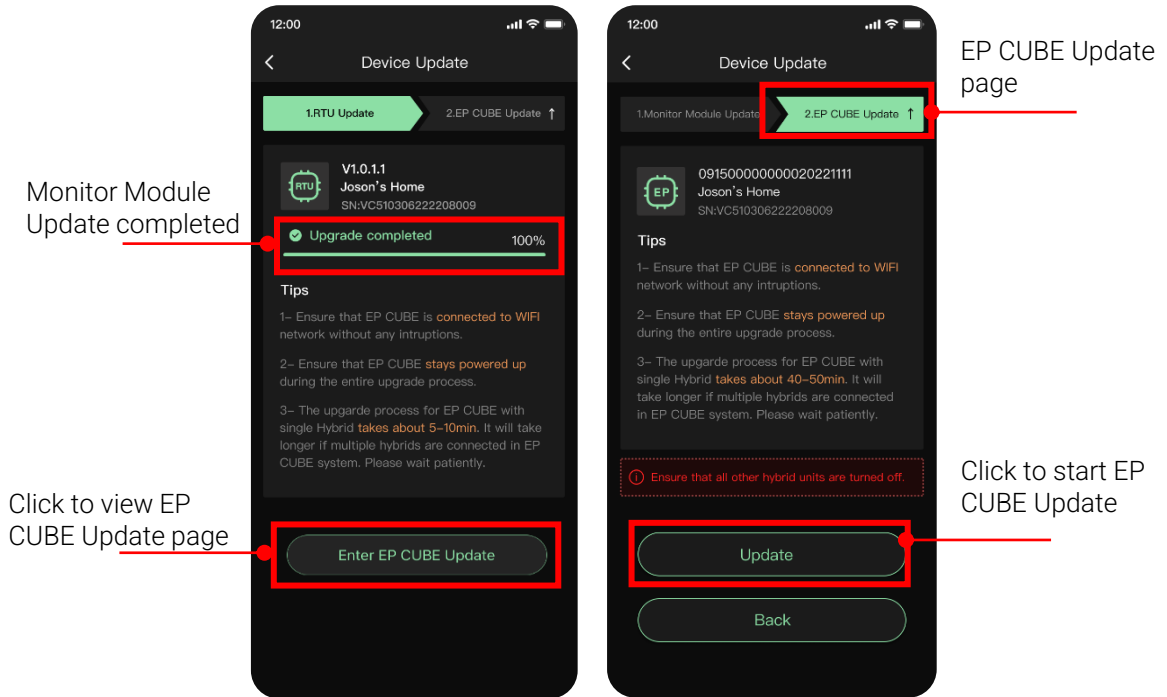
Once the update is completed successfully, Enter EP CUBE button will appear. Clicking on the button will start the second part of the update that's EP CUBE system firmware update. Refer to Fig. EP CUBE update on the next page.

Note:

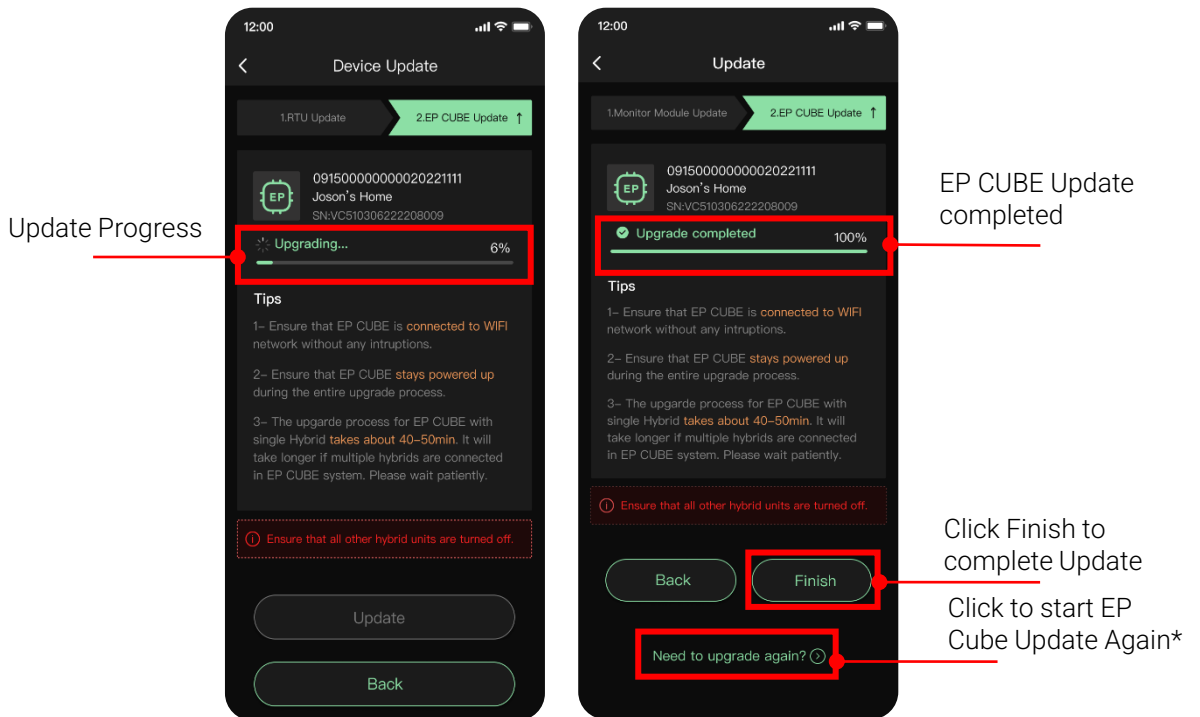
Single Hybrid: Ensure that Hybrid MCB in the Smart Gateway is turned on.

Multiple Hybrid: If multiple Hybrid units are connected with a single Smart Gateway, the EP Cube Update step has to be repeated for each Hybrid Unit. Perform EP Cube update for each hybrid one by one and ensure that during the update Hybrid MCB's for all other hybrid units are turned off.

- 1
Add device
- 2
Bluetooth config
- 3
Wi-Fi config
- 4
Device update
- 5
Grid config
- 6
Smart Gateway config
- 7
Hybrid config
- 8
Card config
- 9
Warranty Registration

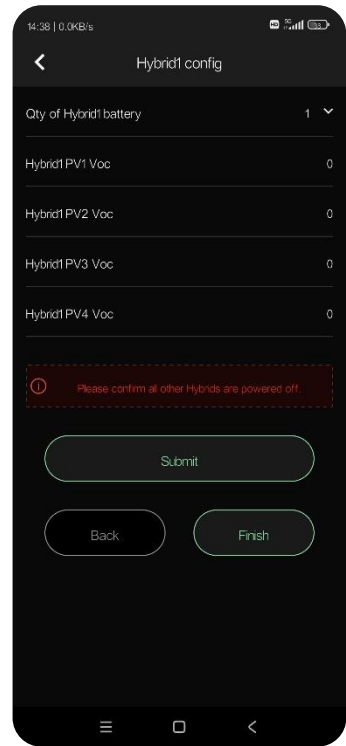
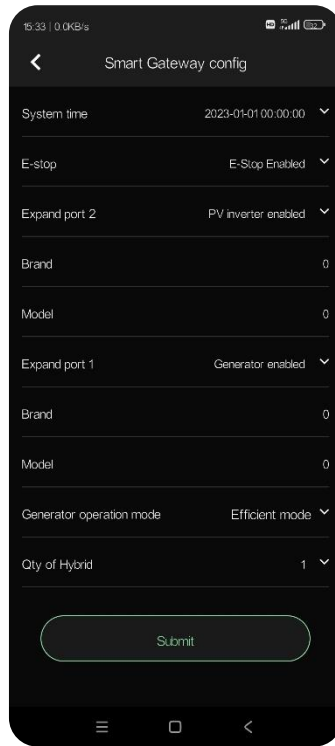
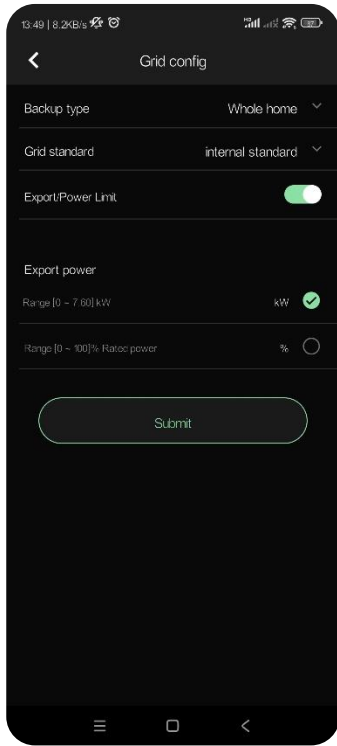


Click update button on EP CUBE page to start the update. Once the update is completed successfully, click the finish button to complete. If there are multiple hybrids connected then click on the "Need to update again?" line item to proceed to second hybrid unit update process.



* If multiple hybrid units are connected in parallel with a single Smart Gateway, EP Cube app update step need to be repeated for each hybrid unit.

- 1
Add device
- 2
Bluetooth config
- 3
Wi-Fi config
- 4
Device update
- 5
Grid config
- 6
Smart Gateway config
- 7
Hybrid config
- 8
Card config
- 9
Warranty Registration



Grid config	Backup type	Partial home/whole home backup based on wiring connection topology
	Grid standard	Local/State rule/Interconnection Agreement
	Export Power Limit	Enable/Disable Export Power Limit Choose to limit power either by a value in kW or % of rated power
Smart Gateway config	System time	Set the time for product
	E-Stop	Enable E-Stop if connected
	Extend Port 2	Enable Inverter/Generator/EV Charger if connected
	Extend Port 1	Enable Inverter or EV Charger if connected
	Generator Operation Mode	Choose desired mode efficient/Quiet mode
	Qty of Hybrid	Number of installed Hybrid units
Hybrid config	Qty of Hybrid 1 Battery	number of battery modules in Hybrid 1
	Hybrid 1 PV1 Voc	String OCV* between PV1+ and PV1-
	Hybrid 1 PV2 Voc	String OCV between PV2+ and PV2-
	Hybrid 1 PV3 Voc	String OCV between PV3+ and PV3-
	Hybrid 1 PV4 Voc	String OCV between PV4+ and PV4-

- 1
Add device
- 2
Bluetooth config
- 3
Wi-Fi config
- 4
Device update
- 5
Grid config
- 6
Smart Gateway config
- 7
Hybrid config
- 8
Card config
- 9
Warranty Registration

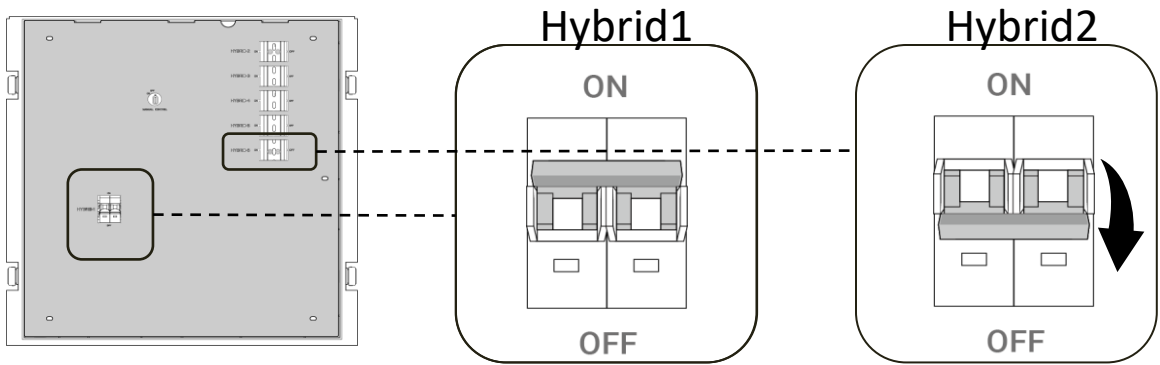
5- Multiple Hybrid Config:

If multiple Hybrids are connected with a single SG in parallel, than it requires special attention to details as it also involves Hardware operation. Follow the below steps in sequence:

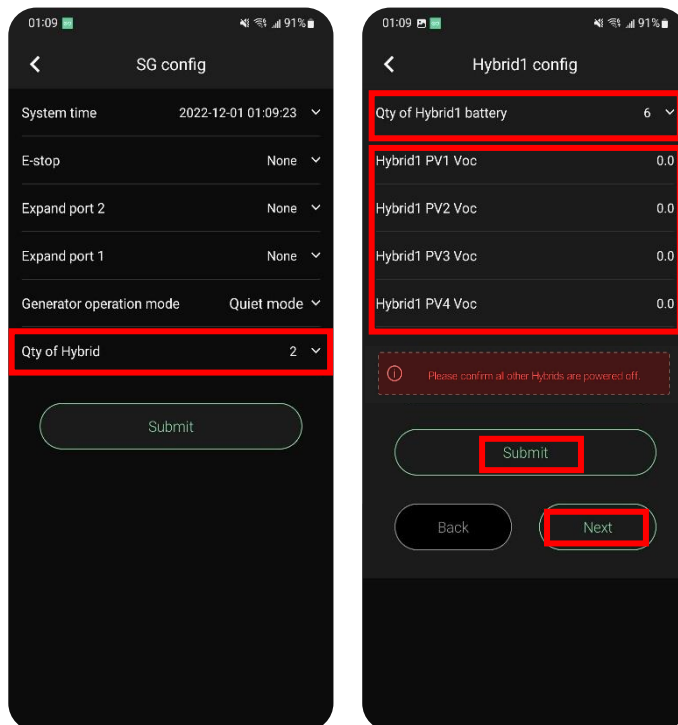
Step a. Select the appropriate number from the dropdown list to input quantity of connected hybrids with the single Smart Gateway. In below example, we choose 2 Hybrids.

Step b. Go to the Hybrid config page, and Hybrid1 Config page will display.

Step c. Keep the MCB of Hybrid1 in the smart gateway in ON state, and turn off the MCBs of all other Hybrid units at this step.

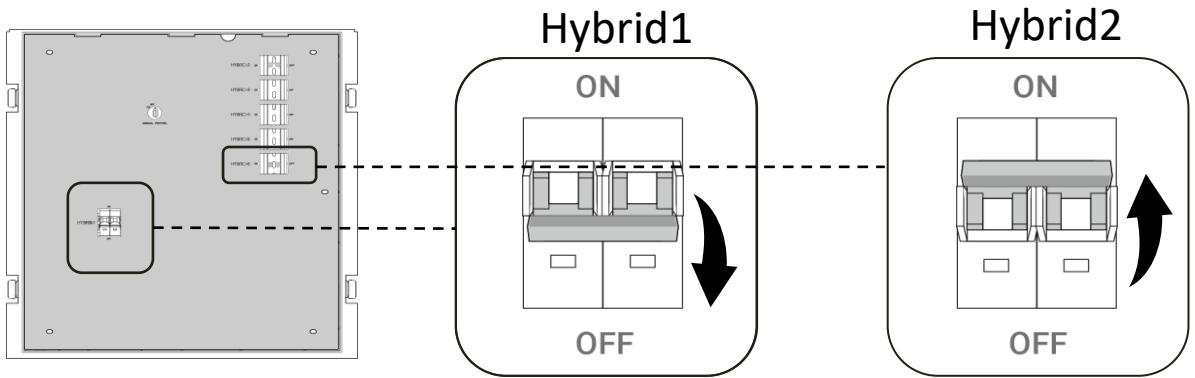


Step d. Start configuration for Hybrid1, Input the number of batteries connected with Hybrid1 and input open circuit voltages for the connected PV arrays. Click submit to save and click the next button.

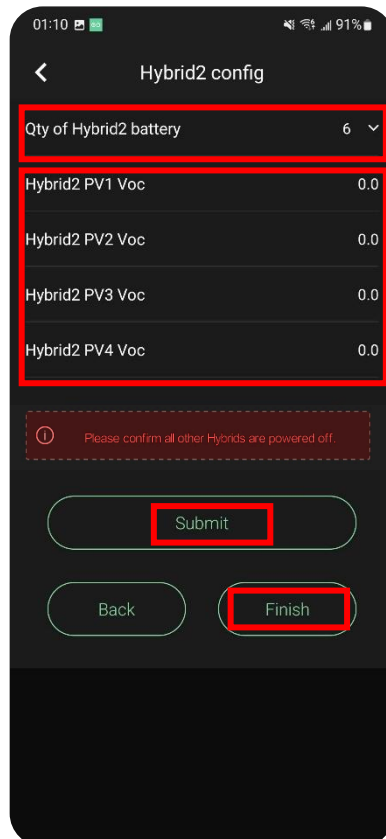


- 1
Add device
- 2
Bluetooth config
- 3
Wi-Fi config
- 4
Device update
- 5
Grid Smart Gateway Hybrid config
- 6
Smart Gateway Hybrid config
- 7
Hybrid config
- 8
Card config
- 9
Warranty Registration

Step e. Now, turn off the MCB of Hybrid1 in the Smart Gateway and turn on the MCB of Hybrid2 installed on the din rail. Wait a few sec for the hybrid1 to completely turn off.



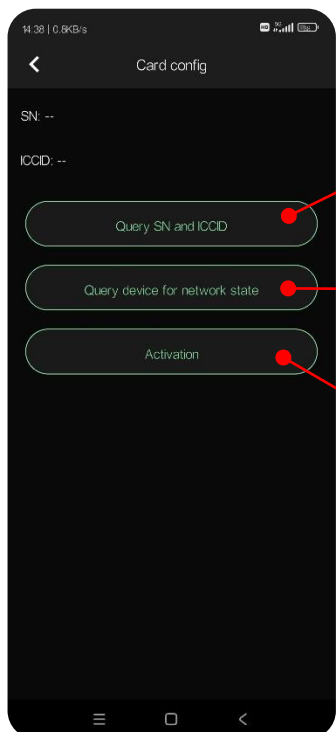
Step f. On the Hybrid2 config page, start the configuration of Hybrid2 now. Input the number of batteries connected with Hybrid2 and input open Circuit voltages for the connected PV arrays. Then click submit to save, and click finish to return to Installation steps.



⚠ Note: It is critical to configure all Hybrid Units one by one. Ensure that during configuration of a certain Hybrid unit, all other Hybrid units power is disconnected by turning off the respective MCBs. This is done to ensure that the communication between the Smart Gateway and Configured Hybrid unit don't have any interference.



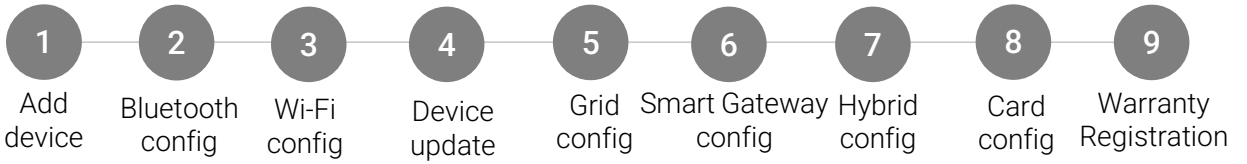
Activate communication card. So, when WIFI doesn't work, it can serve as a backup for remote monitoring.



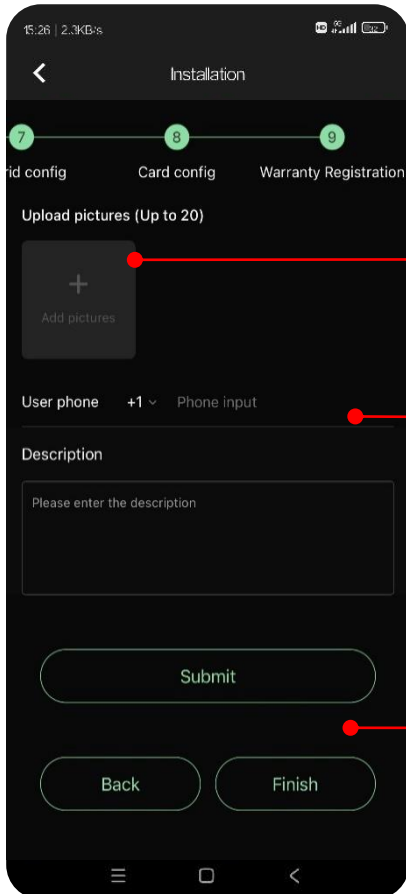
1. Click to read card information

2. Click to confirm that the card is connected to a network.

3. Activate the card if installed



In the last step, take and upload photos of the successful commissioning and submit for final approval by EP Team. The Installation approval is necessary for Warranty Registration.

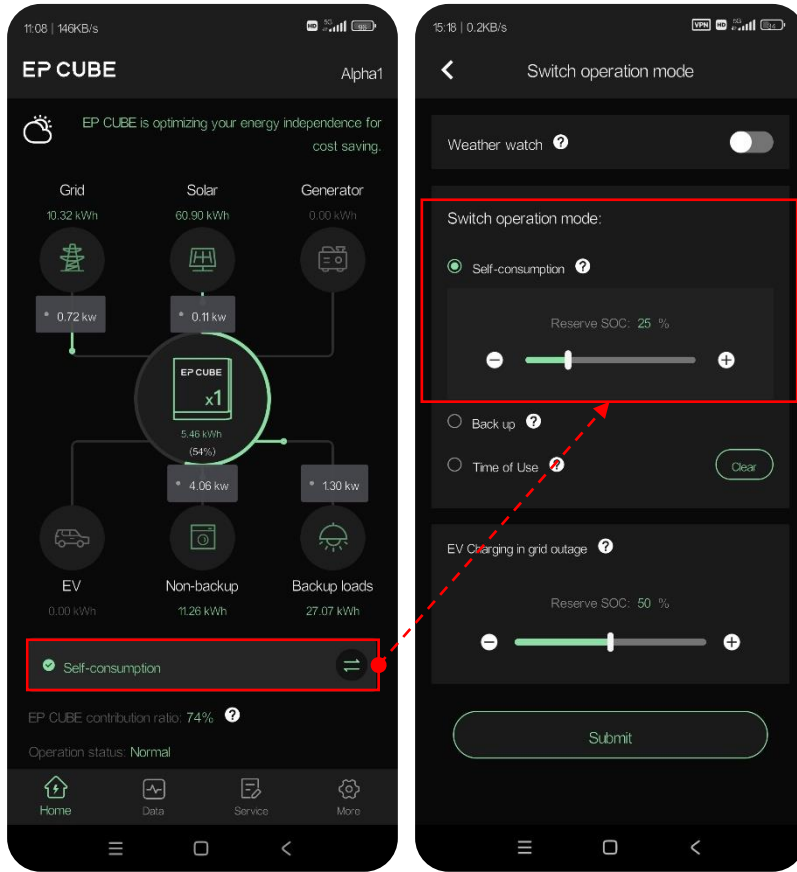


Click on the add photos section to upload photos

Add end user's phone number, and add any comments if needed.

Click submit button & then click finish to return to home page.

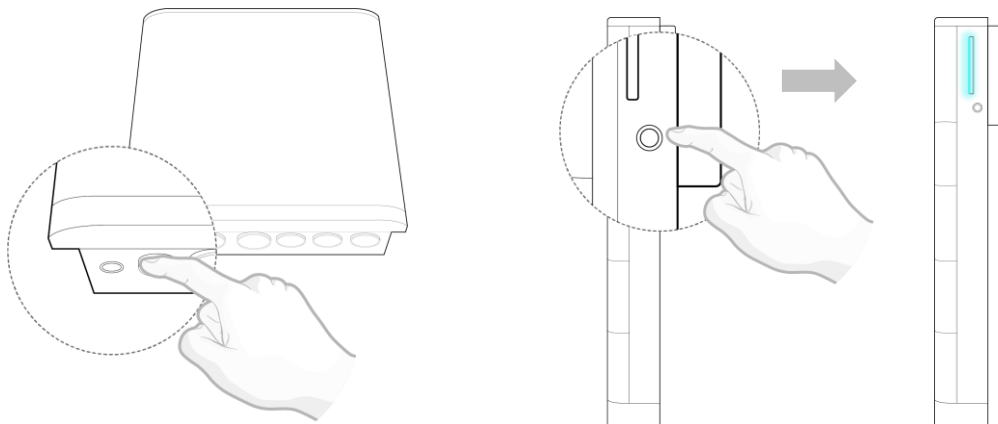
Click on home page button



Click icon in front of current mode

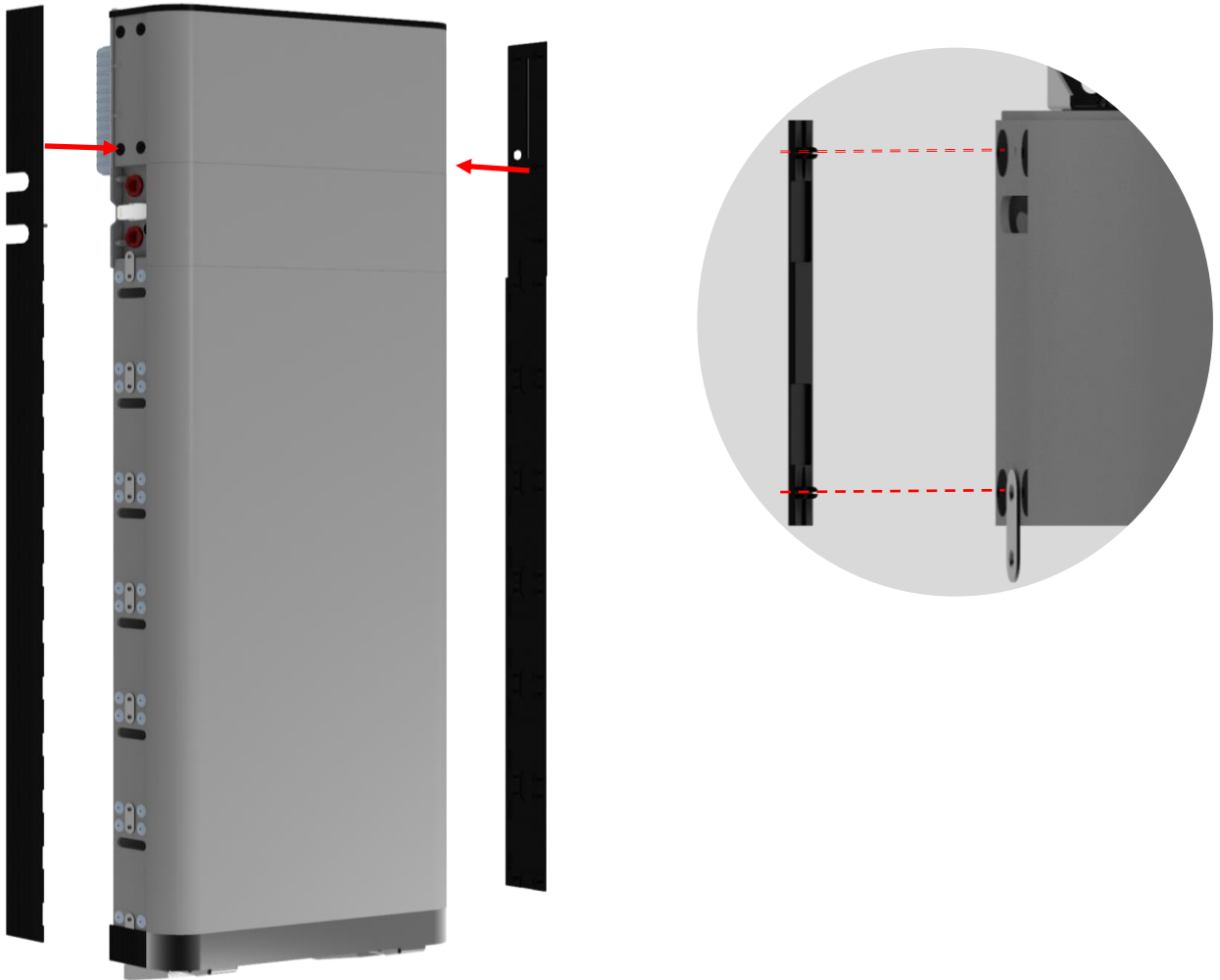
Select desired operation mode and click submit.

After commissioning is completed, turn on the Smart Gateway, and then turn on the Hybrid.



Swipe down on the Home page to refresh the monitoring page, and for updated data.

Install Side Covers



Finally, when installation is finished, ensure that all connections are rated **NEMA 4X**.