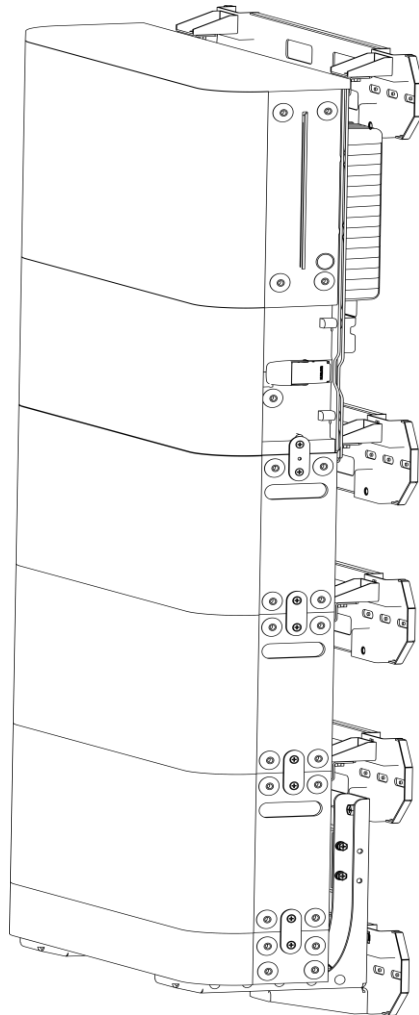


QUICK INSTALLATION GUIDE

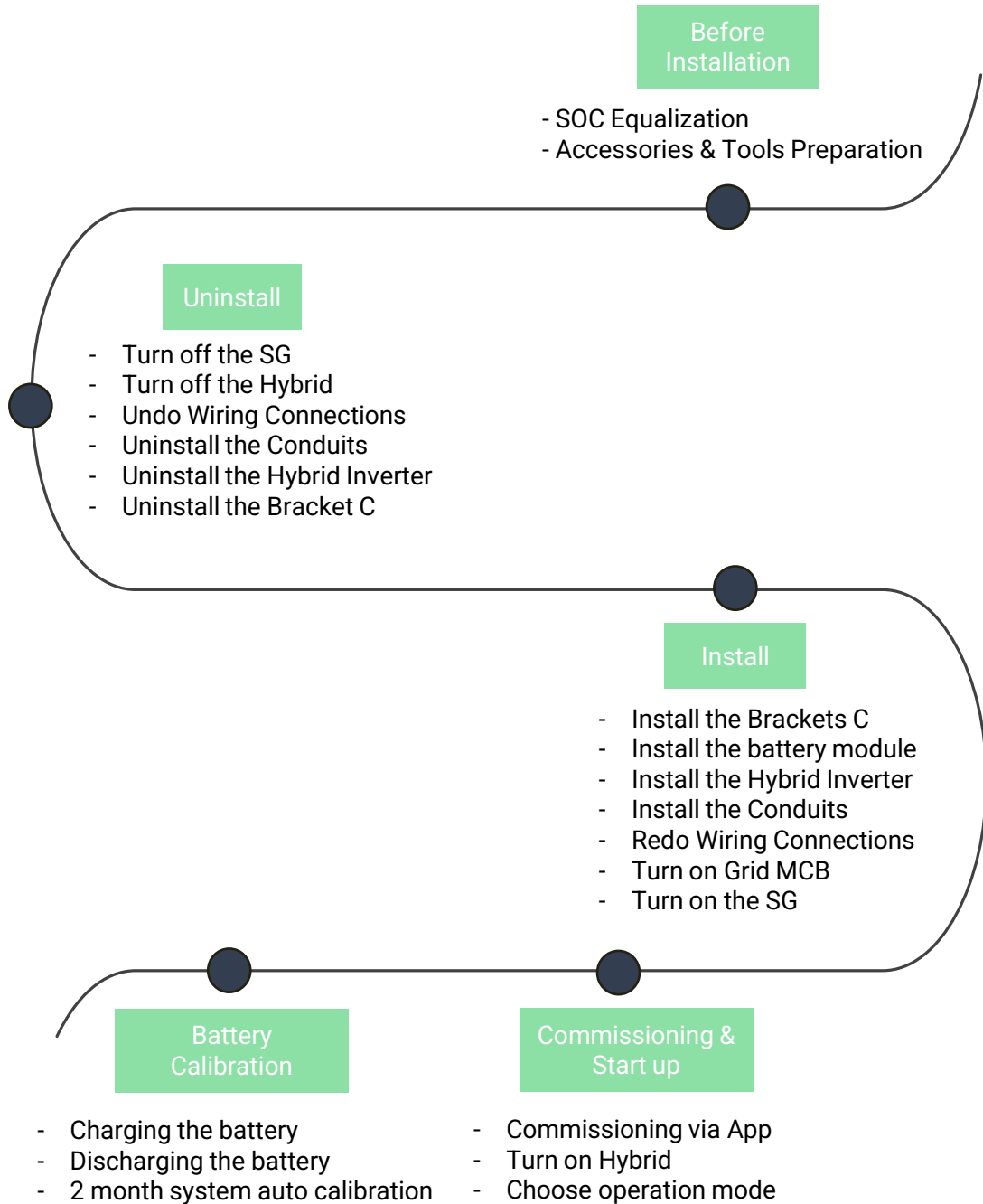
This Quick Installation Guide provides a set of instructions on installation of additional battery modules on top of standard EP Cube product. Please contact the EP service team in case you have any questions or doubts.

Expansion of EP CUBE (additional 3x Batteries)



Process Flow

Step by Step Process



System conditioning before adding battery modules

It must be ensured that the newly added battery modules SOC and SOC of the previously installed batteries are the same.

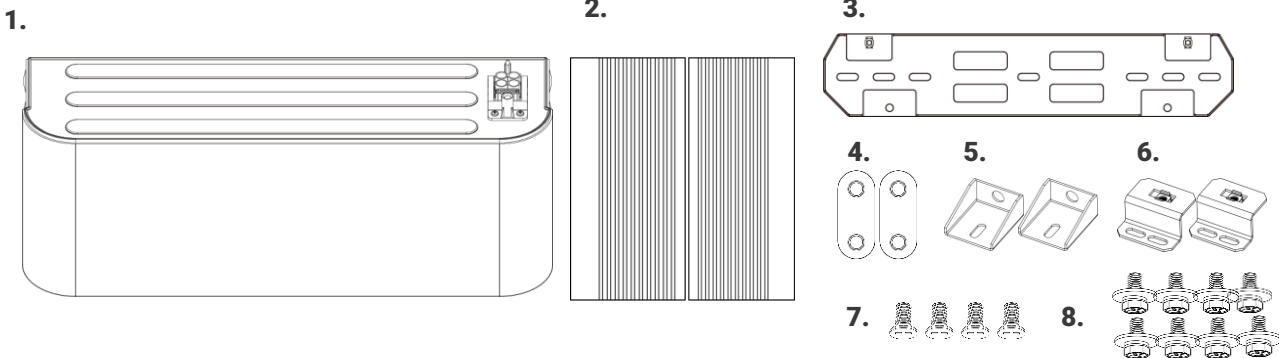
Note: New batteries can only be added to the EP Cube system in the first 2 years of operation.

Step 1: System setting.

Before going on site, please charge the system to SOC 100% then discharge to SOC 20%.

Step 2: Once EP CUBE system reaches 20% SOC values, installer can plan and perform onsite installation.

Unpacking Battery Modules Box



1. Battery module

2. Battery Side Cover B_1 set

3. Hybrid Bracket C_1 pcs

4. Bracket Side Bracket F_2 pcs

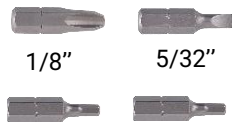
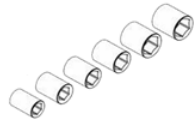
5. Battery Bracket B1_2 pcs

6. Battery Bracket B2_2 pcs

7. Battery Side Bracket F_M5_4 pcs

8. Battery Bracket B_M6_8 pcs

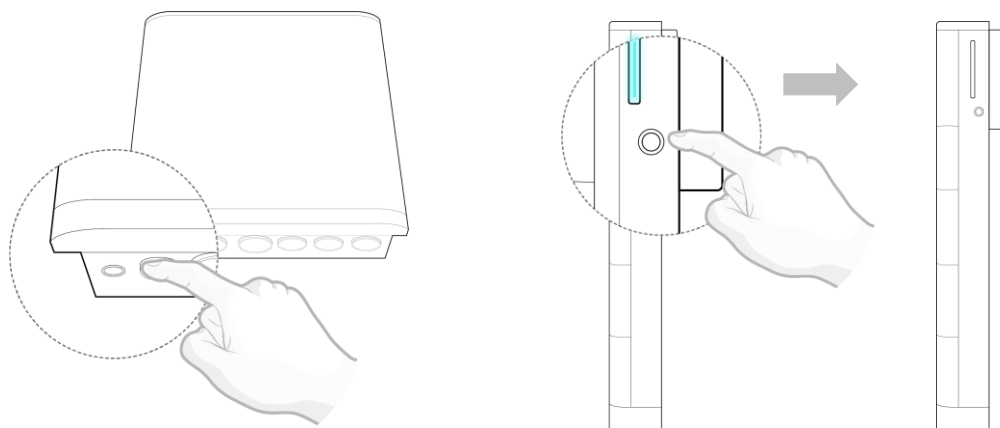
Required tools

 Electric Drill	 25/64" 5/16"	 1/8" 5/32" 5/32" 5/16"	 Hammer
 Level Tool	 Tape Measure	 Marking Pen	 Socket Set
 Lift equipment			

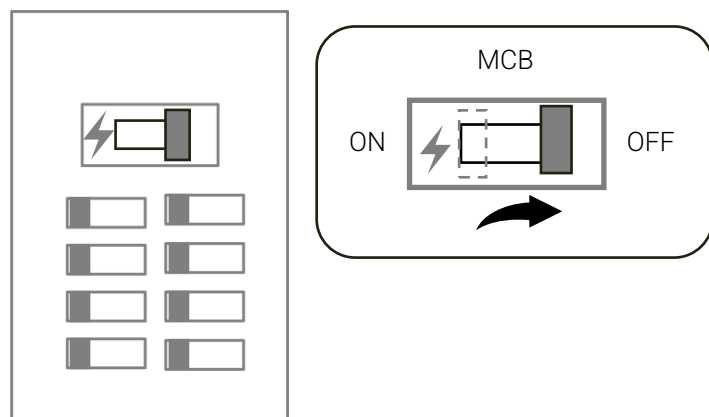
The height of the Hybrid Inverter and batteries is quite high as in 5-6 battery module systems. In order to work safely, use lifting equipment or a dolly to avoid overexertion or risk of injury during lifting and installation.

De-Energize the Smart Gateway and Hybrid

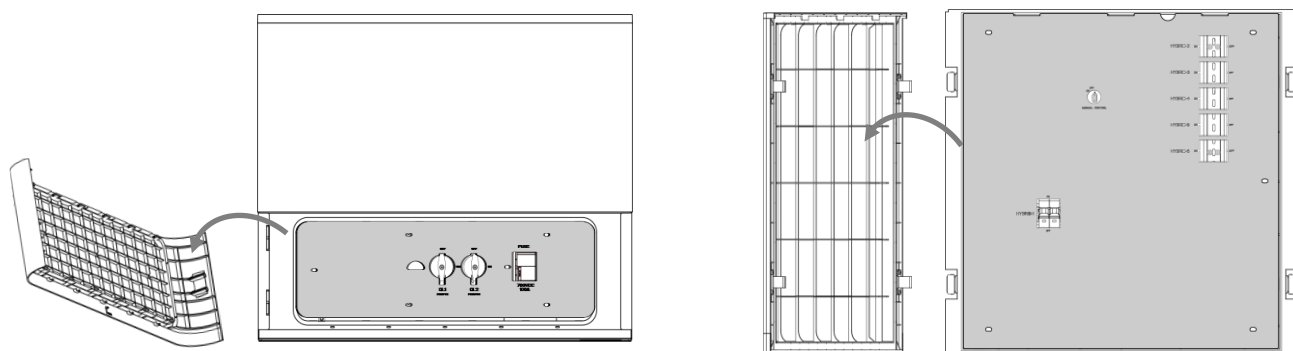
1. Turn off Smart Gateway and Turn off Hybrid.



2. Turn off the SG Grid input power MCB in electric panel.

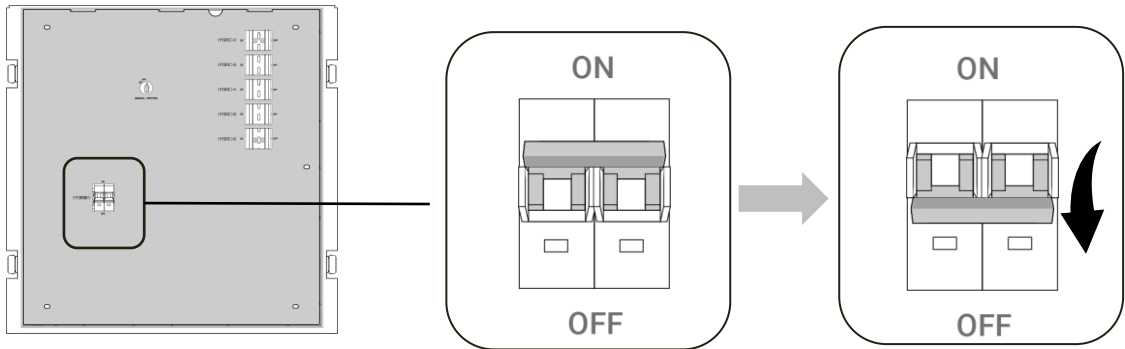


3. Remove the front panels.

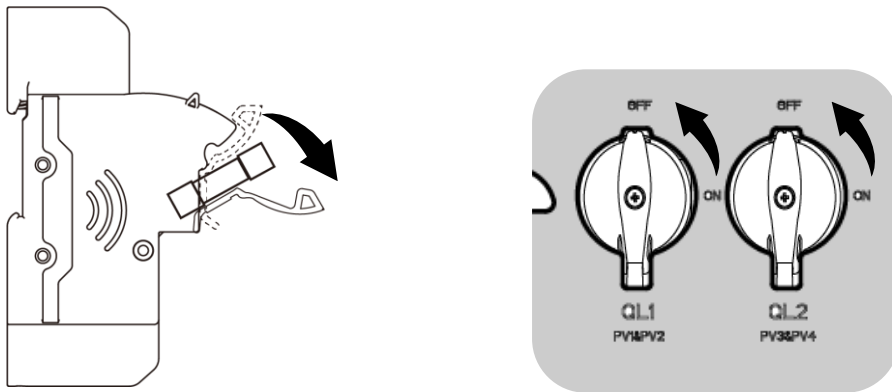


De-Energize the Smart Gateway and Hybrid

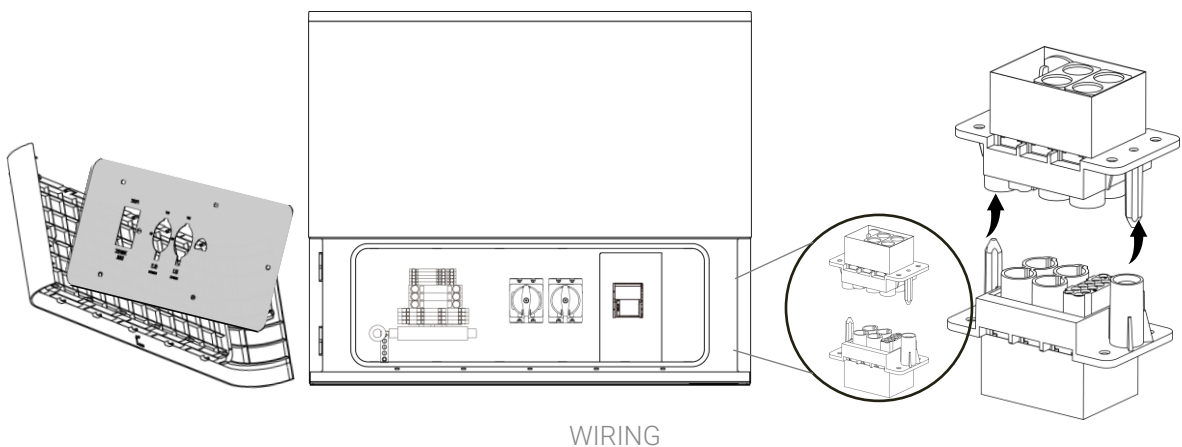
4. Turn off all Hybrid Circuit Breaker in SG.



5. Turn off PV switches in the Hybrid Inverter, and disconnect the Battery Fuse.

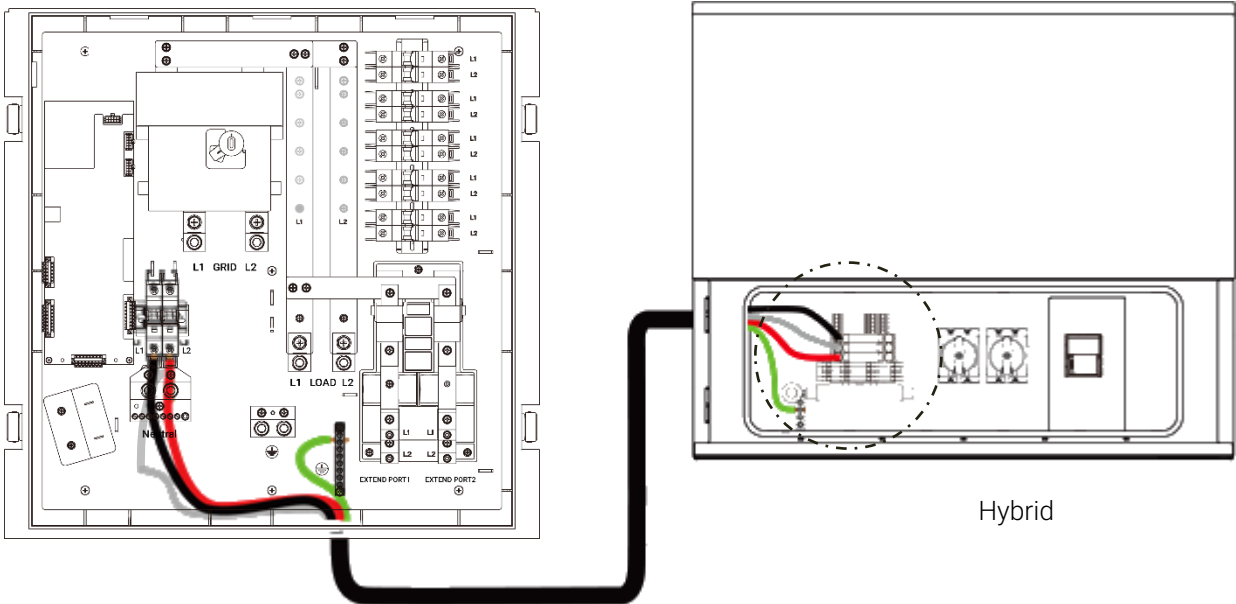


6. Remove the dead front cover on Hybrid and disconnect the mating connector.



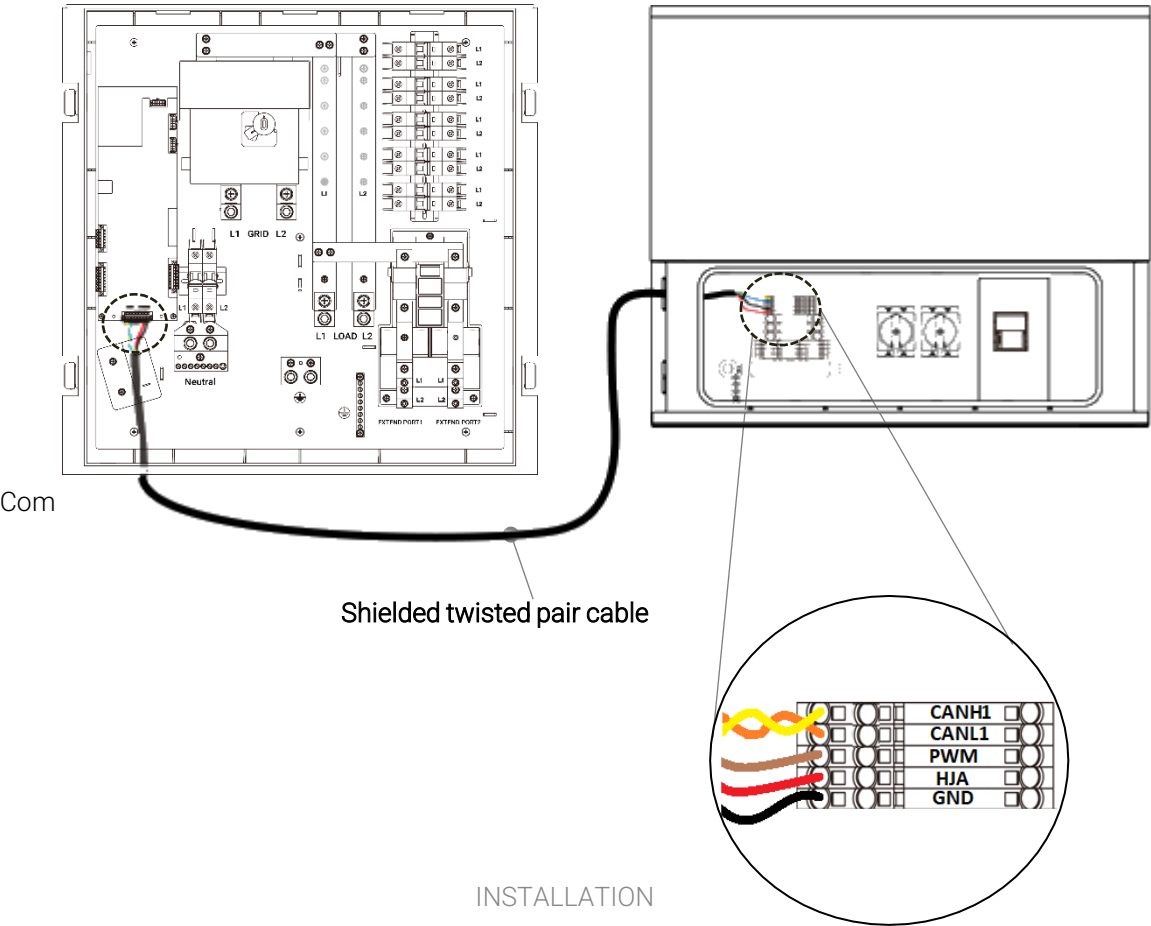
Disconnect AC & Communication Wires

1. Disconnect the AC wires L1, L2, N and ground on the Hybrid side, press on spring terminals with a flat-head screw and pull out the wires to release from terminals.



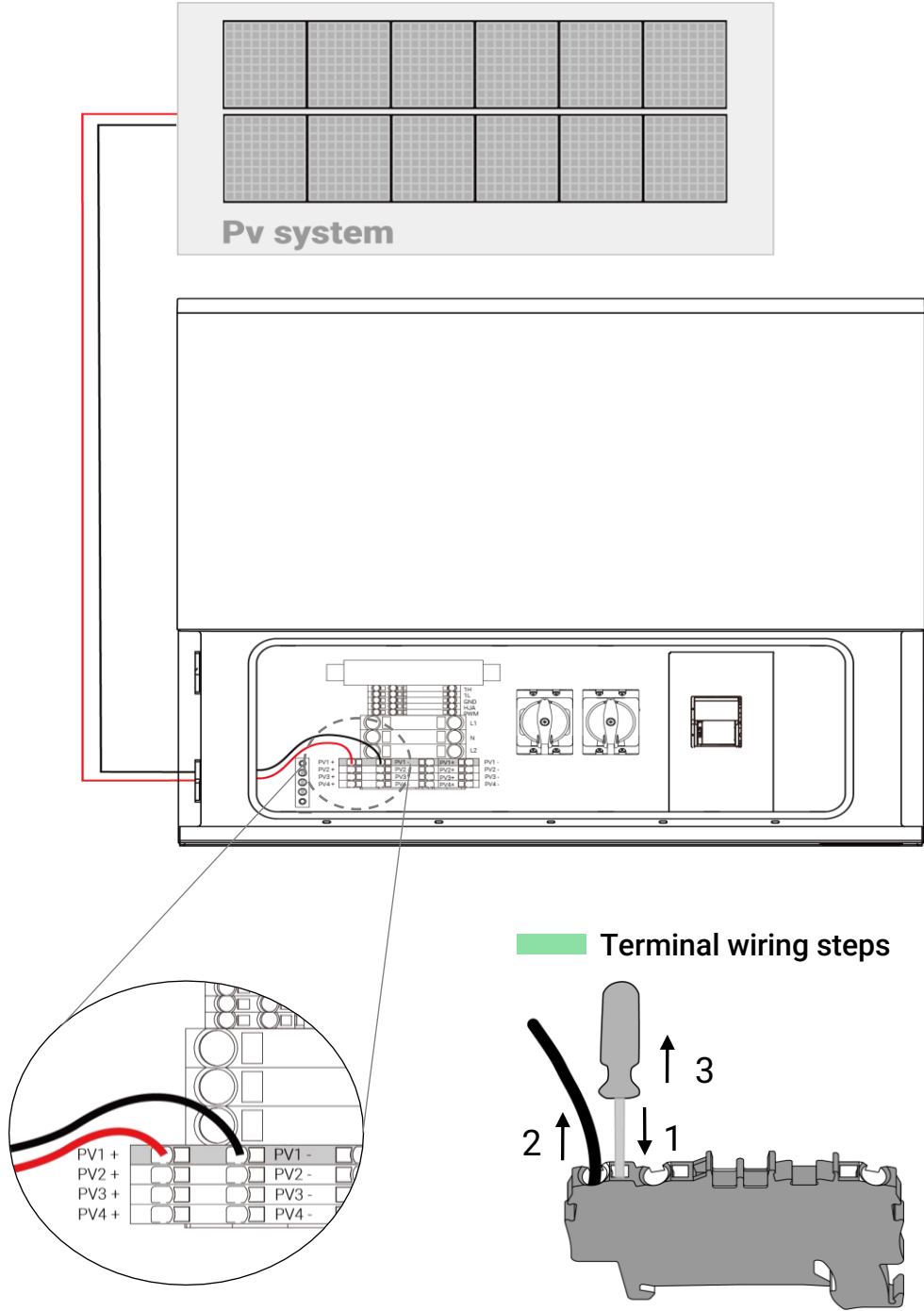
Hybrid

2. Disconnect the communication wires.



Disconnect PV Wires

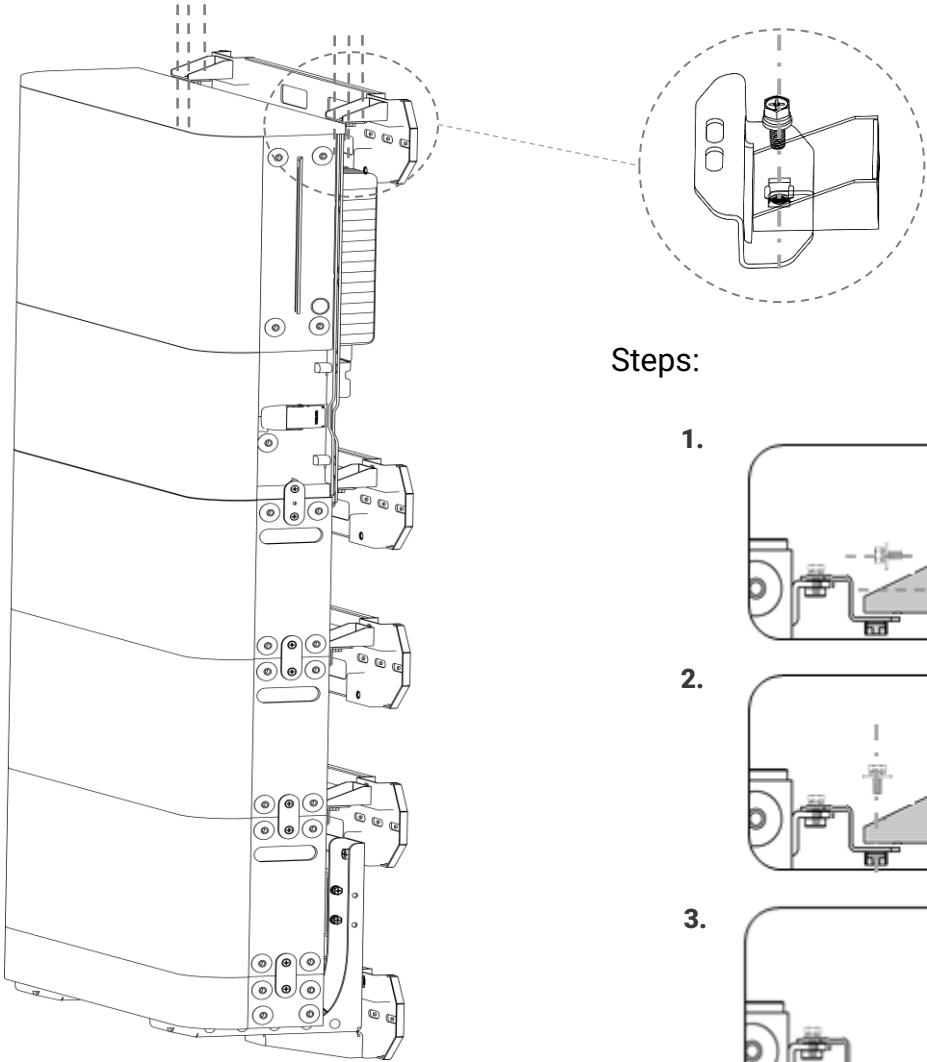
3. Disconnect the PV arrays wiring.



1. Press button 2. Pull out cable 3. release button

4. Uninstall the conduits from the right side of the hybrid.

Uninstall the Hybrid Inverter



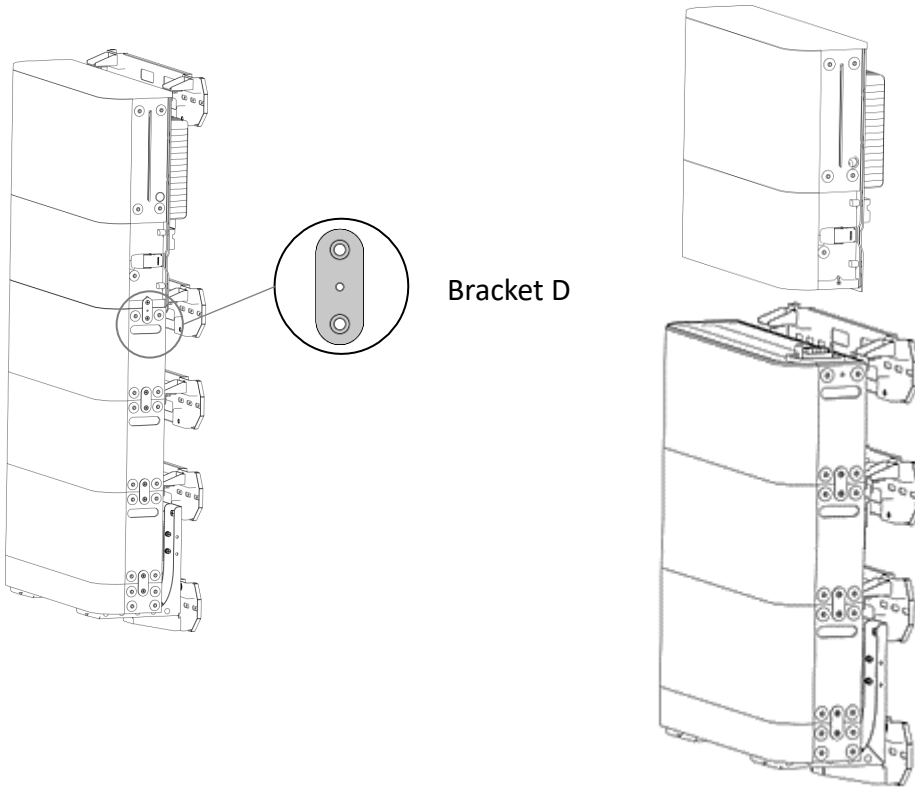
Steps:

- 1.
- 2.
- 3.



Uninstall the Hybrid Inverter

Remove bracket D on both sides of the hybrid inverter, and remove Inverter from the battery stack.

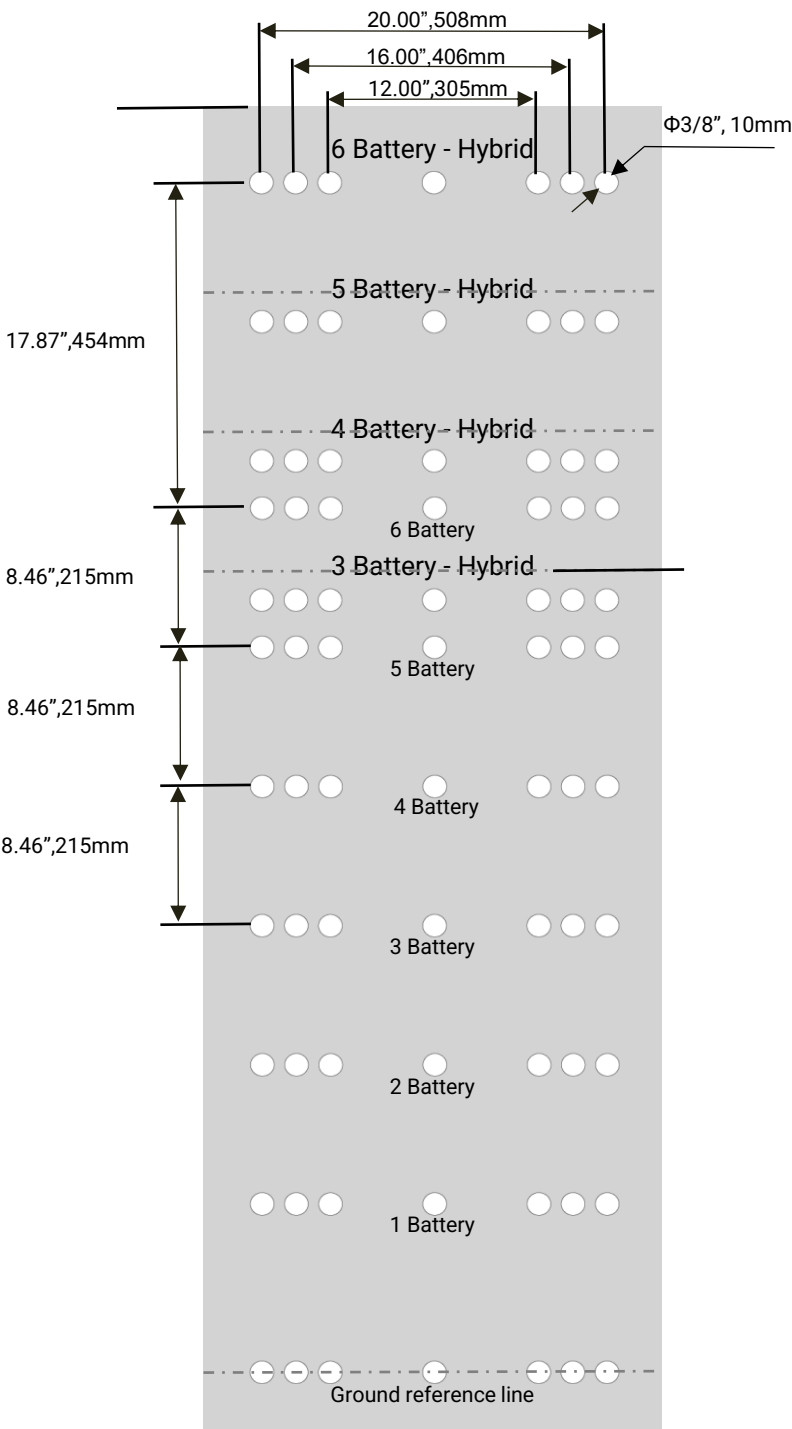


Remove bracket C from the wall.

Locating Holes Positions & Drilling

Hybrid Drill Template

Either use the drill template to mark the hole positions for drilling OR carefully measure the distance between each 2 units as indicated on the drill template to mark appropriate positions on the wall.

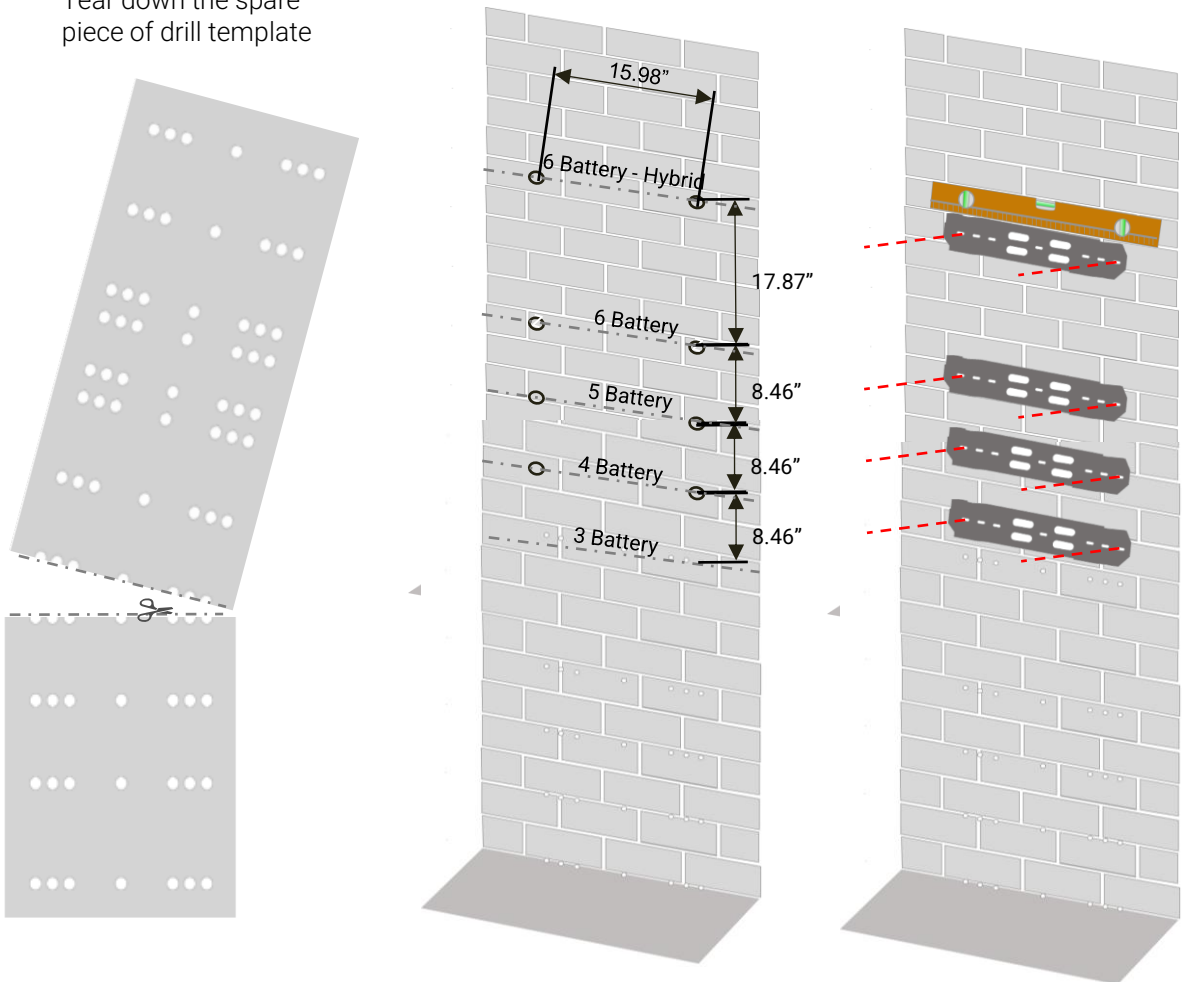


Installation of Brackets

1 Mount Bracket C

Wall mounting (Mark holes for additional number of Bracket C required

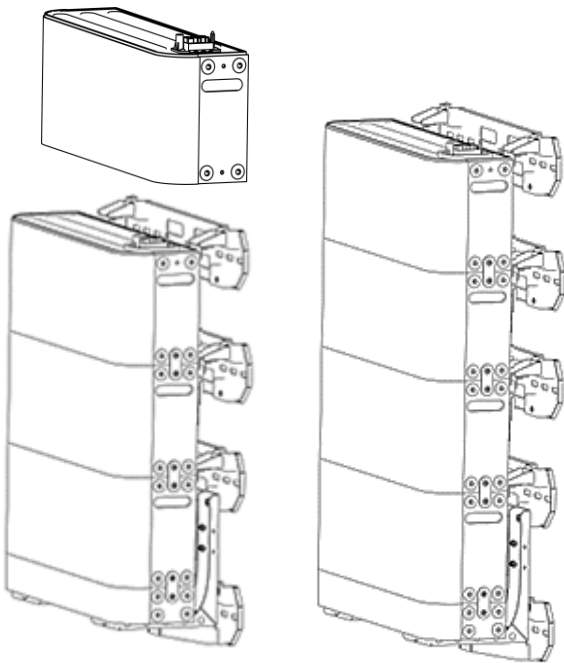
Tear down the spare
piece of drill template



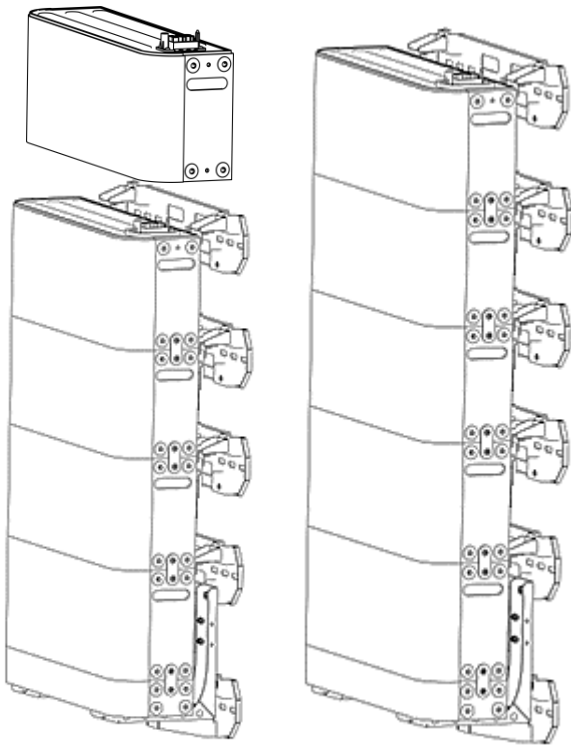
An alternative way is to measure the required distance among the modules and carefully mark the positions for the holes (for additional numbers of Bracket C)

Installation of Battery Modules

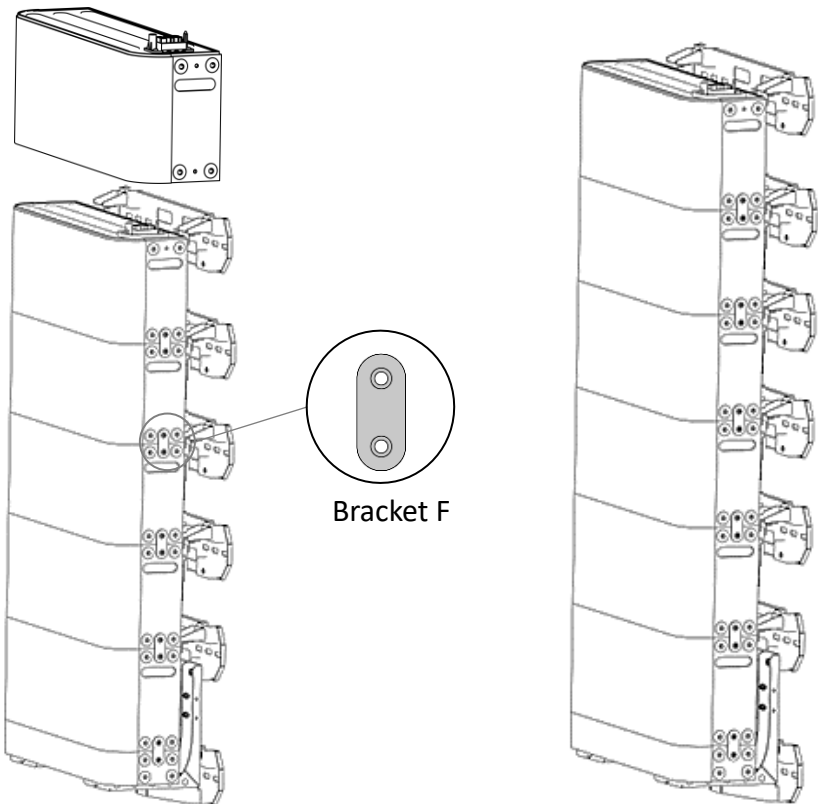
Installation of 4th Battery



Installation of 5th Battery

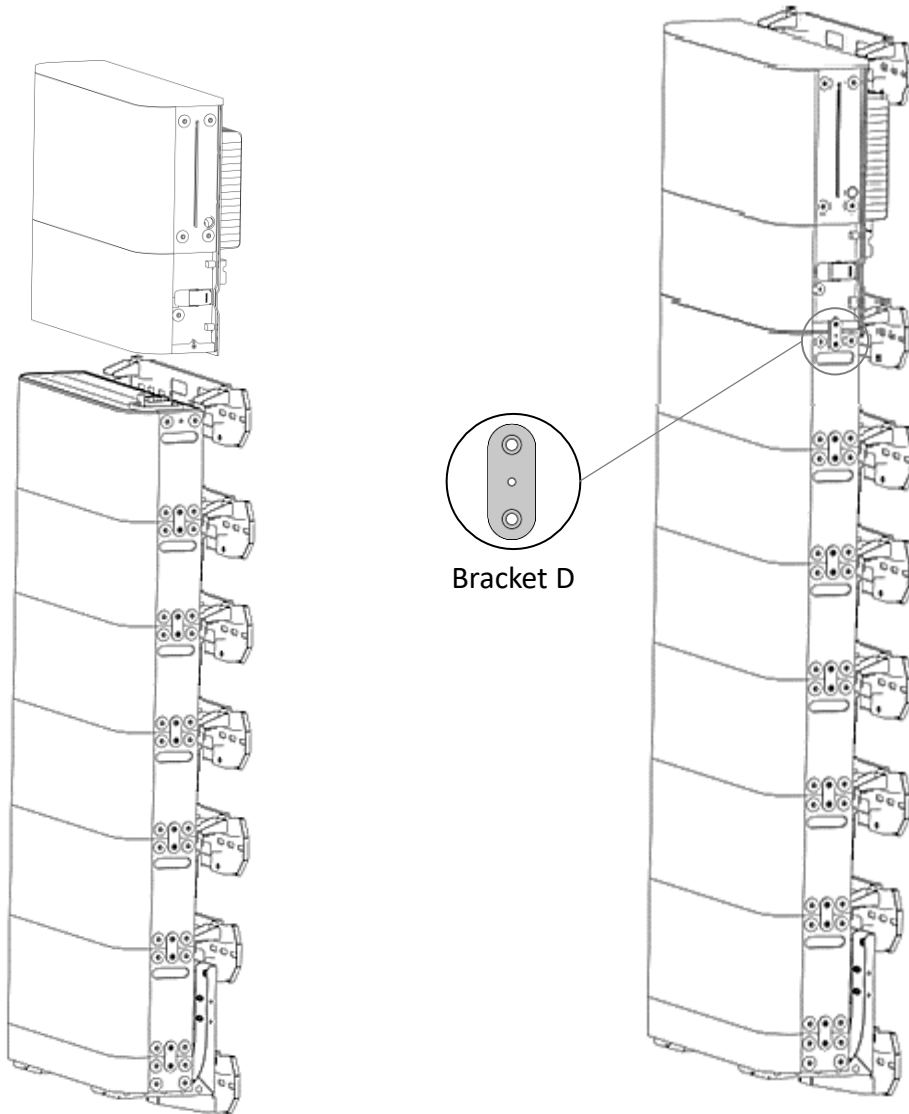


Installation of 6th Battery



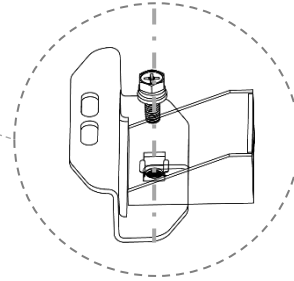
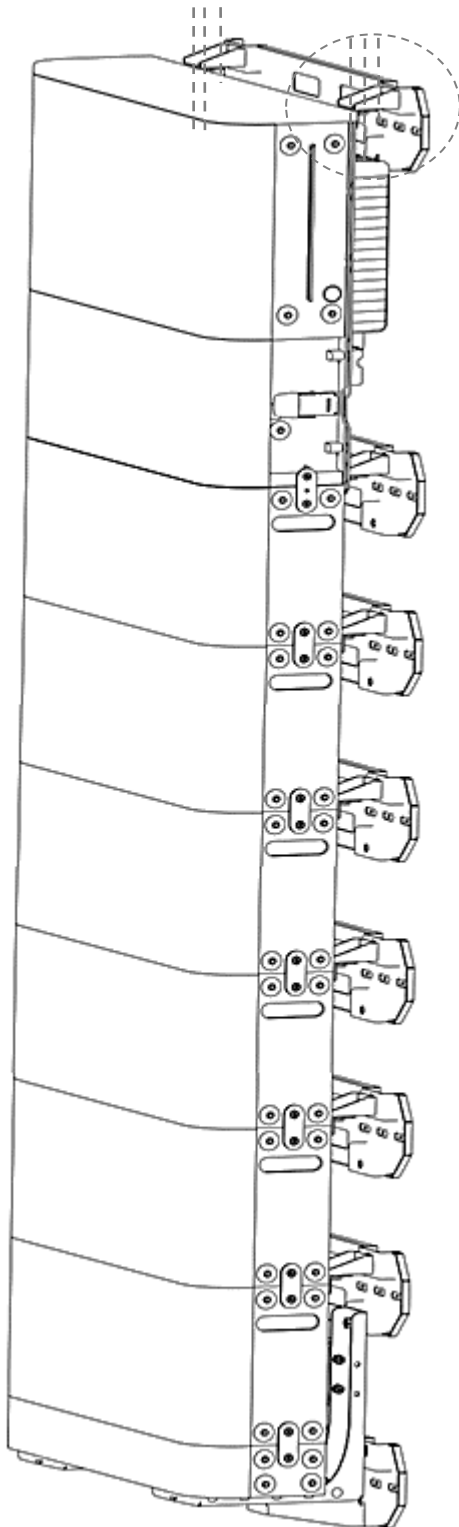
Installation of Hybrid Inverter

Stack the hybrid inverter on top of the battery modules and use bracket D to fasten battery modules stack and hybrid inverter together (on the both sides).



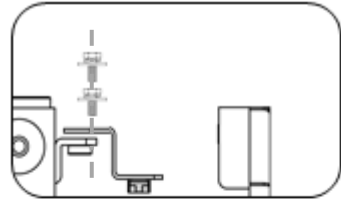
Installation of Hybrid Inverter

Use inverter brackets to securely fasten it to bracket C on the wall.

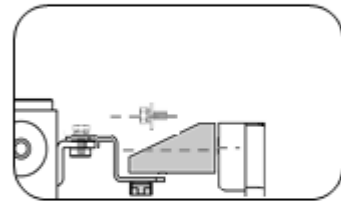


Steps:

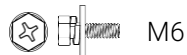
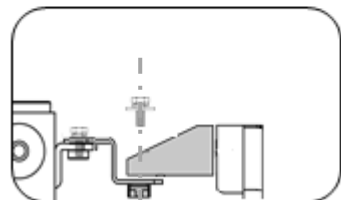
1.



2.

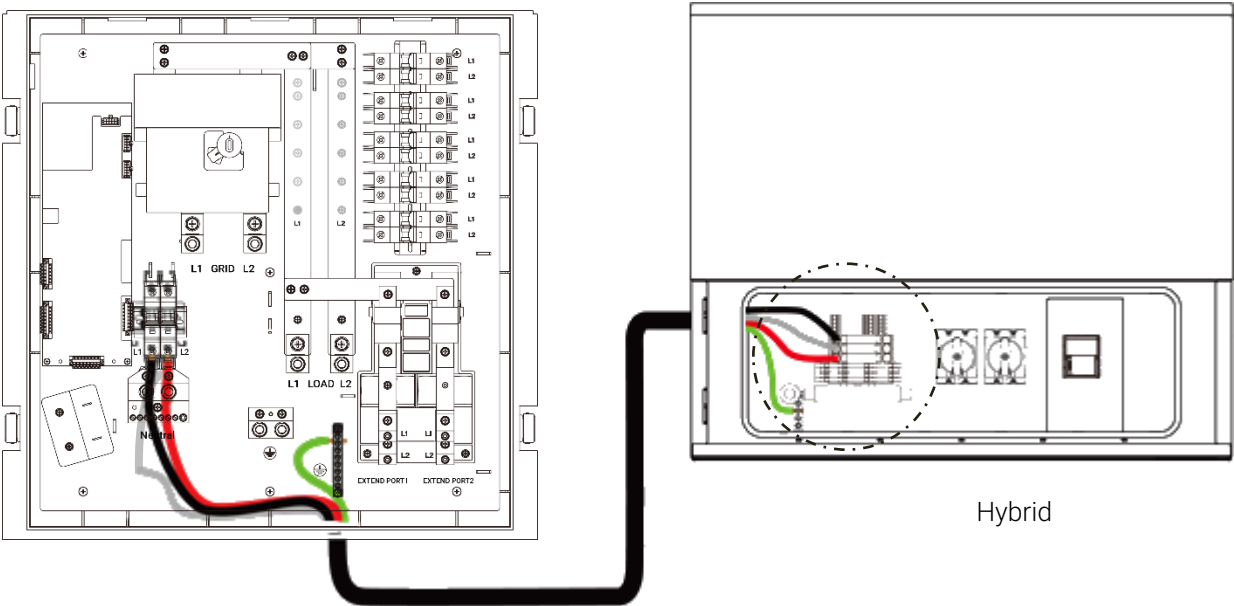


3.



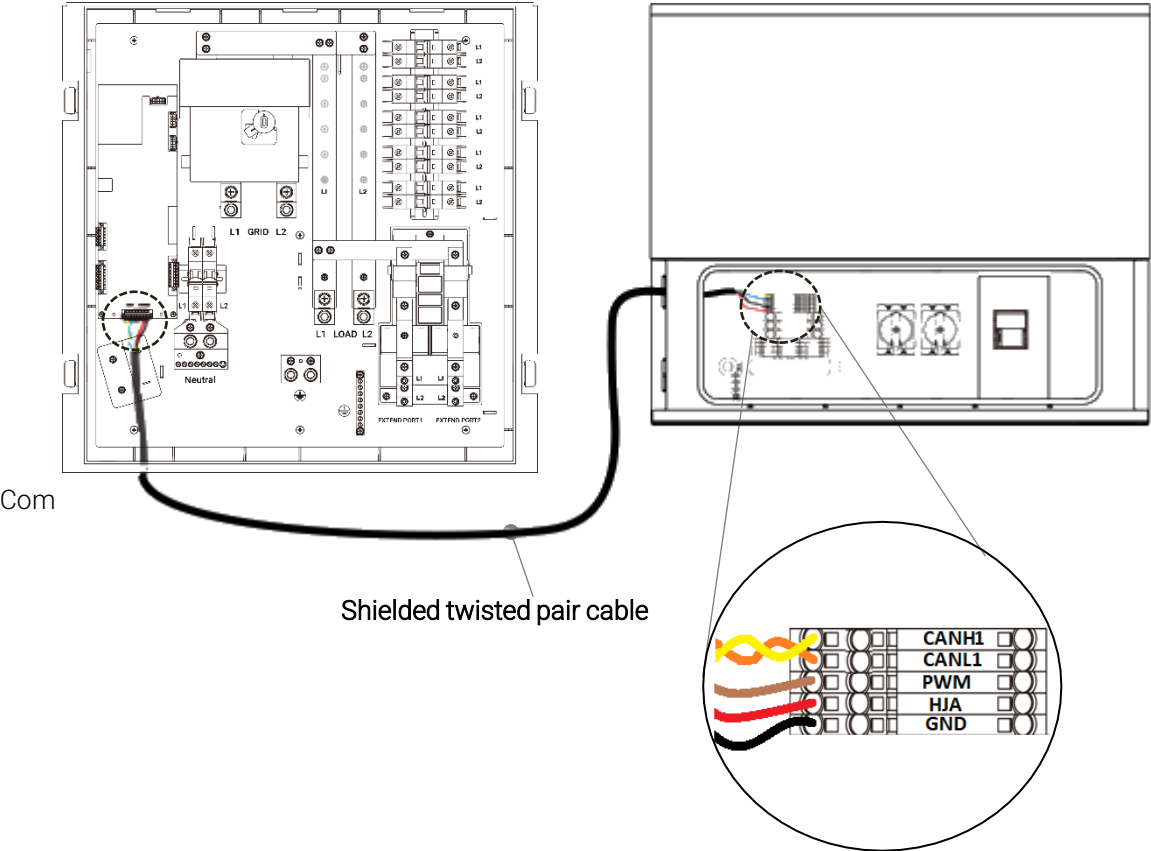
Rewiring of AC & Communication Wires

- 1. Reinstall the conduits from the right side of the hybrid. Conduits and wires must be extended as additional battery modules will increase height of the hybrid inverter.
- 2. Rewire the AC wires L1, L2, N and ground on the Hybrid terminals.



Hybrid

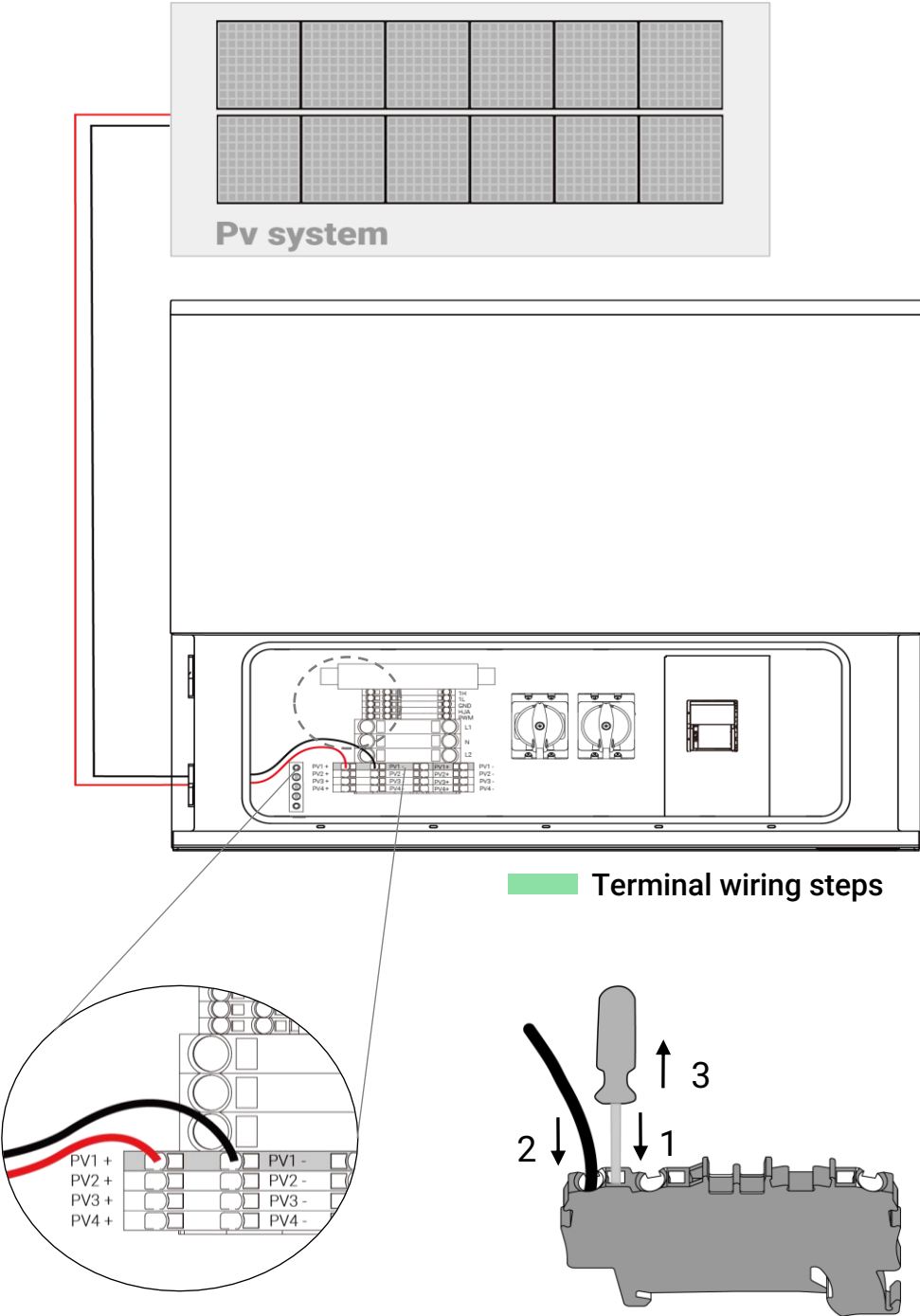
- 2. Rewire the communication wires.



Shielded twisted pair cable

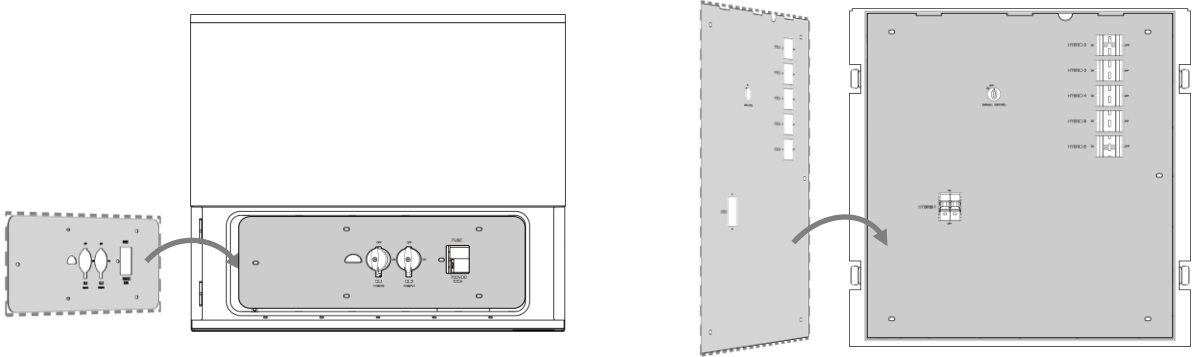
Rewiring of PV Wires

3. Rewire the PV arrays wires.

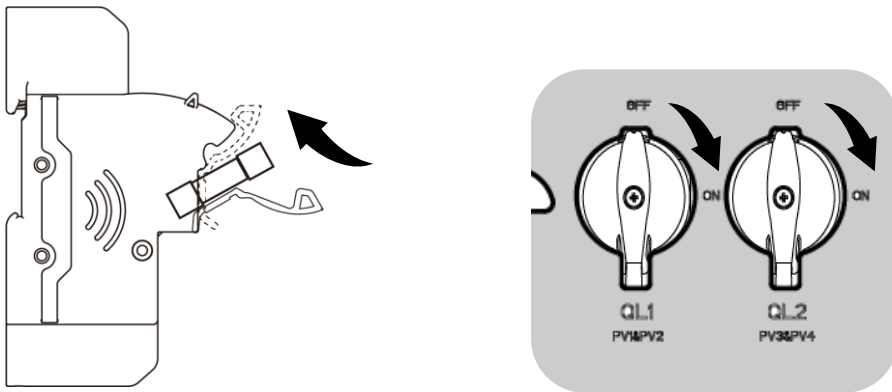


Energize Smart Gateway and Hybrid

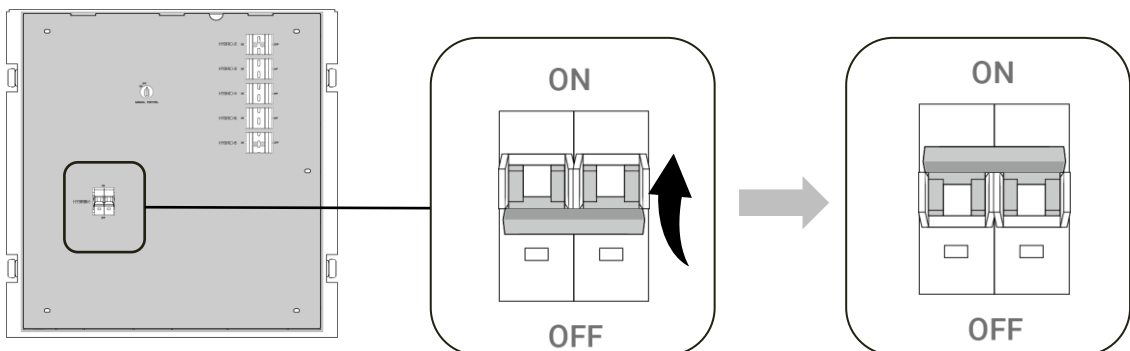
1. Re-install the deadfront covers on SG and Hybrid.



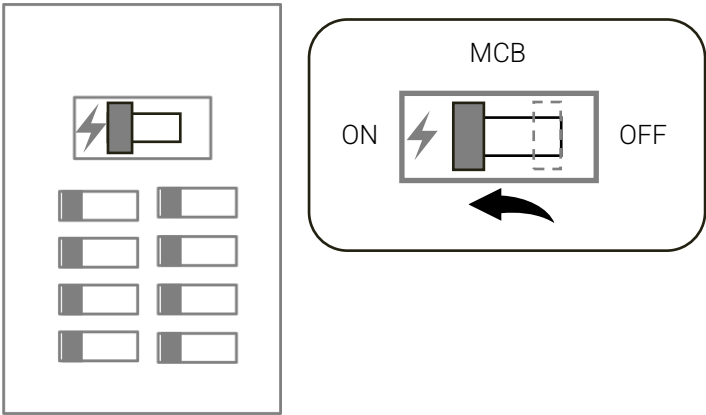
2. Turn on PV switches in the Hybrid Inverter and connect the Battery Fuse.



3. Turn on Hybrids Circuit Breakers in SG.



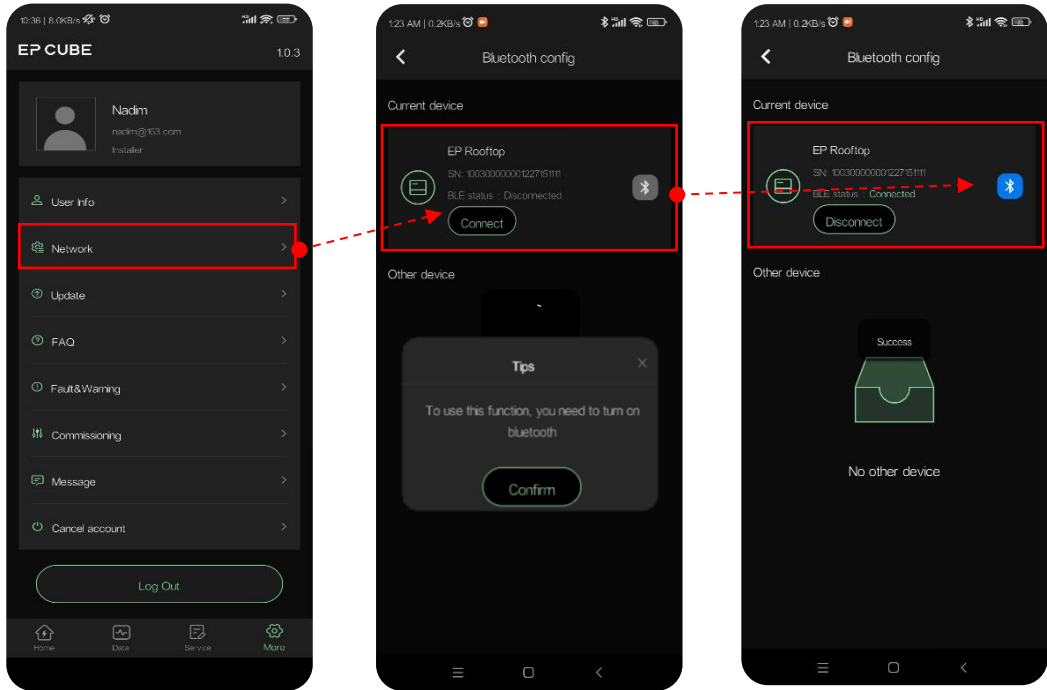
4. Turn on SG Grid input power MCB in electric panel.



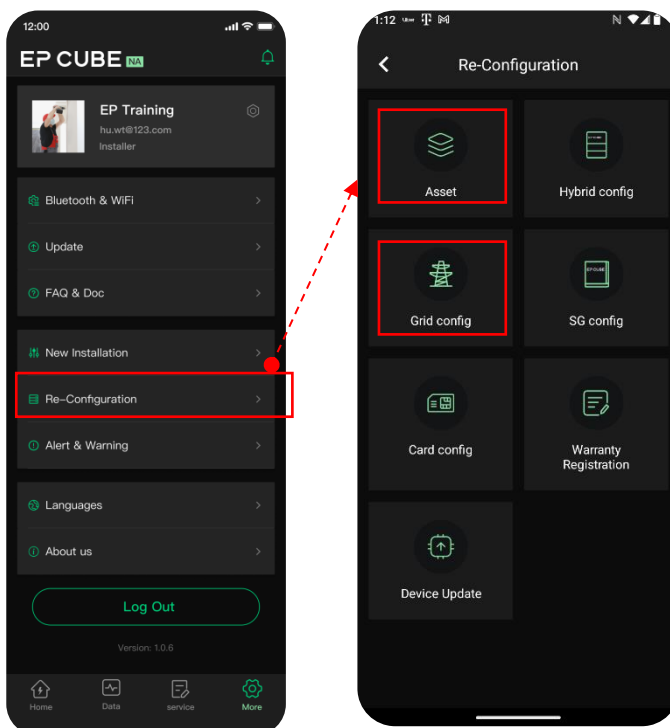
5. Make sure the SG button and hybrids button were turned off.

Commissioning via EP Cube APP

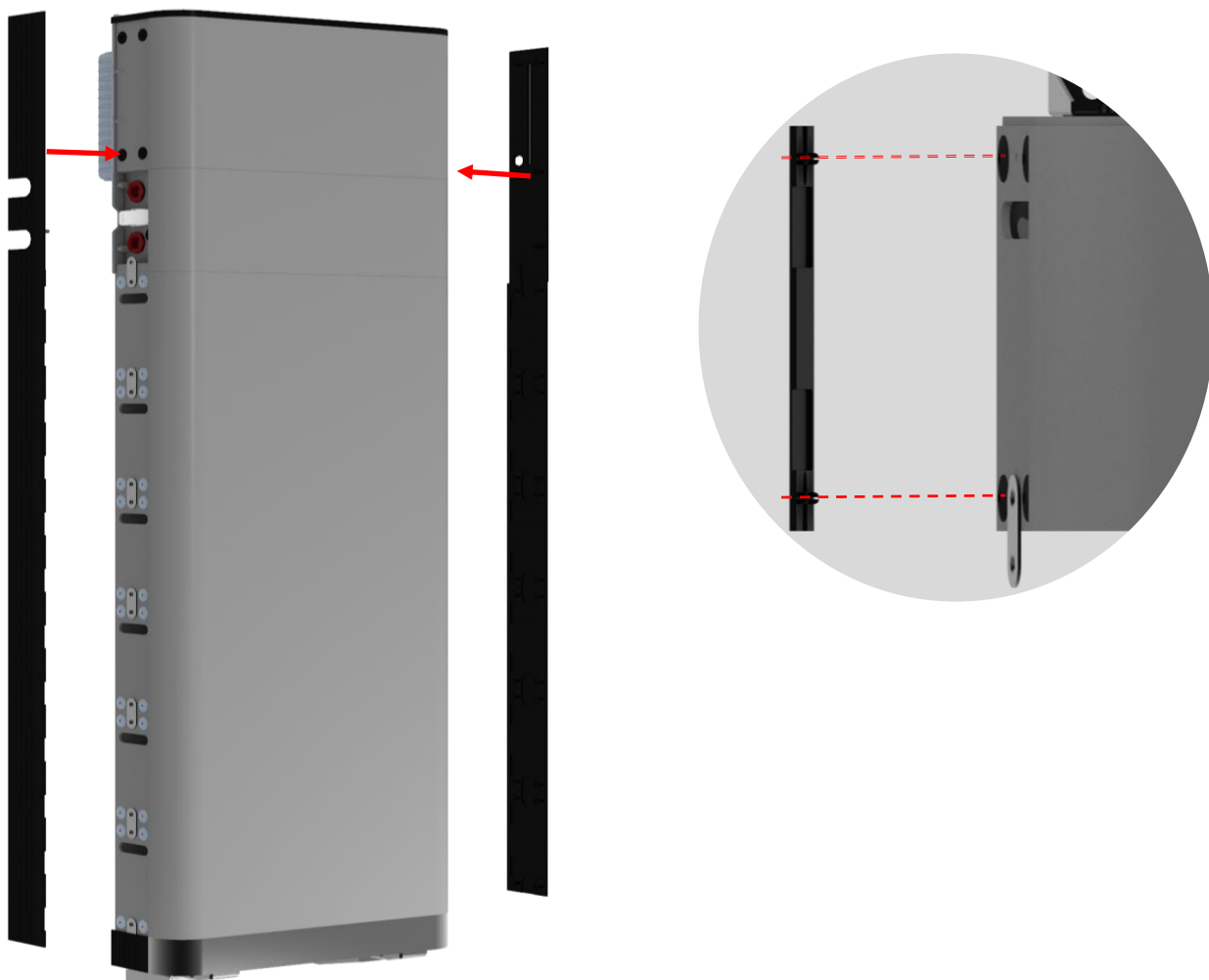
Log in with the installer account, Click on More -----> click on Network -----> and click on the connect button below your device name to establish Bluetooth connection with device. Click return button in the top left corner to get to main menu.



Click on Re-Configuration -----> click on Asset to add the new battery SN-----> click on Hybrid config to finish the Hybrid config.



Install Side Covers



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

Battery Calibration

1. Charging the battery

Please charging the SOC above 90%.

2. Discharging the battery

Please discharging the battery below 15%.

3. Battery auto calibration.

It will take 2 month to auto calibration the battery SOC.

Notes: The SOC will drop off more faster sometimes during the calibration. And the battery capability maybe was not accurate sometimes during the calibration.

END