

IQ Battery 5P

Quick Install Guide



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MODEL
IQBATTERY-5P-1P-INT

VERSION 2.0
OCTOBER 2023



140-00333-02



To install the Enphase IQ Battery 5P and the wall-mount bracket, read and follow all warnings and instructions in this guide. Safety warnings are listed at the end of this guide. These instructions are not meant to be a complete explanation of how to design and install an energy storage system. All installations must comply with national and local codes and standards. Only Enphase certified installers shall install, troubleshoot, or replace IQ Battery 5P.

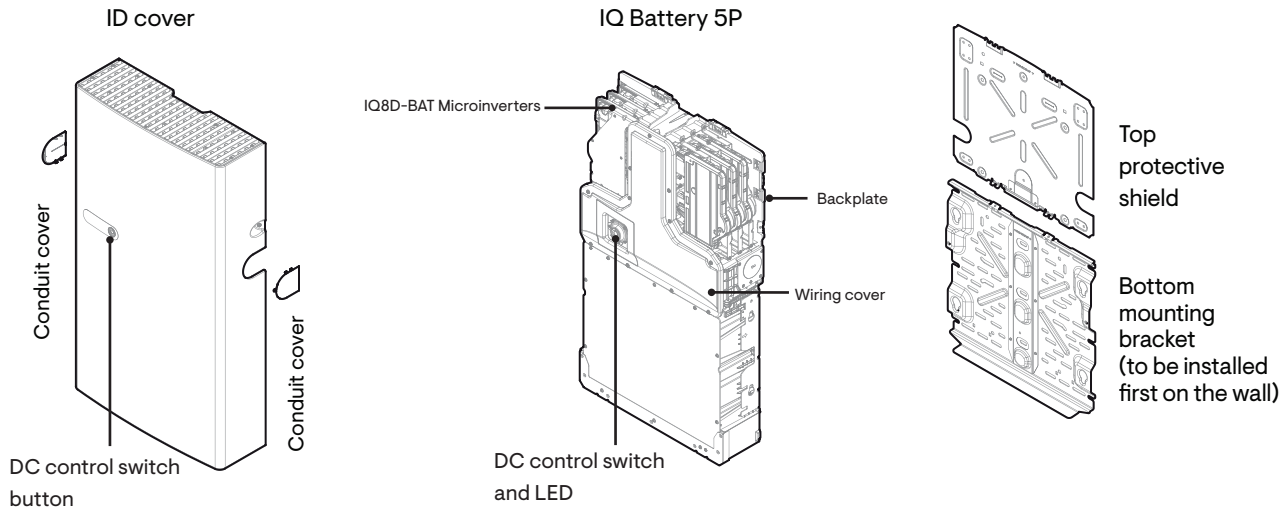
The IQ Battery 5P system includes the battery cell pack with integrated IQ Microinverters and battery management system (BMS). The system requires IQ Gateway Metered and Communications Kit 2 for grid-tied operations. The IQ Gateway Metered measures PV production, IQ Battery 5P charge/discharge power, and home energy consumption, and it senses when it is optimal to charge or discharge the battery so that energy is stored when it is abundant and used when it is scarce.



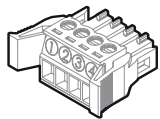
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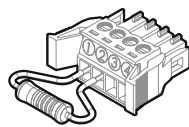
What's in the box



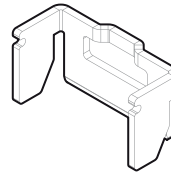
Control connector



Control connector with resistor



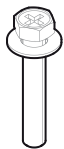
Anchor Clip



Quick Install Guide



M5 Locking screw



M4 Grounding screw



M5 ID cover grounding screw



DESCRIPTION	MODEL NUMBER	QUANTITY
IQ Battery 5P	B05-T02-INT00-1-2	1
ID cover, two conduit covers	B05-CX-0550-O	1
Bottom mounting bracket and top protective shield	B05-WB-0543-O	1
M5 Locking screw		2
M4 Grounding screw		2
M5 ID cover grounding screw		2
Quick Install Guide		1
Anchor Clip		2
Wall drill template		2
Cable ties		6
Control (CTRL) connector (one spare, one pre-installed)		2
Control (CTRL) connector with resistor (one spare, one pre-installed)		2

Tools/additional items required

S. NO	ITEM NAME	QUANTITY		SOURCE
1	Conduit up to 32 mm for side entry and up to 19 mm for rear entry	As required		Provided by installer
2	Conduit fittings or cable glands and tools must be IP55-rated when installing outdoors	As required		Provided by installer
3	Drill	1		Provided by installer
4	4 mm pilot bit	1		Provided by installer
6	Screwdriver	1		Provided by installer
7	Wrench	1		Provided by installer
8	Socket wrench	1		Provided by installer
9	Torque wrench	1		Provided by installer
10	Level	1		Provided by installer
11	Conductor stripper	1		Provided by installer
12	Stud finder (if required)	1		Provided by installer
13	Copper conductors - 6 mm ² to 25 mm ² (rated at 90°C)	As required		Provided by installer
14	Control cable	As required		Provided by installer
15	Personal protective equipment for handling lithium batteries as required by local safety standards	As required		Provided by installer
16	Protective gloves for protection against sharp edges	As required		Provided by installer
17	M8 lag bolts or screws to install the bottom mounting bracket. Slots are 9.2 mm for the wall mount and 11.2 mm (inclined slots) for the pedestal. Check with a structural engineer and local standards for requirements	Single stud mounting (Min. 3)	Dual stud mounting (Min. 4)	Provided by installer
18	M6 screws to fasten the top protective shield on the wall. Use standard screws only (head thickness <5 mm)	Single stud mounting (Min. 6)	Dual stud mounting (Min. 6)	Provided by installer
19	Washers	As required		Provided by installer
20	IQ Battery 5P lifting handles. Includes one left-side and one right-side lifting handle (SKU: IQBATTERY-HNDL-5)	1		Enphase distributor/ provided by installer

Tools/additional items required

NOTE: The Enphase IQ Battery 5P system requires an internet connection through the IQ Gateway Metered. Failure to maintain an internet connection may have an impact on the warranty. See enphase.com/warranty for full terms.

The IQ Battery 5P is connected to the IQ Gateway Metered via Communications Kit 2 and communicates using communication control cables. **The tested and supported control cable make is Belcom and model is 4302P2254-01.** The Enphase PV system communicates with the IQ Gateway Metered using power line communication.

NOTE: The rated energy capacity of the battery is 5.0 kWh.

Install the PV system, IQ Gateway Metered, IQ Relay (as required by local regulations), and Communications Kit 2 as directed by the Enphase installation manuals.

The following table lists the product compatibility matrix.

PRODUCT	IQ BATTERY 5P – GRID-TIED
IQ7	Yes
IQ8	Yes
String inverter	Yes
String + IQ7/IQ8/M series	No
M Series	No*
IQ7 + M Series	No*
IQ7 + IQ8	No**
AC Battery	No


* The IQ Battery 5P must be installed on a separate gateway.

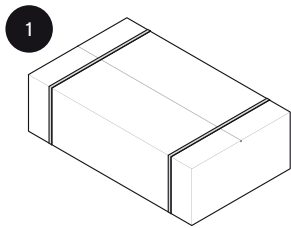
** The IQ Battery 5P can be installed on a gateway either with the IQ7 or IQ8.

Unboxing IQ Battery 5P

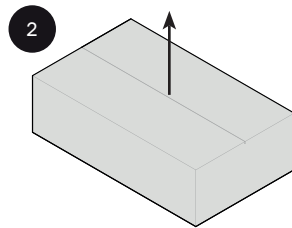
Before you unbox IQ Battery 5P, check the “Energize By” label on the shipping box to verify that the IQ Battery(ies) will be installed by the date shown. If the date has passed, contact your distributor for next steps.

Remove the upper packaging cover and follow the steps, as shown in the following image:

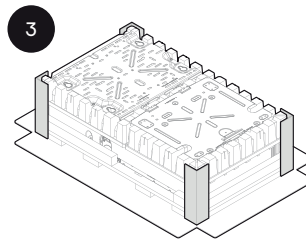
 Do not lift the IQ Battery 5P using microinverters or the plastic behind the microinverters. This may damage the unit permanently.
Always use handles to lift the IQ Battery 5P.



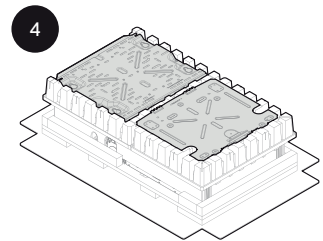
1 Remove the plastic straps



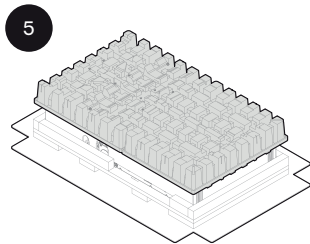
2 Remove the exterior cardboard box lid



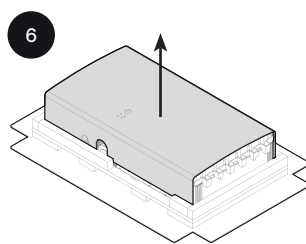
3 Remove the four corner guards



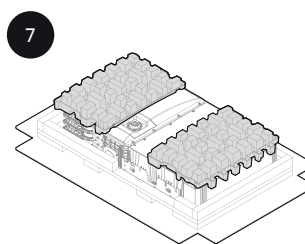
4 Remove the top protective shield and bottom mounting bracket



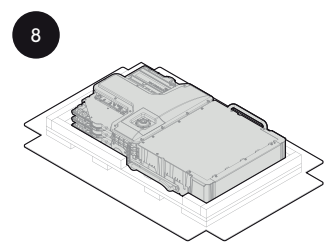
5 Remove the paper trays



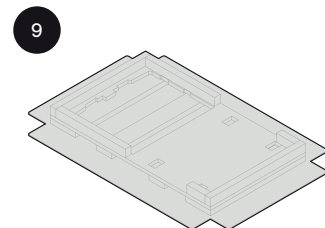
6 Remove the IQ Battery 5P cover



7 Remove the two paper trays




8 Remove the IQ Battery 5P using lifting handles*




9 Recycle packaging according to local guidelines

Inspect the packaging and the IQ Battery(ies) for any signs of damage, such as cracks, dents, or electrolyte leaks. Do not install or use the IQ Battery(ies) if it has been dropped or damaged in any way. If the battery is damaged, contact your distributor for a replacement.

*NOTE: To install handles on the IQ Battery 5P, follow steps 1 to 3 in [Installing IQ Battery 5P on page 16](#).

 Risk of injury and equipment damage. The total lifting weight, with handles attached, is 67.35 kg. Handles must be used while lifting the battery. Two-person manual lifting is allowed only if permitted by local laws. Otherwise, use mechanical lifting.

 Do not lift the packaging with the battery inside after the plastic straps are cut.

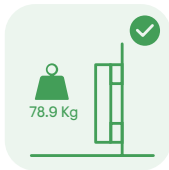
Section A

Mounting the product

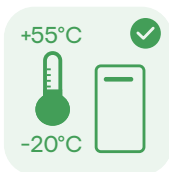
Plan a location for the IQ Batteries



- The IQ Battery 5P housing is IP55-rated and can be installed indoors or outdoors. L/N terminal blocks accept copper conductors of size 6 mm² to 25 mm².
- Field Ground terminal blocks accept copper conductors of size 0.5 mm² to 10 mm²



- Make sure the installed location can sustain the total weight of the IQ Batteries and mounting bracket. The total weight for IQ Battery 5P, including the IQ Battery 5P unit, cover, and wall-mount bracket, is 78.9 kg. The wall must contain blocked studs that can bear the battery weight or can be of masonry or other suitable structure.
- Make sure there are no pipes or electrical wires in the wall where you plan to drill.



- Follow local standards: Choose a well-ventilated location where the ambient temperature and humidity are within -20°C to 55°C and 5% to 95% relative humidity, non-condensing, out of direct sunlight. The optimum ambient temperature range for installation location is 0°C to 30°C. Provide smoke alarms in the residence in accordance with building, fire, and installation codes.



WARNING! IQ Battery 5P devices should NOT be installed on a flammable surface. When installing on a wooden wall, it is suggested to use a flame-inhibition plate between the wooden wall and IQ Battery 5P. Consult the regional building regulations for any additional requirements.



- Consider the dimensions of the IQ Batteries, easy access, height, and length of cable when selecting the location.
- Select a location where you can interconnect IQ Battery 5P to the IQ Gateway Metered, Communications Kit 2, and IQ Relay (as required by the local laws).



- This product must not be installed at altitudes above 2500 m.
- Follow all local standards and regulations set forth by the Distributed Network Service Provider (DNSP/ DNO).



- Up to four IQ Battery 5P units can be daisy-chained on a single branch circuit.
- The maximum conductor size compatible with IQ Battery 5P is 25 mm², and the maximum breaker rating with this conductor size is 80 A Type B. Use a 20 A Type B breaker for one IQ Battery 5P and Max. 80 A Type B breakers for four daisy-chained batteries.
- Follow all local standards and regulations while selecting the AC breaker.

Section A - Mounting the product

Step 1

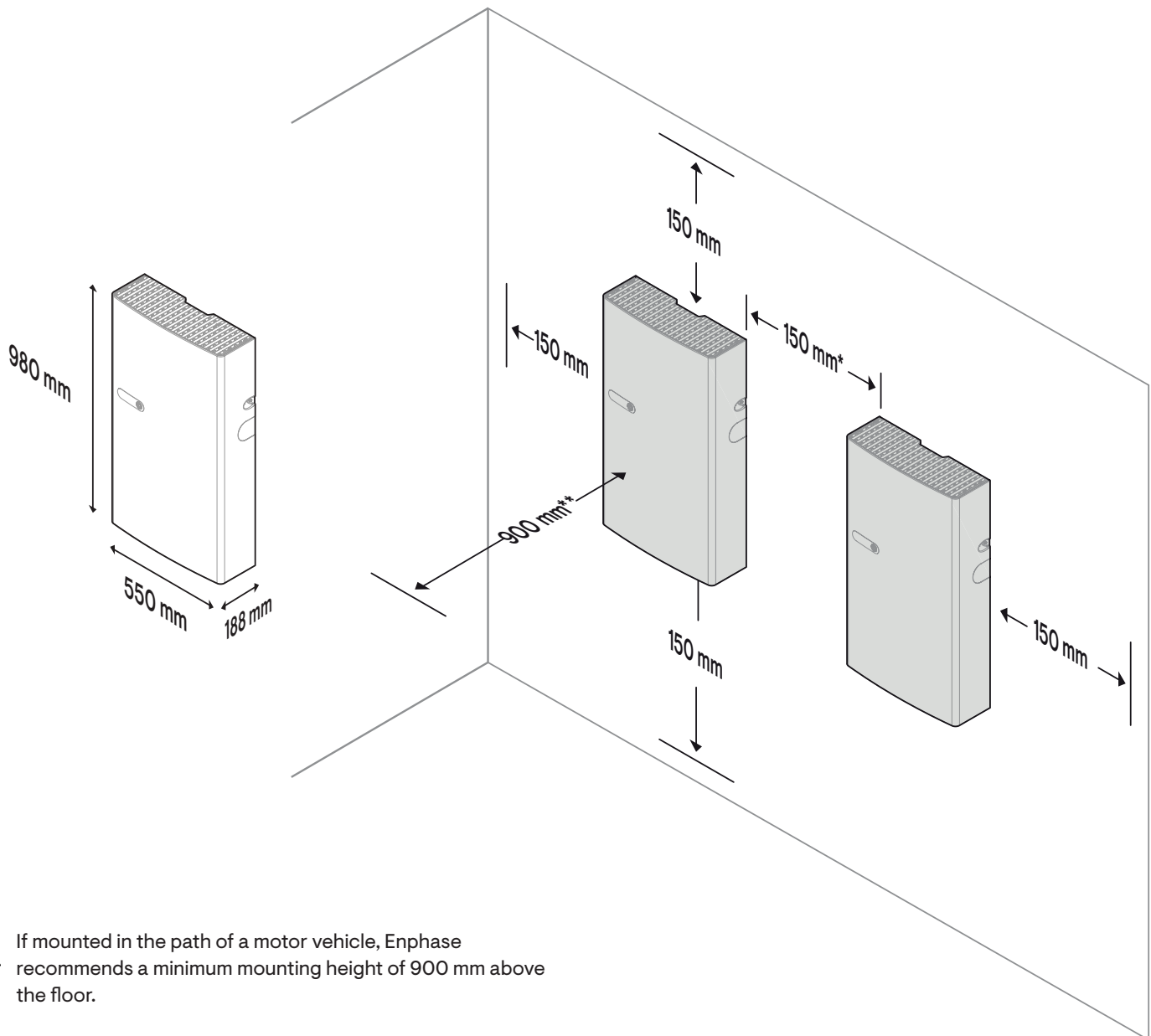
Minimum clearance


The mounting instructions that follow are for the included wall-mount bracket only. If you wish to install IQ Battery 5P in a floor-mount configuration, order the pedestal accessory (Order code: B05-PM-0550-O) and refer to the floor-mount instructions that come with that product. This product must be installed with clearance at the left, right, top, bottom, and front of the product, as shown in the figure.

Keep IQ Battery 5P away from falling or moving objects, including motor vehicles.

***NOTE:** For IQ Batteries mounted side-by-side, the minimum distance between the covers of two units should be 76 mm. Installation handles cannot be used for clearance less than 150 mm, and installers need to consider adjusting the distance between batteries based on cable bending radius and local regulations.

****NOTE:** The minimum clearance to be maintained in front of the batteries is 250 mm.

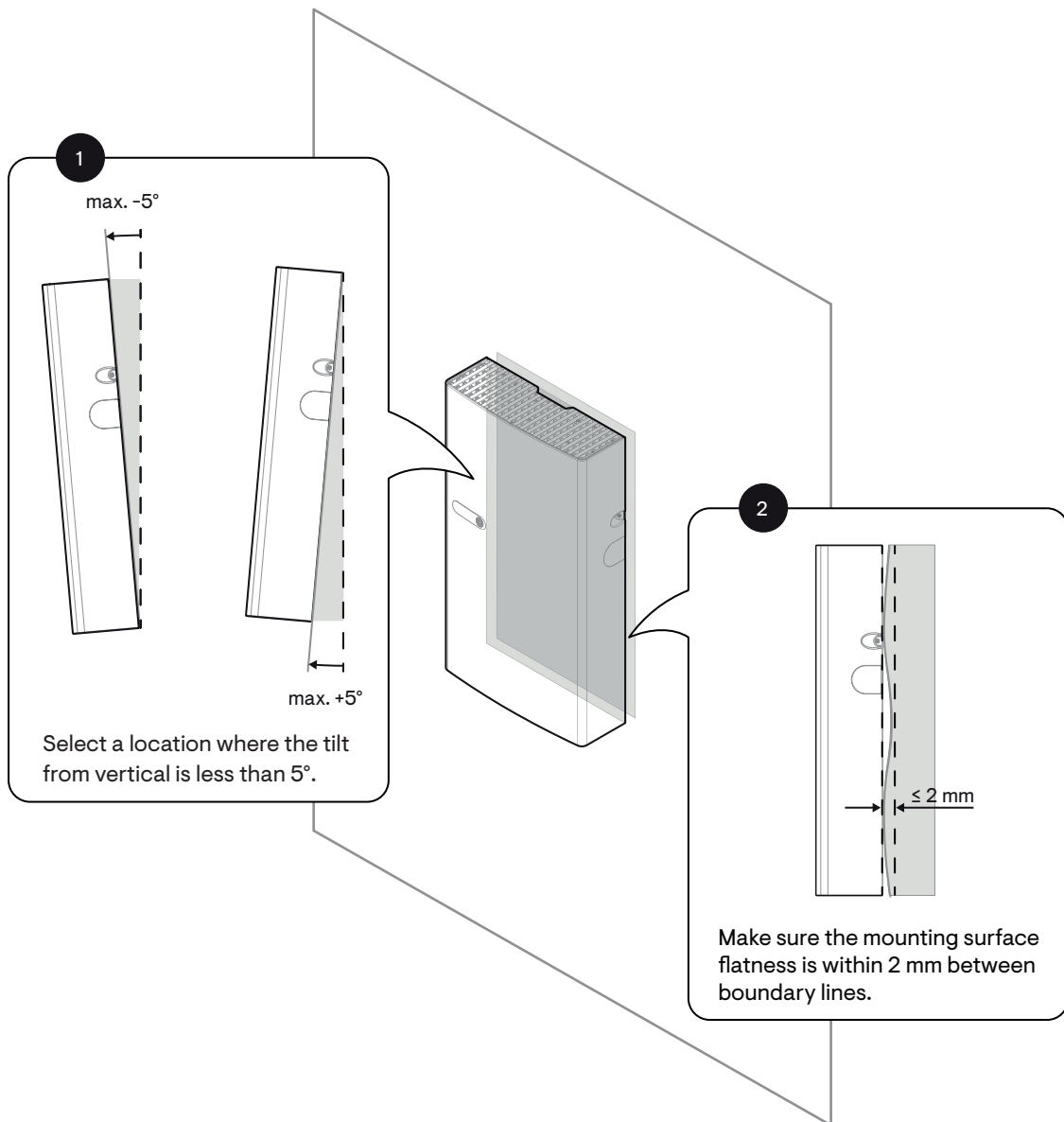


 If mounted in the path of a motor vehicle, Enphase recommends a minimum mounting height of 900 mm above the floor.

Section A - Mounting the product

Step 2

Mounting surface




NOTE: If the variation of the flatness is more than 2 mm, the battery might not properly sit on the bottom mounting bracket through keyholes. Use spacers or unistruts if the variation is more than 2 mm.

Section A - Mounting the product

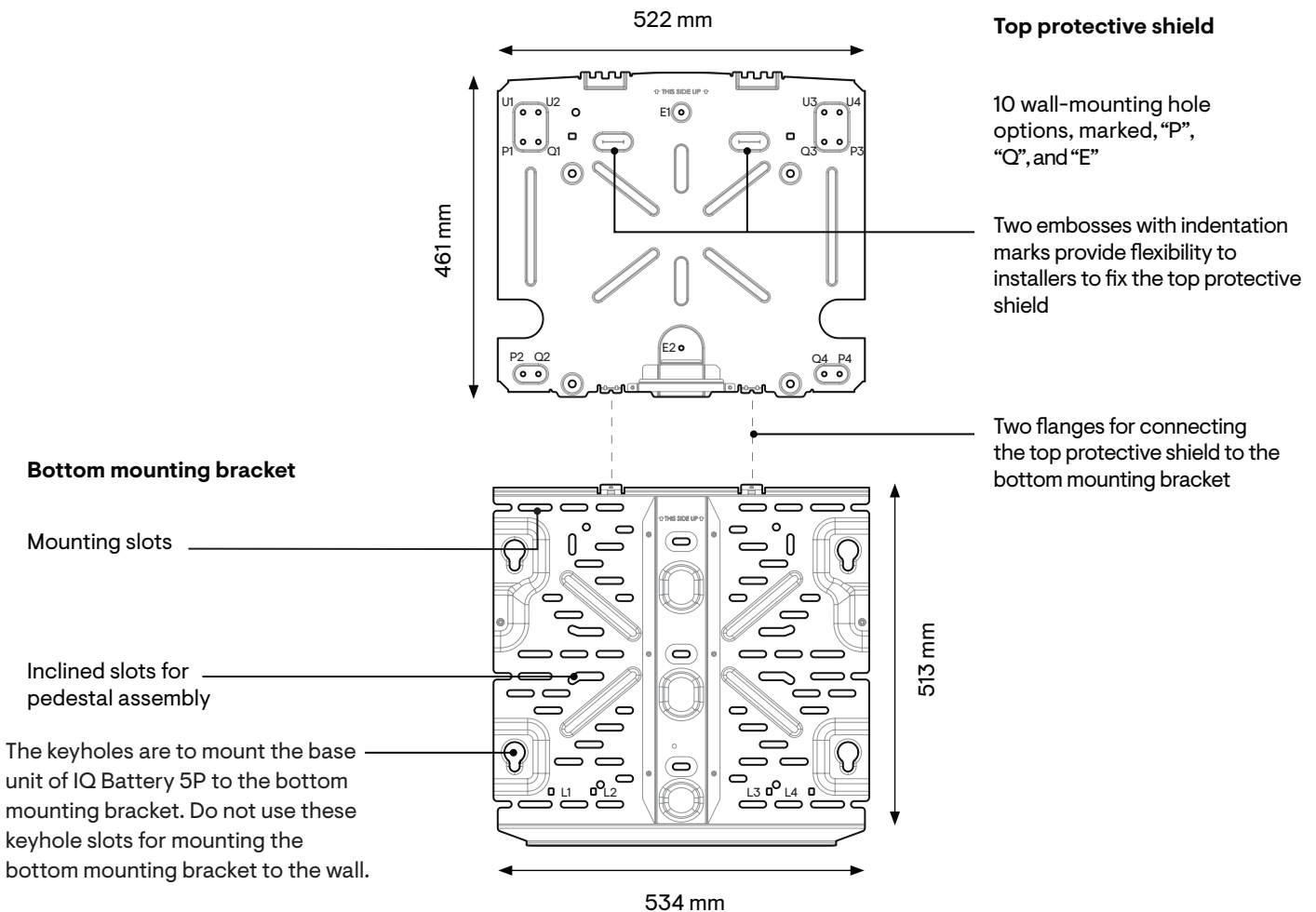
Step 3

Install the bottom mounting bracket and the top protective shield

The bottom mounting bracket carries the weight of the IQ Battery 5P, and the top protective shield covers the back of the IQ Battery 5P.

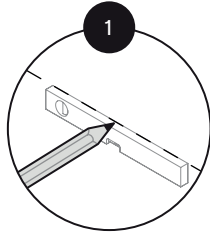
 Risk of injury and equipment damage. Do not mount an IQ Battery 5P on a bracket that is not properly mounted.

- Use a minimum of six M6 screws for mounting the top protective shield to the wall. Use standard screws only (head thickness <5 mm).
- Use M8 screws/lag bolts (9.2 mm) with a washer (or masonry attachments for masonry wall) for each slot to attach the bottom mounting bracket.

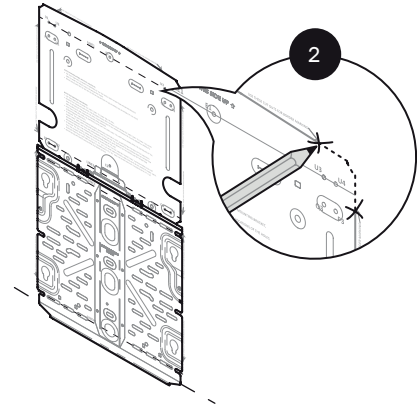


Section A - Mounting the product

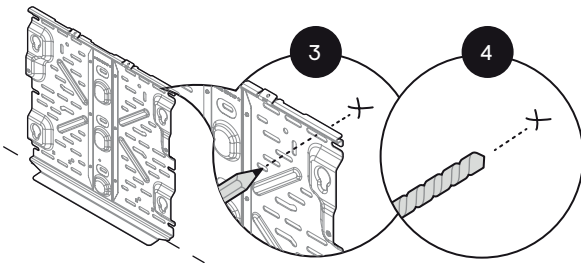
Install the bottom mounting bracket as per the following instructions.
Make sure the bottom mounting bracket is firmly attached to the wall.




Starting at the installation position closest to the power source, mark a level line on the wall as a guide.



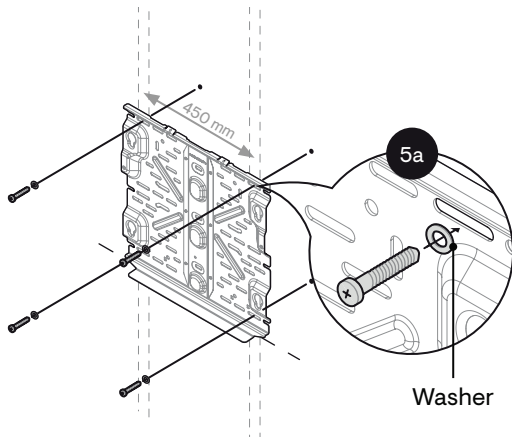
For the ease of marking all the required drilling points, a dedicated drill template is provided along with the packaging. Depending on the type of installation wall, choose the instructions stated on the template.



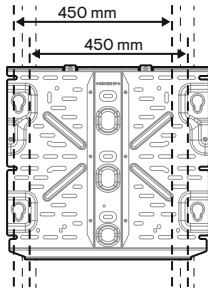
 Multiple risks. Make sure not to drill into or attach to electric wiring or pipes in the wall.

Section A - Mounting the product

Mounting on multiple vertical studs (450 mm stud spacing)

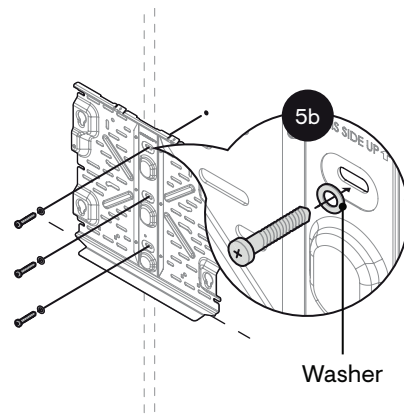


Position the bottom mounting bracket on the wall and fasten it using the mounting slots. Use a minimum of four M8 screws or lag bolts (symmetrically distributed) for dual stud mounting. Tighten all screws to the manufacturer's specified torque values.



The bottom mounting bracket can accommodate a slight offset in stud positioning with respect to the battery unit with pre-drilled holes/slots, as shown in the image.

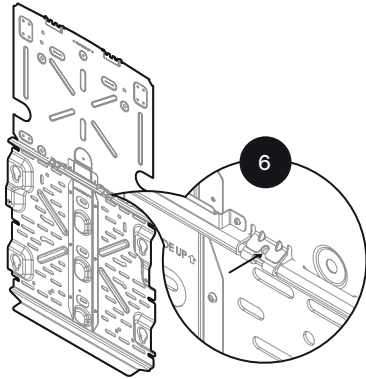
Mounting on a single vertical stud



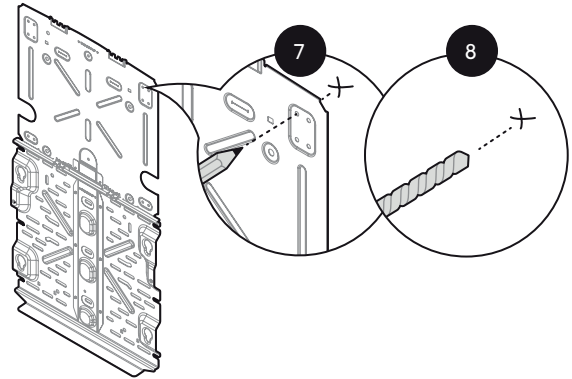
Position the bottom mounting bracket on the wall and fasten it using the mounting slots. Use a minimum of three M8 screws or lag bolts (on the centerline) for single stud mounting. Tighten all screws to the manufacturer's specified torque values.

NOTE: Any one of the above mounting methods can be used for mounting a battery on a masonry wall.

Section A - Mounting the product

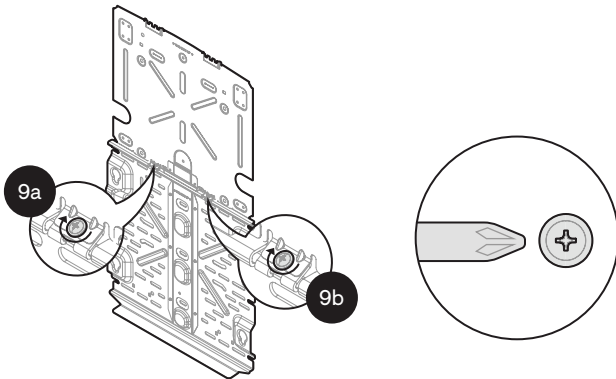


Position the flange of the top protective shield with the flange of the bottom mounting bracket and align the screw slot/hole.



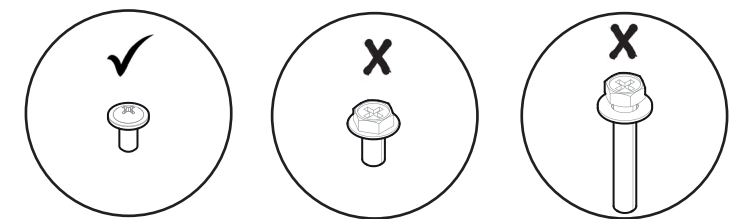
Mark holes on the wall. Then remove the top protective shield and drill holes in the wall.

⚠ Multiple risks. Make sure not to drill into or attach to electric wiring or pipes in the wall.



Two M4 grounding screws

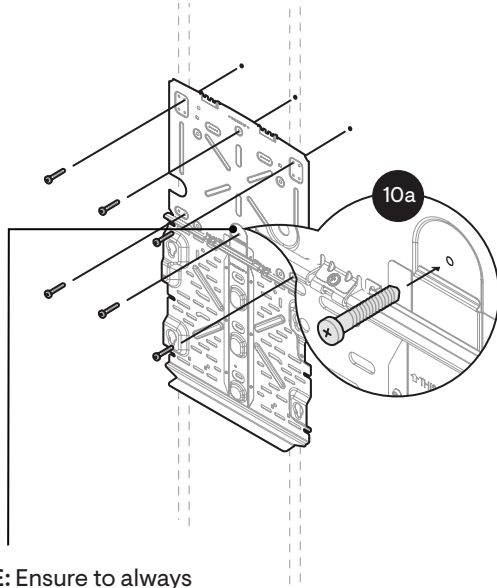
Partially tighten the top protective shield to the bottom mounting bracket at the ground contact flange.



NOTE: The top protective shield is not a structural part and need not always be mounted to the studs. It can be fastened to the supporting wall with the pre-drilled holes if the studs are not aligned.

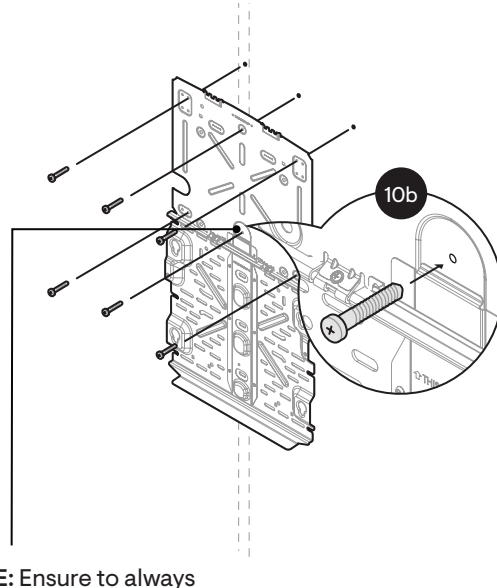
Section A - Mounting the product

Mounting on multiple vertical studs



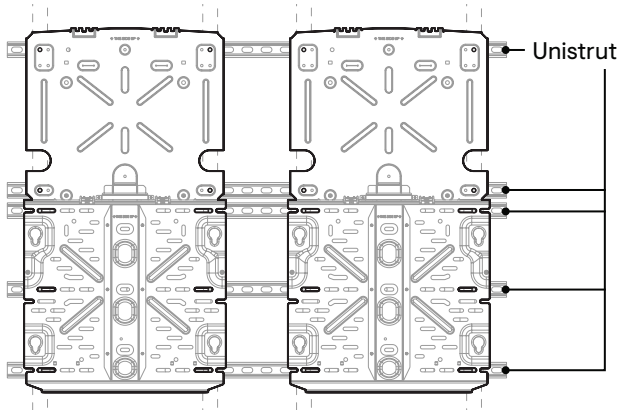
Fasten the top protective shield using the mounting holes. Use a minimum of six M6 screws for dual stud mounting to fasten the top protective shield to the wall. Use standard screws only (head thickness <5 mm). Finally, fully tighten the M4 grounding screws between the two shields (torque to 1.5 N m).

Mounting on a single vertical stud



Fasten the top protective shield using the mounting holes. Use a minimum of six M6 screws for single stud mounting to fasten the top protective shield to the wall. Use standard screws only (head thickness <5 mm). Finally, fully tighten the M4 grounding screws (torque to 1.5 N m).

NOTE: Use an electric drive; do not use impact drives or impact drills to tighten the grounding screws.

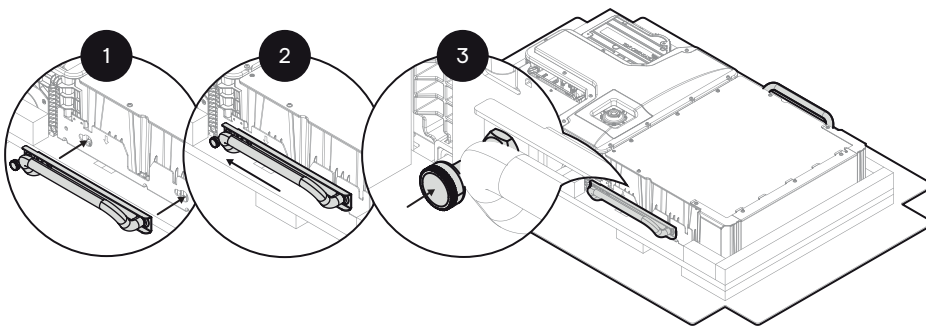


For mounting on multiple vertical studs with 600 mm stud spacing or on an uneven wall, use unistrut.

Section B

Installing IQ Battery 5P

Prepare to install IQ Battery 5P on the bottom mounting bracket




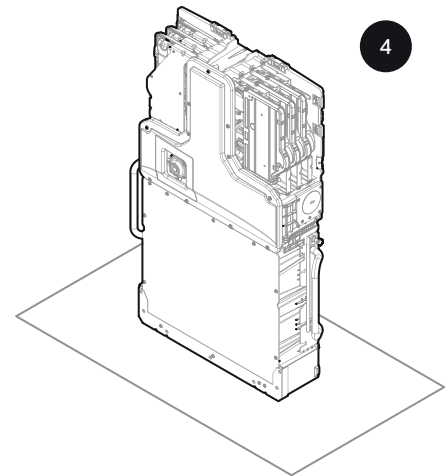
NOTE: Complete all the above steps before installing IQ Battery 5P on the wall.

Remove the ID cover from the packaging and keep it aside. Use the reusable lifting handles (sold separately) and check that the plungers on the handle are extended and ready to engage into the IQ Battery 5P slots.


Align the left handle on the left side of IQ Battery 5P, insert it into the slots and slide it toward the top of the IQ Battery 5P enclosure until the plunger locks into place. Check that the handle is secure.


Repeat on the other side with the right handle.

 Risk of injury and equipment damage. The total lifting weight with handles attached is 67.35 kg; lift according to local law. Handles must be used while lifting the battery. Two-person manual lifting is allowed only if permitted by local law. Otherwise, use mechanical lifting.

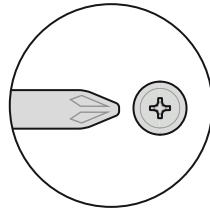
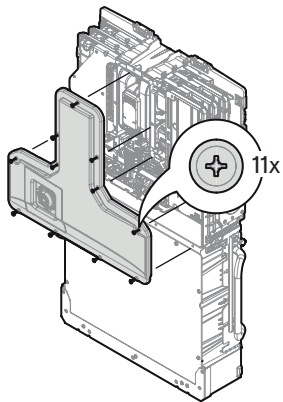


Two people together must lift the IQ Battery 5P unit from the packaging using the handles and place it in an upright position on the floor, taking support of the backplate or wiring cover.

 Lift IQ Battery 5P from the packaging using the handles and make sure the battery's front side is facing towards you.

 Do not lift the IQ Battery 5P using microinverters or the plastic behind the microinverters. This may damage the unit permanently.

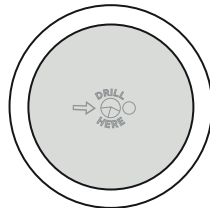
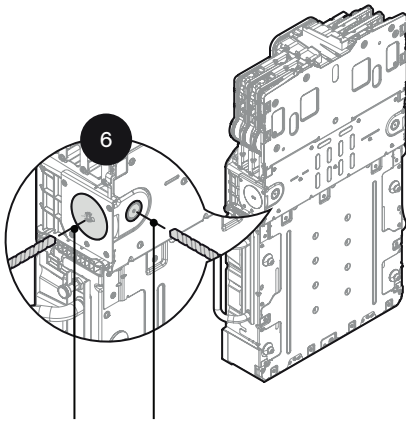
Section B - Installing IQ Battery 5P



Captive screws
torque to 1.5 N m

Open the front wiring cover by unfastening the 11 captive screws from the wiring cover. Use a screwdriver or an electric drive; do not use impact drives/impact drills.

NOTE: Remove the top screw at the last to avoid damage to the wiring cover.



Drill here

Drill to appropriate cutout

⚠ Risk of electric shock. The DC control switch must be OFF before performing this step.

Drill the appropriate cutout on either the back or side of the unit or both based on configurations. The rear entry can support the conduit with a diameter of 13 mm to 19 mm while the side entry can support the conduit with a diameter of 13 mm to 32 mm. L and N terminals can accept a maximum cable size of 25 mm². The ground terminal can accept a maximum cable size of 10 mm².

Install cable glands on the sides where cable entry is planned before mounting the units on the wall.

NOTE: Before mounting the unit on the wall, drill the appropriate cutout. Drilling the cut-outs after mounting the unit to the wall can lead to internal component damage, which is not covered by the warranty.

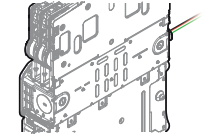
⚠ Ensure that the drilling machine does not touch any internal components or walls.

⚠ Clean the debris from inside the battery unit after drilling.

Section B - Installing IQ Battery 5P

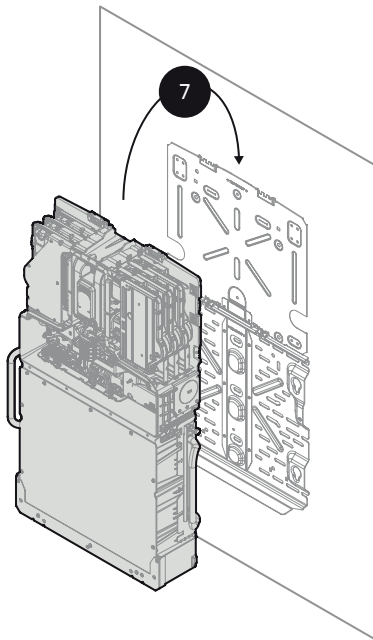
IQ Battery 5P can have the field cable entry from the back, left, or right side. Finalize the side from where the field cable enters and leaves IQ Battery 5P. Use the following table to decide the cutout for all the units.

NOTE: The rear entry can support the conduit with a diameter of 13 mm to 19 mm, while the side entry can support a conduit with a diameter of 13 mm to 19 mm. Follow manufacturer-recommended instructions for conduit installation.

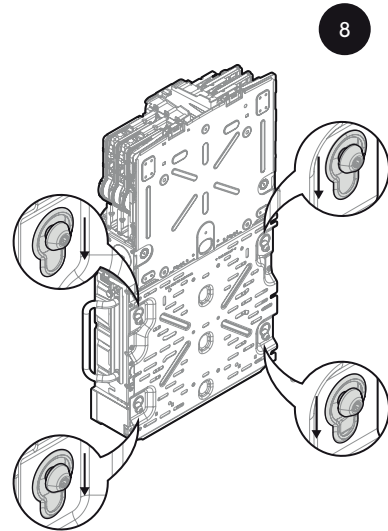
NAME	BACK VIEW	LEFT-BACK CONDUIT	RIGHT-BACK CONDUIT	LEFT SIDE CONDUIT	RIGHT SIDE CONDUIT
Both side conduit		✗	✗	✓	✓
Only left side conduit*		✗	✗	✓	✗
Only right side conduit*		✗	✗	✗	✓
Left side conduit and right-back conduit		✗	✓	✓	✗
Left-back conduit and right side conduit		✓	✗	✗	✓
Both back conduit		✓	✓	✗	✗
Only left-back conduit*		✓	✗	✗	✗
Only right-back conduit*		✗	✓	✗	✗

* One-side conduit configuration is supported only if the system has one IQ Battery 5P or for the unit last in the daisy chain farthest from the Communications Kit 2.

Section B - Installing IQ Battery 5P

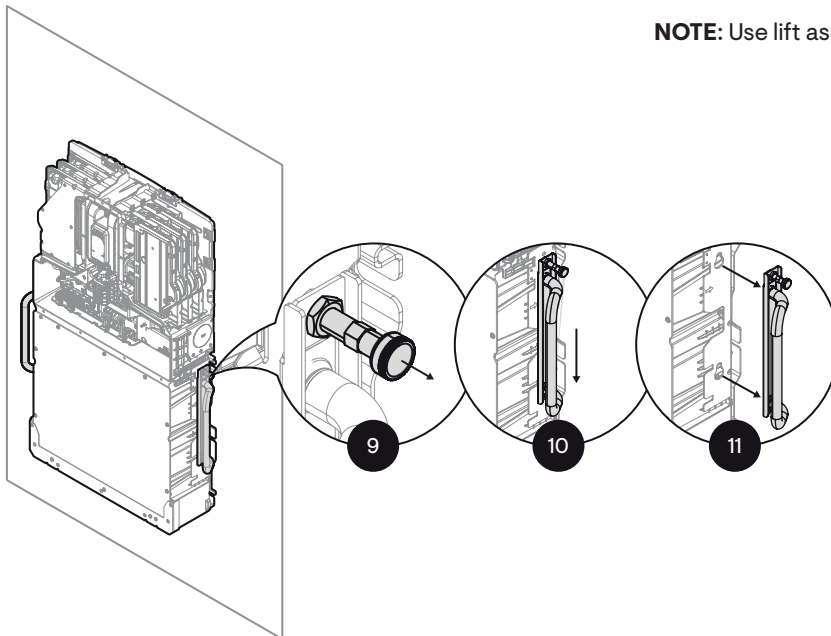


Bring the IQ Battery 5P unit to the already mounted bottom mounting bracket.



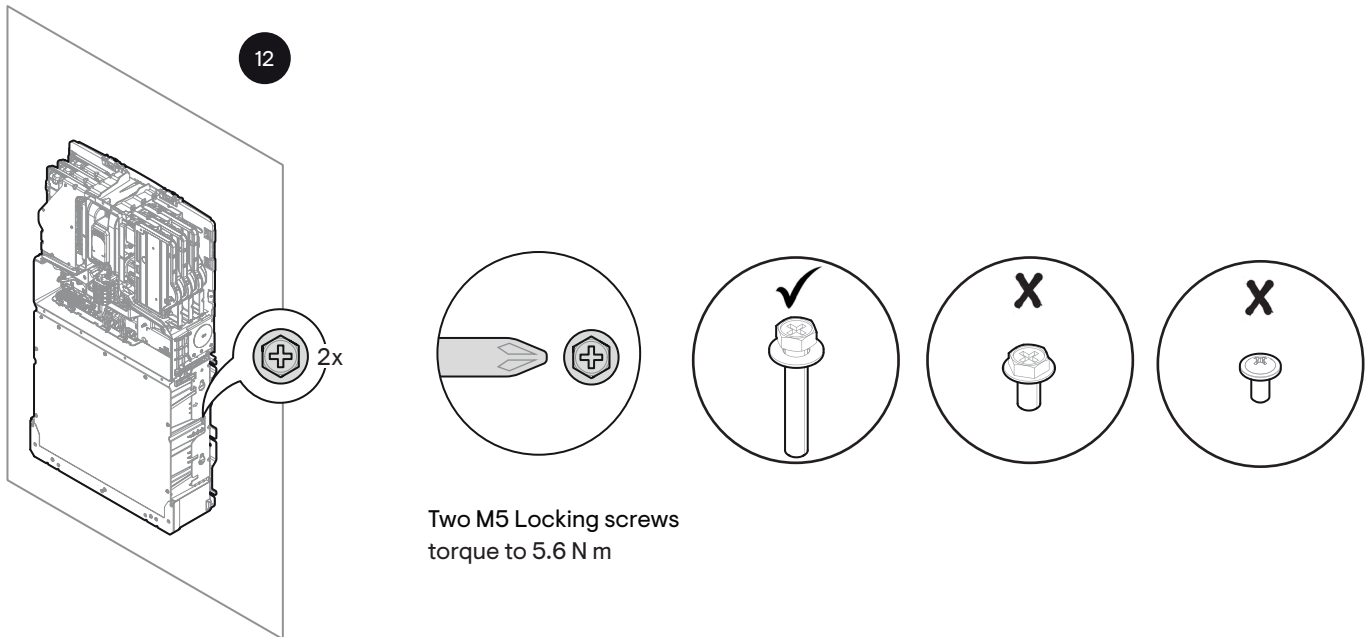
Hold IQ Battery 5P straight, align, and insert four mount bolts on the battery unit into the bottom mounting bracket keyholes and slide it down.

NOTE: Use lift assist to avoid any mishap during lifting.



To remove the installation handles, pull the plunger outward to unlock them. Then, slide the handle down and pull it away from the unit to remove it.

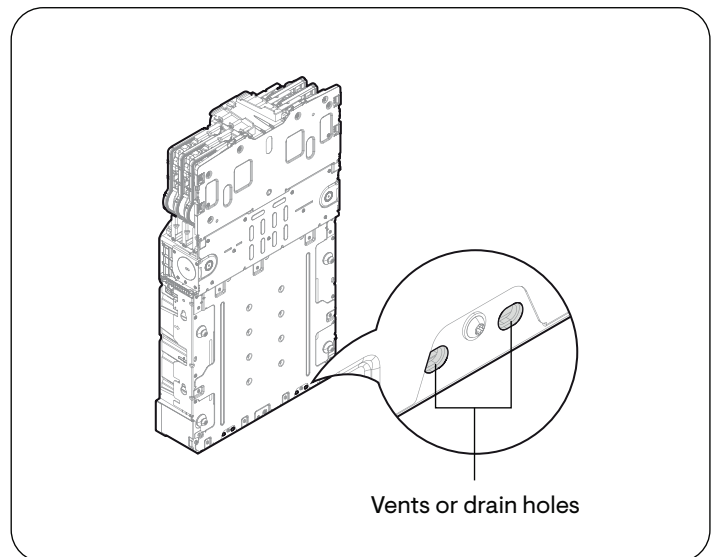
Section B - Installing IQ Battery 5P



Secure the battery unit on the bottom mounting bracket using two M5 locking screws. This is required to comply with seismic requirements.

NOTE: Use a screwdriver or electric drive; do not use impact drives or impact drills while tightening locking screws

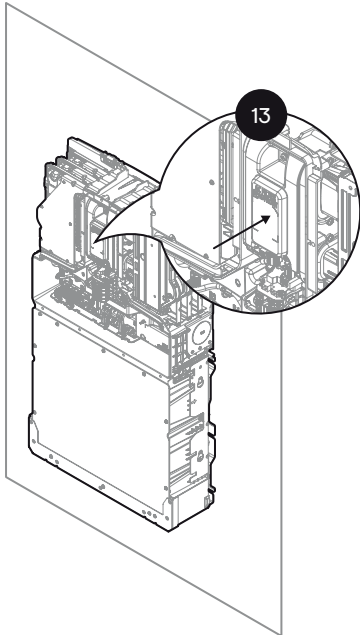
NOTE: It is recommended to use a screwdriver extension bit to reach the screw head.



⚠ The vent or drain holes provided at the back of the unit serve the dual purpose of natural ventilation and condensation drainage. Blocking these holes can affect the functionality of the product.

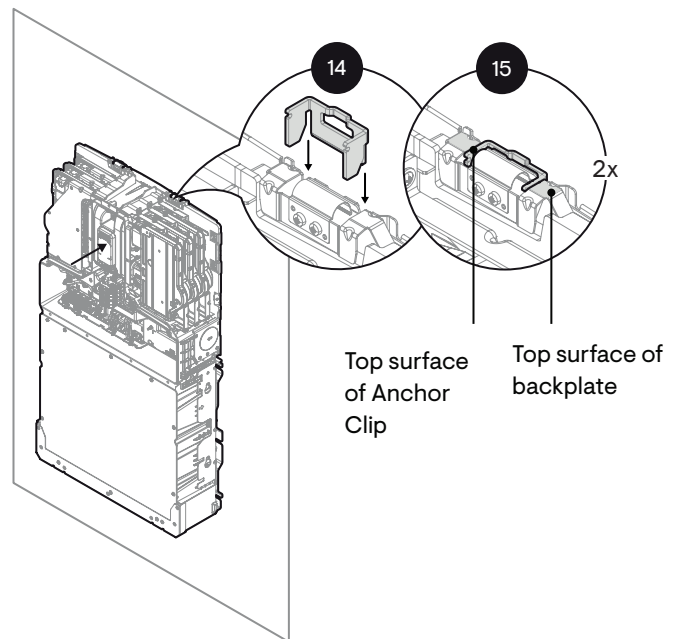
Section B - Installing IQ Battery 5P

Installation of Anchor Clip



Push against the wiring cover and hold the IQ Battery 5P top section as close to the wall as possible.

 Do not push from PCUs to avoid any damage.



Install two anchor clips to secure the top section of the IQ Battery 5P to the wall. Slide the Anchor Clip downwards until the top surface of the clip coincides with the top surface of the IQ Battery 5P backplate.

Section C

Wiring

Install conduit and field wiring

1. When installing a single IQ Battery 5P unit, insert the conduit in the cutouts drilled in the previous step.

NOTE: When adding additional IQ Battery 5P units to an existing IQ Battery 5P site, disconnect B1 and B2 (DC connectors)* on the adjacent IQ Battery 5P units.

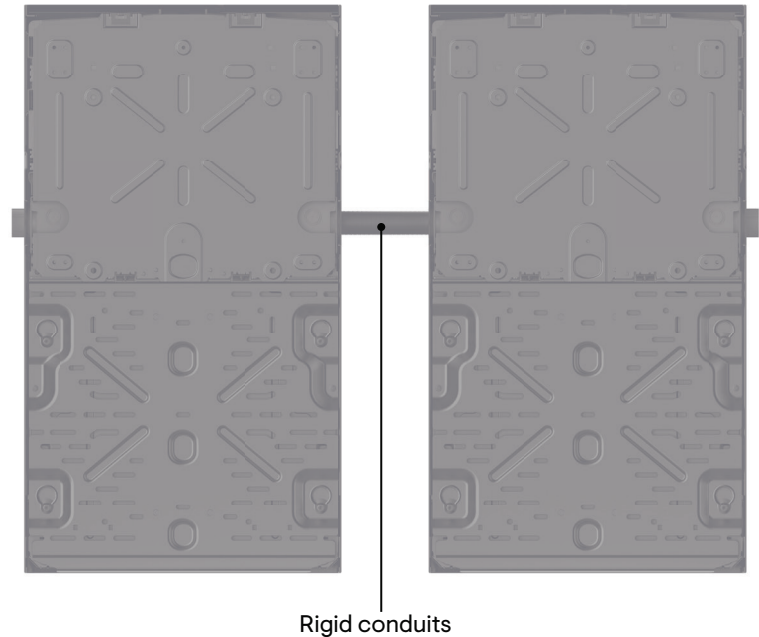
*Refer to section C - Wiring: Cable routing and closing the wiring cover - step 6.

NOTE: Use a “chase nipple” and “rigid coupling” as spacers for connecting 90° fitting to the battery. This avoids interference between the 90° fitting and battery ID cover. Make sure the joints are properly fastened and are watertight.

2. If installing more than one IQ Battery 5P, insert the conduit on the side of the unit closest to the AC breaker.

NOTE: Follow the steps below to install rigid conduits between units:

- a. Mount only one IQ Battery 5P on the wall.
- b. Add the rigid conduit to it.
- c. Adjust the rigid conduit in the first unit as required and mount the second IQ Battery 5P on the wall.
- d. Repeat steps a, b, and c for mounting additional IQ Battery units.




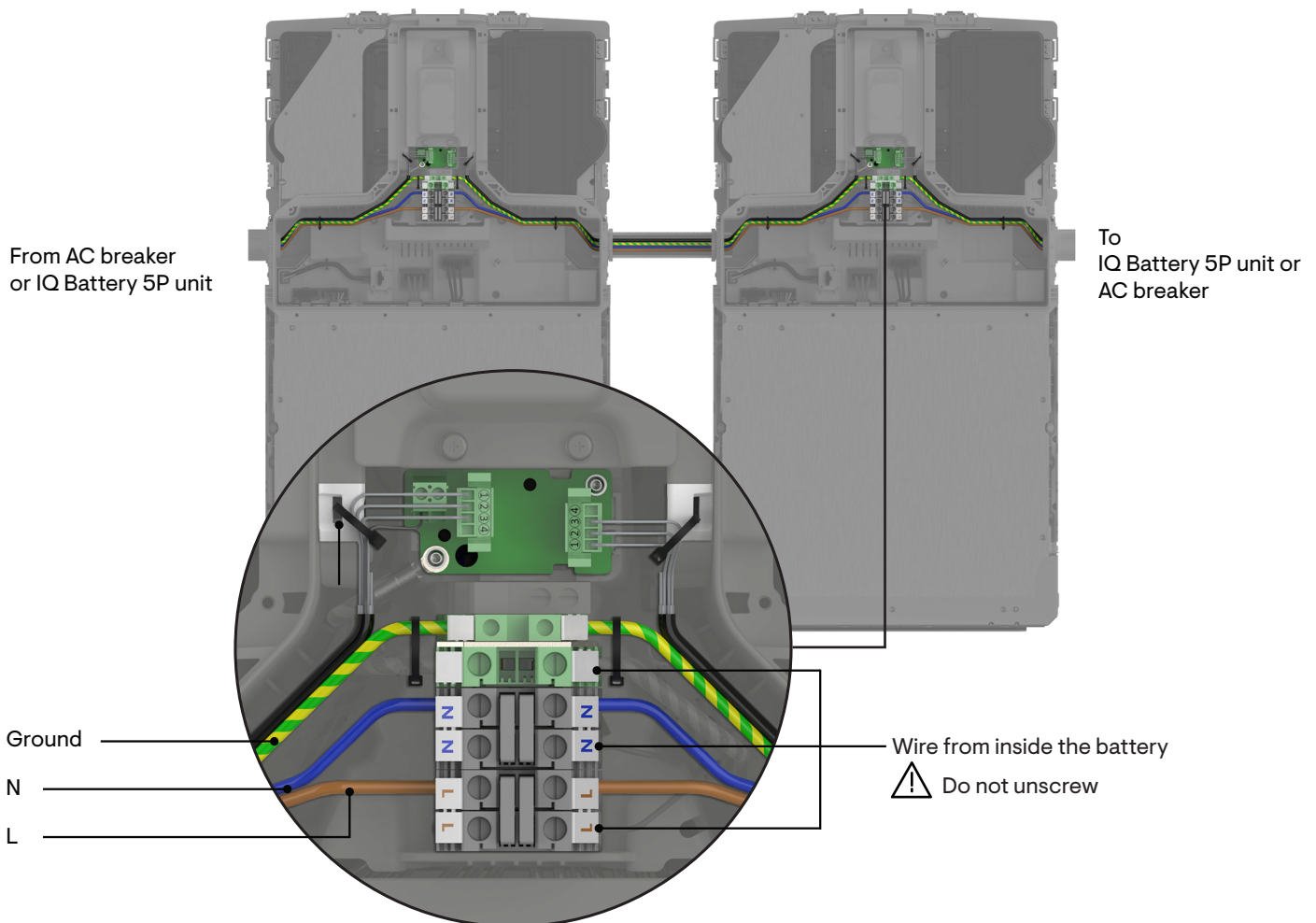
NOTE: Use a sealing gasket while fixing the conduit fitting or cable gland to improve ingress protection.

Section C - Wiring

3. Starting from the unit closest to the AC breaker, pass the power and control communication conductors through the conduit and make the two ends of conductors available on the unit and AC breaker side.
4. Connect the power conductors and control communication cables on the terminal blocks (L, N, and Ground) and the control communication connector, respectively. Each terminal block accepts conductors with an insulation strip length of 11 mm. Tighten the L and N terminals to 2.5 N m and the small Ground terminal to 1.5 N m.
5. If connecting more than one IQ Battery 5P, connect power conductors between the terminal blocks and control communication cables between the CTRL connectors of these units such that the conductors connect on the right side of one unit and the left side of another unit after passing through the conduit. Repeat these steps until you arrive at the unit that is farthest from the AC breaker.

NOTE: Power and control communication cables will run in parallel through conduits.

 Do not disturb the factory termination connections on terminal blocks during field wiring.



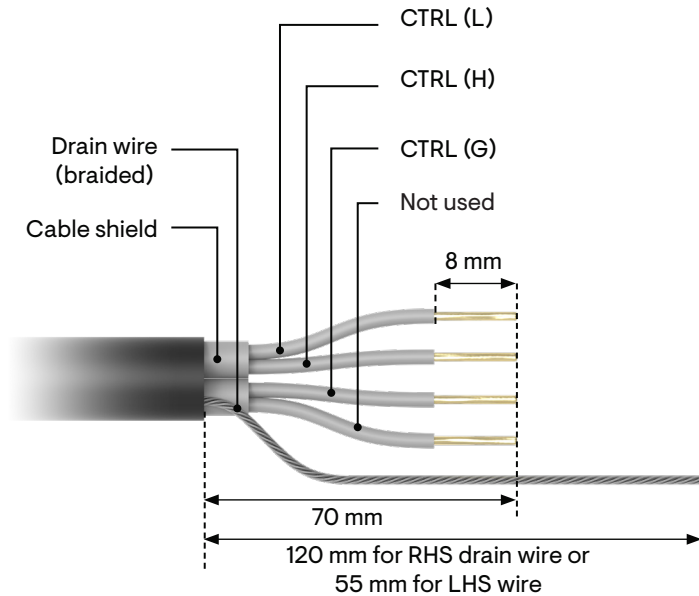
NOTE: Both L terminal blocks are shorted. Any free L terminal can be used for external connections. The N terminals are also wired similarly.

NOTE: The terminal blocks provide multiple free terminals for daisy chaining IQ Battery 5P units. The figure shows an example..

Section C - Wiring

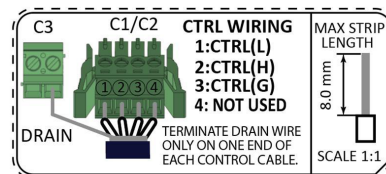
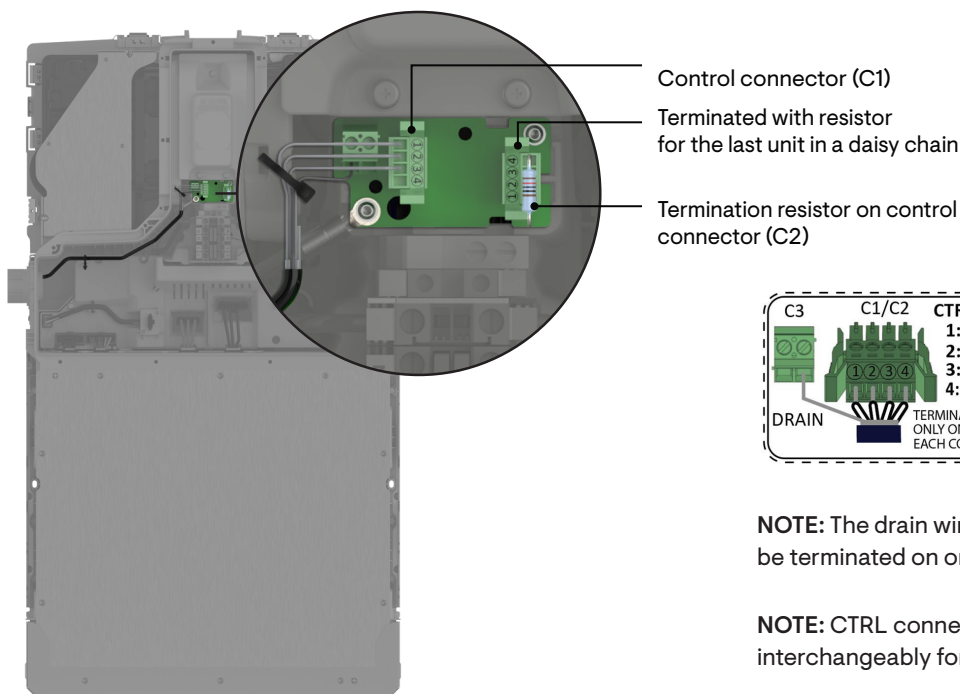
6. Follow the jacket stripping length as shown in the following image. Keep the terminating resistor only on the devices that are on the two ends of the control communication bus and remove the resistor from the rest of the devices. For more information, see [Control \(CTRL\) wiring between system components on page 26](#).

NOTE: Use the following tool to strip the jacket of the control communication cable



The control cable must be stripped to the recommended dimensions as indicated above and then connected to the header.

The tested and supported control cable make is Belcom and model is 4302P2254-01.




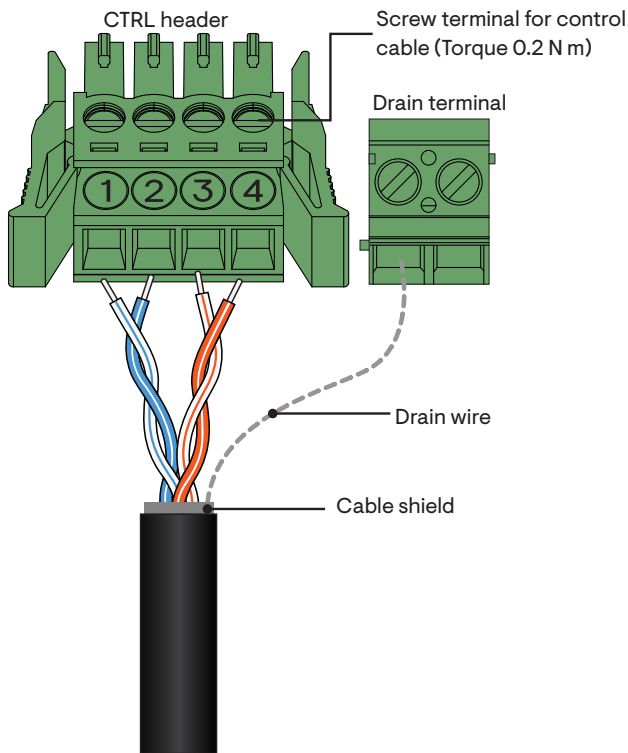
NOTE: The drain wire of each length of the control cable should only be terminated on one end.

NOTE: CTRL connectors (C1/C2) are identical and can be used interchangeably for IN and OUT connections.

Section C - Wiring

- To ensure proper control (CTRL) cable connection between Communications Kit 2 and IQ Batteries, follow the guidelines outlined below while connecting the cable to the headers.

 Failure to follow wiring guidance will result in the system being unable to detect devices, leading to commissioning and operation failures.



- Ensure that both ends of the CTRL cable twisted pair wires are inserted into the header. Confirm this by performing a continuity check between CTRL header screw terminals on both ends of the CTRL cable section.
- Connect the drain wire to the drain terminal only at one end of a CTRL cable. Do not connect drain wires at both ends of a CTRL cable. For instructions, see [Control \(CTRL\) wiring between system components on page 26](#).

TIP: Before pulling the cable through the conduit, perform continuity checks and label each end of all the wires with small coloured clips or stickers (with the same numerals as on the headers). This enables easy identification of wires and avoids miswiring.

CONTROL HEADER NUMBERS	CTRL SIGNALS	WIRE DESIGNATION
Screw terminal 1	CTRL L	White with blue stripe
Screw terminal 2	CTRL H	Blue with white stripe
Screw terminal 3	CTRL G	White with orange stripe
Screw terminal 4	Not used	Orange with white stripe

Section C - Wiring

Control (CTRL) wiring between system components

Control wiring guidance for the Enphase Energy System:

Refer to the following wiring sequences to understand the position of the header with termination resistor, wiring order, and drain wire termination location.

NOTE: Ensure the following guidelines are followed to avoid failures during system commissioning:

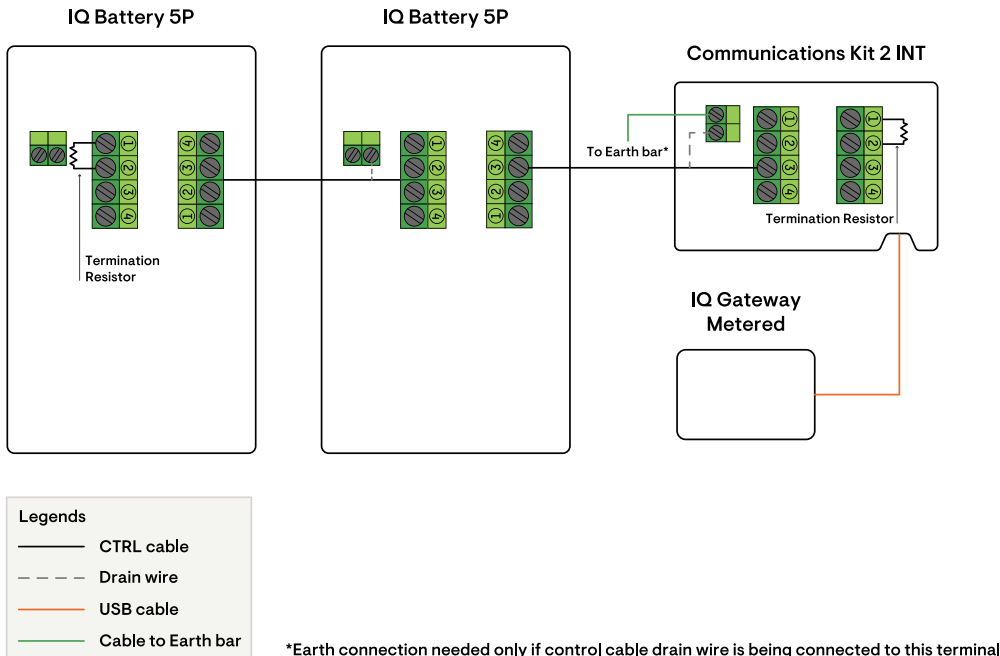
- One header with a termination resistor should be installed on each component that is at the extreme end of the control network.

- The drain wire should be terminated only at one end of each control wiring section or length.
- It is recommended to terminate the drain wire at the component from which the control wiring for the section is initiated.
- The same conduits can be used for power and control wire routing with Enphase-recommended cables as long as local regulations allow for it. Use only Enphase-recommended control cables.

The following are two indicative wiring sequences.

Sequence 1

IQ Battery 5P → Communications Kit 2 INT

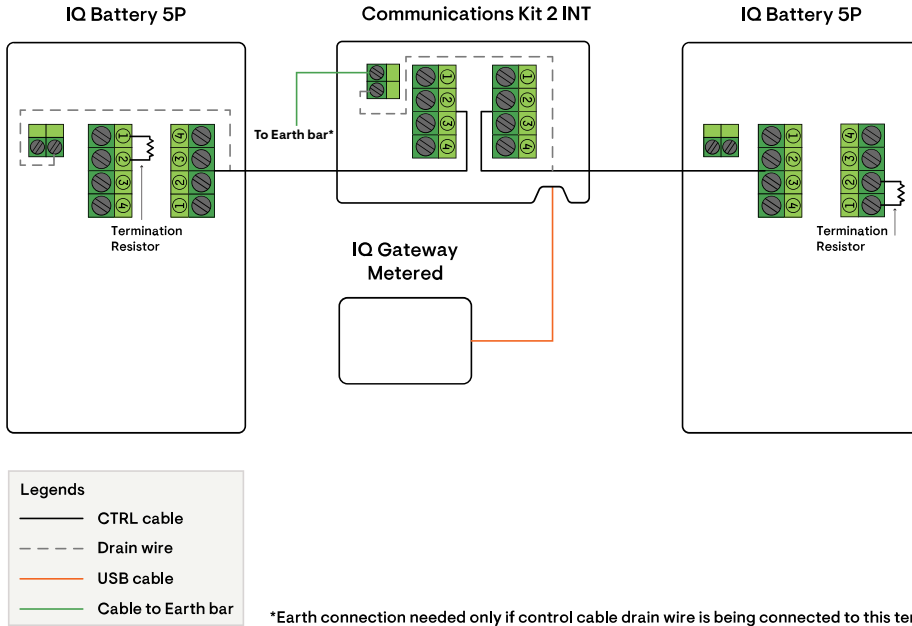


NOTE: Total length of CTRL wiring across the system cannot exceed 100 meters to ensure optimal system performance.

Section C - Wiring

Sequence 2

IQ Battery 5P → Communications Kit 2 → IQ Battery 5P



NOTE: Total length of CTRL wiring across the system cannot exceed 100 meters to ensure the system operates as per specifications.

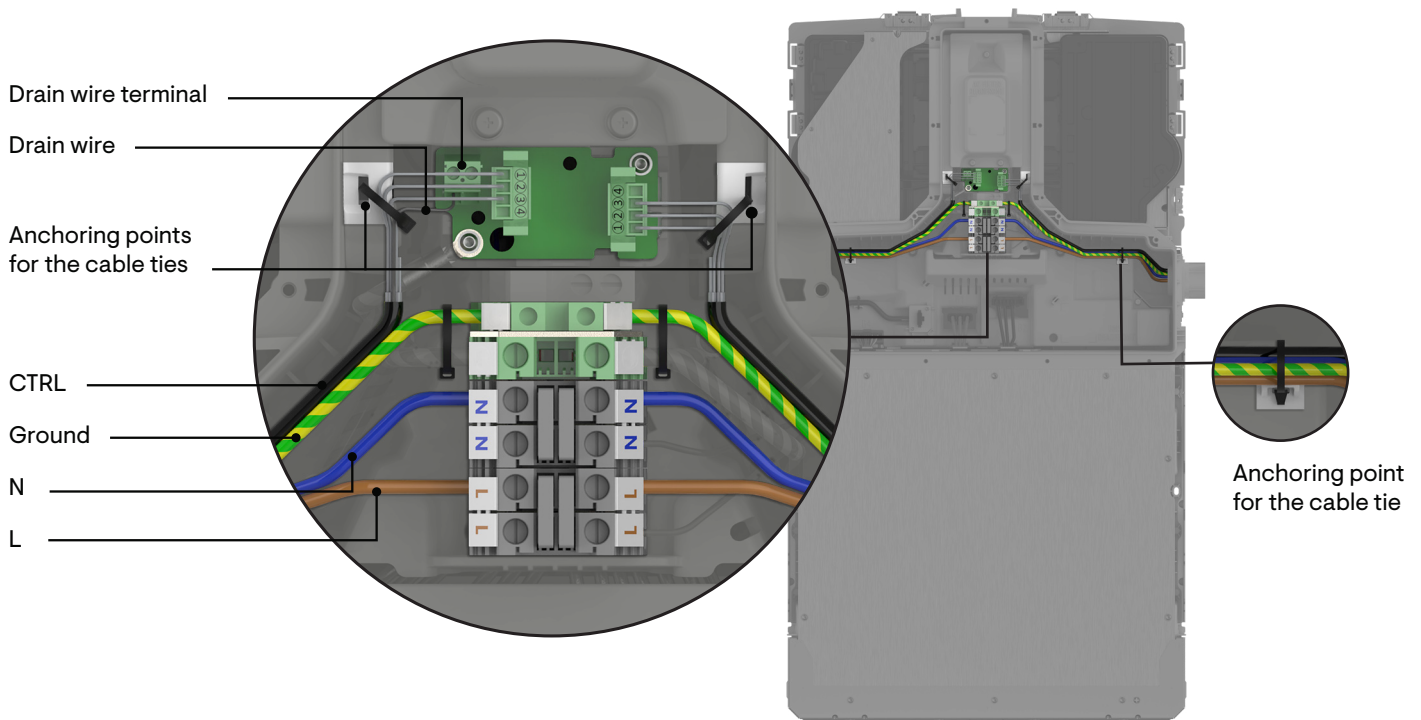
Here is a table providing termination resistor locations for the above sequences:


CONTROL WIRING SEQUENCE	TERMINATION RESISTOR LOCATION
IQ Battery 5P → Communications Kit 2	<ul style="list-style-type: none"> • First IQ Battery 5P in the battery daisy chain • Communications Kit 2
IQ Battery 5P → Communications Kit 2 → IQ Battery 5P	<ul style="list-style-type: none"> • First IQ Battery 5P • Last IQ Battery 5P

Section C - Wiring

Cable routing and closing the wiring cover

1. Route the conductors between conduit and terminal blocks using anchoring points, as shown in the following figure:



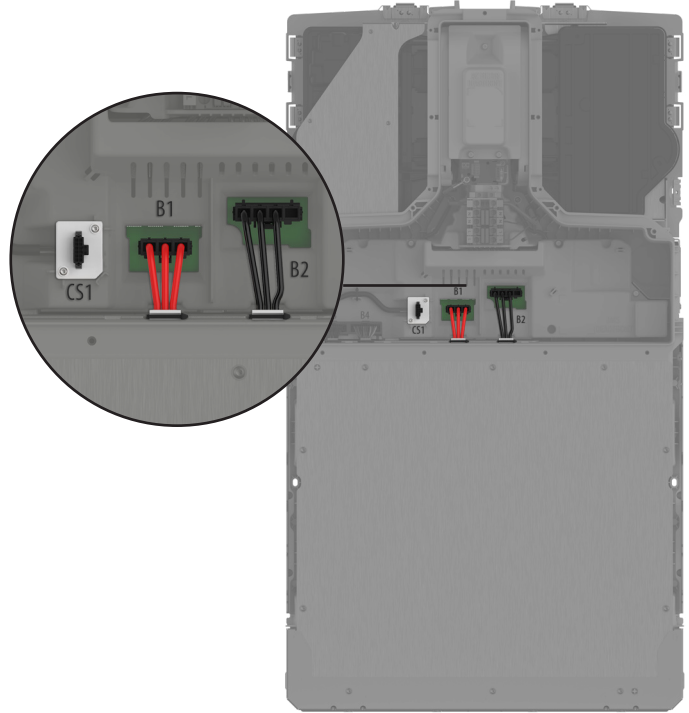
 Make sure the drain wires do not come in contact with any live connection.

NOTE: Cable ties are available in the accessories kit inside the packaging box. Anchor the cables as shown to ensure the proper cable routing, avoid wire separation from the terminals, and provide unrestricted access for the wiring cover assembly.


2. After all wires in the field wiring compartment are connected and secured, make sure there are no exposed conductors.
3. Make sure the IQ Battery 5P unit that is farthest from Communications Kit 2 has a cutout only on one side and all other sides are covered.
4. Apply AC power to the IQ Battery 5P circuits. Using a voltmeter, make sure the voltage between L and N on the terminal blocks of each IQ Battery 5P unit measures 230 VAC (211-264 V).
5. If the voltage is within the range as required by local codes, turn off the AC power supply.

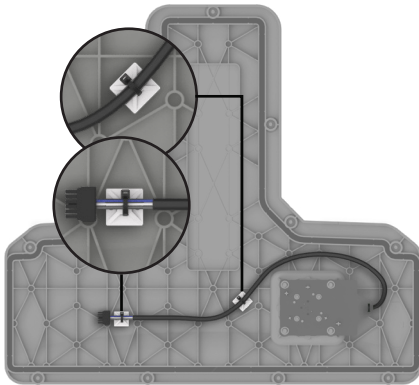
Section C - Wiring

6. Connect the following connectors to the BMS board:
- B1: Battery DC positive connector termination
 - B2: Battery DC negative connector termination
 - CS1: Control switch intermediate connector termination



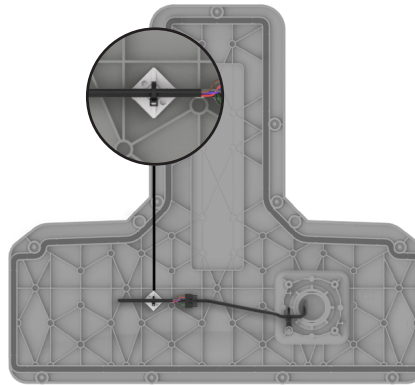
NOTE: Connect CS1 at last to avoid damage to the wiring cover.

 Ensure that all the connectors are latched properly and a clicking sound is heard.



Variant 1

Cut two cable ties and insert the connector on CS1 in the BMS board



Variant 2

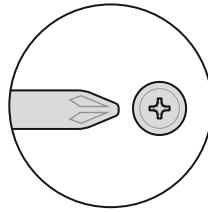
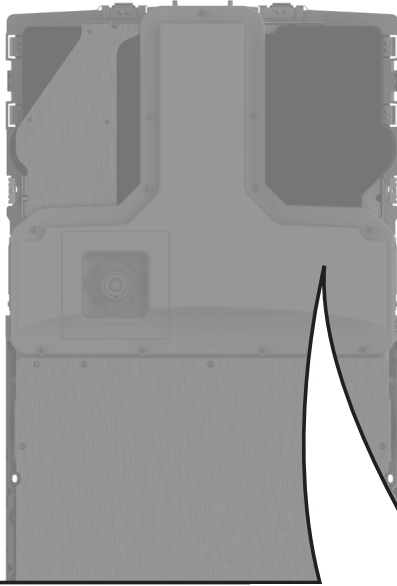
Cut one cable tie and insert the connector on CS1 in the BMS board

NOTE: There are two variants of the control switch available in IQ Battery 5P. The control switch cable is secured to the wiring cover using cable ties. Select the control switch available at the site based on the above images and cut the cable ties on the wiring cover to access the control switch cable.

Section C - Wiring

- Fasten the 11 captive screws at the wiring cover as shown. Use a screwdriver or electric drive; do not use impact drives or impact drills.

NOTE: Ensure no cables are pinched when installing the wiring cover.



Captive screws
torque to 1.5 N m



CAUTION!

FOLLOW THE SEQUENCE SHOWN TO PARTIALLY TORQUE THE 11x SCREWS. FULLY TORQUE ALL THE SCREWS TO MAX 1.5 ± 0.15 Nm AT MAX 1000RPM, ONLY AFTER ALL OF THEM ARE IN POSITION.

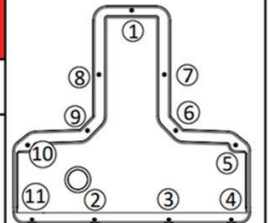
INSTRUCTIONS TO REMOVE THE WIRING COVER PRIOR TO INSTALLATION / SERVICING

1. LOOSEN THE 11x SCREWS TO REMOVE THE WIRING COVER FOR INSTALLATION/ SERVICING. REFER QIG FOR MORE DETAILS.
2. FOR SERVICING, MOVE THE WIRING COVER GENTLY AWAY FROM THE UNIT TO FIND THE CONTROL SWITCH (CS1) INTERMEDIATE CONNECTION AND UNPLUG IT FROM THE PANEL MOUNT CONNECTOR BEFORE REMOVING WIRING COVER COMPLETELY.

INSTRUCTIONS TO ASSEMBLE THE WIRING COVER AFTER INSTALLATION / SERVICING

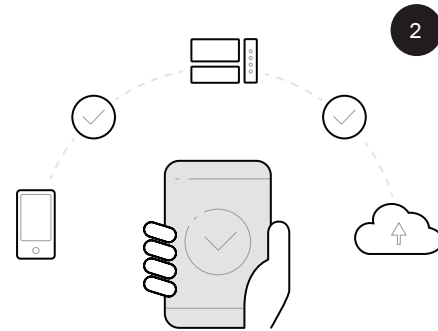
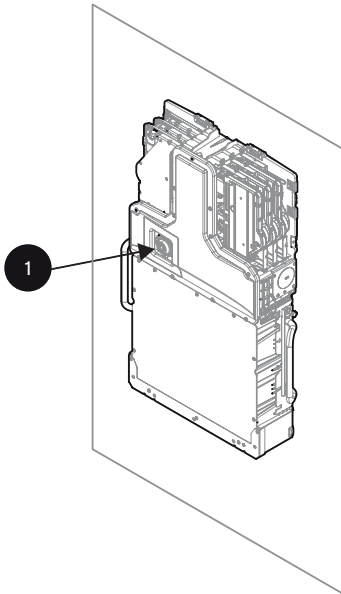
1. PLUG THE CONTROL SWITCH INTERMEDIATE CONNECTOR (CS1) TO THE PANEL MOUNT CONNECTOR AND ENSURE THAT THE CABLE IS ROUTED INSIDE THE UNIT PROPERLY BEFORE ASSEMBLING THE WIRING COVER COMPLETELY.
2. FASTEN THE SCREWS AS PER ABOVE INSTRUCTIONS. REFER QIG FOR MORE DETAILS.


SCREW FASTENING SEQUENCE




Section D

Energizing and configuring the system



 Before energizing, make sure that all IQ Batteries in the system are properly installed and conductors terminated.

 Do not leave the DC control switch in the ON position without the AC power supply available. This depletes the battery and may lead to a condition where the battery cannot be turned ON and commissioned.


Apply AC power to the IQ Battery 5P circuits. The LED flashes green once and switches off. After 15–20 seconds, the LED starts flashing in a red triple-flash pattern. Press the DC control switch on the battery and then wait until the LED starts flashing yellow. The IQ Battery 5P is now ready for commissioning and you can start the Enphase Installer App work flow.

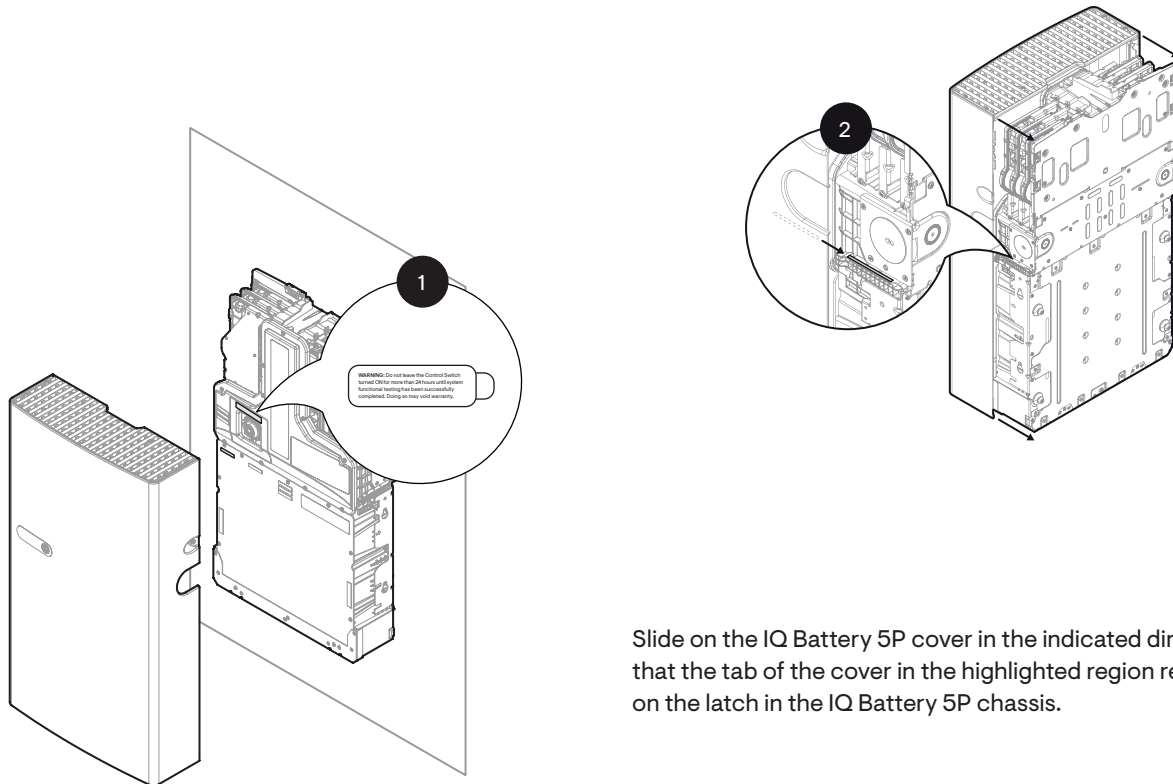
Use the Enphase Installer App to commission the IQ Battery units. Once connected to the IQ Gateway, refer to the Enphase Installer App help topics for more information.

Section E

Installing the ID cover

Ensure the wiring cover(s) for all IQ Batteries in the system are closed and secured.

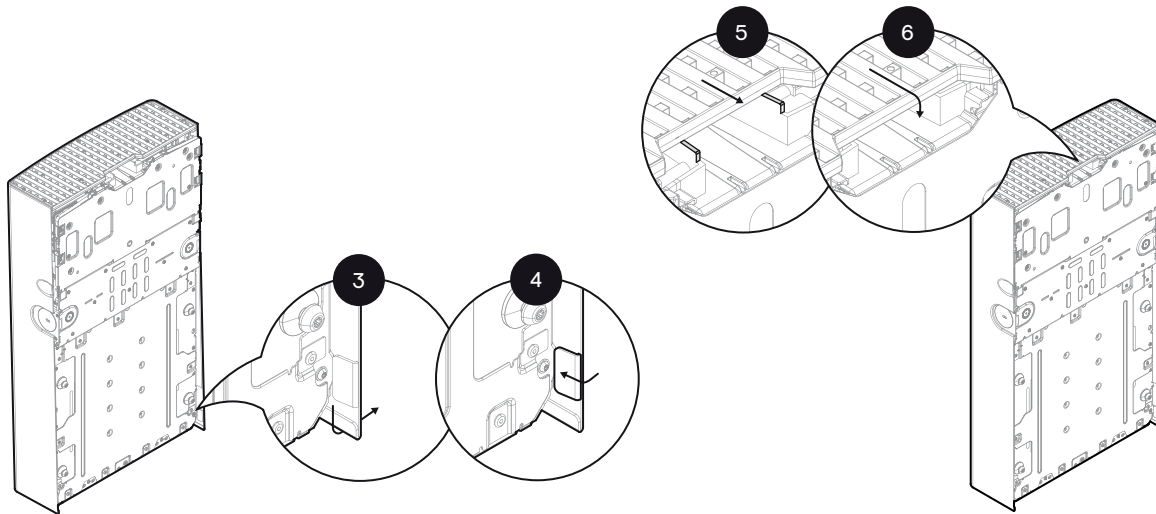
 Risk of equipment damage. Make sure no wires are pinched before placing the cover.



Slide on the IQ Battery 5P cover in the indicated direction such that the tab of the cover in the highlighted region rests and slides on the latch in the IQ Battery 5P chassis.

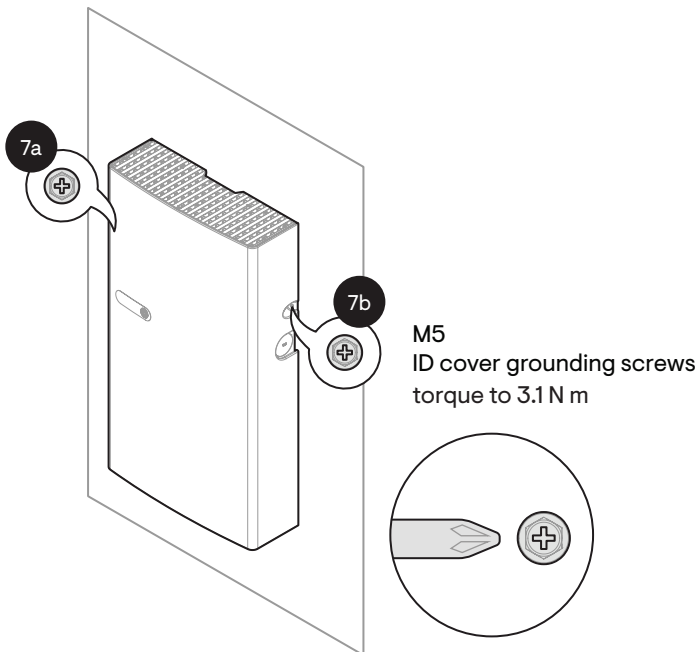
Peel off this sticker before installing the ID cover.

Section E - Installing the ID cover



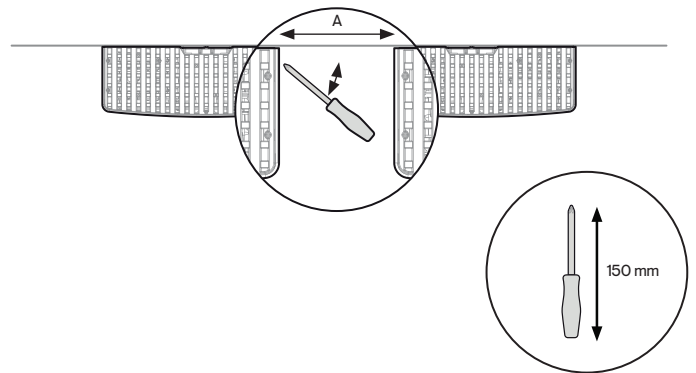
Before releasing the IQ Battery 5P cover, pull out the lower edges while sliding in the cover and make sure the tabs are locked to the back plate.

Push in the top portion of the cover as shown and make sure that the cover is locked in place.



Fasten the cover to the backplate using two M5 ID cover grounding screws (torque to 3.1 N m) to fix the cover firmly in place and to comply with EMI and EMC requirements.

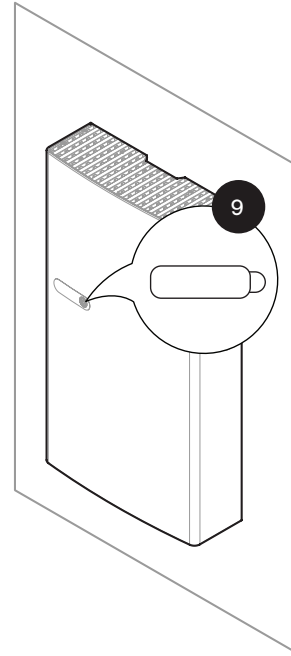
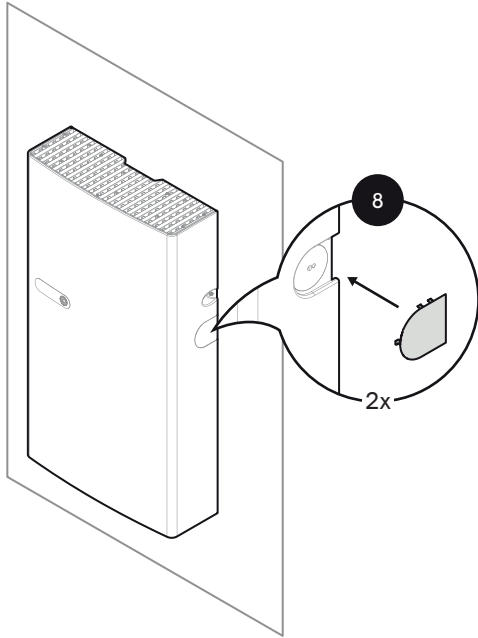
NOTE: Use a screwdriver or electric drive; do not use impact drives or impact drills.



If the spacing 'A' between the units is < 165 mm, a screwdriver of a maximum length of 150 mm should be used to fasten the cover to the backplate.

NOTE: The screw is accessible at an angle to the wall.

Section E - Installing the ID cover

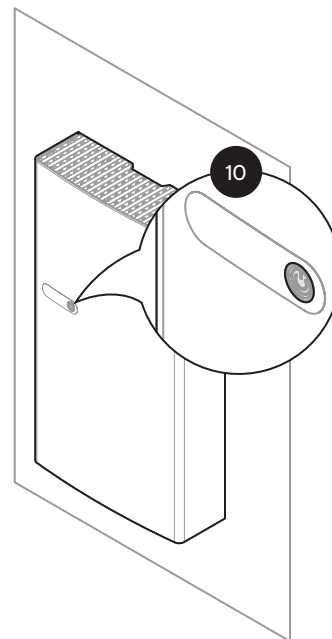


Peel off the sticker after the installation is complete.

After installing the cover, the conduit cover should be installed to cover the opening in the IQ Battery 5P cover on the side.

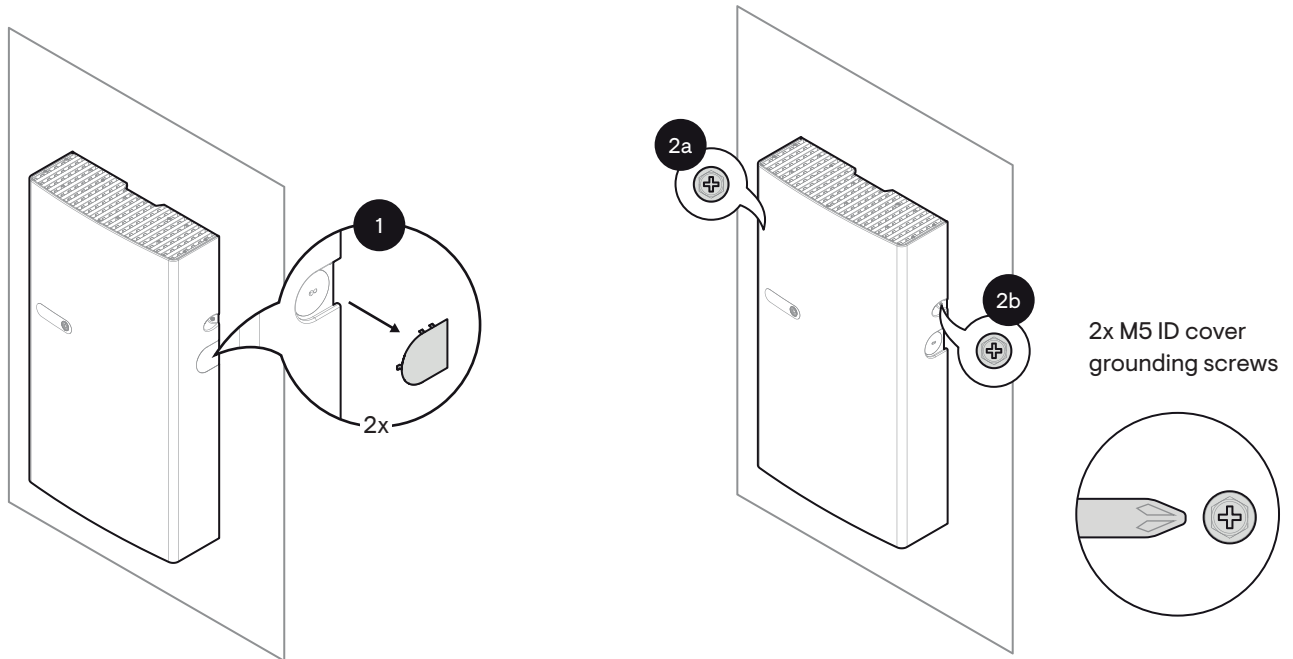
If a conduit or cable gland is installed, the conduit cover is not necessary on that side.

If no conduit or cable gland is installed, then the conduit cover should be installed to cover the opening in the IQ Battery 5P cover on the other side.



Disassembling the IQ Battery 5P cover

Refer to these instructions when you need to remove the cover. This is not a step required for installing or commissioning the IQ Battery 5P.

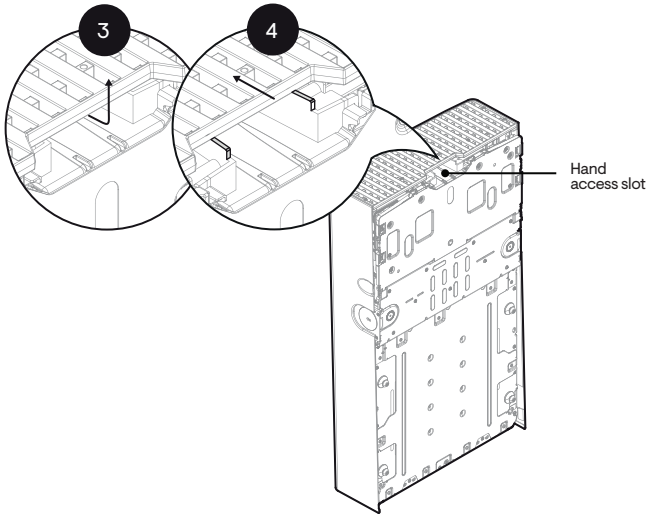


Remove the conduit covers from both sides of the IQ Battery 5P cover.

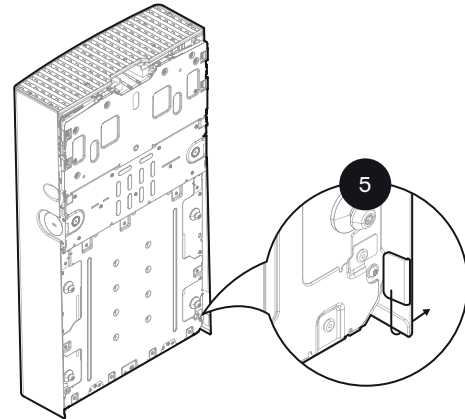
Remove the two M5 ID cover grounding screws, which are used to fix the cover to the backplate.

NOTE: Use a screwdriver or electric drive; do not use impact drives or impact drills.

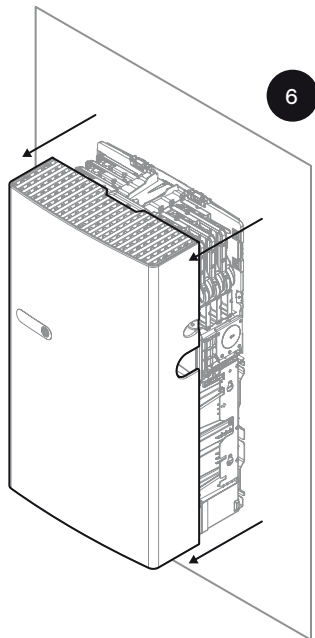
Disassembly of IQ Battery 5P cover



Using the hand access slot, pull the top plastic grill slightly, as shown in step 3.
Unlock the top plastic cover from the ribs, as shown in step 4.
Make sure the cover is slightly inclined after this step.



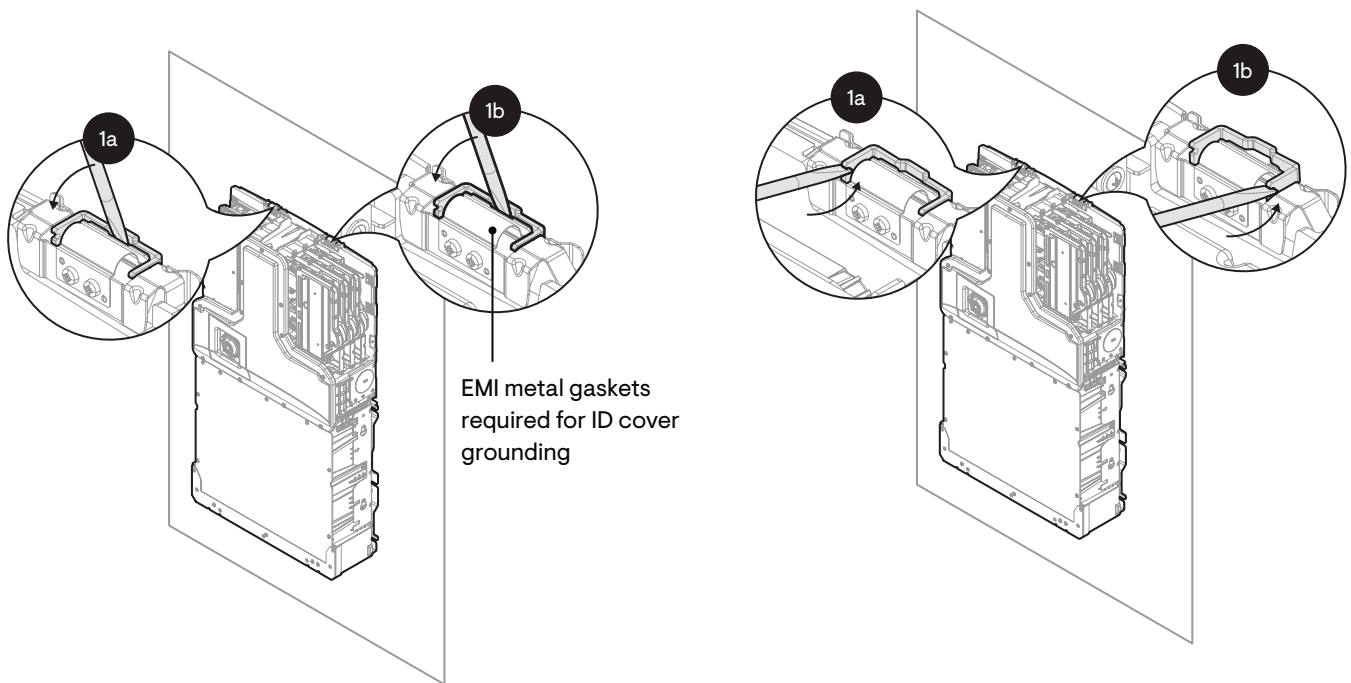
Pull out the lower portion of the cover in order to unlock the angular tabs and move it slightly away from the wall.




Pull the cover off in the indicated direction.

Disengaging the Anchor Clip

Refer to these instructions when you need to remove the Anchor Clip. This is not a required step prior to commissioning.



Disengaging of the Anchor Clip can be done by lifting it up using a flat-head screwdriver or nose plier. Installers need to carefully insert the tool at the back slot, as shown below, and pull the clip upwards.

 Ensure not to touch or damage the EMI metal gaskets while removing the clips. EMI metal gaskets are delicate and need to be handled carefully.


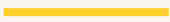






Alternatively, Anchor Clips can also be lifted by using the front slots on either side of the clip using a flat-head screwdriver.

Operation

LED overview

After being commissioned, the LED flashes yellow while each IQ Battery 5P boots up. If the LED rapidly flashes green for more than two minutes, the battery is in trickle charge mode and will remain so until it reaches a minimum state of charge (up to 30 minutes).

After the IQ Battery 5P is booted up, the LED becomes blue or green, depending on the charge level. If the LED flashes yellow after one hour or changes to a flashing red state, contact Enphase Support at enphase.com/contact/support.

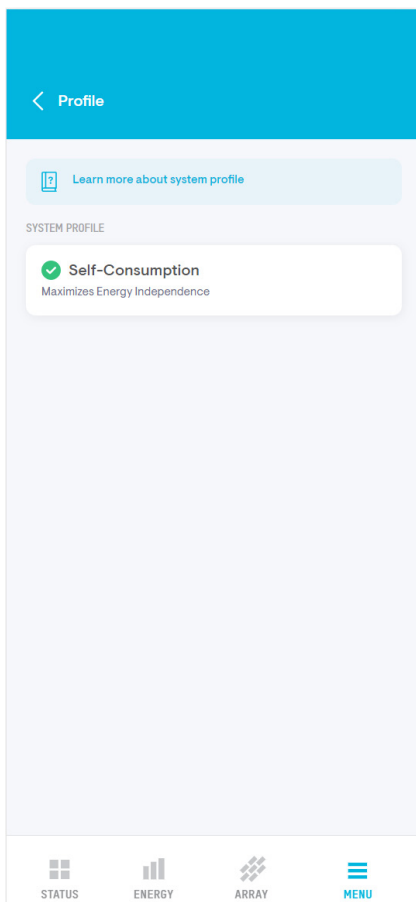
LED COLOUR	STATE	DESCRIPTION
	Rapidly flashing yellow	Starting up/establishing communications.
	Solid yellow	Not operating due to high temperature. See Troubleshooting .
	Soft pulse blue	Discharging.
	Solid blue or green	Idle. Colour transitions from blue to green as the state of charge increases. Check the Enphase App/Enphase Installer Platform for charge status.
	Soft pulse green	Charging.
	Red double flash	IQ Battery 5P is in an error state. Contact Enphase Support to troubleshoot the issue.
	Red triple flashes	DC control switch is OFF, and AC from external source is present.
	Off	DC control switch is OFF, and AC from external source is not present.

Operation

Operating mode

The grid-tied IQ Battery 5P supports self-consumption mode as default. In this mode, the battery charges when there is excess solar power production and discharges to support the electric loads whenever the solar power is insufficient. During a grid outage, the grid-tied IQ Battery 5P stops functioning.

For more information on Operation modes, refer to the Storage System Owner's guide at enphase.com/en-uk.



Operation

Troubleshooting

If the IQ Battery(ies) are not operating correctly, follow these troubleshooting steps. If the issue persists, contact Enphase Support at <https://enphase.com/contact/support>.

1. If the IQ Battery(ies) do not operate, check the temperature in the room and increase cooling and/or ventilation as required. Check that the bottom, top, and sides of IQ Battery 5P have at least 15 cm (6 in) clearance from the wall.
2. If the IQ Battery 5P LED is off, turn off the breaker for the branch circuit, wait for at least one minute, and turn it back on.

NOTE: IQ Battery 5P has multiple field-replaceable parts. These must be replaced by trained service personnel. Contact Enphase Support before replacing any part.

NOTE: During a brownout or blackout, IQ Battery 5P powers down automatically. This is normal. When power is restored, it automatically starts up again.

3. If you do not see IQ Battery 5P information in the Enphase App, check that the IQ Gateway and the internet connection are working.
4. If the issue persists, contact Enphase Support at <https://enphase.com/contact/support>.

Limitation of Use:

Your IQ Battery 5P unit is not intended for use as a primary or backup power source for life-support systems, other medical equipment, or any other use where product failure could lead to injury, loss of life, or catastrophic property damage. Enphase disclaims any and all liability arising out of any such use of your IQ Battery 5P unit. Further, Enphase reserves the right to refuse to provide support in connection with any such use and disclaims any and all liability arising out of Enphase's provision of, or refusal to provide, support for your IQ Battery 5P device in such circumstances.

Shutdown procedure

1. Isolate the AC power by de-energizing the AC power supply to the IQ Batteries.
2. Using a multimeter, confirm that there is no AC power present.
3. Ensure the DC switch is in the OFF position using the following steps:
 - If the IQ Battery 5P LED is OFF, the DC switch is in the OFF position, and the IQ Battery 5P is in shutdown mode.
 - If the IQ Battery 5P LED (any colour) is ON, press the DC switch once to turn it OFF and place IQ Battery 5P in shutdown mode.

Safety

IMPORTANT SAFETY INSTRUCTIONS. SAVE THESE INSTRUCTIONS.

This guide contains important instructions that you must follow during the installation and maintenance of the Enphase IQ Battery(ies). Failing to follow any of these instructions may void the warranty (enphase.com/warranty). Refer to the Safety datasheet at enphase.com/en-uk.

In case of fire or other emergency

In all cases:

- If safe to do so, switch off the AC breaker for the IQ Battery 5P circuit, and if an isolator switch is present, switch off the AC isolator for the IQ Battery 5P circuit.
- Contact the fire department or other required emergency response team.
- Evacuate the area.
- Contact Enphase Support at <https://enphase.com/contact/support>

In case of fire:

- When safe, use a fire extinguisher. Suitable types are A, B, and C dry chemical fire extinguishers. Additional extinguishing media include carbon dioxide or alcohol-resistant foams.

In case of flooding:


- Stay out of the water if any part of the IQ Battery(ies) or wiring is submerged.
- If possible, protect the system by finding and stopping the source of the water and pumping it away.
- If water has contacted the battery, call your installer to arrange an inspection. If you are sure that water has never contacted the battery, let the area dry completely before use.

In case of unusual noise, smell, or smoke:

- Ensure nothing is in contact with the IQ Battery(ies) or in the venting area of the IQ Battery(ies).
- Ventilate the room.

In case of electrolyte exposure:

The Enphase IQ Battery 5P has a lithium iron phosphate (LFP) battery that contains organic electrolyte and is sealed in a protective case. The leaked electrolyte is toxic and highly flammable. The leaked electrolyte is colorless and has a sweet odor. Electrolyte fluid tends to evaporate quickly, leaving behind a white, grainy substance. If an odor is obvious, proceed to the following steps:

 **DANGER:** DO NOT TOUCH OR INGEST ANY LIQUID SUSPECTED TO BE BATTERY ELECTROLYTE.

- Evacuate personnel to a safe area and keep unauthorized personnel away.
- Isolate the spill area to a minimum distance of 75 feet (25 m).
- Eliminate all ignition sources (no smoking, sparks, flames, or hot equipment) in the immediate area around the spill.
- Do not touch or walk through spilled material.
- Avoid breathing vapors. Ensure adequate ventilation.
- Use personal protective equipment.
- Contact Enphase Support at <https://enphase.com/contact/support> or 1800 006 374

Emergency telephone number (Chem Tel): +01 (813) 248-0585

Safety and advisory symbols



DANGER: This indicates a hazardous situation, which, if not avoided, will result in death or serious injury.



WARNING: This indicates a situation where failure to follow instructions may be a safety hazard or cause equipment malfunction. Use extreme caution and follow instructions carefully.



NOTE: This indicates information particularly important for optimal system operation. Follow instructions carefully.

Safety instructions



DANGER: Risk of electric shock. Risk of fire. Only qualified electricians should install, troubleshoot, or replace the IQ Battery(ies).



DANGER: Risk of fire or explosion. Only qualified personnel using personal protective equipment (PPE) should transport or handle the IQ Battery(ies).



DANGER: Risk of explosion. Do not dispose of IQ Battery(ies) in a fire or by burning. The IQ Battery(ies) can explode.



DANGER: Risk of fire or explosion. This product is designed for stationary installation only and should be used accordingly. It is not designed for mobile applications such as installation on vehicles and trailers and should not be used in such applications.



DANGER: Risk of fire. During use, when stored, or during transport, keep the IQ Battery(ies) in an area that is well-ventilated and protected from the elements, where the ambient temperature and humidity are within -20° C to 55° C (-4° F to 131° F) and 5% to 95% RH, non-condensing, preferably out of direct sunlight. Do not install the IQ Battery(ies) at elevations over 2500 m (8202 ft) above sea level.



DANGER: Risk of fire. If the IQ Battery(ies) generate smoke, remove AC power from the Enphase System and turn the DC control switch to the off position so that charging/discharging stops.



DANGER: Risk of electric shock. Do not use Enphase equipment in a manner not specified by the manufacturer. Doing so may cause death or injury to persons or damage to equipment.



DANGER: Risk of electric shock. Do not install the IQ Battery(ies) without first removing AC power from the photovoltaic system. Disconnect the power coming from the photovoltaics before servicing or installing.




DANGER: Risk of electric shock. Always de-energize the AC branch circuit during an emergency and/or before servicing the IQ Battery(ies).





DANGER: Risk of electric shock. Risk of high short-circuit current. Observe the following precautions when working on batteries:


- Remove watches, rings, or other metal objects.
- Use tools with insulated handles.
- Wear insulating gloves and boots.
- Do not lay tools or metal parts on top of batteries.


Safety

 **DANGER:** Risk of electric shock. Risk of fire. Do not work alone. Someone should be in the range of your voice or close enough to come to your aid when you work with or near electrical equipment.


 **DANGER:** Risk of fire. Do not allow or place flammable, sparking, or explosive items near the IQ Battery(ies).


 **DANGER:** Risk of electric shock. In areas where flooding is possible, install the IQ Battery(ies) at a height that prevents water ingress.

 **DANGER:** Risk of electric shock. AC voltage is present at the output when the DC switch is on.


 **DANGER:** Risk of electric shock. Branch circuit protection must be off before switching DC power on or off.

 **DANGER:** Risk of electric shock. The DC switch must be in the OFF position for shipping and service.


 **WARNING:** Risks of electric shock, energy hazard, and chemical hazard. Do not disassemble.


 **WARNING:** Risk of equipment damage. During use, storage, transport, or installation, always keep the IQ Battery(ies) in an upright position.


 **WARNING:** You must install the IQ Battery(ies) only on a suitable wall using an Enphase wall-mount bracket.


 **WARNING:** Before installing or using the IQ Battery(ies), read all instructions and cautionary markings in this guide and on the equipment.

 **WARNING:** Do not install or use the IQ Battery(ies) if it has been damaged in any way.


 **WARNING:** Do not exceed the maximum number (1) of IQ Batteries in a 20 A AC branch circuit.


 **WARNING:** Do not sit on, step on, place objects on, or insert objects into the IQ Battery(ies).


 **WARNING:** Do not place beverages or liquid containers on top of the IQ Battery(ies). Do not expose the IQ Battery(ies) to liquids or flooding.

 **WARNING:** When placing the IQ Battery(ies) in storage, ensure to follow the shutdown procedure and confirm that AC power is not present and that the DC switch is in the OFF position. While in storage, damage to the battery can occur from over-discharge. If the battery state of charge falls to 0%, the IQ Battery(ies) can be damaged or destroyed. Because of this, the IQ Battery(ies) must only be stored for a limited amount of time.

- The IQ Battery(ies) must be installed and energized by the “Must Energize By” date on the shipping box label.
- The IQ Battery(ies) must have a charge state of no more than 30% when placed in storage. To do this, the IQ Battery(ies) must be placed in Sleep Mode.
- If the IQ Battery(ies) has already been installed, it must be placed into Sleep Mode prior to uninstalling. A battery in Sleep Mode can be stored for a maximum of two months after being placed into Sleep Mode.

 **NOTE:** Perform installation and wiring, including protection against lightning and resulting voltage surges, in accordance with all applicable local electrical codes and standards.

 **NOTE:** Using unapproved attachments or accessories could result in damage or injury.

 **NOTE:** Install properly rated overcurrent protection as part of the system installation.


 **NOTE:** Use a G99-approved third-party network protection relay for IQ Battery 5P units with a system size above 17 kW per phase.




Environmental Protection


ELECTRONIC DEVICE: DO NOT THROW AWAY. Waste electrical products should not be disposed of with household waste.


Proper disposal of batteries is required. Refer to your local codes for disposal requirements.


 **NOTE:** To ensure optimal reliability and to meet warranty requirements, the IQ Battery units must be installed and/or stored according to the instructions in this guide.

 **NOTE:** The Enphase IQ Battery(ies) are intended to operate with an internet connection. Failure to maintain an internet connection may have an impact on the warranty. See Limited Warranty for full terms and services (enphase.com/warranty).


 **NOTE:** When replacing Enphase IQ Battery(ies), you must replace it with an IQ Battery(ies) of the same type with the same AC current rating.

 **NOTE:** When disconnected and stored, no automatic charge of the battery is possible.

 **NOTE:** Properly mount the IQ Battery(ies). Ensure that the mounting location is structurally suited to bearing the weight of the IQ Battery(ies).

 **NOTE:** During use, storage, and transport, keep the IQ Battery(ies):

- Properly ventilated
- Away from the water, other liquids, heat, sparks, and direct sunlight
- Away from excessive dust, corrosive and explosive gases like ammonia, and oil smoke
- Away from direct exposure to gas exhaust, such as from motor vehicles
- Free of vibrations
- Away from falling or moving objects, including motor vehicles. If mounted in the path of a motor vehicle, we recommend a 91 cm (36 in.) minimum mounting height
- At an elevation of lower than 2,500 m (8202 ft) above sea level
- In a location compliant with fire safety regulations
- In a location compliant with local building codes and standards

 **NOTE:** Conditions for the IQ Battery 5P installation site also apply to storage conditions.

Compliance with EU Directives

This product complies with the following EU Directives and can be used in the European Union without any restrictions.

- Battery Directive 2006/66/EC
- Electro Magnetic Compatibility (EMC) directive 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of Hazardous Substances (RoHS) 2011/65/EU

The full text of the EU declaration of conformity (DoC) is available at:

<https://enphase.com/en-gb/installers/resources/documentation>

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Note for third-party products:

Any third-party manufacturer or importer product(s) used to install or commission Enphase product(s) shall comply with the applicable EU Directive(s) and requirements in the European Economic Area (EEA). It is the responsibility of the installer to confirm that all such products are labelled correctly and have the required compliant supporting documentation.

Enphase Support: <https://enphase.com/contact/support>

Revision history

REVISION	DATE	DESCRIPTION
140-00333-02	October 2023	Updated the “LED status”, “Control wiring”, and “What’s in the box” sections and made editorial updates throughout the document
140-00333-01	July 2023	Initial release

Installer notes

Installer notes

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