Power Block

PDF

Express Plus DC Fast Charging Platform

Installation Guide

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions for Express Plus that shall be followed during installation, operation and maintenance of the unit.

WARNING:

1. Read and follow all warnings and instructions before servicing, installing, or operating the ChargePoint® product. Install and operate only as instructed. Failure to do so may lead to death, injury, or property damage, and will void the Limited Warranty.
2. Only use licensed professionals to install your ChargePoint product and adhere to all national and local building codes and standards. Before installing the ChargePoint product, consult with a licensed contractor, such as a licensed electrician, and use a trained installation expert to ensure compliance with local building and electrical codes and standards, climate conditions, safety standards, and all applicable codes and ordinances. Inspect the product for proper installation before use.
3. Always ground the ChargePoint product. Failure to ground the product can lead to risk of electrocution or fire. The product must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor shall be run with circuit conductors and connected to the equipment grounding terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE shall comply with all applicable codes and ordinances.
4. Install the ChargePoint product using a ChargePoint-approved method. Failure to install on a surface that can support the full weight of the product can result in death, personal injury, or property damage. Inspect the product for proper installation before use.
5. The product is not suitable for use in Class 1 hazardous locations, such as near flammable, explosive, or combustible vapors or gases.
6. Supervise children near this device.
7. Do not put fingers into the electric vehicle connector, or touch fingers to charging rails.
8. Do not use this product if any cable is frayed, has broken insulation, or shows any other signs of damage.
9. Do not use this product if the enclosure or the electric vehicle connector is broken, cracked, open, or shows any other signs of damage.
10. Wire and wire terminal information are provided in the ChargePoint product Site Design Guide and Installation Guide.
11. Torques for installation of wire terminals are provided in the ChargePoint product Installation Guide.
12. The ChargePoint product maximum operating temperature is 50 °C (122 °F).
13. Site operator is responsible for making sure that no mechanical damage occurs and the pantograph is installed in a location that doesn't present a safety risk. If used carelessly, the pantograph could critically injure someone just from the extension force.

IMPORTANT: Under no circumstances will compliance with the information in a ChargePoint guide such as this one relieve the user of the responsibility to comply with all applicable codes and safety standards. This document describes approved procedures. If it is not possible to perform the procedures as indicated, contact ChargePoint. ChargePoint is not responsible for any damages that may result from custom installations or procedures not described in this document or that fail to adhere to ChargePoint recommendations.

Document Accuracy

The specifications and other information in this document were verified to be accurate and complete at the time of its publication. However, due to ongoing product improvement, this information is subject to change at any time without prior notice. For the latest information, see our documentation online at chargepoint.com/guides.

Copyright and Trademarks

Symbols

This guide and product use the following symbols:

DANGER: Risk of electric shock

WARNING: Risk of personal harm or death

CAUTION: Risk of equipment or property damage

IMPORTANT: Crucial step for installation success

Read the manual for instructions

Ground/protective earth

Illustrations Used in This Document

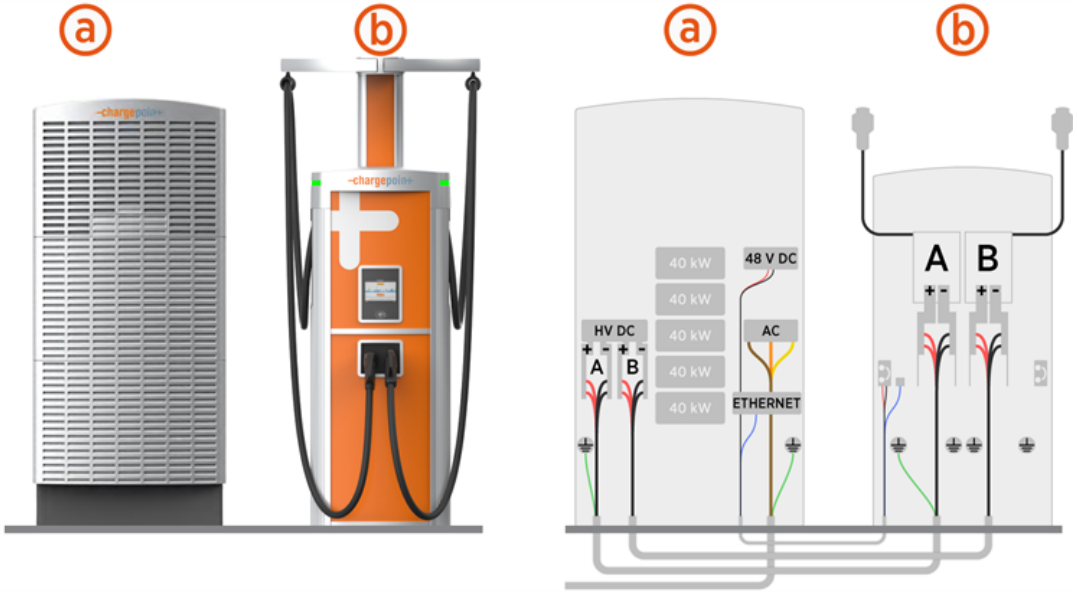
The illustrations used in this document are for demonstration purposes only and may not be an exact representation of the product. However, unless otherwise specified, the underlying instructions are accurate for the product.

Contents

Introduction 1

Express Plus Components

Express Plus is a scalable DC fast charging platform. It consists of Power Blockand Power Link.



(a) Power Block contains Power Modules, which convert the upstream AC power into DC power. A Power Block can accommodate up to five Power Modules, each of which can output up to 40 kW of DC power. Power Block provides the charging current on two HV DC buses. It also provides 48 V DC power and Ethernet to connected Power Links.

(b) Power Link receives HV DC power from Power Block to charge a vehicle. It can be installed with one or two charging cables. With two cables, it can simultaneously charge two vehicles.

From simultaneous charging of two vehicles at up to 500 kW from single station and sequential charging of six or more vehicles, Express Plus can be configured to meet various charging needs. Multiple Power Blocks and Power Links can be interconnected in many ways with HV DC wires for charging current, Ethernet cables for network communications, and 48 V DC wires to power the electronics in Power Link. The illustration above shows a sample wiring between single Power Block and Power Link.

IMPORTANT: Contact ChargePoint representative for the ChargePoint approved wiring architectures. Non-approved wiring between Power Blocks and Power Links may not enable Express Plus to function as expected.

For full specifications and certifications, refer to the *Express Plus Datasheet* at chargepoint.com/guides.

Wires Entry

- Stub-up entry: The wires can be entered into the Power Link 1000 and Power Block from the bottom side through conduits or armored cables laid underground.
- Surface entry: At sites where the wires cannot be laid underground, they can be entered into the Power Link 1000 and Power Block from the rear side through wireways or armored cables laid above ground.

Express Plus Guides

Access ChargePoint documents at chargepoint.com/guides.

Document	Content	Primary Audiences
Datasheet	Full station specifications	Site designer, installer, and station owner
Site Design Guide	Civil, mechanical, and electrical guidelines to scope and construct the site	Site designer or engineer of record
Concrete Mounting Template Guide	Instructions to embed the charging station template in a concrete pad with anchor bolts and conduit placement (these may also be included in the Site Design Guide)	Site construction contractor
Surface Conduit Entry Kit Guide	Instructions for sites where conduit cannot be run underground	Installer
Construction Signoff Form	Checklists used by contractors to ensure the site is correctly completed and ready for product installation	Site construction contractor
Installation Guide	Anchoring, wiring, and powering on	Installer
Operation and Maintenance Guide	Operation and preventive maintenance information	Station owner, facility manager, and technician
Service Guide	Component replacement procedures, including optional components	Service technician
Declaration of Conformity	Statement of conformity with directives	Purchasers and public

Questions

For assistance, navigate to *chargepoint.com/support* and contact technical support using the appropriate region-specific number.

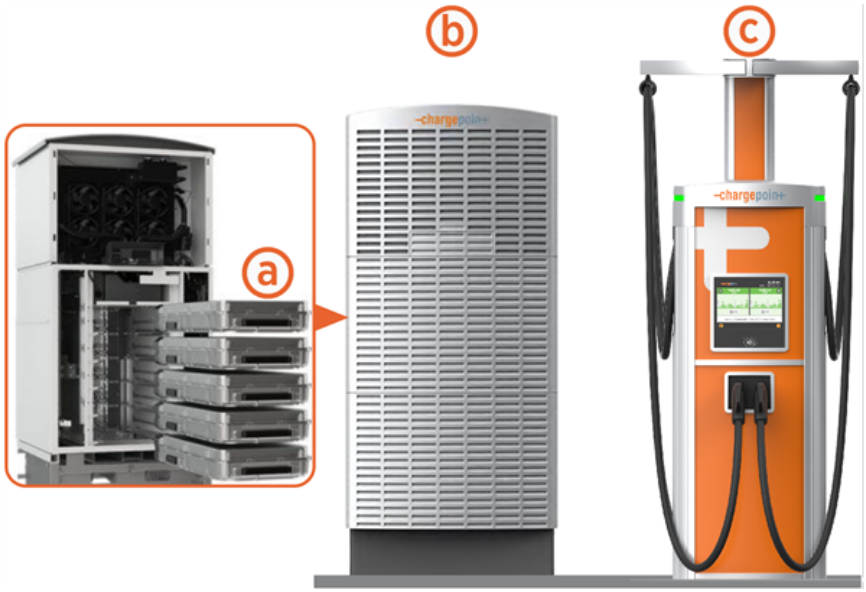
Prepare for Installation 2

This Guide

Follow this topic to install the ChargePoint® Express Plus DC fast-charging platform. You will need at least two people to install this system.

Express Plus Components

Express Plus is a scalable DC fast charging platform that is based on the modular building blocks outlined below.



(a) Power Module: Self-contained AC to DC power conversion system that operates an output of between 100 and 1000 V and delivers up to 40 kW of power.

(b) Power Block: Power cabinet that houses up to five Power Modules and supplies DC output power to Power Link 1000s. Each Power Block can output up to 200 kW of power.

(c) Power Link 1000: Dispenser that delivers DC power to EVs through flexible, lightweight charging cables equipped with industry standard connectors such as CCS1, CCS2, CHAdeMO, and NACS. The Power Link 1000 can accommodate up to two charging cables. Built-in cellular networking enables remote management via the ChargePoint Platform.

Check Site Readiness

The Power Block and Power Link 1000 can be installed on either a newly poured pad or an existing concrete surface. The Power Block and Power Link 1000 also support wiring run above ground for locations where no underground wiring access exists (such as parking garages) or where underground junction boxes are not permitted.

WARNING: If not installed correctly, the ChargePoint charging station may pose a fall hazard, leading to death, personal injury, or property damage. Always use the provided Concrete Mounting Template shown preinstalled here, or a ChargePoint-approved surface mounting solution, to install the ChargePoint charging station. Always install in accordance with applicable codes and standards using licensed professionals. Non approved installation methods are performed at the risk of the contractor and void the Limited One-Year Parts Exchange Warranty.

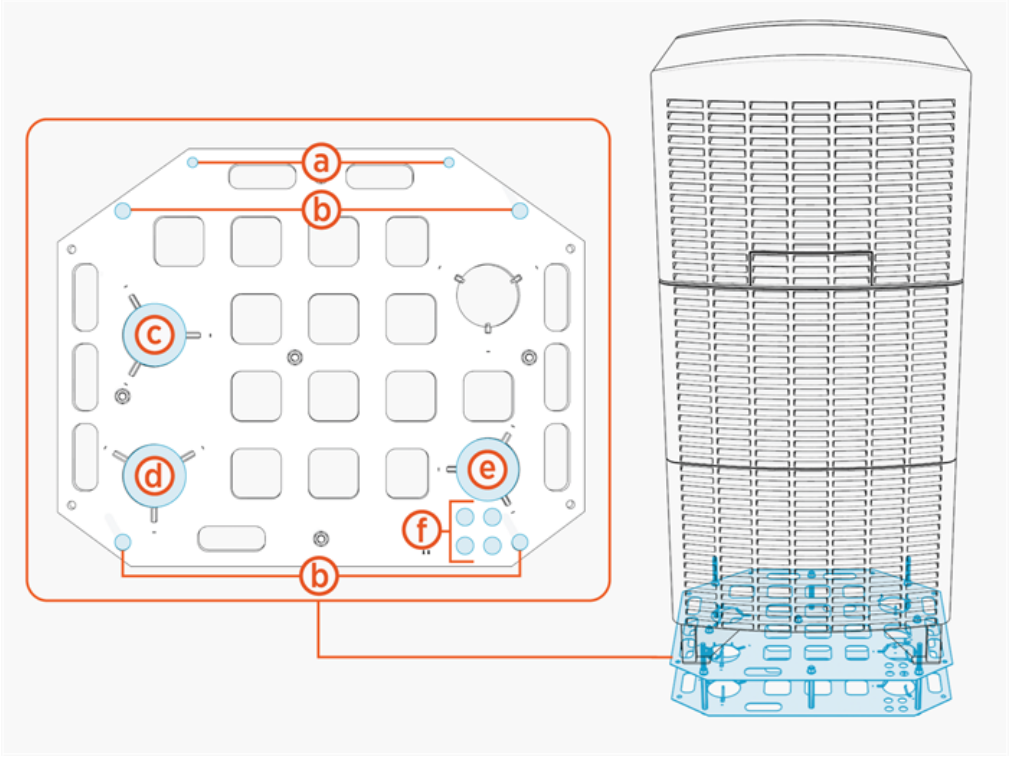
Before beginning work, check that the site meets these civil and mechanical requirements:

Express PlusPower Block Pre-Installation Checklist		
	Each concrete pad must be fully cured and smooth, and must not exceed a slope of approximately 20 mm per meter (0.25 in per ft).	☐
	Each Power Block concrete pad has either a site drawing approved by a structural engineer for this specific site, or an existing concrete pad that has been approved by a structural engineer for the Power Block's dimensions and weight.	☐
	Each Power Link 1000 pad must conform to the design requirements listed in the *Express Plus Site Design Guide*.	☐
	Walls, fences, or slopes must not prevent water from draining from the pad.	☐
	You have sufficient space around the installation pad to use a forklift and other lifting equipment, unpack crates, remove packing materials, and allow two people to freely move throughout the area.	☐

Power Block Readiness

Concrete Mounting Template (CMT)

The Power BlockConcrete Mounting Template (CMT) should already be embedded in the concrete pad, unless the site is using a surface-conduit entry. Verify the AC and DC conduits are positioned correctly.



(a) M16 anchor bolt (x2) locations for mounting SCE gland plate (applicable only for surface entry of wires).

(b) M16 anchor bolt (x4) locations 76 mm (3 in) above concrete for mounting Power Block.

(c) HV DC output B wires exit.

(d) HV DC output A wires exit.

Note: The DC output of Power Block is the DC input for Power Link 1000.

(e) AC input wires entry.

(f) LV DC output, shunt trip wires, and Ethernet cable exit.

- One for shunt trip (if used).
- Three for LV wires and Ethernet cable.

IMPORTANT: In regions that use conduits, the conduits must be laid per the conduit layout defined by the Concrete Mounting Template (CMT) and the outer diameter of conduits must not exceed the trade sizes listed below. In regions that do not use conduits and/or use armored cables, the cables may be laid per the conduit layout defined by the CMT.

The Concrete Mounting Template CMT must be embedded with its top panel positioned 51 mm (2 in) below the concrete surface.

The following table provides the maximum size and quantity of conduits that can be installed on Power Block:

Conduits For	Conduit Quantity x Trade Size	
	North America	Europe
HV DC output wires	2 x 4 inch max. or 4 x 3 inch max.	2 x 110 mm max. or 4 x 78 mm max.
AC input wires	1 x 4 inch max.	1 x 110 mm max.
LV DC, shunt trip, and Ethernet output wires	4 x 1 inch max.	4 x 25 mm max.

IMPORTANT:

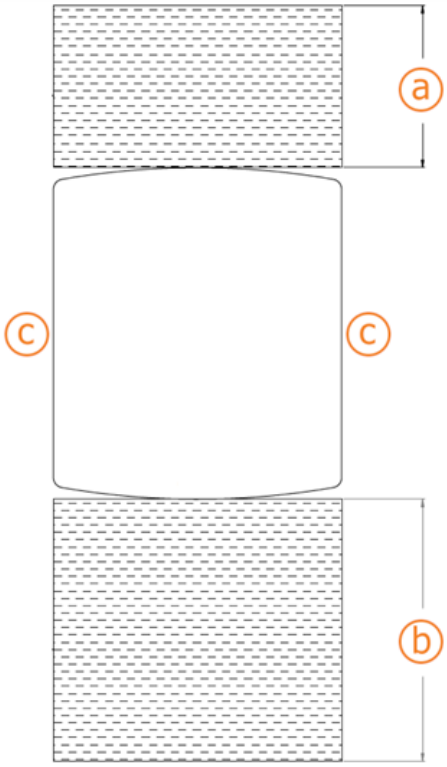
- The actual conduit size and quantity must be chosen based on site-specific wiring requirements.

  For wire specifications, see the *Express Plus Site Design Guide*.

Clearances

The Power Block requires minimum site and service clearances.

Note: Image not to scale.

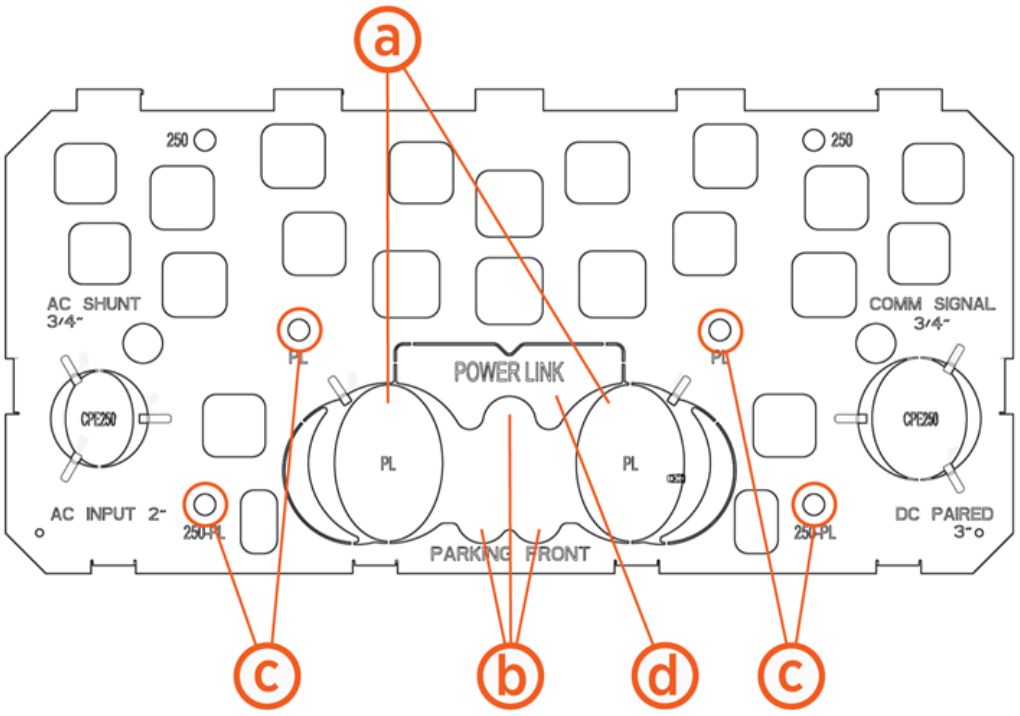


Power Block	Clearance
a. Rear	610 mm (24 in) recommended (for rear service access) 457 mm (18 in) required
b. Front	1000 mm (39.3 in)
c. Side	51 mm (2 in)

Power Link 1000 Readiness

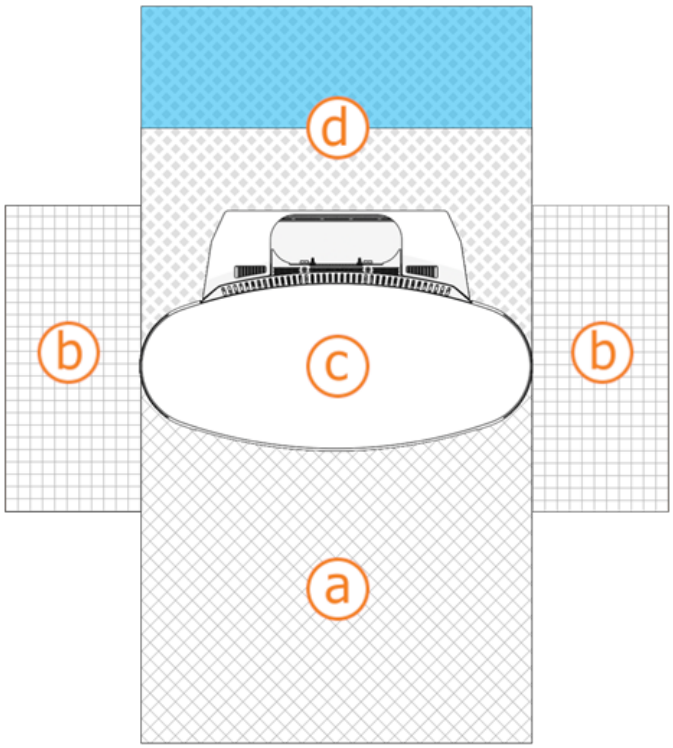
Concrete Mounting Template (CMT)

If the Power Link 1000 is pedestal-mounted and using stub-up wiring, ensure the Power Link 1000 Concrete Mounting Template (CMT) is already embedded in the concrete pad.



Space For	Max. Size	Max. Quantity
(a) DC input conductors' conduit entry	Each up to 91 mm (3.5 in) trade size conduit	2
(b) 48 V DC wires' and Cat6 Shielded Twisted Pair (STP) Ethernet cable's conduit entry	21 mm (3/4 in) trade size conduit Note: Check site drawings.	3
(c) M16 anchor bolts entry	76 mm (3 in) above concrete for mounting Power Link 1000	4

Clearances



Note: Image not to scale.

Power Link 1000		Clearance
(a) Front		
	Minimum open space	610 mm (24 in)
	Door swing + width of unit	730 mm (28 3/4 in)
(b) Side		305 mm (12 in) from top corner to top corner Two Power Link 1000 units can share side clearance provided adequate clearance is allowed for Cable Management Kit (CMK) arms. Note: CMK arms cannot share side clearance.
(c) Top		
	Pedestal mounted:	26 mm (1 in) from top of Cable Management Kit (CMK)
	Overhead mounted:	305 mm (12 in) from top of Power Link 1000
(d) Rear		203 mm (8 in) or 457 mm (18 in) with liquid cooled cable. This provides clearance for CMK and liquid cool cable service. Note: If two Power Link 1000 are positioned back-to-back, there must be at least 610 mm (24 in) of shared clearance.

CAUTION: You will need greater clearance for special methods and accessories.

Special Method	Clearance
Surface conduit entry	Rear: 610 mm (24 in)

CAUTION: You must meet additional site requirements for special methods and accessories. See the *Express Plus Site Design Guide*.

General Estimates for Lifting

Electrical Readiness

If the site does not meet these basic requirements, contact ChargePoint before continuing.

- The appropriate circuit protection and metering is in place at the installation site.
- A grounding conductor that complies with local codes is properly grounded to earth at the service equipment or, when supplied by a separate system, at the supply transformer.
- A correctly rated, dedicated breaker is installed for each Power Block:

Nominal Voltage	Input Current Rating	Branch Circuit Capacity and Breaker	Breaker Size
Europe: 400 V	315 A	350 A or 400 A	400 A
North America: 480 V	260 A		350 A or 400 A

- Breakers have shunt trip capability (if specified) to each Power Block.
- All necessary electrical infrastructure has been completed per local codes and ChargePoint specifications for 3-phase power plus ground, with properly sized wire at the station. (Neutral is not required for system operation.)
- Wi-Fi and cellular signal strength meet the requirements stated in the Site Design Guide.

For questions about site specifications, refer to the *Express Plus Datasheet* and *Express Plus Site Design Guide*.

IMPORTANT: The Power Link 1000 is tested to IEC 61000-4-5, Level 5 (6 kV @ 3000 A) standards. In geographic areas that experience frequent thunderstorms, supplemental surge protection must be installed at the service panel.

Bring These Tools and Materials

Installing the Express Plus requires at least two people. Additionally, the installer must bring the following tools and materials. These are not provided by ChargePoint.

Tools

Forklift

- Rated for ≥ 680 kg (1500 lb)
- Maximum size of forklift tines:
  - Width = 102–127 mm (4–5 in)
  - Maximum thickness ≤ 57 mm (2.25 in)
- If your site has height constraints, use alternative equipment

Stepladder

Lock out/tag out equipment

Hard hat

Cut-resistant gloves

Safety glasses

Head lamp

Measuring tape or other tool to measure height, length, and distance

Level

Use hand to tighten

Box cutter

Phillips screwdriver set

- #2 Phillips screwdriver with long handle
- #3 Phillips screwdriver
- #5 Phillips screwdriver
- Right angle (90°) #5 Phillips screwdriver

Flat head screwdriver

Torx wrench set

- T20
- T25
- T30

Torx security wrench

- T25

Torque wrenches for 4 to 95 Nm (3 to 70 ft-lb)

Adjustable wrench


Socket wrench set including deep sockets, up to 25 mm


Hydraulic hole punch tool (to cut 4 inch holes in gland plate)


Multimeter with Cat III 1000 V ratings, such as Fluke 87V or similar


Wire strippers, including Ethernet (Cat6 STP) cable


Wire cutters, including Ethernet (Cat6 STP) cable


Dieelectric grease


Cable ties


Isopropyl wipes and towel roll


Coolant funnel
Two gallon coolant


Wire brush (to remove concrete from bolts)


Smartphone with: Internet connectivity


QR code scanner (usually built into the camera app)


Cable puller or fish tape


Conduit cutters (to cut up to 4 inch conduits)


Ethernet tester such as a Klein Tools VDV526-052 VDV LAN Scout Jr. Tester or similar


Ethernet (RJ45) connector crimping tool


Lug crimping tool


Torque paint pen


Permanent marker


Duct seal compound


Padlock provided by station owner if required (for security panel on Power Block)


Broom and vacuum


ChargePoint installer login credentials


Exact location of stations or units, including parking space

Ferrule crimp tool (for 16 mm^2 or 6 AWG wire)

Tightening Torque

Component (xFasteners)	Component Material	Tool	Torque
• Anchor bolt base nuts (x4)	Metal	24 mm deep socket	54 Nm (40 ft-lb)
• Anchor bolt top nuts (x4)	Metal	24 mm deep socket	95 Nm (70 ft-lb)
• Power Block enclosure mounting nuts (x7)	Metal	15 mm socket	19 Nm (168 in-lb)
• HV DC output wire lug nuts (x16)	Metal	18 mm socket	21 Nm (15.5 ft-lb)
• DC fuse mounting nuts (x6)	Metal	15 mm socket	19 Nm (14 ft-lb)
• AC input wire lug nuts (x12)	Metal	19 mm socket	21 Nm (15.5 ft-lb)
• Power Module rack retention nuts	Metal	15 mm	19 Nm (14 ft-lb)
• Pedestal rear and front upper cover screws (x10) • Pedestal rear and front lower cover screws (x4) • Pedestal side cover screws(x10)	Metal	T30 Torx	7.0 Nm (62 in-lb)
• Enclosure top cover screw (x4) • Enclosure upper side cover screws (x16) • Enclosure lower side cover screws (x12)	Metal	T30 Torx	7.0 Nm (62 in-lb)

Materials

- AC and ground conductors as required by site drawings
- DC conductors as required by site drawings
- 48 V DC wiring as required by site drawings
- Shunt trip wiring (if on site drawings)

- Power Block DC and AC lugs:
  - Plated copper compression lugs (not mechanical)
  - Must fit M12 stud size
  - Must fit 44.5 mm (1.75 in) hole spacing
  - 2-hole specified for North America
  - Maximum tongue width ≤ 50.8 mm (2 in)
- Note: Check site drawings for quantity of lugs.
- Power Link 1000 DC lugs:
  - Copper plated compression lugs (not mechanical)
  - Must fit M12 stud size
  - Must fit 44.5 mm (1.75 in) hole spacing
  - 2-hole specified for North America
  - Maximum tongue width:
    - ≤ 48 mm if 2 conductors per line
      or
    - ≤ 24.5 mm if 3 conductors per line
- Note: Check site drawings for quantity of lugs.
- Cat6 Shielded Twisted Pair (STP) Ethernet wiring
  Note: FTP, UTP, and lesser grades of cable do not have the required noise immunity
- RJ45 shielded connectors
- Type LB conduit body (for overhead installation only) - maximum 3 inch

Check Express Plus Shipping Crates

Each Express Plus ships in multiple crates. Ensure you have all components at the installation site.

Note:Refer to the *Power Link 1000 Installation Guide* for all the components' list.

CAUTION: Always transport and store the charging components in their original packaging. Use appropriate lifting equipment (forklift or crane, lifting straps, and any corresponding attachments and accessories). Ensure the load rating of all lifting equipment is adequate for the weight of the crated components.

CAUTION: Keep components in original packaging, free of moisture, and protected from damage until you install or service them at the site. Store all shipments of components in a dry covered location and protect from moisture.

IMPORTANT: Leave components in the shipping crate until needed. When removing, protect them from damage (such as scratches) by placing them flat on a blanket or tarp, face up. Do not stand up cover panels, as they may be knocked or blown over. Cover charging connectors to prevent damage or ingress.

Power Block	• Power Block unit(s)
	• Pedestal
	• Gland plates
	• Enclosure (upper and lower cabinets together)
	  • Lower heat exchanger (dry box hex)
	  Note: This ships in a box inside the lower cabinet of the enclosure.
	• Fuses
	• Doors and covers
	  • Lower door preinstalled

Power Module	• Up to five per Power Block
Installation Kit	• Duct seal compound • Propylene glycol coolant Note: The coolant label references its Material Safety Datasheet. • T25 Torx security screwdriver • Coolant funnel

WARNING: Lower heat exchanger and each Power Module are heavy. Two people are needed to install these components.

Express Plus Guides

Access ChargePoint documents at chargepoint.com/guides.

Document	Content	Primary Audiences
Datasheet	Full station specifications	Site designer, installer, and station owner
Site Design Guide	Civil, mechanical, and electrical guidelines to scope and construct the site	Site designer or engineer of record
Concrete Mounting Template Guide	Instructions to embed the charging station template in a concrete pad with anchor bolts and conduit placement (these may also be included in the Site	Site construction contractor

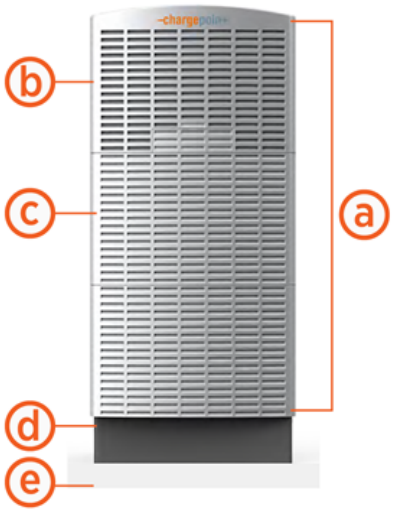
Document	Content	Primary Audiences
	Design Guide)	
Surface Conduit Entry Kit Guide	Instructions for sites where conduit cannot be run underground	Installer
Construction Signoff Form	Checklists used by contractors to ensure the site is correctly completed and ready for product installation	Site construction contractor
Installation Guide	Anchoring, wiring, and powering on	Installer
Operation and Maintenance Guide	Operation and preventive maintenance information	Station owner, facility manager, and technician
Service Guide	Component replacement procedures, including optional components	Service technician
Declaration of Conformity	Statement of conformity with directives	Purchasers and public

Questions

For assistance, navigate to *chargepoint.com/support* and contact technical support using the appropriate region-specific number.

Install Power Block 3

Follow these instructions to anchor, install, and wire each Power Block.



(a) Enclosure

(b) Upper cabinet (wet box)

Preassembled

(c) Lower cabinet (dry box)

Preassembled

Built-in slots for forklift tines

(d) Pedestal

Built-in slots for forklift tines

(e) Pad

IMPORTANT: If the site has height constraints for installation, contact ChargePoint to get the instructions and clearances that you will need for the modified process. You will likely need a crane with lifting shackles and a spreader bar (constraints may differ among sites).

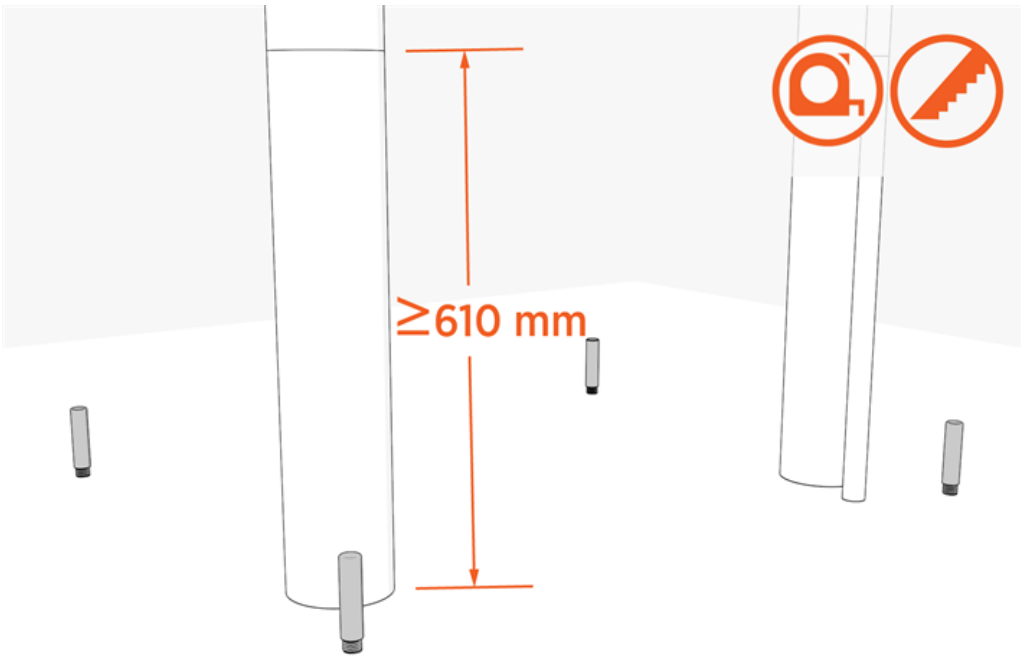
Note to ChargePoint Personnel:

- If the site has height constraints for installation, the installer must first check clearance from the ceiling above the pad and from any objects to ensure nothing will obstruct the movement of equipment and components during this modified installation.
- Installer may remove the upper cabinet (refer to the Service Guide).
- With the upper cabinet removed, the four M10 threaded mounting points on the lower cabinet (at upper corners) can accept crane lifting shackles but, only with a spreader bar.
- Installer may use a crane with lifting shackles and a spreader bar to install the pedestal (onto the pad), then lower cabinet, and upper cabinet.
- Installer must reinstall upper cabinet onto lower cabinet (refer to the Service Guide).

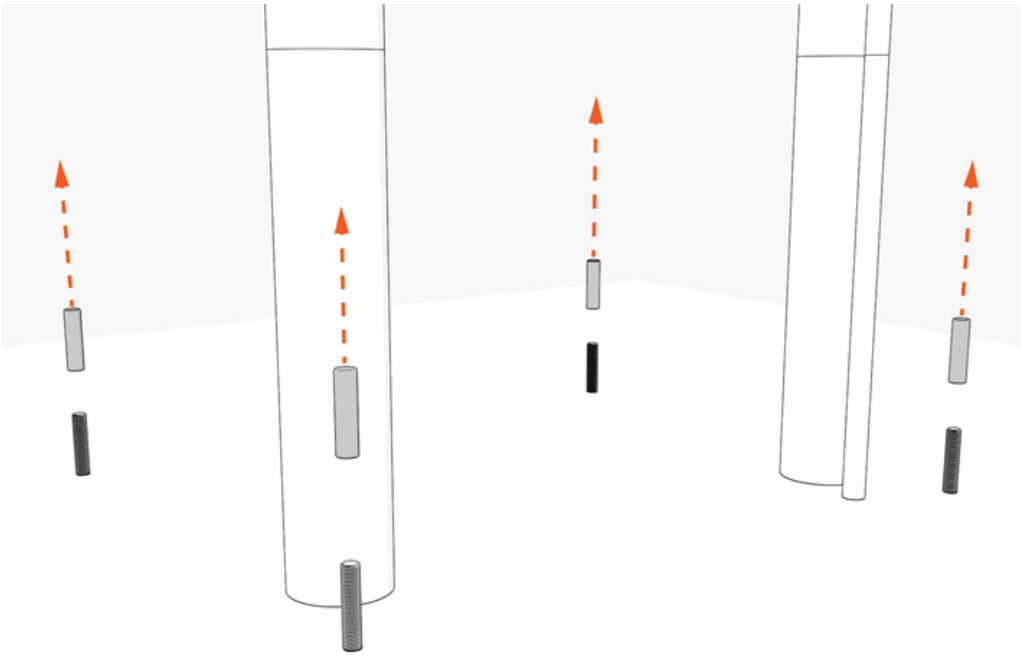
Prepare Power Block Pad

To prepare the Power Block pad, complete the following steps:

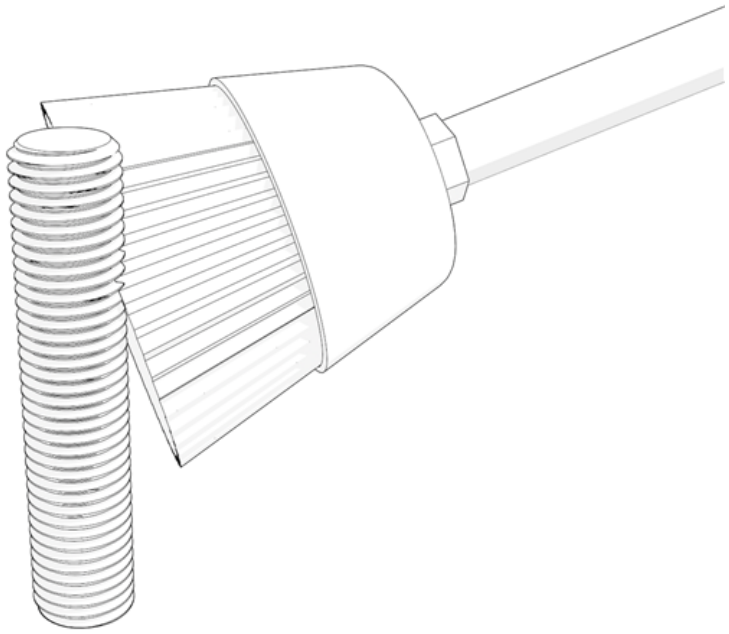
1. Ensure all stub-ups are at least 610 mm (24 in) high. If armored cable is used, strip the outer jacket to the same height.



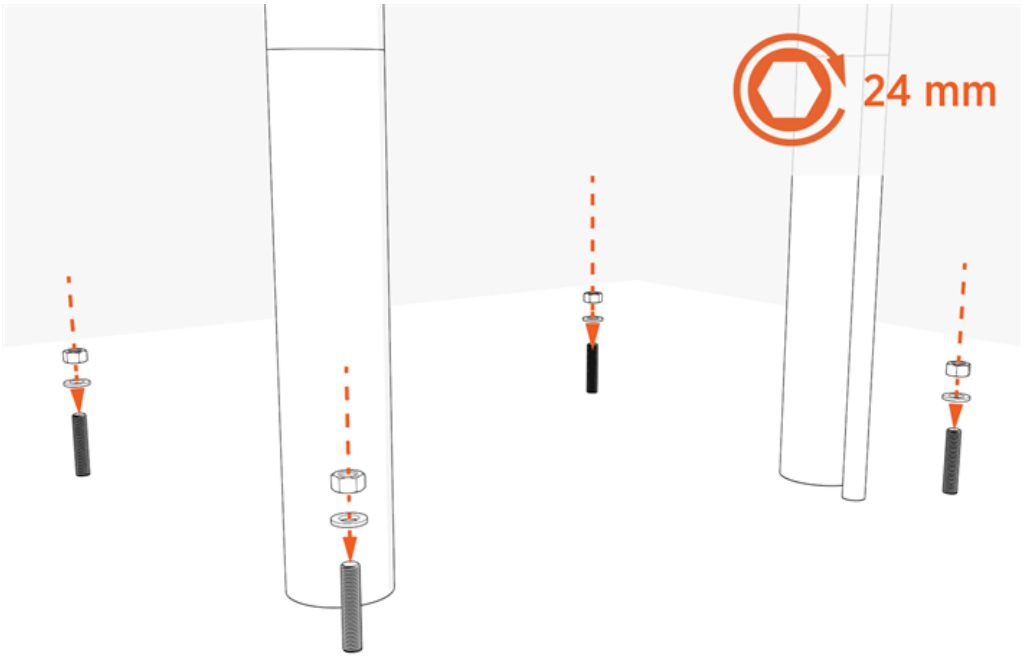
2. Remove plastic caps.



3. Use a wire brush to clean bolt threads. Alternatively, use a spare hex nut and run it down the stub-ups to clean the threads.



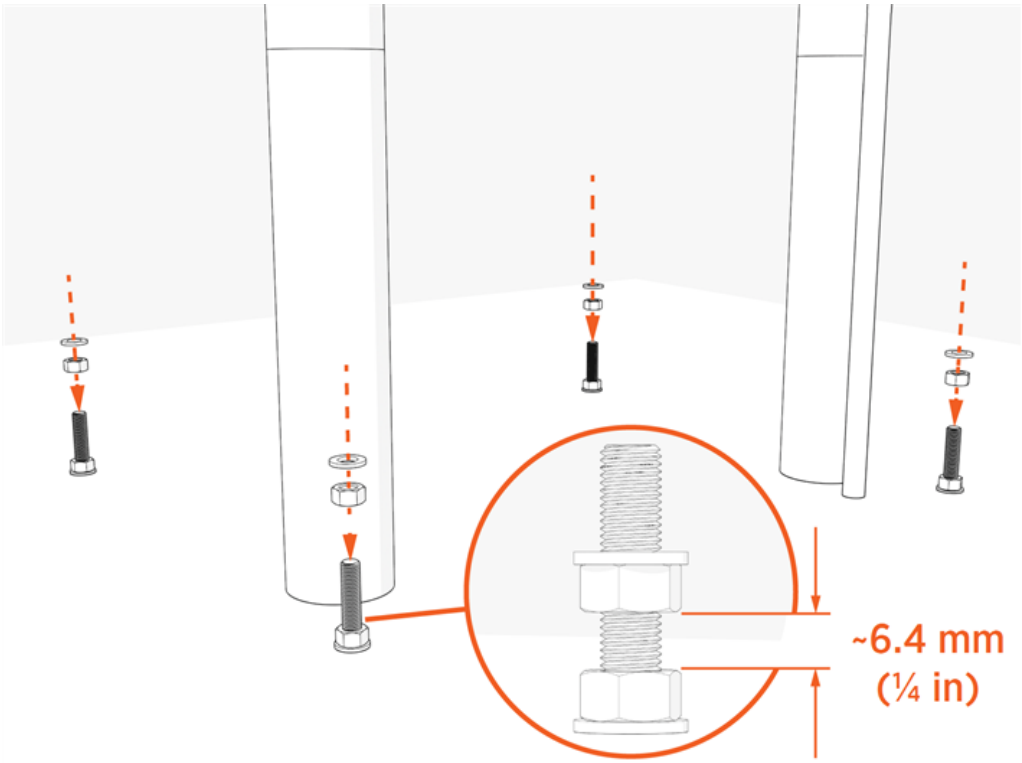
4. Install one washer and one nut onto each bolt. Torque to 54 Nm (40 ft-lb).



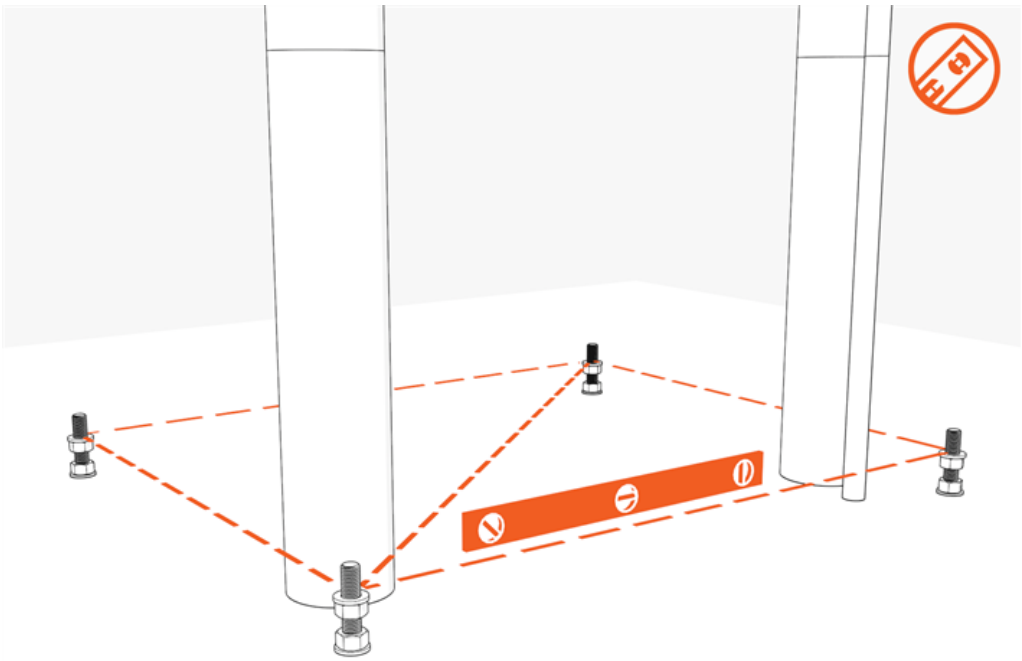
Note:

- Washer and nut should be flush against concrete.
- If epoxied, do not exceed the epoxy torque rating.

5. Install washers and leveling nuts. Maintain ~6.4 mm (1/4 in) between each leveling nut and bottom nut.



6. Check the leveling nuts.

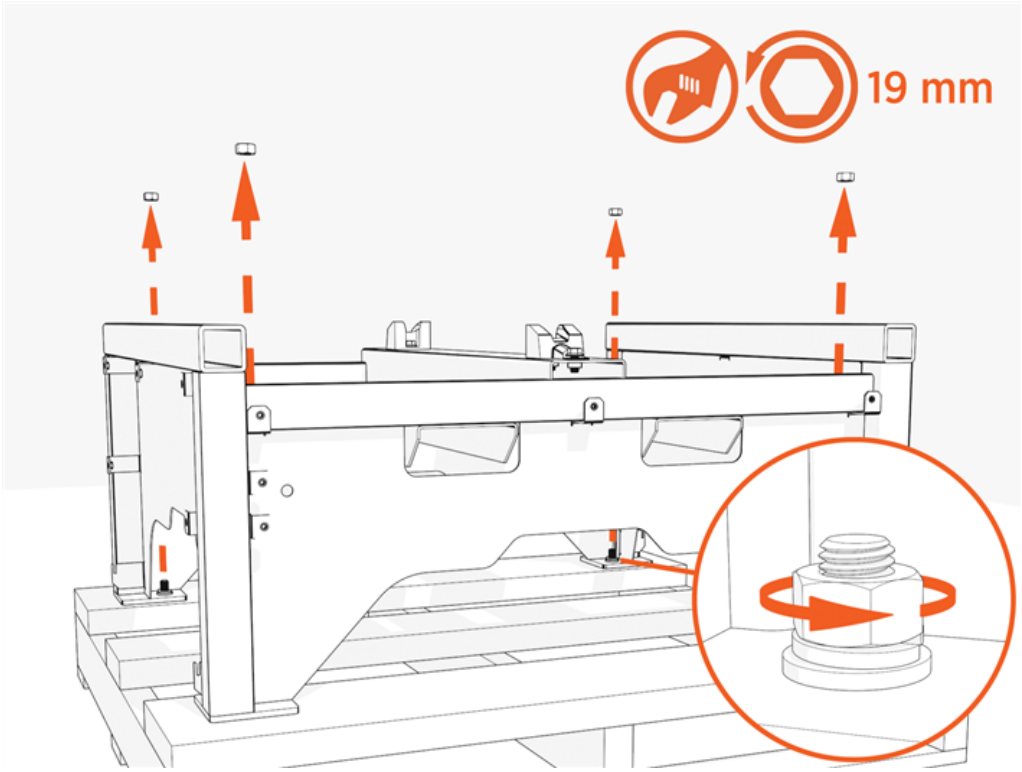


Install Power Block Pedestal

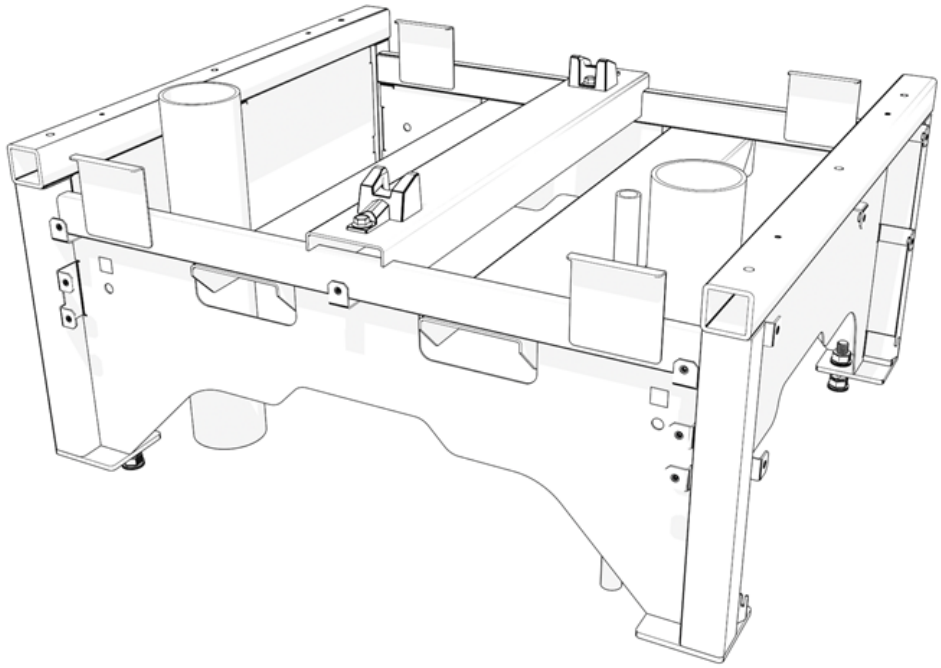
To install the Power Block pedestal, complete the following steps:

Uncrate the Pedestal

1. Unfasten and lift off the crate cover.
2. Uninstall four corner nuts and one center front nut. Discard nuts, washers, and bolts.



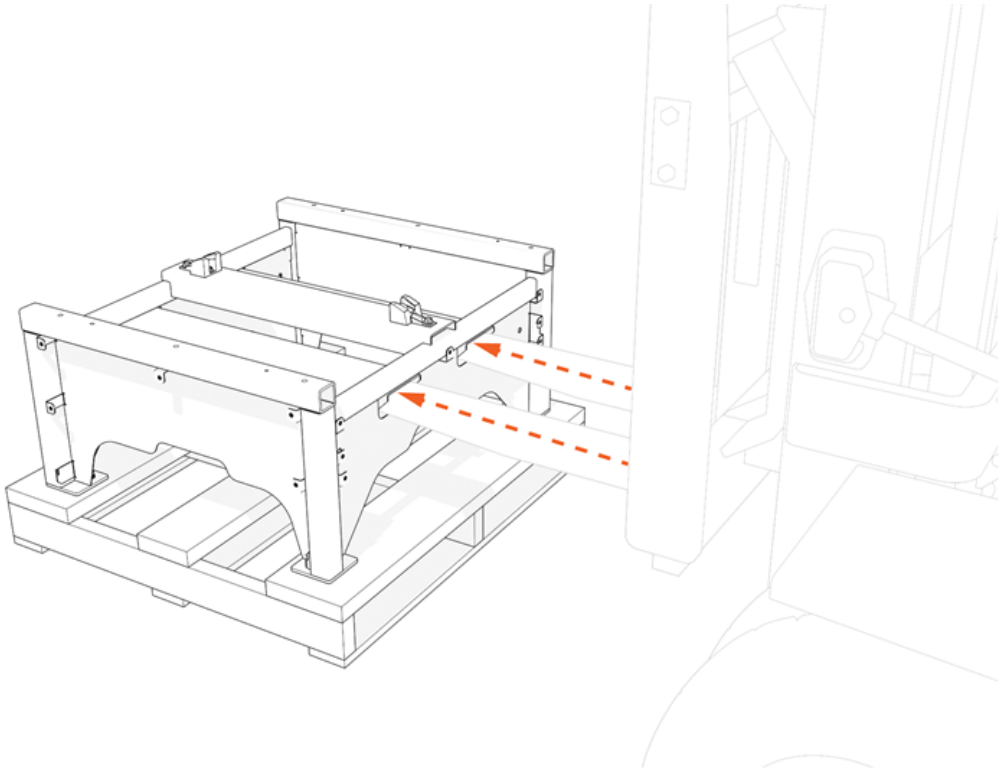
3. Uninstall three nuts and bolts from each gland plate. Remove the gland plates temporarily.



4. Check the rubber gaskets on the underside of the pedestal.
   If you find any gaps, contact ChargePoint (*chargepoint.com/support*).

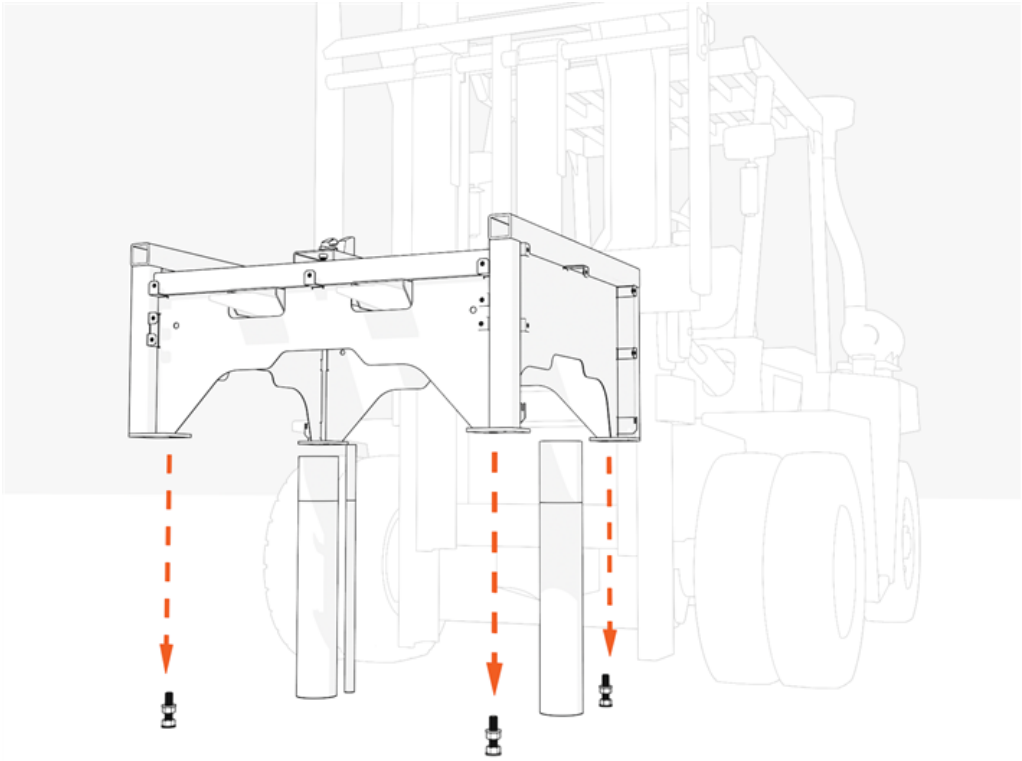
Mount and Secure the Pedestal

1. Before you move the pedestal onto the pad, adjust the forklift tines to 102-127 mm (4-5 in) width. Insert the forklift tines through the rectangular openings at front and back.



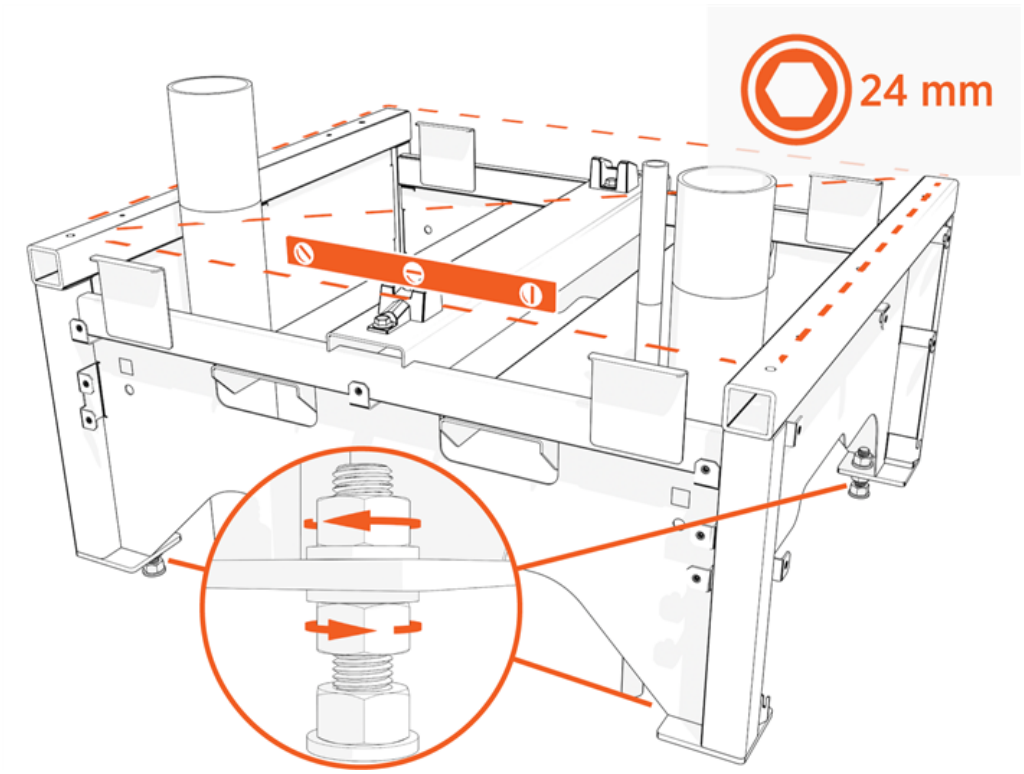
CAUTION: If any wider, the forklift tines may hit a conduit stub-up.
Do not hit a wall or other obstacle that may be behind the Power Block pad.

2. Suspend the pedestal above the pad. As you lower the pedestal down, align the holes in the pedestal feet to the anchor bolts.

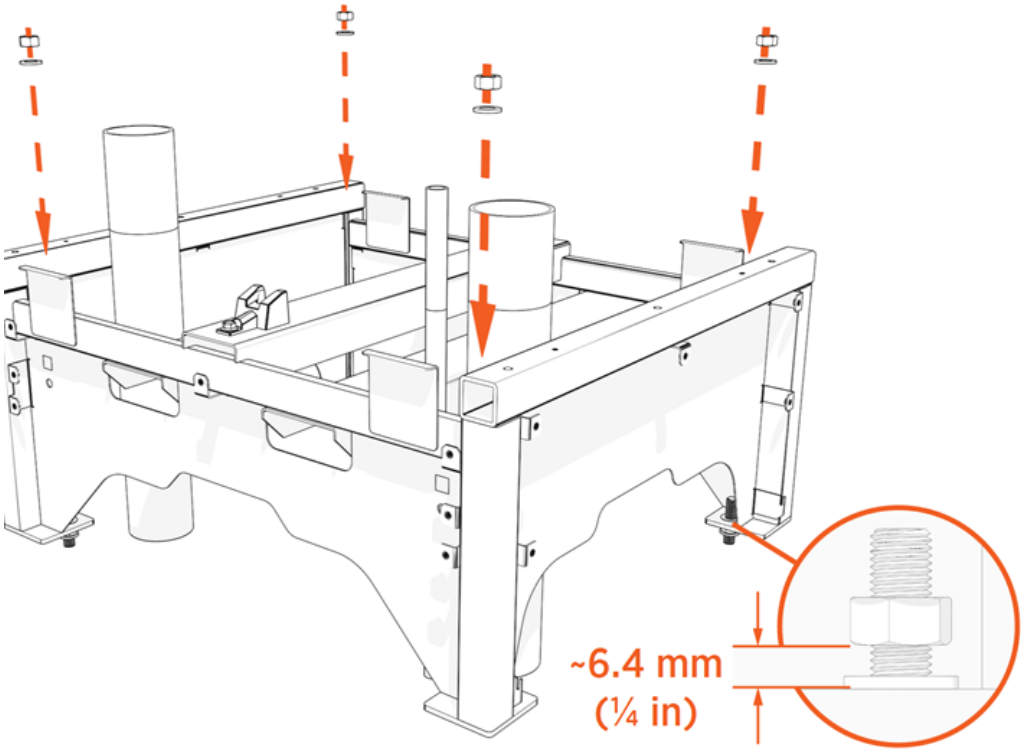


Note: Move wiring out of the way.

3. When the pedestal is fully seated, check that all sides are level. If not, adjust three of the leveling nuts.

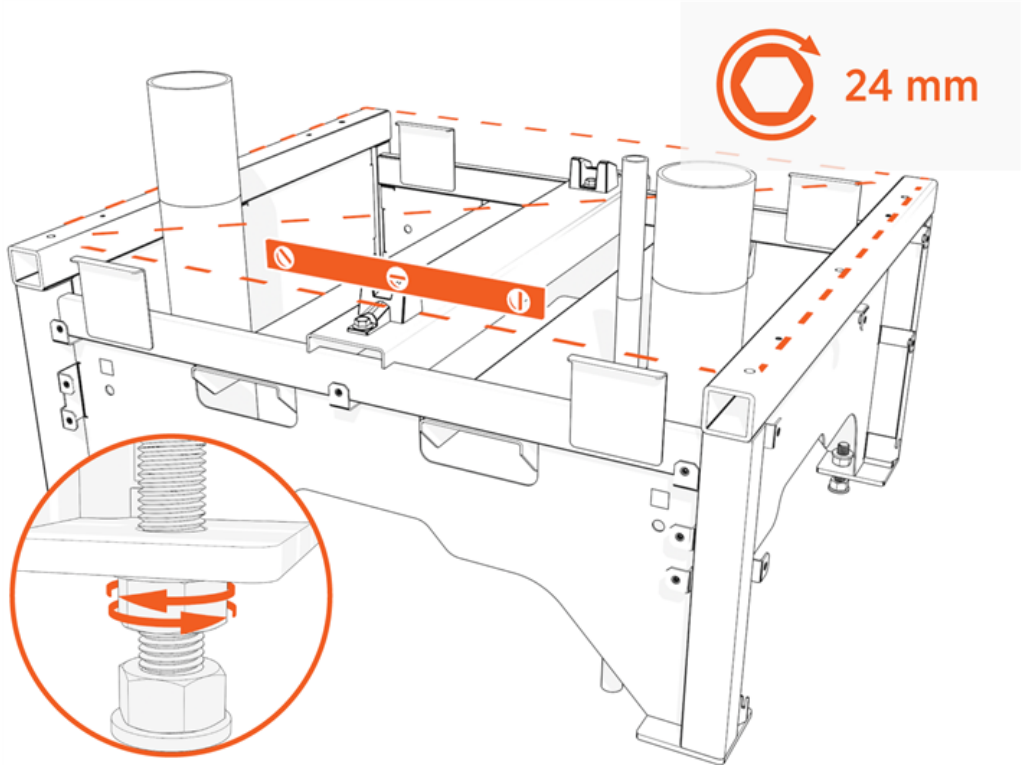


4. Partially install a washer and "top" nut.

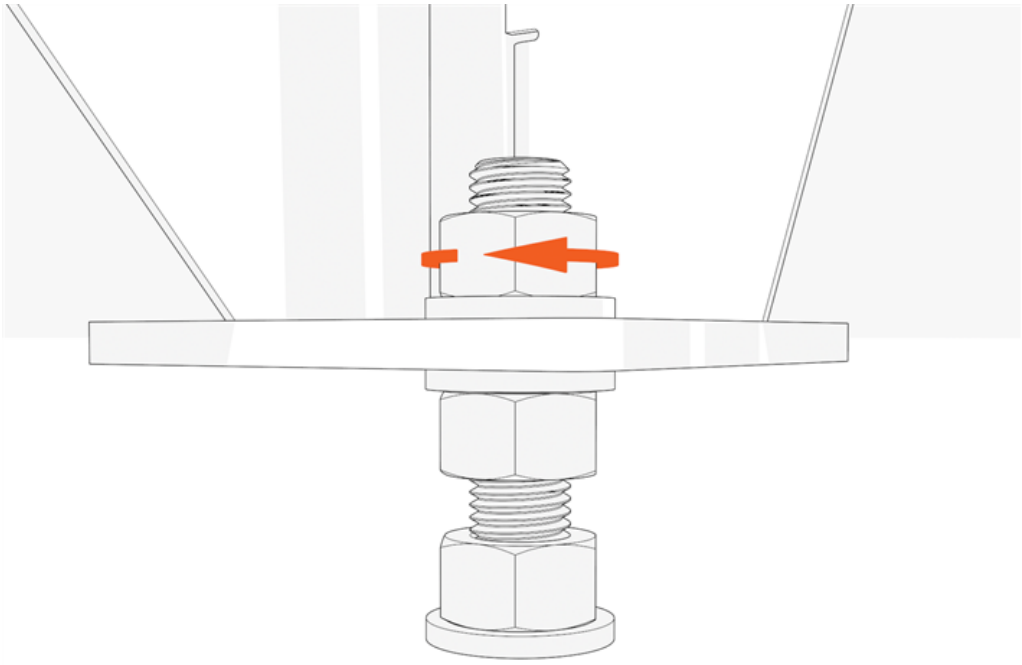


Note: Do not tighten yet. Leave ~6.4 mm (1/4 in) gap between the top nut and the pedestal foot.

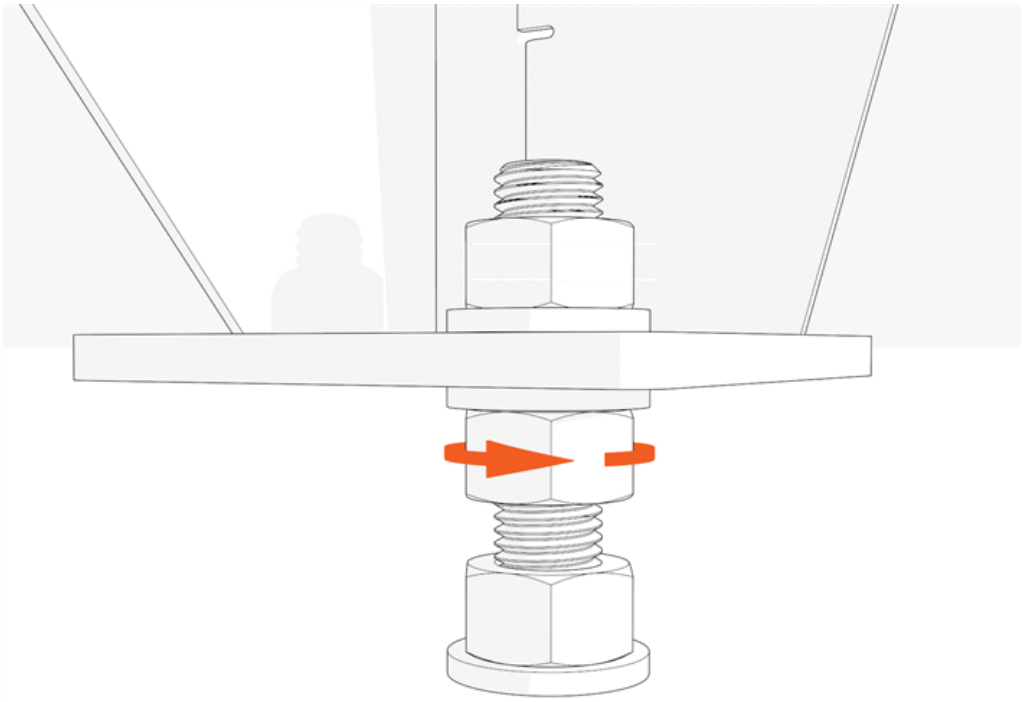
5. Recheck and adjust leveling nuts again.



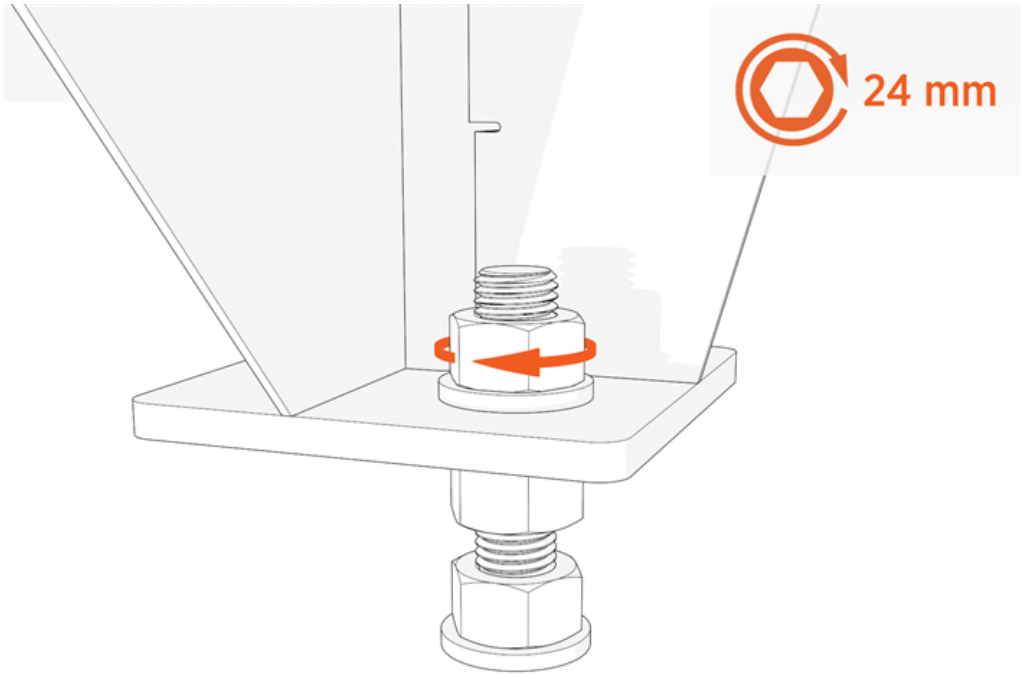
6. When the pedestal is level, tighten four top nuts by hand.



7. Rotate the fourth (last) leveling nut to be flush against the pedestal.

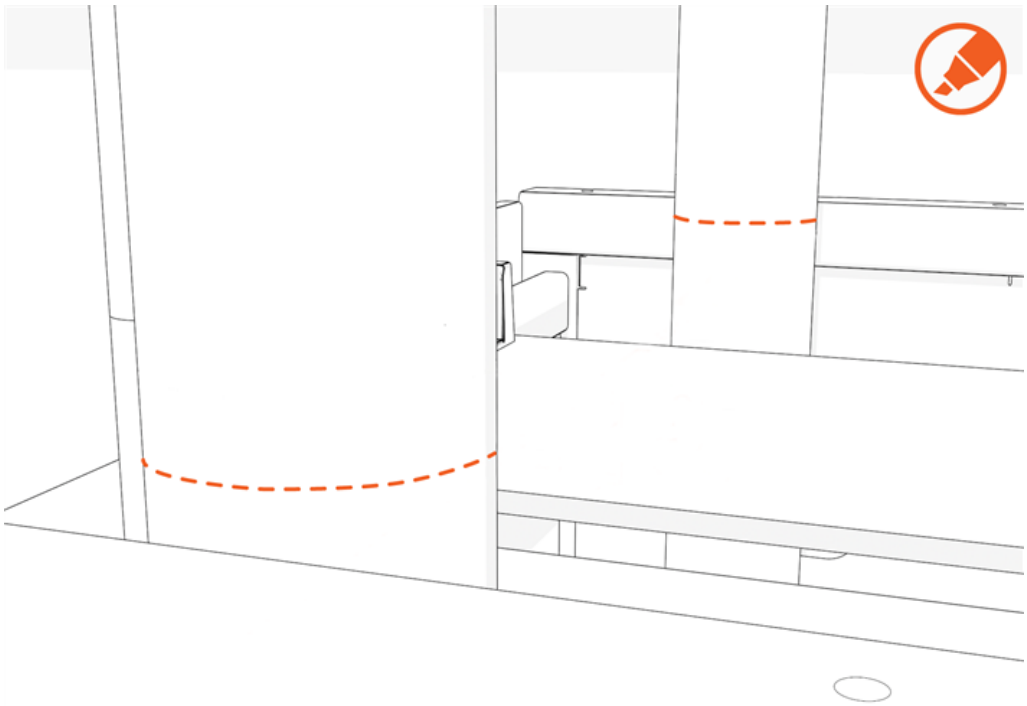


8. Torque all top nuts to 95 Nm (70 ft-lb).

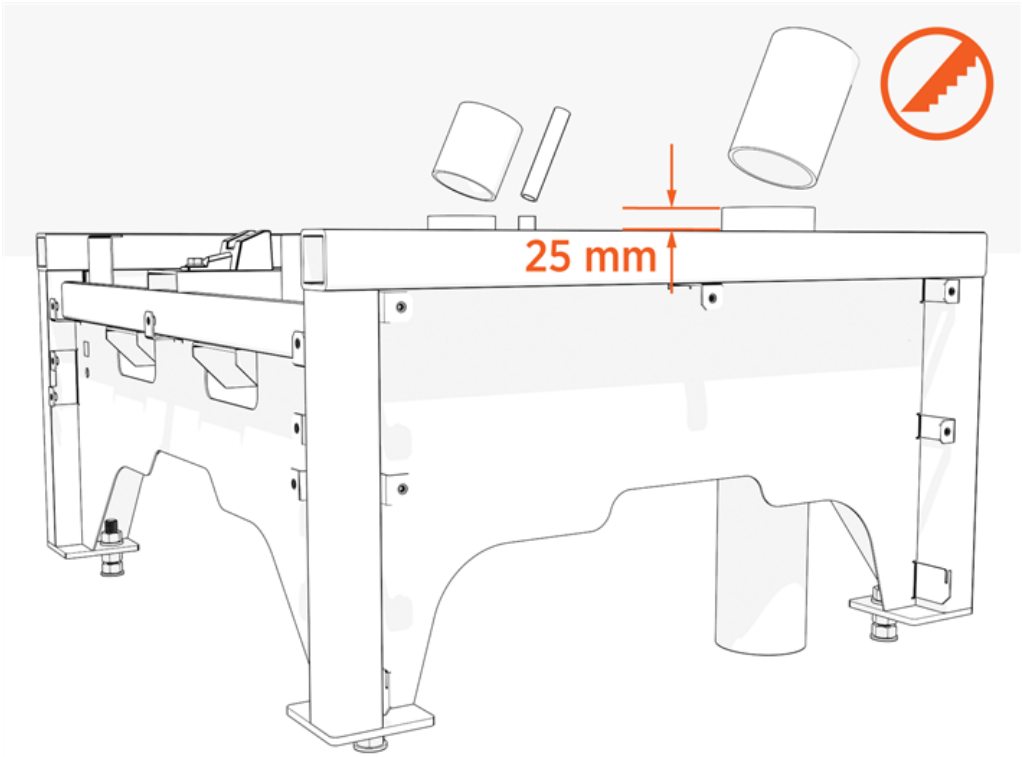


Prepare Gland Plates

1. Mark the conduit stub-ups at the height of the pedestal top surface.



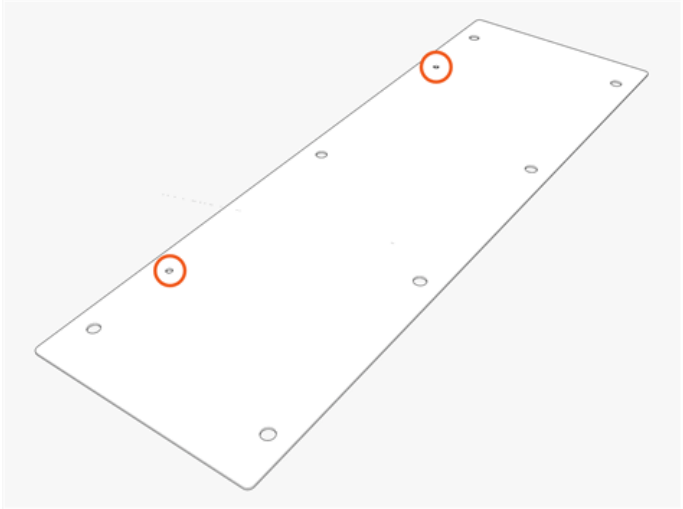
2. Measure and cut each conduit stub-up to a height of 25 mm (1 in) above the gland plate and file the edges smooth.

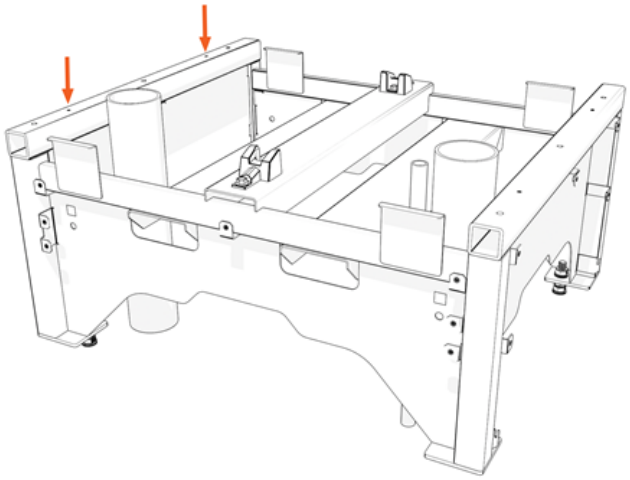


CAUTION: If you fail to file the edges, wires can be damaged by the stub-up.

CAUTION: Do not use conduits with bell ends. They may interfere with tolerances inside the enclosure.

3. Use the two outer pins to align each gland plate.

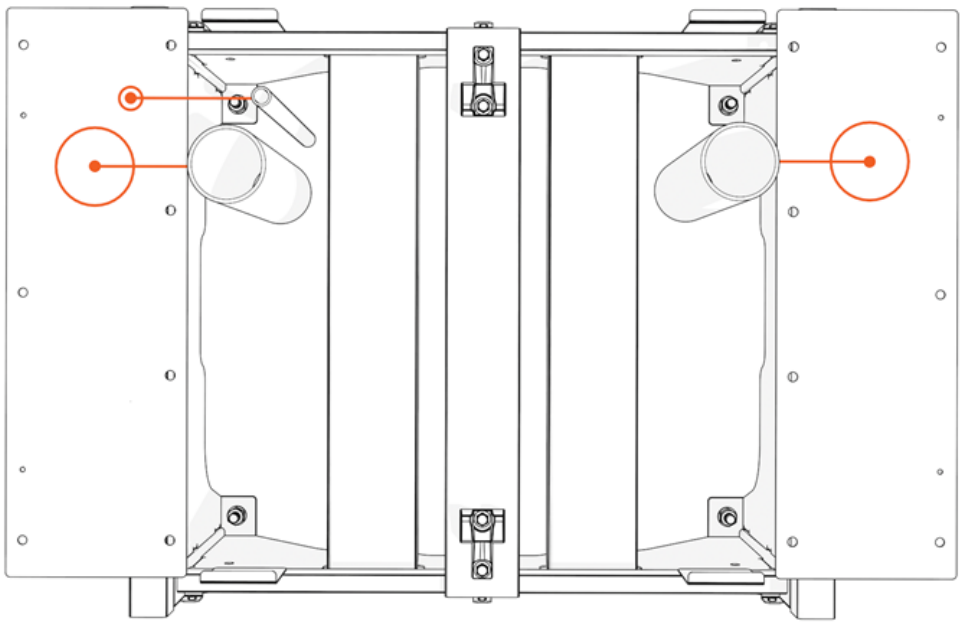




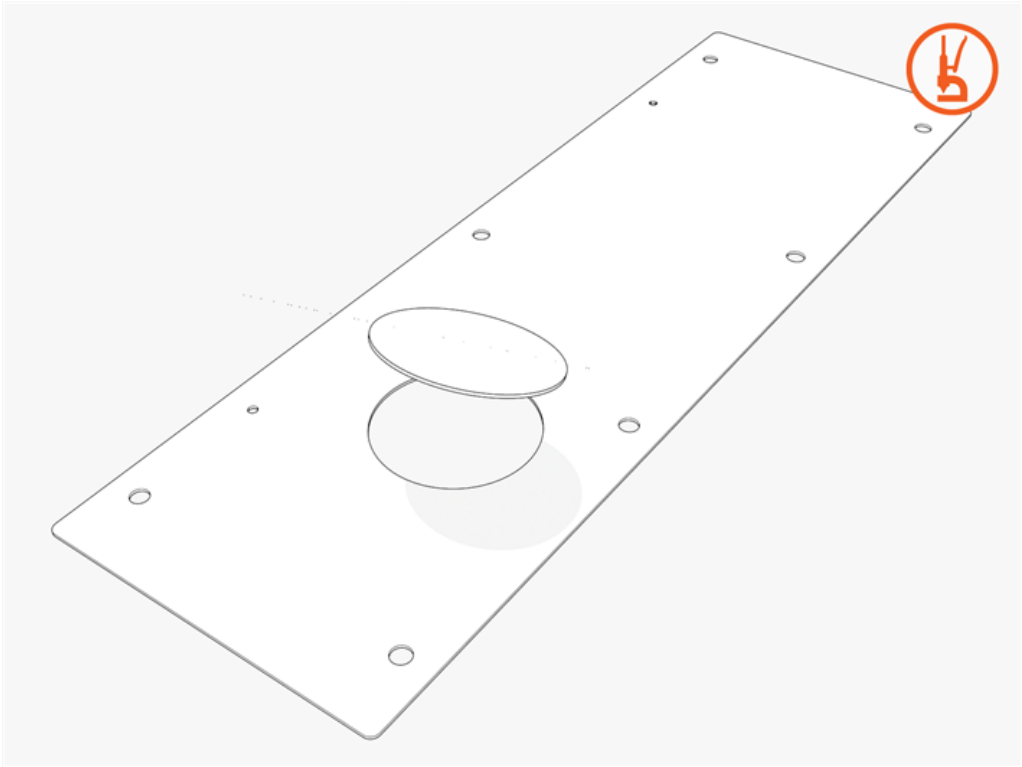
CAUTION:

- Gland plates are directional.
- So, first determine the orientation of the gland plates *prior* to punching the gland plates.

4. Mark the gland plate with the exact locations of each stub-up.
5. Mark a pilot point on the gland plates.

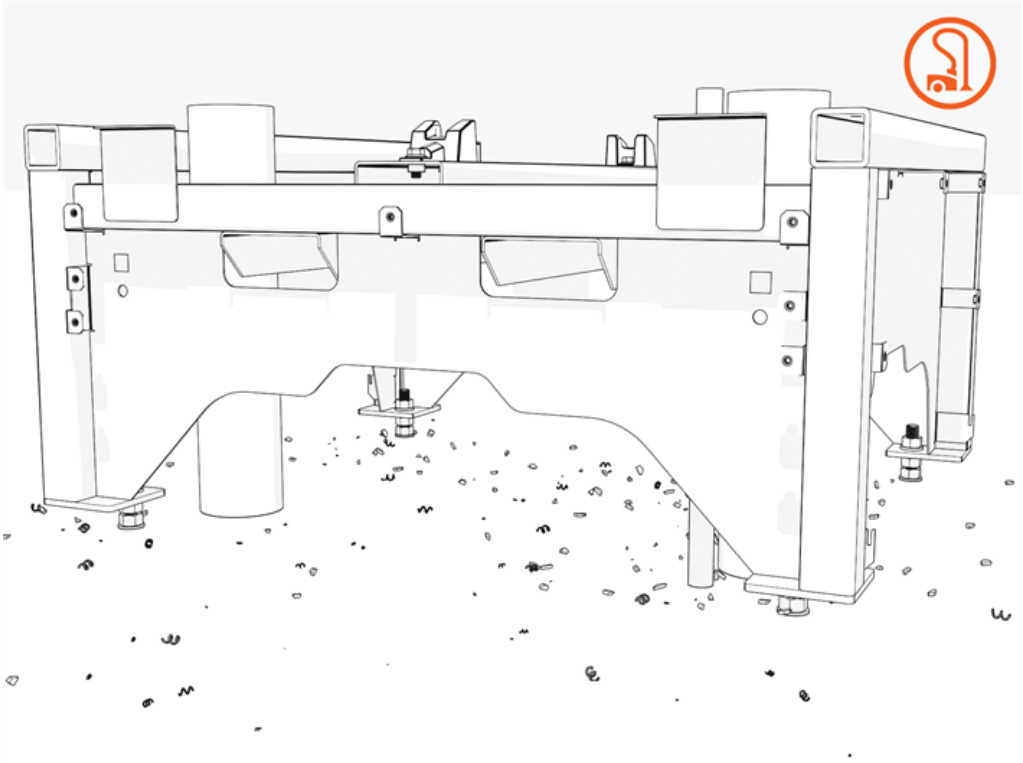


6. Use the hydraulic hole punch to create holes for all conduits.



IMPORTANT: You must match the size of each conduit.

7. Vacuum all metal shavings and any other debris.



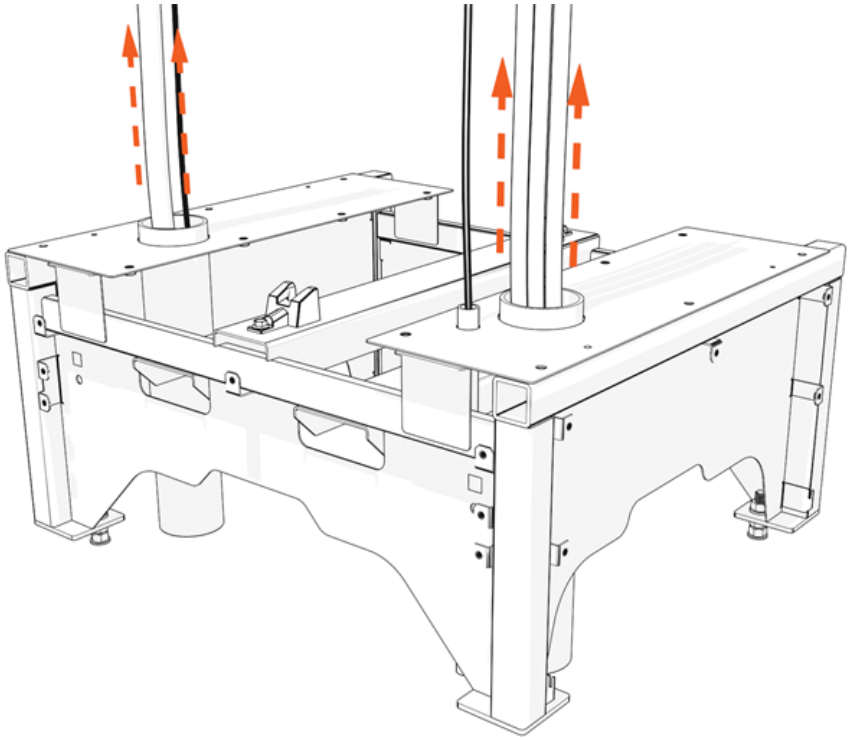
Pull Wiring Through Conduits

1. Pull all wires. Match the locations shown on the Power Block Concrete Mounting Template (CMT).

DC output	1 or 2 conduits
DC auxiliary input (optional)	1 conduit
AC input	1 conduit
48 V DC and Cat6 Shielded Twisted Pair (STP) Ethernet conduits: i. Shunt trip, if present ii. One Ethernet, one 48 V DC out iii. Two Ethernet, either one or two 48 V DC out iv. Three Ethernet, either one or two 48 V DC out	1, 2, 3, or 4 conduits **Note:** Check site drawings for the conduit configurations.

IMPORTANT: Do not pull a Neutral wire.

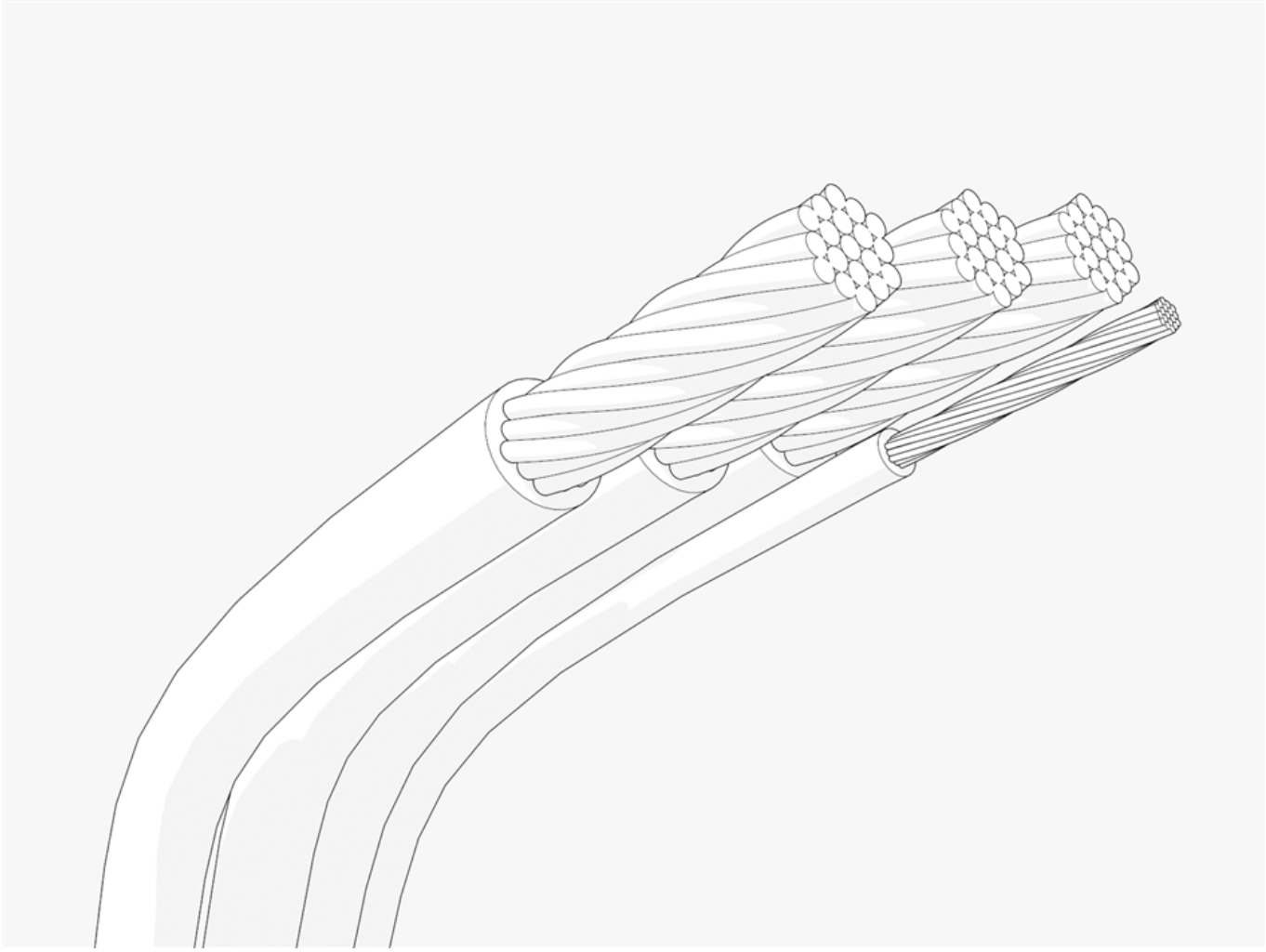
2. Retain these lengths of service loops:
    - 1219 mm (4 ft) of conductor and ground wire at Power Block
    - 1524 mm (5 ft) of conductor and ground wire at Power Link 1000
    - 1829 mm (6 ft) of Ethernet and 48 V wire at each end



Note:

- For maximum wire and ground sizes and their minimum conduit sizes, see the *Express Plus Site Design Guide*.
- To route surface conduit wiring, refer to the "Appendix B, Surface Conduit Entry Kit Installation" chapter in this guide.

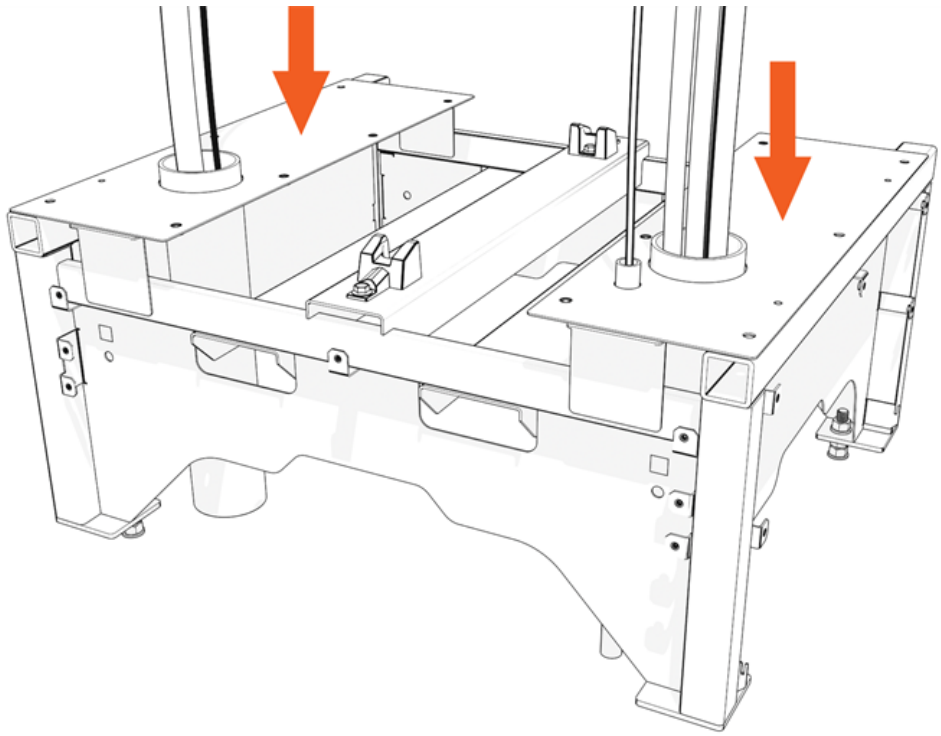
3. Perform a continuity check of wires. Repair any damaged wires.



IMPORTANT: If you fail to repair damaged wires, you may impact site commissioning.

IMPORTANT: Please ensure that AC and DC High Voltage wires have gone through Insulation Resistance Testing as per Electrical Readiness section.

4. Reinstall gland plates.



Install Power Block Enclosure

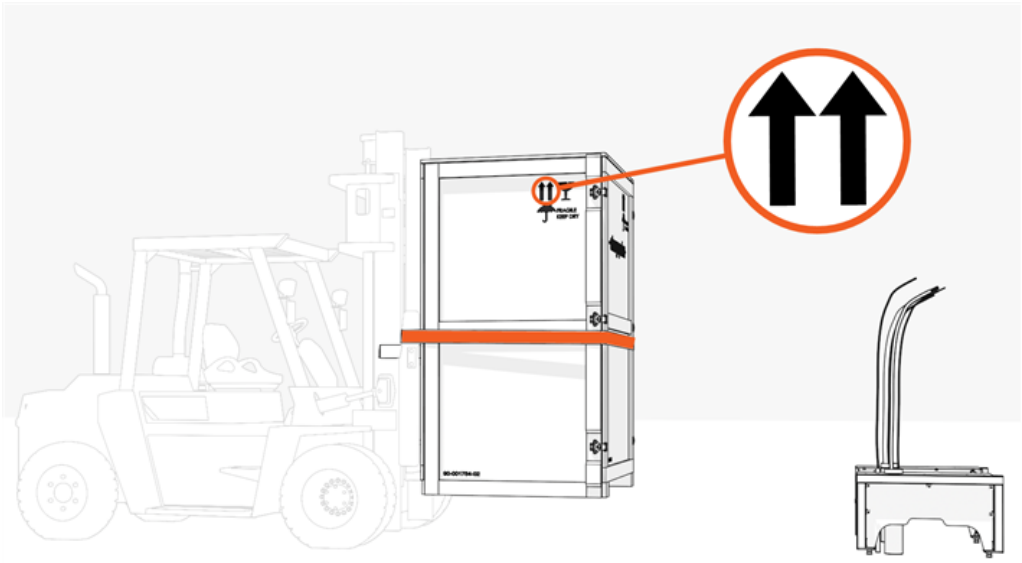
To install the Power Block enclosure, complete the following steps:

WARNING: The crate is heavy and can cause injury or death if dropped. Do not stand or walk beneath the crate while it is being lifted. Take precautions against the crate tipping or sliding.

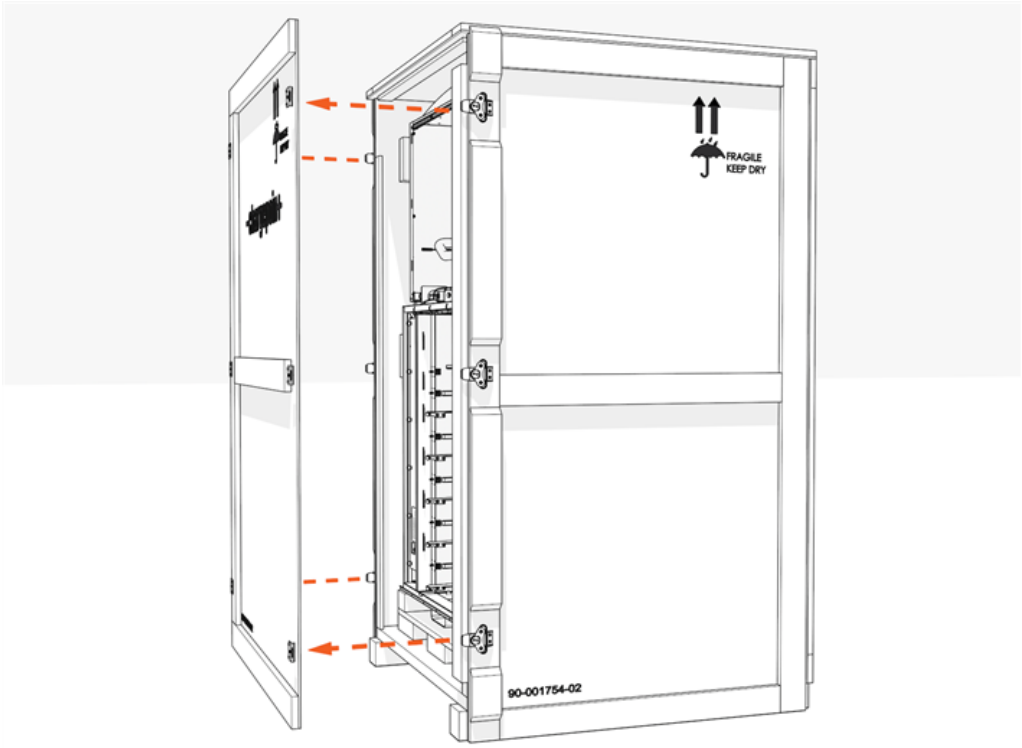
CAUTION: Maintain the upright orientation of the crate.

Prepare the Enclosure

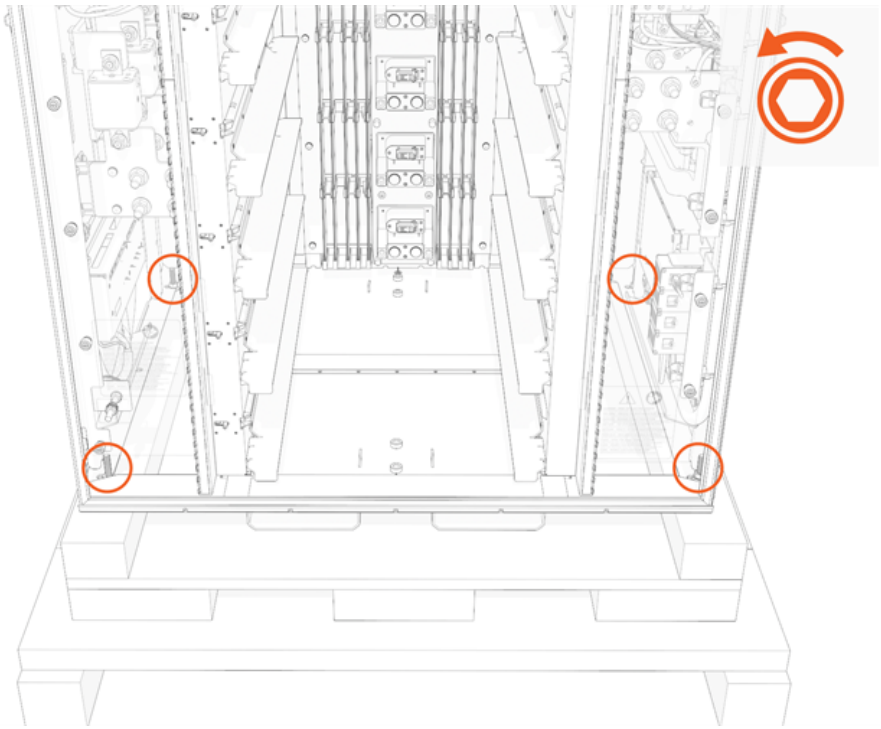
1. Transport the crate to the installation site. Use lifting straps to stabilize.



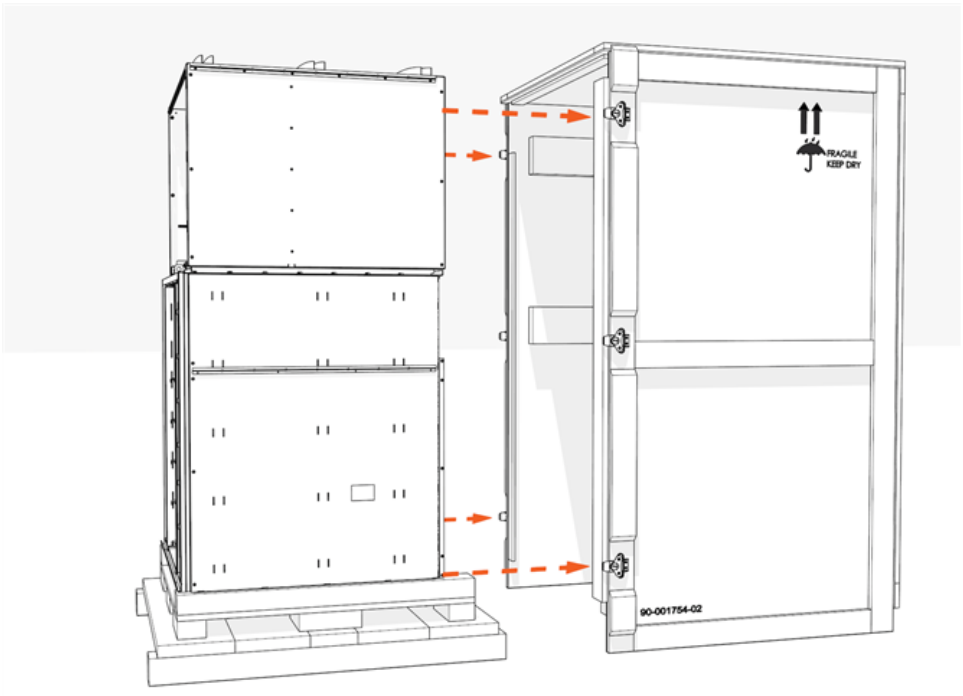
2. Unfasten and lift off the crate front.



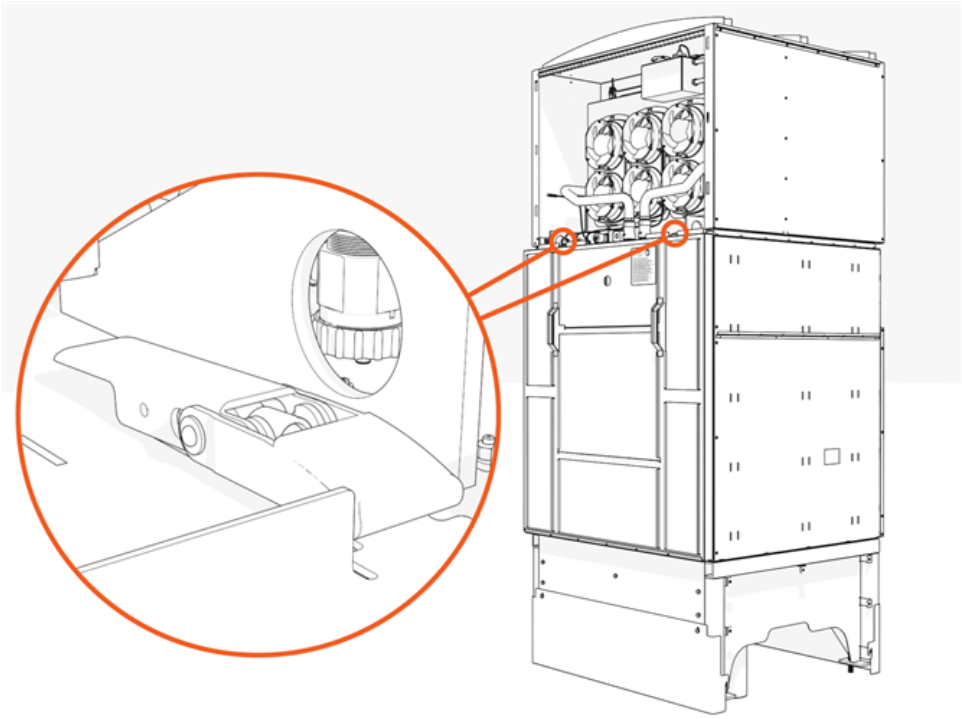
3. Use two persons to remove the crate:
    a. Uninstall four lag bolts from the crate bottom.



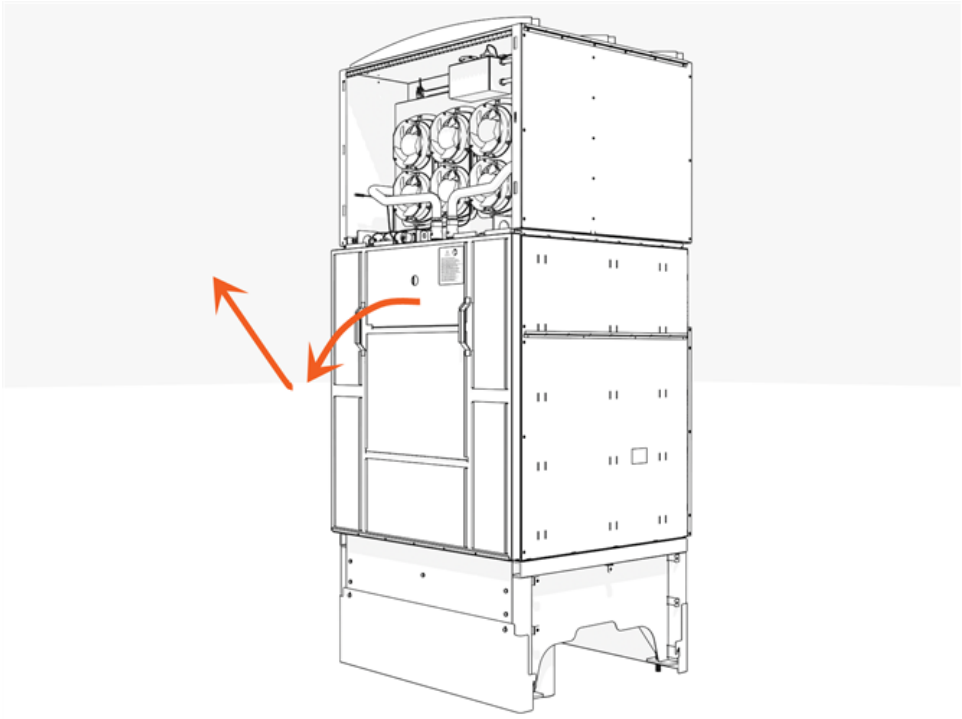
    b. Slide off the top, sides, and back of the crate.



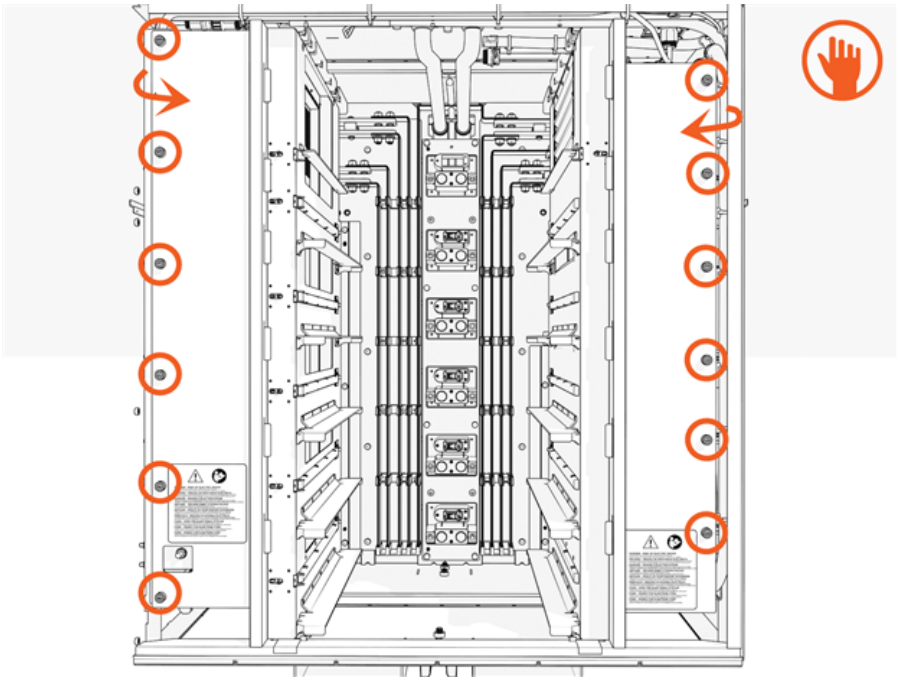
4. Uninstall the lower door:
    a. Unfasten the two latches.



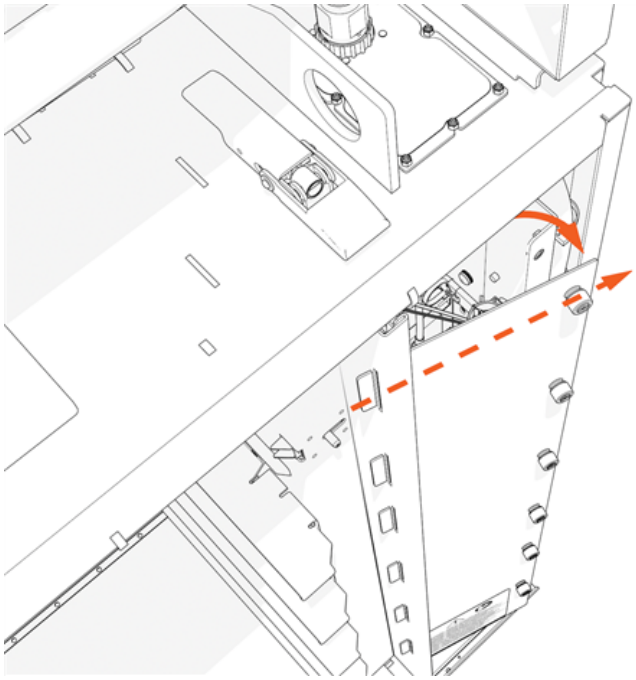
    b. Hold and tilt out the top of the door. Lift up and off.



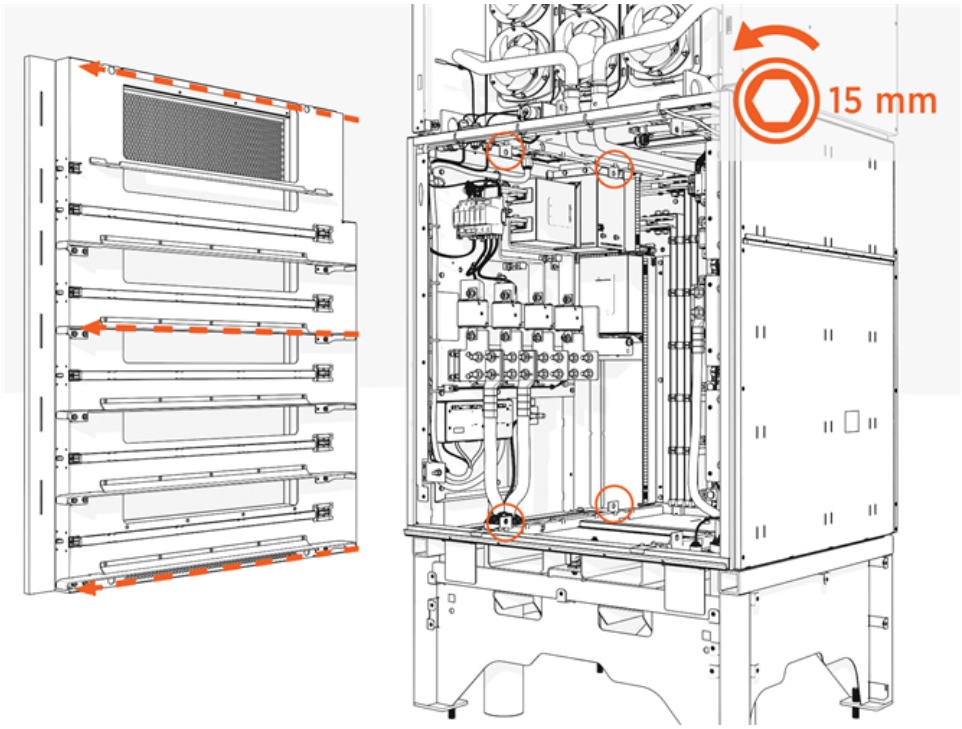
5. Remove the package that contains the lower heat exchanger (dry box hex).
   Note: You will install this later.
6. Remove two transparent shields (touchsafe panels):
   a. Loosen six captive screws by hand for each transparent shield (or, use a #5 Phillips screwdriver).



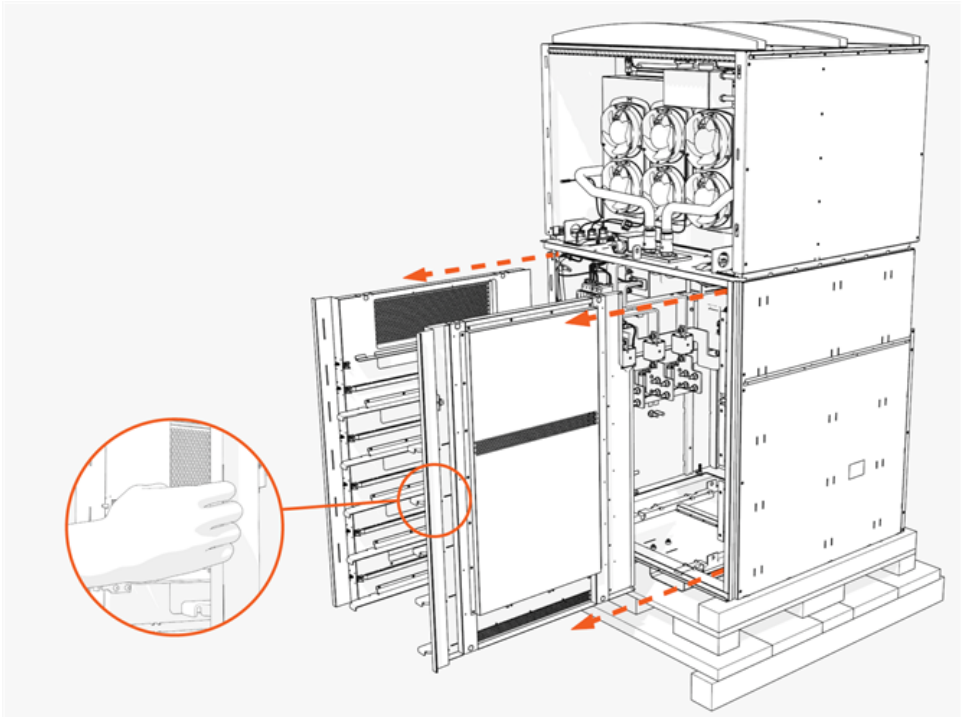
   b. Slightly rotate out the edge with the screws.



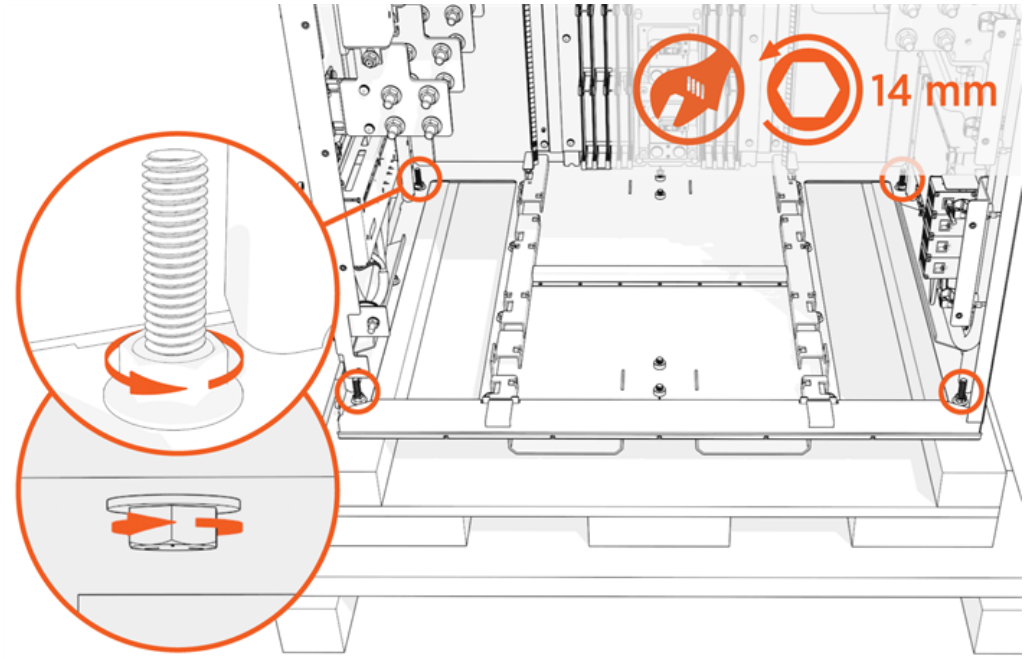
7. Remove two racks:
    a. Uninstall the two upper and two lower screws attaching the rack to the lower cabinet interior.



    b. Hold the outer edge of the rack and slide it out.



8. Uninstall four nuts from the base of the crate. Discard these nuts, washers, and bolts.

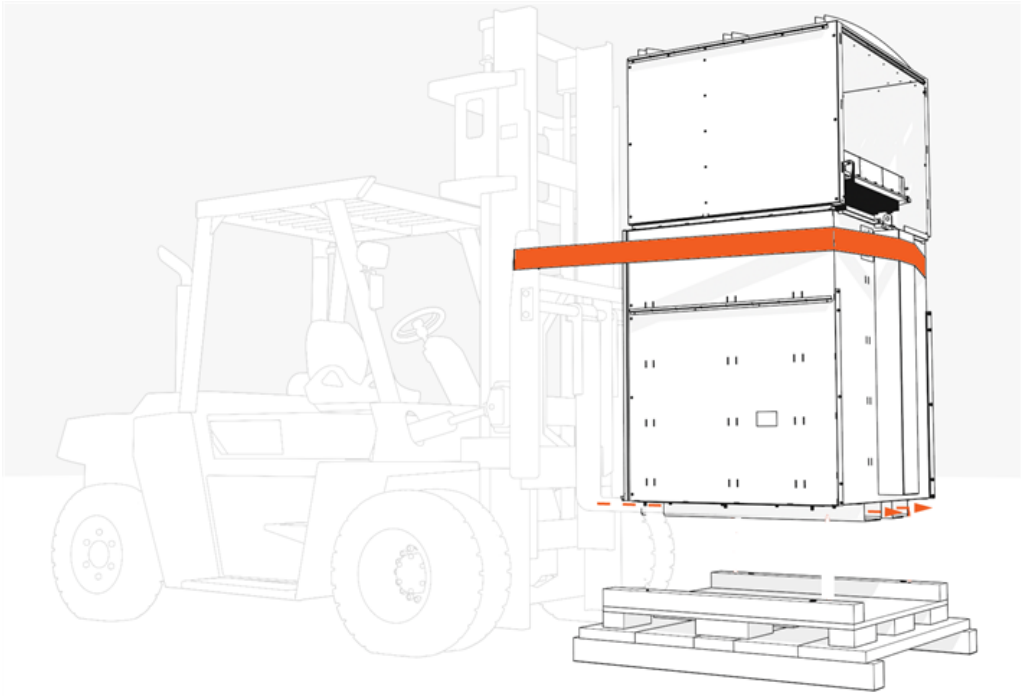


CAUTION: Do not drag the bottom of the Power Block enclosure at any time. Gaskets underneath can be damaged.

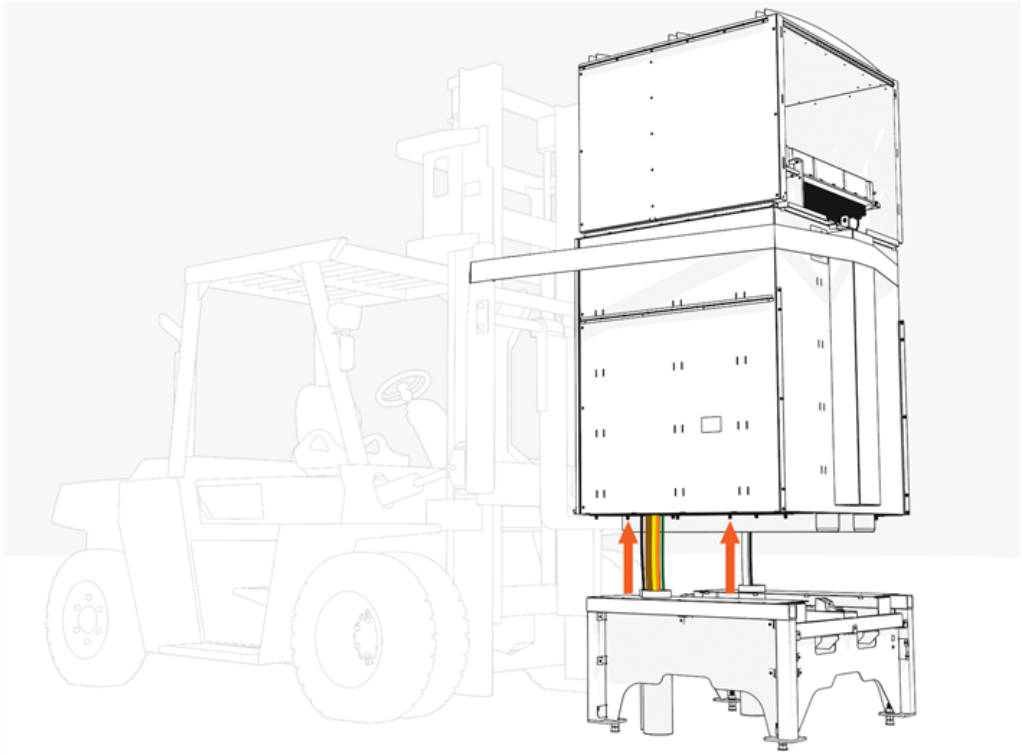
Position and Secure the Enclosure Using a Forklift

Note: You can position and secure the enclosure by using a forklift or by using an overhead lift (see Position and Secure the Enclosure Using an Overhead Lift).

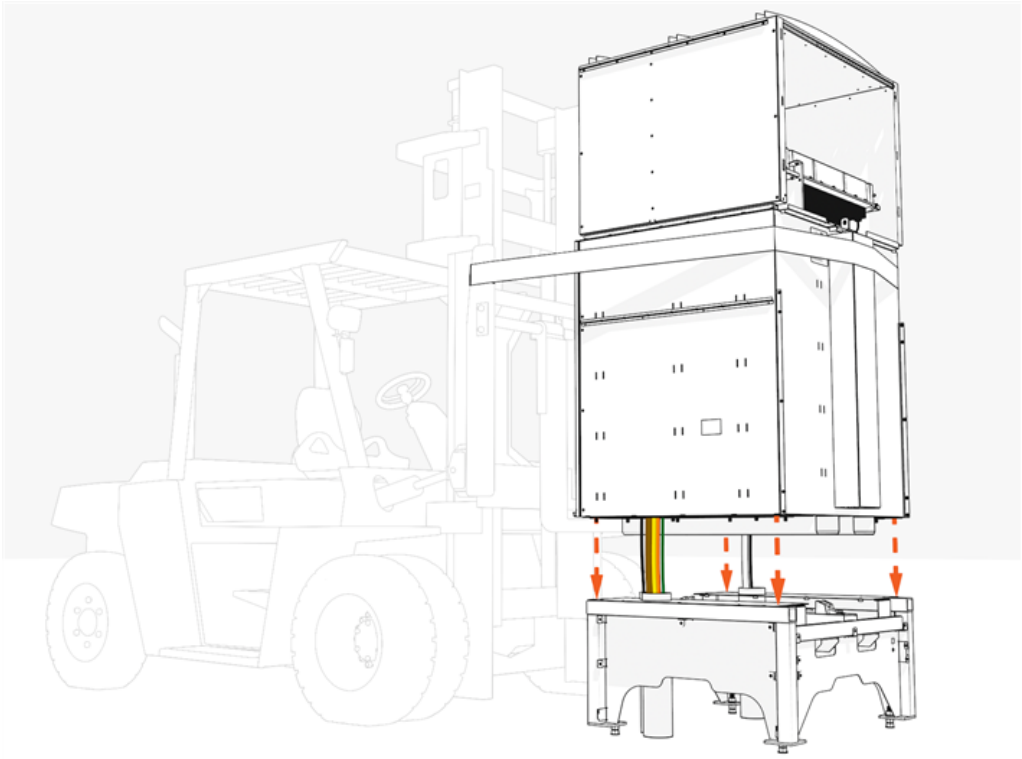
1. Insert forklift tines into slots at bottom of the enclosure. Position straps around upper half.



2. Move and hold enclosure above pedestal. Keep it elevated. Route wiring up through bottom of enclosure.



3. Slowly move the enclosure down toward the pedestal. Continue to pull wiring up through bottom.

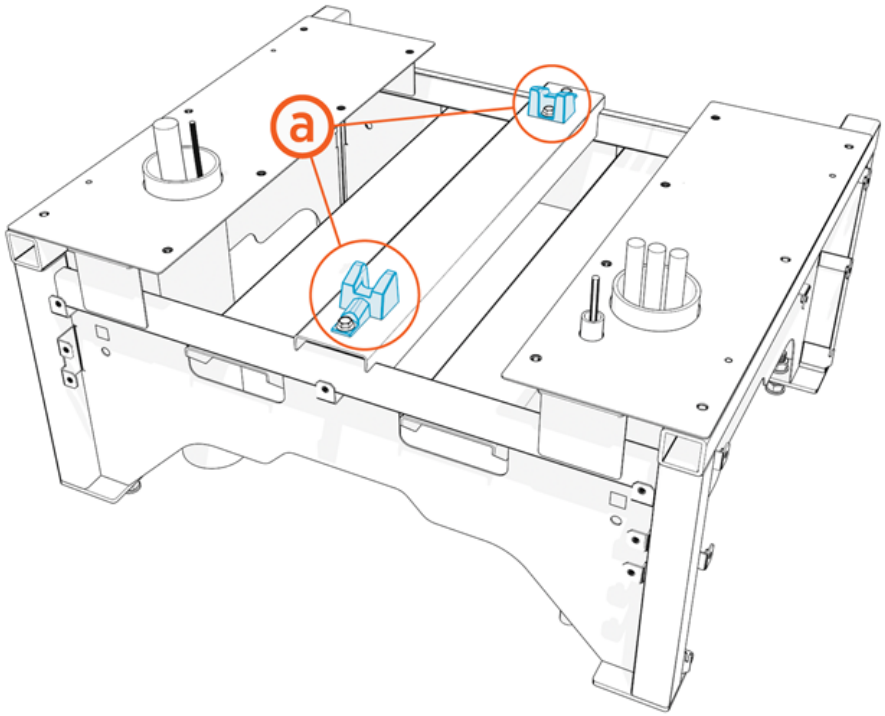


4. Position the enclosure a few centimeters (inches) above the pedestal. Continue to move wiring out of the way. Align the screw holes with approximately 6 mm (1/4 in) of space between the enclosure and the pedestal.
5. The pedestal beam has rough alignment features (a) that assist in aligning the enclosure bolt holes with the mounting nuts in the pedestal.

   To properly engage the rough alignment features, position the enclosure approximately within:

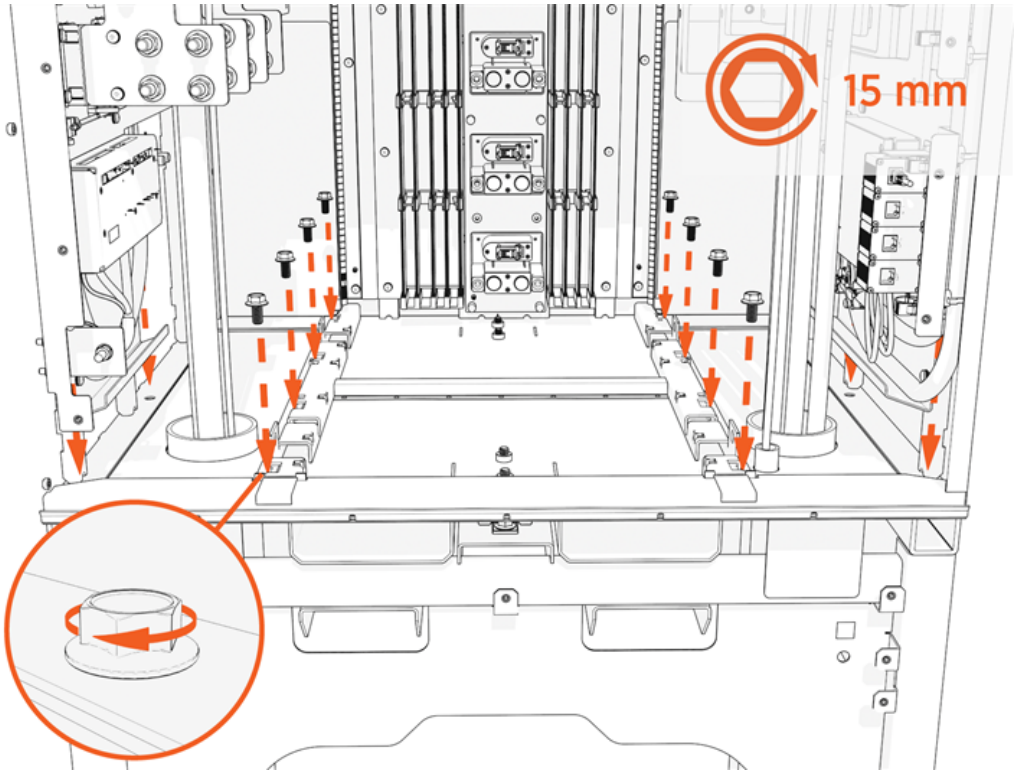
   - ± 50 mm (2 in) front-to-back
   - ± 28 mm (1 in) side-to-side

   of the nominal hole alignment while lowering it onto the pedestal.



Note: After lowering the enclosure, if the holes (see Step 6 below) are not aligned, then re-raise the enclosure and try again with more precision.

6. Install seven hex bolts on each plate. Torque to 19 Nm (168 in-lb).



Position and Secure the Enclosure Using an Overhead Lift

You can use an overhead lift in tight locations where a forklift cannot reach or cannot be onsite to lift and move the Power Block into place.

Note: Installing the Express Plus requires at least two people. Additionally, the installer must bring the following tools and materials. These are not provided by ChargePoint

Bring These Tools and Materials

The following are required:

Tools

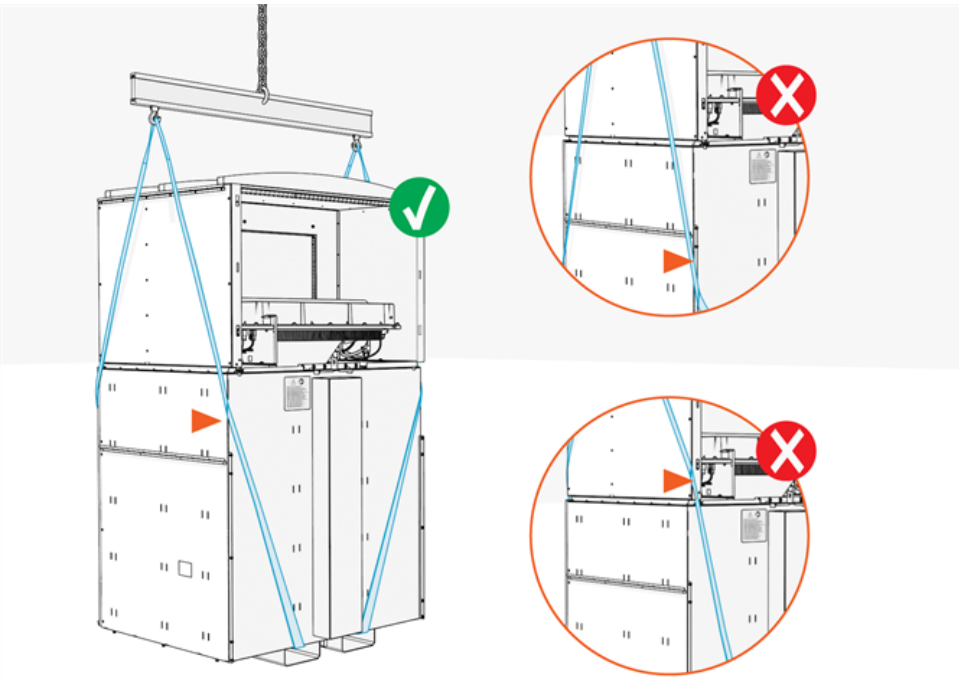
Icon	Description	Icon	Description
	Nylon lifting straps (x2) • Length: 4.572 m to 6.096 m (15 ft to 20 ft) • Capacity: 567 kg (1250 lb)		Spreader bar (x1) (steel lifting beam with shackles) • Length: 1 m to 2 m (3.28 ft to 6.56 ft) • Capacity: 907.19 kg (2000 lb)

Icon	Description	Icon	Description
			 **CAUTION:** Lifting using the spreader bar is essential. Lifting from the forks without one: • Will be unstable • Will put extra forces on the straps and sheet metal • Has not been tested, nor approved

1. Prepare the enclosure for the overhead lift:
   a. Attach the spreader bar to your lifting device.
   b. Feed one end of each lifting strap through the fork lift tunnels.
   c. Attach both ends of the lifting straps to the spreader bar. The attachment points should be 1 m to 1.5 m (39.37 in to 59.06 in) apart and centered on the spreader bar.

Note: These steps can be done with the spreader bar on the ground or in a raised position, centered above the enclosure.

2. After the spreader bar is in the raised position, ensure the following:
    a. The lengths of the lifting straps, both front and rear are approximately equal. Otherwise, the enclosure will tilt when raised.
    b. The straps are wrapped around the corners of the enclosure, roughly halfway up the height--above the side brackets, but below the top enclosure. This will prevent damage to the straps or the enclosure.



3. Follow Steps 2 through 6 of the previous section (Position and Secure the Enclosure Using a Forklift section).

Connect Power Block Wiring

To connect the Power Block wiring, complete the following steps:

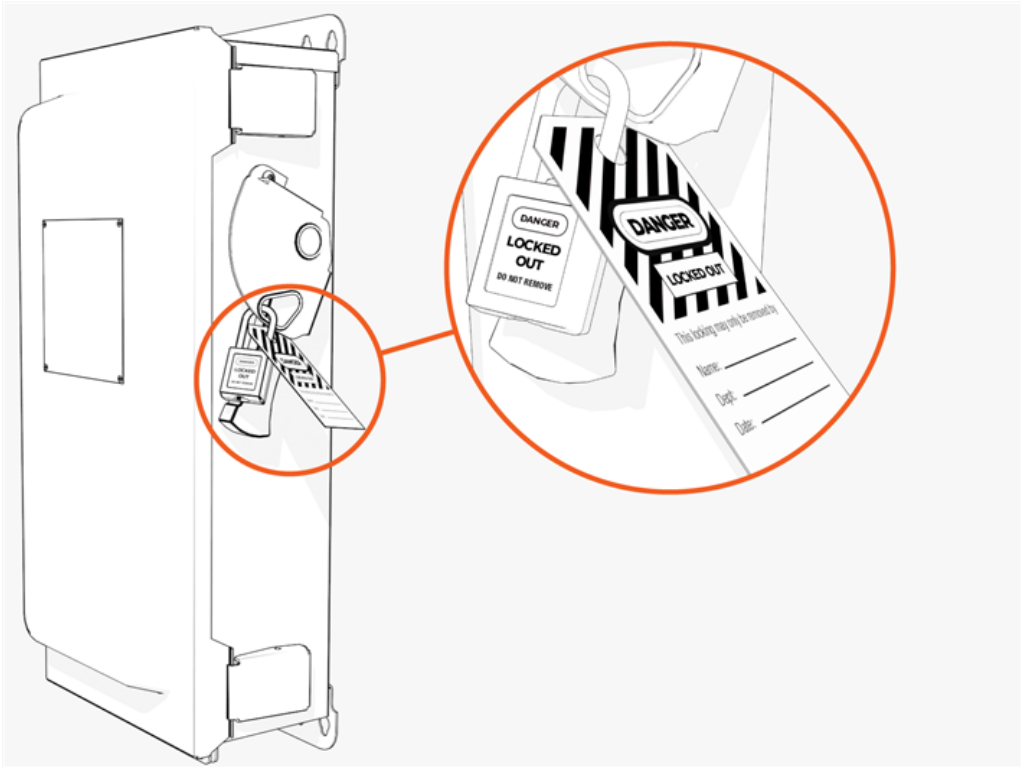
DANGER: RISK OF SHOCK

- Before any procedure, disconnect the power.
- Follow local code and site lockout/tagout procedure to de-energize the station.
- Wait for energy to dissipate (approximately five minutes).
- Keep power off until all covers and panels are reinstalled and the work is complete.

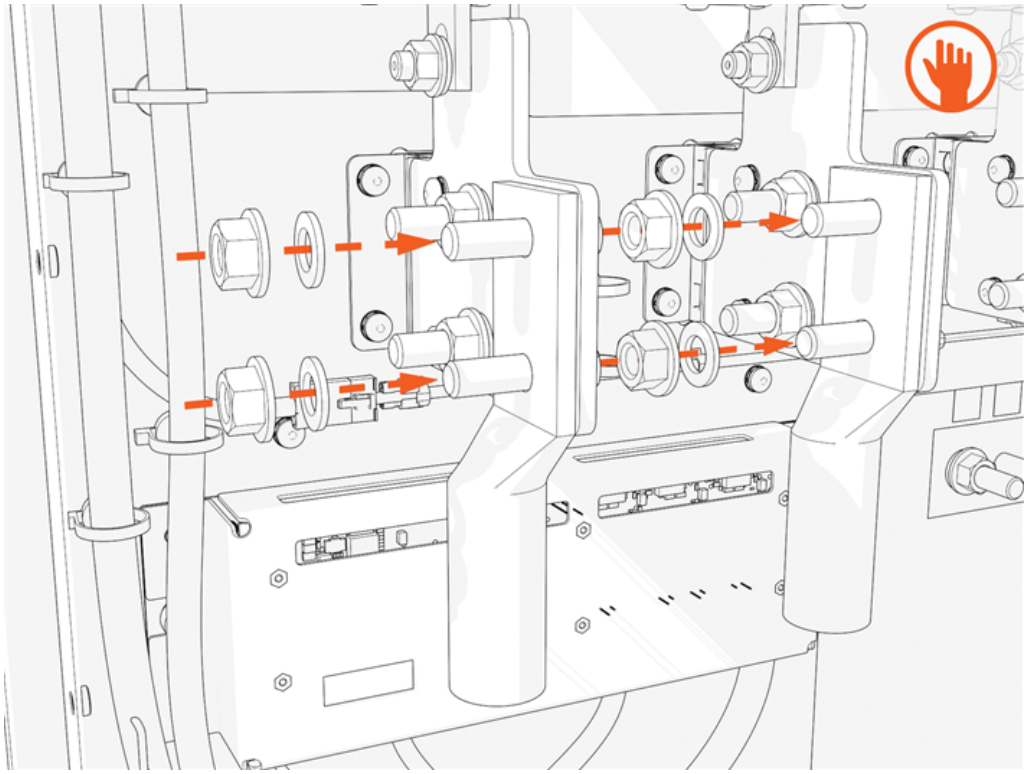
FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

CAUTION: Ensure a grounding conductor that complies with local code is properly grounded to earth at service equipment or, when supplied by a separate system, at the supply transformer.

1. Disconnect power at the site electrical panel. Follow standard practice and local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding. Use a multimeter to test that power is off.



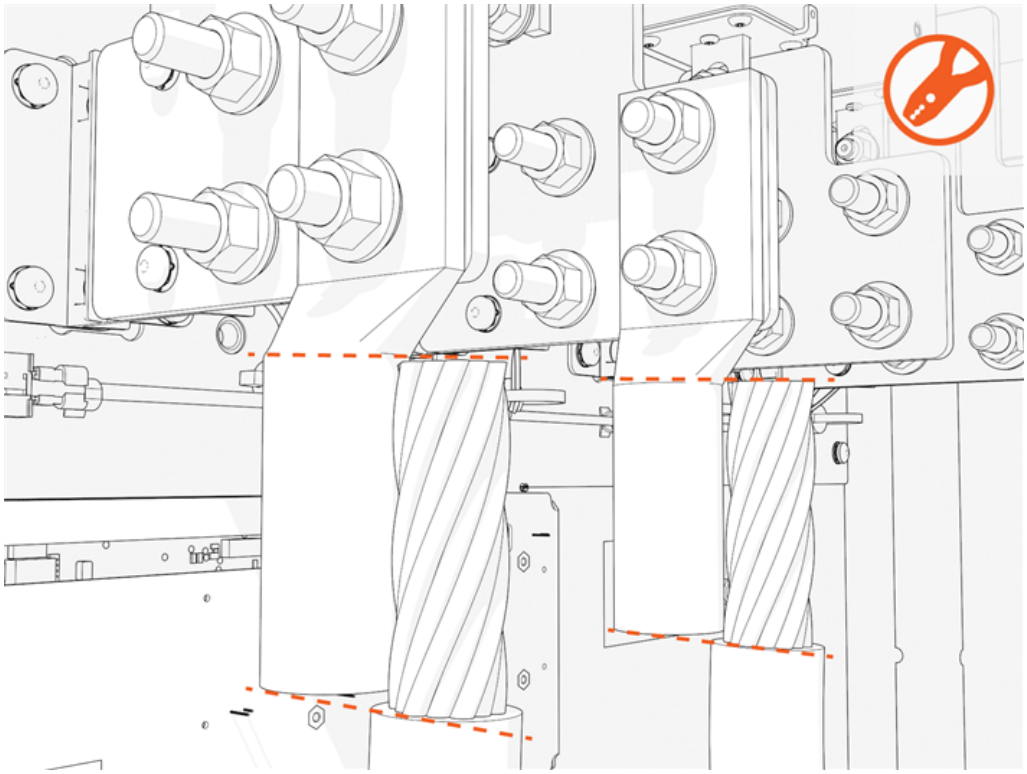
2. Install lugs without the conductors onto bus bars and hand-tighten.
    a. DC output
    b. AC input



Note: Use included bolts, washers, and nuts.

3. Measure the length from each conductor to its corresponding lug. Mark the conductor at the point where you will need to cut it.

4. Strip and cut the conductors to the desired length.



Install Fuse Kits, Conductors and Lugs, and Ground Wires

To install fuse kits, conductors, lugs and ground wires, complete the following steps:

DC Fuse Kits

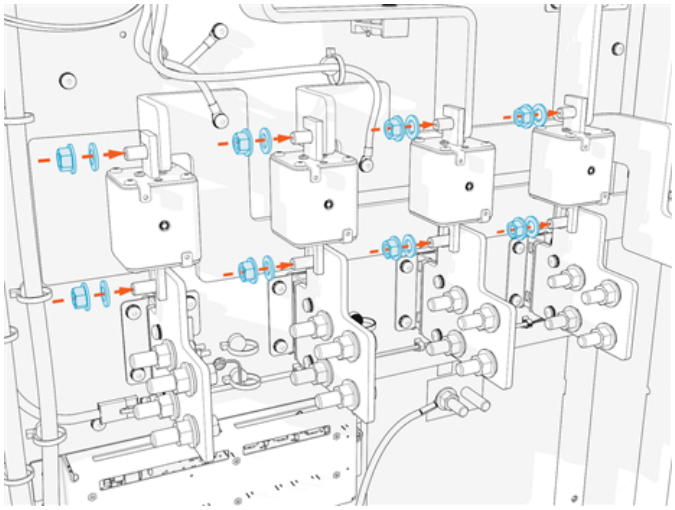
IMPORTANT:

- To prevent damage to the Bus bar insulators (plastic), the DC Fuse Kits *should be installed before* the DC conductors.
- Route all wiring away from the fuses. Each fuse can reach very high temperatures.
- The rating on the fuse label will be higher than the rating on the fuse packaging. This is normal and is done so that the fuse performance is sufficient at elevated temperatures.

IMPORTANT: In the **DC Fuse Kit** Box:

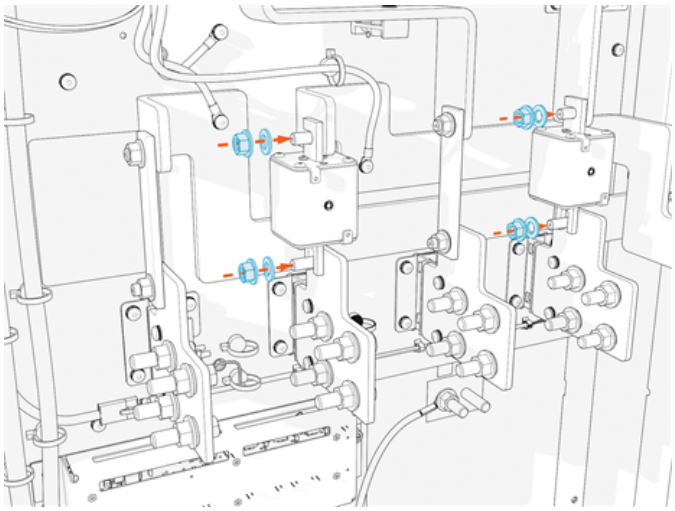
- Make sure to install the *PB amperage sticker* that is included in this box.
- Note that this DC Fuse Kit Box box could have been packaged and shipped to you using *either one* of the following two configurations: either as Type A configuration **or** as Type B configuration (see details below).

Type A configuration:

Fuses	Contents
	Type A configuration contains: • Fuses (x4)

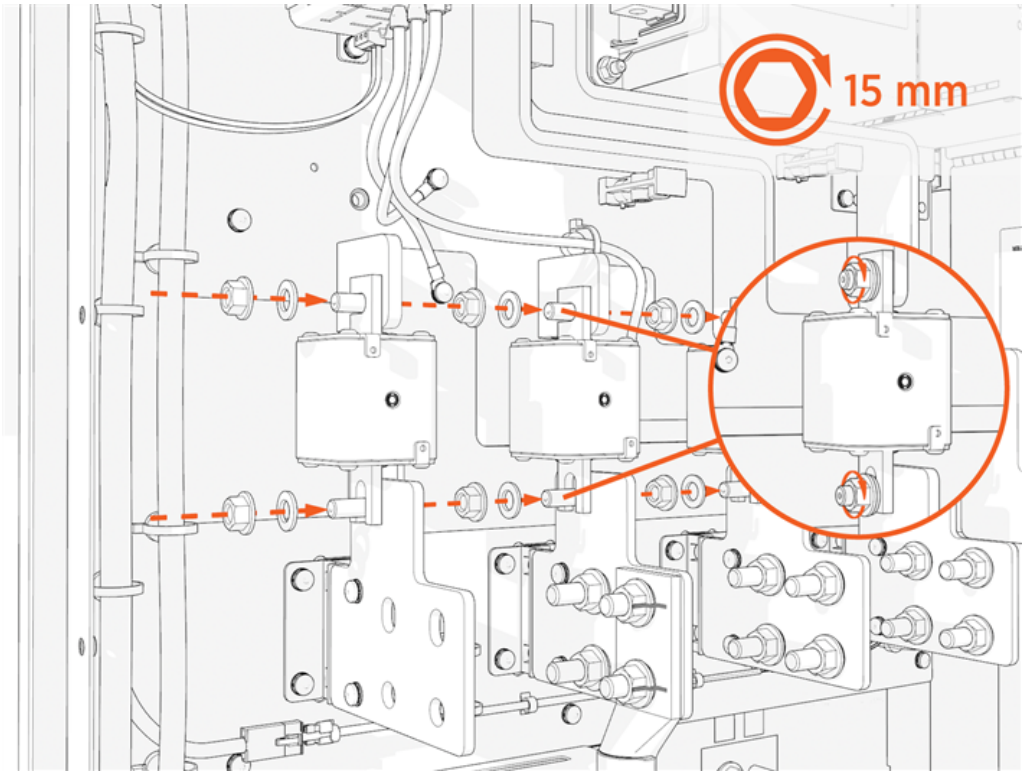
OR

Type B configuration:

Fuses and bus bars	Contents
	Type B configuration contains: • Fuses (x2) • Bus bars (x2) that have already been installed at the factory These two bus bars (in Type B configuration) take the place of the other two fuses (that are in Type A configuration).

To install all C fuses, complete the following steps:

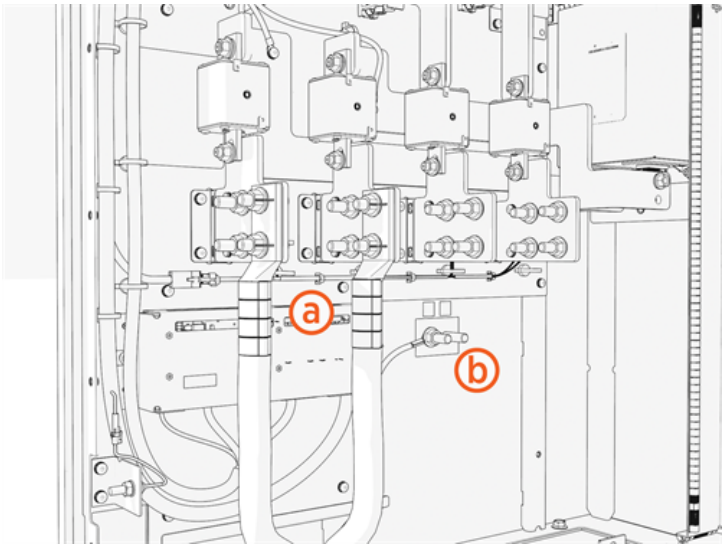
1. Install all DC fuses (regardless of number of lugs used) between the landing bus bar and the DC bus bar. Torque to 19 Nm (14 ft-lb).



IMPORTANT: For high voltage DC or AC lugs, 2-hole lugs are specified in North America. Single hole lugs are only permitted in Europe. The lugs must be installed **within +/- 10° from vertical** to avoid interference.

a. DC output lugs
b. DC ground wire

Note: For each AC and DC bus bar, only one washer per bus bar hole is required, even if lugs are installed onto the front and back of the same bus bar.

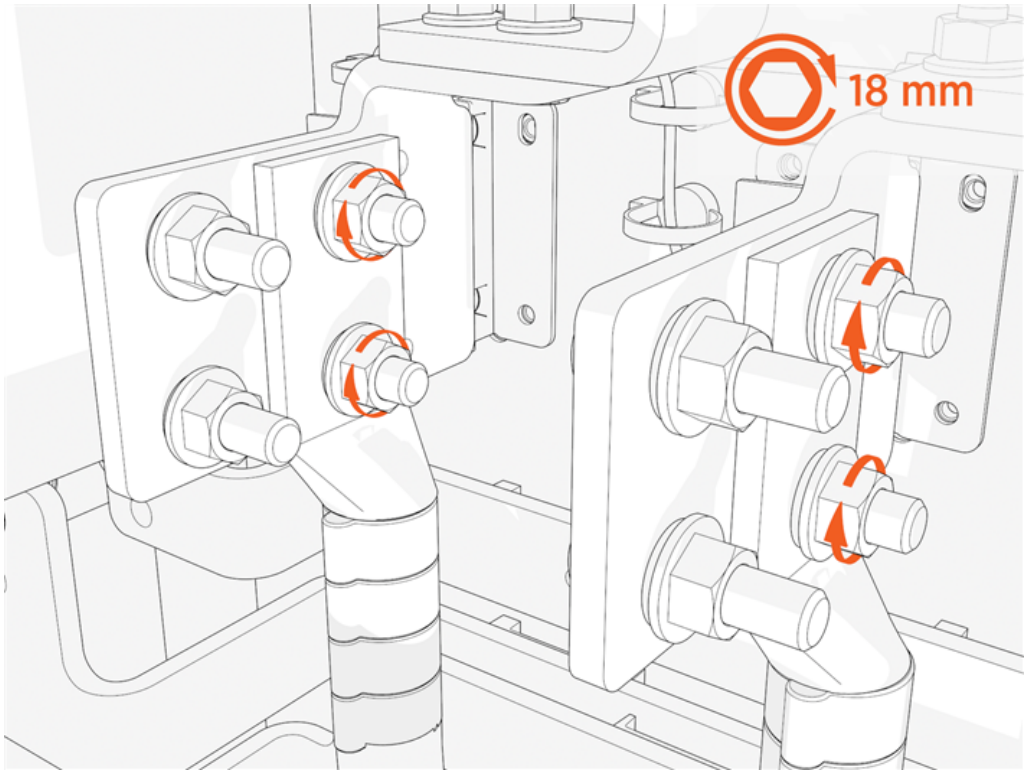


DC Output Lugs

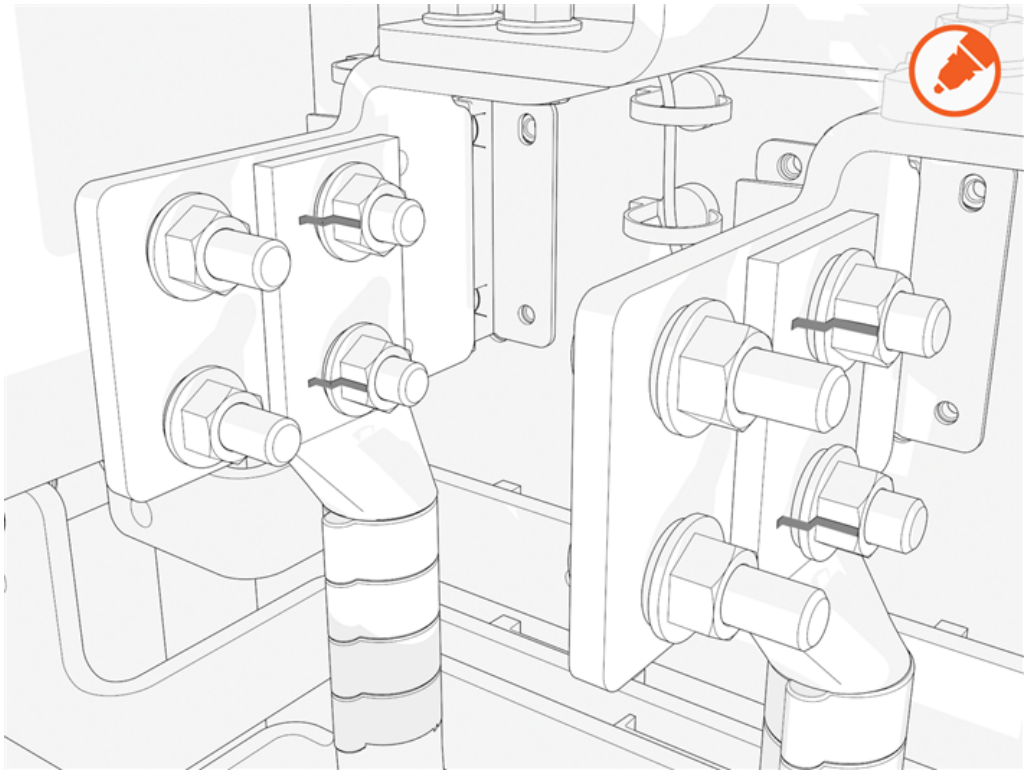
To uninstall the DC output lugs, complete the following steps:

1. Uninstall the lugs (if you installed them previously to measure length). Apply dielectric grease onto the back of each lug.
2. Crimp a DC output lug onto each conductor.

   Note: Use the lug manufacturer's crimp tool and die.
3. Install lugs onto each bus bar and torque to 21 Nm (15.5 ft-lb).



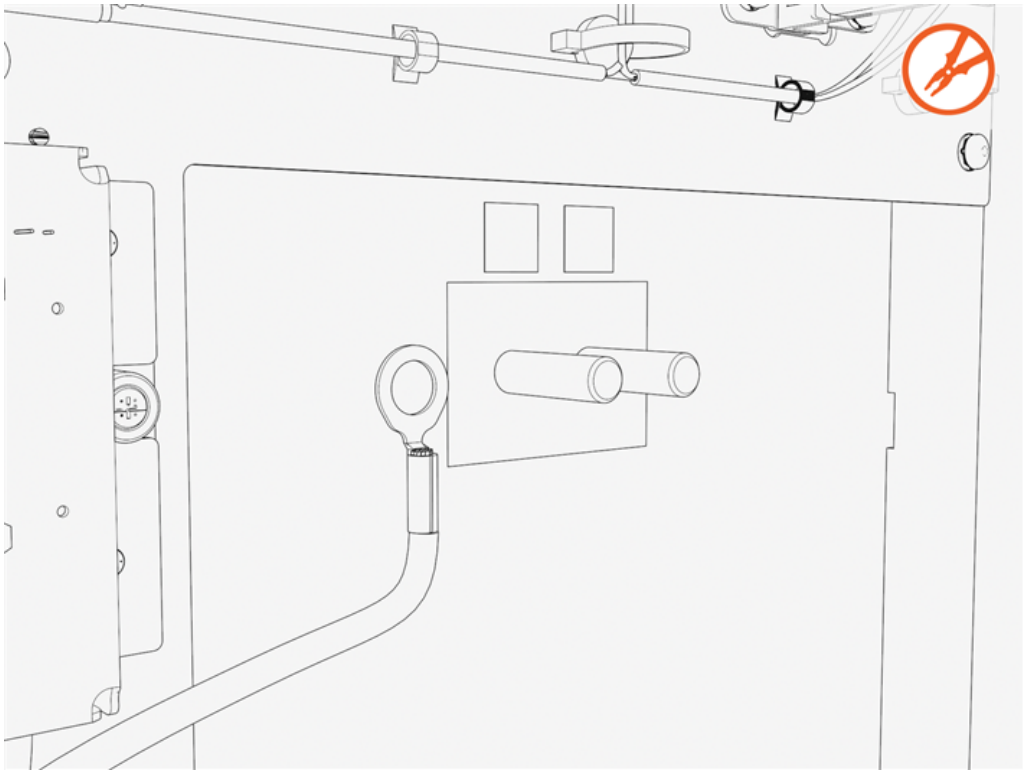
4. Mark all torqued power connections.



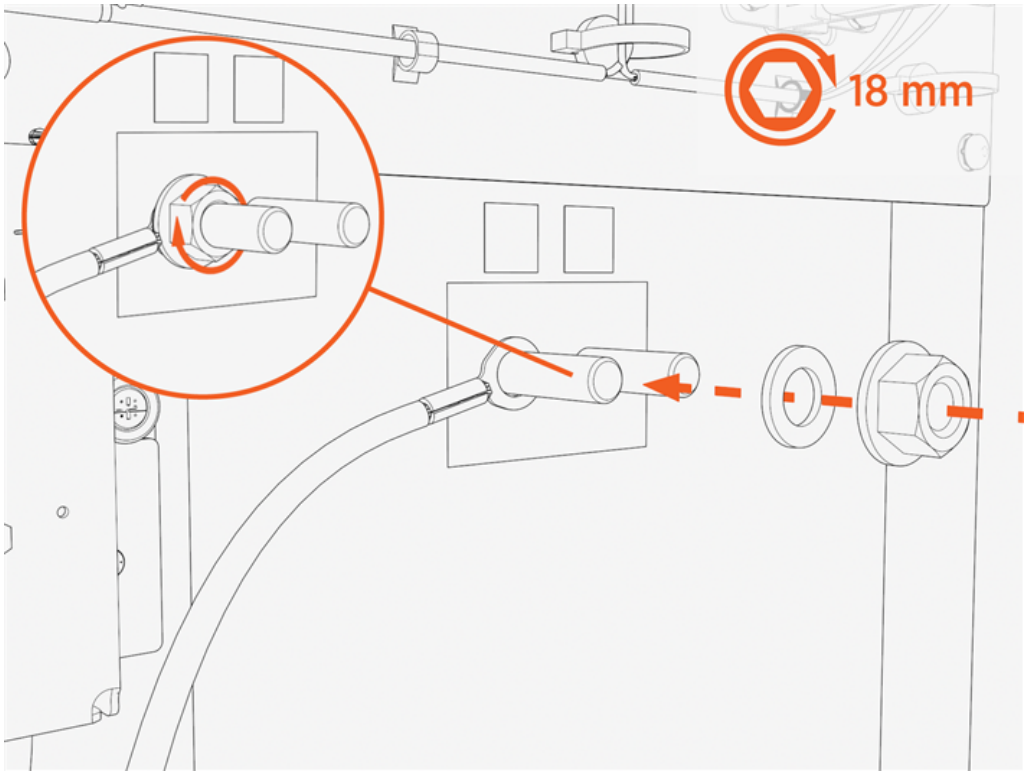
DC Ground Wire

To install DC ground wires, complete the following steps:

1. Crimp a 13 mm (1/2 in) single-hole lug onto the DC ground wire.



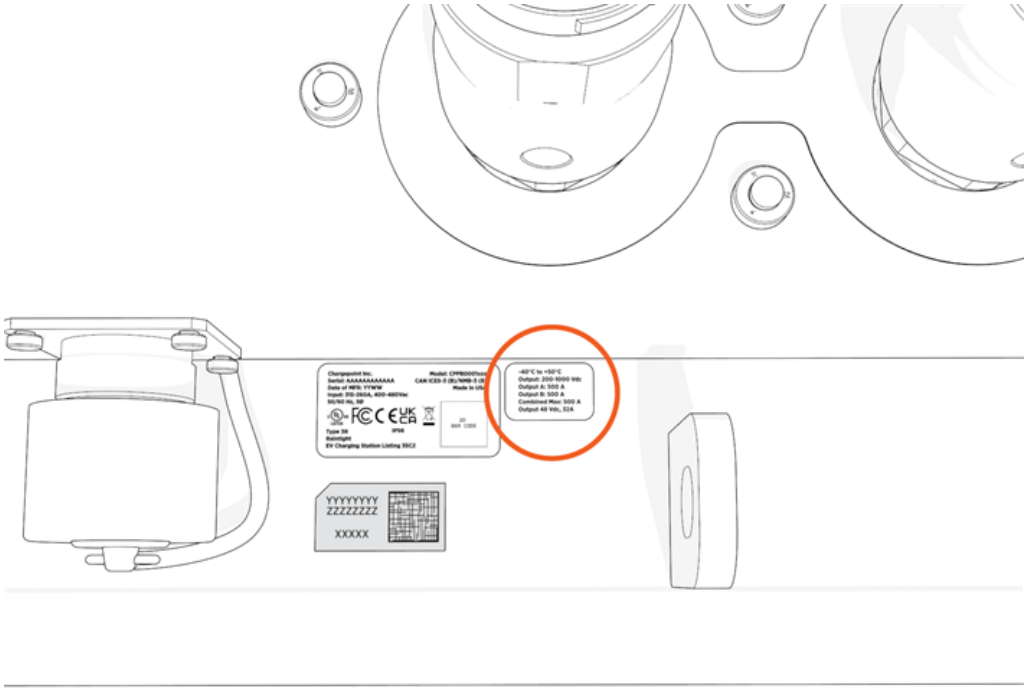
2. Connect the GND (protective earth) service wiring to the stud on the left side of the enclosure.



Adhere Ratings Label

IMPORTANT: Position the label near the serial number label, next to Ethernet port.

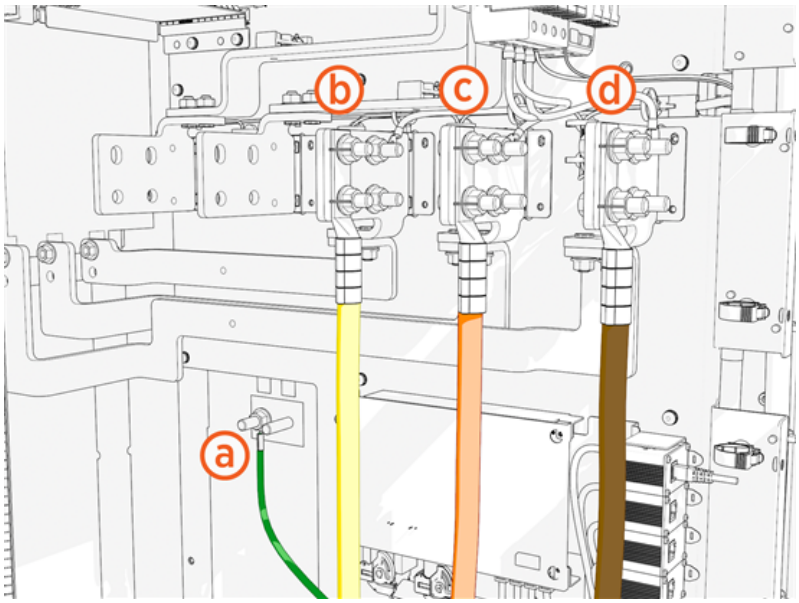
1. Adhere the associated ratings label.



AC Input Lugs

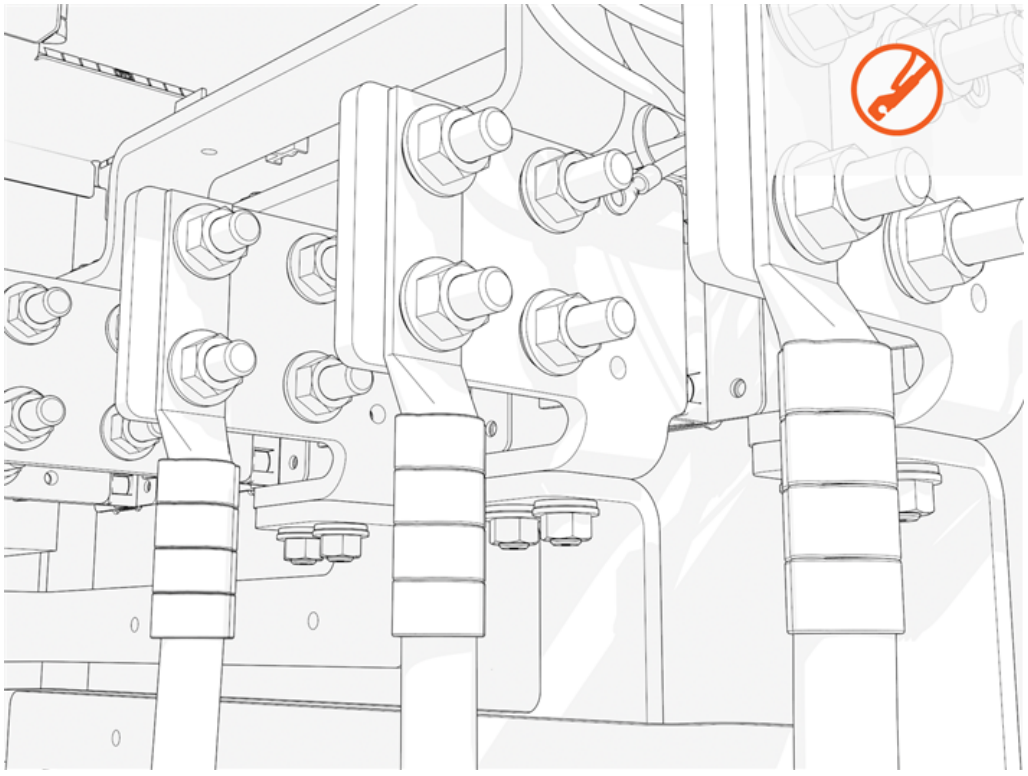
IMPORTANT: If the AC input wiring uses only one 750 kcmil conductor, it must be installed on the bus bar in the position farthest from the wall (toward the center) to avoid interference.

a. Ground wire
b. L3
c. L2
d. L1

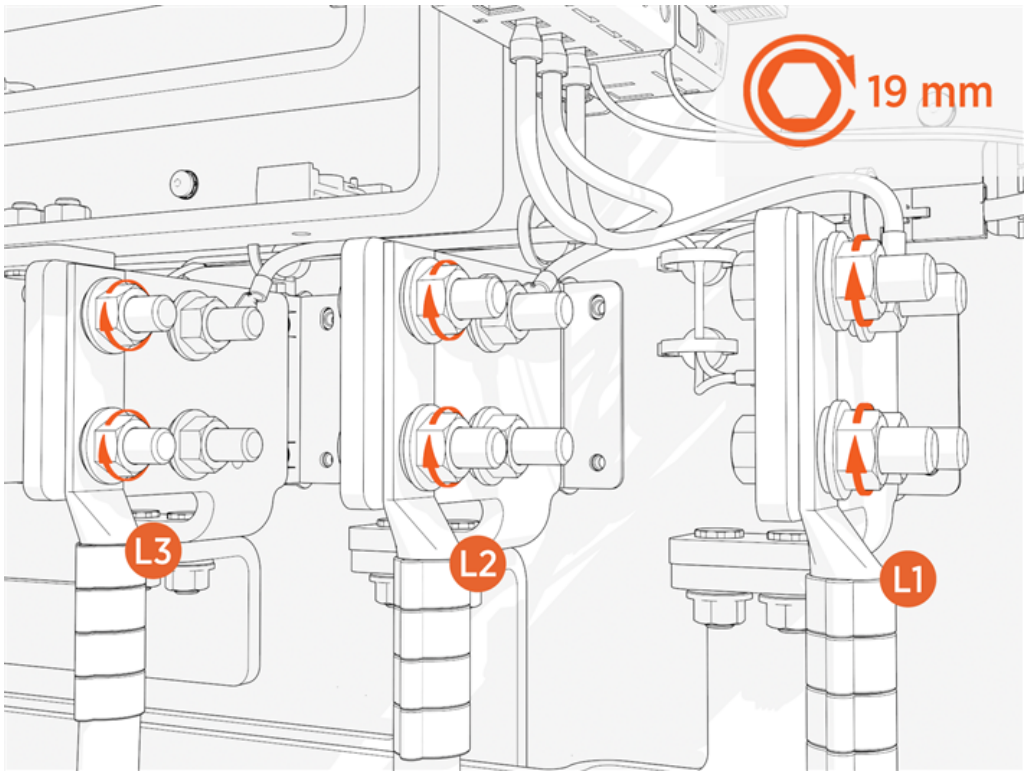


1. Uninstall the lugs (if you installed them previously to measure length). Apply dielectric grease onto the back of each lug.
2. Strip and crimp an AC input lug onto each conductor.

   Note: Use the lug manufacturer's crimp tool and die.

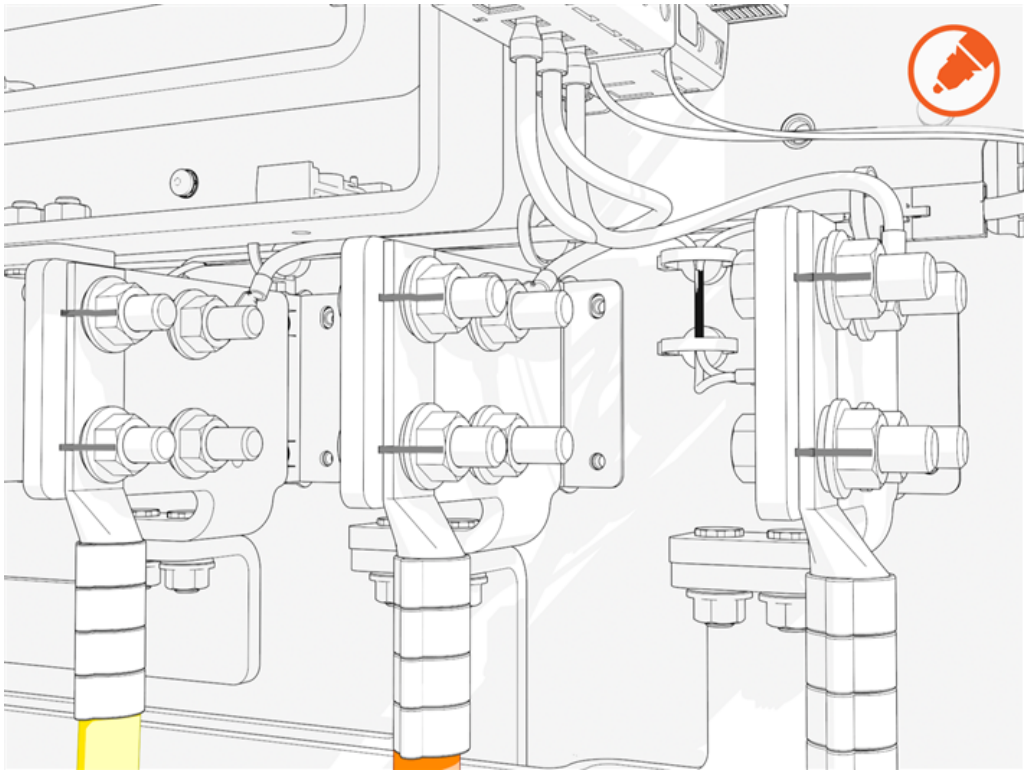


3. Install the L1, L2, and L3 lugs onto each bus bar with M12 bolts. Torque to 21 Nm (15.5 ft-lb).



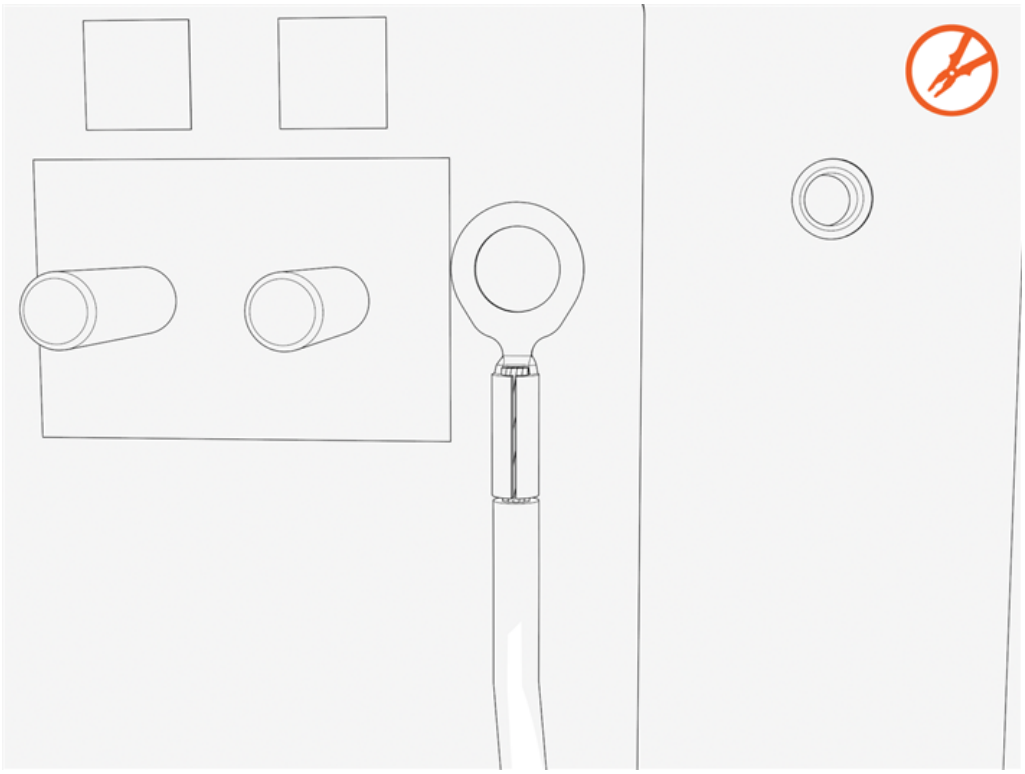
IMPORTANT: Ensure the L1, L2, and L3 cables are installed in the correct order for counter-clockwise phase rotation. Incorrect installation creates a phase rotation error later in the process.

4. Mark all torqued power connections.

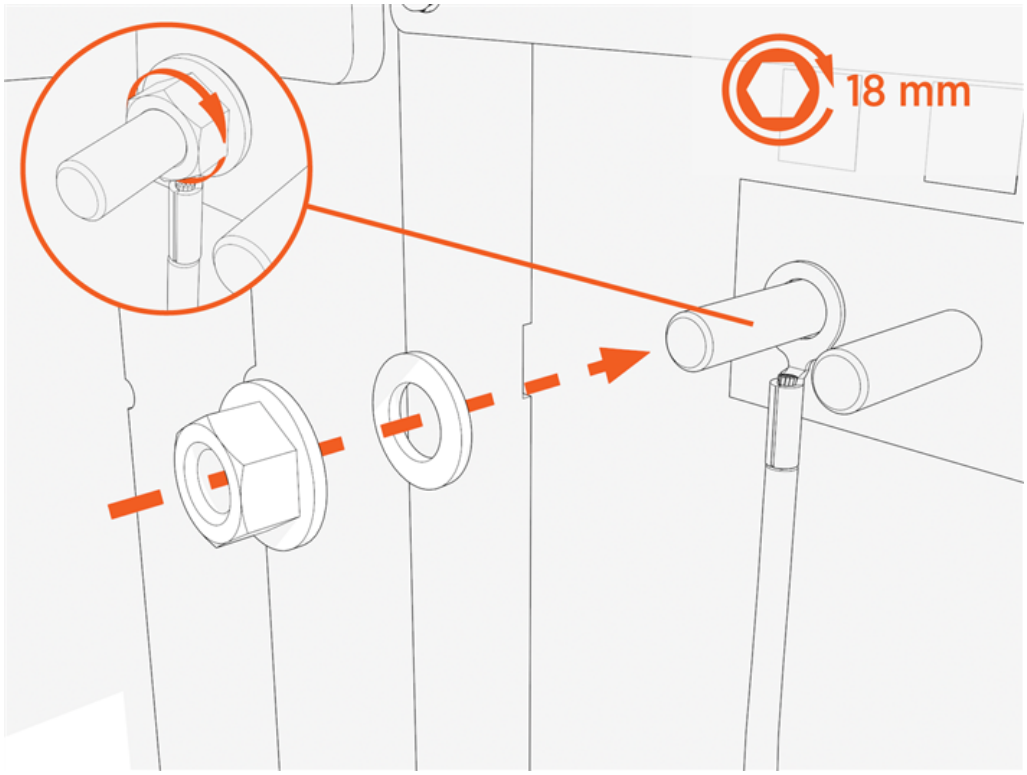


AC Ground Wire

1. Crimp a 13 mm (1/2 in) single-hole lug onto the AC ground wire.



2. Connect the GND (protective earth) service wiring to the stud on the left side of the enclosure and torque to 21 Nm (15.5 ft-lb).



IMPORTANT: Ensure that the deep socket and extension is used to avoid side or angular loading of the ground stud.

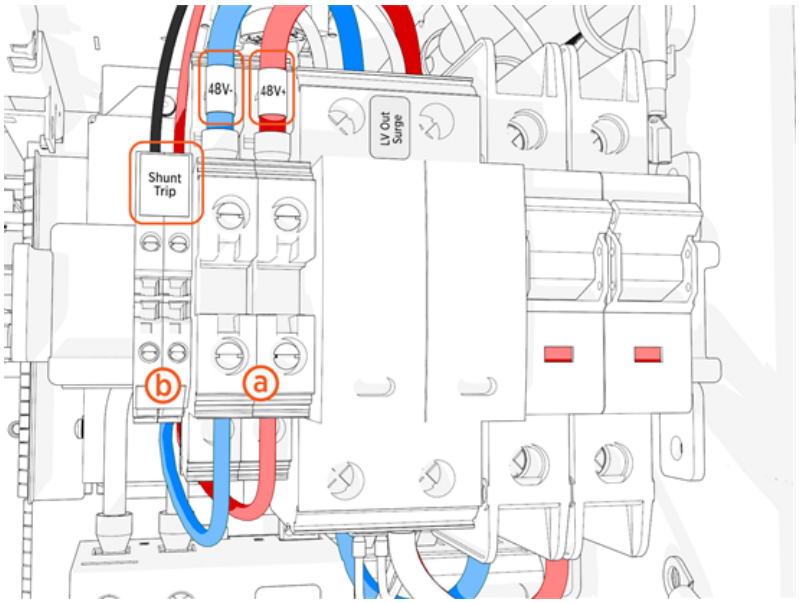
48 V DC and (if Applicable) Shunt Trip

Check the 48 V DC wiring requirements in the site drawings:

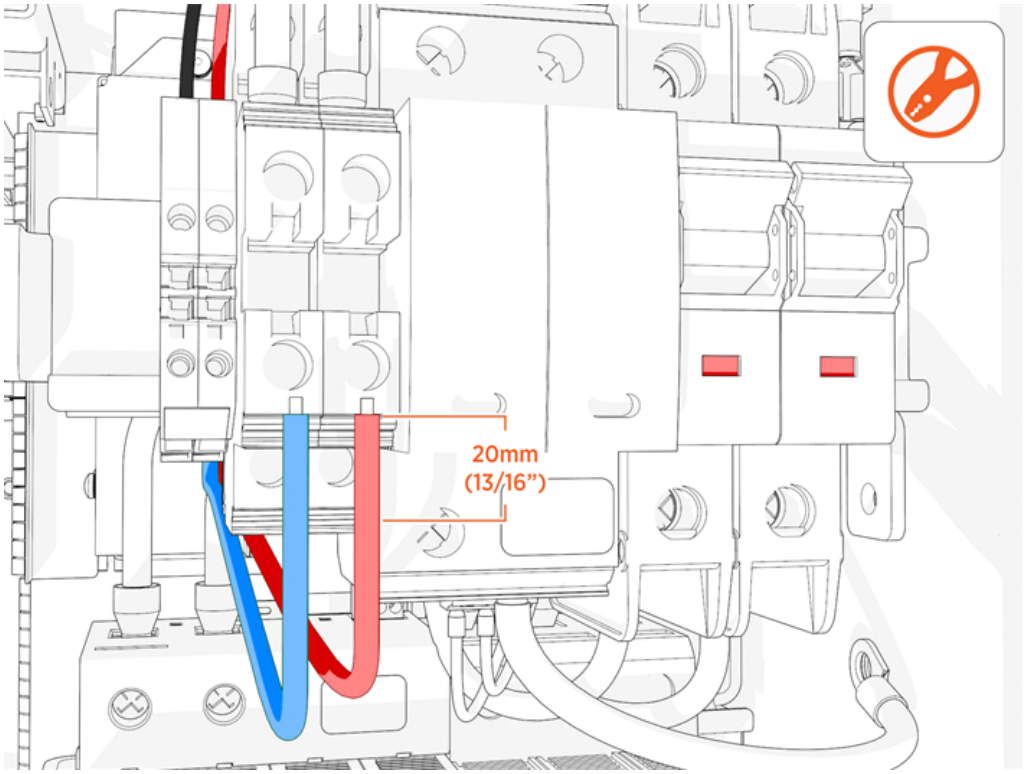
48 V DC Wire Size	Conduit Size	Installation
16 mm^2 (6 AWG)	21 mm (3/4 in)	Install two 48 V DC wires and one Ethernet cable into one conduit.
Note: Use only copper conductor wire rated for 90 °C (194 °F).		

a. 48 V DC
b. Shunt trip (if any)

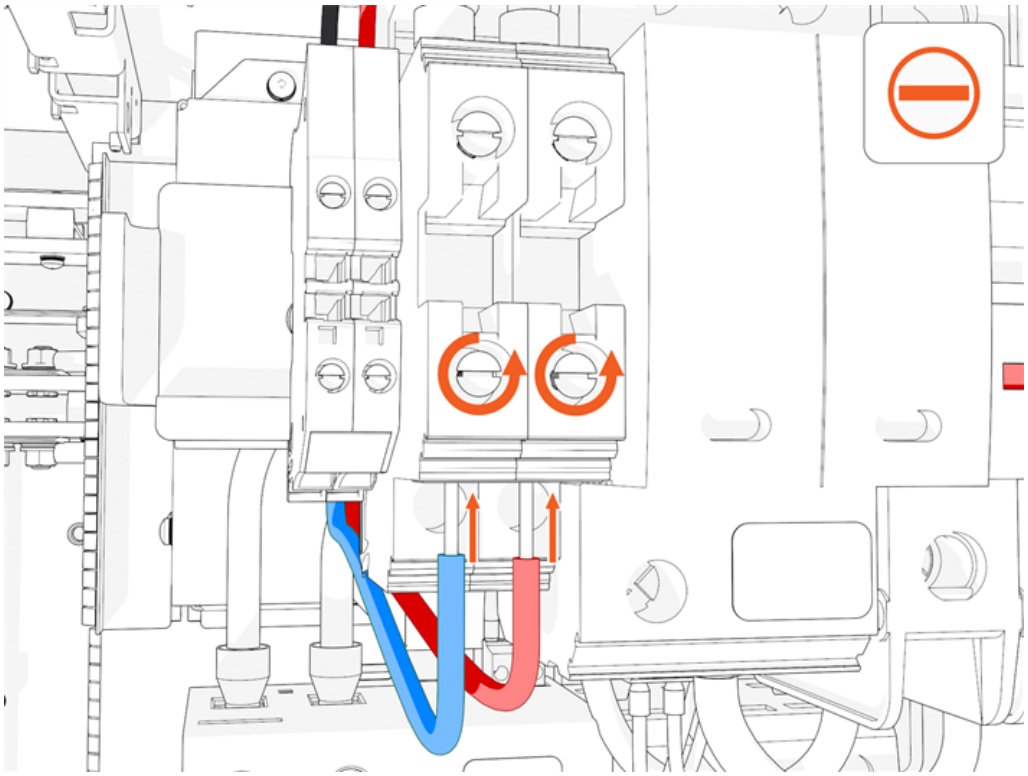
Note: Notice the labels.



1. Strip each 48 V DC and any shunt trip wires to 15 mm (5/8 in).

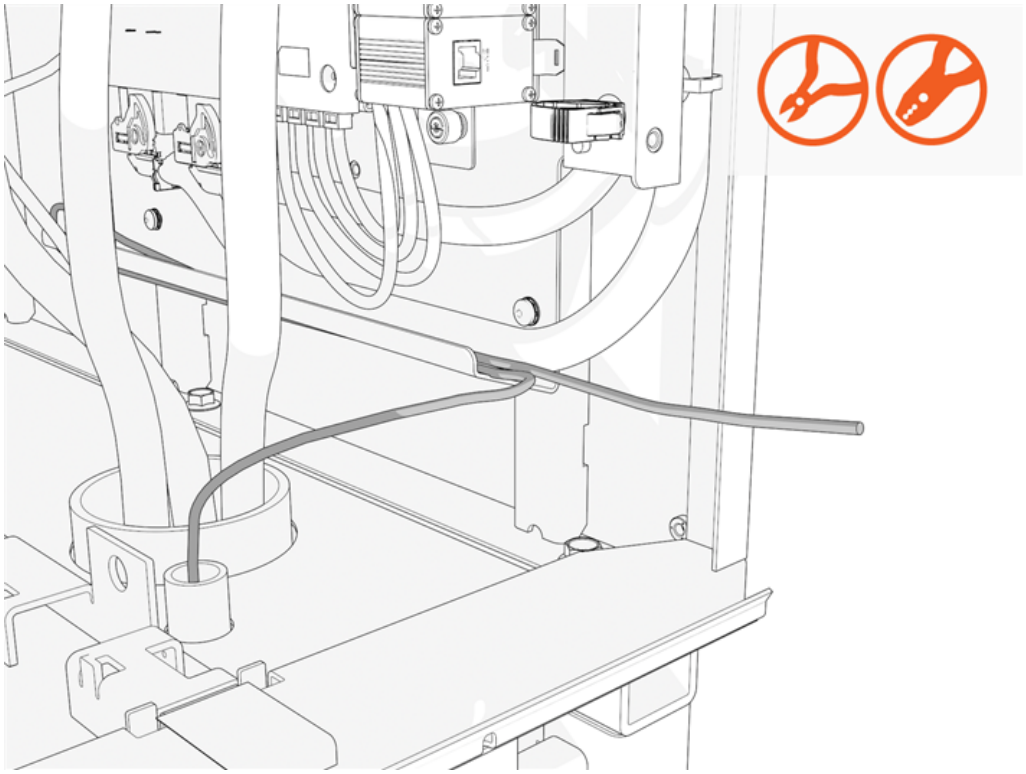


2. Loosen each terminal tab and seat the wire. Tighten the screw. Push-pull to test.

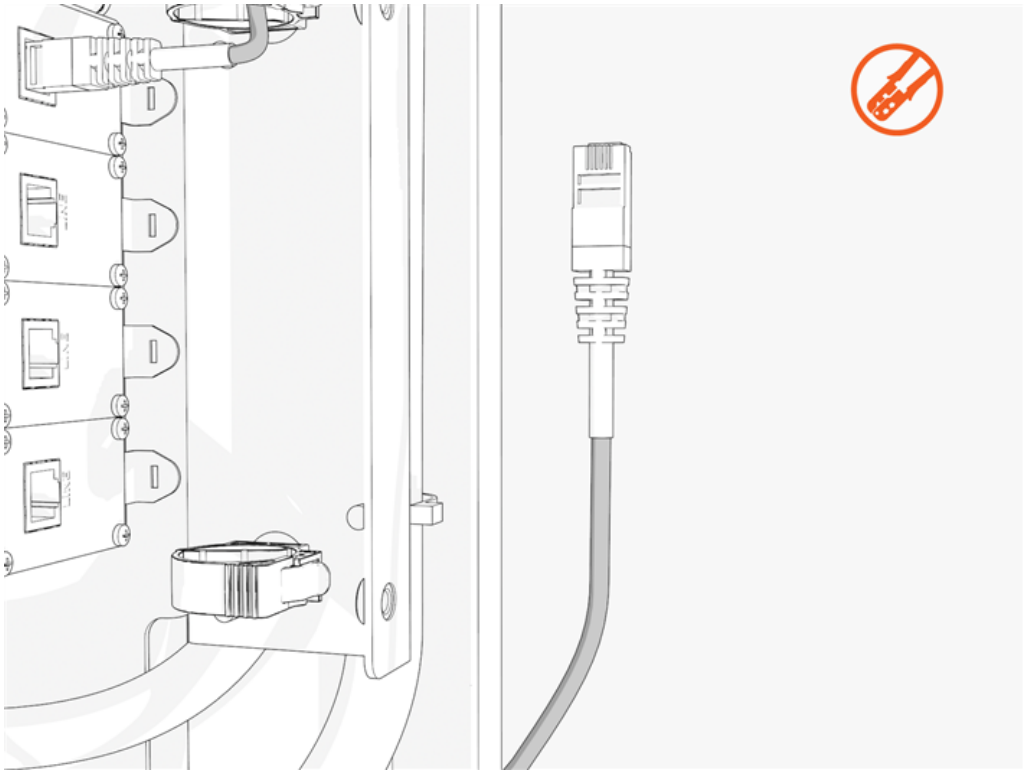


Cat6 STP Ethernet Cable

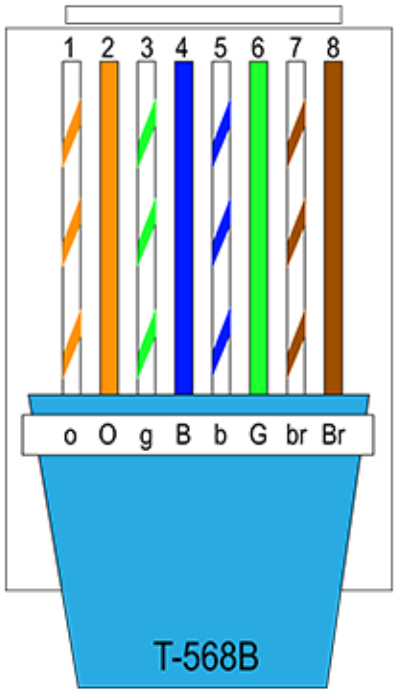
1. Trim each Cat6 STP Ethernet cable to provide a 914 mm (36 in) service loop.



2. Terminate both ends. Field crimp a shielded connector onto each Ethernet wire.

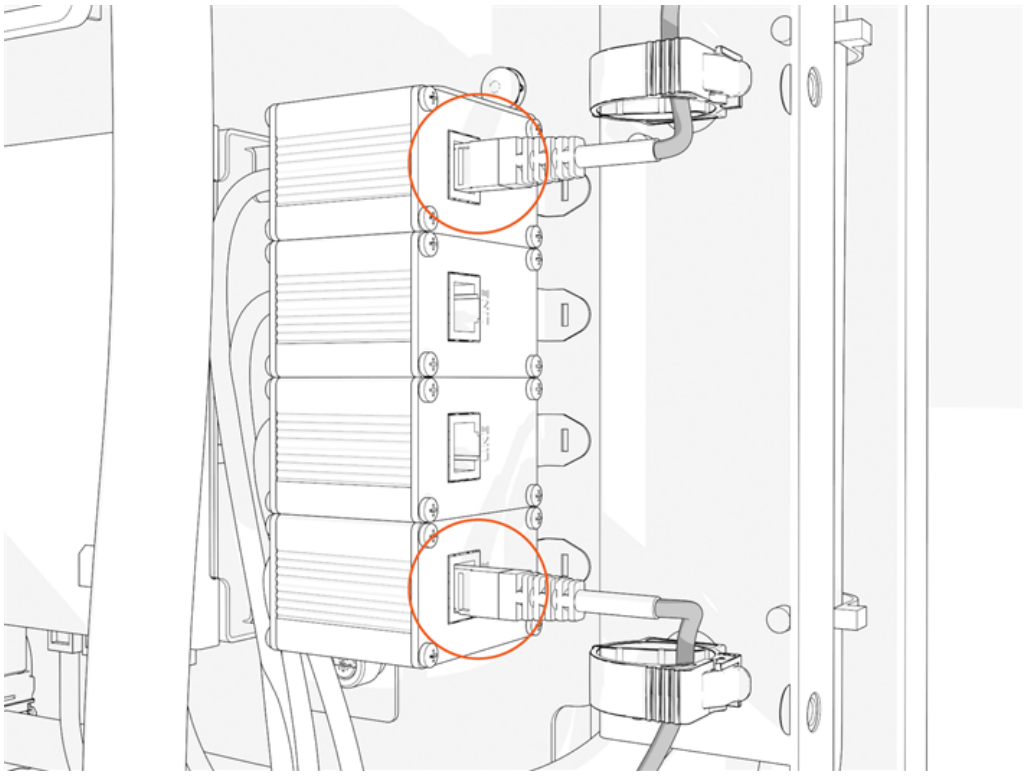


3. Use a straight-through T568B pattern.



4. Connect the shield wire termination.

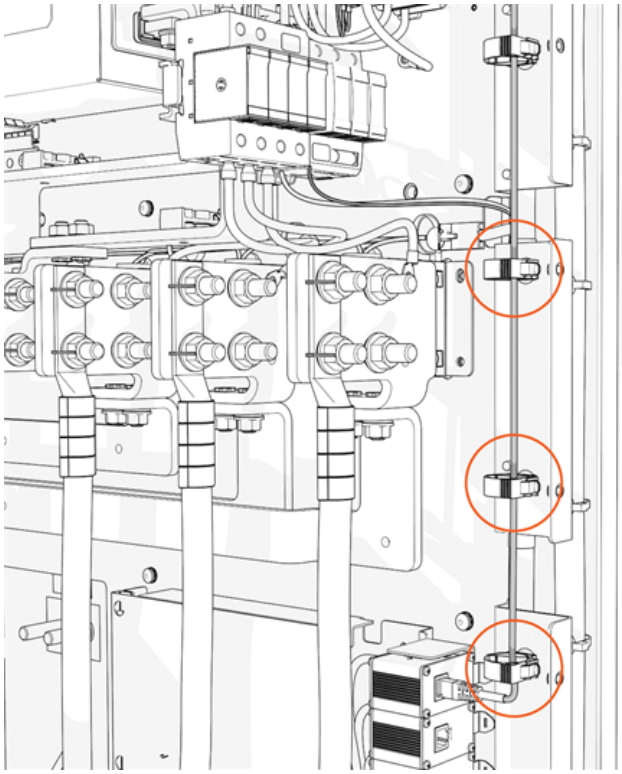
5. Test each Ethernet wire functionality.
6. Connect each Ethernet connector to an available port (at lower right). Push-pull to test.



Note: Ports are interchangeable.

Route and Secure

1. Route the Ethernet, 48 V DC, and shunt trip wires down the front, right side. Secure onto the cable-routing clips.
2. Position excess Ethernet wire loops behind the controller board mounts.

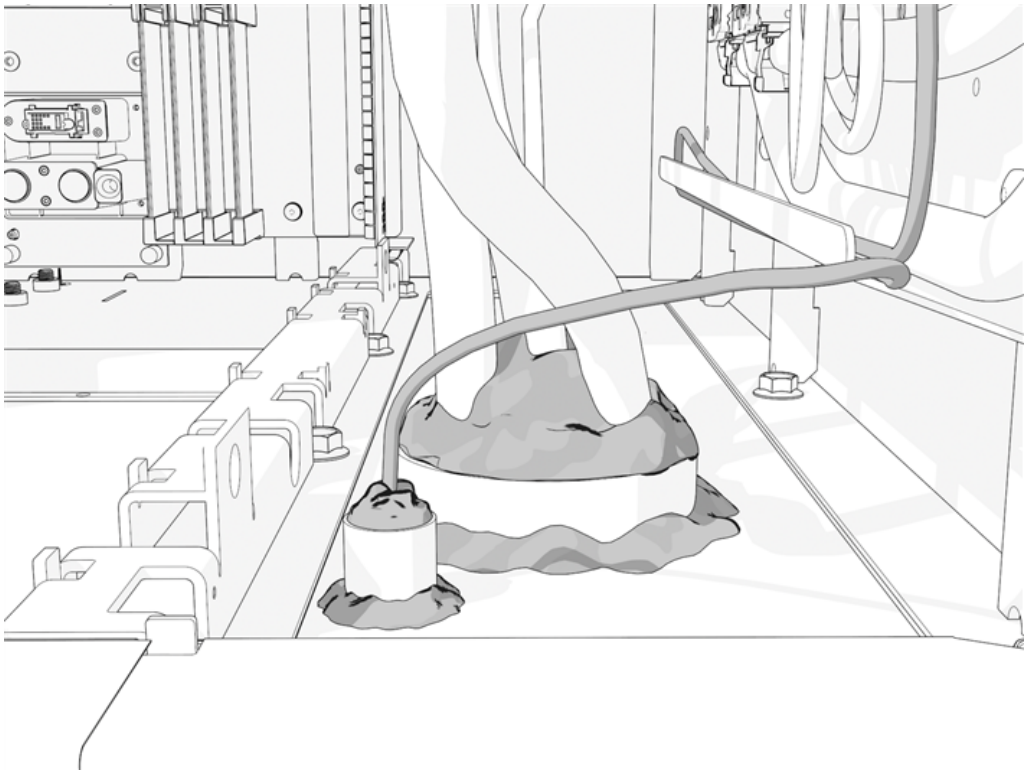


Note: This is to prevent covers from pinching these wires.

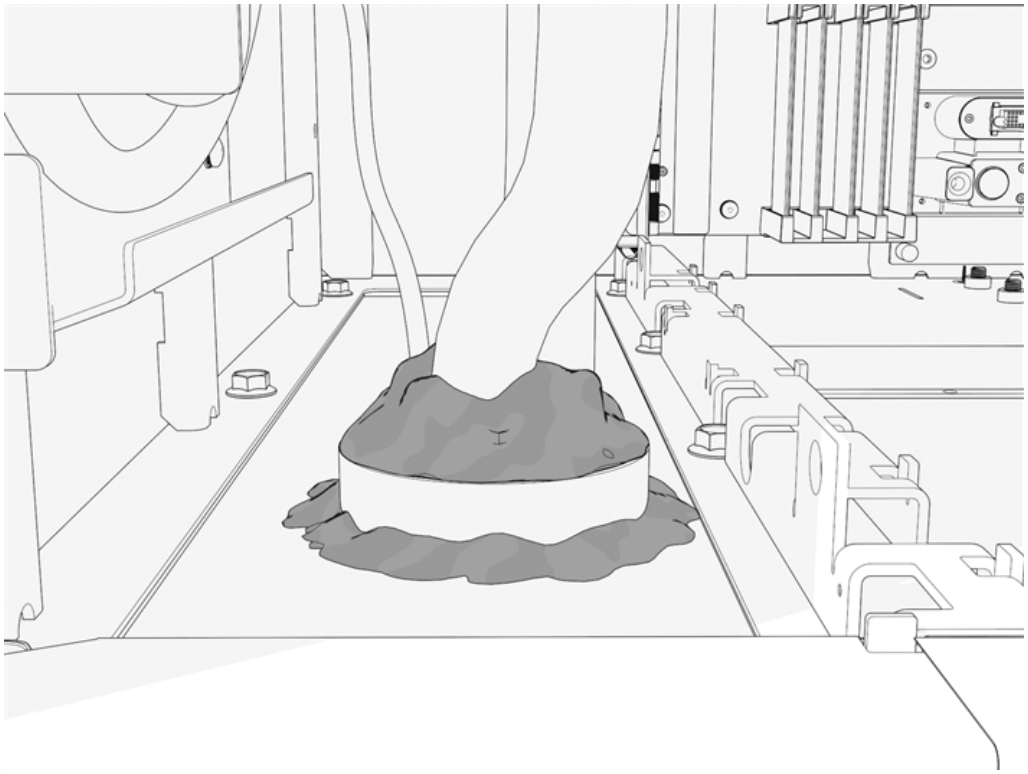
Seal Completely

IMPORTANT: The conduit opening must be sealed to protect the wiring from any debris, pests, and other matter.

1. Vacuum all wire ends and metal shavings from the enclosure.
2. Use duct seal compound (included) to seal all wiring openings and seal inside conduits.



3. Use the duct seal compound to seal the conduits around and to the gland plates.



Install Power Block Internal Parts and Fill Coolant

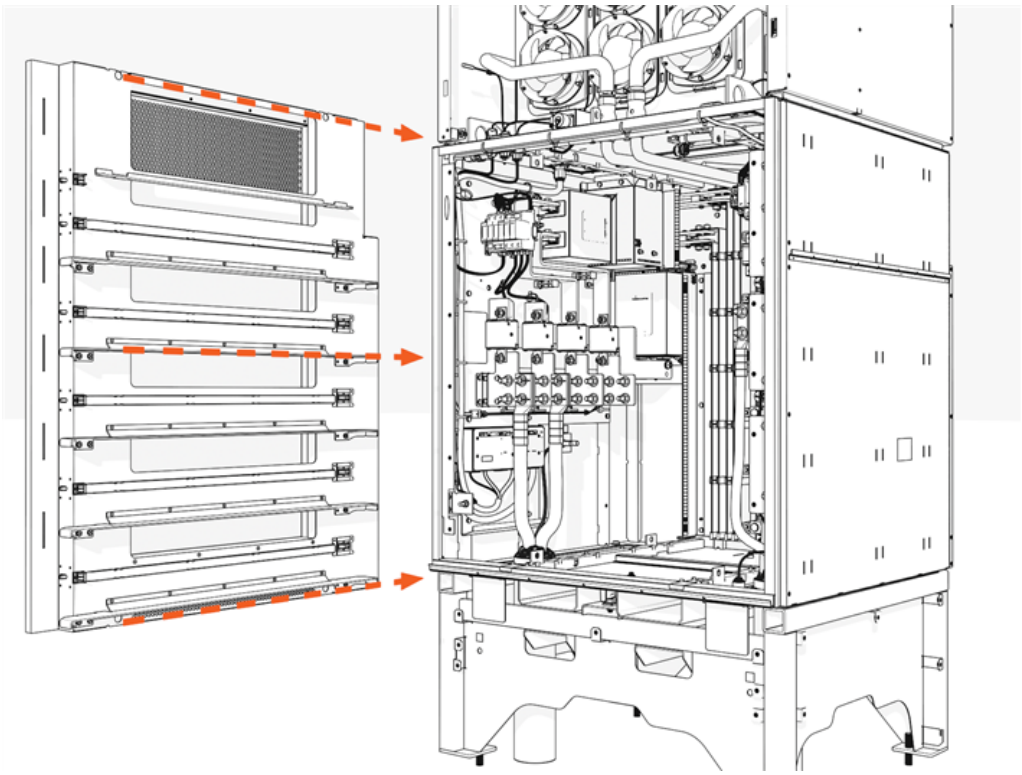
A Power Block can use up to five Power Modules, which ship in separate pallets. To install Power Block internal parts and fill coolant, complete the following steps:

CAUTION: Install the rack with latches on the left. Orient the supports toward each other to form shelves for each Power Module.

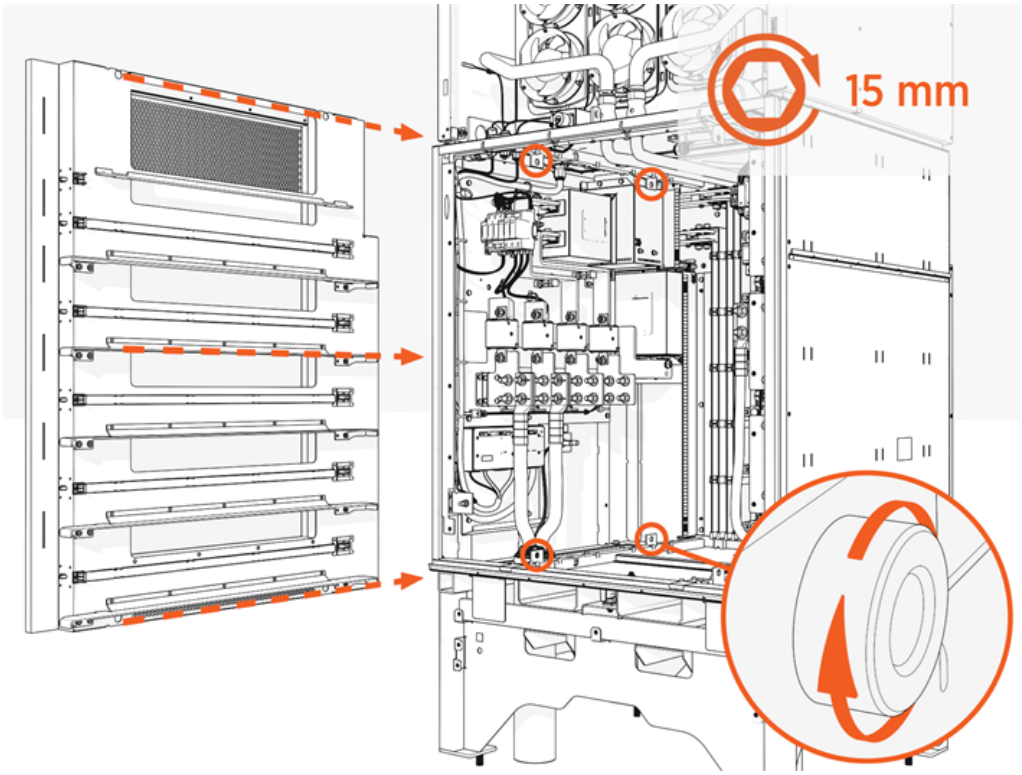
Install Left and Right Racks

To install the left and right racks, complete the following steps:

1. Align each rack vertically along the guide rails. Slide into the lower cabinet.



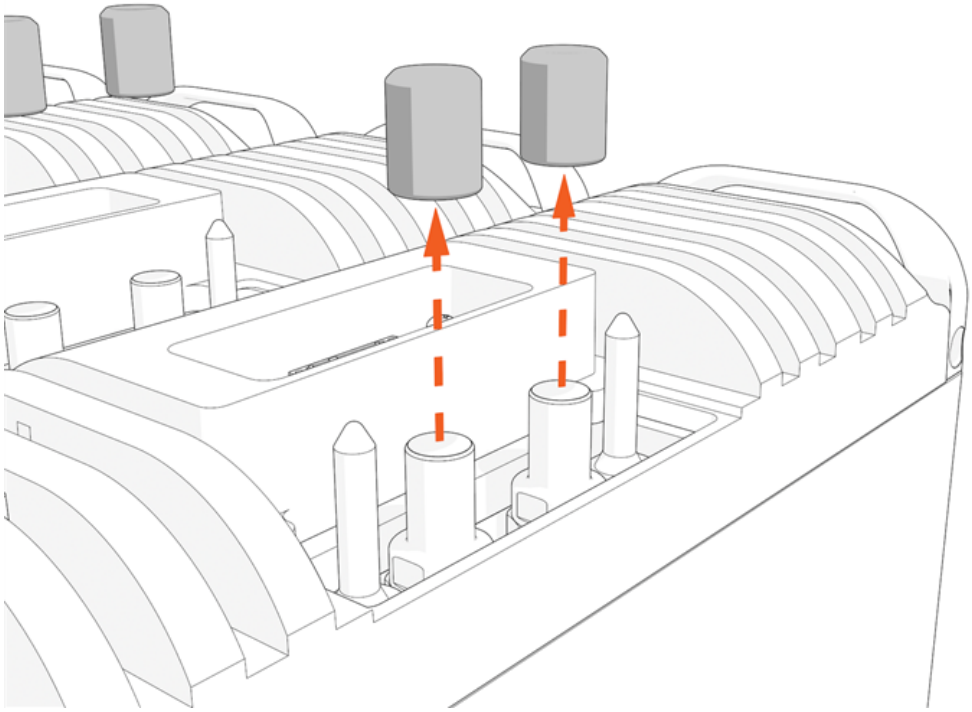
2. Install screws into the cabinet interior (front and rear, upper and lower) for each rack and torque to 19 Nm (14 ft-lb).



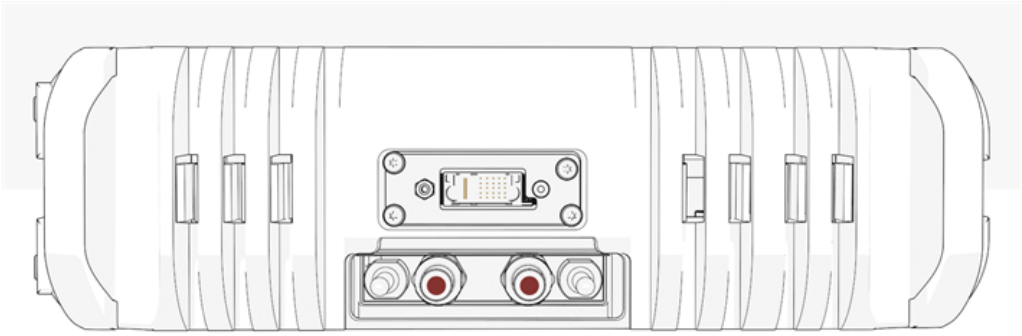
Power Module Installation

To install the Power Module, complete the following steps:

1. Remove caps from the coolant ports.

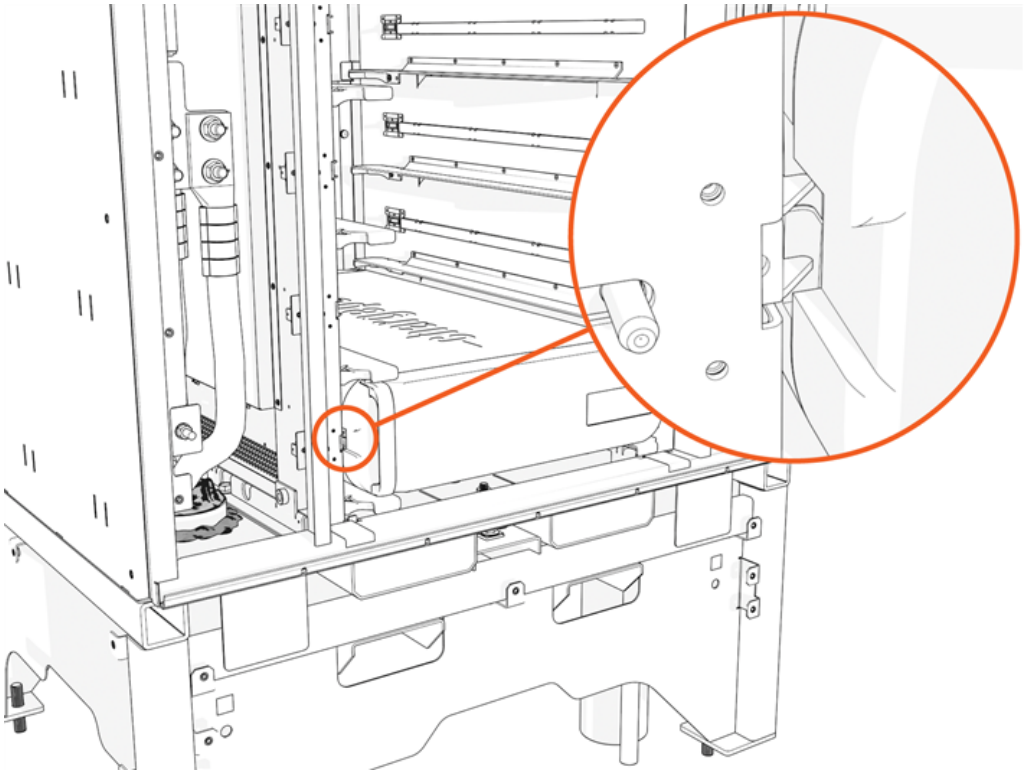


2. Position the Power Module with the data connector above the coolant port to align with the module mate.

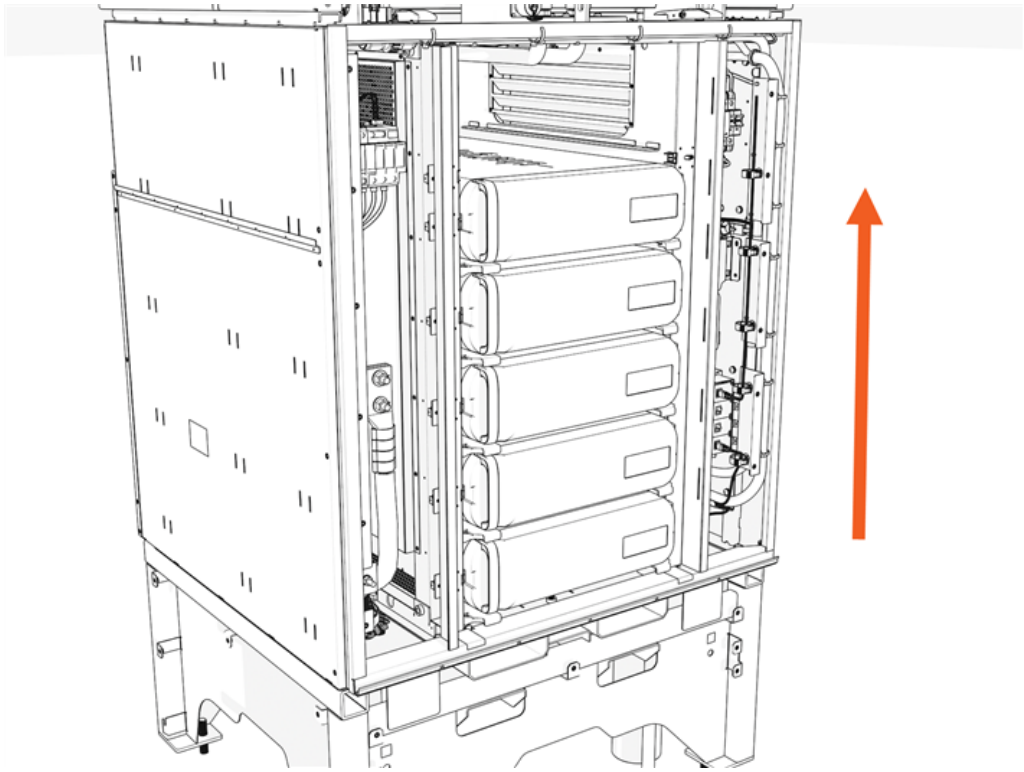


3. Insert the Power Module onto the rack and slide it in until the latch locks.

IMPORTANT: Install Power Modules from lowest to highest.



Insert Power Modules from the bottom rack to the top.



Install the Lower Heat Exchanger

To install the lower heat exchanger, complete the following steps:

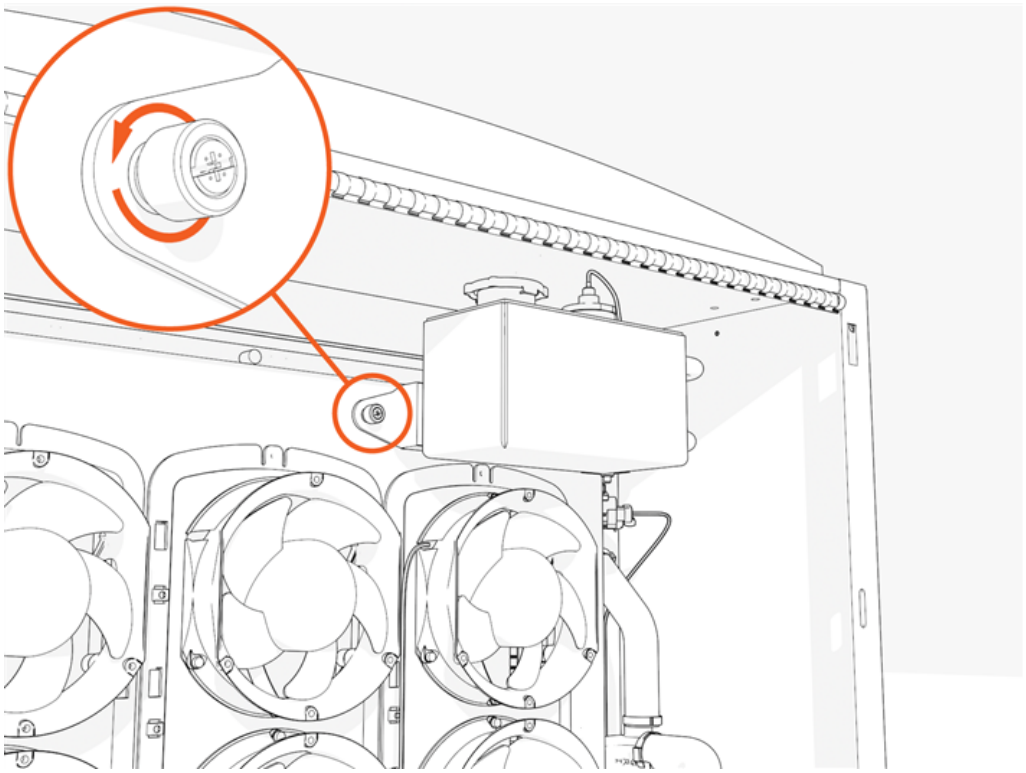
Note: Cut any zip ties to release the round multipin power connector.

Fill Coolant

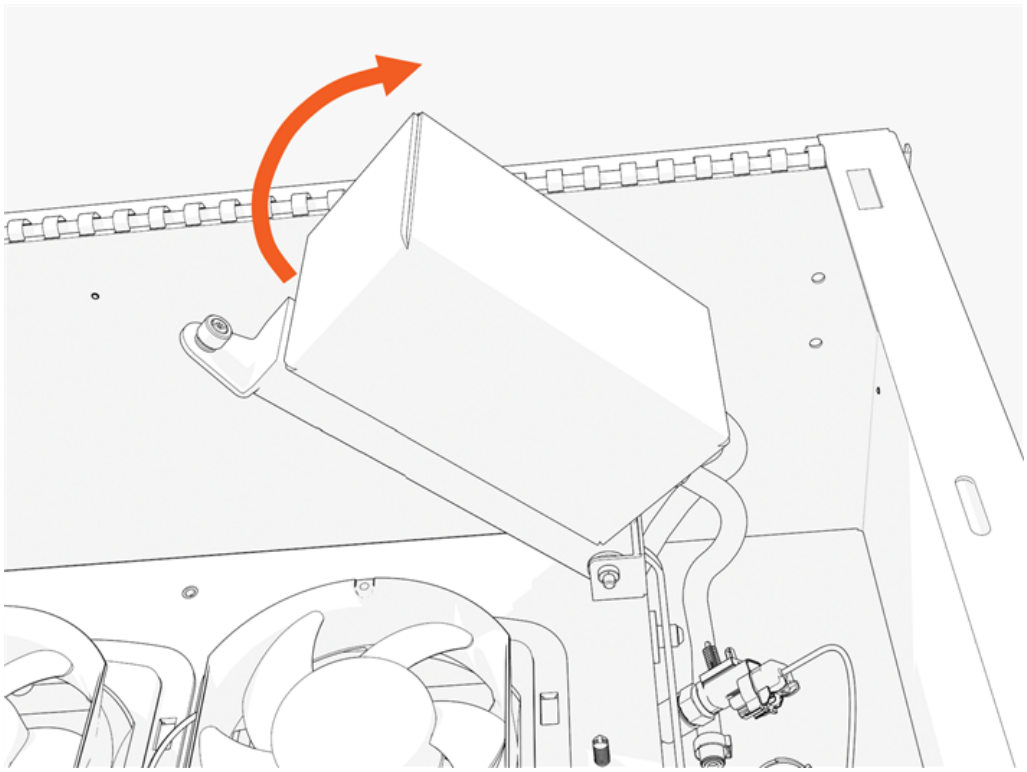
To fill coolant, complete the following steps:

Open Reservoir

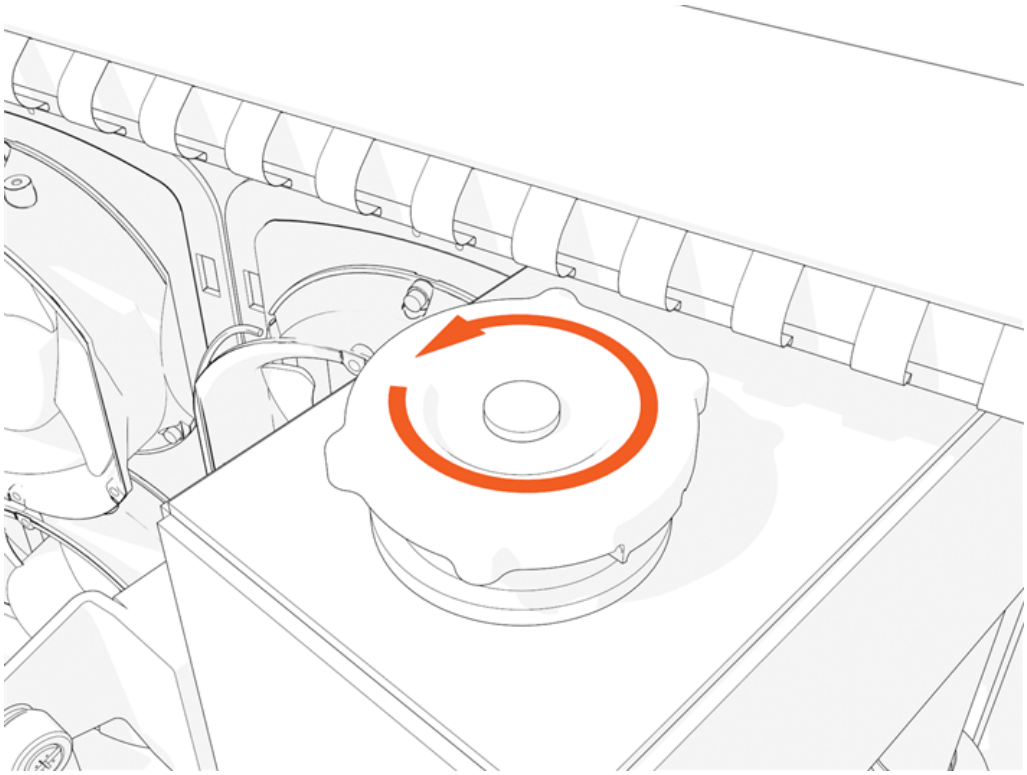
1. Open the coolant reservoir to release pressure. Loosen the captive screw.



2. Pull the left side of the reservoir to rotate out. Hold it open.



3. Push down and unscrew the cap.

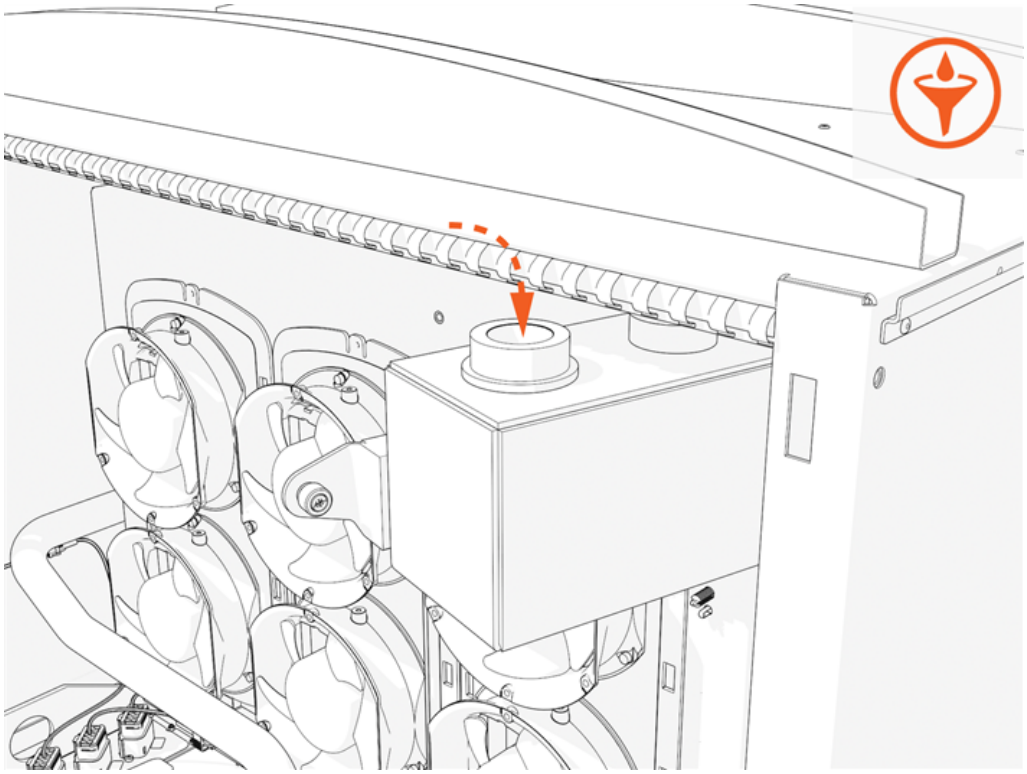


Pour Coolant

To pour the coolant, follow the instructions below:

Refill

1. Position the stepladder so you can view the top of the coolant reservoir.
2. Hold the reservoir open and place the funnel into it.
3. Pour in new coolant. Fill to the bottom of the neck or to the maximum level indicated on the reservoir.



4. Replace the cap.
5. Slowly release the reservoir back into position. Tighten the captive screw by hand.

Deaerate

IMPORTANT: Deaerate to clear any trapped air that may have entered the coolant hoses during service. You must power on the Power Block to do this. If you fail to do so, you may impair performance and damage components.

1. If you removed them, reinstall all Power Modules. (For details, see the Power Module topic (in this guide) or under the *Power Block Service Guide*.)
2. If you removed it, reinstall the front door. (For details, see the Panels, Doors, and Safety Shields topic under the *Power Block Service Guide*.)

3. Reinstall the removed panels. (For details, see the Panels, Doors and Safety Shields topic under the *Power Block Service Guide*.)
4. Power on. (For details, see the Power On topic under Appendix A of this guide.)

DANGER: RISK OF SHOCK

Do not turn on Power Block if other people are installing or servicing any other connected units.

First check that all connected units are off and no work is being performed. Inform everyone on-site of your plan and timing, follow lock out/tag out procedures, and ensure that everyone remains safe.

Alternatively, you may postpone the step to drawdown and deaerate until it is safe to do so. Continue to close up the Power Block now. Then after all units are installed and the site is clear to power on the Power Block, follow the steps to drawdown and deaerate.

5. The Power Block startup runs the deaeration sequence.
6. Alternatively, log in to the ChargePoint Platform Dashboard (na.chargepoint.com or eu.chargepoint.com).
7. Find and select the Power Block you are servicing.
8. Go to Status/Actions tab and select the Purge Coolant System button.
9. If coolant level is low, top off the coolant.

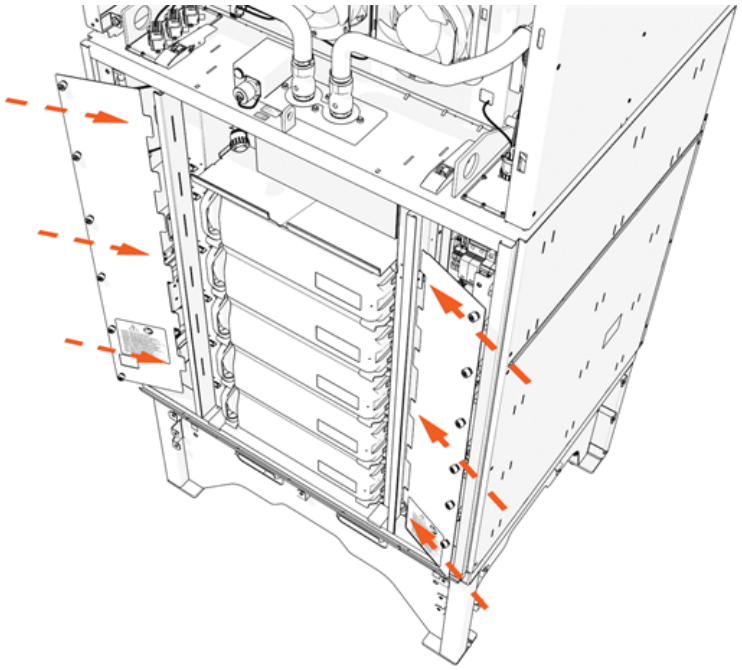
Top Off

1. Remove the front upper panel. (For details, see the Panels, Doors and Safety Shields topic under the *Power Block Service Guide*.)
2. Top off the coolant.
3. Replace the cap.
4. Slowly release the reservoir back into position. Tighten the captive screw by hand.

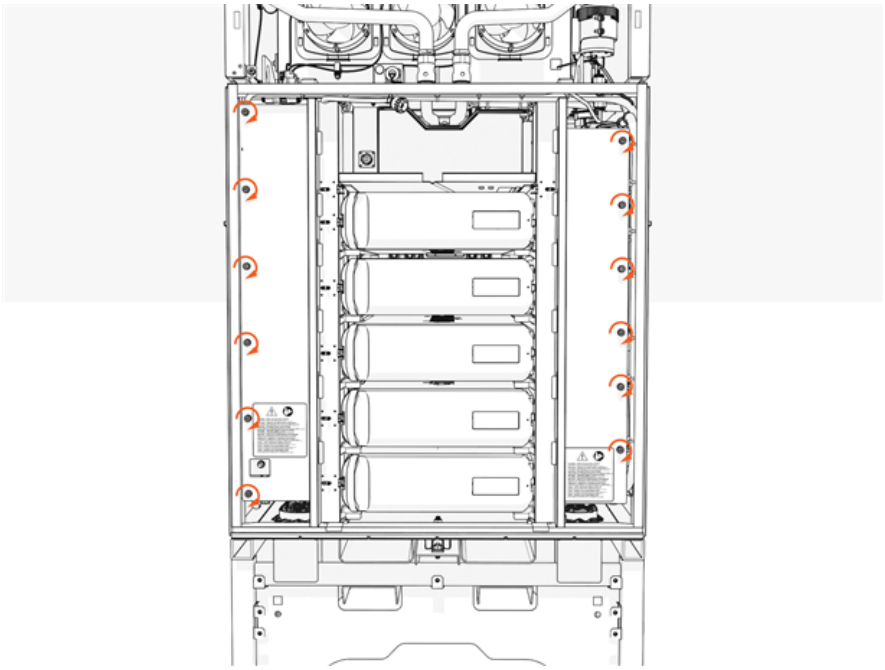
Reinstall Transparent Shields

To reinstall the transparent shields, complete the following steps:

1. Align the tabs on the transparent panel with the slots in the racks. Insert the tabs into the slots.
   Note: For the left shield only, align the hole over the door switch.



2. Tighten the captive screws.



3. Slide the heat exchanger onto the top shelf.

Install Power Block Covers and Door

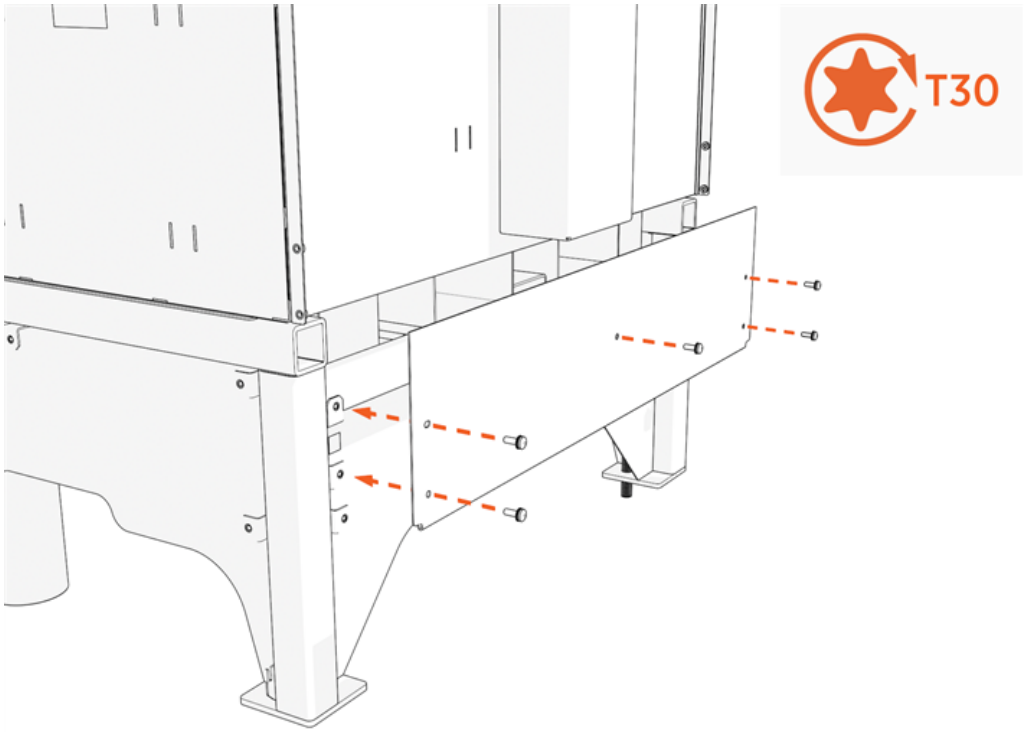
This topic provides information on installing Power Block covers and door.

Pedestal Covers

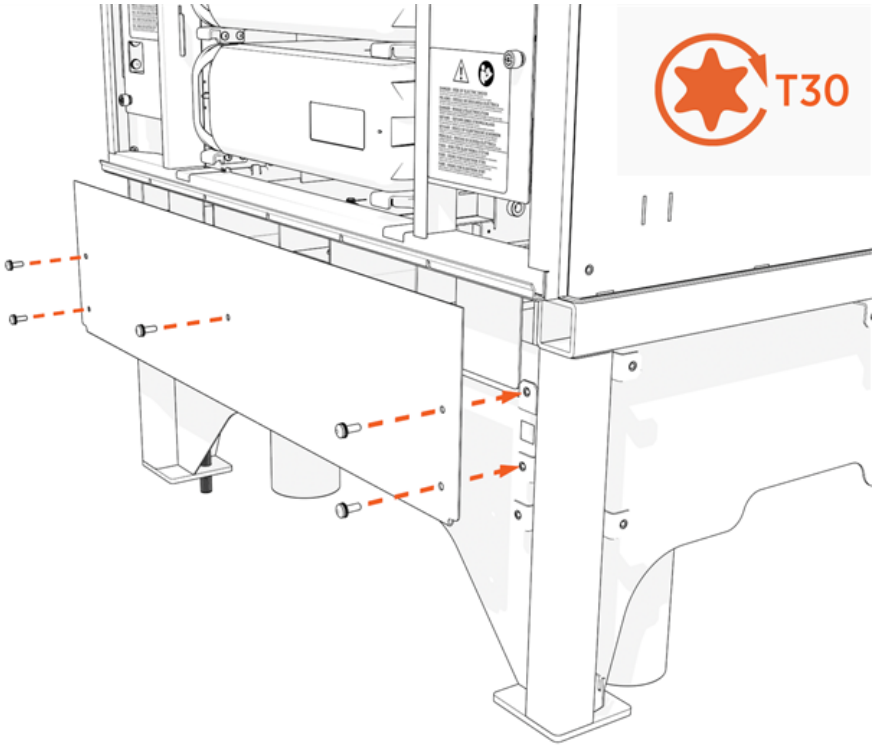
To install pedestal covers, complete the following steps:

Upper Covers (Front and Rear Pedestal)

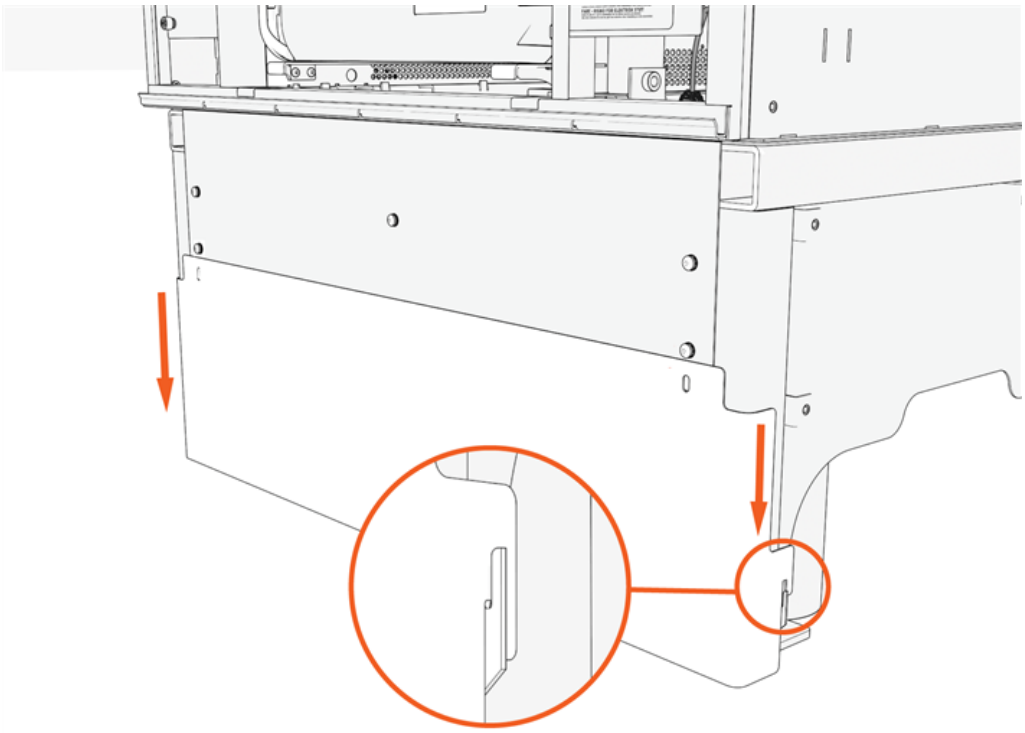
1. Align the rear upper cover and install screws. Torque to 7.0 Nm (62 in-lb)



2. Repeat with the front upper cover.

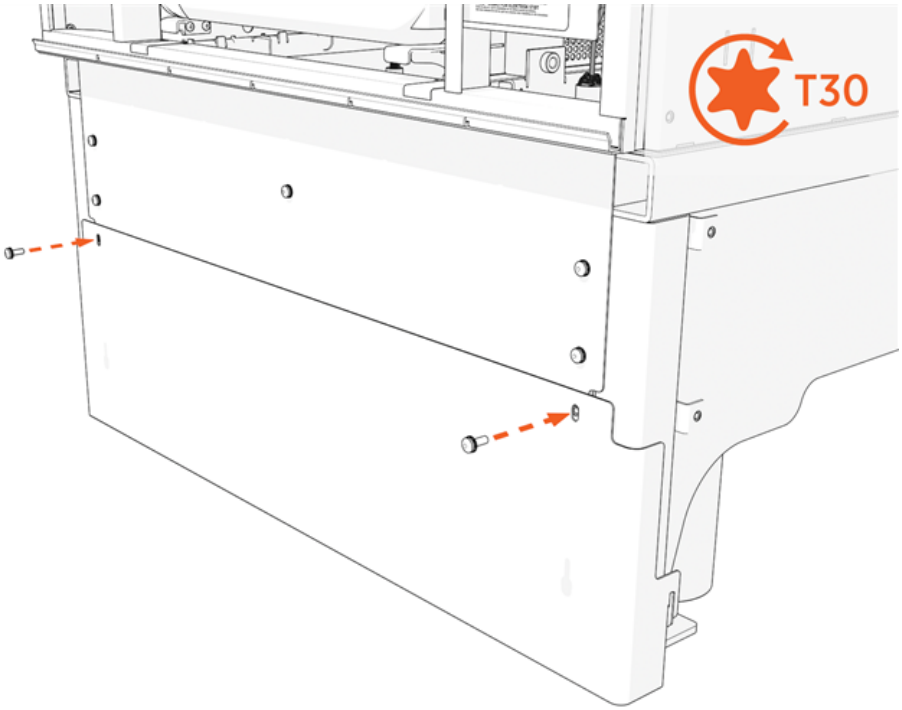


3. Notice the hooks near the bottom inside of the lower covers. Align the hooks. Slide each lower cover down onto the pedestal.

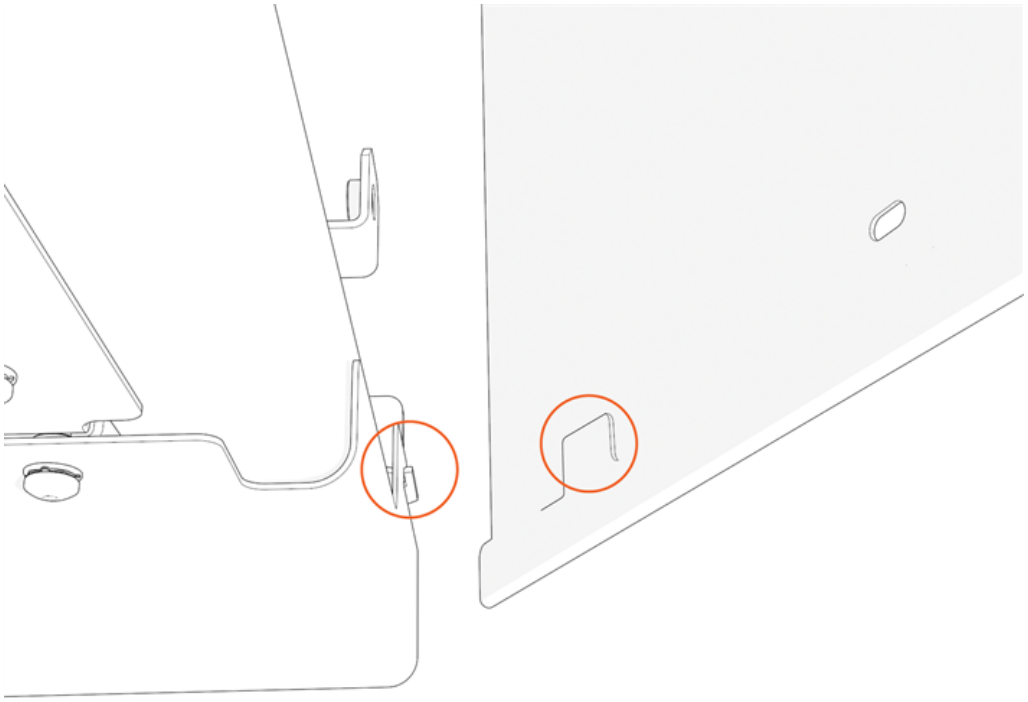


Note: Ensure the two hooks (left and right) engage at the bottom.

4. Install the screws into each cover. Torque to 7.0 Nm (62 in-lb).

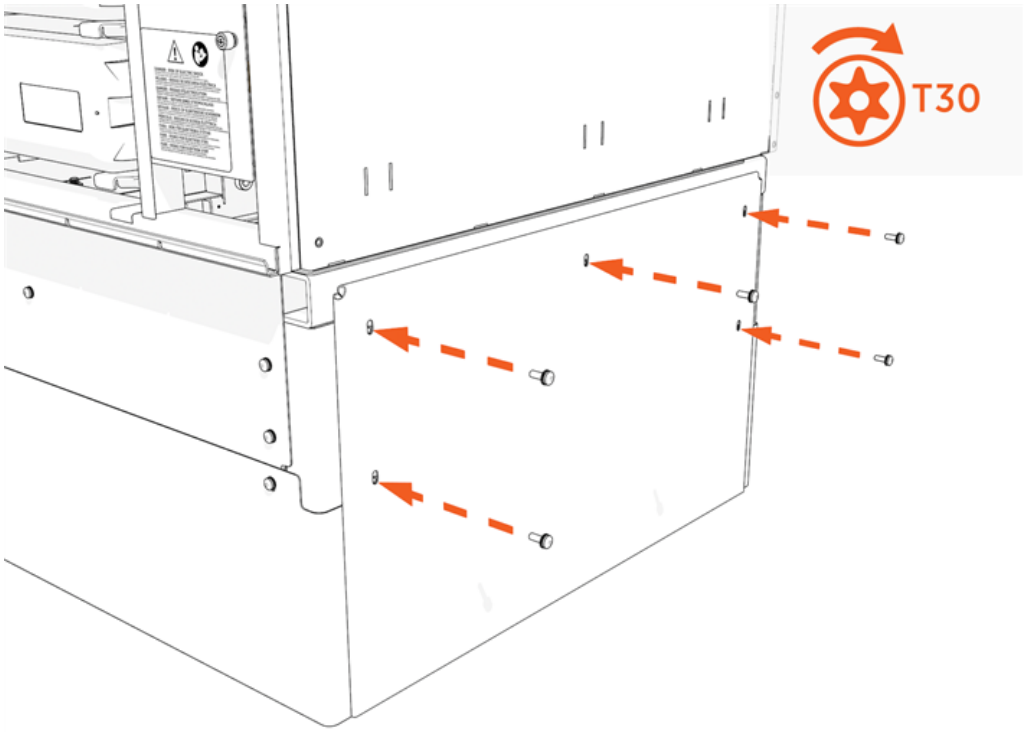


5. Notice the hooks near the bottom inside of the side covers. Align the hooks. Slide each side cover down onto the pedestal.



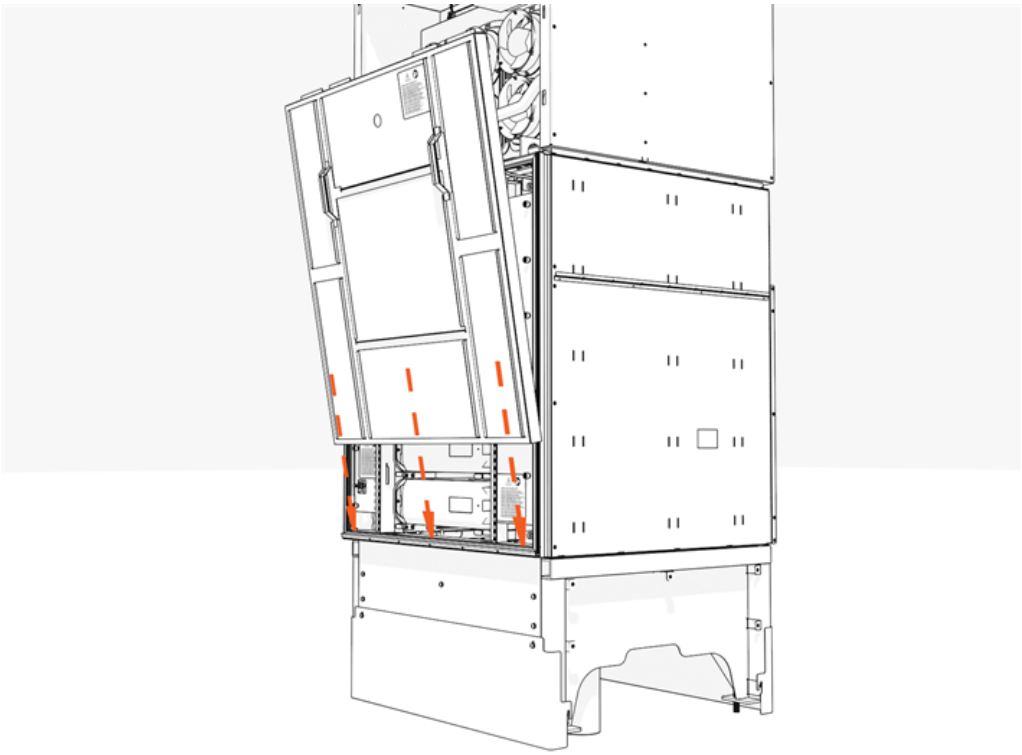
Note: Ensure the two hooks (left and right) engage at the bottom.

6. Install screws into each side cover. Torque to 7.0 Nm (62 in-lb).

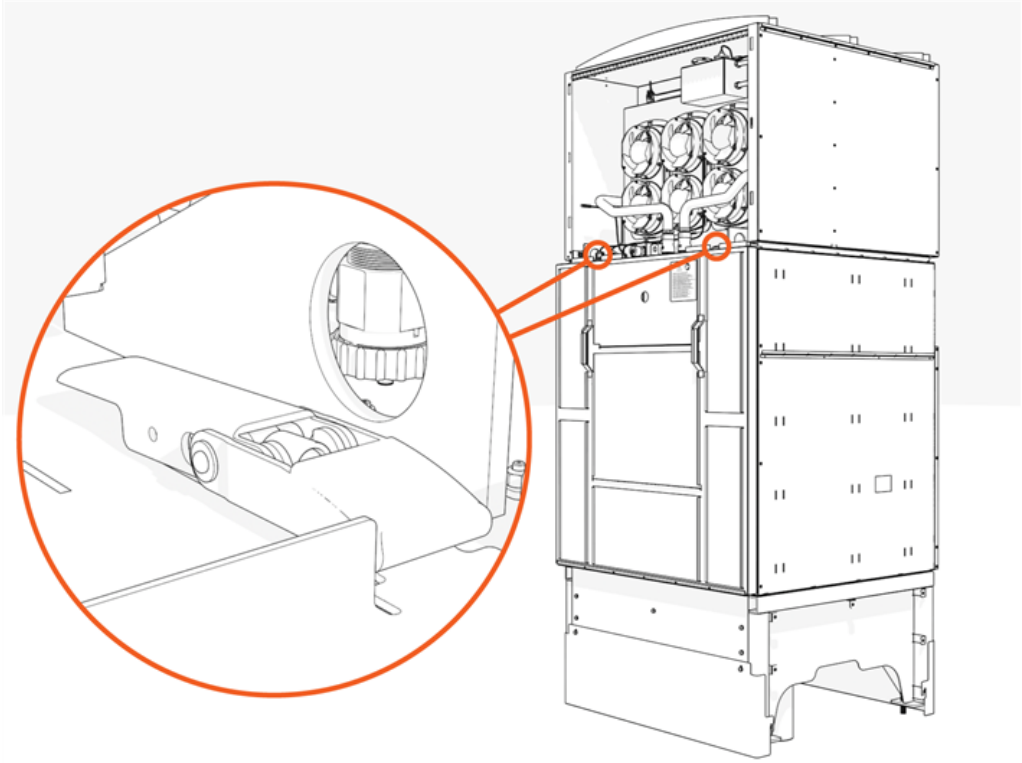


Lower Front Door

1. Hook the bottom of the door onto the lip of the cabinet.

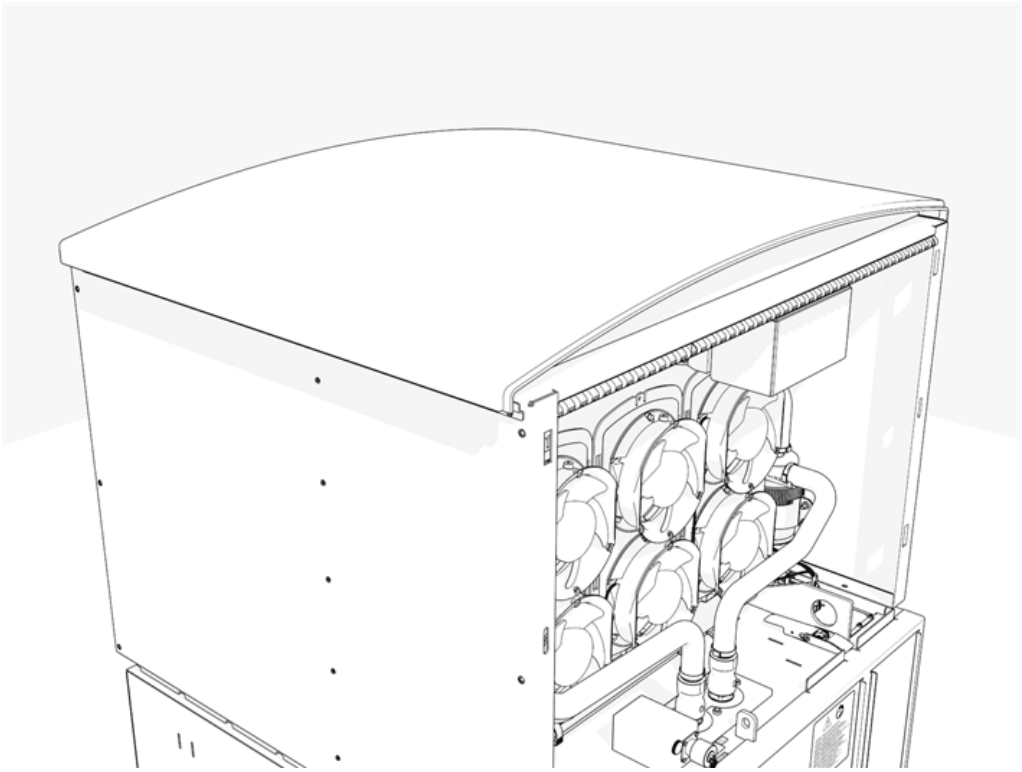


2. Align and fasten the two latches at the top.

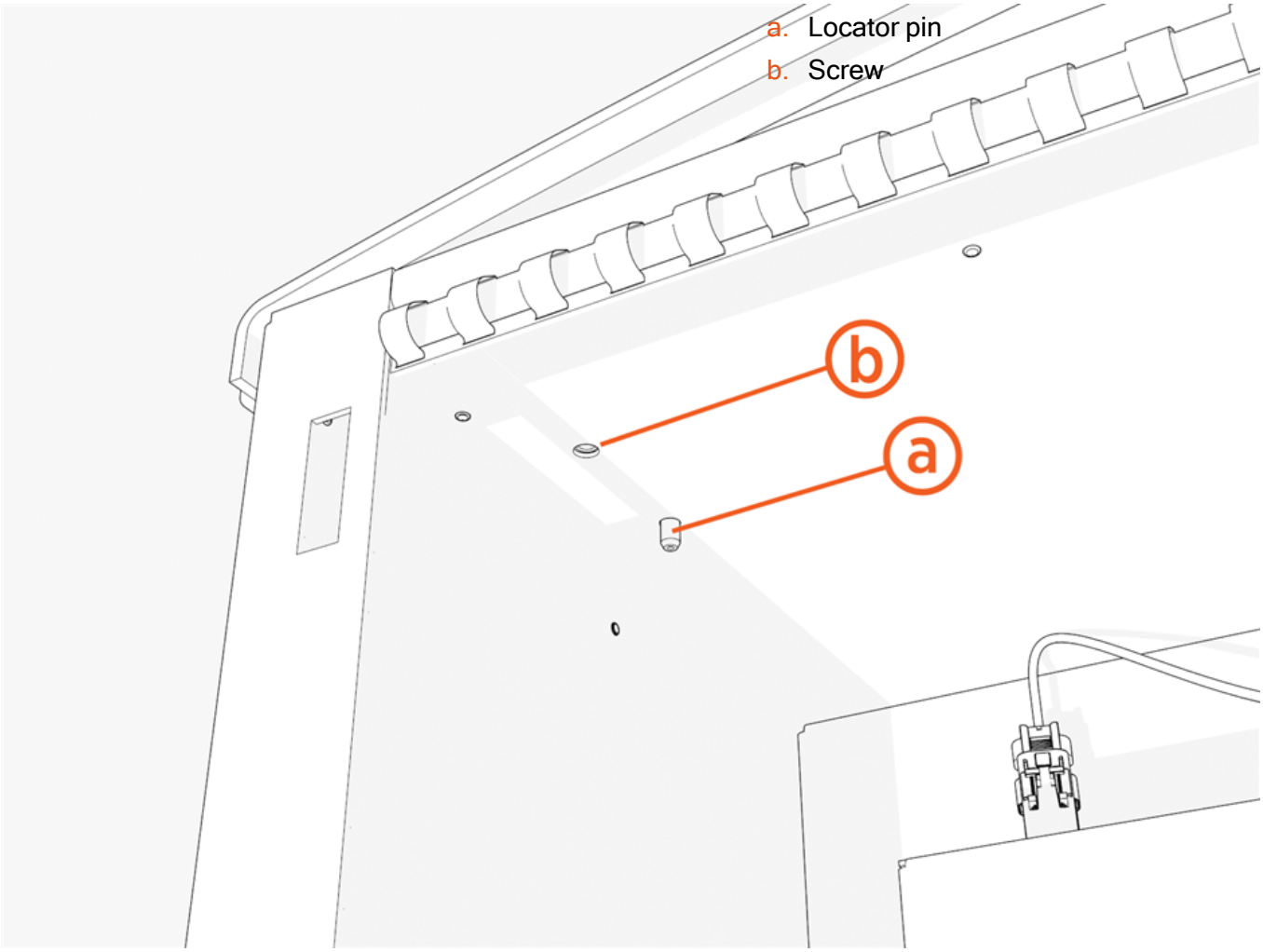


Enclosure Top cover

1. Align the top cover (arched).



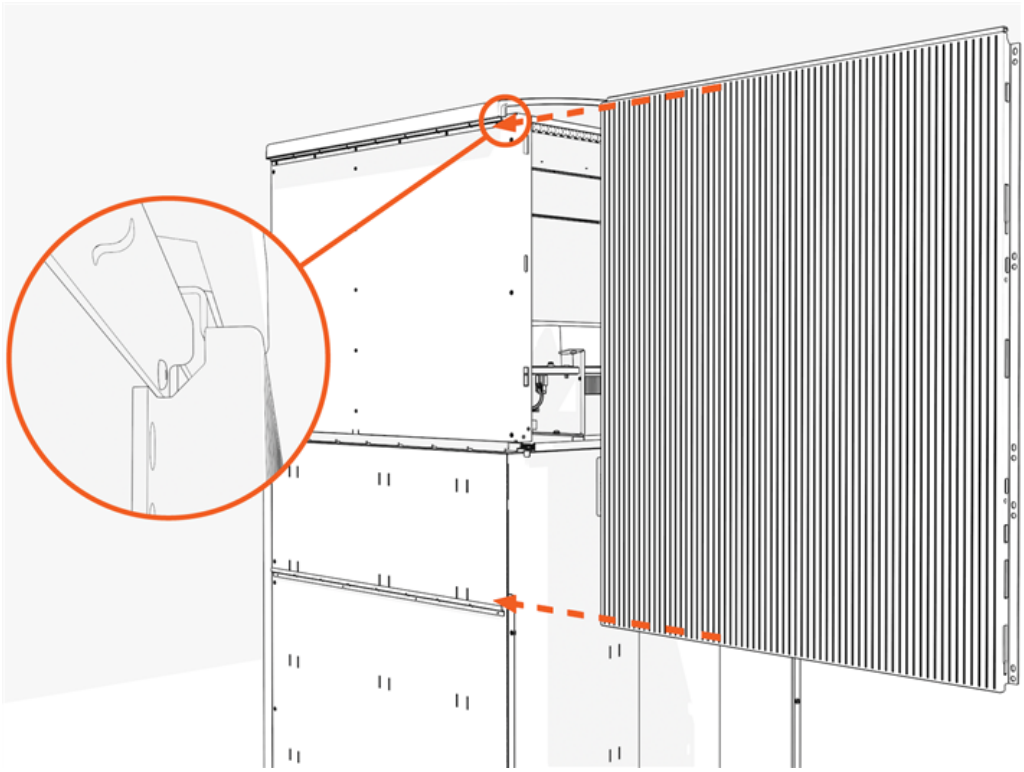
2. Follow these instructions to fit the locator pins and install the M6 screws:



   a. Fit four locator pins into the corners of the top inside.
   b. Install four M6 screws into the corners of the top inside. Torque to 7.0 Nm (62 in-lb).

Enclosure Side covers

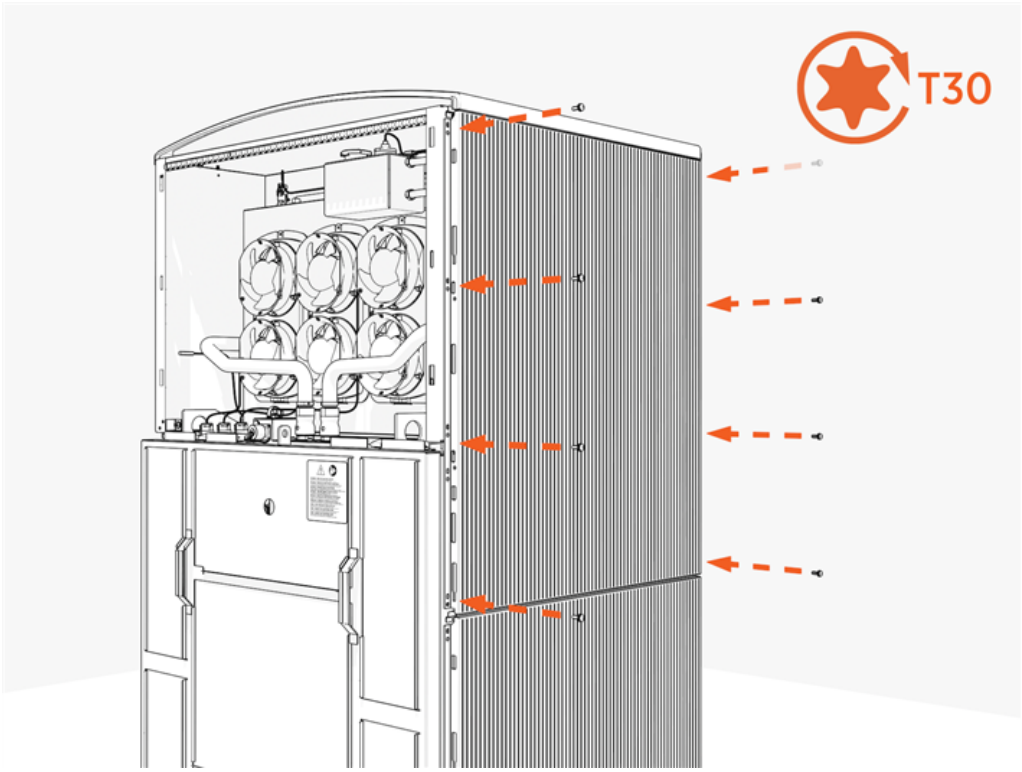
1. Slide the four side covers into the rails.



Note: Panels are identical.

Upper Side covers

1. Install screws on the front and rear edges. Torque to 7.0 Nm (62 in-lb).

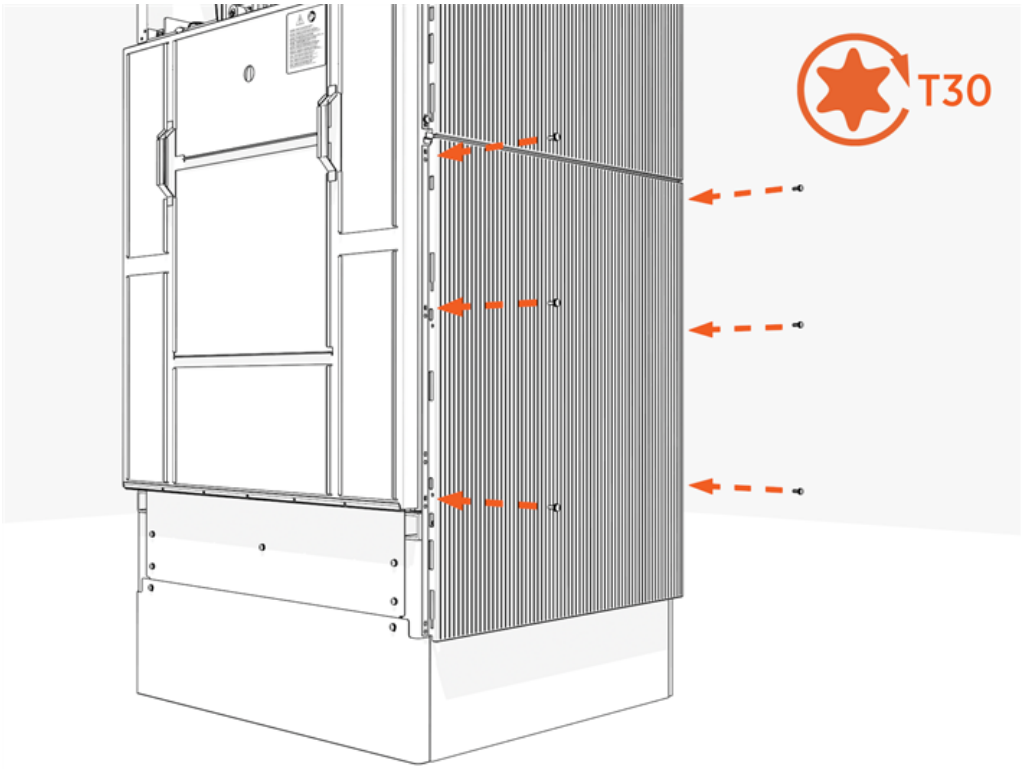


Note: Start with the bottom corner.

2. Repeat on the second upper side cover.

Lower Side covers

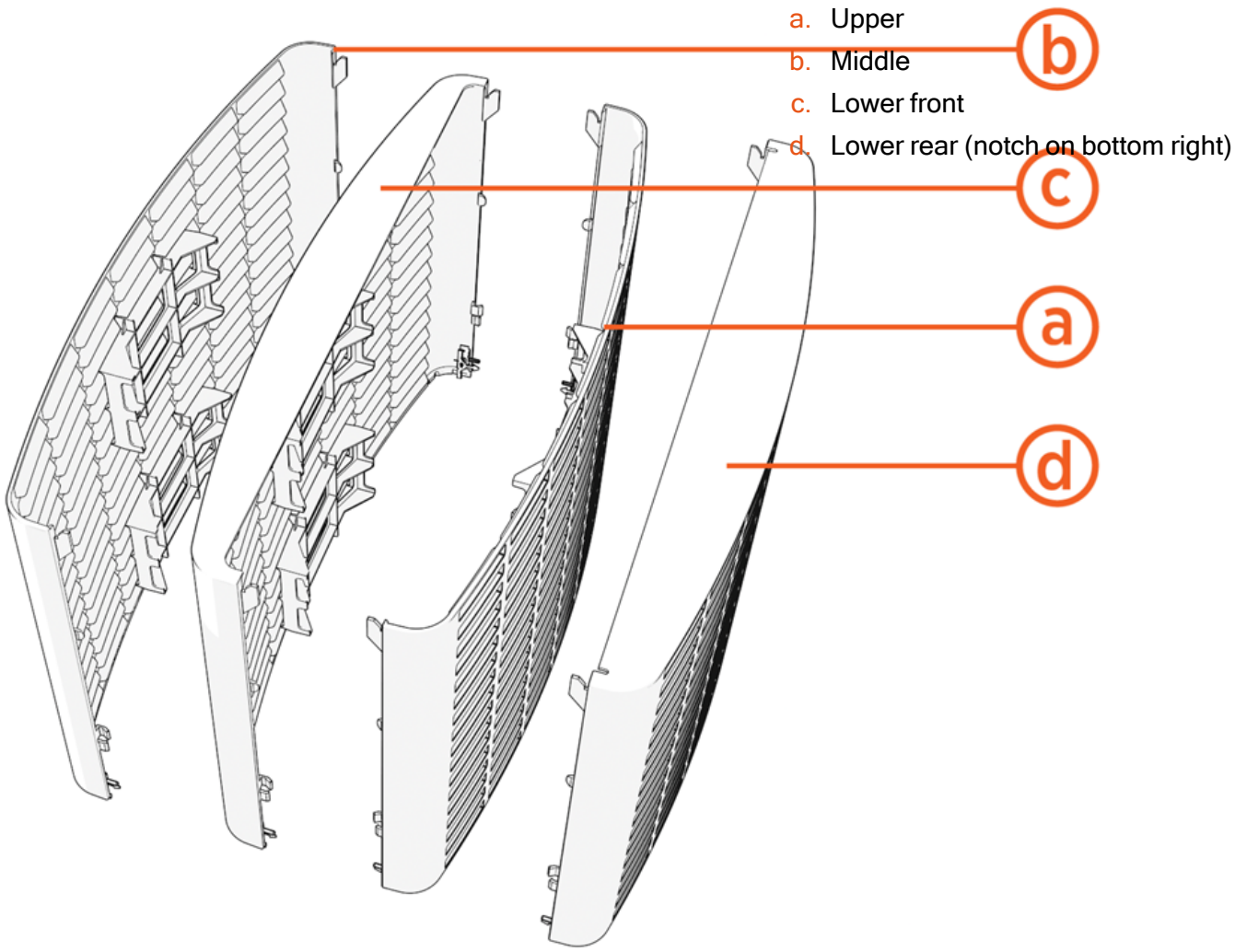
1. Install screws on the front and rear edges of both lower side covers. Torque to 7.0 Nm (62 in-lb).



Note: You can access all four screws on each upper cover, but only three on each lower cover (because the pedestal overlaps the fourth screw).

2. Repeat on the second lower side cover.

Enclosure Front and Back Covers

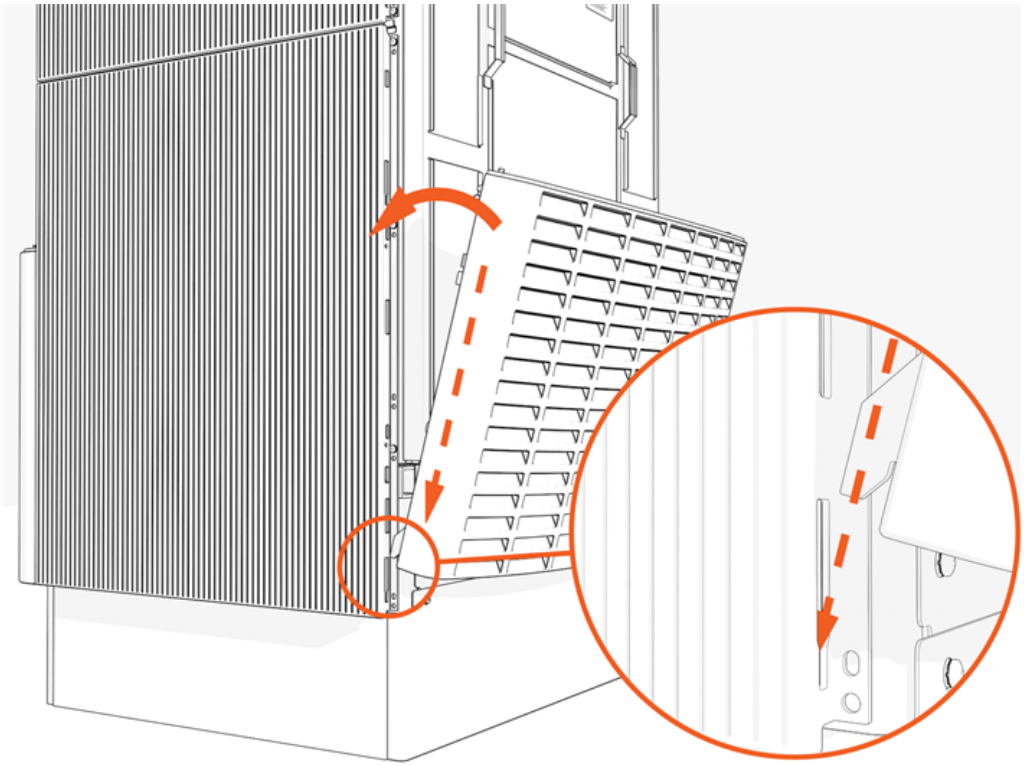


Lower and Middle Covers

1. Start with the lower cover.

   Note: Rear lower cover has a small notch in the bottom right corner.

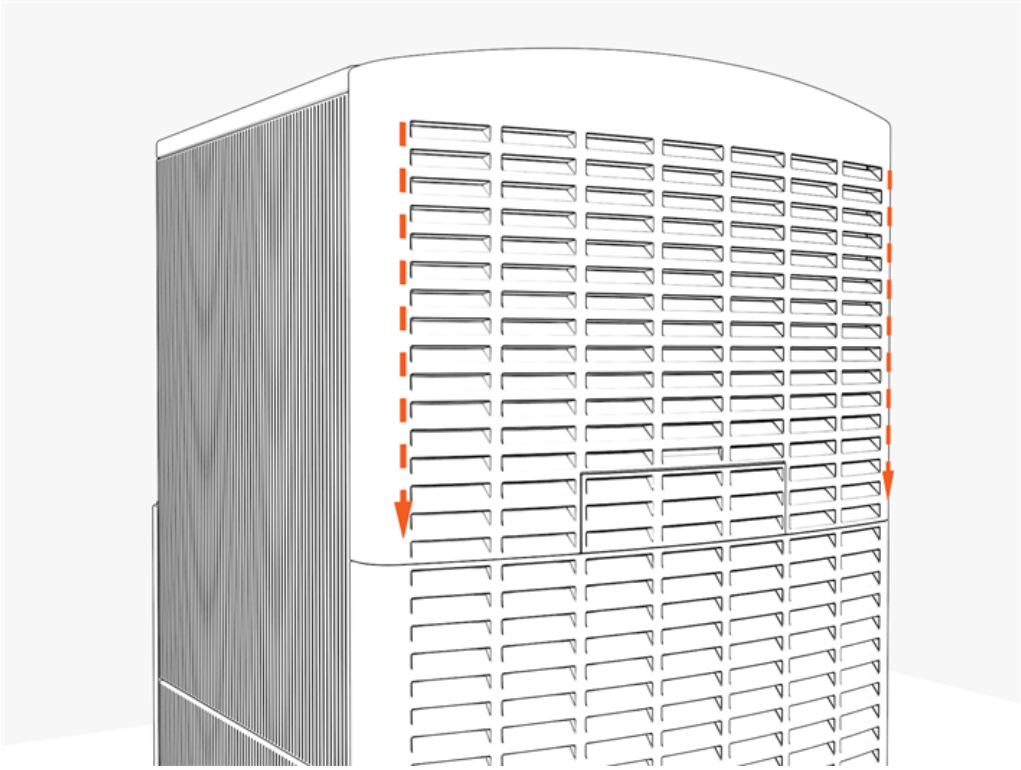
2. Align the four hooks at the bottom, then the top corners. Shift the cover into position.



3. Repeat with the middle cover.

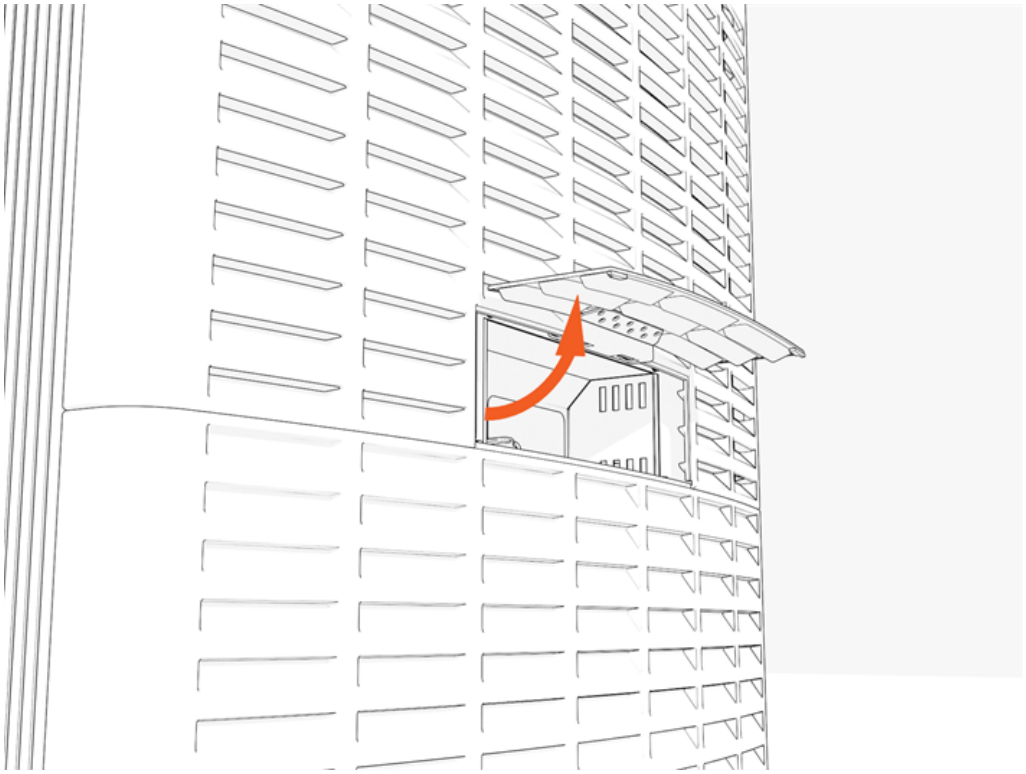
Upper cover

1. Hang the upper cover at all four corners. Push down to engage.

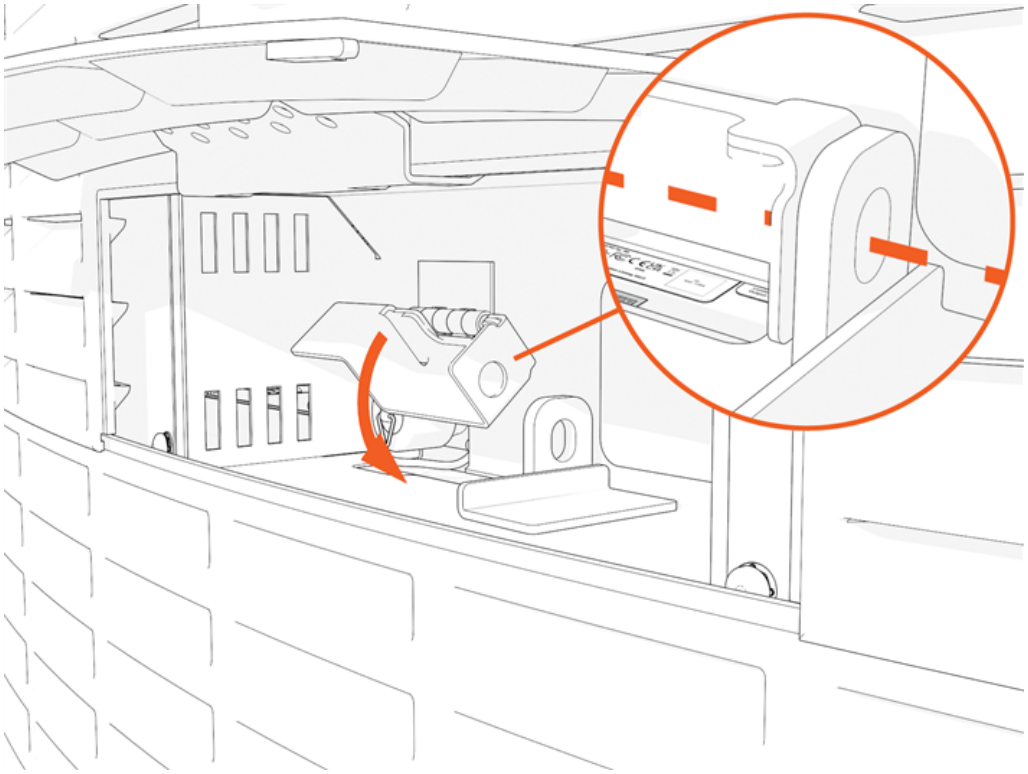


Lock

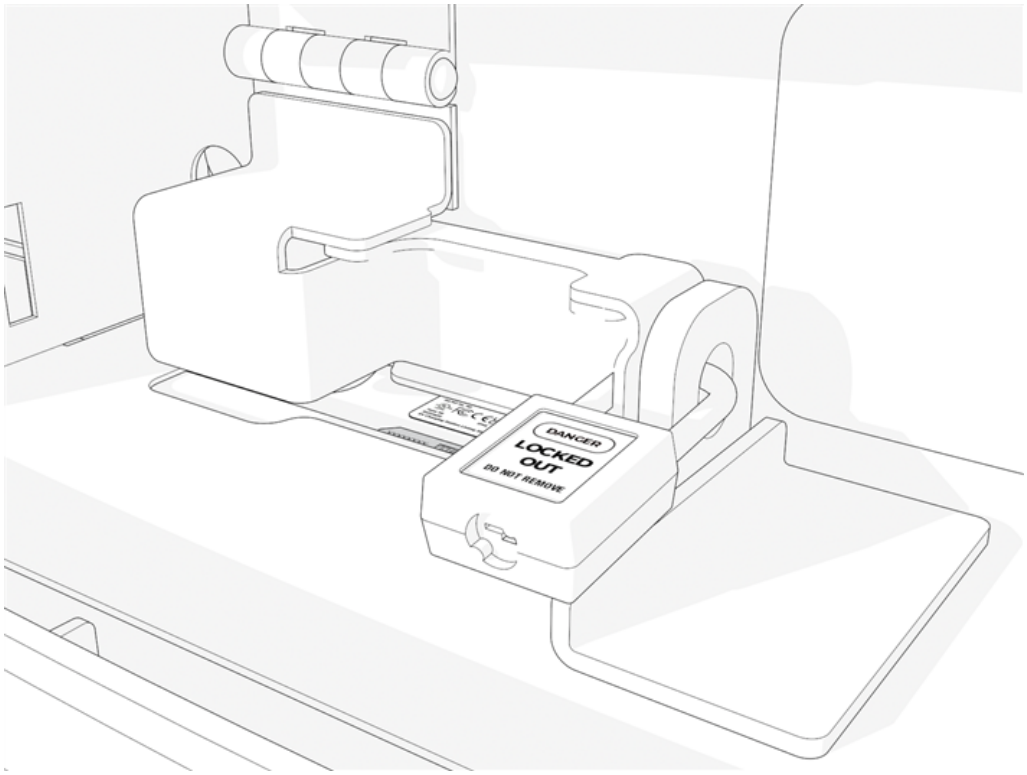
1. Lift open the security panel.



2. Lower the metal tab to align the two holes.



3. Insert the padlock through the two holes and lock it.



Recommended Install Checklist Express PlusPower Block 4

Before leaving the installation site, complete the post-installation checklist using the link below:

https://docs.chargepoint.com/ref-docs-sec/content/pdfs/3-dc/expp/pb1000/pb1000-install_checklist.pdf

Provide the checklist and any spare parts (activation labels, and so on.) to the person responsible for activating the stations. This completes the installation of the Power Block charging station.

Appendix: Set Up Power Block A

IMPORTANT: Do not power on Power Block after completing the installation (after installing the covers). An authorized commissioning partner will commission, power on, pinpoint, and configure Power Block after installation. If you are authorized to do so, complete the following procedures:

Power On

Note: Power Block must pass commissioning before power on, or warranty limitations apply.

1. Ensure all doors and panels, covers, vinyl signs, and all other parts have been correctly installed and the work is complete.
2. Turn on power at the same points that you turned it off.

   Note: If the site has a remote shunt trip switch, ensure that the switch is in the operating position.
3. Wait for self-diagnostics to run. The system may take several minutes to initiate. You may see messages intermittently until the system fully boots up.

Self-Diagnostic	After Installation	After Service or Power Outage
Electrical safety checks	✓	✓
Lighting checks	✓	✓
Display panel checks	✓	✓
Component operation checks	✓	✓
Network connectivity checks	✓	✓

IMPORTANT: Be sure to complete the post-installation checklist.

Set Up Power Block

At first power on the Power Blockat the breaker panel.

Then, set up Power Link 1000. To do so, refer to the *Power Link Installation Guide*.

Appendix: Surface Conduit Entry (SCE) Kit Installation B

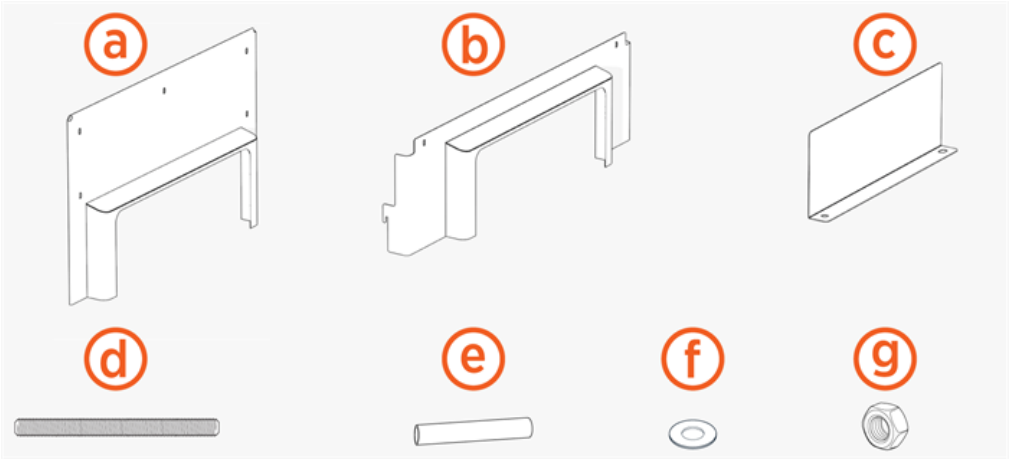
Purpose of SCE Kit

This SCE kit is for Express Plus Power Block in situations where the site cannot run conductors underground or the site is not using stub-up entry through Concrete Mounting Template (CMT) embedded in a concrete pad.

Note: This document is a supplement to the *Express Plus Installation Guide* instructions related to Power Block. Make sure to follow all instructions in the Installation Guide except for the ones about CMT and stub-up entry of wiring.

Note: The illustrations in this document are for demonstration purposes only. Make sure to install the SCE kit according to the proposed side of conduit entry in the site drawings.

SCE Kit Contents



a. Side cover (1) - for left or right side of the Power Block pedestal

b. Rear cover (1) - for rear side of the Power Block pedestal

   Note: Both side and rear covers are included in this kit. You will only need one of these depending on which side of the pedestal the conduits enter inside the Power Block. Replace the standard cover shipped with the Power Block with a suitable cover and dispose of the unused covers in accordance with local municipal recycling guidelines.

c. SCE gland plate (1)
d. M16 (5/8 in) anchor bolts (2) - for mounting SCE gland plate
e. M16 (5/8 in) spacer (2)
f. M16 (5/8 in) washer (6)
g. M16 (5/8 in) nut (6)

Tools and Materials Required

- Cut-resistant gloves
- Protective eyewear
- Marker
- Vacuum

For Installing Anchor Bolts

- Concrete drill with level feature recommended
- 25 mm (1 in) and 6 mm (1/4 in) concrete bits
- 24 mm (15/16 in) socket or open ended wrench
- 750 ml of epoxy with bonding strength of 11.7 MPa minimum, compressive strength of 82.7 MPa minimum, and tensile strength of 49.3 MPa minimum, such as Hilti HIT-RE 500 V3 (normal cure time), Hilti HY-200 (fast curing), or similar.
- Paper towels

  Note: Different epoxy types have different cure times at various temperatures. Check local temperatures for the site in advance to help choose an appropriate epoxy.
- Level

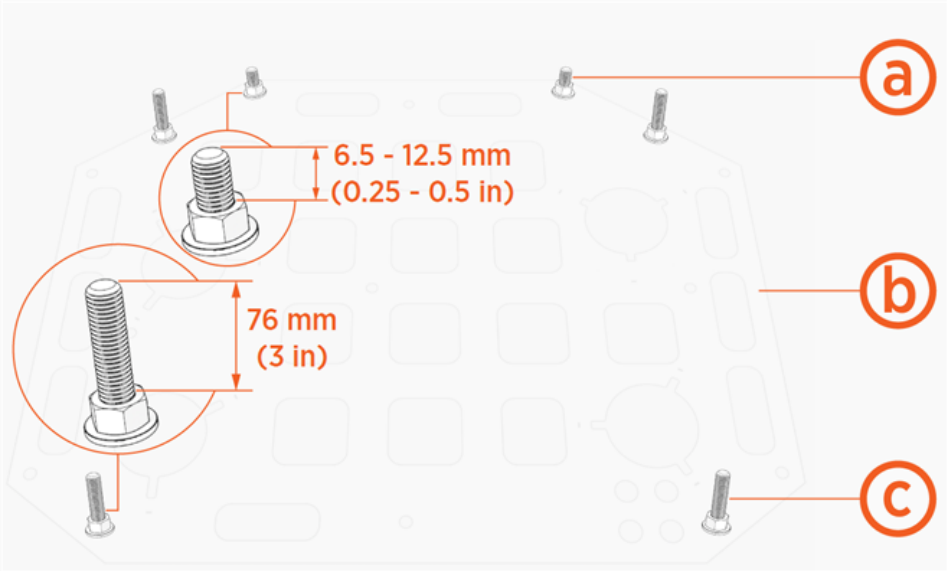
For Installing Surface Conduit Entry

- Surface wireways: Refer to the *Express Plus Installation Guide* and site drawings to find out the wiring and conduit requirements.

  Note: A flexible conduit is recommended to route wiring from the SCE gland plate into the pedestal gland plate (i.e., gland plate installed on the pedestal).
- Sheet metal hole saw with pilot bit for conduit sizes listed in the *Express Plus Installation Guide*
- Cable puller or fish tape
- Tools for cutting, assembling, and securing wireways

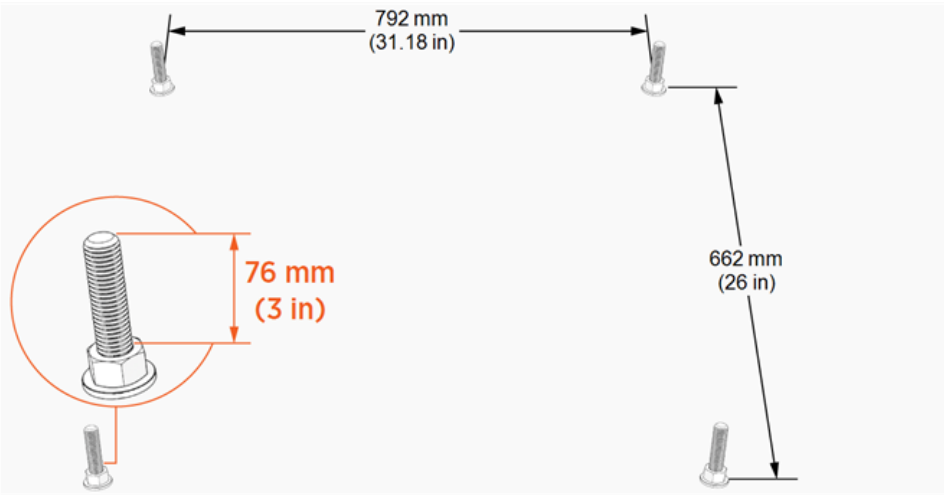
Before You Begin

- If CMT is used (i.e., embedded in concrete), make sure that the anchor bolts for the SCE gland plate and Power Block pedestal are installed according to the proposed side of conduit entry and mounting specifications in the site drawings.



a. Anchor bolts for SCE gland plate (example showing rear side conduit entry)
b. CMT embedded in concrete
c. Anchor bolts for Power Block pedestal

- If CMT is not used (i.e., not embedded in concrete):
  - Make sure that the anchor bolts for the Power Block pedestal are installed according to the mounting specifications in the site drawings.

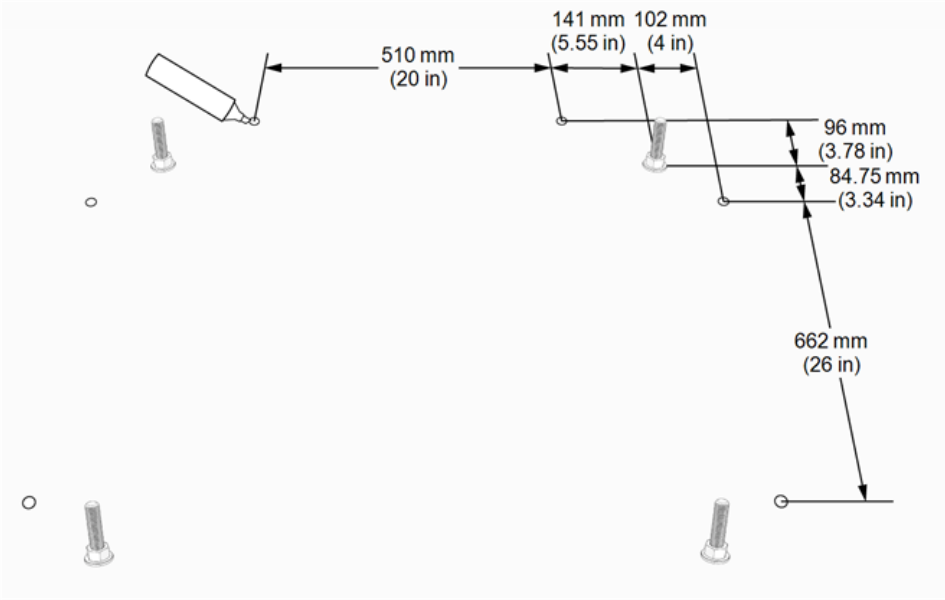


  - Refer to the site drawings to find out which side of the pedestal the conduits must enter inside the Power Block.
  - Make sure to dispose of the unused CMT in accordance with local municipal recycling guidelines.

Install Anchor Bolts

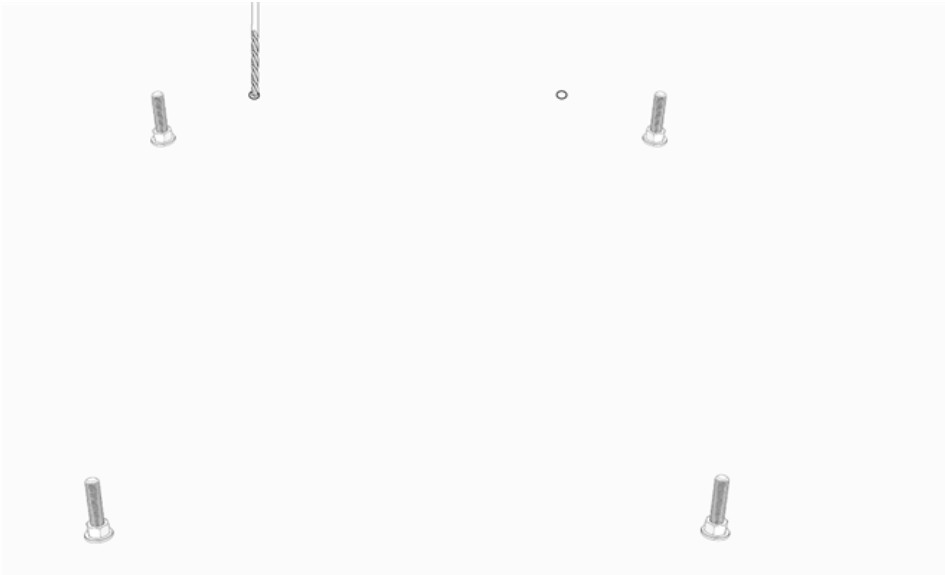
Skip this procedure if CMT is used and/or anchor bolts for the SCE gland plate are already installed.

1. Measure the locations for the SCE gland plate anchor bolts and mark them using a marker.



Note: The illustration above shows SCE gland plate anchor bolt locations at the left, right, or rear side of the Power Block. Measure the locations according to the proposed side of conduit entry in the site drawings. Also, make sure to leave enough clearance (i.e., 610 mm or 24 in) for servicing.

2. Use the 6 mm (1/4 in) concrete drill bit to drill a pilot hole about 51 mm (2 in) deep at the two marked locations. The holes must be parallel to each other and perpendicular to the surface.

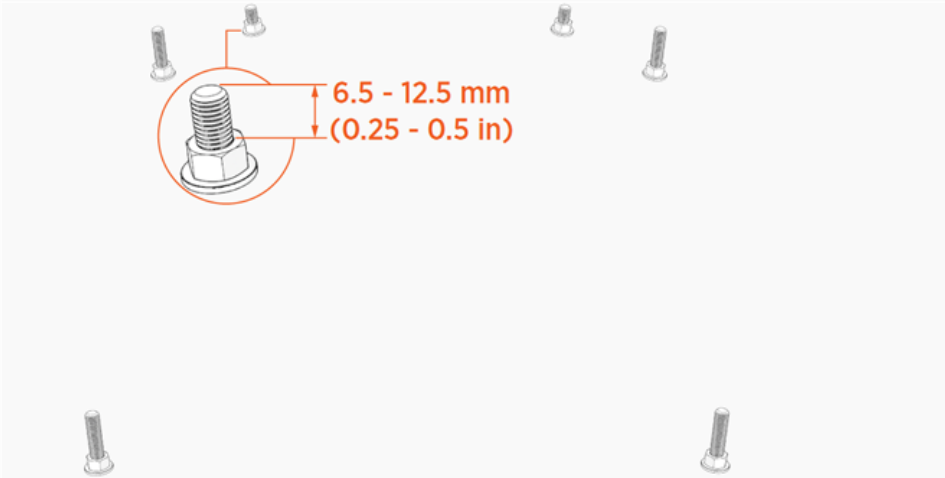


3. Use a vacuum to clean dust from holes.

4. Use the 25 mm (1 in) concrete drill bit to drill anchor holes a minimum of 229 mm (9 in) deep. Anchor bolts must have 127 mm +/- 12.7 mm (5 in +/- 1/2 in) above surface.
5. Thread a washer and a nut onto each anchor bolt so that the measurement from the top of the nut to the top of the bolt is between 6.5 - 12.5 mm (0.25 - 0.5 in).
6. Put a piece of tape above each nut to prevent it from floating upward when you rotate the bolt into the epoxy later.
7. Prepare the epoxy. Ensure the applicator is dispensing correctly mixed epoxy before beginning work (for example, the Hilti epoxy is white when unmixed and gray when mixed).
8. Fill the first anchor hole with epoxy until the epoxy is about 44.5 mm (1.75 in) from the top of the hole.

IMPORTANT: Continue immediately to the next step because the epoxy sets within about eight minutes.

9. Insert the anchor bolt into the hole. Rotate the anchor bolt as you insert it to draw epoxy into the threads. Take out the anchor bolt to see how close to the surface the epoxy has filled. If the epoxy is below surface level, add enough to fill the hole to surface level. Use paper towels to wipe off any excess.
10. Measure the nut distance from the top of anchor bolt again and adjust if needed.



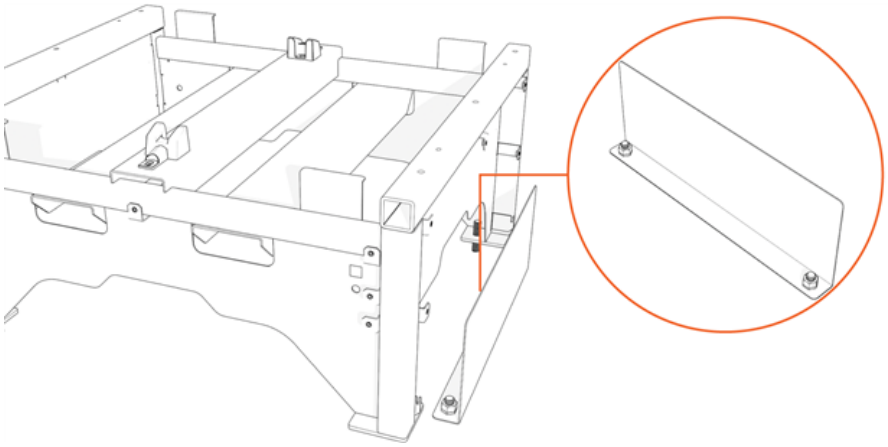
11. Use a level to check that the anchor bolt is plumb. If needed, adjust it while the epoxy is still setting.
12. Repeat the above epoxy steps for another anchor bolt.
13. Allow the epoxy to cure for the initial cure time listed on the epoxy before beginning to install the surface conduit entry.

Install Surface Conduit Entry

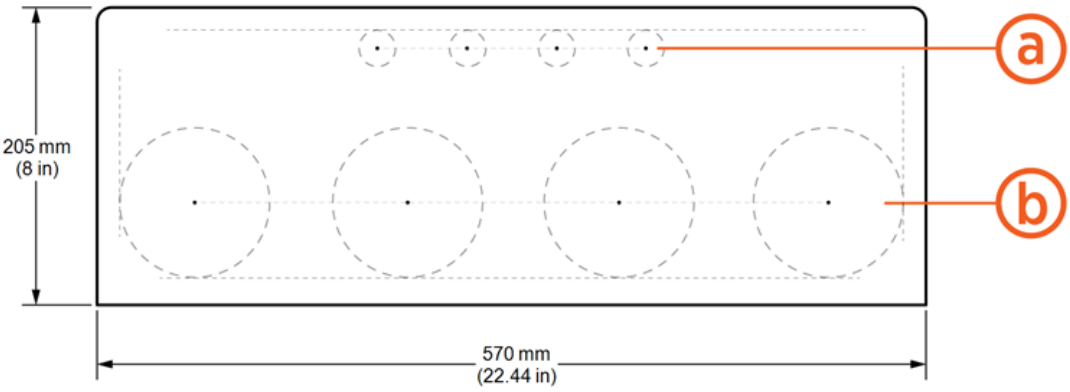
Note: You can install SCE before or after the installation of Power Block pedestal.

1. Install the SCE gland plate onto the anchor bolts. Make sure that the bent edge of the SCE gland plate is facing inwards to the Power Block pedestal.
2. Install one nut and washer onto each (i.e., two) anchor bolt and flush against the base.

   Torque to 54 Nm (40 ft-lb).



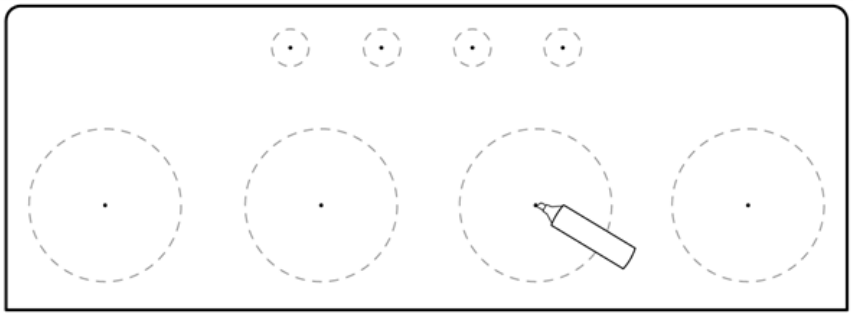
3. Refer to the *Express Plus Installation Guide* and site drawings to find out the proposed wiring and conduit requirements. Based on the proposed wiring and conduit requirements, draw a conduit layout to mark pilot hole locations on the SCE gland plate.



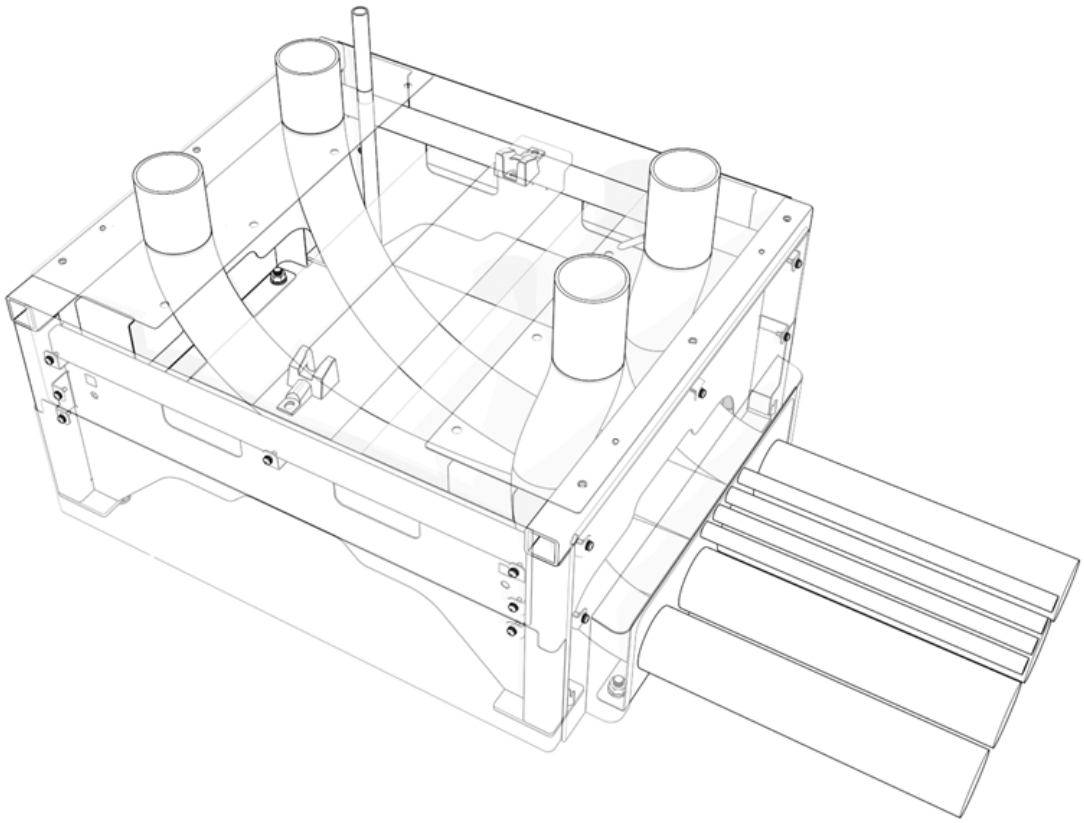
Note: The conduit layout shown below is for demonstration purposes only.

	Description	Maximum Size	No. of holes
a	Holes for 48 V DC and Ethernet conduits	21 mm (3/4 in)	1 - 4
b	Holes for AC input, DC output, or DC auxiliary input conduits	103 mm (4 in)	1 (AC input) 1 (DC auxiliary input) 1 or 2 (DC output)
Note: Leave a minimum clearance of 15 mm (0.6 in) around the edges.			

4. Use a marker to mark pilot hole locations on the SCE gland plate.



5. Use a suitable hole saw, position the hole saw's pilot bit on the marked location, and drill a hole into the SCE gland plate. Repeat for other marked locations.
6. Vacuum all metal shavings.
7. Use a flexible conduit to route wiring from the SCE gland plate into the pedestal gland plate.

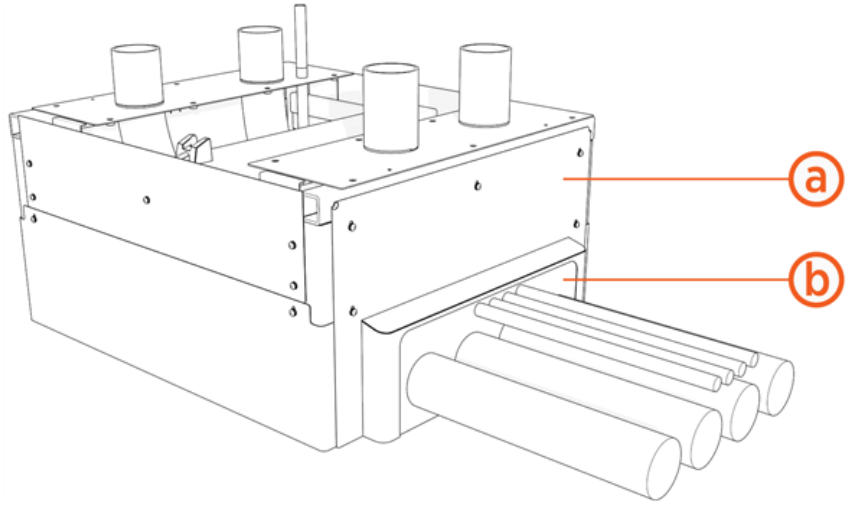


Note: Refer to the *Express PlusInstallation Guide* to route and connect wiring inside the Power Block, and use the duct seal compound shipped with the Power Block to seal around each conduit inside the Power Block.

8. Install pedestal covers.

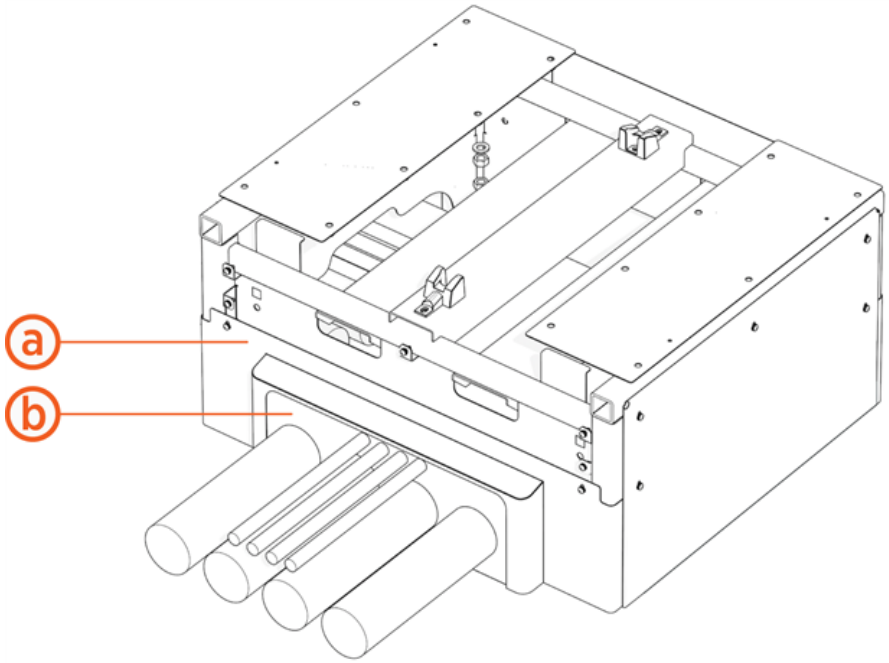
   Note: Reuse the screws shipped with the Power Block to install the pedestal covers. The installation instructions can be found in the *Express PlusInstallation Guide*.

   - If the SCE gland plate is installed on left or right side of the Power Block pedestal, use the side cover.



a. Pedestal side cover
b. SCE gland plate

   - If the SCE gland plate is installed on rear side of the Power Block pedestal, use the rear cover.



a. Pedestal rear cover
b. SCE gland plate

Limited Warranty Information and Disclaimer

The Limited Warranty you received with your charging station is subject to certain exceptions and exclusions. For example, your use of, installation of, or modification to, the ChargePoint® charging station in a manner in which the ChargePoint® charging station is not intended to be used or modified will void the limited warranty. You should review your limited warranty and become familiar with the terms thereof. Other than any such limited warranty, the ChargePoint products are provided "AS IS," and ChargePoint, Inc. and its distributors expressly disclaim all implied warranties, including any warranty of design, merchantability, fitness for a particular purposes and non-infringement, to the maximum extent permitted by law.

Limitation of Liability

CHARGEPOINT IS NOT LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THE CHARGING STATION, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF CHARGEPOINT KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF CHARGEPOINT FOR ALL CLAIMS WHATSOEVER RELATED TO THE CHARGING STATION WILL NOT EXCEED THE PRICE YOU PAID FOR THE CHARGING STATION. THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF CHARGEPOINT AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Important: Changes or modifications to this product not authorized by ChargePoint, inc., could affect the EMC compliance and revoke your authority to operate this product.

Exposure to Radio Frequency Energy: The radiated power output of the 802.11 b/g/n radio and cellular modem (optional) in this device is below the FCC radio frequency exposure limits for uncontrolled equipment. The antenna of this product, used under normal conditions, is at least 20 cm away from the body of the user. This device must not be co-located or operated with any other antenna or transmitter by the manufacturer, subject to the conditions of the FCC Grant.

ISED (formerly Industry Canada)

This device complies with the licence-exempt RSS standard(s) of Innovation, Science and Economic Development Canada (ISED). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux flux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada (ISDE). L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter.

chargepoint.com/support

75-001633-01 r6

Radiation Exposure Statement: This equipment complies with the IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Énoncé d'exposition aux rayonnements: Cet équipement est conforme aux limites d'exposition aux rayonnements ioniques RSS-102 Pour un environnement incontrôlé. Cet équipement doit être installé et utilisé avec un Distance minimale de 20 cm entre le radiateur et votre corps.

FCC/IC Compliance Labels

Visit chargepoint.com/labels.

chargepoint.com/support

75-001633-01 r6

ChargePoint® Express Plus with Power Link 1000

A flexible DC fast charging platform that grows with you.

Express Plus Power Module

Express Plus Power Module Output

Max Output Power	40 kW
Max Output Current	100 A
Power Conversion Efficiency	Up to 96%
Power Factor	0.99 at full load

Express Plus Power Module Specifications

Power Module Dimensions	430 mm (H) x 130 mm (W) x 760 mm (L) (1 ft 5 in x 5 in x 2 ft 6 in)
Power Module Weight	45 kg (98.5 lb.)
Power Module Cooling	Liquid Cooled Technology
Harmonics	iTHD < 5% (Complies with IEEE 519)

Express Plus Power Block

Express Plus Power Block Input

Input Rating	3-phase, 400-480Y VAC, 310-260 A 50/60 Hz (200 kW) Optional: 3-phase, 400-480Y VAC, 255-210 A 50/60 Hz (160 kW)
Wiring	L1, L2, L3, Earth
Short Circuit Current Rating	65 kA

Express Plus Power Block Output

Max Output Power	200 kW Optional: 160 kW
Output Voltage, Charging	100 V – 1000 V
Max Current per Output	200 A, 250 A, 300 A, 350 A, 375 A
Number of Stations Served	One Power Block can serve up to 2 Power Link stations. Additional Power Blocks can be added to serve more stations or increase power output.
Maximum Power Modules per Power Block	5

Express Plus Power Block Specifications

Power Block Dimensions	2191 mm (H) x 988 mm (W) x 1039 mm (L) (7 ft 3 in x 3 ft 3 in x 3 ft 5 in)
Power Block Weight	455 kg (1000 lbs) without Power Modules
Power Block Enclosure Rating	Type 3R, IP56

Express Plus Power Link

Express Plus Power Link Output

Max Output Power	Up to 375 kW with Power Blocks
Output Voltage, Charging	100 V – 1000 V
CCS1 Max Output Current**	Option 1: 200 A with Power Blocks Option 2: 350 A with Power Blocks Option 3: 375 A with Power Blocks
North American Charging Standard J3400 (NACS) Max Output Current**	375 A with Power Blocks
CHAdeMO Max Output Current**	200 A with Power Blocks

**Availability may vary

Express Plus Power Link Specifications

Station Dimensions	See Diagrams below
Station Footprint	See Diagrams below
Station Weight	250 kg (550 lbs)
Number of Connectors	Up to 2 connectors per station
Supported Connector Types	NACS (J3400), CCS1 (SAE J1772™ Combo), CCS2 (IEC 61851-23), CHAdeMO
Cable Length*	Standard 5.8 m (19 ft) with Cable Management Kit (CMK) Optional 7.6 m (25 ft) with overhead or Tall Cable Management Kit (CMK)
Station Enclosure Rating	Type 3R, IP56, IK10
Mounting Type	Ground, Wall, Overhead

*Horizontal reach to typical vehicle charging port is 3.76 m (12 ft 4 in) with standard cable and 6m (20 ft) with optional cable. Availability of 7.6m cable varies by connector type and amperage.

Functional Interfaces

Indicators	Multicolor LEDs
LCD Display	Optional: Full color 203 mm (8 in) interactive display with full motion video, UV protection, gesture touch controls, and multi-language support
Authentication	RFID: ISO 15693, ISO 14443, NEMA EVSE 1.2-2015 (UR) Tap to Charge (NFC on Apple & Android) Contactless credit card ISO 15118-2, Plug&Charge Remote: Mobile and in vehicle (if supported by vehicle) Optional: Credit card chip reader pedestal

Connectivity Features

Local Area Network	2.4 GHz and 5 GHz WiFi (802.11 b/g/n)
Wide Area Network	4G LTE
Supported Communication Protocols	OCPP 2.0.1
Service and Maintenance	Remote system monitoring, diagnostic, and proactive maintenance

Safety and Operational Ratings

Vehicle Safety Communication	NACS: (uses CCS1 protocols) CHAdeMO – JEVS G104 over CAN, CCS1 – SAE J1772 over PLC and CCS2 — IEC 61851-23
Plug-In Detection	Power terminated per JEVS G104 (CHAdeMO), SAE J2931 (CCS1) and IEC 61851-23 (CCS2)
Safety Compliance	Complies with UL 2202, UL 2231-1, UL 2231-2, CSA 107.1 Complies with IEC 61851-1 and IEC 61851-23, Energy Star, CTEP
Surge Protection	Tested to IEC 61000-4-5, Level 5 (6 kV @ 3,000A). In geographic areas subject to frequent thunderstorms, supplemental surge protection at the service panel is recommended.
EMC Compliance	U.S and Canada: FCC 15 subpart A Class B; EU: EN55011, EN55022 and IEC61000-6-3 Class B

Generic Specifications

Operational Altitude	<3,000 m (<9,800 ft)
Operating Temperature	-40°C to 50°C (-40°F to 122°F) with derating
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Operating Humidity	Up to 95% @ 50°C (122°F) non-condensing
Standard Warranty	Limited 2-Year Parts Warranty

Energy Management Features

Dynamic Power Management	Allows a fixed maximum power output per station or lets the system dynamically manage the power distribution per station.
Remote Energy Management	Manage output power via the ChargePoint Admin Portal, API, and Open ADR 2.0b VEN.

Hardware Ordering Information

The order codes below represent common product configurations. Other product options are available upon request. Please contact ChargePoint Sales for information and order codes. All SKU's displayed include standard cable management and mounting kit. Note, Power Link and Power Block current ratings must match. Eg. 200 A with 200 A.

Commercial Models	Express Plus Power Block, 350 A rated output	EXPP-PB1000-350A-PD
	Express Plus Power Link, North America version, 1x CCS1 350 A 5.8 m cable, 1x CHAdeMO 200 A 5.8 m cable, Pedestal, with display	EXPP-PL1021B-5A1S1-2A3S1
	Express Plus Power Block, 200 A rated output	EXPP-PB1000-200A-PD
Fleet Models	Express Plus Power Link NA Version. 1x CCS1 200A 5.8m cable, Pedestal, with display.	EXPP-PL1011B-2A1S1
	Express Plus Power Link NA Version. Same as above but with 2x CCS1 Connectors	EXPP-PL1021B-2A1S1-2A1S1
Other Connector Options	Cables can be ordered with a single or a dual combination as well as lengths and amperage depending on application.	Please contact ChargePoint Sales for assistance in ordering
Power Module	EXPP Power Module	EXPP-PM-40kW
Mounting & Template Options	Mounting kits and templates for various mounting are available	Please contact ChargePoint Sales for assistance in ordering
Buy America	Buy America (FTA & FHWA) options available upon request	Add -FTA or -FHWA to part numbers above

Software & Services Ordering Information

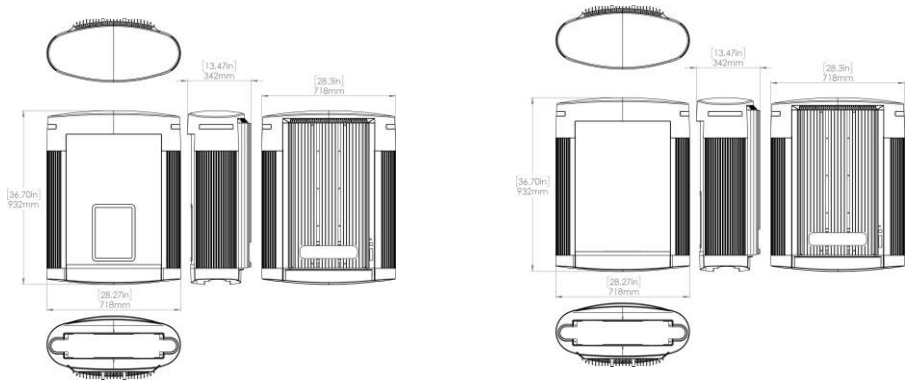
ChargePoint Enterprise Cloud Plan (Commercial) *Note: One token per vehicle. Station activation is included in this plan.*	CPCLD- ENTERPRISE-DC-n*
ChargePoint Enterprise Cloud Plan (Fleet) *Note: One token per vehicle. Station activation is included in this plan.*	CPCLD-FLEETENT-DC-n*
ChargePoint Assure® — Prepaid Assure Plan for an Express Plus Single Cable station.	EXPP-PL1000-SINGLE- ASSURE-n*
ChargePoint Assure® — Prepaid Assure Plan for an Express Plus Dual Cable station.	EXPP-PL1000-DUAL-ASSURE-n*
ChargePoint Assure® — Prepaid Assure Plan for Express Plus Power Block.	EXPP-BLOCK-ASSURE-n*
Commissioning Service (Required per Power Block): includes on-site validation and inspection of electrical, mechanical, installation, wiring and civil parameters for the Express Plus Power Block.	EXPP-BLOCK-COMMISSIONING
Commissioning Service (Required per Power Link): includes on-site validation and inspection of electrical, mechanical, installation, wiring and civil parameters for the Express Plus Power Link.	EXPP-PL1000-COMMISSIONING

Note: All Express Plus Power Link stations require a cloud plan.

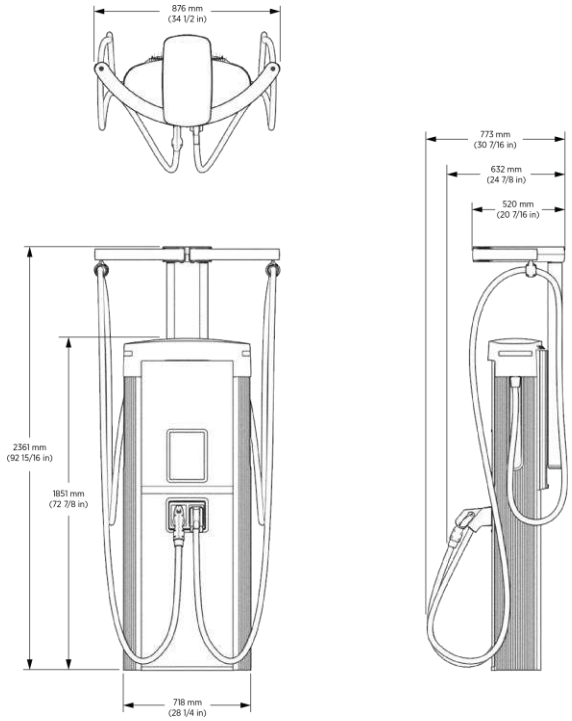
*Substitute *n* for desired years of service (1, 2, 3, 4 or 5 years). Includes parts and labor warranty, remote technical support, on-site repairs when needed, unlimited configuration changes, and reporting.

Architectural Drawings

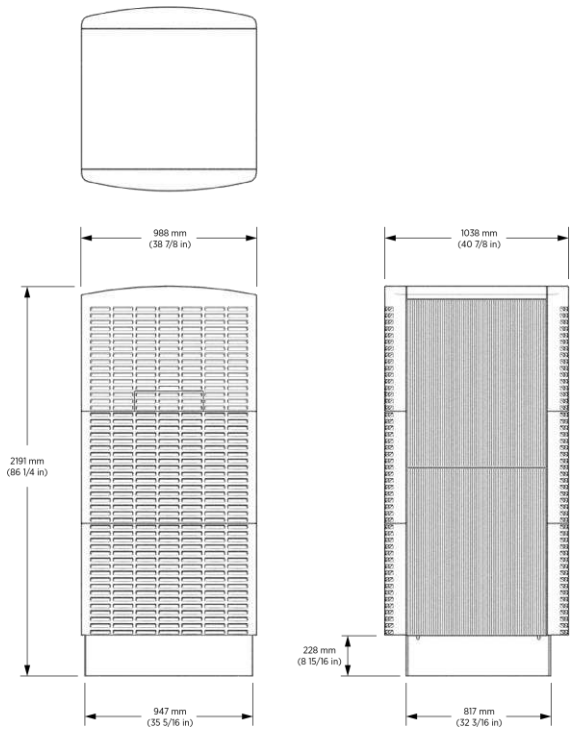
Express Plus Overhead Mounting Option with or without screen (Fleet Only)



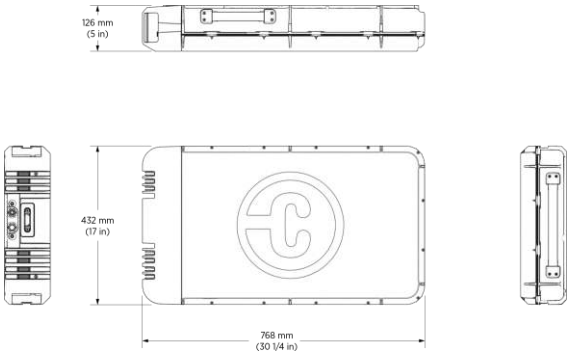
Express Plus Power Link with Screen



Express Plus Power Block



Express Plus Power Module



ChargePoint, Inc.
240 East Hacienda Avenue
Campbell, CA 95008-6617 USA
+1.408.841.4500 or
+1.877.370.3802 US and Canada toll-free
chargepoint.com

Contact Us
Visit chargepoint.com
Call +1.408.705.1992
Email sales@chargepoint.com

* Listed by Underwriters Laboratories Inc.

Express Plus

PDF

DC Fast Charging Platform

Installation Guide

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions for Express Plus that shall be followed during installation, operation and maintenance of the unit.

WARNING:

1. Read and follow all warnings and instructions before servicing, installing, or operating the ChargePoint® product. Install and operate only as instructed. Failure to do so may lead to death, injury, or property damage, and will void the Limited Warranty.
2. Only use licensed professionals to install your ChargePoint product and adhere to all national and local building codes and standards. Before installing the ChargePoint product, consult with a licensed contractor, such as a licensed electrician, and use a trained installation expert to ensure compliance with local building and electrical codes and standards, climate conditions, safety standards, and all applicable codes and ordinances. Inspect the product for proper installation before use.
3. Always ground the ChargePoint product. Failure to ground the product can lead to risk of electrocution or fire. The product must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor shall be run with circuit conductors and connected to the equipment grounding terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE shall comply with all applicable codes and ordinances.
4. Install the ChargePoint product using a ChargePoint-approved method. Failure to install on a surface that can support the full weight of the product can result in death, personal injury, or property damage. Inspect the product for proper installation before use.
5. The product is not suitable for use in Class 1 hazardous locations, such as near flammable, explosive, or combustible vapors or gases.
6. Supervise children near this device.
7. Do not put fingers into the electric vehicle connector, or touch fingers to charging rails.
8. Do not use this product if any cable is frayed, has broken insulation, or shows any other signs of damage.
9. Do not use this product if the enclosure or the electric vehicle connector is broken, cracked, open, or shows any other signs of damage.
10. Wire and wire terminal information are provided in the ChargePoint product Site Design Guide and Installation Guide.
11. Torques for installation of wire terminals are provided in the ChargePoint product Installation Guide.
12. The ChargePoint product maximum operating temperature is 50 °C (122 °F).
13. Site operator is responsible for making sure that no mechanical damage occurs and the pantograph is installed in a location that doesn't present a safety risk. If used carelessly, the pantograph could critically injure someone just from the extension force.

IMPORTANT: Under no circumstances will compliance with the information in a ChargePoint guide such as this one relieve the user of the responsibility to comply with all applicable codes and safety standards. This document describes approved procedures. If it is not possible to perform the procedures as indicated, contact ChargePoint. ChargePoint is not responsible for any damages that may result from custom installations or procedures not described in this document or that fail to adhere to ChargePoint recommendations.

Document Accuracy

The specifications and other information in this document were verified to be accurate and complete at the time of its publication. However, due to ongoing product improvement, this information is subject to change at any time without prior notice. For the latest information, see our documentation online at chargepoint.com/guides.

Copyright and Trademarks

Symbols

This guide and product use the following symbols:

DANGER: Risk of electric shock

WARNING: Risk of personal harm or death

CAUTION: Risk of equipment or property damage

IMPORTANT: Crucial step for installation success

Read the manual for instructions

Ground/protective earth

Illustrations Used in This Document

The illustrations used in this document are for demonstration purposes only and may not be an exact representation of the product. However, unless otherwise specified, the underlying instructions are accurate for the product.

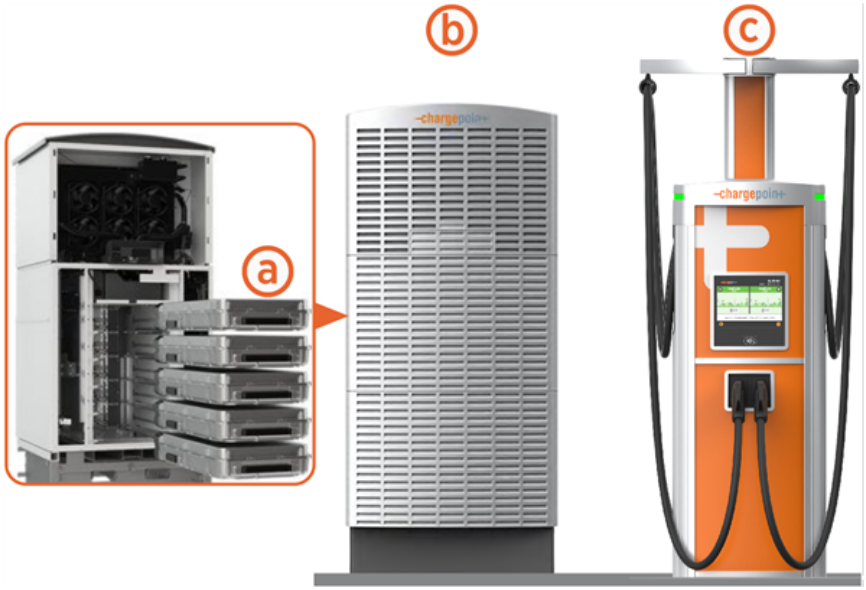
Contents

Prepare for Installation 1

Follow this topic to install the ChargePoint® Express Plus DC fast-charging platform. You will need at least two people to install this system. For more information, refer to the following topics:

Express Plus Components

Express Plus is a scalable DC fast charging platform that is based on the modular building blocks outlined below.



(a) Power Module: Self-contained AC to DC power conversion system that operates an output of between 100 and 1000 V and delivers up to 40 kW of power.

(b) Power Block: Power cabinet that houses up to five Power Modules and supplies DC output power to Power Link 1000s. Each Power Block can output up to 200 kW of power.

(c) Power Link 1000: Dispenser that delivers DC power to EVs through flexible, lightweight charging cables equipped with industry standard connectors such as CCS1, CCS2, CHAdeMO, and NACS. The Power Link 1000 can accommodate up to two charging cables. Built-in cellular networking enables remote management via the ChargePoint Platform.

Check Site Readiness

The Power Block and Power Link 1000 can be installed on either a newly poured pad or an existing concrete surface. The Power Block and Power Link 1000 also support wiring run above ground for locations where no underground wiring access exists (such as parking garages) or where underground junction boxes are not permitted.

WARNING: If not installed correctly, the ChargePoint charging station may pose a fall hazard, leading to death, personal injury, or property damage. Always use the provided Concrete Mounting Template shown preinstalled here, or a ChargePoint-approved surface mounting solution, to install the ChargePoint charging station. Always install in accordance with applicable codes and standards using licensed professionals. Non approved installation methods are performed at the risk of the contractor and void the Limited One-Year Parts Exchange Warranty.

Before beginning work, check that the site meets these civil and mechanical requirements:

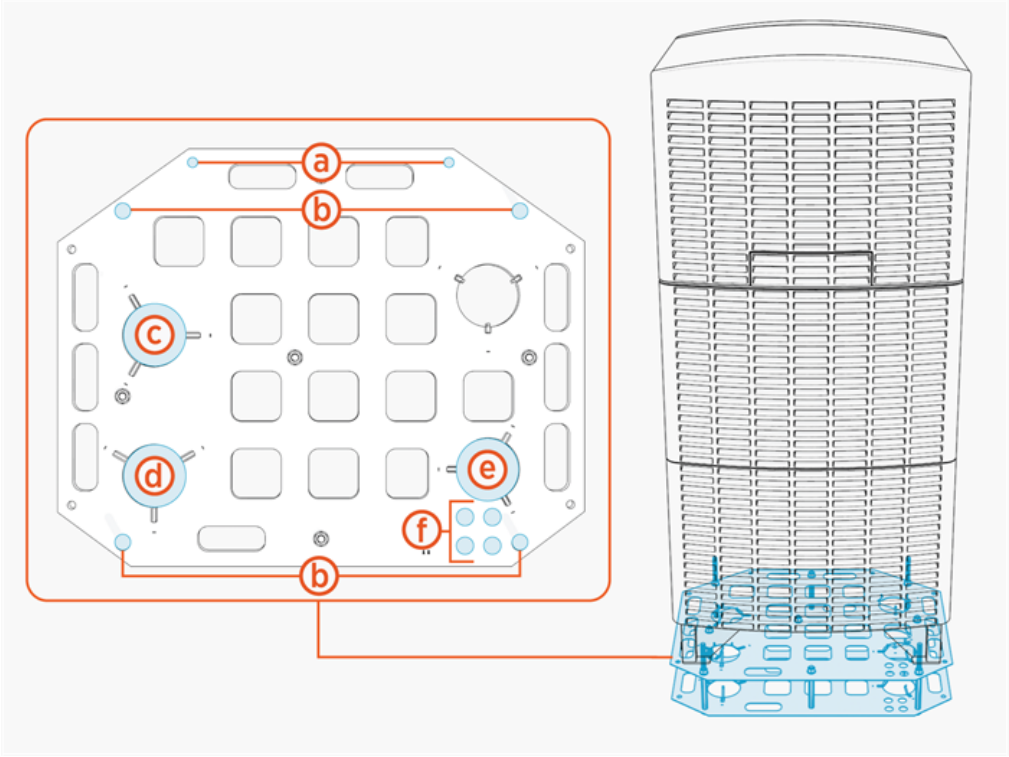
Express PlusPower Block Pre-Installation Checklist		
	Each concrete pad must be fully cured and smooth, and must not exceed a slope of approximately 20 mm per meter (0.25 in per ft). IMPORTANT: Remove any concrete that is not level with the rest of the surface so you can level the components. Use a grinder or a hammer and chisel to remove any bumps in the concrete.	☐
	Each Power Block concrete pad has either a site drawing approved by a structural engineer for this specific site, or an existing concrete pad that has been approved by a structural engineer for the Power Block's dimensions and weight.	☐
	Each Power Link 1000 pad must conform to the design requirements listed in the Express Plus Site Design Guidelines.	☐
	Walls, fences, or slopes must not prevent water from draining from the pad.	☐
	You have sufficient space around the installation pad to use a forklift and other lifting equipment, unpack crates, remove packing materials, and allow two people to freely move throughout the area.	☐

Power Block Readiness

Ensure that the Power Block is ready for installation. Refer to the following topics for more information:

Concrete Mounting Template (CMT)

The Power BlockConcrete Mounting Template (CMT) should already be embedded in the concrete pad, unless the site is using a surface-conduit entry. Verify the AC and DC conduits are positioned correctly.



(a) M16 anchor bolt (x2) locations for mounting SCE gland plate (applicable only for surface entry of wires).

(b) M16 anchor bolt (x4) locations 76 mm (3 in) above concrete for mounting Power Block.

(c) HV DC output B wires exit.

(d) HV DC output A wires exit.

Note: The DC output of Power Block is the DC input for Power Link 1000.

(e) AC input wires entry.

(f) LV DC output, shunt trip wires, and Ethernet cable exit.

- One for shunt trip (if used).
- Three for LV wires and Ethernet cable.

IMPORTANT: In regions that use conduits, the conduits must be laid per the conduit layout defined by the Concrete Mounting Template (CMT) and the outer diameter of conduits must not exceed the trade sizes listed below. In regions that do not use conduits and/or use armored cables, the cables may be laid per the conduit layout defined by the CMT.

The Concrete Mounting Template CMT must be embedded with its top panel positioned 51 mm (2 in) below the concrete surface.

The following table provides the maximum size and quantity of conduits that can be installed on Power Block:

Conduits For	Conduit Quantity x Trade Size	
	North America	Europe
HV DC output wires	2 x 4 inch max. or 4 x 3 inch max.	2 x 110 mm max. or 4 x 78 mm max.
AC input wires	1 x 4 inch max.	1 x 110 mm max.
LV DC, shunt trip, and Ethernet output wires	4 x 1 inch max.	4 x 25 mm max.

IMPORTANT:

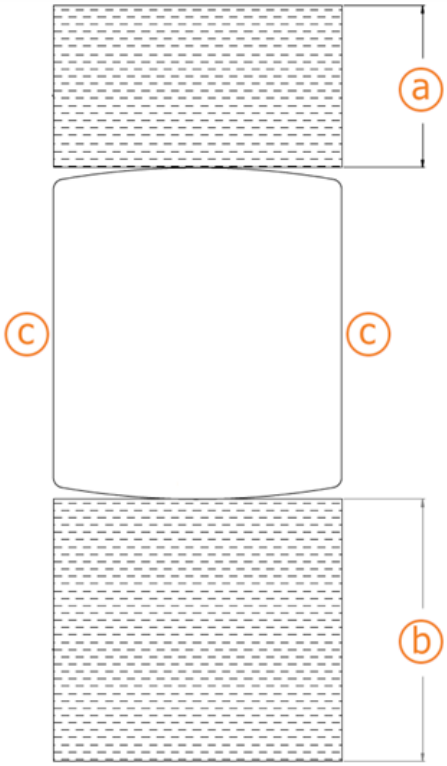
- The actual conduit size and quantity must be chosen based on site-specific wiring requirements.

  For wire specifications, see the Express Plus Site Design Guide.

Clearances

The Power Block requires minimum site and service clearances.

Note: Image not to scale.



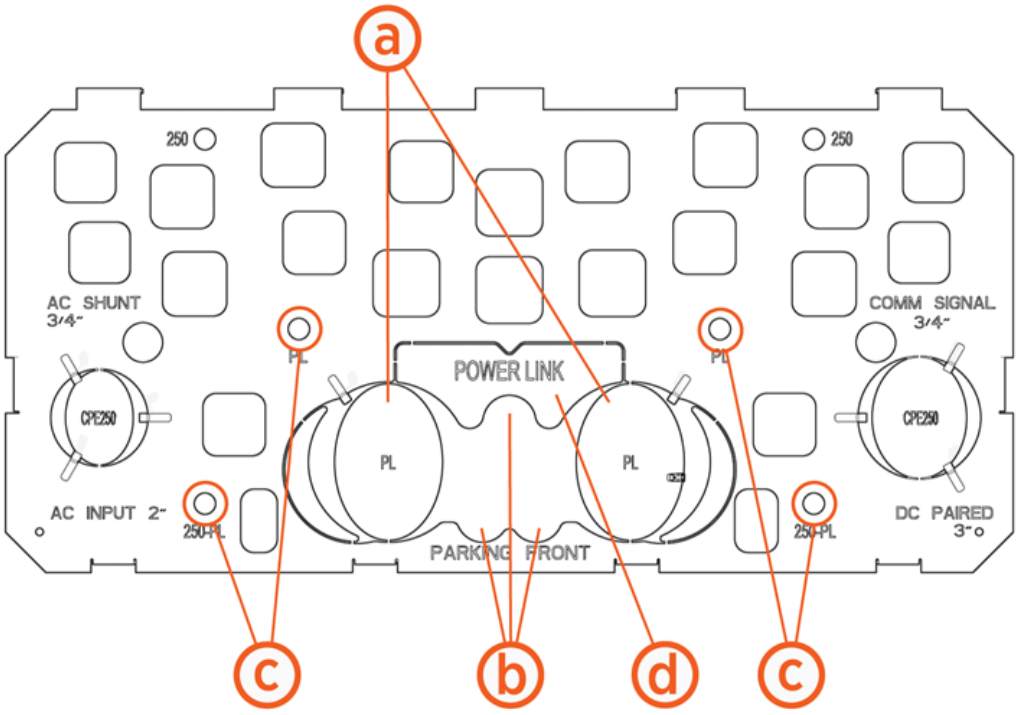
Power Block	Clearance
a. Rear	610 mm (24 in) recommended (for rear service access) 457 mm (18 in) required
b. Front	1000 mm (39.3 in)
c. Side	51 mm (2 in)

Power Link 1000 Readiness

Ensure that the Power Link 1000 is ready for installation. Refer to the following topics for more information:

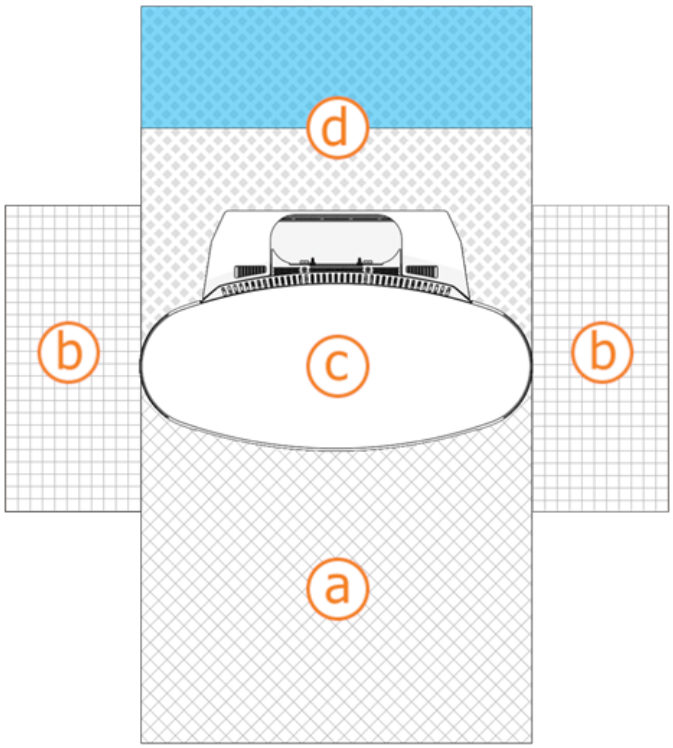
Concrete Mounting Template (CMT)

If the Power Link 1000 is pedestal-mounted and using stub-up wiring, ensure the Power Link 1000 Concrete Mounting Template (CMT) is already embedded in the concrete pad.



Space For	Max. Size	Max. Quantity
(a) DC input conductors' conduit entry	Each up to 91 mm (3.5 in) trade size conduit	2
(b) 48 V DC wires' and Cat6 Shielded Twisted Pair (STP) Ethernet cable's conduit entry	21 mm (3/4 in) trade size conduit Note: Check site drawings.	3
(c) M16 anchor bolts entry	76 mm (3 in) above concrete for mounting Power Link 1000	4

Clearances



Note: Image not to scale.

Power Link 1000		Clearance
(a) Front		
	Minimum open space	610 mm (24 in)
	Door swing + width of unit	730 mm (28 3/4 in)
(b) Side		305 mm (12 in) from top corner to top corner Two Power Link 1000 units can share side clearance provided adequate clearance is allowed for Cable Management Kit (CMK) arms. Note: CMK arms cannot share side clearance.
(c) Top		
	Pedestal mounted:	26 mm (1 in) from top of Cable Management Kit (CMK)
	Overhead mounted:	305 mm (12 in) from top of Power Link 1000
(d) Rear		203 mm (8 in). Note: If two Power Link 1000 are positioned back-to-back, there must be at least 610 mm (24 in) of shared clearance.

CAUTION: You will need greater clearance for special methods and accessories.

Special Method	Clearance
Surface conduit entry	Rear: 610 mm (24 in)

CAUTION: You must meet additional site requirements for special methods and accessories. See the Express Plus Site Design Guidelines.

General Estimates for Lifting

Power Link 1000 Configuration	Power Link 1000 (no cables or cable management)	Charging Cable Weight	Cable Management Kit (includes swingarms)
Standard	208 kg (459 lbs) (120 kg (283 lbs) Power Link 1000 + 80 kg (176 lbs) pedestal)	~3.2-3.5 kg/m (7 - 8 lbs) longer lengths vary	20 kg (44 lbs)
Overhead Mounted (to a wall, gantry, post, or other surface)	120 kg (265 lbs)		–

Electrical Readiness

If the site does not meet these basic requirements, contact ChargePoint before continuing.

- The appropriate circuit protection and metering is in place at the installation site.
- A grounding conductor that complies with local codes is properly grounded to earth at the service equipment or, when supplied by a separate system, at the supply transformer.
- A correctly rated, dedicated breaker is installed for each Power Block:

Nominal Voltage	Input Current Rating	Branch Circuit Capacity and Breaker	Breaker Size
Europe: 400 V	315 A	350 A or 400 A	400 A
North America: 480 V	260 A		350 A or 400 A

- Breakers have shunt trip capability (if specified) to each Power Block.
- All necessary electrical infrastructure has been completed per local codes and ChargePoint specifications for 3-phase power plus ground, with properly sized wire at the station. (Neutral is not required for system operation.)
- Wi-Fi and cellular signal strength meet the requirements stated in the Site Design Guide.

For questions about site specifications, refer to the *Express Plus Datasheet* and *Express Plus Site Design Guide*.

IMPORTANT: The Power Link 1000 is tested to IEC 61000-4-5, Level 5 (6 kV @ 3000 A) standards. In geographic areas that experience frequent thunderstorms, supplemental surge protection must be installed at the service panel.

Bring These Tools and Materials

Installing the Express Plus requires at least two people. Additionally, the installer must bring the following tools and materials. These are not provided by ChargePoint.

Tools

Forklift

- Rated for ≥ 680 kg (1500 lb)
- Maximum size of forklift tines:
  - Width = 102–127 mm (4–5 in)
  - Maximum thickness ≤ 57 mm (2.25 in)
- If your site has height constraints, use alternative equipment

Stepladder

Lock out/tag out equipment

Hard hat

Cut-resistant gloves

Safety glasses

Head lamp

Measuring tape or other tool to measure height, length, and distance

Level

Use hand to tighten

Box cutter

Phillips screwdriver set

- #2 Phillips screwdriver with long handle
- #3 Phillips screwdriver
- #5 Phillips screwdriver
- Right angle (90°) #5 Phillips screwdriver

Flat head screwdriver

Torx wrench set

- T20
- T25
- T30

Torx security wrench

- T25


Torque wrenches for 4 to 95 Nm (3 to 70 ft-lb)


Socket wrench set including deep sockets, up to 25 mm


Hydraulic hole punch tool (to cut 4 inch holes in gland plate)


Multimeter with Cat III 1000 V ratings, such as Fluke 87V or similar


Wire strippers, including Ethernet (Cat6 STP) cable


Wire cutters, including Ethernet (Cat6 STP) cable


Dieelectric grease


Cable ties


Isopropyl wipes and towel roll


Coolant funnel
Two gallon coolant


Wire brush (to remove concrete from bolts)


Smartphone with: Internet connectivity


Adjustable wrench


Cable puller or fish tape


Conduit cutters (to cut up to 4 inch conduits)


Ethernet tester such as a Klein Tools VDV526-052 VDV LAN Scout Jr. Tester or similar


Ethernet (RJ45) connector crimping tool


Lug crimping tool


Torque paint pen


Permanent marker


Duct seal compound


Padlock provided by station owner if required (for security panel on Power Block)


Broom and vacuum


ChargePoint installer login credentials


QR code scanner (usually built into the camera app)


Exact location of stations or units, including parking space


Ferrule crimp tool (for 16 mm^2 or 6 AWG wire)

Tightening Torque

The tables below provides tightening torque values for Power Block and Power Link 1000.

Power Block

Power Link 1000

Component (xFasteners)	Component Material	Tool	Torque
• Door brackets, upper and lower enclosure (x4)	Plastic	T25 Security	1 Nm (10 in-lb)
• Top cap, front (x2)	Plastic	7 mm socket T20 Torx T25 Security	1.7 Nm (15 in-lb)
• Overhead CMK screws (x4)		13 mm socket	11 Nm (97 in-lb)
• Ethernet to USB mounting nut (x1)	Metal	8 mm hex	4.5 Nm (40 in-lb)
• CMK tetherball (x5) • Top access panel (x4)	Metal	T20 Torx T25 Security	2.8 Nm (25 in-lb)
• Holster (x4 or x8) • Top cap, rear (x2) • Bottom cap, wall or overhead mount Power Link 1000	Plastic	T25 Security	
• Charging cable assembly (x4 or x8) • Doors, upper and lower enclosure (x6) • Gland plate, wall or overhead mount Power Link 1000	Metal		4.5 Nm (40 in-lb)

• Ground wire lug nut (up to x2) • Charging cable HV DC wire lug nuts (up to x8) • Charging cable ground wire lug nut (up to x2)		10 mm socket	5.6 Nm (50 in-lb)
• CMK swingarm assembly (x5) • CMK mast (x4 standard, x6 tall) • Wall or overhead mounting bracket to Power Link 1000 (x6)		T25 Security	
• HV DC wire lug nuts (up to x24)		17 mm socket	19 Nm (14 ft-lb)
• Anchor bolt base nuts (x4)		24 mm deep socket	54.2 Nm (40 ft-lb)
• Power Link 1000 mounting nuts (x4)			94.9 Nm (70 ft-lb)
• Tall CMK assembly screws (x4)	Metal	6 mm hex	13.5 Nm (120 in-lb)
• LV input wires terminal tab screws (x2)	-	Flathead screwdriver	4 Nm (36 in-lb)
• Wall or overhead mounting bracket to wall or overhead structure			Per site plan

Materials

You will need the following materials for installation:

- AC and ground conductors as required by site drawings
- DC conductors as required by site drawings
- 48 V DC wiring as required by site drawings
- Shunt trip wiring (if on site drawings)
- Power Block DC and AC lugs:
  - Plated copper compression lugs (not mechanical)
  - Must fit M12 stud size
  - Must fit 44.5 mm (1.75 in) hole spacing
  - 2-hole specified for North America
  - Maximum tongue width ≤ 50.8 mm (2 in)
- Note: Check site drawings for quantity of lugs.

- Power Link 1000 DC lugs:
  - Copper plated compression lugs (not mechanical)
  - Must fit M12 stud size
  - Must fit 44.5 mm (1.75 in) hole spacing
  - 2-hole specified for North America
  - Maximum tongue width:
    - ≤ 48 mm if 2 conductors per line
      or
    - ≤ 24.5 mm if 3 conductors per line
- Note: Check site drawings for quantity of lugs.
- Cat6 Shielded Twisted Pair (STP) Ethernet wiring
  Note: FTP, UTP, and lesser grades of cable do not have the required noise immunity
- RJ45 shielded connectors
- Type LB conduit body (for overhead installation only) - maximum 3 inch

Check Express Plus Shipping Crates

Each Express Plus ships in multiple crates. Ensure you have all components at the installation site.

Note:Refer to the Power Link 1000 Installation for all the list of components.

CAUTION: Always transport and store the charging components in their original packaging. Use appropriate lifting equipment (forklift or crane, lifting straps, and any corresponding attachments and accessories). Ensure the load rating of all lifting equipment is adequate for the weight of the crated components.

CAUTION: Keep components in original packaging, free of moisture, and protected from damage until you install or service them at the site. Store all shipments of components in a dry covered location and protect from moisture.

IMPORTANT: Leave components in the shipping crate until needed. When removing, protect them from damage (such as scratches) by placing them flat on a blanket or tarp, face up. Do not stand up cover panels, as they may be knocked or blown over. Cover charging connectors to prevent damage or ingress.

Power Block	• Power Block unit(s)
	• Pedestal
	• Gland plates
	• Enclosure (upper and lower cabinets together)
	  • Lower heat exchanger (dry box hex)
	  Note: This ships in a box inside the lower cabinet of the enclosure.
	• Fuses
	• Doors and covers
	  • Lower door preinstalled

Power Link 1000	• Power Link 1000 station(s) • Charging cable(s) (1 or 2 per station) • Cable Management Kit (CMK) or tool balancer
Power Module	• Up to five per Power Block
Installation Kit	• Duct seal compound • Propylene glycol coolant Note: The coolant label references its Material Safety Datasheet. • T25 Torx security screwdriver • Coolant funnel

WARNING: Lower heat exchanger and each Power Module are heavy. Two people are needed to install these components.

Express Plus Guides

Access ChargePoint documents at chargepoint.com/guides.

Document	Content	Primary Audiences
Datasheet	Full station specifications	Site designer, installer, and station owner
Site Design Guide	Civil, mechanical, and electrical guidelines to scope and construct the site	Site designer or engineer of record
Concrete Mounting Template Guide	Instructions to embed the charging station template in a concrete pad with anchor bolts and conduit placement (these may also be included in the Site Design Guide)	Site construction contractor

Document	Content	Primary Audiences
Surface Conduit Entry Kit Guide	Instructions for sites where conduit cannot be run underground	Installer
Construction Signoff Form	Checklists used by contractors to ensure the site is correctly completed and ready for product installation	Site construction contractor
Installation Guide	Anchoring, wiring, and powering on	Installer
Operation and Maintenance Guide	Operation and preventive maintenance information	Station owner, facility manager, and technician
Service Guide	Component replacement procedures, including optional components	Service technician
Declaration of Conformity	Statement of conformity with directives	Purchasers and public

Questions

For assistance, navigate to *chargepoint.com/support* and contact technical support using the appropriate region-specific number.

Power Link 1000 Configuration 2

The Power Link 1000 is available in multiple configurations. Before proceeding, check your site plans for the station configuration.

Note: Instructions vary for each configuration. Continue to the applicable instructions below.

Standard pedestal

- Concrete pad
- Surface Conduit Entry

Mounted off the ground "overhead"

- Wall
- Gantry
- Post
- Other Approved surface

Cable Management Kit (CMK)

Depending on the required cable reach, the Power Link 1000 can be installed with a standard CMK to manage standard length (5.8 m or 19 ft) charging cables, or with a tall CMK or overhead CMK to manage medium length (7.6 m or 25 ft) charging cables.

Standard CMK

Tall CMK

Overhead CMK

Install Pedestal Mounted Power Link 1000 3

Note: When installing a pedestal station with a single cable, you may be provided with a single holster bracket and supplemental side panel blank. It is required to install the single holster bracket to activate and commission the station. For more information, refer to the Holster and Holster Bracket or Side Panels (Pedestal Mounted) topic in the Service Guide.

CAUTION: To protect the charging cables from damage, keep them wrapped throughout the installation process.

IMPORTANT: If the site has height constraints for installation, contact ChargePoint to get instructions and clearances that you will need for the modified process.

Alternatively, you may use a forklift bracket kit, or a crane with lifting shackles and a spreader bar (constraints may differ among sites).

Disconnect Power

To disconnect power, complete the following steps:

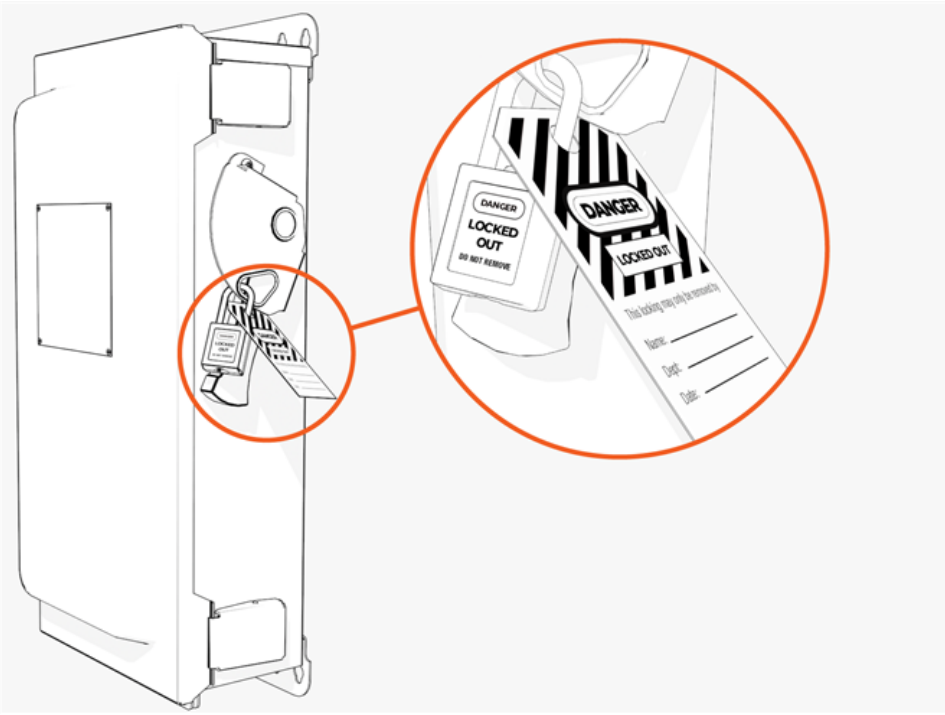
DANGER: RISK OF SHOCK

- Before any procedure, disconnect the power.
- Follow local code and site lockout/tagout procedure to de-energize the station.
- Wait for energy to dissipate (approximately five minutes).
- Keep power off until all covers and panels are reinstalled and the work is complete.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

1. Disconnect power at the site electrical panel.

   Note: Follow standard practice and local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding.

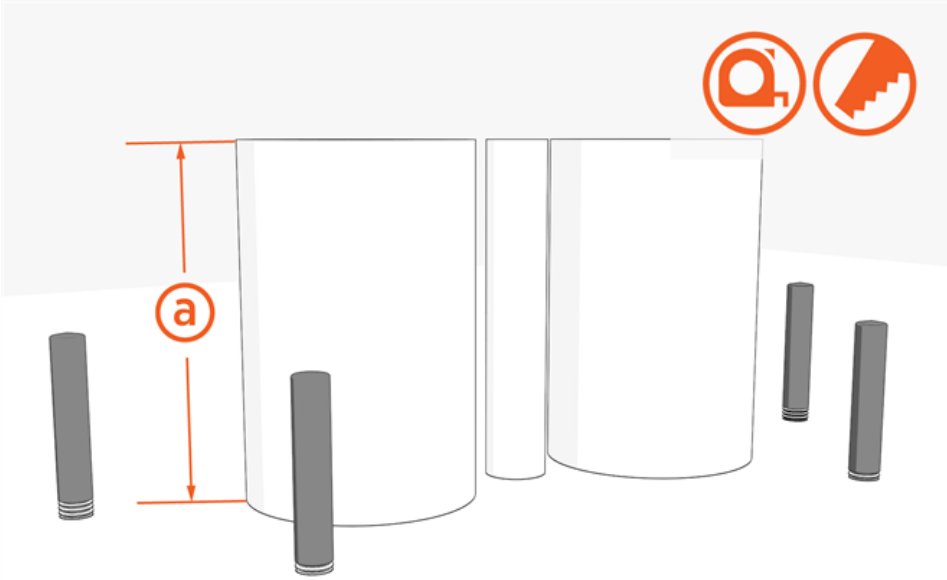


2. Use a multimeter to test that the unit is de-energized.

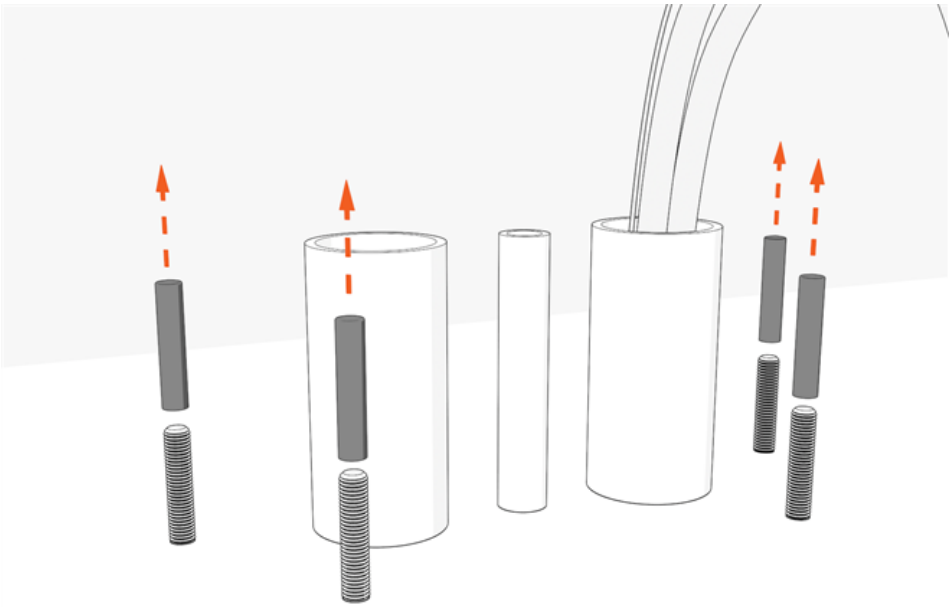
Prepare Power Link 1000 Pad

To prepare the Power Link 1000 pad, complete the following steps:

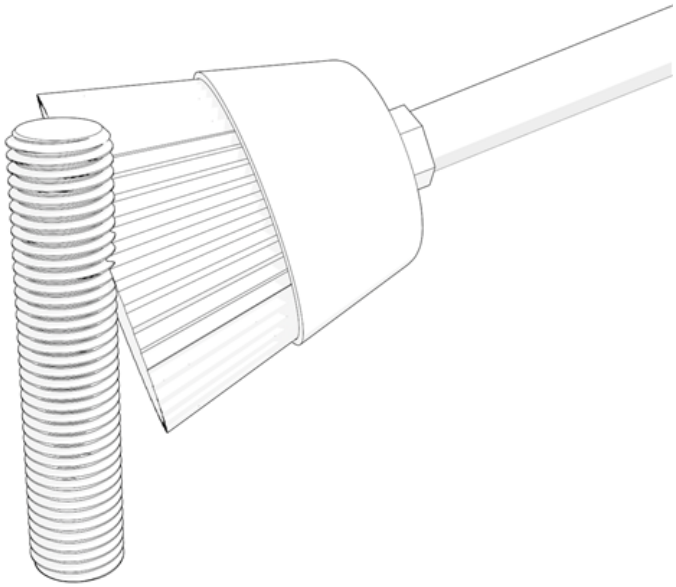
1. Ensure all stub-ups are (a) 102-160 mm (4-6.3 in) high.
   If armored cable is used, strip the outer jacket to the same height.



2. Remove plastic caps.

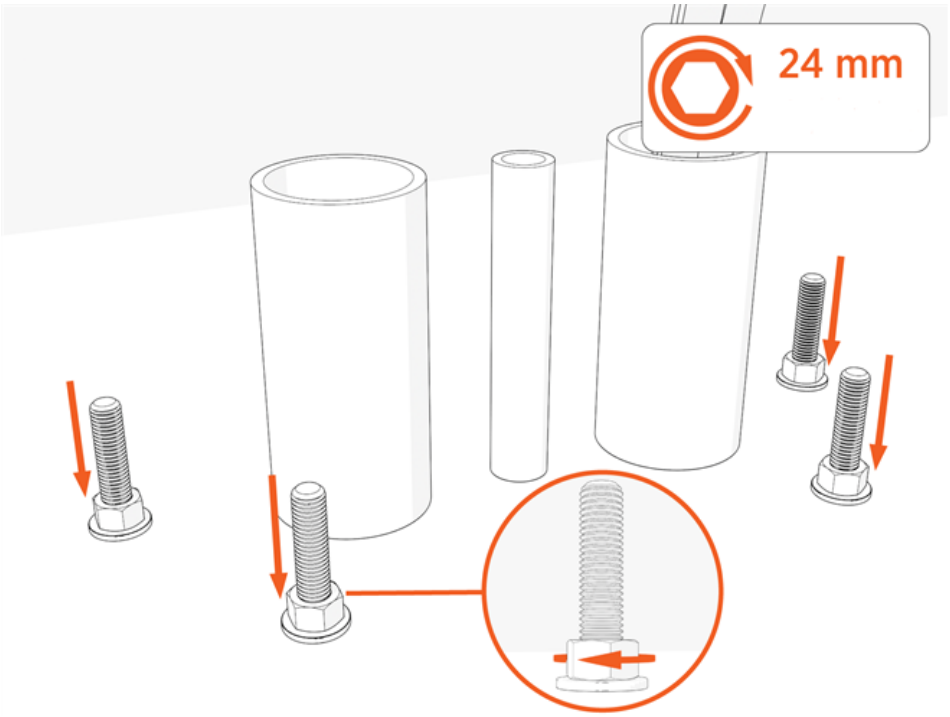


3. Use a wire brush to clean bolt threads.

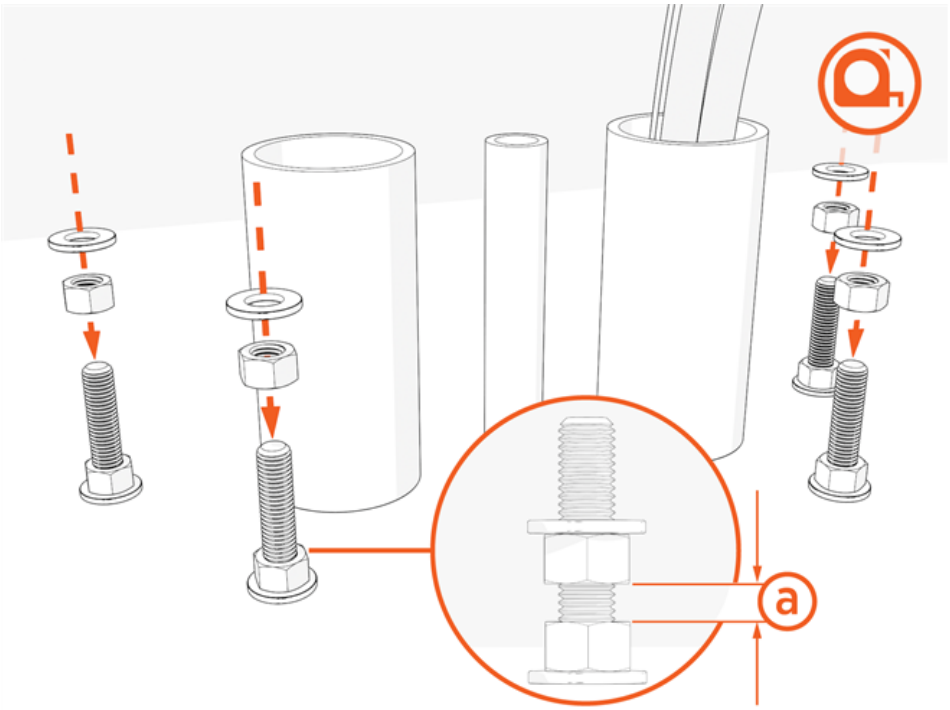


4. Install one concrete clamp washer and nut onto each of the four anchor bolts. Torque to 54 Nm (40 ft-lb).

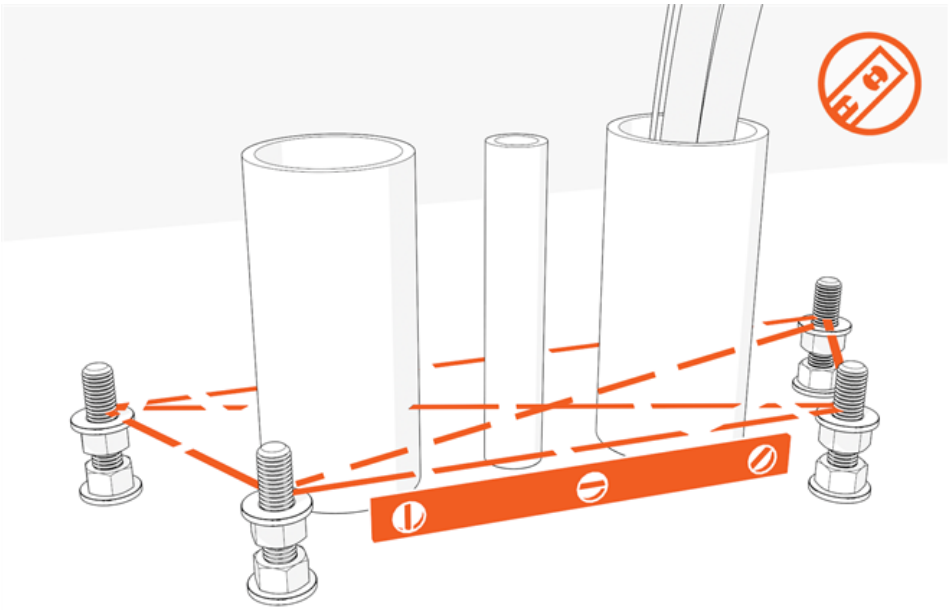
   Note: On epoxied surfaces, do not exceed the epoxy torque rating.



5. Install "leveling" nuts and washers onto the bolts by hand. Maintain a space of (a) ~6.4 mm (1/4 in) between each leveling nut and bottom nut.



6. Check that leveling nuts are level with each other.



7. Pull service wiring through the conduit (see the Express Plus Site Design Guide). Retain 1524 mm (60 in) of service loop for each cable.

> CAUTION: Do not use conduits with bell ends. They may interfere with tolerances inside the enclosure.

Mount and Secure Power Link 1000

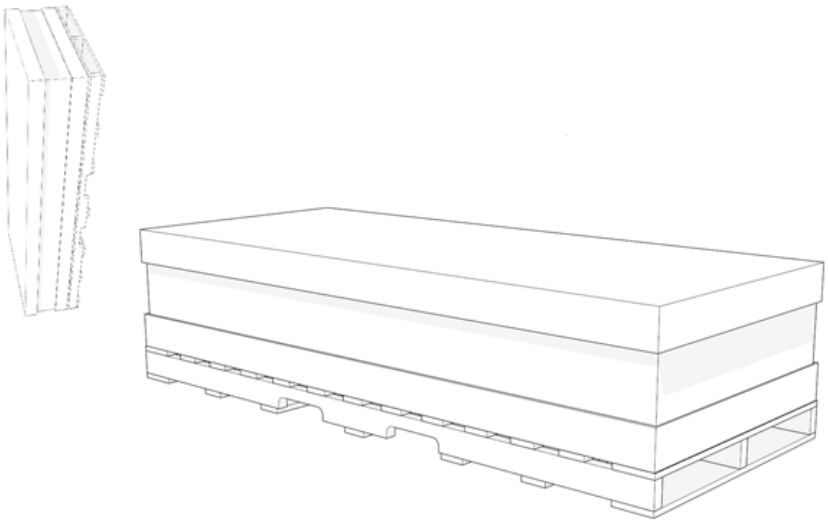
To mount and secure the Power Link 1000 component, complete the following set of steps:

> CAUTION: To protect the charging cables from damage, keep them wrapped throughout the installation process.

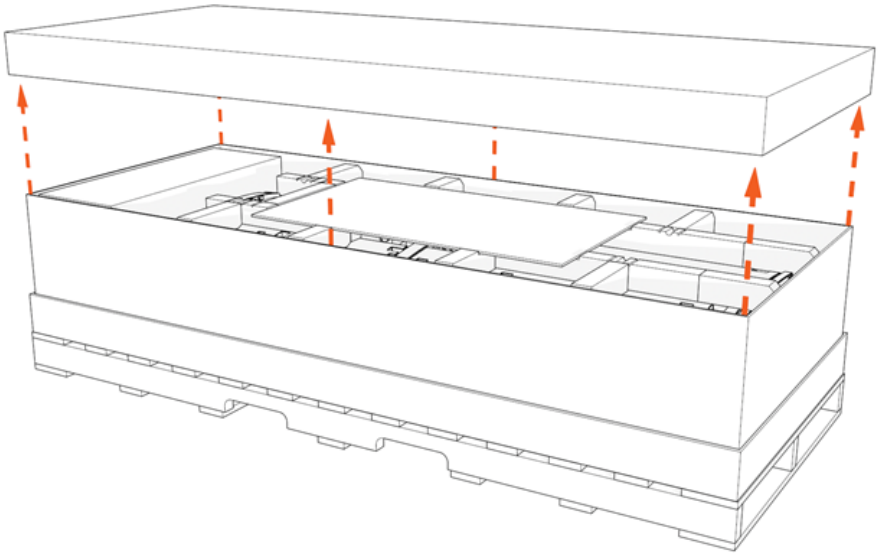
Unpack

1. Transport the crate upright to the installation site and then lay it down flat.

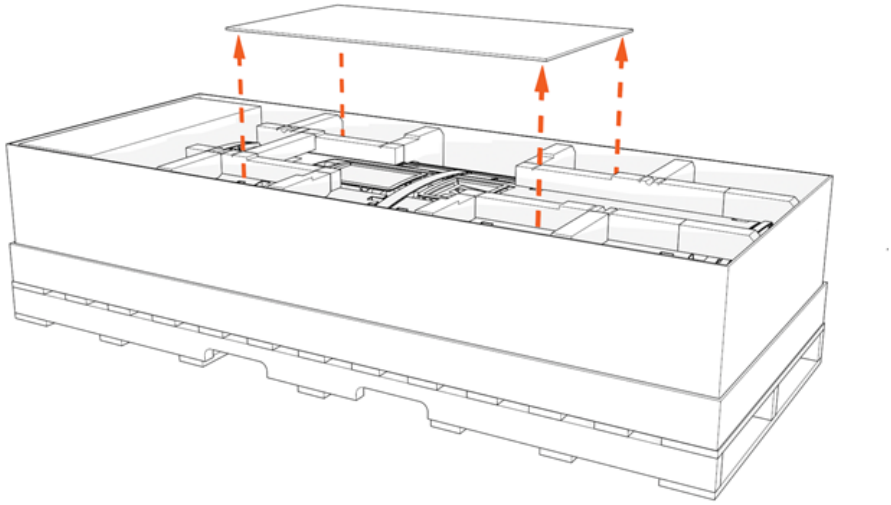
> **WARNING:** The crate is heavy and can cause injury or death if dropped. Do not stand or walk beneath the crate while it is being lifted. Take precautions against the crate tipping or sliding.



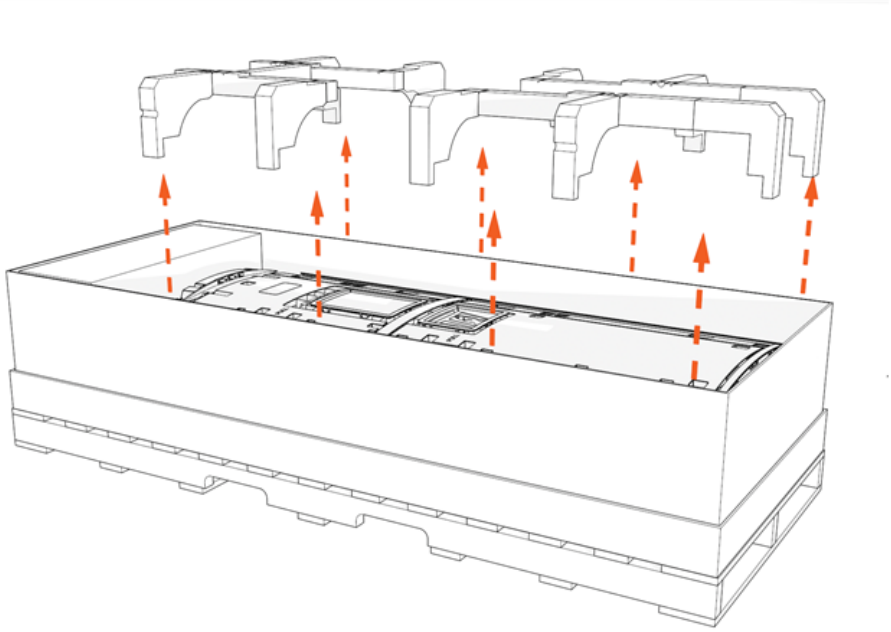
2. Lift off the crate cover.



3. Set aside the separate packages that are inside the crate.
   Note: These packages contain vinyl signs, trims, and top cover (helmet) to be installed later.



4. Remove the top foam inserts.

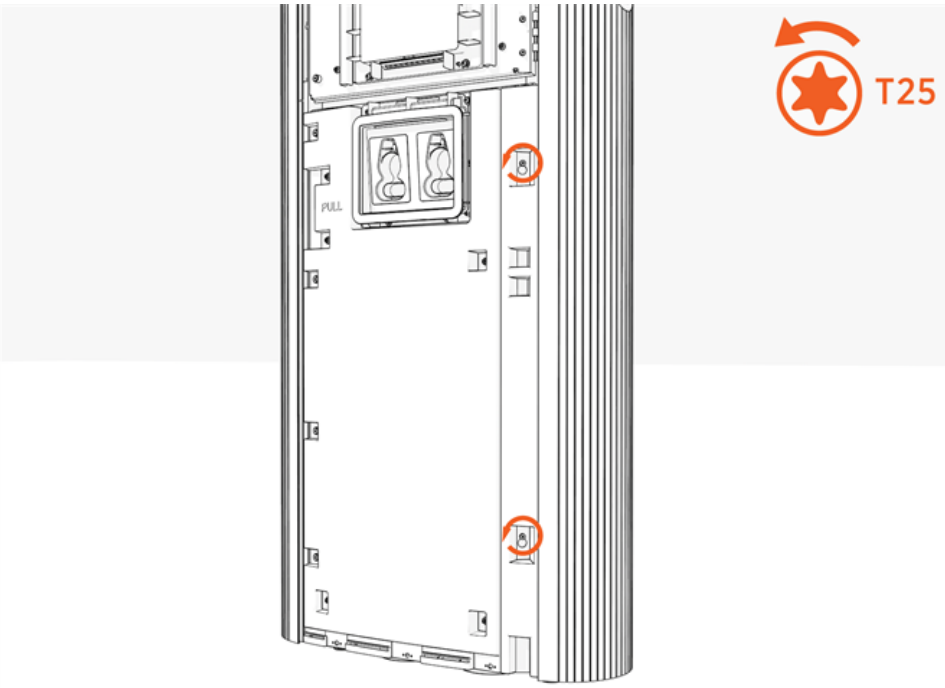


Access Base of Cabinet

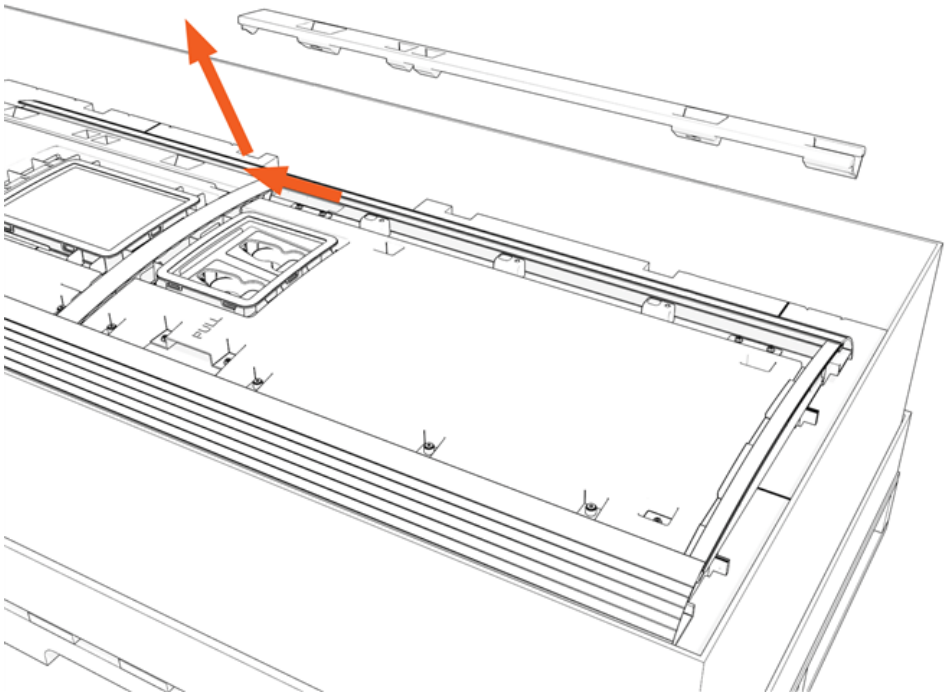
To access the base of the cabinet, complete the following steps:

IMPORTANT: Keep components in a cool area out of direct sunlight until you reinstall them.

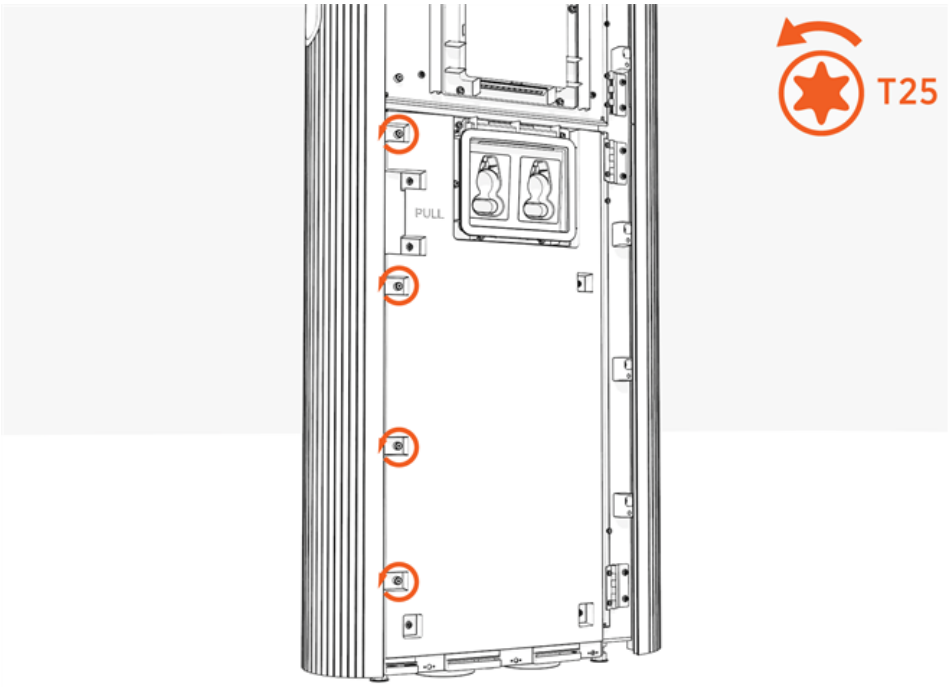
1. Loosen screws from the lower door bracket (only if covers are unassembled).



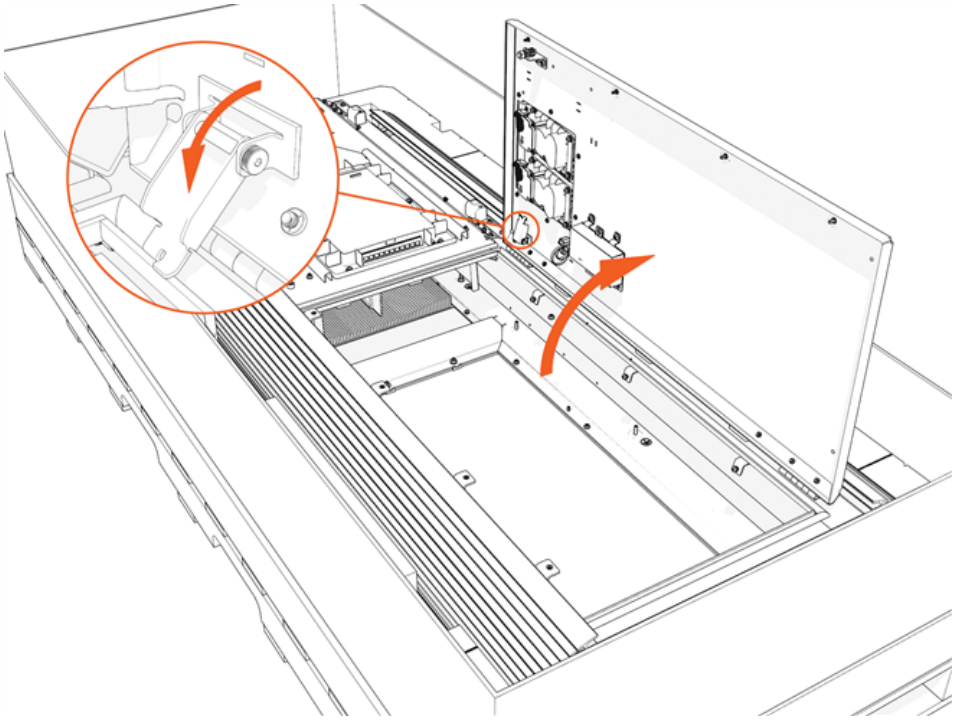
2. Hold the middle of the door bracket. Lift and tilt out.



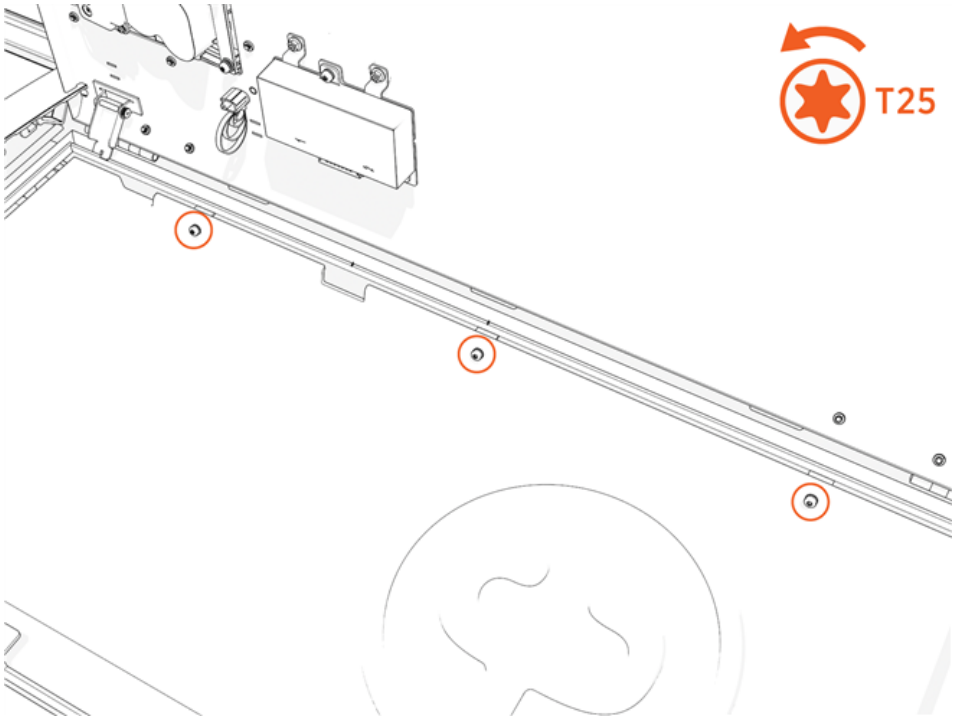
3. Uninstall screws along the left side to open the door.



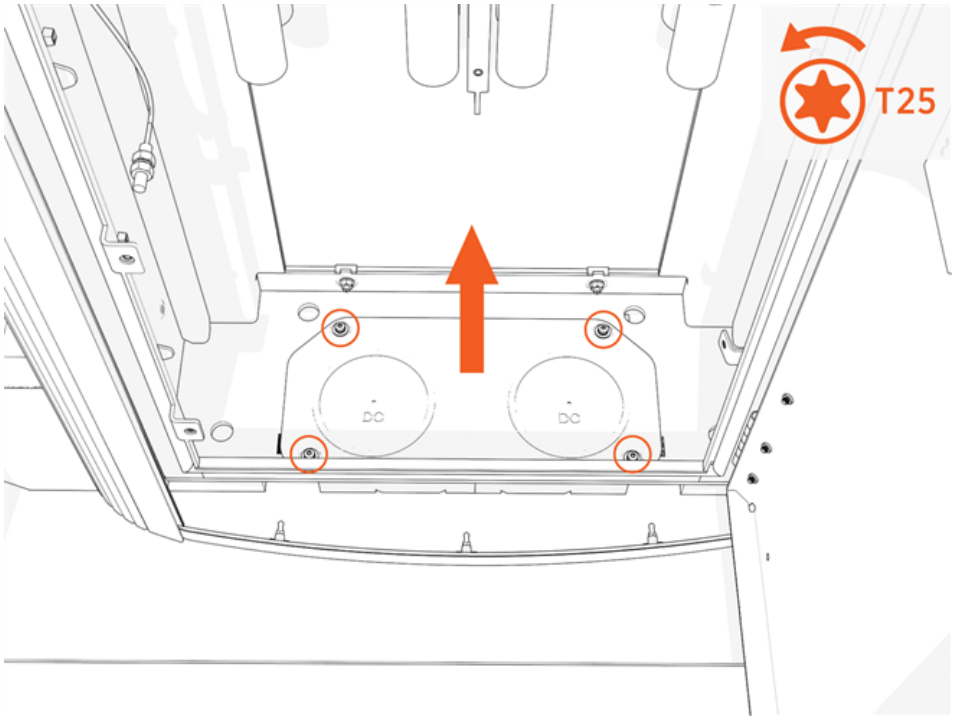
4. Rotate the orange wind stops into the door gap.



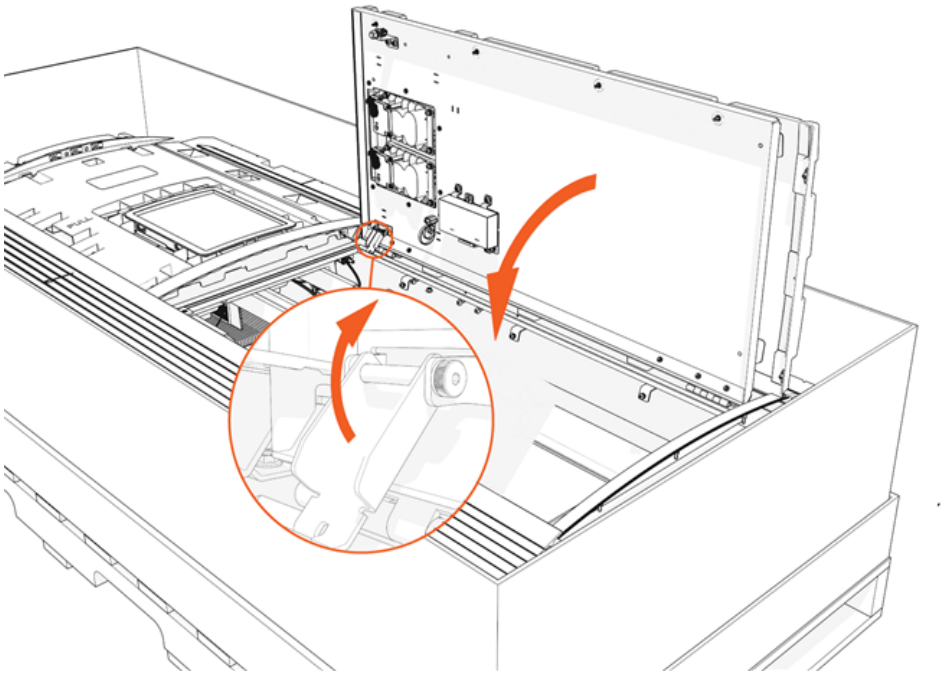
5. Inside the lower cabinet, uninstall the lower safety panel (if present) and gland plate. Loosen screws on the right side. Tilt out and slide the panel out of the slots.



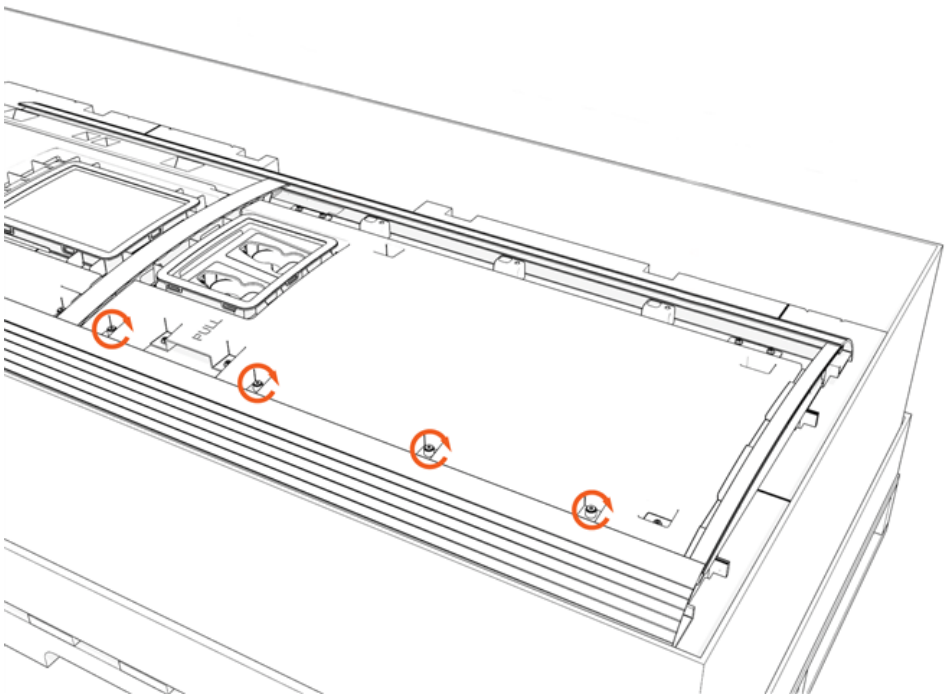
6. Uninstall screws and lift out the gland plate.



7. Temporarily reinstall the lower door. Disengage the wind stops.
   Note: The upper door should remain closed until a much later step.



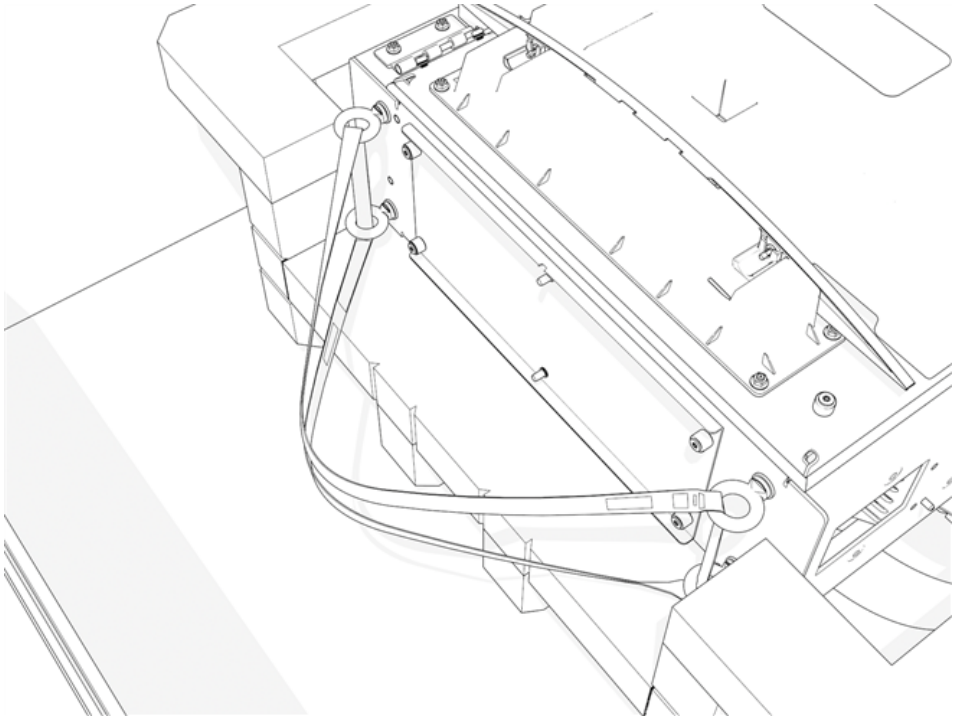
   a. Tighten screws by hand.



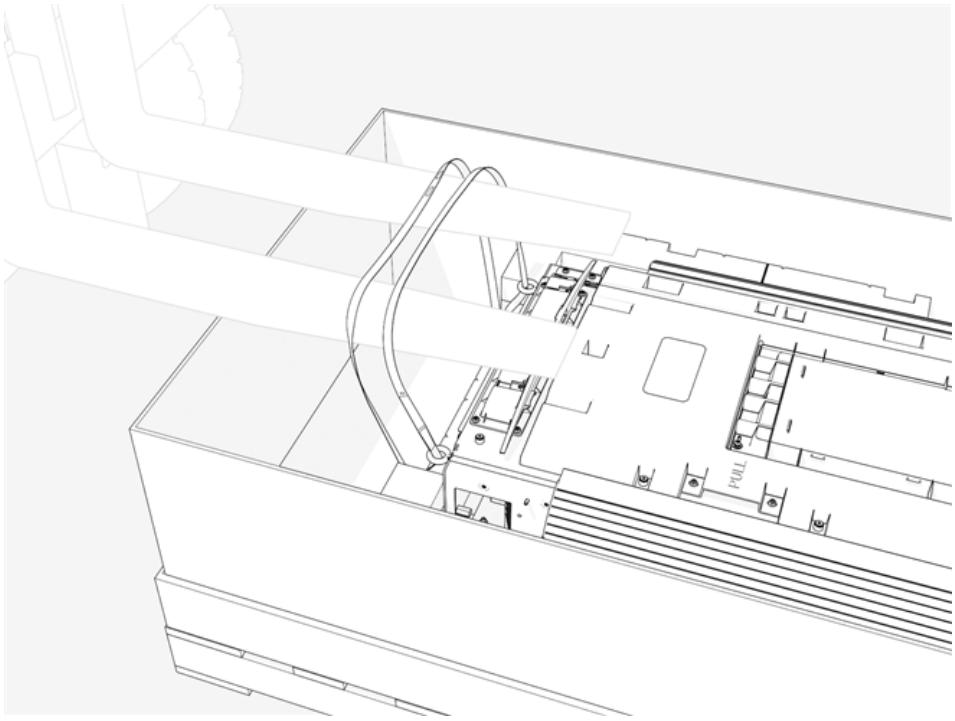
Position the Power Link 1000

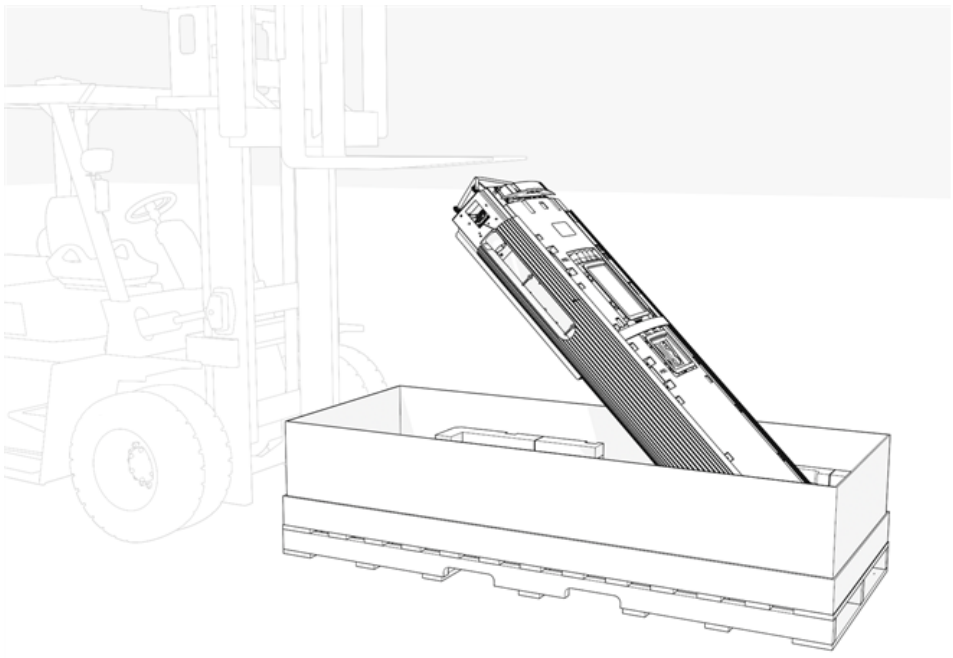
To position the Power Link 1000, complete the following steps:

1. At the top of the Power Link 1000, locate four preinstalled eye bolts and lifting straps.

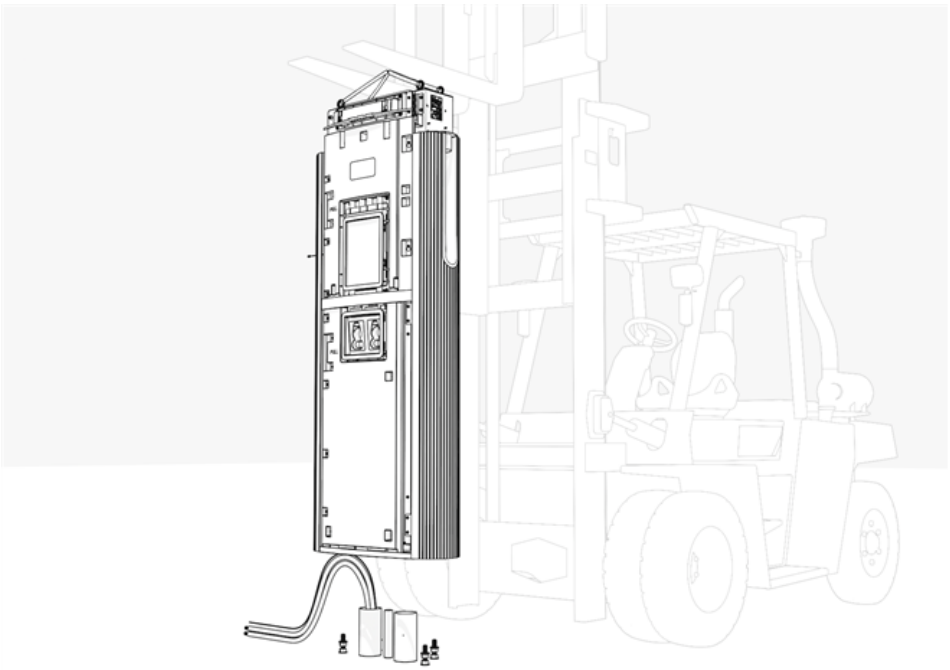


2. Thread the lifting straps through the eye bolts.

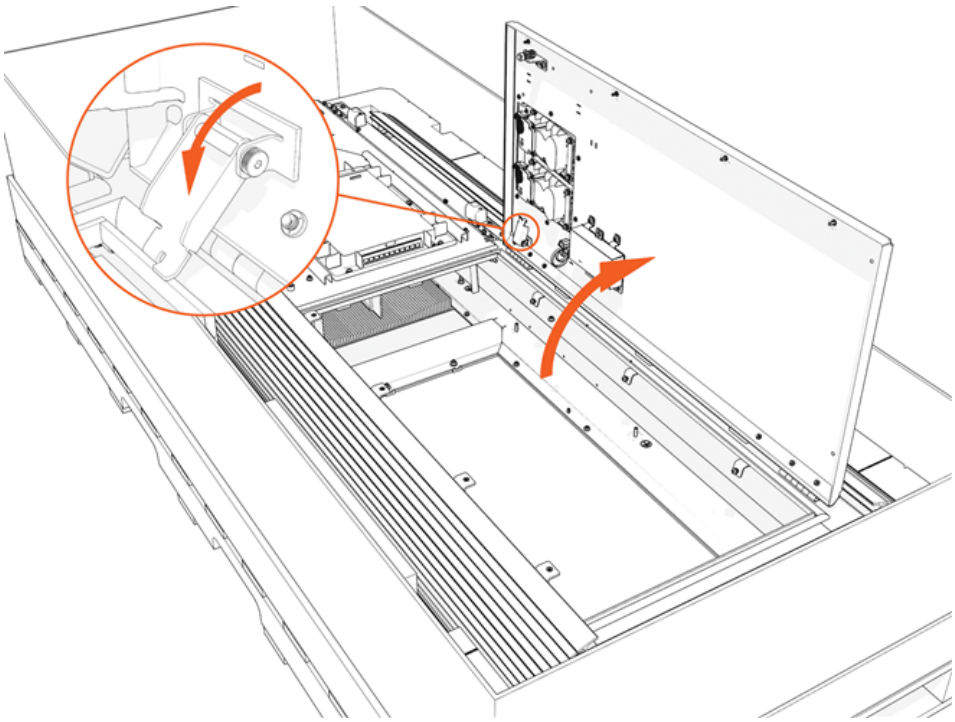




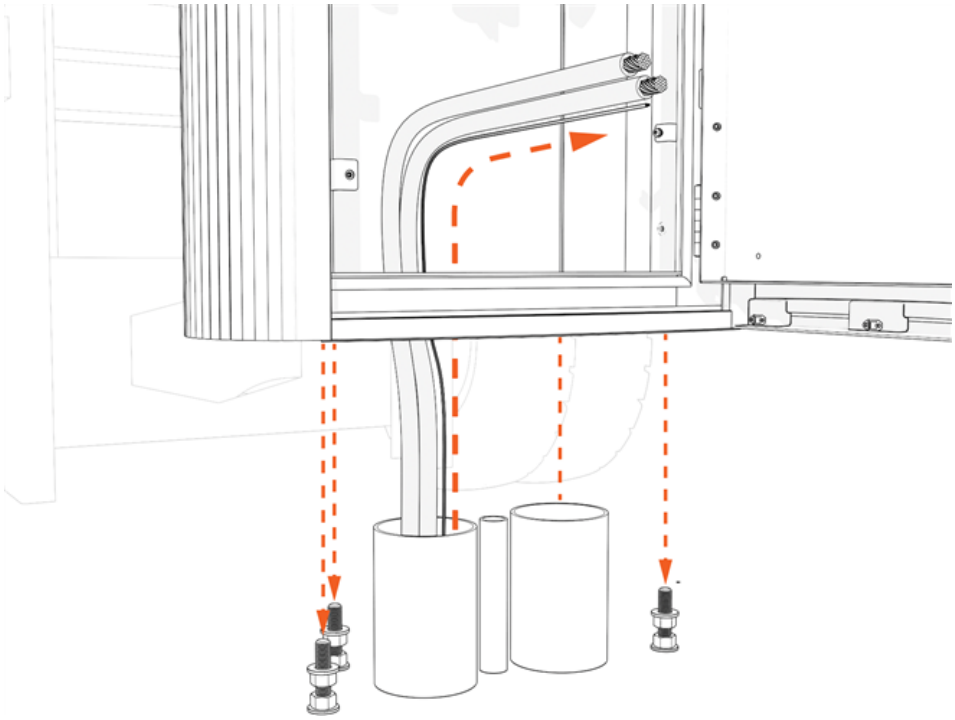
3. Move and suspend the Power Link 1000 above the concrete pad. Keep it elevated.



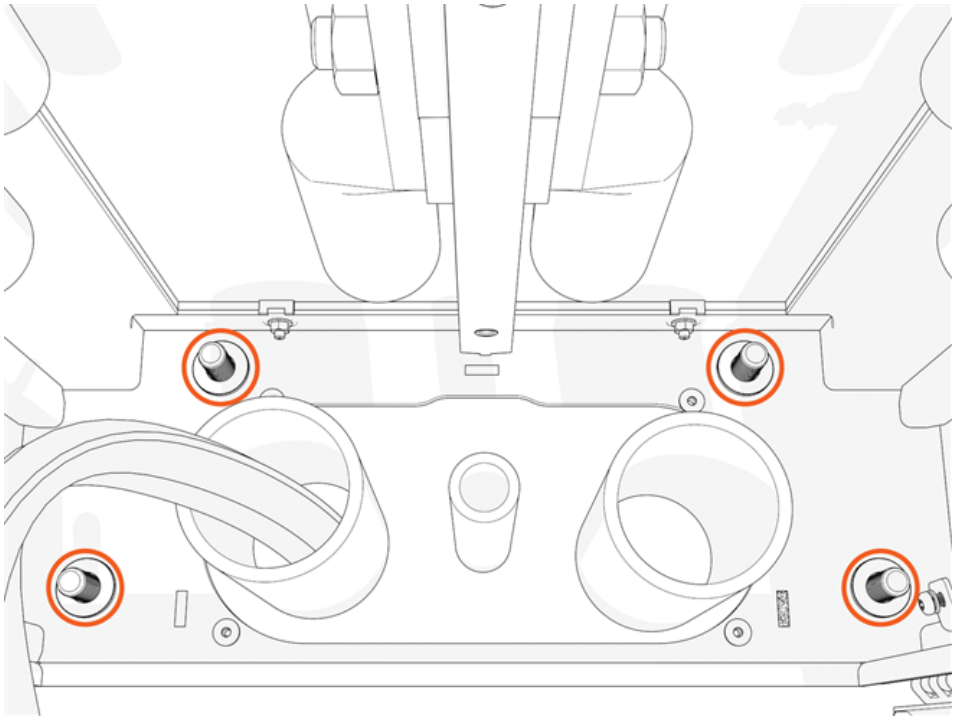
4. Loosen screws to open the lower door again. Engage the wind stops.



5. Route wiring through the bottom.

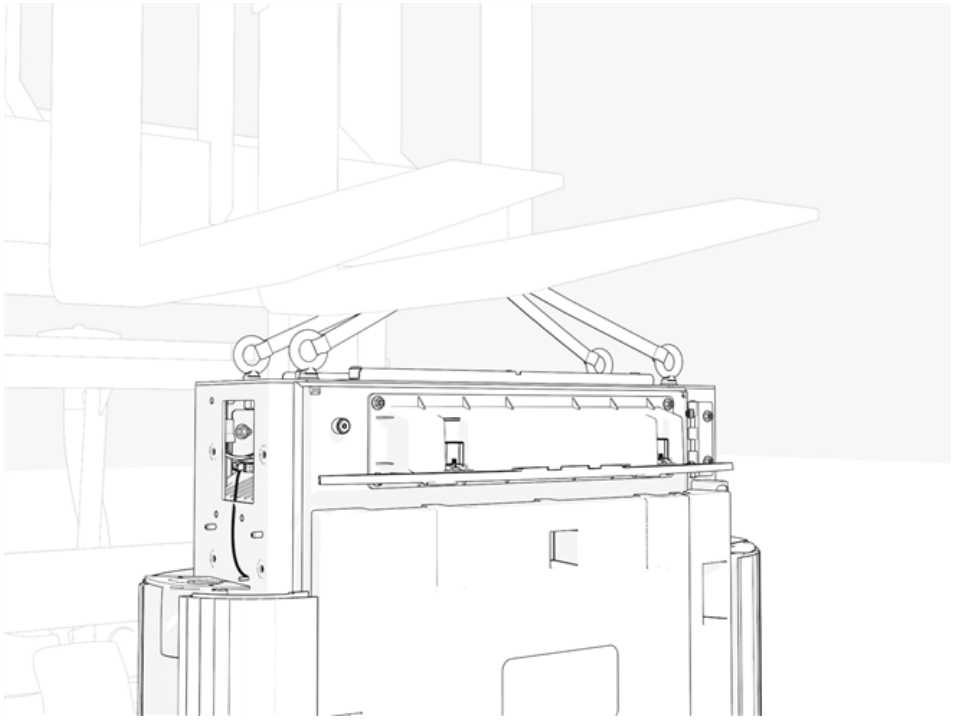


6. Align the holes with the anchor bolts.

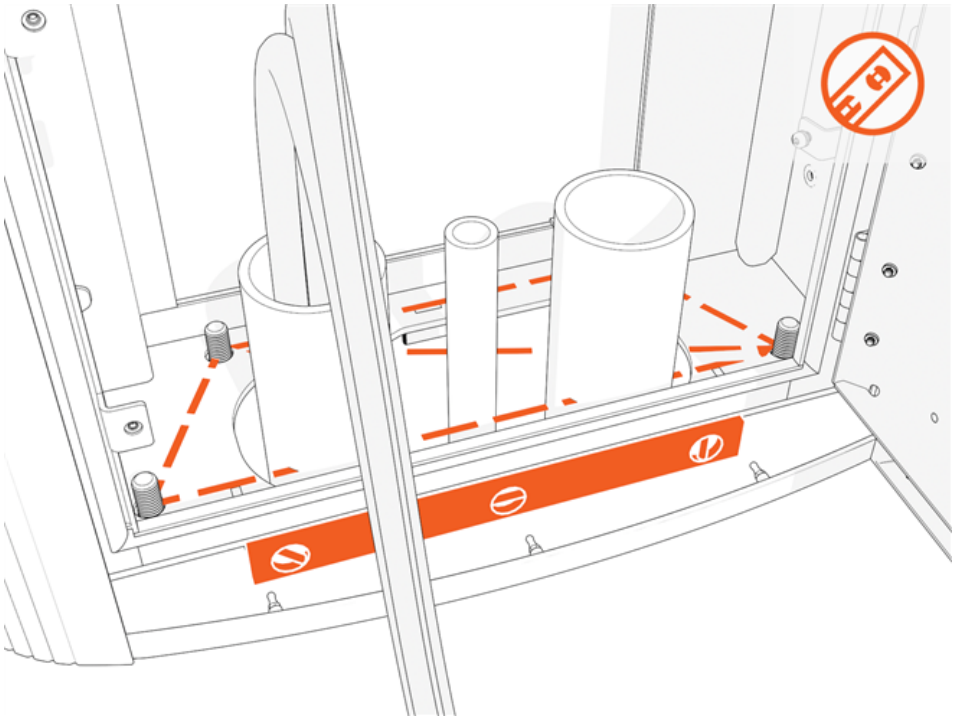


7. Slowly move the Power Link 1000 down onto the anchor bolts. Provide slack to the lift straps, but keep them attached.

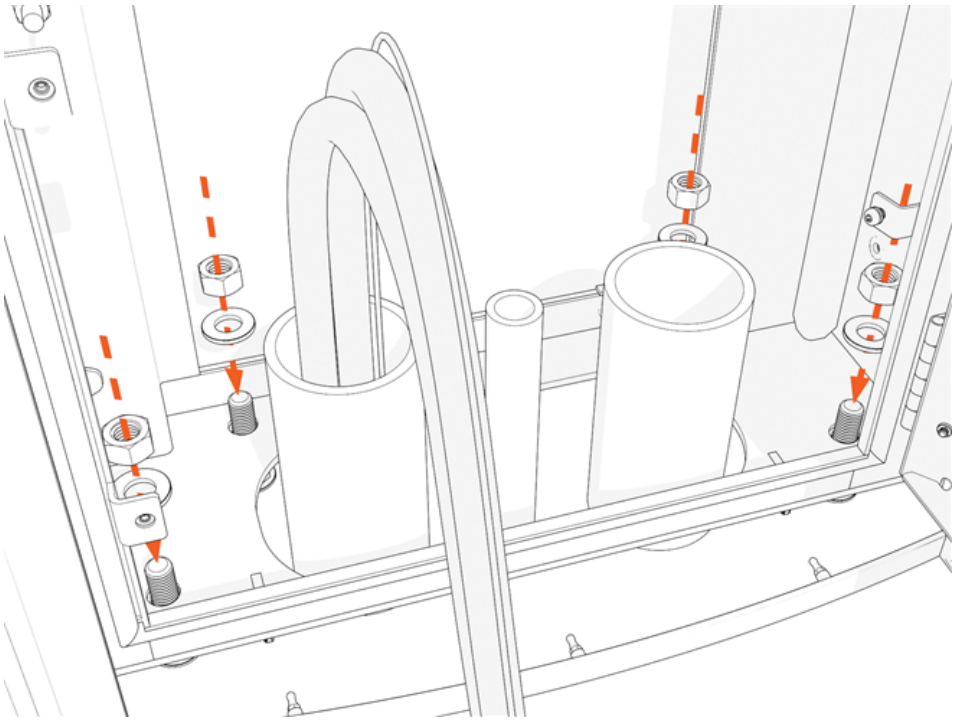
   Note: Continue to pull wiring through bottom.



8. When the Power Link 1000 is fully seated, check that all sides are level (vertically and horizontally). If not, adjust three leveling nuts.

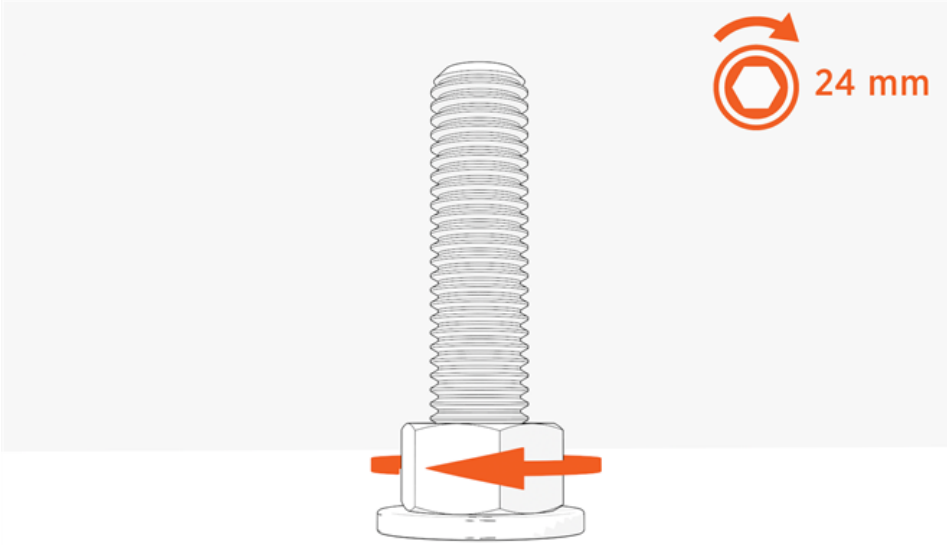


9. Partially install a washer and "top" nut onto each bolt by hand.
   Note: Do not tighten yet.

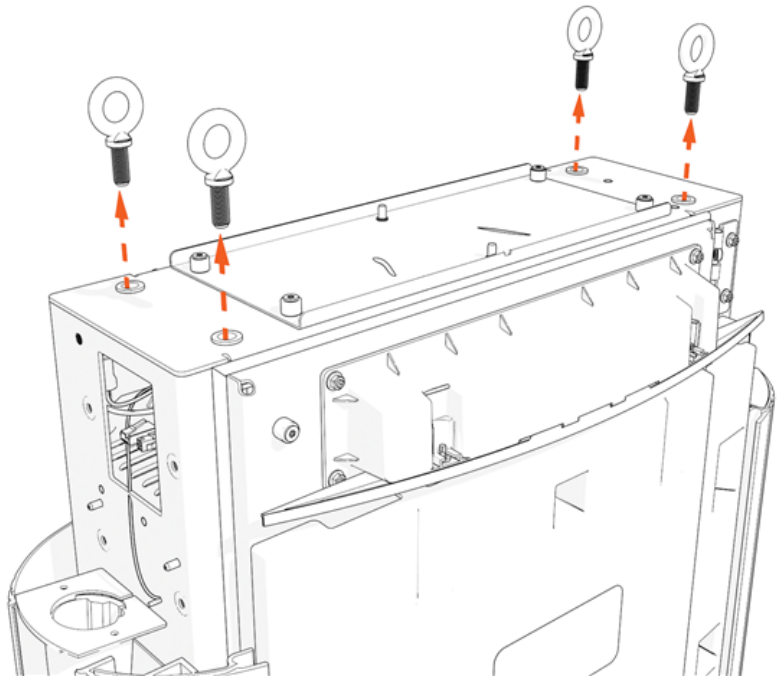


10. Recheck and adjust three leveling nuts.
11. When Power Link 1000 is level, rotate the fourth leveling nut until flush.

12. Torque the top nuts to 95 Nm (70 ft-lb).



13. Remove the lift straps and eye bolts.

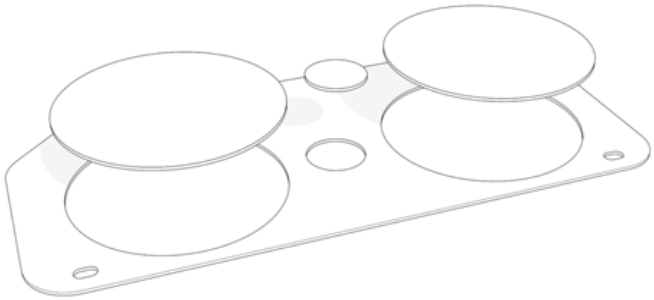


Gland Plate

To create openings in the gland plate, complete the following steps:

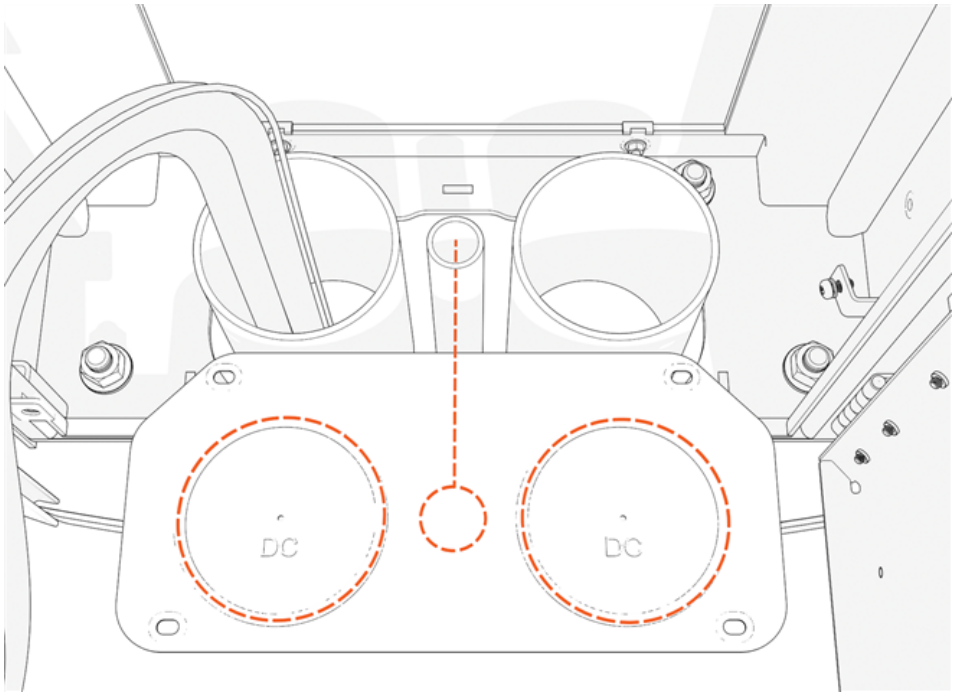
1. Check site drawings. Use a hydraulic hole punch to create openings in the gland plate for those conduits:

a. DC input conduits i. Check for *one or two* DC conduits. ii. Use the gland plate pilot holes as a guide. iii. Punch out *one or two* larger openings.	b. 48 V DC and Ethernet conduits i. Check for *one, two, or three* conduits (middle of gland plate). ii. Punch out *one, two, or three* smaller opening(s).



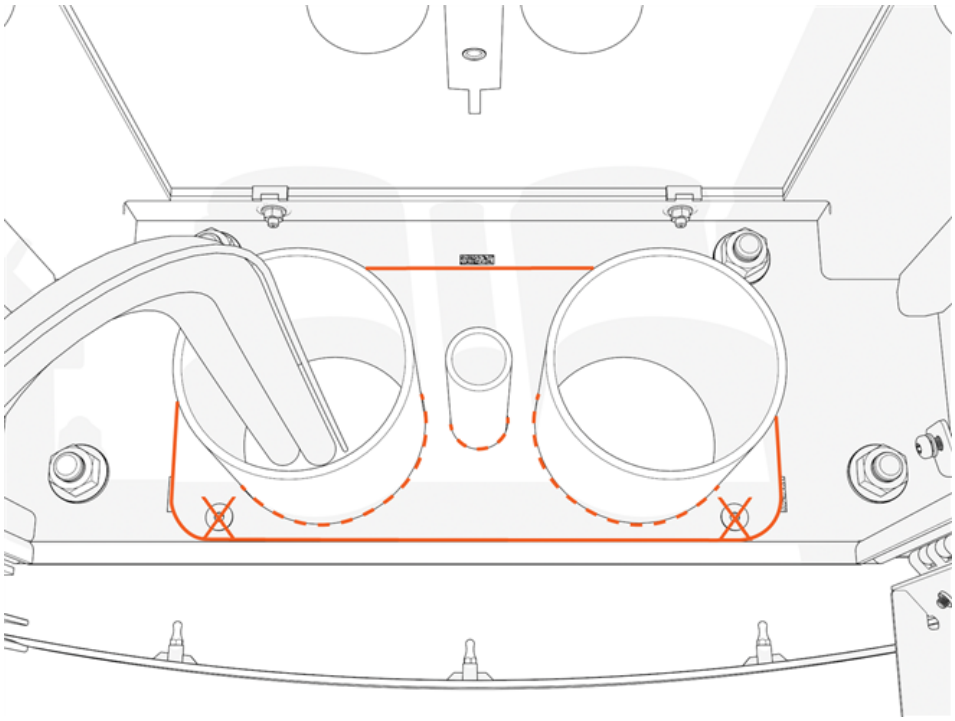
Note: You may have a different number of conduits.

2. Match the size of each conduit. Each opening must be large enough for the entire conduit to pass through.



3. Reposition the gland plate. Pull all conductors through the openings.

IMPORTANT: Do not reinstall the gland plate screws yet.



Connect Wires (Standard Pedestal)

To connect wires, complete the following steps:

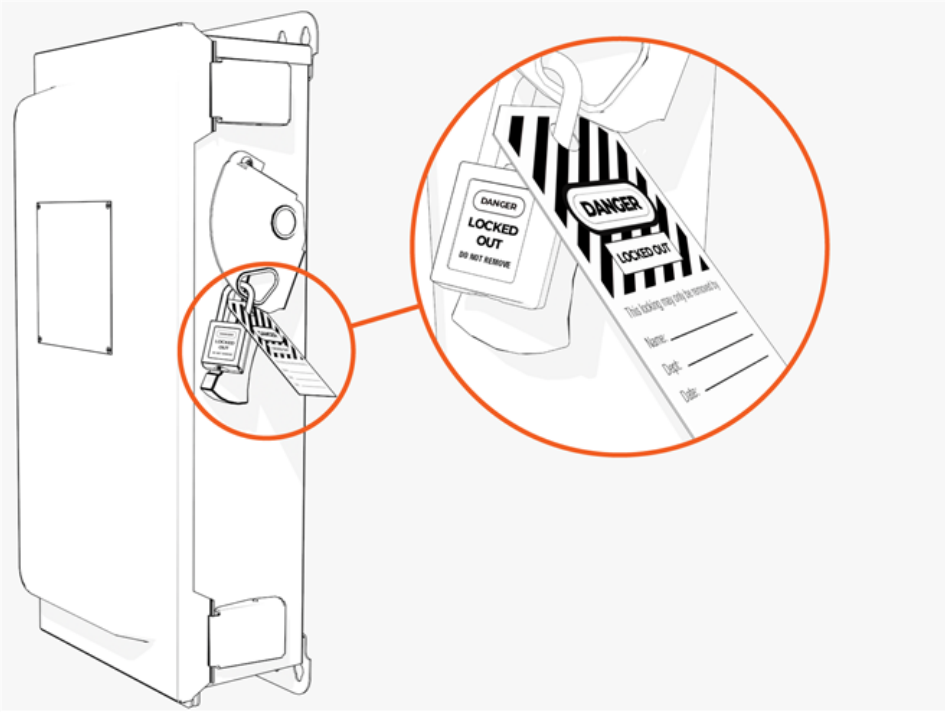
DANGER: RISK OF SHOCK

- Before any procedure, disconnect the power.
- Follow local code and site lockout/tagout procedure to de-energize the station.
- Wait for energy to dissipate (approximately five minutes).
- Keep power off until all covers and panels are reinstalled and the work is complete.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

1. Disconnect power at the site electrical panel.

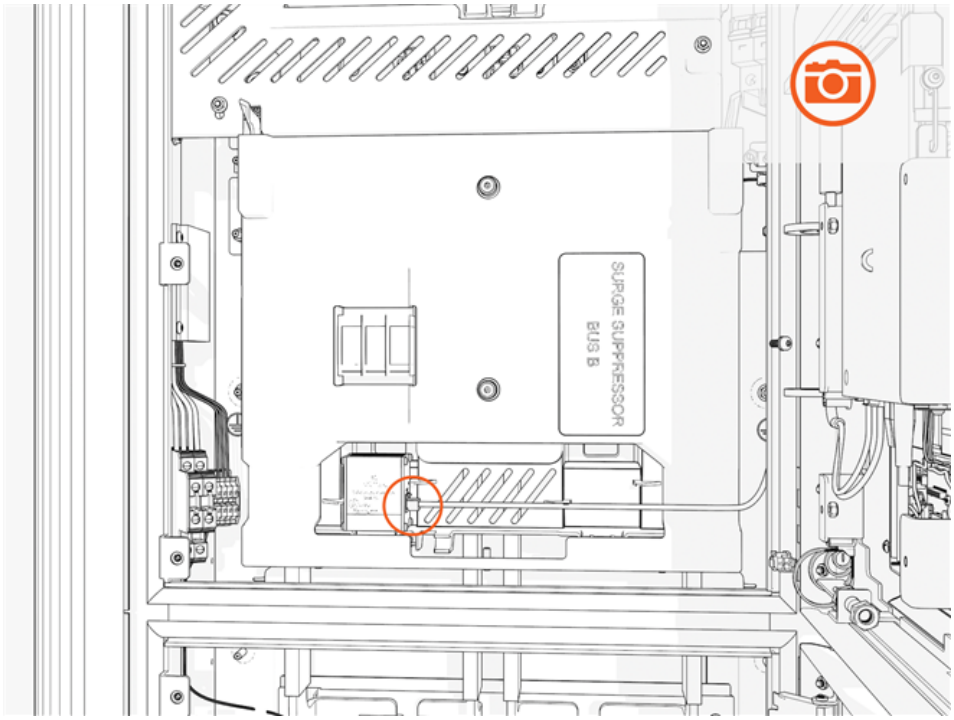
   Note: Follow standard practice and local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding.



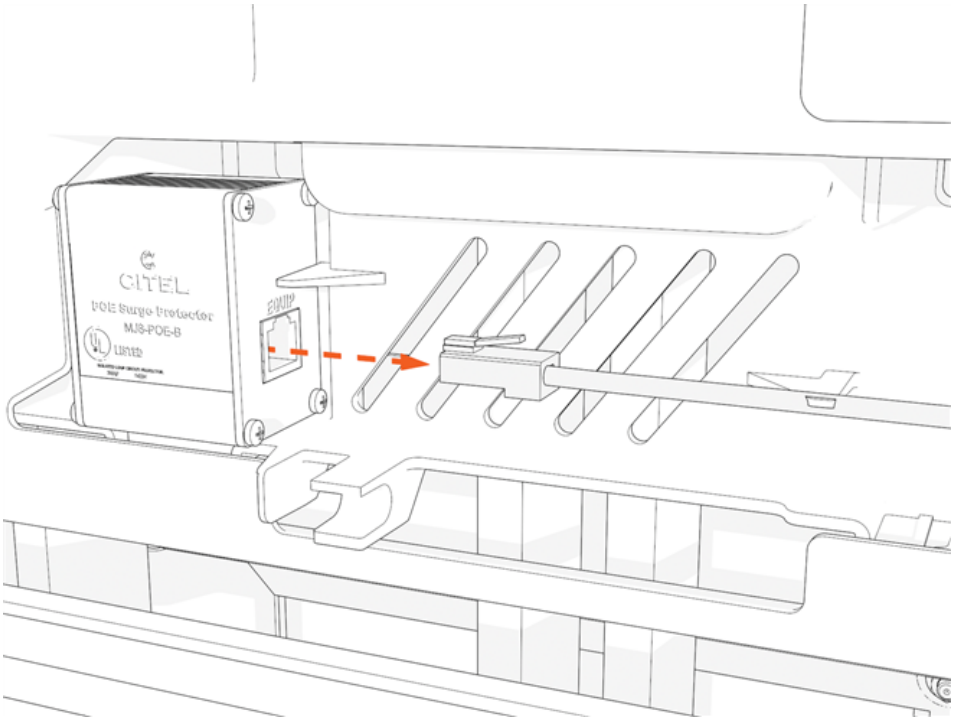
2. Use a multimeter to test that the unit is de-energized.

IMPORTANT: The upper and lower bus bar plates look similar. Both sets are inscribed (A-, A+ [single] or A-, A+, B-, B+ [dual]) and have lug nuts preinstalled.

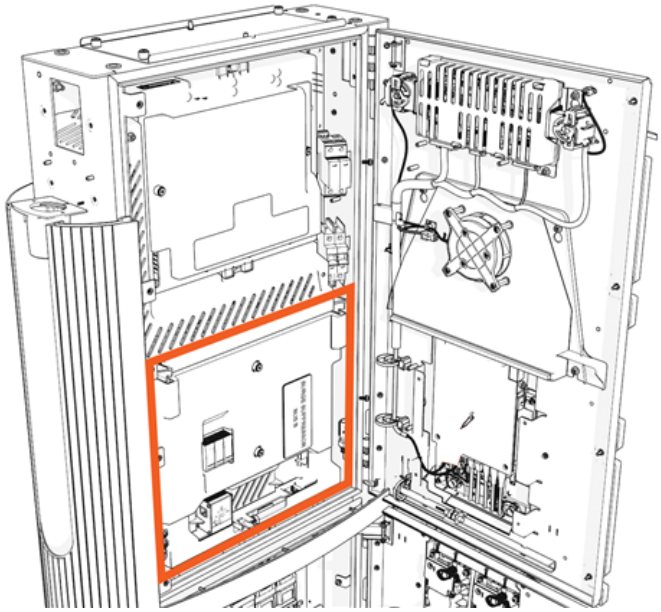
3. Disconnect the Ethernet cable from the Ethernet surge suppressor.



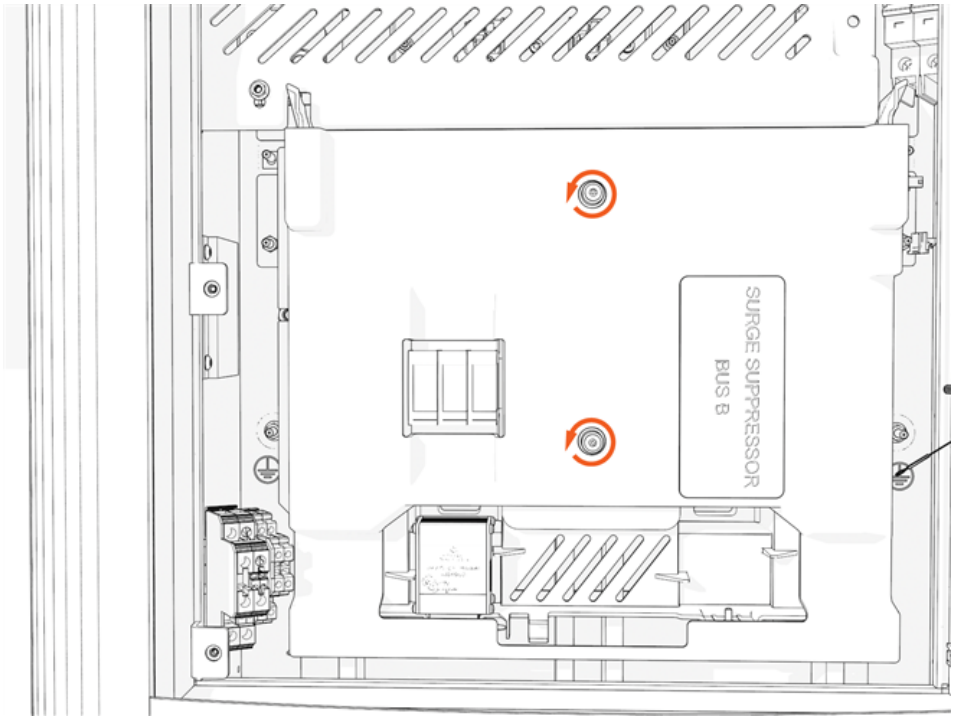
Note: Take a photo or note to identify which port later.



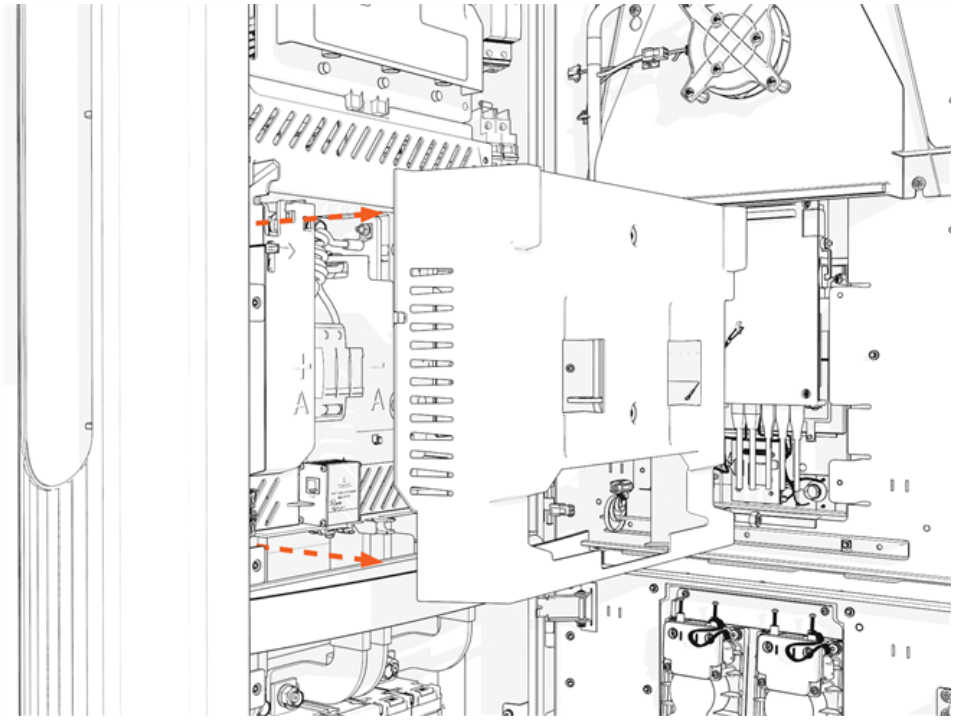
4. Access the upper bus bars.



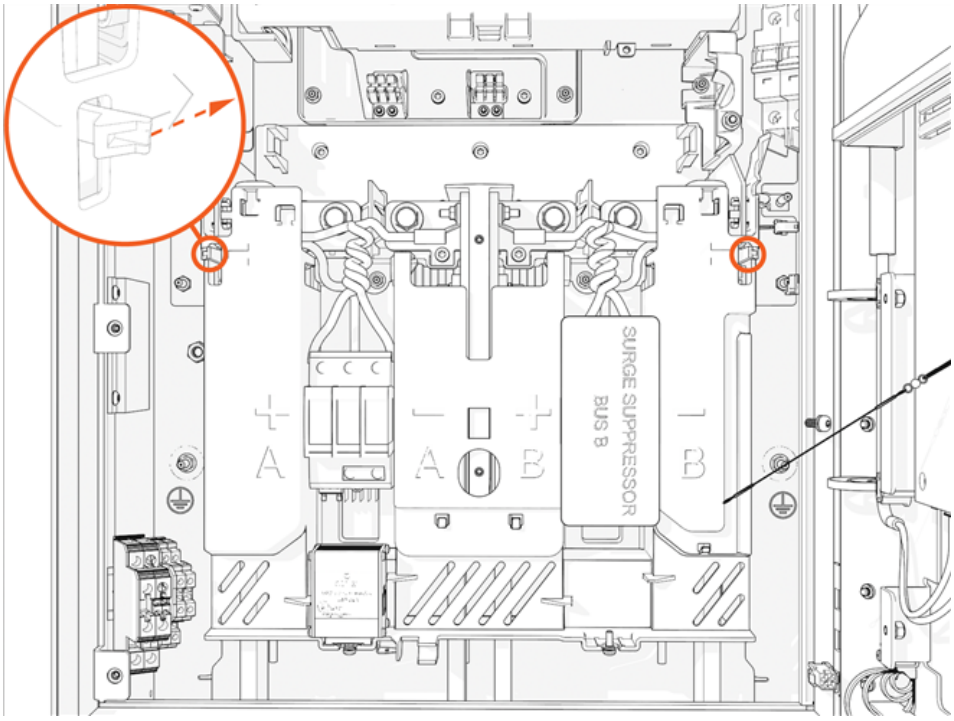
5. On the power plate cover, loosen the captive screws.



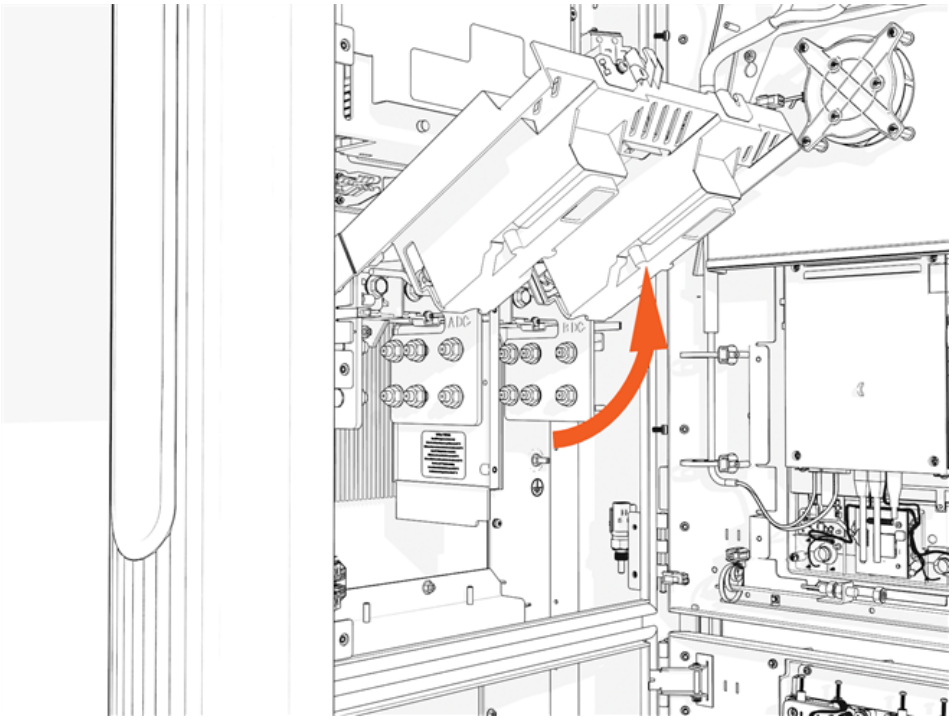
6. Remove the cover.



7. Release the tabs on the upper safety cover.



8. Lift up from the bottom until it locks in the open position.



Install DC Conductors and Lugs, and Ground Wire

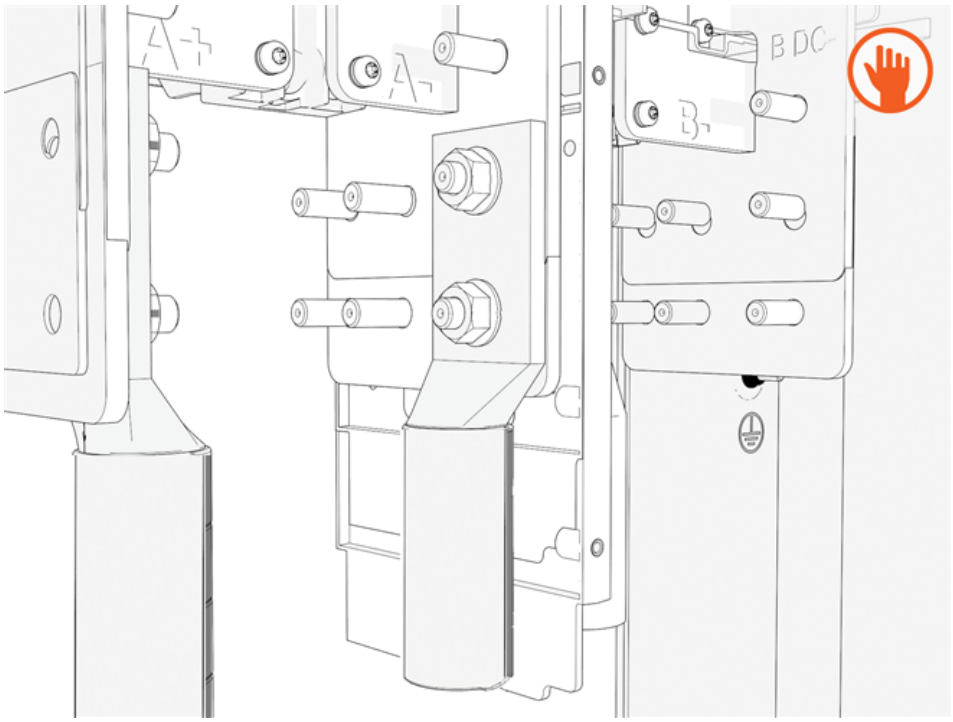
To install DC Conductors and Lug, and Ground Wire, the follow the instructions below:

1. Ensure you have de-energized the applicable circuit and locked out/tagged out the disconnect according to standard practice and local code before proceeding.
2. Use a multimeter to test that power is off.
3. Route all conductors into the correct area within the cabinet.

Measure and Cut

1. Loosely install lugs only (without the conductors) onto bus bars. Hand-tighten.

   Note: Use included bolts, washers, and nuts



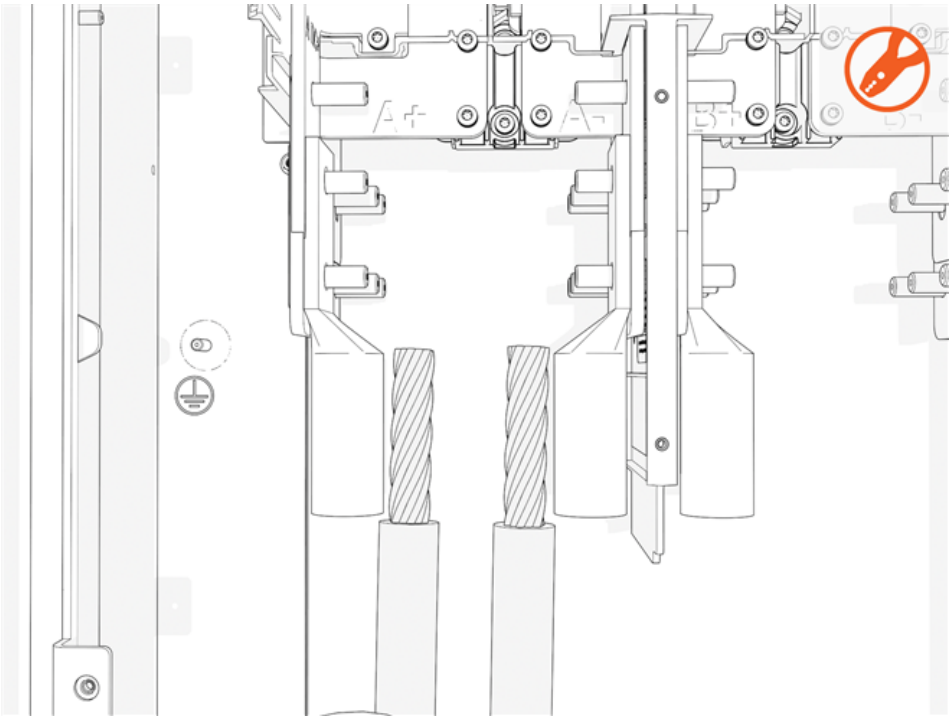
2. Measure the length from each conductor to its corresponding lug.

   Mark each conductor at the point where you will need to trim it.

   Note: DC bus bars are marked in order from left to right:

Single Input	Dual Input
A+ A-	A+ A- B+ B-

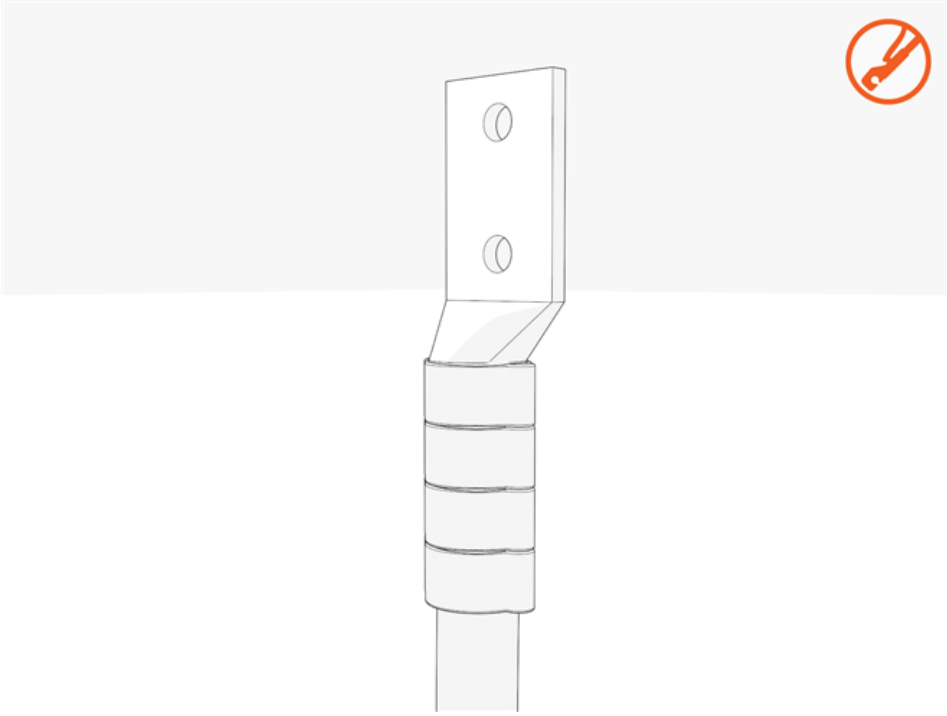
3. Strip and cut the conductors to the desired length.



DC Lugs

1. Uninstall the lugs. Crimp a lug onto each conductor.

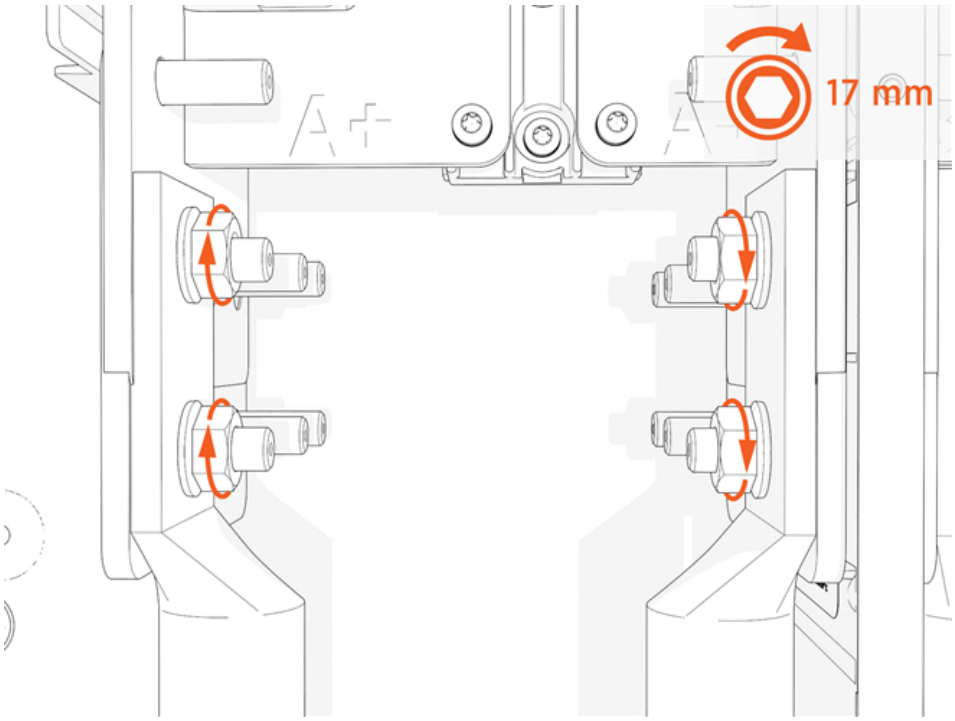
IMPORTANT: Use compression lugs with the specifications . Use the lug manufacturer's tool and die. If required, heatshrink or tape the crimp area to meet local code.



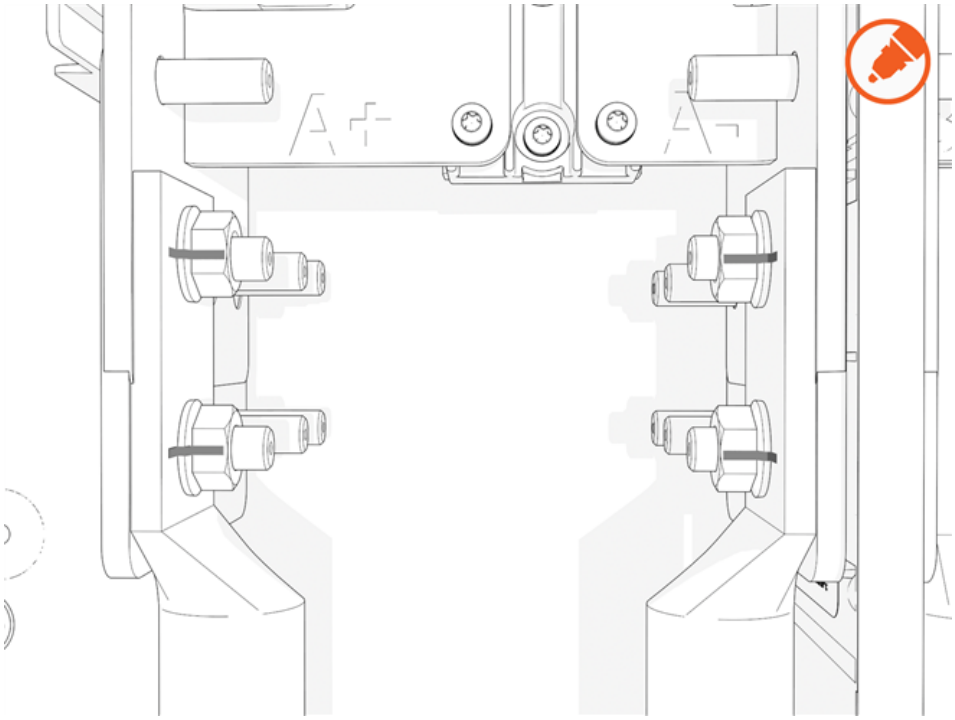
2. Land the DC lugs on the terminals. Torque nuts to 19 Nm (168 in-lb).

   Note: Fasteners are pretreated with dielectric grease.

   CAUTION: If using 500 kcmil conductors, you must use the back set of lugs to avoid interference with the surge suppressor panel.

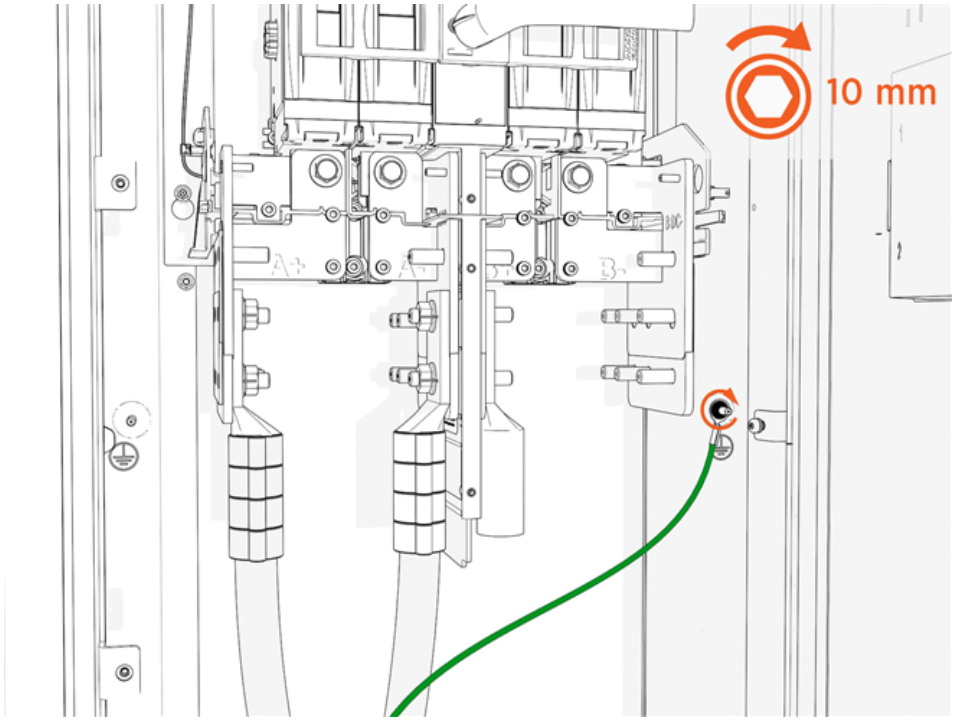


3. Mark all torqued power connections.

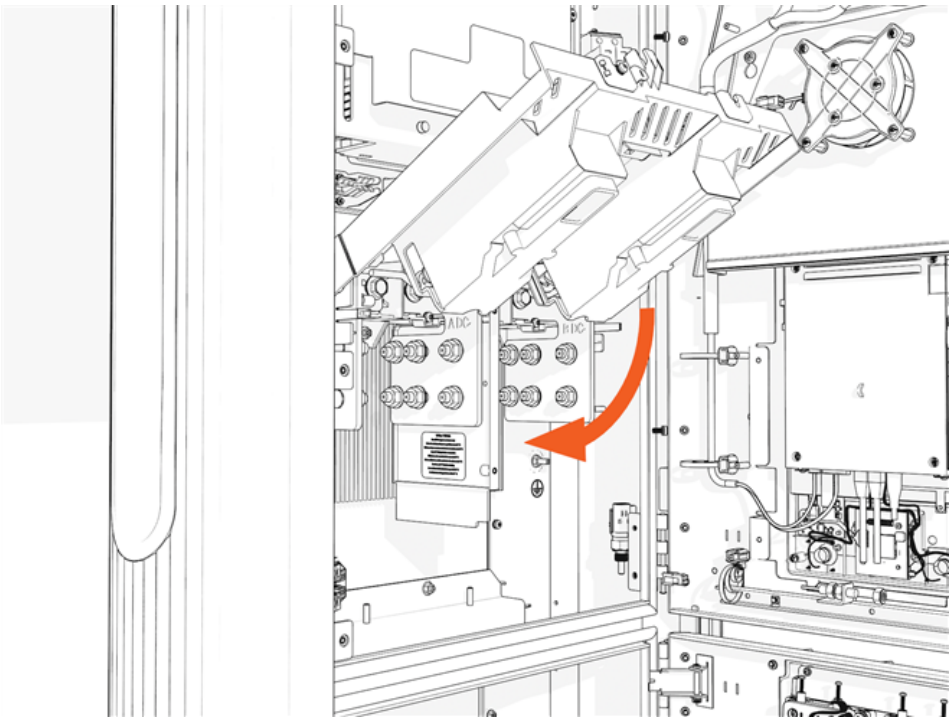


DC Ground Wire

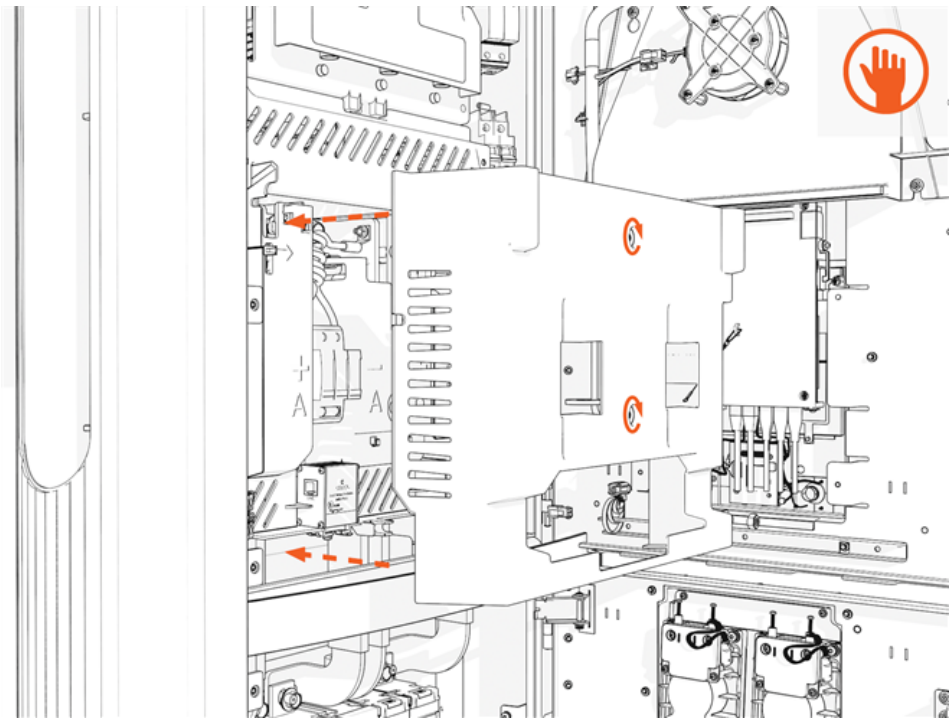
1. Land the ground wire onto a ground stud. Torque to 7 Nm (60 in-lb).



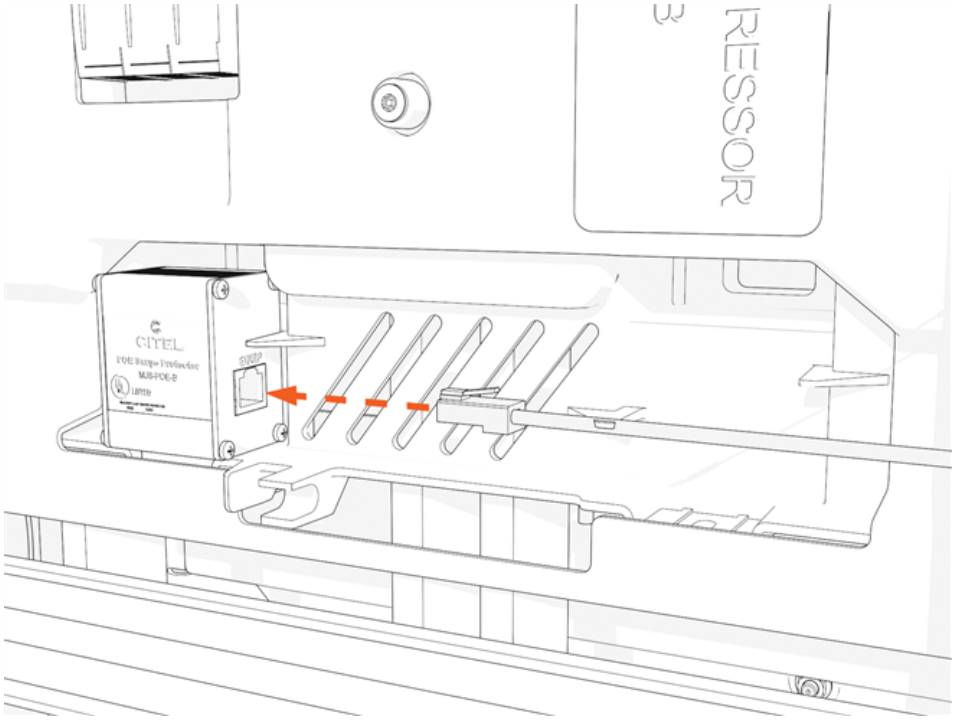
2. If you are installing the "Overhead" Mounted configuration:
   Tilt down the upper safety cover to close.



3. Position the power plate cover. Hand tighten the captive screws.



4. Reconnect Ethernet cable(s) to Ethernet surge suppressor into the same ports as before.

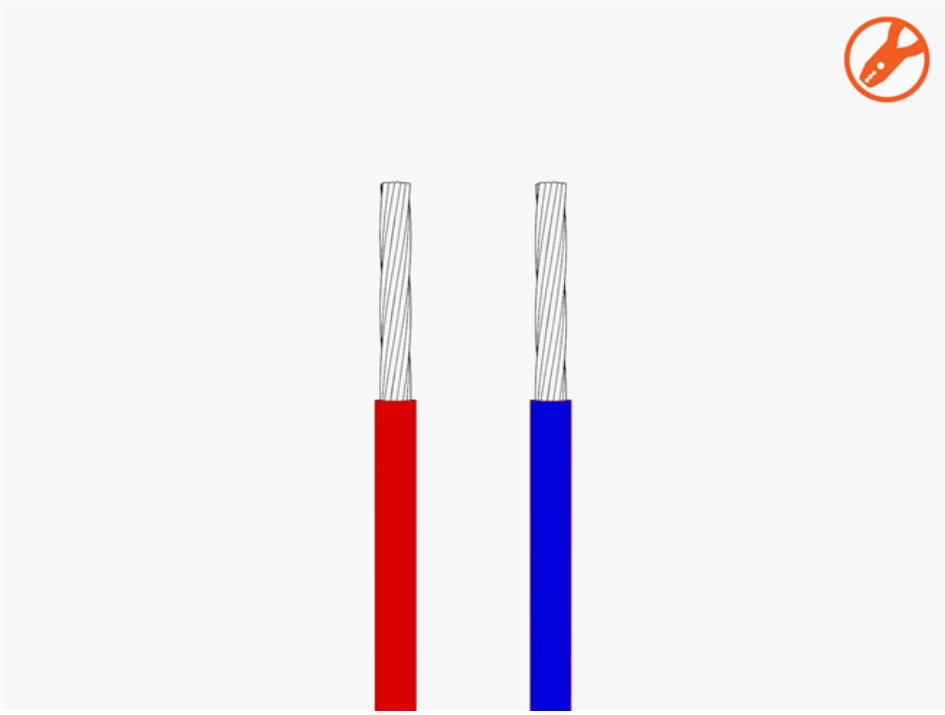


48 V DC Wiring

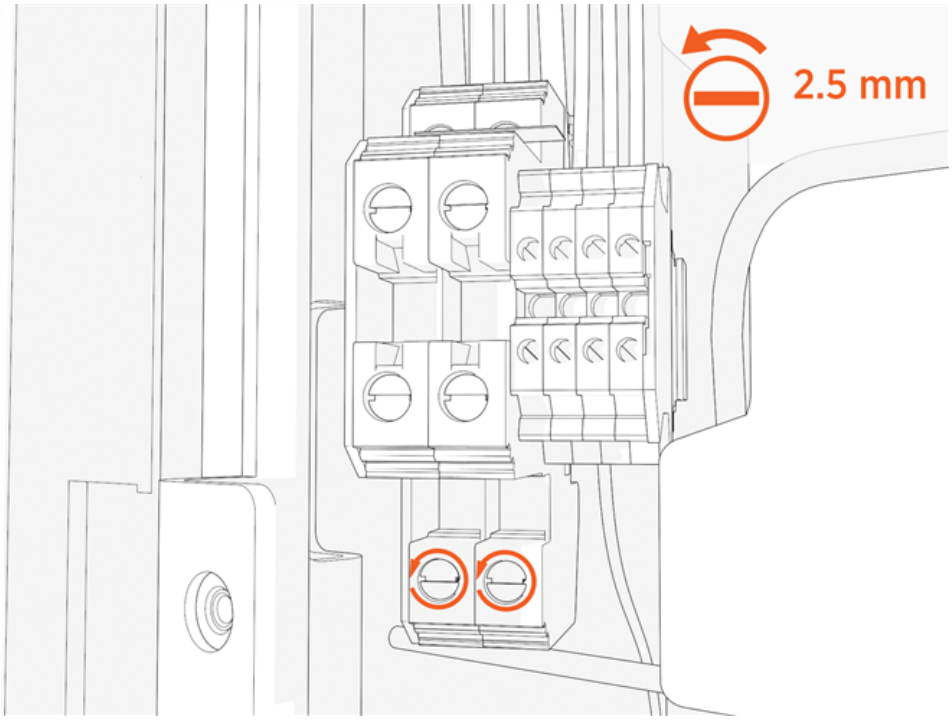
1. Check the 48 V DC wiring requirements in the site drawings:

48 V DC Wire Size	Conduit Size	Installation
16 mm^2 (6 AWG)	21 mm (3/4 in)	Install two 48 V DC wires and one Ethernet cable into one conduit.
Note: Use only copper conductor wire rated for 90 °C (194 °F).		

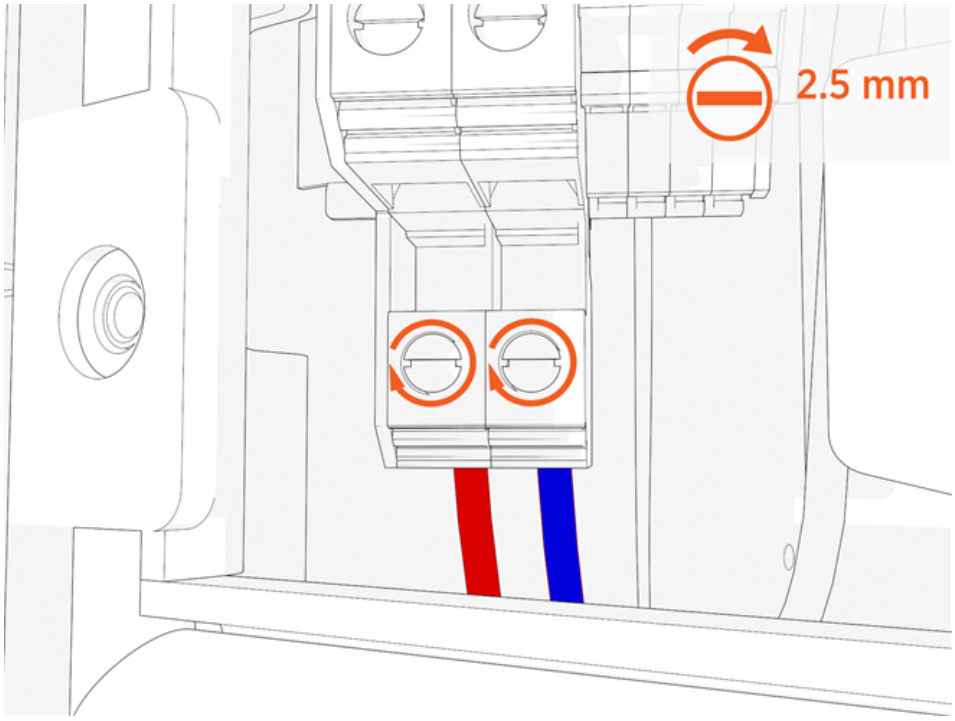
2. Strip the 48 V DC wires.



3. Loosen each terminal tab (upper cabinet, left side).

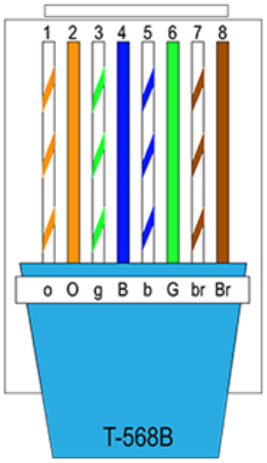


4. Seat the 48 V DC wires. Push-pull to test.



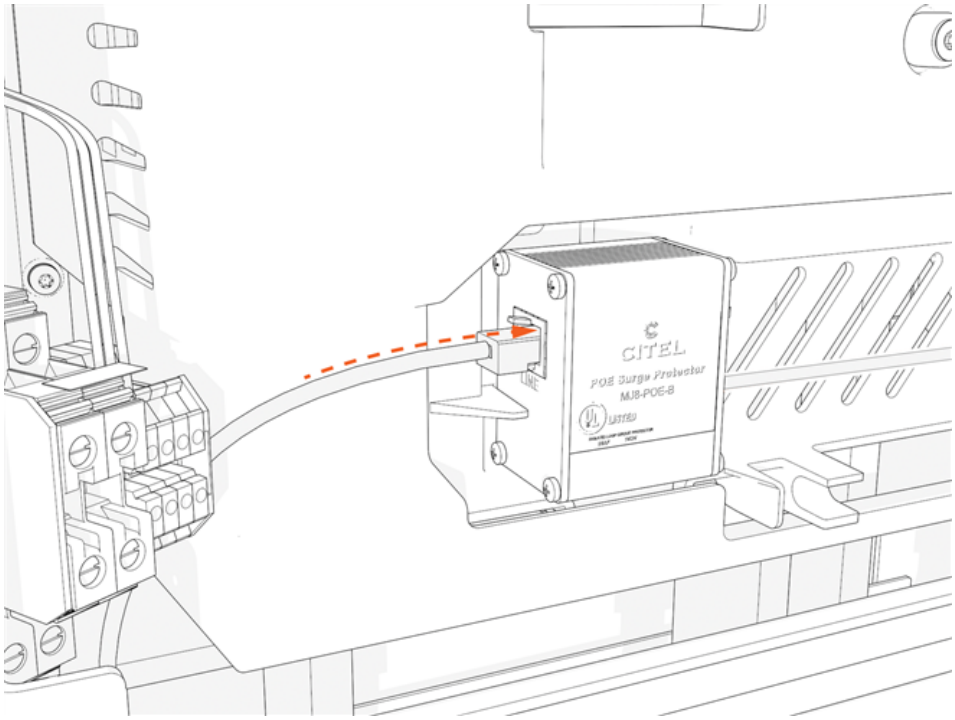
Cat6 STP Ethernet Cable

1. Trim the Cat6 STP Ethernet wires to length and allow for a service loop. Terminate both ends.
2. Field crimp a shielded connector onto each Cat6 STP Ethernet wire. Use a straight-through T568B pattern.



IMPORTANT: Do not connect the shield wire here at the Power Link 1000 termination.

3. Test each Ethernet wire for functionality.
4. Identify which blue surge suppressors already have cables in the line-out (right) positions. Connect the Ethernet connectors to those surge suppressors at the line-in (left) positions. Push-pull to test.



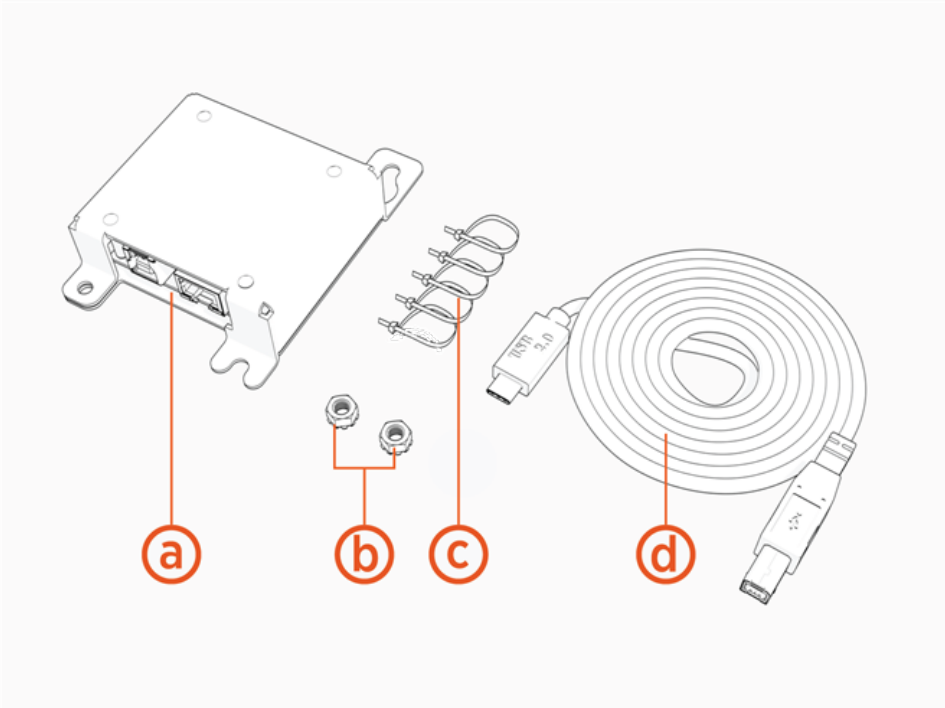
Install Ethernet to USB Kit

If the site plan indicates the Power Link 2000 must be configured with a hardwire Ethernet connection to a network server, follow procedures in this section to install the Ethernet to USB Kit and the hardwire connection.

Mount Ethernet to USB Module

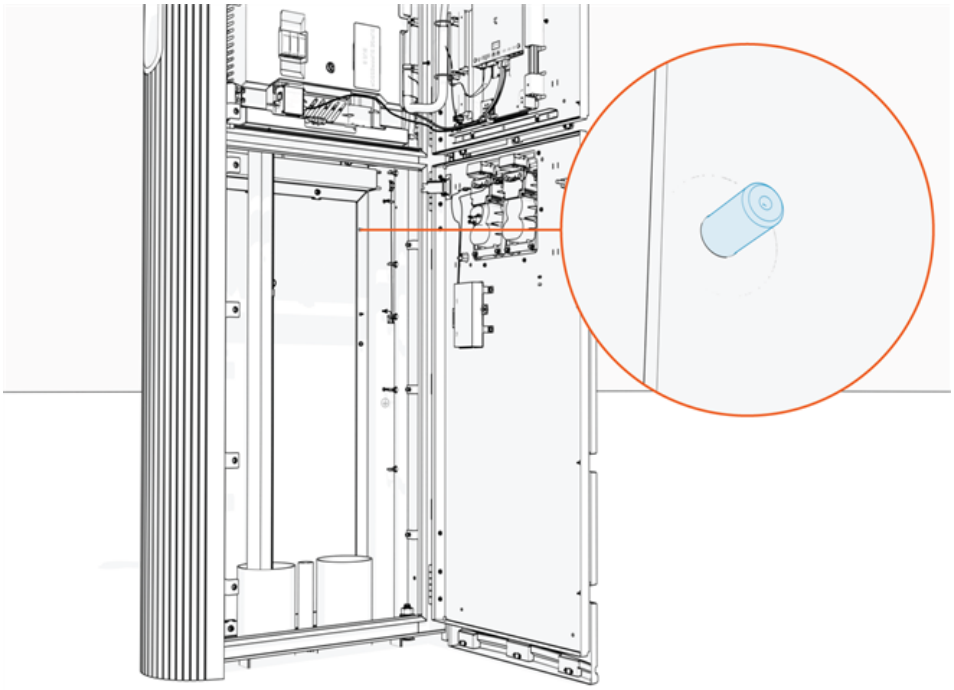
To mount Ethernet to USB module, complete the following steps:

1. Unpack the Ethernet to USB Kit. Confirm all parts listed below are present.
   Note: For any missing component, contact ChargePoint support.

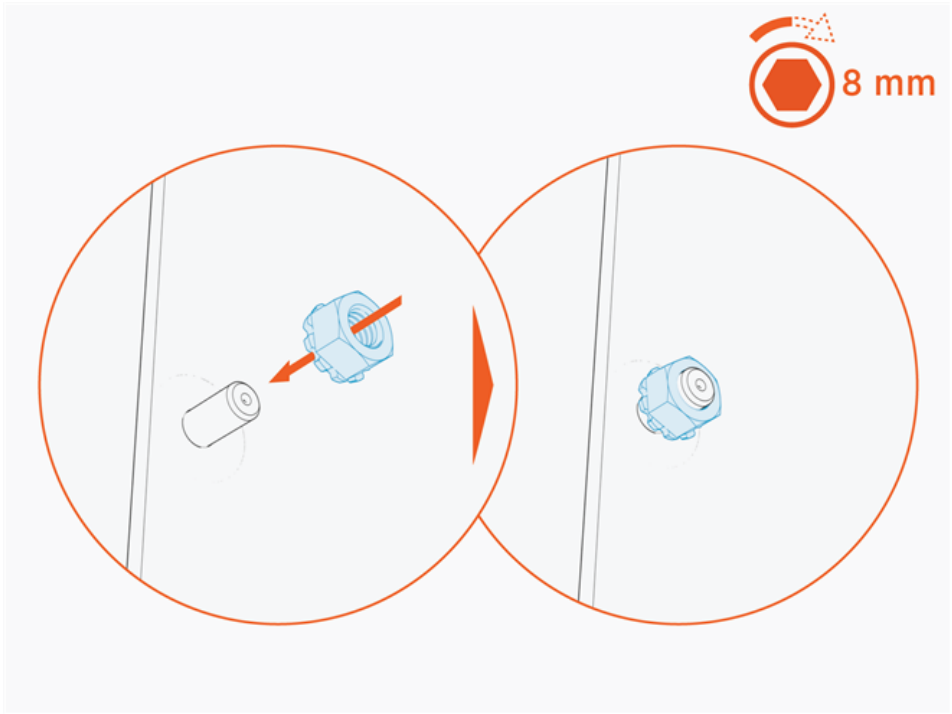


(a) Ethernet to USB module
(b) M5 star washer nuts (x2)
(c) Zip ties (x5)
(d) USB 3.0 Type B to Type C cable

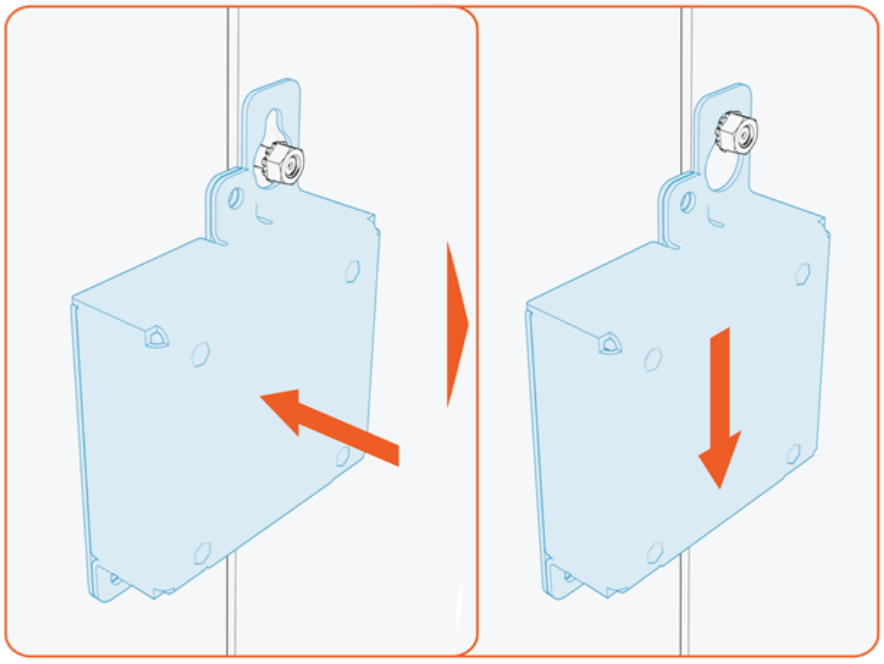
2. Locate a grounding stud on the Power Link 1000 frame.



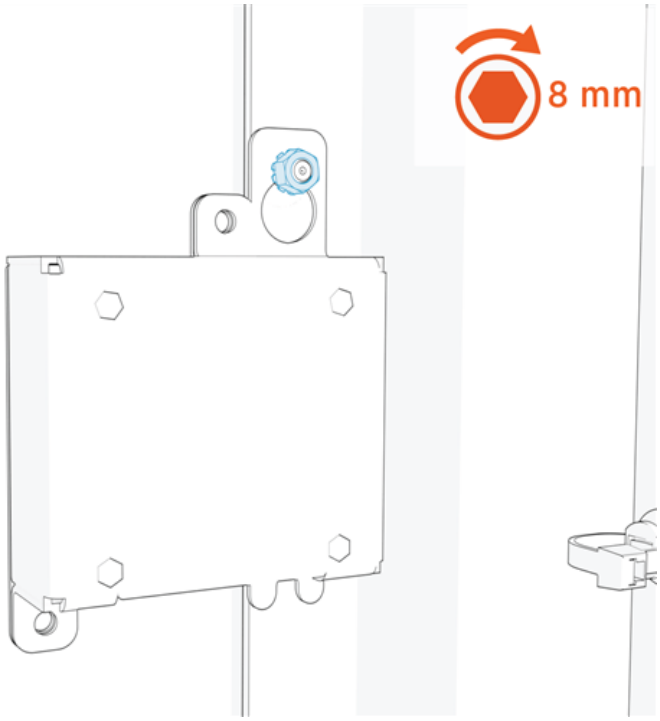
3. Install one of the provided M5 star washer nuts partially onto the stud. Thread the nut only halfway onto the stud.



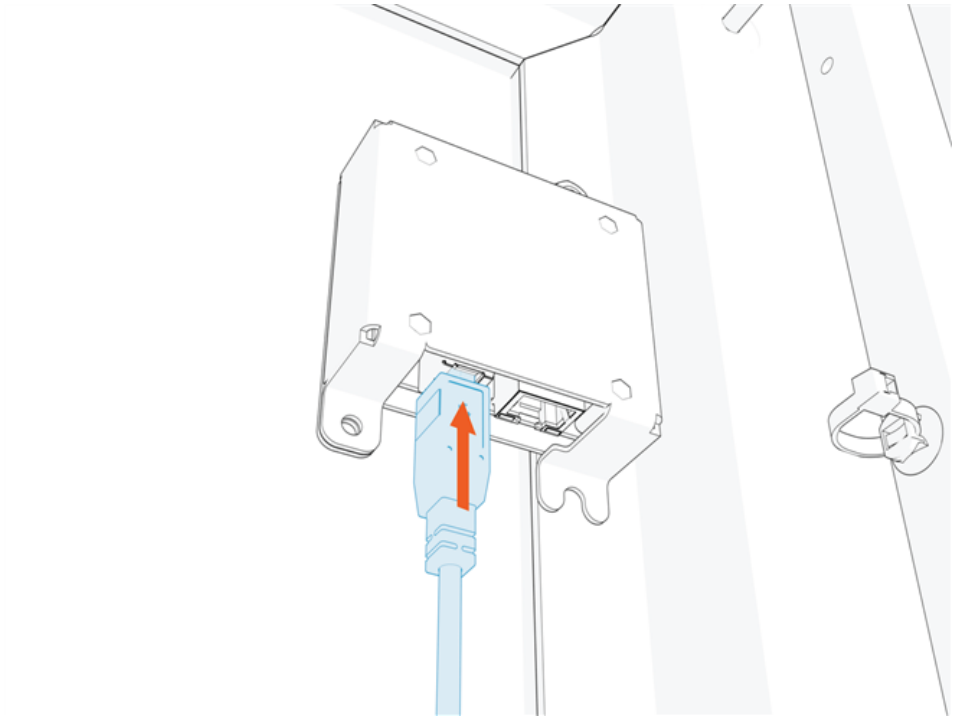
4. Mount the Ethernet to USB module onto the stud. Slide the module down to secure the keyhole tab to the stud.



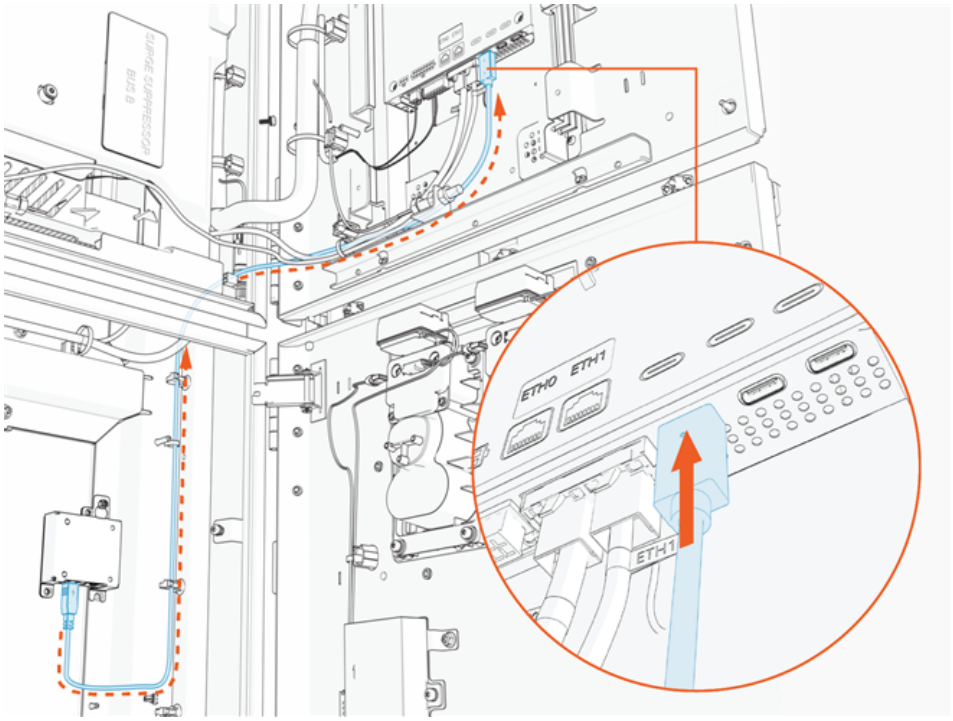
5. Torque the nut to 4.5 Nm (40 in-lb).



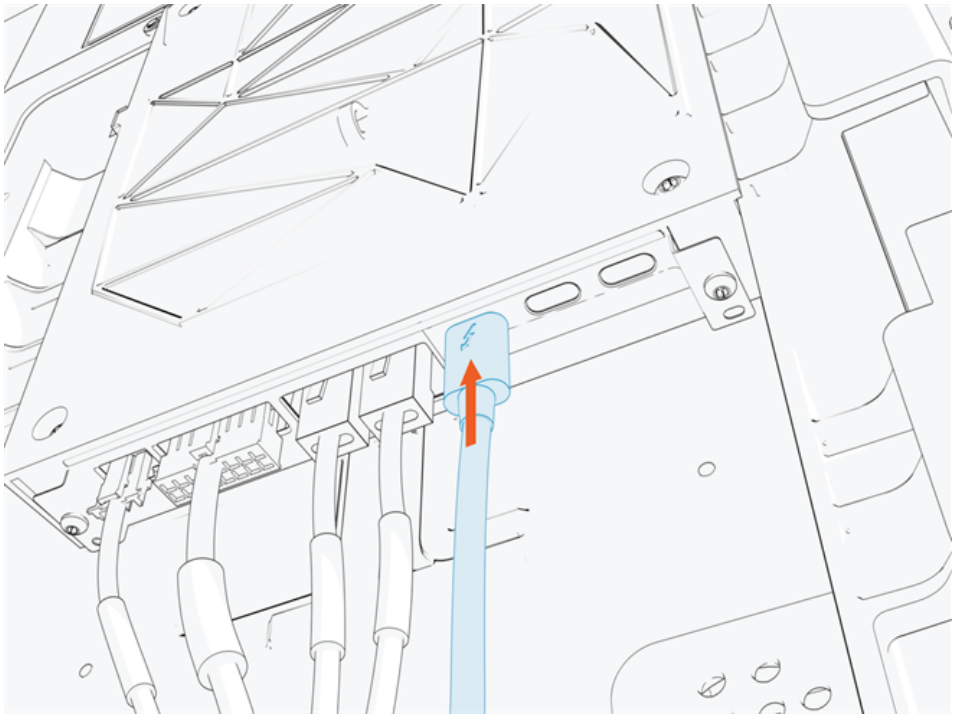
6. Plug the USB-B end of the USB cable into the module.



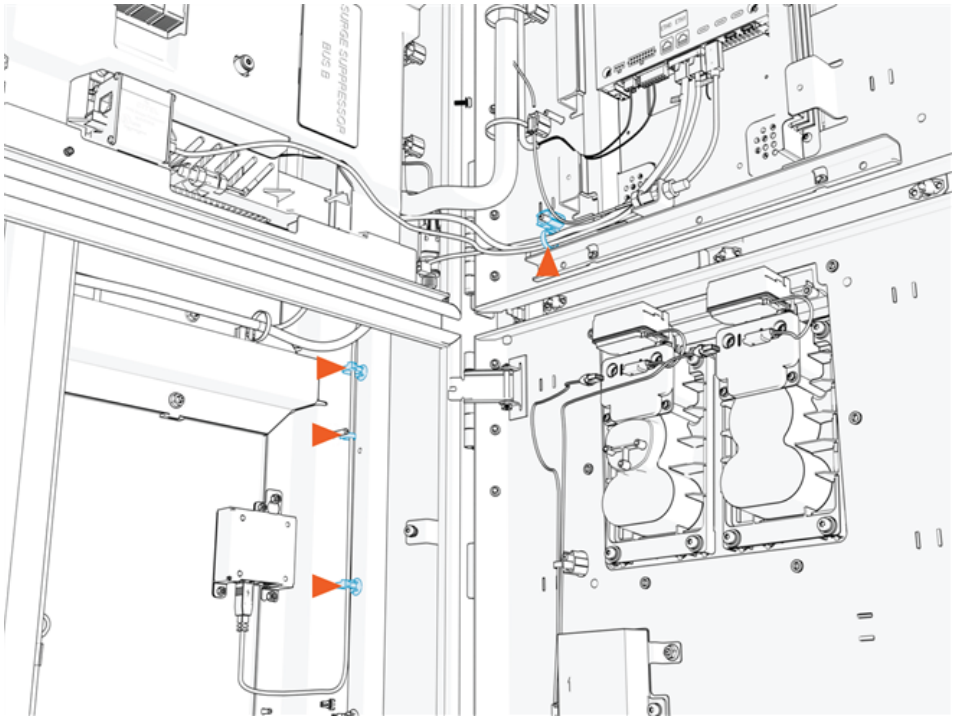
7. Route the cable through the door cable guide and along the main cable harness to the Control and Communication Module (CCOM) located on the upper front door.



8. Connect the cable to the CCOM.



9. Secure the USB cable to the existing cable tie guides.



10. If needed, use the provided zip ties to secure the USB cable to the main cable harness.

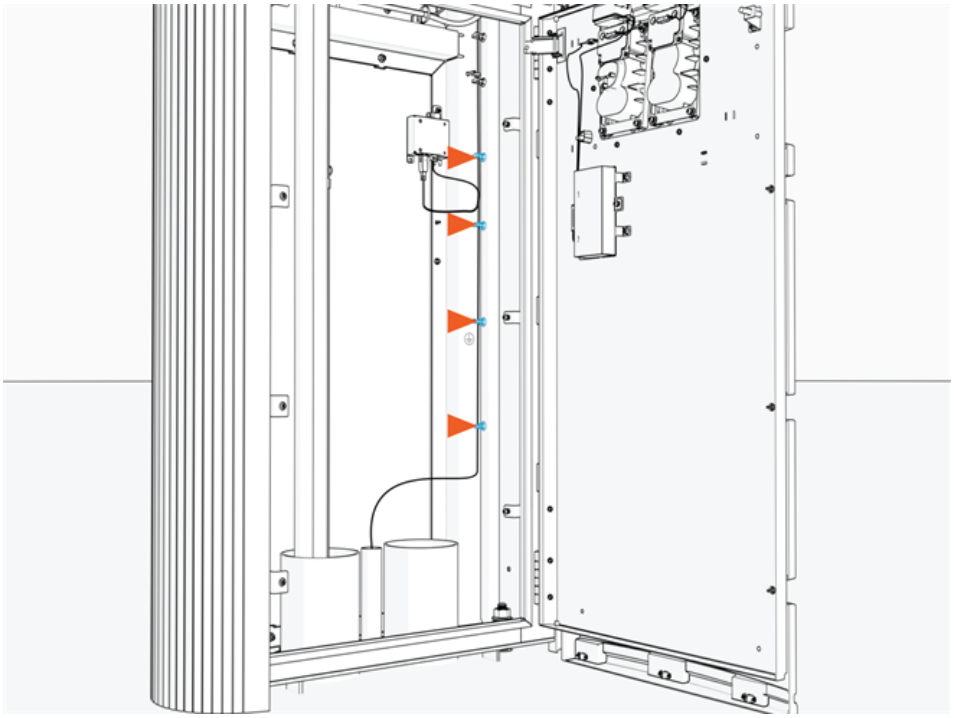
CAUTION:

- Ensure the door can open and close without pinching or pulling of any cables.
- Ensure the USB cable does not touch the HV DC wires when the door is closed.

Install Ethernet Cable

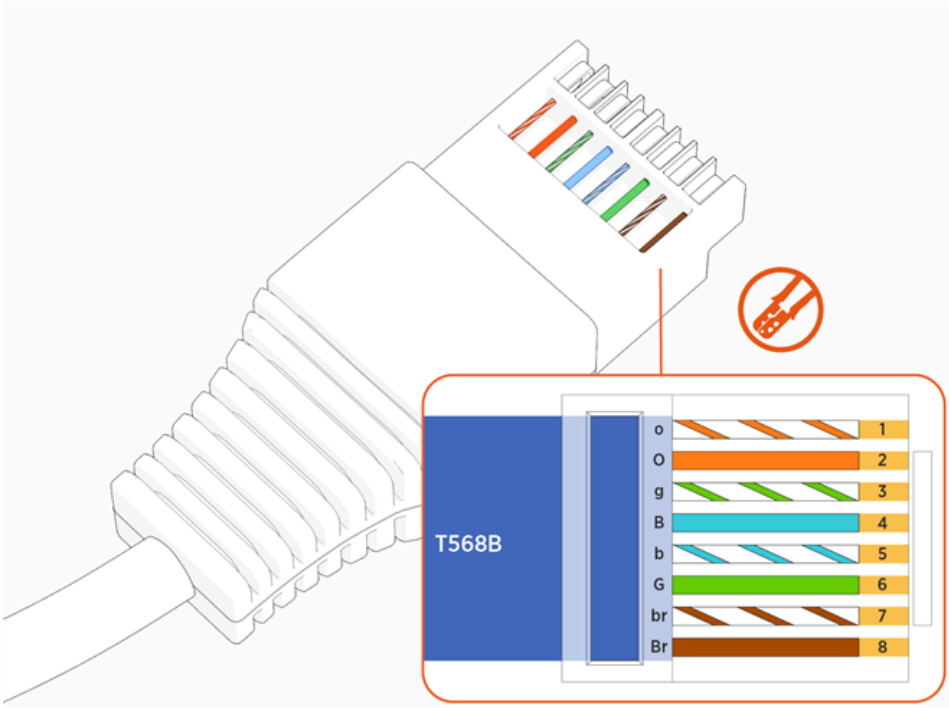
To install Ethernet cable, complete the following steps:

1. Pull the hardwire Ethernet cable into the enclosure and route it through existing cable guides to reach the Ethernet to USB module. Cut to length, allowing for a service loop.

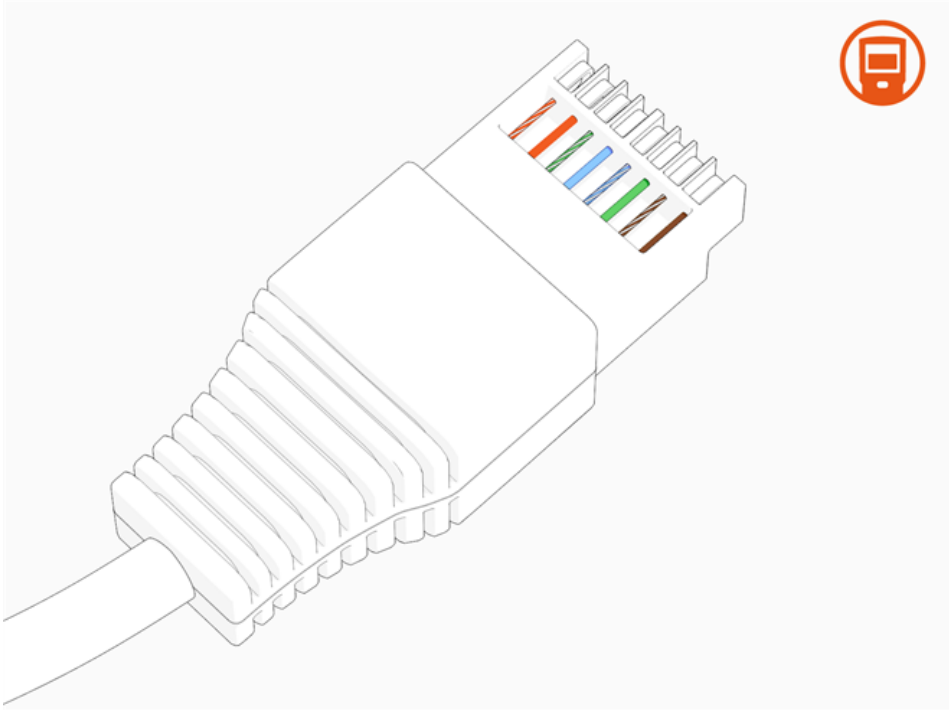


2. Field crimp an RJ45 connector onto the Ethernet cable. Use straight-through T568B pattern.

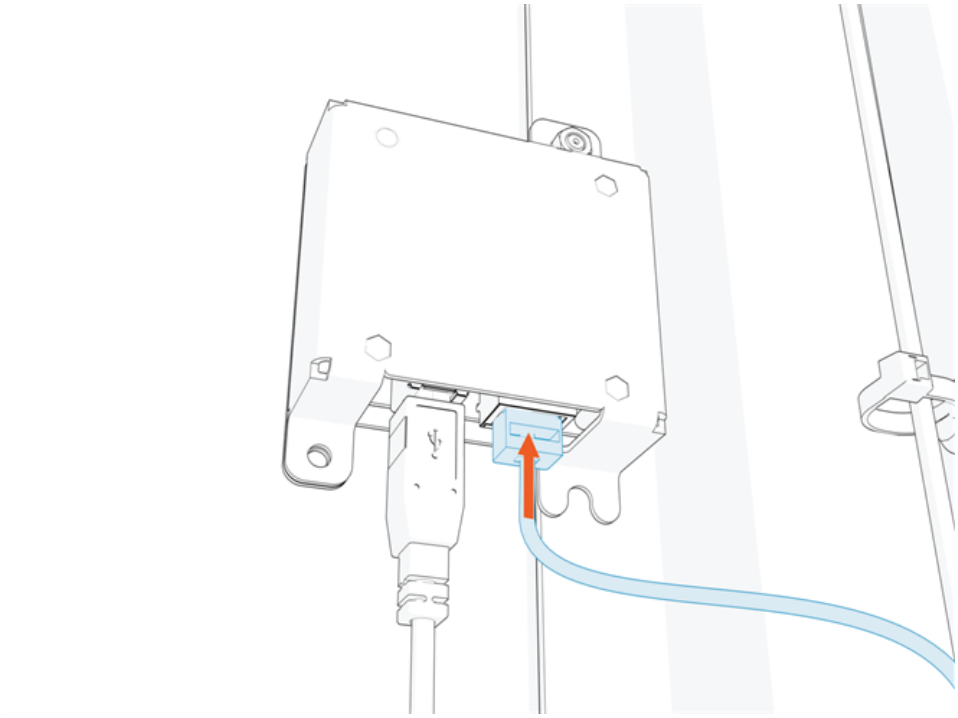
IMPORTANT: Do not ground the shield at this end of the Ethernet cable. Ground the shield at the end of the Ethernet cable that connects to the network server.



3. Test the Ethernet cable for functionality.



4. Connect the Ethernet cable to the Ethernet to USB module.



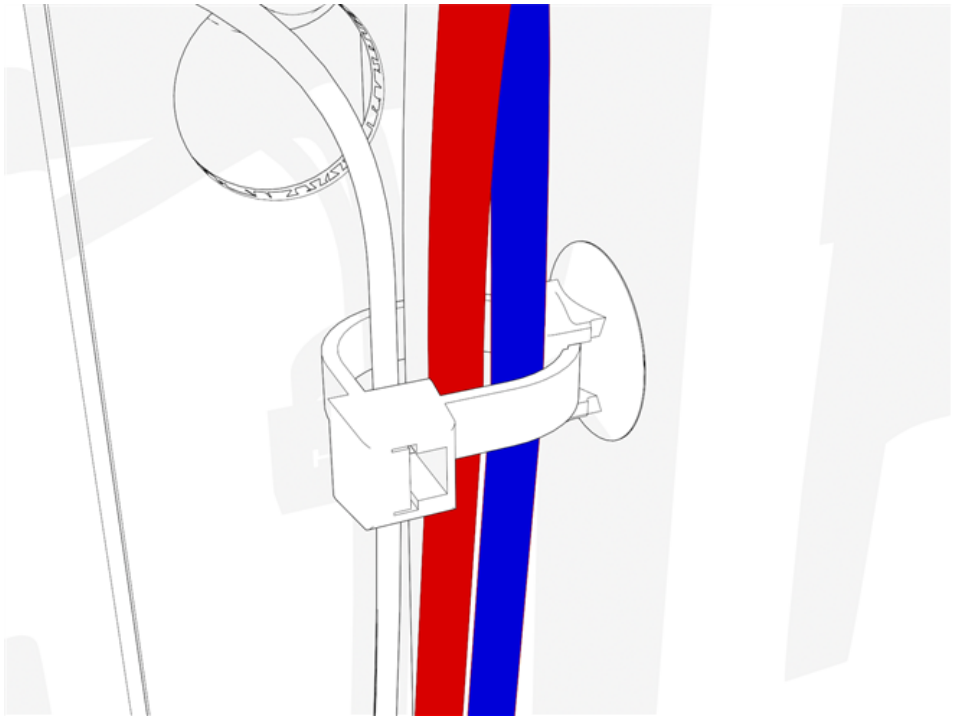
5. Route and plug the other end of the Ethernet cable into the network server.

Secure and Seal Gland Plate

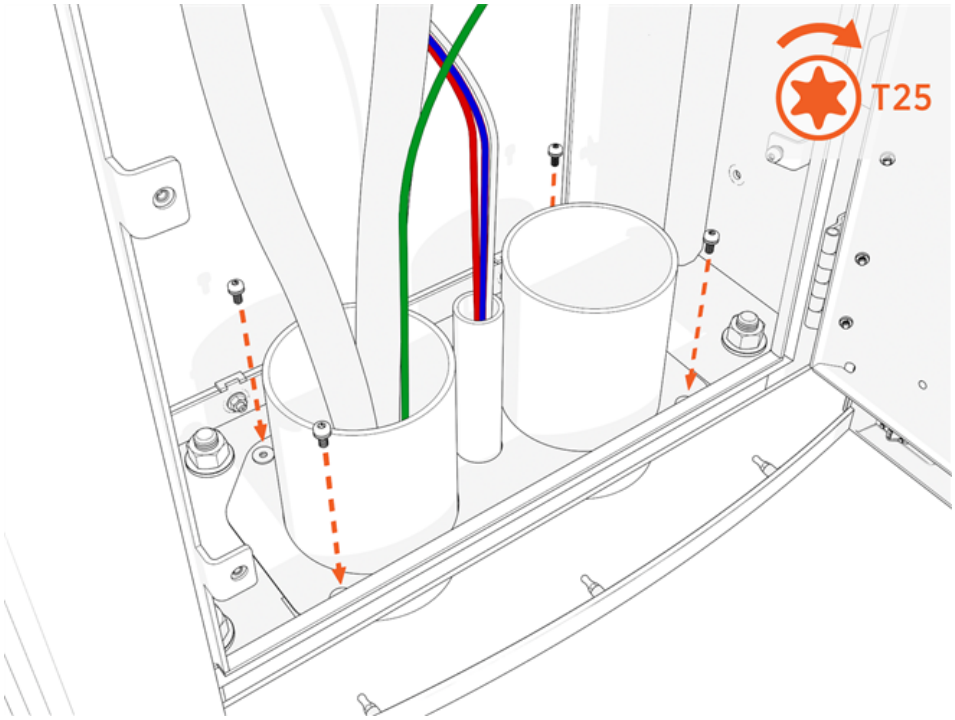
To secure and seal the gland plate, complete the following steps:

1. Vacuum all wire ends and metal shavings.

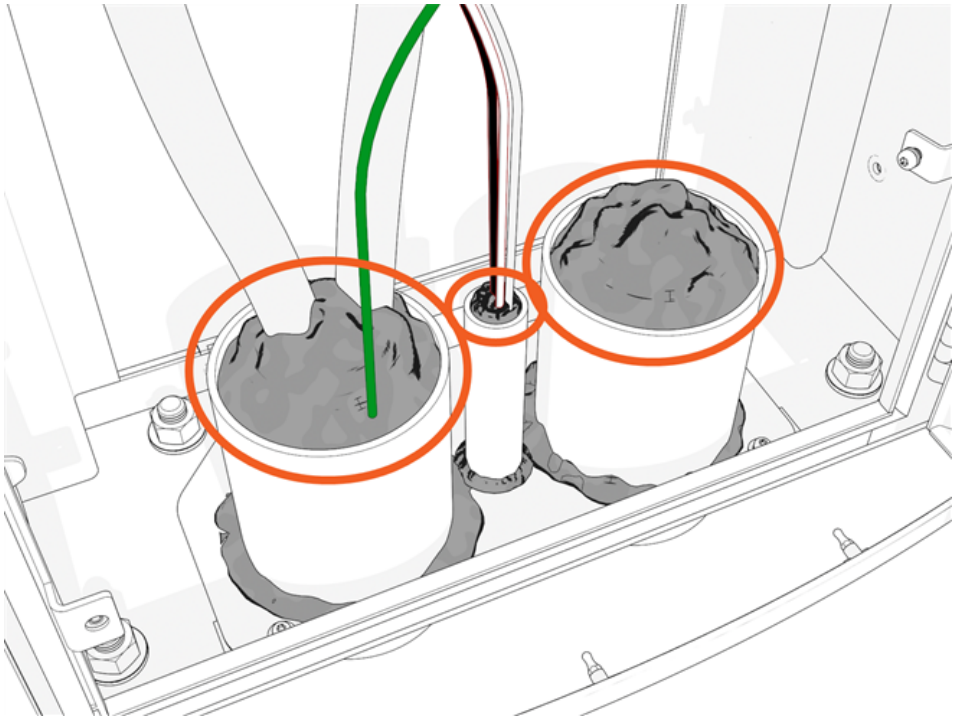
2. Secure wiring with clips as needed.



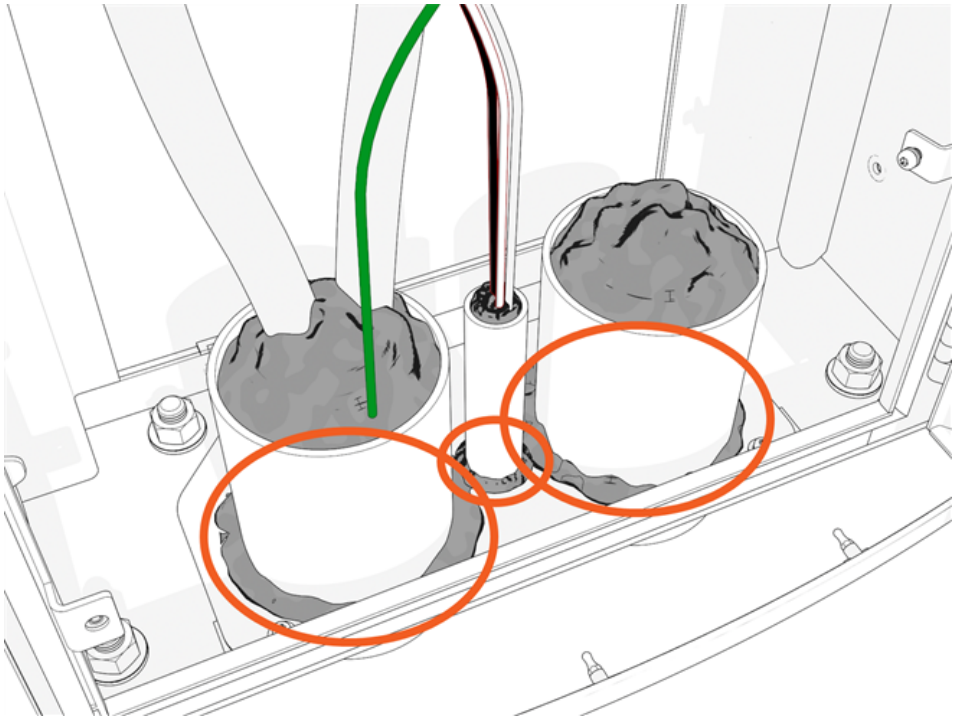
3. Align the gland plate and install screws.



4. Use duct seal compound to seal inside conduit openings.



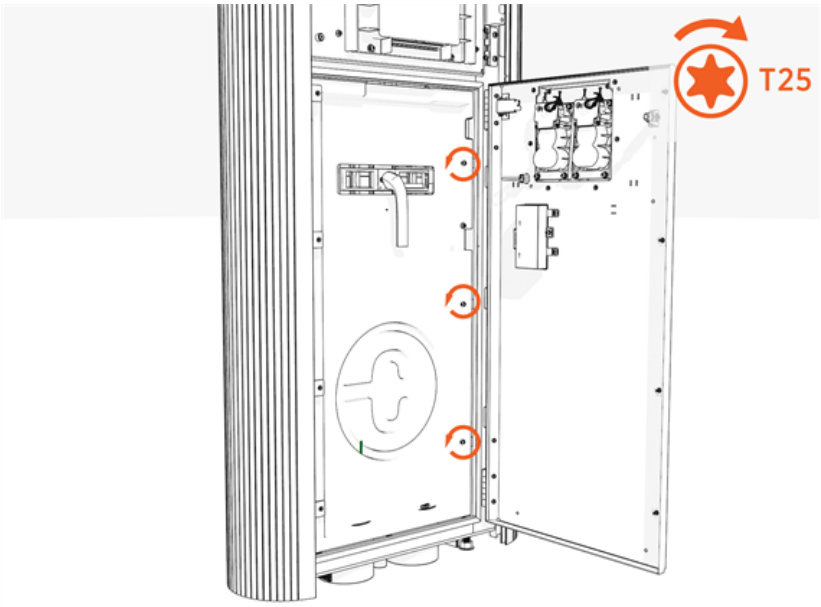
5. Seal the gland plate around and to each conduit.



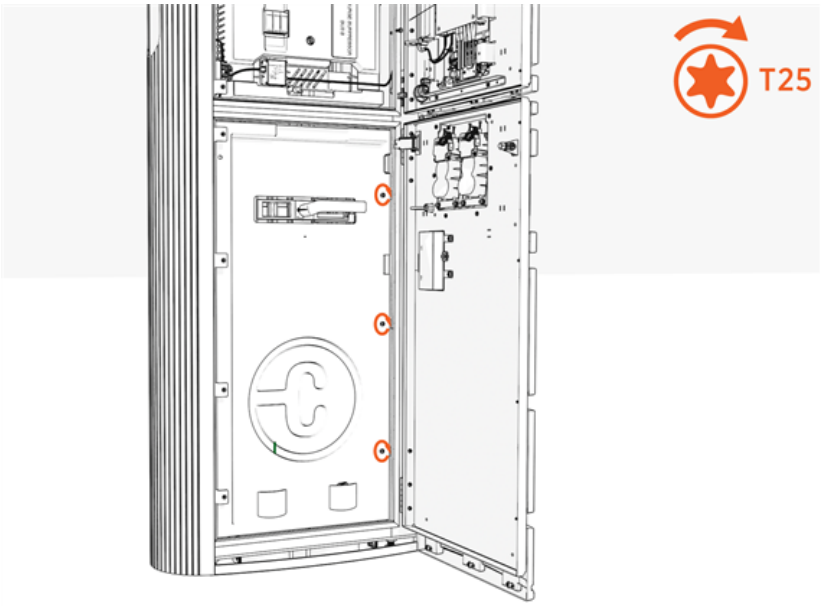
Reinstall Lower Safety Panel (if applicable)

To reinstall the lower safety panel, complete the following steps:

1. Slide in the panel behind the slots on the left.



2. Install screws (x3) (use T25 security screwdriver) on the right side. Torque to 2.8 Nm (25 in-lb).



Install DC Smart Cable

To install DC smart cable, follow the instructions below:

DANGER: RISK OF SHOCK

- Before any procedure, disconnect the power.
- Follow local code and site lockout/tagout procedure to de-energize the station.
- Wait for energy to dissipate (approximately five minutes).
- Keep power off until all covers and panels are reinstalled and the work is complete.

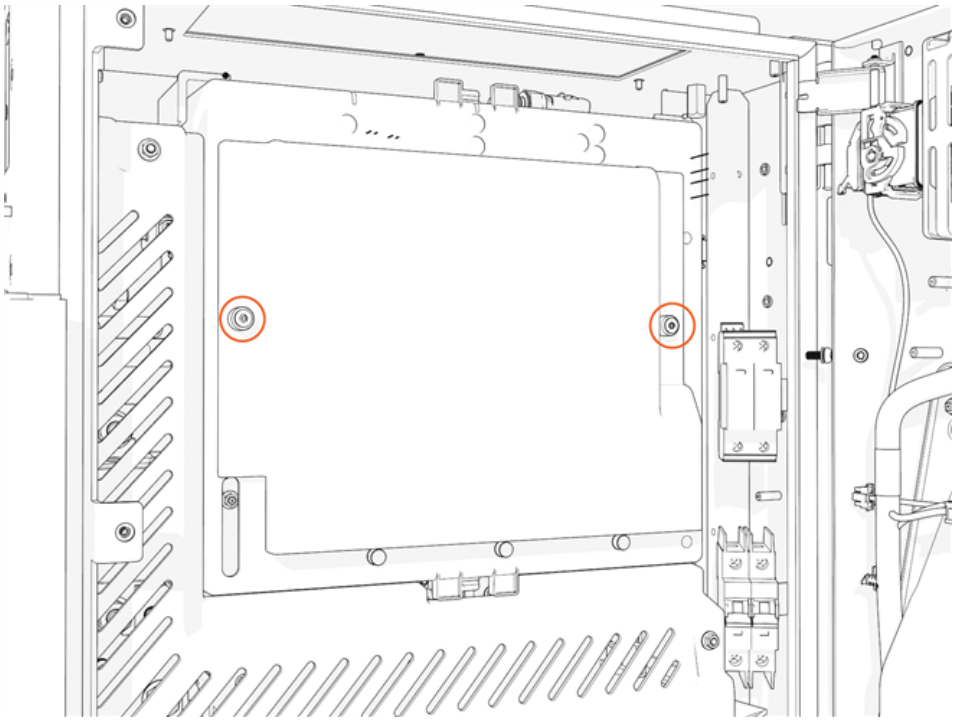
FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

Note: Installing a cable cap follows a similar process to installing a DC smart cable but only requires attaching the grounding lug to the machine shoulder; and connecting the 4-pin 48V terminal and RJ-45 communications connector.

Remove Safety Cover and Top Access Panel

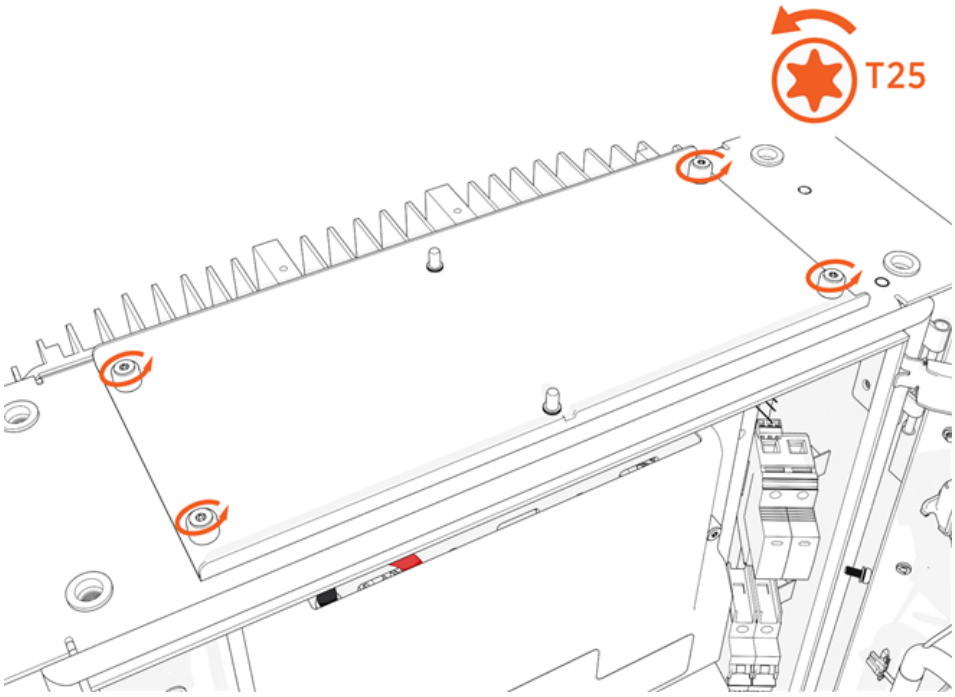
1. Loosen (do not unscrew completely) the two screws and slightly slide the safety cover up to remove it.

   Note: The + and - signs on the safety cover indicate the DC lug landing locations for positive (i.e., red color) and negative (i.e., black color) wires respectively.



2. Position a stepladder so you can reach the top access panel.

3. Loosen captive screws and lift off the panel.

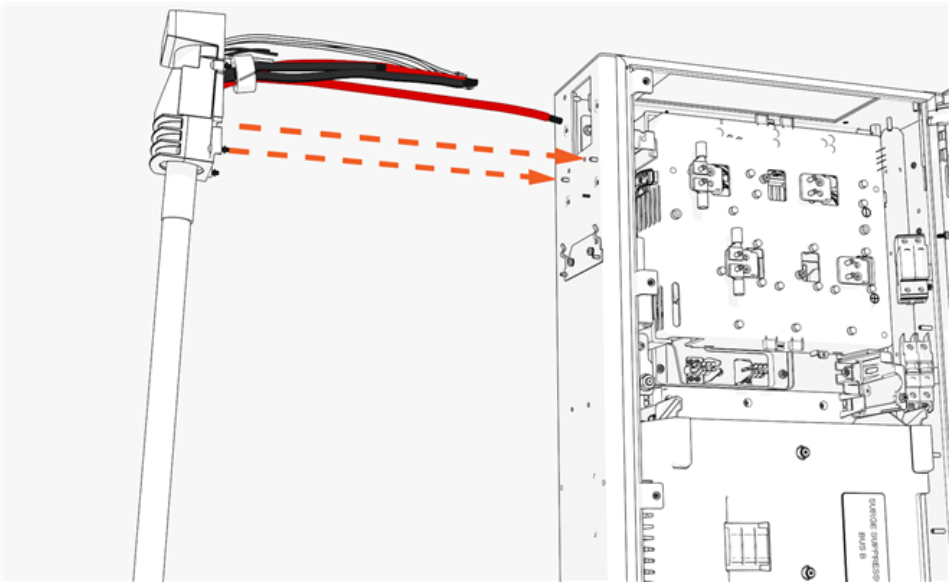


Route Into Cabinet

1. Unwrap the charging cable.

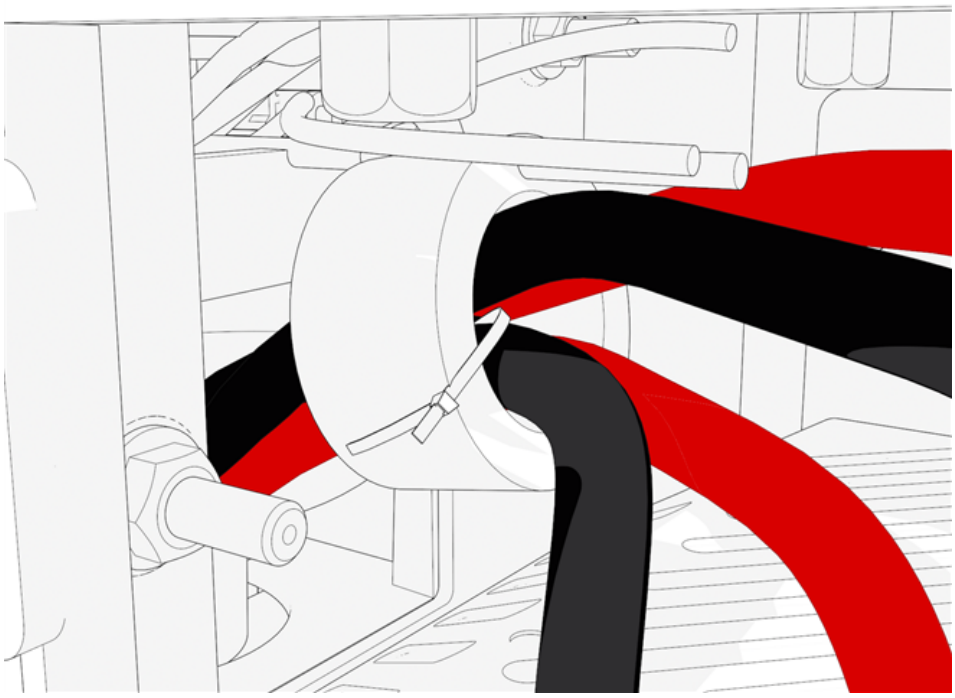
   Note: Do not unwrap the cable handle to prevent it from getting scratched during the install process.

2. Route the connectors, DC smart cables and lugs, ferrite ring, and ground wire into the upper cabinet through the opening behind the cable housing.



Note: Tilt the ferrite ring to fit.

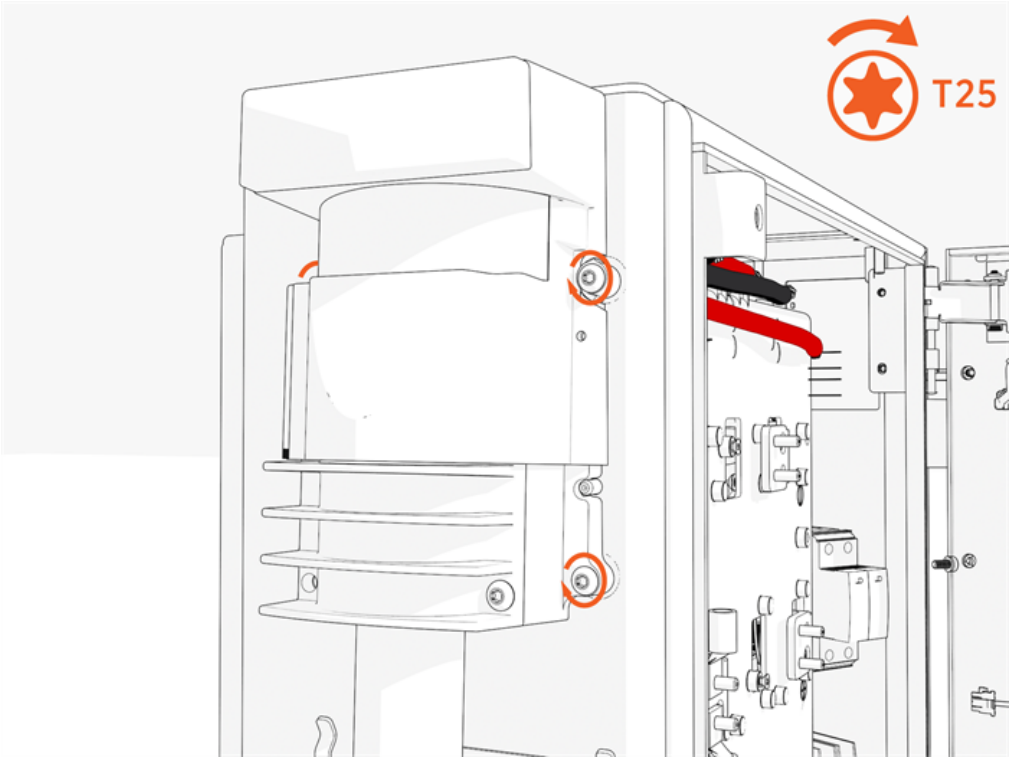
3. If you removed the zip tie, attach a removable zip tie to the cables and ferrite ring.



Cable Housing

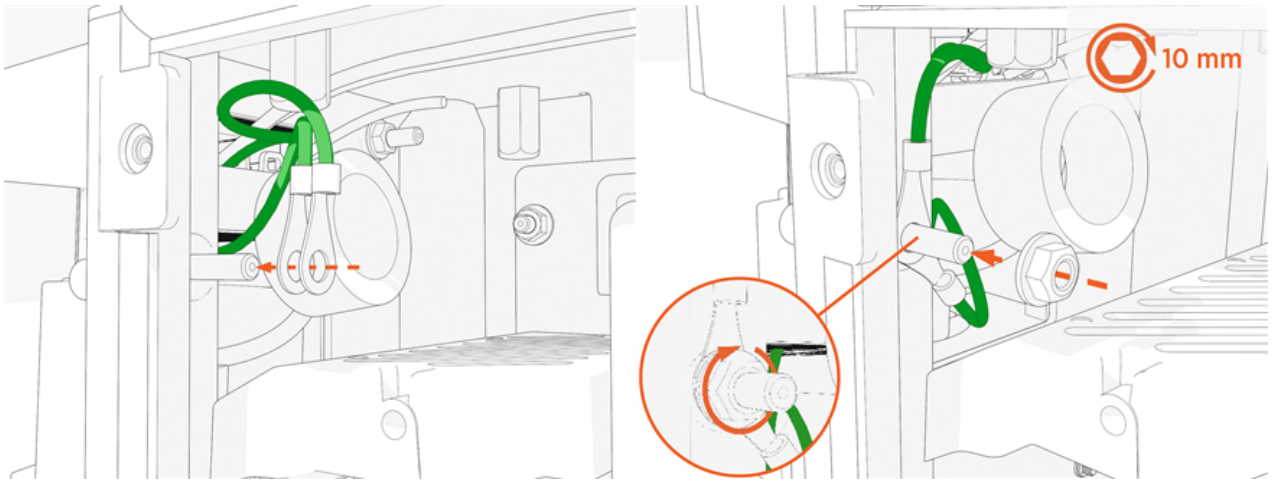
Align the cable housing onto the pegs. Torque to 4.5 Nm (40 in-lb).

Note: Hold or clamp the cable housing in position.

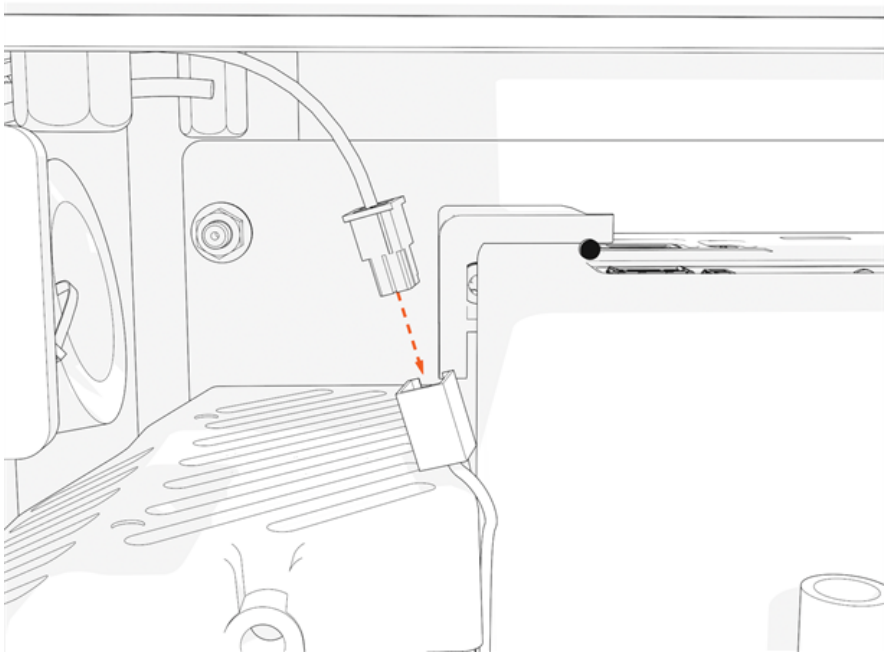


Ground Wire, 48 V Power, and Ethernet

1. Locate the bolt near the cable housing. Install two ground wires for each charging cable. Secure the wires with a nut. Torque to 5.6 Nm (50 in-lb).



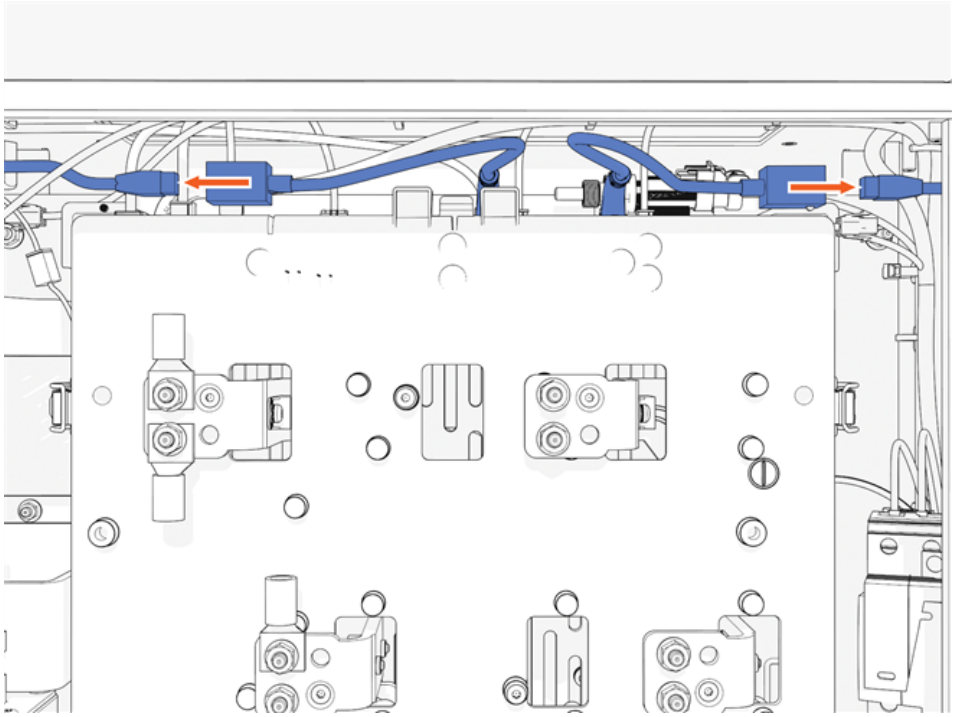
2. Locate the right and left wire harness. Connect one 48 V four-pin power connector to each.



CAUTION:

- If you switch connector ports, you could cause charging cable misidentification or disrupt status reporting between the local system and the ChargePoint Cloud Dashboard.
- If you don't attach the lugs to their correct plate locations, you could reverse positive (red) and negative (black) polarity. This could damage the station or vehicle.

3. Plug the RJ45 Ethernet connectors from the left and right charging cables into RJ45 couplers on the left and right side respectively.



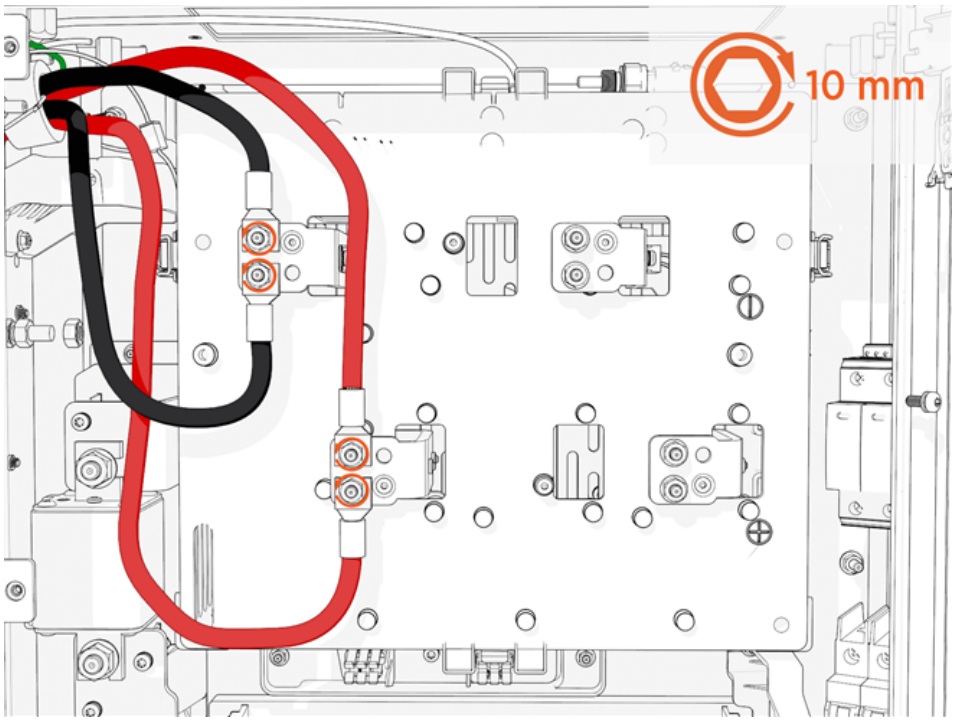
DC Lugs and Nuts

1. Land each positive and negative DC lug with a nut on the correct plate.

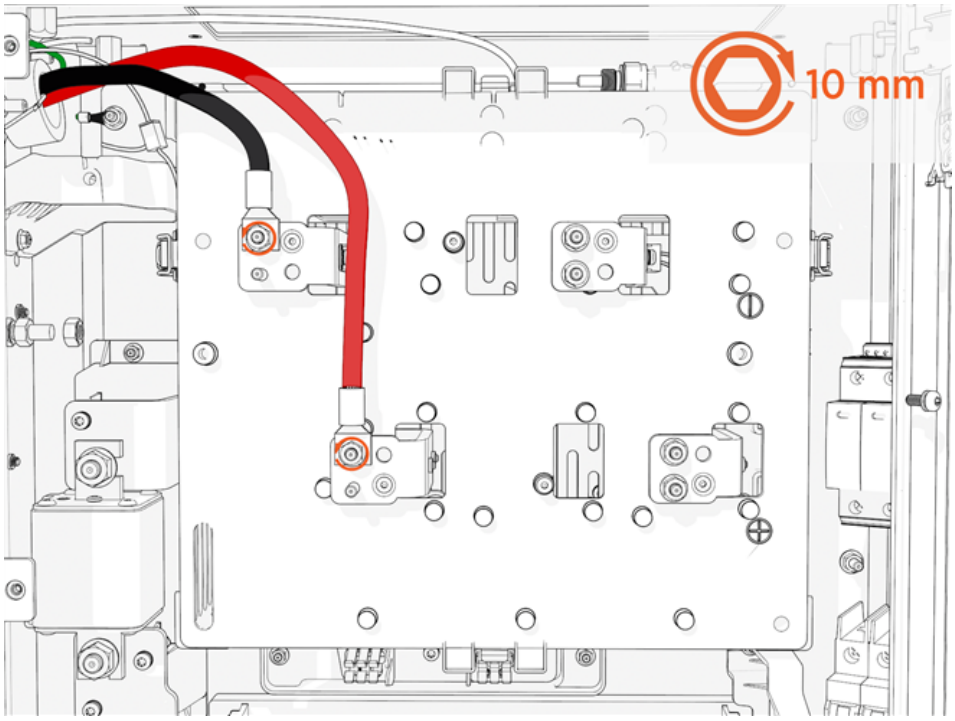
   Torque to 5.6 Nm (50 in-lb).

   Note: Ensure that the cable pigtails (i.e., loose ends) crimped into a lug are not rubbing against the lug landing plate.
2. Install either four DC lugs for each charging cable of 350 A or two DC lugs for each charging cable of 250 A or less.

350 A:

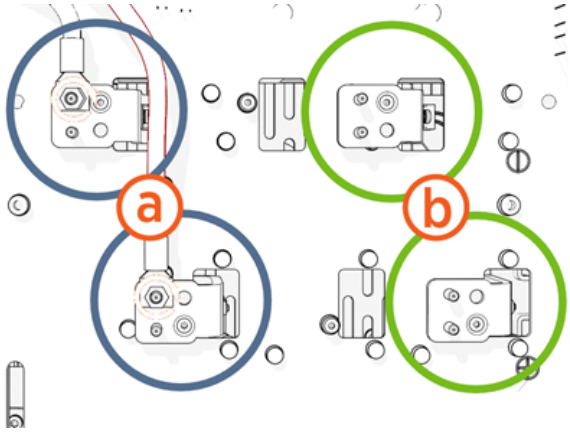


250 A or less:

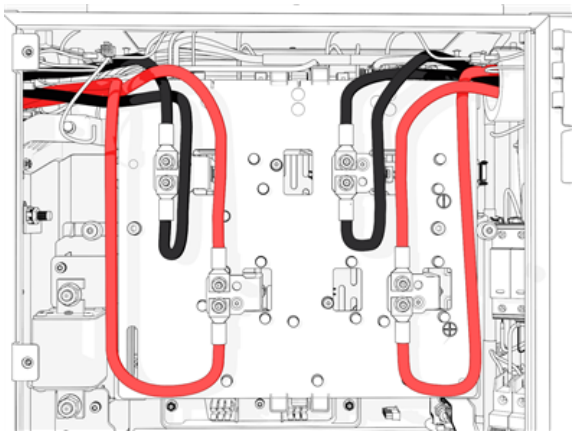


You must install the charging cable lug to either a left or right plate corresponding to the left or right charging cable.

Left and Right Charging Cables



Red DC Cables to Positive Connectors



(a) Left charging cable

(b) Right charging cable

You must install each charging cable lug to either an upper or a lower plate to maintain the correct negative (black) or positive (red) polarity.

CAUTION: Before work, take a picture of which cable tab plugs into which slot on the contactor assembly. Cables are color-coded (black is negative, red is positive). Color codes are different for each installed charge connector type. It is critical that the cables are reattached to their original locations.

- CHAdeMO has white and black color codes whereas NACS, CCS1, and CCS2 have red and black color codes.
- It is easiest to unfasten all cables for better access, even if only one cable is being replaced.

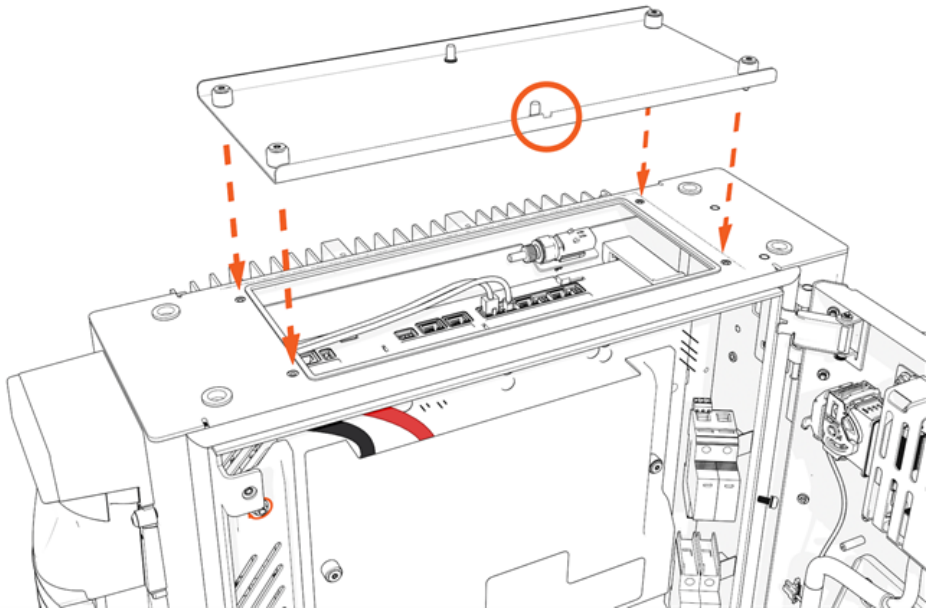
CAUTION: If you don't install lugs to the correct plate locations, you could reverse positive (red) / negative (black) polarity. This could damage the station or vehicle.

3. Mark all torqued power connections.
4. Repeat these steps on the other side to install the second charging cable (only if the charging station has second charging cable).

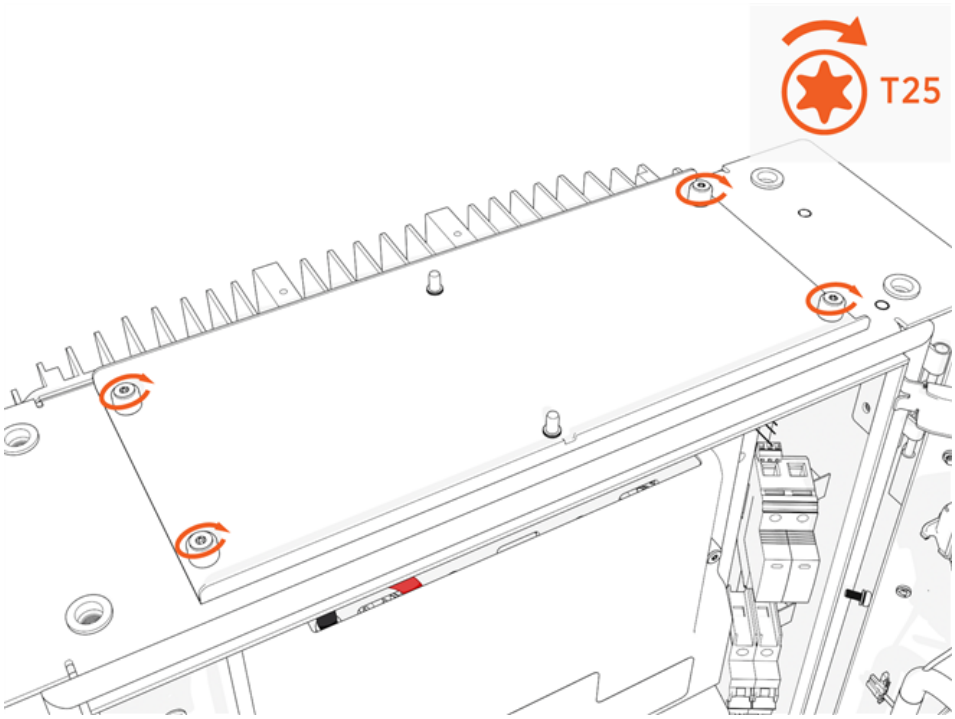
Reinstall Safety Cover and Top Access Panel

To reinstall safety cover and top access panel, complete the following steps:

1. Use a stepladder to position yourself above the panel.
2. Position the panel with the notch at the front.

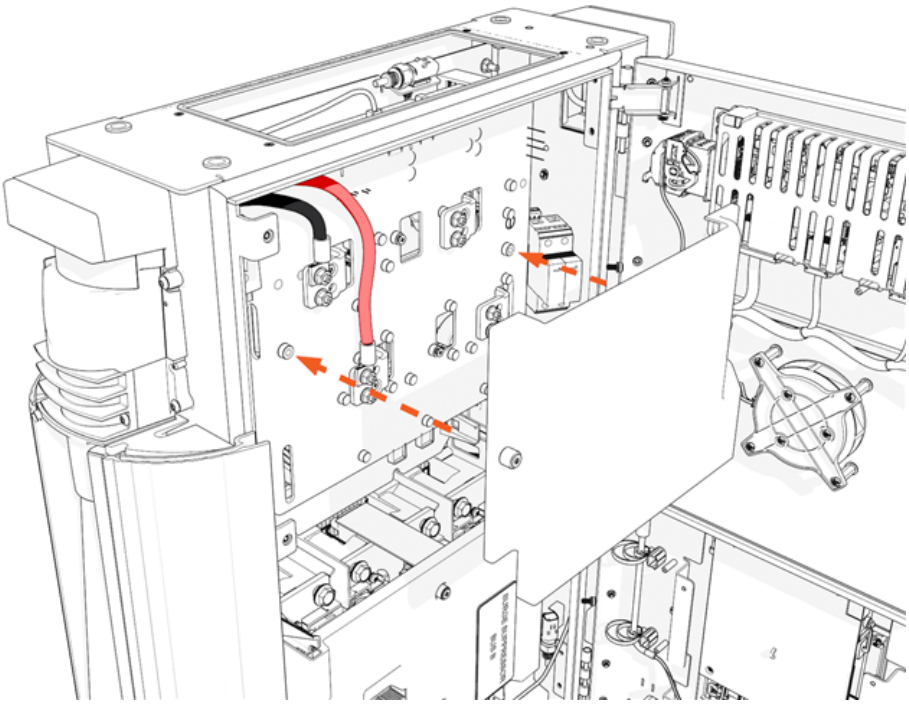


3. Torque to 2.8 Nm (25 in-lb).

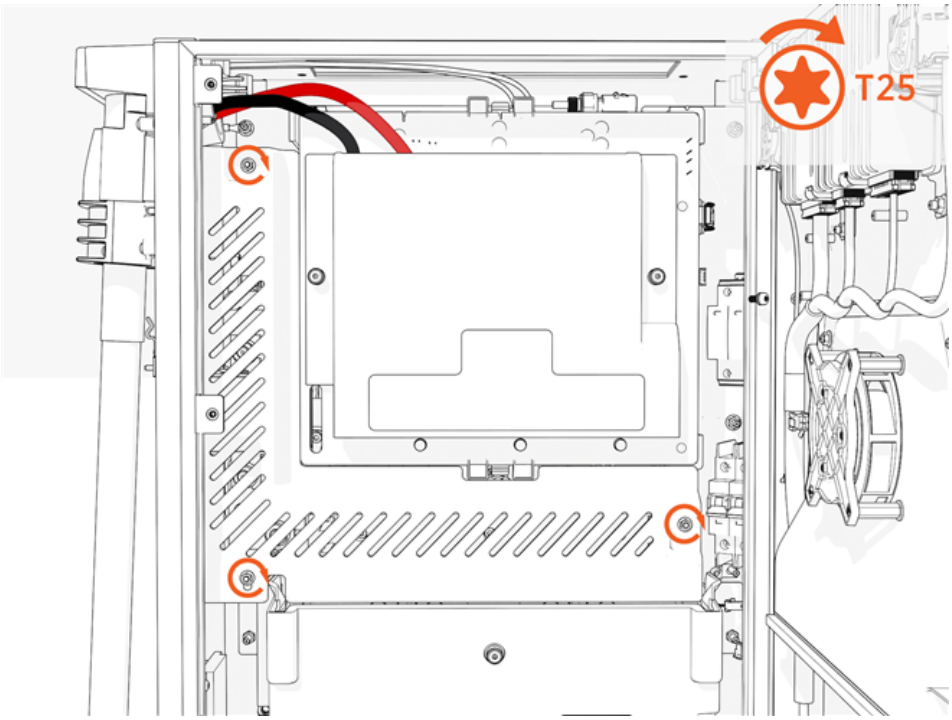


4. Align and insert the keyholes on the safety cover and slightly slide the safety cover down to hold it in place.

   Note: The safety cover has ribs in place to ensure that the charge cable terminations cannot touch the lug landing plates.



5. Tighten the two M4 screws.



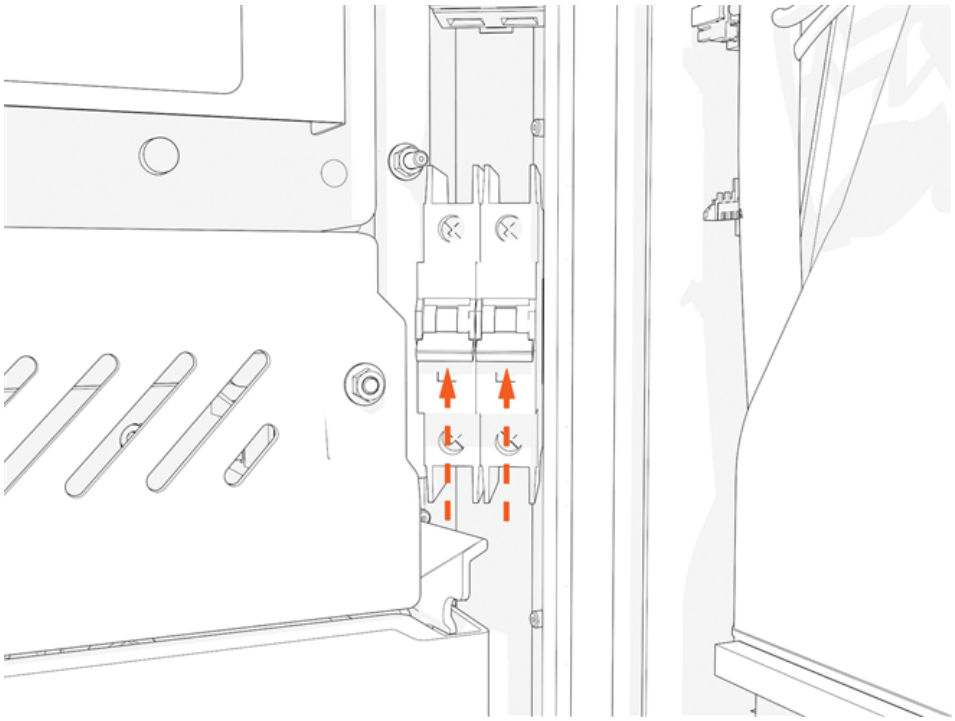
Install Doors

Follow the instructions to install doors for different variants:

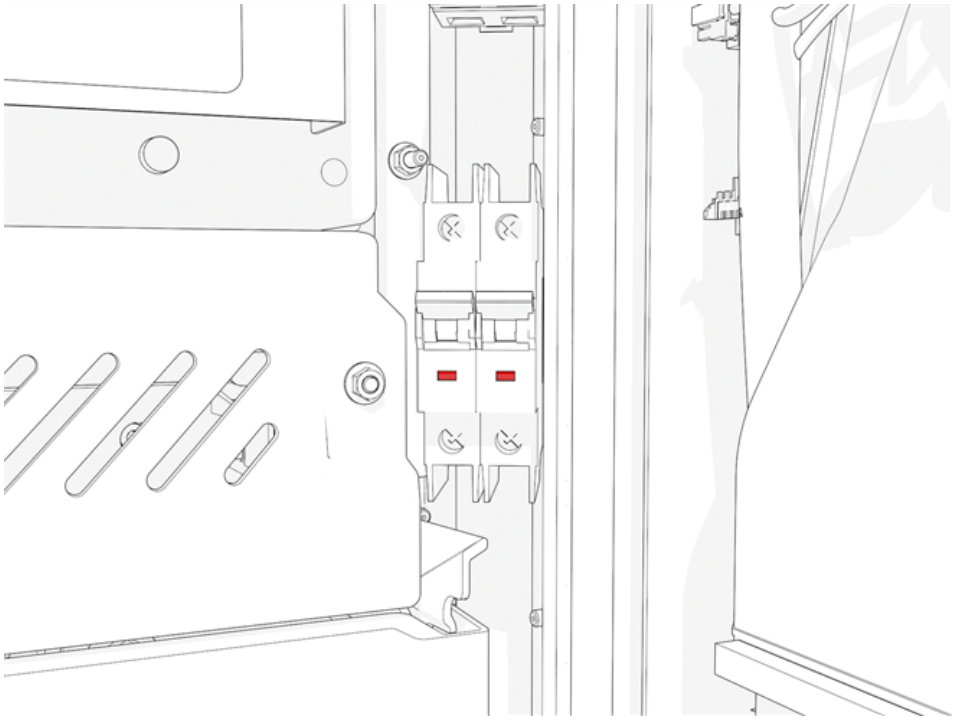
(Standard Pedestal)

Power On 48 V

1. Locate the 48 V DC breaker.



2. Flip up the switch to ON. The indicator light should turn red.



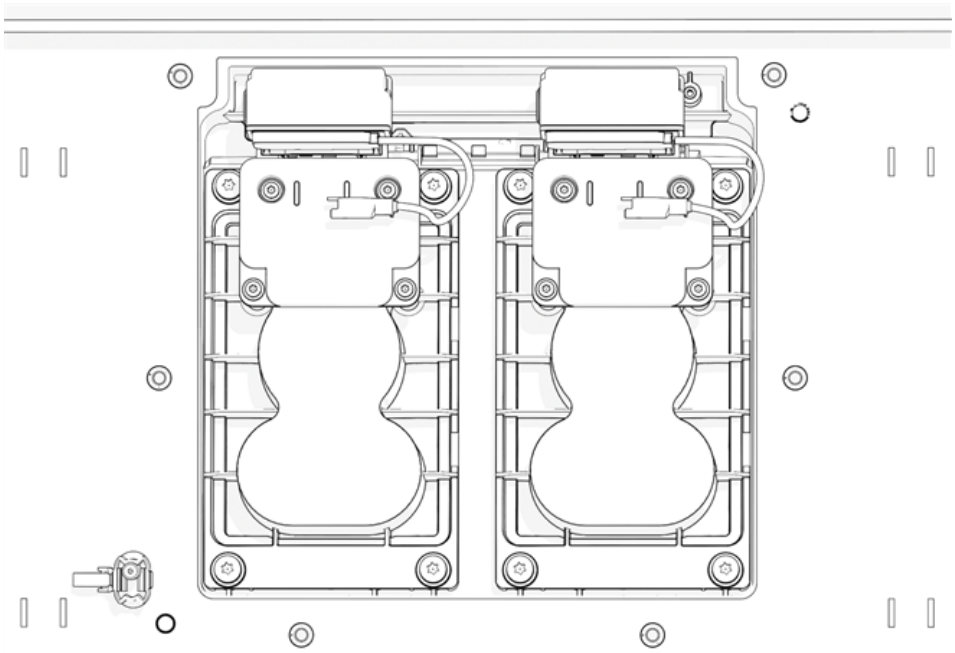
Install Upper Door

Note: If your unit has a lower safety panel that you did not yet reinstall, do so now.

Install and Connect Holsters

IMPORTANT: Route the holster wiring correctly to avoid charging cable misidentification or disruption to status reporting between the local system and the ChargePoint Platform Dashboard.

1. Match each holster to the connector type for each charging cable on each side.
2. Fit the correct holster into the opening at the center. Install screws into each holster.



3. Optional lock feature:

   Route and connect the wiring to each holster.

   a. Route the wiring harness through the notch (at right) in the lower safety panel.
   b. Locate the markings "1" and "2" on the housing at the base of the wires.
   c. Connect the holster near the door hinge to wire "2".
   d. Connect the holster near the door opening to wire "1".

Install Lower Door

1. Disengage wind stops and close the door.
2. Torque screws on the door to 4.5 Nm (40 in-lb).
3. On the right side of the door, insert the bottom of the door bracket. Tilt in the top of the door bracket. Push down into position.
4. Torque screws on the door bracket to 1 Nm (10 in-lb).

Install Covers

Follow the instructions to install covers for different variants:

(Standard Pedestal)

Identify if you have preassembled covers or unassembled components (vinyl signs, trims, and top cap).

Note: To request a change, contact ChargePoint Support (*chargepoint.com/support*).

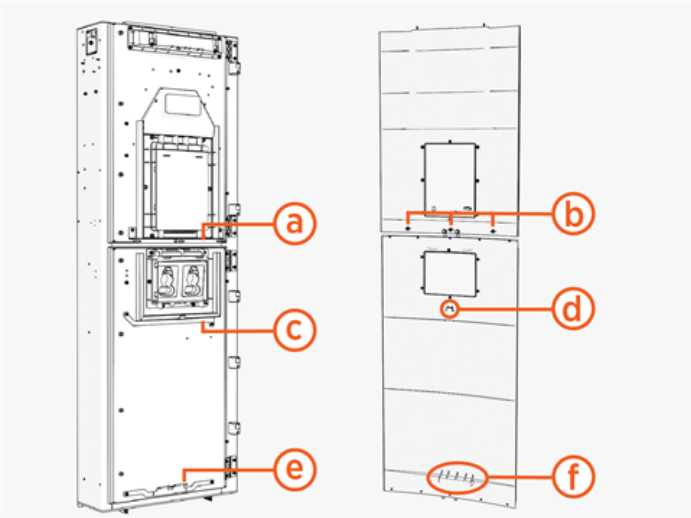
IMPORTANT:

Continue to the applicable instructions.

A. Preassembled covers	B. Unassembled vinyl signs, trims, and top cap

A. Install Preassembled Covers

1. Notice the three brackets on the doors. Pins and hooks on the covers fit into these.



Upper door and cover:

(a) Upper bracket with three clips

(b) Three pins

Lower door and cover:

(c) Middle bracket

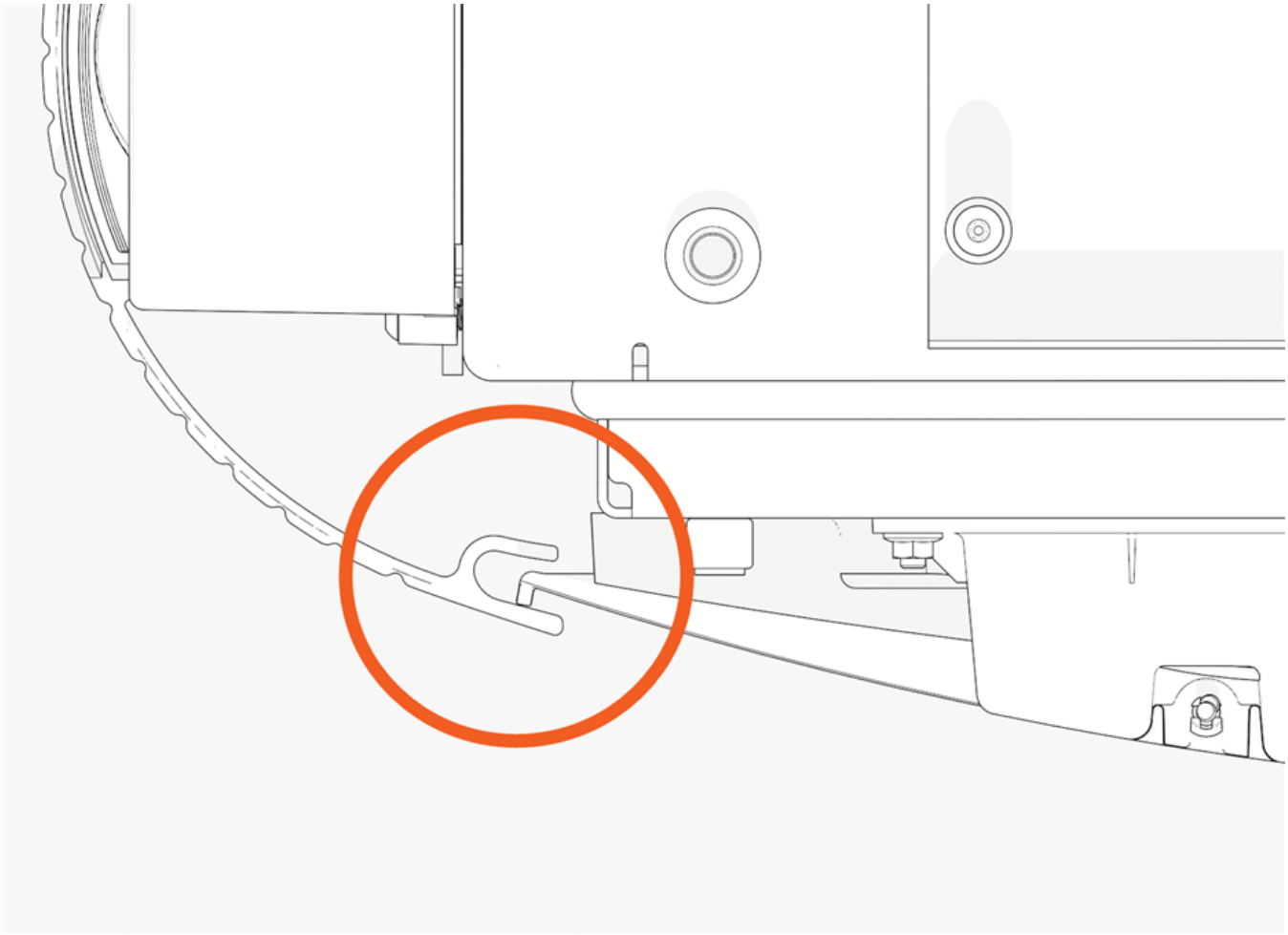
(d) Middle hook

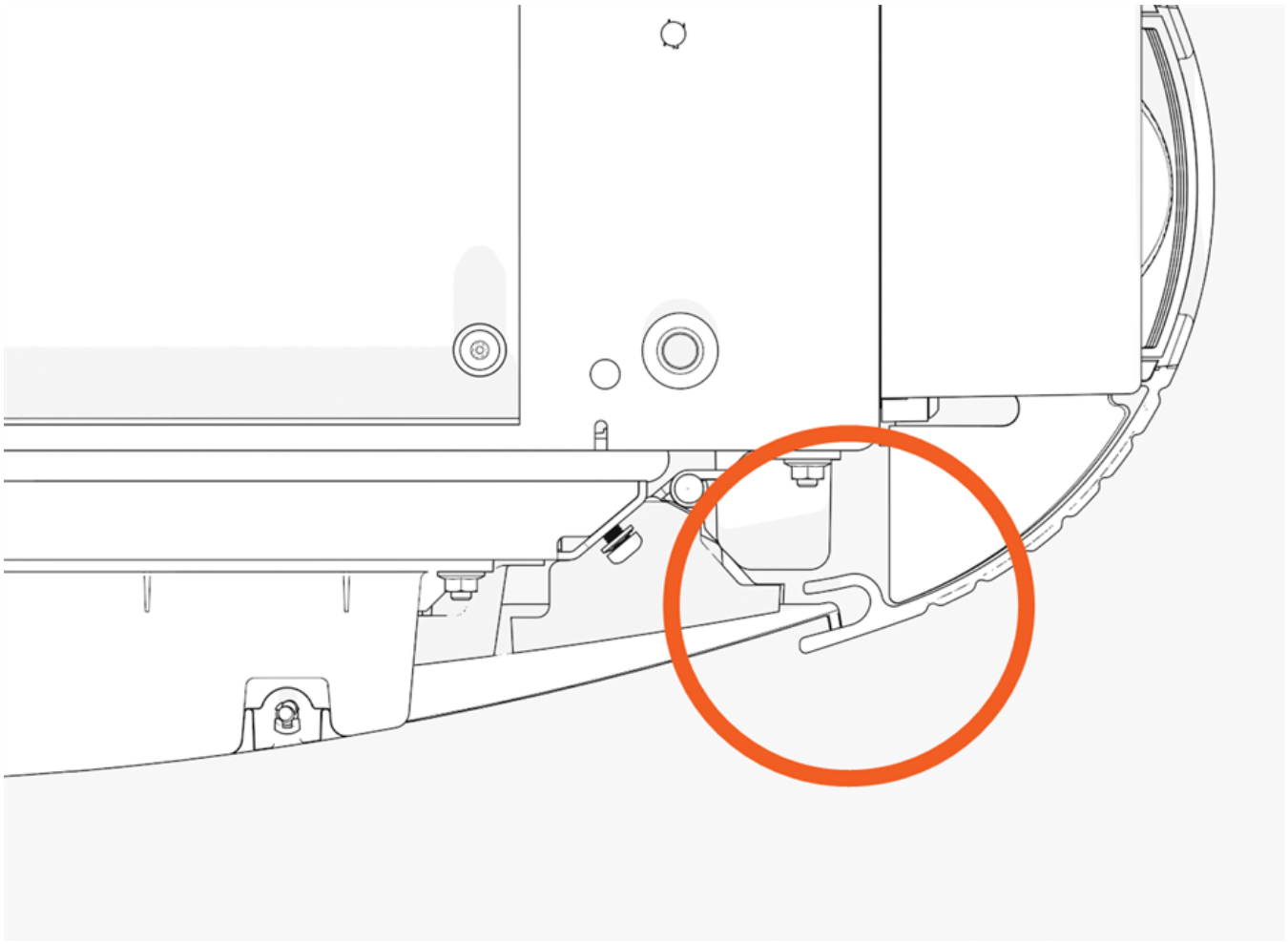
(e) Lower bracket

(f) Lower hook

Front Covers

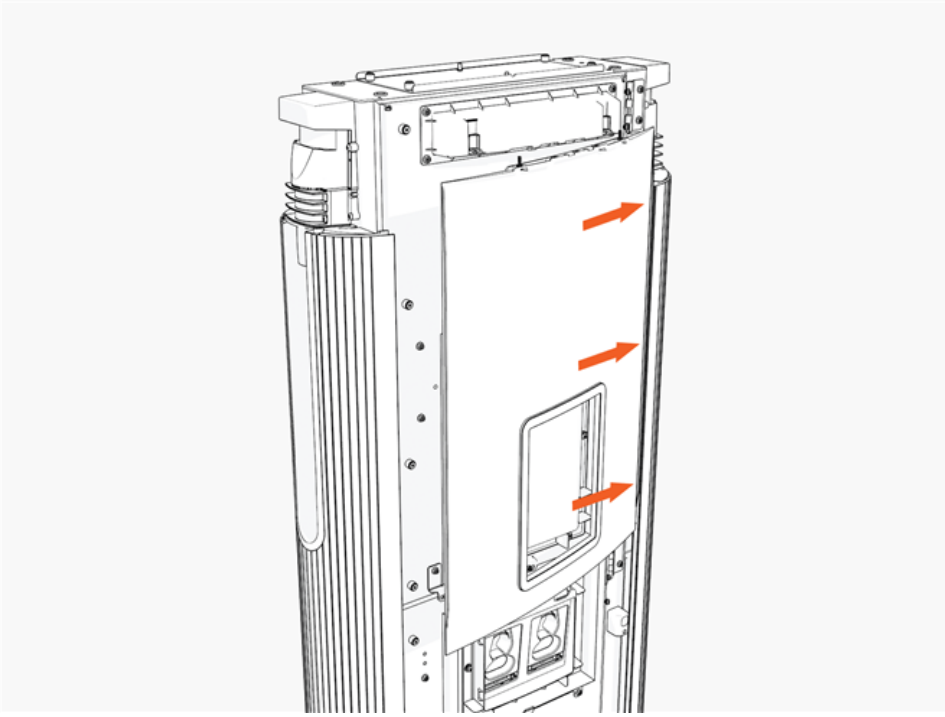
IMPORTANT: The upper and lower covers fit into vertical grooves at the right and left. Notice the location of the grooves when viewed from the top.





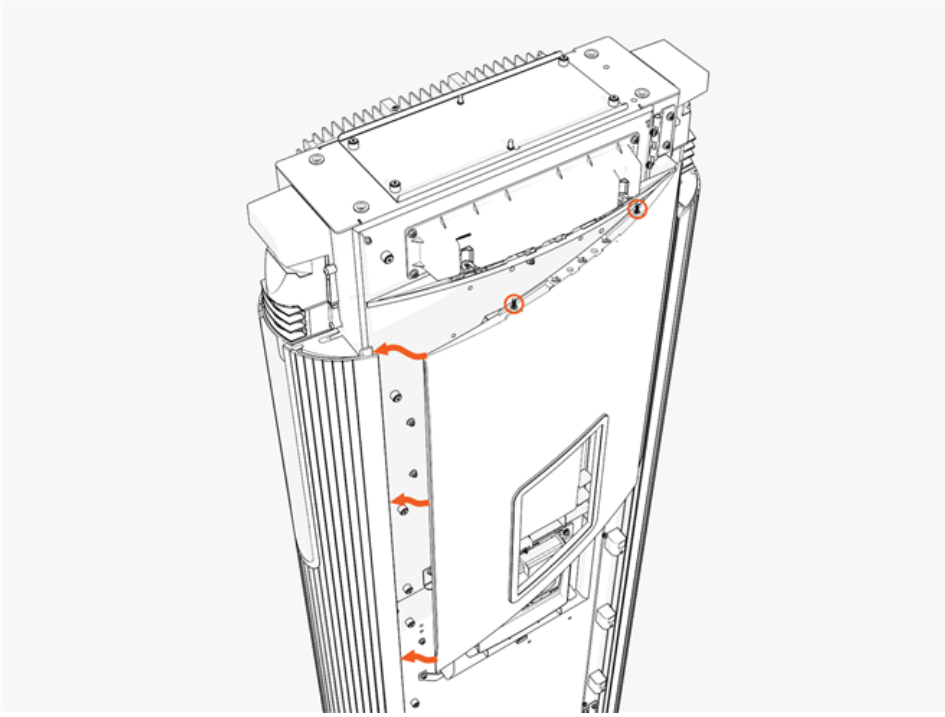
Upper Cover

1. Slide the left or right edge of the cover into the left or right groove.

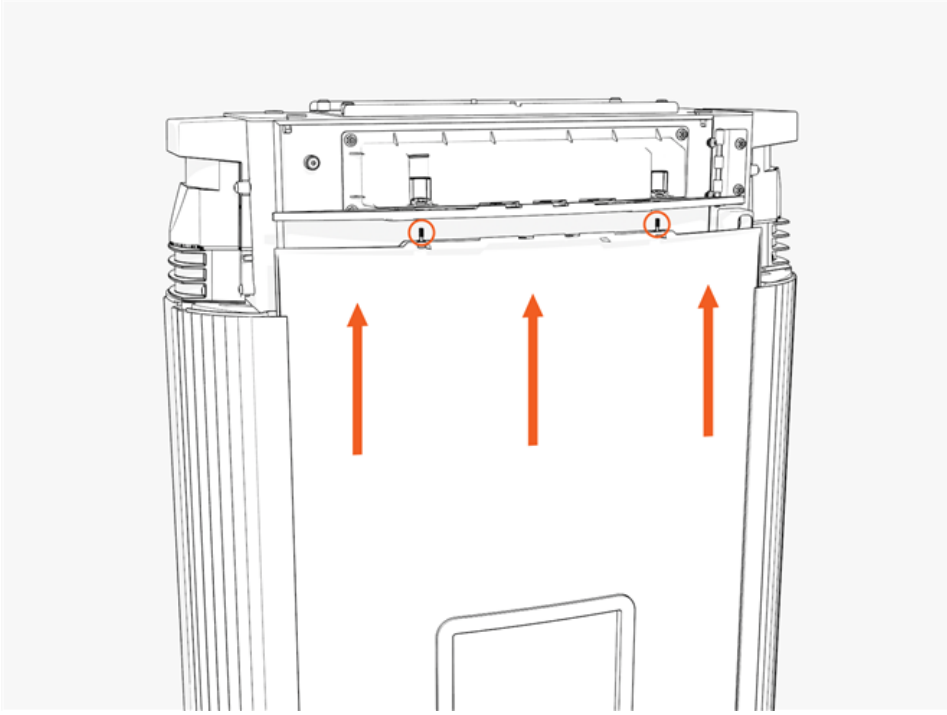


2. Rotate and bend in to slide the other edge into the other vertical groove.

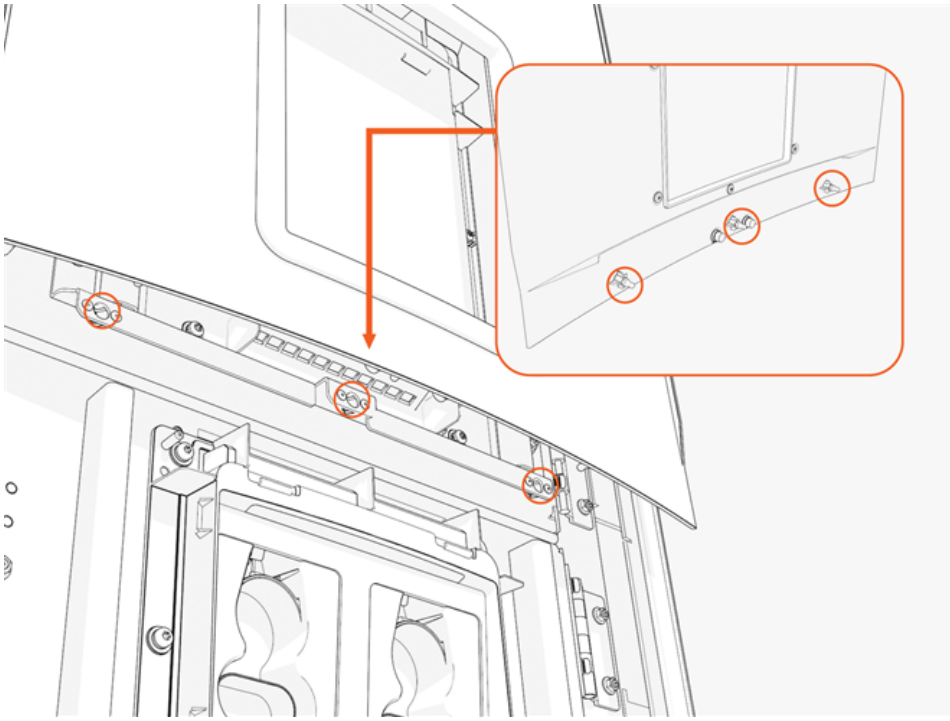
   While rotating in, ensure the captive screws at the top edge of the cover do not come in contact with the downlight housing.



3. Hold and flex the bottom center of the cover slightly outward and slide it up to mate with the downlight housing. Align and seat the captive screws with the openings in the downlight housing (screws will be tightened later when the top cap is installed).



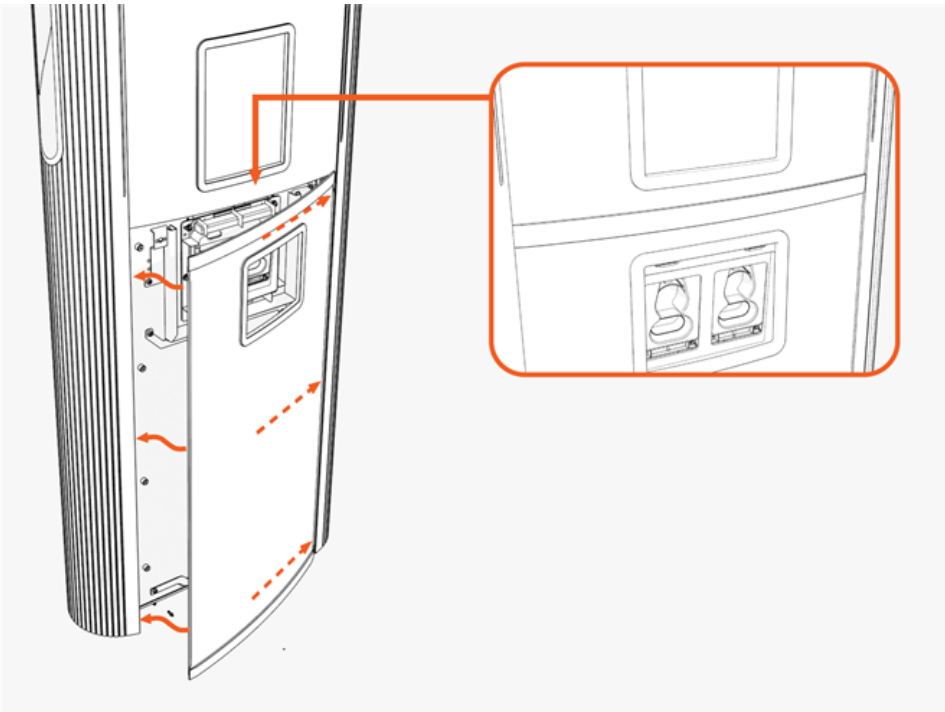
While flexed, align the three ball studs on the cover with holes into the bracket on the door, and press the cover in to clip in the ball studs.



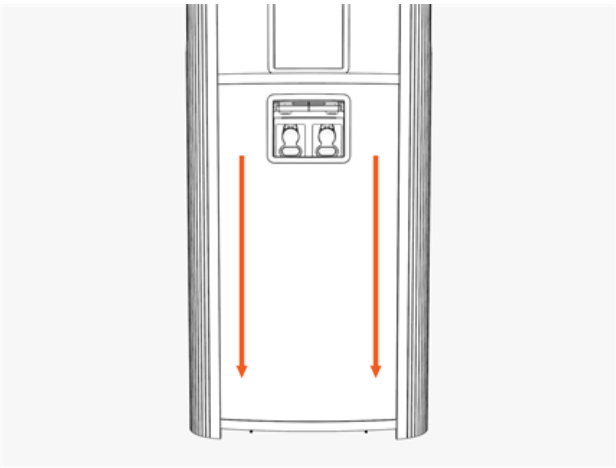
Lower Cover

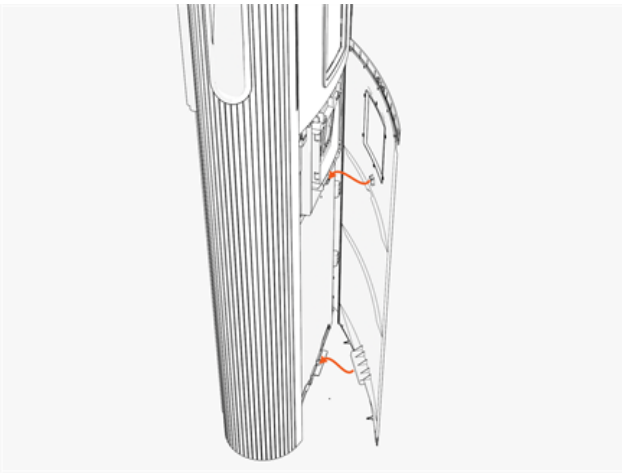
1. Slide the left or right edge of the cover into the left or right groove and then rotate and bend in to slide the other edge into the other vertical groove.

   While sliding in the edges, hold the top edge of the lower cover just below the lower edge of the CCOM trim, or overlap the top portion of the lower cover about 30-35 mm (1.25-1.5 in) over the bottom portion of the upper cover.



2. Check the top and bottom corners to make sure the edges are seated in the groove, and then slide the cover down. While sliding down, press in on the lower edge of the holster trim and lower edge of the cover to engage the hooks behind the cover.



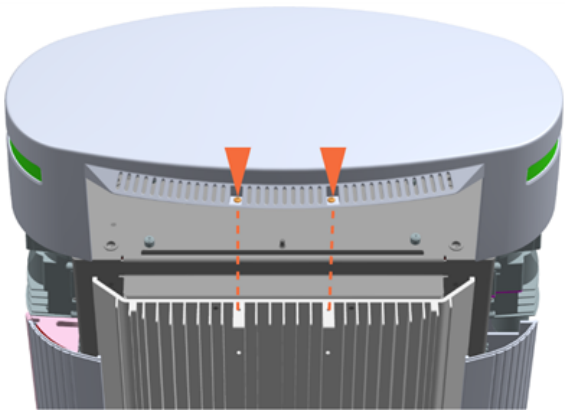


Top Cap

1. Align the screws (x4) (two at front and two at rear) and install the top cap.

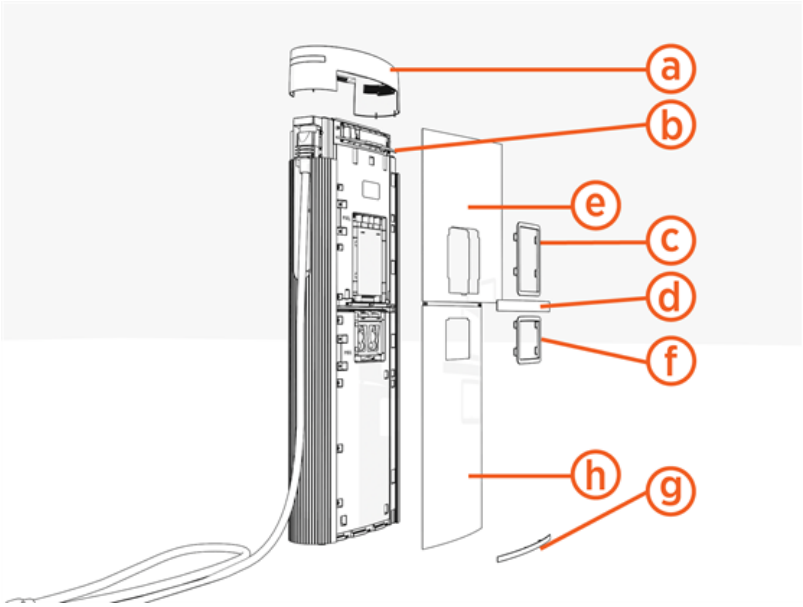
Front

Rear



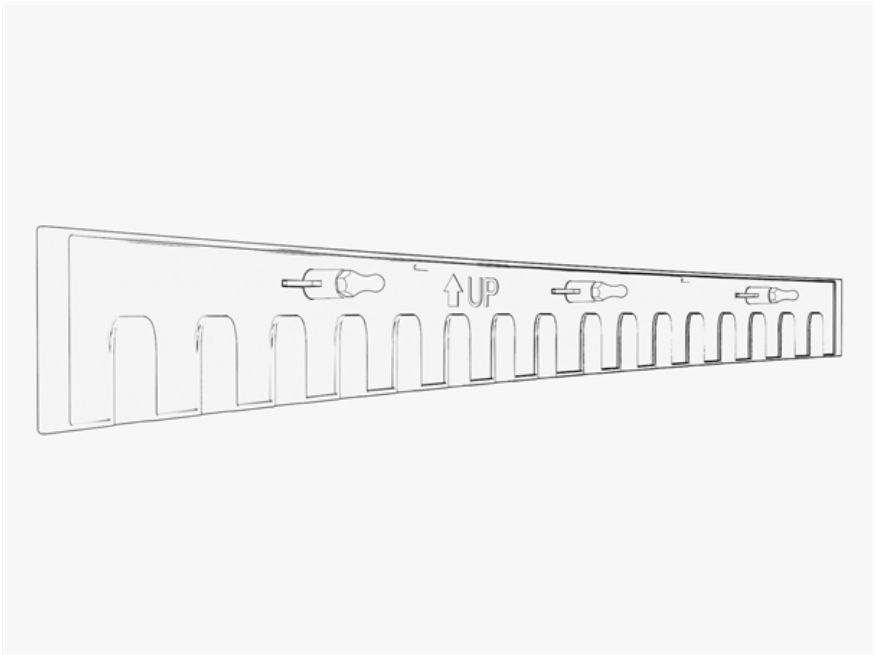
2. Torque the M5 screws (x2) at rear side to 2.8 Nm (25 in-lb) and M4 screws (x2) at front side to 1.7 Nm (15 in-lb) (use T25 security screwdriver).

B. Install Vinyl Signs, Trims, and Top Cover

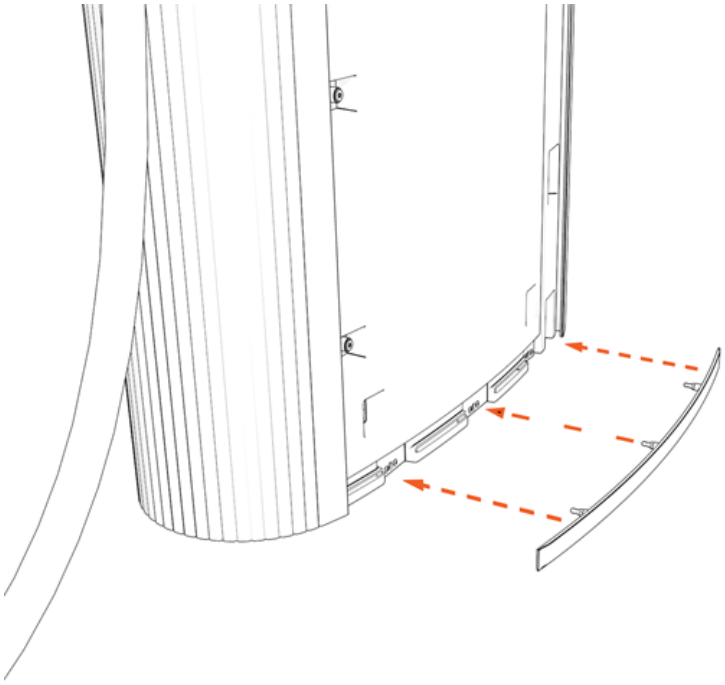


a. Top cover (helmet)
b. Upper trim
c. Interactive display trim (optional)
d. Middle trim
e. Upper vinyl sign
f. Holster trim
g. Lower trim
h. Lower vinyl sign

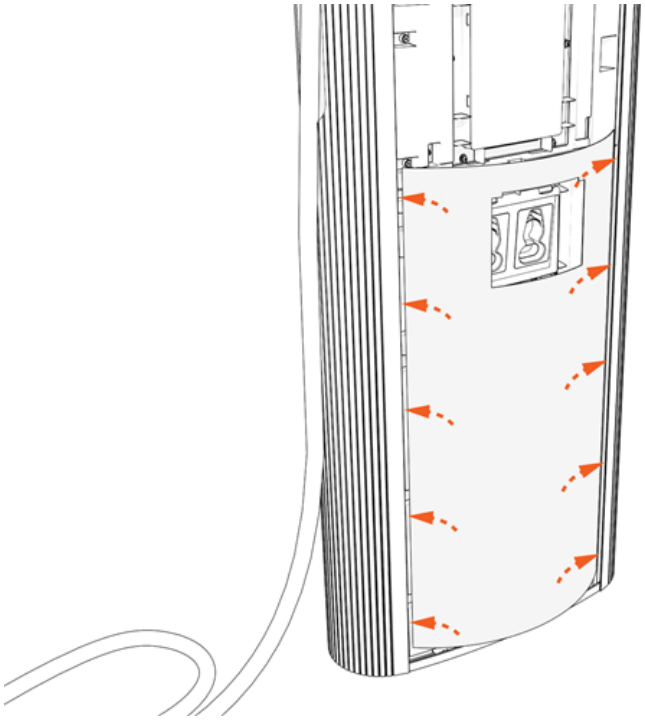
IMPORTANT: Notice the imprint on the trim shows which edge goes "UP."



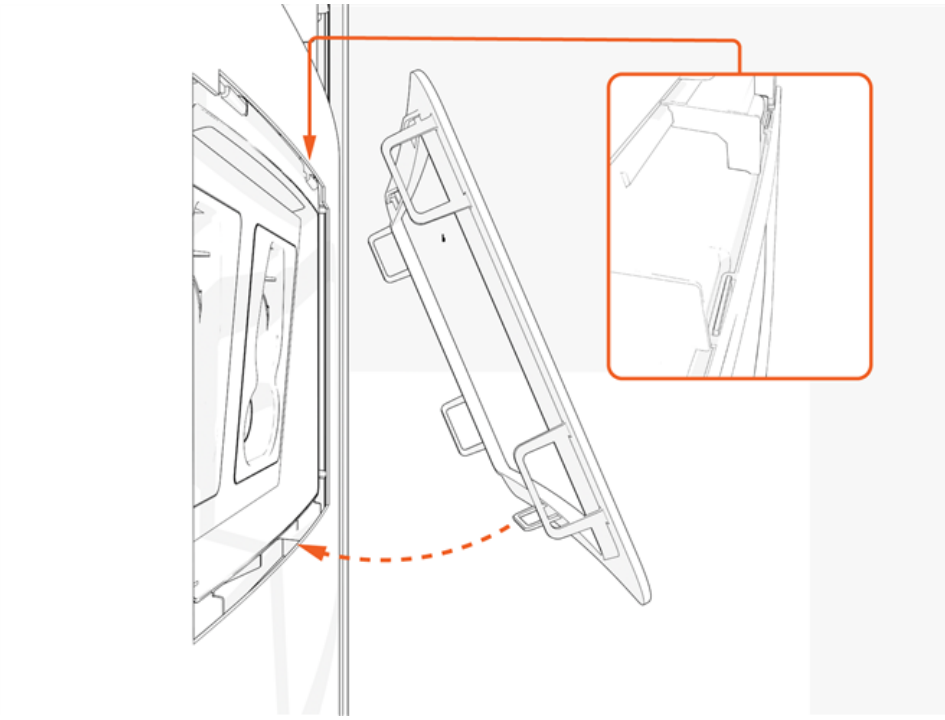
1. Push in the lower trim until it engages with the center and side clips.



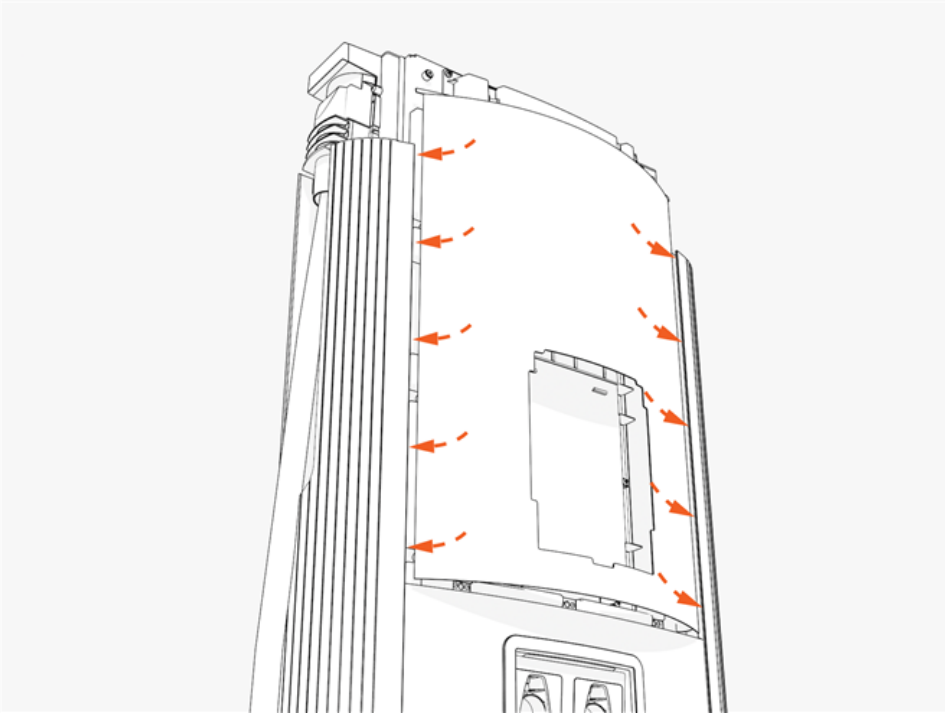
2. Insert the lower cover behind the lower trim. Simultaneously insert both sides of the lower cover.



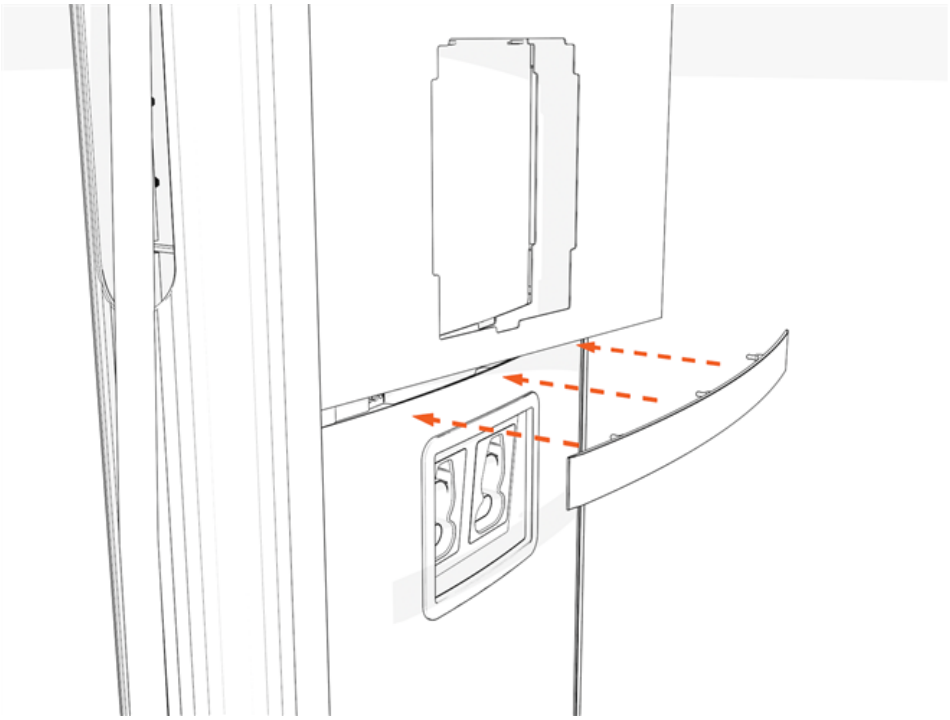
3. Hook the upper side of the holster trim onto two hooks and rotate in. Then, press the lower side of the trim into place.



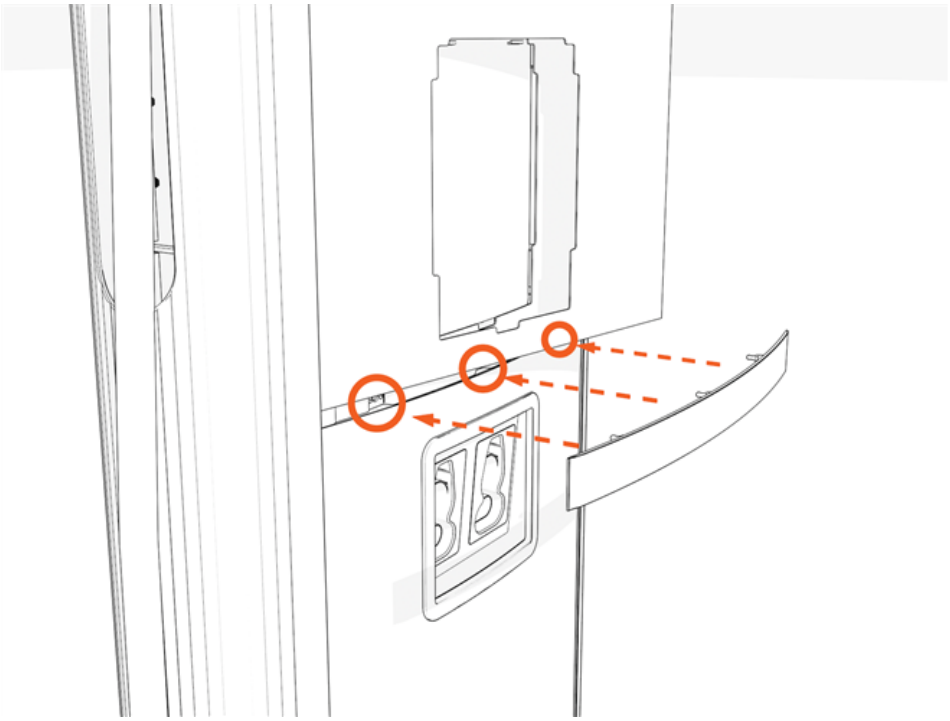
4. Insert the upper cover into each side. **Note:** Logo is on upper left.



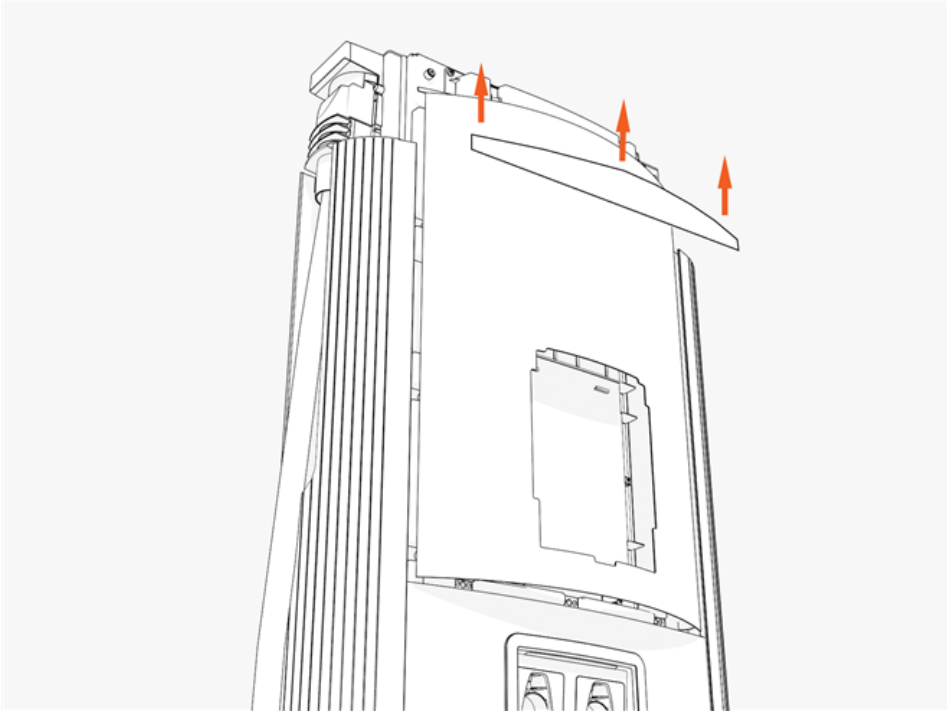
5. Align the upper cover and the ends of the middle trim. Hold the cover in position so that it does not block the trim clips.



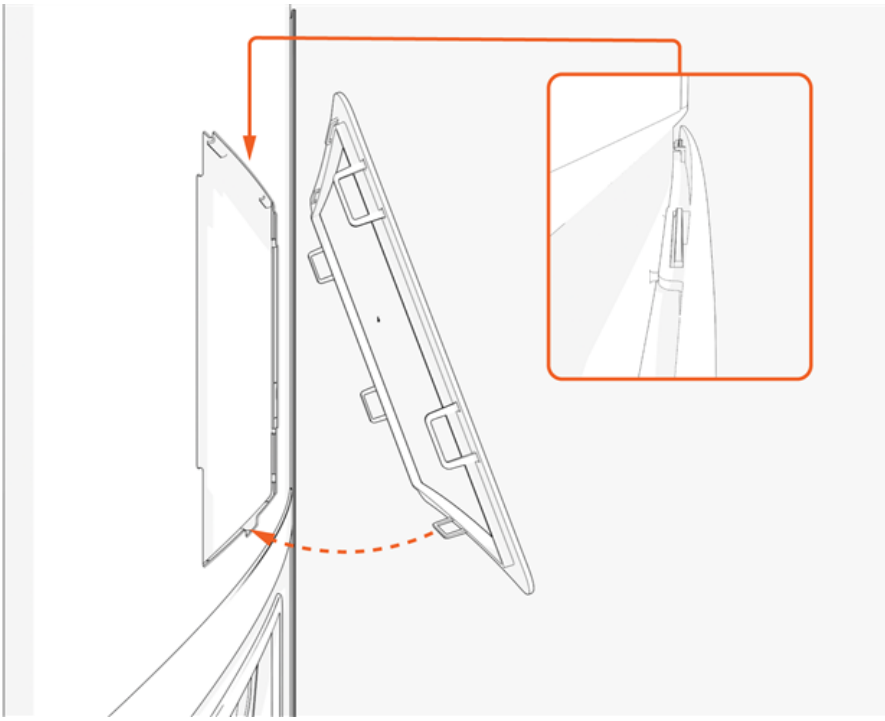
6. Push in the middle trim until it engages with the center and side clips.



7. Align the upper trim with the magnetic side up. Insert the upper trim until it snaps into position.



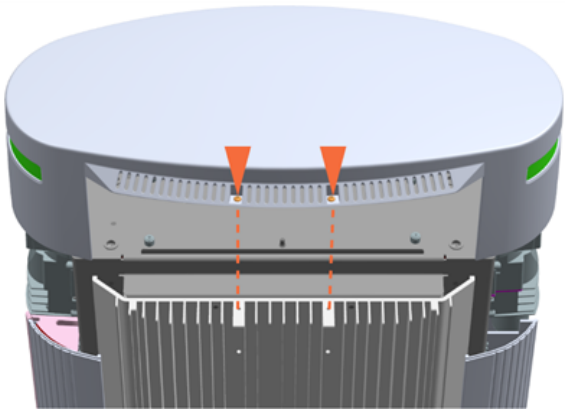
8. Hook the upper side of the CCOM trim onto two hooks and rotate in. Then press the lower side of the trim into place.



9. Align the screws (x4) (two at front and two at rear) and install the top cap.

Front

Rear



10. Torque the M5 screws (x2) at rear side to 2.8 Nm (25 in-lb) and M4 screws (x2) at front side to 1.7 Nm (15 in-lb) (use T25 security screwdriver).

Continue to Charging Cable Instructions

Check your site plans to identify your charging cable management system. Follow the applicable instructions below:

1. Standard cable management kit (CMK)
2. Tall CMK
3. Overhead CMK

Install Overhead Mounted Power Link 1000 4

Follow these instructions to anchor, install, and wire each Power Link 1000 onto a wall or gantry.

DANGER: Check the site plans for the number and type of fasteners required to install the mounting plate and the Power Link 1000.

Fasteners must be appropriate and rated for the type of surface and the combined weight of the Power Link 1000 and all charging cables and accessories. If not, the Power Link 1000 could fall and injure people, damage property, or both.

CAUTION: To protect the charging cables from damage, keep them wrapped throughout the installation process.

Disconnect Power

To disconnect power, complete the following steps:

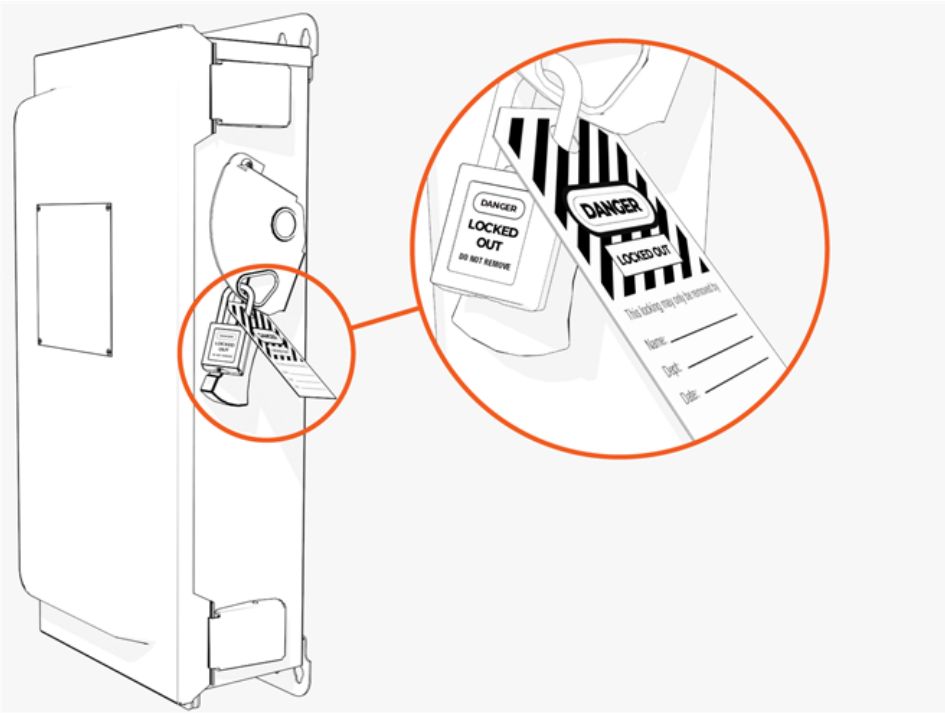
DANGER: RISK OF SHOCK

- Before any procedure, disconnect the power.
- Follow local code and site lockout/tagout procedure to de-energize the station.
- Wait for energy to dissipate (approximately five minutes).
- Keep power off until all covers and panels are reinstalled and the work is complete.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

1. Disconnect power at the site electrical panel.

   Note: Follow standard practice and local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding.



2. Use a multimeter to test that the unit is de-energized.

Install and Secure to the Mounting Plate

To install and secure to the mounting plate, complete the following set of steps:

Mark Location

To mark location, complete the following steps:

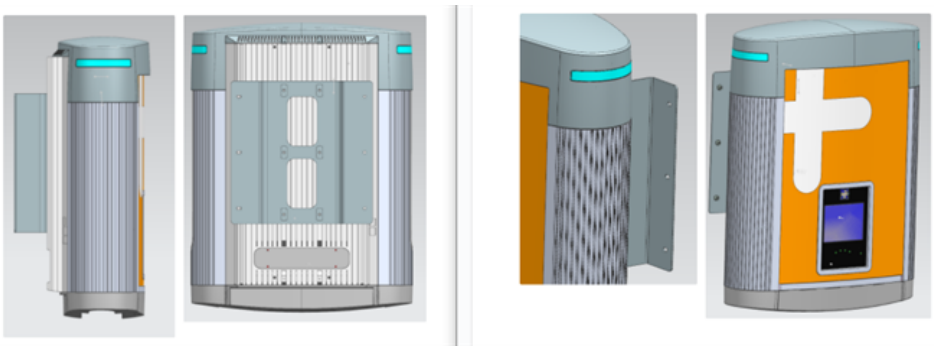
1. Use a multimeter to test each DC conductor for continuity.
2. If not already done, pull service wiring through the wall or conduit as described in the Express Plus Site Design Guide.
3. Measure the distance above grade that the Power Link 1000 will sit.

> **CAUTION:** Check your specific site plans and the *Site Design Guide* to ensure the Power Link 1000 mounting location meets clearance specifications above ground to comply with ADA regulations and above grade to comply with flood regulations.

4. Use the mounting plate as a template to determine position. Measure position and ensure level placement. Mark the mounting holes.
5. Consult site plans for any site-specific requirements.
6. Attach the mounting plate to the surface. Install six M8 bolts or studs spaced 400 mm (16 in) center to center.

   Torque to the specification indicated in the site plans.

   Note: Contractor provides fasteners. Site plans must specify fasteners appropriate for and rated to secure the weight to the material.

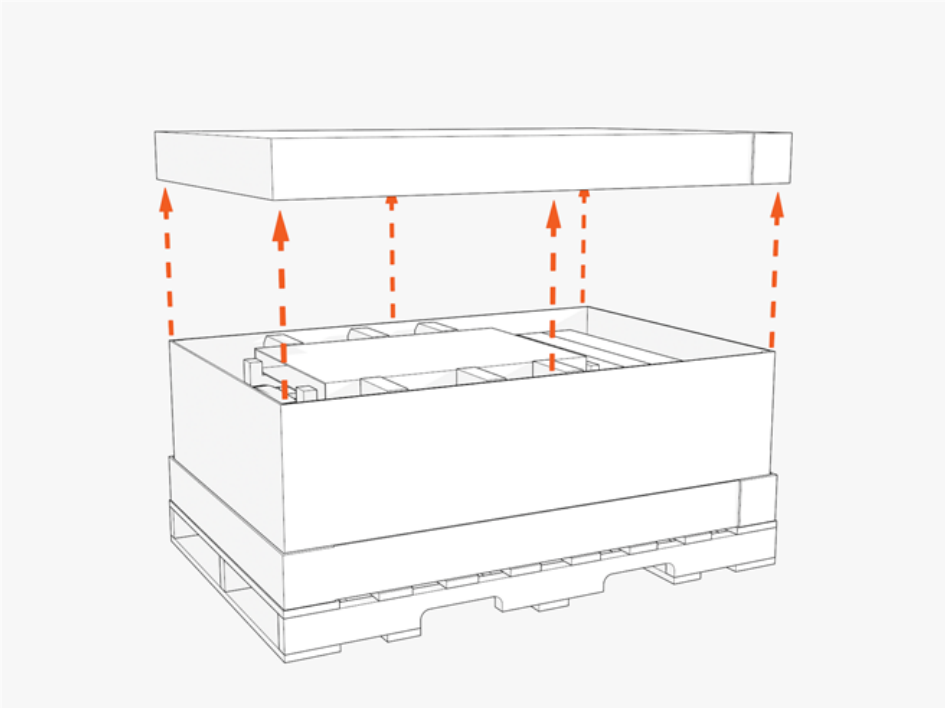


> **IMPORTANT:** Align the vertical center of the mounting plate with the wiring that enters from the ground or rear of the installation site.

Unpack

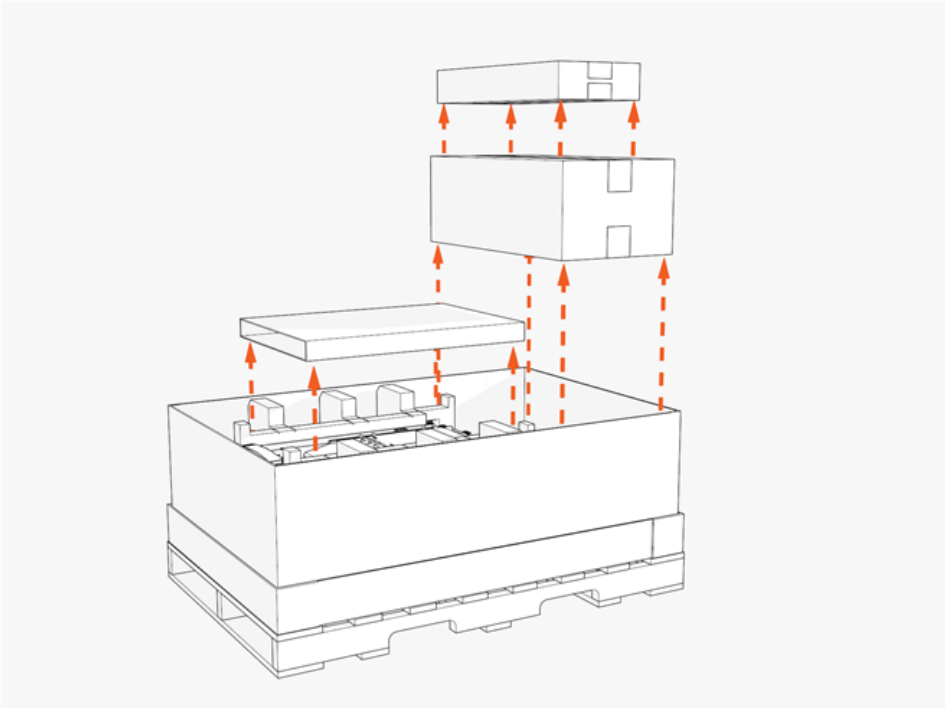
To unpack, complete the following steps:

1. Lift off the crate cover.

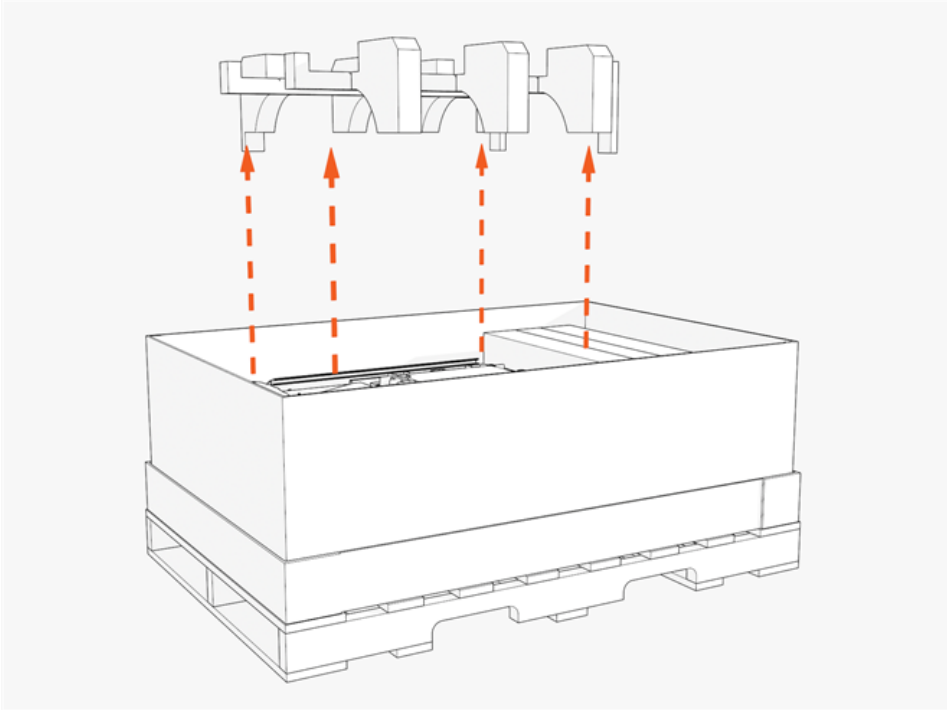


2. Set aside the separate packages that are inside the crate.

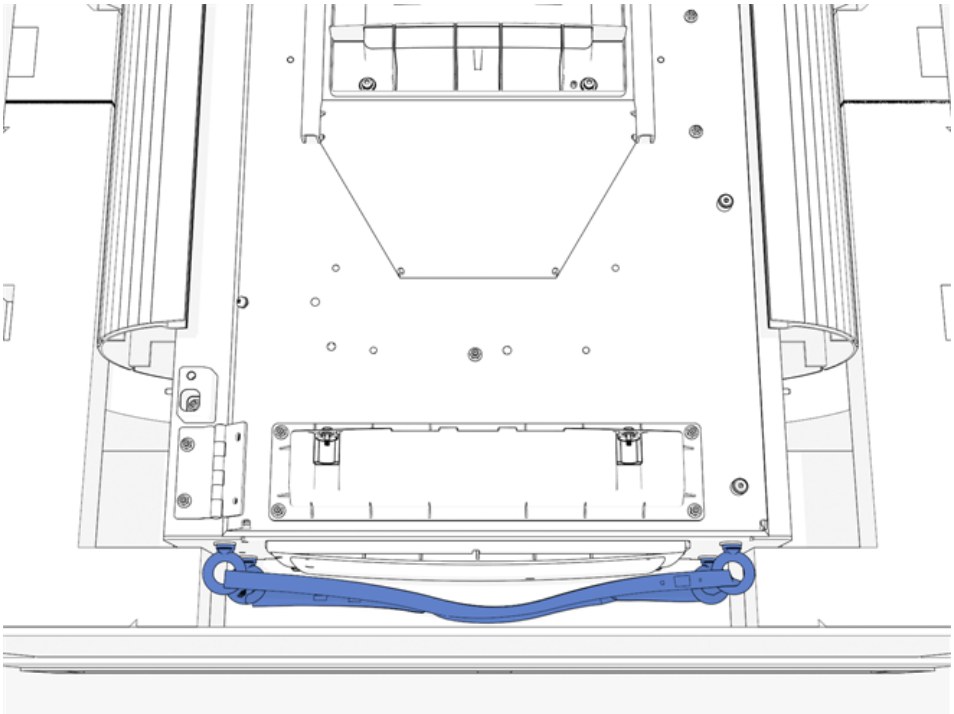
   Note: These packages contain vinyl signs, trims, and top cover to be installed later.



3. Remove the top foam inserts.



4. At the top of the Power Link 1000, locate four preinstalled eye bolts and lifting straps.

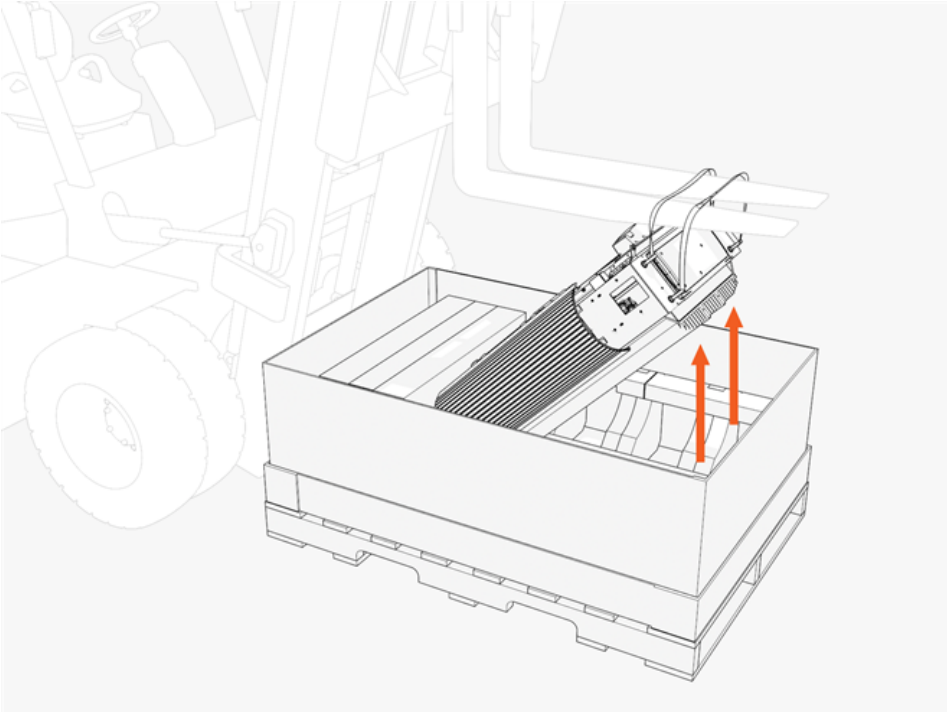


Access Inside

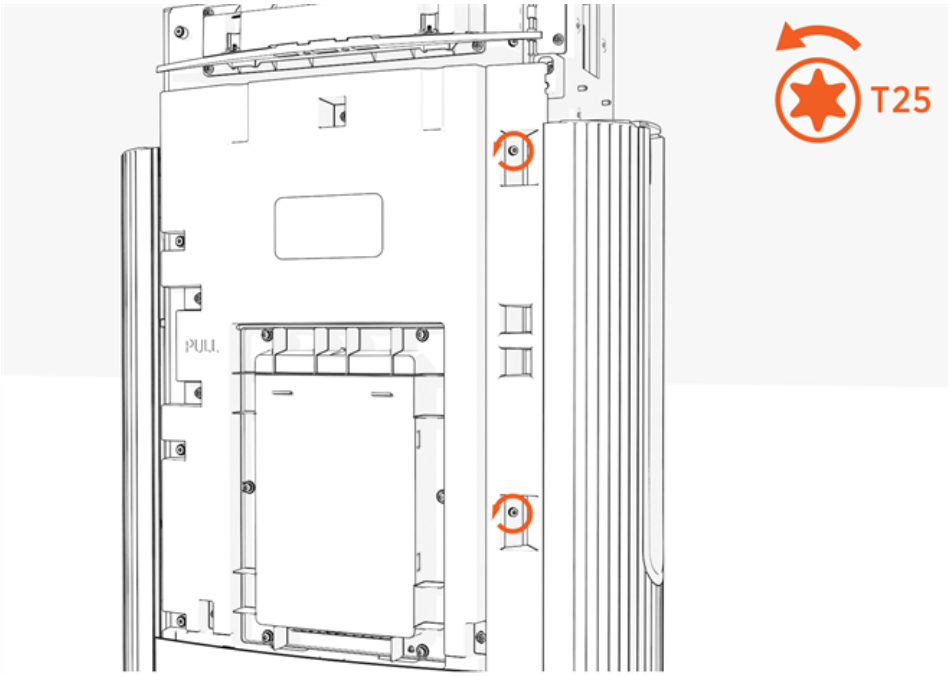
To access inside, complete the following steps:

IMPORTANT: Keep components in a cool area out of direct sunlight until you reinstall them.

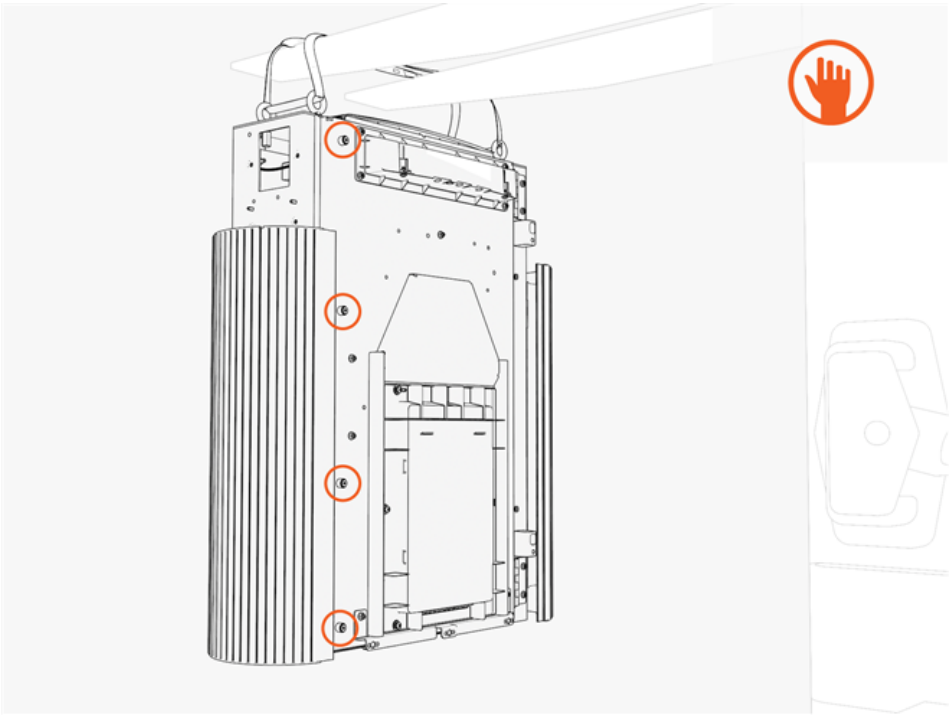
1. Lift up the Power Link 1000 by the lifting straps.
   Note: Use a forklift or service cart with retaining straps.



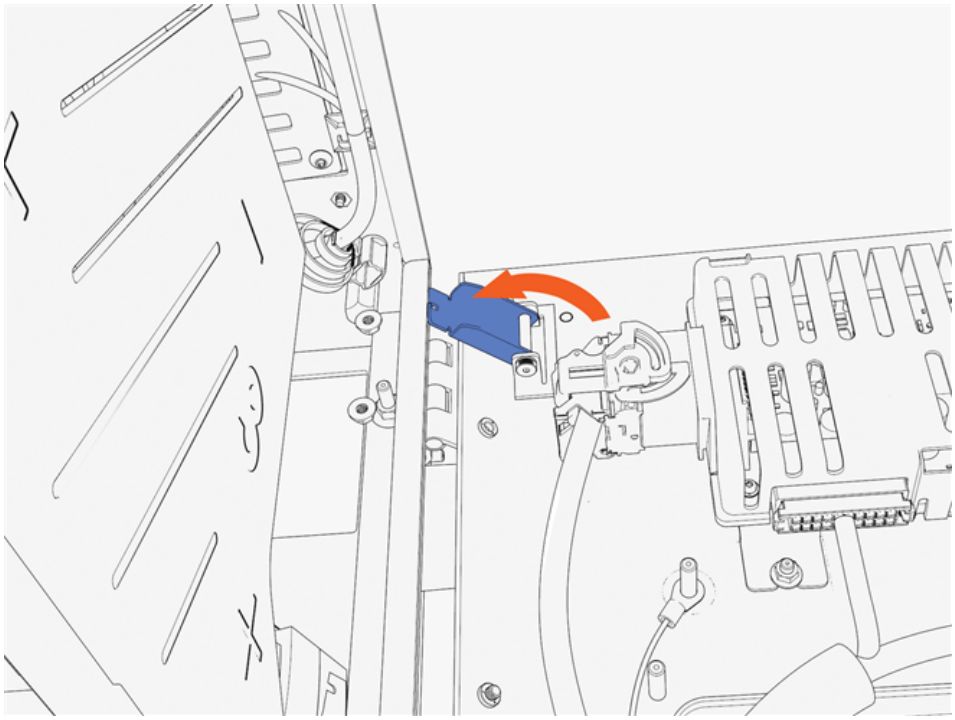
2. Loosen the two screws from the door bracket (only if covers are unassembled).
   Hold the middle of the door bracket. Lift and tilt out.



3. Uninstall the four screws along the left side to open the door.



4. At the hinges inside the door, rotate the orange-colored wind stops into the door gap (to prevent the door from accidentally closing while you work).

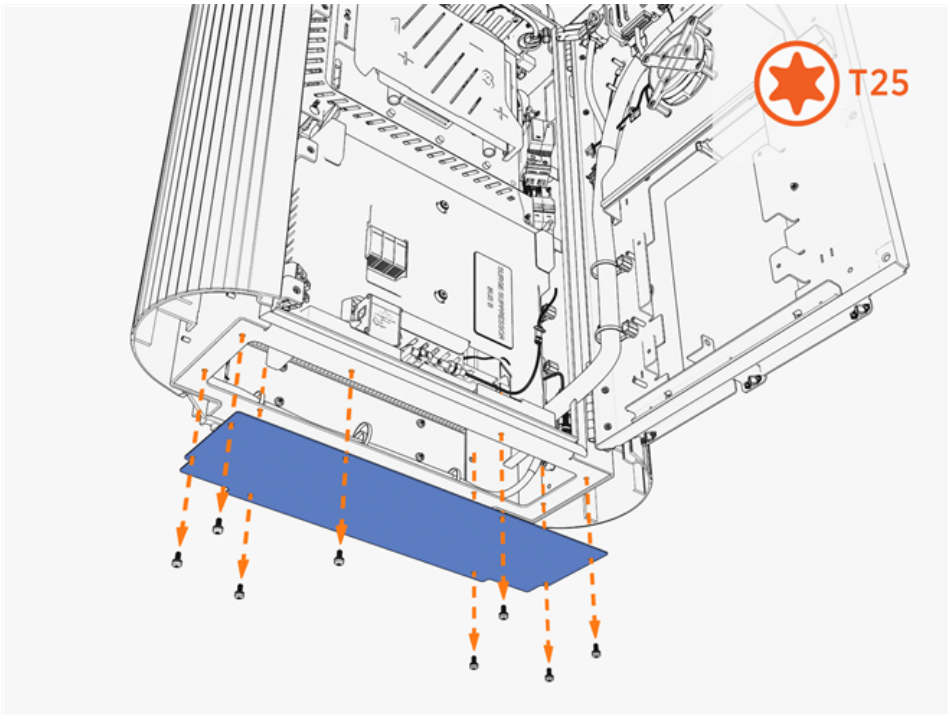


Gland Plate

To create openings in the gland plate for the wiring, complete the following steps:

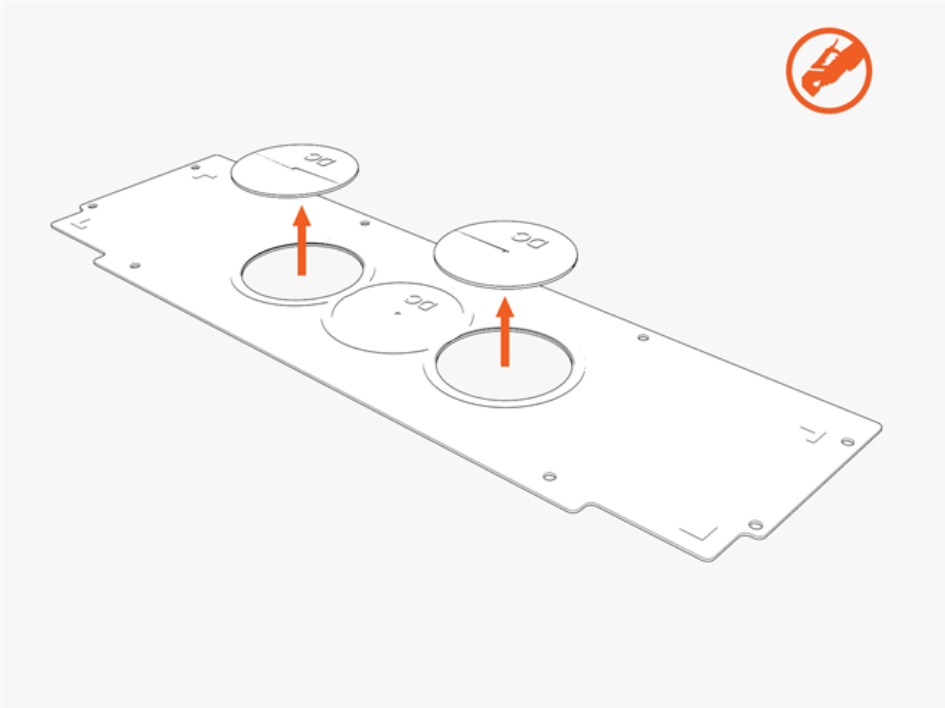
1. Uninstall the screws from the gland plate located at the bottom.

2. Remove the gland plate.

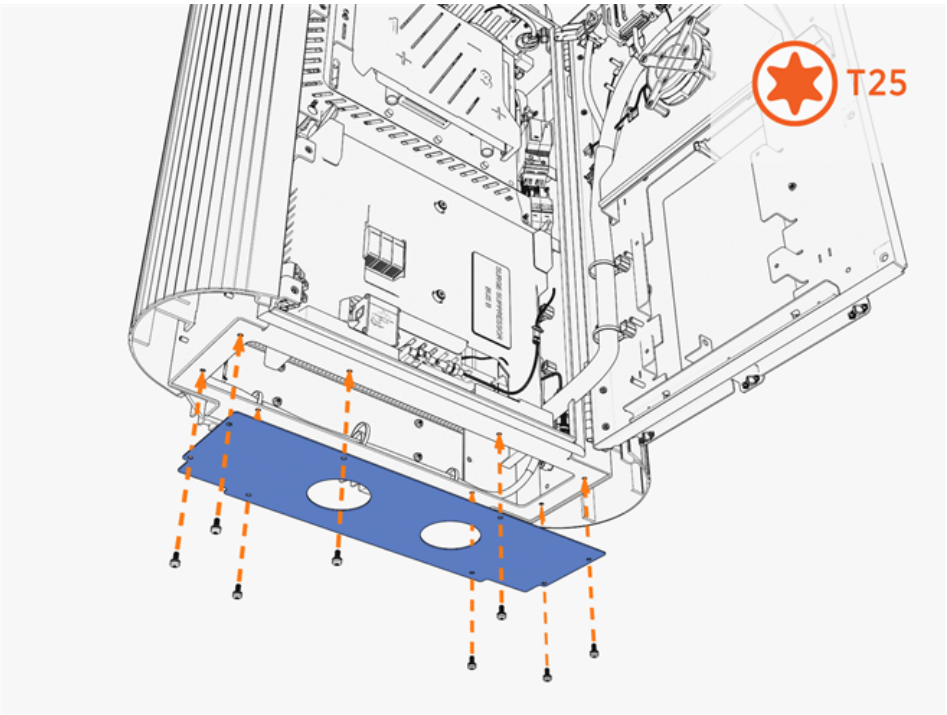


3. Use a hydraulic hole punch to create openings in the gland plate for this wiring:

a. DC input conduits
    i. Check if the site plans require one or two DC conduits.
    ii. Use the gland plate pilot holes as a guide.
    iii. Punch out one or two DC opening(s).
b. 48 V DC and Ethernet conduits
    i. Check if the site plans require one, two, or three conduits.
    ii. Punch out the correct number of 48 V DC and Ethernet opening(s).



4. Reinstall the gland plate.

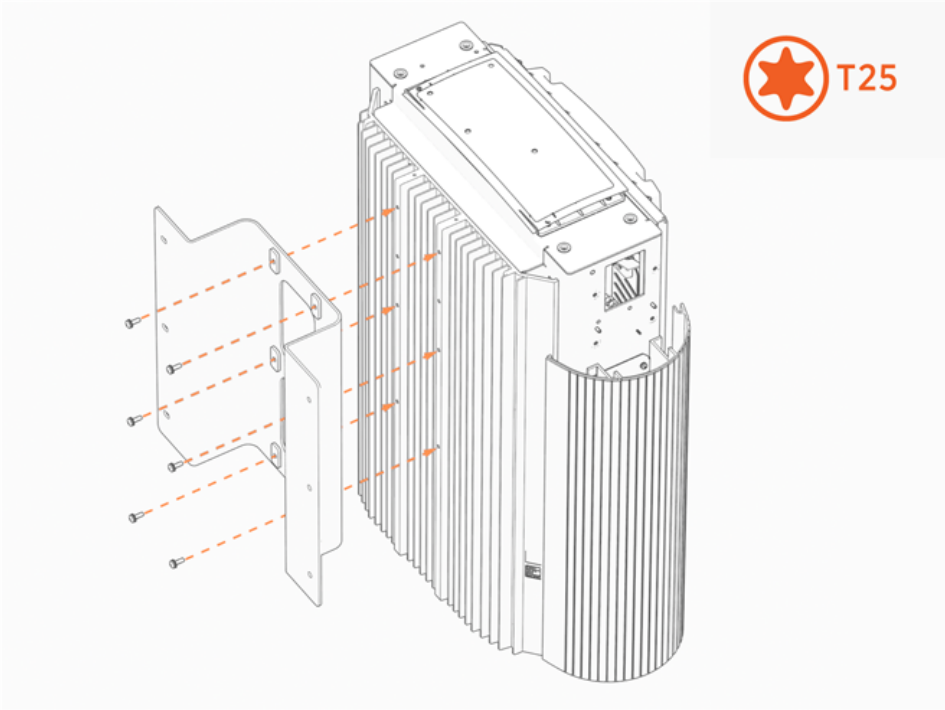


Mount

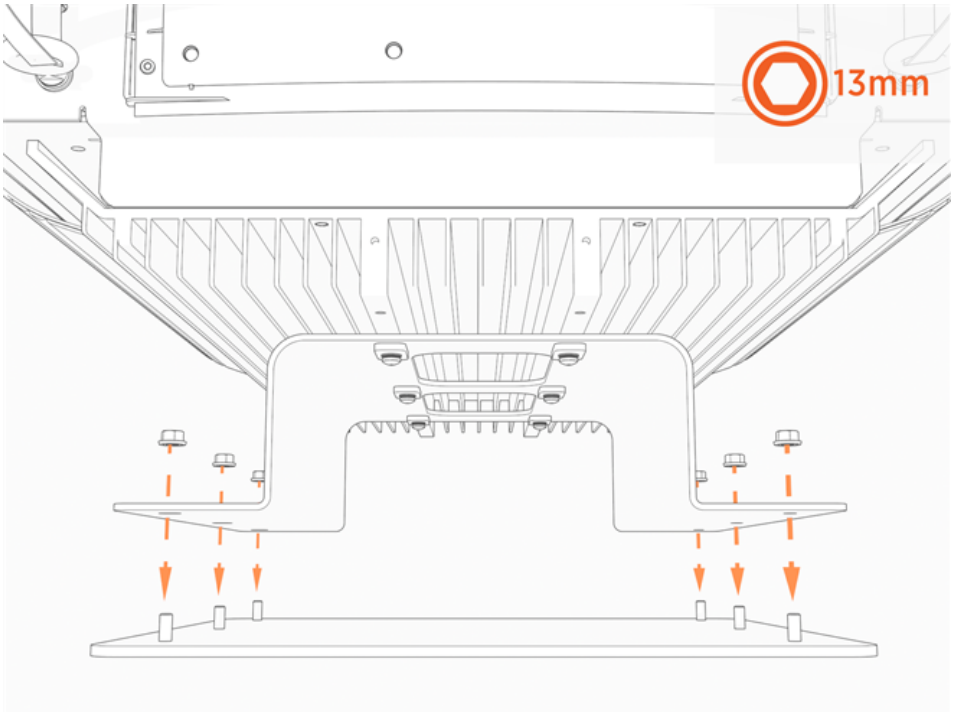
To install the mount, complete the following steps:

1. Disengage windstops and close the door. Install screws into the door.
2. Move the wiring out of the way.

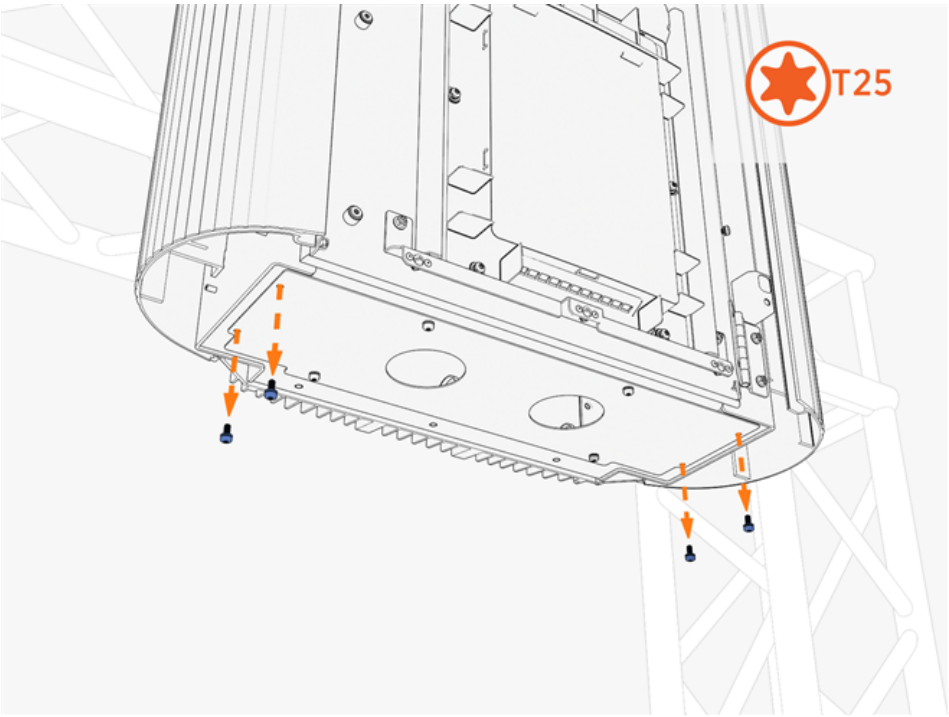
3. Install the wall mount bracket onto the back of the Power Link 1000.



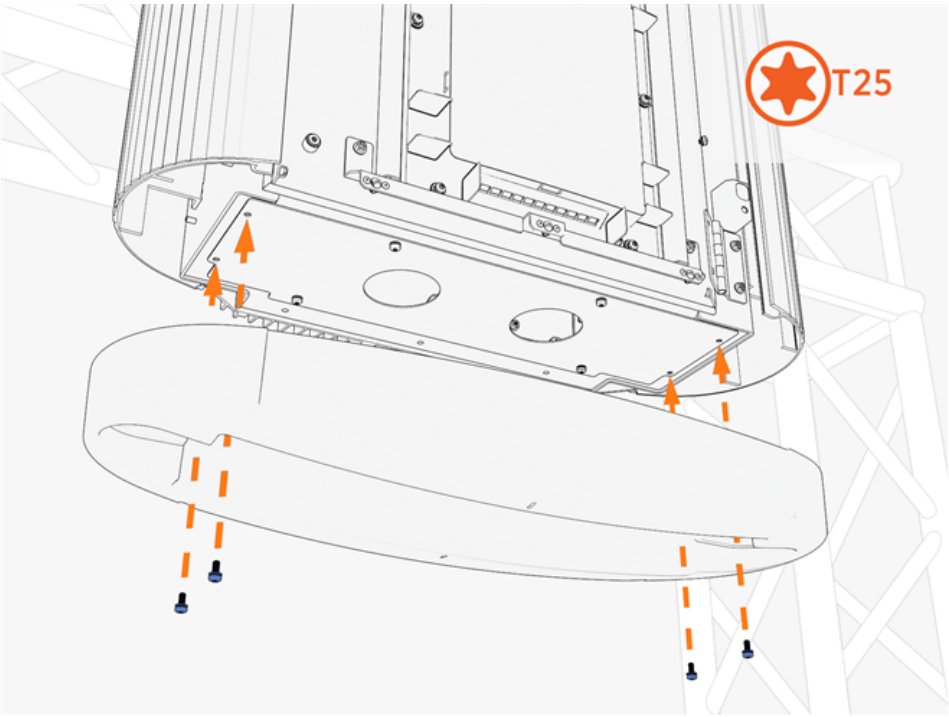
4. Attach the wall mount plate onto the bracket. Install fasteners called for by the site plans. Torque to the specification indicated in the site plans. Mount as preferred.
   Note: Contractor provides fasteners. Site plans must specify fasteners appropriate for and rated to secure the weight to the material.



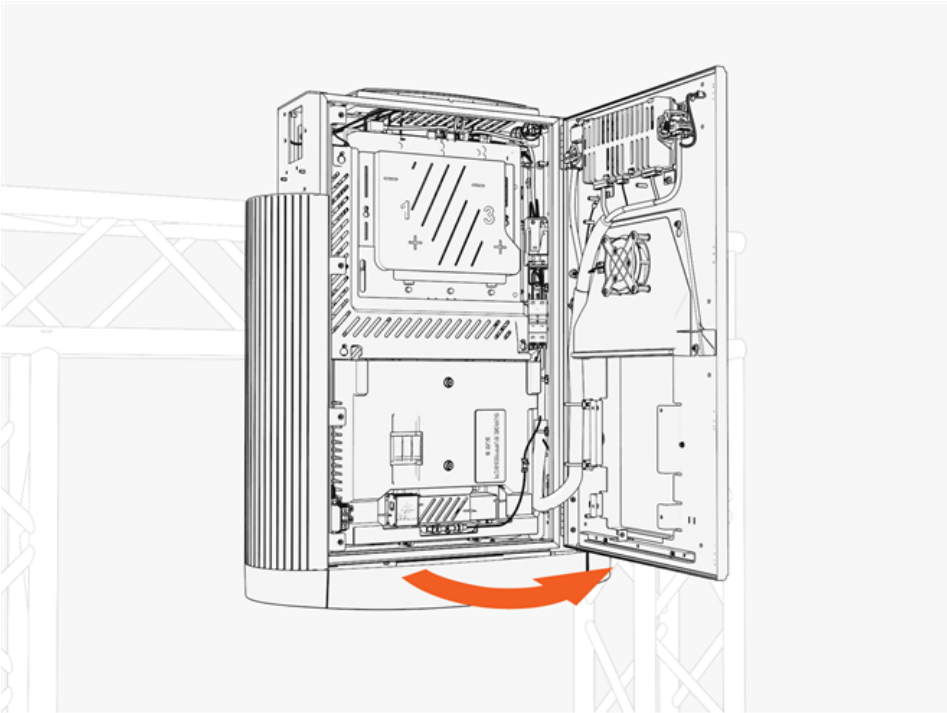
5. Remove the four outer screws from the gland plate (if previously reinstalled).



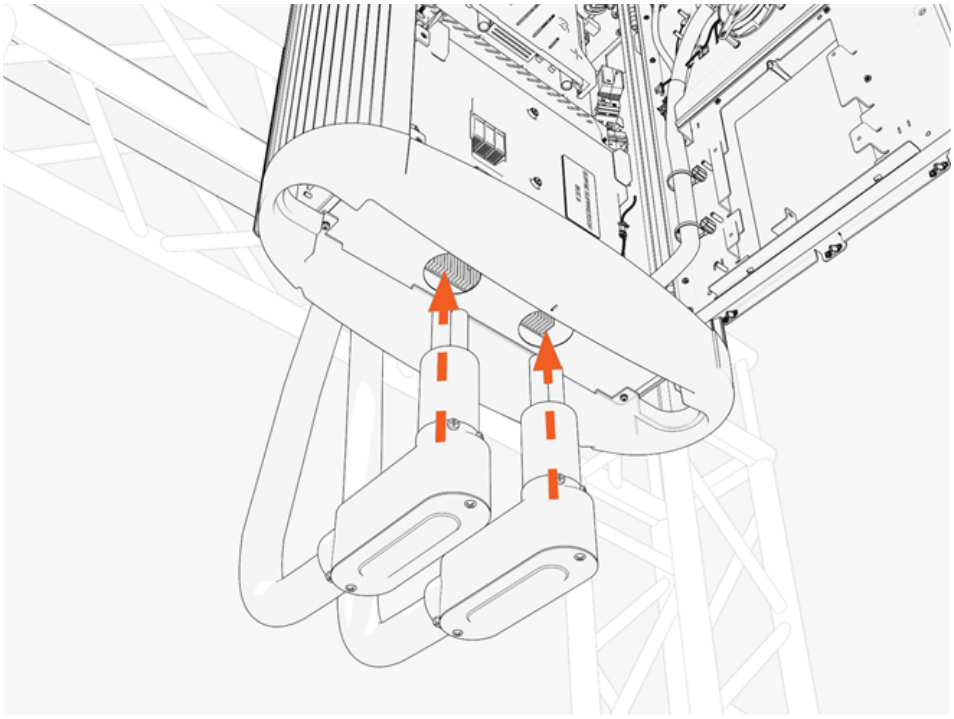
6. Use those screws to install the bottom cap.



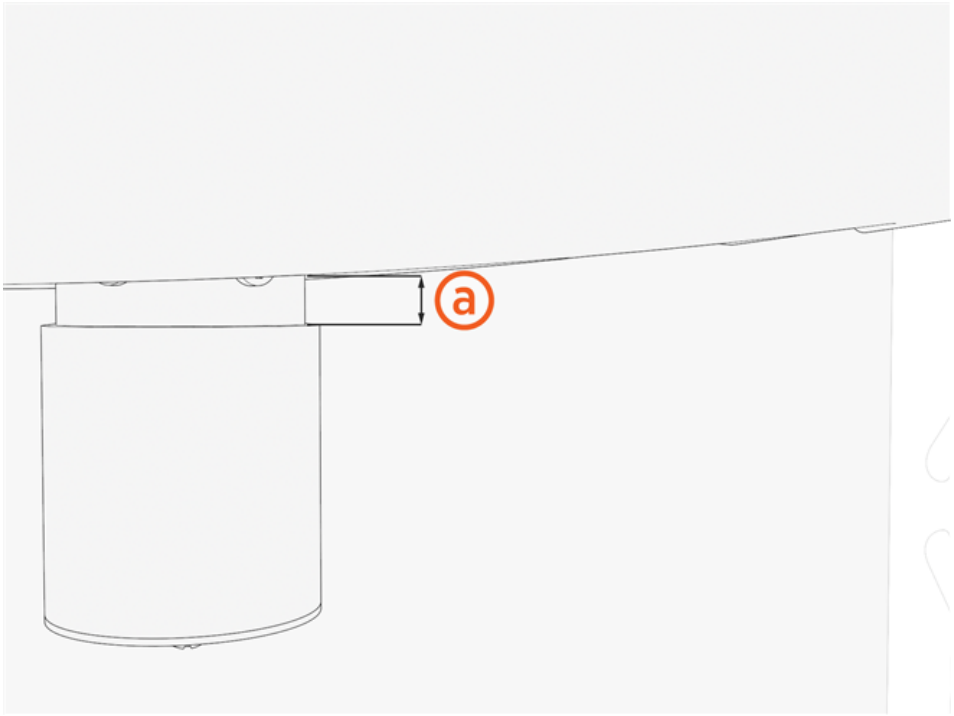
7. Disengage windstops and close the door. Install screws into the door.
8. Reopen the door.



9. Route the wiring through the bottom.



Note: Ensure that there is (a) 12 mm (1/2 in) clearance between the bottom cap and the conduit.



Connect the Wiring

To connect the wiring, complete the following steps:

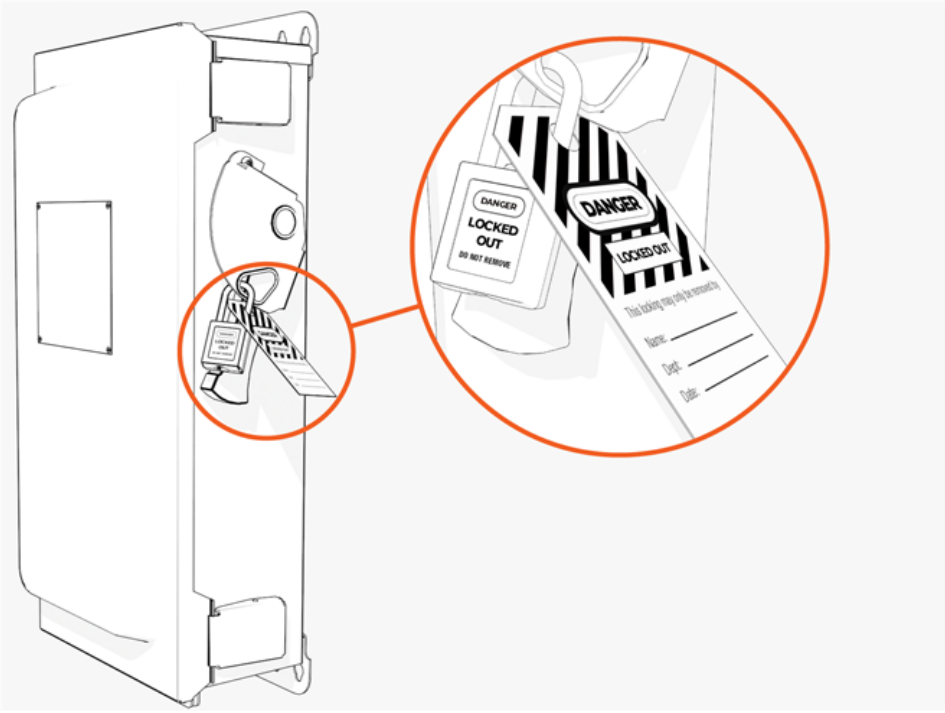
DANGER: RISK OF SHOCK

- Before any procedure, disconnect the power.
- Follow local code and site lockout/tagout procedure to de-energize the station.
- Wait for energy to dissipate (approximately five minutes).
- Keep power off until all covers and panels are reinstalled and the work is complete.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

1. Disconnect power at the site electrical panel.

   Note: Follow standard practice and local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding.



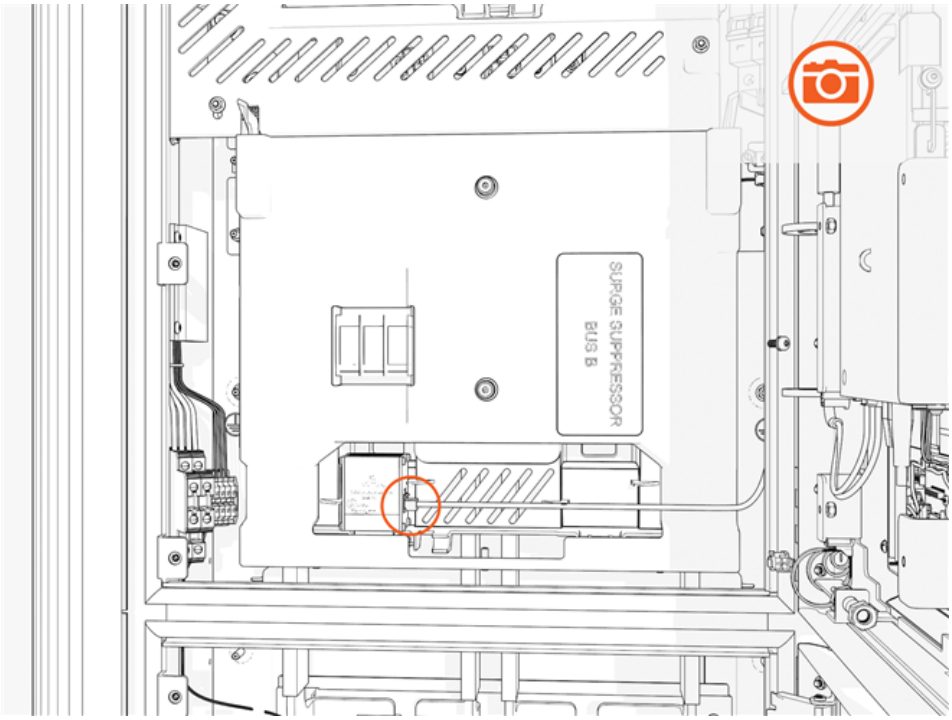
2. Use a multimeter to test that the unit is de-energized.

Access the bus bars

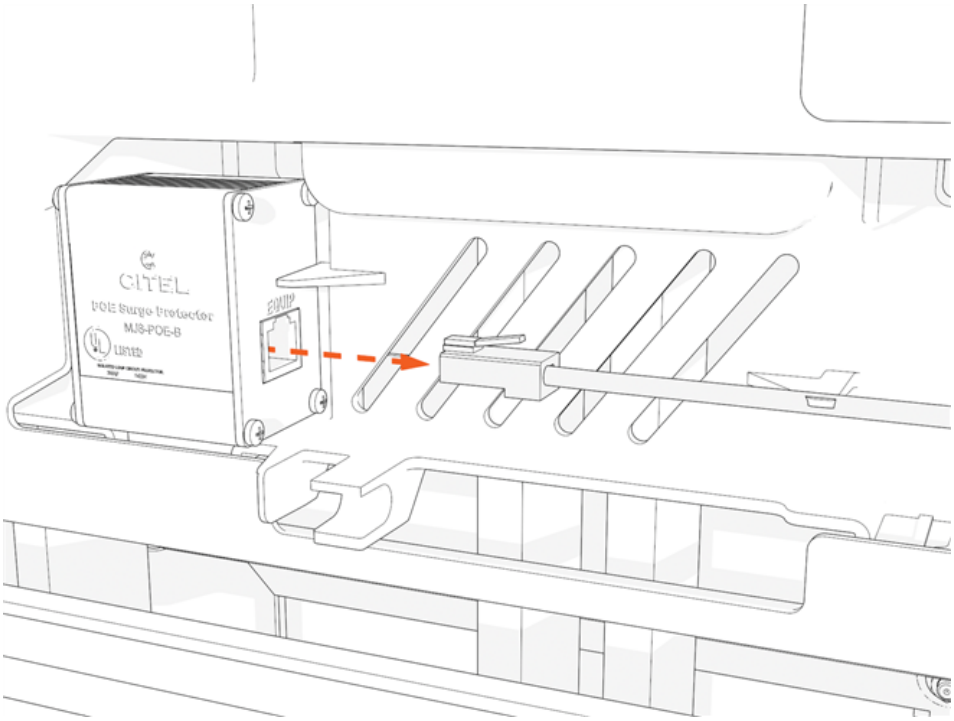
To access the bus bars, complete the following steps:

IMPORTANT: The upper and lower bus bar plates look similar. Both sets are inscribed (A-, A+ [single] or A-, A+, B-, B+ [dual]) and have lug nuts preinstalled.

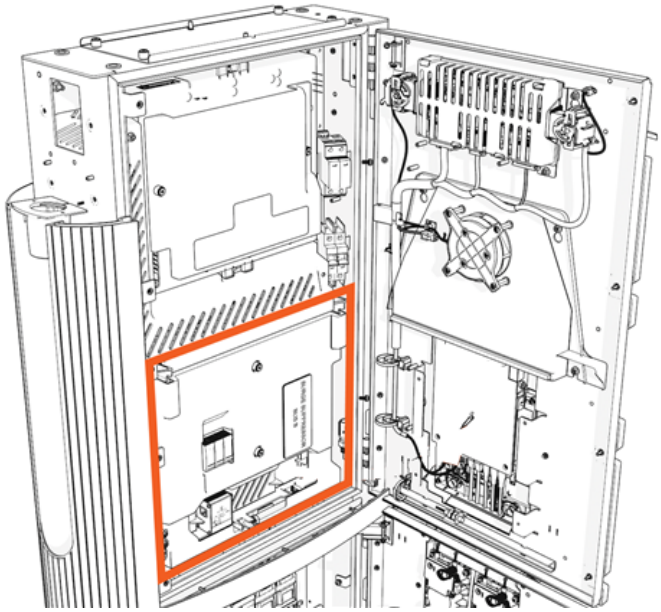
1. Disconnect the Ethernet cable from the Ethernet surge suppressor.



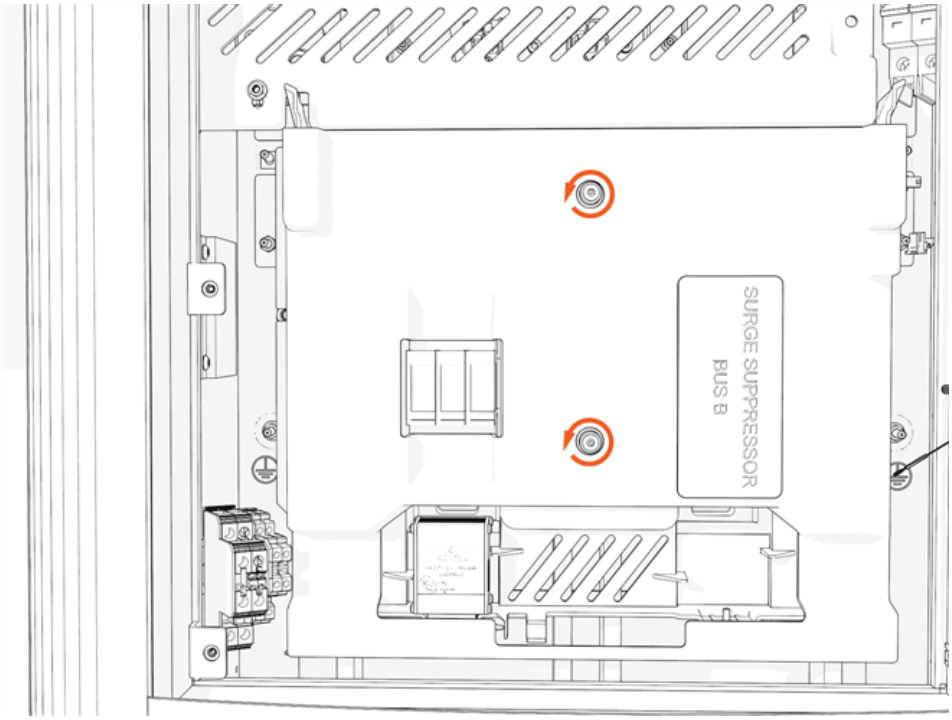
Note: Take a photo or note to identify which port later.



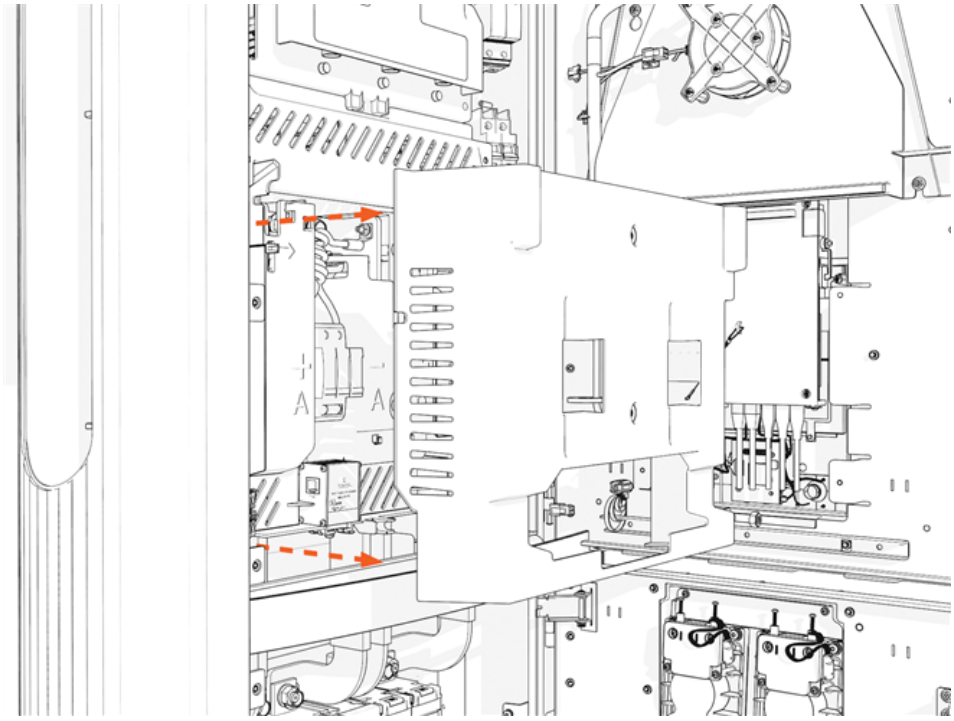
2. Access the upper bus bars.



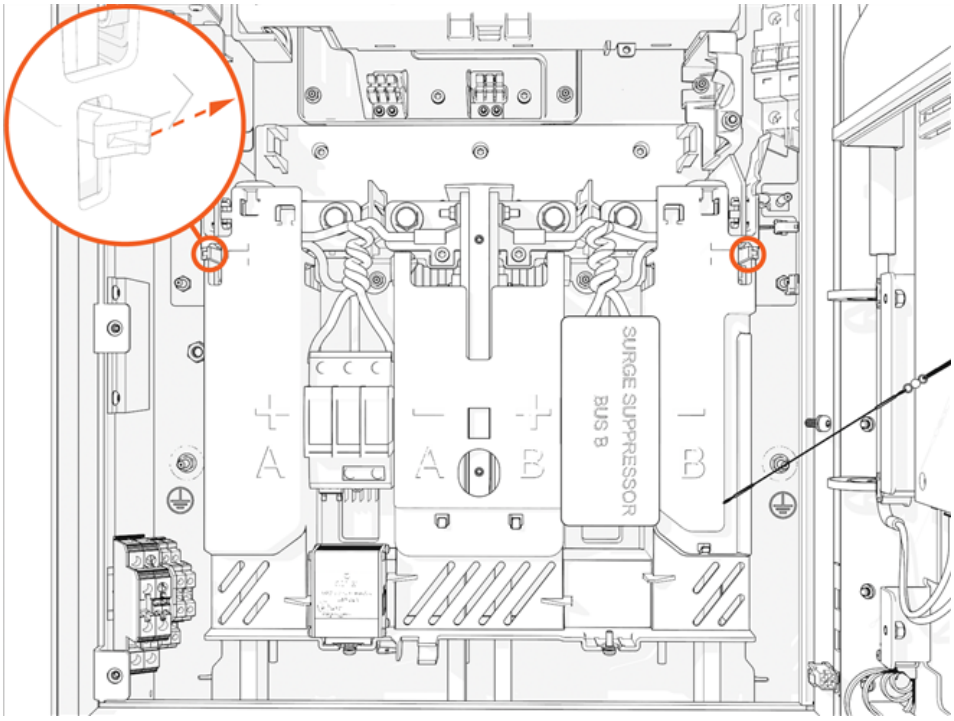
3. On the power plate cover, loosen the captive screws.



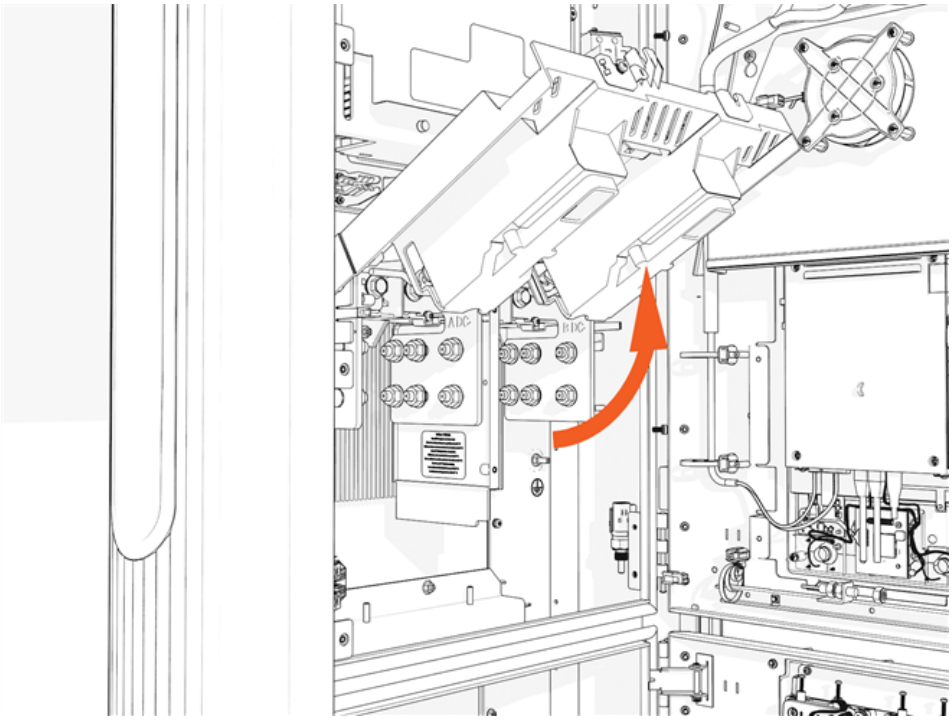
4. Remove the cover.



5. Release the tabs on the upper safety cover.



6. Lift up from the bottom until it locks in the open position.



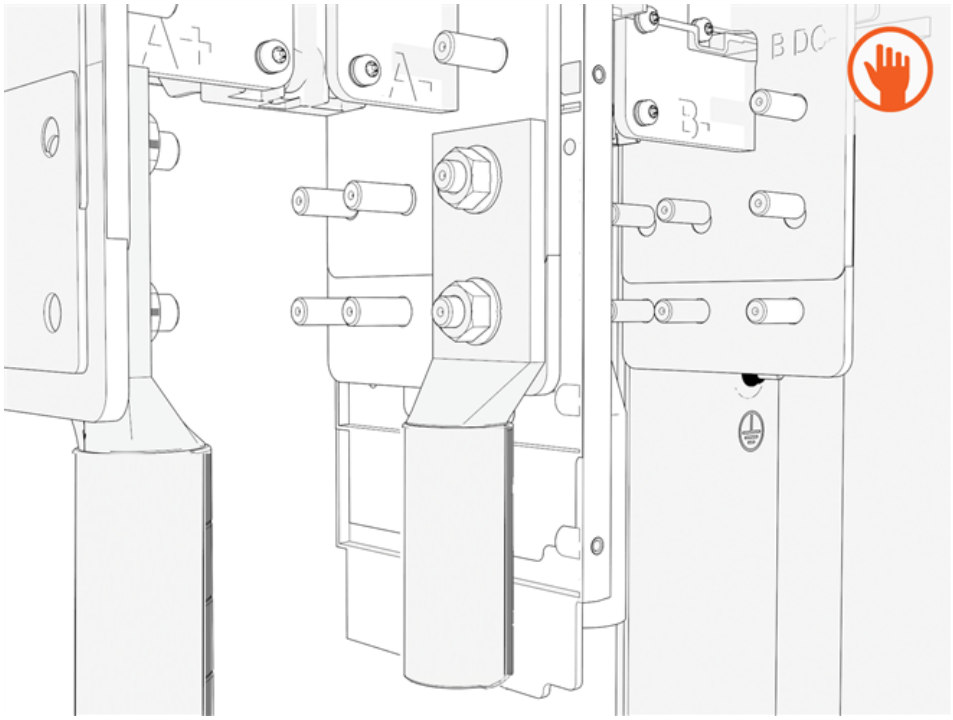
Install DC Conductors and Lugs, and Ground Wire

To install the DC conductors and lugs, and ground wire, complete the following steps:

1. Ensure you have de-energized the applicable circuit and locked out/tagged out the disconnect according to standard practice and local code before proceeding.
2. Use a multimeter to test that power is off.
3. Route all conductors into the correct area within the cabinet.

Measure and Cut

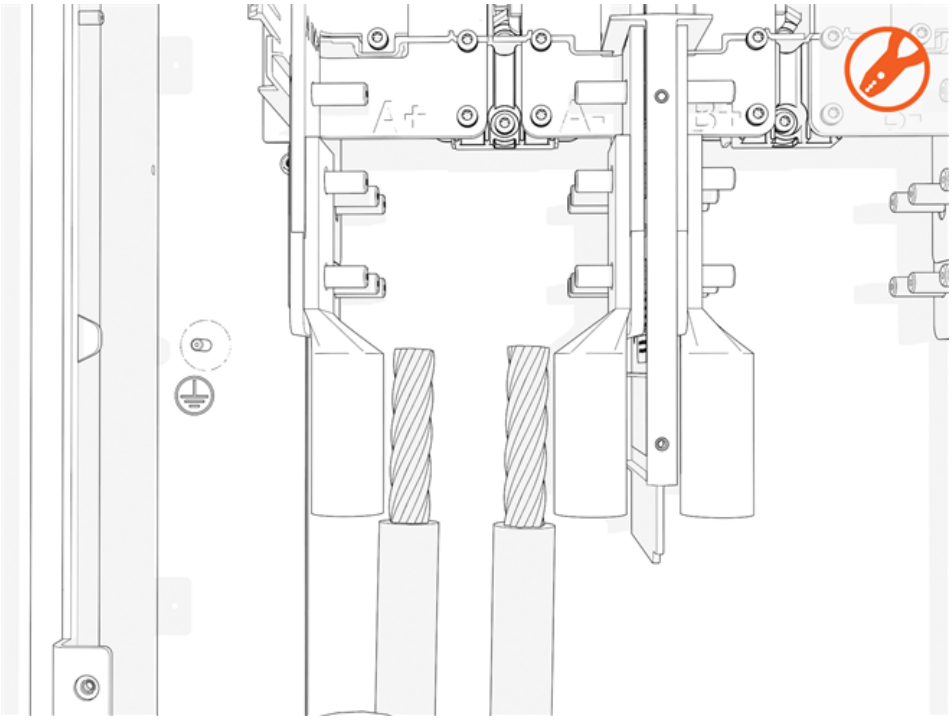
1. Loosely install lugs only (without the conductors) onto bus bars. Hand-tighten.
   Note: Use included bolts, washers, and nuts



2. Measure the length from each conductor to its corresponding lug.
   Mark each conductor at the point where you will need to trim it.
   Note: DC bus bars are marked in order from left to right:

Single Input	Dual Input
A+ A-	A+ A- B+ B-

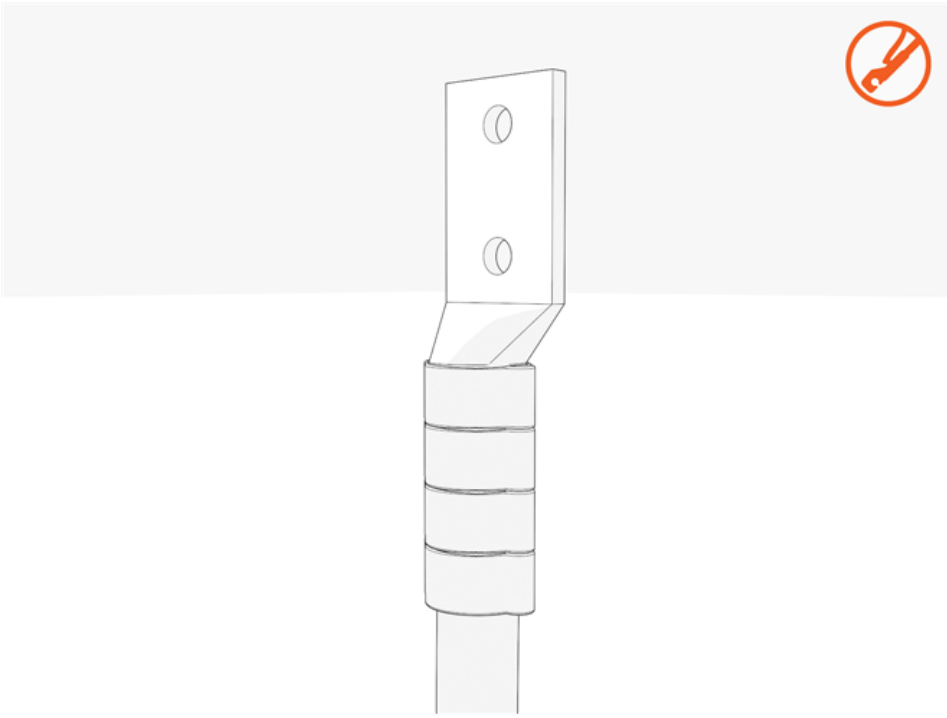
3. Strip and cut the conductors to the desired length.



DC Lugs

1. Uninstall the lugs. Crimp a lug onto each conductor.

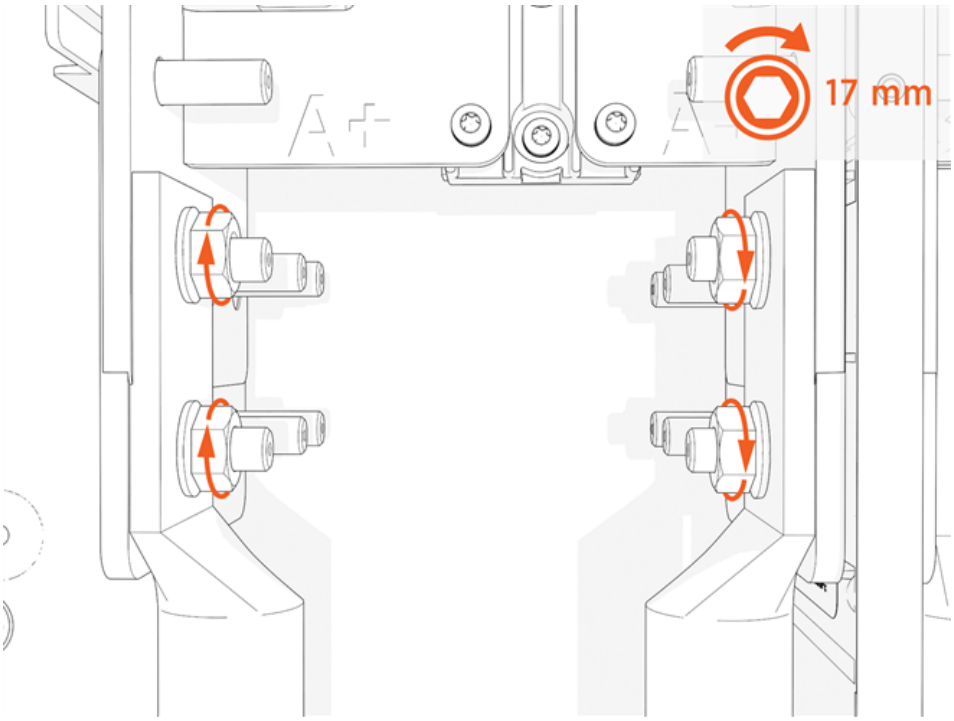
IMPORTANT: Use compression lugs with the specifications . Use the lug manufacturer's tool and die. If required, heatshrink or tape the crimp area to meet local code.



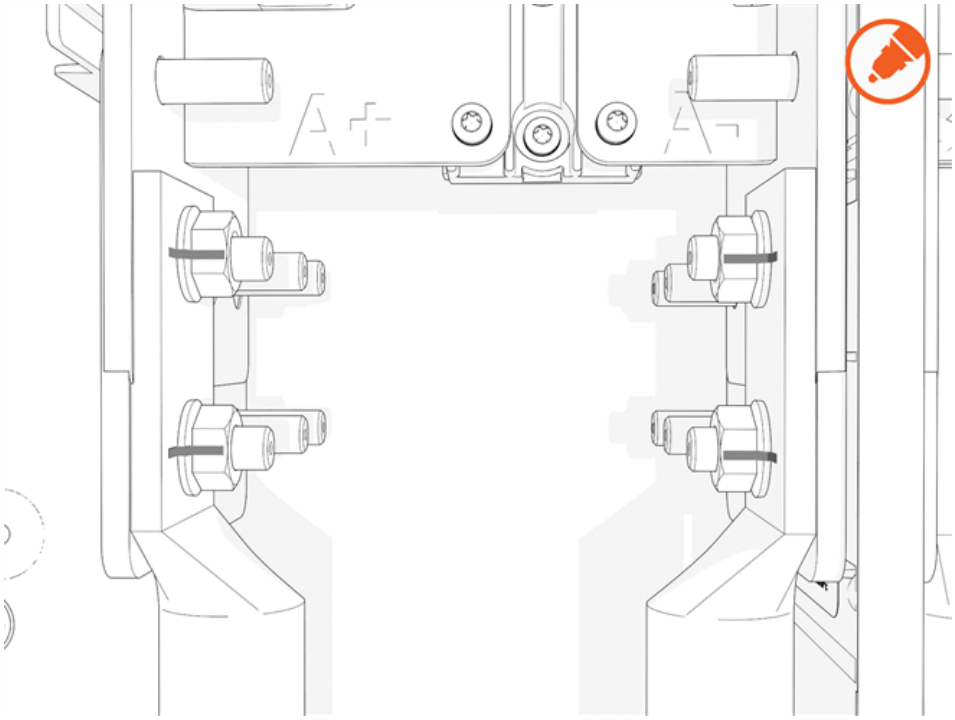
2. Land the DC lugs on the terminals. Torque nuts to 19 Nm (168 in-lb).

   Note: Fasteners are pretreated with dielectric grease.

> **CAUTION:** If using 500 kcmil conductors, you must use the back set of lugs to avoid interference with the surge suppressor panel.

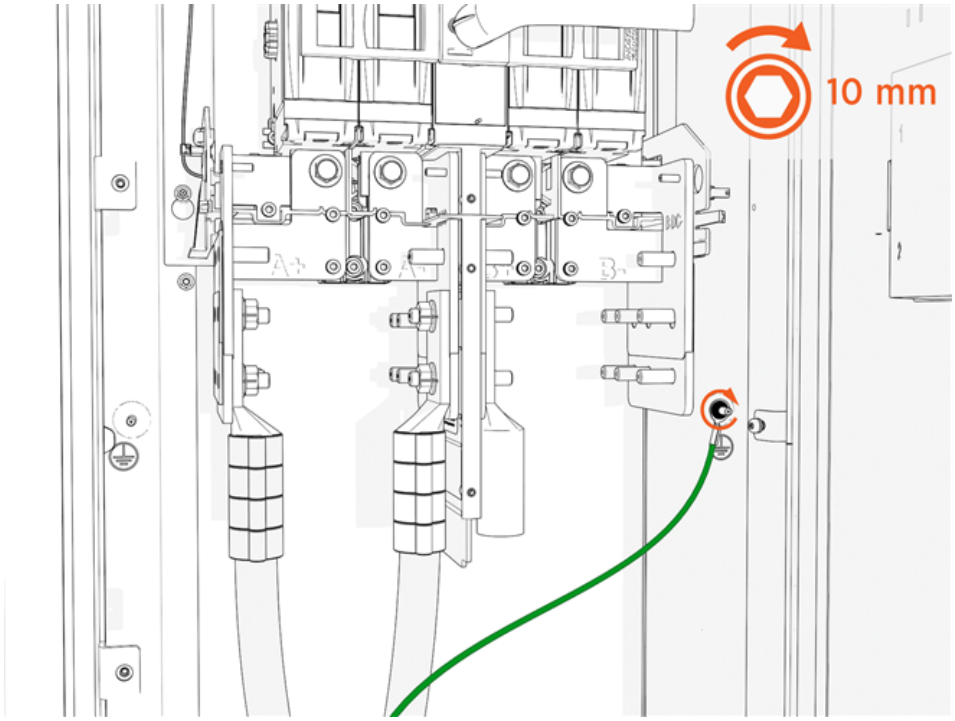


3. Mark all torqued power connections.

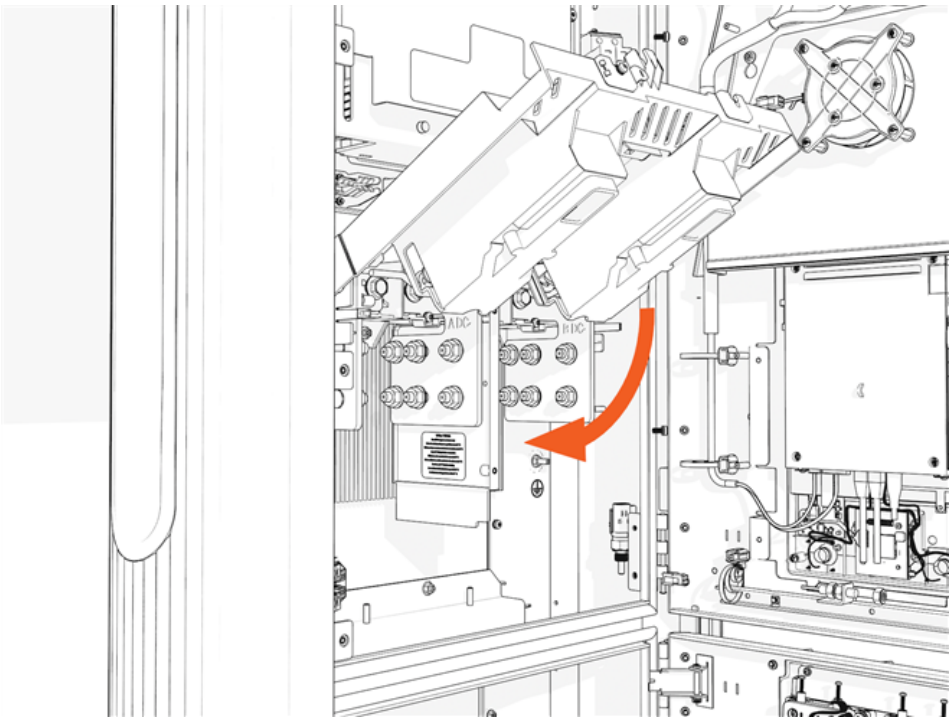


DC Ground Wire

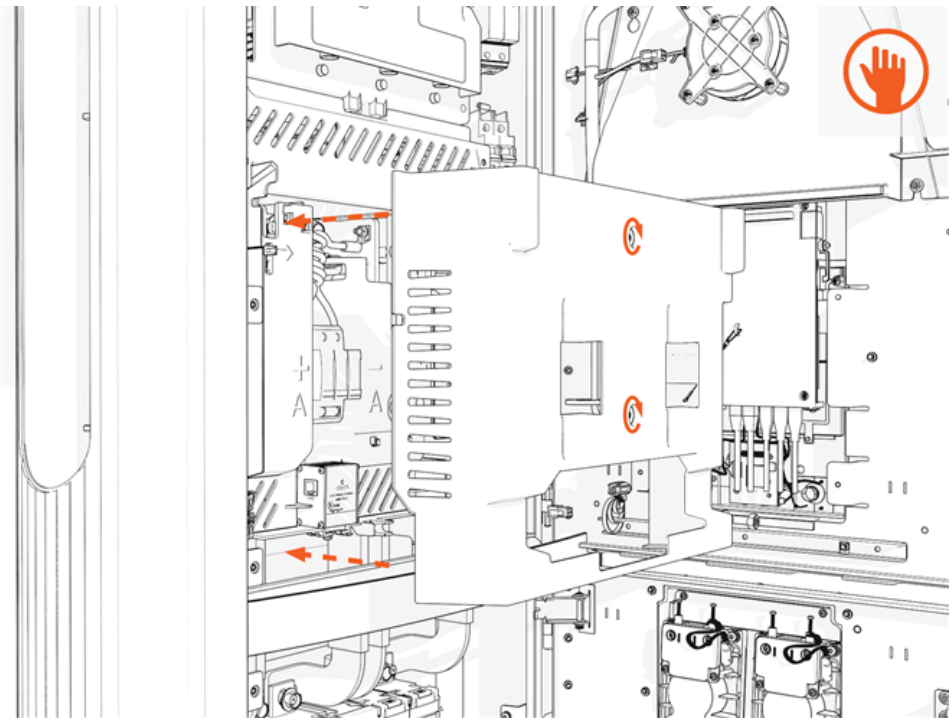
1. Land the ground wire onto a ground stud. Torque to 7 Nm (60 in-lb).



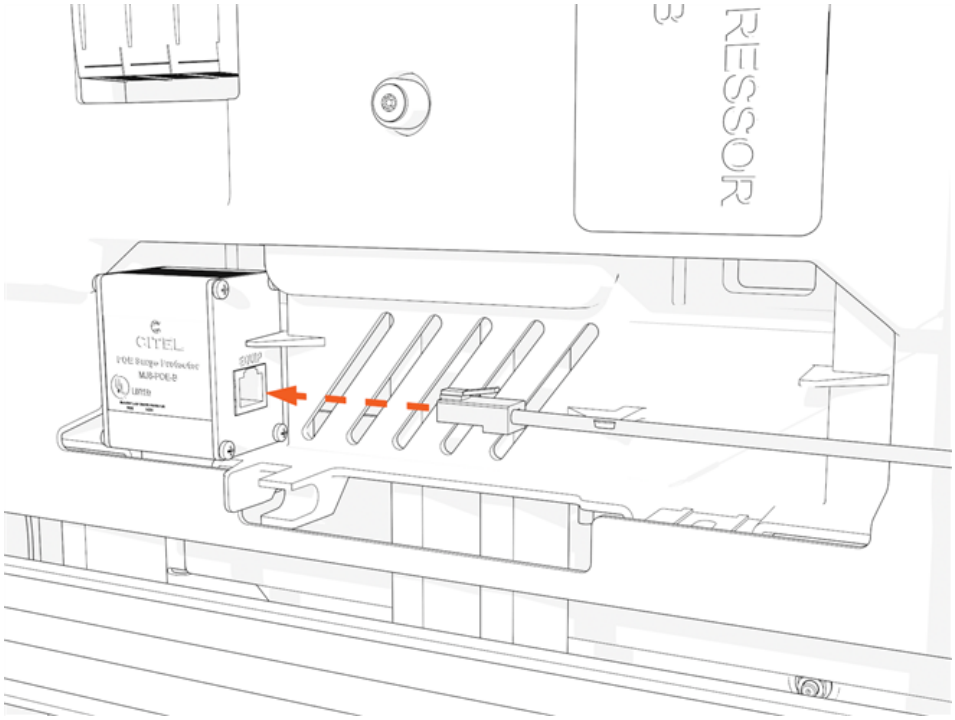
2. If you are installing the "Overhead" Mounted configuration:
   Tilt down the upper safety cover to close.



3. Position the power plate cover. Hand tighten the captive screws.



4. Reconnect Ethernet cable(s) to Ethernet surge suppressor into the same ports as before.

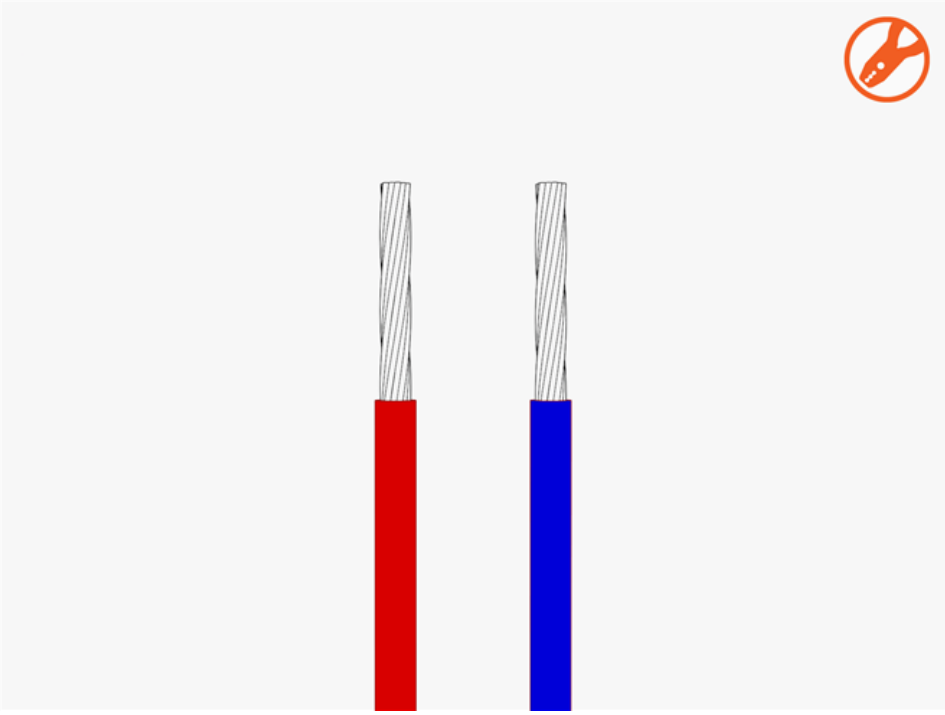


48 V DC Wiring

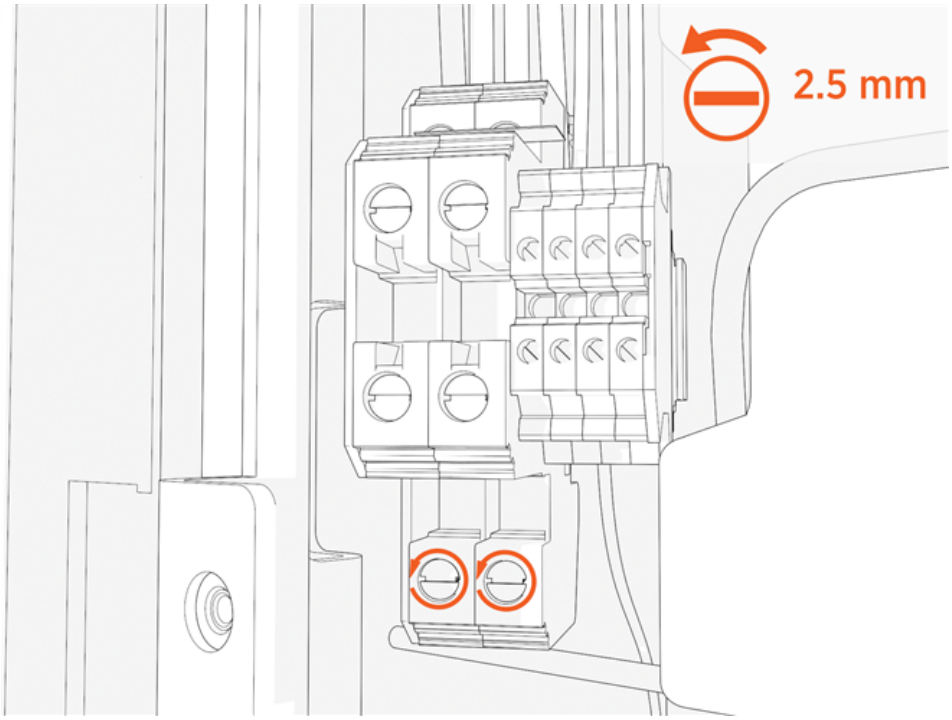
1. Check the 48 V DC wiring requirements in the site drawings:

48 V DC Wire Size	Conduit Size	Installation
16 mm^2 (6 AWG)	21 mm (3/4 in)	Install two 48 V DC wires and one Ethernet cable into one conduit.
Note: Use only copper conductor wire rated for 90 °C (194 °F).		

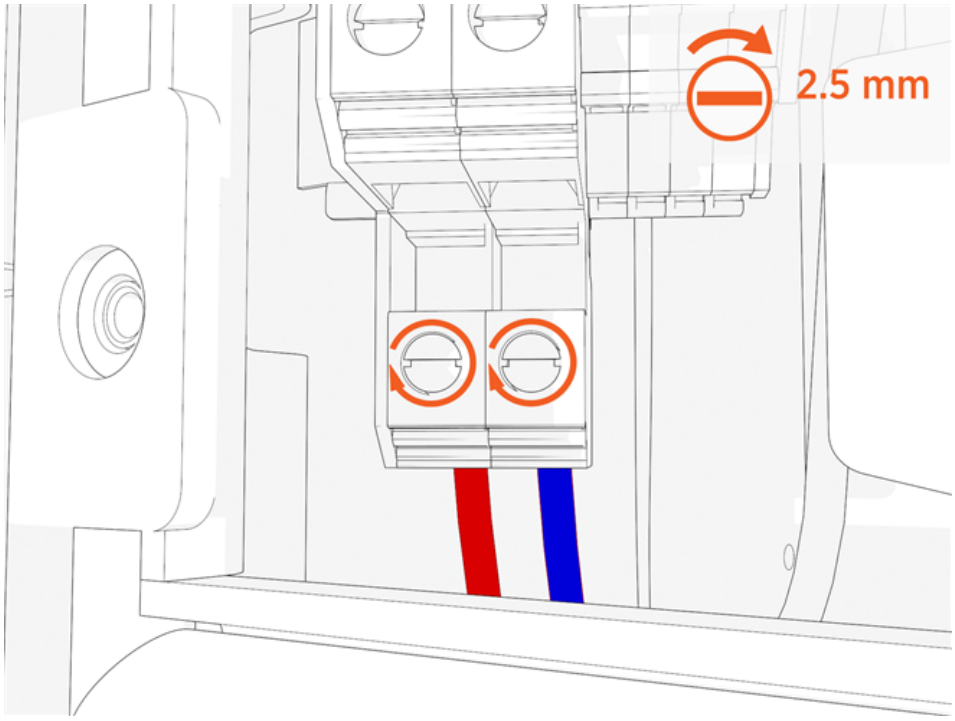
2. Strip the 48 V DC wires.



3. Loosen each terminal tab (upper cabinet, left side).



4. Seat the 48 V DC wires. Push-pull to test.

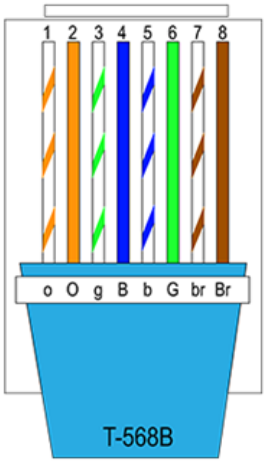


Close the Panel, Lift Back of Hinge

To close the panel and lift back of hinge, complete the following steps:

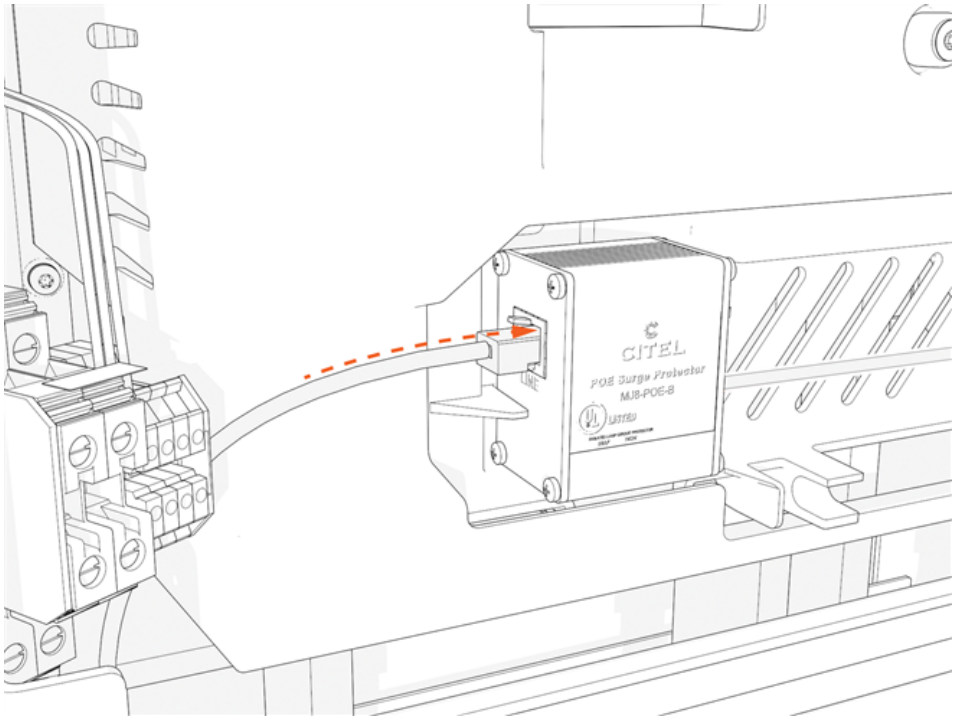
Cat6 STP Ethernet Cable

1. Trim the Cat6 STP Ethernet wires to length and allow for a service loop. Terminate both ends.
2. Field crimp a shielded connector onto each Cat6 STP Ethernet wire. Use a straight-through T568B pattern.



IMPORTANT: Do not connect the shield wire here at the Power Link 1000 termination.

3. Test each Ethernet wire for functionality.
4. Identify which blue surge suppressors already have cables in the line-out (right) positions. Connect the Ethernet connectors to those surge suppressors at the line-in (left) positions. Push-pull to test.



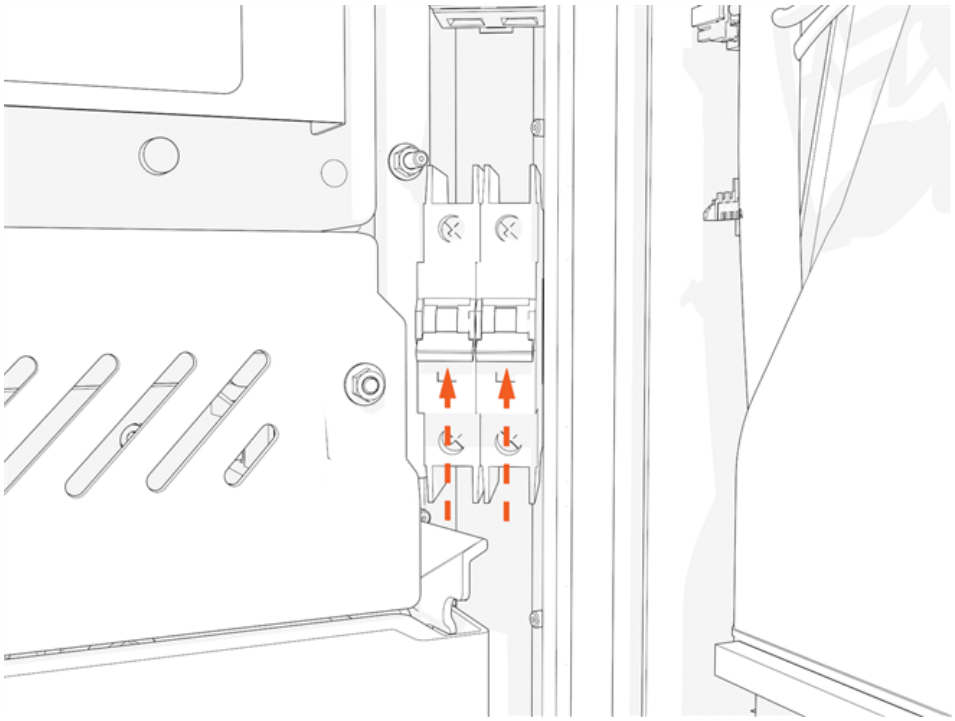
To install DC smart cable, see Install DC Smart Cable.

Install Doors and Vinyl Signs

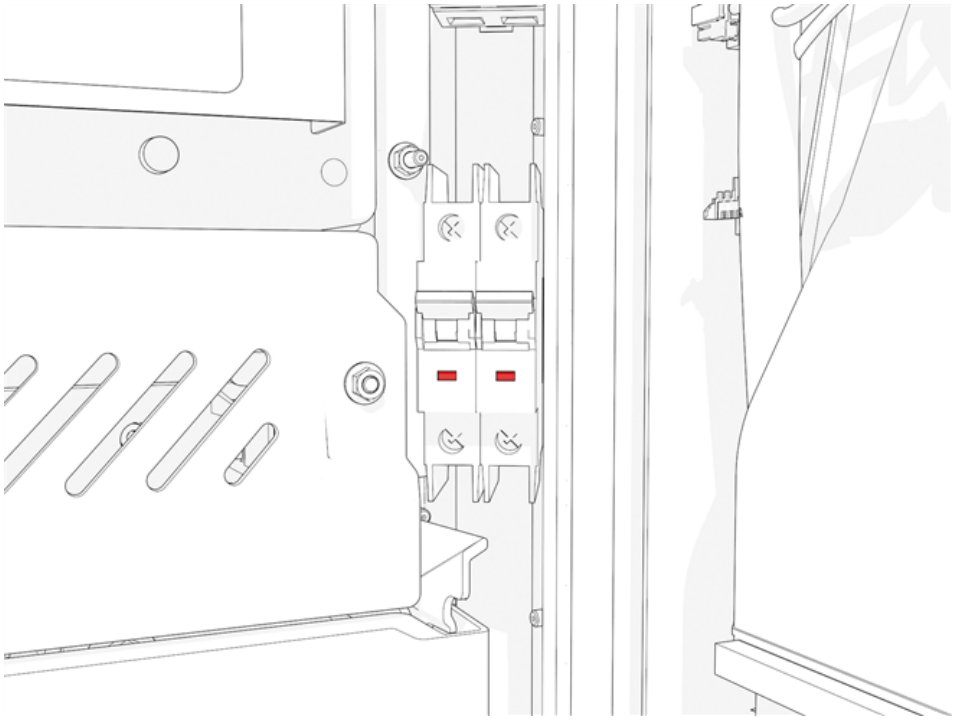
To install doors and vinyl signs, complete the following steps:

Power On 48 V

1. Locate the 48 V DC breaker.



2. Flip up the switch to ON. The indicator light should turn red.



Install Door

1. Disengage wind stops and close the door.
2. Torque screws on the door to 4.5 Nm (40 in-lb).
3. On the right side of the door, insert the bottom of the door bracket. Tilt in the top of the door bracket. Push down into position.
4. Torque screws on the door bracket to 1 Nm (10 in-lb).

Install Vinyl Signs, Trim, and Top Cover

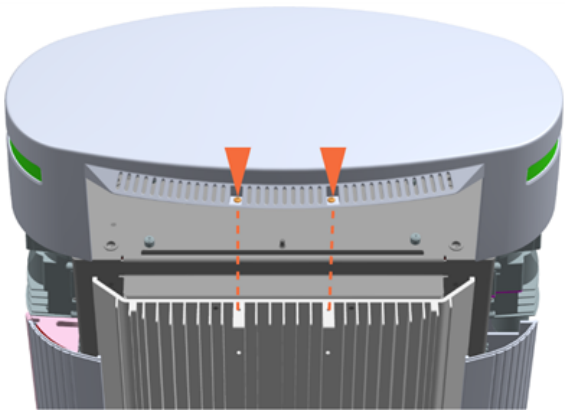
Overhead


a. Top cover
b. CCOM trim (optional, not shown)
c. Lower trim
d. Vinyl sign
e. Bottom cover

1. Position the bottom cover.
2. Reinstall screws. Torque to 2.8 Nm (25 in-lb).
3. Push in the lower trim until it engages with the center and side clips.
4. Simultaneously insert both sides of the vinyl sign. Lower the vinyl sign behind the lower trim.
5. Align the screws (x4) (two at front and two at rear) and install the top cap.

Front

Rear



6. Torque the M5 screws (x2) at rear side to 2.8 Nm (25 in-lb) and M4 screws (x2) at front side to 1.7 Nm (15 in-lb) (use T25 security screwdriver).

Continue to Charging Cable Instructions

Install the overhead CMK.

Install Cable Management Kit 5

The Power Link 1000 can be installed with standard cable management kit (CMK), tall CMK, or overhead CMK for managing different length charging cables. Depending on the space or clearance available above the Power Link 1000, the standard and tall CMK may be installed at one of two height settings, a minimum or maximum height.

CMK Type	Compatible Charging Cable Length	Installation Height	
		Minimum	Maximum
Standard	Standard length (5.8 m or 19 ft)	2.21 m (7 ft 3 in)	2.41 m (7 ft 11 in)
Tall	Medium length (7.6 m or 25 ft)	2.41 m (7 ft 11 in)	3 m (10 ft)
Overhead		-	-

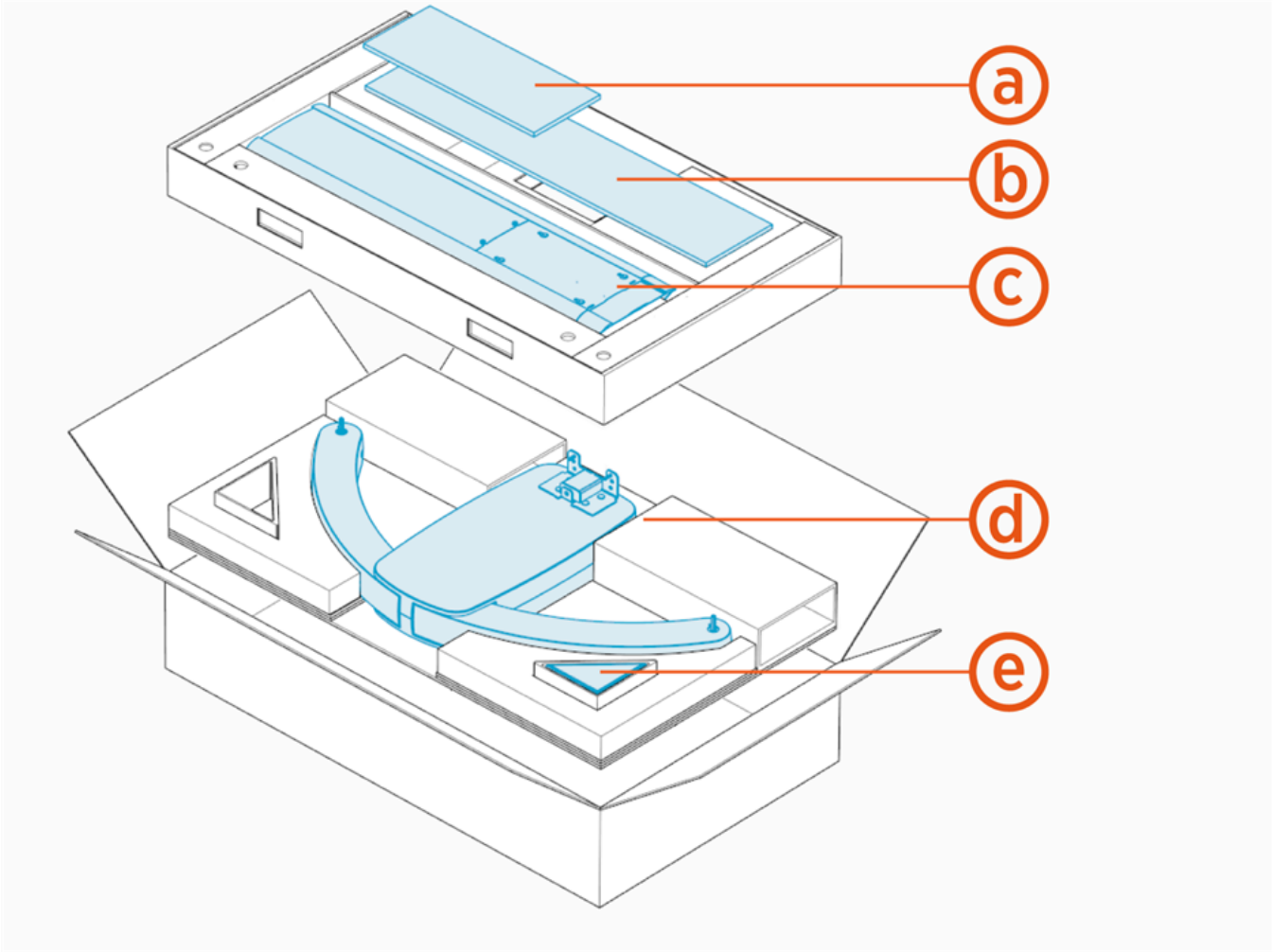
Install Standard CMK

If the site plan calls for the Power Link 1000 to be configured with a standard CMK, follow procedures in this section to install the CMK.

Kit Components

Check the standard CMK package for the following components:

Note: For any missing component, contact ChargePoint support.



(a) Front cover

(b) Rear cover

(c) Mast

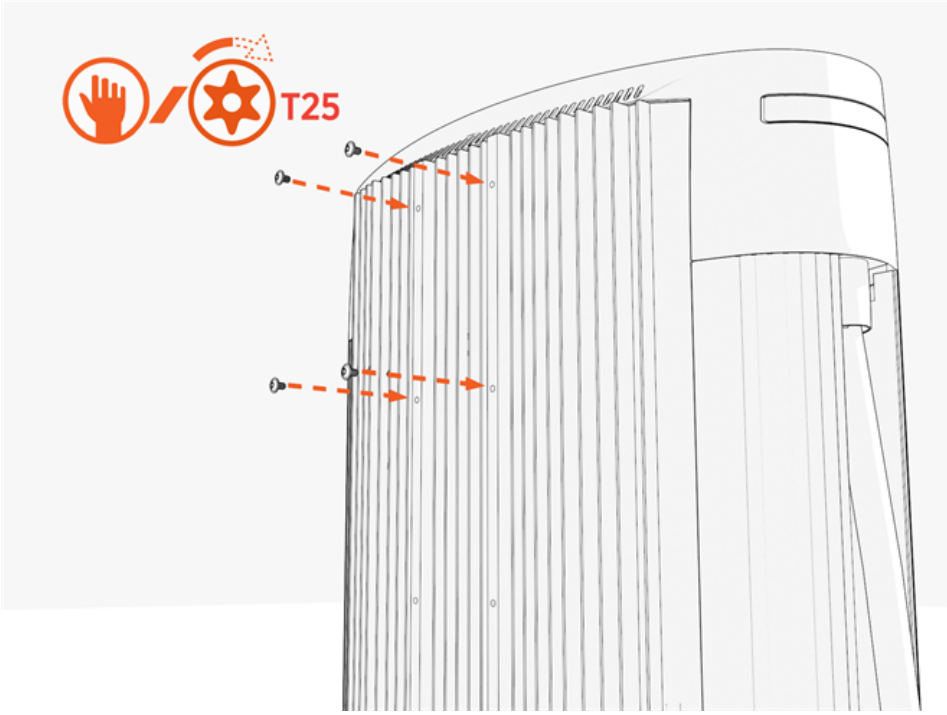
(d) Single or dual swingarm assembly

(e) M6 Torx screws (x5)

Install Mast

To install the mast, perform the following steps:

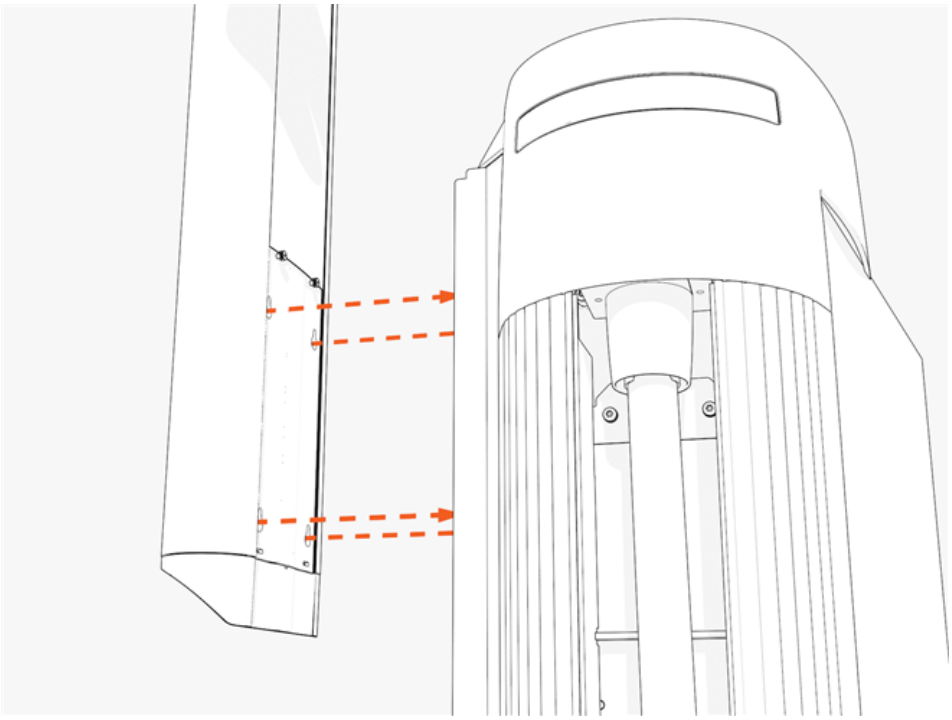
1. Partially install screws into four upper holes on the rear exterior of Power Link 1000.



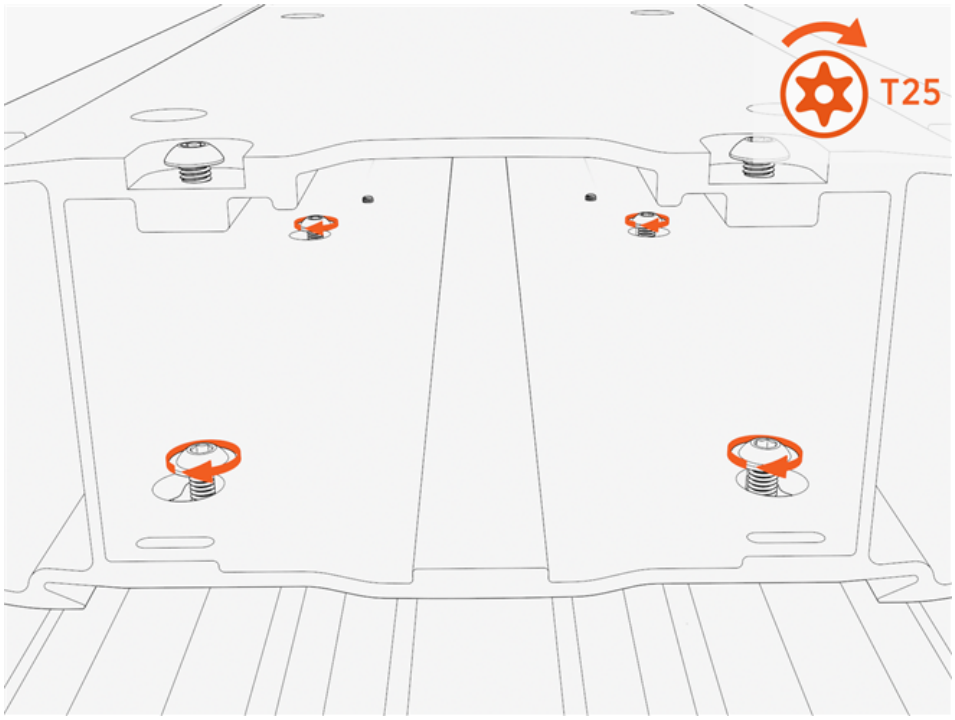
2. Hang the mast using the middle and lower keyholes.

   Final install height of the CMK should be 2413 mm (7 ft 11 in).

   Note: The CMK can be lowered 203 mm (8 in) by using the upper and middle keyholes to allow for installations with low overhead clearance.



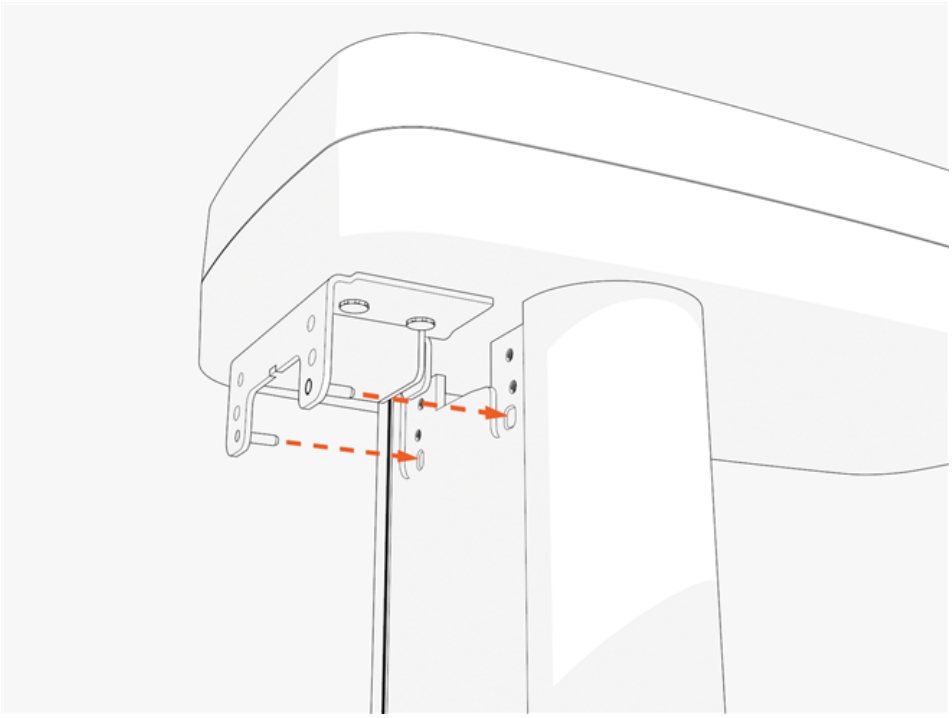
3. Torque screws (x4) to 5.6 Nm (50 in-lb).



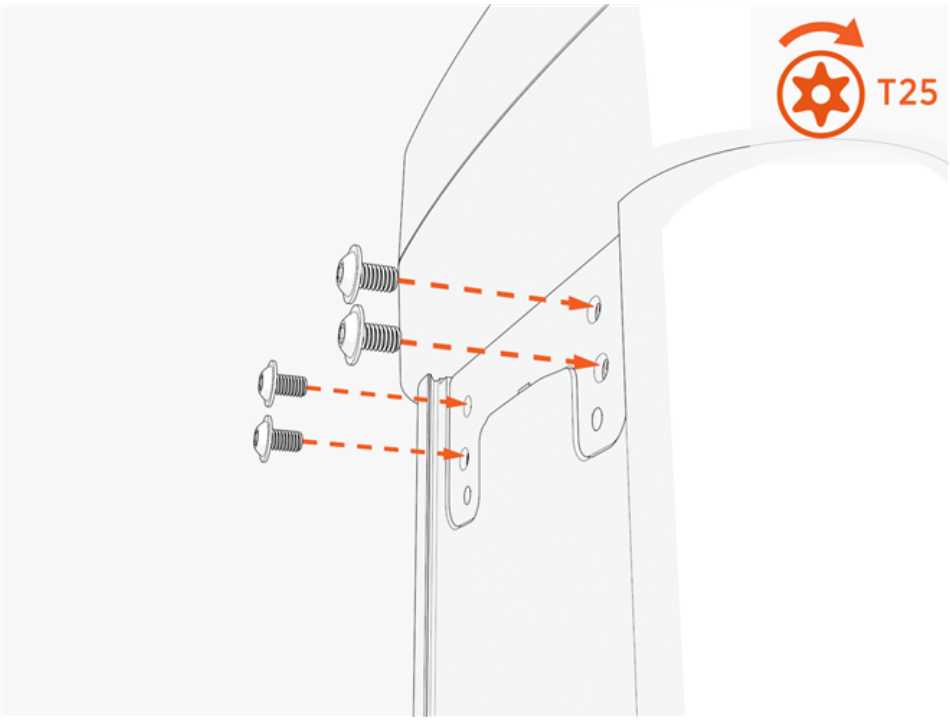
Install Swingarm Assembly

To install the swingarm, perform the following steps:

1. Insert two alignment pins into the bottom center of the swingarm attachment. Position the pins into the top of the mast.



2. Torque screws (x4 at rear and x1 at front) to 5.6 Nm (50 in-lb) .



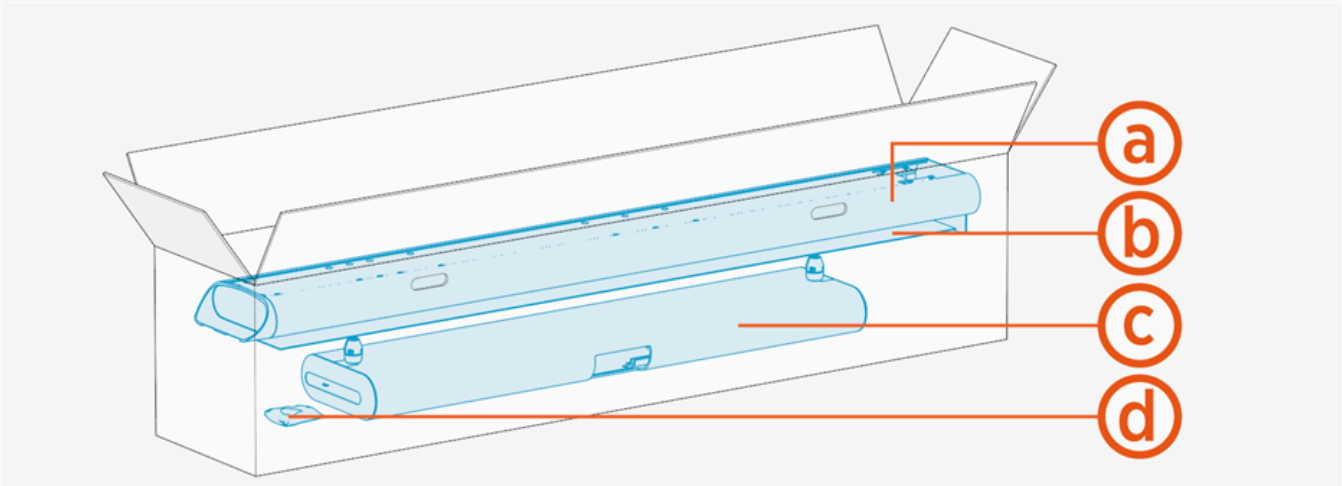
3. Install tetherball.

4. Suspend charging cable.
5. Install CMK covers.

Install Tall CMK

If the site plan calls for the Power Link 1000 to be configured with a tall CMK, follow procedures in this section to install the CMK.

Kit Components



(a) M6 Torx screws (x8) and M10 hex screws (x4)

(b) Single or dual tall CMK assembly

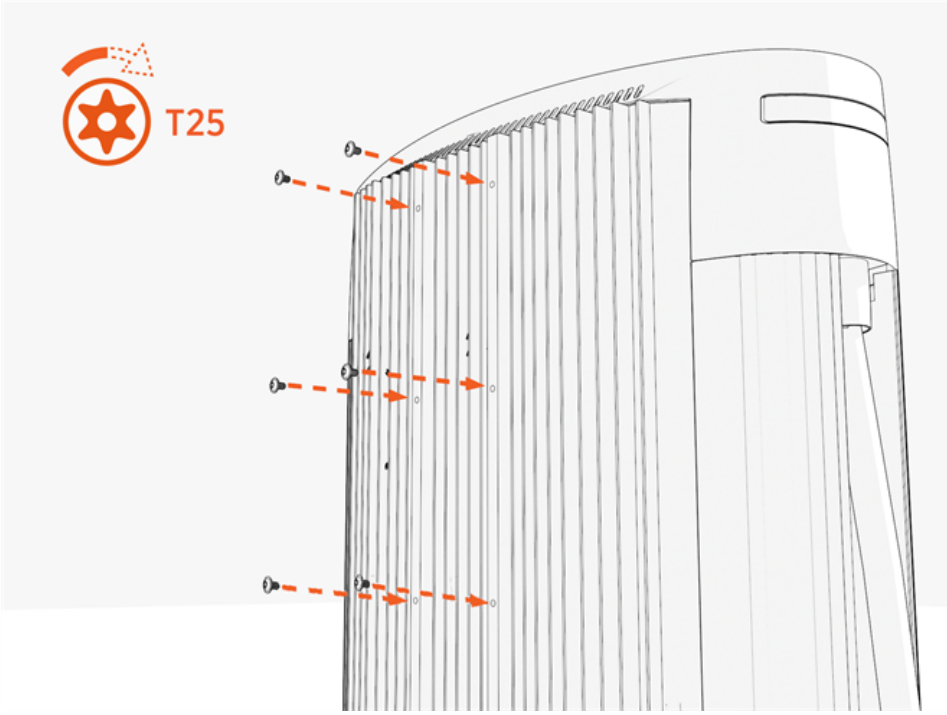
(c) Front and rear covers

(d) Mast

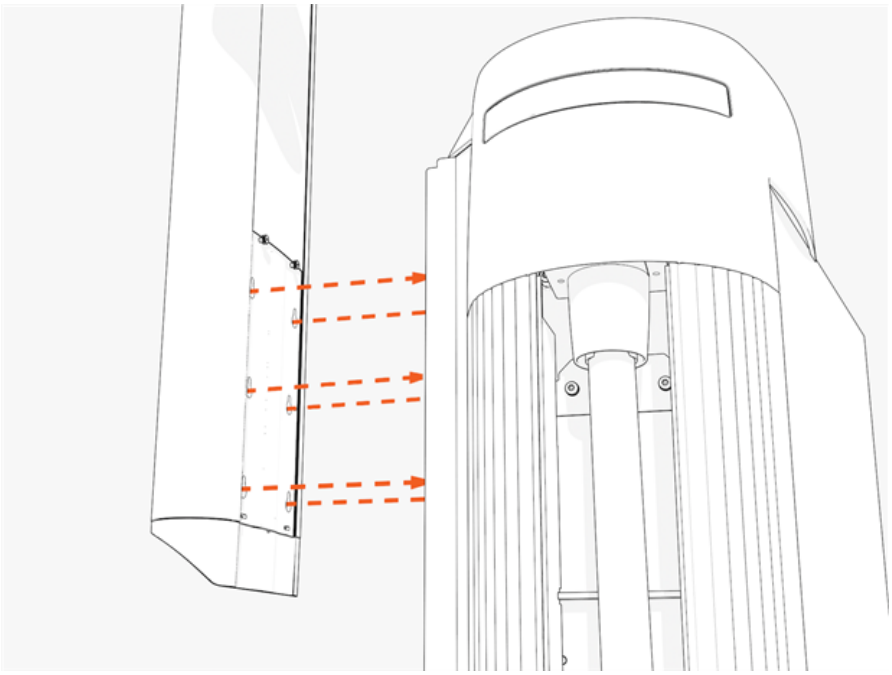
Install Mast

To install the mast, perform the following steps:

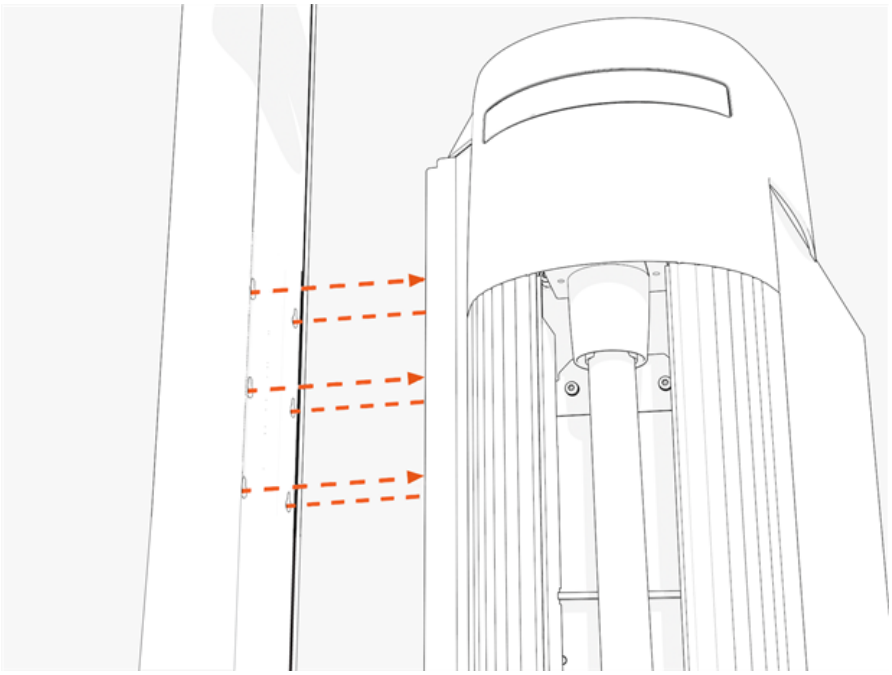
1. Partially install screws (x6) onto the back side of Power Link 1000.



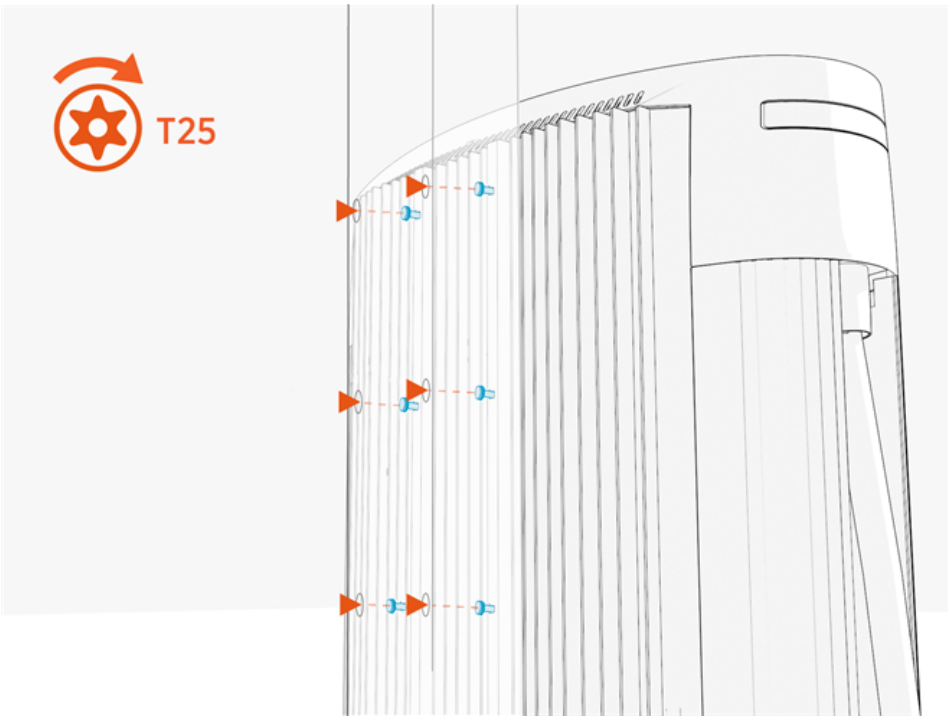
2. Hang the mast onto the screws.
    - To install CMK at maximum height, use keyholes located at bottom of mast.



- To install CMK at minimum height, use keyholes located higher up on the mast.



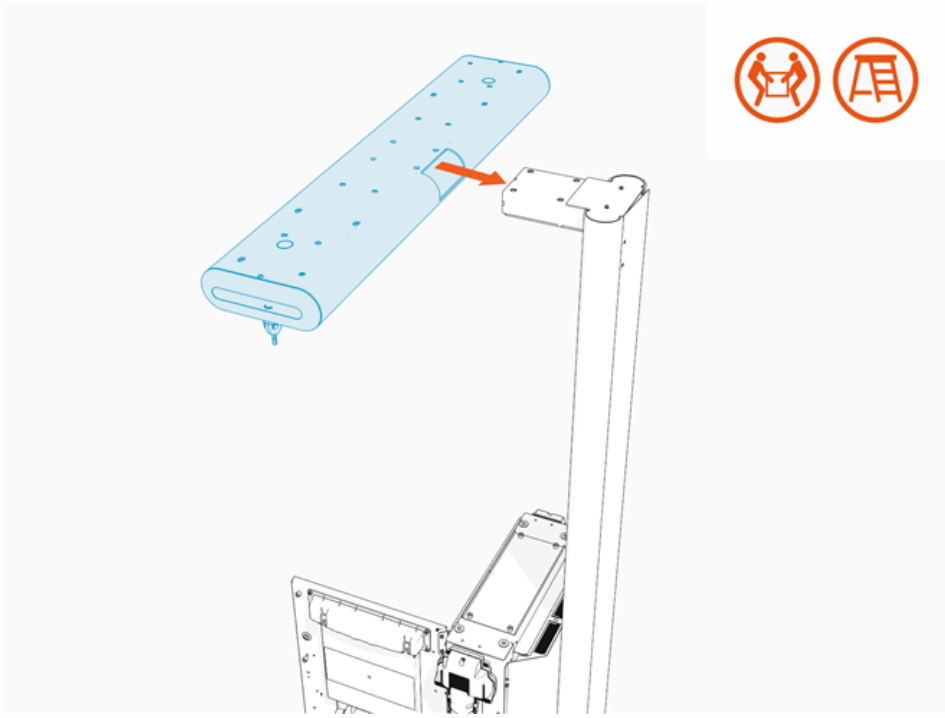
3. Torque screws (x6) to 5.6 Nm (50 in-lb) through the screw holes at the back of the mast.



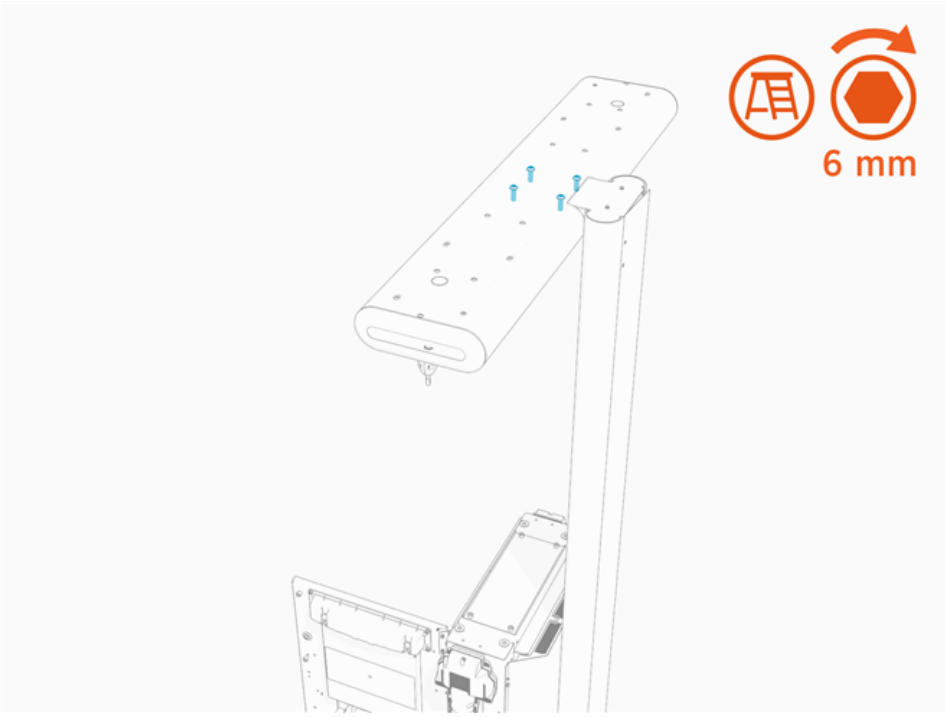
Install Tall CMK Assembly

To install tall CMK assembly, perform the following steps:

1. Find the M10 hex screws (x4) shipped in the tall CMK package.
2. Install the tall CMK assembly onto the mast.



3. Install the M10 hex screws (x4) and torque to 13.5 Nm (120 in-lb).



4. Install tetherball onto the charging cable.

5. Suspend charging cable.
6. Install covers.

Install Overhead CMK

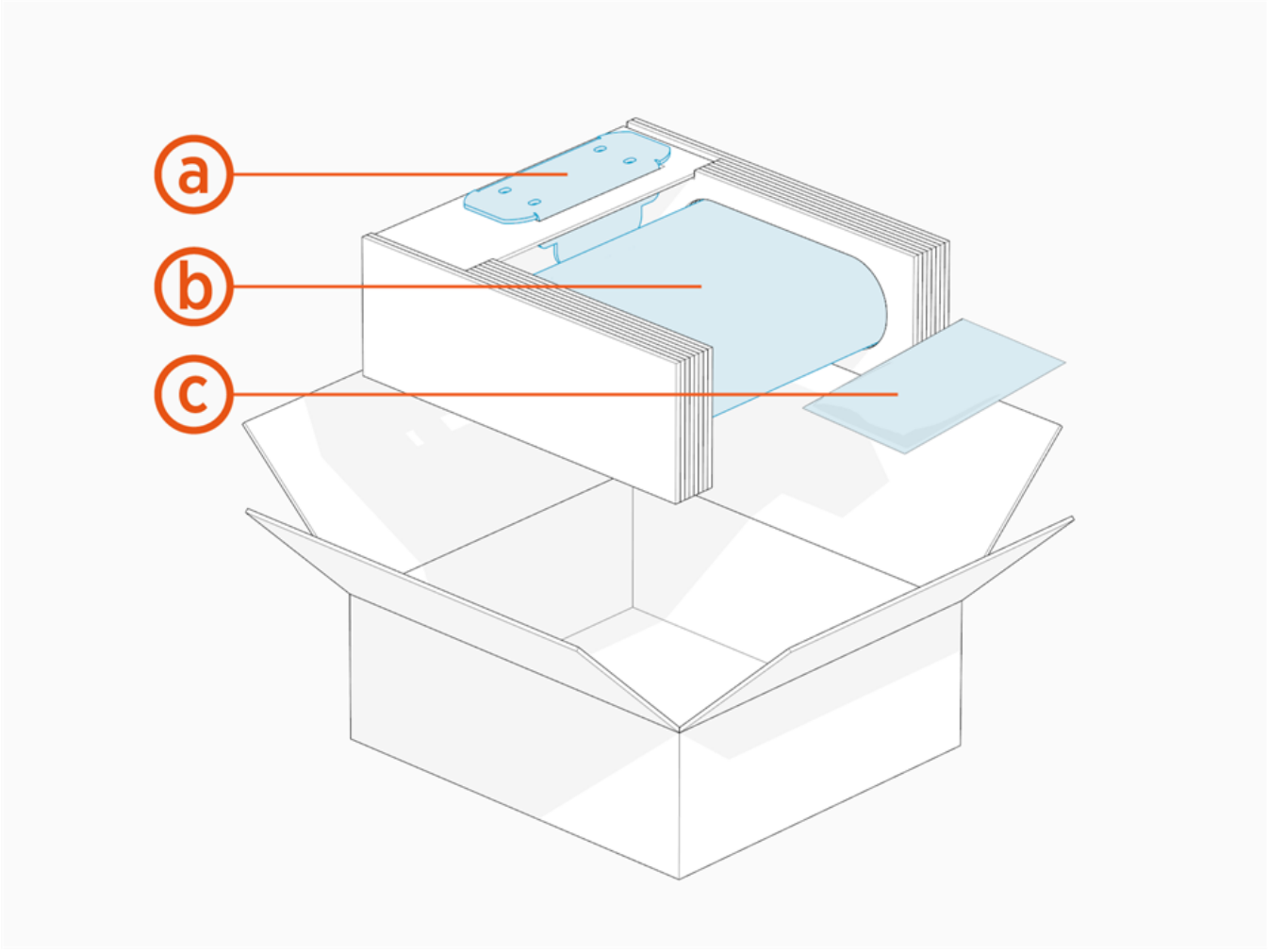
If the site plan calls for the Power Link 1000 to be configured with an overhead CMK, follow procedures in this section to install the CMK.

IMPORTANT: To install the overhead CMK for a pedestal-mount Power Link 1000, the site must be equipped with a pole for mounting the overhead CMK next to each of the Power Link 1000 charging cables. The pole must meet the design specifications given in theExpress PlusPower Link 2000Site Design.

Kit Components

Check the overhead CMK package for the following components:

Note: For any missing component, contact ChargePoint support.



(a) Mounting bracket

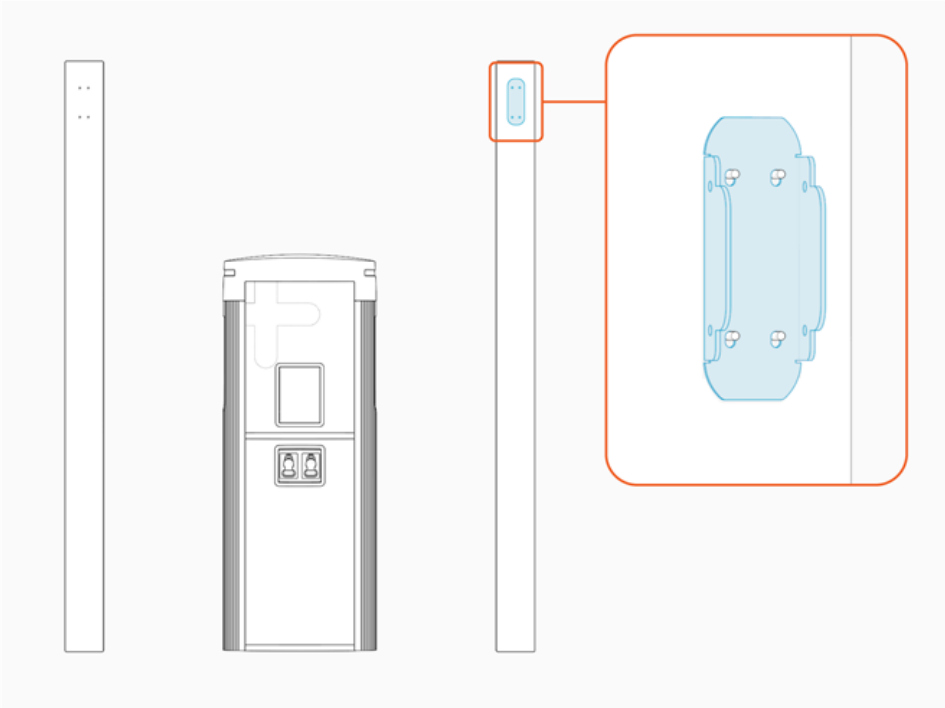
(b) Overhead CMK

(c) Hardware kit with M8 hex nuts (x4) and M6 Torx screws (x4)

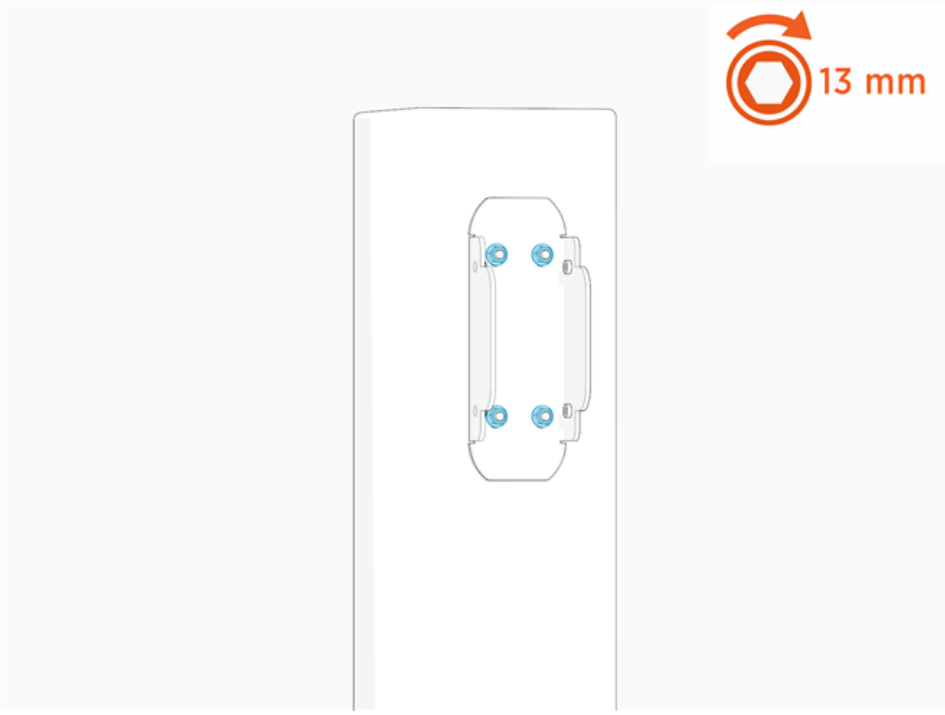
Install Overhead CMK

To install overhead CMK, perform the following steps:

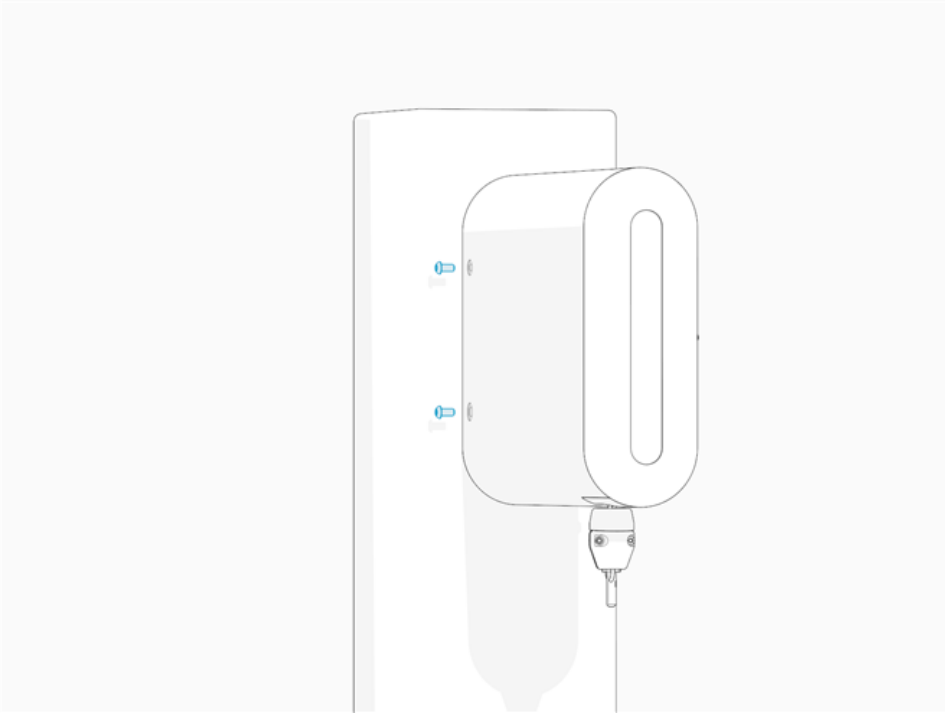
1. Find the M8 hex nuts (x4) and M6 Torx screws (x4) shipped in the overhead CMK package.
2. Install the bracket onto the pole.



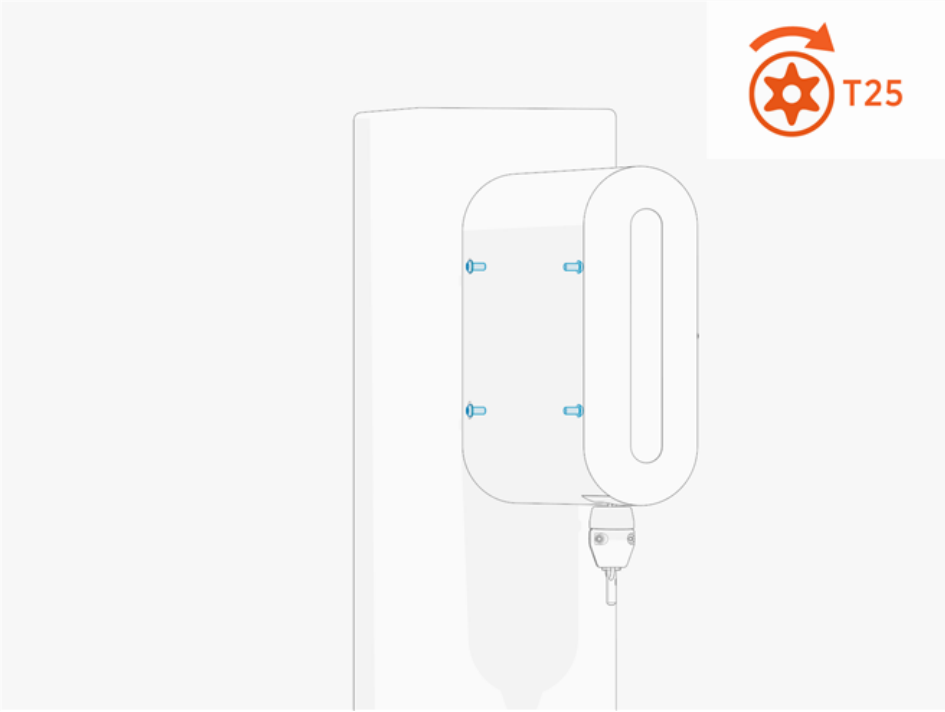
3. Install and torque the M8 hex nuts (x4) to 12.2 Nm (108 in-lb) to secure the bracket.



4. Align the overhead CMK onto the bracket and install M6 Torx screws (x4, x2 on the left side and x2 on the right side).



5. Torque the screws to 3.4 Nm (30 in-lb).



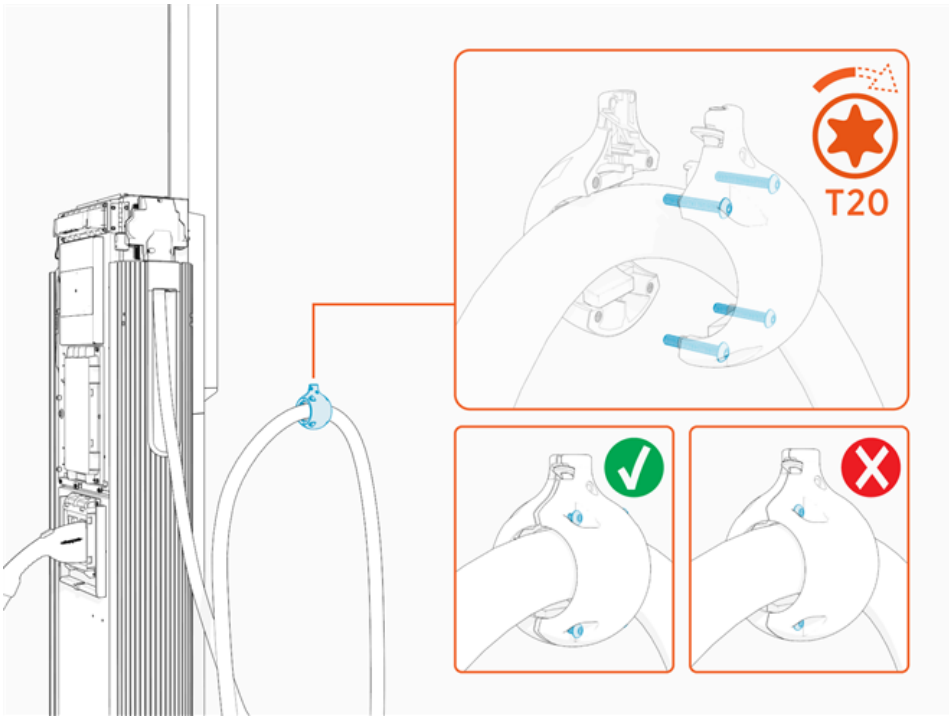
6. Install tetherball onto the charging cable.
7. Install tetherball onto the charging cable.
8. Suspend charging cable.

Install Tetherball

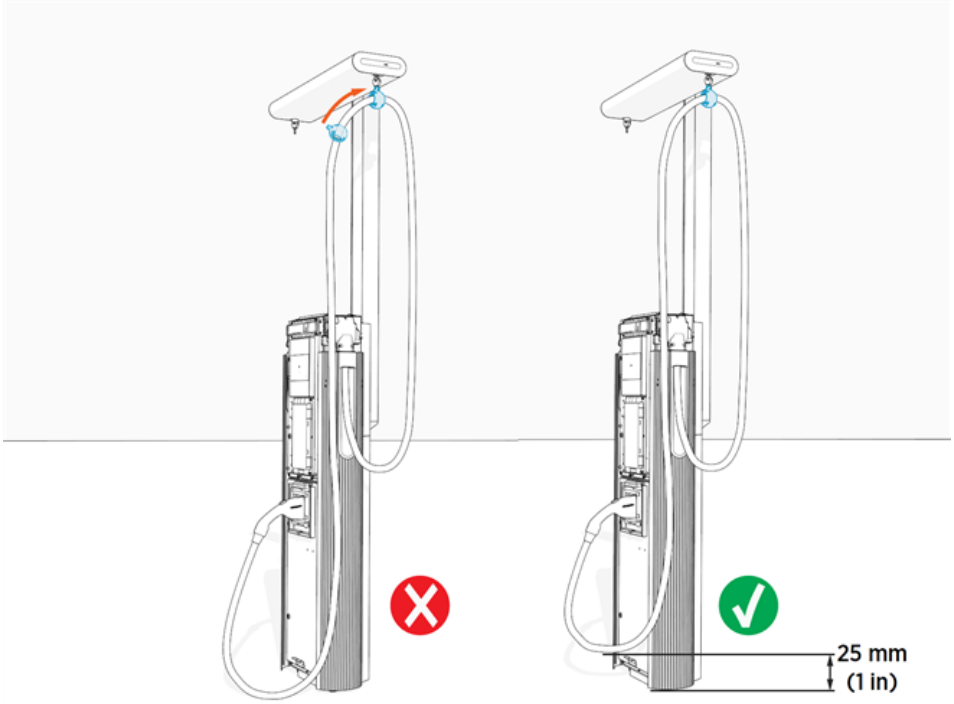
Standard length (5.8 m or 19 ft) charging cables come with a tetherball preinstalled onto the cable. For non-LCC medium length (7.6 m or 25 ft) charging cables, a tetherball is not preinstalled onto the cable. It must be installed after installing the charging cable or while installing the CMK.

To install tetherball, perform the following steps:

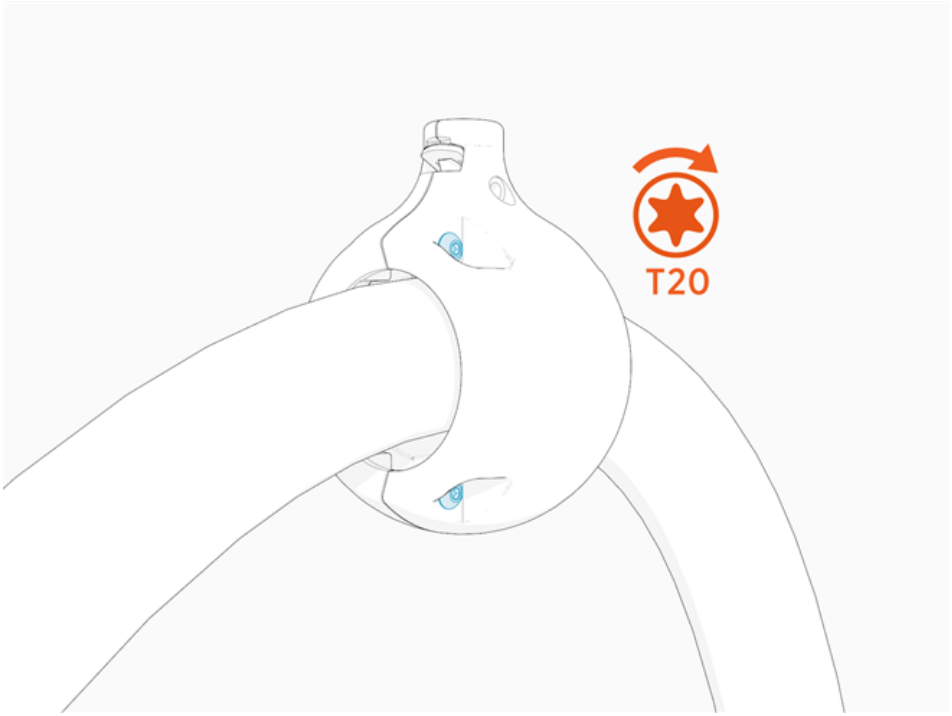
1. Loosely install the tetherball onto the cable.



2. If necessary, slide the tetherball to a position on the cable such that the lowest point of the cable remains 25 mm(1in)off the ground when the cable is in its stored position.



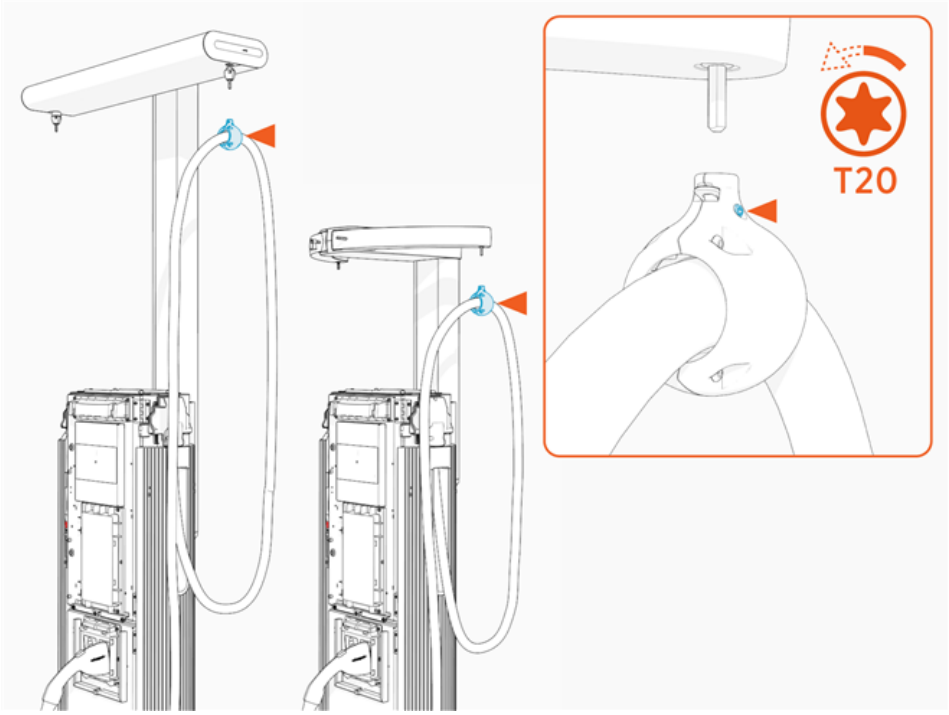
3. Torque the screws (x4) to 2.8 Nm (25 in-lb).



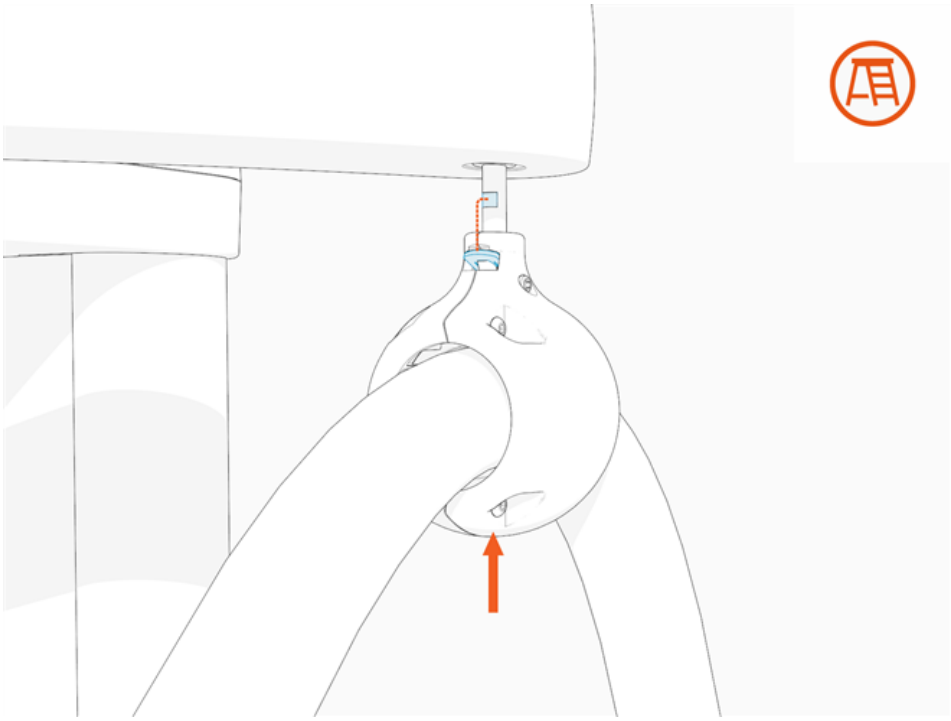
Suspend Charging Cable

To suspend charging cable, perform the following steps:

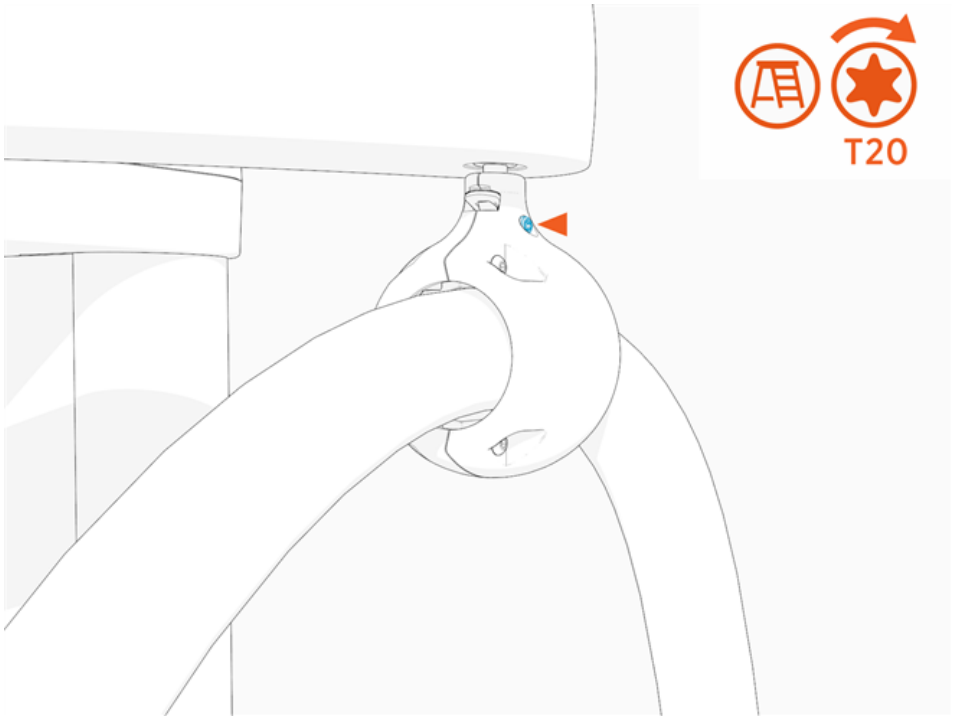
1. Loosen the screw if it is not loose.



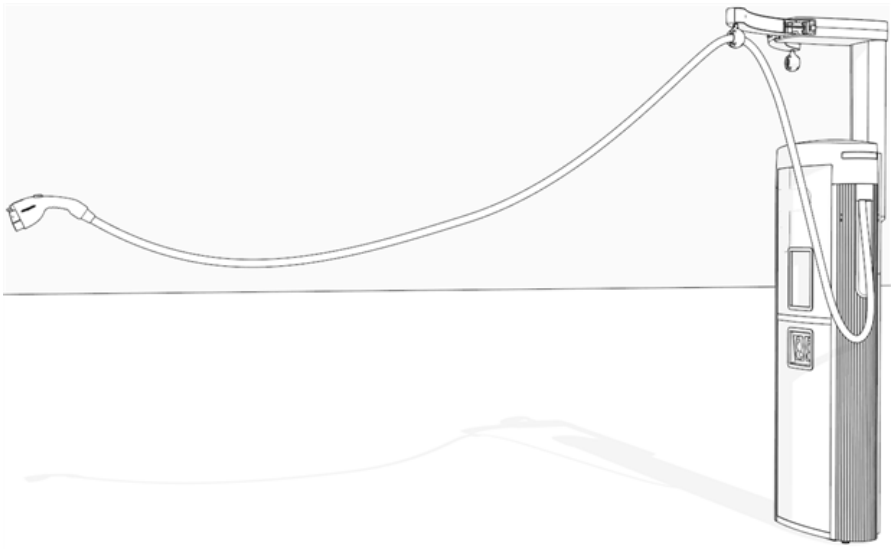
2. Align the spring tab in the tetherball with the flat notch on the tether pin. While aligned, gently push the tetherball onto the tether pin.



3. Torque the screw to 2.8 Nm (25 in-lb).



4. Tug on the cable to check that it is securely attached and the swingarm or tool balancer is functioning. If you find limited motion or retraction, contact ChargePoint support.
    - Standard CMK swingarm extension:



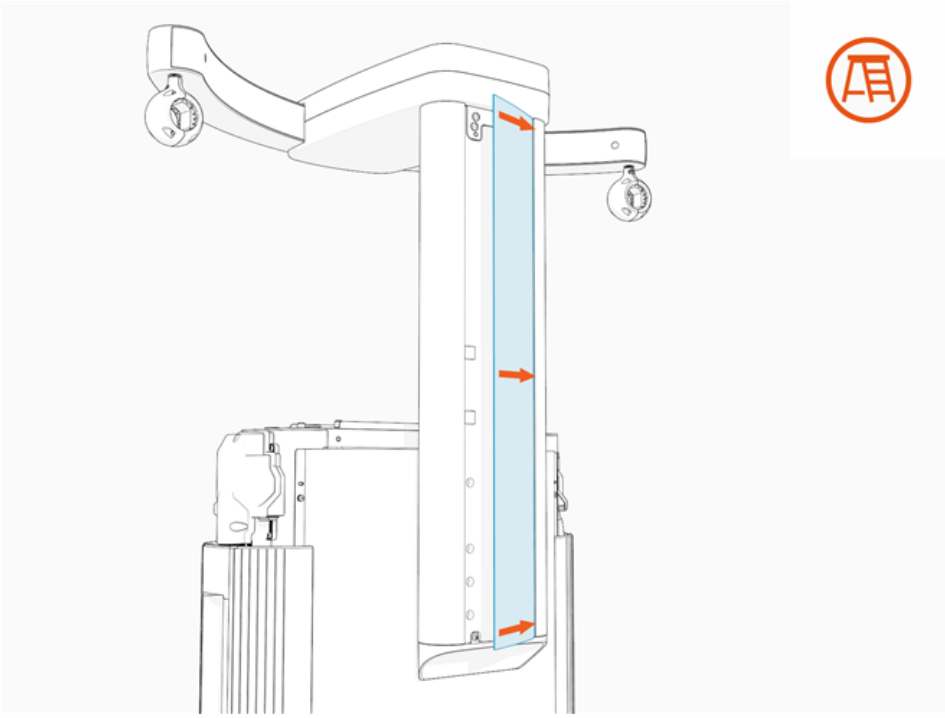
    - Tall CMK tool balancer extension:

5. If two charging cables have been installed, repeat for the other side.

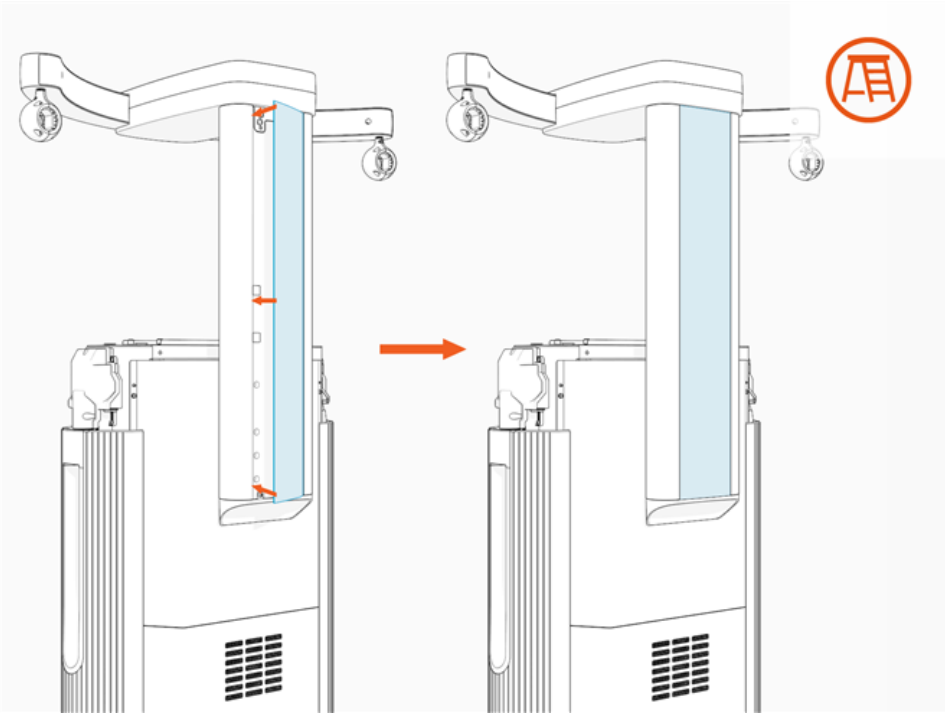
Install CMK Covers

To install CMK covers, perform the following steps:

1. Find the front and rear covers shipped in the CMK package.
2. Insert one edge of the rear cover into one of the grooves on the rear side of the CMK mast.

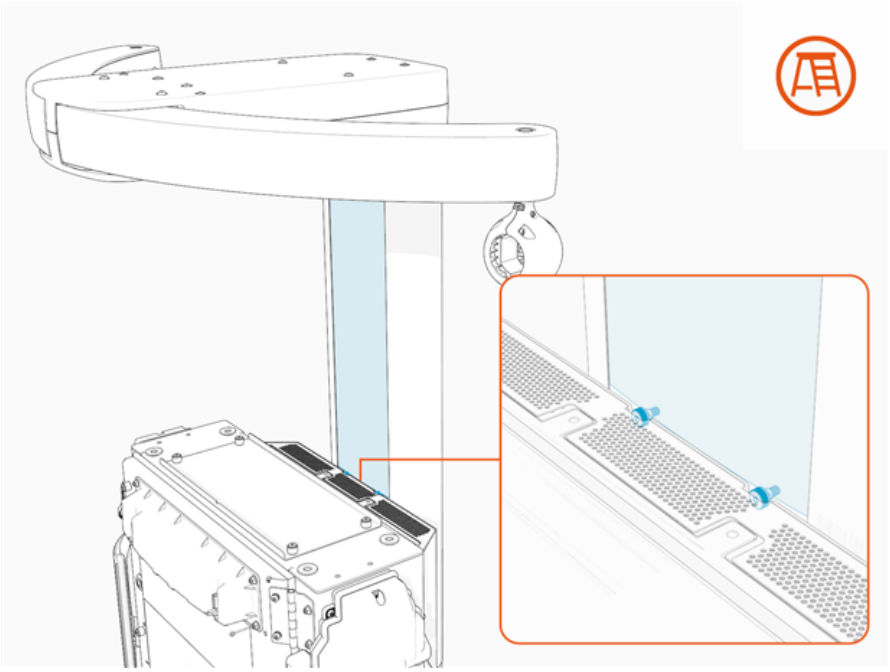


3. Gently flex the rear cover to insert its other edge into the other groove on the rear side of the CMK mast.

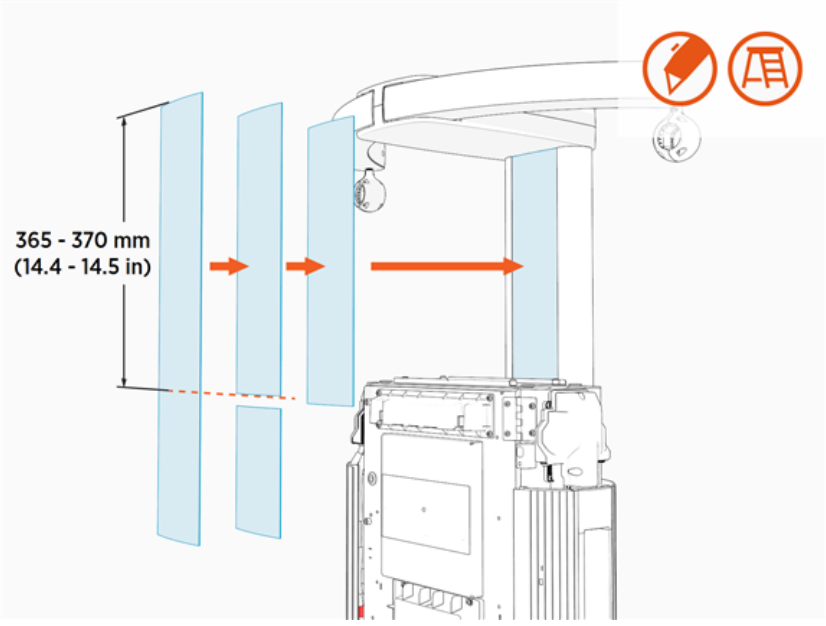


4. Repeat the above steps for the front cover and ensure the following:

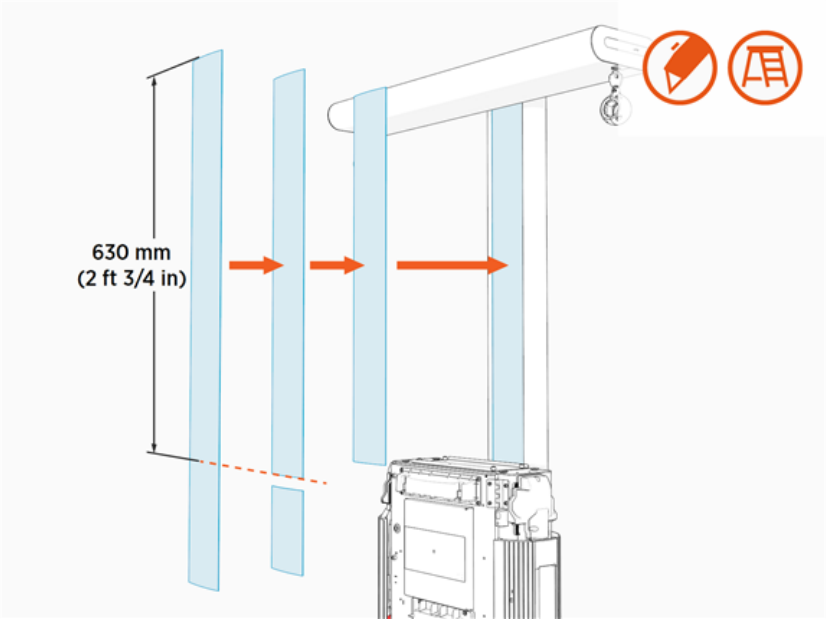
- If installing covers on the standard CMK at maximum height, make sure that the front cover is resting on the two shoulder screws on the front side of the CMK mast.



- If the CMK (either standard or tall) is installed at minimum height, cut its front cover to the following height:
    - Standard CMK's front cover:



- Tall CMK's front cover:

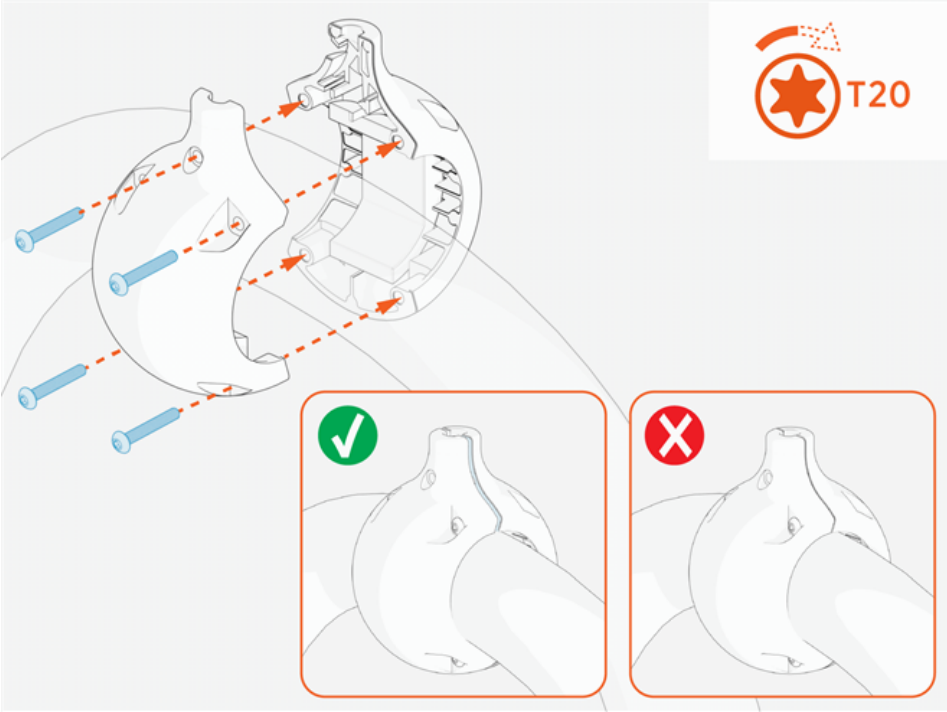


Install Tether Hook

Use tether hooks as additional support for overhead CMKs or to enable the use of third-party hoist or cable management solutions. The tether hook can be attached to either a fixed point or to an alternate cable management mechanism such as a winch.

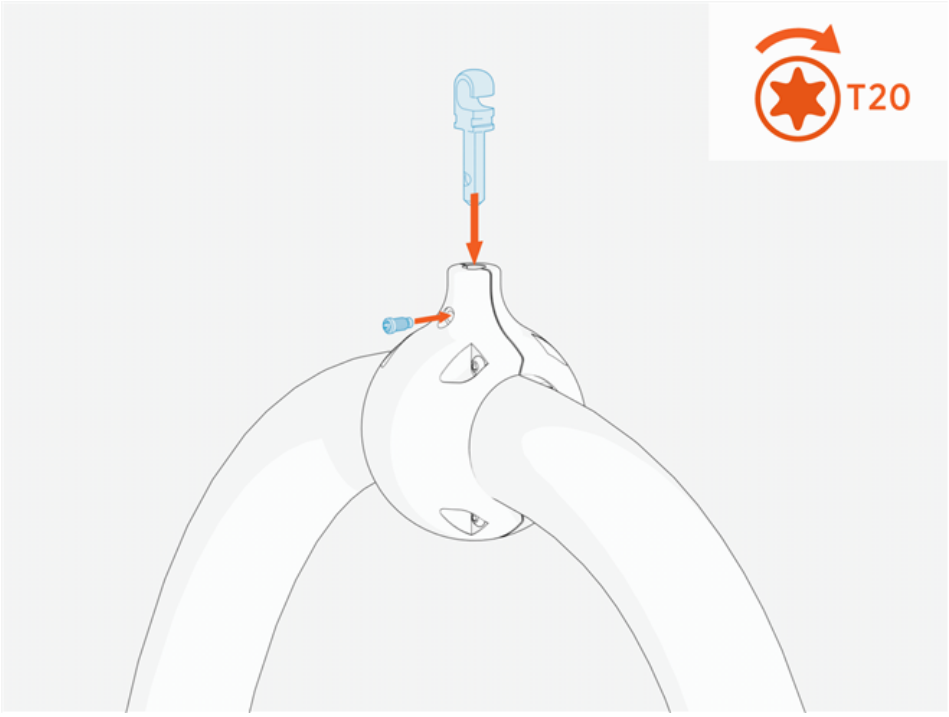
To install the tether hook, perform the following steps:

1. Loosely install the tetherball onto the cable. Slide and position the tetherball onto the charging cable to an appropriate suspension position (prior to tightening the tetherball).



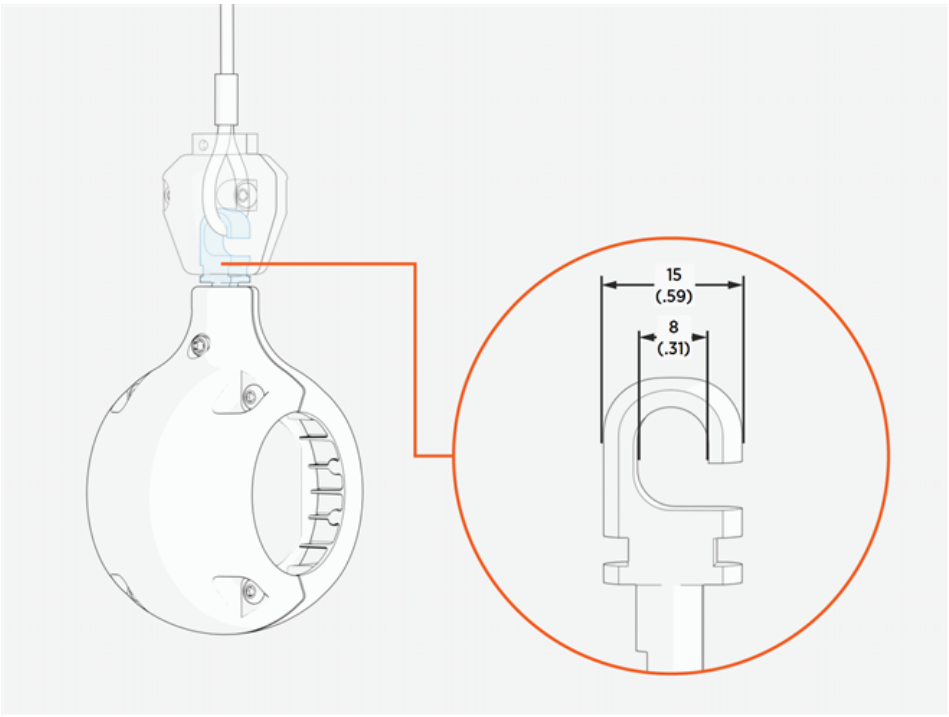
2. Torque the screws (x4) to 2.8 Nm (25 in-lb).

3. Push the tether hook into the tetherball and tighten set screw.

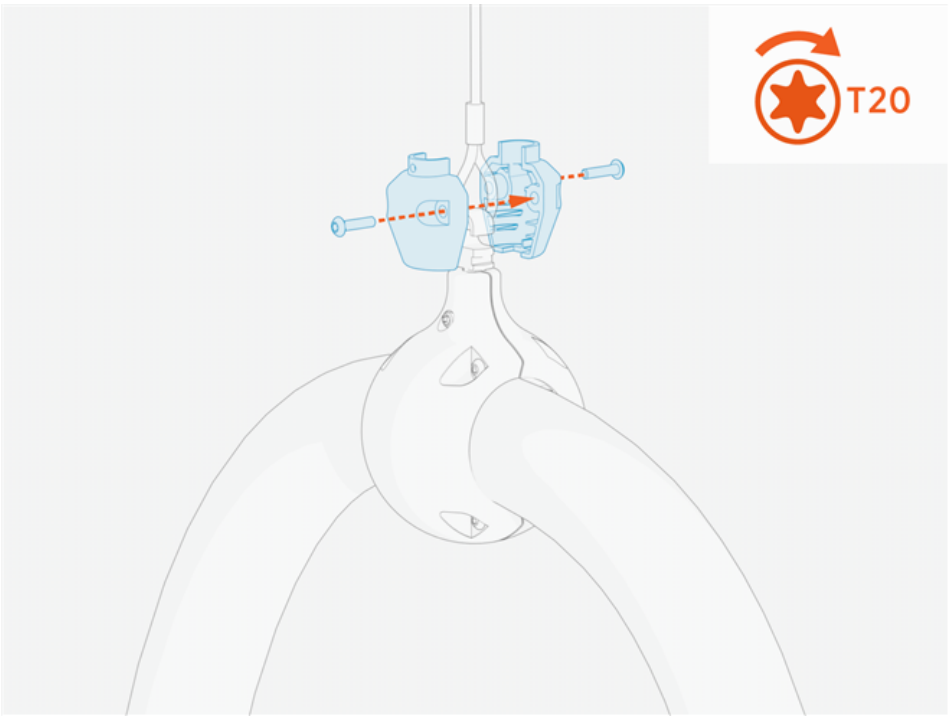


4. Use steel cable (recommended 1/8” OD) and associated eyelet/thimble to connect to tether hook. Wrap the steel cable and eyelet around tether hook.

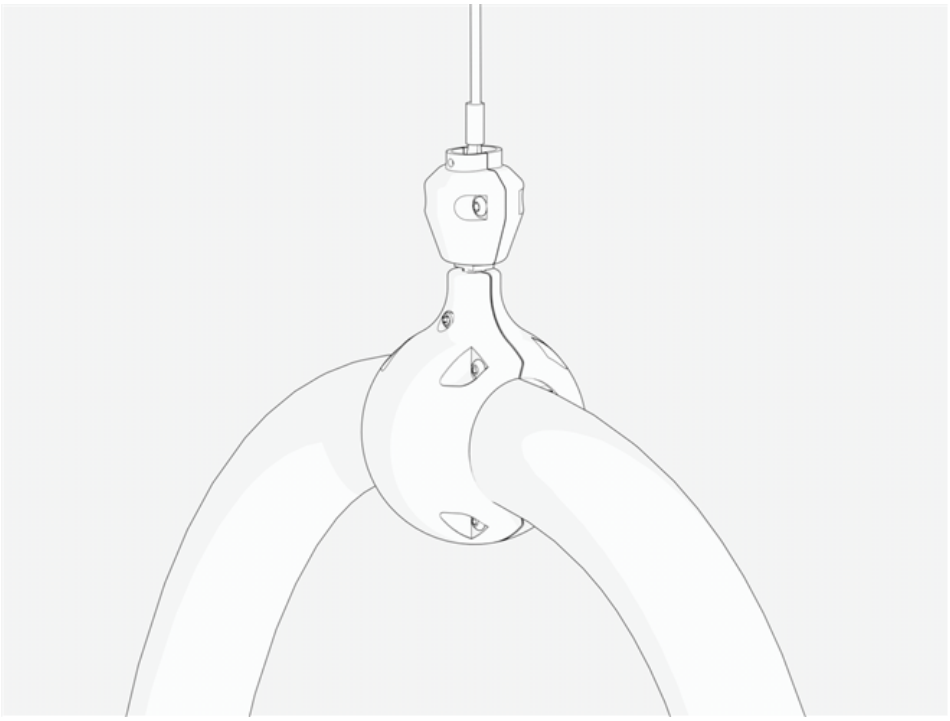
   Note: Images are not to scale. Measurements appear in metric units (mm) followed by imperial equivalents (inches).



5. Secure the plastic housing around the tether hook. Torque the T20 screws (x2) to 1.3 Nm (10 in-lb). This ensures the steel cable is retained on the tether hook.



6. Ensure the tether hook is securely fastened and the cable is properly supported.

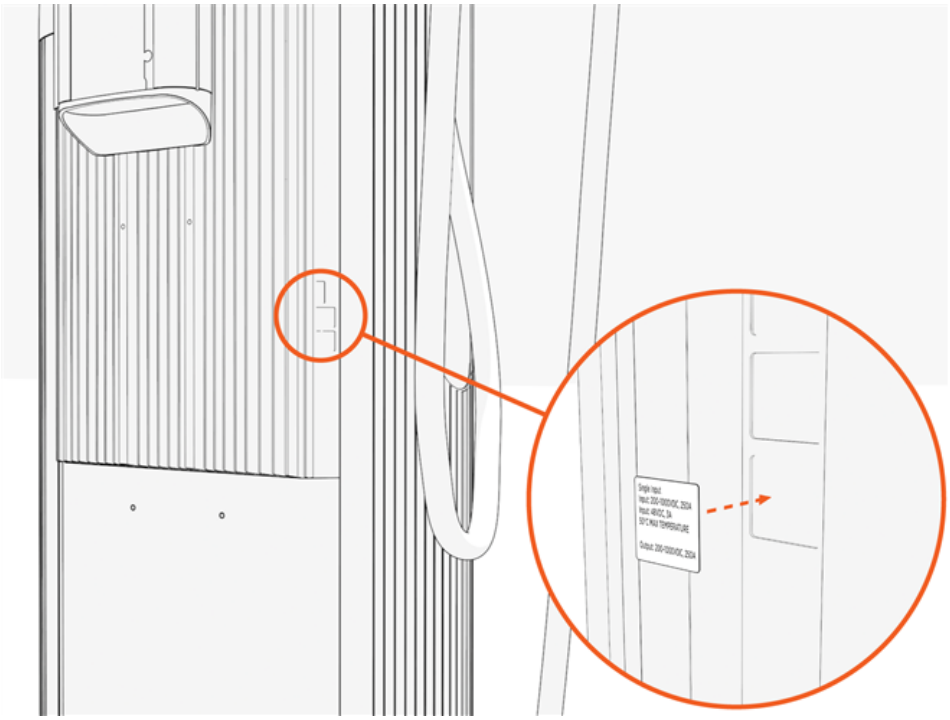


Verify and Adhere Ratings Label 6

To verify and adhere ratings label for Power Link 1000 and Power Block, refer to the instructions below:

Power Link 1000

1. Locate the ratings label and serial number on the back right edge of the heat sink.



2. Verify the ratings listed on the site drawing.
3. Choose the correct ratings label from the label sheet (included).
4. Adhere the label to the indentation.

Power Block

Note: You should have already applied the ratings label when you connected the wiring inside the Power Block.

Complete Station Setup A

To complete station set up, complete the following steps:

IMPORTANT: Do not power on Power Link 1000 after completing the installation (after installing the covers). An authorized commissioning partner will commission, power on, pinpoint, and configure Power Link 1000 after installation. If you are authorized to do so, complete the following procedures:

Power On

After you power on the charging station at the breaker panel (see "Power On" on page 1), complete the station setup. You must have completed the installer training and received your installer login. To complete the next steps, you need the following information:

- Installer login
- Activation label (i.e., QR code label including the MAC address and activation password) for Power Block and Power Link 1000, if not already applied to the station
- A smartphone with camera, QR code scanning app (usually built into the camera app), Internet connectivity
- The exact location (to the parking space) where the Power Block and Power Link 1000 are physically installed

Run Installation Wizard

To run the installation wizard, complete the following steps:

IMPORTANT: Instructions vary for each configuration. Complete this procedure only for the Power Link 1000 with a touchscreen display unit. This procedure is not applicable to Power Link 1000 without a touchscreen display unit.

1. On the Power Link 1000 touchscreen display, select your language.

   This does not permanently affect the charging station's display language.
2. Select "New station" or "Replace an existing station."

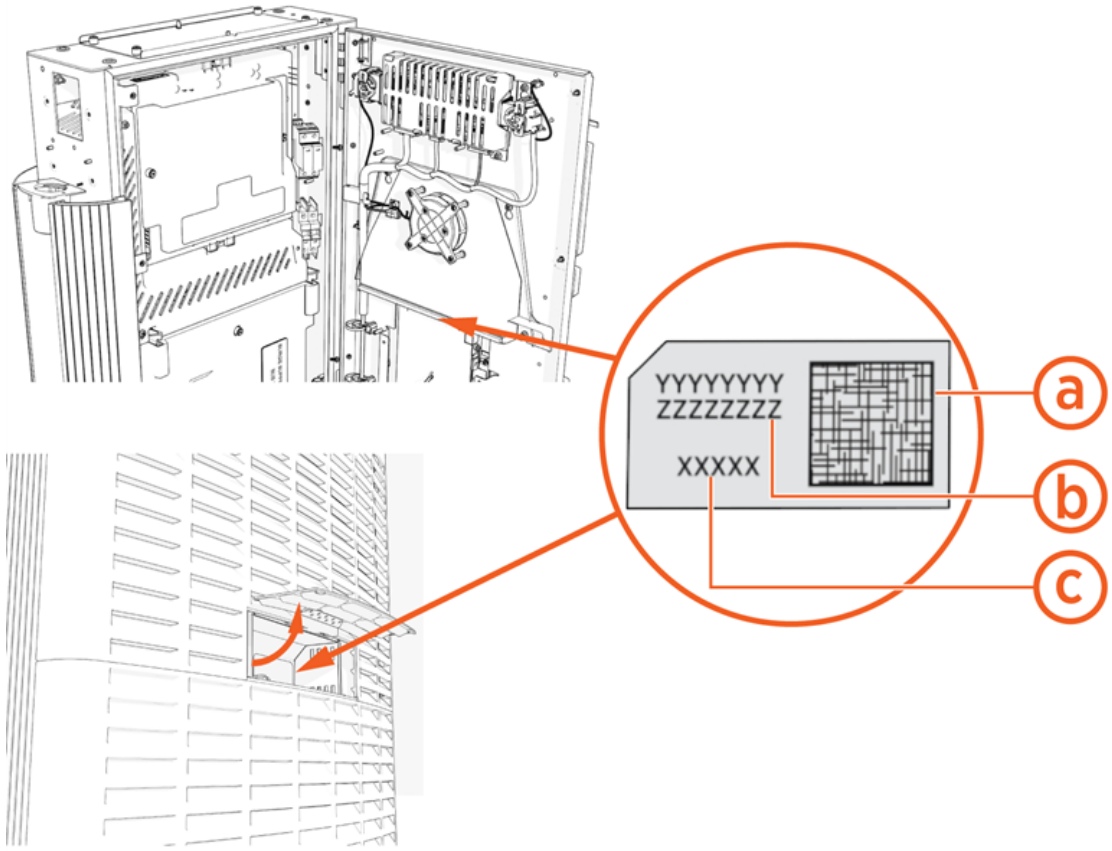
3. Ensure that you have all required items and select Yes.
4. Follow the onscreen prompts.

Pinpoint Location of Power Block and Power Link 1000

To pinpoint the location of Power Block and Power Link 1000, complete the following steps"

IMPORTANT: Complete this procedure for both Power Link 1000 and Power Block separately. Both Power Link 1000 and Power Block have their own MAC address and activation password.

1. Find the activation label:
   - Power Link 1000: You can find it on top of the display or non-display unit.
   - Power Block: You can find it behind the security panel (see "Adhere Ratings Label" on page 1).



(a) QR code
(b) MAC address
(c) Activation password

If your smartphone has QR code scanning app, follow the steps below:

1. Open the QR Code scanning app on your smartphone and point the camera at the QR code on the activation label.

   Your smartphone browser automatically redirects to the installer pinpointing page. Confirm that the URL of the page is o.chargepoint.com.
2. Log into the installer site using your installer login.
3. Confirm the MAC address and activation password are automatically entered and correct, select **Next**. Continue from Step 5 below.

If your smartphone does not have QR code scanning app, follow the steps below:

1. Using your smartphone or laptop browser, go to o.chargepoint.com.
2. Log into the installer site using your installer login.
3. Enter the MAC address and activation password printed on the activation label, and select **Next**.
4. Select the Location Permission button. Your GPS coordinates are required to complete the pinpointing process.
5. Select the type of installation and select **Next**.
6. Enter the site address and select **Next**.
7. Verify the address and select **Next**.
8. Move pin to exact location of charging station on the map and select **Next**.
9. Enter additional station location details such as parking lot name, building name, floor label, and parking restrictions, if applicable and select **Next**.
10. Add Helpful Information for Drivers and select **Take a photo** to upload an image such as photo of the location and station.
11. Follow any onscreen prompts to complete the pinpointing.

Post Installation Checklist B

Before leaving the installation site, complete the post-installation checklist using the link below:

https://docs.chargepoint.com/ref-docs-sec/content/pdfs/3-dc/expp/pl1000/pl1000-install_checklist.pdf

Provide the checklist and any spare parts (activation labels, and so on.) to the person responsible for activating the stations. This completes the installation of the Power Link 1000 charging station.

Limited Warranty Information and Disclaimer

The Limited Warranty you received with your charging station is subject to certain exceptions and exclusions. For example, your use of, installation of, or modification to, the ChargePoint® charging station in a manner in which the ChargePoint® charging station is not intended to be used or modified will void the limited warranty. You should review your limited warranty and become familiar with the terms thereof. Other than any such limited warranty, the ChargePoint products are provided "AS IS," and ChargePoint, Inc. and its distributors expressly disclaim all implied warranties, including any warranty of design, merchantability, fitness for a particular purposes and non-infringement, to the maximum extent permitted by law.

Limitation of Liability

CHARGEPOINT IS NOT LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THE CHARGING STATION, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF CHARGEPOINT KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF CHARGEPOINT FOR ALL CLAIMS WHATSOEVER RELATED TO THE CHARGING STATION WILL NOT EXCEED THE PRICE YOU PAID FOR THE CHARGING STATION. THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF CHARGEPOINT AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Important: Changes or modifications to this product not authorized by ChargePoint, inc., could affect the EMC compliance and revoke your authority to operate this product.

Exposure to Radio Frequency Energy: The radiated power output of the 802.11 b/g/n radio and cellular modem (optional) in this device is below the FCC radio frequency exposure limits for uncontrolled equipment. The antenna of this product, used under normal conditions, is at least 20 cm away from the body of the user. This device must not be co-located or operated with any other antenna or transmitter by the manufacturer, subject to the conditions of the FCC Grant.

ISED (formerly Industry Canada)

This device complies with the licence-exempt RSS standard(s) of Innovation, Science and Economic Development Canada (ISED). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux flux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada (ISDE). L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter.

chargepoint.com/support

75-001658-01 r4

Radiation Exposure Statement: This equipment complies with the IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Énoncé d'exposition aux rayonnements: Cet équipement est conforme aux limites d'exposition aux rayonnements ioniques RSS-102 Pour un environnement incontrôlé. Cet équipement doit être installé et utilisé avec un Distance minimale de 20 cm entre le radiateur et votre corps.

FCC/IC Compliance Labels

Visit chargepoint.com/labels.

Power Block and Power Link 1000

Express Plus DC Fast Charging Platform

Site Design Guide

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions for Express Plus that shall be followed during installation, operation and maintenance of Express Plus modular products.

WARNING:

1. **Read and follow all warnings and instructions before servicing, installing, or operating the ChargePoint® product.** Install and operate only as instructed. Failure to do so may lead to death, injury, or property damage, and will void the Limited Warranty.
2. **Only use licensed professionals to install your ChargePoint product and adhere to all national and local building codes and standards.** Before installing the ChargePoint product, consult with a licensed contractor, such as a licensed electrician, and use a trained installation expert to ensure compliance with local building and electrical codes and standards, climate conditions, safety standards, and all applicable codes and ordinances. Inspect the product for proper installation before use.
3. **Always ground the ChargePoint product.** Failure to ground the product can lead to risk of electrocution or fire. The product must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor shall be run with circuit conductors and connected to the equipment grounding terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE shall comply with all applicable codes and ordinances.
4. **Install the ChargePoint product using a ChargePoint-approved method.** Failure to install on a surface that can support the full weight of the product can result in death, personal injury, or property damage. Inspect the product for proper installation before use.
5. **The product is not suitable for use in Class 1 hazardous locations, such as near flammable, explosive, or combustible vapors or gases.**
6. **Supervise children near this device.**
7. **Do not put fingers into the electric vehicle connector, or touch fingers to charging rails.**
8. **Do not use this product if any cable is frayed, has broken insulation, or shows any other signs of damage.**
9. **Do not use this product if the enclosure or the electric vehicle connector is broken, cracked, open, or shows any other signs of damage.**
10. **Wire and wire terminal information are provided in the ChargePoint product Site Design Guide and Installation Guide.**
11. **Torques for installation of wire terminals are provided in the ChargePoint product Installation Guide.**
12. **The ChargePoint product maximum operating temperature is 50 °C (122 °F).**

IMPORTANT: Under no circumstances will compliance with the information in a ChargePoint guide such as this one relieve the user of the responsibility to comply with all applicable codes and safety standards. This document describes approved procedures. If it is not possible to perform the procedures as indicated, contact ChargePoint. **ChargePoint is not responsible for any damages that may result from custom installations or procedures not described in this document or that fail to adhere to ChargePoint recommendations.**

Product Disposal

To comply with Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), devices marked with this symbol may not be disposed of as part of unsorted domestic waste inside the European Union. Enquire with local authorities regarding proper disposal. Product materials are recyclable as marked.

Document Accuracy

The specifications and other information in this document were verified to be accurate and complete at the time of its publication. However, due to ongoing product improvement, this information is subject to change at any time without prior notice. For the latest information, see our documentation online at chargepoint.com/guides.

Copyright and Trademarks

Symbols

This guide and product use the following symbols:

DANGER: Risk of electric shock

WARNING: Risk of personal harm or death

CAUTION: Risk of equipment or property damage

IMPORTANT: Crucial step for installation success

Read the manual for instructions

Ground/protective earth

Illustrations Used in This Document

The illustrations used in this document are for demonstration purposes only and may not be an exact representation of the product. However, unless otherwise specified, the underlying instructions are accurate for the product.

Contents

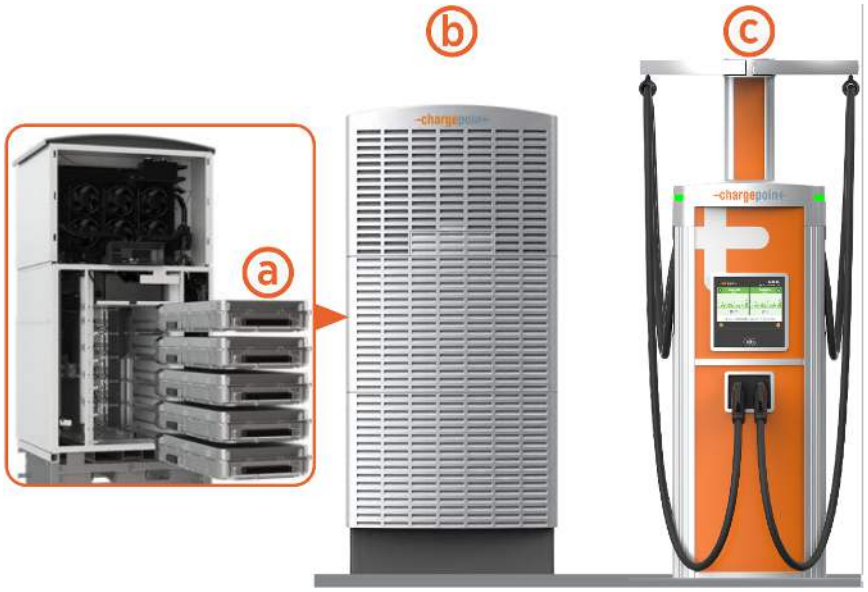
Introduction

This guide describes how to design a site for the ChargePoint Express Plus fast charging platform. T
includes civil, mechanical, and electrical infrastructure planning and any future upgrades to meet th V
charging demand.

IMPORTANT: ChargePoint recommends consulting with an engineer to create site specific drawings. Ensure the installation complies with all applicable codes and ordinances.

Express Plus Components

Express Plus is a scalable DC fast charging platform. It consists of three components: Power Module ower
Block, and Power Link 1000.



(a) Power Module is the power conversion component. It converts the upstream AC power into I
power to output up to 40 kW of power.

(b) Power Block contains Power Modules. It can accommodate up to five Power Modules and has /o
DC outputs, capable of delivering up to 200 kW of power.

(c) Power Link 1000 is the charger. It receives DC power from Power Blocks. A Power Link 1000
accommodate up to two charging cables to charge two electric vehicles simultaneously.

For full specifications and certifications, refer to the *Express Plus Datasheet* at chargepoint.com/guid

Note: For sites that include Power Hub (an optional component of Express Plus), refer to the *Power Hub Site Design Guide* and *Installation Guide*.

Power Link 1000 Configurations

Cable Management Kit (CMK)

Depending on the required cable reach, the Power Link 1000 can be installed with a standard CMK to manage standard length (5.8 m or 19 ft) charging cables, or with a tall CMK or overhead CMK to manage medium length (7.6 m or 25 ft) charging cables.

Standard CMK

Tall CMK

Overhead CMK

Express Plus Guides

Access ChargePoint documents at chargepoint.com/guides.

Document	Content	Primary Audiences
Datasheet	Full station specifications	Site designer, installer, and station owner
Site Design Guide	Civil, mechanical, and electrical guidelines to scope and construct the site	Site designer or engineer of record
Concrete Mounting Template Guide	Instructions to embed the charging station template in a concrete pa anchor bolts and conduit placem (these may also be included in th Design Guide)	Site construction contractor

Document	Content	Primary Audiences
Surface Conduit Entry Kit	Instructions for sites where conduit	Installer
Construction Signoff Form	Checklists used by contractors to ensure the site is correctly completed and ready for product installation	Site construction contractor
Installation Guide	Anchoring, wiring, and powering on	Installer
Operation and Maintenance Guide	Operation and preventive maintenance information	Station owner, facility manager, and technician
Service Guide	Component replacement procedures, including optional components	Service technician
Declaration of Conformity	Statement of conformity with directives	Purchasers and public

Questions

For assistance, navigate to chargepoint.com/support and contact technical support using the appropriate region-specific number.

Site Design Guidelines

Initial Site Guidelines

An onsite evaluation is needed to determine the wiring and conduit requirements from the electrica anel to the proposed parking spaces, as well as to measure cellular signal levels and identify suitable loc ns for any necessary cellular signal booster equipment.

If you have pre-existing infrastructure or are using your own preferred electrical contractor to prep your site, an *Express Plus Construction Signoff Form* completed by a ChargePoint Operations and Mainte nce (O&M) partner is required to certify compliance with electrical code and to ensure everything was prepared to ChargePoint specifications.

CAUTION: Warranty Limitation

If the charging station is not installed, commissioned, or serviced by a ChargePoint Certified Technician using a ChargePoint-approved method, it is excluded from all ChargePoint and other warranties and ChargePoint is not responsible.

You must be a licensed electrician and complete the training at chargepoint.com/install to become ChargePoint certified and to access the ChargePoint web or app-based insta tools.

Plan for Future Charging Capacity

Designing electrical infrastructure to support current and future needs for EV charging helps avoid tly upgrades later as demand for EV charging grows.

Consider these methods to prepare a site for future charging stations in a later phase of work:

- Add extra capacity if electrical panels are being upgraded now.
- Use sub-panels as a way to shorten electrical paths.
- Maximize the conduit and conductor sizes (to product specifications) between the main elec al panel and future stations to prevent needing to re-pull wires or trenching work if the site use underground wiring.
- Underground service wiring conduits can be pre-staged if the correct site construction is per ned in advance. Allowed terminations include a distribution unit, junction box, or plugged condui is eases cable pulls for future stations.

System Placement

Do not install Express Plus in a Class 1 hazardous location, as classified by NEC or local codes.

Site conditions must be compatible with the following specifications listed in the *Express Plus Datasheet*:

- Operational altitude
- Operating temperature
- Operating humidity
- Enclosure rating

To minimize costs, choose station locations that are close to the available electrical infrastructure. Selecting nearby locations help minimize long wire runs as well as any conduit or trenching work if the site uses underground wiring.

WARNING: Express Plus components must be installed on a structure that is rated to support their weight. A level concrete base is recommended for Power Block and pedestal-mount Power Link 1000, and a flat wall or gantry for wall or overhead-mount Power Link 1000, respectively. Asphalt cannot support the full weight of Express Plus components. Failure to install the Express Plus components on a suitable structure may cause it to tip over, resulting in death, personal injury, or property damage.

Layout considerations:

Determine appropriate ground anchoring locations where concrete exists or can be installed (no asphalt surfaces).

Consider locations where it will be easy to add future stations.

If using conduits to pull wires, determine the best conduit layout to minimize linear conduit costs to multiple parking spaces. If possible, avoid or minimize trenching requirements, especially more costly trenching to run conduit under asphalt surfaces.

Determine if the existing utility service and electrical panel capacity is sufficient. Identify costs for any necessary upgrades and/or a new dedicated electrical panel. ChargePoint recommends using a licensed electrician to evaluate available capacity and identify any upgrades that may be required.

If a dedicated EV electrical panel is required, choose a panel located close to the existing electrical supply.

Measure cellular signal levels to ensure adequate cellular coverage at the station locations. To ensure adequate signal strength in underground or enclosed parking structures, cellular repeaters may be required. For more information, see Connectivity.

ChargePoint recommends avoiding locations under trees where sap, pollen, or leaves would fall on the charging station and increase the station owner's site maintenance workload.

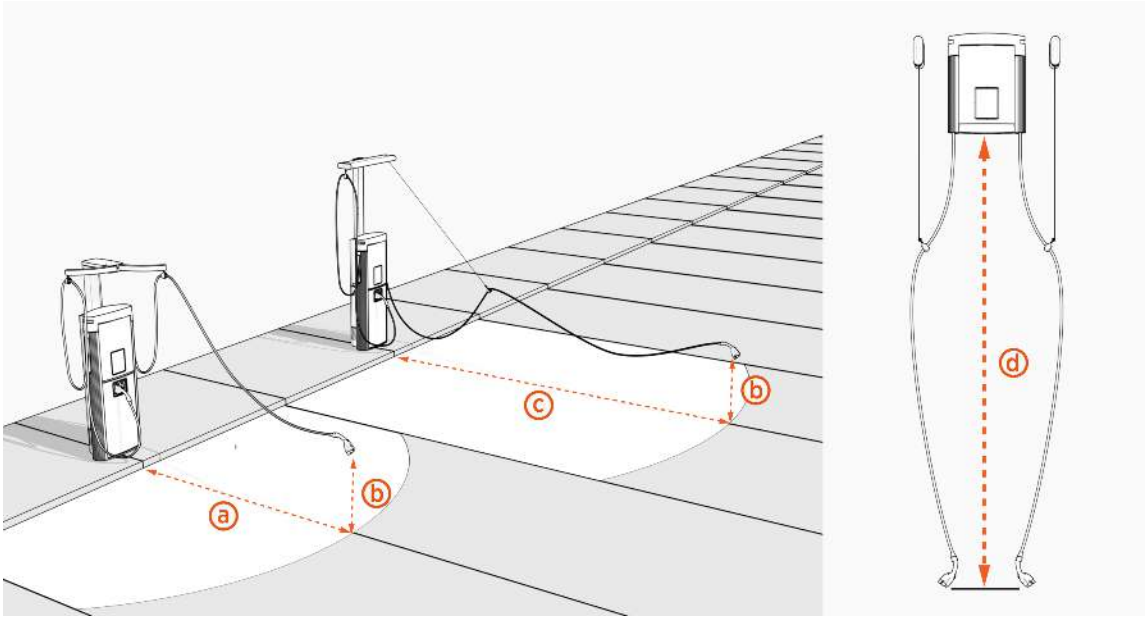
Guidelines for Different Parking Arrangements

Consider how easily drivers can find the stations they need to access.

Check local requirements for accessibility and pathway width, sometimes called “path of travel”, to ensure that station placement does not restrict sidewalk use.

A pad built into the head of a parking space (instead of on the sidewalk) is allowed if local code allows it compared to the minimum parking space length, and the pad meets all pad requirements listed in this document.

Cable reach



The maximum reach from the station to charge port on a typical vehicle is approximately 3.76 m (12 ft 4 in) **(a)** at a height of 0.6 m (2 ft) **(b)** above the ground.

The following table provides the maximum cable reach from the station to charge port on a vehicle:

Note: The cable reach specifications for both the tall CMK and overhead CMK include the full extension of a tether cord from the CMKs, as depicted in the illustration above.

		Pedestal or wall-mount Power Link 1000		Overhead-mount Power Link 1000
CMK		Standard CMK	Tall CMK	Overhead CMK
Cable length		5.8 m (19 ft)	7.6 m (25 ft)	7.6 m (25 ft)
Cable reac	Horizontal or vertical reach	3.76 m (12 ft 4 in) Horizontal (	6.09 m (20 ft) Horizont	4.57 m (15 ft) Vertical **(d)**
	Height above ground	0.6 m (2 ft) **(b)**		Not applicable

IMPORTANT:

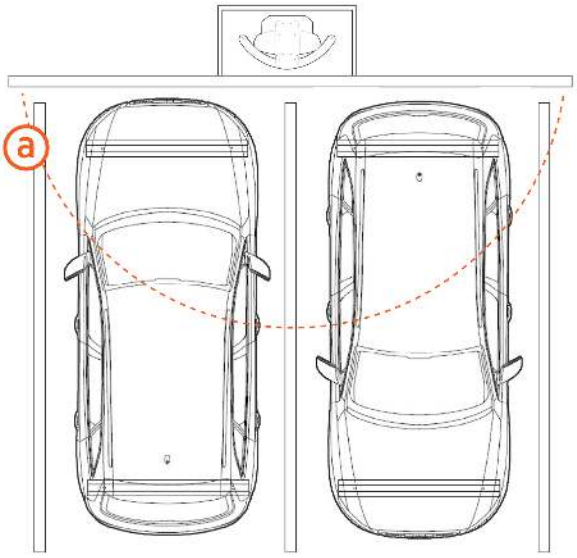
cations on different EVs.

Commercial or Public Station Placement, Single or Dual Cable

For stall parking, ChargePoint recommends using perpendicular parking stalls that allow a vehicle to enter either front-first or rear-first, to better accommodate the varied locations of EV charge ports.

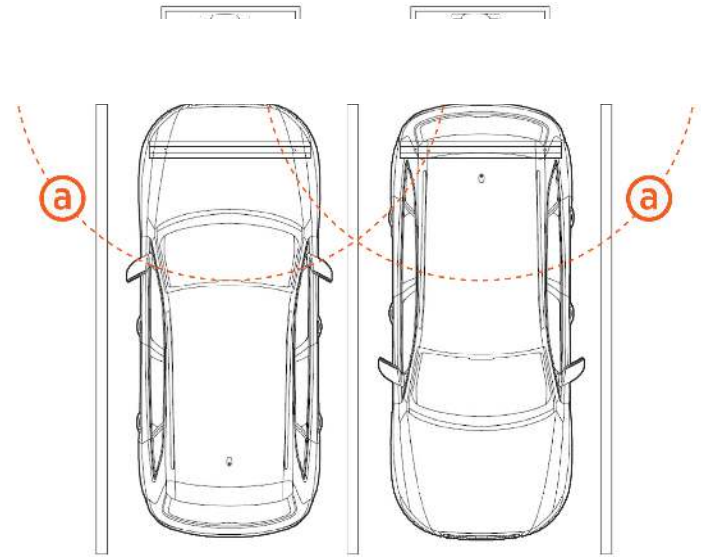
Note: While ChargePoint tests charging stations with a majority of upcoming vehicles, ChargePoint cannot guarantee the port locations of future vehicles and cannot warrant the configurations proposed will work for all vehicles.

This illustration depicts a charging station with a dual cable.

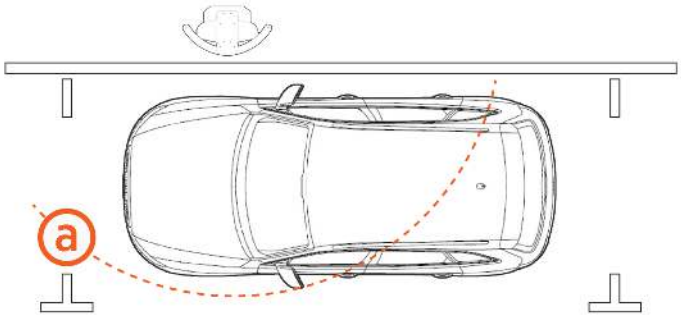


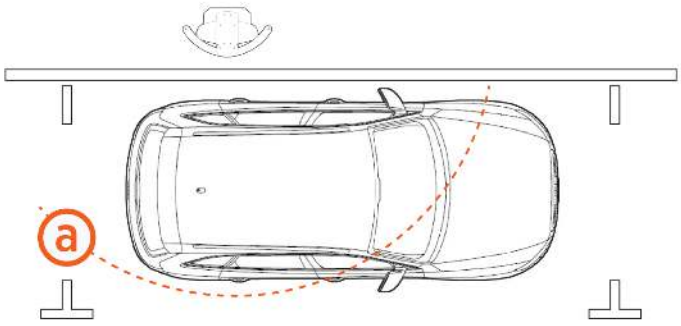
(a) Cable reach radius: 3.76 m (12 ft 4 in)

The following three illustrations depict charging stations with single cables.



(a) Cable reach radius: 3.76 m (12 ft 4 in)

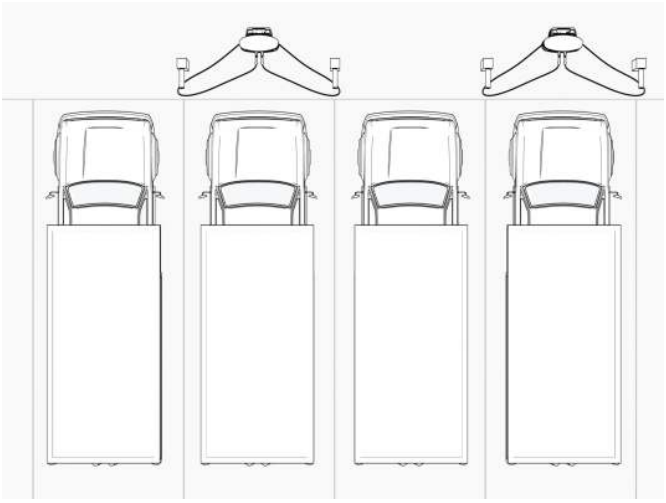


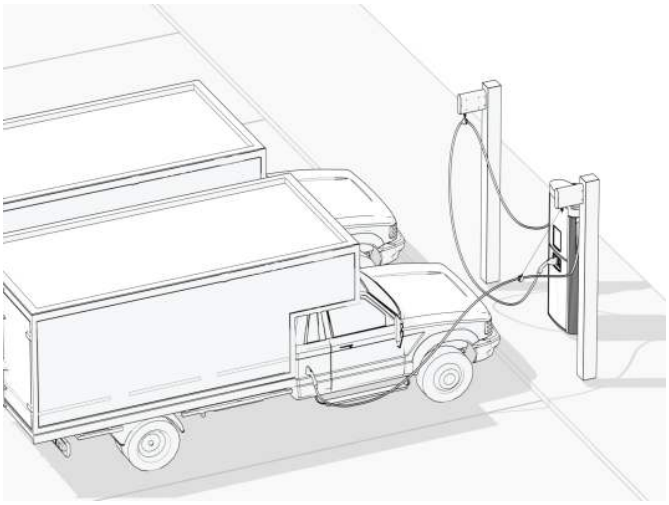


(a) Cable reach radius: 3.76 m (12 ft 4 in)

Fleet Parking Arrangement

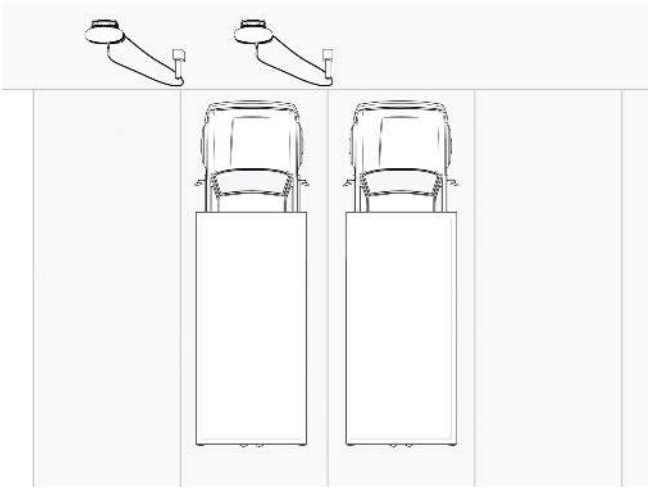
ns,
verhead
CMK tether with the parking stripes on either side of the charging station.



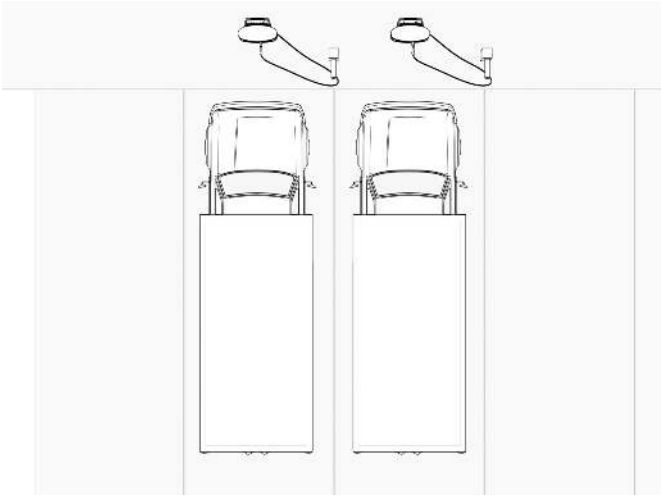


Stall parking (Single Charge Cable): Power Link 1000s with single charging cables are always configured with the charging cable on the right side of the enclosure. Align the overhead CMK tether with the parking stall stripe adjacent to the vehicle's charging port. The illustrations below depict parking of the vehicles in relation to the charging stations, based on the side where the vehicle's charging port is located.

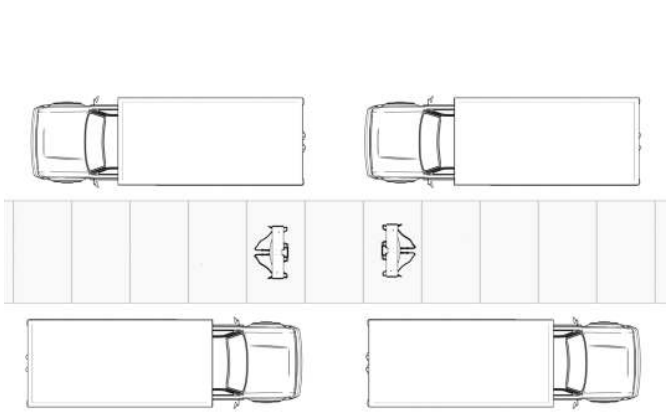
Vehicles with left-side charging ports

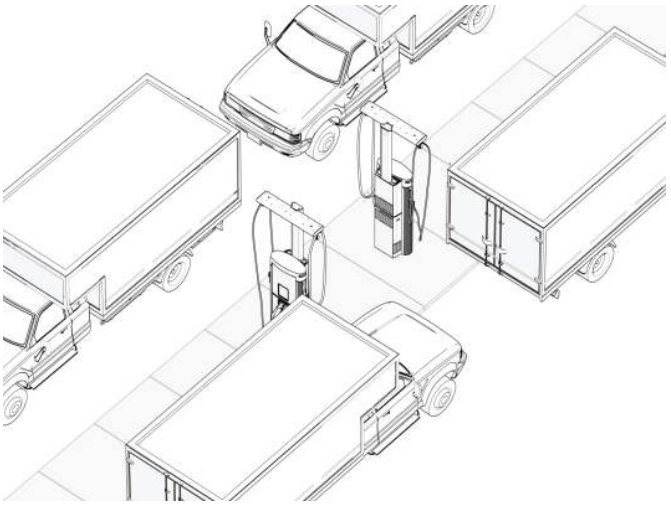


Vehicles with right-side charging ports



Island parking: ChargePoint recommends placing a station in the center of the island facing away (station front is perpendicular to vehicles) in the same orientation. This allows the station to be





Civil and Mechanical Design

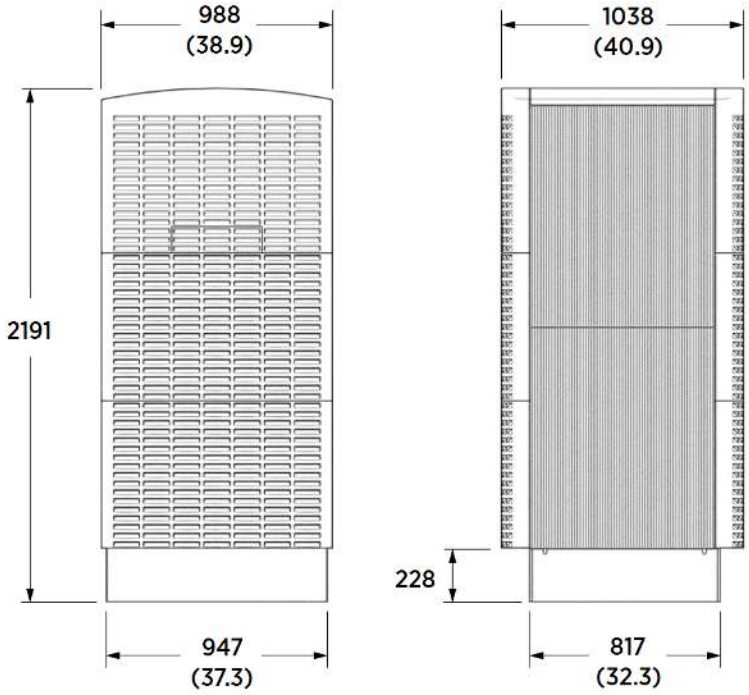
Weights

Component	Weigh
Power Module	45 kg (98.5 lb
Power Block - fully loaded with five Power Modules	680 kg (1500 l
Power Link 1000 - pedestal-mount (excludes charging cables and CMK)	200 kg (441 lb
Power Link 1000 - overhead-mount (non-LCC) (excludes charging cables and CMK)	120 kg (265 lb
Charging cable	16 - 37 (35 - 8 s)
Standard CMK - dual	20 kg (44 lbs
Tall CMK - dual	38.5 kg (85 lbs
Overhead CMK	10 kg (22 lbs
Packaging excluded from weights listed above	45 - 90 (100-2 bs)

Dimensions

Power Block

Note: Images are not to scale. Measurements appear in metric units (mm) followed by imperial equivalents (inches).



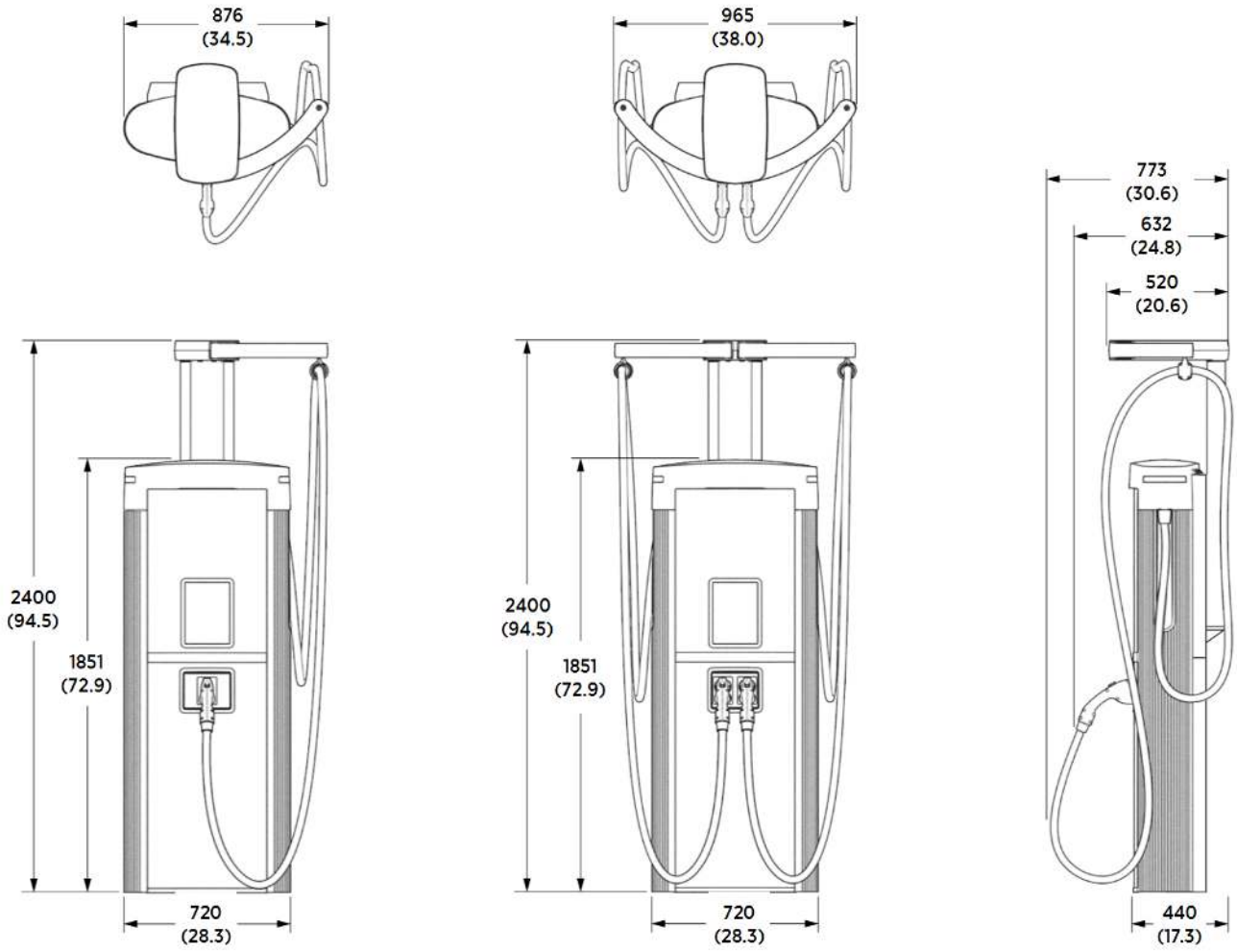
Power Link 1000

tions can
can have different charging cable types (such as one CCS and one CHAdeMO) to offer flexibility, or it can have the same cable type (in cases such as commercial fleets). The cables cannot both charge at the same time.

The Power Link 1000 can be configured with a Cable Management Kit (CMK), a rear mast with arms that swing forward to extend cable reach.

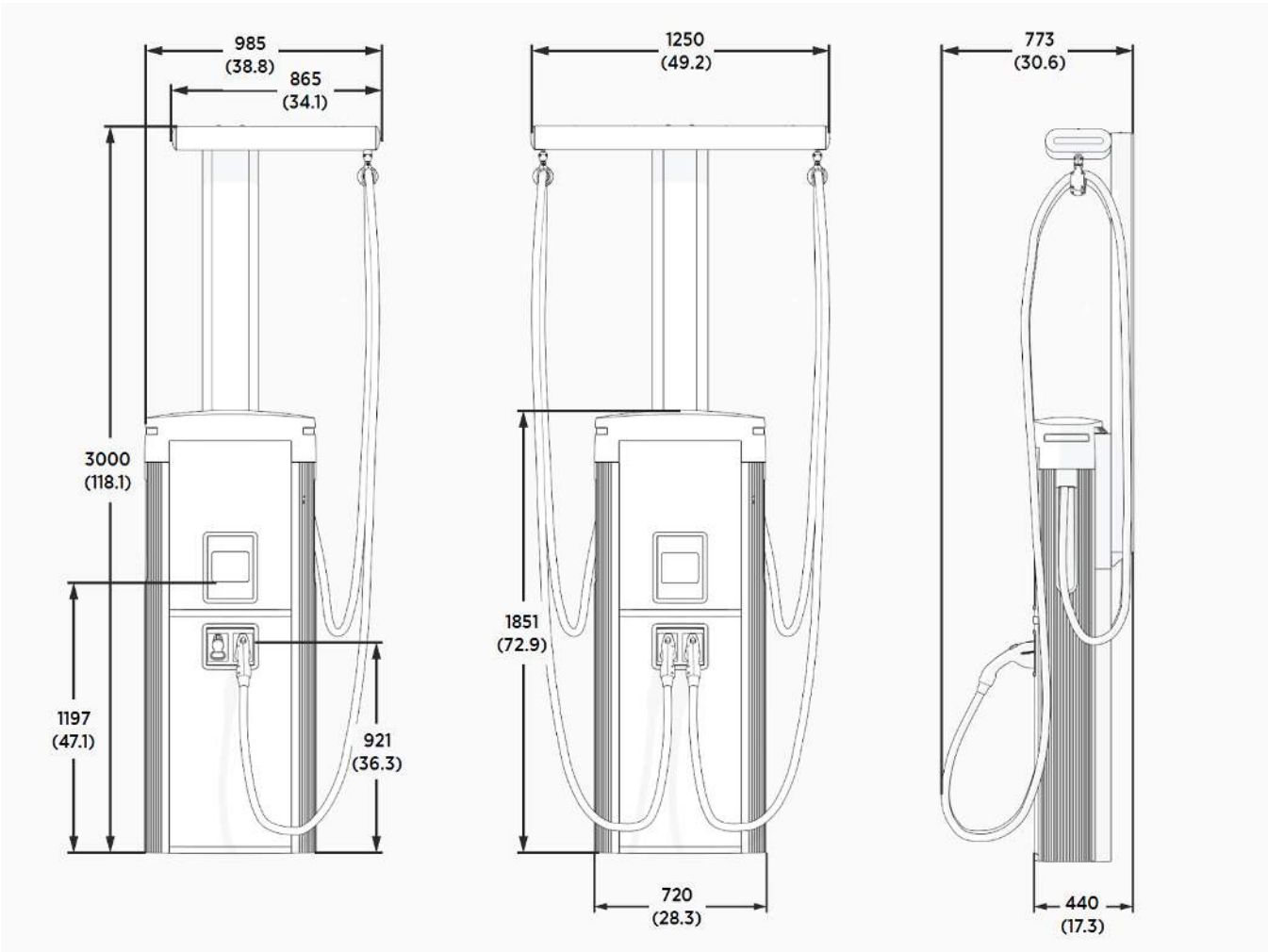
Pedestal-Mount Power Link 1000, Single or Dual Cable, and Standard CMK

Note: Images are not to scale. Measurements appear in metric units (mm) followed by imperial equivalents (inches).



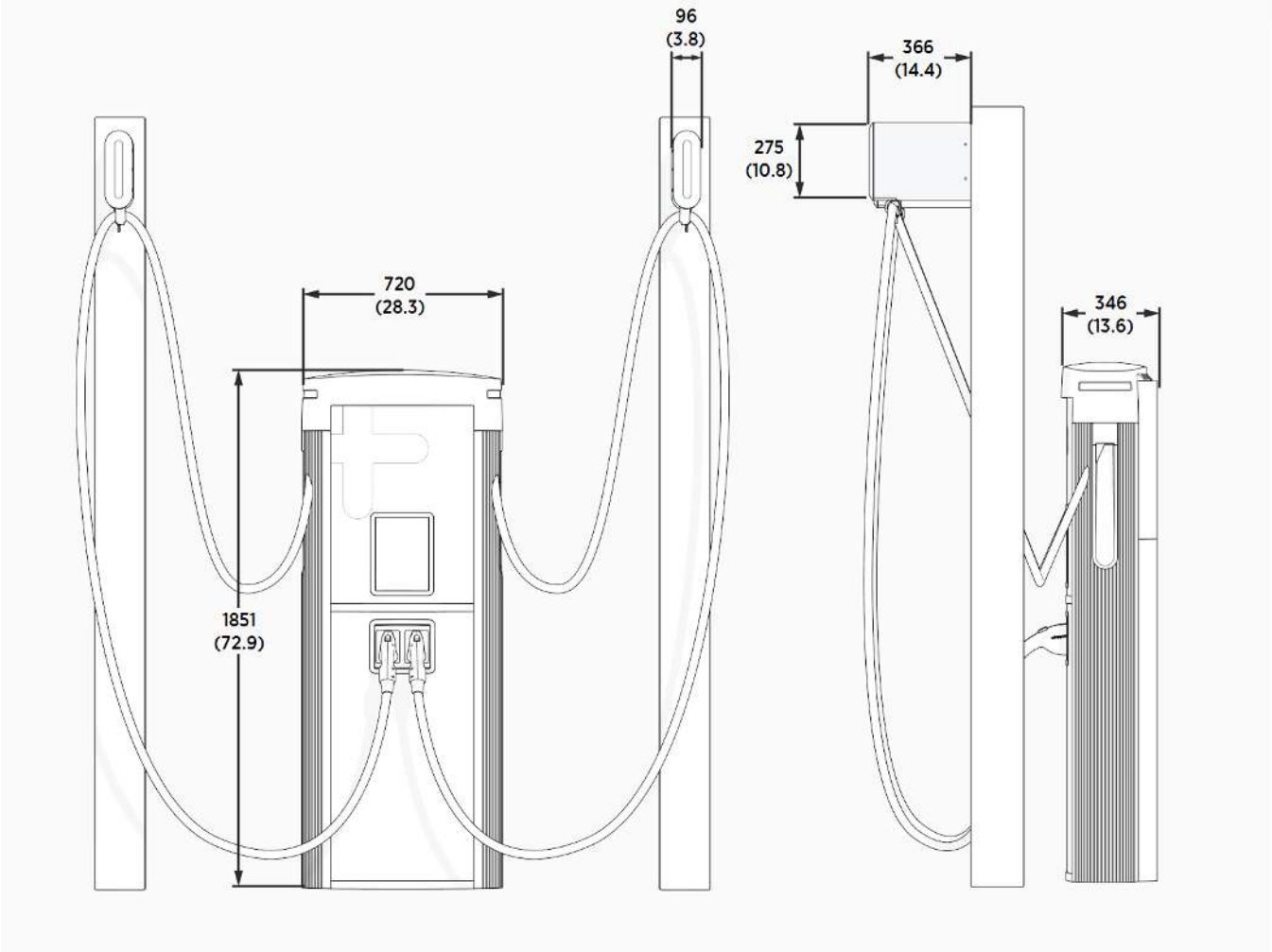
Pedestal-Mount Power Link 1000, Single or Dual Cable, and Tall CMK

equivalents



Pedestal-Mount Power Link 1000, Single or Dual Cable, and Overhead CMK

equivalents

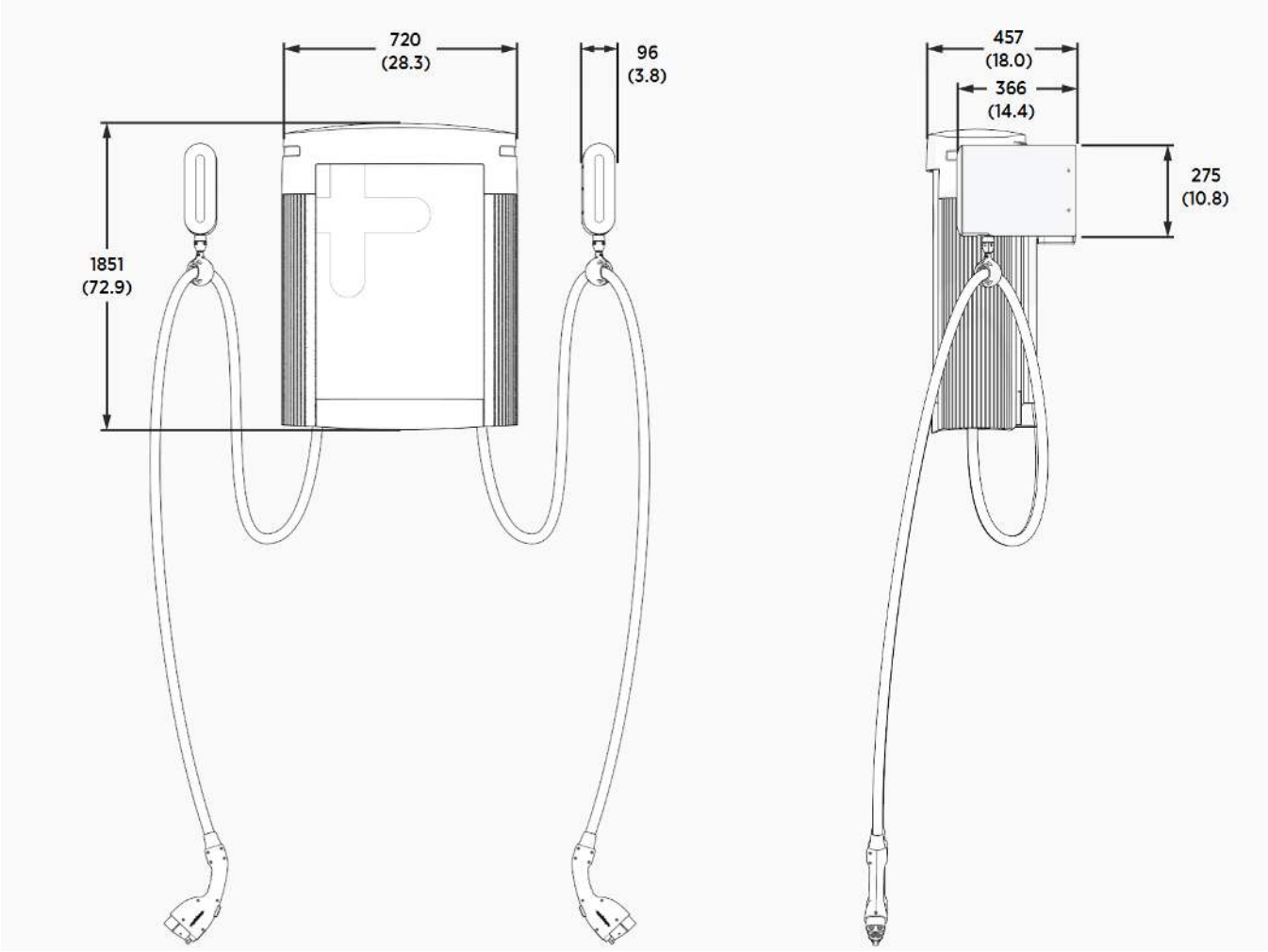


Note: The customer must provide the poles at the site for installing pedestal-mount (single or dual cable) Power Link 1000 enclosures with overhead CMK and tether ball extension. These are not provided by ChargePoint.

Overhead-Mount Power Link 1000 With Single or Dual Cable and Overhead CMK

ther point

Note: Images are not to scale. Measurements appear in metric units (mm) followed by imperial equivalents (inches).



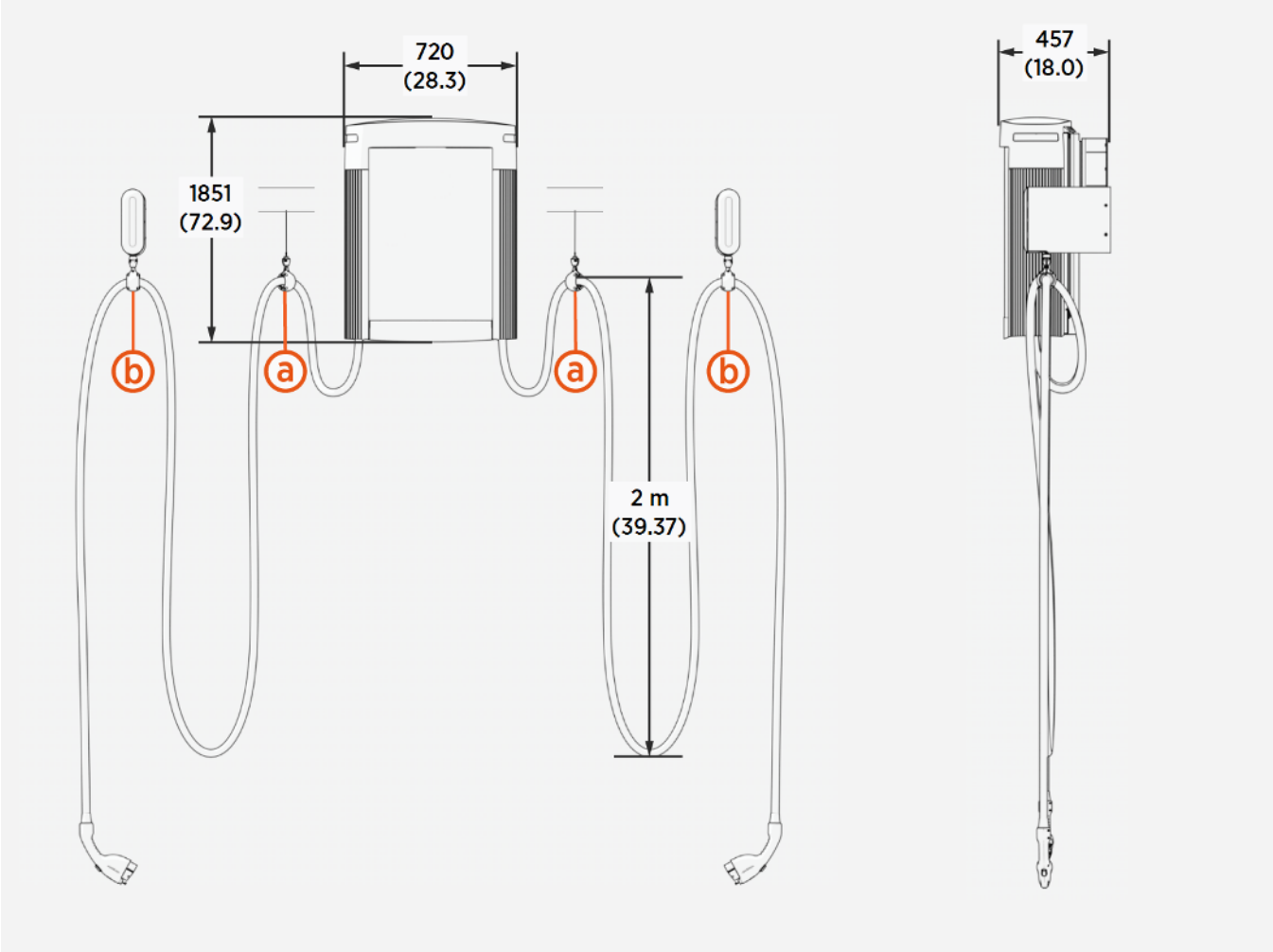
Overhead-Mount Power Link 1000 With Tether Hook

equivalents

Use tether hooks as additional support for overhead CMKs or to enable the use of third party hoist or cable management solutions.

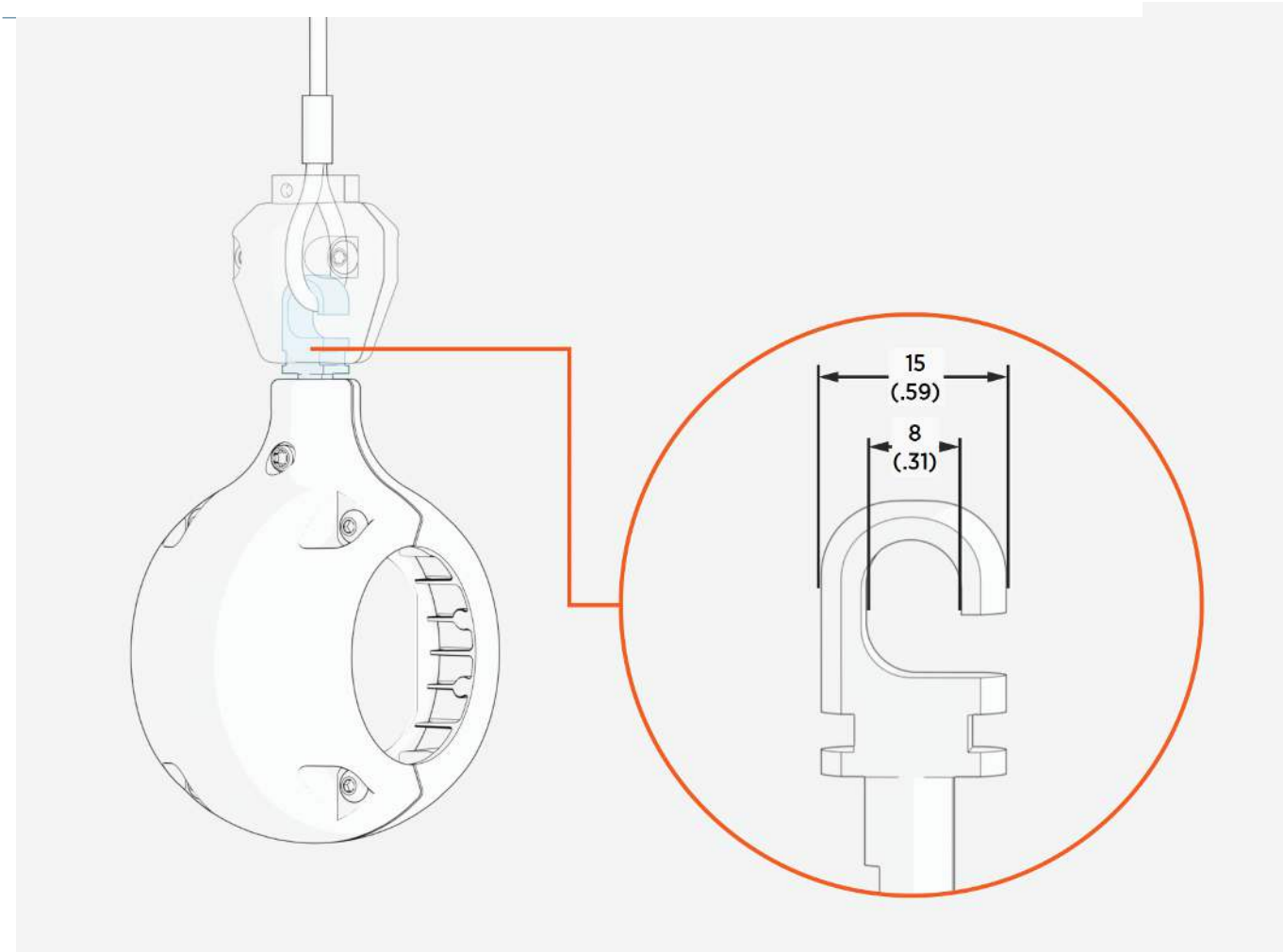
The tether hook **(a)** can be attached to either a fixed point or to an alternate cable management mechanism **(b)** such as a winch.

In the following image, the charge cable is held with a fixed tether hook **(a)** and a tool balancer **(b)**. Adjust the tether hook or tool balancer location as necessary for site requirements.



Tether hook dimensions appear in the following image.

Note: Images are not to scale. Measurements appear in metric units (mm) followed by imperial equivalents



Pedestal-Mount Specifications

The Power Block and pedestal-mount Power Link 1000 must be installed on either a newly poured concrete pad embedded with the Concrete Mounting Template (CMT) or on an existing concrete surface using the Surface Conduit Entry (SCE) kit.

Another option available through a third party is precast concrete blocks. For more details, contact ChargePoint.

IMPORTANT: Stub-up entry of wires laid underground is the most common installation method. Surface entry of wires laid above ground is allowed only at sites where the wires cannot be laid underground such as in a parking garage. Contact ChargePoint for the Surface Conduit Entry (SCE) kit, which includes the hardware needed to install on an existing concrete surface.

WARNING: If not installed correctly, the ChargePoint charging station may pose a crushing

Mounting
ing
pplicable
codes and standards using licensed professionals. Non approved installation methods are performed at the risk of the contractor and void the Limited One-Year Parts Exchange Warranty.

Concrete Pad Specifications

IMPORTANT: The concrete surface must be smooth and cannot exceed a slope of 20 mm per meter (1/4 inch per foot). If an existing concrete surface does not meet the slope requirement, a localized concrete pad must be poured and leveled to meet the slope requirement.

The concrete pad for the Power Block and Power Link 1000 must either be designed to be site-specific or must meet the specifications provided below. In some extreme conditions, a larger pad may be required. For sites with less stringent seismic, soil, or wind conditions, a smaller pad might be possible.

Conservative stability specifications for the Power Block and Power Link 1000 are listed below for the following design scenarios:

1. 170 mph wind, high seismic, Class 3 Soil
2. 170 mph wind, high seismic, Class 4 Soil
3. 170 mph wind, high seismic, Class 5 Soil
4. 140 mph wind, lower seismic, Class 3 Soil
5. 140 mph wind, lower seismic, Class 4 Soil
6. 140 mph wind, lower seismic, Class 5 Soil

All scenarios assume:

Minimum concrete rating of 2500 PSI.

All-threaded M16 anchor bolts are embedded 229 mm (9 in) into the concrete pad and are made of ASTM F1554 Grade 55 carbon steel and hot dip galvanized (HDG).

The anchor bolts placement is centered within the designed stability area.

Power Block

Design Scenarios	Pad Width	Pad Width	Pad Thickn	#N1 @ S1" O.C. Top Rebar	#N2 @ S2" O.C. Bottom Rebar
1	1753 mm (69 in)	1753 mm (69 in	457 mm (18 in)	#4 @ 305 mm (12 in) O.C.	#4 @ 305 mm (12 in) O.C.
2	1753 mm (69 in)	1753 mm (69 in	686 mm (27 in)	#4 @ 152 mm (6 in) O.C.	#4 @ 152 mm (6 in) O.C.

Power Block Concrete Pad Specifications

Design Scenarios	Pad Width	Pad Thickness	#N1 @ S1" O.C. Top Rebar	#N2 @ S2" O.C. Bottom Rebar
				12 in) O.C.
4	1524 mm (60 in)	1524 mm (60 in)	457 mm (18 in)	#4 @ 305 mm (12 in) O.C.	#4 @ 305 mm (12 in) O.C.
5	1524 mm (60 in)	1524 mm (60 in)	457 mm (18 in)	#4 @ 305 mm (12 in) O.C.	#4 @ 305 mm (12 in) O.C.
6	1524 mm (60 in)	1524 mm (60 in)	457 mm (18 in)	#4 @ 305 mm (12 in) O.C.	#4 @ 305 mm (12 in) O.C.

Power Link 1000

Design Scenarios	Pad Width		Pad Thickness	#N1 @ S1" O.C. Top Rebar	#N2 @ S2" O.C. Bottom Rebar
1	1499 mm (59 in)	1499 mm (59 in)	432 mm (17 in)	#4 @ 305 mm (12 in) O.C.	#4 @ 305 mm (12 in) O.C.
2	1499 mm (59 in)	1499 mm (59 in)	610 mm (24 in)	#5 @ 305 mm (12 in) O.C.	#5 @305 mm (12 in) O.C.
3	1499 mm (59 in)	1499 mm (59 in)	610 mm (24 in)	#5 @ 305 mm (12 in) O.C.	#5 @ 305 mm (12 in) O.C.
4	1219 mm (48 in)	1219 mm (48 in)	330 mm (13 in)	#4 @ 305 mm (12 in) O.C.	#4 @ 305 mm (12 in) O.C.
5	1219 mm (48 in)	1219 mm (48 in)	483 mm (19 in)	#5 @ 305 mm (12 in) O.C.	#5 @ 305 mm (12 in) O.C.
6	1219 mm (48 in)	1219 mm (48 in)	483 mm (19 in)	#5 @ 305 mm (12 in) O.C.	#5 @ 305 mm (12 in) O.C.

Power Link 2000 Concrete Pad Specifications

In the case of using an existing pad, the pad must either meet one of the above specifications or it must be inspected and approved by a structural engineer for the specifications given below:

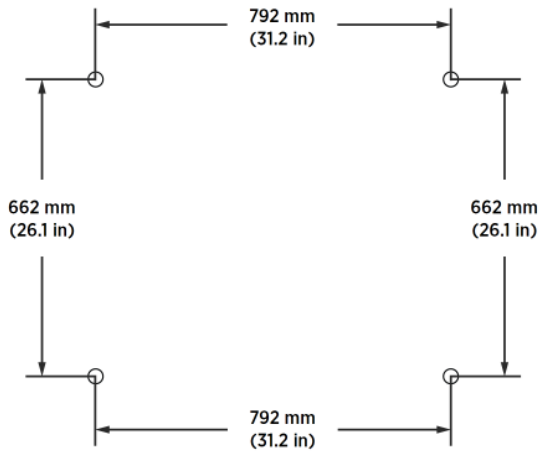
Specification	Power Block	Power Link 1000
Weight	680 kg (1500 lb)	See Weights
Height x width	2191 mm (86.3 in) x 1000 mm (39.4 in)	See Dimensions
Frontal area	Height * width	Height * width
CG height	1000 mm (39.4 in)	1524 mm (60 in)
Anchor bolts size and quantity	M16 (x4)	
Anchor bolts embedment	229 mm (9 in)	
Anchor bolts placement	See Anchor Bolts Placement	

Evergreen Plus Existing Pad Specifications

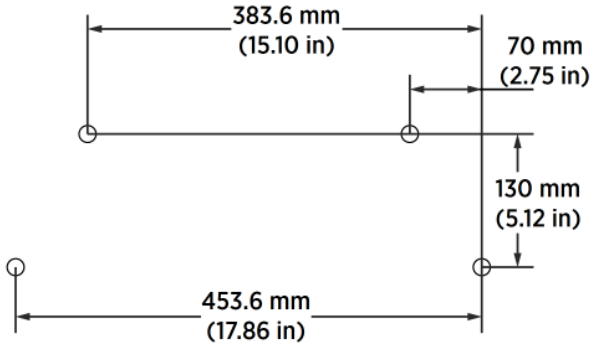
Anchor Bolts Placement

The Power Block and Power Link 1000 enclosures mount over four anchor bolts embedded in the concrete pad. The anchor bolt patterns are shown below.

Power Block



Power Link 1000



Wires Entry - Stub-up

The most common mounting method for the Power Block and Power Link 1000 is new pad installation using a Concrete Mount Template (CMT) with stub-up wire entry.

The Power Block and Power Link 1000 pedestals must each mount onto four M16 anchor bolts exposed 76 mm (3 in) above the concrete pad.

ed into a
duits or armored cables.

Note: The CMT of Power Block and Power Link 1000 are shipped separately and they must be assembled onsite before pouring the concrete pad (refer to the Concrete Mounting Template Guide for more information).

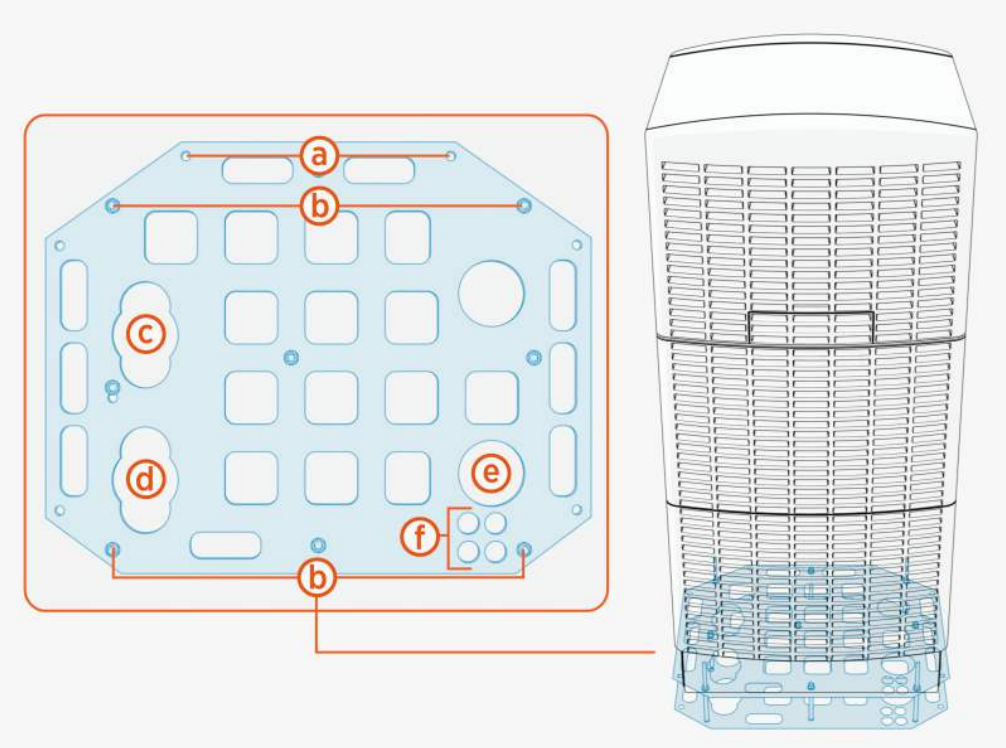
In regions that use conduits, the conduits must not have bell ends. Conduits with bell ends may interfere with tolerances inside the Power Block and Power Link 1000.

Conduits must have stub-ups to the following height from the concrete pad surface:

- Power Block: 559 – 914 mm (22 – 36 in)
- Power Link 1000: 102 – 160 mm (4 – 6-1/4 in)

Power Block Concrete Mounting Template (CMT)

The Power Block CMT positions the anchor bolts and wire conduits as shown below.



(a) M16 anchor bolt (x2) locations for mounting SCE gland plate (applicable only for surface entry of wires).

(b) M16 anchor bolt (x4) locations 76 mm (3 in) above concrete for mounting Power Block.

(c) HV DC output B wires exit.

(d) HV DC output A wires exit.

Note: The DC output of Power Block is the DC input for Power Link 1000.

(e) AC input wires entry.

(f) LV DC output, shunt trip wires, and Ethernet cable exit

Three for LV wires and Ethernet cable.

IMPORTANT: In regions that use conduits, the conduits must be laid per the conduit layout defined by the Concrete Mounting Template (CMT) and the outer diameter of conduits must not exceed the trade sizes listed below. In regions that do not use conduits and/or use armored cables, the cables may be laid per the conduit layout defined by the CMT.

The Concrete Mounting Template CMT must be embedded with its top panel positioned 51 mm (2 in) below the concrete surface.

The following table provides the maximum size and quantity of conduits that can be installed on Power Block:

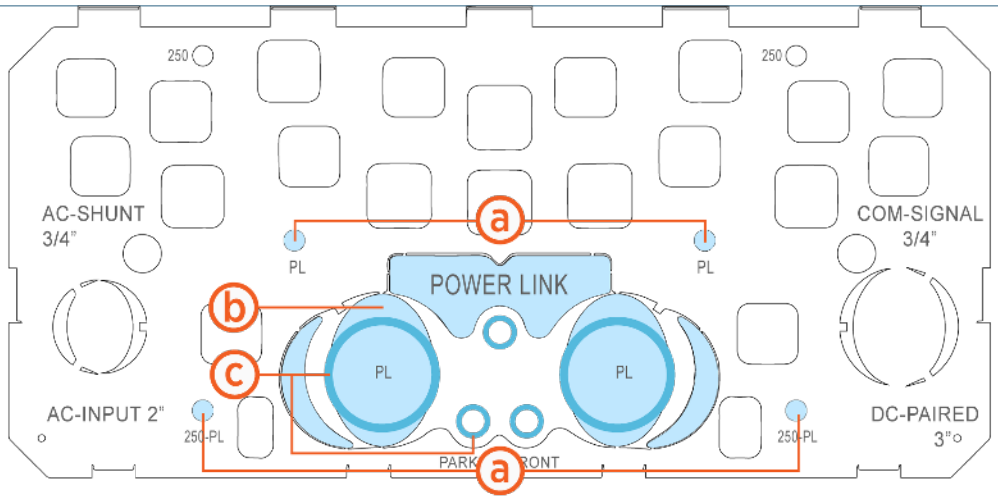
Conduits For	Conduit Quantity x Trade Size	
	North America	Europe
HV DC output wires	2 x 4 inch max. or 4 x 3 inch max.	2 x 110 mm max. or 4 x 78 mm max.
AC input wires	1 x 4 inch max.	1 x 110 mm max.
LV DC, shunt trip, and Ethernet output wires	4 x 1 inch max.	4 x 25 mm max.

IMPORTANT:

The actual conduit size and quantity must be chosen based on site-specific wiring requirements. The maximum conduit sizes listed are based on maximum quantity the Power Link 1000 can accommodate.

For wire specifications, see Wiring Requirements.

Power Link 1000 Concrete Mounting Template (CMT)



(a) M16 anchor bolt (x4) locations for mounting Power Link 1000 (see Anchor Bolts Placement).

(b) Breakaway tabs for entry of wires through conduits **(c)** or armored cables.

IMPORTANT: In regions that use conduits, the conduits must be laid per the conduit layout specified by the Concrete Mounting Template (CMT) and the outer diameter of conduits must not exceed the trade sizes listed below. If the conduits are not used, the cables may be laid per the conduit layout specified by the CMT.

The Concrete Mounting TemplateCMT must be embedded with its top panel positioned 51 mm (2 in) below the concrete surface.

The following table provides the maximum size and quantity of conduits that can be installed on Power Link 1000 by removing the breakaway tabs **(b)**:

HV DC input wires	2 x 3-1/2 in (91 mm) max.
LV DC wires and Ethernet cable	3 x 3/4 in (21 mm) max.
Optional feature (Ethernet-to-USB)	1 x 3/4 in (21 mm) max.

IMPORTANT:

The actual conduit size and quantity must be chosen based on site-specific wiring requirements. The maximum conduit sizes listed are based on maximum quantity the Power Link 1000 can accommodate.

For wire specifications, see Wiring Requirements.

Surface Mount

The Power Block and Power Link 1000 may be installed on an existing concrete surface in accordance with the following guidelines:

The concrete surface must be inspected and approved by a structural engineer as described in Concrete Pad Specifications.

The anchor bolts must be installed in the concrete surface as follows:

- Anchor holes are drilled into the concrete using the anchor bolt pattern given in Anchor Bolts Placement. The holes are drilled to a depth so that 76 mm (3 in) of each anchor bolt is exposed above the concrete pad.
- Anchor bolts are epoxied into the holes. Use an epoxy with a minimum bonding strength of 11.7 MPa, compressive strength of 82.7 MPa minimum, and tensile strength of 49.3 MPa minimum. For example, Hilti HIT-RE 500 V3 (normal cure) or Hilti HIT-HY 200-A (fast cure).

  Note: Different epoxy types have different cure times at various temperatures. Check local temperatures for the site in advance to help choose an appropriate epoxy.

Use the provided hot-dip galvanized M16 anchor bolts.

Wires must enter the enclosures using Surface Wire Entry.

Note: Power Blocks and Power Link 1000s in a Multiplex architecture cannot be installed on an existing concrete surface because they require stub-up wire entry.

Wires Entry - Surface

Power Block and Power Link 1000 support wiring that is run above ground in protected wireways for locations where no underground wiring access exists (parking garages, etc.) or where underground junction boxes are not permitted.

Note: Power Blocks and Power Link 1000s in a multiplex architecture do not support wiring that is run above ground.

If wires or cables are run above ground:

They must be housed in wireways that conform to local code.

ɔponents.

Surface wires entry might require larger clearance areas than embedded installations. A minimum of 610 mm (2 ft) clearance at rear side is required.

Use flexible wires and conduits, or armored cables.

Use LB conduit bodies to route wires into Power Link 1000 from rear left or rear right, and they must fit within the rear clearance of 610 mm or 2 ft.

Use suitable conduit fittings to secure and seal the conduits and/or conduit bodies.

Prepare the concrete surface where the components will be anchored so that the concrete surface is solid, smooth, and level with no old hardware or stub-ups extending above ground.

Surface wires must enter the Power Block and the pedestal-mount Power Link 1000 using a SCE kit. These kits offer the following benefits:

Support of the weight of conduits or armored cables without compromising cover panel integrity

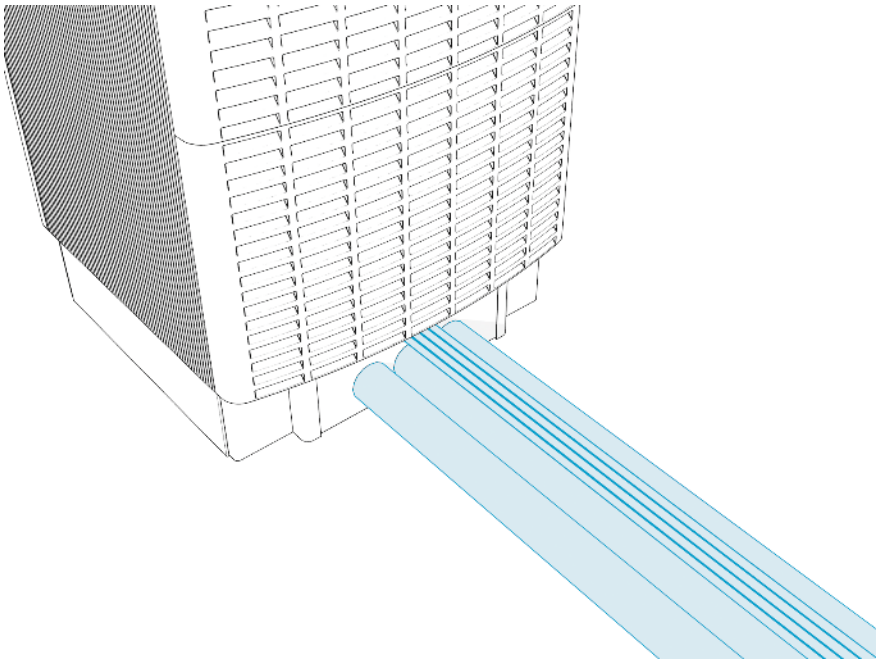
Ensure all terminations meet ingress requirements where they meet the component

Ensure no obstructions to ventilation, which is required during operation

Note: The SCE kit is used for surface wire entry for only thePower Block and pedestal-mount Power Link 1000. It can not be used with a wall or overhead-mount Power Link 1000.

Power Block Surface Conduit Entry (SCE)

es. The
tened at the
rear side of the Power Block.



The following table provides the maximum size and quantity of conduits that can be installed on Power Block using the Power Block SCE kit:

Conduits For	Conduit Quantity x Trade Size	
	North America	Europe
AC input wires	1 x 4 inch max.	1 x 110 mm max.
HV DC output wires	2 x 4 inch max.	2 x 110 mm max.
LV DC, shunt trip, and Ethernet output wires	4 x 1 inch max.	4 x 25 mm max.

IMPORTANT:

The actual conduit size and quantity must be chosen based on site-specific wiring requirements.

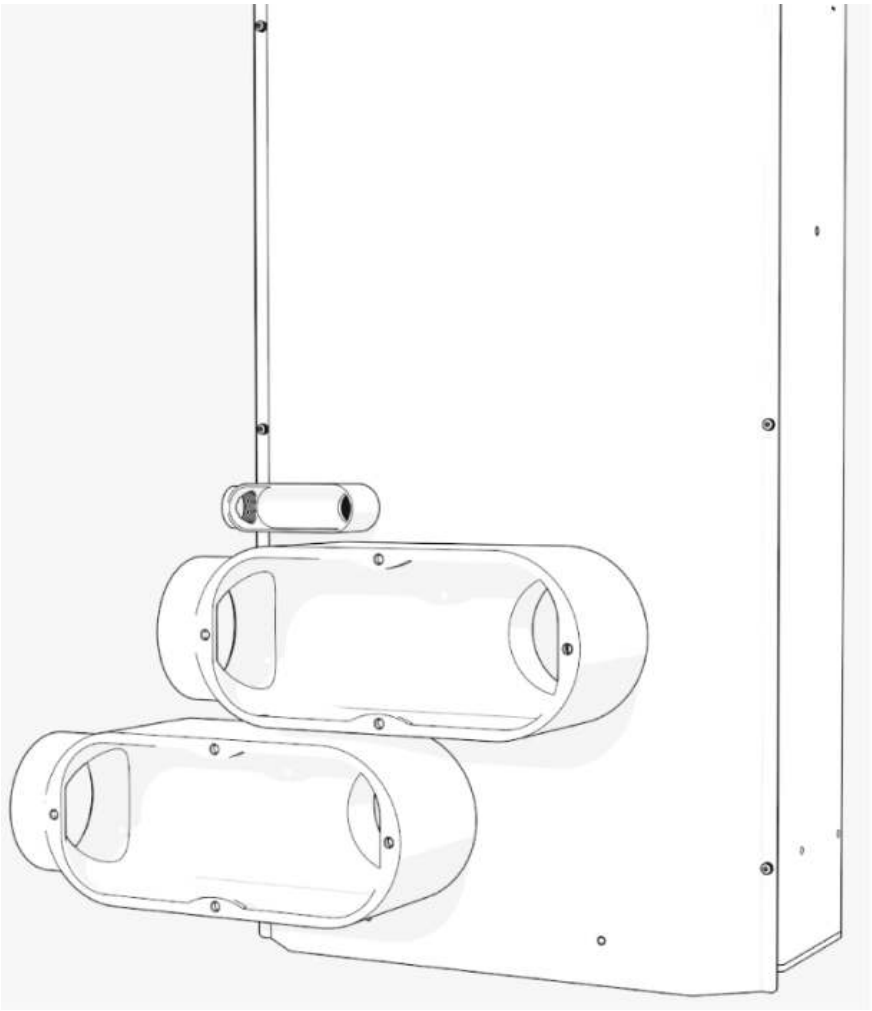
For wire specifications, see Wiring Requirements.

For more information, refer to the *Power Block and Power Link 1000 Surface Conduit Entry Kit Guide*.

Pedestal-Mount Power Link 1000 Surface Conduit Entry (SCE)

gh conduits
surface

conduits may be fastened at the rear side of the Power Link 1000.



The following table provides the maximum size and quantity of conduits that can be installed on Power Link 1000 using the Power Link 1000 SCE kit:

Conduits For	Conduit Trade Size	Quantity
HV DC input wires	4 in (103 mm) max.	2 max.
LV DC input wires and Ethernet cable	3/4 in (21 mm) max.	2 max.
Optional feature (Ethernet to USB)	3/4 in (21 mm) max.	1 max.

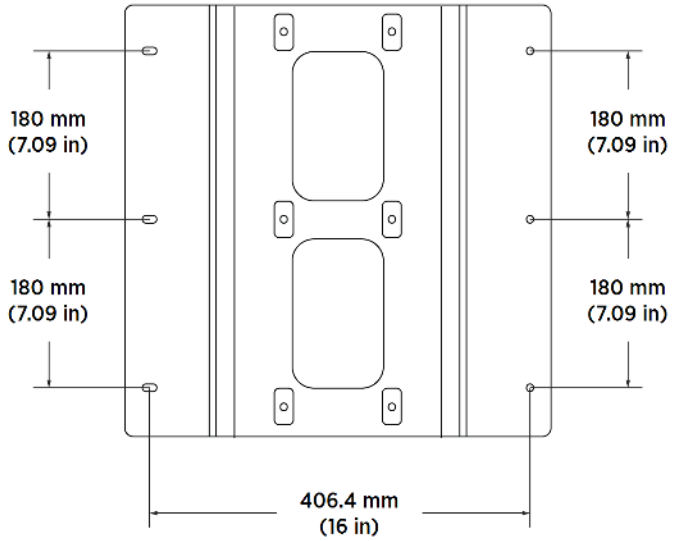
IMPORTANT:

For wire specifications, see Wiring Requirements.

For more information, refer to the *Power Block and Power Link 1000 Surface Conduit Entry Kit Guide*.

Wall or Overhead-Mount Specifications

The Power Link 1000 mounts onto a wall or an overhead structure (such as a gantry) using a bracket that attaches to its back. The bracket has six mounting holes sized for M8 bolts.



For wall or overhead mounted stations:

The Power Link 1000 must be mounted upright. Do not mount it in any other orientation.

The wall must be smooth and plumb.

The wall or overhead structure must have a structural capacity of 1780 N (400 lbf) in addition to the Power Link 2000 weight. The structure must also be designed or verified by a structural engineer per local codes. In the event of a vehicle drive away incident, this structural strength is required to withstand the pull-out force of the vehicle.

For surface run wiring to the wall or overhead-mount Power Link 1000:

All wires must be housed in wireways that conform to local code.

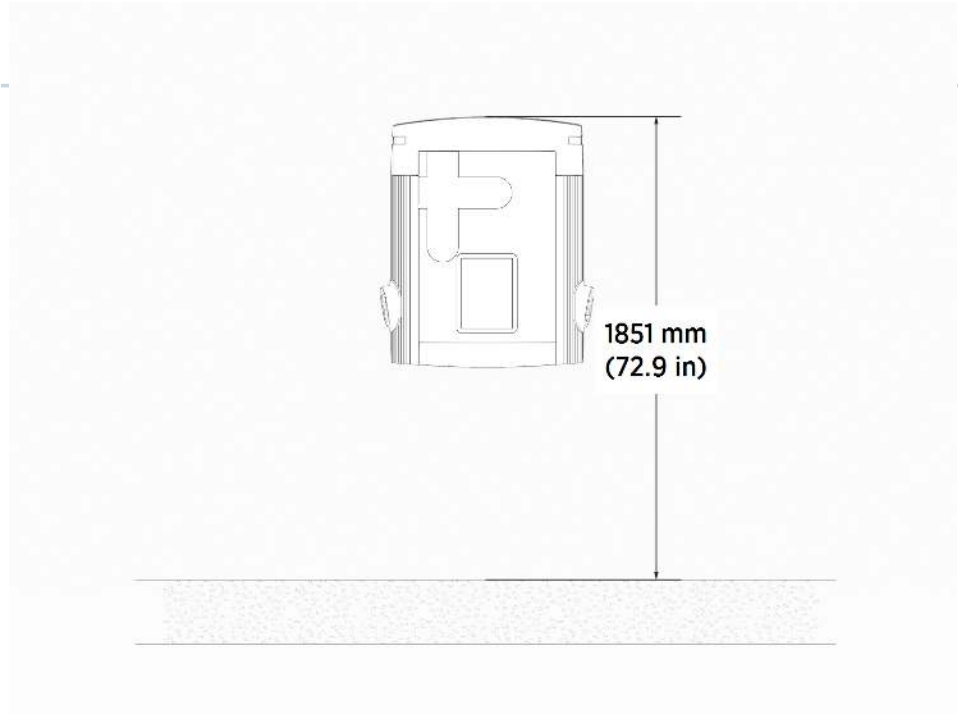
Use flexible wires.

Use suitable conduit fittings to secure and seal the conduits to the enclosure.

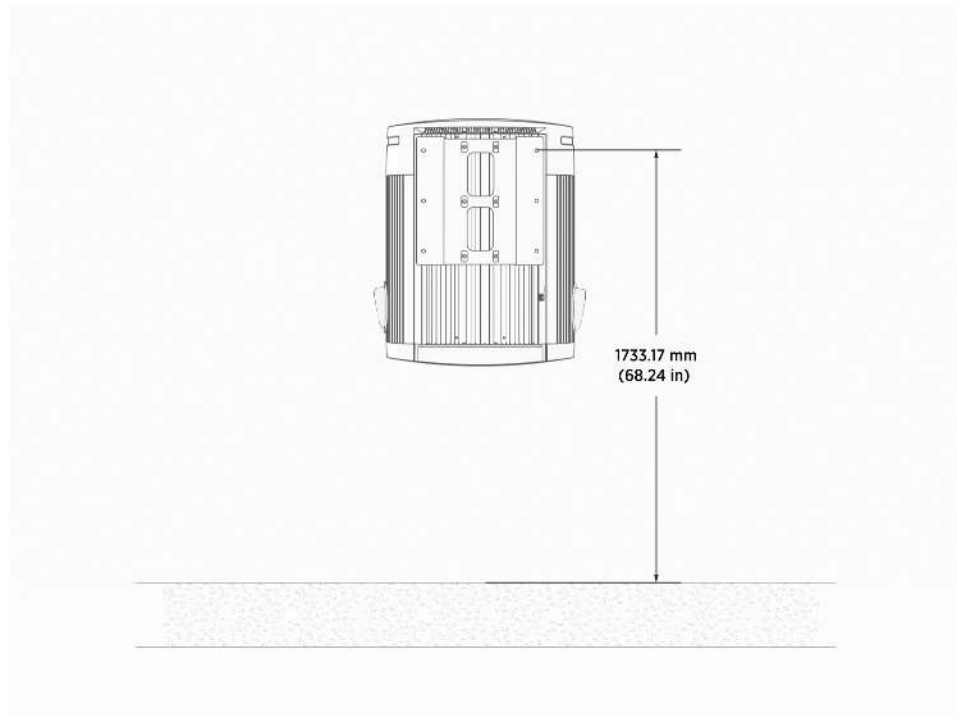
Wall and overhead-mount height specifications are given below:

IMPORTANT: For fleet applications, mounting heights may vary from the specifications provided

The maximum height of the Power Link 1000 must be 1851 mm (72.9 in) above a finished floor.



The maximum height of the mounting bracket is 1733.17 mm (68.24 in) above a finished floor.



Drainage

Flood Plane

Power Block is designed with a 457 mm (18 in) flood plane. If site conditions show a higher than 457 mm (18 in) flood plane for a 100-year flood event, consider installing the Power Block on a raised concrete pad.

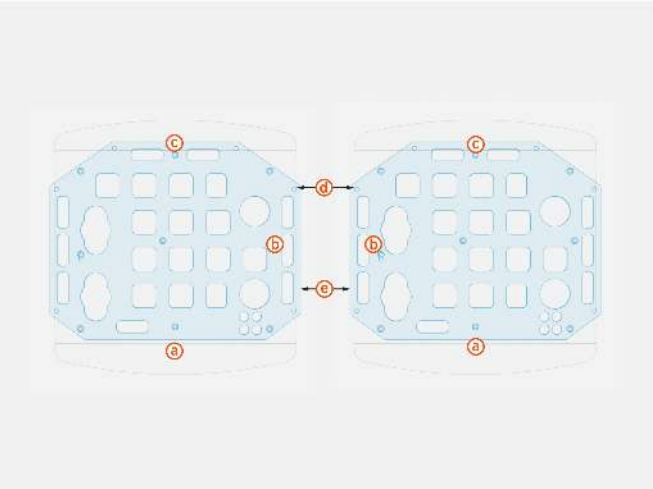
WARNING: Exposing the Power Block to over 457 mm (18 in) of standing water could create an electrocution, shock, or fire hazard.

If the Power Block has been exposed to standing water exceeding this threshold, cut power to the Power Block and contact ChargePoint before powering on the Power Block.

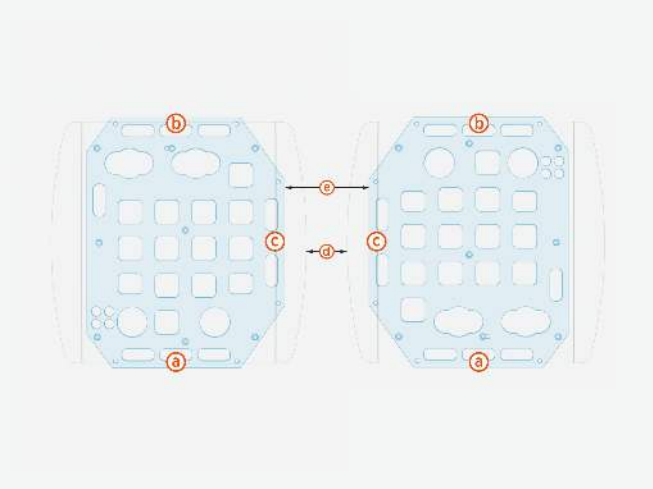
Clearances

Power Block

Two Power Blocks laid side-to-side



Two Power Blocks laid back-to-back



The following table provides the clearances required for service and ventilation around the Power Block (PB):

Side	PBs Layout			Clearance
(a) Front	-	-		Min. 1000 mm (39.4 in)
(b) Sides	PBs laid side-to-side	Minimum	(d) PB to PB	51 mm (2 in)
			(e) CMT to CMT	CMTs overlap by 15 mm (0.6 in)
		Recommended	(d) PB to PB	152 - 203 mm (6 - 8 in)
			(e) CMT to CMT	116 - 167 mm (3.4 - 5.4 in)
(c) Rear	PBs laid back-to-back		(d) PB to PB	457 - 609 mm (18 - 24 in)
			(e) CMT to CMT	609 - 761 mm (24 - 30 in)

Note: If placing two Power Blocks back-to-back using surface conduit entry, there must be at least 609 mm (24 in) of shared rear clearance.

Additionally, follow the clearance guidelines below:

- Front and rear clearances must be at grade level +/- 13 mm (0.5 in).
- The interior of the Power Block is accessed from both the front and rear cover panels, which lift off. No separate door swing clearance is required.
- Fencing, bollards, or wheel stops must not encroach upon the clearances listed above, if present. These barriers are not explicitly required by ChargePoint.

Power Blocks can be laid side-to-side with minimal spacing for service and ventilation. If laid side-to-side, wiring can enter using either stub-up entry (recommended) or using surface entry at the rear
› another.

- At least 51 mm (2 in) of clearance is maintained between each Power Block.
- Required service clearance is maintained at the front and rear sides.
- At least 457 mm (18 in) of clearance is available at each end of a row of Power Blocks.

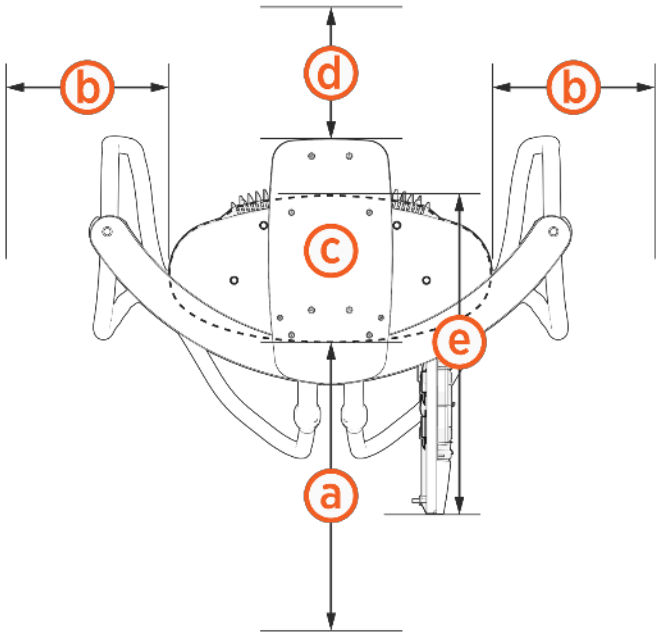
Note: For any questions about allowable layouts, contact ChargePoint.

CAUTION: Each Power Module weighs 45 kg (98.5 lbs). At least two people are required to replace a Power Module. The front clearance must be spacious enough to accommodate at least two people.

IMPORTANT: Check local and regional codes for any additional clearance requirements regarding safety, high voltage equipment, and accessibility requirements.

Power Link 1000

The Power Link 1000 requires minimum site and service clearances listed below.



Power Link 1000		Clearance
(a)	Front — Minimum open space	610 mm (2 ft)
(b)	Side	305 mm (12 in) at grade, minimum **Note:** 610 mm (24 in) recommended for user service and

Power Link 1000		Clearance
		this 610 mm (24 in) can be shared between Power Link
(c) Top	Pedestal or wall-mount	26 mm (1 in) from top of CMK or 305 mm (12 in) from top of Power Link 2000, whichever is higher.
	Overhead-mount	305 mm (12 in) from top of Power Link 1000
(d) Rear	Pedestal-mount	203 mm (8 in)
		Note: At least 610 mm (2 ft) of clearance is required for surface conduit entry. In the case of back-to-back Power Link 2000s, each with surface conduit entry, the clearance can be shared.
(e) Door swing plus station width		730 mm (2 ft 4-3/4 in)

Wheel Stops and Bollards

Bollards and wheel stops are not explicitly required by ChargePoint. However, ChargePoint recommends these best practices and considerations when designing the site:

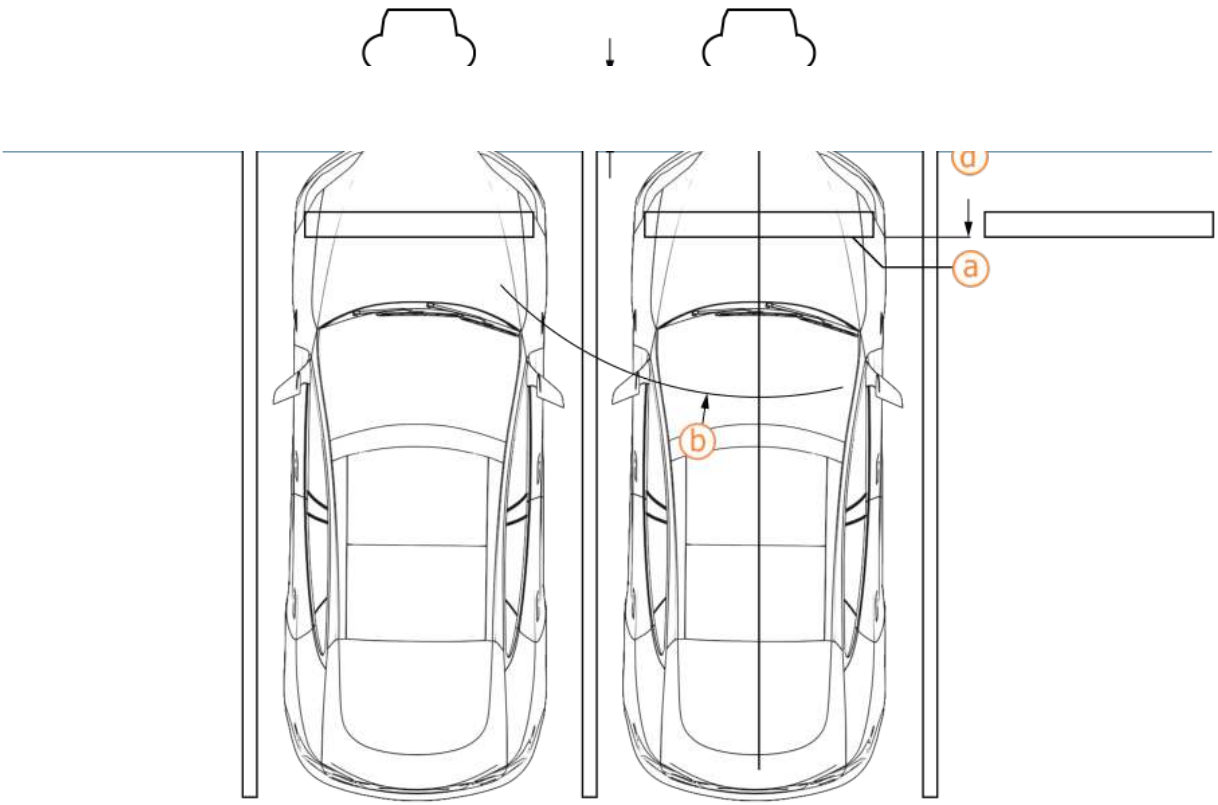
Permanent bollards or wheel stops must not encroach upon the clearances listed in the clearance diagrams in this section. Removable bollards are allowed if service personnel have the ability to move them as needed.

Where permitted by code, wheel stops are preferred over bollards for head-in or back-in spaces.

Wheel Stops

When using wheel stops, consider the average vehicle overhang distance for the largest type of vehicle (passenger, bus, etc.), as well as leaving space for the driver to walk up and access the station.

Position wheel stops to actively block at least one wheel, without presenting a trip hazard to pedestrians walking between vehicles.



(a) Wheel stop, positioned to actively block at least one wheel

(b) Cable reach radius: 3.76 m (148 in)

(c) Recommended distance for walk-up access: 609 mm (24 in)

(d) Recommended distance between wheel stop and station: 1371 mm (54 in) for passenger vehicles

Bollards

When bollards are required by code, needed for snowy areas, or needed for curbside spaces, ensure bollard placement does not interfere with removing and replacing charge cables in the station's holsters.

Try to minimize bollard interference with the movement of charge cables between the station and the vehicle. Bollard height is recommended to be no higher than 914 mm (36 in) where needed.

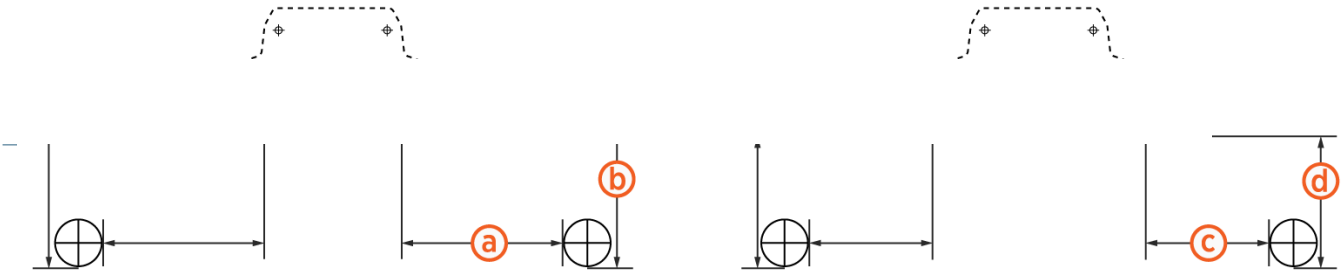
Follow the measurements listed for bollards placement:

(a) Anchor bolt to bollard inside edge: 254 mm (10 in)

(b) Anchor bolt to bollard front edge: 424 mm (16.7 in)

(c) Power Link 1000 side to bollard inside edge: 122 mm (4.8 in)

(d) Power Link 1000 front to bollard front edge: 305 mm (12 in)

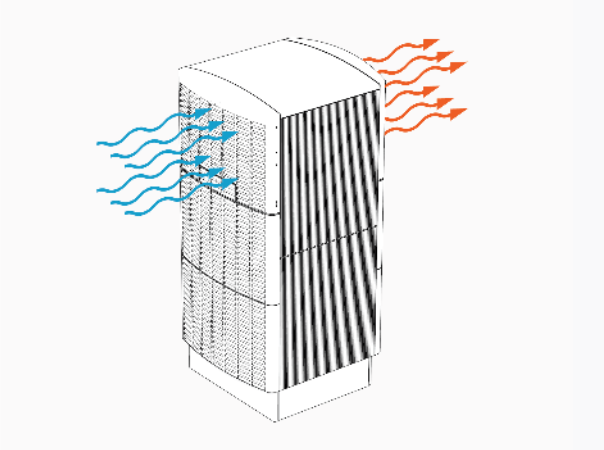


Ventilation

Power Block

Intake vents are positioned at the front of the Power Block (blue arrows) and exhaust vents are at the rear (orange arrows). When positioning multiple Power Blocks, orient intake and exhaust to avoid recirculation.

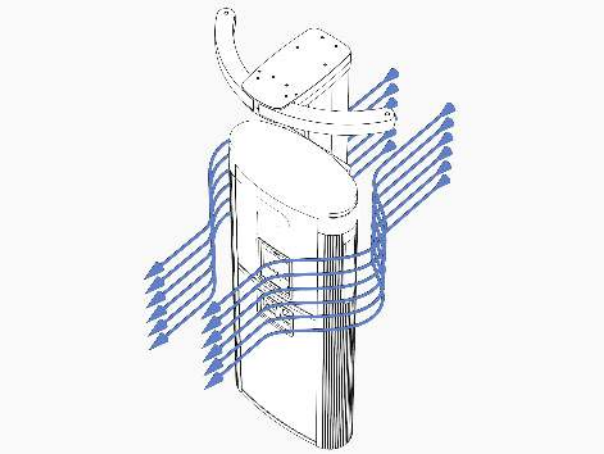
Note: Power Block requires 10 kW (34,000 BTU/hr) of heat rejection.



Power Link 1000

Ensure that any installation, especially an indoor installation, has adequate airflow to dissipate heat at maximum operation. The station location must allow fresh ambient airflow and must be free of any objects that might restrict airflow to the station. A station experiencing temperatures in excess of the maximum allowed operating temperature may deliver reduced maximum performance.

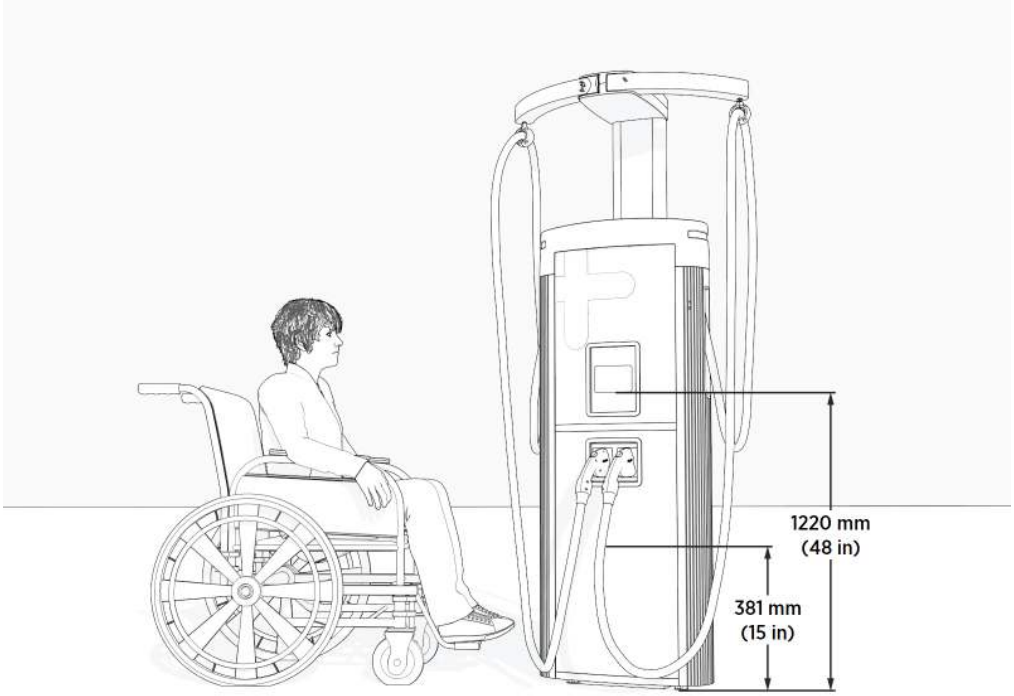
Note: Power Link 1000s without liquid cooled cables require 500 W (1,700 BTU/hr) of heat rejection. Power Link 1000s with liquid cooled cables require 5.3 kW (18,000 BTU/hr).



Accessibility

ging station must not block ramps or pathways and the height of the interactive display cannot exceed the maximum height as dictated by local laws.

Do not install Power Link 1000 on a raised concrete pad for parking spaces reserved for people with limited mobility. Power Link 1000 meets ADA height requirements when measured from a finished floor or ground plane (i.e., Power Link 1000's all operable parts, such as cable connectors and display, are no higher than 1220 mm or 48 in and no lower than 381 mm or 15 in from a finished floor or ground plane).



Signage

Refer to local and regional code to design the following elements for the site:

- Any required re-striping of parking spaces
- EV or Accessible EV signs
- EV or Accessible EV paint markings on and around the parking spaces

Electrical Design

The default Express Plus installation requires service wiring installed underground. (If a site require surface mounting, contact ChargePoint before beginning work, to obtain an approved installation r nod.) Conduit and wire size are determined based on the length of runs from the electrical panel to the st on location. Service wiring in conduit, or armored cable, must be run as required to comply with local e trical codes. Consult national and local codes or a project engineer to determine the grade, quality, and s of the conduit or cable.

The Power Block is available in 250, 300, 350, and 500 A versions, each with its own fuses and ratir labels.

Note: All wiring and conduit is supplied by the contractor unless otherwise indicated.

Upstream Components

Charging stations are considered continuous load devices (EVs draw maximum load for long durati). Therefore, electrical branch circuits to EV chargers must be sized at 125% of the load on each leg of - phase panel for North American installations, in accordance with National Electric Code requiremer For other regions, refer to local code.

When planning multiple EV charging stations, it is best practice to segment non-continuous and continuous loads, with all branch circuits for EV charging on a dedicated electrical panel assembly v adequate circuit breakers. When sizing new electrical panels dedicated for EV charging, all branch c uits must support continuous load.

Each Power Block requires its own service panel breaker as follows:

Nominal Voltage	Input Current Rating	Branch Circuit Capacity and Breaker	Breaker ze
Europe: 400 V	315 A	350 A or 400 A	400 A
North America: 480 V	260 A		350 A o 0 A

WARNING: Only use new circuit breakers. Used breakers can damage equipment and introc e the potential for an electrical fire.

In areas with frequent thunderstorms, add surge protection at the service panel for all circu

Ensure all power and ground connections, especially those at the breaker and bus bar, are c n and tight. Remove all oxide from all conductors and terminals before connecting wiring.

The Power Link 1000 charging station is tested to IEC 61000-4-5, Level 5 (6 kV @ 3000 A) standar

AC Disconnect Switch

ed between
l or utility room is distant, out of line of sight, or has restricted access. For North America installations, refer to disconnect switch requirements per NEC Article 625, “Electric Vehicle Charging and Supply Equipment Systems”.

Transformer Configuration

Refer to the following table to configure electrical service.

	North America	Europe
Input Rating	480 VAC, 3-phase, 260 A, 60 Hz	400 VAC, 3-phase, 310 A, 50 Hz
Electrical Service Configuration	277/480 3-phase plus ground, grounded WYE (Y) configuration*	230/400, 3-phase plus ground, grounded WYE (Y) configuration*
Product Connection	3-phase 480 plus ground (neutral not used)	3-phase 400 plus protective earth (neutral not used)

*Delta (floating or grounded) is not supported

Grounding Requirements

The Power Block must be connected to a grounded, metal, permanent wiring system.

- North America: A service ground conductor must be run with circuit conductors and connected to an equipment-grounding terminal on the Power Block.
- Europe: Use TN-S or TN-C-S configurations. (TT is not recommended because it requires RCDs.)

Ensure a grounding conductor that complies with local codes is properly grounded to earth at the service equipment or, when supplied by a separate system, at the supply transformer.

The Power Block must be connected to a grounded, metal, permanent wiring system. An equipment-grounding conductor must be run with circuit conductors and connected to an equipment-grounding terminal or lead on the Power Link 1000.

All charging components must be bonded to one another in sequence: either Power Block to Power Link 1000, or Power Block to distribution cabinet (if used) to Power Link 1000.

Some regions also require a grounding rod to be installed adjacent to each component. Check local code to ensure compliance.

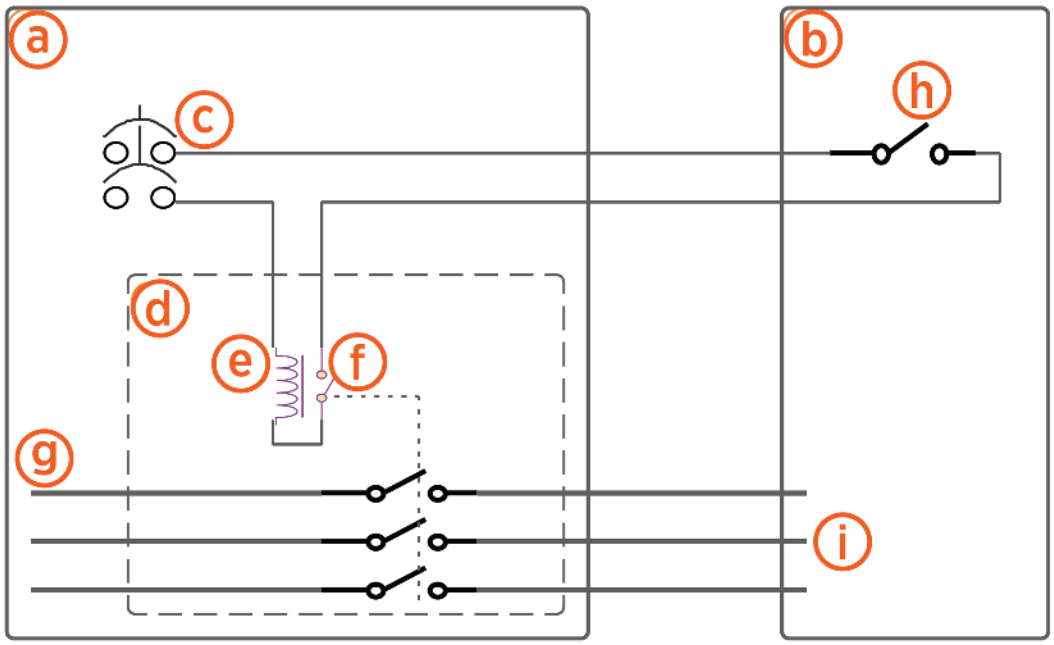
Shunt Trip Wiring

p device.

Wiring sections to and from the Power Block are deactivated when unsafe conditions are detected, such as unintended cover panel removal. A breaker reset is required any time the shunt trip is activated.

If installed, each Power Block must be wired to the shunt trip unit of its own upstream circuit breaker. Upstream AC power must be shut off at the panel to remove shock risk inside the Power Block. All shunt trip behavior is already hard-coded into the charging station and has no programmable variables.

Emergency stop devices are governed by local and regional codes and may be required in some sites. If one is required by code or by the site, confirm specifications with your ChargePoint representative.



a. Electrical panel
b. Power Block
c. Control voltage supply, maximum 240 VAC
d. Shunt trip circuit breaker
e. Shunt trip coil
f. Auxiliary contacts (closed when main contacts are closed)
g. Three-phase AC main
h. Power Block shunt trip contacts, Normally Open (inside the auxiliary power supply, accessible on field wiring terminal block)
i. Three-phase Power Block AC input

Power Link 1000 Site Considerations

Maintenance Switch

ChargePoint strongly recommends selecting the maintenance switch option on each Power Link 1000 for fleet implementations, to improve system uptime during maintenance. For Power Link 1000s that do not have an internal or external DC disconnect switch, servicing the station requires the Power Block upstream to be powered off. This can affect system uptime and fleet scheduling.

Power Link 1000s have two options for disconnecting DC power. The station can be purchased with an optional maintenance switch already installed in the station body, or an external switch can be added between each Power Link 1000 and its Power Block if preferred. External DC disconnect switches are required to have Normally Closed (NC) contact feedback wired into the Power Link 1000.

For stations with the internal maintenance switch, the disconnect feedback positively conveys to the Power Link 1000 that the DC connection is open upstream, and the unit can be serviced safely.

If the Power Link 1000 detects its door is opening but the disconnect status is absent, or the disconnect is closed, the station signals the upstream Power Block to disable its output to prevent a shock hazard. The system software keeps the Power Block outputs disabled until the site owner clears all needed safety checks.

Ethernet to USB

Ethernet to USB is an optional kit that allows an Express Plus cluster (interconnected Power Blocks and Power Links) to have a hardwired Ethernet connection with an external network server.

The Ethernet to USB kit is installed within a single Power Link, providing network connection for every node in the Express Plus cluster. The installation requires a conduit for the Ethernet cable, which must be run from the customer server or network equipment directly to the Power Link.

This kit must be ordered separately and installed in the field.

Wiring Requirements

For full product specifications, refer to the Express Plus Datasheet. Using that data, ensure the installation location is equipped with service wiring that supports the Express Plus site's power requirements:

IMPORTANT:

res rated

- AC high current wires can be THHN/THHW/THW-2/THWN-2 based on site condition (dry or wet) and rated for 600 V.
- DC HV wires can be XHHW/XHHW-2 based on site condition (dry or wet) and rated for 1000 V.

For low voltage (LV) DC wiring, use only copper wires (XHHW/XHHW-2 based on site condition, dry or wet) rated for 1000 V and 75 °C (167 °F).

Use copper lugs for copper wires and aluminum lugs for aluminum wires. The lugs must be nickel, tin, or silver plated compression (not mechanical) lugs. Nickel-plated lugs installed with dielectric grease is recommended.

In regions that do not use conduit, armored cable may be laid in the same configuration to conform to the wire placement on mounting templates.

Note: For North American installations, per UL 2202, overhead configurations must use no more than three conductors per pole, and those three conductors cannot be larger than 85 mm^2 (3/0 AWG). Reference UL code for wire bend limitations for 203 mm (8 in) of available space.

Notes For All Wiring Regions

Use one input feed per Power Block.

The maximum wiring run length is 100 m (328 ft) between a Power Block and each of its Power Link 1000s for DC conductors, 48 V DC wiring, and Ethernet.

48 V DC wiring must be rated for 1000 V.

Power Link 1000 conduit must be sealed to maintain a Pollution Degree 2 environment.

Power Link 1000 conduit must be metallic.

All sizes are generic and provided for reference only. The installation contractor must perform site-specific wire sizing, taking into account run length, site conditions, and applicable codes.

Ethernet requirements

- Ethernet communication between Power Blocks and Power Link 1000s and between Power Link 1000s and external network servers must be outdoor rated Cat6 Shielded Twisted Pair (STP) cable. Lesser grades of cable do not have the required noise immunity.
- An Ethernet cable connecting a Power Block and a Power Link 1000 must have the shield terminated at the Power Block end.

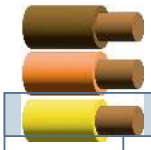
Maximum Wire Sizes

ıum
ambient temperature of 50 °C (122 °F). Actual wire sizing and types should be designed to be site-specific.

48 V DC Power

Type	Wire Insulation Rating	Size (Max.)	Conduit Trade Size (Max.)
48 V DC	1000 V DC	16 mm^2 (6 AWG)	21 mm (3/4 in)

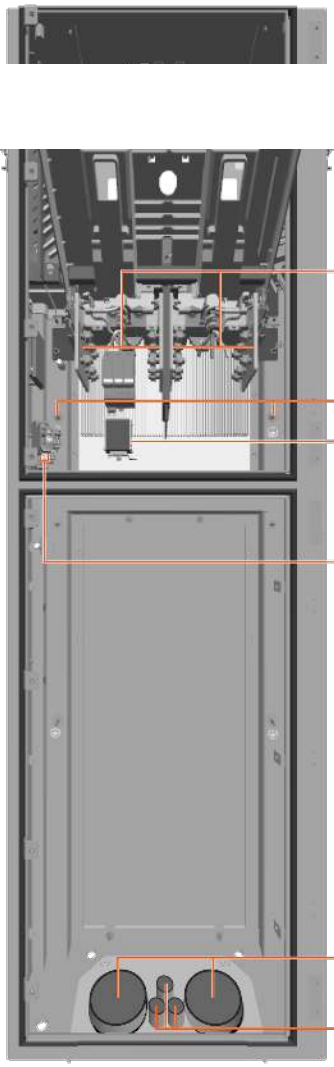
AC Input

Wire	Quantity	Size	Lug Size
 AC input	Max. 12 (four per pole)	Max. 400 mm^2 (750 MCM)	Long barrel and tongue with two holes 44.5 mm (1-3/4 in) apart and must fit M12 stud. Max. tongue width is 47.5 mm (1-7/8 in)
 Ground	One per Power Block	Refer to the local code for size.	Short barrel and tongue with single hole and must fit M12 stud.

DC Output

The Power Link 1000 can be installed with maximum of six HV wires per DC input (maximum three per pole).

Note: The DC output of Power Block is the DC input for Power Link 1000.



	Wire Landing	Max. Wire Quantity x Size	Max. Conduit Quantity x Size	Lug Size
	DC input	(six per input, three per pole)	(six HV and one ground wire per conduit)	holes 44.5 (1.75 in) apart, must fit M12 (1/2 in) stud, Max. tongue width 31 mm (1.22 in) for a and 23.4 mm (0.92 in) for b.
b	Ground connection	2 x 50 mm^2 (1/0 AWG)		Short barrel and tongue with single hole, must fit M6 stud.
c	Ethernet connection	1 x outdoor rated Cat6 STP, straight-through T568B pattern	f 3 x 21 mm (3/4 in) (two LV and one Ethernet wire per conduit	N/A
d	48 V DC input	Min. 2 x 16 mm^2 (6 AWG) Max. 2 x 25 mm^2 (4 AWG) (two per input, one per pole)		

North American Requirements

	Inputs to Power Block		Power Block to Each Power Link 1000		
	AC and Gnd	Shunt Trip / EPO	HV DC Output	48 V DC Output	Ethernet
Circuit Voltage	480 V AC	< 240 V	100 - 1000	48 V	--
Max. Current	260 A	6 A	200, 250, 350 A	32 A	--
Notes	L1, L2, L3 Gnd			Rated for 1000 V	Outdoor rated Cat6 STP

UK and European Requirements

	AC and Gnd	Shunt Trip / EPO	HVDC Output	48 VDC Output	Ethernet
Circuit Voltage	400 V AC	< 240 V	200-1000 V	48 V	--
Max. Current	315 A	6 A	200, 250, or 350 A	32 A	--
Notes	3p+E			Rated for 1000 V	Outdoor rated Cat6 STP

Connectivity

A consistently strong cellular signal is needed before installers can activate the vehicle charging sta n. Weak or sporadic signal can affect crucial aspects of the charging station, including:

- Accuracy in reporting
- Ability for drivers to use the mobile app
- Ability for customer support to troubleshoot problems
- Support for advanced features such as Power Management or Waitlist

A strong signal is also required for the ChargePoint Assure maintenance and management program

ChargePoint stations use cellular data connections to reach ChargePoint Cloud Services. This allows cure, PCI-compliant data connections without requiring any other form of internet connectivity at an inst site or imposing additional network management responsibilities on a site host.

Each station has its own cellular connection.

Note: Celullar connection is needed only if there is no Ethernet to USB network connection.

Signal Strength and Quality

You must use a cellular signal detection device (such as a Siretta Snyper LTE or equivalent) to take nal strength readings at the exact proposed mounting location of the charging station. If the charging s ion does not have its own cellular connection, take the signal strength reading at the proposed mounti location of the gateway station.

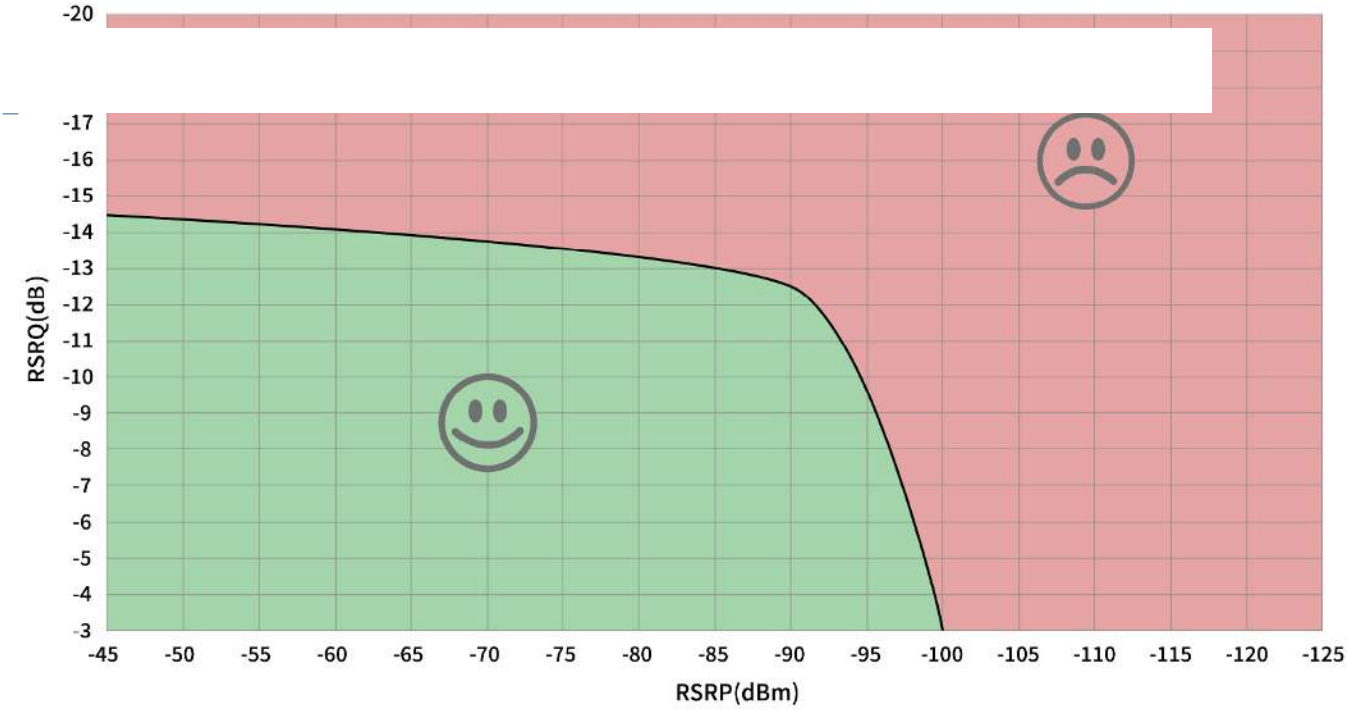
In North America, ChargePoint products all support LTE bands 2, 4, and 5. The most commonly sup ted carriers to check during site evaluation are:

- US: AT&T, T-Mobile, and Verizon
- Canada: Rogers, Telus, and Bell

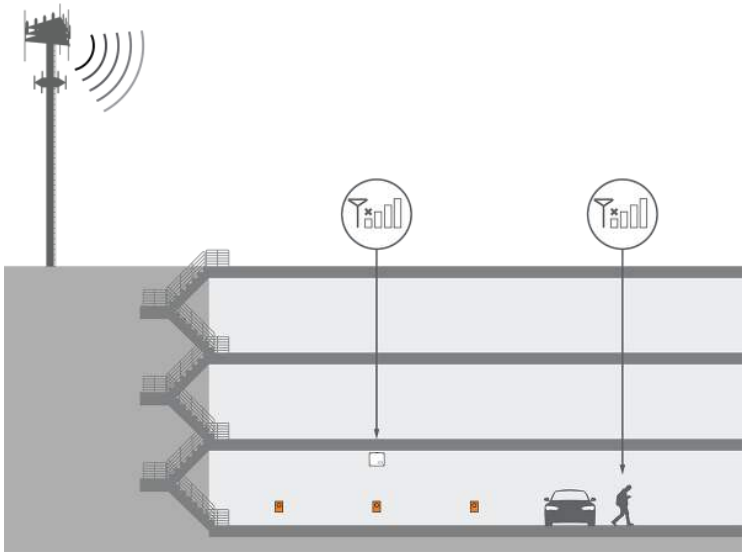
In Europe, ChargePoint products all support LTE bands 1, 3, 7, 8, and 20. 900 and 1800 MHz are also supported for 2G fallback. Partners vary by country.

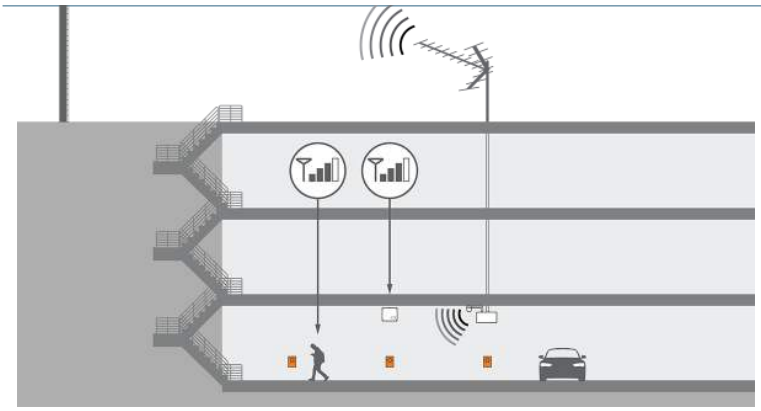
You must test the LTE signal strength at the proposed mounting location of every gateway station l ensure the location meets the minimum RSRQ at -12.5 dB or better, for RSRP measured at -90 dBm better. Refer to the graph for acceptable combinations.

Note: These numbers are all negative, so -70 dBm is stronger than -85 dBm and -90 dBm is weaker



If the signal strength is weaker than this, take cellular readings at the location where any cellular signal booster antennas will be installed. Ensure enough signal exists for that repeater model. Install repeaters to boost the strength of the cellular signals. Repeaters are often required when installing charging stations in an underground garage or enclosed parking structure.





For other regions, or if the site does not have strong signal on these bands, contact your ChargePoint representative for additional solutions.

ChargePoint strongly recommends a consultation with a cellular connectivity specialist before all installations. A consultation can verify:

- Service with a supported carrier on a supported LTE band
- Available signal and local noise levels on applicable bands
- Site changes to correctly meet your needs, both for station bandwidth and other phone coverage for customer or tenant satisfaction

Repeaters

Some sites require repeaters to ensure strong signal to all stations. If a repeater is required, look for a model with these features:

- Specifically LTE-compatible on the listed bands
- Multi-carrier
- Multi-band
- Not already dedicated to FirstNet or other first responder-specific networks
- Auto-gain recommended

Note: Do not rely on readings taken with a cell phone when conducting site surveys. Many signal boosters and network extenders may not be compatible with ChargePoint hardware, including certain types of Distributed Antenna Systems (DAS), micro/nano/pico/femto-cells, and carrier- or band-specific signal boosters.

Note: Repeaters are not allowed in France. Contact the French service provider for more information.

Limited Warranty Information and Disclaimer

The Limited Warranty you received with your charging station is subject to certain exceptions and exclusions. For example, your use of, installation of, or modification to, the ChargePoint® charging station in a manner in which the ChargePoint® charging station is not intended to be used or modified will void the limited warranty. You should review your limited warranty and become familiar with the terms thereof. Other than any such limited warranty, the ChargePoint products are provided "AS IS," and ChargePoint, Inc. and its distributors expressly disclaim all implied warranties, including any warranty of design, merchantability, fitness for a particular purposes and non-infringement, to the maximum extent permitted by law.

Limitation of Liability

CHARGEPOINT IS NOT LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THE CHARGING STATION, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF CHARGEPOINT KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF CHARGEPOINT FOR ALL CLAIMS WHATSOEVER RELATED TO THE CHARGING STATION WILL NOT EXCEED THE PRICE YOU PAID FOR THE CHARGING STATION. THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF CHARGEPOINT AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Important: Changes or modifications to this product not authorized by ChargePoint, inc., could affect the EMC compliance and revoke your authority to operate this product.

Exposure to Radio Frequency Energy: The radiated power output of the 802.11 b/g/n radio and cellular modem (optional) in this device is below the FCC radio frequency exposure limits for uncontrolled equipment. The antenna of this product, used under normal conditions, is at least 20 cm away from the body of the user. This device must not be co-located or operated with any other antenna or transmitter by the manufacturer, subject to the conditions of the FCC Grant.

ISED (formerly Industry Canada)

This device complies with the licence-exempt RSS standard(s) of Innovation, Science and Economic Development Canada (ISED). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux flux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada (ISDE). L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter.

Radiation Exposure Statement: This equipment complies with the IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Énoncé d'exposition aux rayonnements: Cet équipement est conforme aux limites d'exposition aux rayonnements ioniques RSS-102 Pour un environnement incontrôlé. Cet équipement doit être installé et utilisé avec un Distance minimale de 20 cm entre le radiateur et votre corps.

FCC/IC Compliance Labels

Visit chargepoint.com/labels.

chargepoint.com/support

75-001359-01 r6