CP6000

Networked Charging Station

Site Design Guide

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WARNING:

1. **Read and follow all warnings and instructions before servicing, installing or operating the ChargePoint® charging station.** Install and operate it 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 charging station and adhere to all national and local building codes and standards.** Before installing the ChargePoint charging station, 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 charging station for proper installation before use.
3. **Always ground the ChargePoint charging station.** Failure to ground the charging station can lead to risk of electrocution or fire. The charging station must be connected to an earthed, metal, permanent wiring system or an equipment earth conductor shall be run with circuit conductors and connected to the equipment earth terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE must comply with all applicable codes and ordinances.
4. **Install the ChargePoint charging station on a concrete pad using a ChargePoint-approved method.** Failure to install it on a surface that can support the full weight of the charging station can result in death, personal injury or property damage. Inspect the charging station for proper installation before use.
5. **This charging station is not suitable for use in Class 1 hazardous locations, such as near flammable, explosive or combustible vapours or gases.**
6. **Supervise children near this device.**
7. **Do not put fingers into the electric vehicle connector.**
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. **Use only copper conductor wire rated for 90°C (194°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

Site Design Guidelines 1

This document describes how to design a project site for the ChargePoint® CP6000 networked charging station for electric vehicles. This includes guidelines and best practices for electrical infrastructure and capacity planning, construction and concrete work required prior to installation of charging stations and mobile signal requirements.

Note: CP6000 charging stations are available in several configurations. The images in this guide might not match your station exactly; however, the information is applicable unless otherwise noted.

IMPORTANT: Ensure the installation complies with all applicable codes and ordinances.

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	Site construction contractor
Installation Guide	Anchoring, wiring and powering on	Installer
Operation and Maintenance Guide	Operation and preventative maintenance	Station owner, facility manager and technician
Service Guide	Component replacement procedures	Service technician
Declaration of Conformity	Statement of conformity with directives	Purchasers and public

ChargePoint Documents

Initial Site Guidelines

Designing electrical infrastructure to support current and future EV charging demand can help avoid costly upgrades later as EV adoption grows.

Complete an on-site evaluation to determine conduit and wiring requirements from the panel to the proposed parking spaces, as well as to measure mobile signal levels and identify suitable locations for any necessary cellular signal booster equipment.

If you have pre-existing infrastructure or are using your own preferred electrical contractor to prepare your site, a Construction Signoff Form by a ChargePoint Operations and Maintenance (O&M) partner is required to certify compliance with electrical regulations, and to ensure everything was prepared to ChargePoint specifications.

IMPORTANT: You must be a licensed electrician and complete online training to become a ChargePoint certified installer. If you do not complete this training, you cannot access the ChargePoint network to complete the installation.

Find online training at: chargepoint.com/installers

If the charging station is not installed by a ChargePoint-certified installer, using a ChargePoint-approved method, it is not covered under warranty and ChargePoint is not responsible for any malfunctions.

Electrical Requirements

At a minimum, each AC charging station, either single or dual port, requires the following:

- A dedicated single phase or three phase electrical circuit from 20 A to 63 A
- A new circuit breaker at the electrical panel
- Conductor wiring and circuit protection sized in accordance with all applicable codes

Consequently, a CP6000 charging station with two charge ports typically requires two power input circuits, one circuit per port. There may be situations where both ports share a main single circuit. If power capacity is limited at a site, or to reduce costs for electrical infrastructure, consider ChargePoint Power Management options for power-sharing at the circuit level, panel level, transformer or site level.

IMPORTANT: Always check local regulations to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.

Additional Electrical Considerations

- CP6000 charging stations are AC electrical vehicle (EV) supply equipment and are permanently connected to AC networks.
- Evaluate existing electrical infrastructure to determine if the existing utility service and electrical panel capacity is sufficient.
- Ensure that appropriate electrical wiring, over current circuit protection and metering, if required, is in place.
- 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 location in close proximity to the charging stations.
- Determine raceway or conduit runs for electrical wiring from the electrical panel.
- Of the four different modes of charging, CP6000 charging stations operate in charging mode 3 (use an EV connector).

Charging Station Placement

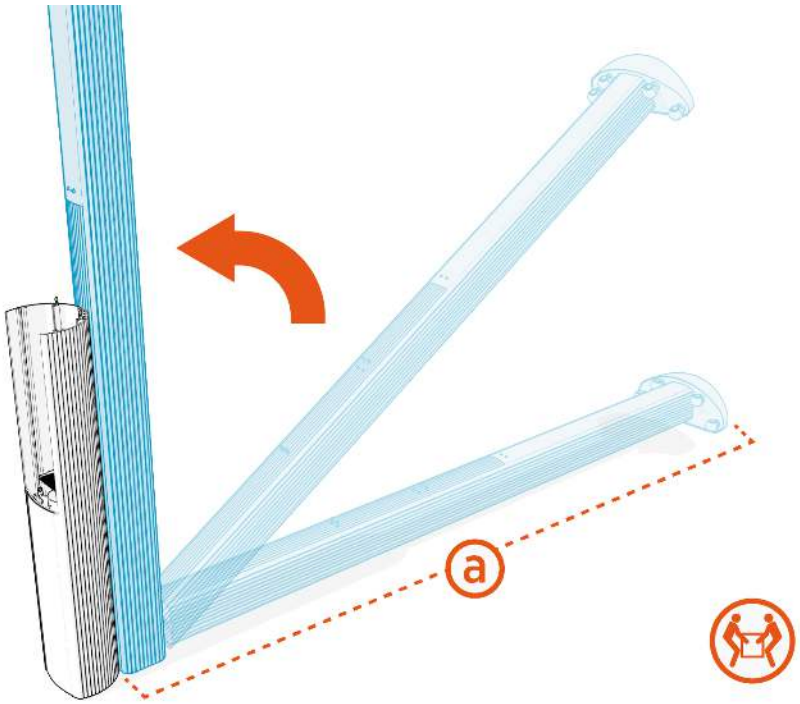
To help minimise costs, choose station locations that are as close as possible to the available electrical infrastructure. Selecting these types of locations helps minimise long conduit and wire runs, as well as any trenching work.

WARNING: The ChargePoint charging station must be installed on a level concrete base or a flat wall rated for the weight of the station. Tarmac cannot support the full weight of the station. Failure to install the station on a suitable surface may cause the station to tip over, resulting in death, personal injury or property damage.

Layout Considerations

- Identify station locations for EV charging spots.
- CP6000 charging stations can be installed either indoors or outdoors.
- They can be mounted on walls or in the ground (pedestal mount).
- CP6000 charging stations do not have an integrated active ventilation system.
- To help minimise costs, choose station locations that are as close as possible to the available electrical infrastructure.
- Consider locations where it will be easy to add future stations.
- Consider how easily drivers can find the stations they need to access.
- Identify suitable locations with smooth, plumb surfaces for wall-mounted stations or suitable floor surfaces for pedestal-mounted stations.
- Consider a layout to minimise electrical infrastructure costs to all proposed EV parking spaces.
- Avoid or minimise trenching requirements.
- Comply with regional accessibility laws, regulations and ordinances. The CP6000 charging station must not block ramps or pathways, and the height of the interactive display cannot exceed the maximum height as dictated by local laws.
- For stall parking, ChargePoint recommends using perpendicular parking stalls to better accommodate EVs with front and rear charge ports.
- Use dual-port pedestal mount stations where possible in open areas for adjacent parking or adjoining parking spaces.
- Consider protective bollards and wheel blocks where appropriate, especially for open tandem parking spaces.

- If the charging station has a camera, orient the camera towards the parking space.
- Use professional mobile test equipment to measure mobile signal levels to ensure adequate mobile coverage at the station installation location. To ensure adequate signal strength in underground or enclosed parking structures, mobile repeaters may be required. Use an indoor aerial located near EV parking spaces and an outdoor aerial typically located at the garage entrance ceiling or on the rooftop where mobile signals are best. See Connectivity for more details.
- When the charging stations cannot be placed close enough to the source of power to avoid undesirable line losses, consider increasing the size of the conductors. When the circuit conductors must be larger than 25 mm^2, you must add a disconnect immediately adjacent to the station, and terminate the upsized conductor at the line side lug of the disconnect. Then, connect a short length of 25 mm^2 conductor to the load side lug of the disconnect and the station. Adding disconnects close to the stations is also helpful when the circuit breakers are relatively far away.
- If you are installing a CP6000 pedestal mount charging station with a CMK and a 10m cable, ensure there is at least 2.8 m (108 in) **(a)** of clear space behind the station location for the CMK to rest on the ground.



- If you are installing a CP6000 wall mount charging station with a CMK and a 10m cable, ensure there is at least 2.8 m (108 in) of clear space in front of the station location for the CMK to rest on the ground.

Plan for the Future

Consider current EV charging needs and also potential future needs as EV adoption grows.

- Consider running raceway or conduit to all planned EV parking spots and pulling electrical wiring from the panel to meet current needs.

- Consider installing a dedicated electrical panel for EV charging and leveraging ChargePoint Power Management. This efficiently uses available power at a site to support more EV charging ports than would otherwise be possible.

Civil and Mechanical Design 2

Use the guidance below to design the civil and mechanical aspects of the site.

Each charging station can be installed attached to a wall or on a concrete pedestal with or without a Cable Management Kit (CMK). The pedestal can be mounted on a newly poured pad or an existing concrete surface.

Component Dimensions and Weights

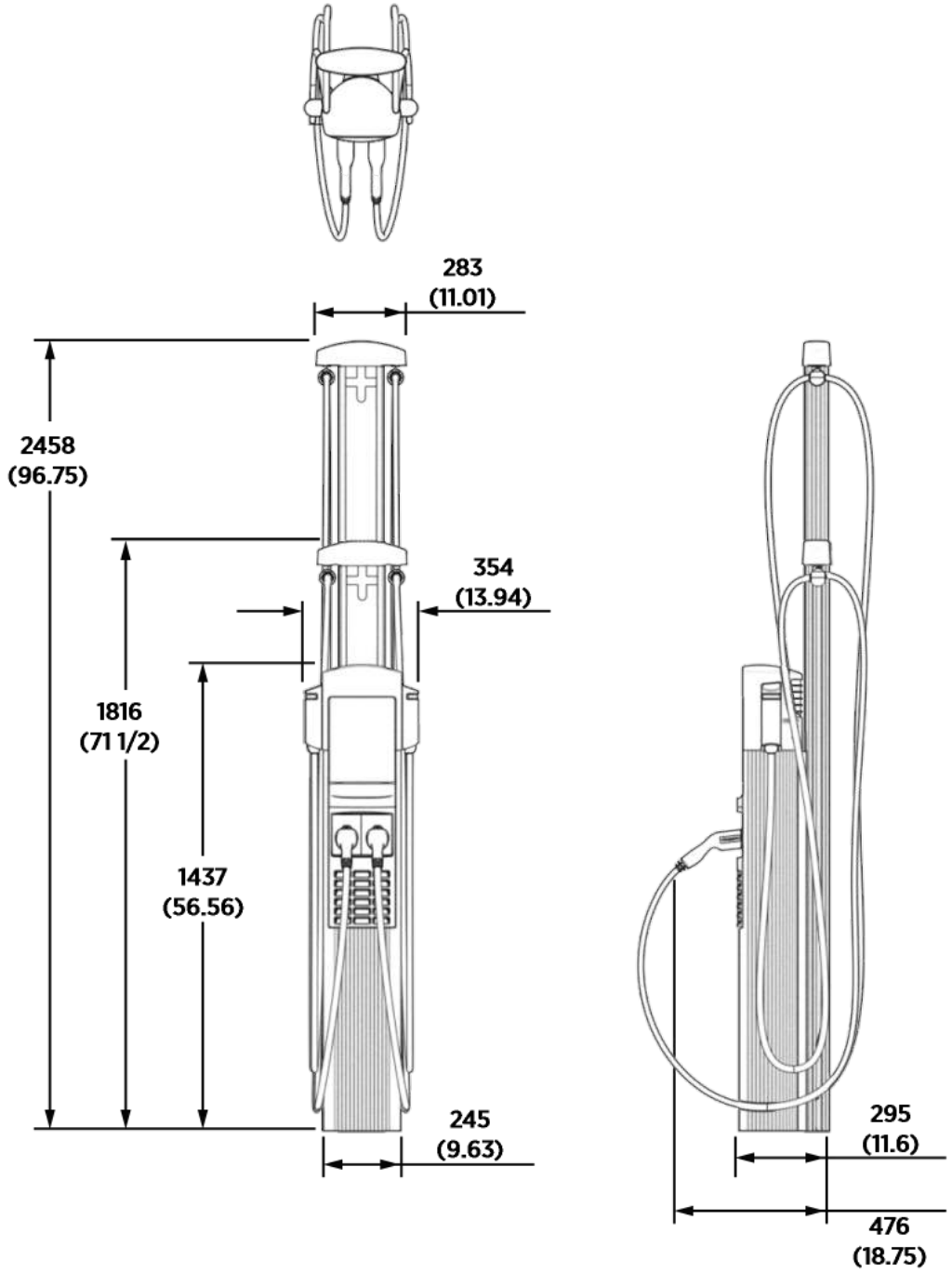
Each CP6000 charging station can be mounted on a pedestal or on a wall, with or without a Cable Management Kit (CMK). The station is a vertical enclosure with the weights and dimensions shown below.

Component	Approximate Weight
Head assembly with two 5.5 m (8 ft) charging cables installed	19 kg (42 lb)
Head assembly with two 10 m (33 ft) charging cables installed	23 kg (50 lb)
Head assembly with two sockets	14 kg (30 lb)
Pedestal enclosure	20 kg (44 lb)
Wall mount enclosure	11 kg (25 lb)
Top cap	2 kg (3 lb)
CMK (6 ft)	18 kg (40 lb)
CMK (8 ft)	25 kg (52 lb)
CMK (tall)	32 kg (70 lb)
SEVC 32 A (5.5 m)	4 kg (8 lb)
SEVC 32 A (7 m)	5 kg (10 lb)
SEVC 32 A (10 m)	6 kg (12 lb)

Component weights

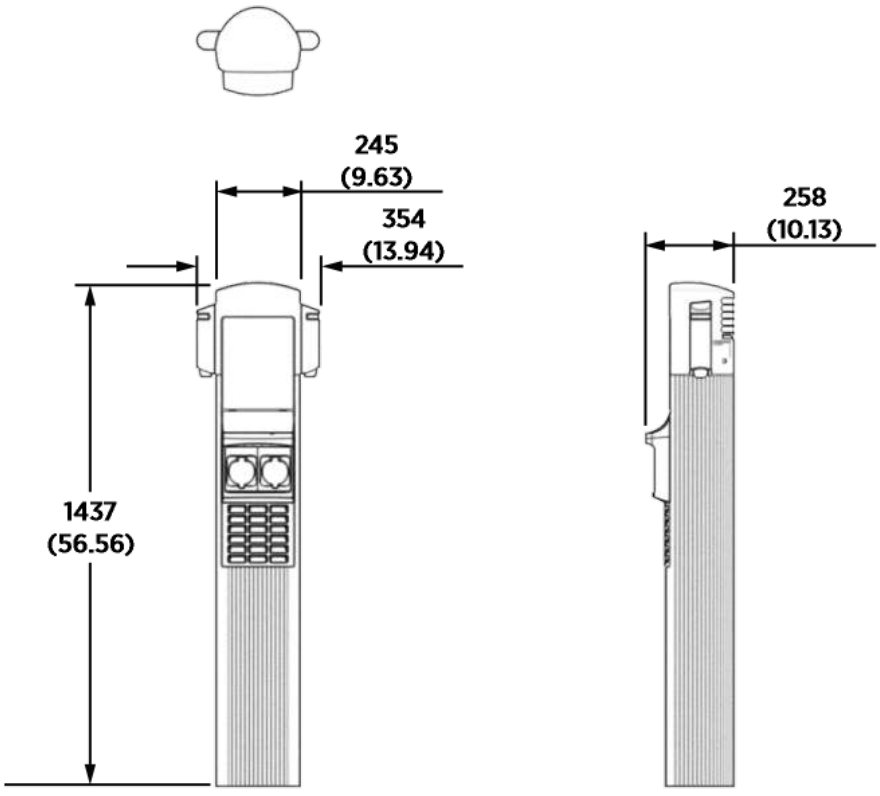
Pedestal Mount With CMK

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



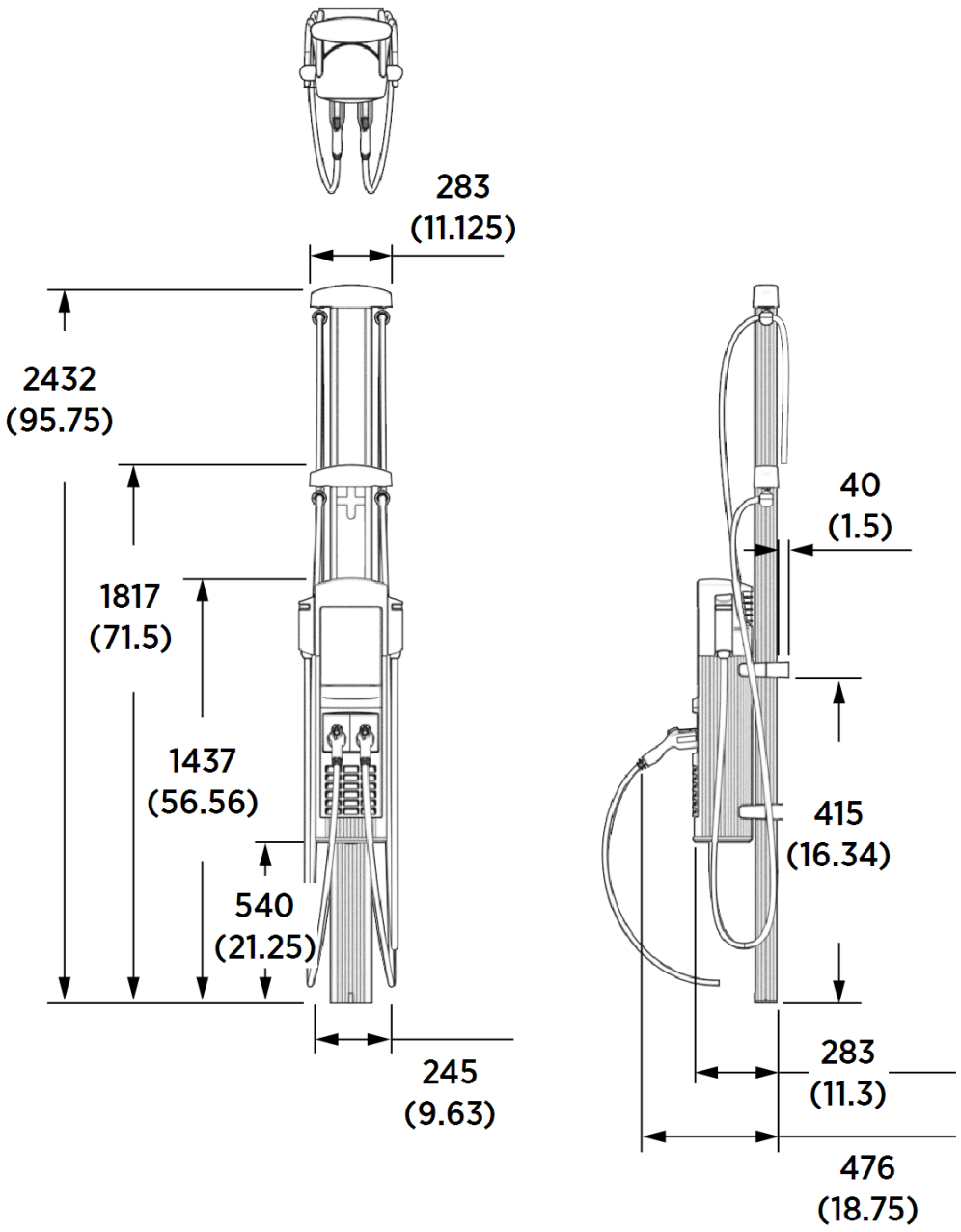
Pedestal Mount Without CMK (Socketed)

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



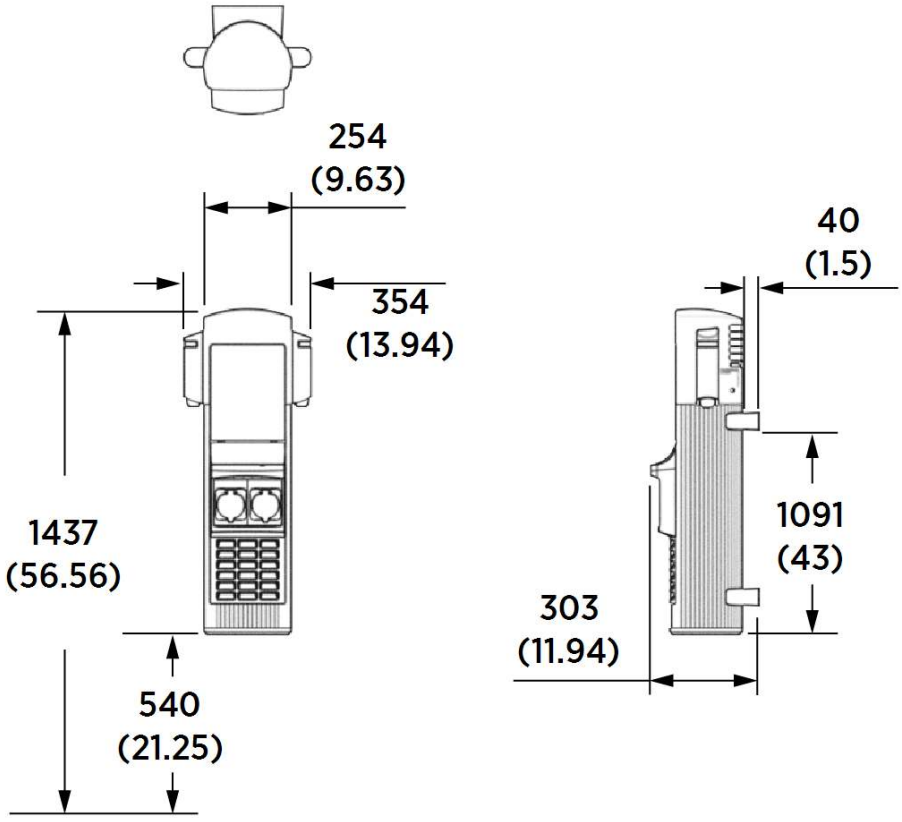
Wall Mount With CMK

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



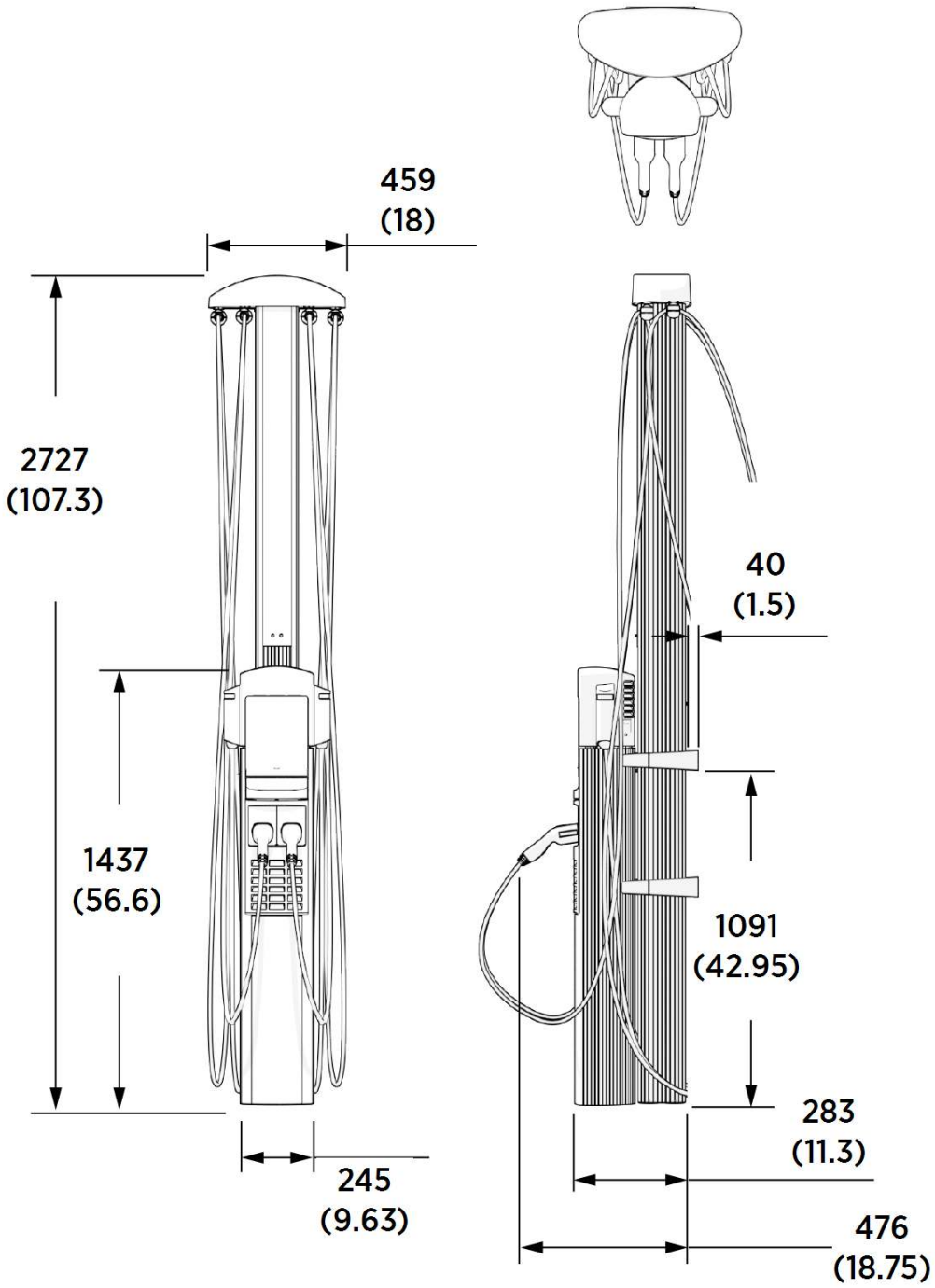
Wall Mount Without CMK (Socketed)

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



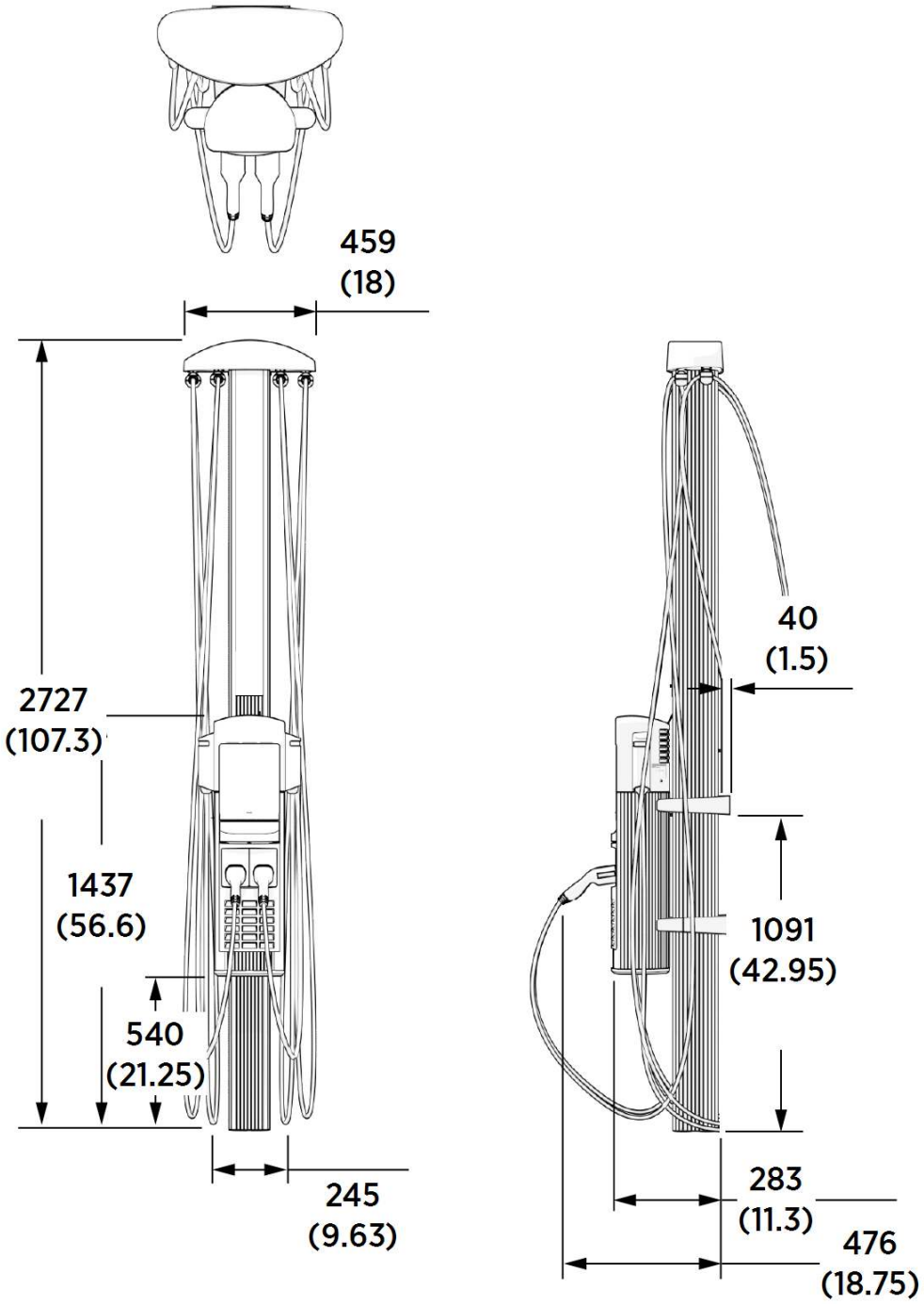
Pedestal Mount With Tall CMK and 10m Cable

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



Wall Mount With Tall CMK and 10m Cable

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



Mounting Specifications - Pedestal Mount Stations

IMPORTANT: Use a ChargePoint Concrete Mounting Template (CMT) when installing a new pedestal mount charging station or replacing an existing non-ChargePoint pedestal mount station. You do not need a CMT if you are installing a wall mount charging station or replacing an existing ChargePoint station.

The concrete pad must either be designed to be site-specific or must meet these specifications:

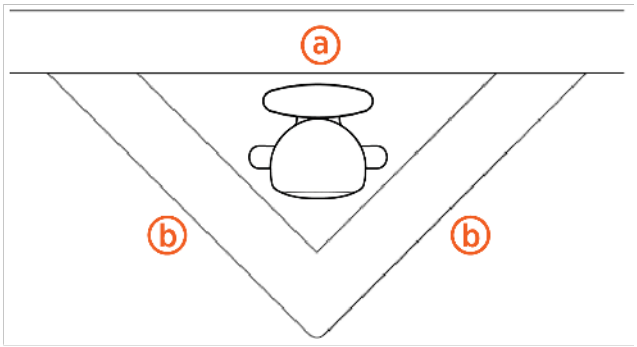
- Must not be installed in tarmac
- Mounting surface must be smooth
- Mounting surface cannot exceed a slope of 6 mm per 300 mm (0.25 in per ft)
- The concrete block must measure at least 1350 mm (53 in) on all sides.
- Epoxy anchors can be used (installations in existing concrete)
- No expanding bolts are used
- Consult a civil engineer to ensure sufficient volume and strength of concrete; (installations in existing concrete)

IMPORTANT: If the existing pad does not meet the specifications above, a structural engineer must inspect and approve the pad for charging station dimensions and weight.

Pedestal Base Designs

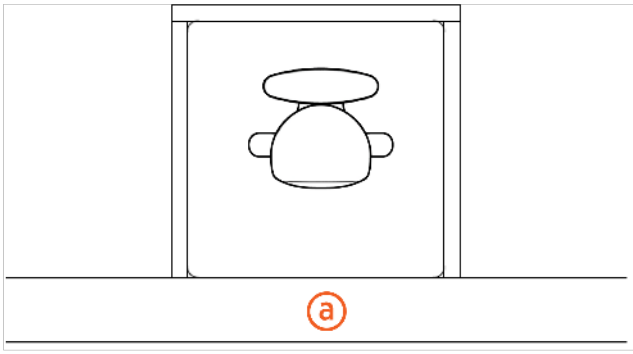
There are three basic pedestal base designs:

- In front of a curb **(a)** - Does not obstruct a pedestrian pathway or disturb landscaping.
  900 mm (3 ft) on each side **(b)**
  Area: 0.42 m^2 (4.5 ft^2)
  Volume: 0.26 m^3 (9 ft^3)



- Behind a curb **(a)** in a planter or berm
  1350 mm (4 ft 5 in) on each side
  Area: 0.37 m^2 (4 ft^2)
  Volume: 0.23 m^3 (8 ft^3)

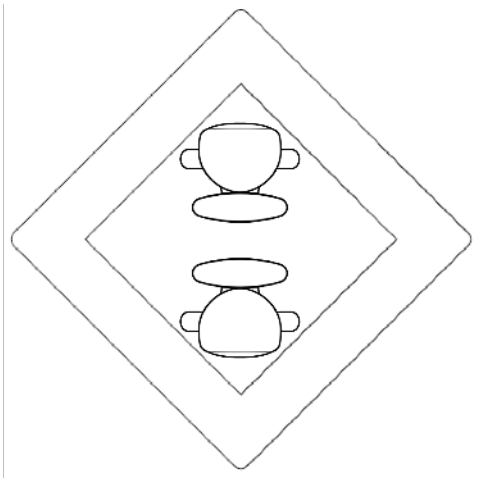
Note: Use a retaining wall as needed to prevent dirt from accumulating on the pad.



- Two stations back to back, centred between four spaces 900 mm (3 ft) on each side

  Area: 0.84 m^2 (9 ft^2)

  Volume: 0.51 m^3 (18 ft^3)

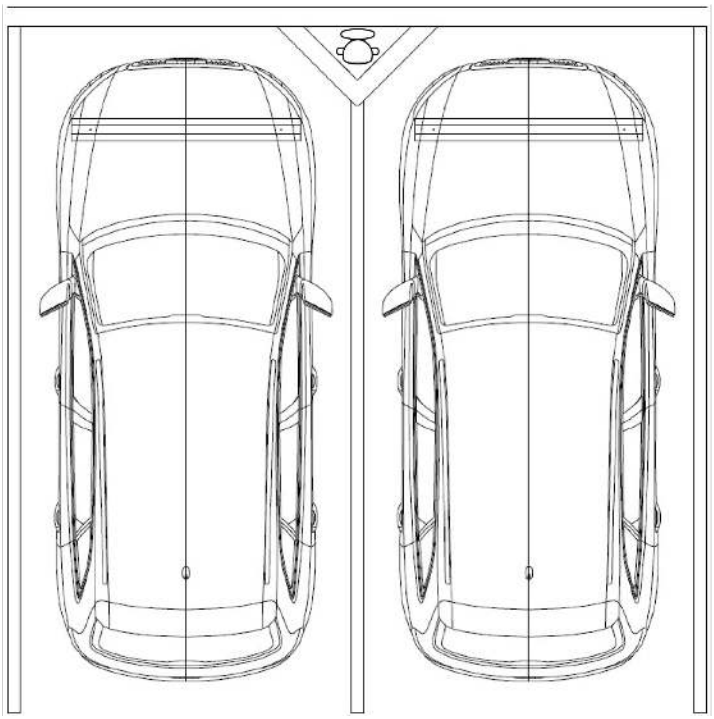


Pedestal Configurations for Different Parking Arrangements

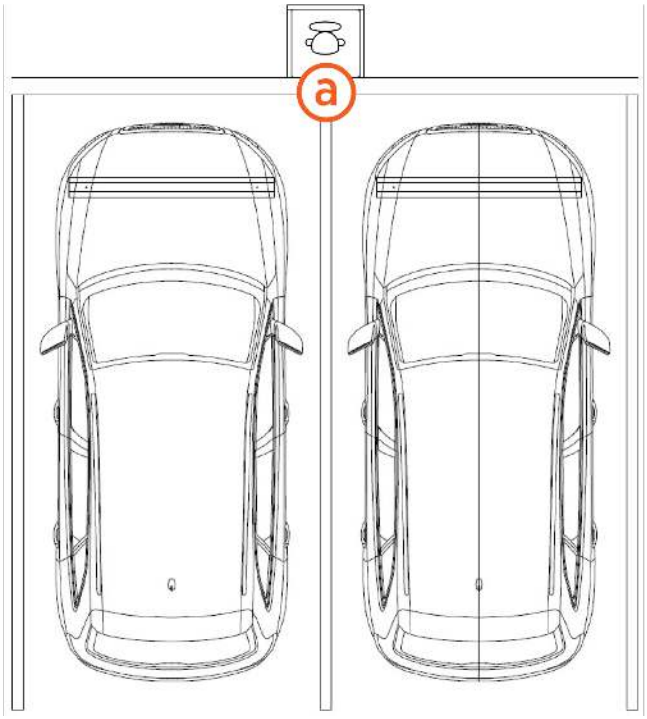
The pedestal base design can be configured in a variety of ways to serve different parking arrangements. Ensure a sufficient volume of concrete to provide anchoring for the charging station.

Note: CP6000 charging stations are available in several configurations. The images in this guide might not match your station exactly; however, the information is applicable unless otherwise noted.

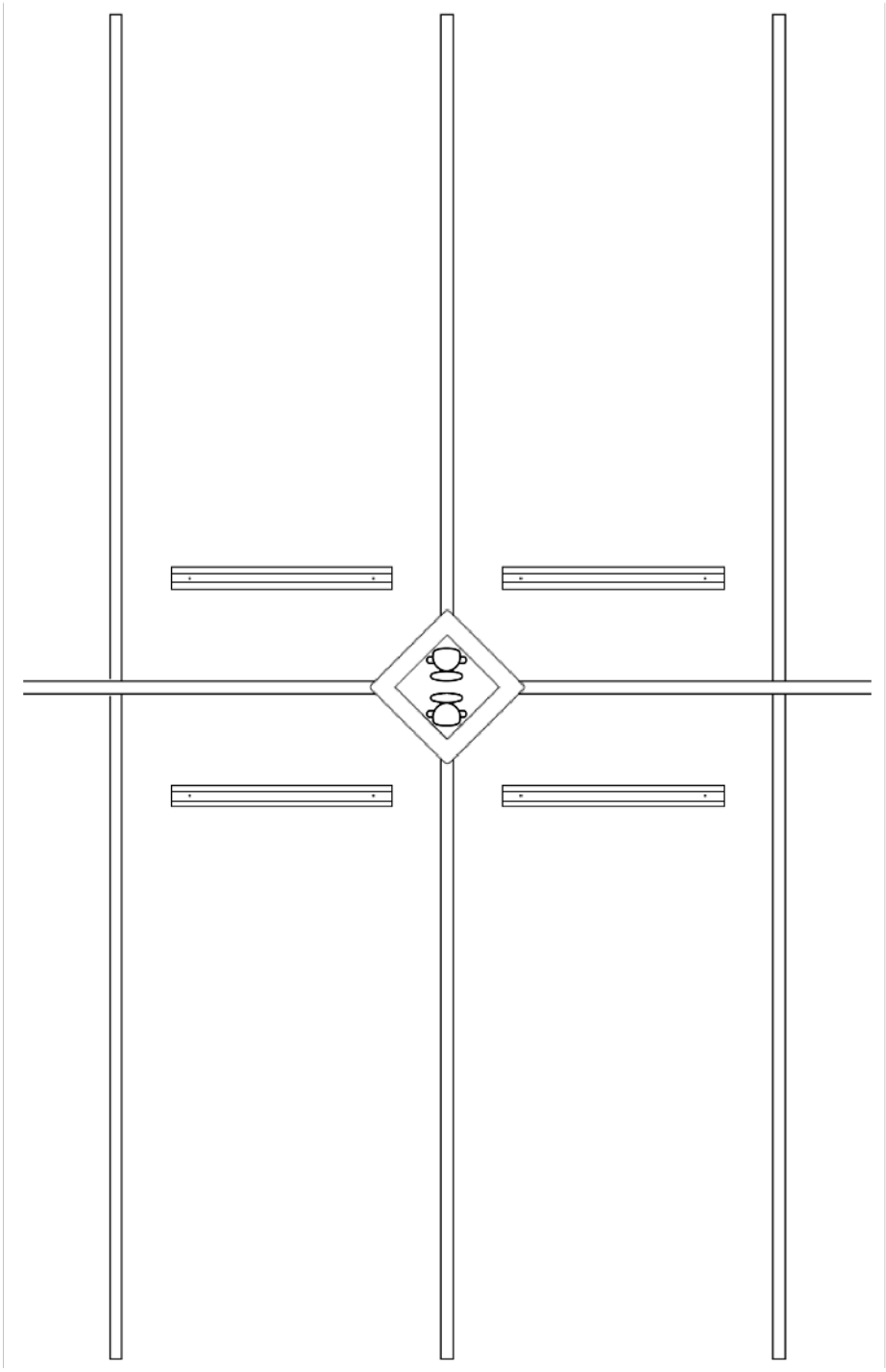
- Place the station against the kerb between spaces with wheel stops 900 mm (3 ft) from the front of each stall. The base of the charging station can be flush with the parking spaces or at kerb level.



- Place the station in a planter or berm between spaces with wheel stops 900 mm (3 ft) from the front of each stall or the curb **(a)**.



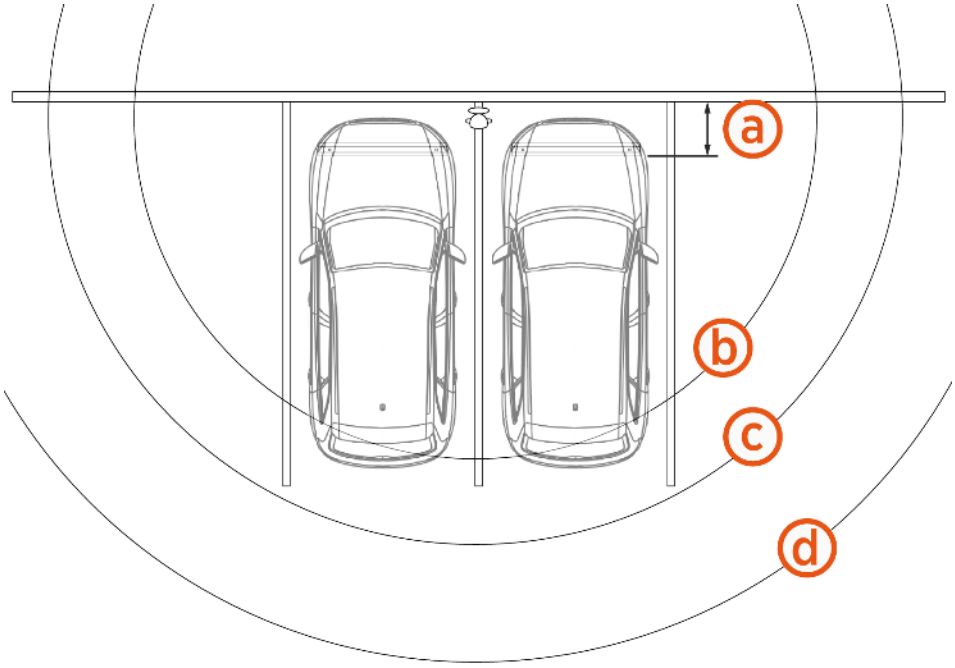
- Place two stations back to back centred on four spaces with wheel stops 900 mm (3 ft) from the front of each stall. The base of the charging station can be flush with the parking spaces or at kerb level.



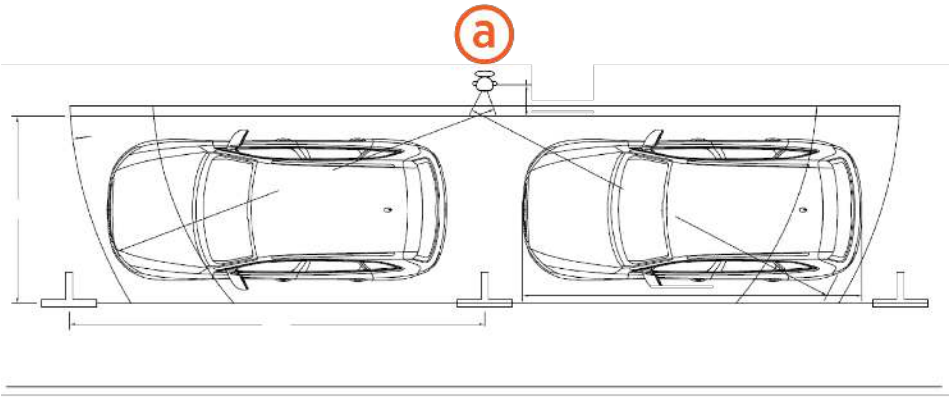
- When placing a dual holster station centred on the right space, the charging cables can reach two vehicles. Place a wheel stop 1220 mm (4 ft) **(a)** from the centre of the charging station.

  Note the following details for this arrangement:

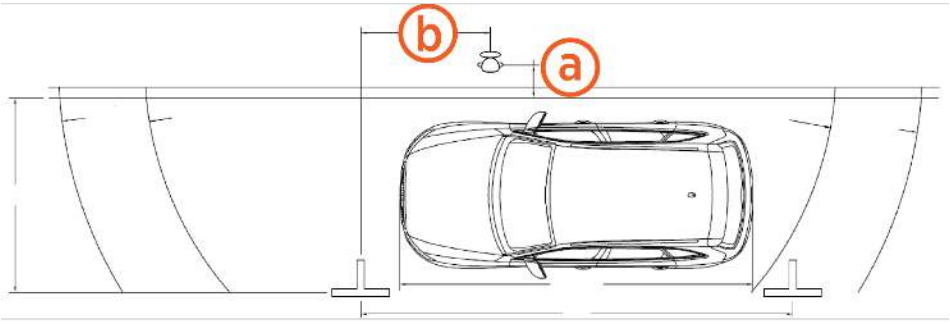
  - The arc shows the usable reach of the two charging cable lengths available: 5.5 m (18 ft) **(b)**, 7 m (23 ft) **(c)** and 10 m (31 ft) **(d)**.
  - The 7 m (23 ft) cord option is recommended for this configuration.
  - The base of the charging station can be flush with the parking spaces or at kerb level.
  - Be sure to install 'EV Charging Station' signs on both spaces.



- Place a dual holster station centred between two parallel parking spaces, each 6 m (20 ft) long. Place the station **(a)** 450 mm (18 in) from the curb. A 7 m (23 ft) charging cable is recommended.



- Place a single holster station for a single parallel parking space 6 m (20 ft) long. Place the station **(a)** 450 mm (18 in) from the curb, and 1.8 m (6 ft) from the front of the parking space **(b)** This allows the cord to reach any part of the vehicle without blocking the curb side doors.

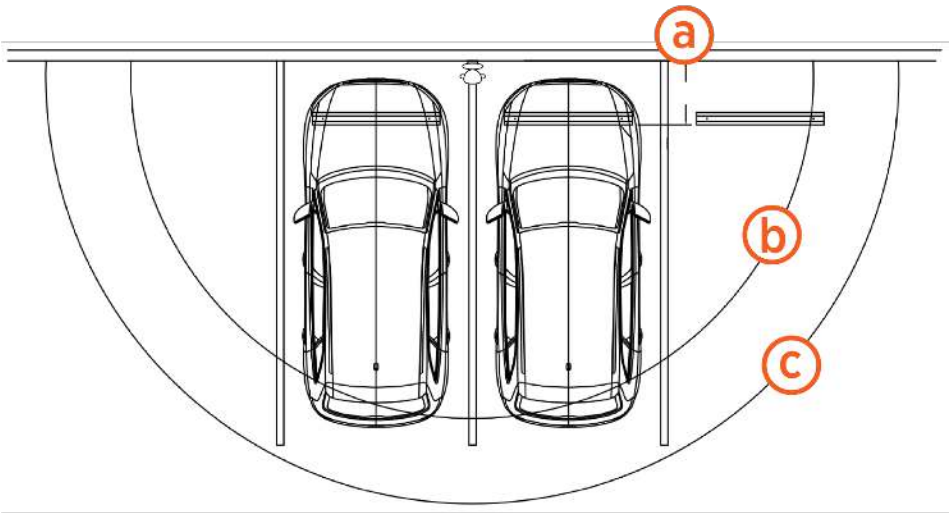


Mounting Specifications - Wall Mount Stations

For wall mounted stations:

- The wall must be smooth, stable and plumb.
- The minimum height of the wall must be 1,160 mm (45.7 in) above a finished floor.
- Place wheel stops 900 mm (3 ft) **(a)** from the wall.
- The arcs show the usable reach of two charging cable lengths available, 5.5 m (18 ft) **(b)** and 7 m (23 ft) **(c)**.

Note: Ensure the space between the wall and the charging station is clear and free of debris.



IMPORTANT: Ensure the wall supports the station. If mounting to a hollow wall, bridge at least two studs using a 41 mm (1 5/8 in) channel strut.

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 pre-installed 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.

Drainage

Ensure that any slopes, walls or fencing at the site do not trap water around the charging station installation site. The system is only built to withstand water to the height of thearmoured cable gland bracket.

WARNING: Exposing the ChargePoint charging station to water above the height of the armoured cable gland bracket could create an electrocution, shock or fire hazard. Cut power to the charging station if it has been exposed to standing water and contact ChargePoint before the charging station is powered on.

Clearances

For pedestal installations, the conduit stub-up must be a minimum of 230 mm (9 in) from any obstructions to the rear. This includes other charging stations. Check applicable codes for any additional clearance requirements.

Accessibility

EV chargers designed to serve people who use mobility devices must be located on an accessible route and should provide the following:

- Adjoining access aisle at least 1.5 m (5 ft) wide
- Clear floor or ground space at the same level as the vehicle charging space
- Accessible operable parts, including on the charger and connector

Note the following additional considerations:

- Ensure the vehicle charging space is at least 3.35 m (11 ft) wide and 6 m (20 ft) long
- Make sure the station is installed at ground level. Stations installed on a curb will fail the 1.22 m (4 ft) max height for operable parts.
- Make sure bollards and curb stops that are installed to protect the station leave a clear ground space of 1.22 m (4 ft) wide x 176 mm (30 in) deep in front of the station.
- If stations must be installed on a curb, then ChargePoint recommends rotating the station 90º or 180º and creating an access aisle up onto the curb for station access. The clear ground space rule would still apply in front of the newly rotated charger.
- Clear floor space must be 250 mm (10 in) or less from the station.
- Unobstructed side reach recommended

Comply with regional accessibility laws, regulations and ordinances. The CP6000 charging station must not block ramps or pathways, and the height of the interactive display cannot exceed the maximum height as dictated by local laws.

Signage

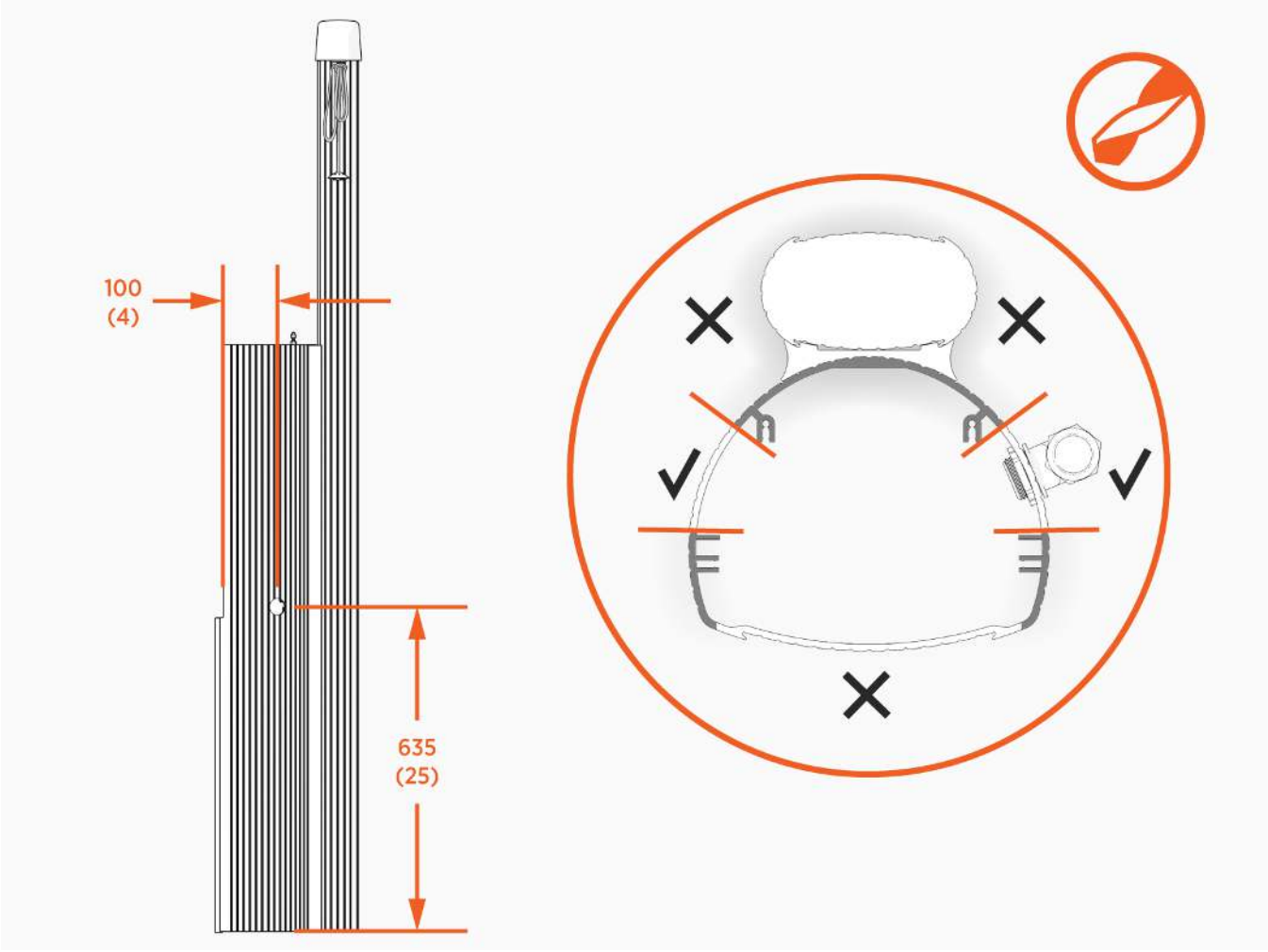
Refer to local and regional code to design the following elements for the site:

- 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 3

CP6000 wall-mounted charging stations use surface-mount wiring. CP6000 pedestal-mounted charging stations typically require service wiring that is installed underground to enter through the bottom of the station.

Note: If a pedestal mount installation requires surface run conduit, drill a trade-size conduit entry point 635 mm (25 in) from the bottom of the pedestal. The diameter cannot exceed 38 mm (1.5 in). If larger conduit capacity is required, create two entry points, one on each side, for parallel conductors.



Attach the conduit with a listed fitting. Use a sealing method that meets all applicable code requirements.

Conduit and wire size are determined based on the length of the runs from the electrical panel to the station location. Service wiring must be run through the conduit to comply with local electrical codes. Consult national and local codes or a project engineer to determine the grade, quality and size of the conduit or cable. The CP6000 Concrete Mount Kit accommodates service wiring through the flare, conduit or locally appropriate wiring method.

Note: All wiring and conduit is supplied by the contractor unless otherwise indicated.

Electrical Supply Requirements

Wiring must be sized in accordance with all applicable codes for continuous load devices. The main standard for cable size is based on IEC 60364-5-52:2009 and IEC 60364-5-54:2011. The terminal block accepts stranded or solid conductors up to 25 mm^2. The appropriate size depends upon the distance between the electrical panel and the charging station installation site and the maximum current in the circuit.

Note: For fine stranded conductors, the application of ferrules is recommended.

When planning multiple EV charging stations, it is best practice to separate non-continuous from continuous loads, with all branch circuits for EV charging on a dedicated electrical panel assembly with adequate circuit breakers. When sizing new electrical panels dedicated for EV charging, all branch circuits must support continuous load.

CP6000 charging stations are designed for connection and operation on rated voltages of 230 V +/- 10% (line to neutral) or 400 V +/- 10% (line to line) at 50 Hz.

Note these important details before installing the charging station. CP6000 charging stations include:

- Protection against electric shock provided by a Type A RCD, 30 mA, with an RCCB or an RCBO option.
- Protection against short-circuit:
    - If CP6000 with RCCB configuration is selected, short-circuit protection is installed upstream in the installation.
    - If CP6000 with RCBO configuration is selected, short-circuit protection is included for each charging point with Curve C type and a rated short-circuit capacity of 6 kA.
- Additional protection against 6 mA DC current according to applicable clauses of the IEC 62955:2018 per each output
- Overcurrent protection: The CP6000 will open the circuit in the event of an overcurrent above 1.25 times the rated current within 10 seconds
- Electrical Class B meter according to 2014/32/EU Measuring Instrument Directive
- CP6000 charging stations comply with Class A electromagnetic immunity for industrial environments and Class B electromagnetic emissions for non-industrial environments according to IEC 61851-21-2:2018.
- Pollution degree III (for external use)
- Indoor and outdoor installations
- IP56-rated

- Standard CP6000 charging stations might not be suitable for accessible locations due to reduced IP and IK degree.
- IK10-rated
- Equipment intended for use by the general public
- Equipment that can be installed in locations with non-restricted access
- Ventilation function is not supported
- CP6000 charging stations are installed with the following options:
  - Case C — EN 62169-1 Type 2 EV connector cables attached
  - Case B — EN 61269-1 Type 2 socket outlet (bring your own cable)
  - Case B — EN 62169-1 Type 2 shuttered socket outlet (bring your own cable).

  Note: When installing case C EV supply equipment, the vehicle connector must be between 0.5 m and 1.5 m above ground when stored.
- Charging connector adapters should not be used when charging with CP6000 charging stations
- CP6000 charging stations are designed to operate within a temperature range from -30° C to 50° C

CAUTION: CP6000 charging station is rated Overvoltage Category III and includes surge protection for absorbing transient over voltages. CP6000 charging stations are tested to IEC 61000-4-5 (4 kV) standards. In countries where extra Surge Protection Device protection is required, check the national codes for categorisation and installation of the equipment.

Be aware of these requirements before installing the charging station:

- The CP6000 is Class I equipment. Power supply must provide a PE conductor and the unit must be grounded. The charging station must always be connected to protective earth (PE).
- Reserve a power source exclusively for the charging station and ensure that it complies with HD 60364-7-722:2018.
- Upstream short circuit protection should be either one of the following:
  - Fuse type gG, all 4 poles, with at least 6 kA Icc
  - MCB, 4 poles, curve C, with a nominal current greater than or equal to the maximum current expected (at least 6 kA Icc)
- The CP6000 power input supply must always be provided with a neutral conductor.

Consult your electricity grid operator regarding requirements for local regulations. Depending on the desired rated power, the installation of the charging station may require registration with and/or approval by your electricity grid operator.

Conduit

The outside diameter of conduit must not exceed the sizes called out in the pedestal mounting template: 95 mm (3.74 in). Conduit stub-ups must measure between 150 mm (6 in) and 590 mm (23.25 in) above ground.

Conduit stub-ups must not extend higher than 600 mm above ground level.

For wall mounted stations, flex conduit can be used to bring the wire to the station.

Armoured Cable

For pedestal mounted stations, trim duct to concrete level. Approximately 1.5 m (5 ft) of armoured cable (service wiring) must extend above the concrete surface.

For wall mounted stations, flex conduit can be used to bring wire to the station.

Wiring Requirements

For full product specifications, refer to the CP6000 Data Sheet. Using that data, ensure that the installation location is equipped with service wiring that supports the charging station's power requirements.

When pulling electrical wiring for the CP6000 pedestal mount, ensure that at least 1.5 m (5 ft) of wire remains above ground. When pulling electrical wiring for wall mount stations, the conduit and wire must be brought to the location where the stations will be mounted. Flex conduit is typically used to bring the wire to the station. Wiring is brought in through knock-outs in the bottom of the charging station.

Electrical Input

CP6000 charging stations support flexible power settings up to 7.4 kW (32 A single-phase) or 22 kW (32 A three-phase) service per output. Input can be up to 14.7 kW (63 A single-phase) and 44 kW (63 A three-phase) considering single input - dual output.

Power Select allows stations to be installed and configured for power lower than the maximum rating.

Circuit Share allows a dual-port station to share power from a single supply circuit across two ports, adjusting power depending on whether one or both ports are charging. Standard wiring uses an independent circuit for each port. Circuit Share can be used in combination with Power Select.

Refer the CP6000 datasheet at chargepoint.com/guides for information about the following:

- Electrical input
- Electrical output
- Mounting and functional interfaces
- Safety and connectivity features
- Safety and operational ratings

UK Requirements

There are specific requirements for EV charging station installations within the UK. In most of the locations, the installation type follows a TN-C-S scheme (PME supply) which, according to the general standards for EV charging stations, is not allowed. CP6000 stations follow all of the relevant safety requirements in accordance with IEC 61851-1:2018 and IEC 60364-7-722. Any extra safety requirements caused by the installation type must be discussed with the Distribution Network Operator (DNO).

CP6000 station includes an RCCB or RCBO that will open power lines (phase 1, phase 2, phase 3, and Neutral) in the event of a failure.

The CP6000 is a Class 1 product. All metallic parts accessible are connected to the main earth terminal. Installation of the earth connection to the EV charging station is required.

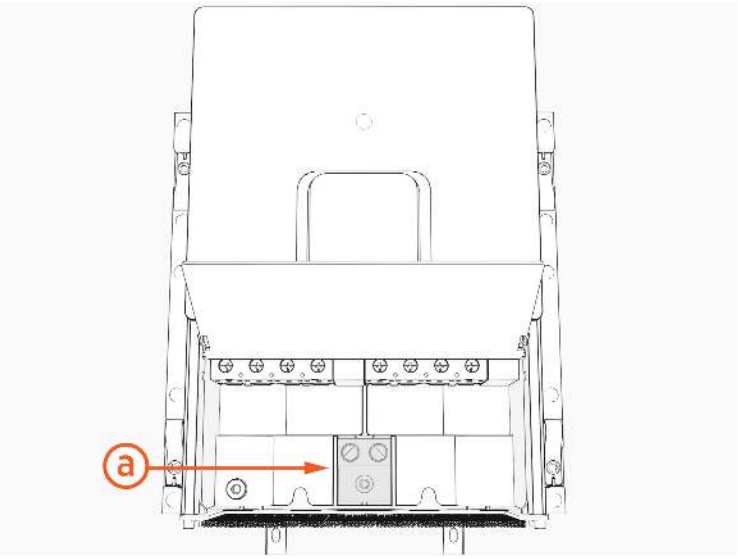
CP6000 charging stations are designed to be installed on a TN-S system and can be installed on TT earth systems.

IMPORTANT: Unless it can be guaranteed by the DNO, all TN-S type shall be considered as TN-C-S type.

Following BS 7671-7-722, clause 722.411.4, ChargePoint CP6000 charging stations must not be installed in a TN-C-S or Protective Multiple Earthing (PME) facility if the CP6000 charging station is located outdoors or if the charging station is indoors but the EV will be parked outdoors, unless one of the clauses (i) to (v) of BS 7671-7-722, clause 722.411.4 is fulfilled.

CP6000 charging stations do not include a PME detection and protection system; therefore, unless clause (i) or (ii) can be guaranteed, an external device capable of providing that detection and protection and of opening all live conductors, including the PE conductor, within 5s from the moment the fault is detected, must be installed.

In addition, if it is necessary to create a TT earth system, the main ground lug point **(a)** located in the CP6000 can be used as a connection point to the earth rod. The impedance of the TT system shall be such that the voltage between the exposed conducted parts or the earth of the installation and true earth can not exceed 70 Vrms.



Standard Wiring Options

Note: All stations ship with an L1 - L2 power jumper. The power jumper is not installed in the factory.

Note: For any other rated power recommended by national laws, check the national wiring and breaker regulations to select the rating of the breaker.

IMPORTANT:

All CP6000 charging stations include L1 – L2 circuit share power management jumpers. If a single three-phase supply circuit is feeding a dual port station, install the L1 – L2 jumper. This offers local phase rotation between the two charging ports to distribute and balance charging loads across the supply phases.

If a single supply circuit is feeding a dual-port station, you MUST install power management jumpers for both ports to operate correctly.

For assistance, go to chargepoint.com/support and find your region's technical support number. Order power management jumpers from Support if required.

CP6000 charging stations comes with two options:

- Residual Current Circuit Breaker (RCCB) per charging port or
- Residual Circuit Breaker with Overload Protection (RCBO) per charging port

Talk to you local ChargePoint contact and agree on the best solution for the installation.

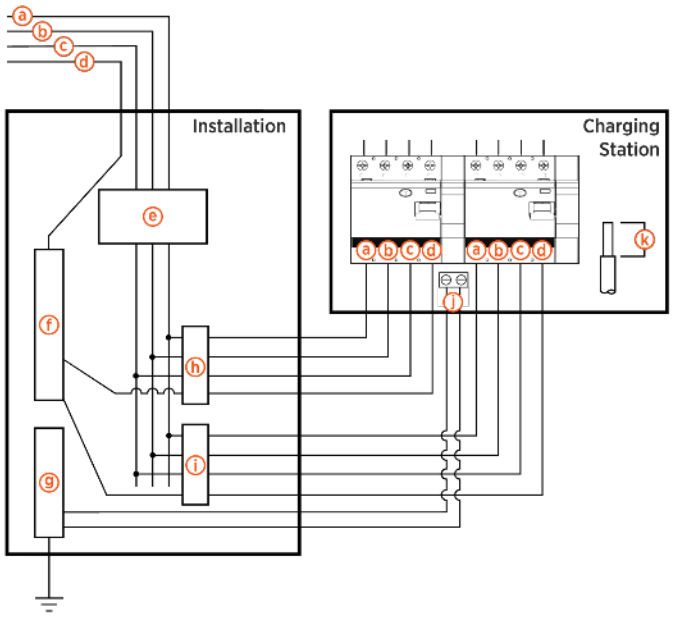
When choosing RCBO, a single power cord can be supplied to the charging station because of the share power management jumpers. The upstream cable will also be protected according to the national wiring regulations.

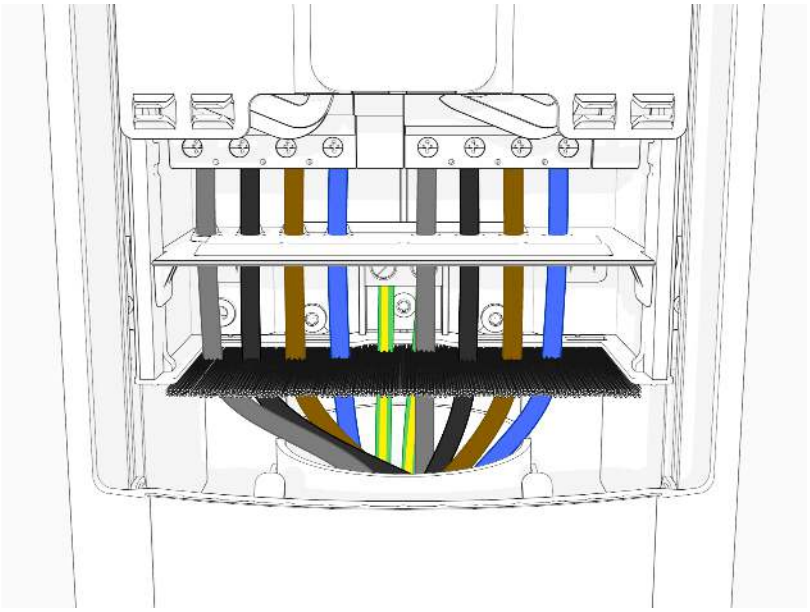
When choosing RCCB in certain countries, local wiring regulations will require that these stations shall be connected with two input power cables and an additional upstream Miniature Circuit Breaker (MCB). Make sure to follow the local regulations considering the maximum current delivered per charging port.

If an upstream RCD will be used, ensure that the RCD fulfils the selectivity criteria. Either 30mA (s) with selective tripping characteristic or 100mA are required, so both RCDs (RCCB in station and RCD in upstream circuit board) will be connected in series.

230/400 Three Phase Dual Circuit, Dual Port

a. L3
b. L2
c. L1
d. Neutral
e. Main breaker
f. Neutral bus
g. Ground bus
h. Left breaker
i. Right breaker
j. Ground
k. Wire strip length 12 mm (0.5 in)

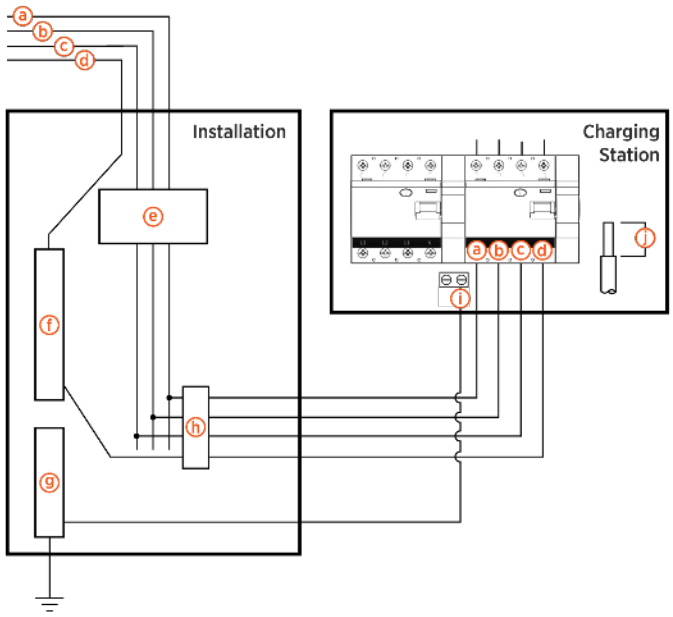


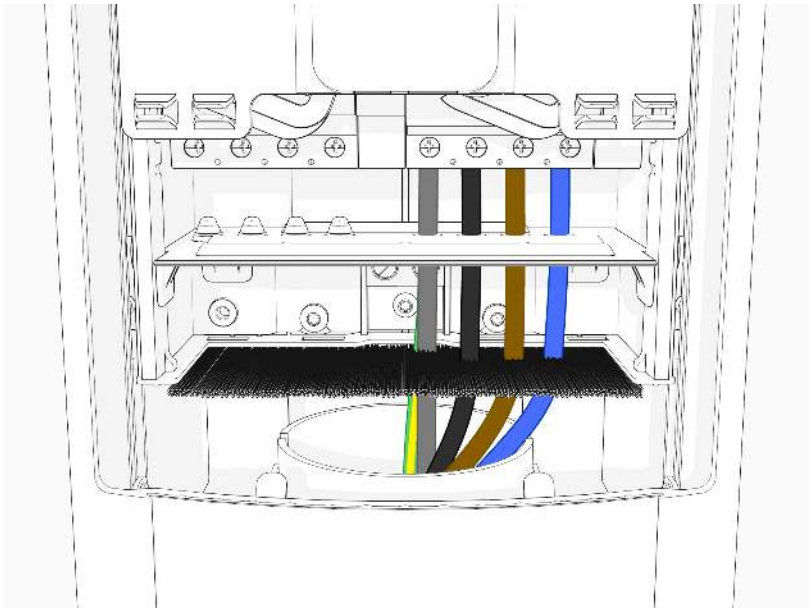


Note: The right port is the primary port and is on the right side when viewed from the front of the charging station.

230/400 Three Phase Single Circuit, Single Port

a. L3
b. L2
c. L1
d. Neutral
e. Main breaker
f. Neutral bus
g. Ground bus
h. Breaker
i. Ground
j. Wire strip length 12 mm (0.5 in)





Circuit Sharing Wiring (Dual Port Station Only)

To power a dual-port station using a single power cable, use the circuit share jumper. The L1 – L2 circuit share jumper is included with each CP6000. Circuit sharing is available only for dual port station configurations.

Technically, CP6000 charging stations can be connected with either one or two input cables; however, the charging stations do not integrate a Residual Current Circuit Breaker with Overload Protection (RCBO), but rather a Residual Current Circuit Breaker (RCCB) per charging port.

In certain countries, local standards require that these stations be connected with two input cables and an upstream Miniature Circuit Breaker (MCB), or an MCB combined with a residual current device (RCD) protecting each charging port. If you need an RCBO, contact ChargePoint Support at chargepoint.com/support .

Be sure to follow the local standards before deciding to install the station with one input cable.

Note: Check applicable regulations for minimum panel breaker requirements.

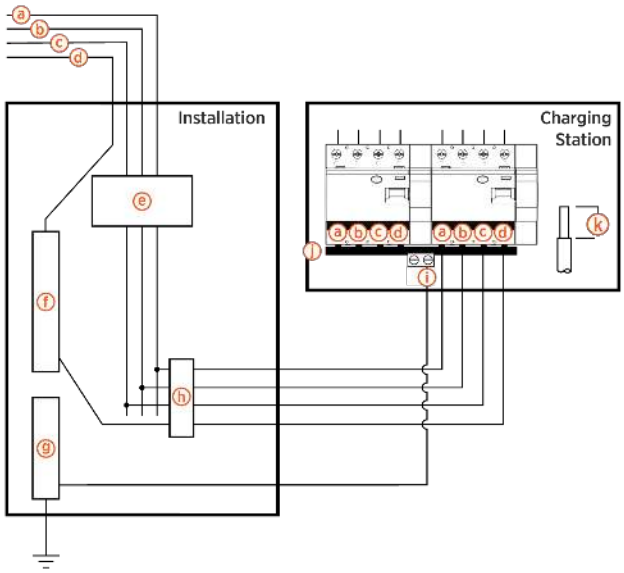
Phases	Maximum current per output (A)	Number of outputs	Maximum current input (A)	Power input (kW)	Breakers required	Minimum panel size for **single input** (A)	Minimum panel size for **dual input** (A)
Single	16	1	16	3.7	1	20	n/a
Single	20	1	20	4.6	1	25	n/a
Single	25	1	25	5.8	1	32	n/a
Single	32	1	32	7.4	1	40	n/a
Single	16	2	32	7.4	1 or 2	40	20
Single	20	2	40	9.2	1 or 2	50	25
Single	25	2	50	11.5	1 or 2	63	32
Single	32	2	63	14.5	1 or 2	63	40
Three	16	1	16	11.0	1	20	n/a
Three	20	1	20	13.8	1	25	n/a
Three	25	1	25	17.3	1	32	n/a
Three	32	1	32	22.1	1	40	n/a
Three	16	2	32	22.1	1 or 2	40	20
Three	20	2	40	27.6	1 or 2	50	25
Three	25	2	50	34.5	1 or 2	63	32
Three	32	2	63	44.2	1 or 2	63	40
Three	32	2	80	44.2	1 or 2	80	40

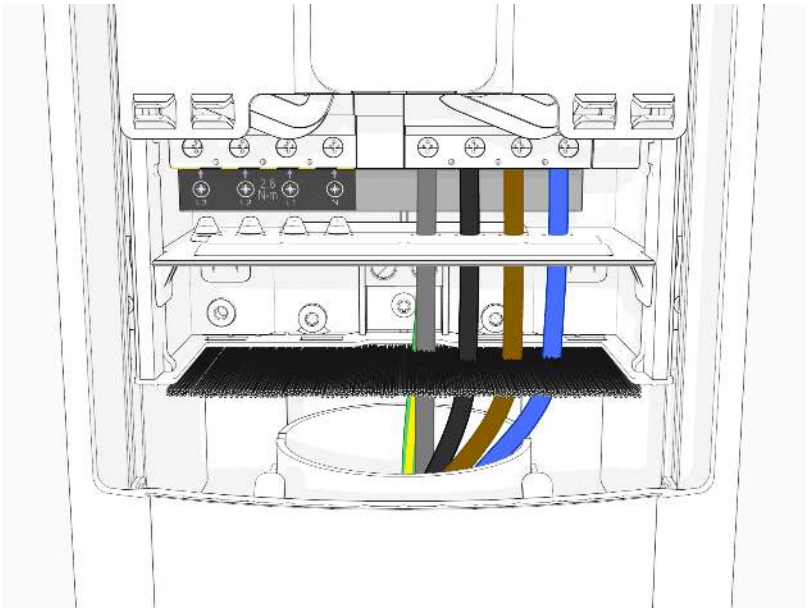
Circuit Sharing Wiring Specifications

230/400 Three Phase Single Circuit, Dual Port

IMPORTANT: When using a single circuit to power dual ports, you must connect cables to RCCBs or RCBOs on the right side of the terminal block.

a. L3
b. L2
c. L1
d. Neutral
e. Main breaker
f. Neutral bus
g. Ground bus
h. Breaker
i. Ground
j. Jumper
k. Wire strip length 12 mm (0.5 in)





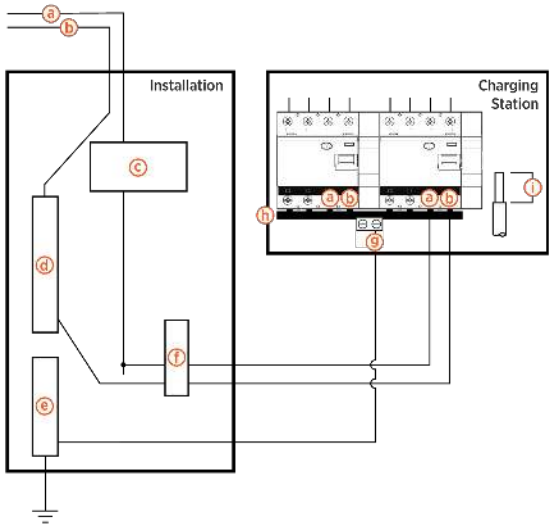
Note: This configuration can be used either with RCCB or RCBO option. Contact ChargePoint Support for guidance or follow the local national regulations.

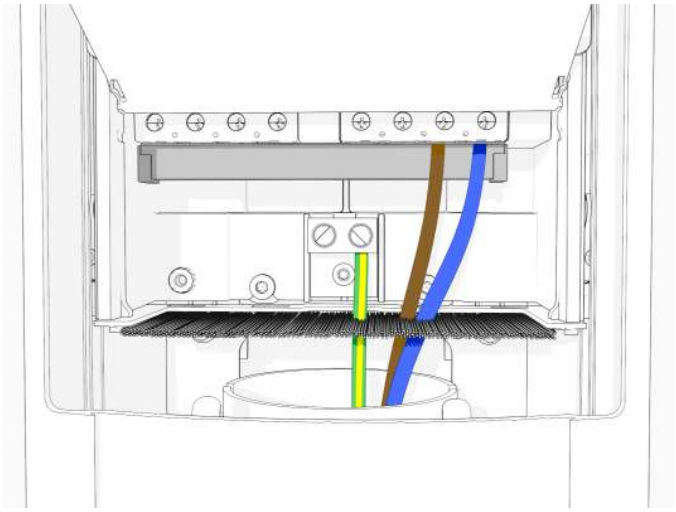
230 Single Phase Single Circuit, Dual Port

IMPORTANT: When using a single circuit to power dual ports, you must connect cables to RCCBs or RCBOs on the right side of the terminal block.

IMPORTANT: If one single-phase supply circuit is feeding a dual port station, you MUST install an L1 - L1 jumper for both ports to operate correctly. The L1 – L1 jumper does not rotate phases, allowing both ports to draw current from L1. Contact ChargePoint to order L1 – L1 power management jumpers as required.

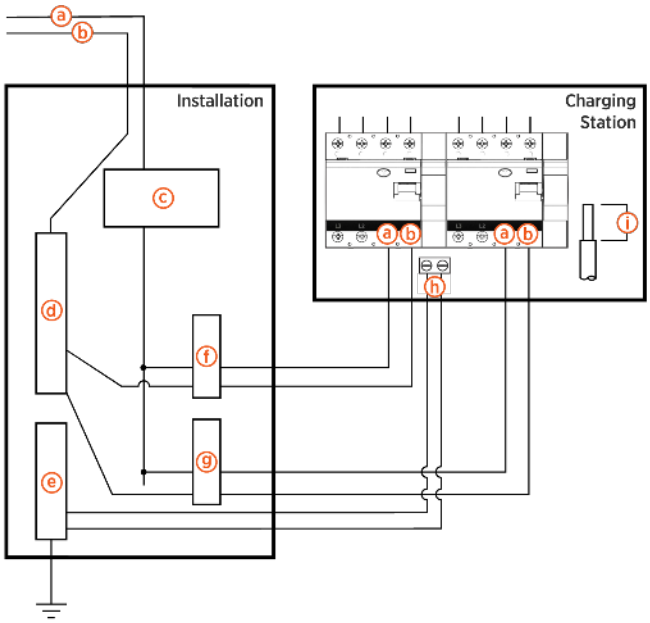
a. L1
b. Neutral
c. Main breaker
d. Neutral bus
e. Ground bus
f. Breaker
g. Ground
h. Jumper
i. Wire strip length 12 mm (0.5 in)

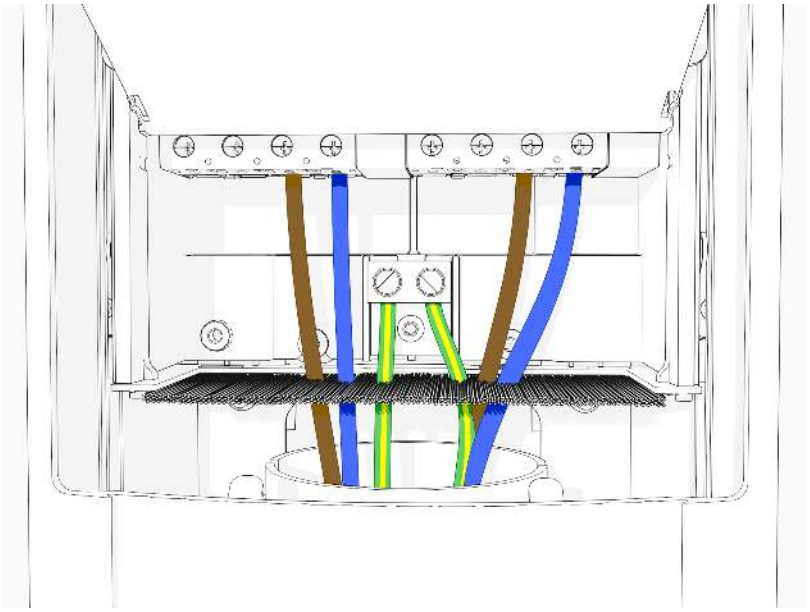




230 Single Phase Dual Circuit, Dual Port

a. L1
b. Neutral
c. Main breaker
d. Neutral bus
e. Ground bus
f. Left breaker
g. Right breaker
h. Ground
i. Wire strip length 12 mm (0.5 in)

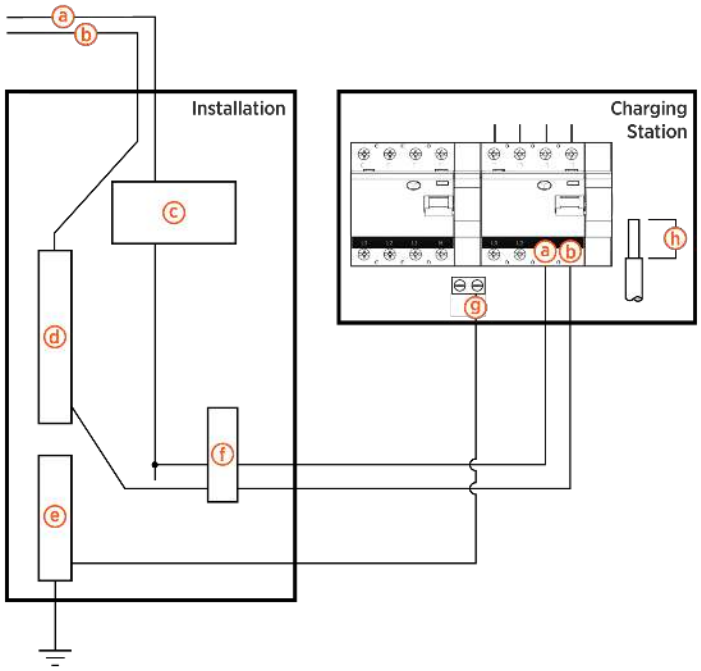


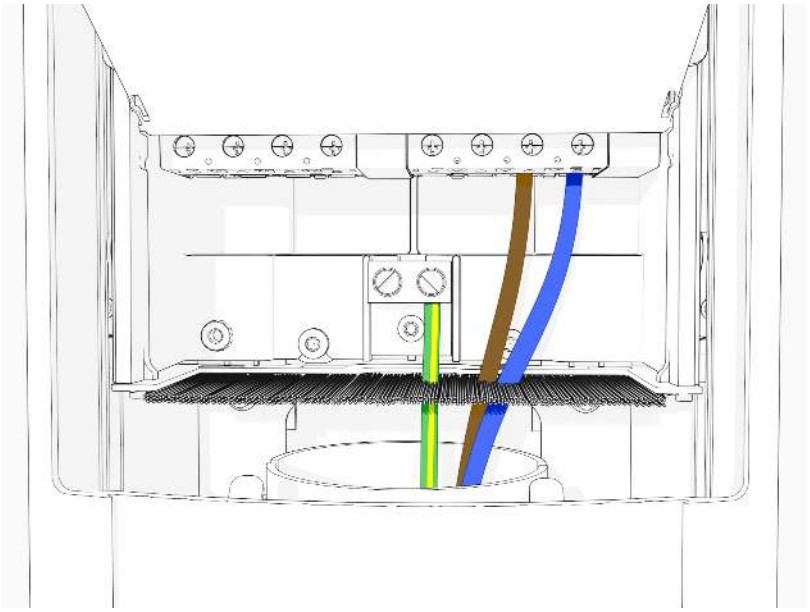


Note: The right port is the primary port and is on the right side when viewed from the front of the charging station.

230 Single Phase Single Circuit, Single Port

a. L1
b. Neutral
c. Main breaker
d. Neutral bus
e. Ground bus
f. Breaker
g. Ground
h. Wire strip length 12 mm (0.5 in)





Grounding Requirements

CP6000 charging stations 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 on the charging station.

A grounding conductor that complies with applicable codes must be grounded to earth at the service equipment or, when supplied by a separate system, at the supply transformer, or may be grounded to an earth electrode. Ensure that the grounding conductor complies with all applicable codes.

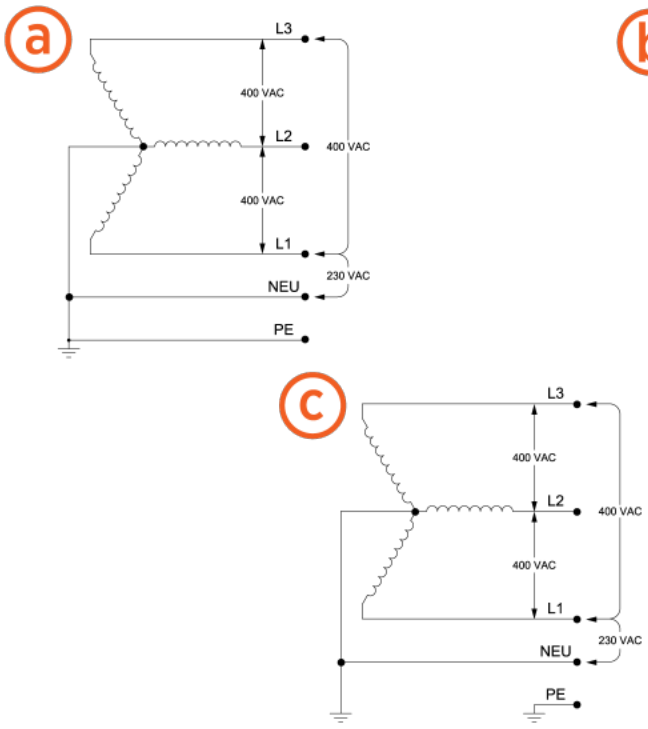
Note: Ground loop impedance measurement is recommended.

Earthing Systems

TT, TN-S and TN-C-S are supported subject to local code regulations.

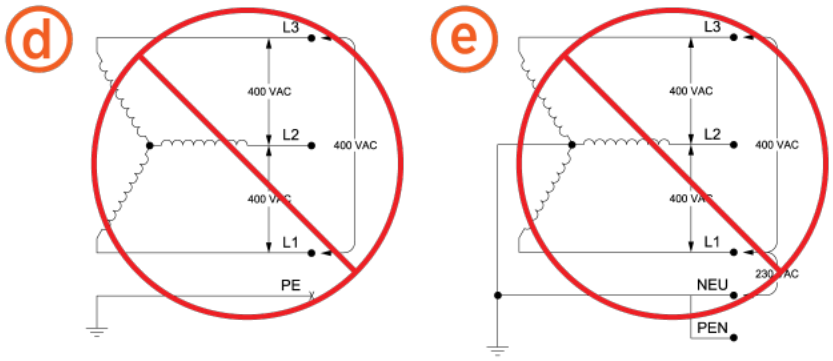
Connect only to the following systems:

a. TN-S 230/400 VAC, 3Ø Wye Grounded Neutral
b. TN-C-S 230/400 VAC, 3Ø Wye Grounded Neutral
c. TT 230/400 VAC, 3Ø Wye Grounded Neutral



The following earthing systems are not supported:

d. IT - (I) 400 VAC, 3Ø Wye, Floating Neutral
e. TN-C (T) 400/230 VAC, 3Ø Wye Grounded Neutral



In modes TT and TN earth systems, the ground resistance must be lower than 100 Ohms if national regulations require it. Check the national regulations to verify the maximum impedance allowed.

In TT, if the ground loop impedance cannot be lower than 100 Ohms, the local earthing resistance has to be improved by changing the existing rod or putting an interconnected extra rod.

IT installation mode is prohibited. A dedicated transformer might be used to modify the system to a TN-S. Check local regulations for more information.

Voltage between neutral and protective earth conductors of the installation shall not exceed 10 Vrms maximum. If above condition is not met, it is necessary to identify the origin of the fault voltage and apply a corrective measure in order to commission the EVSE.

In case of TN mode, installation must be checked to evaluate upstream Neutral cut-off failure.
If complying with local regulations, multiple ground network interconnection shall be achieved to ensure that in case of PEN failure, ground remains connected to the transformer neutral via neighbour link, according to IEC 60364 § 4.41.

Always check national regulations regarding the earth system used, bonding, and limit contact voltage. For example, in the UK check the BS 7671 and in France check the NF C 17-200 and NF C 15-100 to verify whether or not they are permitted for EV charger installations. Visit UK Requirements or contact ChargePoint for more information pertaining to UK regulations.

Multiple EV Charging Stations (Fleet and Multifamily Applications)

When multiple CP6000 charging stations are connected to a common ground, the value of the ground resistance must ensure that the touch voltage will not exceed 50 VRMS in the event of a failure.

When multiple CP6000s are connected to the same power supply line, an additional local ground connection must be ensured at least every 10 outlets. The maximum resistance for each additional ground connection (taken independently) must be less than 100 Ohms.

All the ground lines must be connected to ensure a single equipotential.

EV Ready Requirements

These requirements apply only to EV Ready installations. Check the EV Ready Certification Technical Reference Document Version 1.4l for more information.

Electromagnetic Compatibility

- Harmonic distortion and unbalancing on the supply system:

  The power supply system will be compliant with standards IEC 61000-2-2, 61000-2-4 (class 2) and EN 50160 clause 4.2.4 and clause 4.2.5. Otherwise, the installation will be adapted to finally respect the standards (additional filter, different electrical connection and the like). If above condition is not met, a transformer as defined below is to be placed upstream of the EVSE.

- Low frequency conducted disturbances on power supply system, from 0 to 150 kHz (excluding harmonics):

  The noise level in the frequency band 0-150 kHz (excluding harmonics) shall not exceed 4% of the phase to neutral voltage. Otherwise, the installation will be adapted to finally respect the standards (additional filter, different electrical connection etc.)

In case of noise emitted by domestic appliances during the charge that causes interferences with the EV, the installer may add a 10 kHz 50 dB filter upstream of the charging station to prevent excitation of the domestic electrical installation.

Installation Protection

Shock Protection

Each output of the CP6000 is protected by its own RCCB or RCBO Type A with a maximum tripping current of 30 mA, and includes protection against DC leakage current according with the applicable clauses of the IEC 62955:2018.

The CP6000 allows manual or remote tripping of the RCCB or RCBO. A reset must be done manually. The remote reset is not allowed by the hardware of the EV charging station.

Each RCCB complies with EN 61008-1 and EN 61008-2. Each RCBO complies with the EN 61009-1 and EN 61009-2-1.

Stations are equipped with either internal RCCBs or RCBOs. If installing additional RCCBs or RCBOs upstream, they must comply with local regulations and meet the following requirements :

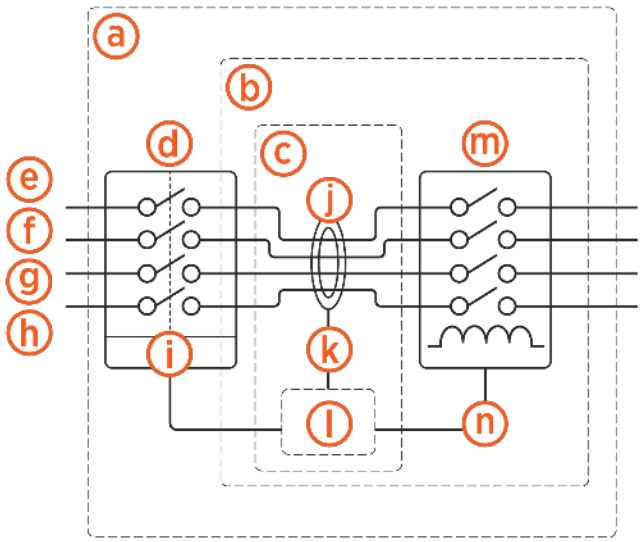
- Minimum type A
- Required minimum tripping current of 100mA or 30mA with selective tripping curve, due to 2 RCDs connected in series
- Capacity current equal or higher than nominal current

Voltage between Neutral and Protective Earth conductors for the installation cannot exceed a maximum of 10 Vrms. If voltage exceeds 10 VRMS, identify the origin of the fault voltage and correct it before commissioning the EVSE.

Secondary Tripping Protection

The CP6000 charging station includes secondary switching device protection. It is constantly monitoring voltage and current in each output. If an issue causes an undesirable voltage in the output, the CP6000 automatically triggers its internal secondary switching device. No other actions are necessary for the installation.

a. EVSE operating in Mode 3
b. RDC-DD of type RDC-MD
c. RDC-M-Module
d. RCCB Type A
e. L1
f. L2
g. L3
h. Neutral
i. Shunt trip
j. Diff coil
k. Coil windings
l. Processor
m. Relay
n. Relay control



Overcurrent Protection

The CP6000 charging station includes overcurrent protection that will disconnect the outlet if the current is more than or equal to 1.25 times the maximum current.

The CP6000 does not include short-circuit protection and shall be protected by a circuit-breaker installer upstream in the installation with a gauge:

- 20 A for a 16 A single- or three-phase charging station
- 25 A for a 20 A single- or three-phase charging station
- 32 A for a 25 A single- or three-phase charging station

- 40 A for a 32 A single- or three-phase charging station
- 80 A for a 63 A three-phase charging station

Each connection point might be individually protected by a miniature circuit-breaker (MCB) for short circuit protection. Visit Standard Wiring Options for more information. For this case, the jumper connection must not be installed.

The circuit-breaker curve shall be:

- Curve B or C for single-phase charging stations
- Curve C for three-phase charging stations
- 2 pole protection for single-phase installations
- 4 pole protection for three-phase installations

The CP6000 with RCBO includes short-circuit protection with curve C and rated short-circuit capacity of 6 kA.

The RCBO comply with EN 61009-1:2012 + A1:2014 + A2:2014 + A11:2015 + A12:2016

EN 61009-2-1:1994 + A11:199.

Transformer Installation

A transformer may be installed if:

- The power source does not provide a neutral
- The EV charging stations are rated up to 32 Amps per outlet and the upstream transformer (from HV to LV) is less than or equal to 100 kVA
- The ground impedance cannot be reduced according to national levels
- The voltage between neutral/ground does not comply with local regulations and cannot be achieved by any other measure (e.g. reducing the ground impedance loop)
- Earthing system is IT type
- The level of harmonic distortion is over the limit and the installation does not comply with the levels in accordance with IEC 61000-2-2, 61000-2-4 (class 2), and EN 50160 clause 4.2.4 and clause 4.2.5
- The level of the low frequency conducted disturbance on the power supply system from 0 to 150 kHz (excluding harmonics): exceeds 4% of the phase to neutral voltage and any additional protection to mitigate this (additional filter, different electrical connection and the like) has not solved the problem

This transformer shall be coupled in Dyn and provide an impedance-TN mode, by connecting the neutral of the secondary to the existing earth through a calibrated resistor of 100 Ohms (±10%). This resistor shall be sized to withstand short-circuit currents in coordination with protection devices like the residual current circuit breaker (RCCB), the surge protective device (SPD) and any others. In case of an installation of high complexity, the space to place an isolation transformer adequately sized for the installation shall be provided in the main electric cabinet.

Connectivity 4

A consistently strong mobile signal is needed before installers can activate the vehicle charging station. 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 programmes.

ChargePoint stations use mobile data connections to reach ChargePoint cloud services. This allows secure, PCI-compliant data connections without requiring any other form of Internet connectivity at an install site or imposing additional network management responsibilities on a site host.

Each station has its own mobile connection.

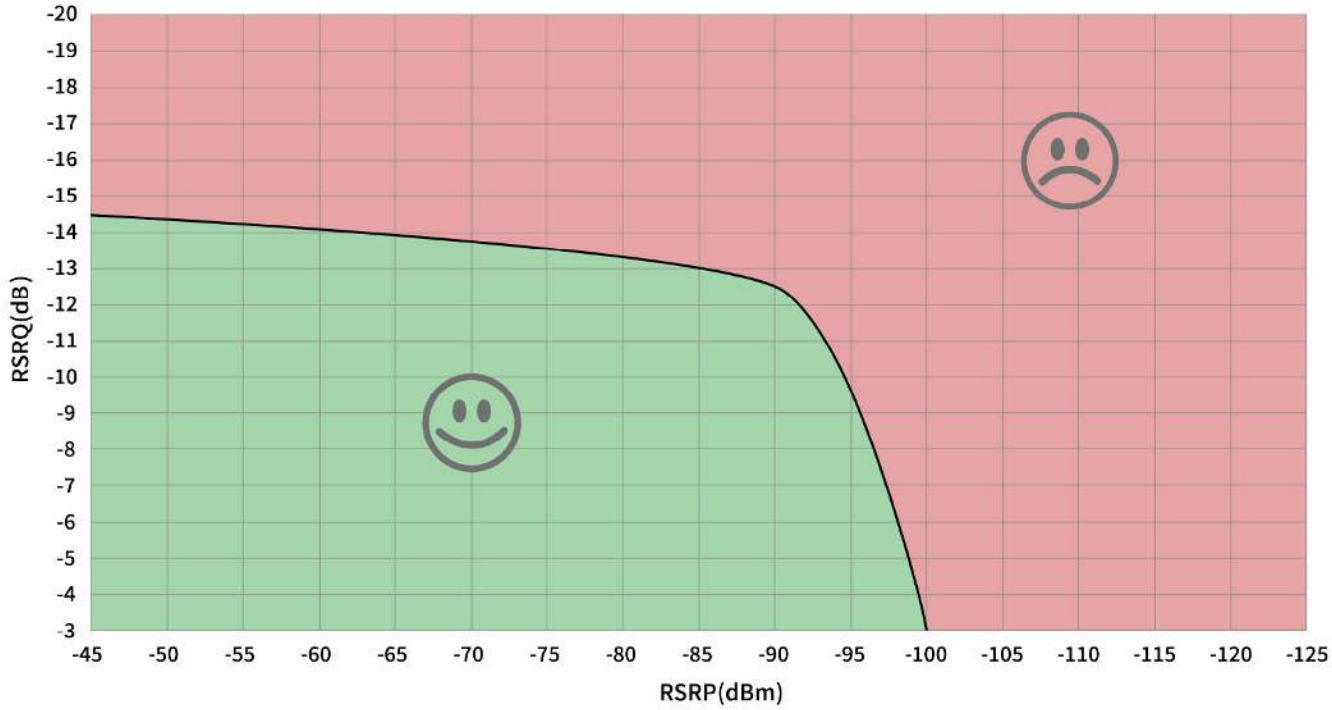
Signal Strength and Quality

You must use a mobile signal detection device (such as a Siretta Snyper LTE or equivalent) to take signal strength readings at the exact proposed mounting location of the charging station. If the charging station does not have its own mobile connection, take the signal strength reading at the proposed mounting location of the gateway station.

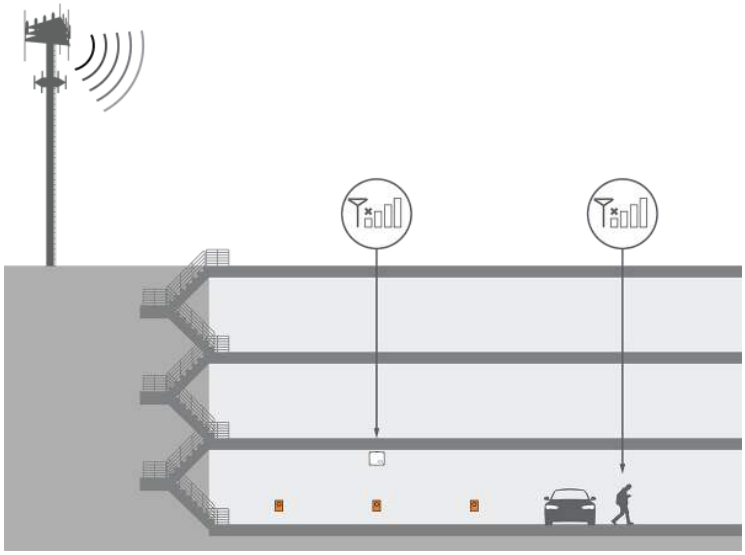
In Europe, ChargePoint products all support LTE bands 1, 3, 7, 8 and 20. 900 and 1800 MHz are also supported for 2G fallback. Partners vary by country.

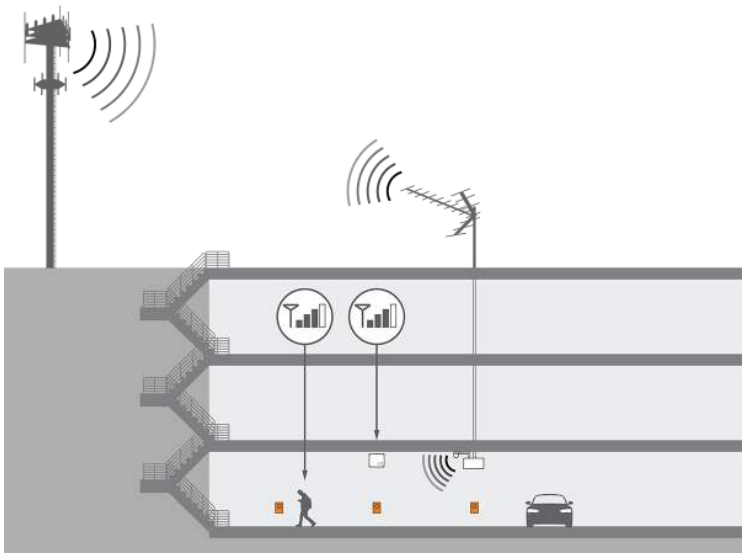
You must test the LTE signal strength at the proposed mounting location of every gateway station, and ensure the location meets the minimum RSRQ at -12.5 dB or better, for RSRP measured at -90 dBm or better. Refer to the graph for acceptable combinations.

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 aerials will be installed. Ensure that enough signal exists for that repeater model. Install repeaters to boost the strength of the mobile 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 mobile 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 mobile 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.

Pedestal Mount Concrete Preparation 5

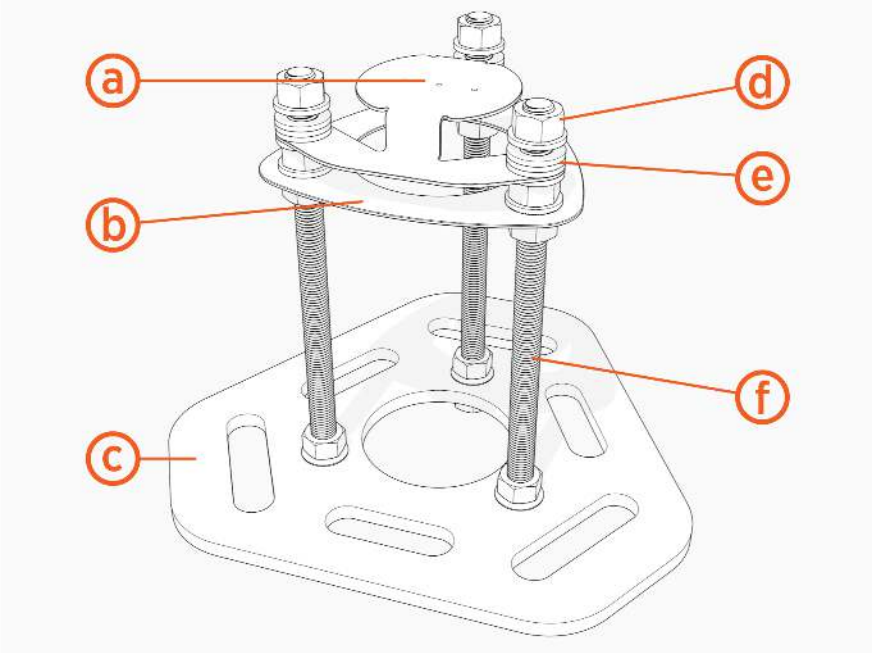
Concrete Mounting Template

You must use a ChargePoint Concrete Mounting Template (CMT) when installing a new pedestal mount charging station or replacing an existing non-ChargePoint pedestal mount station.

Use a CMT when installing charging stations on existing concrete (on an intermediate floor only).

You must order the CP6000 CMT separately, with sufficient lead time before site construction. This kit is delivered separately from the ChargePoint CP6000 charging station.

a. Cable gland bracket
b. Upper template
c. Lower template
d. Nuts (x 15)
e. Washers (x 18)
f. Anchor bolts (x 3)



Note: You do not need a CMT if you are installing a wall mount charging station or replacing an existing ChargePoint station.

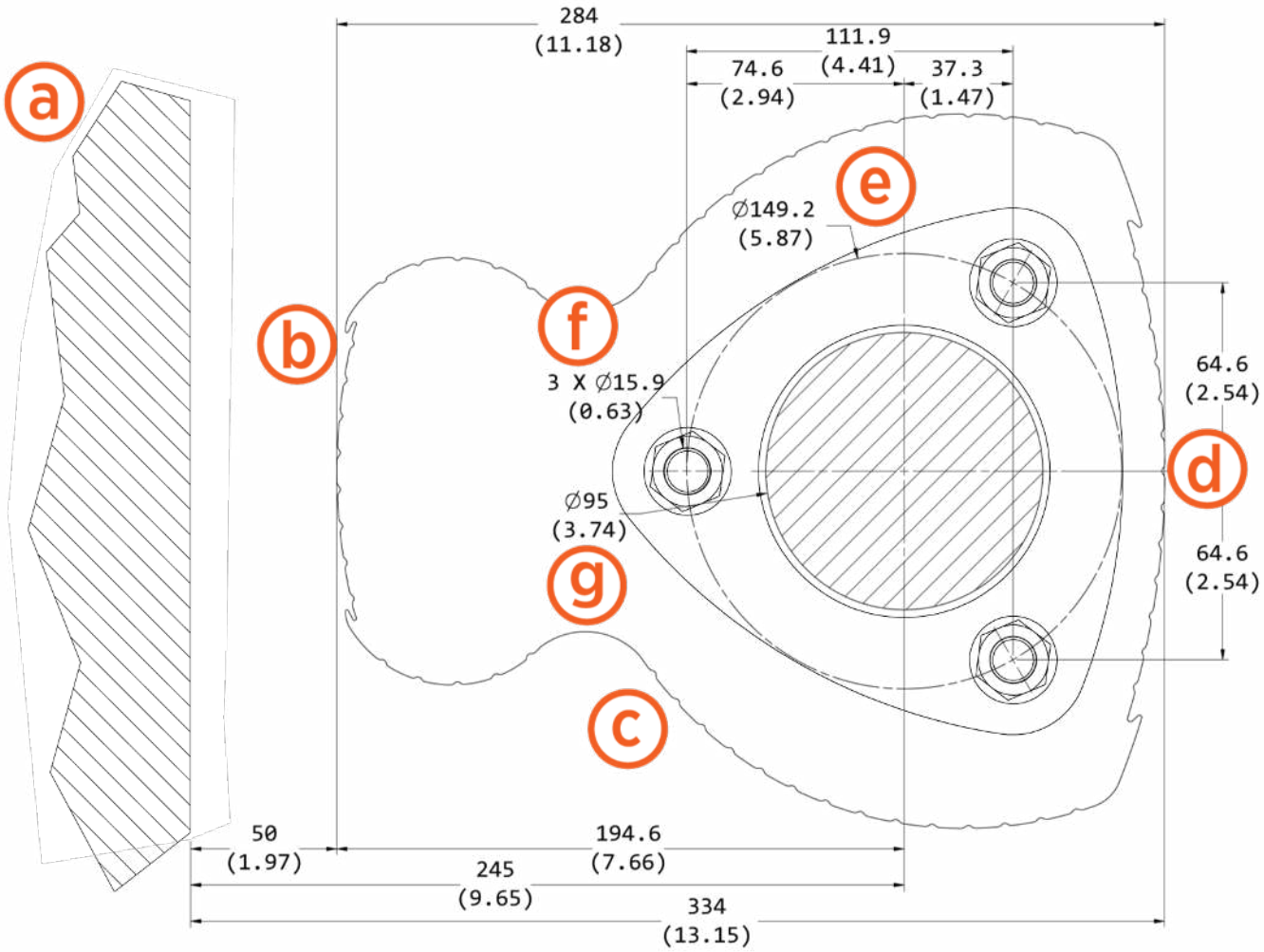
The Concrete Mounting Template kit components that you need to use, the tools required and the installation steps vary depending on the type of installation: new concrete or existing concrete.

Note: UNIMI manufactures and sells pre-cast concrete and plastic foundations. ChargePoint approves installing CP6000 charging stations on pre-cast UNIMI concrete or plastic foundations, according to the instructions UNIMI provides. Contact your ChargePoint sales representative if you have questions.

WARNING: Do not use expanding anchor bolts. Do not install the CP6000 on an asphalt surface.

CMT - Pedestal Mount With CMK

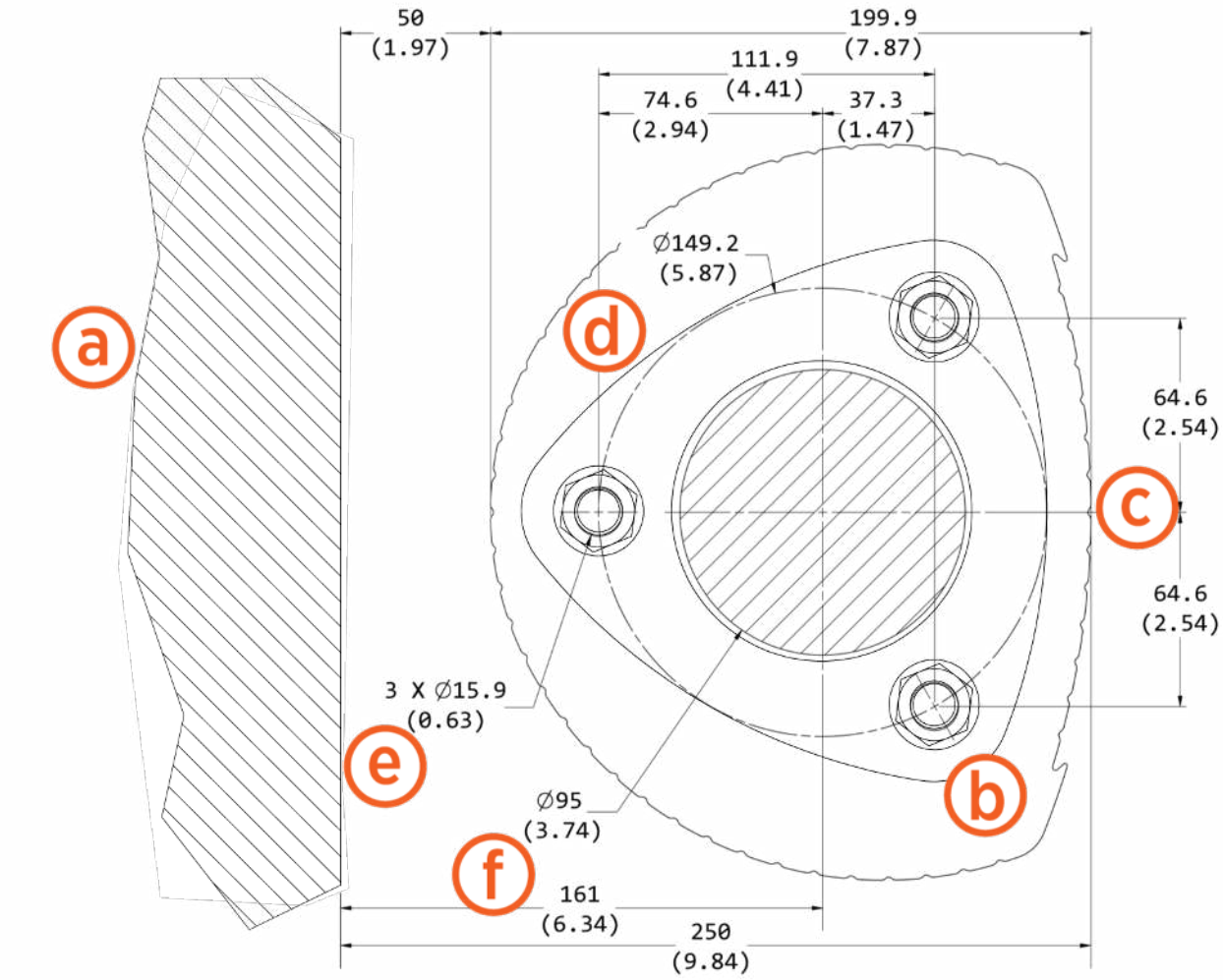
Note: Images are not to scale. Measurements appear in metric units (mm) followed by imperial equivalents (inches).



a. Wall
b. CMK footprint
c. Pedestal footprint
d. Front
e. Bolt circle
f. Bolt or anchor
g. Conduit stub-up within this area (new concrete only)

CMT - Pedestal Mount Without CMK

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



a. Wall
b. Pedestal footprint
c. Front
d. Bolt circle
e. Bolt or anchor
f. Conduit stub-up within this area

Tools and Materials

In addition to the CP6000 Concrete Mounting Template kit, the site construction team needs:

- Digging tools (shovel, spade etc.)
- Materials to prepare the form for pouring concrete
- Concrete as specified by site drawings
- Rebar as specified by site drawings
- 24 mm (1 in) wrench
- Level
- Cut-resistant gloves
- Drill or hydraulic hole punch (if using armoured cable)
- Conduit, ducting or armoured cable in the amounts and types specified by site drawings, that complies with local code (see the rest of this document for conduit sizes and routing)

Installation into New Concrete

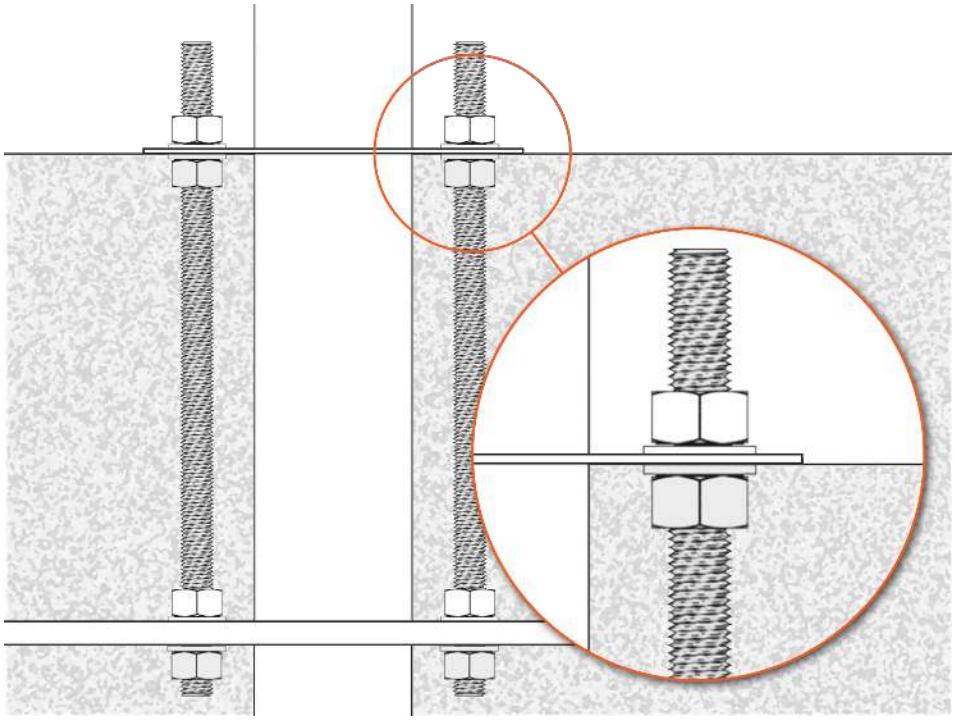
WARNING: Failure to install the ChargePoint CP6000 in accordance with these instructions and all local building practices, climate conditions, safety standards, and all applicable regulations and ordinances may lead to risk of death, injury or property damage, and will void the Limited One-Year Parts Exchange Warranty.

1. Trench and excavate an opening to accommodate the wiring conduit and the concrete mounting pad that meets local codes and requirements, per site drawings.
2. Run conduit to each station as needed. If the station needs wired Ethernet access, run Ethernet conduit.
3. Build the form and lay rebar for the foundation.
    - The concrete block must measure at least 1350 mm (53 in) on all sides.
    - The conduit stub-up needs to measure between 456 mm (18 in) and 590 mm (23.2 in) above the concrete surface.
    - Concrete must be at least 300 mm (12 in) deep.

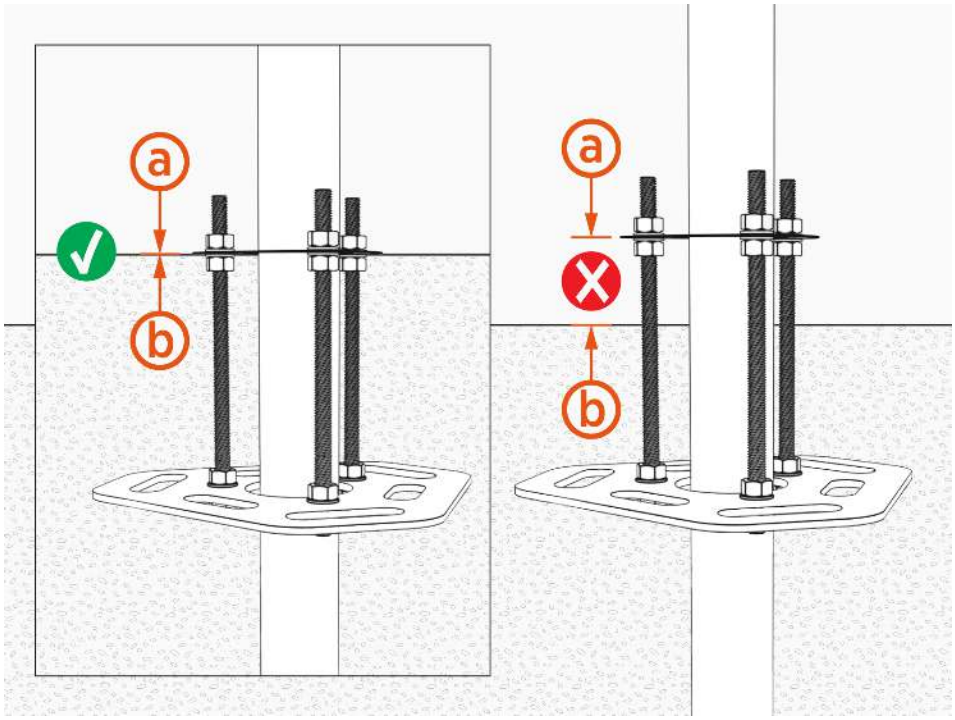
IMPORTANT: It is critical that the conduits are positioned properly and plumb. The tolerance where the conduits enter the station is 2 mm (1/16 in).

4. Align the CP6000 CMT over the conduit stub-ups with the two bolts facing forwards and the third bolt to the rear.

5. Slide the CP6000 CMT over the conduit stub-ups until the top surface of the template is level with the top surface of the concrete when poured.

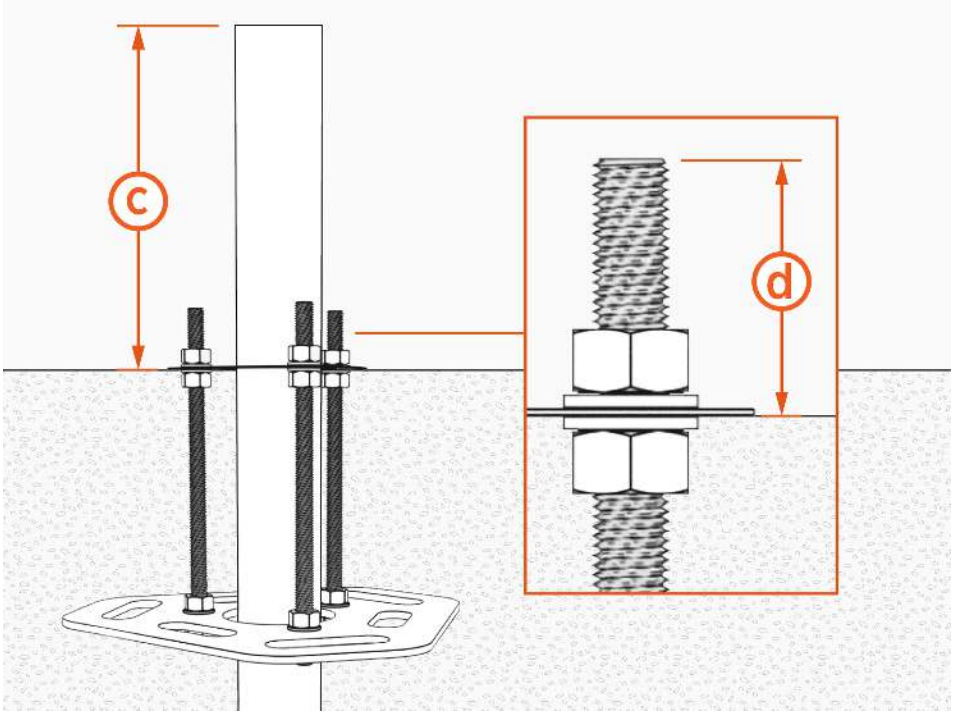


The bottom of the upper template **(a)** must align with the surface of the concrete **(b)**.

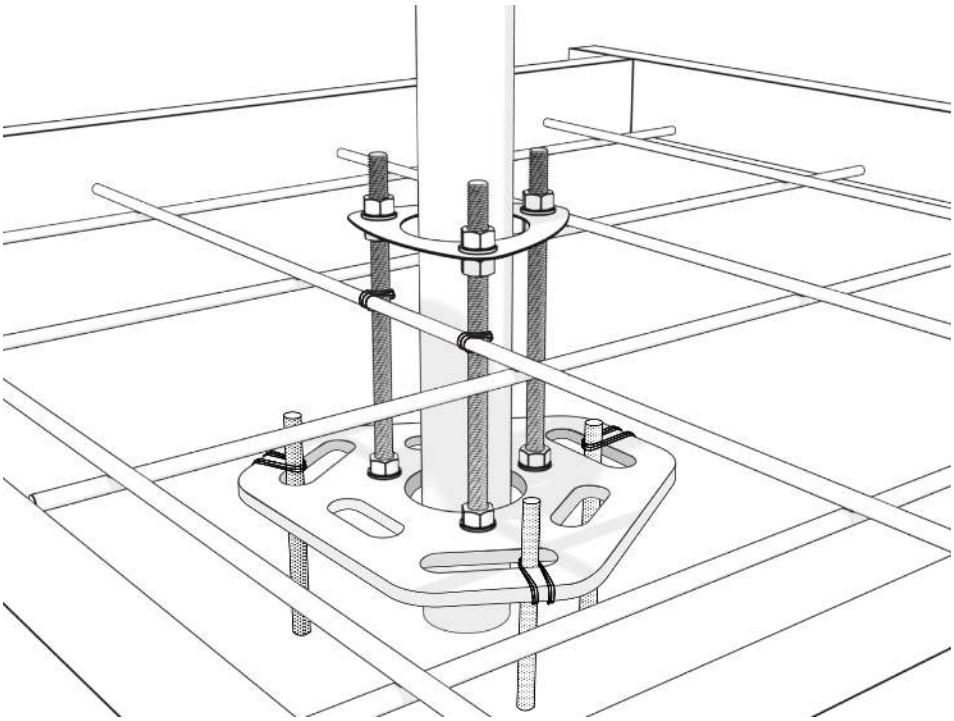


6. Ensure that the conduits are plumb.

7. Use a level to check that the CP6000 CMT is level from front to back and from side to side.
8. Conduit height **(c)** must be between 456 mm (18 in) and 590 mm (23.2 in). Each bolt **(d)** must extend between 60 mm (2-1/2 in) and 100 mm (4 in) above the concrete surface.



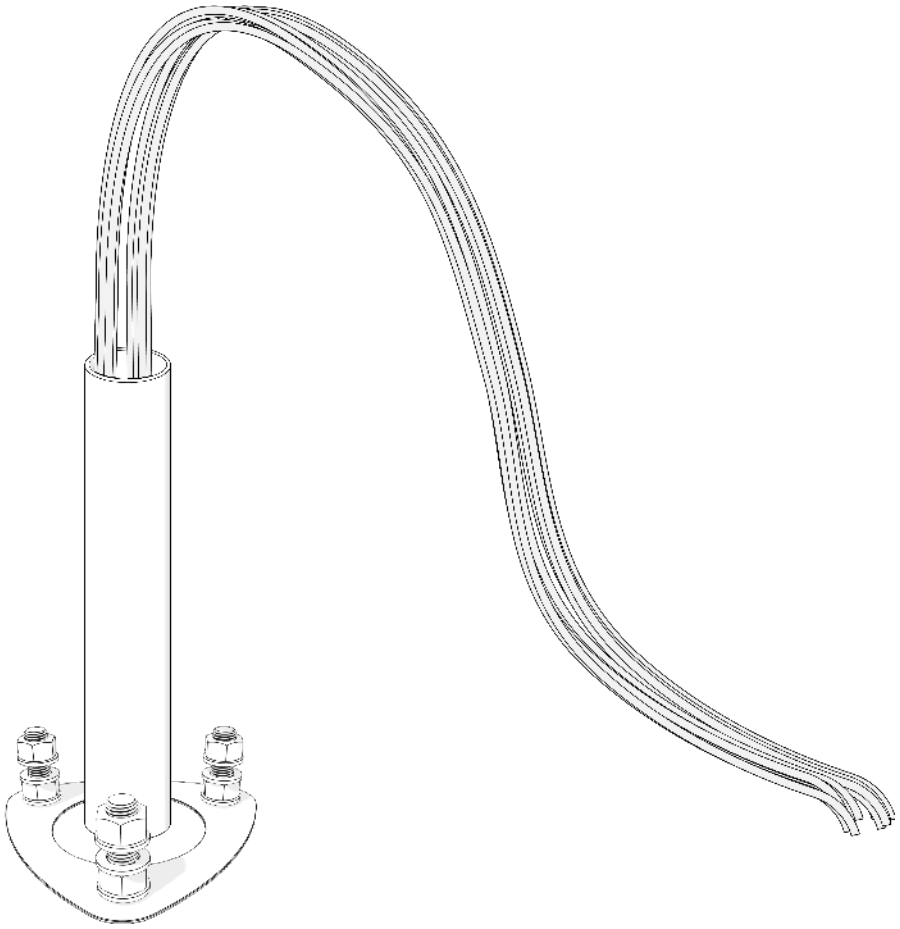
9. Before pouring concrete, tie the CP6000 CMT to rebar to help hold it in place.



IMPORTANT: The CP6000 CMT and the conduit must be secured in place to prevent them from moving out of position while the concrete is poured and curing.

10. Pour the concrete.

    Note: Make sure the concrete surface between the conduits is completely level and free of any irregularities.



11. Refer to the measurements in this guide and ensure that the anchor rod locations are correct before the concrete is dry.
12. Use a level to ensure that the bolts are plumb.

You are now ready to install the CP6000 pedestal mount charging station.

Replace An Existing ChargePoint Charging Station

IMPORTANT: Always check local regulations to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.

IMPORTANT: If existing conduit stub-up diameter is greater than 32 mm (1-1/4 in), you must remove the concrete and replace it.

Replace an Existing CP4000 Charging Station

Review the CP6000 Site Design Guide and ensure that the dimensions of the existing concrete slab meet the requirements.

If you are installing a Cable Management Kit (CMK), make sure there is adequate clearance behind the power stub-up for the CMK.

To safely mount a CP6000 charging station, the concrete must be at least 300 mm (12 in) thick. At this thickness, all of the CP6000 mounting bolts must be positioned as follows:

- At least 610 mm (24 in) from the front, side and rear edge of concrete slab

IMPORTANT: If the existing pad does not meet the specifications above, a structural engineer must inspect and approve the pad for charging station dimensions and weight.

If you are replacing a CP4000 charging station, contact ChargePoint to order a CP4000 Adapter Kit.

Replace An Existing Non-ChargePoint Charging Station

If an existing charging station (from a manufacturer other than ChargePoint) is already in place at the installation site, complete these tasks:

- Turn off all power to the station and disassemble according to the original manufacturer's instructions.
- Cut away any existing bolts or non-power conduit stub-up to ground level.
- You may need to plug cut-away conduits at the slab end and disconnect wiring at the other end.

Replace A Charging Station With Surface or Side Entry Conduit

Tools Required

Electric hammer drill with 12 mm (1/2 in) or larger chuck.

Consumables Required

The following table lists and describes consumable items that you will need. The quantity listed in the table is based on installation of one charging station.

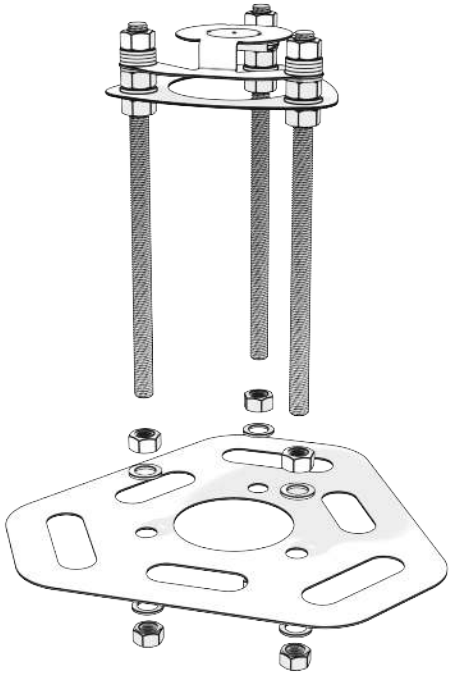
Note: The consumption rate of these products varies depending on conditions at the installation site.

Quantity	Description	Purpose
1	Epoxy adhesive for concrete such as Hilti RE-500	Fill drilled holes.
1	Electrical cleaning and maintenance aerosol, any angle spray duster, 235 ml (8 oz)	Clean drilled holes. Note: Compressed air will work.
1	Slow spiral round-shank masonry drill bit • 19 mm (3/4 in) diameter • 12.5 mm (1/2 in) shank • 254 mm (10 in) drill depth • 305 mm (12 in) length overall	Drill 19 mm (3/4 in) holes in concrete. Note: The holes must be at least 150 mm (6 in) deep.
1	Drill bit for concrete embedded rebar, round • 19 mm (3/4 in) bit size • 12.5 mm (1/2 in) shank diameter • 305 mm (12 in) length overall	Drill 19 mm (3/4 in) hole through rebar.
1	Nylon loop handle brush • 19 mm (3/4 in) brush diameter • 75 mm (3 in) length brush • 216 mm (8 1/2 in) length overall	Clean drilled holes.
1	Push-on round cap, fits 16 mm (5/8 in) - 17.5 mm (11/16 in) OD, 12.7 mm (1/2 in) inside height, pack of 100	Keeps the epoxy inside the drilled holes in situations where the slab is only 150 mm (6 in) deep.

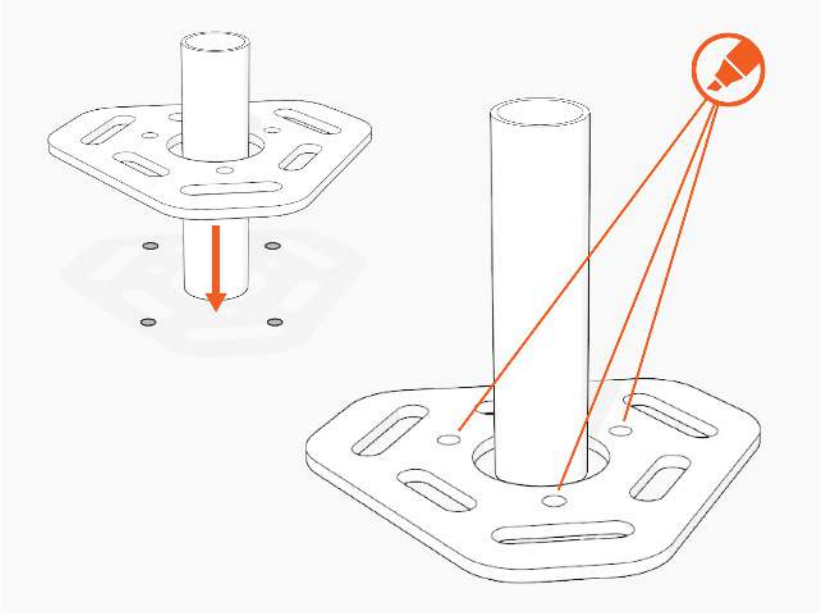
Consumables Required

Installation Instructions

1. Remove the lower template and all nuts and washers from below the upper template.



2. Place the lower template on the concrete and mark the hole locations.
    - When placing the template, consider the charging station's total footprint.
    - If installing over an existing conduit stub-up or armoured cable, position the centre of the template around that stub-up/cable.



3. Remove the template and drill three 19 mm (0.75 in) diameter holes 250 mm (9.85 in) deep into the concrete.
    - You may need two drill bits: one for the concrete (with the pilot) and another for the rebar (without the pilot). Always start the hole using the standard drill bit, and then switch to the rebar drill bit only if drilling through rebar.
4. Remove all dust from inside the drilled holes using compressed air, a vacuum or a brush.
5. Remove the bolts from the upper template.
6. Fill each hole with epoxy to about 65 to 75 mm (2.5 to 3 in) below the top of the hole. Continue immediately to the next step because the epoxy sets quickly.

    Note: Inserting the threaded bolts displaces the epoxy, causing it to fill the holes to the grade level. If the epoxy is below grade level after the next step, add more epoxy.
7. Place the upper template over the holes.
8. Insert the bolts through the upper template into the holes.

    IMPORTANT: Rotate the bolts as you insert them. This allows the epoxy to fully coat the threads of the bolts, reducing the amount of trapped air.

    Note: Leave the upper template in place.
9. Use a spirit level to ensure that the bolts are plumb.
10. Allow the epoxy to cure (depending on cure times recommended by the epoxy manufacturer).

You are now ready to install the CP6000 pedestal mount 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.

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