

# ChargePoint Gateway LTE for ChargePoint® CPF series Charging Station Installation Guide

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## Specifications

Basic specifications for the ChargePoint Gateway are shown in the table below.

Input Power	< 4 W
Input Current	< 0.4 A using single-phase 110/120 V, or < 0.2 A using single-phase 208/240 V service
Input Terminals	100-240 VAC, universal
Physical Placement	0.6-1.2 m (2-4 ft) from CPF charging station(s) 1.8-2.4 m (6-8 ft) above floor level
Connectivity	Supports 1-9 CPF charging stations
Connectivity Placement	< 30 m (100 ft) line-of-sight to associated charging stations

For detailed specifications, refer to the *ChargePoint Gateway Data Sheet* at:  
[chargepoint.com/guides](https://chargepoint.com/guides).

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# IMPORTANT SAFETY INSTRUCTIONS: SAVE THESE INSTRUCTIONS



## **WARNING:**

- 1. Read and follow all warnings and instructions before installing and operating the ChargePoint® Charging Station.** 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 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 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 charging station on a concrete pad using a ChargePoint approved method.** Failure to install 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 or around hazardous locations, such as near flammable, explosive, or combustible materials.**
- 6. Do not use this product if the enclosure or flexible power cord is broken, cracked, open, or shows any other indication of damage.**
- 7. Do not put fingers into the electric vehicle connector.**



**Important:** Under no circumstances will compliance with the information in this manual relieve the user of his/her responsibility to comply with all applicable codes or safety standards. This document describes the most commonly-used installation and mounting scenarios. If situations arise in which it is not possible to perform an installation following the procedures provided in this document, contact ChargePoint, Inc. **ChargePoint, Inc. is not responsible for any damages that may result from custom installations that are not described in this document or for any failure to adhere to installation 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.



## **No Accuracy Guarantee**

Commercially reasonable efforts were made to ensure that the specifications and other information in this manual are accurate and complete at the time of its publication. However, the specifications and other information in this manual are subject to change at any time without prior notice.

## **Copyright and Trademarks**

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## Symbols Used in This Document

This guide and product use the following symbols:



**DANGER:** Risk of electric shock.

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**WARNING:** Risk of personal harm or death.

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**CAUTION:** Risk of equipment or property damage.

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**Important:** Crucial step for installation success.

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Read the manual for instructions.



Ground/protective earth.

A ChargePoint Gateway consists of a cellular LTE modem for wide area networking, and built-in WiFi for local communications to and from CPF charging stations.

## Requirements

Before installing the ChargePoint Gateway, choose an appropriate location by considering the following:

- Power must be available at the installation site.
- The Gateway relies on an external device for overcurrent protection. The installer must ensure the Gateway is protected by a maximum 20 A branch circuit breaker.
- All charging stations must be located within 30 m (100 ft) line-of-sight.
- The location must receive consistently available LTE cellular coverage.
- WiFi signal strength between the ChargePoint Gateway and the charging stations must be strong. Avoid installations where concrete walls are located between the ChargePoint Gateway and the CPF charging stations.



**Important:** ChargePoint recommends permanently installing the ChargePoint Gateway by running service wiring into the bottom of the Gateway through 12 mm (1/2 in trade size) conduit and attaching it to a wall using the supplied screws and wall anchors.

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## Cellular Connectivity

A consistently strong cellular signal is needed before installers can activate the station(s). Do not rely on cell phone applications to measure cellular signals when conducting site surveys. Take cellular readings at the exact location of the proposed Gateway installation.

Ensure the Reference Signal Receive Power (RSRP) measurement is -90 dBm or better and the Reference Signal Received Quality (RSRQ) measurement is -10 dB or better. It is important to have both appropriate signal strength and signal quality. Note that these numbers are all negative, so -70 dBm is stronger than -90 dBm, and -100 dBm is weaker. Use a cellular signal detection device (such as a Snyder-LTE Graphyte™ (USA) by Siretta) to take signal strength readings at the exact proposed Gateway location.

RSRP	RSRQ	Signal Strength
Greater than -80 dBm	-3 to -10 dB	Excellent
-80 dBm to -90 dBm	-3 to -10 dB	Acceptable
-90 dBm to -140 dBm	-10.5 to -19.5 dB	Remediation required - install cell repeater

If the RSRP measurement is worse than -90 dBm or the RSRQ measurement is worse than -10, take cellular readings at the location where a cellular signal booster outdoor antenna will be installed to ensure enough signal exists to be boosted. Install repeaters to boost the strength of the cellular signals. Repeaters are often required when installing the charging station in an underground garage or enclosed parking structure. ChargePoint recommends using a multi-carrier cellular repeater system. Do not use microcells or femtocells; they are inadequate for this use case. Options for cellular signal boosters include:

- Wilson Pro 70 Plus with automatic gain management up to 20,000 square feet of coverage area
- Wilson 1100 with automatic gain management up to 35,000 square feet of coverage area

- SureCall Fusion 5 for all carriers in North America, supports voice, 3G and 4G, average gain of 65 dB & max 72 db for up to 6,000 square feet of coverage area
- SureCall Force 5 for all carriers in North America for up to 20,000 square feet of coverage inside parking structure

Consult an expert in the cellular repeater industry for additional guidance. ChargePoint O&M partners can validate acceptable cellular signal strength at the site using a cellular strength reader. Weak or sporadic signal can affect crucial aspects of the charging station, including: accuracy in reporting, ability for drivers to use their mobile app, ability for customer support to troubleshoot problems, and support for advanced features such as Power Management or Waitlist. Strong signal is also required for the Assure maintenance and management program.

The Gateway supports 4G/LTE for AT&T, Verizon, T-Mobile, and Sprint in the United States and Bell, Rogers, and Telus in Canada. There must be viable signal from at least one carrier on at least one of the supported bands listed below:

- LTE 1900 (B2)
- LTE 1700 (B4)
- LTE 850 (B5)
- LTE 700 (B17)
- LTE 700 (B13)

## WiFi Connectivity

WiFi connectivity is used to allow the Gateway to communicate with each individual charging station. Each station must be within 30 m (100 ft) of a Gateway. Each station must also have a direct line-of-sight view of the Gateway. WiFi signal cannot pass easily through common obstructions such as:

- Walls
- Columns
- Metal cabinets

WiFi signal can also be disrupted by electromagnetic interference (EMI). This includes:

- Other systems operating on 2.4 Ghz
- Other wireless access points.

Additionally, mounting the Gateway on the wall is preferred to ceiling mounting to provide the broadest coverage.

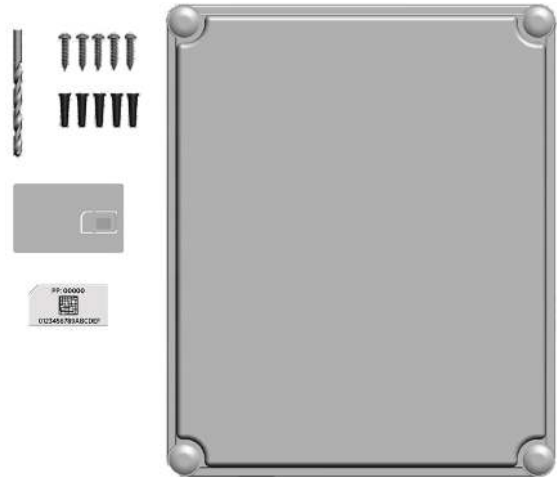


**Important:** The ChargePoint Gateway must be located where cellular signals are optimum for LTE service, and each ChargePoint Gateway must be located within 30 m (100 ft) line-of-sight to the CPF charging stations. Each CPF charging station has built-in WiFi capability to communicate with the ChargePoint Gateway to access ChargePoint network services.

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## Contents of the Box

- Main unit with cover (1)
- 6 mm (1/4 in) drill bit (1)
- #10 x 25 mm (1 in) screws (5)
- Wall anchors (5)
- Installation template (1) - inserted in the center of the ChargePoint Gateway Installation Guide
- Spare activation label (1) - a duplicate label is attached to the inside of the main unit



## Required Tools



**Important:** Keep the spare activation label. It contains critical information that you need to pinpoint the gateway, which prepares it for activation on the ChargePoint network. See "Activate the Gateway".

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- Drill
- Phillips screwdriver
- Two adjustable wrenches to remove the internal nut when permanently hard-wiring

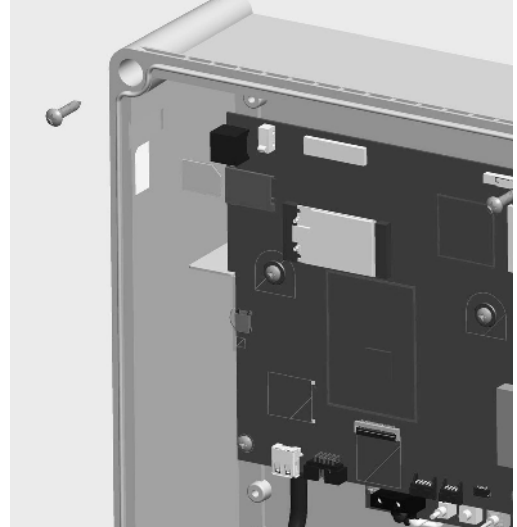
## Install the Gateway

Follow the steps below to install the ChargePoint Gateway at a permanent location.

**Note:** For temporary installation to test connectivity, skip to the "Power On" section below. However, ChargePoint recommends hardwiring the installation once the final location is established.

## Mount the Unit

1. Use the installation template to mark the location of the four mounting holes.
2. Drill the four mounting holes and insert the anchors.
3. Loosen the screws on the front of the ChargePoint Gateway to remove the front cover.
4. Align the main unit with the mounting holes and fasten using four of the supplied 10 x 25 mm (1 in) screws and a Phillips screwdriver.

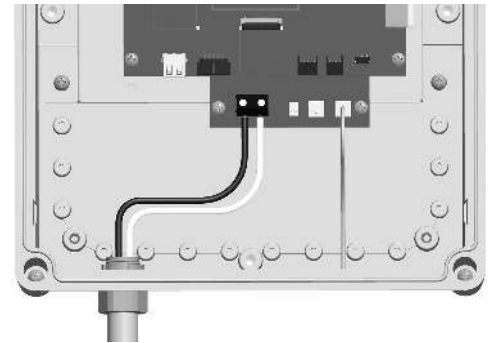


## Remove the Wall Plug

1. Disconnect the wall plug's wiring from the terminal block.
2. Using two wrenches, one on the inside and one on the outside, remove the internal plastic nut.
3. Remove the power cord from the ChargePoint Gateway.

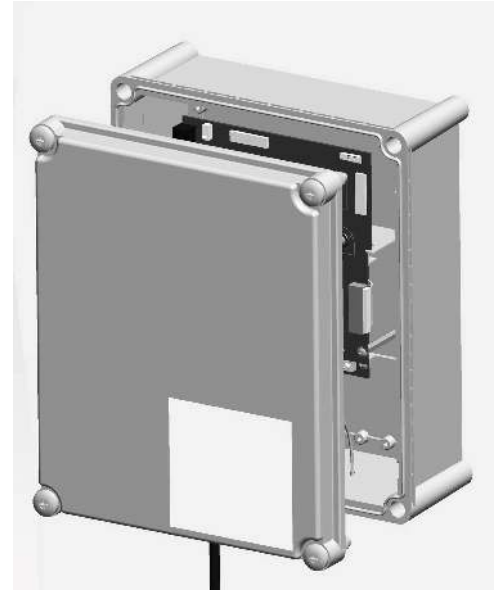
## Connect the Wiring

1. Using 16 mm (1/2 in trade size) conduit and the appropriate fittings, route the appropriate length of 6.0 - 2.5 mm<sup>2</sup> (10-14 AWG) stranded or solid service wiring to the ChargePoint Gateway and through the hole in the bottom (where you removed the power cord).
2. Strip service wires 6.4 mm (1/4 in).
3. Connect L1 and L2 (or L and N) service wiring, as shown.



## Install the Cover

Align the cover to the front of the main unit. Turn the screws to lock the cover into place.

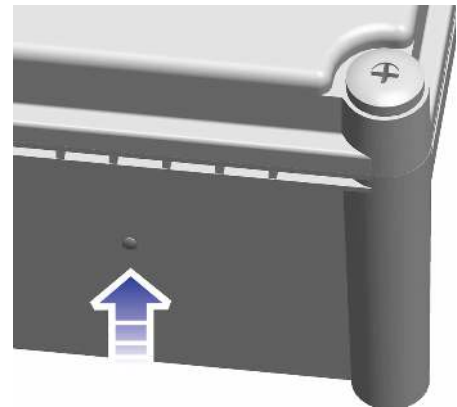


## Power On

Power on the ChargePoint Gateway by switching the service breaker ON (or for temporary installations, by plugging it into the power outlet).

As the ChargePoint Gateway powers on, the LED flashes yellow while it attempts to communicate with the cellular network. When cellular communication is established, the LED is solid yellow.

If the Gateway continues to flash yellow for an extended time, check the strength of the cellular signal at the installation location. You may need to strengthen the signal by installing cellular repeaters.



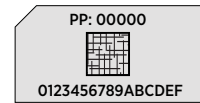


## Pinpoint the Gateway

After completing the physical installation of the ChargePoint Gateway, you must prepare it for activation on the ChargePoint network by pinpointing its exact location.

### Required Tools and Information

- The ChargePoint Gateway's MAC address and activation password (this is printed on an activation label that is attached to the main unit, and a spare label is included in the shipping box)
- The exact location where the ChargePoint Gateway is physically installed
- A smartphone with Internet access
- Installer account information (user name and password) on ChargePoint (provided upon completion of training)



### Pinpoint the Gateway

1. Using your smartphone, navigate to the ChargePoint mobile site: <https://m.chargepoint.com>.
2. Log in using your installer credentials.
3. Enter the MAC address and activation password from the activation label.
4. Follow the online instructions to complete the pinpointing of the Gateway.

When the Gateway connects to the ChargePoint network, the LED turns solid green. If this has not happened within 20 minutes, contact ChargePoint Support.

A screenshot of a smartphone screen displaying the ChargePoint mobile site. The browser address bar shows "chargepoint.com". The page has a "chargepoint+" logo and a "Welcome Logout" link. The main heading is "ChargePoint Station Installation". Below it, a message says "Enter the MAC address and Activation Password of the new station you're installing." There are two input fields: "MAC" with the value "0024b1000000125" and "Activation Password" with the value "94262". A "Next" button is below the password field. At the bottom, there is a copyright notice: "Copyright © 2008-2019 ChargePoint, Inc. All rights reserved." The phone's status bar at the top shows the time "5:04" and various icons. The bottom of the screen shows standard mobile navigation icons.

# Complete the Post-Installation Checklist

Before leaving the installation site, complete this checklist for the ChargePoint Gateway. Then provide this information, along with the information on the previous page, to the person responsible for activating the ChargePoint Gateway and the CPF charging stations

**Customer:**

Name

Site Address

Contact

**Installer:**

Installer Name

Installer Contact Information

Company

Address

Phone

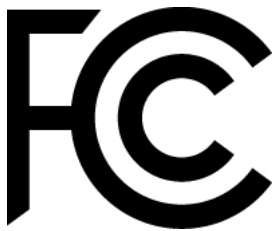
Checkpoint	Complete
Service wiring has been fully inserted into the terminal block and all electrical connections are clean and snug. Torque is confirmed for the wiring connection.	
The Gateway is securely mounted.	
The cover is locked in place and conduit is firmly attached.	
The LED located at the bottom of the ChargePoint Gateway is solid green (this can take up to 20 minutes).	
The area is clean and free of all packaging and debris.	
All pinpointing steps have been completed.	
The radio group (the ChargePoint Gateway and associated CPF charging stations) is completely documented.	

**Warranty Information and Disclaimer**

The Warranty you received with your Charging Station is subject to certain exceptions and exclusions. For example, your use 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 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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[chargepoint.com/support](https://chargepoint.com/support)

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