



ChargePoint®  
EV Charging Stations

## Station Ethernet Connectivity Configuration 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.

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### 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.
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**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](https://chargepoint.com/guides).

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## 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.

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# Network Configuration for Ethernet and VPN Connectivity on CP6000 and Express Plus

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## About This Guide

This guide will provide guidelines on how to connect a ChargePoint charging station to the Cloud. The document will start by outlining the specific connectivity options for each product and will then provide guidelines for using that specific connectivity option: such options include Cellular, Ethernet and Wi-Fi connectivity.

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### IMPORTANT:



- This is one, standalone guide for all ChargePoint products that will supersede or complement information that will be found in a product’s existing document.
  - So, the contents of this guide will not be embedded into the other Installation Guides.()
  - Instead, all the Installation Guides for all of theChargePoint products need to reference this guide for connectivity.
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## Disclaimer

ChargePoint does not permit the retrofit of Ethernet connectivity onto existing stations due to compatibility issues with the USB-to-Ethernet accessory. A site host is required to purchase new station hardware, or seek extraordinary approval from ChargePoint Product Management if a retrofit necessary.

# Materials Required

- Windows Laptop with an RJ45 Ethernet port
- Ethernet cable

# Definitions

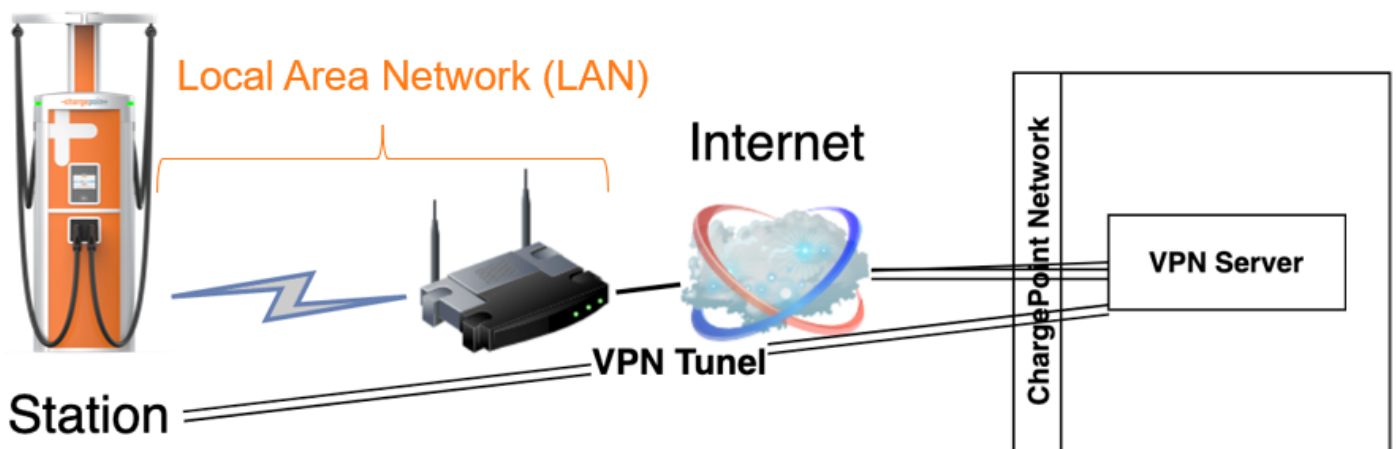
- **VPN:** Virtual Private Network
- **Station:** A CP6000 or Express Plus Power Link station
- **VPN Server:** The ChargePoint VPN Server
- **VPN Client:** The client running on the CP6000 or Express Plus Power Link station
- **IP:** Internet Protocol

# Background

This section explains how the station is connected to the cloud and other network entities when an Ethernet cable is used. The station connects to the router through the Ethernet cable.

From the router, connectivity is established between the station and the ChargePoint VPN server over the public network, through a VPN tunnel. Since traffic goes over the public network, tunneling ensures that the traffic is encrypted.

When the connection is established between the station and the ChargePoint Server, all ChargePoint nodes should be reachable from the station.



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# How To Use This Guide

Prior to the install of the station, the technician shall perform:

- [Pre-Install Checks](#)

To install Ethernet connectivity, the technician shall refer to the:

1. Relevant CP6000 or Express Power Link Installation Guide sections to physically install the USB to Ethernet Field Module;
2. Check the station firmware version;
3. Configure the CP6000 or Express Power Link for Ethernet connectivity in the Installer App.

Subsequent to the install of Ethernet adapter and if the station is unable to connect to the ChargePoint Network, the technician shall refer to the:

- [Debugging Ethernet Connectivity](#)

## Pre-Install Checks

The following steps should be performed on a Windows laptop. These steps will check if the connectivity to the VPN server has been established:

- Using the Ethernet cable that will connect to the station (If unavailable, an Ethernet cable that is connected to the site router), plug it into the RJ45 connector on your laptop.
- Open the command prompt on the laptop and type the `ipconfig` command.
- Check if the Ethernet adapter has been assigned an IP address.

```
Ethernet adapter Ethernet 2:
```

```
Connection-specific DNS Suffix . : 
Link-local IPv6 Address . . . . . : fe80::4397:bee8:a29e:b2dd%74
IPv4 Address. . . . . : 172.16.98.88
Subnet Mask . . . . . : 255.255.254.0
Default Gateway . . . . . : 172.16.98.1
```

- If the IP has been assigned, it indicates connectivity with the router is ok. An example IP address is 172.16.98.88.
- If the IP is not assigned, as shown below, it indicates connectivity with the router is not established. In this case, help from the network or system administrator is required.

```
Ethernet adapter Bluetooth Network Connection:
```

```
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
```

- Check if the VPN Server endpoint URL is resolvable and can be reached from the network by typing the command into Windows command prompt:
  - **United States:** `nslookup vpn.na.prod.chargepointnetwork.net`
  - **Canada:** `nslookup vpn.ca.prod.chargepointnetwork.net`
  - **Europe and United Kingdom:** `nslookup vpn.eu.prod.chargepointnetwork.net`
- If the VPN server endpoint URL can be resolved by the DNS server, the output will display the IP address of the VPN server.

```
CP-US-JJX5R7GQQ2 ~ % nslookup vpn.eu.prod.chargepoint.com
Server:      2001:558:feed::1
Address:     2001:558:feed::1#53

Non-authoritative answer:
vpn.eu.prod.chargepoint.com      canonical name = default-us.chargepoint.com.
default-us.chargepoint.com      canonical name = default-us.chargepoint.com.cdn.cloudflare.net.
Name:   default-us.chargepoint.com.cdn.cloudflare.net
Address: 104.18.21.81
Name:   default-us.chargepoint.com.cdn.cloudflare.net
Address: 104.18.20.81
```

- If the VPN server URL cannot be resolved, the command will be unsuccessful, as shown in the image below. In this case, help from the network or system administrator is required.

```
C:\Users\Loaner>nslookup vpn-eu.prod.chargepointnetwork.net
Server:  dns.google
Address:  8.8.8.8

*** dns.google can't find vpn-eu.prod.chargepointnetwork.net: Non-existent domain
```

## Check Station Firmware Version

To confirm the station firmware version:

1. Select the ? symbol on the bottom right of the display.
2. Select the gear symbol on the bottom right of the menu.
3. Select About menu option.

If the station firmware version is below the version listed, it is not possible to enable Ethernet connectivity. Please reach out to ChargePoint for further assistance.

- **CP6000:** 2024.03.00.428
- **Express Power Link:** 2024.05.00.475

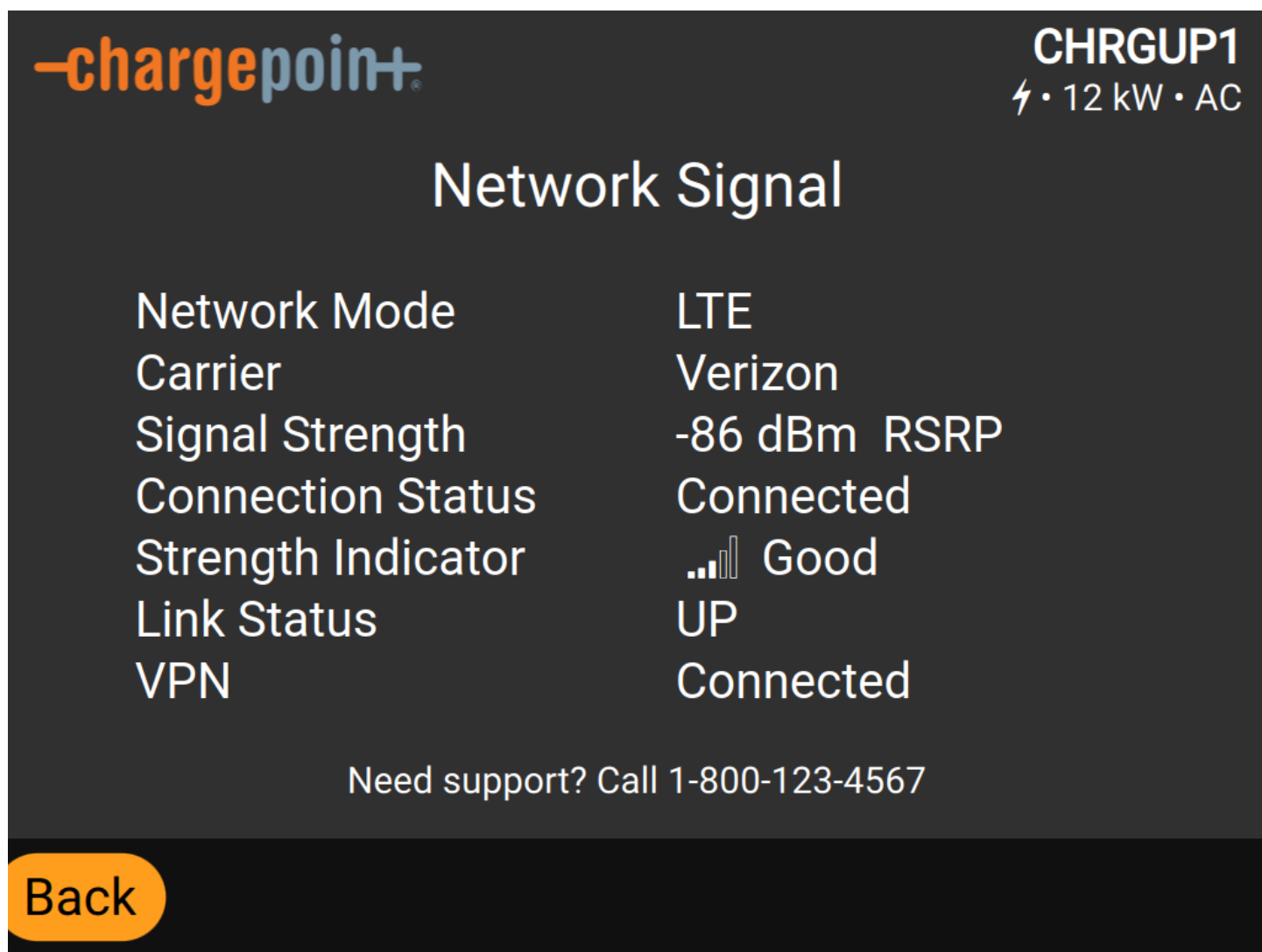


# Debugging Ethernet Connectivity

## Retrieving station connectivity status

To navigate to the Network Signal page:

1. Select the ? symbol on the bottom right of the display.
2. Select the gear symbol on the bottom right of the menu.
3. Select the Network Signal menu option.



## Link status

- **UP:** Indicates that the Ethernet port has an IP and the connectivity to the router is established.
- **DOWN:** Indicates that the Ethernet link does not have an IP.

## VPN status

- **Connected:** It indicates that the station is connected to the VPN server.
- **Disconnected:** Indicates that the station is not able to connect to VPN Server.

## Connection status

- **Connected:** Indicates that the station is connected to the cloud.
- **Disconnected:** Indicates that the station is not able to connect to the cloud.

## Identifying debugging procedures to perform

Link Status	VPN	Meaning	Debugging Steps
Down	Not Connected	Physical Ethernet connection issue	The station cannot physically establish a connection with the router. <ul style="list-style-type: none"><li>• Check with network administrator for unconnected wires or faulty wiring.</li><li>• Power cycle the station by disconnecting the breaker for 30 seconds.</li><li>• Perform procedures set out in Pre-Install Checks.</li></ul>
Up	Disconnected	The VPN client on the station is not able to connect to the VPN server.	There can be multiple reasons for this. DNS resolution failure: <ul style="list-style-type: none"><li>• Check on your laptop that the DNS is able to resolve the VPN Server end point by performing the Pre-Install Checks.</li></ul> Firewall restrictions: <ul style="list-style-type: none"><li>• If DNS server name is resolved, check with the network administrator for any firewall restrictions.</li></ul> No network connectivity from station to public network: <ul style="list-style-type: none"><li>• Check with network administrator.</li></ul>
Up	Connected	An Ethernet connection is established and the VPN client on the station is	If there are still network connectivity issues: <ul style="list-style-type: none"><li>• Contact ChargePoint customer support.</li></ul>

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Link Status	VPN	Meaning	Debugging Steps
		connected to the ChargePoint VPN Server.	



[chargepoint.com/support](https://chargepoint.com/support)

NET-CONFIG-ETH-VPN-CP6K-EXPP