

CPF50 Charging Station

Wiring Verification Guide



IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS



WARNING: This manual contains important instructions for Home Flex. When using electric products, always follow basic precautions, including the following:

WARNING:

1. **Read and follow all warnings and instructions before servicing, installing, or 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. **ChargePoint recommends that installation, commissioning, and break-fix services be performed by a licensed electrician who is also a ChargePoint-certified technician.** These systems operate at high voltage, and without strict adherence to safety protocols, proper protective equipment, and ChargePoint technical guides, there is significant risk to people, equipment, and the environment. Please ensure full compliance with all applicable local and national buildings, electrical, and safety codes.
3. **Always ground the ChargePoint charging station.** Failure to ground the charging station can lead to risk of electric shock. The charging station must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor should 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 Class 1 hazardous locations, such as near flammable, explosive, or combustible vapors or gases (This charging station is not suitable for use in any ATEX classified area, 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.**
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).**
11. **Do not operate the charging station in temperatures outside its operating range of -40 °F to 122 °F (-40 °C to +50 °C).**





12. Ensure the charging cable is positioned so it is not stepped on, tripped over, or subjected to damage or stress. Do not close a garage door on the charging cable.



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.

Warranty Implication



IMPORTANT: Please be advised that all installation, commissioning, and break-fix services must be performed by a ChargePoint-certified technician. Engaging non-certified personnel for these services will result in warranty implications, as doing so constitutes a breach of policy.

Support Services

<https://www.chargepoint.com/legal/support-services>

For more information about ChargePoint's training and certification program, visit <https://www.chargepoint.com/partners/training-certification>

Product Disposal

Applicable to NA - Do not dispose of as part of unsorted domestic waste. Inquire with local authorities regarding proper disposal. Product materials are recyclable as marked.



Applicable to EU - 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 Product Reference Documentation](#).

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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: Critical detail that must be followed to achieve intended results



NOTE: Important contextual details or procedural clarifications



REINSTALL NOTE: Essential instructions to follow when reinstalling a part or component



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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Verify Station Wiring and Voltage 1

To verify the station wiring, voltage readings and connection, follow these steps:

Tools Needed



T10 Security screwdriver



Alligator clip leads or pass-through leads (optional)



Solenoid Voltage Meter (Wiggy)



Digital Multi-Meter (DMM)



IMPORTANT: You must be a licensed electrician and complete online training to become a ChargePoint certified installer. If you do not complete training, you cannot access the ChargePoint network to complete installation. Find online training at: <https://www.chargepoint.com/partners/training-certification>. 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.

Station Wiring Checks

1. Using a T10 Security screwdriver, remove the screws fastening the faceplate to the bottom of the station.



NOTE: Retain the screws for reuse.



2. Lift the faceplate off the charging station.



3. Use a coin to unlock the wire cover.



NOTE: Do not use a screwdriver, to avoid damage to the wire cover.



4. Lift the wire cover off.



Verifying Voltages

Once proper wire placement has been verified, you need to check the voltages and impedances using a Digital multimeter (DMM) in parallel with a Solenoid voltage meter (wiggy).

Since digital meters (DMM) are high impedance devices, the amount of current that flows through the circuit while testing voltage with one is negligible.

IMPORTANT:



- Adding the voltage measurements in parallel will confirm that the voltage measurements do not significantly deviate with current flow (unexpected impedance) and are not the result of a "floating" voltage on any wire.
- If voltages are not measured with some additional load -- like a parallel wiggy or dummy load -- the values will not confirm useful functionality or impedance, instead they will only verify proper placement of phases and ground. Loaded values must be measured for complete troubleshooting.

1. Power on the station.
2. Test each wire relative to each other wire in the block, phase to phase, and phase to ground:
 - a. First, by connecting the DMM by itself and noting the voltage.
 - b. Next, by adding the wiggly in parallel and noting the voltage, while there is current flowing (using the alligator clips or pass through leads, if available).
3. Insert the meter probes into the holes under each lever and check the input voltage as listed in the "[Expected Voltage Readings](#)".

IMPORTANT: Readings with and without the wiggly in parallel should be near 208 V or 240 V (Bonded Neutral Wye or Split Phase) phase to phase and 120 V phase to ground.



- A significant deviation from these values can denote a wiring problem or unsupported supply type, refer to the *CPF50 Data Sheet* available at [ChargePoint Product Reference Documentation](#).
- A significant deviation from these values only with the wiggly in parallel would indicate an unexpected impedance in the system. This includes any of the following:
 - A possibly worn or damaged breaker (or, pole within that breaker)
 - Corrosion or insufficient bonding of the breaker to the bus bar or the breaker leads
 - Insufficient bonding of neutral to ground at the panel.

Expected Voltage Readings

The following table lists the expected input voltage measurements

Connection Points (Measure Between)	Volts (Nominal)
L1 - L2	208/240 V
L1 - GND	120 V
L2 - GND	120 V

Voltage Readings (with the DMM alone)

Record the voltage readings in the below table.



IMPORTANT: Note down your **Voltage Readings** in the **Results** column below along with clear **Photos** and send the **Voltage Readings** and the **Photos** back to ChargePoint's Support. Visit chargepoint.com/support to find your region's technical support number.

Connection Points (Measure Between)	Results: Volts (Nominal)
L1 - L2	
L1 - GND	
L2 - GND	

Voltage Readings (with the DMM in parallel with the Solenoid Voltage Meter)

Record the voltage readings in the below table.

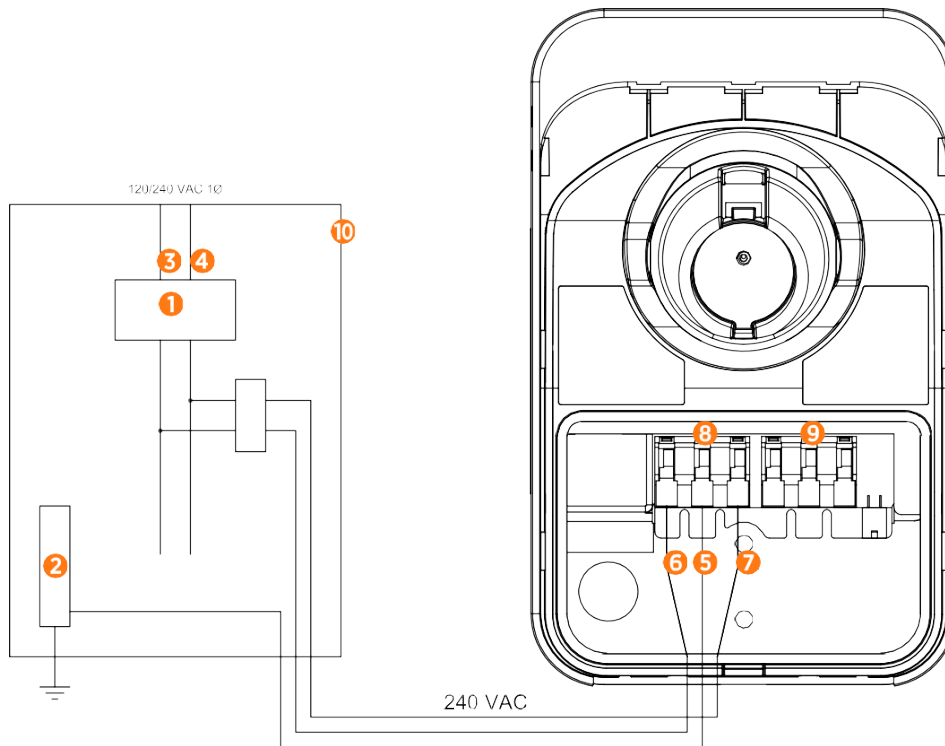


IMPORTANT: Note down your **Voltage Readings** in the **Results** column below along with clear **Photos** and send the **Voltage Readings** and the **Photos** back to ChargePoint's Support. Visit chargepoint.com/support to find your region's technical support number.

Connection Points (Measure Between)	Results: Volts (Nominal)
L1 - L2	
L1 - GND	
L2 - GND	

Verifying Connections

1. If the voltages are not as expected, ensure that the wiring has been properly connected. Refer to the detailed wiring diagrams below.



(1) Main Breaker

(2) Ground Bus

(3) L1

(4) L2

(5) Ground

(6) L1

(7) L2

(8) Input Terminal Block

(9) Output Terminal Block

(10) Local Service or Sub Panel

2. For grounding requirements, refer to the *CPF50 Data Sheet* available at [ChargePoint Product Reference Documentation](#).
3. Resolve any wiring issues and ensure that voltages are as expected.
4. Power off the station.

FCC Compliance Statement

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

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

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

ISED (formerly Industry Canada)

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

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

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

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

FCC/IC Compliance Labels

Visit chargepoint.com/labels.