

CoRe+ MAX™

Installation Guide



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1. About CoRe+ MAX

The CoRe+ MAX™ is part of a family of Level 2 charging stations that are suitable for a wide range of parking layouts, including workplaces, condos, apartments, fleets, and commercial properties. They are ideal for sites where several high-capacity electric vehicles such as commercial service trucks and school buses need to charge simultaneously because the chargers can be cascaded to minimize installation costs for the entire site.

1.1. Canada and USA Electromagnetic Interference Regulatory Statement

This equipment has been tested and found to comply with the limits for a Class A 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 commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operating this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.

This device contains license-exempt transmitters and receivers that comply with Innovation, Science and Economic Development Canada's license-exempt Radio Standards Specifications (RSSs). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause unwanted operation of the device.

Changes or modifications to this equipment that have not been expressly approved by FLO may void the user's authority to operate this equipment.

Exposure to radio frequency energy: The radiated power output of the communication modules included in this device is below the limits recommended for the general population for uncontrolled exposure as defined in the FCC standards. This device should be operated with a minimum distance of at least 20 cm (7.87") between itself and

a person's body, and it must not be co-located or operated with any other antenna in order to comply with the conditions of the FCC grants.

1.2. Important Safety Instructions

Read all the instructions before using this product.

PLEASE SAVE ALL THE INSTRUCTIONS OF THIS MANUAL.

1.2.1. Safety Symbols on your Unit



Alternating current



Phase



This unit is equipped with a protective conductor terminal

1.2.2. Instructions Pertaining to the Risk of Fire or Electric Shock



This symbol is used to warn you about hazardous voltage and the possibility of electric shock.

When using electrical products, basic precautions should always be followed, including the following. This manual contains important instructions for the CoRe+ MAX model that must be followed during the installation, operation, and maintenance of the unit.



This symbol is used to make you aware of important safety information in these instructions.

1.2.3. Important General Safety Instructions

Always follow the safety instructions below when installing or using the electric vehicle chargers:

- Children should be supervised around the device while it is in use.
- Never insert your finger into the electric vehicle connection.
- Never use the Electric Vehicle Supply Equipment (EVSE) if the flexible power cord or Electric Vehicle (EV) cable is frayed, has broken insulation, or shows any other signs of damage.
- Never use the EVSE if the EV connector enclosure is broken, cracked, open, or shows any other signs of damage.
- This EVSE was designed to be used with electric vehicles equipped with an SAE-J1772 connector.
- This EVSE must only be used to charge vehicles that do not require a ventilated environment during charging.
- Make sure to always disconnect the power supply of the EVSE before servicing it.
- Avoid installing the EVSE in bad weather conditions.

**CAUTION**

Always use a manual screwdriver. **DO NOT** use an impact driver for the screws at any time. This will void the warranty.

**CAUTION**

To reduce the risk of fire, only connect to a circuit equipped with appropriate branch circuit overcurrent protection (see the *Rotary Position Table* in *section 1.3.1.*) in accordance with the *Canadian Electrical Code (CSA C22.1-12)* and the *National Electrical Code (ANSI/NFPA 70)*.

1. Handle packaging with care. Always use safety glasses and gloves when unpacking and installing the device.
2. Contact a certified contractor, a certified electrician, or a trained installer to ensure compliance with local building codes, regulations, security standards, and weather conditions.
3. Verify with local authorities that the location where the EVSE is to be installed is free from underground pipelines or electrical equipment; otherwise, you might inflict serious injuries on yourself and others.
4. This EVSE is designed to be wall-mounted or pedestal-mounted.
5. If installed on a wall mount configuration, do not install on or over a combustible surface.
6. Ensure that the types of mounting surfaces of the wall and the posts are strong enough to support more than 56.7 kg (125 lbs.) per anchoring point in the vertical and horizontal direction.
7. Make sure that the anchors are compatible with the type of mounting surface.
8. This product must be connected to a grounded, metal, permanent wiring system. When this is not possible, an equipment grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal and installed by a certified electrician.
9. Altering any part of the EVSE will automatically void the warranty.

1.3. Site Preparation Considerations Prior to Installation



Avoid installing the Electric Vehicle Supply Equipment (EVSE) in bad weather conditions.

- Split Phase 120/240 VAC supply or single phase 120/208 VAC. Refer to *Figure 1* and *Figure 2* in the image below.
- Both lines must have 120 V between ground.
- The voltage supply must be grounded.
- The electrical wiring requires 2 lines and 1 ground connection. Neutral is not used. Refer to Figure 1 and Figure 2.
- Maximum output power: 19.2 kW @ 240 VAC or 16.6 kW @ 208 VAC.
- Built-in protection against overvoltage conditions and leakage current to ground.
- Use 90 °C (194 °F) copper wire conductors only.
- Field terminals accept wires between 3 AWG and 14 AWG.

Fig. 1

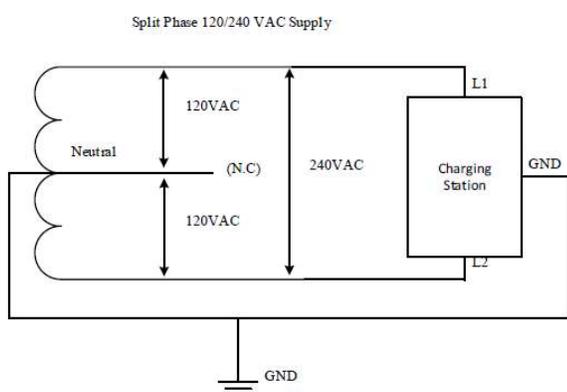
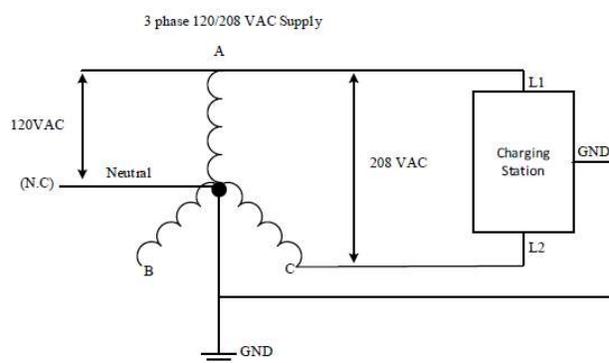


Fig. 2



1.3.1. Rotary Position Table

| Rotary Position | Charging Station Current (A) | Recommended Circuit Protection (A) | Recommended Wire Gauge (AWG) |
|-----------------|------------------------------|------------------------------------|------------------------------|
| 0 | 80 | 100 | 3 |
| 1 | 72 | 90 | 3 |
| 2 | 64 | 80 | 4 |
| 3 | 59 | 80 | 4 |
| 4 | 56 | 70 | 4 |
| 5 | 48 | 60 | 6 |
| 6 | 40 | 50 | 6 |
| 7 | 32 | 40 | 8 |
| 8 | 24 | 30 | 10 |
| 9 | 16 | 20 | 14 |

2. Communication Gateway

Install the Communication Gateway prior to the commissioning of the station. The communication gateway is the property of FLO. Fees will be charged if the gateway is damaged, lost, or not installed according to the installation guide.

Outdoor installation is recommended. The Customer must provide a waterproof PVC box and install it less than 48.7 m (160') from the stations.

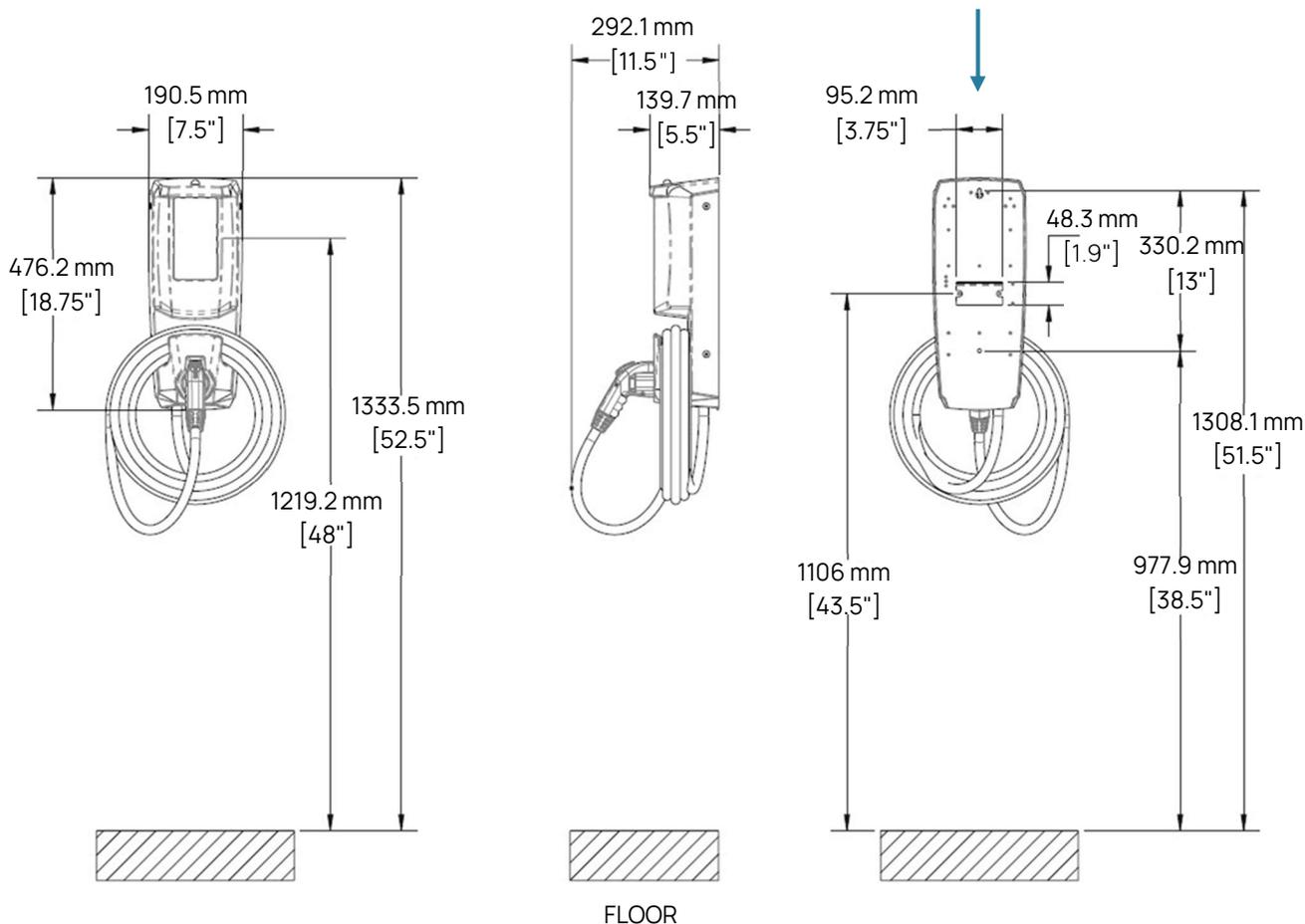
Refer to the *Communication Gateway Installation Guide* for more information. Contact us once the communication gateway has been installed to validate the signal levels and activate commissioning or for any other questions: 1 855 543 8356.

3. Installation Instructions

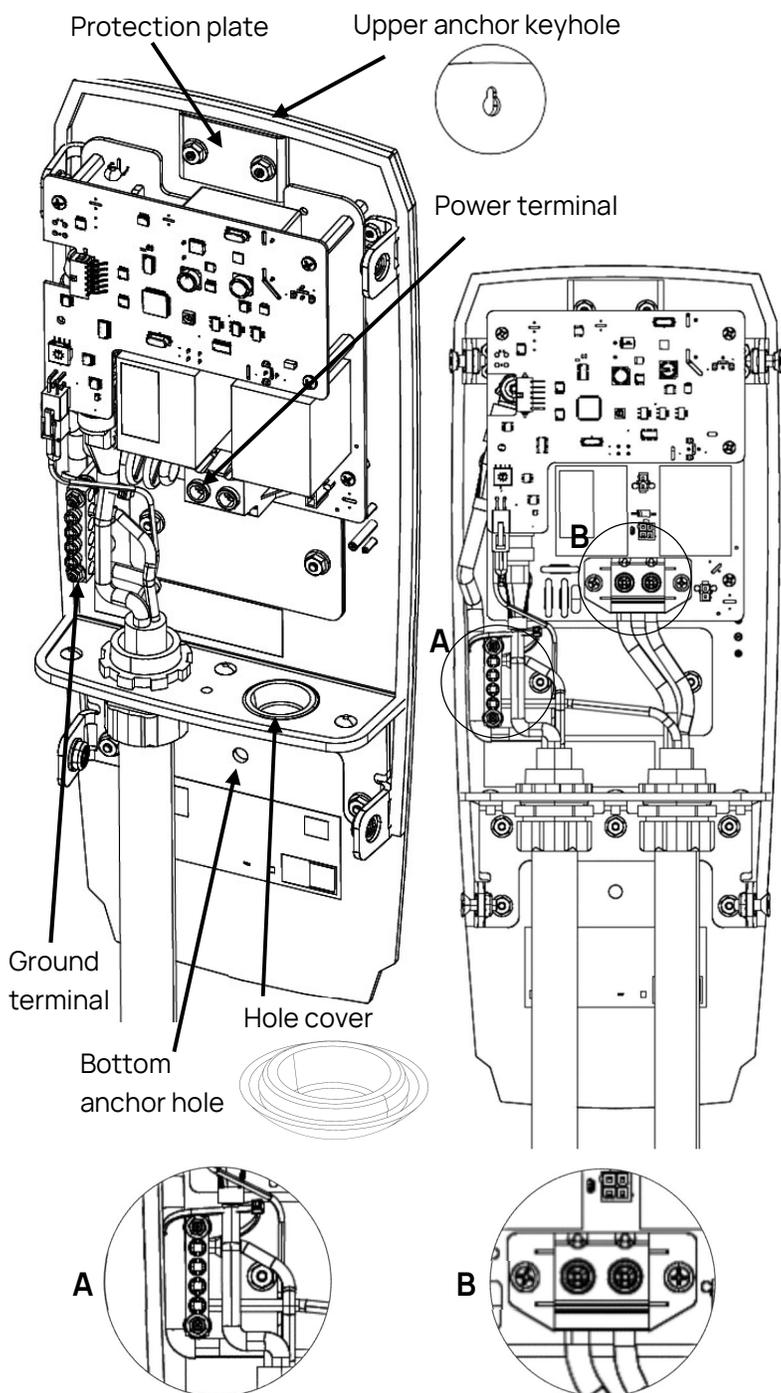
The CoRe+ MAX can be mounted on a wall or pedestal. Depending on the installation, the power cables can be connected in three different ways (see *sections 3.2 to 3.4*). If mounted on a CoRe+ MAX pedestal, please refer to the *CoRe+ MAX Pedestal Installation Guide* for the pedestal installation procedure prior to the CoRe+ MAX installation.

3.1. Dimensions and Nominal Installation Location

Back side: 2 matching holes and a rectangular cable opening when pedestal is mounted



3.2. Power Cable Installation Under the Station



Avoid installing the EVSE in bad weather conditions.



IMPORTANT

The protection plate should always remain over the keyhole.

Follow the steps below to install the power cable under the station:

1. Attach the head base to the wall or post with an anchoring apparatus that can support at least 56.7 kg (125 lbs.) per anchor point (2) in the vertical and horizontal direction.

2. Hang the head base on the upper anchor (previously attached to the wall or post) via the upper anchor keyhole. While doing so, ensure that there is a tight fit and that there is no gap between the gasket and the mounting wall.

3. Complete the mounting of the head base by screwing a mounting bolt through the bottom anchor hole.

4. Remove the hole cover and attach the cable connector to the hole from the bottom, then insert the power cable. Ensure that the conductors are long enough to reach the terminal block. Make sure to seal the cable hole correctly. Ensure that the cable is attached properly by tightening the cable connector (not included).

Note that the hole is 3.5 cm (1.375").

5. Connect the two power conductors (L1 and L2) and the ground conductor (GND) as indicated with the appropriate torque.

6. The ground conductor must be connected to the terminal ground.

Ground conductor connection - GND

Torque

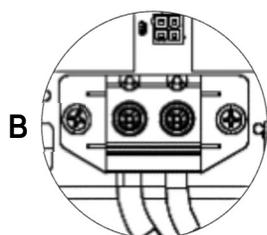
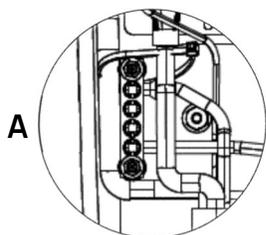
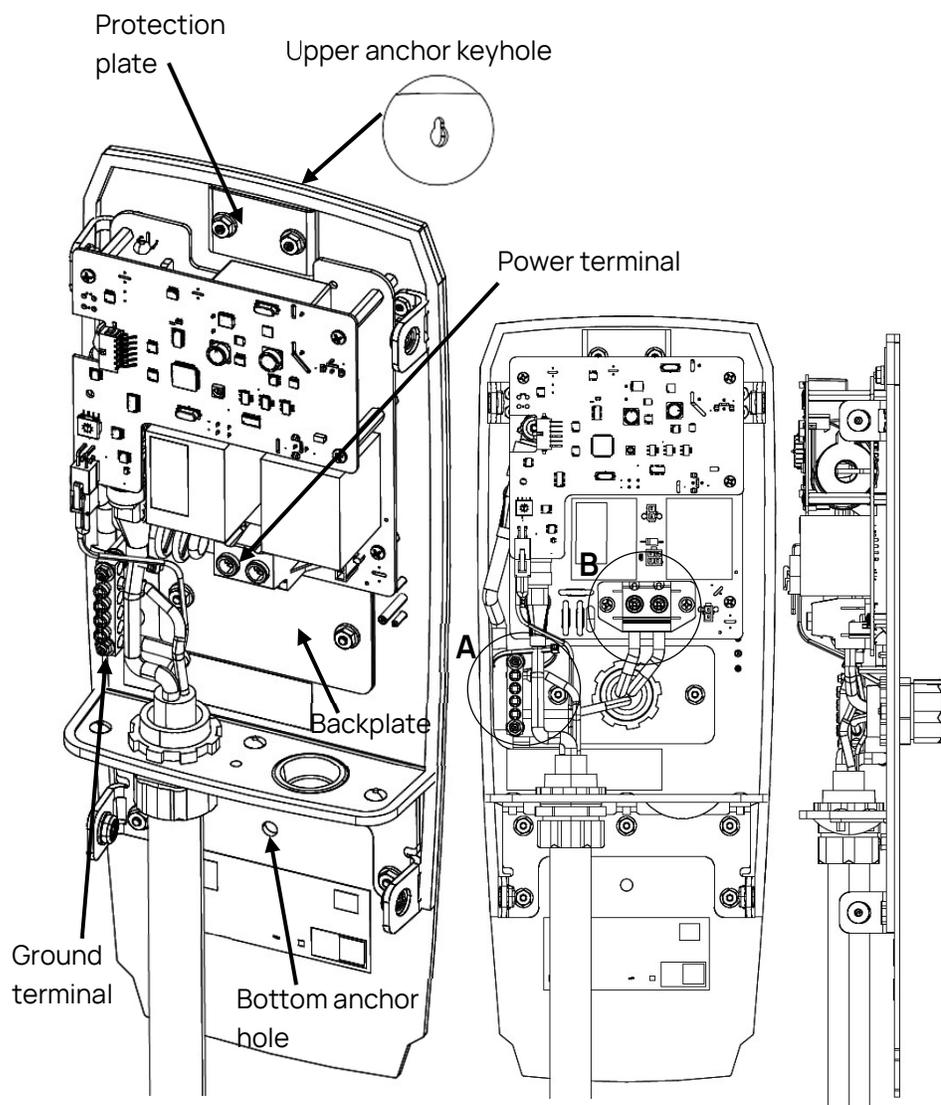
| | |
|--------|----------------------|
| 6 AWG | → 4 N-m [35 lb-in] |
| 8 AWG | → 2.8 N-m [25 lb-in] |
| 10 AWG | → 2.3 N-m [20 lb-in] |

Power conductor connection - L1L2

Torque

| | |
|-------------|----------------------|
| 3 AWG | → 3 N-m [27 lb-in] |
| 4 to 14 AWG | → 2.5 N-m [22 lb-in] |

3.3. Power Cable Installation from the Back



| Ground conductor connection - GND | Power conductor connection - L1L2 |
|--------------------------------------|--------------------------------------|
| <u>Torque</u> | <u>Torque</u> |
| 6 AWG → 4 N-m [35 lb-in] | 3 AWG → 3 N-m [27 lb-in] |
| 8 AWG → 2.8 N-m [25 lb-in] | 4 to 14 AWG → 2.5 N-m [22 lb-in] |
| 10 AWG → 2.3 N-m [20 lb-in] | |



Avoid installing the EVSE in bad weather conditions.



IMPORTANT:
The protection plate should always remain over the keyhole.

1. Attach the head base to the wall or post with an anchoring apparatus that can support at least 56.7 kg (125 lbs.) per anchor point (2) in the vertical and horizontal direction.

2. Hang the head base on the upper anchor (previously attached to the wall or post) via the keyhole at the top. While doing so, ensure that there is a tight fit and that there is no gap between the gasket and the mounting wall.

3. Complete the mounting of the head base by screwing a mounting bolt through the bottom anchor hole.

4. Remove the back plate to prevent particle splatter on the equipment.

5. Punch a hole of the appropriate diameter in the back plate to install the cable connector. **Note** that the pre-punched hole diameter on the back plate is 34.5 mm (1.36").

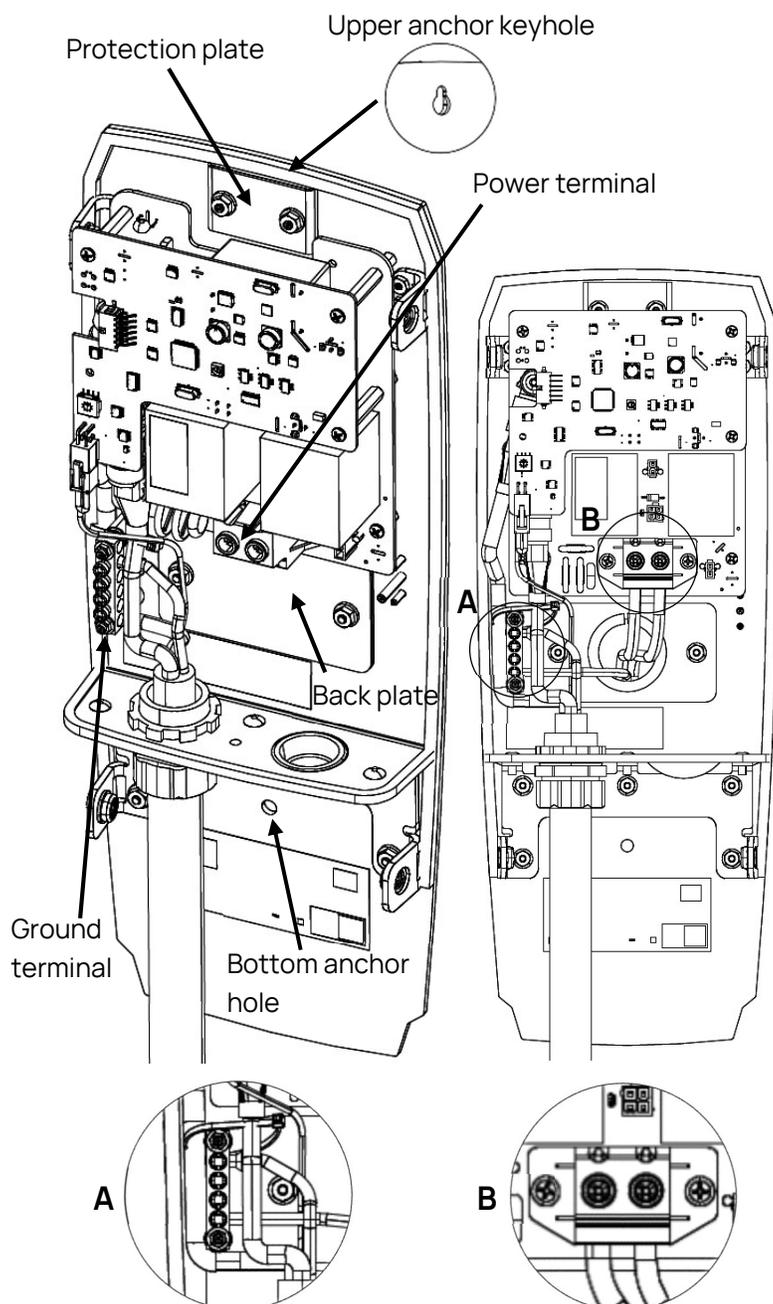
6. Put the back plate back in its place.

7. Install the cable connector in the hole punched into the back plate, then install the cable. Ensure that the conductors are long enough to reach the terminal block. Make sure that the hole is sealed properly.

8. Connect the two power conductors (L1 and L2) and the ground conductor (GND) as indicated with the appropriate torque.

9. The ground conductor must be connected to the terminal ground.

3.3.1. Power Cable Entry on a Station with an Electrical Box or CoRe+ MAX Pedestal



Avoid installing the EVSE in bad weather conditions.



IMPORTANT:
The protection plate should always remain over the keyhole.

1. Remove the back plate.
2. Install the head base to align the rectangular opening with the box opening in the wall or post.
3. Attach the head base to the wall or post with an anchoring apparatus that can support at least 56.7 kg (125 lbs.) per anchor point (2) in the vertical and horizontal directions.
4. Hang the head base on the upper anchor (previously attached to the wall or post) via the keyhole at the top. While doing so, ensure that there is a tight fit and that there is no gap between the gasket and the mounting wall.
5. Complete the mounting of the head base by screwing a mounting bolt through the bottom anchor hole.
6. Make sure that the opening between the charging station and the electrical box or pedestal is properly sealed.
7. Connect the two power conductors (L1 and L2) and the ground conductor (GND) as indicated with the appropriate torque.
8. The ground conductor must be connected to the terminal ground.

| Ground conductor connection - GND | Power conductor connection - L1L2 |
|--------------------------------------|--------------------------------------|
| <u>Torque</u> | <u>Torque</u> |
| 6 AWG → 4 N-m [35 lb-in] | 3 AWG → 3 N-m [27 lb-in] |
| 8 AWG → 2.8 N-m [25 lb-in] | 4 to 14 AWG → 2.5 N-m [22 lb-in] |
| 10 AWG → 2.3 N-m [20 lb-in] | |

3.3.2. Setting the Current Limit

By default, the CoRe+ MAX is set to maximum power in the factory. If your electrical infrastructure does not allow the charging station to operate at maximum power, it can be reduced using the **Current Limiter Switch**.

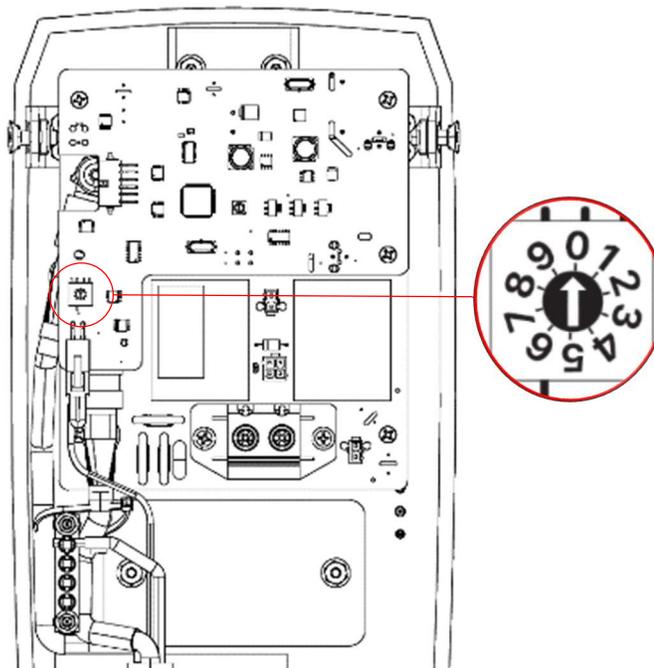


WARNING

Make sure that the power is off.

Follow the steps below to set the current on the charging station:

1. Locate the **Current Limiter Switch** on the main Printed Circuit (PC) board.



- Using a flat-head screwdriver, gently rotate the switch to the desired position. Refer to the following table to determine the rotary position:

| Rotary Position | Charging Station Current (A) |
|-----------------|------------------------------|
| 0 | 80 |
| 1 | 72 |
| 2 | 64 |
| 3 | 59 |
| 4 | 56 |
| 5 | 48 |
| 6 | 40 |
| 7 | 32 |
| 8 | 24 |
| 9 | 16 |

- Detach the corresponding maximum current setting label sticker from the label set kit that comes with the unit. Stick it over the existing label on the charging station enclosure to inform the maintenance personnel of the maximum current setting. Proof of installation will be required to complete the commissioning to ensure that the label corresponds to the installation. This is important for safety and warranty validity considerations.



E509366

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
 (1) This device may not cause harmful interference, and
 (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC compliance contact: FLO Services USA Inc.
 75 South Clinton Ave., Suite 510, Rochester, NY 14604

Contains: FCC ID: MCQ-PROS2C & JQ6-SE3210
 IC ID: 1846A-PROS2C & 2236B-SE3210.
 CAN ICES-3 (B) / NMB-3 (B)



Modèle / Model : CoRe+ MAX AddÉnergie Technologie. Inc.

Mfg. Date : AAAAMM

Operating temp. / Temp. d'utilisation: - 40 °C to/à 50 °C (- 40 °F to/à 122 °F)

 Input-Output Voltage / Alimentation: 208 or 240V ~ ;60 Hz - 1 

Brevet/Patent: www.addenergie.com/patents

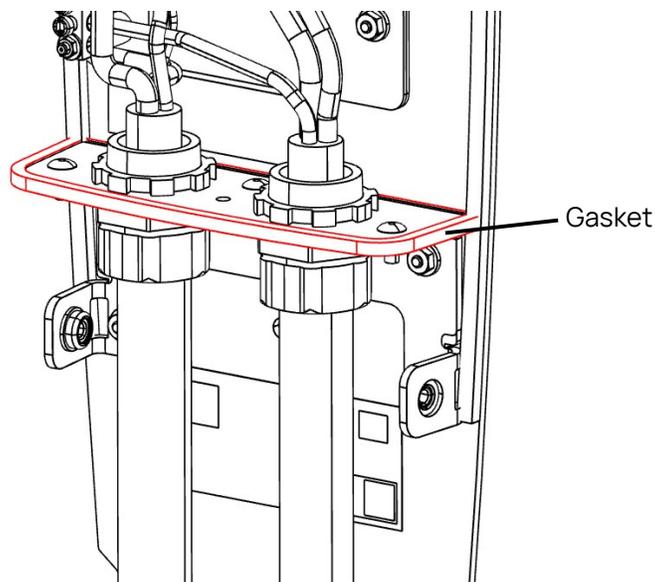
Current/
Courant :

80 A

Current sticker

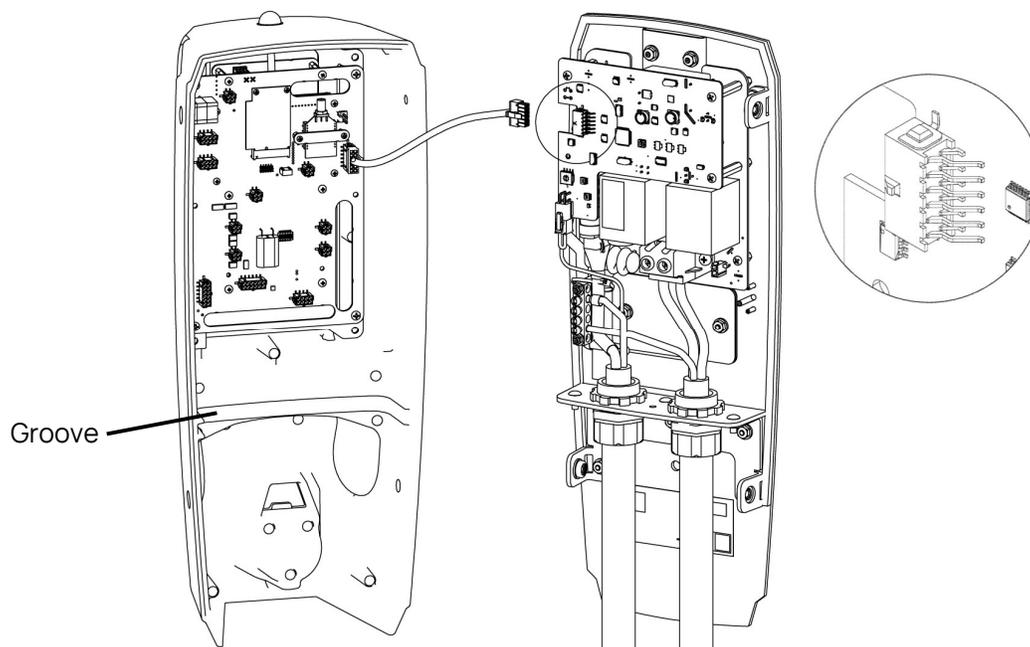
3.4. Closing the Station Housing

1. Ensure that the gasket on the lip shown below is properly aligned.

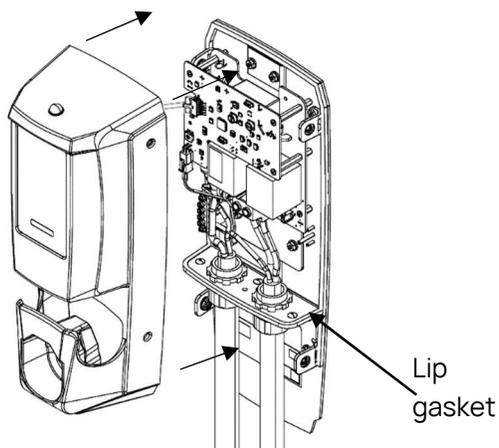


2. Connect the data cable to its respective connector as shown below.

WARNING: NEVER CONNECT/DISCONNECT THE DATA CABLE WHEN THE CHARGING STATION IS ENERGIZED. THIS COULD DAMAGE THE UNIT.

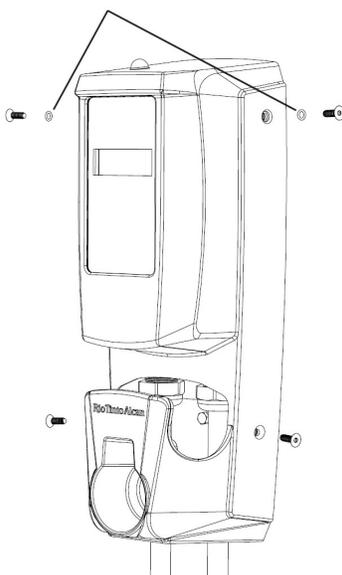


- Align the housing groove to the charging station lip and push the housing toward the charging station, ensuring that the gasket stays in place.

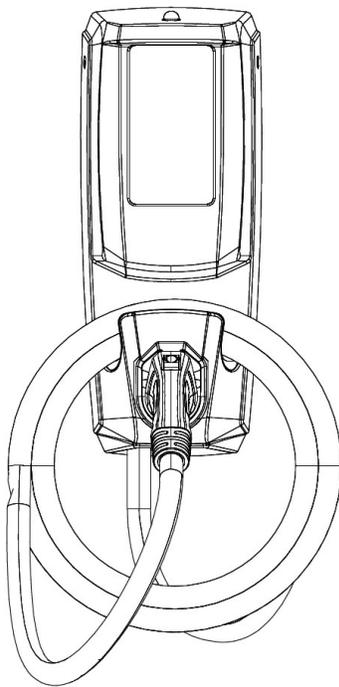


- Apply slight pressure to the front cover, then screw on the top 2 bolts, ensuring that the O-rings stay on the screws. Screw on the bottom 2 bolts. Tighten all screws to 30 lb-in (3.4 N-m).

WARNING: NEVER USE AN IMPACT DRIVER TO AVOID DAMAGING THE THREADS!



5. Place the charging cable on the cable holder and the charging connector in the receptacle.



3.5. Preliminary Tests and Commissioning



Follow the steps below to complete the preliminary tests and commissioning:

1. Turn on the power to the charging station. You should be able to observe the following results immediately after the power is turned on:

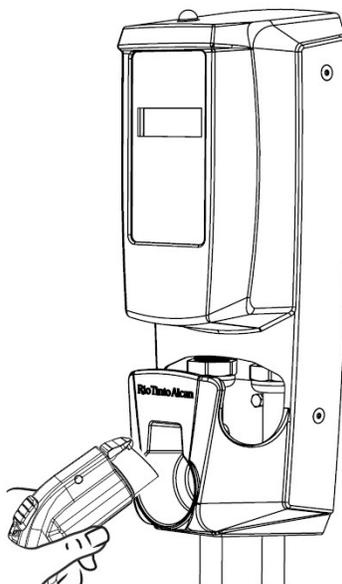
- a. The status light is on continuously; its color is green.
- b. The greeting message is displayed.

NOTE: If no message appears, ensure that the data cable is connected by following step 2 in *section 3.4. 3.4.* while the station is NOT energized.

2. Scan the access card provided with the charging head. You should be able to observe the following results:

- a. Once the reader detects the card, it will emit an audible beep.
 - b. Immediately after the beep, the access card will be authenticated by the charging station.
 - c. If the authentication of the card is successful, the automated test of the protection circuit will be performed.
 - d. Once the test is successfully completed, the overhead status light will start flashing (white).
 - e. If the connector is inserted into an electrical vehicle, it will begin charging. If it does not begin charging after 1 minute, the charging station is in wait mode.
3. Once the charging station successfully passes the preliminary test, the charging station can be used as a private charging station (using the provided access cards) or be connected to FLO's management system by turning on the communication gateway provided by FLO. Call FLO Services at the number provided on the sticker in front of the charging station to process the commissioning step. If the commissioning is not completed, the station will be limited to 6 A when manufactured in power sharing mode.

3.5.1. Station Status Light Indicator



| Color | Meaning |
|---|--|
|  Green - Solid color | The charging station is ready for session activation. |
|  White - Blinking | Session authenticated; the charging station is ready to plug into the electric vehicle (EV). |
|  Blue - Solid color | The charging station is plugged in, and energy is being delivered. |
|  Red - Solid color | Critical fault |
|  Off | Out of service |

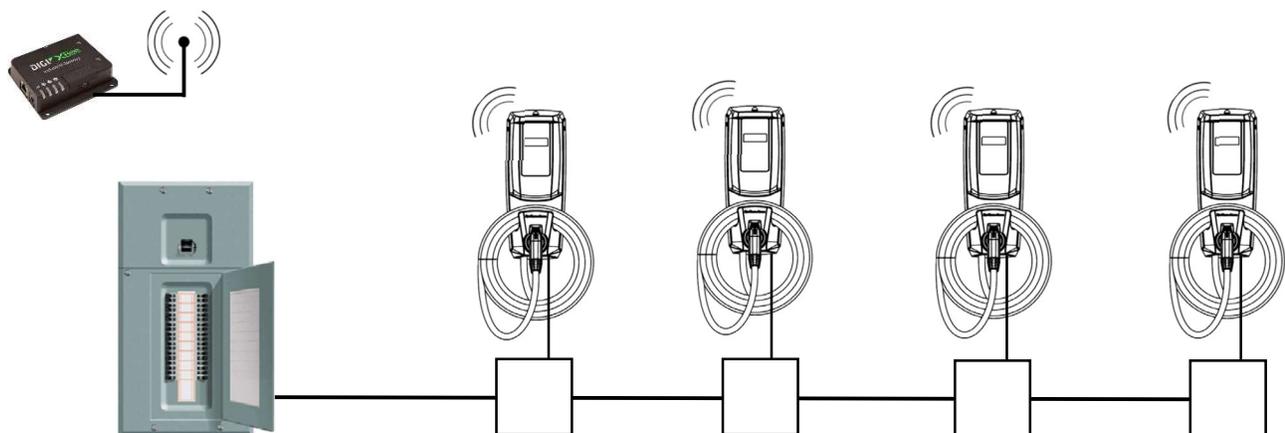
4. Power Sharing

The CoRe+ MAX can be configured in standard or power sharing mode. With the integrated power sharing capability of the CoRe+ MAX, a maximum of four charging stations sharing the same 100 A circuit for a total load of 80 A can be connected in parallel to the same branch circuit. Here are some characteristics of power sharing mode:

- The charging stations connected in parallel to the same branch circuit must all be CoRe+ MAX models (the specific model identification can be found on the unit label).
- To allow for dynamic current sharing, a site controller application must be installed and properly configured by FLO.
- Without a site controller installed or in operation, or in the event of a loss of communication, each CoRe+ MAX limits its output to 6 A when set in power sharing mode.
- The site controller will then ensure that the maximum available current is shared optimally among the charging stations (between 6 A and 80 A for each station) while ensuring that the maximum circuit capacity (80 A in the case of a circuit protected by a 100 A breaker) is never exceeded.
- For safety reasons, each CoRe+ MAX charging station will immediately interrupt an ongoing charging session when the connected EV draws more than the specified amperage limit at any time. To resume charging, the user must restart the usage session process from the beginning.
- The site controller is provided by FLO as part of its Global Management Service (GMS).
- The communication between the site controller and the charging station is done through a wireless meshed Zigbee network. A communication gateway must therefore be installed. Refer to the Communication Gateway Installation Guide provided by FLO for further details.

The maximum number of charging stations sharing the same 100 A circuit (for a total load of 80 A) is 4.

Typical Installation



208 or 240 V @ 100 A circuit¹

Junction boxes allowing the charging stations to be connected in parallel to the same branch circuit

NOTE: Ensure that the electrical wiring and the associated electrical hardware used to connect the charging stations in parallel comply with the local regulations in place.

5. Operating Instructions



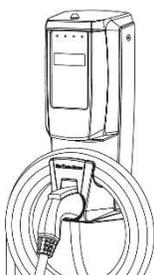
1. **Activate the station:**
Place your card on the reader OR select the station in the mobile app and press “Start a session.”



2. Pick up the connector and unwind the cable to the required length.



3. Plug the connector into your vehicle. The charging will start immediately.



4. Once the charging is complete, put the connector back in its socket.

WARNING: Once the charging is complete, make sure to wind the cable back up and store the connector in its socket.

6. User Maintenance Instructions

The CoRe+ MAX enclosure is Type 3R, which is intended for indoor or outdoor use and provides a degree of protection against corrosion, windblown dust, rain, splashing water, and hose-directed water. It is designed to remain undamaged by ice, which can form on the enclosure.

This enclosure type ensures that the maintenance required to protect the integrity of the charging station enclosure is minimal, except for cleaning, which can be performed with standard domestic products recommended according to the type of dirt .

When not in use, the charging cable should be properly wound around the holder on the station enclosure, and the cable connector should be always inserted into its enclosure. **Do not** twist, bend, or pull on the cable from the connector alone, either to wind it around the enclosure or when it is stuck.

When handling the cable, please ensure that the cable's outer insulation and the connector itself do not show any excessive signs of wear, such as cracks or abrasion. If there is any damage, please call the Installation or Commissioning Questions number at the end of this manual for reporting and case management purposes.

7. Moving and Storage Instructions

The charging station is designed to remain in a fixed position and is not intended to be portable.

Prior to installation, we recommend that the station be kept in its shipping packaging at temperatures between -40 °C and 50 °C (-40 °F to 112 °F) and at a humidity level not exceeding 95% (non-condensing) until it has been installed by qualified personnel.

8. Specifications

| Specification | Description |
|---------------------------------|---|
| Description of the charger | Level 2, 80 A charging station equipped with display and card reader |
| Output connector | Output connector: J1772-compliant |
| Input connector | Split Phase 120/240 VAC supply or single phase 120/208 VAC (refer to Figure 1 and Figure 2) |
| Maximum output power | Maximum configurable output power: 19.2 kW @ 240V or 16.64 kW @ 208V |
| Operating temperature range | Operating temperature range: -40 °C to 50 °C (-40 °F to 122 °F) |
| Built-in protection | Overvoltage conditions and leakage current to ground |
| Enclosure | 3R-type enclosure; suitable for outdoor use |
| Shipping weight | Approximately 12.15 kg (27 lbs.) |
| Communication protocols | OCPP version 1.6J |
| Security standard certification | EMI compliance: USA - FCC 47 CFR part 15 class A CAN - ICES-003 (A) |
| | CSA- C22.2 No. 280 / UL 2594, CSA C22.2 No. 281.1 and 281.2 / UL 2231-1 and 2231-2 |

9. Copyright and Liability Information

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Contact us

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Email: Info@flo.com

Website: Flo.com



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Regional office - Western Canada: #501 - 4190 Lougheed Highway, Burnaby, BC, Canada
- V5C 6A8

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