



# **Series 8 / 8 Plus EV Charging Station 48A/80A**

1 — Last update: 04/06/2022

Installation Manuals

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# 1. Series 8 / 8 Plus Retail EV Charging Station Installation Manual

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# 1.1. Safety and Compliance

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This document provides instructions to install the Series 8 Retail EV Charging Station and should not be used for any other products. This product must be installed in accordance with the National Electrical Code (NEC), the Canadian Electrical Code (CEC) or any applicable local code.

Review this manual and consult a licensed contractor and/or electrician before installation to ensure compliance with local building practices, climate conditions, safety standards, and state and local codes.

The Series 8 Retail EV Charging Station should be installed by a licensed contractor/ electrician and inspected by a qualified installer prior to initial use. Under no circumstances will compliance with the information in this manual relieve the user of responsibility to comply with all applicable codes and safety standards.

This document describes the most common installation and mounting methods. Contact SemaConnect Inc. where it is not possible to perform an installation using the procedures provided in this document.

SemaConnect Inc. is not responsible for damages that may occur or result from installations that are not described in this document.

**Note: Make sure to TURN OFF the breakers before doing any electrical work!**

## General

The Series 8 Retail EV Charging Station is grounded through a dedicated conductor to the ground connection at the power distribution panel.

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. The 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. Operation of this equipment in a residential area is likely to cause harmful interference at their own expense.

## Statements

Reasonable effort has been made to ensure that the specifications and other information in this manual are accurate and complete at the time publication. However, specifications and other information in this manual are subject to change at any time without prior notice.

Use of the Series 8 Retail EV Charging Station in a manner not intended or any modification not approved by the manufacturer will void the limited warranty. Other than the limited product warranty provided by SemaConnect, this manual and the SemaConnect Inc. products are provided "AS IS," and SemaConnect Inc. expressly disclaim all implied warranties, including any warranty of design, merchantability, and fitness for a particular purposes and non-infringement, to the maximum extent permitted by law.

IN NO EVENT SHALL SEMACONNECT INC. OR ITS AUTHORIZED DISTRIBUTORS BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST PROFITS, LOST DATA, LOSS OF USE, COST OF COVER, OR LOSS OR DAMAGE TO THE SERIES 7 CHARGING STATION ARISING OUT OF OR RELATING TO THE USE OR INABILITY TO USE THIS MANUAL, OR RELATED PRODUCT, EVEN IF SEMACONNECT INC. OR ITS AUTHORIZED DISTRIBUTORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

The Series 8 EV Charging Station is a trademark of SemaConnect, Inc. All other products or services mentioned are the trademarks, service marks, registered trademarks, or registered service marks of their respective owners. This material is protected by the copyright laws of the United States and other countries. It may not be modified, reproduced, or distributed without the prior, express written consent of SemaConnect, Inc.

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# 1.2. Series 8 Electrical Requirements / Wiring Diagram

## Wiring Color Code

The illustrations and diagrams in this document reflect Level-2 wiring color code. Strictly adhere to the wire color codes to ensure proper installation.

Use 6 AWG wire minimum (ensure compliance with electrical codes).

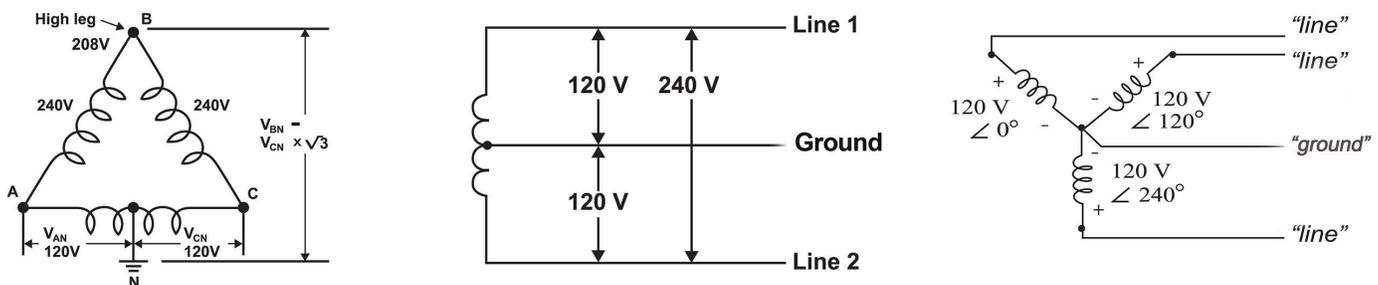
Color Code	Left Side		Right Side		Green
	Red	Black	Red w/Stripe	Black w/Stripe	
Service	Phase A (L1)	Phase B (L2)	Phase A (L1)	Phase B (L2)	Ground

## Key Requirements

Each EV plug on the charging station shall be on a dedicated electrical circuit.

- Each EV plug on the charging station shall be protected with a 60 Amp 2-pole common trip circuit breaker (non-GFCI type).
- Each EV plug on the charging station is designed to draw a maximum of 48 Amps.
- Each EV plug on the charging station can operate on either a 240V or 208V circuit.
- Each station requires five electrical supply wires (four hot, one ground, no neutral). All data communication is wireless, so there is no data cabling to install, but cellular communication is required.

## Wiring Diagram



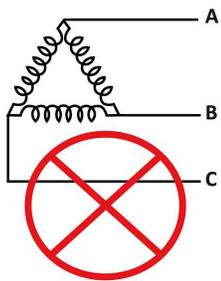
Connect the Series 8 Retail EV Charging Station to any one of the power sources (Figure-1):

1. 240 VAC three phase, Delta system, Center tap grounded
2. 208 VAC three phase, Wye system, Bonded neutral
3. 240 VAC single phase, Bonded neutral

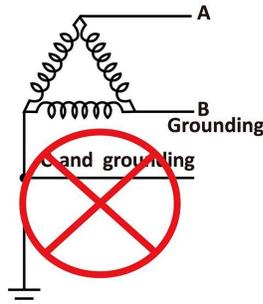
In a Wye system connect the Series 8 Retail EV Charging Station to any of the two lines. Do not use the

system if it has a floating ground.

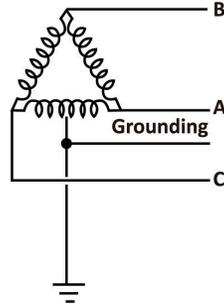
In a delta system, connect the Series 8 Retail EV Charging Station only to a center-tapped grounded transformer only as shown above. Connect the station to the side where ground is bonded (in figure 2.C, Line A and Line C). This allows voltages to remain constant regardless of other loads that may be using the lines. Please do not connect to other type of power sources shown below.



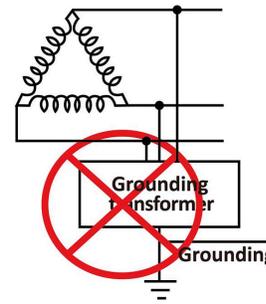
(A) Ungrounded



(B) Corner grounded



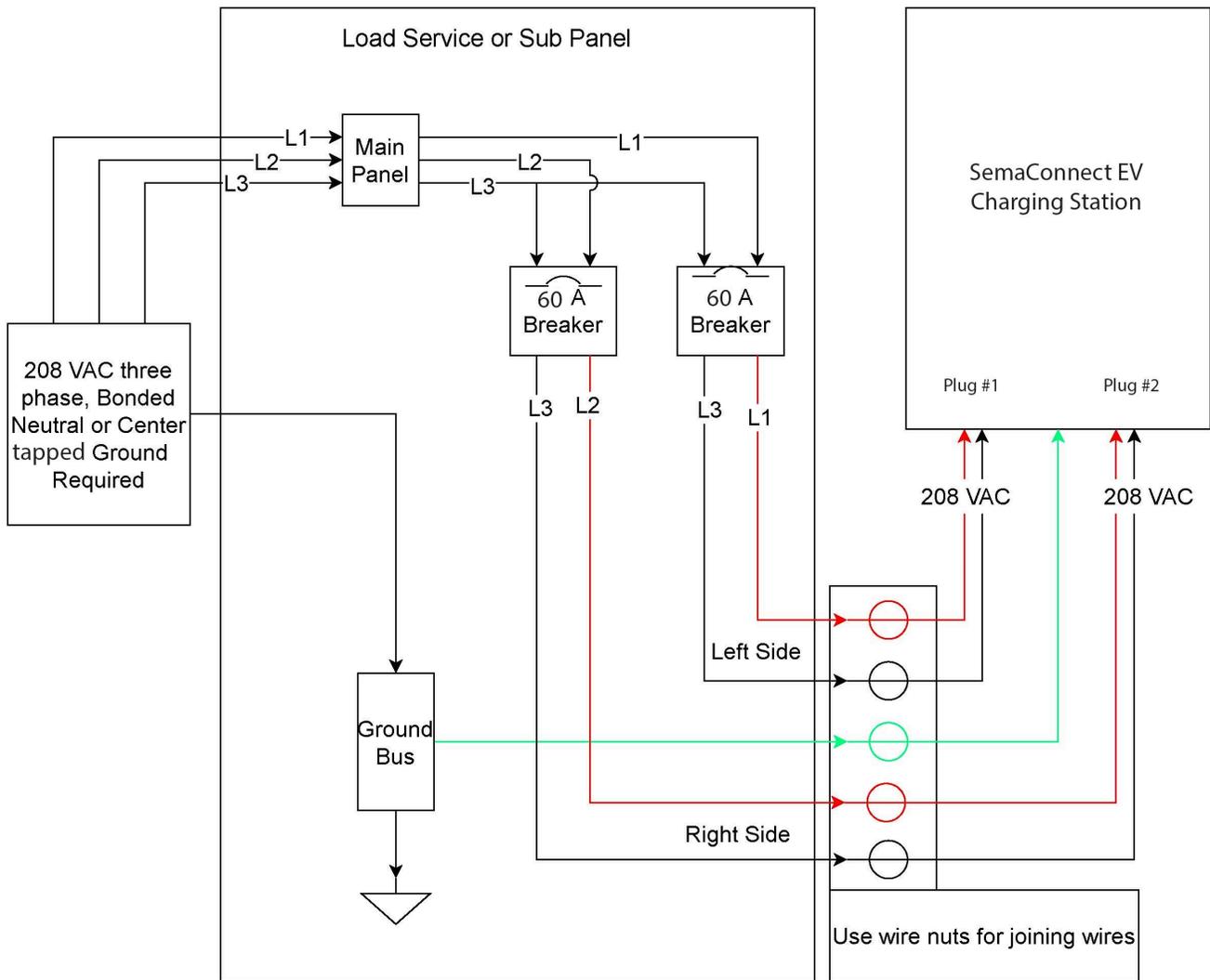
(C) Center tap grounded

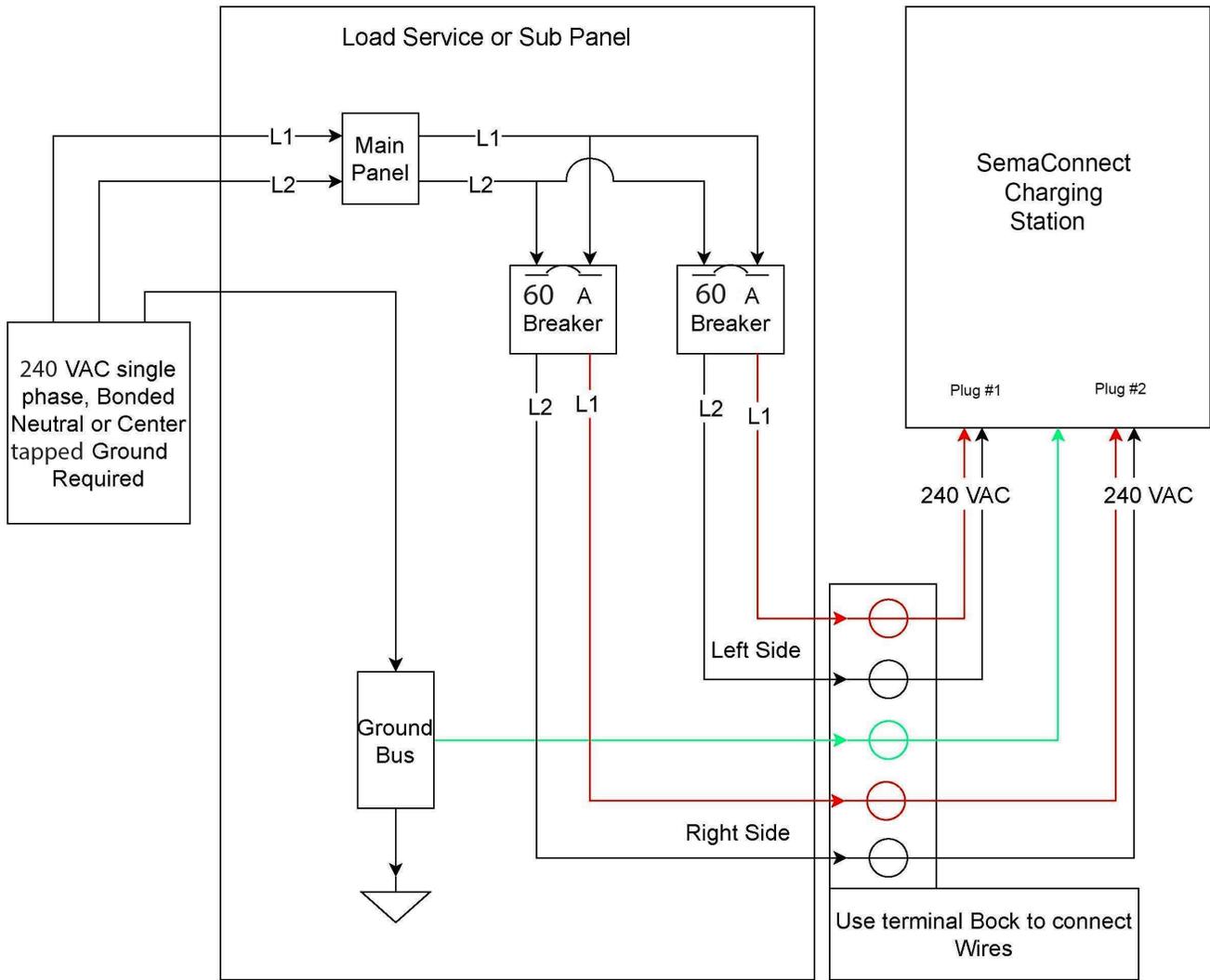


(D) Grounding transformer

# 1.2.1. Wiring: Series 8 to Separate Power

The figure below describes the wiring for installation of Series 8 Retail EV Charging Station on a separate power circuit.

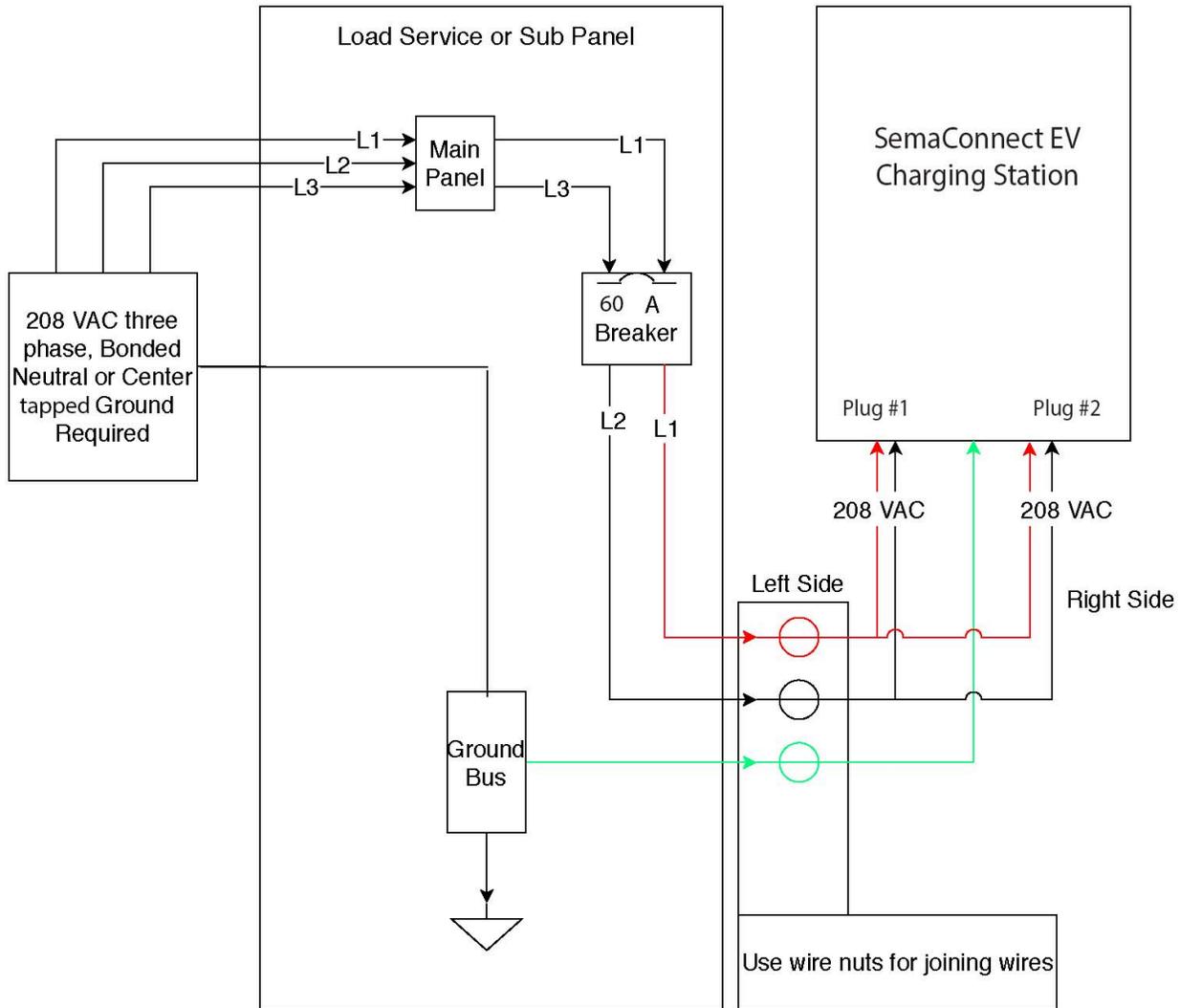




# 1.2.2. Wiring: Series 8 to Shared Power

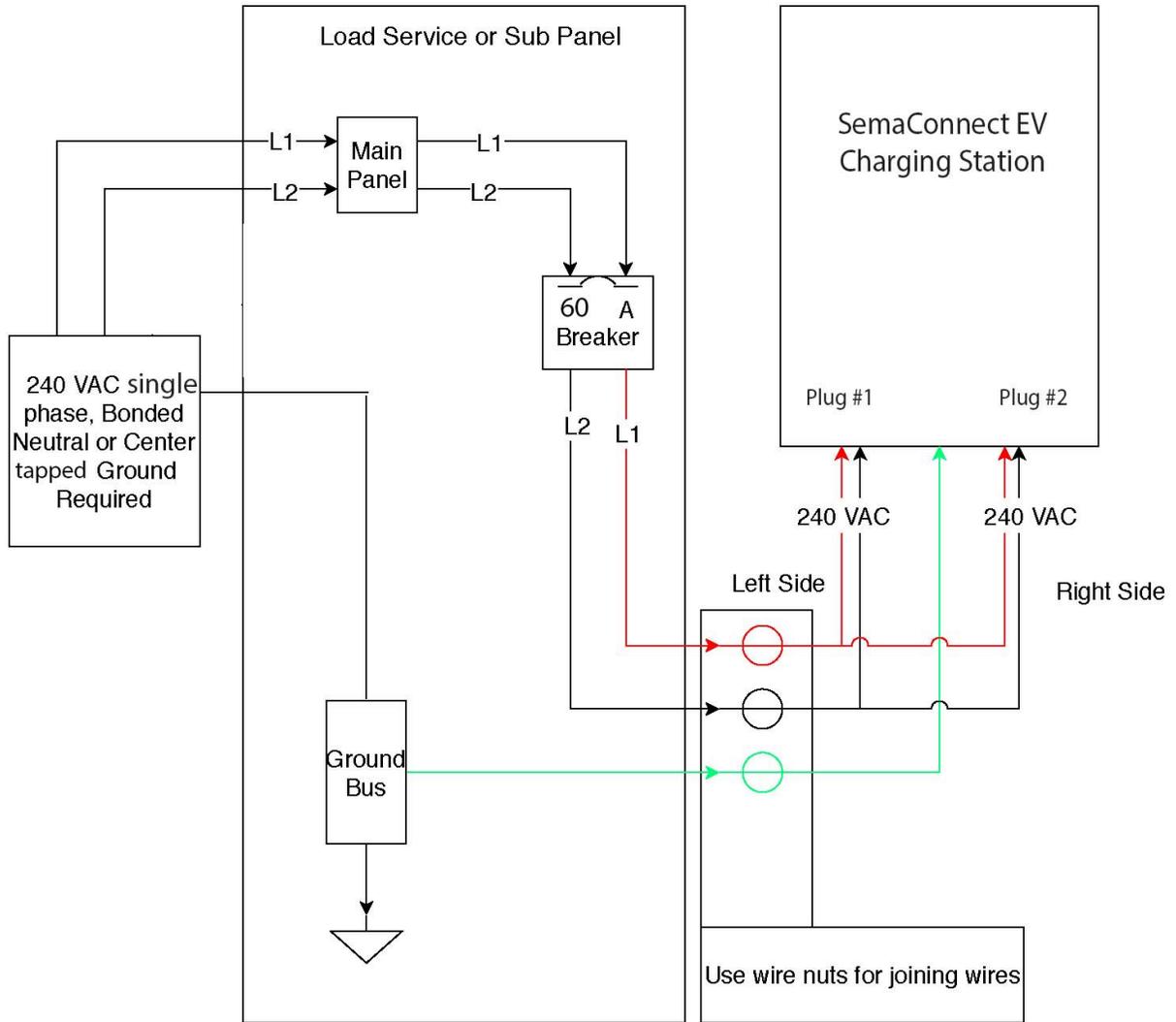
## Wiring To System – Shared Power

The figure below describes the wiring for installation of Series 8 Charging Station on a shared power circuit.



### Important Note on Shared Power:

**!** If two stations, or both sides of a dual-port station, are connected to a single circuit breaker, the installer must contact SemaConnect to determine a plan for Load Management. Failure to do so may result in the circuit breaker tripping during normal operation of the station(s).



# 1.3. Series 8 Plus Electrical Requirements / Wiring Diagram

## Key Requirements

- Each plug on the EV charging station shall be on a dedicated electrical circuit – two plugs, two circuits.
- Each station shall be protected with 100 Amp 2-pole common trip circuit breaker for each plug (non-GFCI type) – two plugs per station.
- Each plug on the station is designed to draw a maximum of 80 Amps.
- Each station can operate on either a 240V or 208V circuit.
- Each station requires five electrical supply wires (four hot, one ground, no neutral). All data communication is wireless, so there is no data cabling to install, but cellular communication is required.

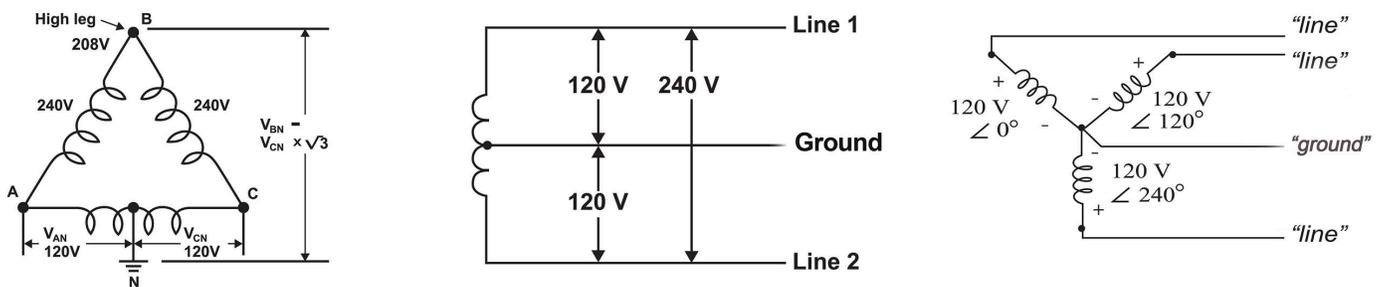
## Wiring Color Code

The illustrations and diagrams in this document reflect Level-2 wiring color code. Strictly adhere to the wire color codes to ensure proper installation.

Use 6 AWG wire minimum (ensure compliance with electrical codes).

Color Code	Left Side		Right Side		Green
	Red	Black	Red w/Stripe	Black w/Stripe	
Service	Phase A (L1)	Phase B (L2)	Phase A (L1)	Phase B (L2)	Ground

## Wiring Diagram



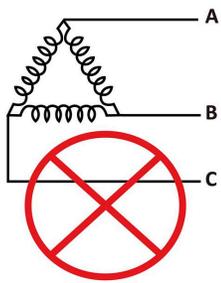
Connect the Series 8 Plus Charging Stations to any one of the power sources (Figure-1):

1. 240 VAC three phase, Delta system, Center tap grounded
2. 208 VAC three phase, Wye system, Bonded neutral
3. 240 VAC single phase, Bonded neutral

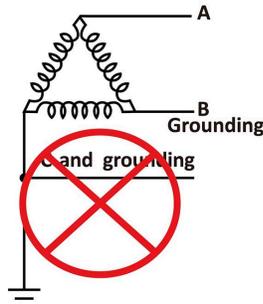
In a Wye system connect the Series 7 Plus Charging Stations to any of the two lines. Do not use the system

if it has a floating ground.

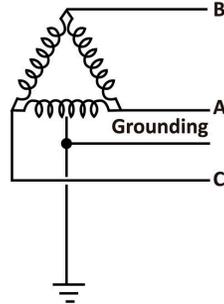
In a delta system, connect the Series 7 Plus Charging Station only to a center-tapped grounded transformer only as shown above. Connect the station to the side where ground is bonded (in figure 2.C, Line A and Line C). This allows voltages to remain constant regardless of other loads that may be using the lines. Please do not connect to other type of power sources shown below.



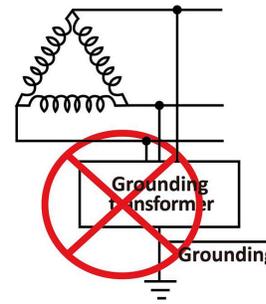
(A) Ungrounded



(B) Corner grounded



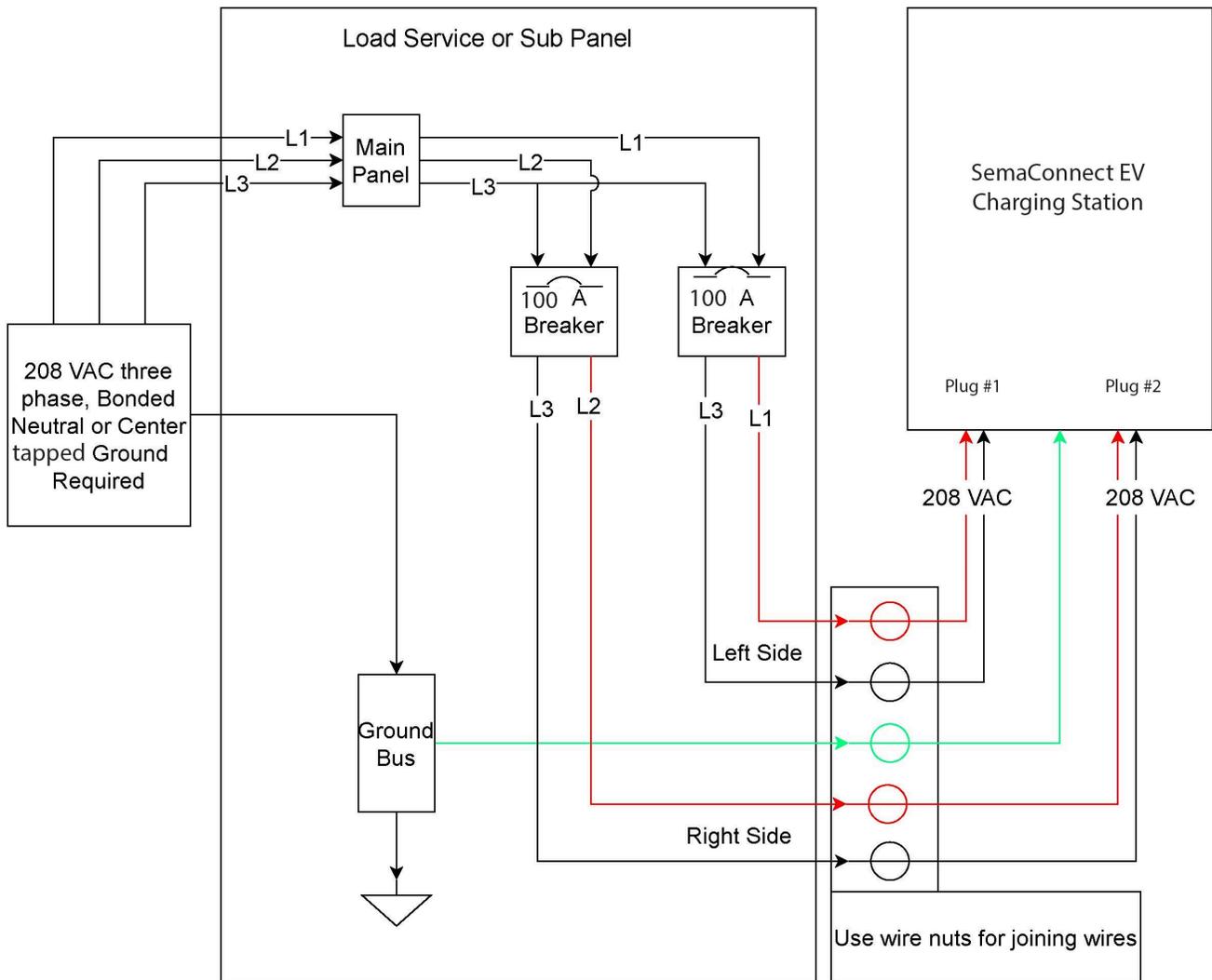
(C) Center tap grounded

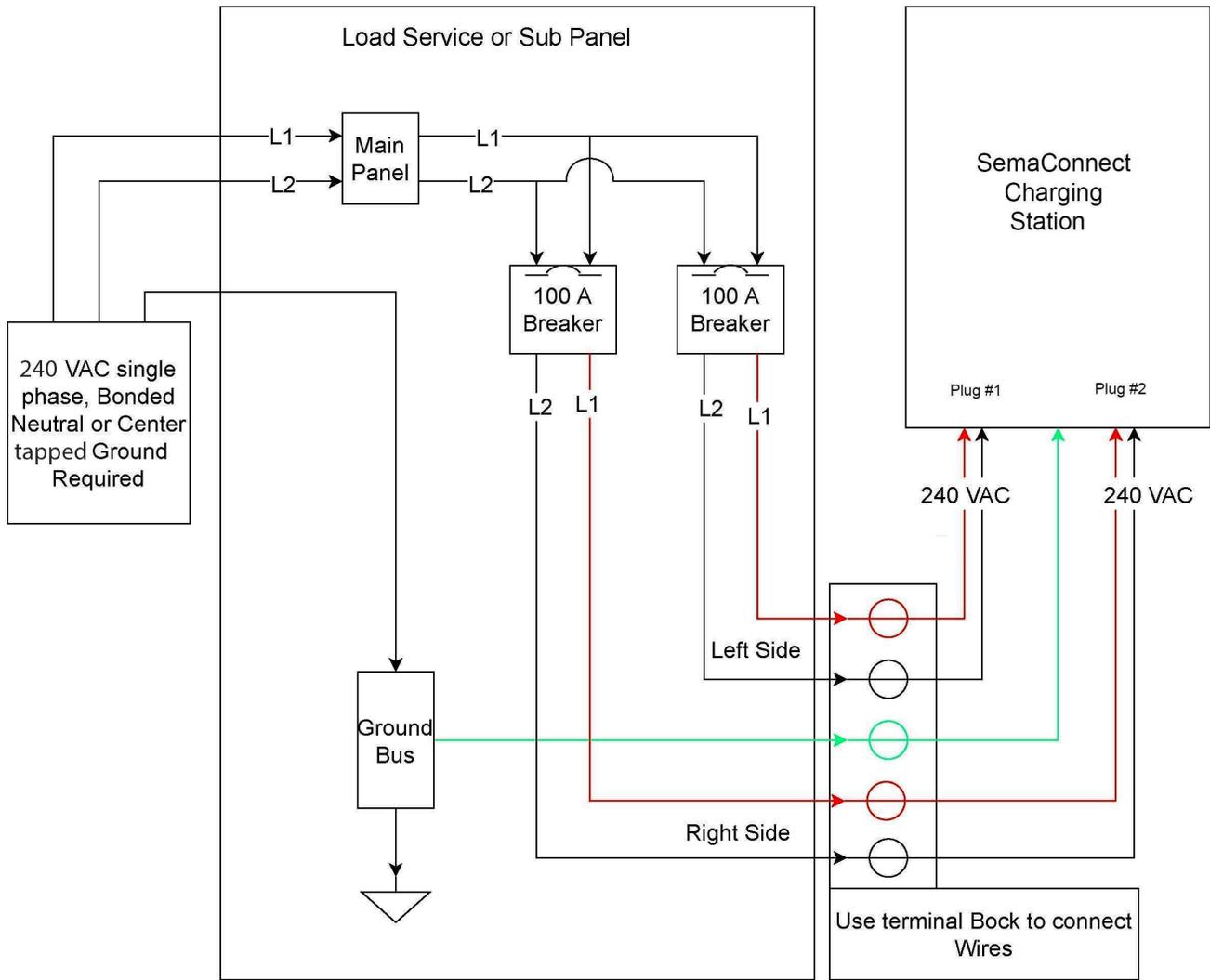


(D) Grounding transformer

# 1.3.1. Wiring: Series 8 Plus to Separate Power

The figure below describes the wiring for installation of Series 8 Retail EV Charging Station on a separate power circuit.

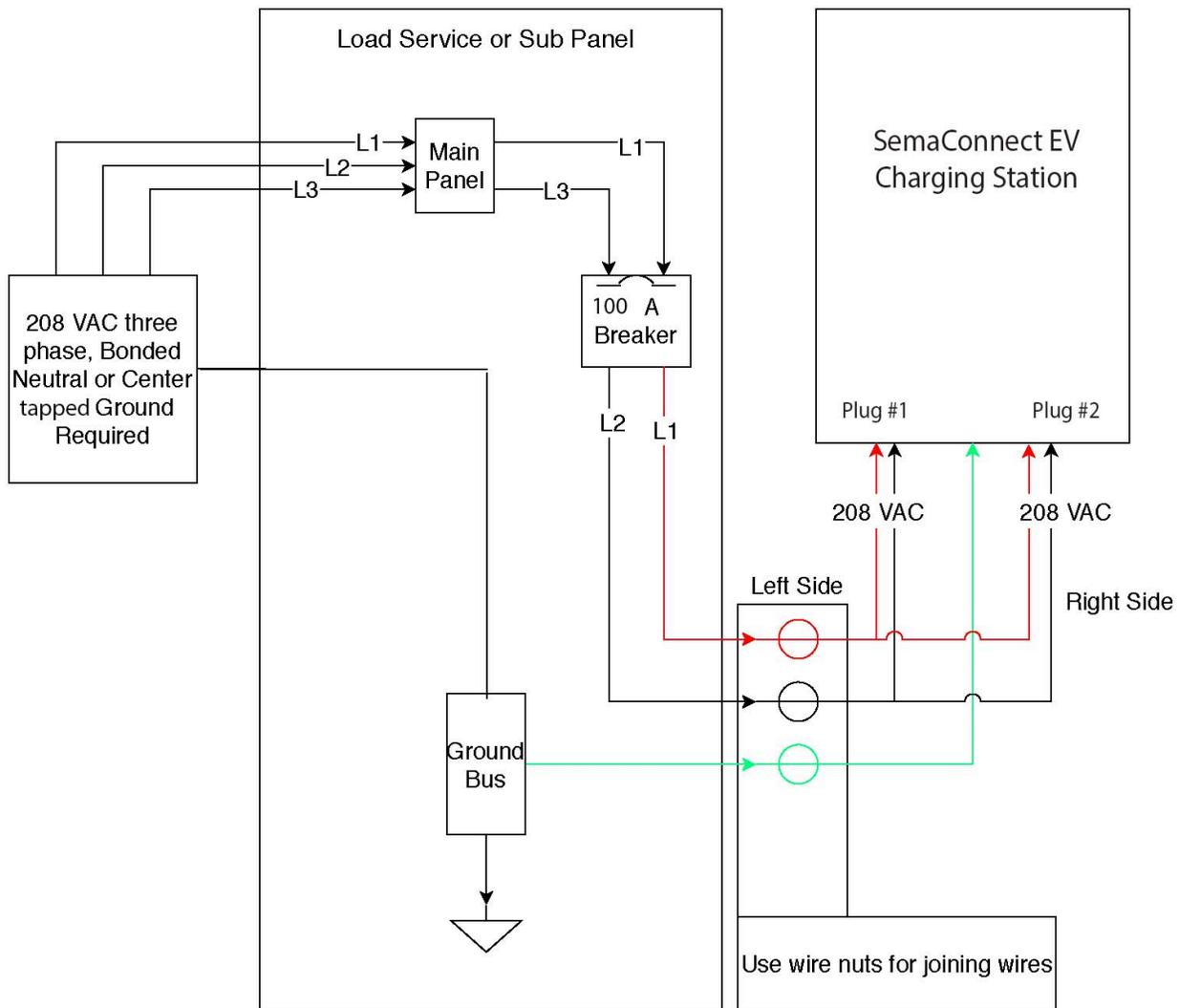




# 1.3.2. Wiring: Series 8 Plus to Shared Power

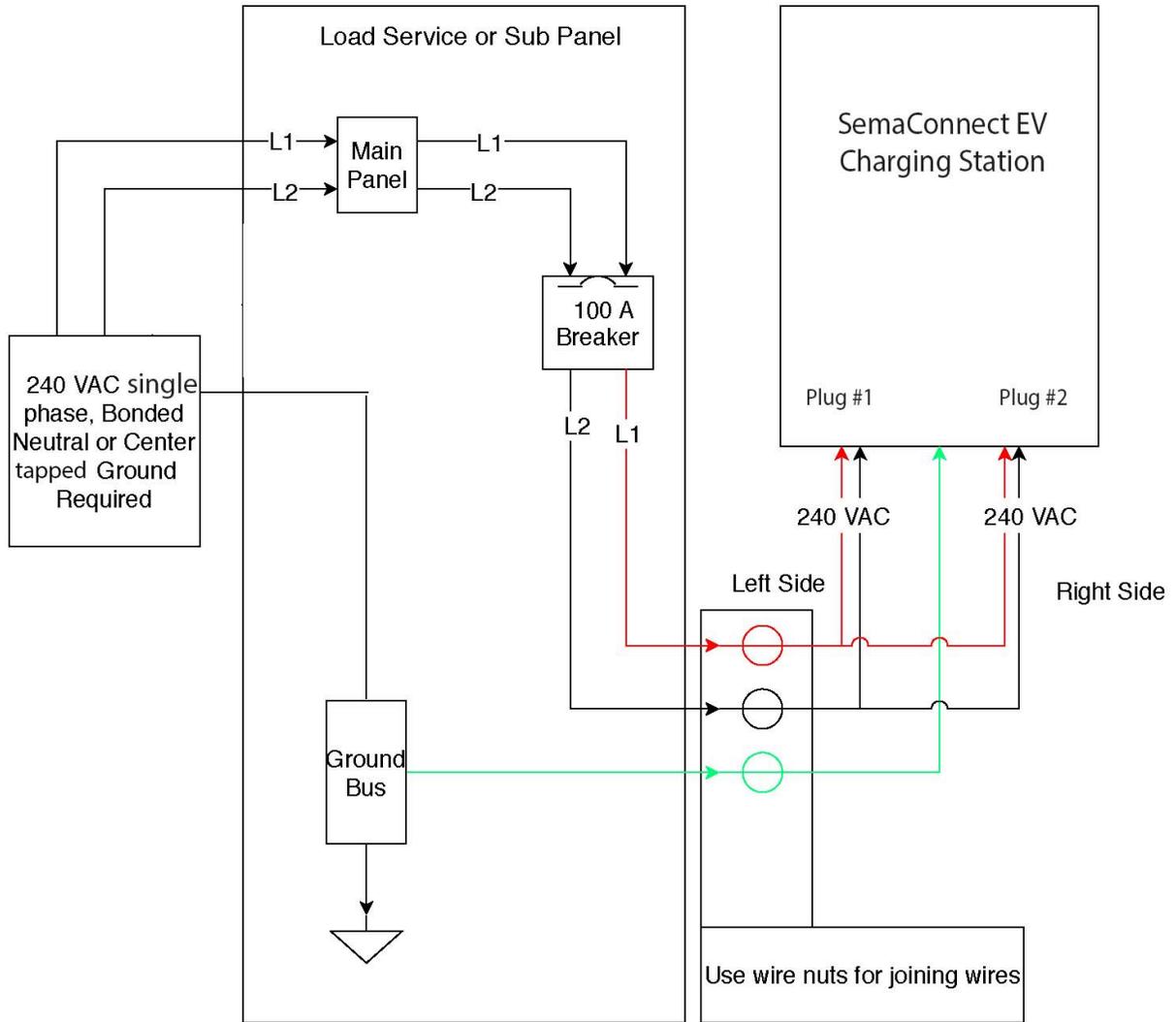
## Wiring To System – Shared Power

The figure below describes the wiring for installation of Series 8 Plus Charging Station on a shared power circuit.



### Important Note on Shared Power:

**!** If two stations, or both sides of a dual-port station, are connected to a single circuit breaker, the installer must contact SemaConnect to determine a plan for Load Management. Failure to do so may result in the circuit breaker tripping during normal operation of the station(s).



# 1.4. Pedestal Mount

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[Parts List](#)

[Anchor Plate Installation](#)

[Pedestal Installation](#)

[Station Head Installation](#)

# 1.4.1. Parts List

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## Pedestal Installation

Series 8 Retail EV Charging Station Head Unit



Pedestal Unit



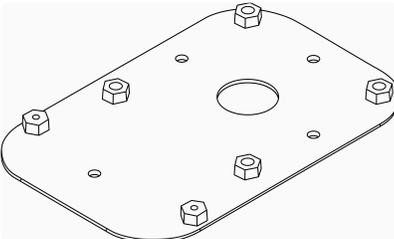
Left and Right Cable Holster



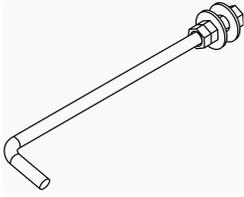
Cable Rack



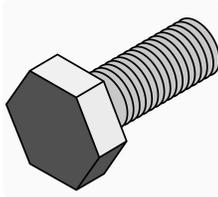
Charging Station Anchor Plate



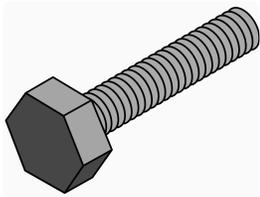
Anchor J Bolts (4)



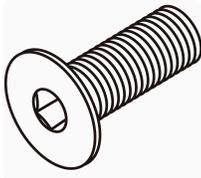
Pedestal Sacrificial Bolt



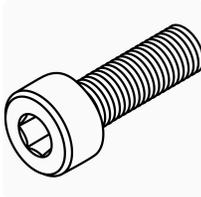
CMS Sacrificial Bolt



Head Unit Mounting Screws (4)



Pedestal Mounting Screws (4)



Holster Mounting Screws (4)

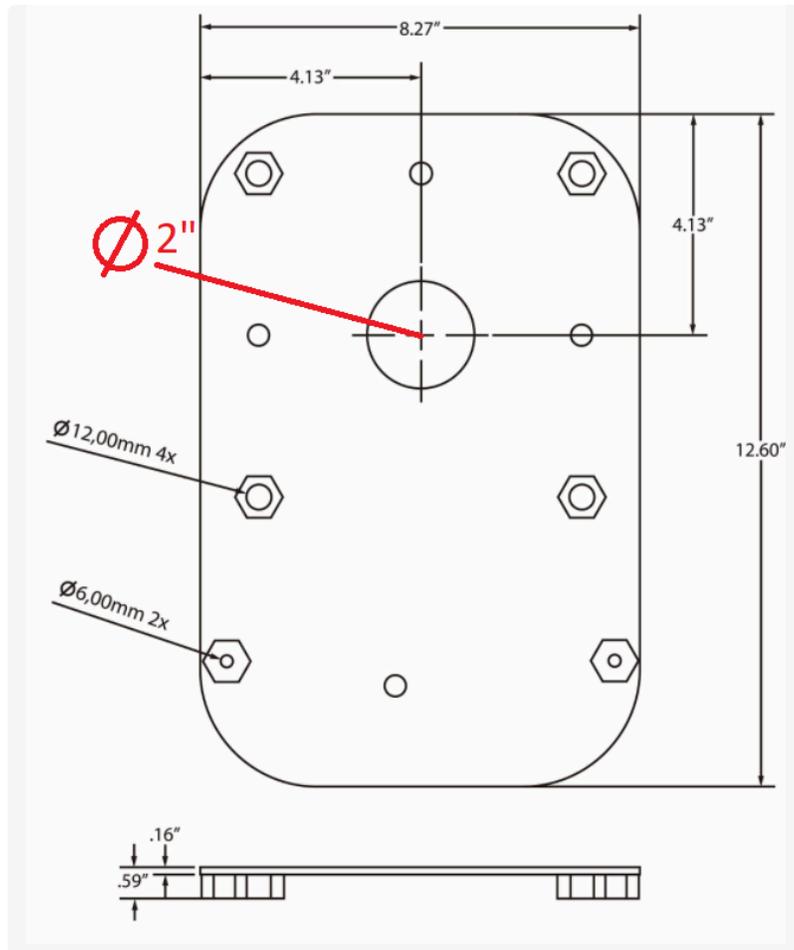


## 1.4.2. Anchor Plate Installation

### Site Location

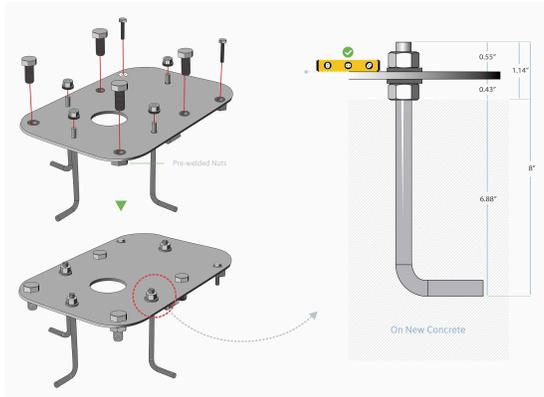
Select the location for the charging station. To mount the charging station, first prepare a concrete pad properly aligned to the parking space. The concrete pad should be positioned such that the distance between the charging station and electric vehicle is enough to minimize likelihood of damage.

### Install Anchor Plate



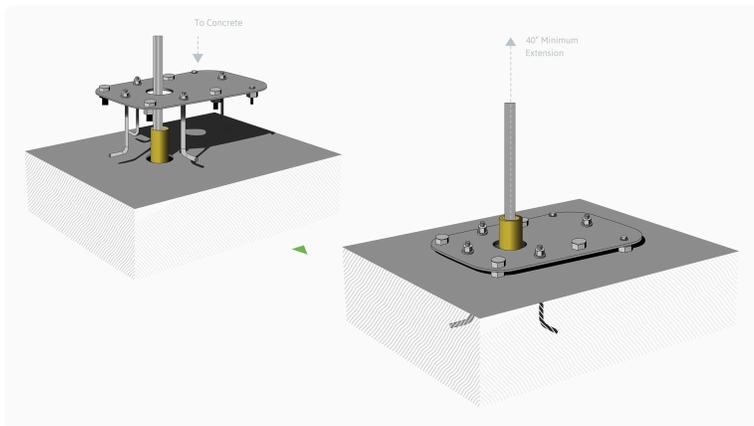
Fit all J-Bolts (4), Pedestal (4) and CMS (2) Disposable Bolts to the anchor plate. (Figure-6)

- The flat side on which 6 nuts are welded on the Anchor Plate face downwards.
- Do not remove Disposable Bolts (6) from the anchor plate until the pedestal is ready to be installed.
- Make sure that only one thread of the top nut is visible after the J-Bolts are fitted to the anchor plate (Figure 7)



Insert the anchor plate into the concrete (Figure-8).

- Ensure that at least 40” of wire extends out of the conduit.
- Insert the anchor plate into the concrete immediately after pouring the concrete.
- It is recommended to vibrate the concrete to eliminate any air bubbles.
- Anchor plate surface should be in level with the ground.

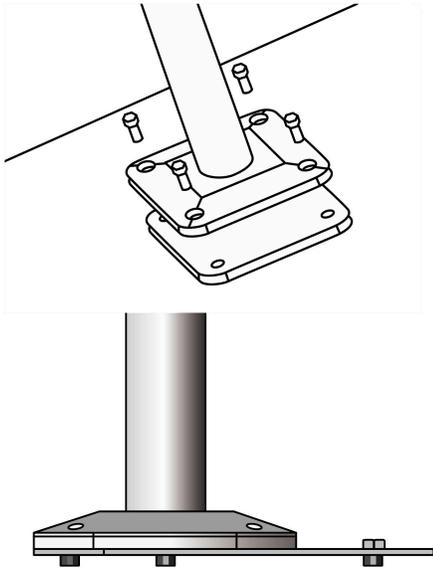


Note: Continuously check for the anchor plate until concrete sets to make sure that anchor plate does not sink into the concrete

## 1.4.3. Pedestal Installation

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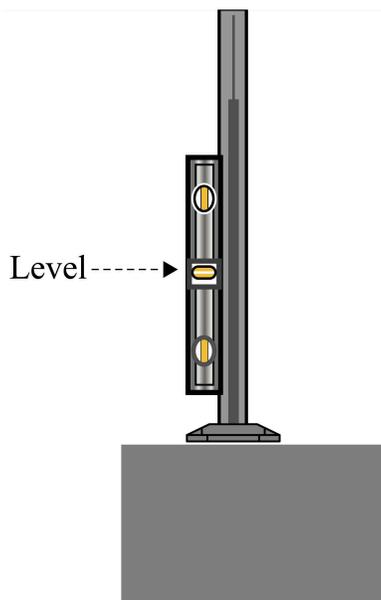
### Install the Pedestal



Now you are ready to install the Pedestal Unit. Carefully place the Pedestal Unit over the conduit and wires.

- Place the Pedestal Unit on the Anchor Plate such that the bolt holes are aligned.
- Ensure that the electric wires can be easily accessed through the access panel provided in the Pedestal's top section.
- Please ensure that access panel is to your right, when seen from the front end.

### Anchor Bolts and Leveling Screws



First insert anchor bolts and secure with one or two turns, but do not tighten.

- The leveling screws that can be found on four sides are used to adjust for plumb.
- Adjust leveling screws to make pedestal plumb (check with Level at two points separated by 90 degrees).
- Gradually tighten anchor bolts to secure the Pedestal Unit to the Anchor Plate. Re-check for plumb.

## Attach Cable Rack

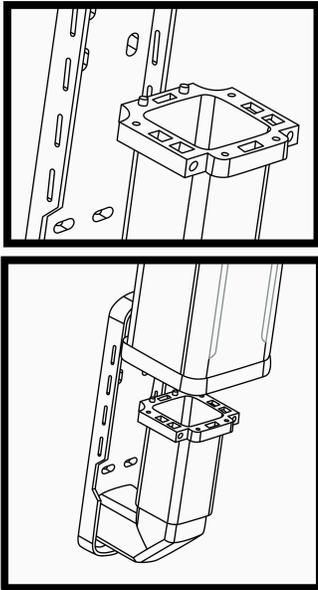
Loosen the cable rack mount screws. Now attach the Cable Rack to the Pedestal and tighten the screws. Check that the Cable Rack is secure and is firmly attached to the Pedestal.



Figure 11 – Pedestal with Cable rack

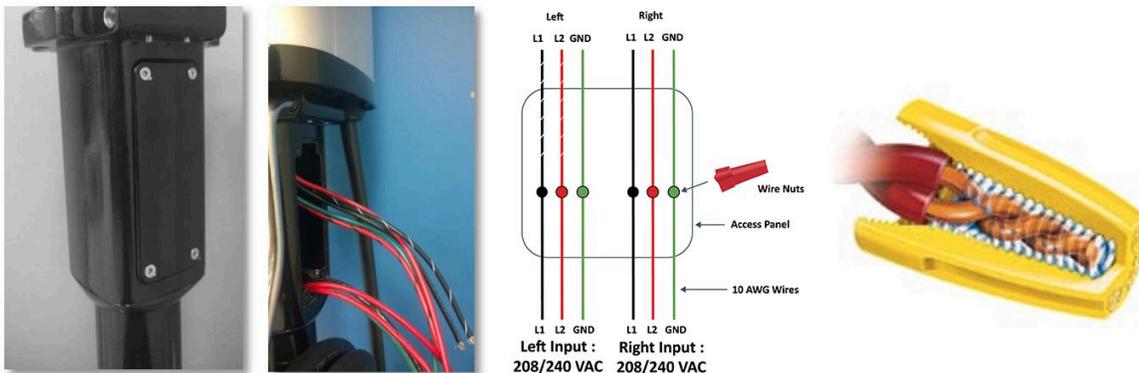
## 1.4.4. Charging Station Head Installation

### Mount the Charging Station Head Unit



- Carefully place the charging station head unit on top of the pedestal as shown in the illustration.
- Align the Guide poles in the pedestal with the base of the head unit.
- Secure Charging station Head Unit to the Pedestal Unit with the help of four mounting screws provided (two on front and one on each side).
- Ensure the charging station is plumb using a level. Check that the Head Unit is now securely fastened to the Pedestal.

### Connecting the Wires: Series 8 Retail EV Charging Station



- Open the Access Panel by removing the four screws.
- Locate and access the wires inside.
- Carefully pull these wires a few inches outside of the access panel, to reveal 5 wires coming from the Charging station Head Unit, Figure 13 (for Level-2 charging stations the color codes are Red, Black,

Red with Black stripe, Black with White stripe and Green) and 5 wires from the Pedestal with the same color combination.

- Remove the insulation on each wire and prepare to connect those using wire-nuts.
- Match the wires using the colors (Black-Black, Green-Green & Red-Red) and connect them using wire nuts as illustrated above.
- Also make sure that the striped wires are connected to the left side of the power source.
- Once connected, slowly insert the wires into the device and replace the access panel cover using the screws previously removed.

CAUTION: Refer to the [wire color codes](#) and strictly adhere to this convention while connecting the charging station and electrical supply wires. Incorrect wiring can lead to an electrical hazard.

## Install Holster



Attach the holster to the Head unit using the four (4) screws (2 for each side).

- Mounting points are located right next to cable rack, at the bottom of the charging stations

After tightening screws, check that the Holster is secure and is firmly attached to the Head Unit

## Cleaning the Device

The device may be cleaned by following the instructions below:

- Use clean, soft cloth along with mild detergent to wash the dirt off.
- Do not use high pressure water. Pour water gently from the top and use a wet/dry cloth to clean all the sides.
- Never use strong detergents or any other chemicals (Acids, petrol, thinner or any other solvent.)
- Do not exert too much of pressure on the device while cleaning.
- Do not open the device.
- Do not use a vacuum cleaner.



## Power Up!

To power up, flip the breakers.

**Call (800) 663-5633 to complete installation.** Please have the station serial number ready with you. If you do not have it, you can find it on left hand side of the station.

# 1.5. Wall Mount

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[Parts List](#)

[Wall Mount Installation](#)

[Charging Station Head Installation](#)

# 1.5.1. Parts List

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## Wall Mount Installation

Series 8 Retail EV Charging Station Head Unit



Charging Station Wall Mount Unit



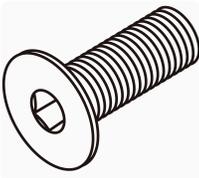
Left and Right Holster



Cable Rack



Head Unit Mounting Screws (4)



Holster Mounting Screws (4)

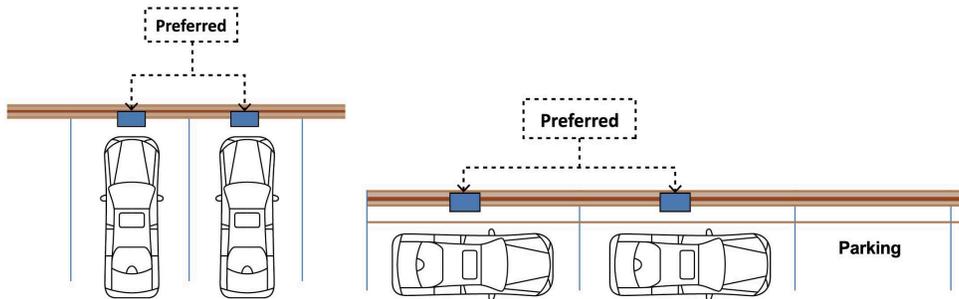


## 1.5.2. Wall Mount Installation

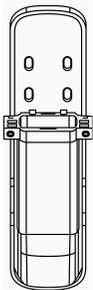
Check Boxes for Correct Content, Pre-Installation Preparation

### Site Selection

The charging station should be positioned such that the distance between the charging station and electric vehicle is sufficient to minimize likelihood of damage (suggested min. 3 ft). Two alternatives are illustrated below:



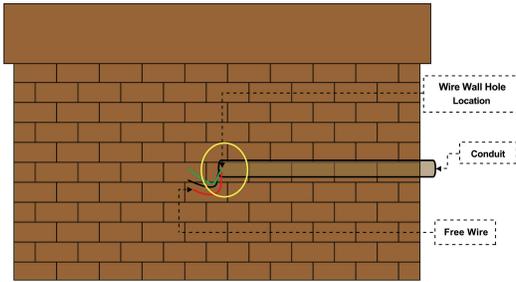
### Preparing the Wall



At the selected location, place the wall-mount on the wall such that the top of the wall-mount is at a height of 49 inches (Check local codes).

- The equipment should be installed at least 18 inches above the floor.
- With the help of a Level, ensure the wall-mount is in an upright position.
- Mark locations for the bolt. If running wire inside wall also mark Wire Wall Hole.
- If wall is made of solid concrete or brick, use anchor bolts to secure the wall-mount to the wall. For walls other than concrete, use fasteners appropriate for the material.

Now, run conduit up to wire wall hole location previously marked on the wall. Run the wires through this conduit up to wire wall hole location with at least 18" (+wall thickness) free wire. See illustration for clarity.



NOTE: If the conduit is run on the same side of the wall as the charging station the wires are then run through the 1-inch opening on the side of the Wall/Pole Mount Bracket Post.

## Install Wall Mount Bracket

Run the wires through the wall-mount.

- Ensure that the wires run all the way to the access panel opening.
- Now secure the wall-mount with the bolts (if concrete or brick wall), or with appropriate fasteners (for other material).
- With the help of plumb make sure that the wall-mount is vertical.

## Attach Cable Rack

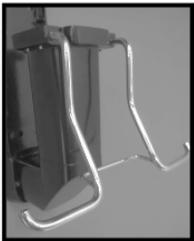
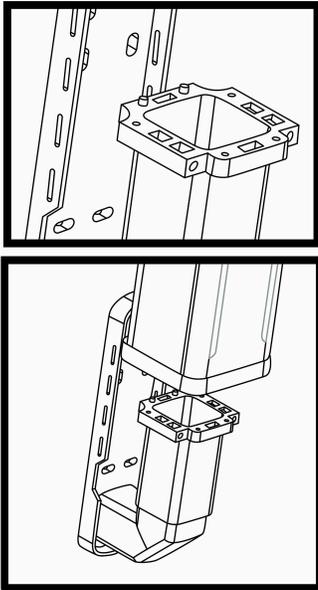


Figure 19 – Wall Mount with Cable rack

- Loosen the cable rack mount screws.
- Now attach the Cable Rack to the wall-mount and tighten the screws (Figure 19).
- Check that the Cable Rack is secure and is firmly attached to the wall-mount.

## 1.5.3. Charging Station Head Installation

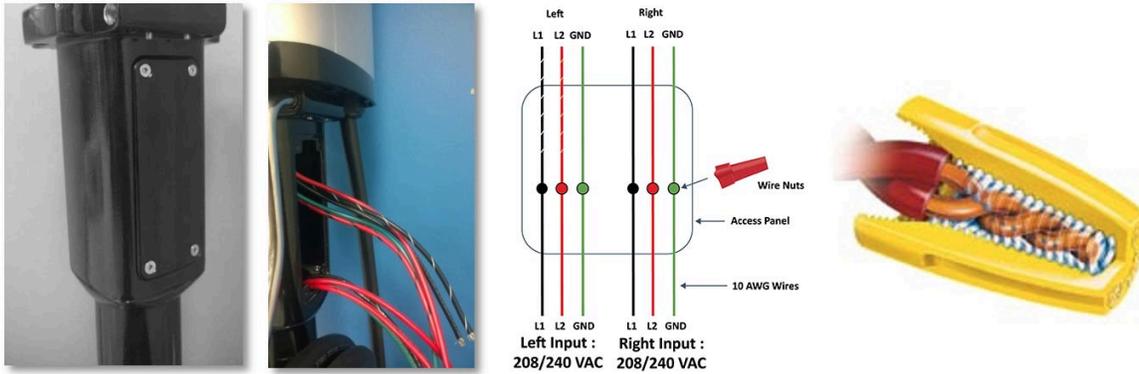
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- Remove the insulation on each wire and prepare to connect those using wire-nuts.
- Match the wires using the colors (Black-Black, Green-Green & Red-Red) and connect them using wire nuts as illustrated above.
- Also make sure that the striped wires are connected to the left side of the power source.
- Once connected, slowly insert the wires into the device and replace the access panel cover using the screws previously removed.



CAUTION: Refer to the [wire color codes](#)

-wiring-diagram} and strictly adhere to this convention while connecting the charging station and electrical supply wires. Incorrect wiring can lead to an electrical hazard.

## Install Holster



Attach the holster to the Head unit using the four (4) screws (2 for each side).

- Mounting points are located right next to cable rack, at the bottom of the charging stations  
After tightening screws, check that the Holster is secure and is firmly attached to the Head Unit

## Cleaning the Device

The device may be cleaned by following the instructions below:

- Use clean, soft cloth along with mild detergent to wash the dirt off.
- Do not use high pressure water. Pour water gently from the top and use a wet/dry cloth to clean all the sides.
- Never use strong detergents or any other chemicals (Acids, petrol, thinner or any other solvent.)
- Do not exert too much of pressure on the device while cleaning.
- Do not open the device.
- Do not use a vacuum cleaner.



## Power Up!

To power up, flip the breakers.

**Call (800) 663-5633 to complete installation.** Please have the station serial number ready with you. If you do not have it, you can find it on left hand side of the station.