INSTALL & OPERATE · ROLL-UP FAST CHARGER · EVQC-E

EVQC0x0-E

30 - 50 kW Outdoor Mobile DC Quick Charger

Installation and Operation Manual · Pii document MNL225

Supplied through the Pii Channel Partner Program · Carbon Advisors, authorized manufacturer’s representative

Power Innovations International · American Fork, Utah · powerinnovations.co

Support, service, and how this manual is maintained

The controlled document

The technical content that follows is Pii's manual MNL225 reproduced in full and unmodified. It is the controlled engineering document and governs.

Qualified personnel only

Installation and commissioning are performed by certified partners or by Pii. Commissioning completes warranty registration and optional enrollment in 24/7 NOC monitoring from Plano, Texas.

Getting help

powerinnovations.co · Free Site Check at powerinnovations.co/site-check: one utility bill, two photos, one week · Partner program: powerinnovations.co/partners

Keep this manual current

Confirm with the program team that MNL225 is the current revision before a new installation.

Will it run on the power your site already has?
powerinnovations.co/site-check

POWER INNOVATIONS INTERNATIONAL

LITEON GROUP

Outdoor Mobile EV Quick Charger
Models:
EVQC030-ExBx
EVQC040-ExBx
EVQC050-ExBx

Installation and Operation Manual

MNL225

READ THIS MANUAL CAREFULLY

SAVE ALL INSTRUCTIONS

INSTRUCTIONS IMPORTANTESCONCERNANT LA SÉCURITÉ

CONSERVER CES INSTRUCTIONS

This manual contains important information regarding Power Innovations International products or processes listed on the title page. Please read all instructions carefully before assembling, installing, or operating equipment. Keep this manual handy for easy reference.

This manual may accompany other instructional guides or manuals for standard installation and operations of the supported products. Please contact Power Innovations if you need additional guides or manuals and have not received them.

Product names mentioned herein may be trademarks (™) and/or registered trademarks (®) of their respective companies, which may include Power Innovations International, Inc. (part of LiteOn Group), LiteOn Technology Corporation, or a third party.

Contents

This page left blank intentionally.

1—Product Overview

This section provides product overview to Power Innovations International Outdoor Mobile EV Quick Charger, model series EVQC0x0-ExBx.

1.1 Introduction

This EV quick charger is an electric vehicle (EV) power supply that is on swivel casters with locks so it can be easily moved to different locations at a facility. After it's initially installed and made operational in one location at a facility, an operator can plug the EV charging cable into their electric vehicle and start a charging session. Later, when the charger is needed in a new location, an operator can power the charger down and unplug it, relocate it, and then plug it in and power it up again in the new location, which makes It ready to start the next charging session.

Although some assembly is initially required, each outdoor mobile quick charger ships with all parts required for installation except the AC input cable and wire, which is provided by the installer or end user.

Use this document to help you:

1. Safely prepare installation area
2. Install power modules and shelf controllers
3. Configure cellular modem and register charger on network
4. Configure and wire AC input power to quick charger
5. Operate EV quick charger (Charge an electric vehicle)
6. Maintain EV quick charger

1.2 Highlighted Features of Outdoor Mobile EV Quick Chargers

Feature	Description
AC Input Power Options	240V single-phase 208/240V 3-phase Delta (3-wire + PE) 480V 3-phase Wye (3-wire + Neutral + PE)
DC Output Power	Up to 50 kW
Communication	RJ45 Bulkhead Connector (Optional Cellular 4G LTE Network, Wi-Fi)
User Interface	Emergency Stop Button LCD Screen RFID Tap authorization Power Up button Power Down button

1.3 Charger Features Identified

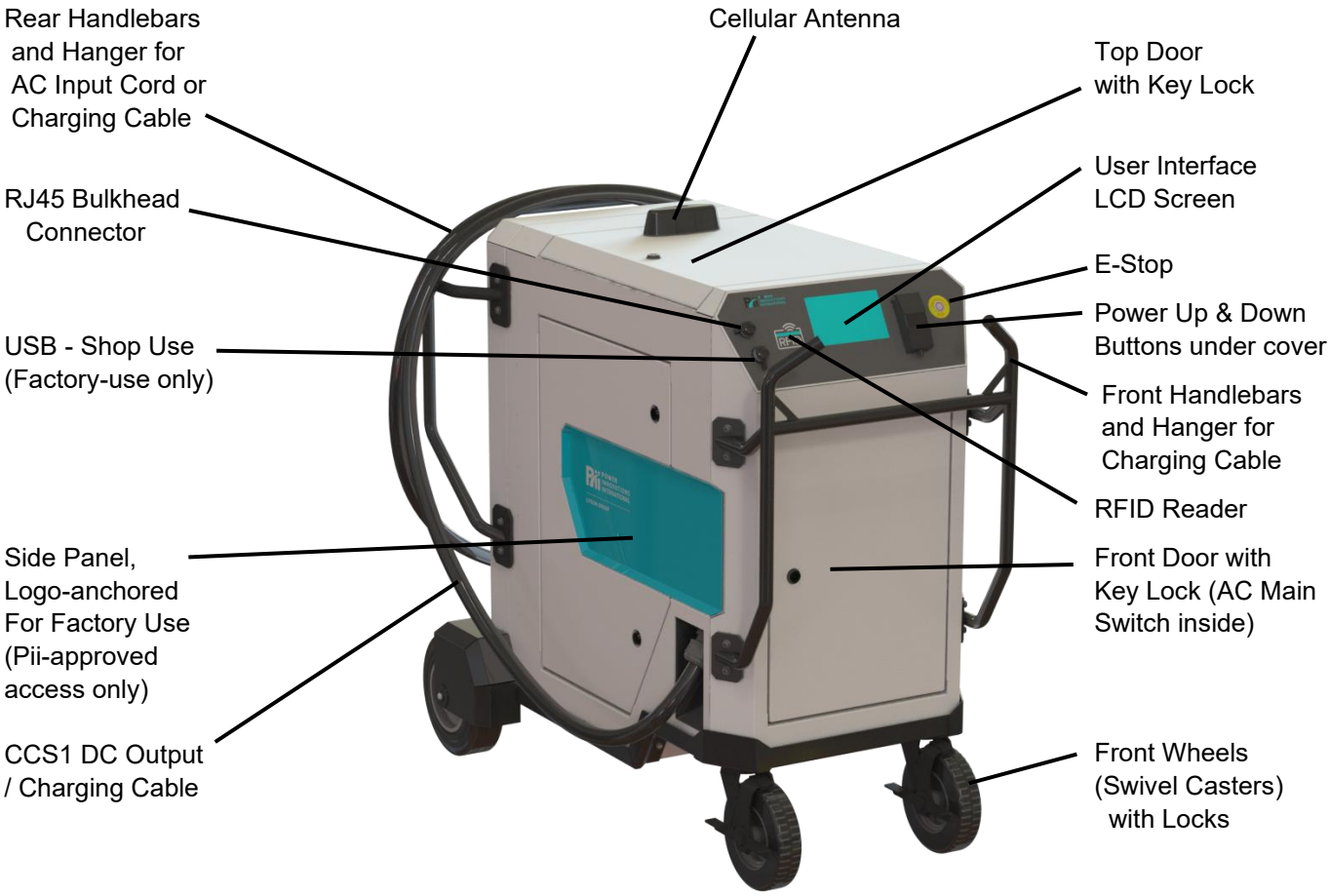


Figure 1—Front View of Outdoor Mobile EV Quick Charger, Model EVQC050-ExBx

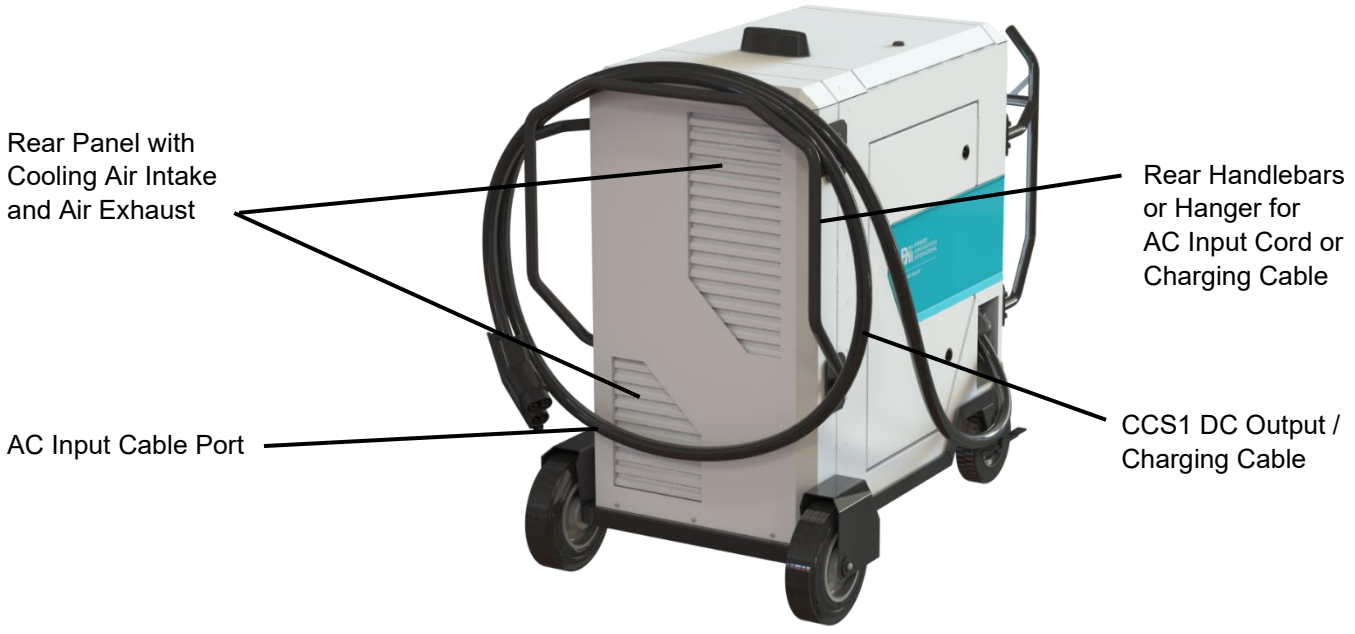


Figure 2—Back View of Outdoor Mobile EV Quick Charger, Model EVQC050-ExBx

1.4 Symbols Used in this Manual

Icons or symbols are occasionally used throughout this manual to help identify safety warnings and other pertinent content contained here. These icons are described in the table below.

Icon	Type of Warning	Description
	**ELECTRICAL WARNINGS**	**WARNING! RISK OF ELECTRIC SHOCK!** ADDITIONAL TEXT THAT FOLLOWS THIS SYMBOL PROVIDES MORE INFORMATION ABOUT THE SPECIFIC WARNING.
	**WARNINGS**	**WARNING! RISK OF ELECTRIC SHOCK!** ADDITIONAL TEXT THAT FOLLOWS THIS SYMBOL PROVIDES MORE INFORMATION ABOUT THE SPECIFIC WARNING.
	**CAUTION!**	**CAUTION!** Indicates a potentially hazardous situation which, if not avoided, can result in minor to moderate injury, or serious damage to the equipment. Important safety measures may also be described in Cautions.
	**Note**	**Note** Offers practical advice that may be helpful but can be disregarded.

1.5 Acronyms Used in this Manual

Acronym	Explanation
AC	Alternating Current
DC	Direct Current
EV	Electric Vehicle

2—Safety and Specifications

The following safety instructions apply throughout the EV Charger installation process. Be familiar with them before moving on to the next section to complete the installation.

2.1 IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS

INSTRUCTIONS IMPORTANTESCONCERNANT LA SÉCURITÉ
CONSERVER CES INSTRUCTIONS

ELECTRICAL WARNINGS – WARNING! RISK OF ELECTRIC SHOCK!

WARNING! RISK OF ELECTRIC SHOCK!
ONLY QUALIFIED ELECTRICAL PERSONNEL FAMILIAR WITH THE CONSTUCTION AND OPERATION OF THIS TYPE OF EQUIPMENT AND THE HAZARDS INVOLVED SHOULD ADJUST, MODIFY, AND SERVICE THIS EQUIPMENT. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

WARNING! RISK OF ELECTRIC SHOCK!
READ THIS MANUAL THOROUGHLY PRIOR TO INSTALLING AND ENERGIZING THE EQUIPMENT. INSPECTION AND MAINTENENACE OF THIS EQUIPMENT SHOULD BE PERFORMED IN ACCORDANCE WITH THE PROCEDURES DETAILED IN THIS MANUAL.

WARNING! RISK OF ELECTRIC SHOCK!
THIS UNIT CONTAINS NO INTERIOR PARTS THAT CAN BE SERVICED WITHOUT QUALIFIED PERSONNEL. IF MAINTENANCE PROCESSES SPECIFIED IN THIS MANUAL FAIL TO SOLVE THE PROBLEM, QUALIFIED PERSONNEL MUST SERVICE THE UNIT.

WARNING! RISK OF ELECTRIC SHOCK!
THE PURPOSE OF THIS MANUAL IS TO PROVIDE YOU WITH INFORMATION NECESSARY TO SAFELY INSTALL, OPERATE, AND MAINTAIN THIS EQUIPMENT. KEEP THIS MANUAL FOR FUTURE REFERENCE.

WARNING! RISK OF ELECTRIC SHOCK!
SHUT OFF POWER SUPPLY BEFORE BEGINNING INSTALLATION ACTIVITIES OR MAINTENANCE WORK. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

WARNING! RISK OF ELECTRIC SHOCK!
THIS EV QUICK CHARGER CONTAINS HIGH VOLTAGE POWER THAT IS POTENTIALLY DANGEROUS IF NOT HANDLED PROPERLY.

CAUTION! The installer is responsible for conforming to all local and national electrical codes and standards applicable in the jurisdiction this equipment is installed in, including providing suitable wire sizes per NEC for the input configuration.

2.2 Specifications – Outdoor Mobile EV Quick Charger Models EVQC0x0-ExBx

Electrical Specifications	
AC Input	
AC Input Power Options (Field configuration patent pending)	240V single-phase 208/240V 3-phase Delta (3P + PE) 480V 3-phase Wye (3P + N + PE)
AC Input Voltage Operating Range and Current	240V single phase: 216V to 252V, 225A max, 60 Hz 208V/240V 3-phase Delta:190V to 252V, 165A max, 60 Hz 480V 3-phase Wye: 432V to 504V, 70A max, 60 Hz
Recommended upstream overcurrent protection device rating	240V single phase: 350A 208V/240V 3 phase Delta: 200A 480V 3 phase Wye: 90A
Power factor	> 0.98
Efficiency	> 95% @ full load
DC Output	
Maximum DC Output Power	Up to 50 kW
DC Output Voltage Range	250V – 920V
Maximum DC Output Current	150A with DC output < 450V 75A with DC output > 450V
DC Charging Connector	CCS1 or NACS
DC Charging Cable Length	5 m (16.4 ft.) standard
Dimensions and Weights	
Charger Dimensions with antenna, handlebars and wheels (H x W x D)	1147 x 748 x 1258 mm (45.2 x 29.5 x 49.5 in.)
Charger Dimensions with (no antenna) handlebars and wheels (H x W x D)	1106 x 748 x 1258 mm (43.6 x 29.5 x 49.5 in.)
Weight – 50 kW Outdoor Mobile EV Quick Charger	Pre-install (no PSUs or SCs loaded) = 267 kg (588 lbs.) Fully Loaded = 312 kg (687 lbs.)
Environment Specification	
Operating Temperature Range	-30°C to +50°C
Storage Temperature Range	-40°C to +60°C
Ingression Protection of Enclosure	NEMA 4, IP66
Humidity	95%
Altitude - Operation	2000 m (6560 ft.)
Certificate/Compliance	
Complies with UL Standards for Safety	cETLus listed to UL 2202, UL2231-1 & -2, and CSA C22.2 No. 281.1, 281.2 and 346

3—Installing Outdoor Mobile EV Charger

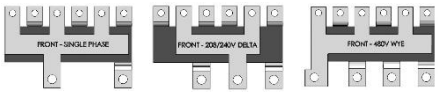
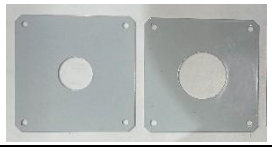
ELECTRICAL WARNINGS – WARNING! RISK OF ELECTRIC SHOCK!

WARNING! RISK OF ELECTRIC SHOCK! SHUT OFF POWER SUPPLY BEFORE BEGINNING INSTALLATION ACTIVITIES AND BEFORE OPENING EV QUICK CHARGER'S AC SERVICE DOOR FOR ANY INSTALLATION OR MAINTENANCE WORK. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

WARNING! RISK OF ELECTRIC SHOCK! ONLY QUALIFIED ELECTRICAL PERSONNEL FAMILIAR WITH THE CONSTUCTION AND OPERATION OF THIS TYPE OF EQUIPMENT AND THE HAZARDS INVOLVED SHOULD ADJUST, MODIFY, AND SERVICE THIS EQUIPMENT. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

WARNING! RISK OF ELECTRIC SHOCK! DO NOT CONNECT POWER SUPPLY TO THE EV QUICK CHARGER UNTIL THE WIRING AND BUS BAR CONFIGURATION IS COMPLETE AND THE AC SERVICE PANEL IS IN PLACE AND SECURE.

3.1 What's Provided with Outdoor Mobile EV Charger

EVQC0x0-ExBx	Description
	1 Mobile EV Quick Charger (front and back view), for up to DC 50kW output, fully assembled exterior
	Up to 6 Shelf Controllers (SCs)
	Up to 18 Power Supply Units (PSUs)
	3 Configuration Bus Bars, each uniquely configured (ship anchored in storage location inside charger)
	2 cable plates (1.5" and 2" diameter hole)
	3 cable glands/cord grips, thread diameters include: 38.1 mm (1.5"), 40 mm (1.57") and 50 mm (2")
	Keys provided for Top Door and Front Door locks (interchangeable)
	2 RFID Cards
	1 manual, MNL225 (this document): *"Outdoor Mobile EV Quick Charger, Models: EVQC030-ExBx, EVQC040-ExBx, EVQC050-ExBx, Installation and Operation Manual"*

3.2 Additional Tools and Supplies Required

- Philips Screwdriver
- Metric Allen wrench set
- Metric Socket set and Rachet
- Electrical AC Input Cable
- Ring Terminals (Lugs) - suitable for accepting cables of the required input current per NEC and Cu or Al wires

3.3 Prepare Installation Area

Become familiar with basic dimensions of the Outdoor Mobile EV Quick Charger and Installation Site warning and best practice(s).

1. Basic dimensions of Outdoor Mobile EV Quick Charger, EVQC0x0-ExBx model series, with handlebars, antenna, and wheels are shown in Figure 3.

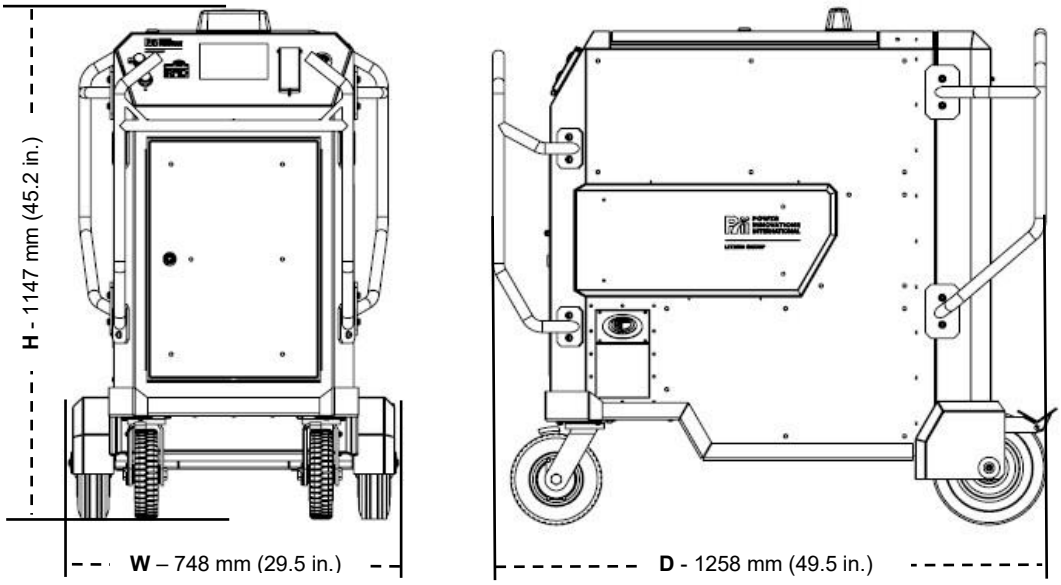


Figure 3—Height, Width, and Depth of Outdoor Mobile Charger (includes handles, antenna, and wheels): *(H x W x D) 1147 x 748 x 1258 mm (45.2 x 29.5 x 49.5 in.)*

2. Select storage and operation locations that are not hazardous.

ELECTRICAL WARNINGS WARNING! RISK OF ELECTRIC SHOCK!
DO NOT STORE OR OPERATE CHARGER IN A HAZARDOUS LOCATION.

3. Best practice for Outdoor Mobile EV Quick Charger site locations:
   Select outdoor storage location where charger will not be in direct sunlight or exposed to precipitation.

4. When you need to relocate Outdoor Mobile charger, be sure to power off and unplug charger and unlock front wheels (Figure 4.1) before rolling charger to new location and relocking front wheels (Figure 4.2).

Figure 4.1—Unlocking wheel and Lock Lever in OFF position

Figure 4.2—Locking wheel

3.4 Install Shelf Controllers and Power Supply Units

ELECTRICAL WARNINGS – WARNING! RISK OF ELECTRIC SHOCK!

WARNING! RISK OF ELECTRIC SHOCK! ENSURE POWER SUPPLY IS SHUT OFF BEFORE STARTING OR CONTINUING INSTALLATION ACTIVITIES AND BEFORE OPENING EV QUICK CHARGER'S PANELS. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

This Outdoor EV Quick Charger usually ships with most of its components pre-installed, including the charging cable, shelf controllers (SCs) and power supply units (PSUs). If you do need to install the SCs and PSUs, they can be installed anytime and in any order prior to powering the charger on.

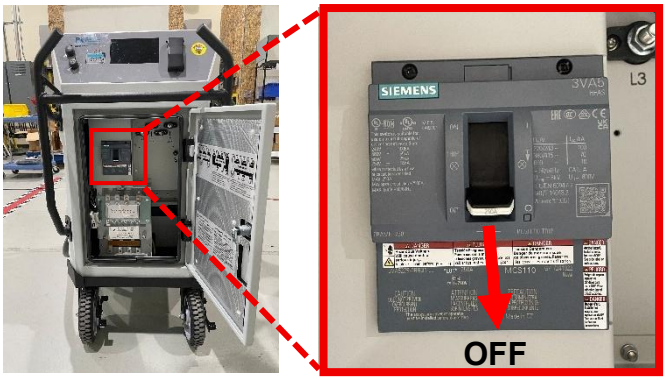


Figure 5—AC main power switch in the OFF position

To install shelf controllers and power supply units:

1. Use door key provided to open front door of charger and ensure AC power to mobile quick charger is turned OFF at charger's AC main switch (Figure 5).

2. Standing in front of the charger, use the door key provided to open the top door to the right (Figure 6) and use Figures 6-7 to identify "bottom" shelf of power stack.

***Figure 6*—From front of charger, Top Door will open to the right side of charger; Red highlight indicates the "bottom" shelf of power stack.**

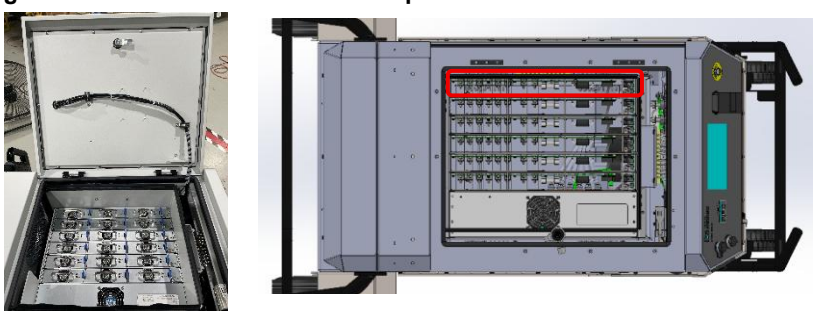


Figure 7—Left-side arial view of loaded and unloaded power stack shelves. Power stack shelves are <u>up-side down</u> in this view* (red highlight indicates "bottom shelf"). *Loading from left side of charger is optimal, but requires writing on face of SCs and PSUs will be upside down to installer.

3. Refer to Figure 8 to become familiar with power supply unit (PSU) with locking tab, shelf controller (SC) with built-in securing screw, and the required orientation of each when loaded into power stack shelves.

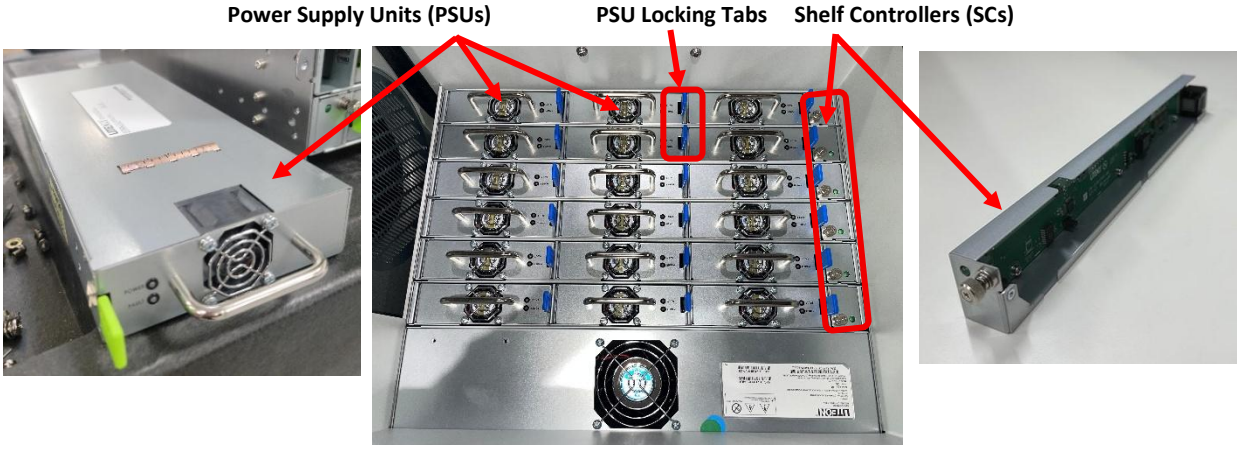


***Figure 8*—Orientation to Power Supply Units (PSUs) and Shelf Controllers (SCs) when loaded in power**

4. Insert up to 6 Shelf Controllers (SCs), 1 on each shelf (Figure 9) and secure with built-in screw (Figure 10). Load the shelves in any order, but leave open slots as needed on the top shelve(s).

   For example: If you ordered a 30 kW Mobile EV charger, load the 3 SCs provided into the 3 “bottom” SC slots and leave the 3 “top” SCs slots empty. (Remember “bottom” row or shelf is identified in Figures 6-7.)

***Figure 9*—Installing Shelf Controller in top SC slot**

***Figure 10*—Securing Shelf Controller in top SC slot**

5. Insert up to 18 power supply units (PSUs), 3 on each shelf (Figure 11) and ensure each PSU clicks into the locked position (Figure 12). Load the shelves in any order, but leave open slots as needed on the top shelve(s) so that any open slots for PSUs end up on the top shelve(s) (or shelves closest to left side).

   For example, if you ordered a 30 kW Mobile EV charger, load the 9 PSUs provided into the 9 PSU slots available on the 3 lowest shelves and leave the 9 PSU slots on the 3 highest shelves empty.

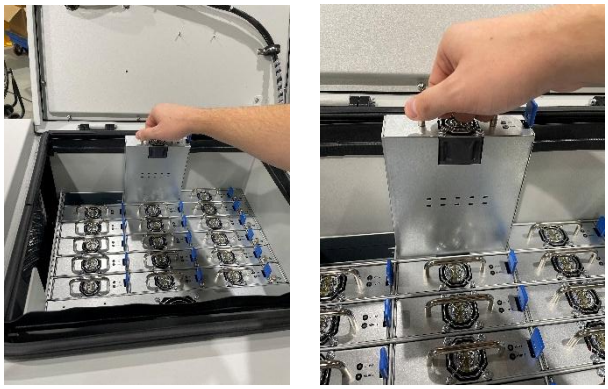


***Figure 11*—Installing a PSU into the bottom shelf**

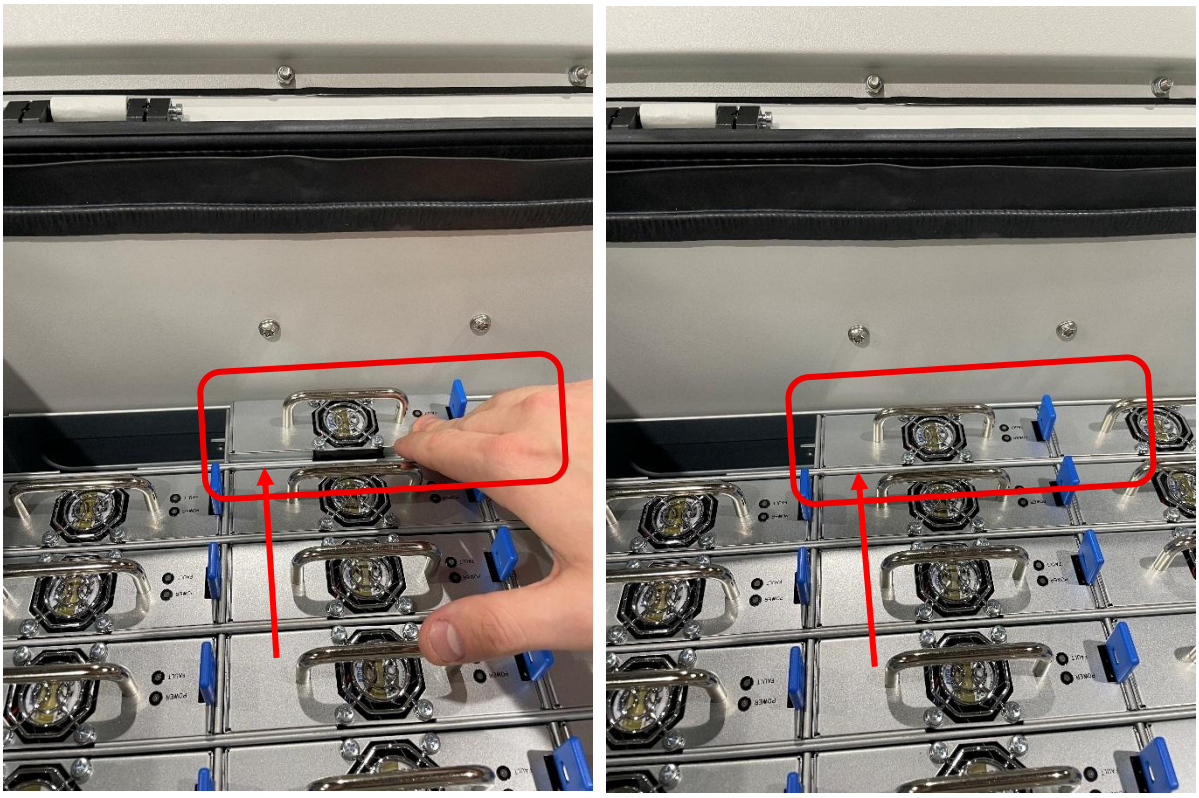


***Figure 12*—Securing a PSU into the bottom shelf with click-lock**

Note: When a 30 kW Outdoor Mobile EV charger is loaded with the SCs and PSUs required, every slot in the 3 bottom shelves is filled and every slot in 3 top shelves is empty.
Note: When a 50 kW Outdoor Mobile EV charger is loaded with the SCs and PSUs required, every slot in all 6 shelves is filled.

6. Close and lock top door of charger.

3.5 Configure and Wire AC Input Power

ELECTRICAL WARNINGS – WARNING! RISK OF ELECTRIC SHOCK!

WARNING! SHUT OFF POWER SUPPLY BEFORE BEGINNING INSTALLATION ACTIVITIES. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

WARNING! RISK OF ELECTRIC SHOCK! DO NOT PROVIDE LIVE POWER TO THE EV QUICK CHARGER UNTIL BUS BAR CONFIGURATION AND AC WIRING IS COMPLETE AND THE AC SERVICE PANEL IS IN PLACE AND SECURE.

WARNING! RISK OF ELECTRIC SHOCK! ONLY QUALIFIED ELECTRICAL PERSONNEL FAMILIAR WITH THE CONSTUCTION AND OPERATION OF THIS TYPE OF EQUIPMENT AND THE HAZARDS INVOLVED SHOULD ADJUST, MODIFY, AND SERVICE THIS EQUIPMENT. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

CAUTION! The installer is responsible for conforming to all local and national electrical codes and standards applicable in the jurisdiction this equipment is installed in, including providing suitable wire sizes per NEC for the input configuration.

1. Ensure AC power to EV quick charger is turned OFF at site's upstream AC breaker.

2. Determine which of the three supported configurations is required for this installation.
   240V (single phase): *Line 1, Line 3, Ground*
   208V/240V 3-phase Delta (3-wire + PE): *Line 1, Line 2, Line 3, Ground*
   480V 3-phase Wye (3-wire + Neutral + PE): *Line 1, Line 2, Line 3, Neutral, Ground*

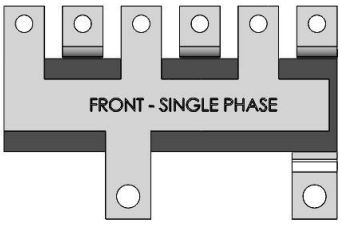
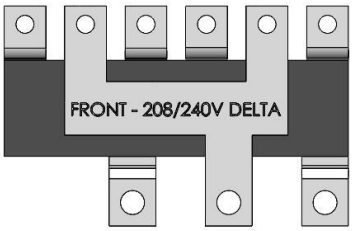
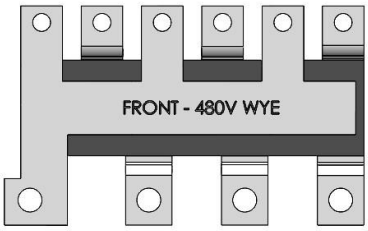
240 V (single phase)	208/240 V 3-phase Delta (3-wire + PE)	480 V 3-phase Wye (3-wire + Neutral + PE)
		
	CAUTION! DO NOT USE this Delta bus bar for a 480V 3-phase (3-wire + Neutral + PE) source, which requires a neutral.	**CAUTION! This source requires the Neutral line to be supplied and connected to prevent damage to equipment.**

Figure 13—Configuration Bus Bar to install for each supported AC Input Power Configuration

3. Using door key provided, unlock and open front door, then locate the clear protective plate anchored to front of Bus Bar (Figure 14).

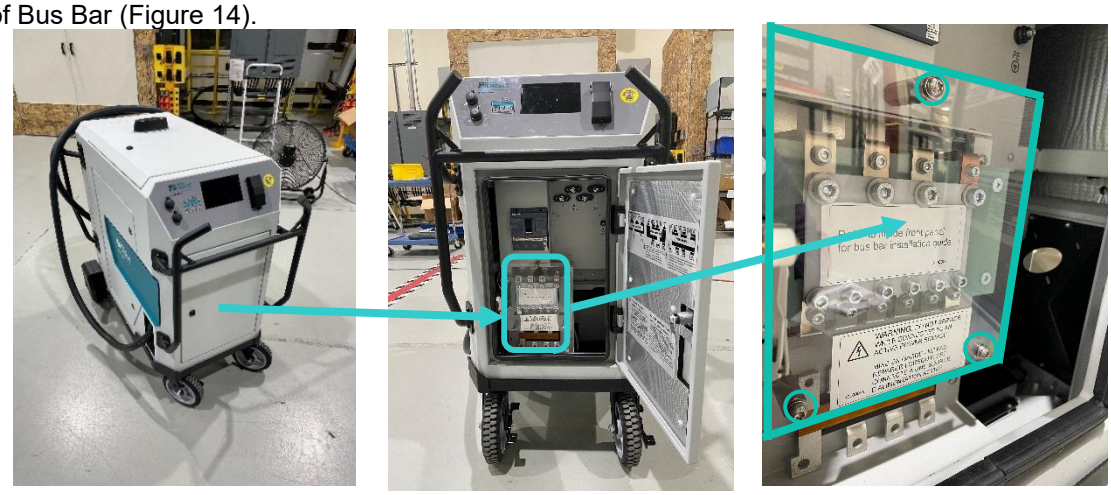


Figure 14—Open front door to locate clear, protective plate anchored in front of Bus Bar

4. Remove the 3 screws and the clear, protective plate they secure (highlighted in Figure 14) and then set clear plate and screws aside to be reinstalled later.

5. Do not store or operate this mobile quick charger in a hazardous location.

WARNING! RISK OF ELECTRIC SHOCK! DO NOT STORE OR OPERATE CHARGER IN A HAZARDOUS LOCATION!

6. Locate the white plastic spacer plate that was secured to the Bus Bar before shipping (Figure 15).

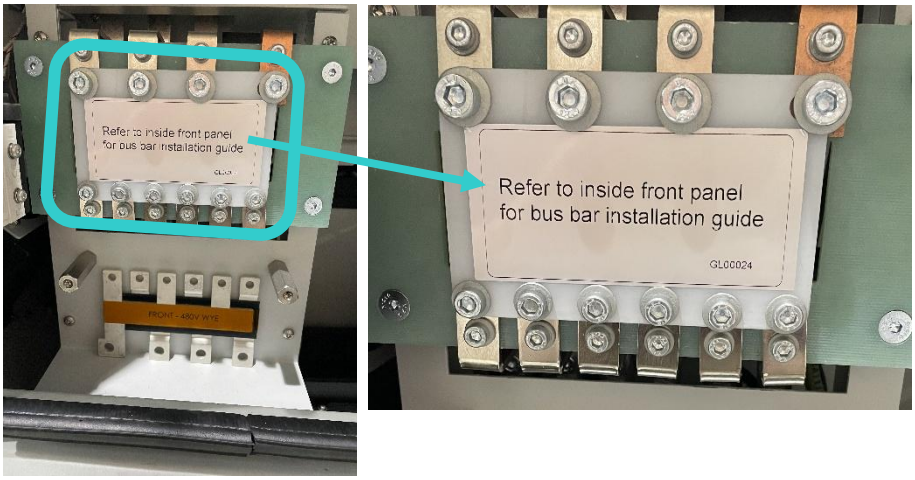


Figure 15— White plastic spacer plate secured to Bus Bar to be replaced with a Configuration Bus Bar

7. Remove the four M8 and six M6 socket head cap screws that secure spacer plate to Bus Bar (Figure 16), remove spacer plate from Bus Bar, and discard spacer plate.

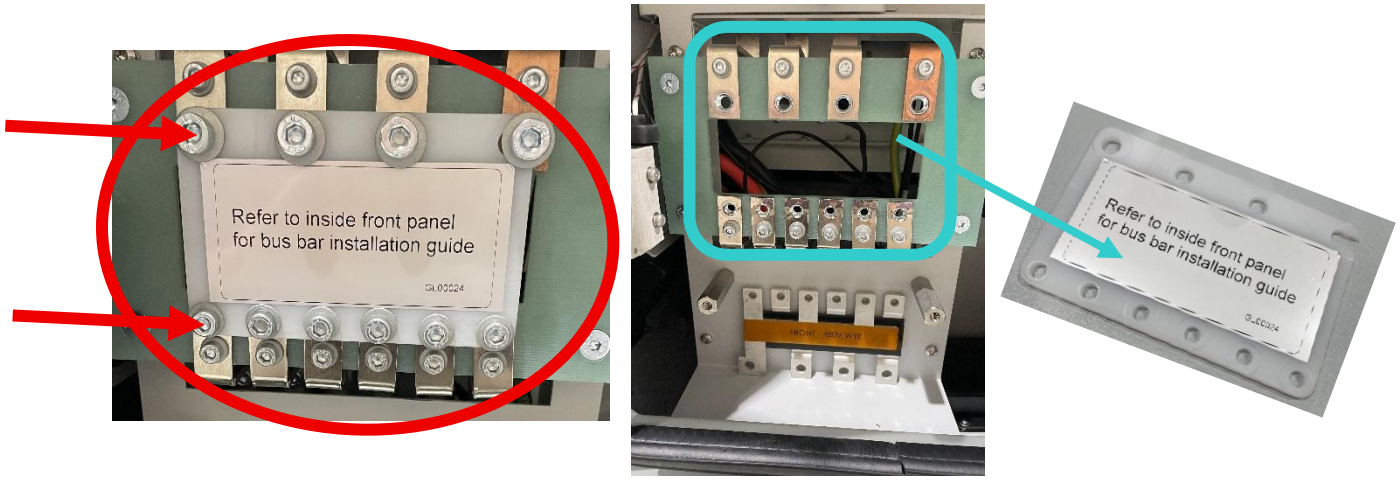


Figure 16— M6 and M8 socket head cap screws must be removed to remove plastic spacer plate

8. Locate the shipping/storage location of the stack of three Configuration Bus Bars anchored with nuts below Bus Bar (like Figure 17).

9. Remove nuts anchoring configuration bus bars together to the charger below the Bus Bar, select the one needed for this installation (refer to Step 2 and Figure 13).

10. Install the Configuration Bus Bar required for this charger's AC input power as follows:
a. Place selected Configuration Bus Bar on the Bus Bar with its "FRONT" stamp facing out AND upside down (such as the "FRONT – 480 WYE" example shown in Figure 17).

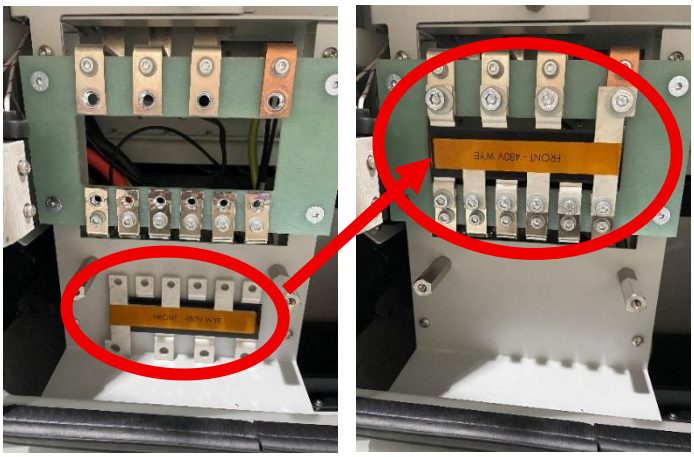


Figure 17— Shown: "FRONT – 480 WYE" configuration bus bar secured on Bus Bar

b. Secure four M8 socket head cap screws, hand tight only and not over 424 in-lbs (20 N-m).
c. Secure six M6 socket head cap screws, hand tight only and not over 177 in-lbs (48 N-m).

CAUTION! Configuration Bus Bar must be loaded and secured on Bus Bar with the "FRONT" stamp facing out, and upside down, as shown in Figure 17.

11. Re-anchor the two spare configuration bus bars to their original shipping/storage position (Figure 18).

12. Return the clear, protective plate on top of the anchored configuration bus bar and secure the clear plate to the charger using the original 3 screws (also Figure 18).

Figure 18 — Spare configuration bus bars, Delta and Single, anchored together in storage area

13. Using the voltage and current intended to be supplied to charger (selected in Step 3), select the proper cable type needed for this charger and this installation per NFPA 70 (NEC) Code Requirements. Cable insulation rating must be at least 90° C.

14. Based on cable type needed and outer diameter of selected cable, use the following table to select the AC Input cover plate (Figure 19) and the cord grip/cable gland (Figure 20) suitable for your AC input power cord/cable.

Cable OD (mm)	**18 - 25**	**24-32**	**31 - 41**
Adapter Plate	Small Hole	Large Hole	None
Cable Gland Thread Diameter (mm)	38.1	40	50
Cable Gland Thread Diameter (in.)	1.5	1.57	2

Figure 19—AC Input Cover Plates included

Figure 20—Three sizes of Cord Grip/Cable Glands included

15. Feed AC Input power cord through cord grip/cable gland, adapter plate (if applicable) and charger wall, and then secure the cord to the charger with the cable gland.

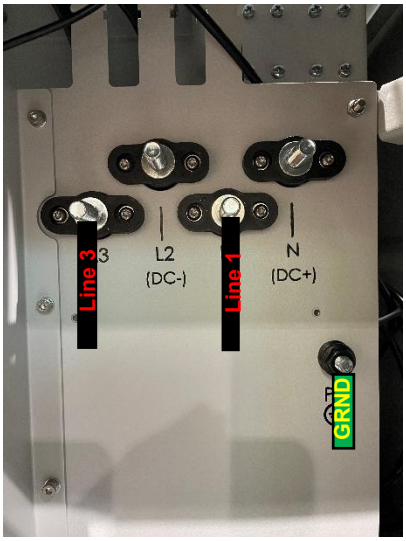
16. Notice the three AC input power wiring configurations shown in Figure 21, then select the wiring configuration and ring terminals needed for this charger.

- Ring terminal (ring lug) for Neutral or a Line wire must fit 3/8-inch diameter junction block stud.
- Ring terminal (ring lug) for Earth Ground must fit M8 (5/16-inch) diameter stud.

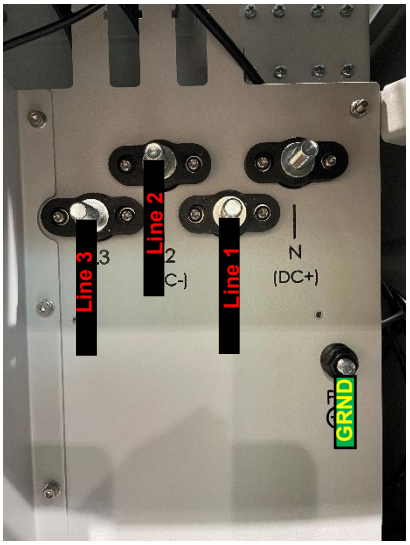
17. Using properly-sized ring terminals (as described above), wire AC Input Power to charger's AC Main landing stud per Figure 21 and local and national regulations, then tighten the nuts on all 5 studs (L1, L2, L3, PE, N) to 17 N-m (150 in-lb.).

- **Reminder: The installer is responsible for conforming to all local and national electrical codes and standards applicable in the jurisdiction this equipment is installed in, including providing suitable wire sizes (Figure 21) and ring lugs (Step 16) per NEC for the input configuration.**
- **This charger can accept Copper (Cu) and Aluminum (Al) input cables suitable for the current rating per NEC by using the installer-provided ring terminals (or ring lugs) rated to accept the Cu or Al input cables.**
- **Cable insulation rating must be at least 90° C.**

AC Input Power:
240V Single, 225A max, 50/60 Hz



AC Input Power:
208V/240V Delta, 165A max, 50/60 Hz



AC Input Power:
480V Wye, 70A max, 50/60 Hz

CAUTION! This 480V Wye source requires the Neutral line to be supplied and connected to prevent damage to equipment.

Figure 21 - AC Input Wiring for different AC Input Power Configurations

18. After all input power wires have been secured to AC Main landing stud connectors: At site's AC circuit breaker, turn on breaker and check voltage input. (1) If voltage input is OK, turn ON charger's AC Main Switch (Figure 22). (2) If voltage is not OK, turn OFF site's circuit breaker before troubleshooting.

19. Close and lock the Front Door with the door key provided.

20. Continue to the next section to set up power levels and operate the charger.

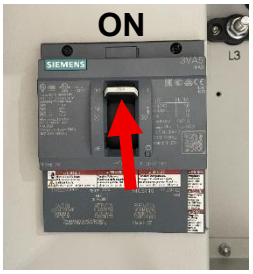


Figure 22—AC Main Switch ON

3.6 Configure Cellular Modem and Register on Network

If a cellular modem is not installed on your mobile charger, skip this section.

WARNING! RISK OF ELECTRIC SHOCK!
DO NOT CONNECT POWER SUPPLY TO EV QUICK CHARGER UNTIL PHYSICAL SIM CARDS ARE INSERTED INTO CELLULAR MODEM AND TOP DOOR IS CLOSED.

Note: Physical SIM cards for cellular modem must be provided by product owner or administrator.

To configure cellular modem with physical SIM card and register the charger on the backend network:

1. Using door key provided, unlock front door and open it to the right.
2. Locate the installed cellular modem on the floor of the charger (Figure 23).

Figure 23—Open front door to the right to access installed cellular modem

Figure 24—Modem anchored to charger floor with 4 screws and right-side (face view) of installed modem with cables still attached

3. Remove 4 screws anchoring modem to charger (Figure 24) and disconnect 3 cables on right side of modem.
4. Rotate right-side of modem forward, remove the screw securing slot cover in place (Figure 25) and then remove slot cover to expose modem's expansion slots.

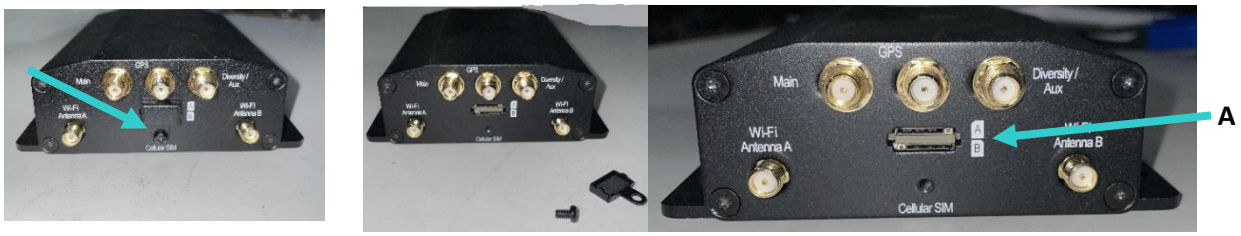


Figure 25 – For Peplink Modem, remove 1 screw and small slot cover to expose SIM card slots A and B

5. Insert a SIM card in slot A only.
6. Return slot cover to its original position on modem and secure it with the original screw.
7. Register this EV charger as one of the supported devices on the owner's backend network. The modem will find the cellular network and attempt to automatically connect.
8. Close and lock front door of charger.

4—Setting Up Power Level and Operating EV Quick Charger

4.1 Set Power Level for Desired Operating Location

4.1.1 Do not store or operate this mobile quick charger in a hazardous location.

WARNING! RISK OF ELECTRIC SHOCK!
DO NOT STORE OR OPERATE CHARGER IN A HAZARDOUS LOCATION!

4.1.2 Calculate Maximum Charger Power Level allowed for current location using configuration information and this table (also found on exterior of charger). This will help you avoid tripping sites AC circuit breaker due to overload.

POWER INNOVATIONS INTERNATIONAL	Maximum Charger Power Setting* (kW)					
Upstream Circuit Breaker Rating	Single Phase Panel			Three Phase Panel		
	208V	220V	240V	208V	240V	480V
50A	8	8	9	14	16	33
75A	12	13	14	21	24	49
100A	16	17	19	28	33	50
125A	20	22	24	36	41	50
150A	25	26	28	43	49	50
175A	29	30	33	50	50	50
200A	33	35	38	50	50	50
225A	37	39	43	50	50	50
250A	41	44	48	50	50	50
300A	49	50	50	50	50	50
*Set by user based on input voltage and upstream breaker						GL00033

Figure 26—Maximum Charger Power Rating (kW) set by user based on input voltage and upstream break

4.1.3 If charger is not powered on, use door key to open charger's front door and turn Main Power Switch to ON (up). When LCD screen lights up, the current power level setting will display (see sample in Figure 27).

4.1.4 Close and lock the front door.

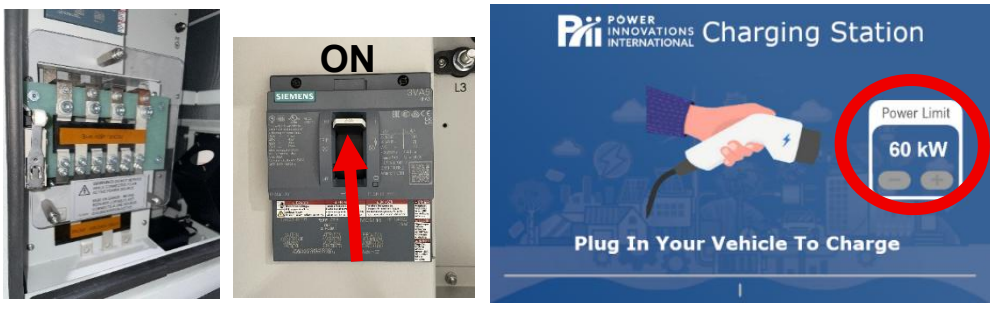


Figure 27—AC main power switch in ON position and LCD display of current power level

4.1.5 If button cover on front of charger is locked with padlock, unlock the button cover.

4.1.6 **Lift button cover on front of charger (Figure 28), then press top and bottom buttons at the same time to enter Configuration Mode.**

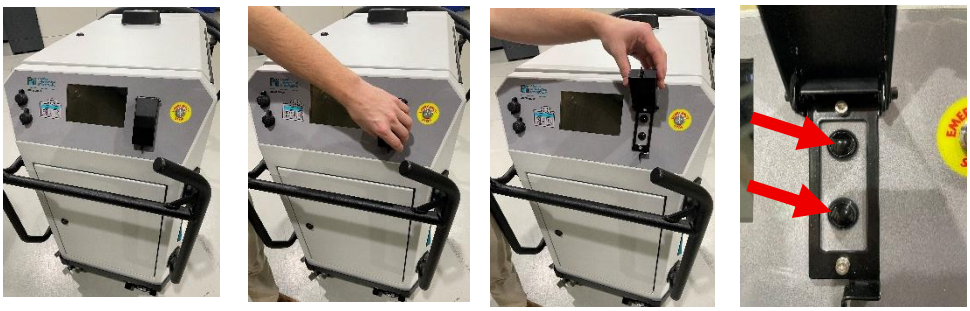


Figure 28—Lift button cover and press top and bottom buttons simultaneously to enter Configuration Mode

4.1.7 To confirm entering Configuration Mode, ensure the - and + signs in the “Power Limit” on-screen display have brightened (see before and after images in Figure 29).

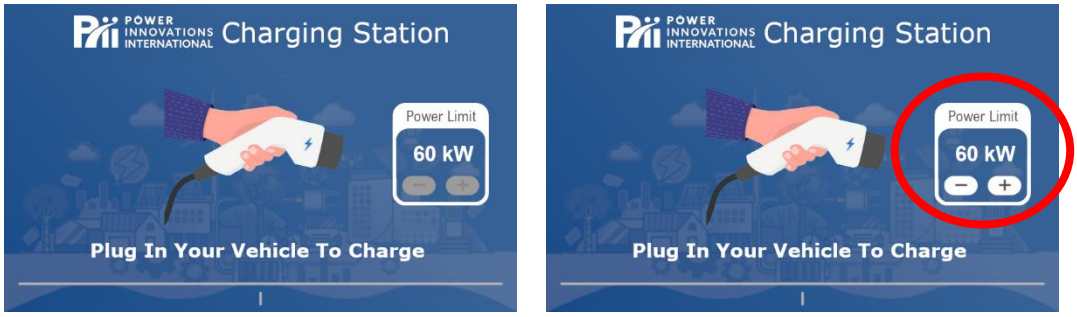


Figure 29—On-screen display of Maximum Power Limit set; When charger enters Configuration Mode, the – and + buttons will brighten

4.1.8 Press top or bottom button (see Figure 30) to increase or decrease maximum power level respectively in increments of 5 kW to set maximum setting at or below the maximum charger power setting allowable per upstream circuit breaker rating. (Refer to Figure 26 or the chart posted on back of the charger for assistance.) For example, using the chart in Figure 26, if your Upstream Circuit Breaker Rating was 100A and you were using a 240 V three-phase panel, then the maximum charger power setting allowed for the configuration would be 33 kW. However, because this charger’s maximum power settings are set in increments of 5 kW, you would need to lower the setting to 30 kW —rounding down to the nearest 5 kW without going over the maximum allowed for your configuration.

Figure 30—After entering Configuration Mode, pressing top or bottom button will increase or decrease maximum power setting

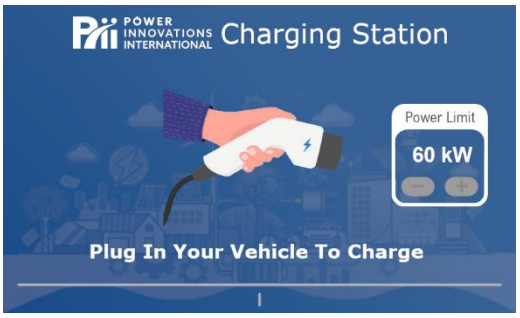
4.1.9 New setting will display on screen. After a few seconds of inactivity, the charger will exit Configuration Mode (- and + are gray again) and your new setting is automatically saved.

4.1.10 Close button cover.

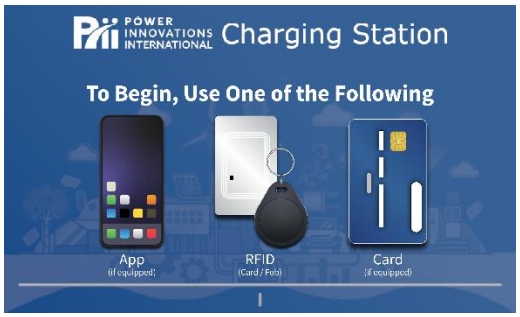
4.1.11 (Optional) Padlock the cover with ¼ inch padlock to ensure charger maintains Maximum Charging Power Setting and setting is changed only by trained personnel given access.

4.2 Operate EV Quick Charger

4.2.1 Lift EV charging cable plug from hanger and plug into EV.

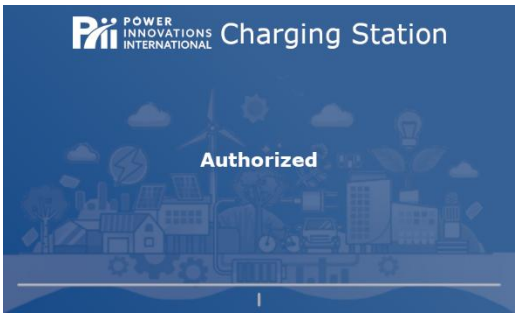


4.2.2 Use one of the payment methods your charger supports to initiate a charging session. For example, if using an RFID card provided for this charger, tap the card on the charger's RFID Reader.

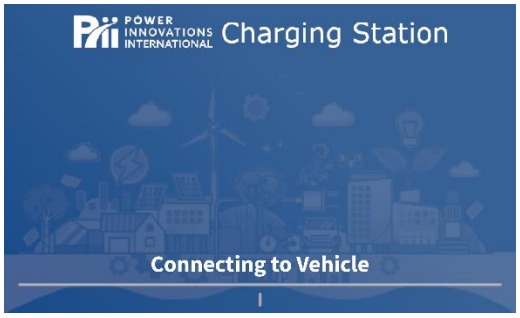


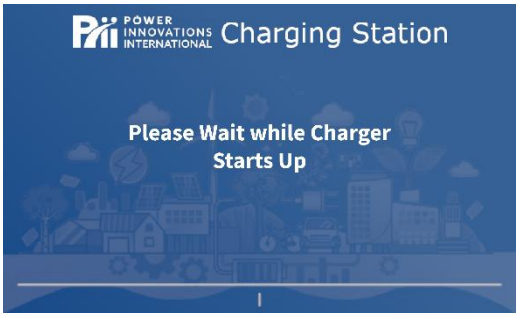
4.2.3 Watch display for payment authorization:

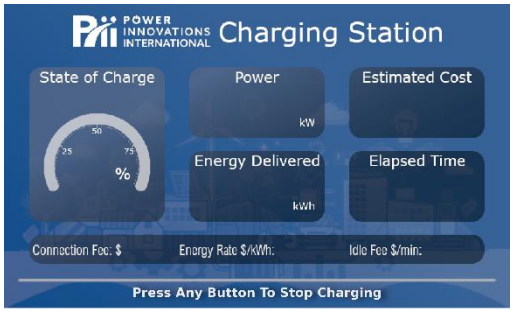
- If payment method was accepted, the message "Authorized" displays and you can continue.
- If payment method was not accepted, leave EV charging cable plugged into EV and try payment method again.



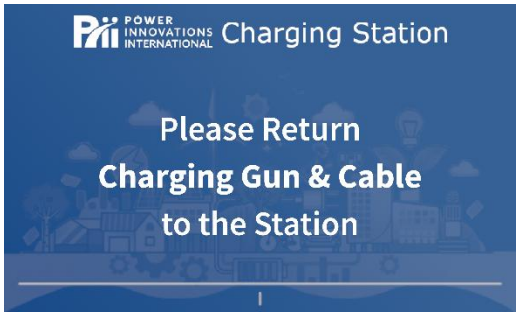
4.2.4 Follow on-screen displays to ensure charger connects to vehicle and the charging cycle begins. Once charging cycle successfully starts, the charging progress displays.



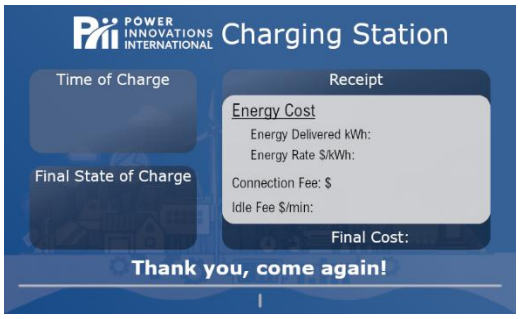




4.2.5 The charger will automatically complete the charging cycle if left undisturbed. If you wish to stop charging cycle early, press any button. When the charging cycle ends or is stopped, the following prompt displays.



4.2.6 Click to release EV charging cable plug (gun) from EV and return cable with plug to the front or back hanger of the charger. An on-screen receipt displays.



5—Maintaining EV Charger

ELECTRICAL WARNING! -
WARNING! RISK OF ELECTRIC SHOCK!

WARNING! RISK OF ELECTRIC SHOCK! SHUT OFF POWER SUPPLY AT AC BREAKER BEFORE BEGINNING MAINTENANCE ACTIVITIES AND BEFORE REMOVING EV QUICK CHARGER'S AC SERVICE PANEL FOR ANY MAINTENANCE WORK. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

WARNING! RISK OF ELECTRIC SHOCK! THIS EV CHARGER AND CHARGING CABLE ARE ENERGIZED. BEFORE SERVICING THE CHARGER OR CABLE, SHUT OFF POWER SUPPLY TO CHARGER, CLICK HANDLE TO RELEASE CABLE PLUG FROM EV, AND RETURN CABLE PLUG TO THE DOCKING STATION.

CAUTION! Maintenance tasks should only be completed as directed in this section. When in doubt, contact Power Innovations on how to proceed.

AVERTISSEMENT ÉLECTRIQUE ! -
AVERTISSEMENT ! RISQUE DE CHOC ÉLECTRIQUE !

ATTENTION ! RISQUE DE CHOC ÉLECTRIQUE ! ÉTEIGNEZ L'ALIMENTATION ÉLECTRIQUE AU DISJONCTEUR À COURANT ALTERNATIF AVANT DE COMMENCER LES ACTIVITÉS DE MAINTENANCE ET AVANT DE RETIRER LE PANNEAU D'ENTRETIEN CA DU CHARGEUR RAPIDE POUR VE POUR TOUT TRAVAIL DE MAINTENANCE. LE NON-RESPECT DE CETTE PRÉCAUTION POURRAIT ENTRAÎNER DES BLESSURES GRAVES OU LA MORT.

ATTENTION ! RISQUE DE CHOC ÉLECTRIQUE ! CE CHARGEUR DE VE ET CE CÂBLE DE CHARGE SONT SOUS TENSION. AVANT D'ENTRETENIR LE CHARGEUR OU LE CÂBLE, COUPEZ L'ALIMENTATION DU CHARGEUR, CLIQUEZ SUR POIGNÉE POUR LIBÉRER LA PRISE DE CÂBLE DE L'EV ET RETOURNEZ LA PRISE DE CÂBLE À LA STATION D'ACCUEIL.

ATTENTION ! Les tâches d'entretien ne doivent être effectuées que conformément aux directives de la présente section. En cas de doute, contactez Power Innovations sur la façon de procéder.

5.1 Restart after Emergency Stop

This Emergency Stop button is an emergency ON/OFF operator button for the quick charger's charging sessions. Any time the Emergency Stop button has been pressed and is recessed, it is in the OFF position. To reset the button, press it once to make it flush again and put it in the ON position. With the Emergency button flush, the charger is ready for the next charging session to be started.

Figure 31—Emergency Stop Button is ON/OFF operator button: Recessed is OFF and Flush is ON

If the Emergency Stop button is pressed during a charging session, charging is stopped, an Error Message displays in LCD (see Figure 32), and the button stays recessed.

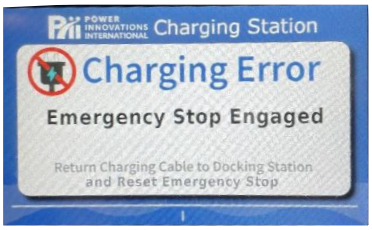


Figure 32—Error Message displays in LCD screen when Emergency Stop Button is depressed

Before a new charging session can be started following this Error Message:

1. Charging cable must be unplugged from EV and returned to Docking Station.
2. Emergency Stop button must be reset to the flush/ON position by pressing it once.

   Note: Resetting the button does not start a new charging session, but it prepares the charger to support the next charging session started.

6—Regulatory

UL & CSA

This product and its documentation comply with the following UL and CSA Standards:

- UL 2202 Standard for Safety: Electric Vehicle (EV) Charging System Equipment
- UL 2231-1 Standard for Safety: Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits; Part 1: General Requirements
- CSA C22.2 346 (Canadian Standards Association) – DC Charging Equipment for Electric Vehicles
- CSA C22.2 281.1 – Personnel Protection Systems for Electric Vehicle Supply Circuits

7—Warranty

Power Innovations International warrants that products purchased hereunder are free and clear of all liens and encumbrances.

Power Innovations International warrants that products are to be free from material or workmanship defect under normal use for a period of two (2) years from the invoice date.

In the event that any defect is found under normal usage conditions during the above warranty period, Power Innovations International will be responsible for repair or replacement at its sole discretion and subject to the replacement may be refurbished products.

All repair covered by this warranty must be done at Power Innovations International factory, or other repair facilities as designated by Power Innovations International unless Power Innovations International specifically directs that this service be performed at another location or service provider.

Customer shall, at its own costs, be responsible for shipping the defective products to the designated repair facilities subject to a RMA issued by Power Innovations International.

Power Innovations International will be responsible for shipping the repaired or refurbished unit back to the customer.

Power Innovations International shall not have any warranty obligations for claims: (i) caused by the misuse or abuse of products by end users; (ii) caused by modifications or repairs made to the products or disassembly of products by any person other than Power Innovations International, unless receiving Power Innovations International authorization; (iii) in relation to the appearance damage.

This Warranty Term states the exclusive liability of Power Innovations International and the exclusive remedy of buyer/customer with respect to any claim or defects of the products.

8—Contact Information

If there are any questions or comments about this product, please feel free to contact us.

Power Innovations International, Inc.

Web: www.powerinnovations.com/support

Phone: 801-785-4123

Mailing Address: 1305 South 630 East, American Fork, UT 84003