Display Screen Replacement in 120 kW EV Fast Charger or 60 kW Bi-Directional Charger

Introduction

Display Screen Replacement in the 120 kW EV Fast Charger and the 60 kW Bi-Directional Charger is nearly identifcal.as the cabinet exterior is similar and the working room within the cabinet is about the same.

To maintain the charger's listing, you must purchase replacement parts for this charger from Pii only and installers must be qualified and trained electricians who install the parts according to these instructions.

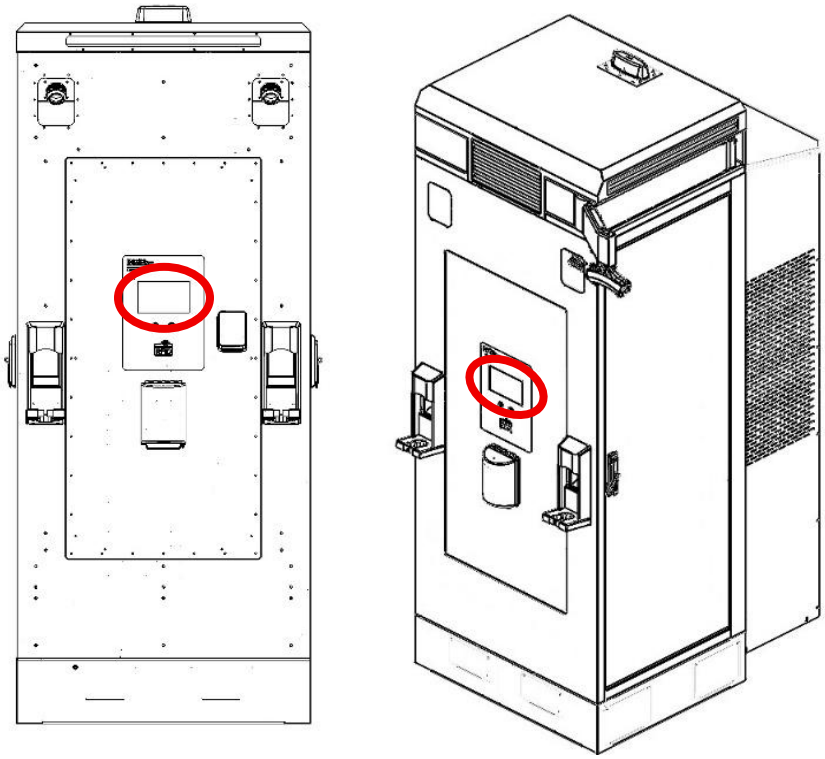

Figure 1: Display Screen on front of 120 kW Fast Charger or 60 kW Bi-Directional Charger is mounted on the back of the front cabinet wall

CAUTION! Replacement parts used must be purchased from Power Innovations International to maintain the charger's listing.

Replacement Display Screen Part Number

Heat Exchanger Part #	Description	Supported Pii Charger Models
EC01401	7 in Display Screen with RJ45	EVFC0120, 20kW Fast Charger EVBC6060, 60kW Bi-Direction Charger

Tools Needed

- PPE
- Headlamp
- Magnetic dish (for fasteners)
- Phillips screwdriver, 1 gauge
- T10 Torx driver

IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS

ELECTRICAL WARNINGS – WARNING! RISK OF ELECTRIC SHOCK!

WARNING! RISK OF ELECTRIC SHOCK! ONLY QUALIFIED ELECTRICAL PERSONNEL FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THIS TYPE OF EQUIPMENT AND THE HAZARDS INVOLVED SHOULD ADJUST, MODIFY, AND SERVICE THIS EQUIPMENT, WHICH IS REQUIRED TO MAINTAIN THE CHARGER'S INTERTEK LISTING. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE INJURY OR DEATH.

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.

Notice: Before Beginning Replacement

Note:

1. **Wire/cable count and placement vary, by model number**. Not all connections are specified here, so take note of positioning and be methodical when disassembling. Clear, lighted photographs, from varied angles, and labeling with tape and or Sharpie is recommended.
2. **Take care to keep track of fasteners**. If any fasteners are lost, they must be replaced--or else damage or liability may result.
3. **Avoid cross-threading.** Thread nuts and screws first by hand, then with power tools (if desired), to avoid cross-threading. This may seem minor, but it can have major ramifications if not observed.
4. **Recommissioning the unit is not necessary**, as that process will have been completed in the factory.

Turn Off EV Charger's AC Main Switch

1. **Open left-side door of charger.**
   a. Remove padlock, turn key.
   b. Pull bottom of handle toward you, then turn toward center of door.

Figure 2 – Main Switch and its removeable handle shown in a fully loaded 60kW Bi-Directional Charger (inside left-side door)

2. **De-energize charger:**

   a. Inside the left-side door, flip Main Switch at bottom to "Off" position (use extension handle if needed).

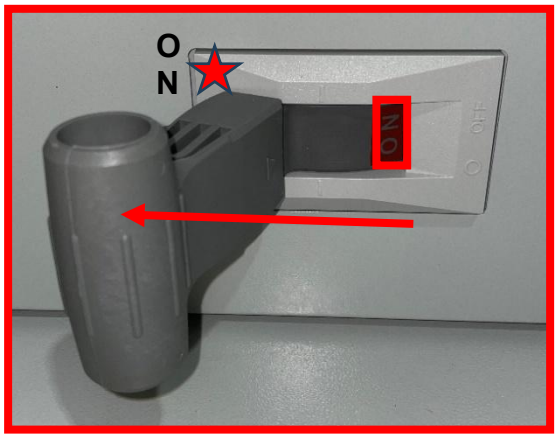

Figure 3 - Main Switch (shown with handle on) in the ON position

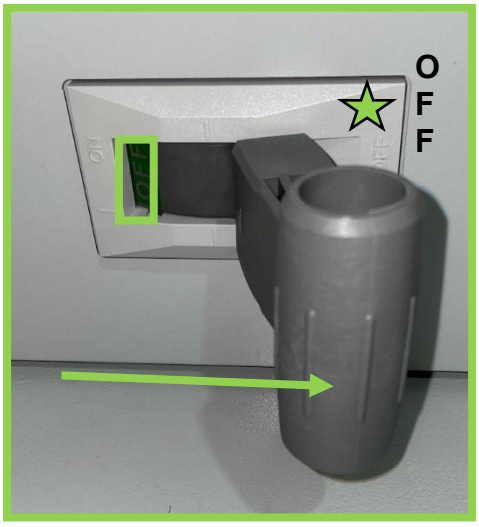

Figure 4 - Main Switch (shown with handle on) in the OFF position

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

   b. Open upstream disconnect, if possible. Lock-out-tag-out.

   If not possible, the **input** wires inside the right door coming up from the bottom remain **live**—Do not touch!

   The remainder of the system is without power and can be handled safely.

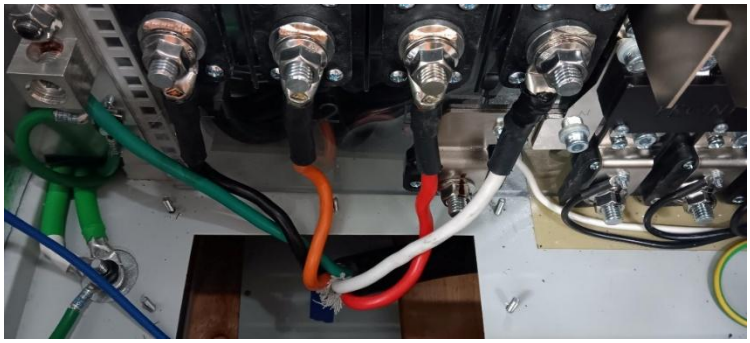

Figure 5 – WARNING! Don't touch Input wires inside right-side door if they are live live

Remove Installed Display Screen

1. With left-side door opened and through the open area above the power stacks, access the back of the installed display screen attached to the charger's front wall (indicated in Figure 6).

2. Pull the push-button wires connector from the bottom on the display screen (# 2).

3. Disconnect the RJ45 connector from the display screen (# 3).

4. Use a T10 Torx driver to remove the four M3 screws securing the display screen to the back of the charger (# 4).

Figure 6 – Open area above power stacks of 120 kW fast charger or 60 kW bi-directional charger (shown here) provides access to back side of charger's front wall

5. Remove the installed display screen and set it aside for dispositioning as instructed in the work order (such as recycling or returning to Pii).

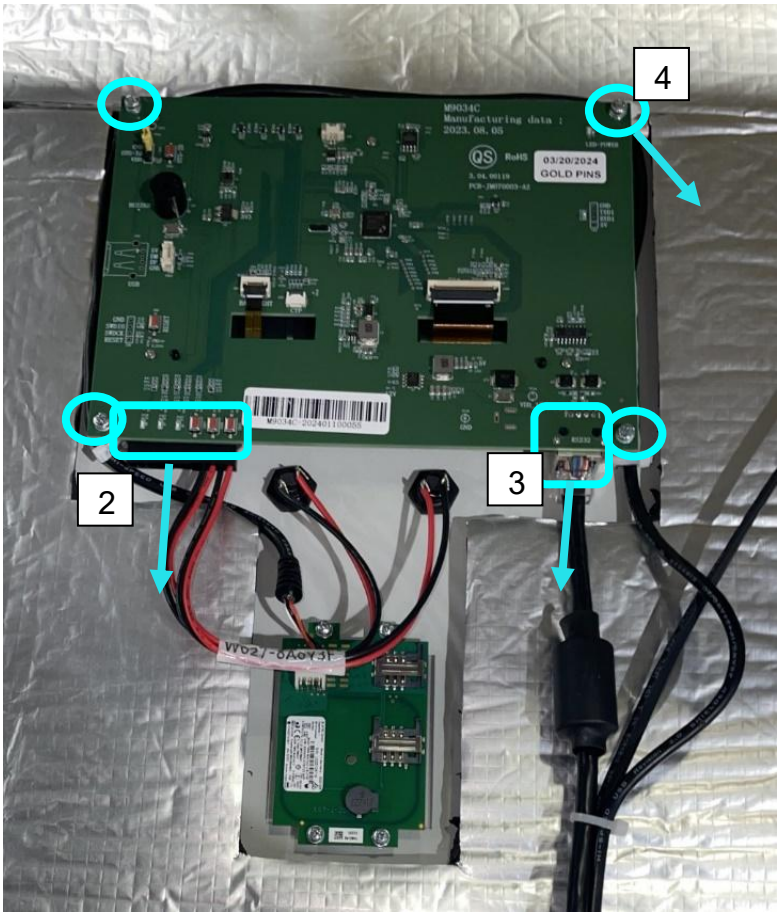

Figure 7 – Removing push-button-wires connector, RJ45 connector, and four screws securing display screen to front wall

Install New Display Screen on Back of Charger's Front Wall

1. Remove protective film from the front of the new display screen. Do not touch the face of the screen.

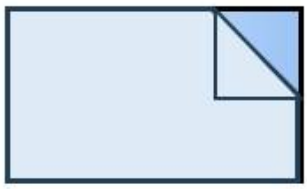

Figure 8 – Protective film being removed from display screen

2. Orient the new display screen properly (with its RJ45 connector on bottom edge) and hold it in place on the back of charger's front wall, then align the mounting holes with the threaded stand-offs.

3. Install and hand tighten the four M3 screws to attach the four corners of the new display (like # 3 in Figure 9).

4. Use a T10 Torx driver to tighten the four M3 screws (such as # 4) to 0.7 Nm.

5. Plug the push-button wires connector into the bottom of the display screen (see # 5).

6. Connect the RJ45 connector of the screen wires to the back of the new display screen (see # 6).

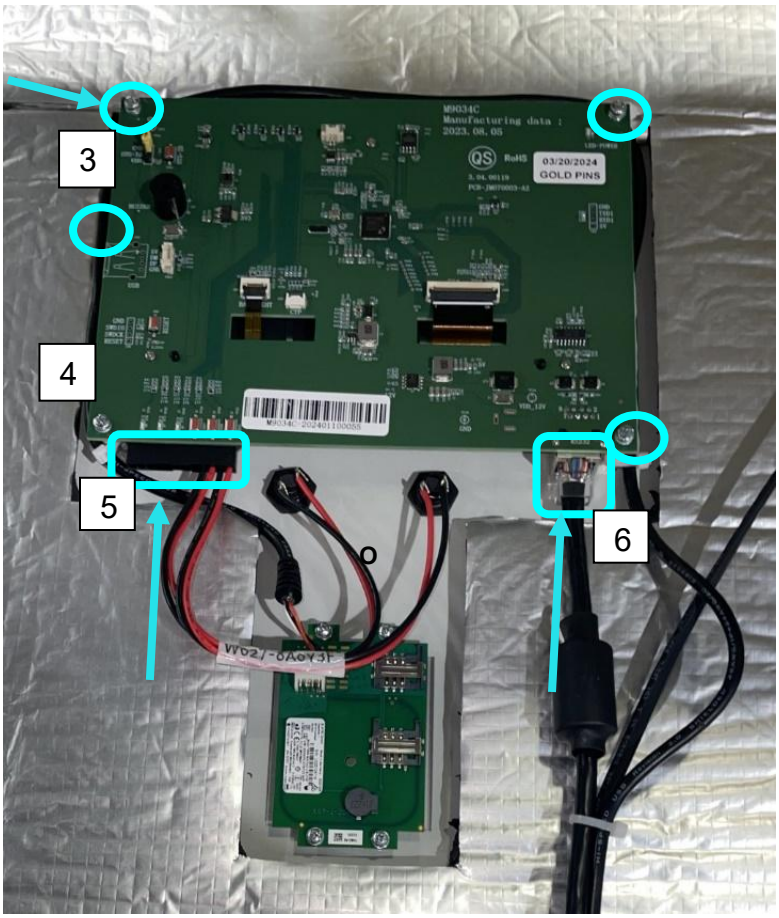

Figure 9 – Restoring push-button-wires connector, RJ45 connector, and four screws securing display screen to front wall

Turn On AC Main Switch

1. **Energize charger:**
   Inside the left-side door, flip Main Switch at bottom to "ON" position (use extension handle if needed).

2. **Close left-side door of charger.**

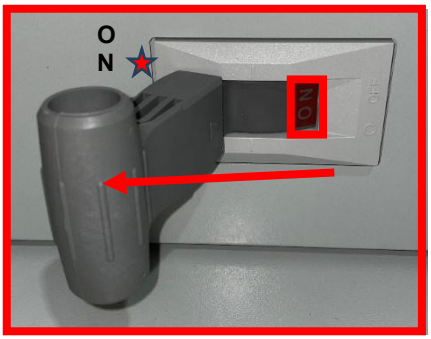

Figure 10 – Main Switch (shown with handle on) in the ON position

Test New Display Screen's Functionality in Quick Charger

If possible, verify the new Display's functionality by following on-screen prompts to start a charging session. For more information on starting a charging session, refer to your EV Quick Charger's installation/operation manual.

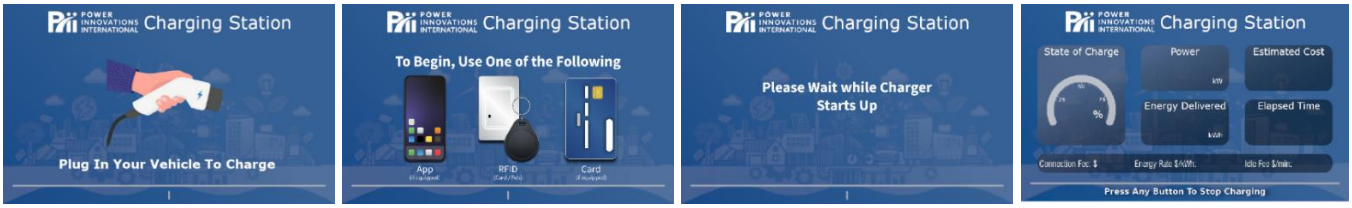

Figure W: Sample EV charger interface screens