Express Plus Power Block

Commissioning Form

Review Express Plus Documentation

Complete the steps listed here for each Power Block to ensure it is commissioned as specified. The detailed datasheets, site design guides, and installation guides defining ChargePoint specifications and procedures are available online at: chargepoint.com/guides.

Before Beginning Work

ChargePoint charging stations must be installed and serviced only by qualified personnel, equipped with appropriate personal protective equipment and following proper electrical and work practices.

DANGER: RISK OF SHOCK. Before performing any procedure, the technician must disconnect the power to the charging station at the service panel. Follow local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding. Use a multimeter and check that the power is off. Keep power off for the circuit until all cover panels are correctly reinstalled and the work is complete. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

Note: Commissioning inspection protocols, measurements, and photo documentation must be completed at the same time as station installation and via the ChargePointInstaller app once it is available.

Before removing any station parts:

- Consult with site personnel for access to site and equipment.
- Verify de-energization and lock out / tag out of all power sources to the station as stated in the shock danger warning above.
- Wear appropriate Personal Protective Equipment (PPE) and verify the station is de-energized.

CAUTION: For all sections below, items marked with C are critical to prevent hazard or equipment damage.

- If a critical (C) item does not pass, complete the entire inspection but DO NOT energize the site. Contact ChargePoint for the next steps. If a critical (C) item does pass, complete the entire inspection and energize the site according to site authorization.
- All checks must be completed. Items marked with O are optional and might not fail commissioning if they are not applicable or separate action can be taken. If an optional (O) item is incomplete, describe the reason.
- Items marked with  require a photo and  require a document.
    - All photos should be sharp and focused on the item being documented.
    - All photos should be JPEG format. Apple's standard HEIC format is NOT acceptable.
    - The aspect ratio should be 16:9 or 4:3 and resolution should be between 5.0 - 12.1 MP.

After Work

- For ChargePoint managed installations, the Site Commissioning Form and related attachments, such as photos and documents can be submitted via the Work Order associated with the specific installation.
- The Installer must always keep a copy of the Site Commissioning Form and related attachments, such as photos and documents, to be submitted to ChargePoint on request.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions for Express Plus that shall be followed during installation, operation and maintenance of the unit.

WARNING:

1. Read and follow all warnings and instructions before servicing, installing, or operating the ChargePoint® product. Install and operate only as instructed. Failure to do so may lead to death, injury, or property damage, and will void the Limited Warranty.
2. Only use licensed professionals to install your ChargePoint product and adhere to all national and local building codes and standards. Before installing the ChargePoint product, consult with a licensed contractor, such as a licensed electrician, and use a trained installation expert to ensure compliance with local building and electrical codes and standards, climate conditions, safety standards, and all applicable codes and ordinances. Inspect the product for proper installation before use.
3. Always ground the ChargePoint product. Failure to ground the product can lead to risk of electrocution or fire. The product must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor shall be run with circuit conductors and connected to the equipment grounding terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE shall comply with all applicable codes and ordinances.
4. Install the ChargePoint product using a ChargePoint-approved method. Failure to install on a surface that can support the full weight of the product can result in death, personal injury, or property damage. Inspect the product for proper installation before use.
5. The product is not suitable for use in Class 1 hazardous locations, such as near flammable, explosive, or combustible vapors or gases.
6. Supervise children near this device.
7. Do not put fingers into the electric vehicle connector, or touch fingers to charging rails.
8. Do not use this product if any cable is frayed, has broken insulation, or shows any other signs of damage.
9. Do not use this product if the enclosure or the electric vehicle connector is broken, cracked, open, or shows any other signs of damage.
10. Wire and wire terminal information are provided in the ChargePoint product Site Design Guide and Installation Guide.
11. Torques for installation of wire terminals are provided in the ChargePoint product Installation Guide.
12. The ChargePoint product maximum operating temperature is 50 °C (122 °F).
13. Site operator is responsible for making sure that no mechanical damage occurs and the pantograph is installed in a location that doesn't present a safety risk. If used carelessly, the pantograph could critically injure someone just from the extension force.

IMPORTANT: Under no circumstances will compliance with the information in a ChargePoint guide such as this one relieve the user of the responsibility to comply with all applicable codes and safety standards. This document describes approved procedures. If it is not possible to perform the procedures as indicated, contact ChargePoint. ChargePoint is not responsible for any damages that may result from custom installations or procedures not described in this document or that fail to adhere to ChargePoint recommendations.

Document Accuracy

The specifications and other information in this document were verified to be accurate and complete at the time of its publication. However, due to ongoing product improvement, this information is subject to change at any time without prior notice. For the latest information, see our documentation online at chargepoint.com/guides.

Copyright and Trademarks

Symbols

This guide and product use the following symbols:

DANGER: Risk of electric shock

WARNING: Risk of personal harm or death

CAUTION: Risk of equipment or property damage

IMPORTANT: Crucial step for installation success

Read the manual for instructions

Ground/protective earth

Illustrations Used in This Document

The illustrations used in this document are for demonstration purposes only and may not be an exact representation of the product. However, unless otherwise specified, the underlying instructions are accurate for the product.

Power Block

	Description	Status / Comments
	1. Station serial number:	
	2. Record the station MAC address of the Power Block (found at the Power Block controller bottom right below AC bus bars).	
	3. Verify that the stickers (UL and power rating) are placed on back and front of the Power Block.	
	4. What is the Power Block and Power Link 1000 configuration?	☐ 1PB:1PL ☐ 1PB:2PL ☐ 2PB:1PL ☐ 2PB:2PL ☐ 3PB:1PL ☐ 4PB:1PL
	Does the installation include a Surface Conduit Entry (SCE) kit?	◯ Yes ◯ No
	Is a DC auxiliary input used? (Requires optional package.)	◯ Yes ◯ No
	5. [OPTIONAL] Verify the use of M16 anchor bolts (x4).	
	6. Verify that the each anchor bolt has a washer and a leveling nut. Verify the pedestal of the Power Block is leveled (use a bubble level or equivalent).	
	7. Verify that all pedestal cover are torqued to 10 Nm (88.5 in-lb).	
	8. Verify that all seven M10 screws and washers per side on the gland plate are torqued to 19 Nm (168 in-lb).	
	9. Ensure there are no metal shavings inside the Power Block.	
	10. General comments:	

Conduits

	Description	Status / Comments
	1. Record the type of conduit (PVC, Metal, and so on.)	☐ PVC ☐ RMC (Rigid Metal Conduit) ☐ EMT (Electric Metallic Tubing)
	2. Record the AC input conduit size:	☐ 2 inch ☐ 2.5 inch ☐ 3 inch ☐ 3.5 inch ☐ 4 inch
	3. Record the DC output conduit size:	☐ 2 inch ☐ 2.5 inch ☐ 3 inch ☐ 3.5 inch ☐ 4 inch
	4. Record LVDC and Ethernet (communication) conduit size.	☐ 1/2 inch ☐ 3/4 inch ☐ 1 inch
	5. Are both wires (communication and 48 VDC LV) are in the same conduit? (it is OK to have one communication wire and another 48 VDC pair of wires in the same conduit).	◯ Yes ◯ No
	6. Verify that there are no bell ends on any stub-ups.	
	7. Verify that an additional 100 mm (4 in) conduit is available next to the DC auxiliary input terminal.	
	8. Verify that each conduit stub-up is cut to a height 25 mm (1 in) above the gland plate.	

	Description	Status / Comments
	9. Verify that the supplied duct seal compound is applied to seal all conduit and gland plates openings.	
	10. [OPTIONAL] Conduit evaluation comments:	

Conductors and Cables

	Description	Status / Comments
	1. AC conductor wire gauge:	
	2. AC conductor material:	☐ Cu ☐ Al
	3. AC conductor insulation type	
	4. AC conductor temperature rating:	
	5. AC conductor voltage rating	
	6. Provide a photo showing the AC conductor ratings specified above: (Attach letter of rating if different from actual cable markings).	
	7. Verify that the L1, L2, and L3 cables are installed in the correct order for counter-clockwise phase rotation.	
	8. Verify that the AC input wires comply with ChargePoint requirements: 600 V rated, THHN/THWN-2 insulation type, 90 °C temperature rating.	
	9. Record the number of HVDC conductors per terminal:	☐ 1 ☐ 2 ☐ 3
	10. DC conductor wire gauge:	
	11. DC conductor material:	☐ Cu ☐ Al
	12. DC wire temperature rating:	
	13. DC wire insulation type:	
	14. DC wire voltage rating:	
	15. Provide a photo showing the AC	

	Description	Status / Comments
	and DC conductor ratings specified above: (Attach letter of rating if different from actual cable markings).	☐
	16. Verify that the HVDC wires comply with ChargePoint requirements: 1000 V rated, XHHW-2 insulation type, 90 °C temperature rating.	☐
	17. Verify that the 48 VDC LV wiring size is 10 or 16 mm^2 (6 or 8 AWG).	☐
	18. Verify that the 48 VDC LV wiring is rated for 1000 V / Cu / 75 °C.	☐
	19. Is the shunt trip terminal used?	◯ Yes ◯ No
	20. Record the shunt trip wire gauge (AWG).	
	21. Verify that the 48 VDC LV and any shunt trip wires are stripped to 15 mm (5/8 in) each.	☐
	22. Photo showing the 48 VDC LV and shunt trip wires are stripped.	☐
	23. Perform a push-pull test to ensure that the 48 VDC LV and the shunt trip (if applicable) wires are properly seated.	
	24. Perform a push-pull test on 48 VDC LV surge arrestor wires (input and output).	
	25. Perform a pull push test on AC surge arrestor wires (input and output).	
	26. Perform a push-pull test on DC surge arrestor wires (input and output).	
	27. Verify that the Ethernet, 48 VDC LV, and shunt trip wires down the side, are routed using the provided cable routing clips, along the right front edge of the enclosure.	
	28. [OPTIONAL] Conductors and cables comments:	

Ethernet Cable

	Description	Status / Comments
	1. Verify that all Power Block Ethernet cables are: Outdoor rated Cat6, Shield Twisted Pair (STP).	
	2. Verify that all Power Block Ethernet cables are field-crimped in a straight-through 568B pattern.	
	3. Verify that all Ethernet cables are: • Terminated using shielded RJ45 connectors. • Has no stray wires in the crimp. • Has a maximum run length of 100 m (328 ft).	
	4. Verify that the shield/drain wire of the Ethernet cable is only connected on one end between the Power Blocks to avoid the ground loop.	
	5. Verify that all the Ethernet cables connected between this Power Block to Power Link 1000/s and/or this Power Block to other Power Block/s passes functional testing.	
	6. Ethernet cable comments:	

DC Fuses

	Description	Status / Comments
	1. Verify all 4 fuses are installed (DC fuses must be installed even if the terminal is not used).	
	2. Record the DC fuse ampere (A):	☐ 315 A ☐ 400 A ☐ 500 A ☐ 630 A

	Description	Status / Comments
	3. Verify all DC fuses pass a continuity test using a multimeter.	
	4. Torque the DC fuses to 19 Nm (168 in-lb) using a 15 mm (9/16 in) torque wrench.	
	5. Verify torque marking on DC fuses.	
	6. Photo of the DC fuses.	
	7. If the recorded fuse ampere is 315 A: Verify that the Power Block applied power rating label has an output of 200 A. Note: Report if the label is missing or mismatches the expected power output rating.	
	8. If the recorded fuse ampere is 400 A: Verify that the Power Block applied power rating label has an output of 250 A. Note: Report if the label is missing or mismatches the expected power output rating.	
	9. If the recorded fuse ampere is 500 A: Verify that the Power Block applied power rating label has an output of 350 A. Note: Report if the label is missing or mismatches the expected power output rating.	
	10. If the recorded fuse ampere is 630 A: Verify that the Power Block applied power rating label has an output of 500 A. Note: Report if the label is missing or mismatches the expected power output rating.	
	11. [OPTIONAL] DC fuse comments:	

Lugs

	Description	Status / Comments
	1. Verify the use of 2-hole compression lugs that are correctly crimped.	
	2. Is dielectric grease used on all DC and AC lugs?	◉ Yes ○ No
	3. Verify ChargePoint supplied bolts are used for the DC and AC lugs. A minimum of one washer is used per bus bar hole, even if lugs are installed on the front and back of the same bus bar.	
	4. Verify all DC and AC lugs are torqued to 21 Nm (185.9 in-lb) and verify all lugs are torque marked.	
	5. Provide photo of the AC lug connection.	☐
	6. Provide photo of the DC lug connection.	☐
	7. Verify that IN CASE the AC input wiring is using only one 750 kcmil (Europe: 400 mm^2) conductor / phase, it must be installed on the bus bar in the position furthest from the enclosure wall (toward the center) to avoid interference.	
	8. Record AC ground wire size (AWG):	
	9. Record AC ground voltage rating:	
	10. Record AC ground Insulation rating:	
	11. Record AC ground temperature rating:	
	12. Record DC ground wire size (AWG):	
	13. Record DC ground voltage rating:	
	14. Record DC ground insulation rating:	
	15. Record DC ground temperature rating:	
	16. Verify that the DC and AC ground	

	Description	Status / Comments
	wire is crimped with a 13 mm (0.5 inch) single-hole lug and connected to the grounding stud.	
	17. Verify that the DC and AC ground lugs are torqued to 6.8 Nm (60 in-lb) and torque marked.	
	18. Provide photos of the AC ground lug connections.	☐
	19. Provide photos of the DC ground lug connections.	☐
	20. Record grounding impedance value for AC ground:	
	21. Record grounding impedance value for DC ground:	
	22. Continuity Test (HVDC): Verify conductor continuity test between bus A+ and A- on this Power Block. The result on the multimeter should be Open Loop (OL) or infinite resistance.	
	23. Continuity Test (HVDC): Verify conductor continuity test between bus A+ and B+ on this Power Block. The result on the multimeter should be Open Loop (OL) or infinite resistance.	
	24. Continuity Test (HVDC): Verify conductor continuity test between bus A+ and B- on this Power Block. The result on the multimeter should be Open Loop (OL) or infinite resistance.	
	25. Continuity Test (HVDC): Verify conductor continuity test between bus A- and B+ on this Power Block. The result on the multimeter should be Open Loop (OL) or infinite resistance.	
	26. Continuity Test (HVDC): Verify conductor continuity test between bus A- and B- on this Power Block. The result on the multimeter should be Open Loop (OL) or infinite	

	Description	Status / Comments
	resistance.	
	27. Continuity Test (HVDC): Verify conductor continuity test between bus B+ and B- on this Power Block. The result on the multimeter should be Open Loop (OL) or infinite resistance.	
	28. [OPTIONAL] Lugs comments:	

Chassis

	Description	Status / Comments
	1. Surface Conduit Entry (SCE) installations only: Verify that epoxy is applied on pedestal anchor bolts.	
	2. Surface Conduit Entry (SCE) installations only: All conduit for a Power Block must enter through a single pedestal cover panel.	
	3. Verify that each corner of the dome cover panel is torqued to 10 Nm (88.5 in-lb).	
	4. Verify the locator pins in each corner are visible from inside the wet box.	
	5. Verify that the M6 screws for each side cover/skin is torqued to 10 Nm (88.5 in-lb).	
	6. [OPTIONAL] Chassis comments:	

Power Modules

	Description	Status / Comments
	1. Verify that the two top and two bottom M10 screws that secure each Power Module rack to the enclosure and torqued to 19 Nm (168 in-lb).	
	2. Inspect all Power Modules and ensure no damage to pins, coolant valves, or exterior skins.	
	3. Inspect the Power Module backplate to ensure no damage to connectors, bus bars and coolant valves.	
	4. Provide photos of each of the Power Modules and backplate connectors.	☐
	5. Verify that Power Modules and the heat exchanger are safely secured in the Power Block, ensure the Power Module latches are locked.	
	6. Verify that the coolant is filled in the cooling system and cap installed - use dip stick to check coolant level (should be full).	
	7. Inspect and push-pull cooling system for leakages.	
	8. Perform a push-pull test on the cooling system hex drive pin connector.	
	9. Perform a push-pull test on all the coolant system connectors.	
	10. Provide photos of the cooling system connectors.	☐
	11. Verify that the auxiliary power supply is grounded.	
	12. Power Module and cooling system comments:	

Energization and Electrical Measurements

	Description	Status / Comments
	1. Verify that the LVDC circuit breaker is turned ON.	
	2. Verify that the plastic safety shields are installed on the AC and DC side of the Power Block and warning stickers applied.	
	3. Verify that the dry box containment door is properly inserted in the bottom groove and both latches are secured with no issues.	
	4. Photos of the front and back of the Power Block after assembling all parts.	☐
	5. Verify that parking area is clean and free of all crate fasteners, packaging, and debris.	
	6. WARNING: Do not energize the Power Block until all Express Plus cluster equipment are commissioned!	
	7. North America: A voltage measurement at the AC disconnect (if present) or breaker between L1 - L2 shows: 480 VAC +/- 10%	
	8. North America: A voltage measurement at the AC disconnect (if present) or breaker between L1 - L3 shows: 480 VAC +/- 10%	
	9. North America: A voltage measurement at the AC disconnect (if present) or breaker between L2 - L3 shows: 480 VAC +/- 10%	
	10. Europe: A voltage measurement at the AC disconnect (if present) or breaker between L1 - L2 shows: 400 VAC +/- 10%	
	11. Europe: A voltage measurement at the AC disconnect (if present) or breaker between L1 - L3 shows: 400	

	Description	Status / Comments
	VAC +/- 10%	
	12. Europe: A voltage measurement at the AC disconnect (if present) or breaker between L2 - L3 shows: 400 VAC +/- 10%	
	13. Energization and electrical measurement comments:	

Coolant Priming

	Description	Status / Comments
	1. Perform coolant priming. [Note: coolant priming can only be performed once the entire Express Plus cluster is commissioned and energized.]	
	2. Verify and top-up coolant level.	

Activation and Firmware

	Description	Complete
	1. Ensure Power Block LED indication is GREEN once the Express Plus system is activated. [Note: this section can only be executed once the entire Express Plus cluster is commissioned and activated.]	
	2. Verify the shunt trip by opening the wet box top door while the Power Block is ON. The breaker feeding the Power Block should trip and the Power Block should turn OFF. Note: Install the door back and reset the breaker.	
	3. [OPTIONAL] Activation and firmware comments:	

Acknowledgment

I, _____, hereby confirm the following:

- All instructions in the Installation Guide have been followed
- Torqued all fasteners to the correct torque values using an appropriate tool
- The electrical system complies with all local codes, norms, standards, and regulations. This includes but is not limited to health and safety regulations, electrical regulations, building regulations, manufacturer specifications, and requirements of the local authorities.
- I certify that the scope of work has been completed correctly and that the station has no functional, electrical, or safety issues

Name and signature of the technician who commissioned the stations.

Name: _____

Company: _____

Signature	Date

Legal Disclaimer

ChargePoint is not responsible for verifying this information, and the creator of the protocol remains responsible for this information.

ChargePoint accepts no ongoing responsibilities for the electrical design and the installation specifics.

chargepoint.com/support

75-001705-01 r1