

14a Grid Control

Site Design Guide



IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

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

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).





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.

Product Disposal

To comply with Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), devices marked with this symbol may not be disposed of as part of unsorted domestic waste inside the European Union. Enquire with local authorities regarding proper disposal. Product materials are recyclable as marked.



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.

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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.

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Introduction to 14a Grid Control

The 14a Grid Control receives the binary command from the distribution system operator (DSO) through the FNN control box or ripple control receiver and transmits it to the ChargePoint energy management system. After receiving the signal from the DSO, the charging power of all active charging sessions is immediately reduced to the level specified by the regulator. No direct connection (for example through LAN) to the charging stations is necessary.

Site Design Guidelines 2

This document serves as a guide for the customer's installer to ensure correct preparation for the installation of the grid control package by a ChargePoint technician.

Before you Begin

The ChargePoint 14a Grid Control consists of the following components:

1	4G router including external antenna and sim card	Industrial 4G LTE WLAN router (for DLM) for remote connection and to power data to the ChargePoint backend.
2	External 24 VDC 20 W Power Supply Unit Ground	Power supply unit to supply power to the router and supply the potential-free contact of the FNN control box or the ripple control receiver of the network operator.

Required Tools and Materials

Prepare the following tools and materials before beginning the electrical or mechanical installation:

- Standard tools for mounting components inside the enclosure.
- Cables, wires, and ferrules for connecting power and signal lines.
- General tools typically required by an electrician for assembling components, including a possible enclosure for those components.
- If needed, drill a hole to route the 3-meter cable for the external antenna.

Ensure the technician provides the following materials:

- 1x miniature circuit breaker (MCB), 6-16 A.
- 6x feed-through terminal blocks on a DIN rail (0.14 mm² - 4 mm²).
- A bracket, if required, for future installation of the external antenna.
- A switch box with top-hat rail, if necessary.

Site Preparations

Prepare the following according to the circuit diagram:

1. Provide sufficient space with a top-hat rail for the external power supply unit (2TE) and for the router, which requires a width of 180 mm and a height of 85 mm, including LTE reception capability. If needed, install an on-site switch box with a top-hat rail to accommodate the circuit breaker, power supply unit, and router.

Note: A minimum LTE signal strength of -85 dBm RSSI (at least 4G) is required at the router's installation location

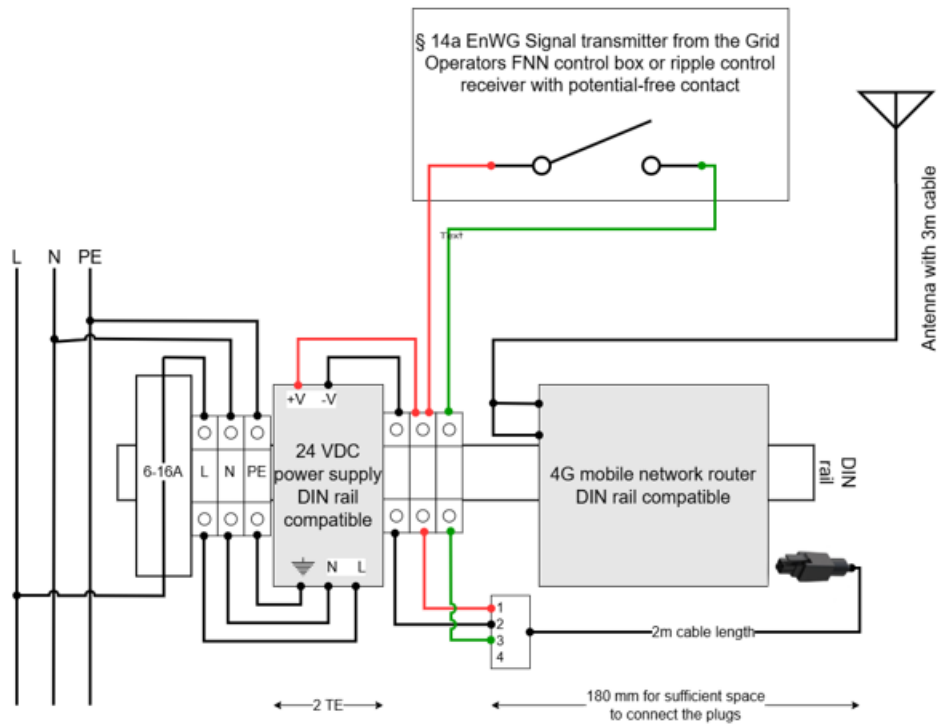
If LTE signal strength is insufficient, consider relocating the installation and using an optional external antenna (3-meter cable length).

If using the external antenna, drill a 10 mm hole through the outer wall for cable routing.

Mount any required antenna bracket (example, metal bracket) to the outer wall.

2. Install a 6-16 A MCB for the router's power supply near the intended installation location. Connect L, N, and PE to the appropriate terminal blocks.
3. Install three additional terminal blocks to accommodate future 24VDC power distribution and signal processing for the grid operator's control contact.
4. Route a minimum two-wire cable from the 24VDC positive terminal block and the signal input terminal (green or far right in the diagram) to the installation location of the power supply unit and router. This cable should also reach the FNN control box or ripple control receiver used by the distribution system operator. If this DSO component is already in place, connect both wires to its potential-free make contact.
5. Complete the Site Preparation Checklist and send the completed form including the required images to ChargePoint activation email.

Ensure all connections comply with the installation diagram and local electrical safety standards.



Questions

For assistance, navigate to chargepoint.com/support and contact technical support using the appropriate region-specific number.

Limited Warranty Information and Disclaimer

The Limited Warranty you received with your charging station is subject to certain exceptions and exclusions. For example, your use of, installation of, or modification to, the ChargePoint® charging station in a manner in which the ChargePoint® charging station is not intended to be used or modified will void the limited warranty. You should review your limited warranty and become familiar with the terms thereof. Other than any such limited warranty, the ChargePoint products are provided "AS IS," and ChargePoint, Inc. and its distributors expressly disclaim all implied warranties, including any warranty of design, merchantability, fitness for a particular purposes and non-infringement, to the maximum extent permitted by law.

Limitation of Liability

CHARGEPOINT IS NOT LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THE CHARGING STATION, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF CHARGEPOINT KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF CHARGEPOINT FOR ALL CLAIMS WHATSOEVER RELATED TO THE CHARGING STATION WILL NOT EXCEED THE PRICE YOU PAID FOR THE CHARGING STATION. THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF CHARGEPOINT AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B 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 residential installation. This 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.

Important: Changes or modifications to this product not authorized by ChargePoint, inc., could affect the EMC compliance and revoke your authority to operate this product.

Exposure to Radio Frequency Energy: The radiated power output of the 802.11 b/g/n radio and cellular modem (optional) in this device is below the FCC radio frequency exposure limits for uncontrolled equipment. The antenna of this product, used under normal conditions, is at least 20 cm away from the body of the user. This device must not be co-located or operated with any other antenna or transmitter by the manufacturer, subject to the conditions of the FCC Grant.

ISED (formerly Industry Canada)

This device complies with the licence-exempt RSS standard(s) of Innovation, Science and Economic Development Canada (ISED). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux flux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada (ISDE). L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter.

Radiation Exposure Statement: This equipment complies with the IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Énoncé d'exposition aux rayonnements: Cet équipement est conforme aux limites d'exposition aux rayonnements ioniques RSS-102 Pour un environnement incontrôlé. Cet équipement doit être installé et utilisé avec un Distance minimale de 20 cm entre le radiateur et votre corps.

FCC/IC Compliance Labels

Visit chargepoint.com/labels.



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