



DC City Charger

Installation and Operation Manual



Version: EVHE 1.1.0

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Conventions

General Conventions

The following conventions are used in this manual:



Note:

Indicates additional information that is relevant to the current process or procedure.



WARNING!

Warning information appears before the text it references to emphasize that the content may prevent damage to the device or equipment.



CAUTION!

CAUTIONS APPEAR BEFORE THE TEXT IT REFERENCES. CAUTIONS APPEAR IN CAPITAL LETTERS TO EMPHASIZE THAT THE MESSAGE CONTAINS VITAL HEALTH AND SAFETY INFORMATION.

Typographical Conventions

The following typographical conventions are used in this document:

Italics

Indicates book titles, directory names, file names, path names, and program/process names.

Constant width

Indicates computer output shown on a computer screen, including menus, prompts, responses to input, and error messages.

Constant width bold

Indicates commands or information literally entered by a user on the computer. Variables contained within user input are shown in angle brackets (< >).

Bold italics.

Indicates keyboard keys that are pressed by the user.

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Introduction

DC City Charger is an ideal solution for high efficiency urban charging service.

It supports simultaneous charging output and load distribution to optimize utilization rate of the charging site. DC City Charger is compatible to OCPP which allows further backend system integration like user management, remote control and energy management.

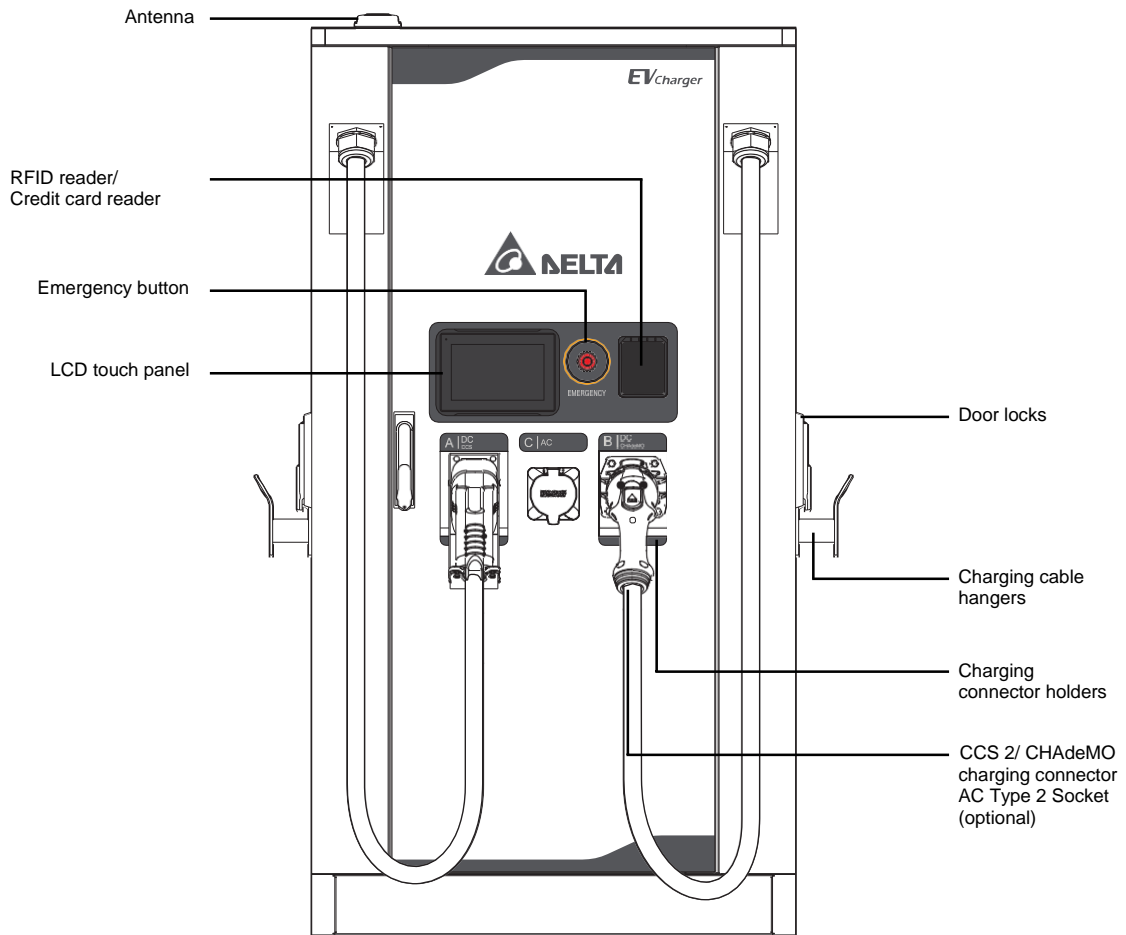
Features

- Mode 4 DC charging
- Simultaneous charging
- Dynamic load distribution optimizes charging service
- RFID user identification
- Credit card payment options
- OCPP and network connectivity enables system integration
- Modular design ensures high availability
- IP55 and small footprint provides high adaptability
- 94% power efficiency for energy-saving

Applications

- Intercity charging networks
- Services stations
- Retail and hospitality applications
- Fleet
- Commercial parking facilities

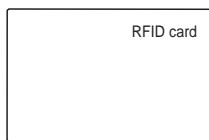
Overview



Note:

The product outlook is subject to the configuration of charging connector and reader type.

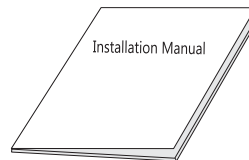
Accessory Kit



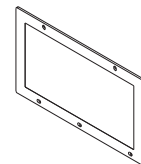
RFID cards x 2



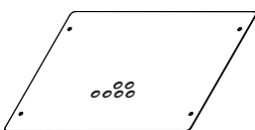
Keys x 3



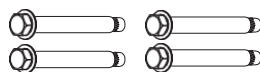
User manual x 1



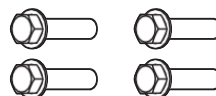
Aluminum base cover x 1



Mounting template x 1



Expansion bolts x 4



M12 bolts x 4

Important Safety and Wiring Instructions

Safety and Compliance

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This document provides instructions for DC City Charger and should not be used for any other product. The product can only be installed by a licensed contractor, and/or a licensed electrician in accordance with all applicable state, local and national electrical codes and standards in a location with non-restricted access.

Service should be carried out in compliance with safety and hygiene requirements work and ergonomics, taking into account the instructions contained in this documentation.

- Before installing the product, review this manual carefully and consult with a licensed contractor, licensed electrician and trained installation expert to ensure compliance with local building practices, climate conditions, safety standards, and state and local codes.
- DC City Charger meets the requirements specified in the regulations by using dedicated devices and systems.
- Do not install or use DC City Charger if the enclosure is broken, cracked, open or shows any other indications of damage.
- Make sure that the materials used and the installation procedures follow local building codes and safety standards.
- Do not put tools, material or body parts into the electric vehicle connector.
- The information provided in this manual in no way exempts the user of responsibility to follow all applicable codes or safety standards.
- The manufacturer is not responsible for physical injury, damage to property or damage to equipment caused during the installation of this device.
- Emergency stop button is available to stop the EVSE when under emergency situation.
- Keeping DC City Charger in technical condition and ensuring cleanliness use without compromising safety.
- Maximum ambient temperature: DC City Charger operates from -30 °C to +60 °C.



GROUNDING INSTRUCTIONS - This unit is must be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor with circuit conductors and connected to equipment-grounding terminal or lead on battery charger. Connections to battery charger must comply with all local codes and ordinances.

Electrical Service Wiring



WARNING!

Danger of electrical shock or injury. Turn off power at the panel board or load center before working inside the equipment or removing any component. Do not remove circuit protective devices or any other component until the power is turned off.

Grounding Instructions

DC City Charger must be permanently grounded. Always connect the Protective Earth (PE) first, before connecting the phase and neutral wiring to avoid hazardous voltage.

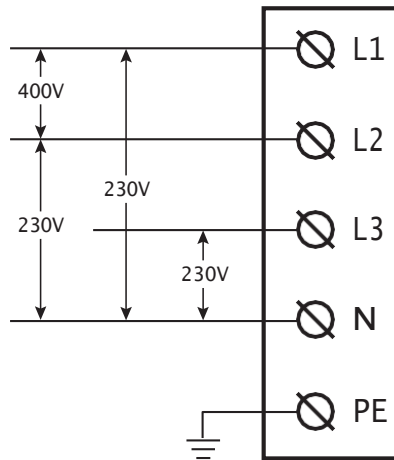
380 - 415V Three-Phase



WARNING!

This feed is from a Wye-connection power grid, and DC City Charger shall connect to L1, L2 or L3, and to neutral. Earth ground must be connected to neutral at only one point, usually at the breaker panel.

An earth connection is essential before connecting supply.



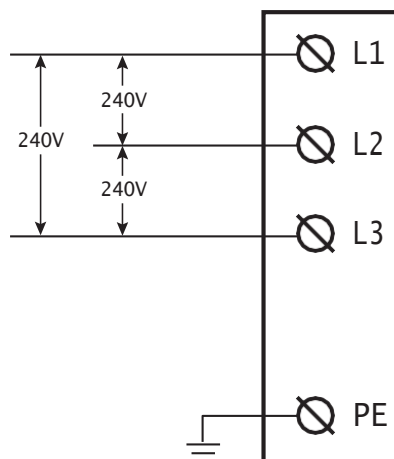
200 - 240V Three-Phase



WARNING!

The following diagram illustrates DC City Charger connection to L1, L2, and L3 in a Delta-connection power grid feed. The earth ground must be connected to neutral at a single point, typically at the breaker panel.

An earth connection is essential before connecting supply.



Before Installation

Safety Requirements

- Be sure to preview this installation and operation manual and ensure local building and electrical codes are reviewed before installing DC CityCharger.
- DC City Charger should be installed by a qualified technician according to the instruction manual and local safety regulations.
- Use appropriate protection when connecting to the main power distribution cable.
- To reduce the risk of fire, connect only to a circuit provided with listed amperes maximum branch circuit over-current protection.

Model	Description	Rated current of breaker
EVHX104XXCXX	100kW without AC Type 2 Socket, input 380-415Vac, 3-Phase (L1, L2, L3, N, PE), 50Hz / 60Hz	At least 200A
EVHX104ENCXX EVHX104EPCXX	100kW model with AC Type 2 Socket, 380-415Vac, 3-Phase (L1, L2, L3, N, PE)	At least 250A
EVHX503XXCXX	50kW without AC Type 2 Socket, input 380-415Vac, 3-Phase (L1, L2, L3, N, PE), 50Hz / 60Hz	At least 100A
EVHX503EMCXX	50kW with AC Type 2 Socket, input 380-415Vac, 3-Phase (L1, L2, L3, N, PE), 50Hz / 60Hz	at least 160A
EVHX503XXDXX	50kW without AC Type 2 Socket, input 200-240Vac, 3-Phase, (L1, L2, L3, PE), 50 / 60 Hz	at least 200A

- The cable size should be 120mm² diameters at maximum. The maximum current and cable cross section are defined upon system configuration and local regulations. The grounding conductor shall comply with IEC 60364-5-2 Table 54.2 and local regulations.

Model	Description	Terminal
EVHX104XXCXX	100kW without AC Type 2 Socket, input 380-415Vac, 3-Phase (L1, L2, L3, N, PE), 50Hz / 60Hz	Max. 120mm ² copper wire, recommended 120mm ² ; Ring terminal RNB120-10; PE should be at least 70mm ² copper wire; Ring terminal RNB70-8
EVHX104ENCXX EVHE104EPCXX	100kW model with AC Type 2 Socket, 380-415Vac, 3-Phase (L1, L2, L3, N, PE)	Max. 120mm ² copper wire, recommended 120mm ² ; Ring terminal RNB120-10; PE should be at least 70mm ² copper wire; Ring terminal RNB70-8
EVHX503XXCXX	50kW without AC Type 2 Socket, input 380-415Vac, 3-Phase (L1, L2, L3, N, PE), 50Hz / 60Hz	Max. 120mm ² copper wire, recommended 70mm ² ; Ring terminal RNB70-10; PE should be at least 35mm ² copper wire; Ring terminal RNB35-8
EVHX503EMCXX	50kW with AC Type 2 Socket, input 380-415Vac, 3-Phase (L1, L2, L3, N, PE), 50Hz / 60Hz	Max. 120mm ² copper wire, recommended 95mm ² ; Ring terminal RNB95-10; PE should be at least 50mm ² copper wire; Ring terminal RNB50-8
EVHX503XXDXX	50kW without AC Type 2 Socket, input 200-240Vac, 3-Phase, (L1, L2, L3, PE), 50 / 60 Hz	Max. 120mm ² copper wire, recommended 120mm ² ; Ring terminal RNB120-10; PE should be at least 70mm ² copper wire; Ring terminal RNB70-8

- The instruction manual for a 3-phase unit shall include the electrical ratings for Delta or Wye phase configurations when the unit is limited to only one configuration.
- Disconnect switch for each ungrounded conductor of AC input shall be provided by others in accordance with the IEC61851-1.

Installation Site Selection

DC City Charger can be installed in both indoor and outdoor environments. It is necessary to consider the installation conditions and protection at the site:

- Follow local electrical regulation and installation standards.
- Consider the emergency routes at the installation site.
- Do not install the device at potentially explosive atmosphere areas (Ex areas).

Recommended Tools

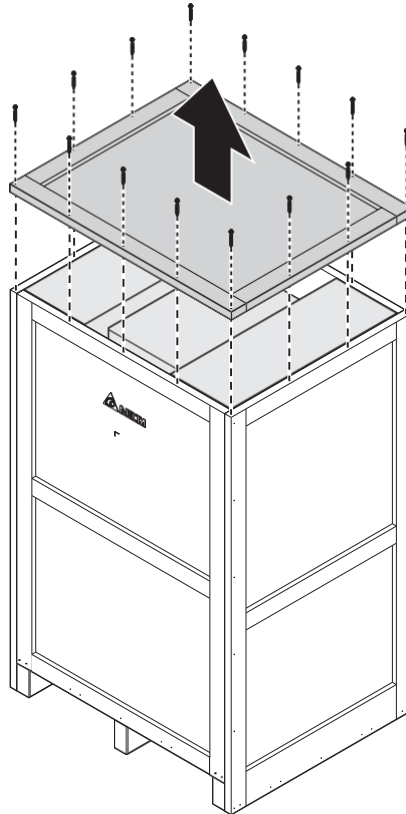
The following tools are recommended for DC City charger installation:

- (1x) Gloves for installation work, insulating gloves for commissioning test
- (1x) Voltmeter or digital multi-meter
- (1x) Water level
- (1x) Hammer
- (1x) Concrete drilling machine
- (1x) Wire cutters / strippers
- (1x) Torx® Tamper-Resistant T15 & T20 screwdriver
- (1x) No.2 Philips screwdriver
- (1x) Hex wrench socket 8mm (No. 8 socket wrench)
- (1x) Hex wrench socket 13mm (No. 13 socket wrench)
- (1x) Hex wrench socket 17mm (No. 17 socket wrench)
- (1x) Hex wrench socket 19mm (No. 19 socket wrench)
- Model EVHX104XXCXX: 100kW model without AC Type 2 Socket, 380-415Vac, 3-Phase (L1, L2, L3, N, PE),
Max. 120mm² copper wire, recommended 120mm²; Ring terminal RNB120-10;
PE should be at least 70mm² copper wire; Ring terminal RNB70-8
- Model EVHX104ENCXX / Model EVHE104EPCXX: 100kW model with AC Type 2 Socket, 380-415Vac, 3-Phase (L1, L2, L3, N, PE),
Max. 120mm² copper wire, recommended 120mm²; Ring terminal RNB120-10;
PE should be at least 70mm² copper wire; Ring terminal RNB70-8
- Model EVHX503XXCXX: 50kW model without AC Type 2 Socket, 380-415Vac, 3-Phase (L1, L2, L3, N, PE),
Max. 120mm² copper wire, recommended 70mm²; Ring terminal RNB70-10;
PE should be at least 35mm² copper wire; Ring terminal RNB35-8
- Model EVHX503EMCXX: 50kW model with AC Type 2 Socket, 380-415Vac, 3-Phase (L1, L2, L3, N, PE),
Max. 120mm² copper wire, recommended 95mm²; Ring terminal RNB95-10;
PE should be at least 50mm² copper wire; Ring terminal RNB50-8
- Model EVHX503XXDXX: 50kW model without AC Type 2 Socket, 200-240Vac, 3-Phase (L1, L2, L3, PE),
Max. 120mm² copper wire, recommended 120mm²; Ring terminal RNB120-10;
PE should be at least 70mm² copper wire; Ring terminal RNB70-8

Installing the DC City Charger

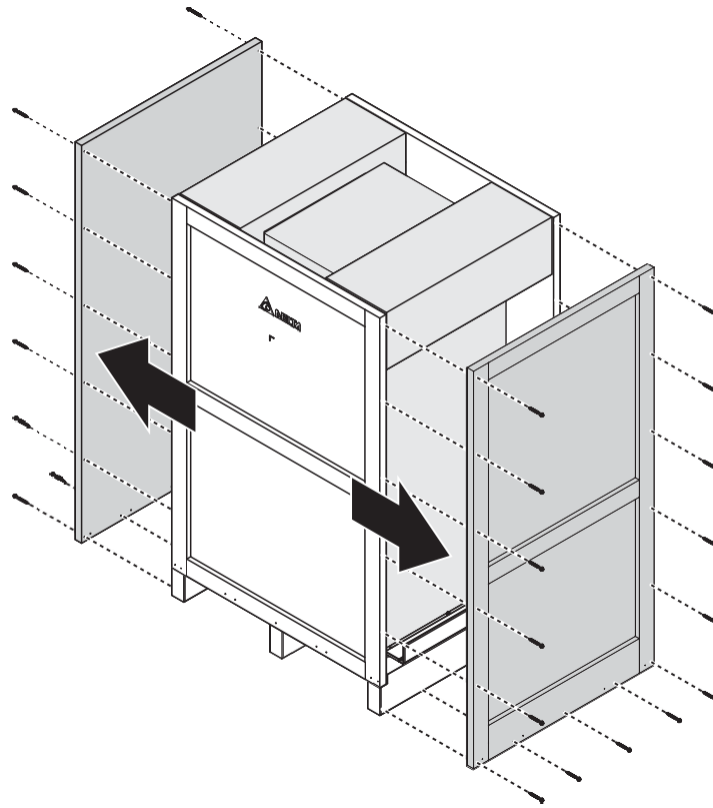
Preparation

1. Remove the screws securing the top cover of the plywood crate with a No. 8 socket wrench.
2. Open the top cover.

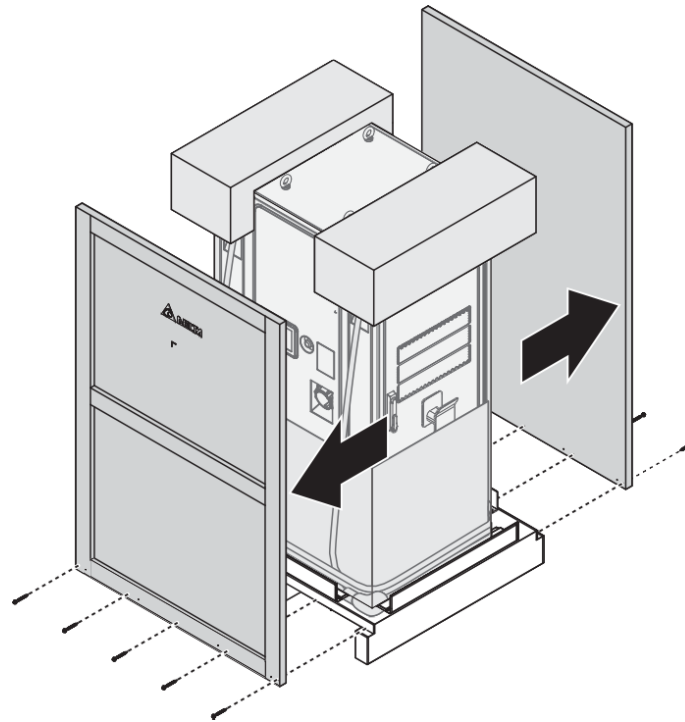


3. Remove the screws securing the front and rear walls of the crate with a No. 8 socket wrench.

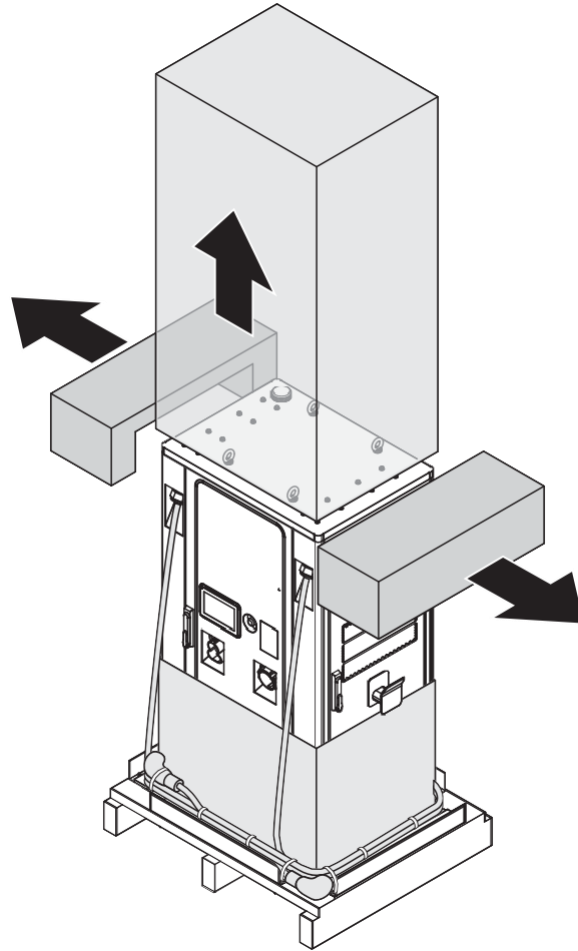
4. Remove the front and rear walls.



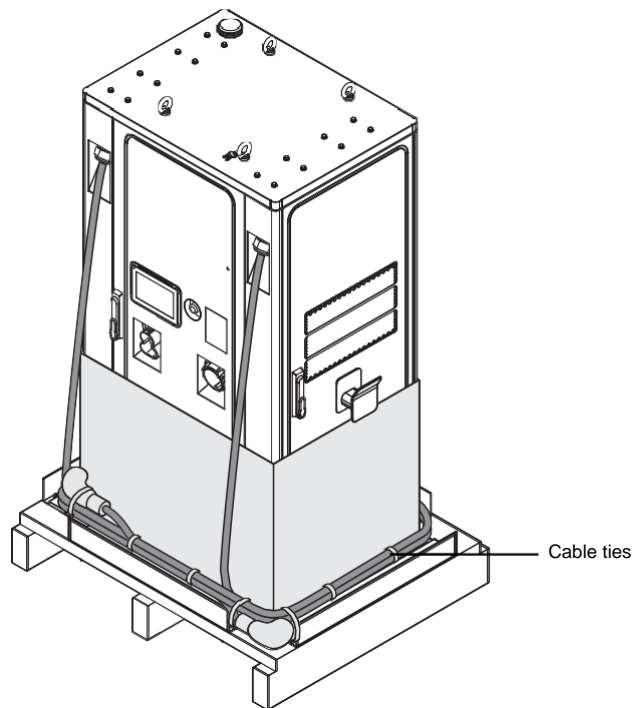
5. Remove the screws securing the left and right sidewalls of the crate with a No. 8 socket wrench.
6. Remove the left and right sidewalls.



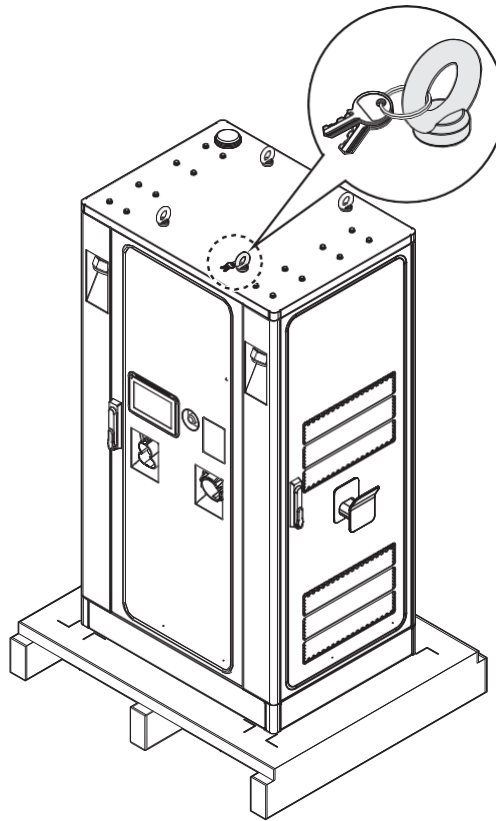
7. Remove the foam and protective materials and open the plastic bag.



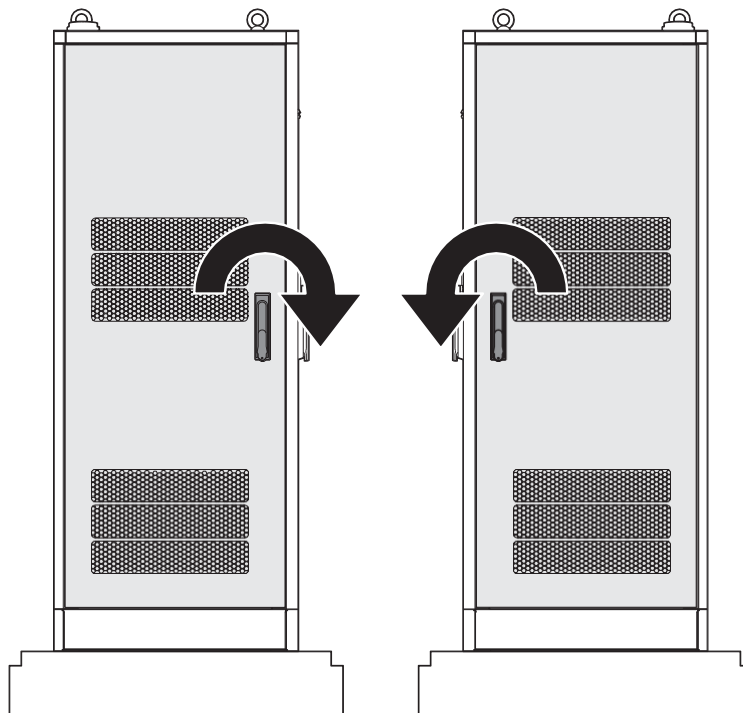
8. Cut off the cable ties to release the cables.



9. Take the keys from top of the charger.

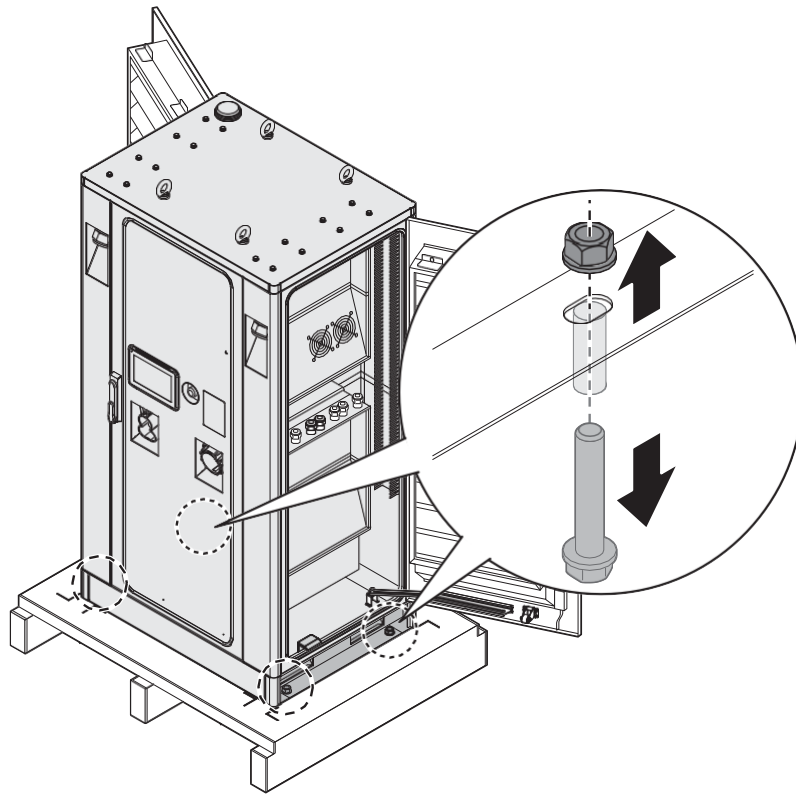


10. Open the left door (clockwise) and right door (anticlockwise).
Press the handle back to the lock slot to make sure that the door lock is closed.



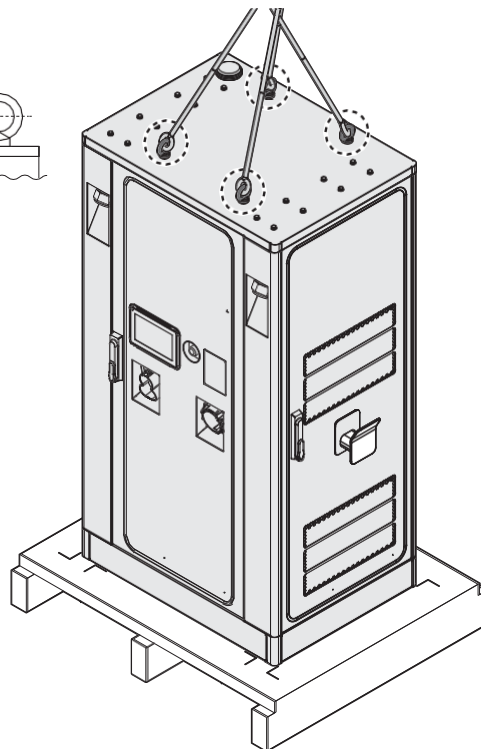
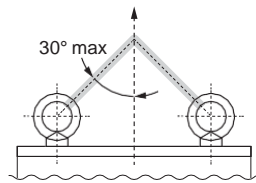
11. Release the 4 screws on the base panel (two sides) with a Torx[®] Tamper-Resistant T15 & T20 screwdriver. Take out the base panel.

12. Release the screws on the cabinet and pallet with a No. 19 socket wrench.

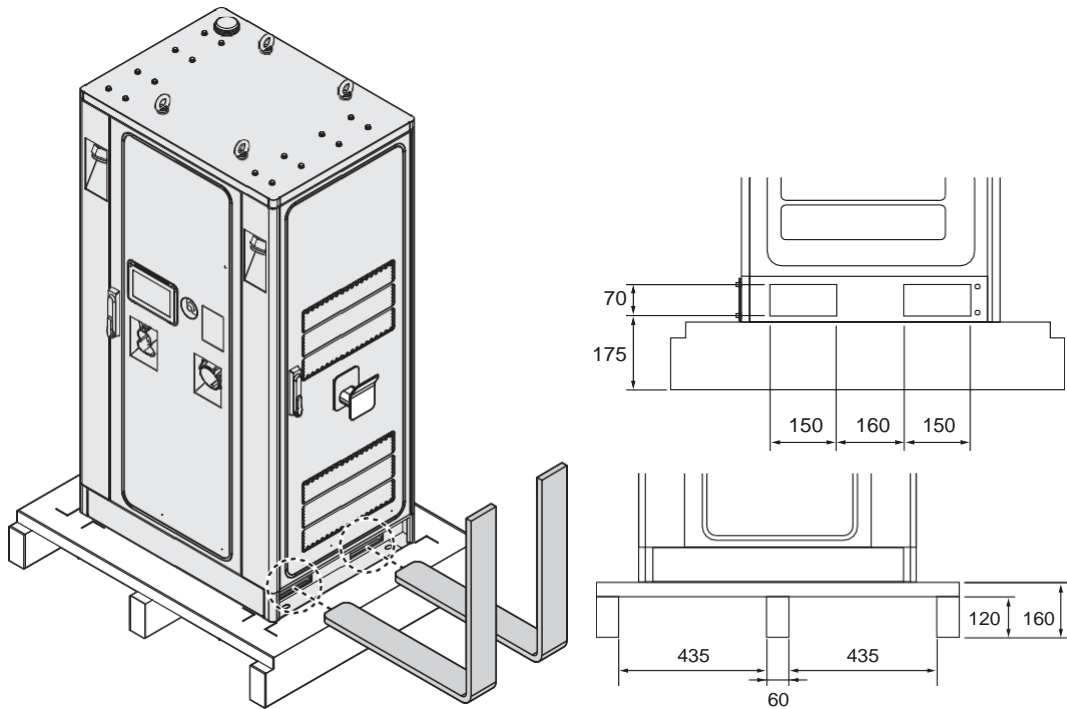


13. Transport the cabinet.

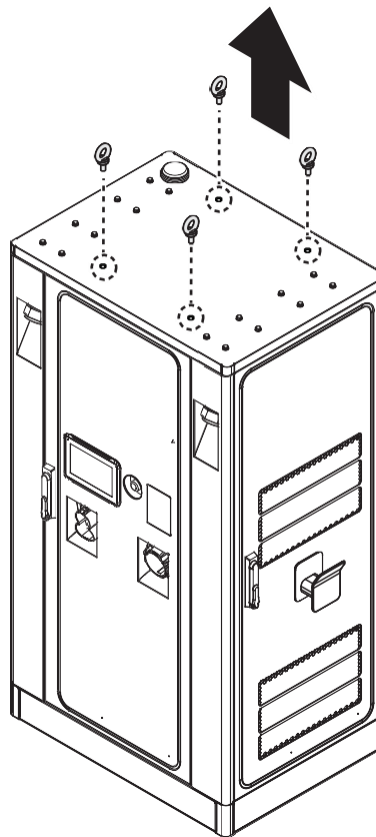
- Transporting with the crane: The included angle hanging the cabinet on the top shall be 30° .



- Transporting with the forklift: Refer to the dimension when transporting the cabinet with forklift. There are two ways to lift the cabinet, either removing the side plates of the charger at the charger bottom or lift with the pallet.

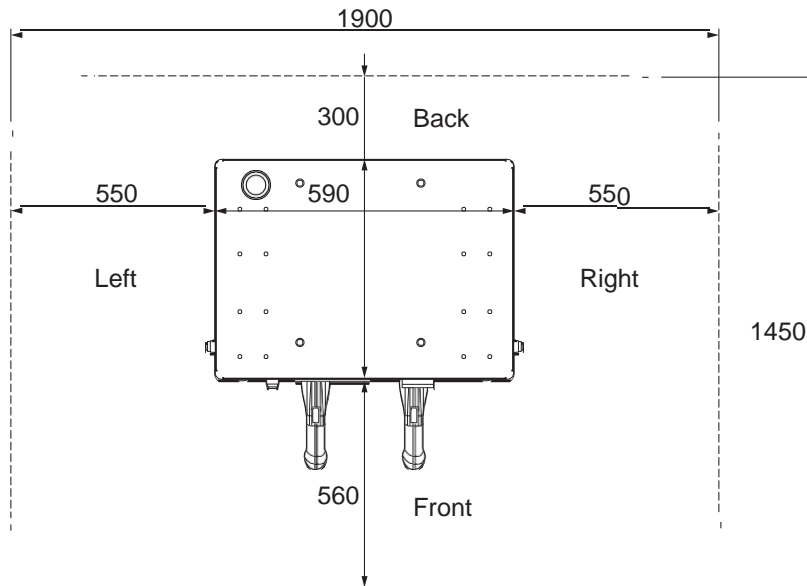


14. Replace the eye bolts with M12 bolts x4 with a No. 19 socket wrench after the DC City charger has been well-placed.

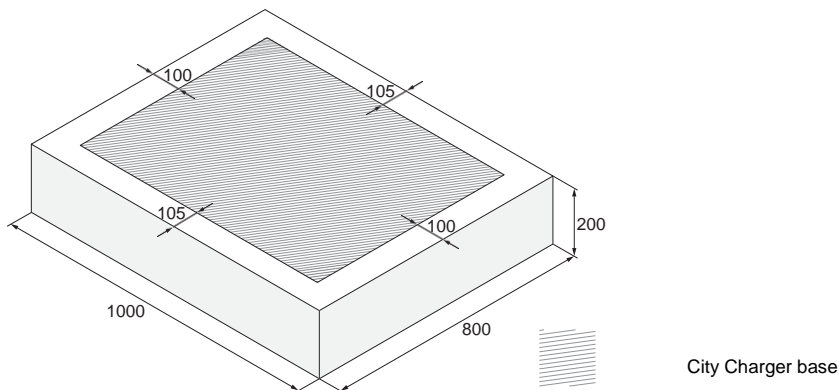


Ground mounting

- The mounting site must have a minimum width of 1900 mm and a depth of 1450 mm to endure adequate ventilation and maintenance space.
 - Charger size W x D x H: 800 x 590 x 1500 mm.
 - Leave a minimum of 560 mm in front of the charger such that the front door can be opened.
 - Leave a minimum of 550 mm on both sides of the panels such that they can be opened.
 - Leave a minimum of 300 mm in the back of the charger such that the back panel can be opened.

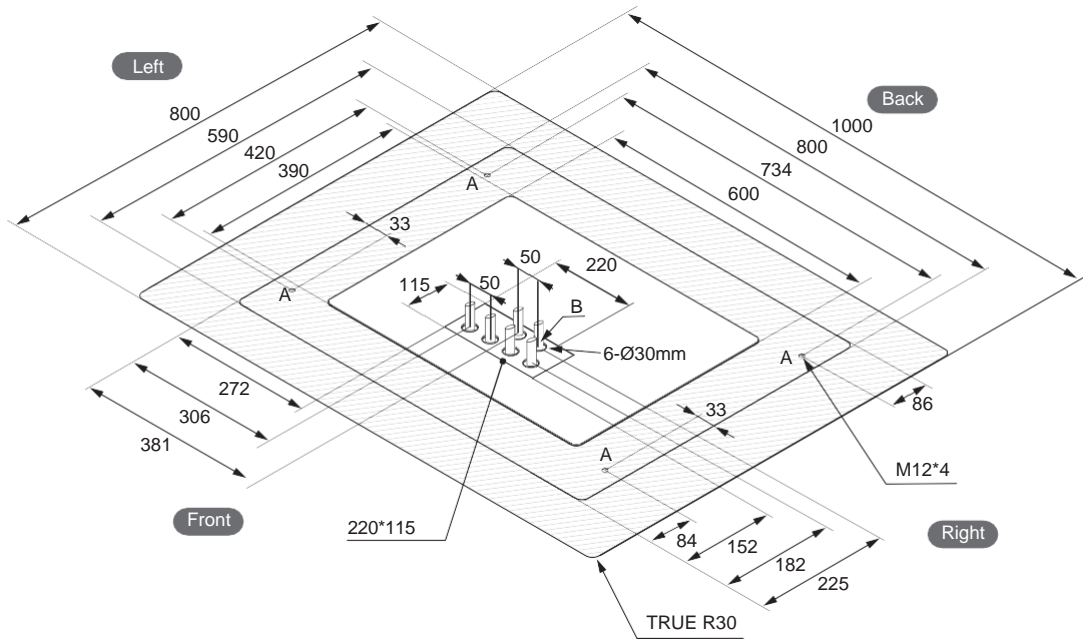


- It is suggested to mount the unit at a sufficient height from grade such that the height of the storage is located between 182 mm and 244 mm from grade.

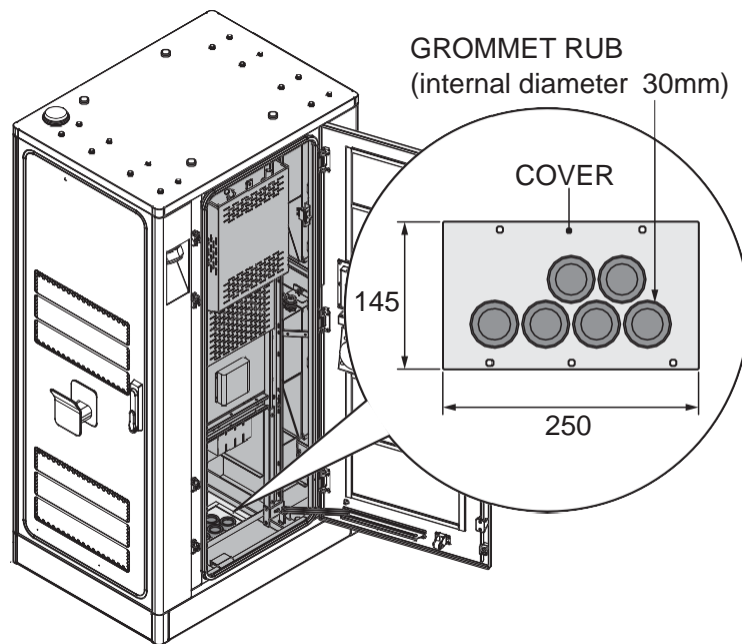


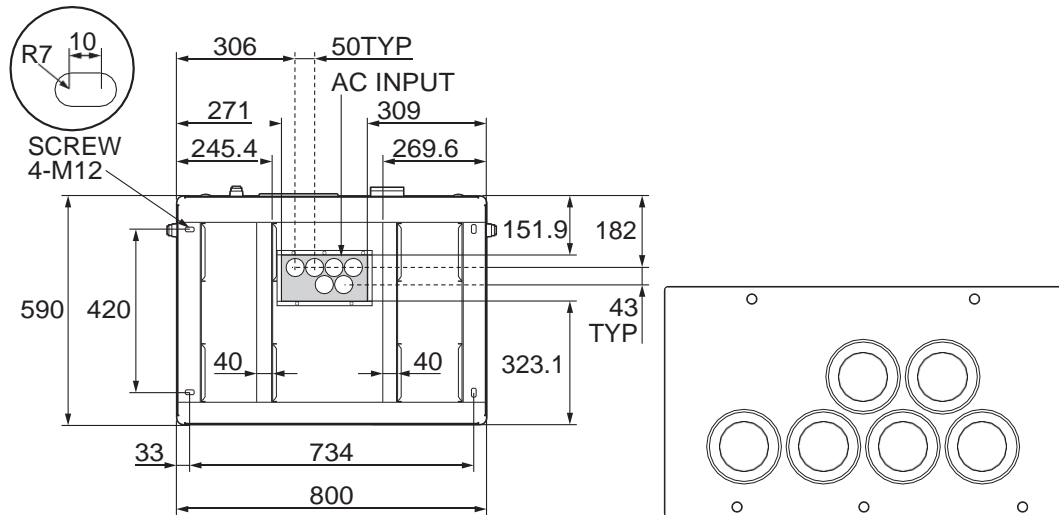
- Using the mounting template to position the charger. Drill four M12 holes for installing the charger. Drill six 30 mm-diameter holes with or a rectangle with a width of 250 mm and a depth of 130 mm for holding the power cables and the Ethernet cable.
 - Drill and tap 4 holes (M12) into the cement base at the indicated positions (A).
 - Make sure that the cables emerge from the floor through the 6 marked holes (B).

- Make sure that a cable length of 0.6m is available above the floor for internal routing in the cabinet.

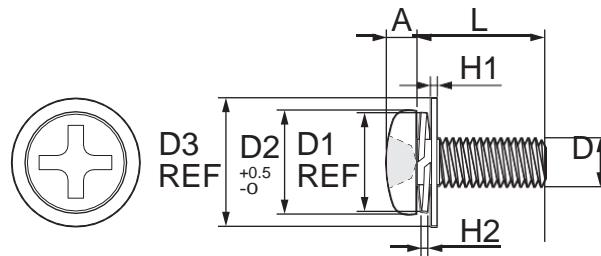


4. Each hole for holding the power cables of the Ethernet cable should have a diameter of 30 mm. There are six holes in total.



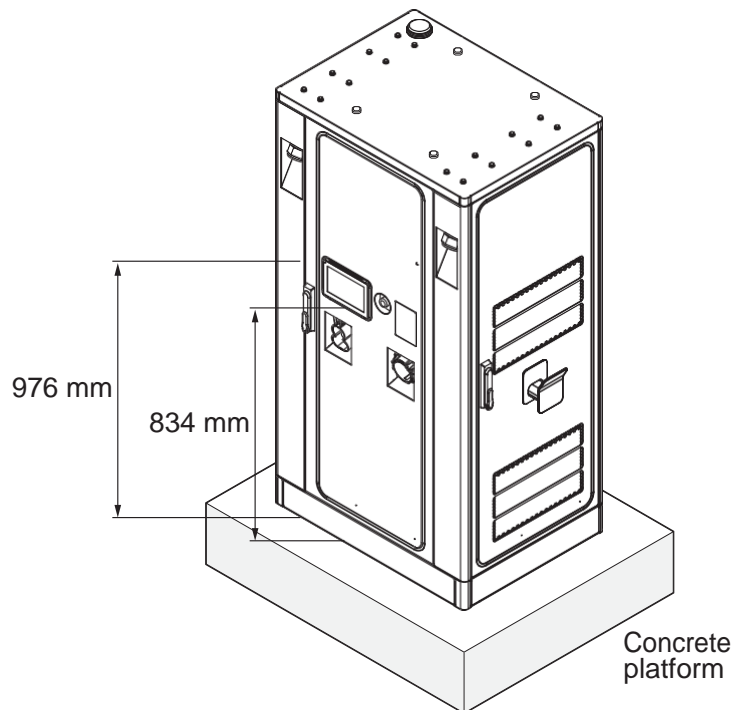


- The five M4 screws on the base cover (W x D = 250 x 130 mm) can be removed by using a No.2 Philips screwdriver.



Part No.	D	A	L (mm)	D1	D2	D3	H1	H2	Material
3105862500	M4*0.7	2.6±0.15	10.0±0.2	6.3	6.5	7.7	0.8±0.1	1.0±0.1	SWRCH18A

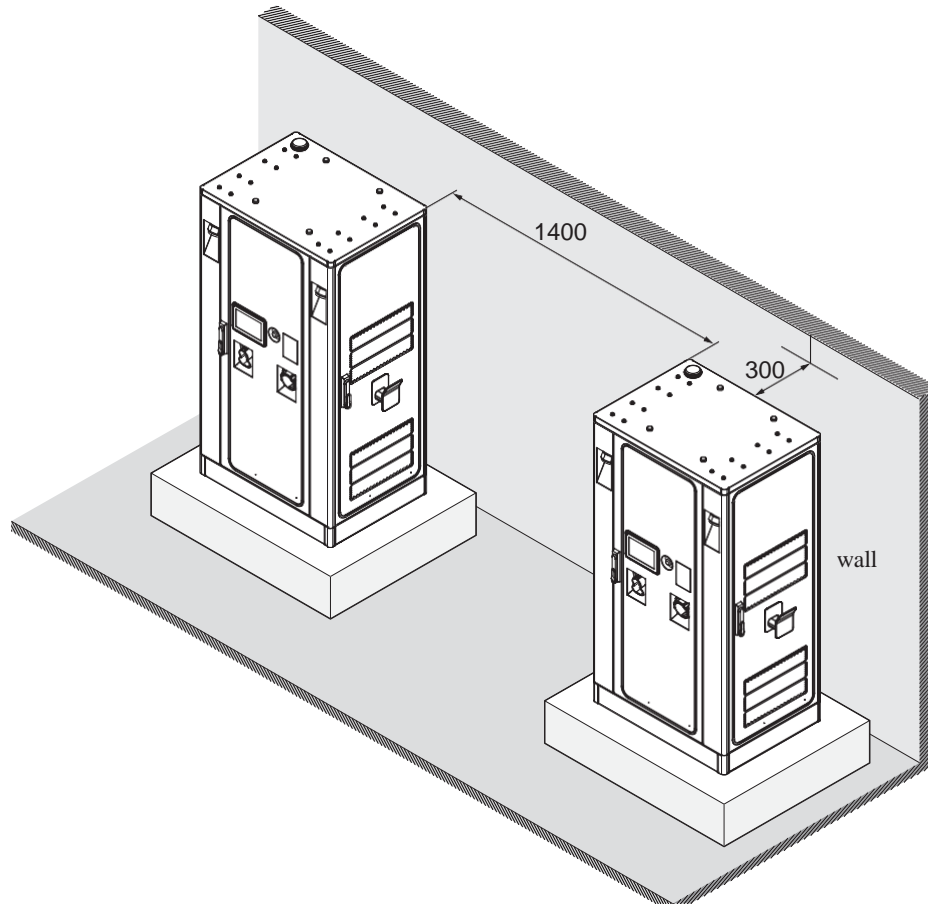
5. After the wiring work, it is suggested to return the base cover. An additional aluminum cover is with the package. Installer can drill holes to fit the wiring space.





Note:

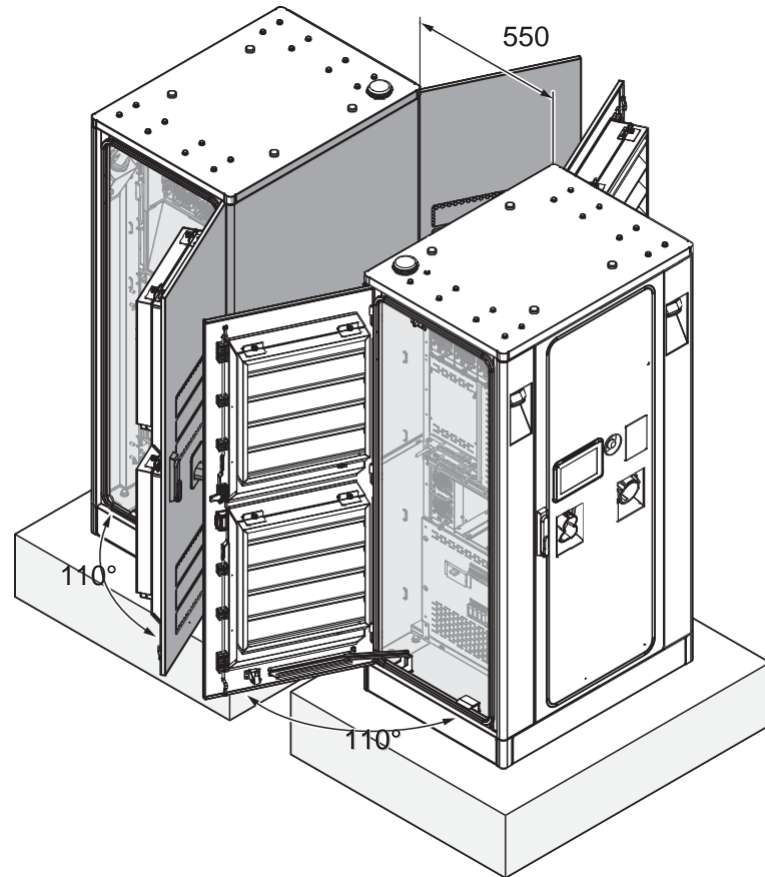
The minimum distance between the left charger and the right charger should be 1400 mm (55 inches). The minimum distance between the chargers and the wall should be 300 mm (12 inches).



Note:



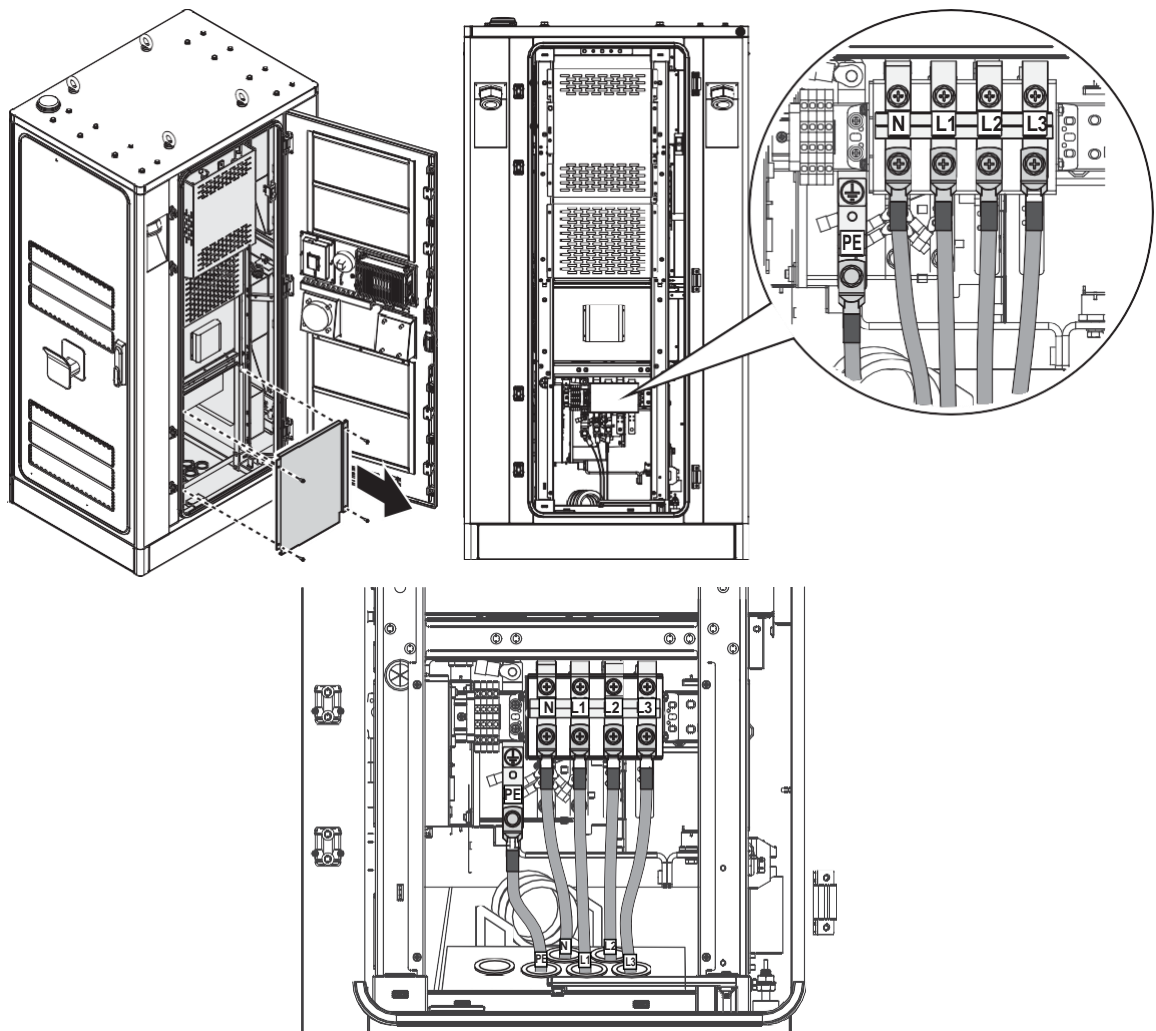
The minimum distance between the back panels of two chargers should be 550 mm (20 inches), so as to allow the left and right panels to be opened fully at an angle of 110°.



Making the Connection

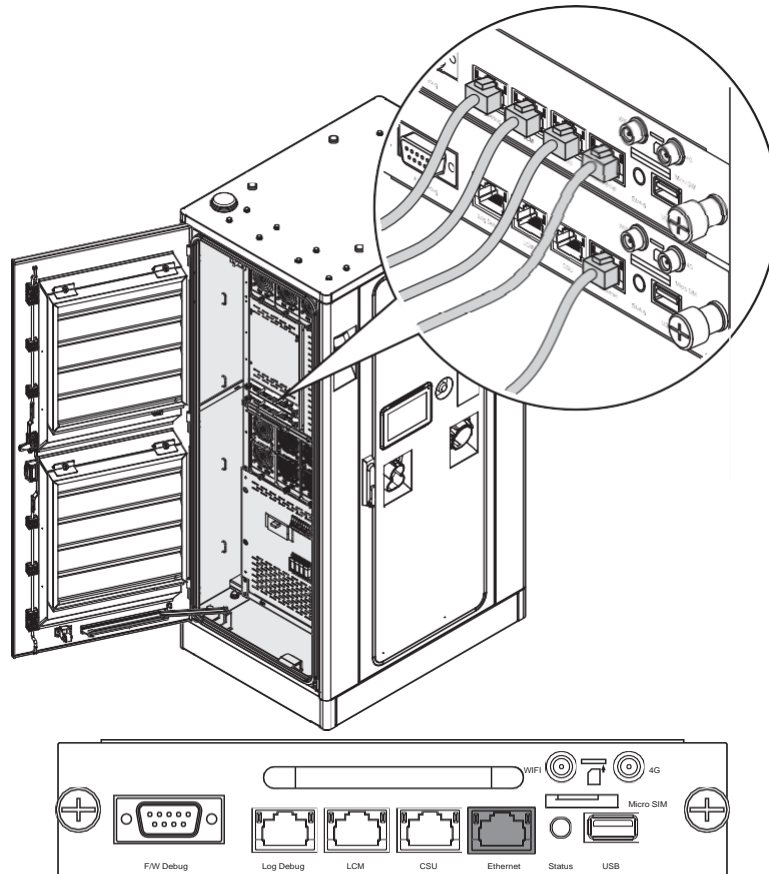
Power Wiring

1. Open the front door for wiring.
2. Release the four M4 screws on the front bottom panel with a No. 2 Philips screwdriver. Torque force 1.8 N.m
3. Route the power wires through the bottom or rear of the enclosure.
4. Select the location to route the power wiring.
5. Feed the wires from the underside. Make sure the wiring can sufficiently reach the terminals before securing.
6. Connect power wiring N\L1\L2\L3 using 4xM10 with 20 N.m Torque force by hex wrench socket 17mm.
7. Connect power wiring PE using M8 with 18 N.m Torque force by hex wrench socket 13mm.
8. Recover the front bottom panel and close the front door.



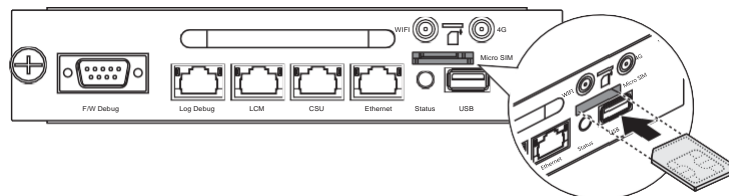
Ethernet Connection

1. It is recommended to connect Ethernet cables through the underside access ports. It is necessary to open the front cover and the left door.
2. Make sure that the cable passes through the grommet and reaches the Ethernet terminal on the upper controller, as shown in the following figure.
3. Connect the Ethernet cable to the Ethernet terminal.
4. Fasten the cable on the brackets with cable ties.



Cellular Connection

1. Open the left door.
2. Insert mirco SIM card onto the micro SIM interface on the uppercontroller.

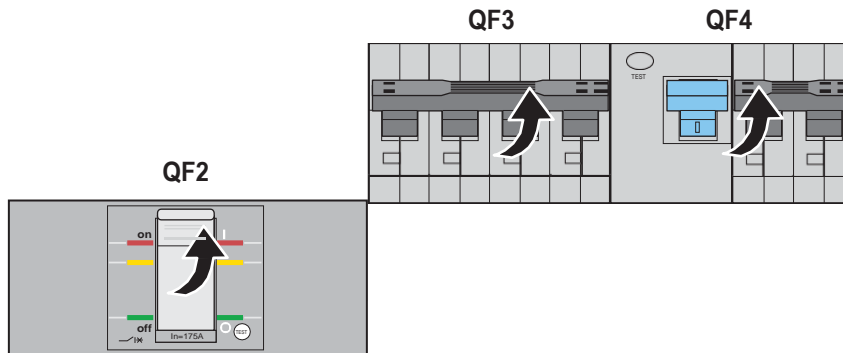


Note:

- Insert a valid SIM card as detailed above to start cellular connection. Consult with local operator to activate data service on the SIM card beforehand. Disable PIN check on the SIM card before inserting the card into the modem. Request APN information from the operator and make sure APN is configured correctly via the configuration tool.

Switch on DC City Charger

1. Open the left door of City Charger, AC input breaker QF2, QF3, QF4 are marked on the side panel. Follow the steps to turn on City Charger: QF3 → QF4 → QF2.



2. Switch the power on to initialize DC City Charger.



3. DC City Charger is ready to charge.

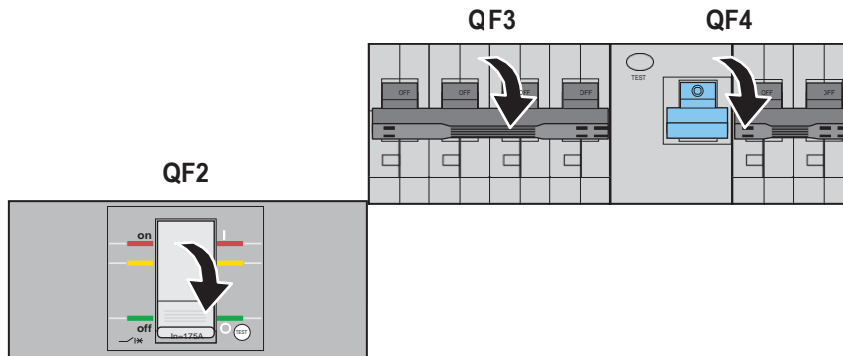


WARNING!



Under emergency situation, press Emergency button to stop power output.

To switch off the City Charger, open the left door of City Charger, AC input breaker QF2, QF3, QF4 are marked on the side panel. Follow the steps to turn on City Charger: QF2 → The left (blue) breaker switch in QF4 block QF4 → QF3.



Note:

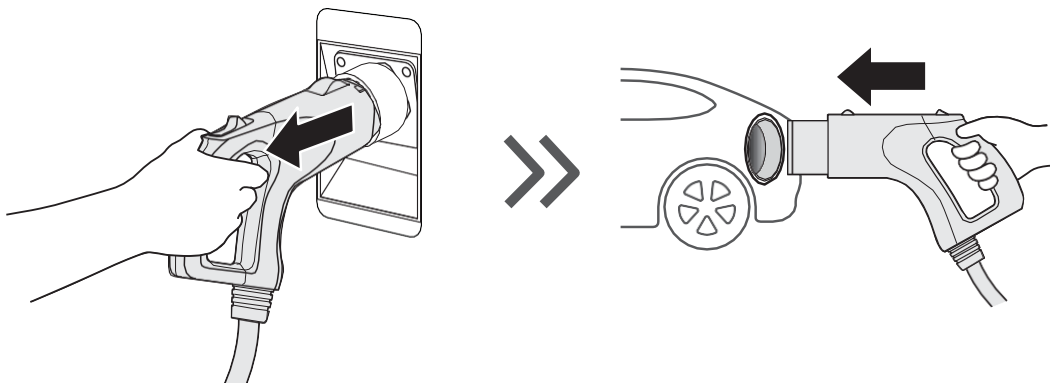
- The left (blue) breaker switch and the right (black) breaker switch in QF4 block can also be turned off at once.

Operation

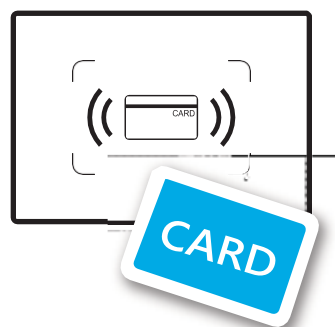
1. Choose a compatible charging connector (CCS or CHAdeMO).



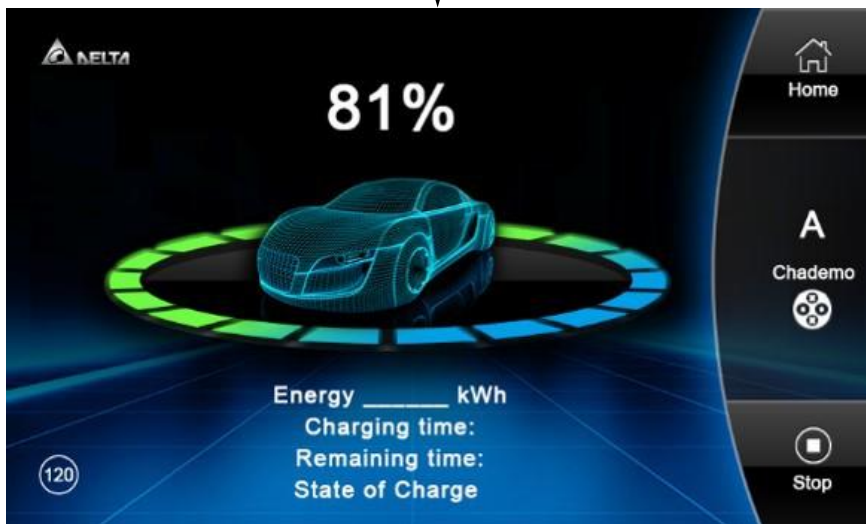
2. Connect the charging connector to the EV.



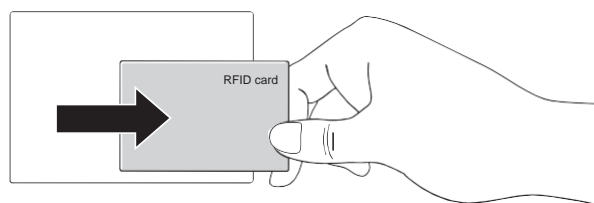
3. Swipe the authorized RFID card to start charging.



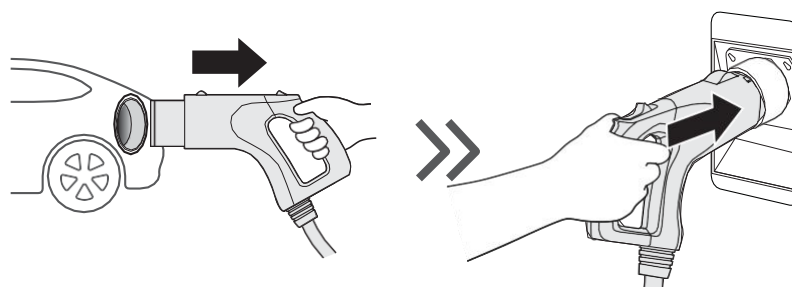
- Once charging session starts, status information is displayed on the screen.



- To stop charging session, press Stop on the screen and swipe the authorized RFID card.



- Return the charging connector to the holder.



System Configuration



WARNING!

Only configure the charger when the charger is not in charging mode to avoid interruption of an ongoing charging session.

1. Access to Webpage Configuration and log in.

- Connect laptop with DC City Charger via Ethernet.
 - a. Open the left door of DC City Charger to access Ethernet port.
 - b. Set PC IP: 192.168.0.200
 - c. Set Sub mask: 255.255.255.0
 - d. Enter HTTP://192.168.0.10 in Internet browser
Browser requirement: Chrome 74.0 or above is recommended.
 - e. Log in
Service partner account: admin
Service partner password: Please consult with Delta
- Connect via Wi-Fi
 - a. Search DC City Charger Wi-Fi with mobile phone within distance 1m (3.2ft.)
 - b. The Wifi name is DC City Charger serial number
 - c. Enter password: (Please consult with Delta) to connect mobile phone and DC City Charger
 - d. Enter 192.168.4.1 in Internet browser
 - e. Log in
Service partner account: admin
Service partner password: Please consult with Delta

2. Select "Configuration" on the list and enter the parameters and save changes.

- OCPP: Connect to OCPP Backend
Under this application, OCPP parameters Charge Box ID, OCPP Server URL, OCPP version are required.



Home Configuration System Setting Manual Charging [Logout](#)

Configuration



Select OCPP or None

OCPP	
Charge Box ID	NI_GFX_DELTA04
OCPP Server URL	ws://ocpp16.ezgo.jp/
OCPP Version	1.6J-Security
Net Type	Wi-Fi
Wi-Fi SSID	Delta16T
Wi-Fi Security Mode	None
Wi-Fi Password	123456
Wi-Fi Network Mode	DHCP
Ethernet Network Mode	DHCP
Save and restart charger	
None	

- None: Charger will operate without backend
Under this application, authentication mode, maximum charging time and current are configurable.



Home Configuration [Sign out](#)

Configuration



Select OCPP or None

OCPP

None

Authentication mode

Max charging time

Max charging current

Save and restart charger

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Network Configuration

Select the network connectivity for backend connectivity in “Net Type” column and set the parameters respectively.



Select OCPP or None

OCPP

None

Charge BOX ID

OCPP Server URL

OCPP Version

Net Type

Wi-Fi SSID

Wi-Fi Security Mode

Wi-Fi Password

Wi-Fi Network Mode

Ethernet Network Mode

Hotspot

Limit Power Percent(0%~100%)

Cellular_APN

Cellular CHAP PAP ID

Cellular CHAP PAP Password

Save and restart charger

- Net Type: Wi-Fi
The parameters required: Wi-Fi SSID, Wi-Fi Security Mode, Wi-Fi Password, Wi-Fi Network Mode.
- Net Type: Ethernet
The parameter required: Ethernet Network Mode
- Net Type: Cellular
Optional parameters: Cellular_APN, CHAP PAP ID, CHAP PAP Password

Charging Configuration

- Limit Power Percentage (0 – 100%): User can set the output power percentage of the system capacity. The setting is independent from the load distribution profile.
- Dynamic load distribution profile: User can set the charger whether to support dynamic load distribution profile.

End of Configuration

After the configuration, the installer shall set “Hotspot” off when they access the configuration tool via Wi-Fi AP and press “Save and restart charger” to apply the parameters.

Firmware Update

The status of uploading firmware to City Charger will be displayed on the screen.



When system finishes the update procedure, it restarts automatically.

Maintenance

Annual Requirements

1. Replace the ventilation filter.
2. Conduct a visual inspection of the charging cable and ensure that the cable does not show any visual damage or deformation.
3. Conduct a visual inspection of the charging connector and ensure that the connector does not show any visual damage, arcing or rust.



WARNING!

To avoid danger of electrical shock or injury, turn off power at the panel board or load center before working on the equipment or removing any component. Do not remove circuit protective devices or any other component until the power is turned off.

Disconnect electrical power to DC City Charger before any maintenance work to ensure that it is separated from the supply of AC mains. Failure to do so may cause physical injury or damage to the electrical system and charging unit.



Note:

- Even when the key switch is turned off, the circuit before the main terminal is still hazardous. Please only operate visual inspection at this moment.
- Maintenance of the DC City Charger shall be conducted only by a qualified technician.
- After opening the front door, turn off the main breaker and auxiliary breaker before any maintenance work.

Specifications

100kW model		Single Output	Dual Outputs
Power Input	Input Rating	380 - 415Vac, 3-Phase, 50 / 60 Hz, L1, L2, L3, N, PE	
	Power Factor	0.99 at nominal output	
	Current THD	Compliant with IEEE 519: 2014	
	Efficiency	94% at nominal output power	
Power Output	Output Voltage	50 - 1000 Vdc	
	Output Interface	DC output options: CCS2, CHAdeMO AC output options: AC Type 2 Socket (22kW)	
	DC Output Current	200A max.	200A max.
	DC Output Power	100kW max.	100kW max.
Protection	Protection	Over current, Under voltage, Over voltage, Residual current, Surge protection, Short circuit, Over temperature, Ground fault	
User Interface & Control	LCD module	7 inch LCD Touch Panel	
	Support Language	English (Other languages available upon request)	
	Push Buttons	1 Emergency Stop Button	
	Charge Options	-	Simultaneous charging and configurable dynamic load sharing
	User Authentication	ISO/IEC 14443 A/B Mifare RFID reader, Credit card reader (Optional)	
Communication	Network Interface	Ethernet / Cellular / WLAN	
	Protocol	OCPP1.6-J, upgradeable to OCPP2.0	
Environmental	Operating Temperature	Operating from -30°C to +50°C; De-rating from +50°C to +60°C	
	Storage Temperature	-40°C to +80°C	
	Humidity	< 95% relative humidity, non-condensing	
	Altitude	2,000 m	
Mechanical	Ingress Protection	IP55	
	Enclosure Protection	IK10 according to IEC 62262	
	Cooling	Forced air	
	Charging Cable Length	4 m (Standard)	
	Dimension (D x H x W) / Weight ¹	590 x 1500 x 800 mm / 350 kg	
Regulation	Certificate	CE	
Installation	Accessory	Cable management	
<p>1. Dimension and weight includes plug and 4 m connector, subject to variants. 2. Product outlook depends on configuration. 3. Specifications are subject to change without notice.</p>			

50kW model		Single Output	Dual Outputs
Power Input	Input Rating	200 - 240Vac, 3-Phase, 50 / 60 Hz, L1, L2, L3, PE or 380 - 415Vac, 3-Phase, 50 / 60 Hz, L1, L2, L3, N, PE	
	Power Factor	0.99 at nominal output	
	Current THD	Compliant with IEEE 519: 2014	
	Efficiency	94% at nominal output power	
Power Output	Output Voltage	50 - 1000 Vdc	
	Output Interface	DC output options: CCS2, CHAdeMO AC output options: AC Type 2 Socket (22kW)	
	DC Output Current	125A max.	125A max.
	DC Output Power	50kW max.	50kW max.
Protection	Protection	Over current, Under voltage, Over voltage, Residual current, Surge protection, Short circuit, Over temperature, Ground fault	
User Interface & Control	LCD module	7 inch LCD Touch Panel	
	Support Language	English (Other languages available upon request)	
	Push Buttons	1 Emergency Stop Button	
	Charge Options	-	Simultaneous charging and configurable dynamic load sharing
	User Authentication	ISO/IEC 14443 A/B Mifare RFID reader, Credit card reader (Optional)	
Communication	Network Interface	Ethernet / Cellular / WLAN	
	Protocol	OCPP1.6-J, upgradable to OCPP2.0	
Environmental	Operating Temperature	Operating from -30°C to +50°C; De-rating from +50°C to +60°C	
	Storage Temperature	-40°C to +80°C	
	Humidity	< 95% relative humidity, non-condensing	
	Altitude	2,000 m	
Mechanical	Ingress Protection	IP55	
	Enclosure Protection	IK10 according to IEC 62262	
	Cooling	Forced air	
	Charging Cable Length	4 m (Standard)	
	Dimension (D x H x W) / Weight ¹	590 x 1500 x 800 mm / 323 kg	
Regulation	Certificate	CE	
Installation	Accessory	Cable management	
<p>Dimension and weight includes plug and 4 m connector, subject to variants. Product outlook depends on configuration. Specifications are subject to change without notice.</p>			

