CIRCONTROL
Mobility & eMobility

Raption Series

Installation Manual

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Installation Manual

Here's your guide to install a Raption

1

This manual provides information for installing the Charge Point, which has been designed and tested to allow charging electric vehicles, as specified at IEC 61851 standards.

This document has different sections describing electrical components inside the Charge Point and a step-by-step installation procedure.

It is mandatory to follow the basic security information supplied in this manual to ensure safe and proper installation.

Failure to follow safety instructions may involve personal injury, equipment damage and danger of death. CIRCONTROL is not responsible for events arising from such breach.

THE FOLLOWING SYMBOLS ARE USED FOR IMPORTANT SAFETY INFORMATION IN THIS DOCUMENT

ELECTRIC RISK

- This symbol indicates a potentially hazardous situation which, if not avoided may result in a risk of fire, serious injury or death.

- The Charge Point must be disconnected from any power source before performing any maintenance, repair or electrical manipulation inside.

ATTENTION!

- Follow the instructions preceded by this symbol, if not respect them or perform them correctly, may result in minor or moderate injury to the user, damage to equipment, damage to facilities or other property.

- Handling the equipment can cause injuries as result of the dimension and weight. Persons handling the unit must wear safety shoes and gloves.

So, hello!

General:

- Compliant with IEC 61851, Electric vehicle conductive charging system (IEC 61851-1, IEC 61851-21-2 and IEC 61851-23).
- Compliant with IEC 62196, Plugs, sockets-outlets, vehicle connectors and vehicles inlets- Conductive charging of electric vehicles (IEC 62196-1, IEC 62196-2 and IEC 62196-3).
- Compliant with CHAdeMO certification.
- Compliant with IEC 61851-24, Digital communication between a DC EV charging station and an electric vehicle for control of DC charging. Meets the CCS specification, DIN 70121. ISO 15118 ready.
- Directives: 2014/53/EU, Radio and Telecommunication Terminal equipment; 2014/30/EU, Electromagnetic Compatibility (EMC); 2014/35/EU, Low Voltage directive.
- RFID complies with ISO 14443A/B, Identification cards- Contactless integrated circuit cards- Proximity cards.
- Modem 4G complies with CE/RED
- Compliant with RoHS 2011/65/EU-2017/2102, Restriction of Hazardous Substances.

Applies to Raption 51, Raption 52 and Raption 100:

- Meter complies with 2014/32/EU, Measuring Instruments Directive.

2

A Important safety instructions

Read carefully all the instructions before starting in order to ensure properly installation of the Charge Point.

The Charge Point is designed for installation at indoor and outdoor areas. For each of the different conditions of installation, the unit must be installed safely and ensure adequate protection.

- Charge point must not be installed in areas where there is potential risk of explosion or any salinity level.
- Charge point must not be installed in industrial areas with high level of humidity or pollutants.
- Do not install the Charge Point where falling objects may damage the equipment.
- The surface where the Charge Point is placed must withstand the mechanical forces.
- Do not use this unit for anything other than electric vehicle charging modes are expected in IEC 61851.
- Do not modify this unit. If modified, CIRCONTROL will reject all responsibility and the warranty will be void.
- Comply strictly with electrical safety regulations according to your country.
- Do not make repairs or manipulations with the unit energized.
- Only trained and qualified personnel should have access to the electrical parts inside the Charge Point.
- Check the installation annually by qualified technician.
- Remove from service any item that has a fault that could be dangerous for users (broken plugs, caps that don't close...).
- Use only Circontrol supplied spare parts.
- Do not use this unit if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.

Before the installation

B Electrical wiring considerations

Take into consideration this section before start wiring connections of the Charge Point.

1 — INPUT POWER SUPPLY

The input power supply line for the Charge Point must be hardwired from a dedicated power transformer or generator and not by LV overhead power lines. It has to be done under electrical safety regulations according to your country.

Additionally, only for Raption 100 case, installation must be phisically separated from residential environments by distance greater than 30m or by a structure which acts as a barrier to radiated phenomena.

2 — POWER SUPPLY LINE DIMENSIONING

The dimensioning of the input power supply line of the Charge Point must be checked by a qualified electrician. Note that various factors, such as, cable length between distribution board and the Charge Point; maximum input current of the Charge Point; the installation way, may have influence of the selected cable. In such cases, increasing the cable cross-section can be necessary. The installation company will be responsible for dimensioning the wires cross section and the electrical protections, taking into account the conditions above.

3 — MAXIMUM POWER OUTPUT

Depending on the input power line, you can carry out the charging sessions to the electric vehicle with different power output level, it is possible to limit the maximum output power by software limitation so as not to exceed the available input power.

In order to implement this limitation by software, please, refer to the Instruction Manual.

Note: In the Chapter 4, subsection E, you are going to find more electrical instructions so as to implement a secure POWER SUPPLY LINE.

Important Electrical Safety Instructions

Read carefully all the instructions before starting in order to ensure properly handling of electrical parts.

A safe work environment is not enough to control all potential electrical hazards. It is recommended to be very cautious and work safely. So, the safety rules shown below could help to control risks of injury or death from workplace hazards.

- Avoid contact with energized electrical circuits.
- Disconnect the power source before servicing or repairing electrical equipment.
- Use only tools and equipment with non-conducting handles when working on electrical devices.
- Never use metallic pencils or rulers, or wear rings or metal watchbands when working with electrical equipment.
- Enclose all electric contacts and conductors so that no one can accidentally come into contact.
- When it is necessary to handle equipment that is plugged in, be sure hands are dry and, when possible, wear nonconductive gloves, protective clothes and shoes with insulated soles.
- Never handle electrical equipment when hands, feet, or body are wet or perspiring, or when standing on a wet floor.

D EVSE Classification

Classification of the unit according to the IEC 61851-1:2017:

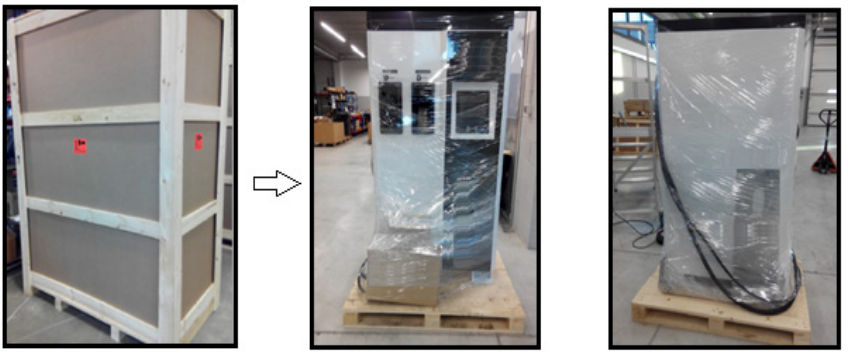
1 — Power supply Input	• EV supply equipment connected to AC supply network • Permanently connected
2 — Power supply Output	• AC and DC EV supply equipment
3 — Environmental conditions	• Indoor and outdoor
4 — Access	• Equipment for locations with restricted access and; • Equipment for locations with non-restricted access.
5 — Mounting method	• Stationary equipment - Ground mounted; floor mounted
6 — Protection against electric shock	• Class I
7 — Charging modes	• Mode 3 and Mode 4

E Supply and storage

1 — SUPPLY

All the units pass their correspondent quality test and are properly packaged for safe transportation ensuring thus their correct operation. The proper transport of the unit is responsibility of the freight forwarder.

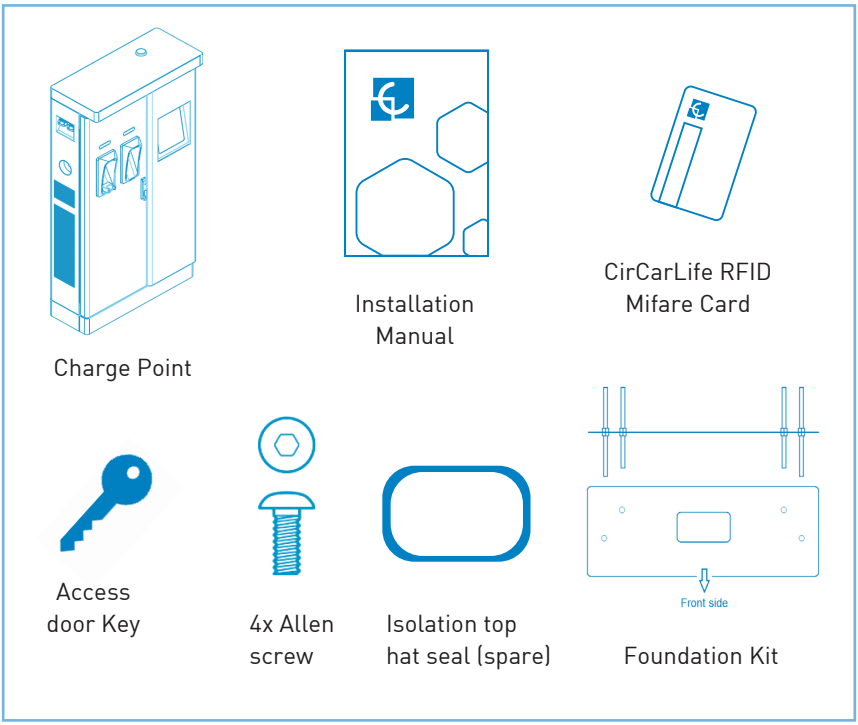
Upon receipt of the Charge Point make a careful inspection to verify that there is no shipping damage.



Note: if any damage caused by the forwarder is not indicated in the delivery note during the receipt of the Charge Point, CIRCONTROL will not be held responsible for the cost of repair/replacement.

You must find inside of the box, the foundation kit, the decorative front and rear panels and two cardboard boxes, one of them with the connectors inside and the other with the rest of material, such as keys, identification cards, installation manual, etc.

What's included:



2 — STORAGE

Whenever possible, the Charge point must be unloaded in their place of installation and operation. In case of unloaded to a temporary location for storage, it is convenient not to remove the packaging and store them meeting the following minimum requirements:

Safety: Charge Point must be protected against negative elements such as heat radiation, direct solar radiation, mechanical damage, organic dissolvent impacts, etc.

Temperature: for temperatures below -20 ºC and above 60º C special attention must be paid to the storage and handling.

Environment: Charge Point must be stored in a dry and dust-free location. The distance from a heat source must be 1 m away. Outdoor storage of the unit has to be avoided.

F Unloading and handling

All processes of unloading and handling of the Charge Point must be executed and monitored by qualified personnel attending to the significant weight of the unit, complying with safety rules and using the appropriate points of support. Important notes:

- The delivery truck only unloads the pallet carrying the Charge Point

- The delivery truck does not have the lifting facilities to move the Charge Point to its final location

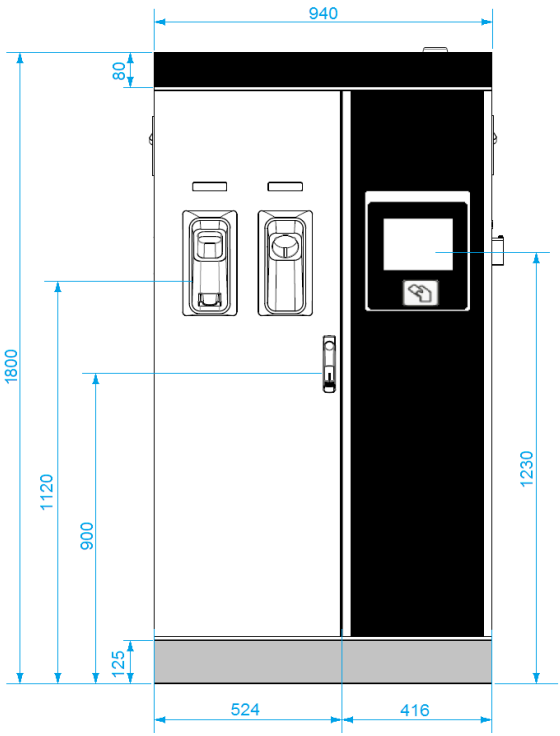
- The placement of the Charge Point to its final location is the responsibility of the contractor

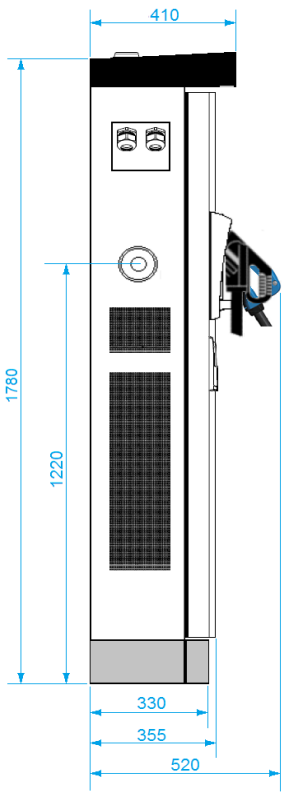
Once the Charge Point is already unloading from the truck, move it to its final location with a fork lift.

3

A Dimensions

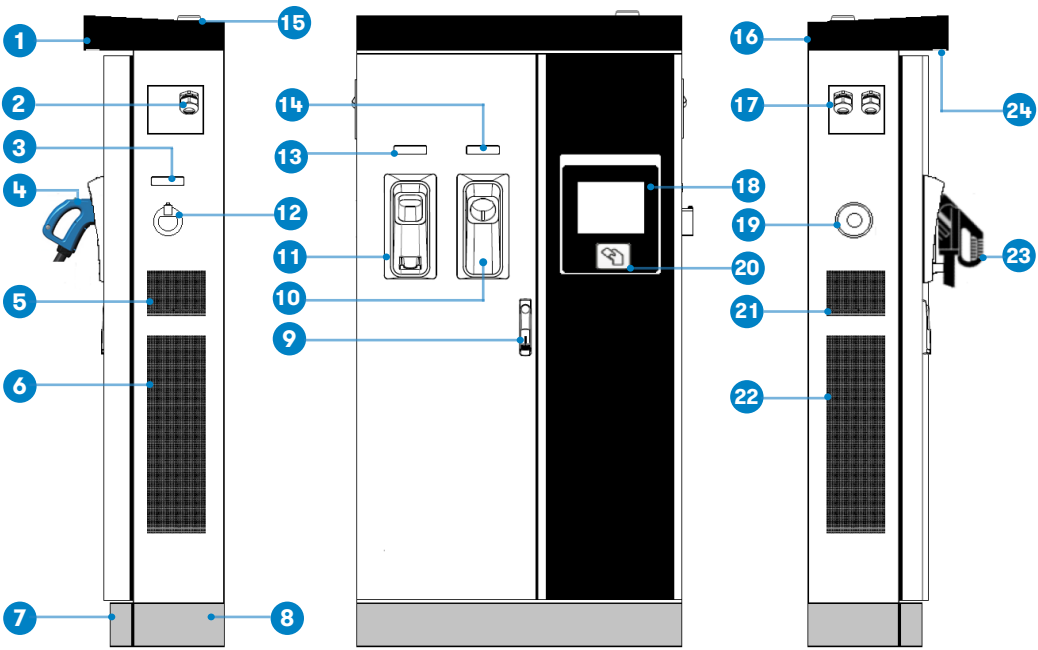
- Units specified in milimeters:





Dimensions and Overview

B Overview



1- Cover	2- Exit AC cable	3- AC light beacon	4- CHAdeMO connector
5- Air inlet unit	6- Power M. air outlet	7- Decorative front panel	8- Decorative rear panel
9- Handle	10- CHAdeMO holder	11- CCS holder	12- AC holder or socket 32A *
13- CCS light beacon	14- CHAdeMO light beacon	15- 4G Antenna	16- Air outlet unit
17- Exit DC cable	18- Touch screen	19- Emergency button	20- RFID reader
21- Air inlet unit	22- Power M. air inlet	23- CCS connector	24- Courtesy light

(*) Depending on the model, the components can vary.

4

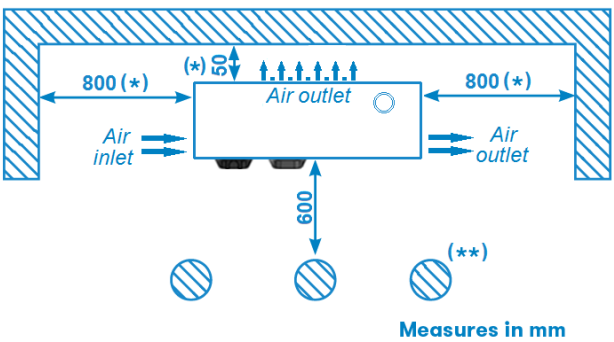
A Minimum distances

When installing the Charge Point, respect the minimum distances for maintenance and safety reasons.

Please comply accordingly to your country specifications.

The next picture shows how it should be installed.

- Do not install near areas where water or fluids can penetrate into the unit.
- Do not install the Charge Point on unstable terrain.



(*) Respect the minimum lateral distance to allow proper circulation of air flow. This unit has forced ventilation.

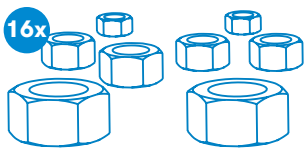
(**) If Bollard Impact Protector is installed, keep **600 mm** as a minimum distance in order to give enough space to open the frontal door of the Charge Point for maintenance tasks.

Installation

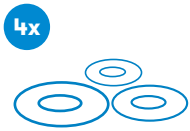
B Foundation

The purpose of this chapter is the technical definition and basic requirements for implementing the base and fixing the Charge Point.

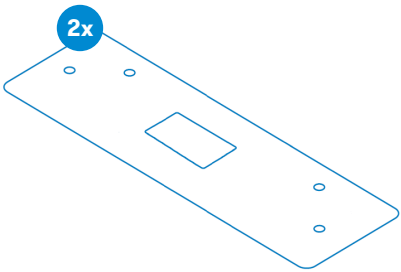
- The unit is adequate for indoor and outdoor installation
- A foundation kit with a mounting template is provided to ensure the distances between the foundation bolts.



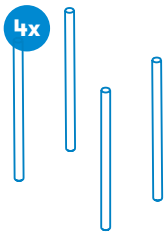
Nuts M16



Washers M16

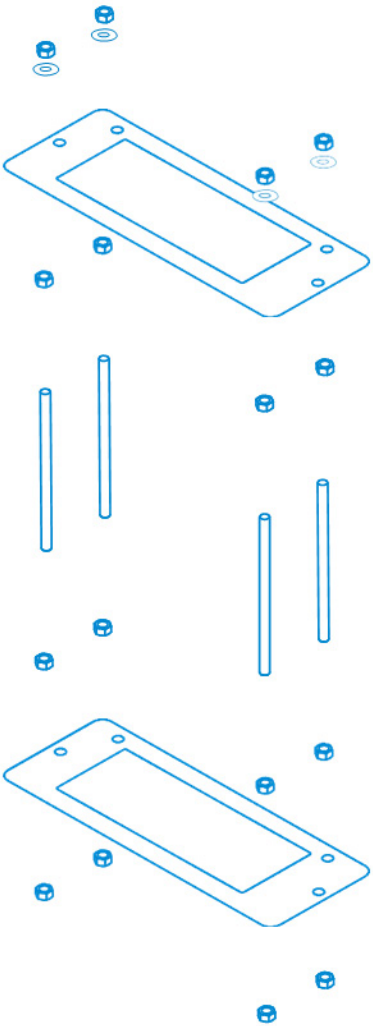


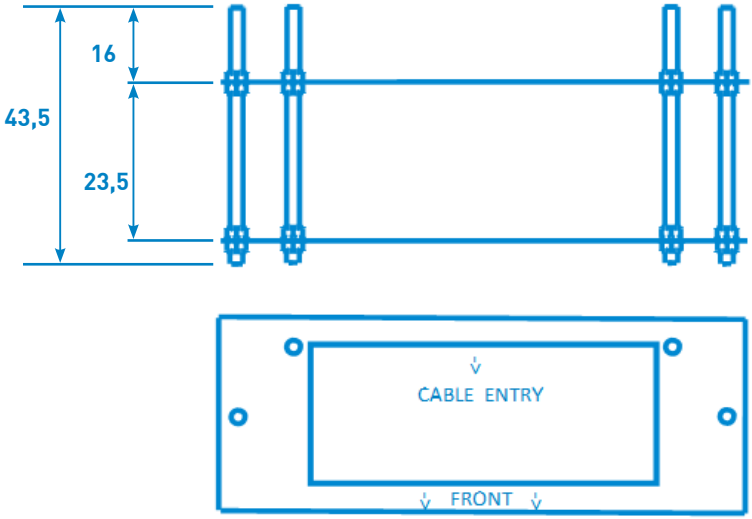
Template



Foundation rod
435 mm x M16

- Place the foundation bolts into the templates using provided nuts with the help of a **24mm open-end wrench**. Take into consideration the following measures.

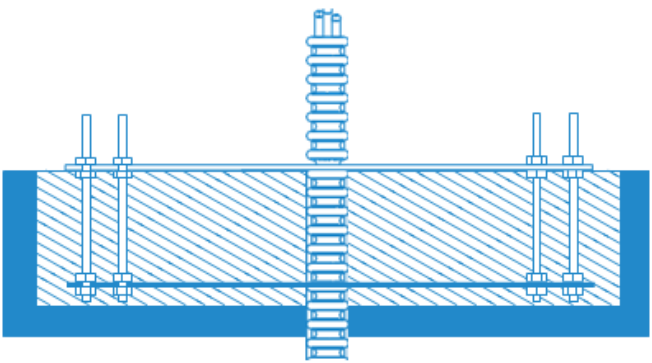


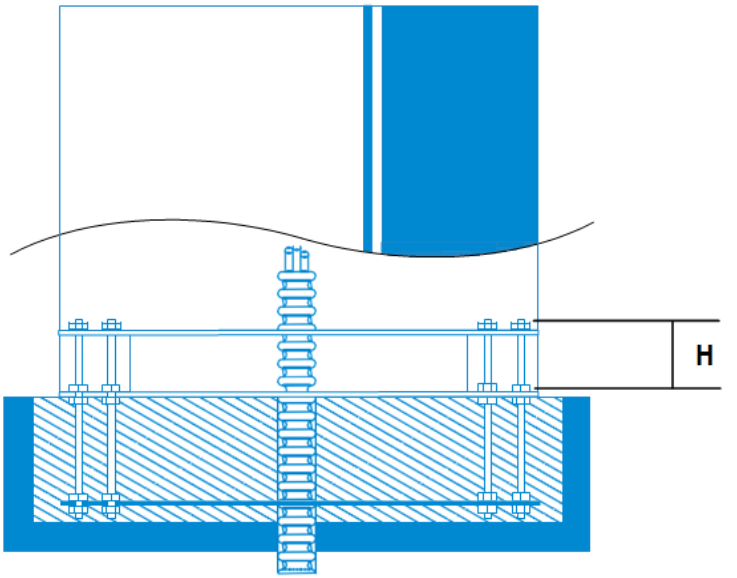


Before fixing the template inside of the concrete basement make sure front mark must face with the front side of the charger

- Once the kit is assembled, it must be placed in the ground. If the Charge Point has to be installed outside and there is no limitation of depth, is recommended to make a concrete base.

- The concrete base shall provide the passage of power cables, it must be done by corrugated tube placed inside the foundation through the mounting template, as it can be seen below.

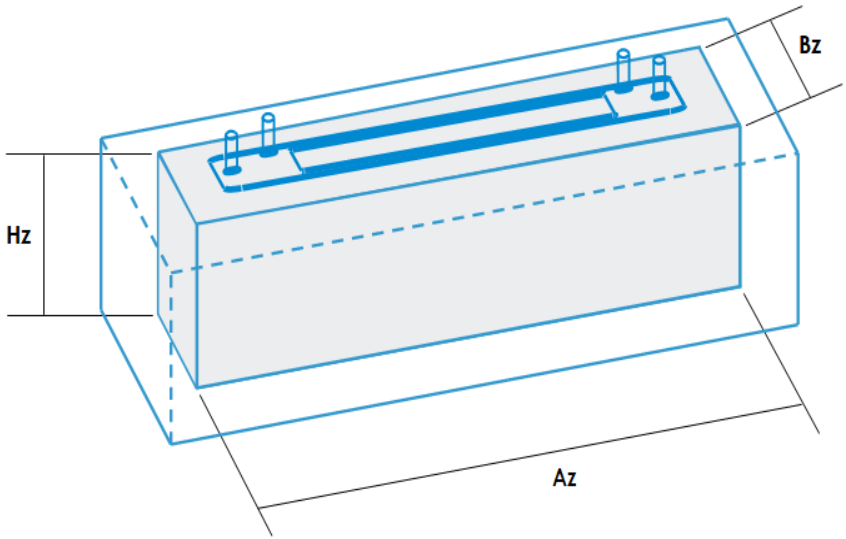




H = 16cm

Note: In the event of any doubt about the terrain regarding the installation of the Charge Point, due to the weight and dimensions, it will be necessary to define a final solution to install the unit. It must be confirmed by a specific technical project made for an architectural firm prior to its installation.

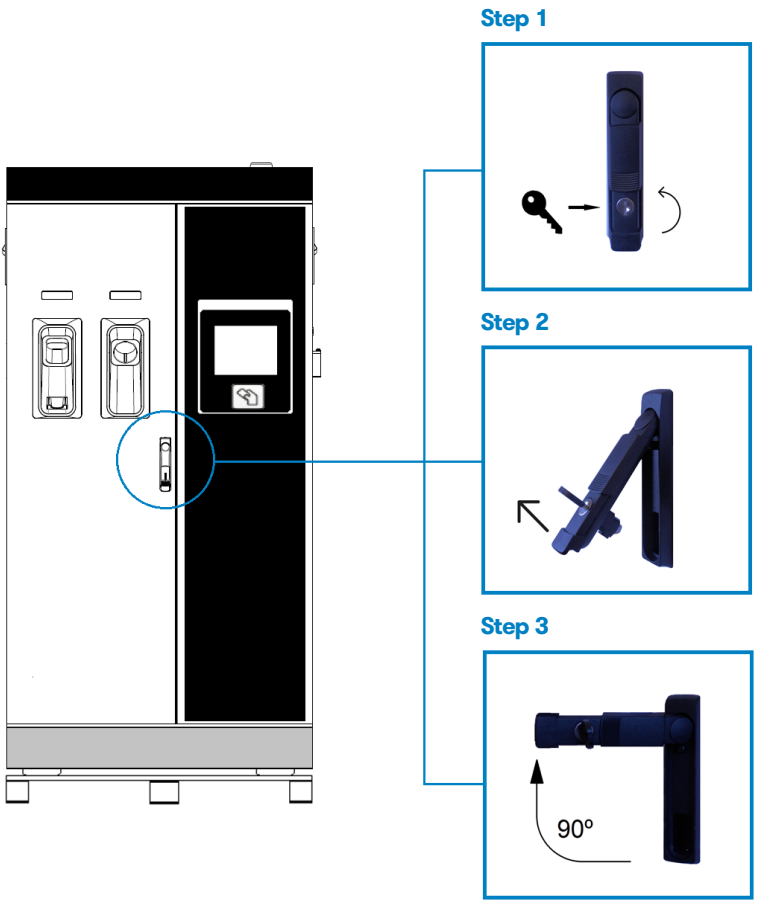
FOUNDATION MEASUREMENTS



ORIENTATIONAL FOUNDATIONS FOR RAPTION			
TYPE OF TERRAIN	Ck (kg/cm²)	FOUNDATION SIZE (Az x Bz x Hz) cm	COMMENTS
SOFT	5	110 x 60 x 65	For example vegetal not compact terrain
COMPACT	12	110 x 55 x 55	For example mix vegetable land with engraved compactors
VERY COMPACT	20	110 x 55 x 50	For example mix sand ground with very compacted and paved gravel asphalt
VERY COMPACT AND CONCRETE SLAB	20	110 x 45 x 45	Minimum slab edge 10cm of concrete HM - 100

Opening

- Left door:



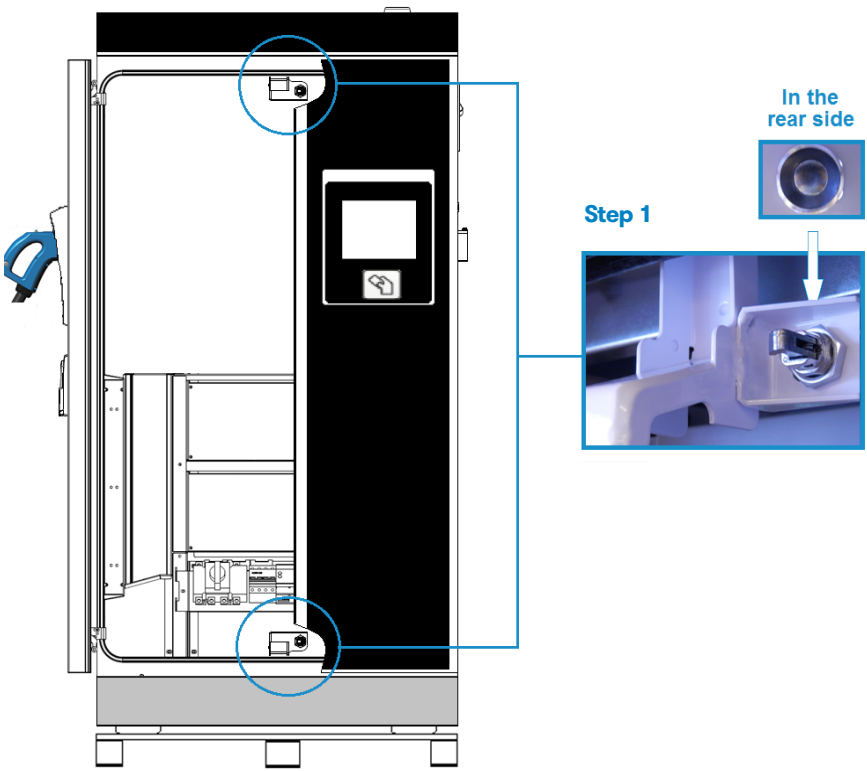
Steps:

1- Insert the key supplied in the lock and turn it 90 ° counterclockwise.

2- Pull back the handle.

3- Turn the handle 90 ° clockwise direction.

- Right door:



Steps:

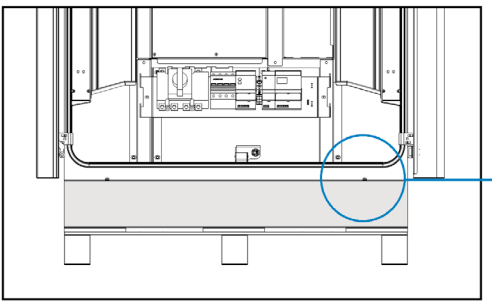
1- Push on the round metallic button placed behind to the mechanic lock. On the top and bottom part of the Right door.

D Placing

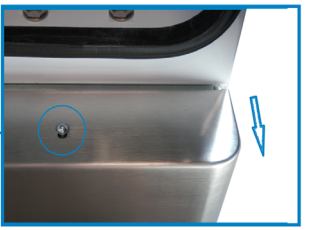
In order to place the Charge Point in its final location, please follow the next steps:

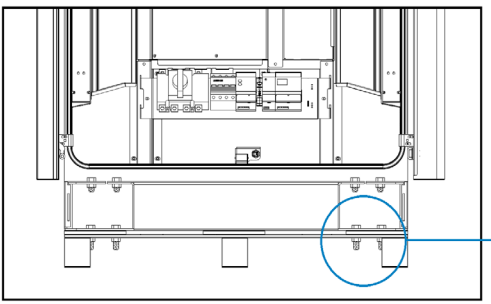
1 — REMOVING THE CHARGE POINT FROM PALLET

The Charge Point is mounted on a pallet so as to do a safe transport. It has to be removed before to installation.

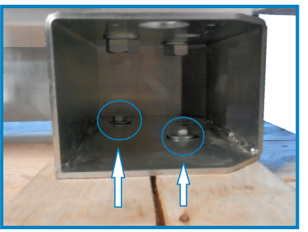


Step 1





Step 2



Steps:

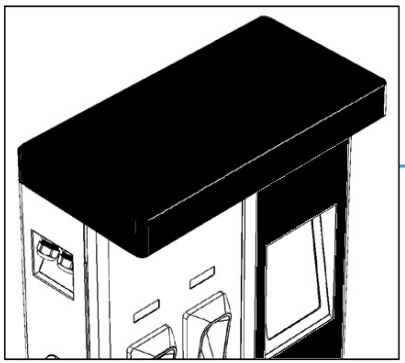
1- Remove the screws from the Decorative front panel (on both sides) and pull it outwards.

2- Once the Decorative front panel is removed, locate the screws that are fixing the pallet. Remove the screws with a 17 mm spanner tool.

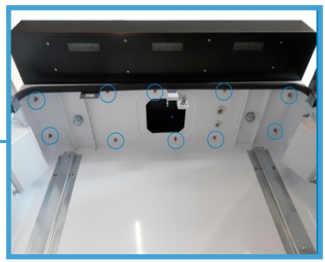
2 — PLACING THE CHARGE POINT TO THE FINAL LOCATION

Once the Charge Point is free from the pallet, there are two options to move it to the final location.

a) Move the Charge Point with eyebolts

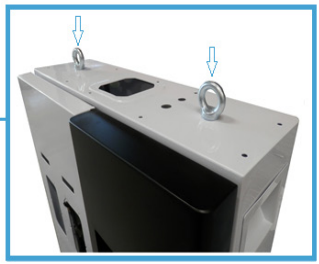


Step 1



Step 2

Step 3

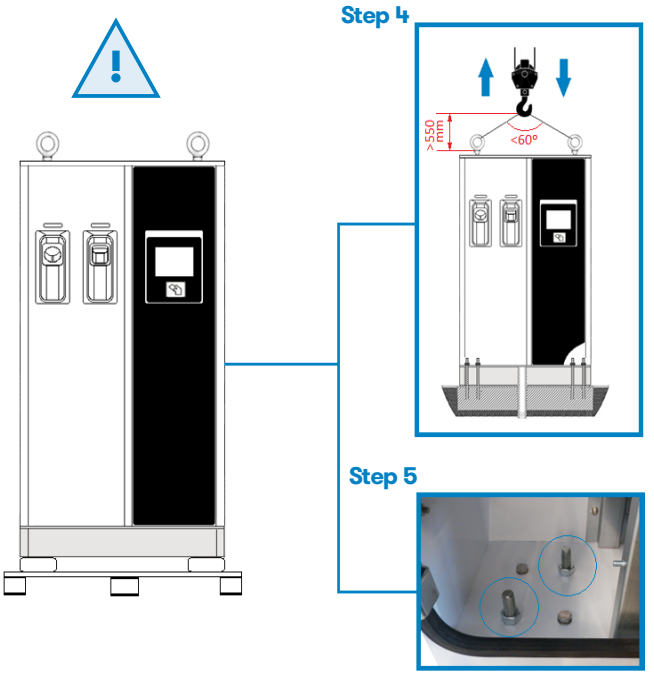


Steps:

1- Take off the 10 x M6 nuts that are keeping the cover, lift a little the cover and disconnect the 3G antenna connector, courtesy light connector and the exhaust fan connector.

2- Remove totally the cover from the top of the Charge Point.

3- Locate and make sure that the eyebolts provided are strongly tight.



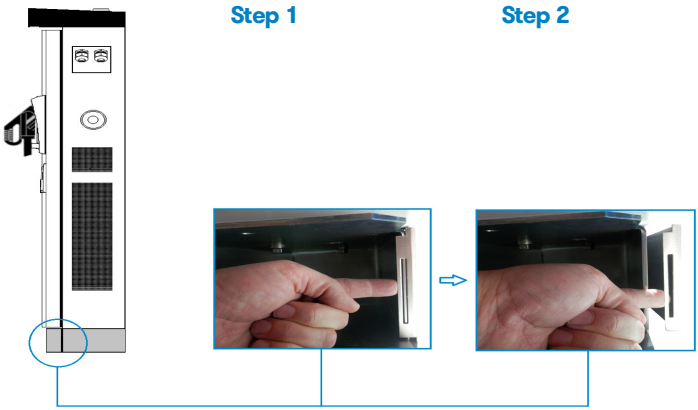
Steps:

4- Hold the sling to the eyebolts, raise the Charge Point up and placed on the final location.

5- Screw the 4 x M16 nuts with washers on the threaded rods already installed on the base (on both sides), **replace the isolation top hat seal with the one provided to assure IP (the tightening torque has to be 3.5 Nm)**, place again the unit cover, connect the 3G antenna connector, courtesy light connector and the exhaust fan connector and assembly the decorative front panel.

Note: do not remove the eyebolts from the Charge Point, leave them under the cover.

b) Move the Charge Point with manual forklift or forklift truck .

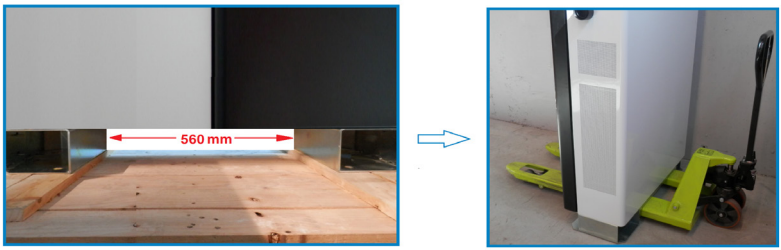


Steps:

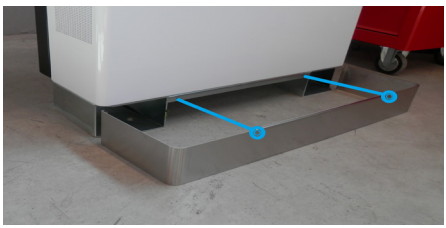
1- Remove the decorative rear panel. Pull outward the metal flange (on both sides).

2- Move out the metal flange (on both sides) and remove the decorative rear panel.

Once the decorative panels have been removed, it will be available enough space to introduce the forklift, 560 mm



Once Charge Point installation has been finished, remember to install the Allen screws included in the decorative panel



E Wiring

Regardless of the electrical characteristics of the power line, be sure to supply to the Charge Point with the necessary electrical features indicated at the unit characteristics rating plate, understood as, supply voltage, grid frequency and required apparent power. In the case that the power line characteristics are different from those required, any adaptation must be made to meet these requierements.

The Charge Point has internal electrical protections in each socket-outlet for the protection of the user against an electrical failure, according to the international standard IEC 61851-1:2017. In order to guarantee the total protection of the users and the installation (power supply line included) in front of any electrical hazard, it is mandatory to install a main circuit breaker (MCB) and a residual current device (RCD) upstream of the charger. These electrical protections and the rest of the installation have to be aligned with the local and national rules and the selectivity of the protections has to be guaranteed at all times.

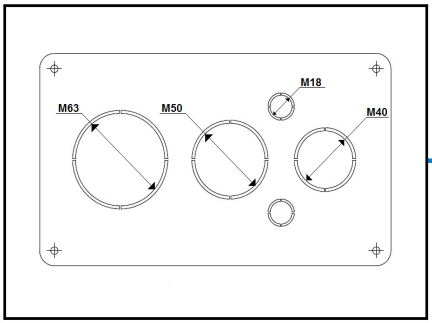
The proper earthing system must be **TT or TN-S**. The ground loop impedance measurement for the entire installation must be less than **80 ohms**. The earth resistance of the charging point could be less if required by national regulations. It is recommended to maintain these conditions over the years, therefore, technically competent personnel will carry out the verification of the installation of grounding, at least once a year, at the time when the terrain is drier.

Before starting wiring connection for the Charge Point, the following elements have to be checked:

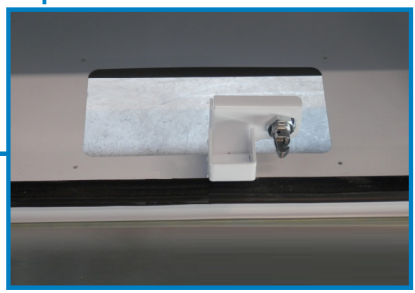
- After unpacking the Charge Point, ensure that all electrical components are in good condition.
- It is recommended to strictly follow the current regulations to determine the appropriate section of the power cables to feed the Charge Point and at any time as a minimum comply with indicated in the Technical Data here below.
- Make sure the switch (MCCB or fuses) from the main electrical panel from the installation are cutting the electricity supply during Charge Point installation.
- After the installation, you must seal all holes inside the Charge Point to prevent access of dirt, foreign objects, animals, etc.

Power input connection - Metal plate - Raption 50 :

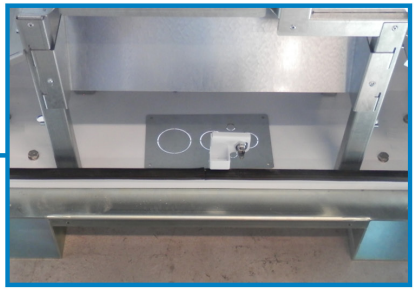
In order to make a secure cable installation it is necessary to use the metal plate provided. In the case of not using this metal plate and any damage to internal components arises due to the entry of dirt, animals or any other external element, Circontrol will reject any warranty claim against the unit:



Step 1



Step 2



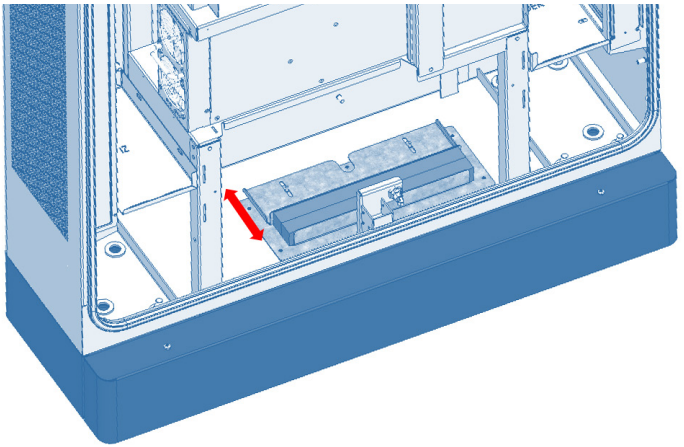
Steps:

1- Locate the power input entrance in the bottom of the Charge Point.

2- Assembly the metal plate provided. It is recommended to install a cable glands (not supplied) in pre-holes position.

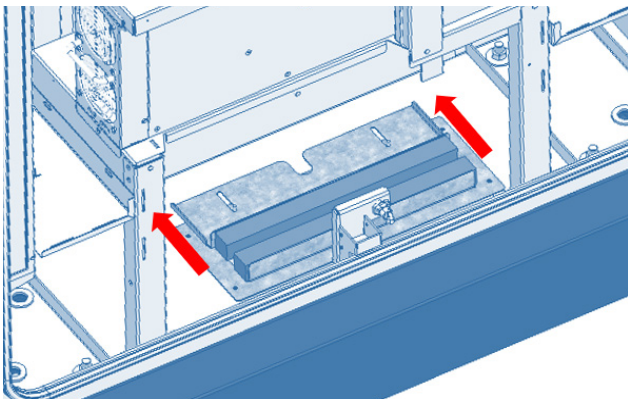
Power input connection - Metal plates - Raption 51 / Raption 52 / Raption 100:

In order to make a secure cable installation it is necessary to use the metal plate provided. In case of not using this metal plate and any damage to internal components arises due to the entry of dirt, animals or any other external element, Circontrol will reject any warranty claim against the unit:

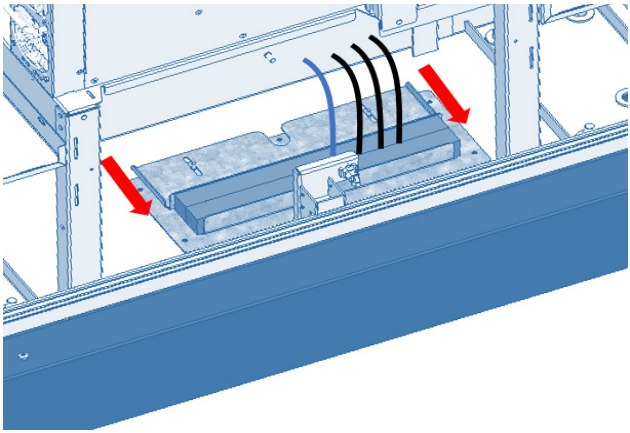


In this case, the metal plate is composed on two parts, the first one which is static, and the second one which mobile.

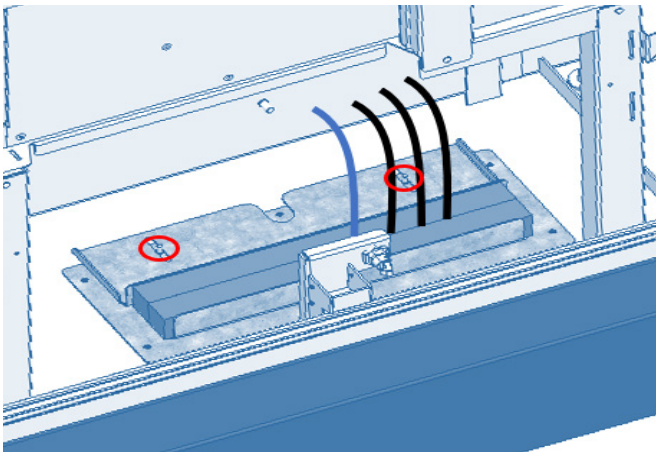
Move backwards the plate behind to have space to introduce the cables:



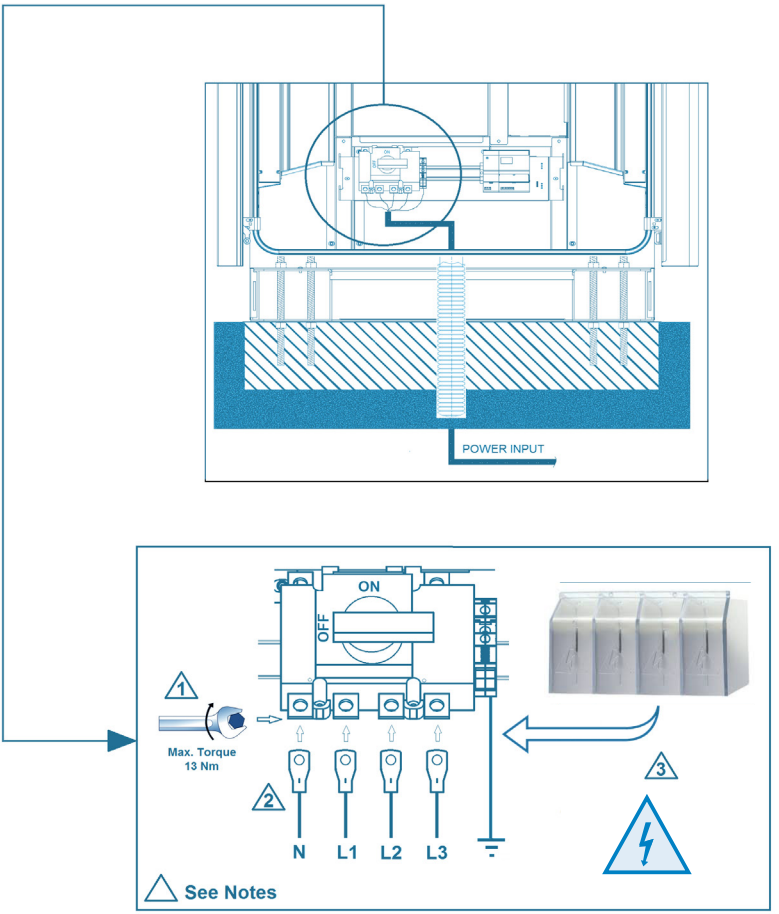
After connecting correctly the cables, move the mobile plate frontwards to the original position making sure that there are no open spots between the two plates.



While pressing firmly, introduce the screws indicated in the next picture to make sure that the system is fixed.



Power input connection - Connecting cable - Raption 50:



Notes:

1- Use the M8 screw and washer provided in order to connect the electric terminals. The maximum tightening torque has to be 13 Nm.

2- Use a M8 metallic electric terminal aligned with the required cable cross section according to the power of the Charge Point (Max. 95 mm2). See this requirement in the data sheet.

3- After connecting the power supply, place the shield protection over the circuit breaker.

MODEL SPECIFICATIONS	CCS CHA T2C63	CCS CHA T2S32	CCS CHA	CCS T2S32
Minimum recommended cable cross sectional area *	70 mm2	50 mm2	25 mm2	50 mm2
Maximum cable cross sectional area **	95 mm2	95 mm2	95 mm2	95 mm2

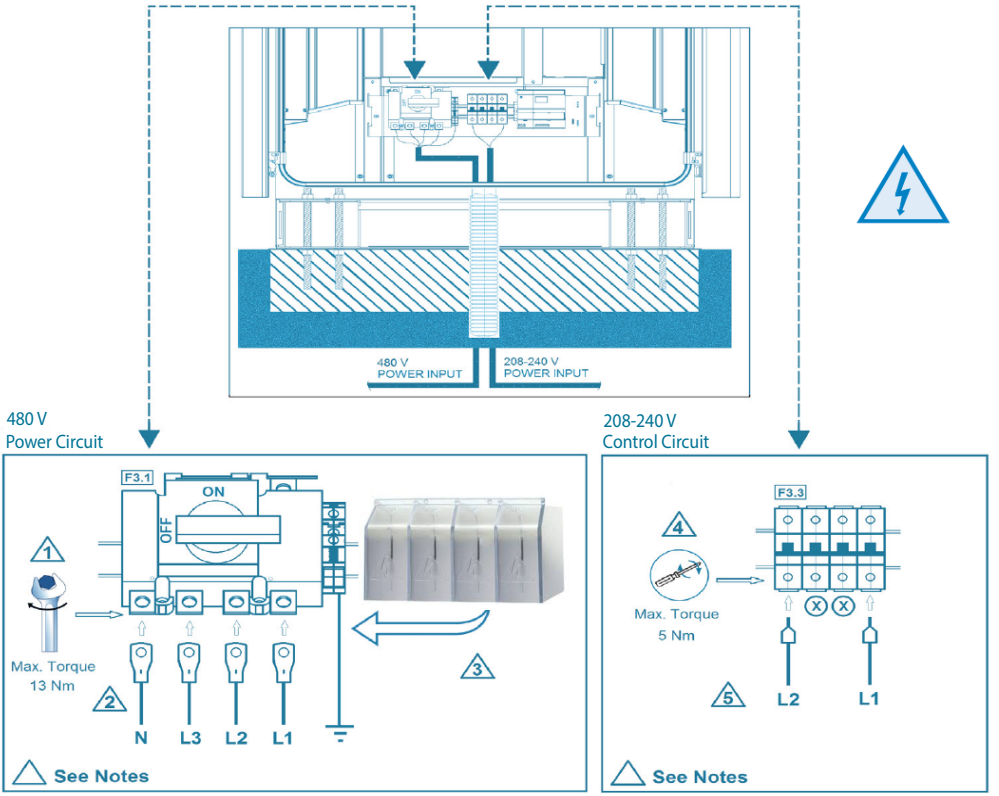
MODEL SPECIFICATIONS	CHA T2S32	CCS	CHA
Minimum recommended cable cross sectional area *	50 mm2	25 mm2	25 mm2
Maximum cable cross sectional area **	95 mm2	95 mm2	95 mm2

(*) This is the minimum recommended cable cross sectional area for the maximum AC input current (see datasheet) using multi-core copper cables with three loaded conductors for installations in conduit in a thermally insulated wall (A2 method according to IEC-60364-5-52).

The final cross section might be different if the installation method is another one, in any case, it has to be calculated by the installer, taking into account the cable materials, the conditions of installation and distances.

(**) This is the maximum cable cross sectional area accepted by the Main circuit breaker.

Power input connection - Connecting cable - Raption 50 480Vac:



POWER CIRCUIT Notes:

1- Use the M8 screw and washer provided in order to connect the electric terminals. The maximum tightening torque is 13Nm

2- Use a M8 metallic electric terminal aligned with the required cable cross section according to the power of the Charge Point (Max. 95 mm2). See this requirement in the data sheet.

3- After connecting the power supply, place the shield protection over the circuit breaker.

In case of 220V power supply, install a recommended 75kVA step-up transformer from 220V mains supply to 480V star-star connection, in order to ensure the Charge Point proper functioning.

CONTROL CIRCUIT Notes:

4- Use a phillip screwdriver in order to connect the electric terminals. The maximum tightening torque is 5 Nm.

5- Follow the label under the circuit breaker, connect the cables to the left and right terminal, the terminals of the middle must be free.

In case of 480V power supply, install a recommended 10kVA step-down transformer from 480V mains supply to 220V, in order to ensure the Charge Point proper functioning.

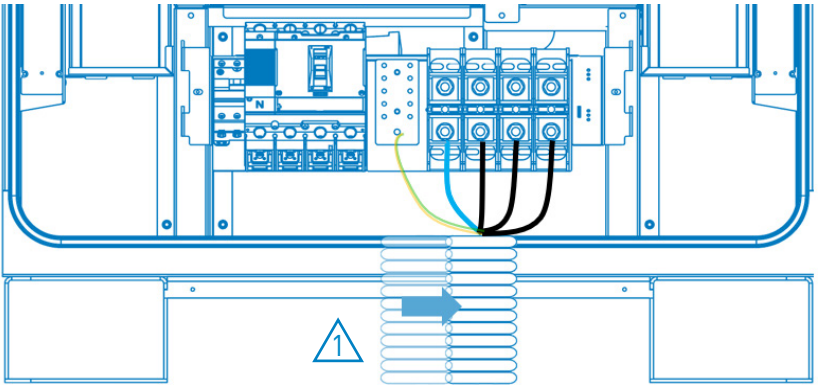
MODEL SPECIFICATIONS						
	CCS1 CHA		CCS1 T1C32		CCS1 CHA T1C32	
	480/277 V (III)	208/240 V (II)	480/277 V (III)	208/240 V (II)	480/277 V (III)	208/240 V (II)
Minimum recommended cable cross sectional area *	25 mm2	10 mm2	25 mm2	10 mm2	25 mm2	10 mm2
Maximum cable cross sectional area **	95 mm2	95 mm2	95 mm2	95 mm2	95 mm2	95 mm2

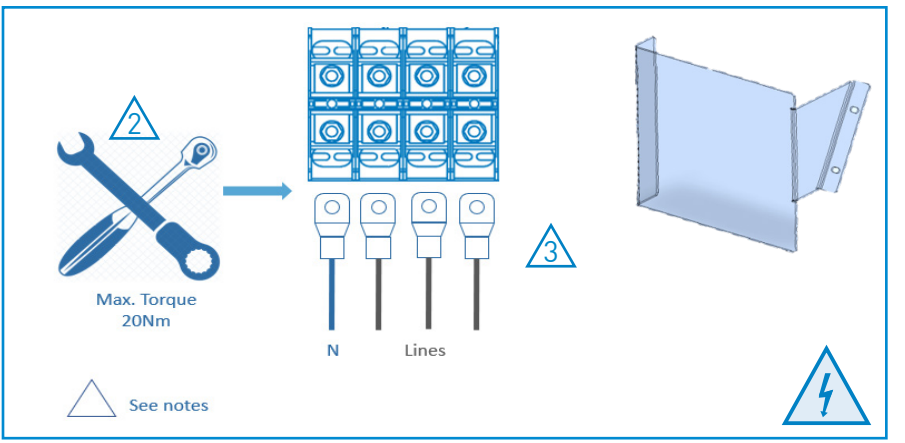
(*) This is the minimum recommended cable cross sectional area for the maximum AC input current (see datasheet) using multi-core copper cables with three loaded conductors for installations in conduit in a thermally insulated wall (A2 method according to IEC-60364-5-52).

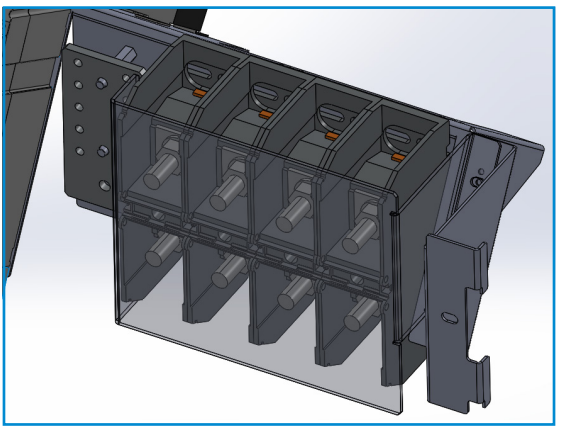
The final cross section might be different if the installation method is another one, in any case, it has to be calculated by the installer, taking into account the cable materials, the conditions of installation and distances.

(**) This is the maximum cable cross sectional area accepted by the Main circuit breaker.

Power input connection - Connecting cable -Raption 51 / Raption 52:







Notes:

1- It is highly recomened to move the power supply wiring insertion to the right, in order to aling the cables with its connection to the terminal block.

2- Use the M10 screw and washer provided in order to connect the electric terminals. The maximum tightening torque is 20Nm.

3- Use a M10 metallic electric terminal aligned with the required cable cross section according to the power of the Charge Point (Max. 150 mm2). See this requirement in the data sheet.

4- After connecting the power supply, place shield protection over the connection terminals.

MODEL SPECIFICATIONS	CCS CHA T2C63	CCS CHA T2S32	CCS CHA	CCS T2S32	CHA T2S32	CCS	CHA
Minimum recommended cable cross sectional area *	70 mm2	50 mm2	25 mm2	50 mm2	50 mm2	25 mm2	25 mm2
Maximum cable cross sectional area **	95 mm2	95 mm2	95 mm2	95 mm2	95 mm2	95 mm2	95 mm2

(*) This is the minimum recommended cable cross sectional area for the maximum AC input current (see datasheet) using multi-core copper cables with three loaded conductors for installations in conduit in a thermally insulated wall (A2 method according to IEC-60364-5-52).

The final cross section might be different if the installation method is another one, in any case, it has to be calculated by the installer, taking into account the cable materials, the conditions of installation and distances.

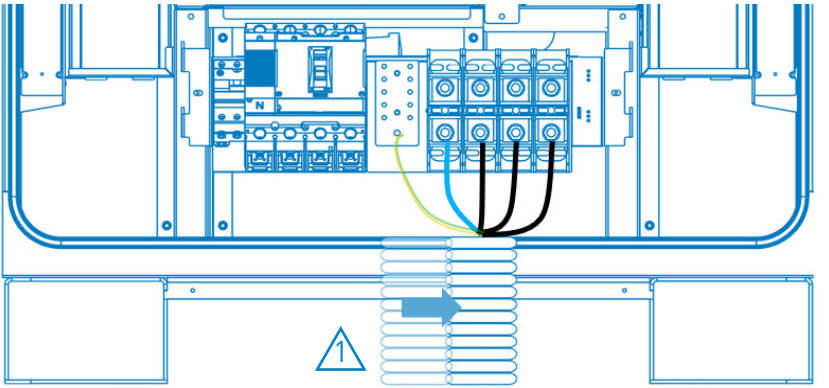
(**) This is the maximum cable cross sectional area accepted by the Main circuit breaker.

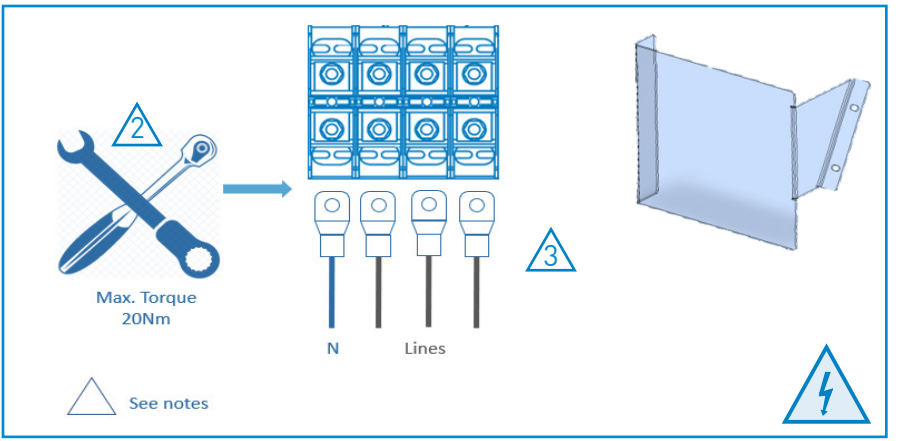
In case of Raption 52 upgraded up to 100kW, take into consideration:

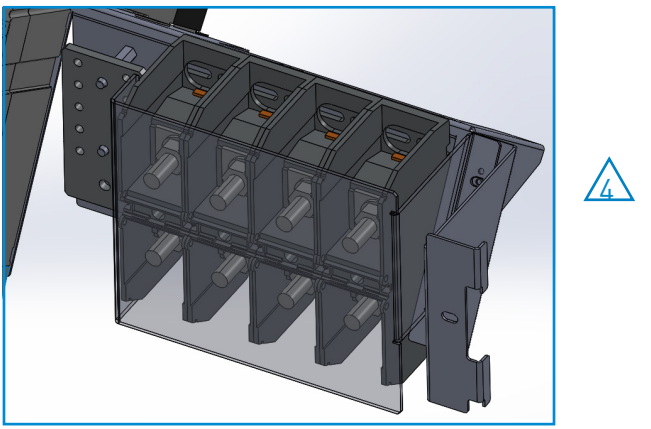
Install according to Raption 100 model specifications table (see below *Power input connection - Connecting cable - Raption 100 section*).

When using Raption 51/Raption 52 power input wiring connection with 100kW power, Circontrol will reject any warranty claim against the unit.

Power input connection - Connecting cable -Raption 100*:







(*) Use also this connection and sectional area when Raption 52 upgraded up to 100kW.

Notes:

1- It is highly recomened to move the power supply wiring insertion to the right, in order to aling the cables with its connection to the terminal block.

2- Use the M10 screw and washer provided in order to connect the electric terminals. The maximum tightening torque is 20Nm.

3- Use a M10 metallic electric terminal aligned with the required cable cross section according to the power of the Charge Point (Max. 150 mm2). See this requirement in the data sheet.

4- After connecting the power supply, place shield protection over the connection terminals.

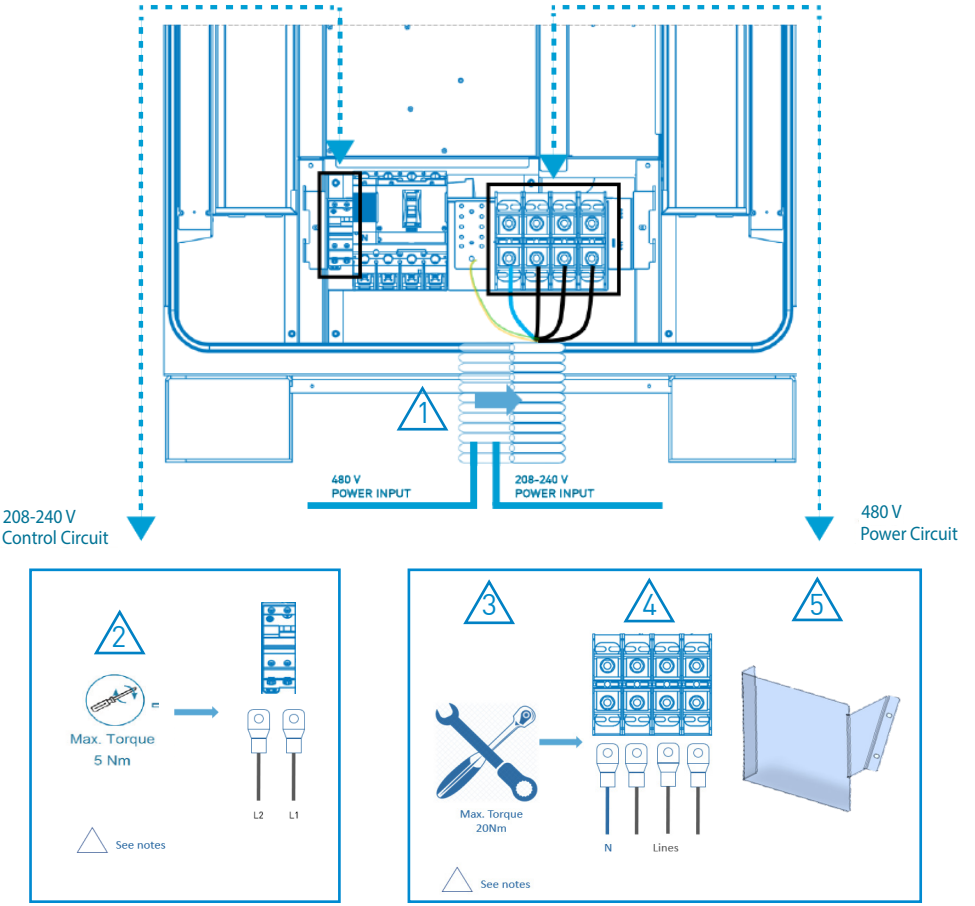
MODEL SPECIFICATIONS						
	CCS CHA T2C32	CCS CHA T2S32	CCS CHA	CCS T2S32	CCS T2C32	CCS
Minimum recommended cable cross sectional area *	95 mm2	95 mm2	70 mm2	95 mm2	95 mm2	70 mm2
Maximum cable cross sectional area **	150 mm2	150 mm2	150 mm2	150 mm2	150 mm2	150 mm2

(*) This is the minimum recommended cable cross sectional area for the maximum AC input current (see datasheet) using multi-core copper cables with three loaded conductors for installations in conduit in a thermally insulated wall (A2 method according to IEC-60364-5-52).

Final cross section might be different if installation method is another one, in any case, it has to be calculated by the installer, taking into account the cable materials, the conditions of installation and distances.

(**) This is the maximum cable cross sectional area accepted by the Main circuit breaker.

Power input connection - Connecting cable - Raption 100 480Vac:



General Notes:

1- It is highly recomened to move the power supply wiring insertion to the right, in order to aling the cables with its connection to the terminal block.

CONTROL CIRCUIT Notes:

2- Use a phillip screwdriver in order to connect the electric terminals. The maximum tightening torque is 5 Nm.

In case of 480V power supply, install a recommended 10kVA step-down transformer from 480V mains supply to 220V, in order to ensure the Charge Point proper functioning.

POWER CIRCUIT Notes:

3- Use the M10 screw and washer provided in order to connect the electric terminals. The maximum tightening torque is 20Nm.

4- Use a M10 metallic electric terminal aligned with the required cable cross section according to the power of the Charge Point (Max. 150 mm2). See this requirement in the data sheet.

5- After connecting the power supply, place shield protection over the connection terminals.

In case of 220V power supply, install a recommended 132kVA step-up transformer from 220V mains supply to 480V star-star connection, in order to ensure the Charge Point proper functioning.

MODEL SPECIFICATIONS						
	CCS CHA		CCS T1C32		CCS CHA T1C32	
	480/277 V (III)	208/240 V (II)	480/277 V (III)	208/240 V (II)	480/277 V (III)	208/240 V (II)
Minimum recommended cable cross sectional area *	25 mm2	10 mm2	25 mm2	10 mm2	25 mm2	10 mm2
Maximum cable cross sectional area **	150 mm2	150 mm2	150 mm2	150 mm2	150 mm2	150 mm2

(*) This is the minimum recommended cable cross sectional area for the maximum AC input current (see datasheet) using multi-core copper cables with three loaded conductors for installations in conduit in a thermally insulated wall (A2 method according to IEC-60364-5-52).

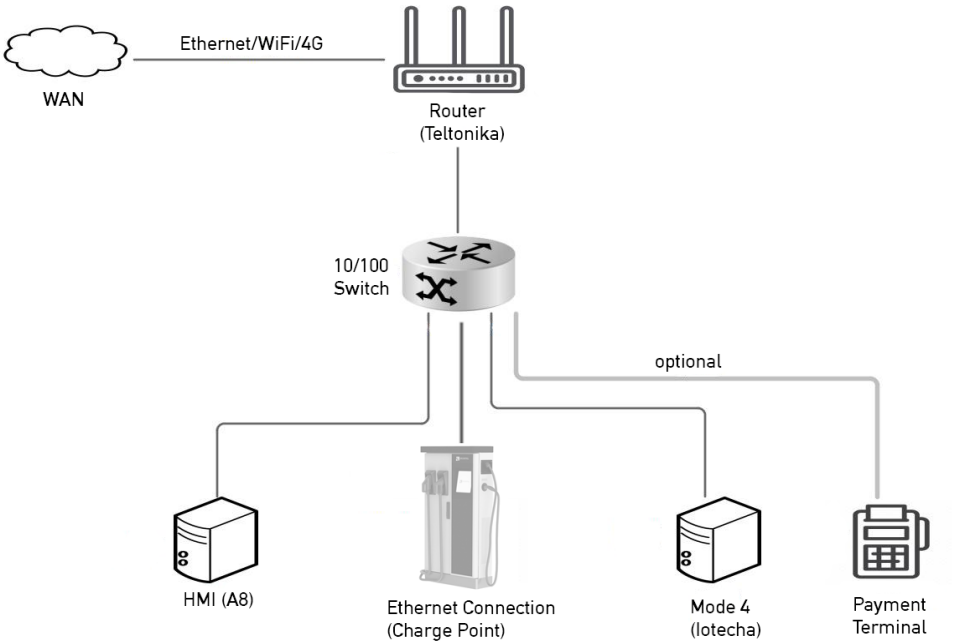
The final cross section might be different if the installation method is another one, in any case, it has to be calculated by the installer, taking into account the cable materials, the conditions of installation and distances.

(**) This is the maximum cable cross sectional area accepted by the Main circuit breaker.

Charge Point ethernet connection - Raption 50 / Raption 51 / Raption 52 / Raption 100:

In case of the Charge Point is decided to be connected via ethernet, it is necessary to install a switch device (recommended a 5-port 10/100 Mbps ethernet switch, code 490514).

HMI and Iotecha must be connected to the switch in order to be updated remotely when necessary. In case of payment terminal is chosen as an optional, it must also be connected to the switch.



F How to use and configure it

In order to use and configure the Charge Point there is an User Manual. It is necessary to be registered with the Circontrol Expert Area:

http://expertarea.circontrol.com

Note: ask to the Circontrol PS-Support department in order to register with the Circontrol Expert Area.

G Verification

Once the entire installation procedure is completed, check the following points:

- Check that all the MCB, RCD and the Main Circuit Breaker are powered on.
- Check that all safety labels are placed correctly.
- Close the Charge Point's doors. The Charge Point has a security switch (anti-tamper protection) installed that will avoid any charging session if the doors are opened.
- Check that all beacons are illuminated in green.
- Verify that each EV connector is in good condition.
- Make sure the ventilation air flow is correct and there is not any obstruction at the ventilation grill. EVSE activates the Power module fan when charging and the roof fan when temperature is above the limit. This is managed by Mode 4 control board.
- Check for abnormal noise while charging a vehicle.

5 A Raption 50 Standard Model

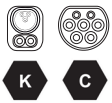
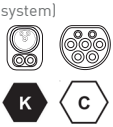
GENERAL DATA	
AC Power Supply	3P + N + PE
AC Voltage	400V AC +/- 10%
Power Factor	>0.98
Efficiency	95 % at nominal output power
Frequency	50 / 60 Hz
Electrical input protection	Main breaker disconnection
Overcurrent protections	MCB
Safety protection	RCD Type B
Network connection	Ethernet 10/100BaseTX
Interface protocol	OCPP 1.5 or OCPP 1.6J
Compliance	CE / Combo-2 (DIN 70121; ISO15118) IEC 61851-1; IEC 61851-23; IEC 61851-21-2
	CHAdeMO compatible
Enclosure rating	IP54 / IK10
Enclosure material	Stainless steel
Operating temperature	-30 °C to +50 °C
Ambient temperature storage	-40 °C to +60 °C
Operating humidity	5 % to 95 % Non-condensing
Socket protection	Locking System
RFID system	ISO / IEC14443-1/2/3 MIFARE Classic
Display HMI	8" colour antivandal touch screen
Power limit control	DC & AC by software

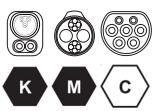
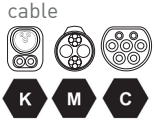
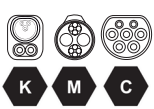
Technical Data

DC cable length CCS	3 meters
DC cable length CHAdeMO	3 meters
AC cable length	3 meters
Lights for status indication	RGB colour indicator
Dimensions (D x W x H)	355x940x1800 mm (without cable engaged)
Weight	235 kg
Cooling system	Air cooling fans
Operational noise level	< 55 dBA
AC Meter	Compliant with the EN 50470-1 and EN 50470-3 (MID European standards) or IEC 62052-11
Wireless Comunication EU	4G LTE/WiFi Hotspot/GPRS/GSM

OPTIONAL DEVICES	
Wireless Comunication	LATAM/APAC/4G LTE/GPRS/GSM
Surge protection	Four pole transient surge protector IEC 61643-1 (class II)
Cable Length	5.5 meters (all cables)
Anti-vandal connector protection	CHAdeMO, CCS (mechanical connector locking)
Type 2 Charging Socket	Shutter
25 kW DC version	Power output DC of 25 kW (upgradable up to 50 kW)
Network hub	Switch TCP ethernet 8 ports
	Switch TCP ethernet 12 ports
RFID Extension	Legic Advant / Legic Prime ISO 15693/ISO 18092. Sony FeliCa
Contacless payment	Integrated credit card payment terminal

Models Specifications

MODELS	CCS	CCS T2C32	CCS T2S32
Maximum AC input current	76 A (38 A*)	108 A (70 A*)	108 A (70 A*)
Required power supply capacity	53 kVA (26 kVA*)	75 kVA (48 kVA*)	75 kVA (48 kVA*)
Maximum output power	50 kW (25 kW*) (@400 VDC)	DC:50 kW (25 kW*) (@400 VDC) AC:22 kW	DC:50 kW (25 kW*) (@400 VDC) AC:22 kW
Output voltage range	DC:50 - 500 V	DC: 50 - 500 V AC: 400 V	DC: 50 - 500 V AC: 400 V
Maximum output current	DC:125 A (63 A*)	DC:125A AC:32 A	DC:125A AC:32 A
Connection	CCS 2 	CCS 2 Type 2 Tethered cable 	CCS 2 Type 2 Socket (Lock system) 

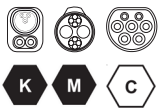
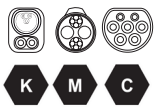
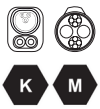
MODELS	CCS CHA	CCS CHA T2S32	CCS CHA T2C32	CCS CHA T2C63
Maximum AC input current	76 A (38 A*)	108 A (70 A*)	108 A (70 A*)	138 A (101 A*)
Required power supply capacity	53 kVA (26 kVA*)	75 kVA (48 kVA*)	75 kVA (48 kVA*)	96 kVA (70 kVA*)
Maximum output power	50 kW (25 kW*) (@400 VDC)	DC:50 kW (25 kW*) (@400 VDC) AC:22 kW	DC:50 kW (25 kW*) (@400 VDC) AC:22 kW	DC:50 kW (25 kW*) (@400 VDC) AC:43 kW
Output voltage range	DC:50 - 500 V	DC: 50 - 500 V AC: 400 V	DC: 50 - 500 V AC: 400 V	DC: 50 - 500 V AC: 400 V
Maximum output current	DC:125 A	DC:125 A AC:32 A	DC:125 A AC:32 A	DC:125 A (63 A*) AC:63 A
Connection	CCS 2 - JEVS G105 	CCS 2 - JEVS G105 Type 2 Socket (Lock system) 	CCS 2 - JEVS G105 Type 2 Tethered cable 	CCS 2 - JEVS G105 Type 2 Tethered cable 

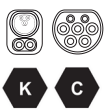
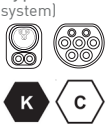
* 25 kW DC version

B Raption 50 480Vac

ADDITIONAL SPECIFICATIONS	
Power supply III	3P + N + PE
Voltage range III	480/277 Vac +/- 10%
Power supply II	2P
Voltage range II	208-240 Vac +/- 10%
Frequency	60Hz

Models Specifications

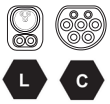
MODELS	CCS CHA T2S32	CCS CHA T2C32	CCS CHA
Maximum AC input current	108 A	108 A	76 A
Required power supply capacity	75 kVA	75 kVA	53 kVA
Maximum output power	DC:50 kW (@400 VDC) AC:22 kW	DC:50 kW (@400 VDC) AC:22 kW	50 kW (@400 VDC)
Output voltage range	DC: 50 - 500 V AC: 400 V	DC: 50 - 500 V AC: 400 V	DC:50 - 500 V
Maximum output current	DC:125 A AC:32 A	DC:125 A AC:32 A	DC:125 A
Connection	CCS 2 - JEVS G105 Type 2 Socket (Lock system) 	CCS 2 - JEVS G105 Type 2 Tethered cable 	CCS 2 - JEVS G105 

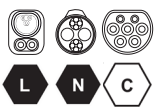
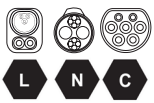
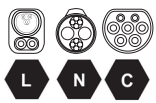
MODELS	CCS	CCS T2C32	CCS T2S32
Maximum AC input current	76 A	108 A	108 A
Required power supply capacity	53 kVA	75 kVA	75 kVA
Maximum output power	50 kW (@400 VDC)	DC:50 kW (@400 VDC) AC:22 kW	DC:50 kW (@400 VDC) AC:22 kW
Output voltage range	DC:50 - 500 V	DC: 50 - 500 V AC: 400 V	DC: 50 - 500 V AC: 400 V
Maximum output current	DC:125 A	DC:125A AC:32 A	DC:125A AC:32 A
Connection	CCS 2 	CCS 2 Type 2 Tethered cable 	CCS 2 Type 2 Socket (Lock system) 

Raption 51 & Raption 52

ADDITIONAL SPECIFICATIONS	
Raption 51	Power output DC of 50 kW (non upgradable)
Raption 52	Power output DC of 50 kW (upgradable up to 100 kW)
Output voltage range	150 -920 Vdc

Models Specifications

MODELS	CCS	CCS T2C32	CCS T2S32
Maximum AC input current	76 A	108 A	108 A
Required power supply capacity	53 kVA	75 kVA	75 kVA
Maximum output power	50 kW (@400 VDC)	DC:50 kW (@400 VDC) AC:22 kW	DC:50 kW (@400 VDC) AC:22 kW
Output voltage range	DC:150 - 920 V	DC: 150 - 920 V AC: 400 V	DC: 150 - 920 V AC: 400 V
Maximum output current	DC:125 A	DC:125A AC:32 A	DC:125A AC:32 A
Connection	CCS 2 	CCS 2 Type 2 Tethered cable 	CCS 2 Type 2 Socket (Lock system) 

MODELS	CCS CHA	CCS CHA T2S32	CCS CHA T2C32	CCS CHA T2C63
Maximum AC input current	76 A	108 A	108 A	138 A
Required power supply capacity	53 kVA	75 kVA	75 kVA	96 kVA
Maximum output power	50 kW (@400 VDC)	DC:50 kW (@400 VDC) AC:22 kW	DC:50 kW (@400 VDC) AC:22 kW	DC:50 kW (@400 VDC) AC:43 kW
Output voltage range	DC:150 - 920 V	DC: 150 - 920 V AC: 400 V	DC: 150 - 920 V AC: 400 V	DC: 150 - 920 V AC: 400 V
Maximum output current	DC:125 A	DC:125 A AC:32 A	DC:125 A AC:32 A	DC:125 A AC:63 A
Connection	CCS 2 - JEVS G105 	CCS 2 - JEVS G105 Type 2 Socket (Lock system) 	CCS 2 - JEVS G105 Type 2 Tethered cable 	CCS 2 - JEVS G105 Type 2 Tethered cable 

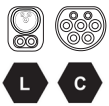
D Raption 100 Standard Model

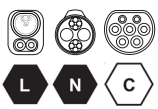
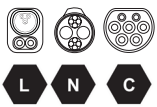
GENERAL DATA	
AC Power Supply	3P + N + PE
AC Voltage	400V AC +/- 10%
Power Factor	>0.98
Efficiency	95 % at nominal output power
Frequency	50 / 60 Hz
Electrical input protection	Main breaker disconnection
Overcurrent protections	MCB
Safety protection	RCD Type B
Network connection	Ethernet 10/100BaseTX
Interface protocol	OCPP 1.5 or OCPP 1.6J
Compliance	CE / Combo-2 (DIN 70121; ISO15118) IEC 61851-1; IEC 61851-23; IEC 61851-21-2
	CHAdeMO compatible
Enclosure rating	IP54 / IK10
Enclosure material	Stainless steel
Operating temperature	-30 °C to +50 °C
Ambient temperature storage	-40 °C to +60 °C
Operating humidity	5 % to 95 % Non-condensing
Socket protection	Locking System
RFID system	ISO / IEC14443-1/2/3 MIFARE Classic
Display HMI	8" colour antivandal touch screen
Power limit control	DC & AC by software

DC cable length CCS	3 meters
DC cable length CHAdeMO	3 meters
AC cable length	3 meters
Lights for status indication	RGB colour indicator
Dimensions (D x W x H)	355x940x1800 mm (without cable engaged)
Weight	255 kg
Cooling system	Air cooling fans
Operational noise level	< 55 dBA
AC Meter	Compliant with the EN 50470-1 and EN 50470-3 (MID European standards) or IEC 62052-11
Wireless Comunication EU	4G LTE/WiFi Hotspot/GPRS/GSM

OPTIONAL DEVICES	
Wireless Comunication	LATAM/APAC/4G LTE/GPRS/GSM
Surge protection	Four pole transient surge protector IEC 61643-1 (class II)
Cable Length	5.5 meters (all cables)
Anti-vandal connector protection	CHAdeMO, CCS (mechanical connector locking)
Type 2 Charging Socket	Shutter
Network hub	Switch TCP ethernet 8 ports
	Switch TCP ethernet 12 ports
RFID Extension	Legic Advant / Legic Prime ISO 15693/ISO 18092. Sony FeliCa
Contacless payment	Integrated credit card payment terminal

Models Specifications

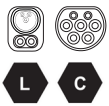
Models	CCS	CCS T2C32	CCS T2S32
Maximum AC input current	160 A	192 A	192 A
Required power supply capacity	110 kVA	132 kVA	132 kVA
Maximum output power	100 kW (@400 VDC)	DC:100 kW (@400 VDC) AC:22 kW	DC:100 kW (@400 VDC) AC:22 kW
Output voltage range	DC:150 - 920 V	DC:150 - 920 V AC: 400 V	DC:150 - 920 V AC: 400 V
Maximum output current	DC: 250 A	DC:250 A AC:32 A	DC:250 A AC:32 A
Connection	CCS 2 	CCS 2 Type 2 Tethered cable 	CCS 2 Type 2 Socket (Lock system) 

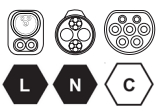
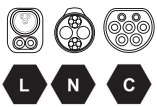
Models	CCS CHA	CCS CHA T2S32	CCS CHA T2C32
Maximum AC input current	160 A	192 A	192 A
Required power supply capacity	110 kVA	132 kVA	132 kVA
Maximum output power	100 kW (@400 VDC)	DC:100 kW (@400 VDC) AC:22 kW	DC:100 kW (@400 VDC) AC:22 kW
Output voltage range	DC:150 - 920 V	DC:150 - 920 V AC: 400 V	DC:150 - 920 V AC: 400 V
Maximum output current	DC: CSS 250 A / CHA 200 A	DC: CSS 250 A / CHA 200 A AC: 32 A	DC: CSS 250 A / CHA 200 A AC: 32 A
Connection	CCS 2 - JEVS G105 	CCS 2 - JEVS G105 Type 2 Socket (Lock system) 	CCS 2 - JEVS G105 Type 2 Tethered cable 

Raption 100 480Vac

ADDITIONAL SPECIFICATIONS	
Power supply III	3P + N + PE
Voltage range III	480/277 Vac +/- 10%
Power supply II	2P
Voltage range II	208-240 Vac +/- 10%
Frequency	60Hz

Models Specifications

Models	CCS	CCS T2C32	CCS T2S32
Maximum AC input current	160 A	192 A	192 A
Required power supply capacity	110 kVA	132 kVA	132 kVA
Maximum output power	100 kW (@400 VDC)	DC:100 kW (@400 VDC) AC:22 kW	DC:100 kW (@400 VDC) AC:22 kW
Output voltage range	DC:150 - 920 V	DC:150 - 920 V AC: 400 V	DC:150 - 920 V AC: 400 V
Maximum output current	DC: 250 A	DC:250 A AC:32 A	DC:250 A AC:32 A
Connection	CCS 2 	CCS 2 Type 2 Tethered cable 	CCS 2 Type 2 Socket (Lock system) 

Models	CCS CHA	CCS CHA T2S32	CCS CHA T2C32
Maximum AC input current	160 A	192 A	192 A
Required power supply capacity	110 kVA	132 kVA	132 kVA
Maximum output power	100 kW (@400 VDC)	DC:100 kW (@400 VDC) AC:22 kW	DC:100 kW (@400 VDC) AC:22 kW
Output voltage range	DC:150 - 920 V	DC:150 - 920 V AC: 400 V	DC:150 - 920 V AC: 400 V
Maximum output current	DC: CSS 250 A / CHA 200 A	DC: CSS 250 A / CHA 200 A AC: 32 A	DC: CSS 250 A / CHA 200 A AC: 32 A
Connection	CCS 2 - JEVS G105 	CCS 2 - JEVS G105 Type 2 Socket (Lock system) 	CCS 2 - JEVS G105 Type 2 Tethered cable 

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Need help?

In case of any query or need further information, please contact our **Post-Sales Department**

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