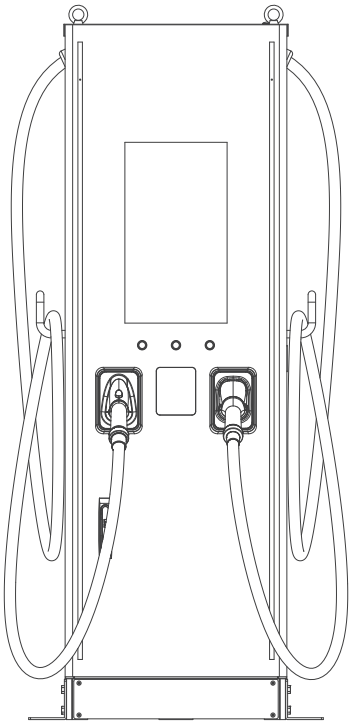
User Manual & Installation Instructions

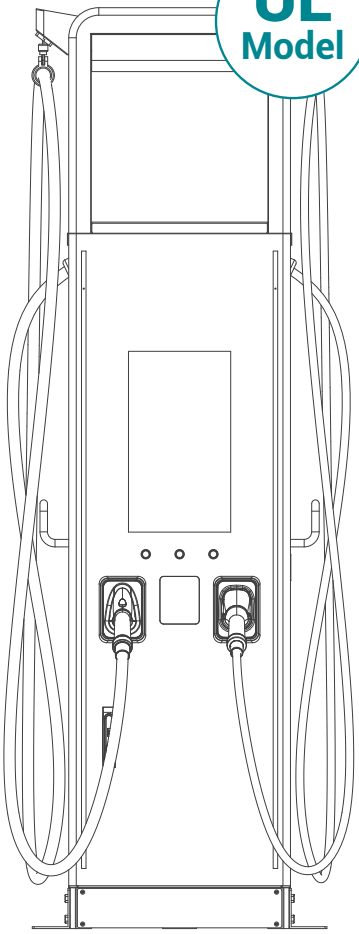
DD Series

DC 360kW Power Dispenser

UL Model



w/o CMS



w/ CMS

CONTENT

Revision History：

Revision	Date	Description	Author

Introduction

The Power Dispenser Fast Charger is the top choice to power battery electric vehicle (BEV) and plug-in hybrid electric vehicle (PHEV). It is designed for quick charging in both public and private locations, such as retail and commercial parking spaces, fleet charging stations, highway service areas, workplace, etc.
The Power Dispenser Fast Charger has the advantage of easy installation. The Power Dispenser charger also has network communication capability. It is able to connect with remote network systems and provide drivers of electric cars real-time information, such as the location of charging stations, charging progress and billing information. The Power Dispenser Fast Charger has a clear user interface with function buttons, safety certifications and an excellent waterproof and dust proof design to provide the best choice for outdoor environments.

Features

- Offers customers the convenience of start/stop charging control from an authorized RFID smart card or mobile APP.
- Built according the latest industry standards.
- Carries an outdoor rating capable of withstanding solid and liquid intrusions in outdoor settings making the unit more stable and highly reliable.
- Provides a high-contrast, screen interface with multi-function buttons.
- Upgradeable to simultaneously 2 DC charging, up to 360KW per output with liquid-cooled plug up to 500A.

Applications

- Public and Private Parking Areas
- Community Parking Areas
- Parking Areas of Hotels, Supermarkets and Shopping Malls
- Workplace Parking Areas
- Charging Stations
- Highway Rest Areas

1. Basic User Interface

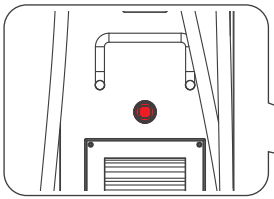
cable management system
(optional)

Right LED Indicator

21.5″ Information Screen

- Charging Process
- Charging Status
- Alarm

Left LED Indicator



Emergency Stop

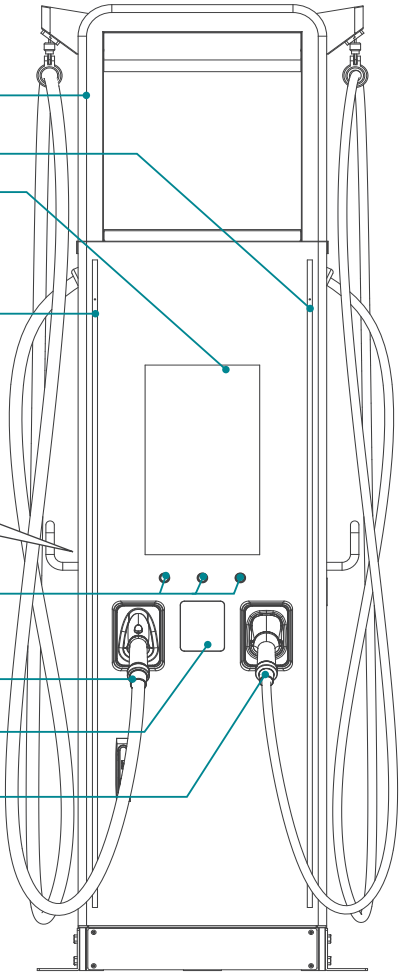
Left Button (select)
Middle Button (setting)
Right Button (select)

Left Charging Plug

RFID Card Reader
(Option : Payment system)

Right Charging Plug

*The charging plugs installed on the EVSE may vary depending on the designated application.



2. Specification

2.1 Product Specification

Model Name		DDWx362 Series
AC Input	Voltage Rating	1Φ277 (+10%, -15%)
	Input Current Rating	6.35Aac @277V 7.01Aac @235V
	Electrical Distribution	1P+N+PE
	Power Grid System	TN/TT
	Frequency	50/60Hz
DC Input	Maximum Input Voltage	950VDC
	Simultaneously Input Mode	0%, 25%, 50%, 75%, 100% of 360kW
	Voltage Accuracy	±2%
	Current Accuracy	±2%
DC Input Power Cable	Please refer to chapter 3.5.1 of power cabinet user manual	

DC OUTPUT	Output Voltage Range	CCS1/CCS2:150Vdc ~ 950Vdc CHAdeMO:150Vdc ~ 500Vdc GB/T:150Vdc~750Vdc
	Maximum Output Current	** Liquid Cooling CCS1/CCS2 500A@150Vdc ~ 720Vdc when output voltage up to 950Vdc the output current is 380A **Natural Cooling CCS1/CCS2 Combo, ** Single output mode 200A@150Vdc-950Vdc **CHAdeMO 200A@150Vdc ~ 500Vdc
	Maximum Output Power	360kW
	Simultaneously output mode	0%,25%,50%, 100% of 360kW cabinet
	Voltage Accuracy	±2%
	Current Accuracy	±2%
Maximum distance between power cabinet and dispenser	The recommended cable length is 30 meters, but it has the potential to be extended up to a maximum 100 meters. It is essential to consult with local technicians to ensure the appropriate cable selection that prevents excessive voltage drop.	
Standby Power	< 100W	
Communication	External	Ethernet
	Internal	CAN Bus/ RS485
Output Protection	SCP, OCP, OVP, LVP, OTP, IMD	
Internal Protection	OTP, DC contactor detection	

User Interface & Control	Display	21.5 inch LCD
	User Authentication	**RFID:** Support ISO 14443A/B, ISO 15693, FeliCa Lite-S(RCS966) **Backend:** OCPP, APP, Mobile Payment
	Backend support	Please refer to the user manual of cabinet
Environmental Conditions	Operation Temperature	-30° C to 50° C (-22° F to 122° F)
	Storage Temperature	-40° C to 70° C (-40° F to 158° F)
	Relative Humidity	5%~95% RH, non-condensing
	Altitude	≤ 2000m
Regulations	Safety	UL2202, UL2231
	EMI/EMC	FCC CFR Title 47 Part 15 Subpart B:2020 ANSI C63.4:2014 ICES-003:2020 Issue 7
Mechanical Specifications	Dimensions (WxDxH mm)	W/O CMS - 590 x 421 x 1850 mm (22.23" x 16.57" x 72.83") W CMS- 762 x 421 x 2450 mm (30" x 16.57 x96.46")
	Weight (typ.)	< 300 kg
	DC output interface (The interface may be different depend on the plug.)	CCS1/CCS2, CHAdeMO or GB /T
	Cooling	Liquid: Liquid cooling Natural: Forced air
	Ingression Protection	NEMA 3R
	Anti-vandalism	IK10, excluding LCD & RFID cover

2.2 DDWx362 Version Description

The DDWx362 series are available in different versions depending on the charging plugs, below table shows the available combinations, the coresponding position of charging plugs are indicated from left to right when face to charger.

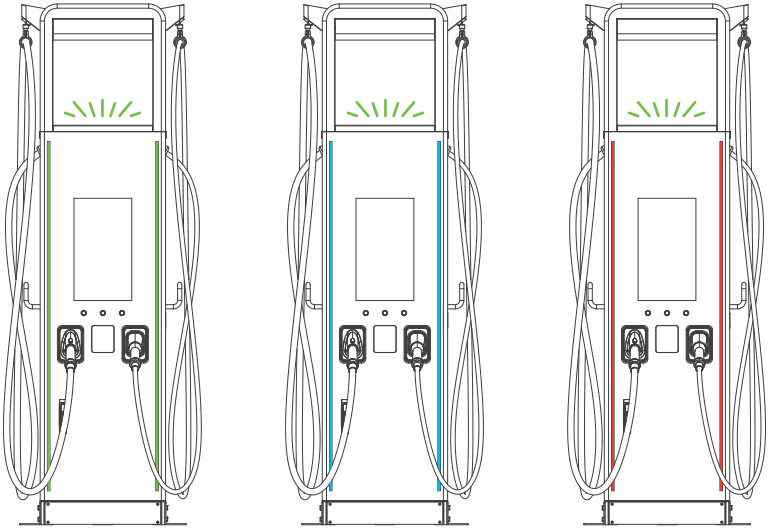
For example,

Version	CHAdeMO	CCS2 Liquid	CCS2 Natural	CCS1 Liquid	CCS1 Natural
DDWx362 V0T				X	X

U : Natural cooling CCS1 combo
V : Liquid cooling CCS1 combo
E : Natural cooling CCS2 combo
F : Liquid cooling CCS2 combo

K: CHadeMO 200A
G : GBT DC

2.3 LED Indication and Operation Status

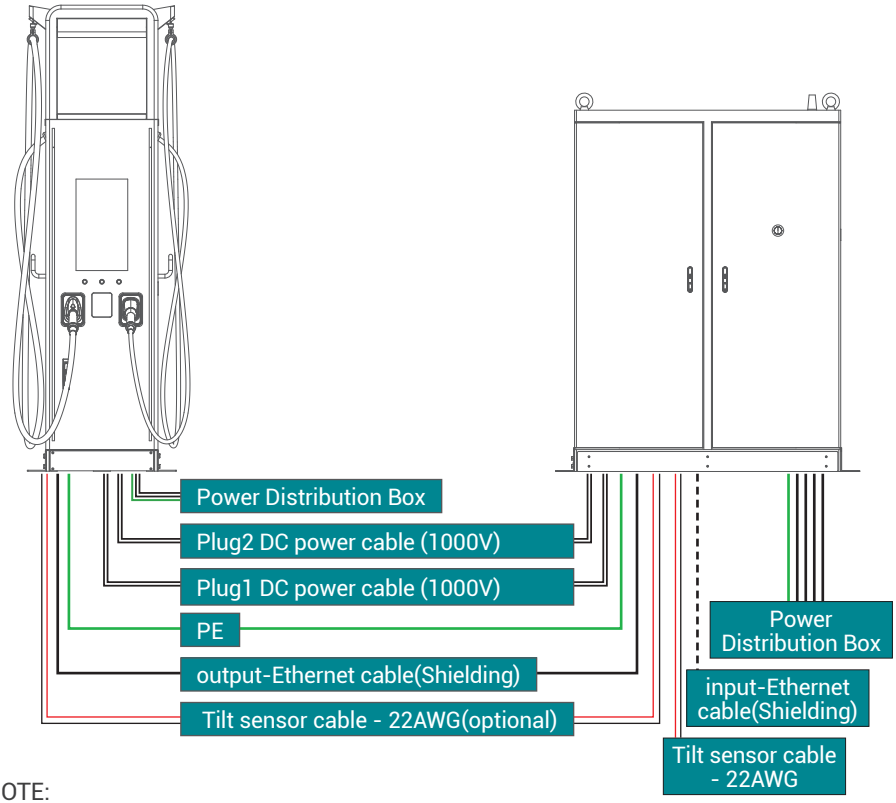


Standby Charging Abnormal

Status / LED	Left Indicator (DC1)	Right Indicator (DC2)	Top Indicator
Standby	Green	Green	Green
Charging	Blue	Blue	Green
Abnormal	Red	Red	Green

Cable connections (TN system):

*Adapted for two cabinets version

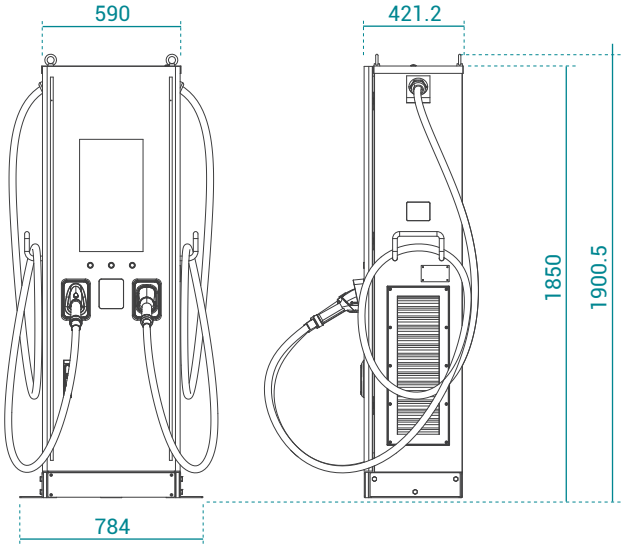


NOTE:

- The maximum DC voltage would be 950Vdc, the DC power cable be used should be able to withstand at least 1000V and required safe ampere capacity.
- Please note and confirm that all installation assemblies must comply with national safety standard and codes.
- The recommended cable length is 30 meters, but it has the potential to be extended up to a maximum 100 meters. It is essential to consult with local technicians to ensure the appropriate cable selection that prevents excessive voltage drop.
- The power cabinet and the distribution box are recommended to keep distance from the end users to have better operation experience.
- The similar design concept in appearance is recommended to the power cabinet and the distribution box.
- Must use the CAT6A SFTP cable 24AWG or 26AWG with CAT6A FTP RJ45 Plug or higher-level cable/Plug increased shielding for ethernet contact.

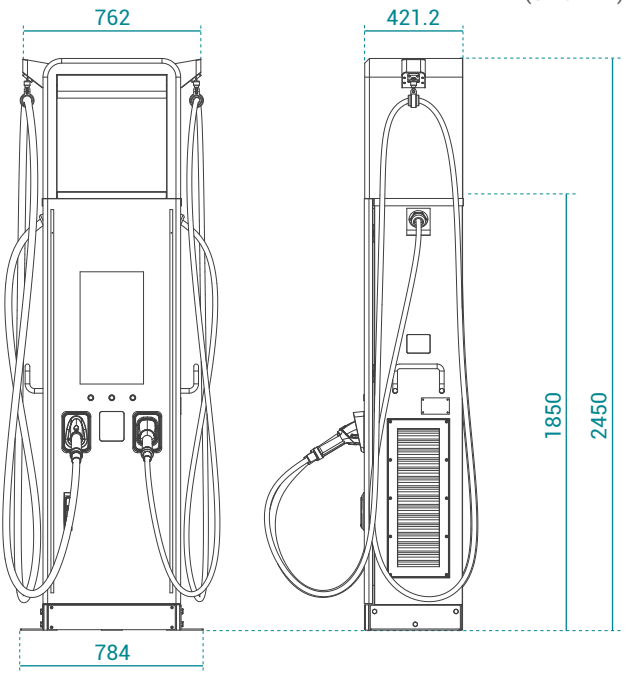
2.4 Dimensions

w/o CMS

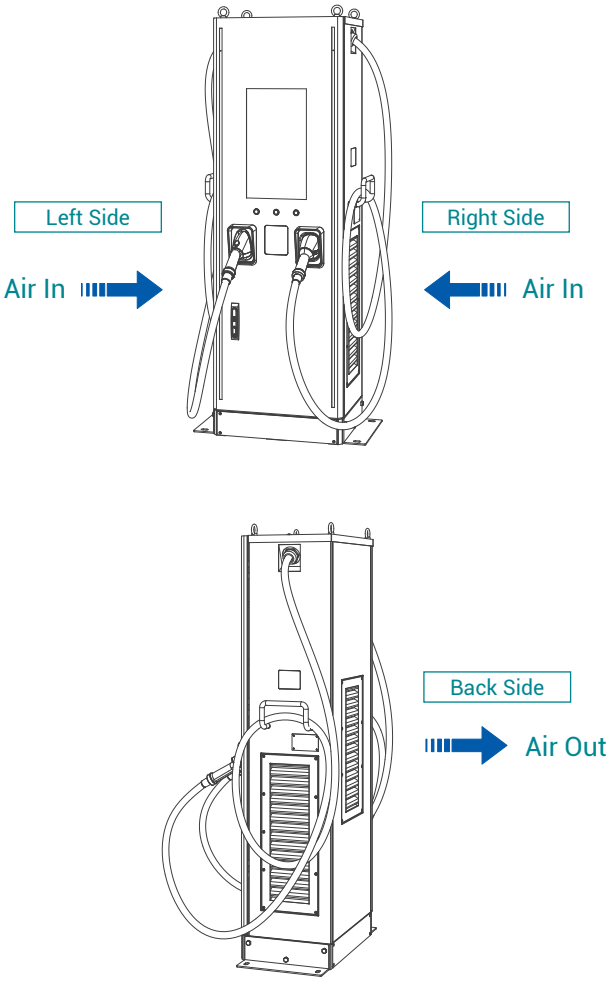


(Unit: mm)

w/ CMS



2.5 Direction of Cooling Airflow



The following signs are used on the equipment and in this manual:

DANGER
Hazardous voltage
Identifies a hazard that could result in severe injury or death through electrocution.

WARNING
Various
Identifies a hazard that could result in severe injury or death.

WARNING
Rotating parts
Identifies a hazard that could result in injury due to the presence of rotating or moving parts.

WARNING
Pinch Hazard
Identifies a hazard that could result in injuries in which some body parts are pinched or crushed.

CAUTION
Various
Identifies a hazard that could result in damage to the machine, other equipment, and/or environmental pollution.

NOTICE
Contains remarks, suggestions or advice.

3. Installation Instruction

3.1 Before Installation

- Read all the instructions before using and installing this product.
- Do not use this product if power cable or charging cable has any damage.
- Do not use this product if the enclosure is broken, open or has other damage.
- Do not put tools, materials, fingers or other body parts into the charger or EV plug.

WARNING: The product should be installed only by licensed contractor, and/or licensed technician in accordance with all building code, electrical codes and safety standards.

WARNING:The product should be inspected by a qualified installer prior to initial use. Under no circumstances will compliance with the information in this manual relieve user of his /her responsibilities to comply with all applicable code and safety standard.

- The dispenser aux power can be connected to 1 phase among L1, L2 or L3 to Neutral.
- The capacity of power supply should be higher than 2.5kVA in order to have function correctly.
- The product should be installed in well ventilated area and need sufficient space for product installation and maintenance keep at least 100cm clearance distance to the product.
- Do not twist, swing, bend, drop or crush the charging cable. Never drive over it with a vehicle.
- Make sure that minimum bending radius of charging cable is not exceed.
- With coolant inside; make sure the product not be over-tilt or turn back.

NOTICE

It is recommended to conduct WI-Fi and 4G signal strength while charger installation. The RSSI (Received Signal Strength Indication) value is considered as good as higher than -65dBm. Poor connection quality might interrupt charging process or data transaction.

3.1.1 Contractor Safety guide

Introduction

- A safe work environment for everyone - participants, installation and demolition crews, contractors and subcontractors.
- Ultimately, it is the responsibility of contractors to ensure the safety and safe work practices of their employees and subcontractors who may be working at the site on their behalf.
- This guide provides a simple reference guide with basic rules for implementation. This guide does not outline every single safety standard: it is designed to be a supplement to participants, contractors and subcontractors.
- Contractors, subcontractors and employees should cooperate with their employers and other persons in complying with safety regulations and instructions.

In particular, employees should:

- Obtain the qualified authorization of the responsible unit in the construction area.
- Work safely.
- Not do anything to endanger themselves or other persons.
- Use personal protective equipment as required and take reasonable care of it when it is not in use.
- Report unsafe activities immediately to supervisors or the responsible person in control of the workplace.
- Report all accidents and dangerous occurrences to the supervisor immediately after they happen.

1.Requirements for workplace conditions

- Set up suitable fencing to isolate the construction area from outside
- Close and secure all entrances when the site is unattended
- Hang warning notices nearby which show the following information: warning icon and phone number of person in charge
- Install sufficient lighting fixtures

2.Cleaning up

- Keep work areas (including accessways) free from debris and obstructions
- Keep ground surfaces tidy and flat, to avoid people tripping or being hurt by tools or other objects
- Stack and store equipment and materials in a tidy and stable manner
- Regularly clean up and dispose of waste
- Remove all surplus materials and equipment after completion of work

3.Fire hazards

- Beware of flammable materials and goods. Keep them away from work areas.

4.Protection against high temperatures on the worksite

- Erect a sunshade or shed to shelter workers from the heat and sun
- Set up cooling equipment, such as exhaust fans
- Make water dispensers available
- Provide suitable protective clothing such as hat, sunglasses and long sleeves to protect workers from heat stroke and UV rays

5.Inclement weather

- Secure all scaffoldings, temporary structures, equipment, and loose materials
- Check and implement SOP to ensure disconnection of gas supplies, electrical circuits and equipment
- Inspect worksites to ensure protection against ingress of water or dust
- Inspect the drainage system for blockages and remove if found
- Stop all outdoor works except for emergency works

6.Ladders

- Only use ladders that meet local safety regulations
- Do not use wooden ladders
- When working at height, it is recommended to use platforms instead of ladders
- If using a platform is not practicable, a supervisor should assess the potential risk and provide safety

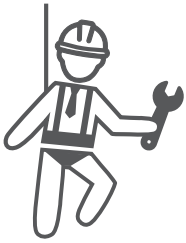
- protection equipment for workers
- Use non-conductive ladders made of glass-fiber or reinforced plastic when carrying out electrical work
- Assign assistants to provide support when working on ladders
- Check all ladders for broken rungs or other defects before use and periodically
- Fully open stepladders when in use
- Do not stand on the top two rungs of a ladder
- Do not overreach when working on a ladder
- Beware of overload restrictions

Common Standards for Ladders

Country	Standards
British	BS1129,BS2037,EN131,EATS13/1
USA	ANSI A 14.1,ANSI A 14.2,ANSI A 14.5
Australia New Zealand	AS 1892.2-1922,AS/NZS1892.1,AS/NZS 1892.3
Canada	CSA Z11 M81

7.Working at height

- Avoid working at height by using alternative tools and methods as far as practicable
- It is strongly recommended to build suitable scaffolding or work platforms
- Provide fall arrest systems for workers if it is impracticable to use working platforms
- Secure all materials and tools to prevent them falling from height



8.Lifting operations

- Have lifting gear and apparatus regularly inspected and tested by qualified persons
- Isolate and cordon off lifting areas to keep out non-construction personnel
- Ensure that lifting routes do not cross buildings or people, and avoid collision with objects
- Do not exceed safe working load limits

9.For on-site workers

- Plan all work
- Turn off power (work with live parts de-energized whenever possible)
- LOTO (Lock Out, Tag Out)
- Live electrical work permit (input terminals with HV after door open)
- Use personal protective equipment (PPE)
- Safe workplace conditions and space
- Adhere to other occupational health, safety and security codes, such as those published by OSHA

10.Reference standards

Adhere to the following codes:

- NFPA-70E -2021 Sec 110.3 (Electrical Safety in the Workplace)
- NFPA-70E -2021 Sec 130.4 (Shock Risk Assessment)
- NFPA-70E -2021 Sec 130.5 (Arc Flash Risk Assessment)

3.2 Grounding and Safety Requirements

- The product must be connected to a grounded, metal, permanent wiring system. Connections shall comply with all applicable electrical codes. Recommend ground resistance is less than 10Ω.
- Ensure no power is connected at all time when installing and maintaining.
- Use appropriate protection when connecting to main power distribution network.
- Use appropriate tools for each task.

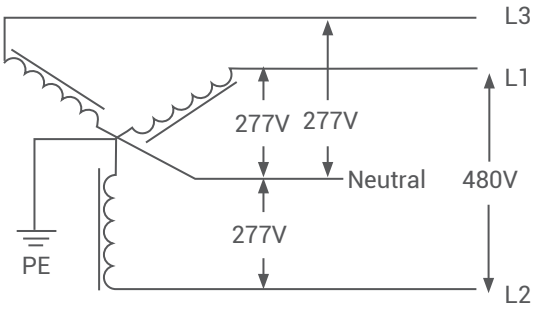
CAUTION: The disconnect switch for each ungrounded conductor of AC input shall be provided by installation contractor or technician.

CAUTION: A cord extension set or second cable assembly shall not be used in addition to the provided cable assembly for connection of the EV to the EVSE.

3.2.1 Service Wiring

- Ground Connection
  Always connect the Neutral at the service to Earth Ground. If ground is not provided by the electrical service then a grounding stake must be installed nearby. The grounding stake must be connected to the ground bar in the main breaker panel and Neutral connected to Ground at that point.
- 277 Vac Single Phase (L-N-PE)

CAUTION!
This is feed from Wye-connection power grid, the Power Dispenser Fast Charger can connect to one of L1, L2 or L3, and Neutral. Earth ground must be connected to neutral at only one point, usually at the breaker panel.



480V Three-Phase Wiring Connection

DANGERS
Be Aware of High Voltage!

WARNING!
Earth Connection is Essential!

3.3 Unpack the charger

- The product is Direct current (DC) charger, the packing design passed the packaging simulation test, if the packaging is damaged cause by overturning, falling or external impact during transportation, it may cause the product damage or defects. if there is any serious damage to the packaging when receiving the goods, please notify manufacturer about your findings.
- Receiving the DC 360kW Power dispenser. The product is delivered by a transport company to a warehouse or specified location where it will be handed over. Transporting the DC 360kW Power dispenser to its final location (last mile service) is not standard included in the order.

  NOTICE: The delivery truck unloads the pallet carrying the DC 360KW Power dispenser. The movement of the DC 360kW Power cabinet to its final location is the responsibility of the customer / contractor.

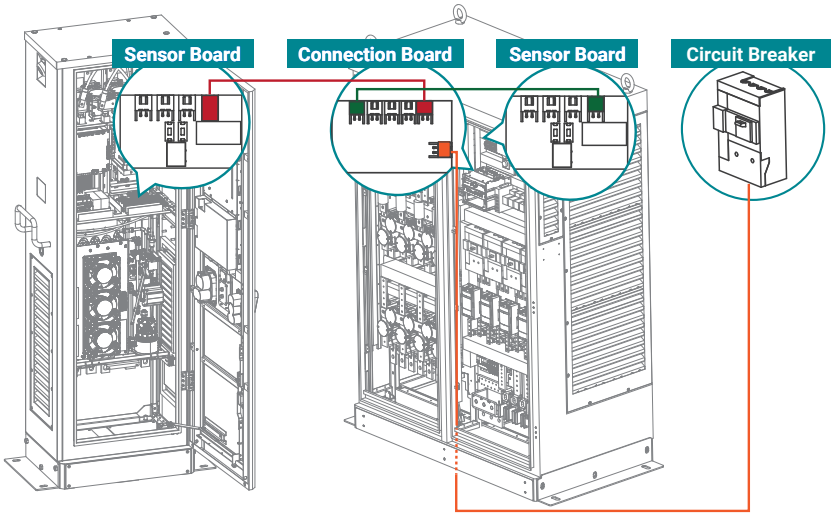
- Checking the TiltWatch PLUS sensors: If the TiltWatch PLUS indicator is tilted over 30°
  1. Do not refuse the delivery / receipt.
  2. Make a notation on the delivery receipt and inspect cabinet for damage.
  3. If damage is discovered, leave cabinet in original package and request immediate inspection from carrier within 3 days of delivery.
  4. Contact manufacturer by mail or phone to notify us about your findings

WARNING!
Charger weight with packing may > 300 kg!
Be careful during unpack process.

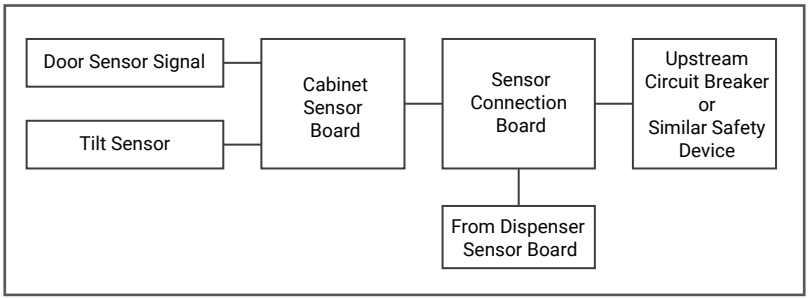
3.4 Cut Off Upstream Circuit Breaker When Sensor Is Triggered

There is a solution to cut off upstream circuit breaker when door is open and tilt sensor is triggered as below:

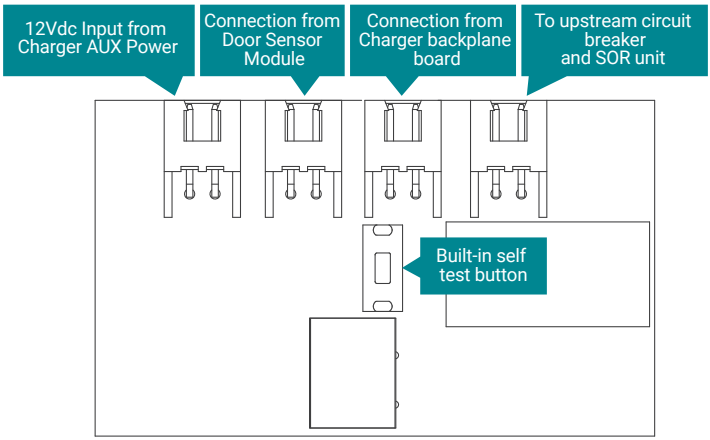
1. Proposal: To prepare a control board which includes door sensor function and tilt sensor. To dry contact points for extending wiring to the upstream circuit breaker in order to cut off power immediately when sensors are triggered. The control board is also equipped with a self-test button to verify proper functioning, regardless of production line, installation site or during regular maintenance service.



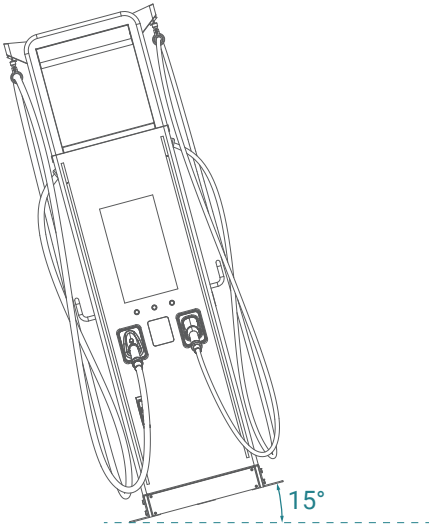
2. Function Block Diagram:

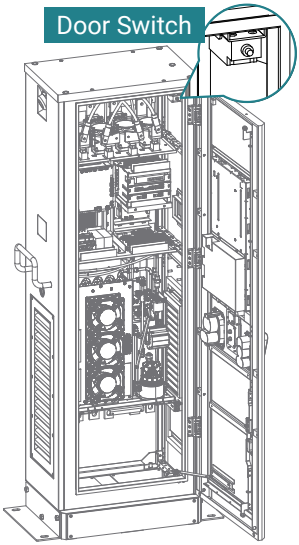


3. Sensor Board:



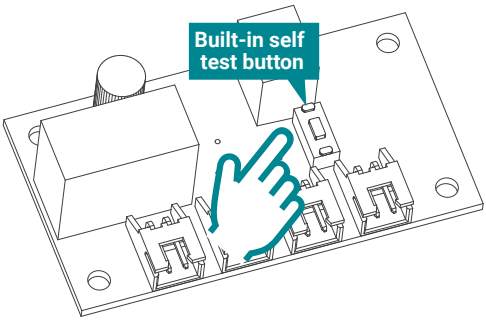
4. Control logic
   a) When either door sensor or tilt sensor has been triggered, it will send a voltage to trip off or open or cut off power of upstream circuit breaker. It is also known as “shunt release” which can be researched more over the internet.





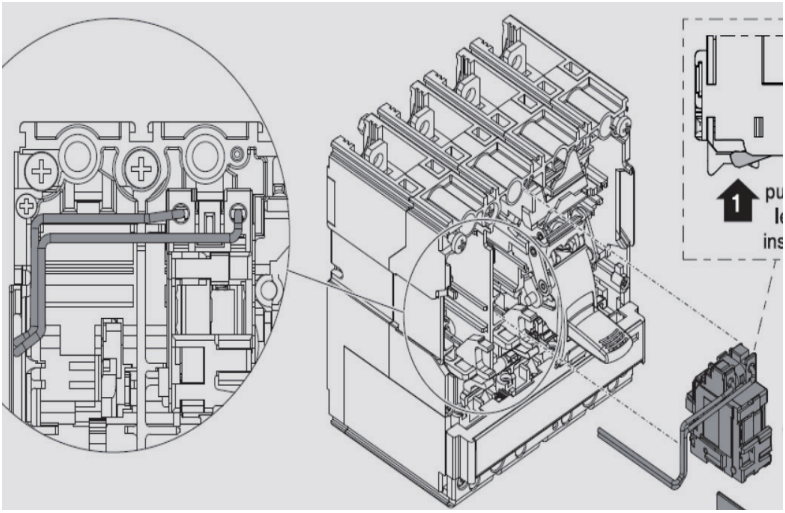
b) When upstream circuit breaker been cut off, the charger will be totally shut down then goes into “off line” status immediately, it won’t be recover remotely, only relies on service people to be presented on site.

c) This board has self-test button which is able to test if it functions properly no matter in production line or in installation site or during regular maintenance service.



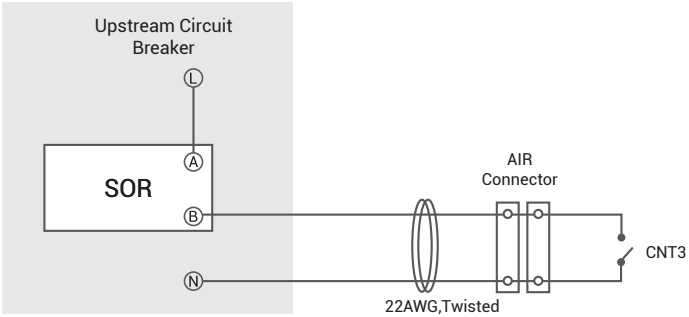
5. Sensor Board connetion Functions:
   a) Power cabinet and dispenser tilt sensor signal combination
   b) When the separate cabinet triggers a signal, notify the client to link breaker

6. Upstream circuit breaker selection and aux power preparation:
   Constructor or CPO is mandatory to select a circuit breaker which with “shunt release accessory” or relevant devices so that the safety function can be activated. If you need any recommandation models of shunt release, please contact your local agent. Below are reference SOR reference models from ABB:
   12V : SOR-C 12V DC (1SDA066321R1)
   24V : SOR-C 24-30V AC/DC (1SDA066322R1)



NOTICE
For the parts of SOR, maximum 277Vac withstand voltage is required.

6. Wires Spec Selection:
   The wires from sensor board to upstream circuit breaker is recommended 22AWG VW-1 105° C 600V or relevant.



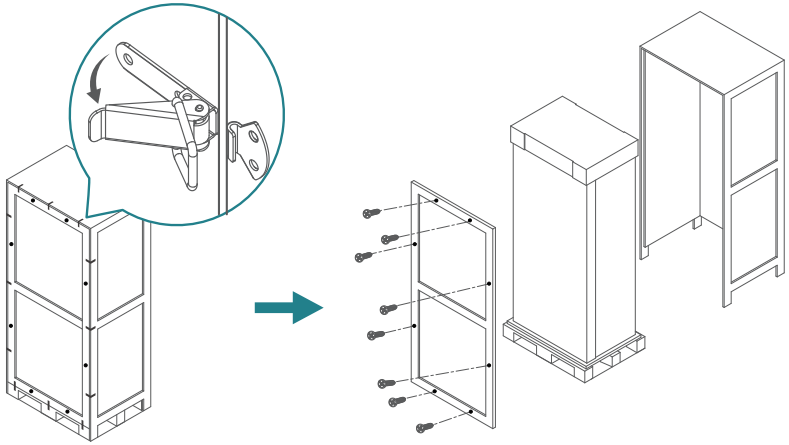
Control Circuit

3.5 Unboxing Process

3.5.1 Unboxing Process - Power Dispenser

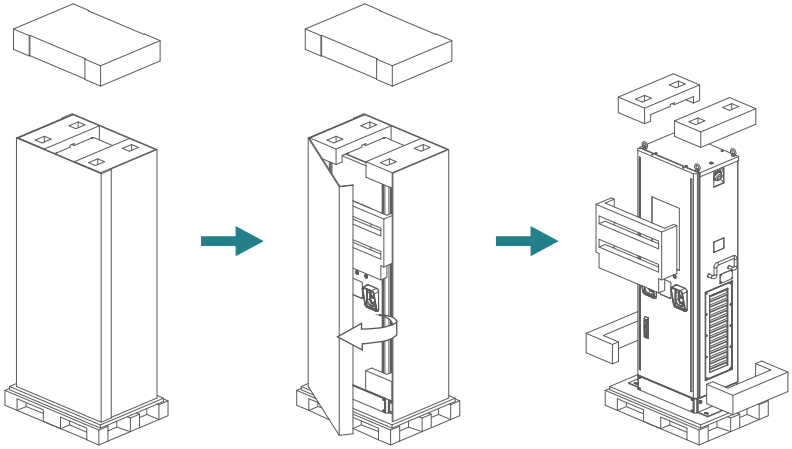
STEP 1.

Open the wooden box with Phillips screwdriver or electrical tools.



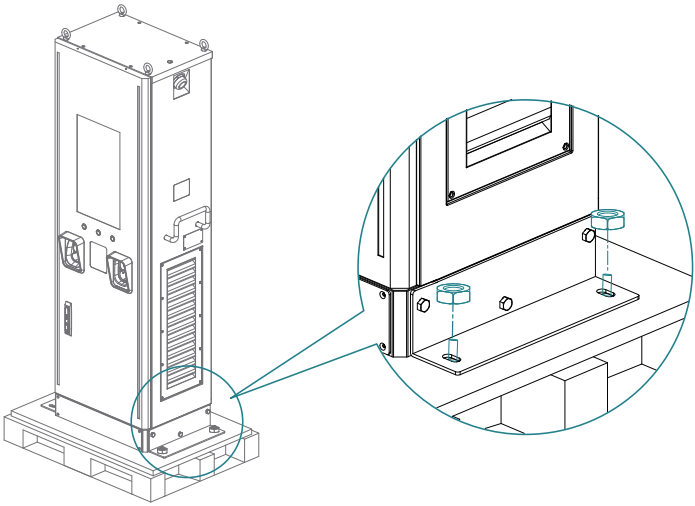
STEP 2.

Remove the carton and cushioning material.



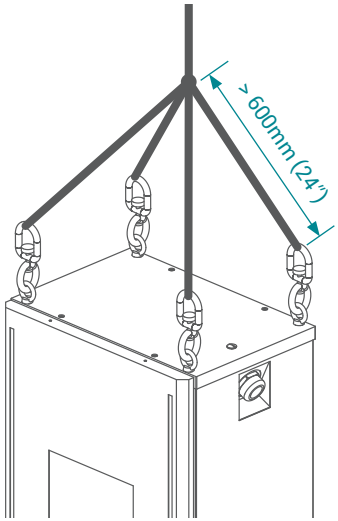
STEP 3.

Remove the M12 nuts *4 pcs with Hex wrench or other equivalent tools.

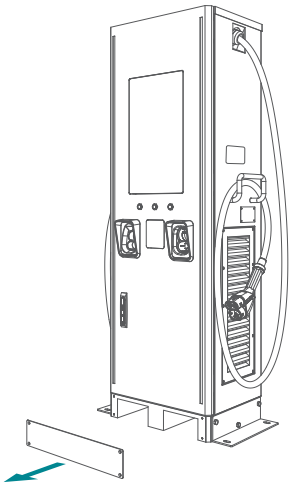


STEP 4.

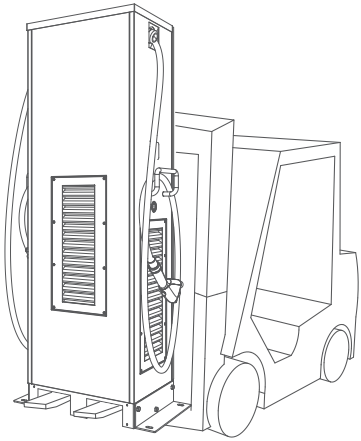
Move the Charger with crane or other hanging equipment to the installation location.



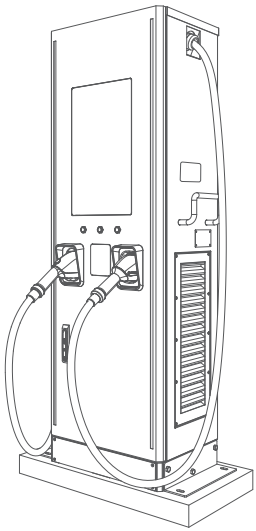
Or use a forklift to move the EVSE.
Step 1. Please remove the front and rear bottom trim panels first.
Step 2. Use a forklift to raise the EVSE.
(the fork must be opened to the maximum state)



Step 1



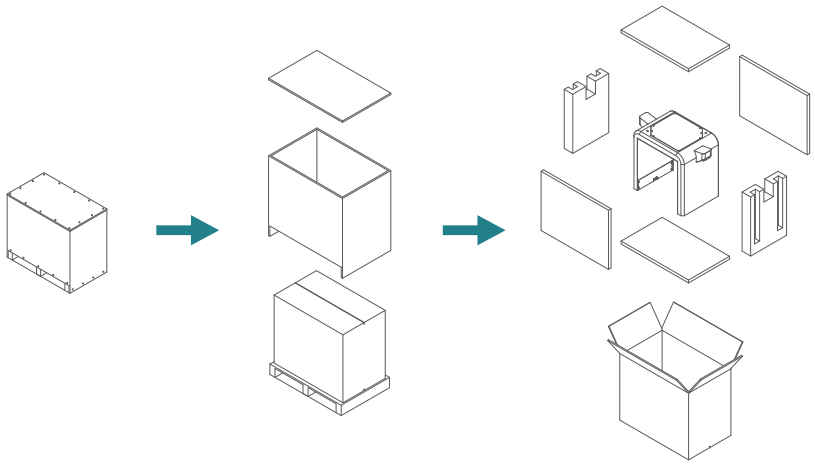
Step 2



3.5.2 Unboxing Process - Cable Management System (CMS)

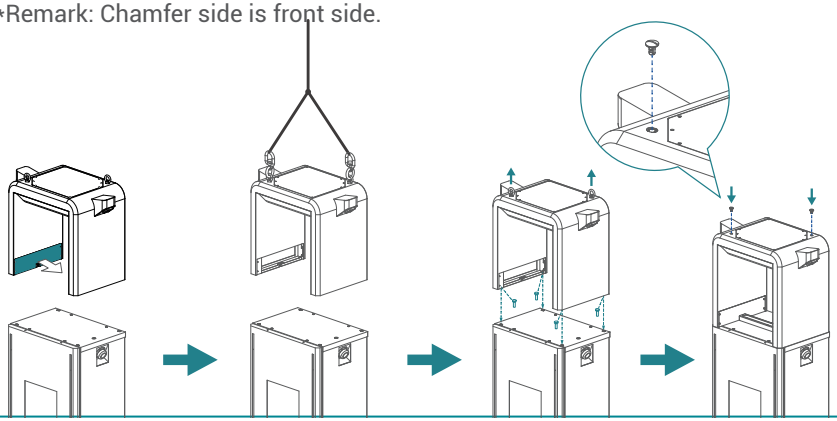
STEP 1.

Remove the carton and cushioning material.



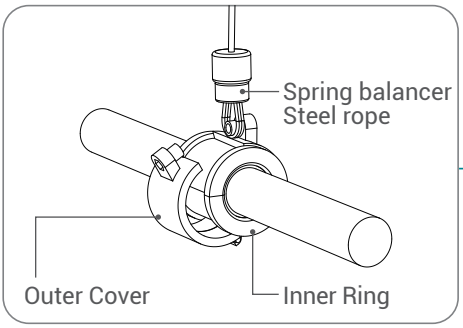
STEP 2.

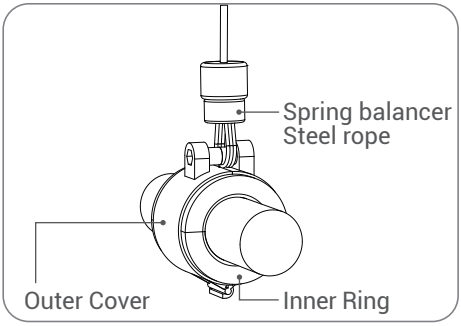
Move the cable management system with crane or other hanging equipment, and then put it on the charger dispenser main body. Fasten 4*M12 Socket Head Cap Screws and then adjust the plug cable and fix the ring hook for use.
The different plug the distance of ring hook will be change accord with different brand plug.
Please refer below suggestion distance for use.
*Remark: Chamfer side is front side.

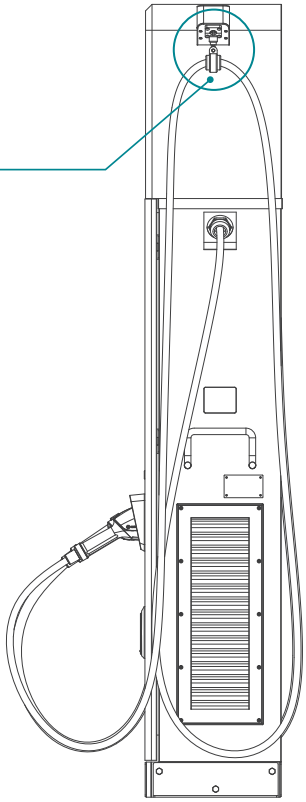


STEP 3.

Pull down the slinger ring to the proper height and then assembly the spring balancer's hook with outer cover.
(Please refer to 3.6 How To Install Cable Clamp.)

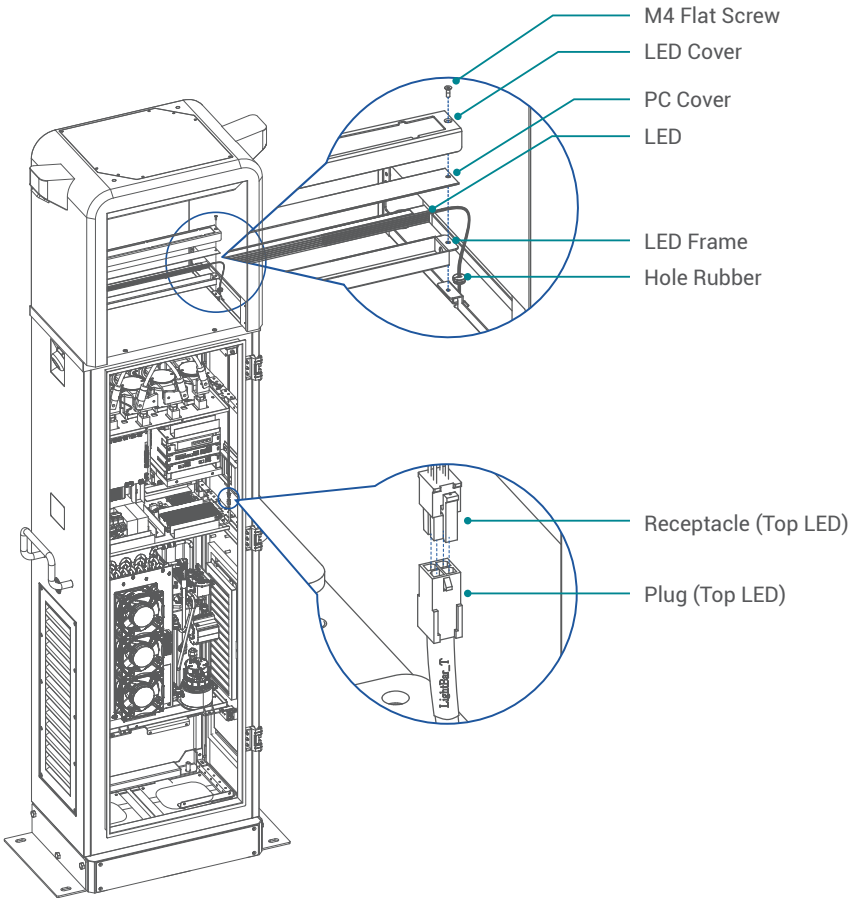






STEP 4.

Cable management system installation. (for LED assembly)



3.6 How To Install Cable Clamp

The cable management system is suitable for the different brands plug as below table. According to customer requirement, the damping setting of the corresponding plug will be completed before leaving the factory state.

Notes: if the cable management damaged or needs to be replaced the plug since any reason, please contact the supplier for necessary support. The cord reel model will be different due to appoint models.

Type cable	Brand	Ampere	Description	Cable length (M)	Tensile force (KG)	Clamp distance
CCS2	AMPHENOL	200A	200A 1000V CCS2(AMPHENOL:HVCOCM-TR8PF570L5000)L:5.0M	5	9	1.5m
	H+S	500A	CHARGING GUN H&S:HPC500 CCS2 4.50/0.55 CC55 1000V/500A L4.5M	4.5	6	1.5m
CCS1	AMPHENOL	300A	CCS1 CHARGING GUN AMPHENOL:HVCOSAEM300AL 1000V/300A L5M	5	13	1.5m
			CCS1 CHARGING GUN AMPHENOL:HVCOSAEM300AL 1000V/300A L7.5M	7.5	15	3.5m
		200A	CCS1 CHARGING GUN AMPHENOL: HVCOSAEM200AL 1000V/200A L5M	5	9	1.5m
			200A 1000V CCS1 GUN(AMPHENOL:C-HVCOSAEM200AL7500) L7.5M	7.5	14.6	3.5m
	H+S	500A	CHARGING GUN H&S:HPC500 CCS1 4.50/0.55 CC56 1000V/500A L4.5M	4.5	8	1.5m
		500A	CHARGING GUN HS:HPC500 CCS1 6.50/0.55 CC56 1000V/500A 6.5M	6.5	8	2.5m
CHAdeMO	SUMITOMO	200A	CHAdeMO CHARGING GUN SUMITOMO:SEVD-11-050 500V/200A L5M	5	12.5	1.5m
			CHAdeMO CHARGING GUN SUMITOMO:SEVD-11U-050 600V/200A L5M	5	13	1.5m

3.7 Recommended Tools for Installation and Inspection

3.7.1 Recommended Tools and assemblies for Installation

Type	Description
Phillips Screwdriver	No. 2
Hexagon Screwdriver	M12,M16
Shifting Wrench	8" (24mm)
Electrical tape	Black/15mm Width
AC Input Cable	2.5mm² or AWG12, Cable x 3 (L, N, PE) Recommend to use 600V, XLPE power cable
DC Input Cable	DC Output x2 (Plug1 ,Liquid cooling ; Plug2 , Natural cooling) (The charging plugs installed on the EVSE may vary depending on the designated application.) Each plug is recommended to use below cable: Liquid 500A CCS1/CCS2- Conductor cross section: 300kcmil (150mm²) at least,Cable x 4 (DC+ x2, DC- x2) Natural Cooling 300A CCS1/CCS2- Conductor cross section: 300kcmil (150mm²) at least,Cable x 2 (DC+ x1, DC- x1) Natural Cooling 200A CCS1/CCS2, CHAdeMO 200A, GB/T 250A- Conductor cross section: 300kcmil (150mm²) at least, Cable x 2 (DC+x1 , DC- x1) With ring terminal for M16 screw (Inner diameter > 16mm, Outer diameter < 40mm ; Thick type)  Recommend to use 1000V, 90° C, XLPE, Photo-Voltaic or Hypalon power cable

	 Protective Earth conductor: Conductor cross section: 240mm²cable for TN system With ring terminal for M16 screw (Inner diameter > 16mm, Outer diameter < 40mm ; Thick type) (Conductor cross section: 120mm²round rod for TT system) * Suggest to use concrete culverts for underground cable layout due to 1000V application .
Ethernet cable	CAT6A SFTP cable 24AWG or 26 AWG x 2 for dispenser cabinet
Slotted Screwdriver	
Socket driver	
Forklift	
Wire Stripper	
Wire cutters	
Residual Current Device	30mA type A , 2 port
MCCB	Curve B (for capacitive load)

Please follow all local safety standards and electrical codes at all times, even if the actual installation process and procedures are varied to accommodate the existing site condition.

3.7.2 Recommended Tools for Inspection & Commissioning

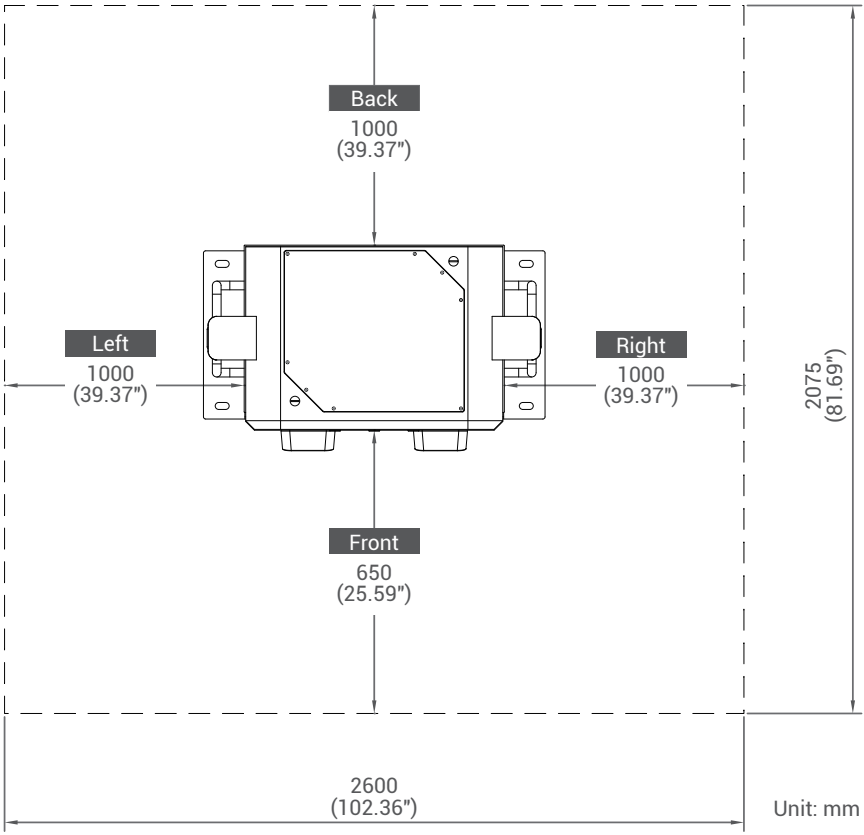
Type	Description
EV or EV Simulator	Meet CCS1, CCS2 & CHAdeMO standard
Multiple Meter	1000V
Current Probe	500A at least
RFID Authorized Card	
Door Key	
Needle-Nose Plier	
Torque Meter screwdriver	
Laptop & CAT 6 cable	
Wi-Fi, 3G/4G signal quality checker	Recommended

3.8 Installation Procedure

3.8.1 Required space for placing and maintaining

required a space of 2600 x 2075 mm.This space is calculated as follows:

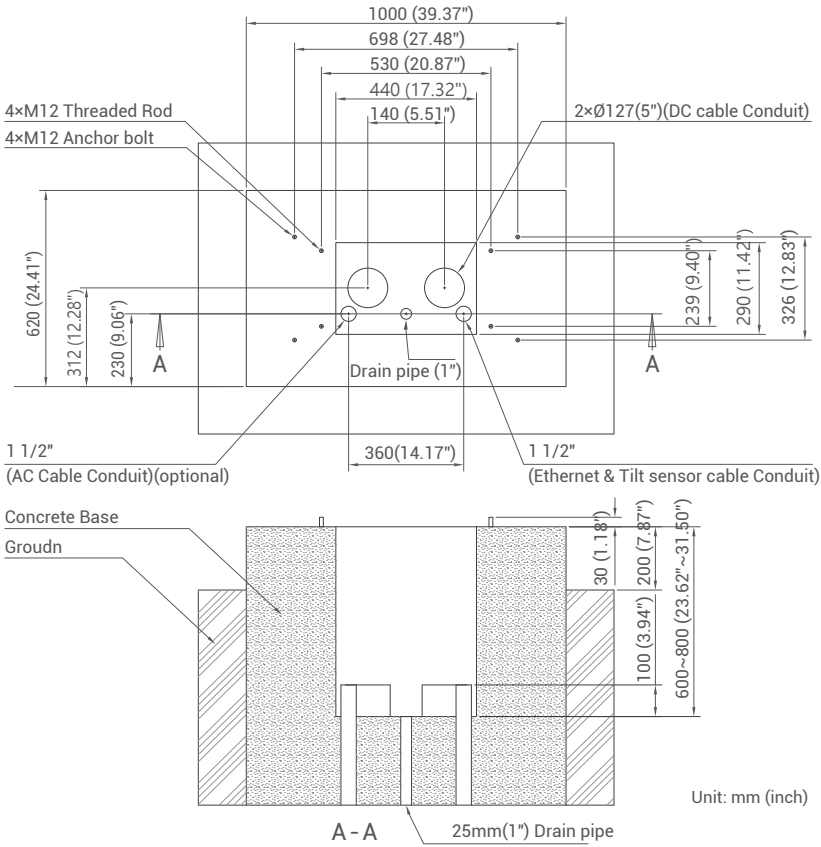
- Size Charge: W/O CMS - 590 x 421 x 1850 mm
  W CMS - 762 x 421 x 2450 mm.
- Front side 650 mm, for user operating.
- Left and right side 1000 mm,in order to open left and right door.
- Backside 1000 mm,in order to open the back door.



3.8.2 Build Concrete Base

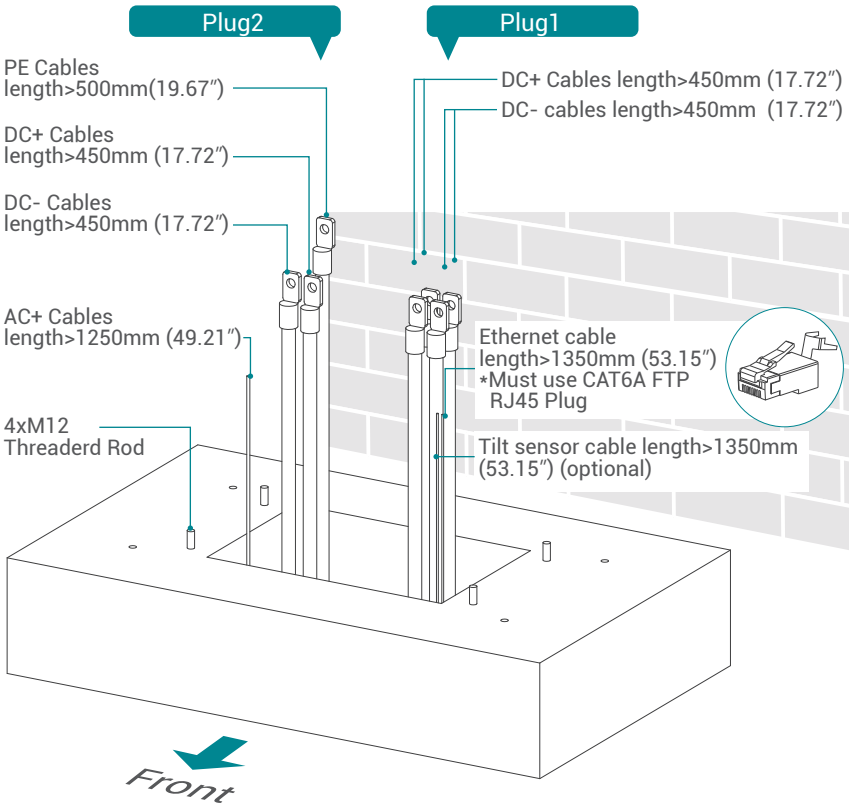
STEP 1.

- Build 1000mm(39.37″) x 620mm(24.41″) x 200mm(7.87″) concrete base in advance; 1 1/2″ conduit for input AC cable, 5″ conduit for input DC cable, 1 1/2″ for communication cable (Ethernet) and 1″ drain pipe.
- Install the 4 pcs of M12 mounting anchor bolts and leave at least 40mm thread length enough for 2 pcs of M12 nuts to be fasten on each after the unit has been fitted onto the base. The positioning of these 4 pcs of M12 screws should be within +/- 2mm in short axis, +/-14mm in long axis according to screw holes of charger. Add drainpipe at opening of concrete base to prevent standing water.
- Recommend to use a prefabricated steel mould for constructing the cement concrete base per dimensions provided below.



STEP 2.

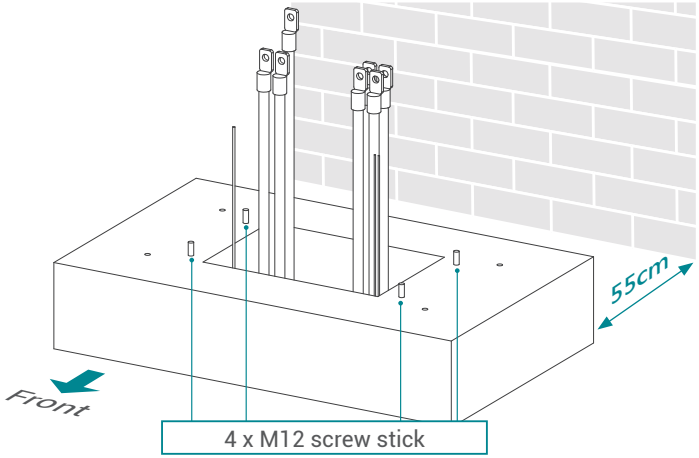
- Extend 1 phase 3 wires AC input cable from conduit of concrete base, AC cable expose at least 1250mm (49.21") and be with ring terminals. The conductor cross sectional area of input power wires should be not less than 2.5mm².
- Extend 2 sets DC power cable from conduit of concrete base, Plug1 DC+ cable expose at least 450mm (17.72"), DC- cable expose at least 450mm (17.72"); Plug2 DC+ cable expose at least 450mm (17.72"), DC- cable expose at least 450mm (17.72") and be with ring terminals.
- Extend Ethernet cable from conduit of concrete base, expose at least 1350mm (53.15").



3.8.3 Two Methods of Fixing the Charger

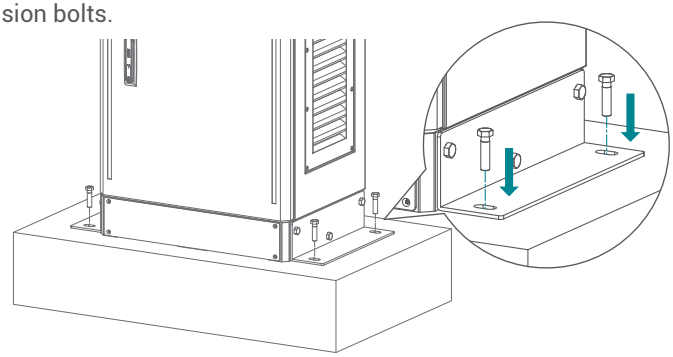
Method 1.

Fix the cabinet with internal screw.
Lift the charger onto the concrete base, feed all the cables through the entry hole located at the bottom of the unit; fasten the 8 pcs of M12 screw nuts on the 4 pcs of M12 mounting anchor bolt from the cement base (2 nuts for each bolt) to secure the chargers.



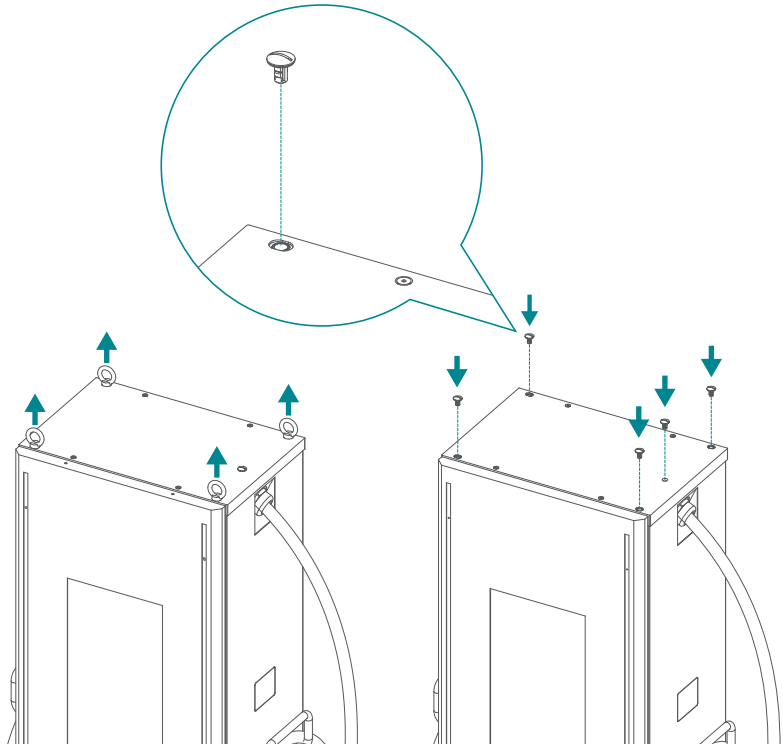
Method 2.

Fix the cabinet with external brackets and expansion bolts.
Lift the cabinet onto the concrete base, remove the cover metal sheet of the cabinet base, fix the L-shaped brackets on the cabinet base with the M12xL130 expansion screws (Material: Stainless steel), drill 4x Φ12mm screw holes on the concrete base, secure L- shaped brackets on the concrete base by 4 pcs M12 expansion bolts.



NOTE

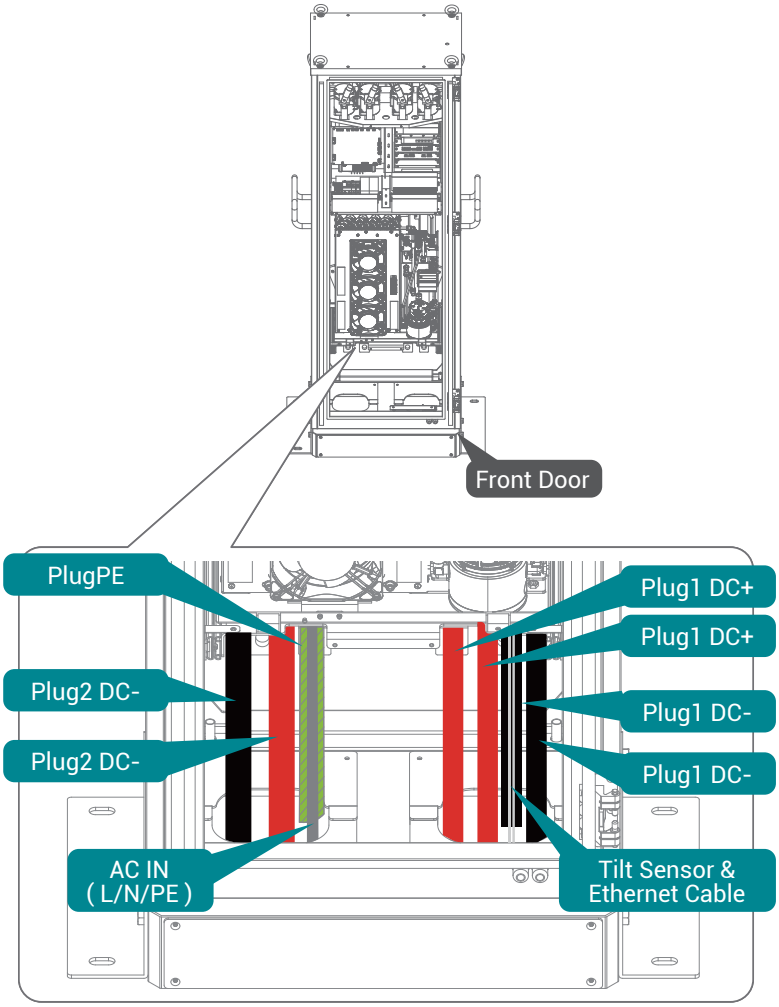
If remove the eye bolts on the top of the cabinet, must assemble the waterproof plastic bolts(in the accessory pack).



3.8.4 Installing Cables

STEP 1.

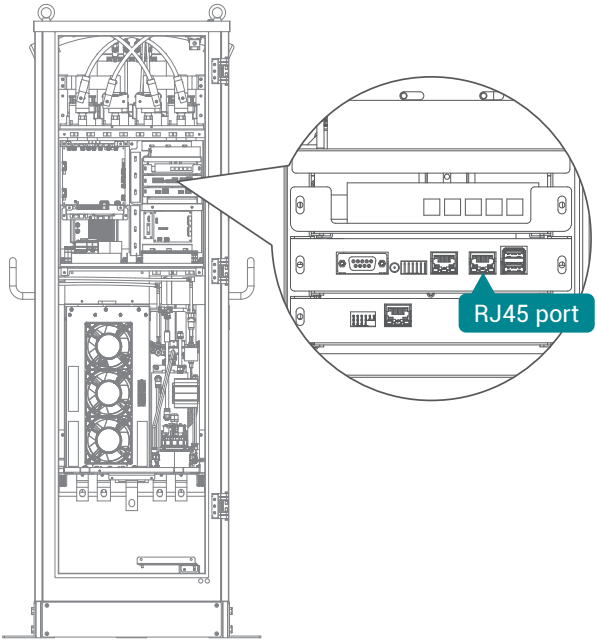
Fasten the PE cable to grounding plate of cabinet; connect AC input Line cable , Neutral cable and PE cable to terminal block. Fasten DC+ and DC- cables from power cabinet to paired busbar.



*The charging connectors installed on the EVSE may vary depending on the designated application.

STEP 2.

Connect Ethernet cable to rightside RJ45 port of CSU.



STEP 3.

Connect AC power cables to power distribution box, connect the Protective Earth wire (Green/Yellow) to ground point of power distribution box. Neutral should be shorted with ground point to meet TN(-S) grounding system.

* For the auxilary AC input, a 20A MCCB for capacitive load and 30mA RCD type A is recommended to use on power distribution box.

STEP 4.

Use adaptive flame retardants and electrical insulated foaming agent and far from conductive live part at least 12mm or other method to seal the cable entry hole to assure the NEMA3R grade of the cabinet, and prevent insects enter the cabinet.

3.9 Installation Inspection & Commissioning

3.9.1 Environmental Check

Item	Status	Remark
Ambient temperature		
Ambient humidity		
Sunshade		Recommended but not required
Rain canopy		Recommended for better charging experience and maintenance on rainy day
Air circulation / Drafty		
Dust level		
Anti-vandalism measures		National regulations
Flood measures		
Car bumper or bollard		if bumpers are installed, make sure all doors can fully open.

3.9.2 External Infrastructure Readiness & Check

Item	Status	Remark
Cement (stand) Base		
Input Wirings & Terminals		Type/ Length/cross section
Key & Lock of Cabinet Door		Type /No.
Fixing Screws		
MCCB		Notice: Current rating of MCCB shall be higher than or equal to 20A
Grounding Resistance		<10Ω
Network Connection & Quality		

3.9.3 EVSE Check – Prior to installation/ energization

Item	Status	Remark
Outlook		
Labeling & Warning Signs		

Package (Accessory) List		
Robustness of Input Wirings & connection		See screw torque table page 39
Robustness of Input Wirings		1. AC power cables 2. RJ45 connector
Robustness of Output Wirings		DC power cables
Coolant		Level & No leakage
Dispenser Cabinet ID		1 for single or left combiner , 2 for right cabinet

3.9.4 EVSE Check - Power On

Item	Status	Remark
Screen Display		
Network Connection Quality		Wi-Fi , 3G/4G > -65dBM
LED Status Indication		
Cooling Fans Operation		
EVSE Setting		
Backend Server Connection		

3.9.5 EVSE Check - Charging

Item	Status	Remark
User Authorization – RFID		
User Authorization – QR Code		
User Authorization – Others.		
Waiting Time of Connection Check		less than two minutes
Reading of Each Display Item		
Full Charge Test		
Function of Electronic Lock		
Airflow & Cooling Fan & cooling unit of charging plug		

3.9.6 EVSE Check –System Power Button

Item	Status	Remark
Emergency Stop Button & Recovery		Set the rated load state, press the emergency stop button, the charger should be cut off output immediately. 1. The charger stops charging and alarm when press the emergency stop button. 2. When the button is released and the plug is pulled, the EVSE returns to standby status.
Tilt sensor (Optional) and Door open sensor trigger & Recovery		Push self-test button then upstream circuit breaker will be cut off.

Screw torque requirement table

Screw in Metric						
Screw size	Screw type	Steel Inch-Lbs	Steel Kgf-Cm	Steel N-m	Aluminum Kgf-Cm	Aluminum N-m
M2×0.4	Machine	3~4.77	3.5~5.5	0.34~0.54	3~4.5	0.34~0.44
M2.5×0.45	Machine	3~4.77	3.5~5.5	0.34~0.54	3~4.5	0.34~0.44
M3×0.5	Machine	5.5~9	6.5~10.5	0.64~1.04	5.2~8.4	0.51~0.82
M3.5×0.6	Machine	8.5~13	10~15	0.98~1.47	8~12	0.78~1.18
M3×0.7	Machine	13~18	15~21	1/47~2.06	12~17	1.18~1.66
M5×0.8	Machine	25~34	29~39	2.84~3.82	23~32	2.26~31.4
M6×1.0	Machine	44~55	52~63.5	5.1~6.22	42~51	4.11~5
M6×1.0	Hex cap	82~115	98~129	9.6~12.65	78~103	7.65~10.1
M8×1.25	Machine	106~141	122~163	11.96~15.98	98~130	9.61~12.75
M8×1.25	Hex cap	205~274	237~316	23.24~30.98	190~253	18.63~24.8
M10×1.5	Hex cap	212~382	245~440	24.02~43.15	196~351	19.22~34.42
M12×1.75	Hex cap	372~668	430~770	42.17~75.49	343~615	33.63~60.3
Screw in Imperial						
2-56	Machine	1.5~2	1.6~2.3	0.17~0.22	1.4~1.8	0.14~0.18
4-40	Machine	3~4	3.5~4.5	0.34~0.44	2.8~3.6	0.27~0.35
6-32	Machine	6~10	7~11.5	0.68~1.13	5.6~9.2	0.55~0.9
8-32	Machine	10~15	11.5~17	1.13~1.66	9.2~14	0.9~1.37
10-32	Machine	16~24	18.5~28	1.81~2.74	15~22	1.47~2.16
1/4-20	Machine	35~46	40~53	3.92~5.2	32~42	3.14~4.11
1/4-20	Hex cap	57~77	66~89	6.47~8.73	53~71	5.2~6.96
5/16-18	Hex cap	119~158	137~182	13.43~17.85	110~145	10.77~14.21
3/8-16	Hex cap	205~274	237~316	23.24~30.99	190~235	18.63~24.82
7/16-14	Hex cap	338~451	390~531	38.24~51.09	312~416	30.59~40.79
1/2-13	Hex cap	515~686	595~792	58.35~77.66	476~634	46.69~62.17

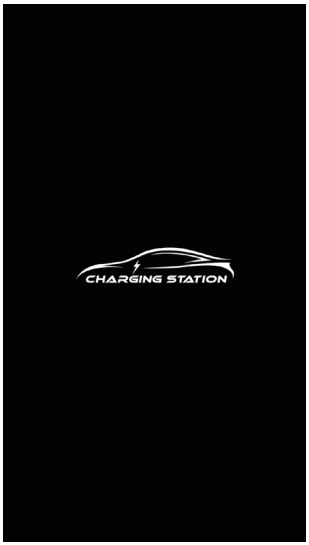
4. Operation Process

4.1 Operating Sequence

- System Initialization
- User Authorization
- Plug in DC Charging Plug
- Preparing for Charging
- In Charging
- Charging Terminated
- Status Messages

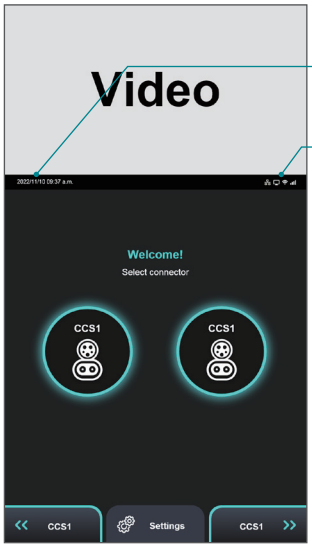
4.2 Operating Procedure

4.2.1 System Initialization



Initializing page

- When the charger is powered on, it start with the “Charging Station” Initializing page.
- You will see the below image on the screen after powering on and the system is initializing.
- The initializing process will take around 2 minutes, then shows home page.



Home page

Operation interface description

Unit and currency if billing function is enabled

- Ethernet Backend Status

  Connection Dis-Connection

- Wi-Fi Status

  Connection Dis-Connection

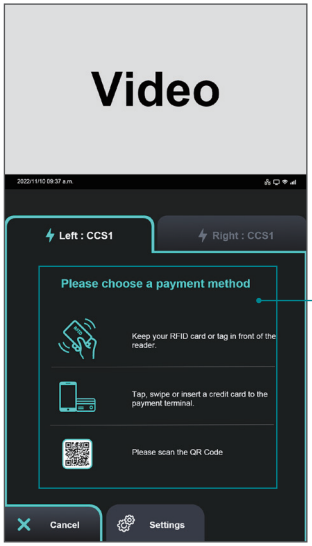
- 3G/4G Status

  Connection Dis-Connection

- OCPP Backend Status

  Connection Dis-Connection

4.2.2 User Authorization

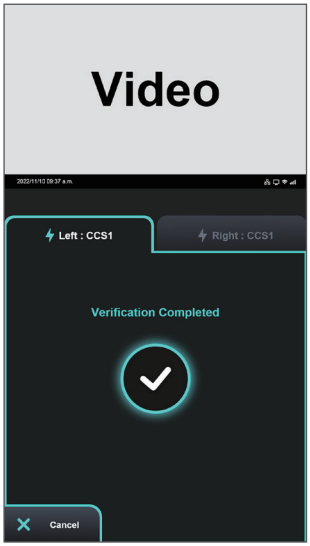


Home page

- After the system is initialized the screen will stay at Home page as below illustrated.
- Use your RFID card or mobile app to authorize the use of the EVSE.

User authorization Method: RFID, QR code and mobile APP.

- Unauthorized method(s) will be darker on the screen if the method is disable.



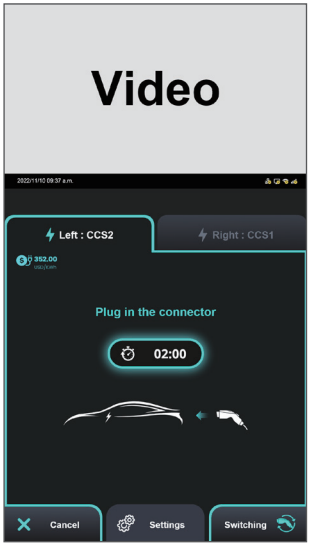
authorizing page

User authorizing

User authorized

Authorization failed

4.2.3 Plug in Charging Plug

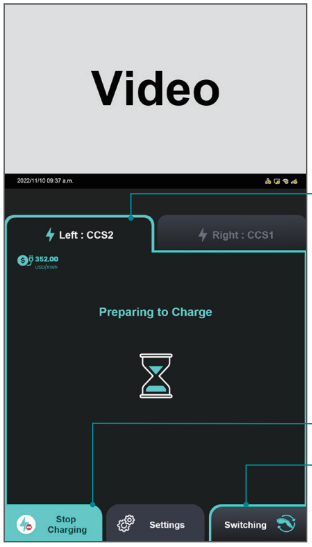


plug-in page

- After authorization the screen will ask the user to plug the charging plug into the EV charging inlet as below illustrated.
- Take the charging plug from the charging cable holder and plug into EV charging inlet.
- It will normally take less than 10 seconds to start the process after completing the physical connection of charging plug to charging inlet. To terminate this session, please press the bottom left of touch screen or left button to return to the home page.

Press bottom left of touch screen or left button to terminate this charging session and then return to home page

4.2.4 Prepare for Charging



Preparing page

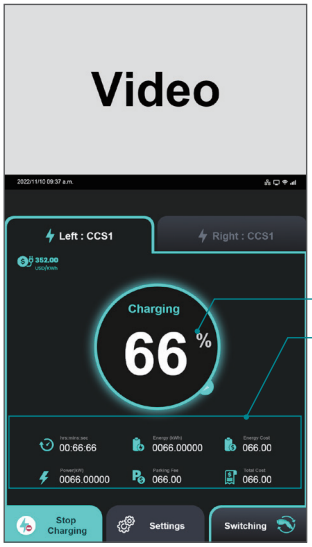
- After authorization and plug-in process, the charger will start communicating with the vehicle and the screen will show the preparing page as below illustrated.

Information of selected charging plug (Left or Right side)

Left side plug stop Changing

Right side plug Start Changing

4.2.5 In Charging



Charging page

- The screen will show the Charging Page as below illustrated once the charger goes into the ready to charge stage.
- In the meantime, you can use right side plug for charging and vice versa.
- To start charging, load the charging information. When the battery has been fully charged or reaches the limit of the setting it will stop charging automatically and go to the next process.

EV battery SOC

Charging information area

Charging duration

Power (kW)

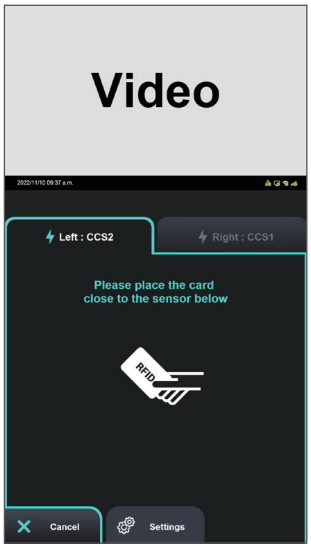
Energy(kWh)

Parking Fee

Energy Cost

Total Cost

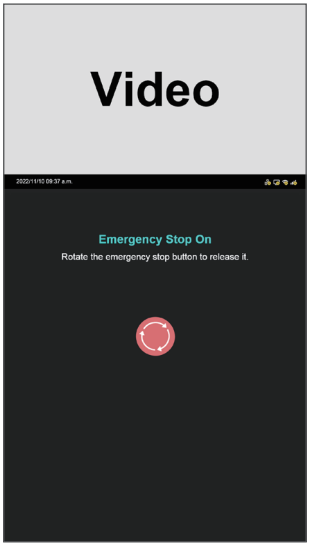
4.2.6 stop Charging



stop charging page

- User also can tap the RFID to stop charging.

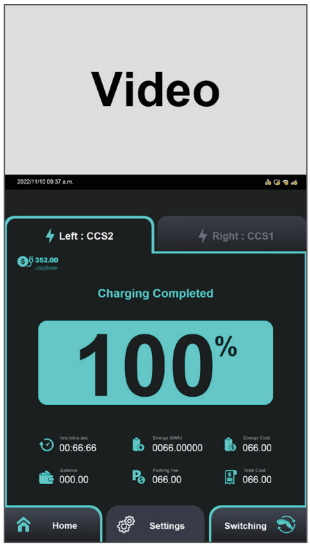
- User also can use APP to stop charging.



emergency page

- In case of Emergency, press the emergency switch to stop charging

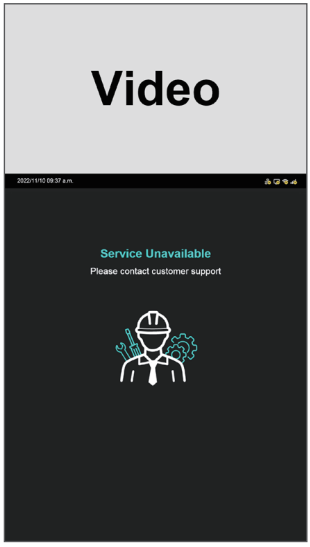
4.2.7 Charging Terminated



charging summary page

- After charging is terminated the charger system will show the charging summary page as below illustrated and the charging plug will automatically unlock.
- Unplug the charging plug from charging inlet of the EV and return the charging plug to charging cable holder.
- The screen will go back to the home page or the other charging connector's charging page if unplugged from the charging plug.
- During simultaneous charging, the screen will go to the other charging connector's charging page if either charging plug is unplugged.

4.2.8 maintenance



maintenance page

- If the screen appeared the repair info, please select other charging equipment.

4.3 Troubleshooting

- Please follow the instruction in the table when errors occur during the charging process.
- Or please connect the EVSE to the Internet and then contact the EVSE provider.
- For further instructions. If an emergency occurs push the Emergency Stop Button to stop charging immediately.
- Please provide the EVSE information including serial number, model name, status code, failure behavior and timing, and also connect the EVSE to the Internet before remote diagnostics and upgrading.

4.3.1 Troubleshooting - No Status Code

When charging fault occurs, user may eliminate fault status by following steps.

Conditions	Troubleshooting guide
Black screen	1. Incorrect input power or connection fault, please supply power correctly and reset the power. 2. Charger auxiliary power, display, or other faults. Please contact your dealer.
Stuck on boot or service screen	1. System is in update or self-check procedure, please wait. 2. Other faults of charger, please reset the power or restart the charger. 3. Please contact your dealer.
Card tapping or QR code scanning failed	1. Invalid RFID card or insufficient balance. 2. Contact management staff to check internet connection between charger and Back-End server. 3. Code scanning or Back-End authorization failed; please contact management staff. 4. Card reader failure or other faults; please contact your dealer.

Indication page returns from cable plugging to selection	1. Please make sure the charging cable selection is correct 2. Please make sure the charging cable has been plugged in completely with a “clicking” sound, and the connector button cannot be pressed. 3. Please check the charge port indicator or meter whether the charge function is failed. 4. Please try again with other chargers. If the situation remains the same, the EV perhaps unable to charge, please send the EV for service. 5. Charger control guide failed. Please turn off and restart the charger. 6. Charging cable or control guide invalided, please contact your dealer.
Indication page transfer from charging preparation to settlement directly	1. Please unplug the charging cable and try again. 2. Please check the EV charge port indicator or meter whether the target charging limit has been done or terminated before default charging time.* 3. Drive the EV away for few meters / feet and return, then try again. 4. Charger handshaking failed, please reset, or turn off and restart the charger. 5. Please contact your dealer.
Stuck on SOC 100% or 0% settlement page without charging	1. Please check EV charge port indicator or meter, whether fully charged, the target charging limit is done or stopped before default charging time. * 2. Please unplug the charging cable and try again. 3. EV messages load failed. Please turn off and restart the charger. 4. Please contact your dealer.
Charging complete but the charger did not release EV	1. Please unlock the EV, press the button of HV charging port cover, and try to unplug again. * 2. Turn the startup switch on and off, then try to unplug again. 3. Lock the EV doors and release, then try to unplug again. 4. Turn the EV air conditioner off, then try to unplug again. 5. Please release by EV manual unlock switch. 6. If there is no manual unlock, please turn off or reset the charger. 7. Contact your EV company or dealer.

* Each model of EV contains different charging condition and plug release method, please refer to your user manual.

4.3.2 Troubleshooting - error code (011-XXX)

011-XXX contains charger's parts or connection fault message; please unplug the charging plug turn the power off connect the issued part, and then power on the unit. If the error code is displayed, then it must be serviced by a qualified technician. Please contact your dealer.

4.3.3 Troubleshooting - warning code from (012-XXX)

Status Code	Conditions	Troubleshooting guide
012200 ↓ 012214	Abnormal input voltage	1. Charging can be enabled after electrical grid supply regularly. 2. Please check the input power or turn off and restart the charger. 3. Please contact your dealer.
012223 ↓ 012232	Abnormal environment or devices temperature	1. Keep the air flow inlet and outlet clear or remove heat sources, charging will be enabled after cooling down. 2. Maloperation of over temperature protection or devices over temperature. Please contact your dealer.
012241 ↓ 012244	External network disconnected	1. Code scanning or app authorized application are unavailable for the moment, please change to RFID or other authorizations. 2. Please contact network management staff for a network inspection.
012251	Emergency switch is pressed	1. Please release the emergency switch by rotating it, charging will be enabled after the warning code is removed. (Meanwhile, if it shows the service, please rotate back the switch, turn off and restart the charger) 2. Please contact your dealer or turn off and restart the charger.
012252	The cabinet door has been opened	1. Please close the cabinet door, charging will be enabled after warning code is removed. 2. Door open sensor is shifted, please screw the sensor on the fixed position. 3. Maloperation of door open sensor, please contact your dealer for further instructions.

012304	Communication error between power and charging plug cabinet	1. Please make sure the ethernet cable connection between cabinets to be reliable. 2. If there is no green light solid on power cabinet, please reset it. 3. Please contact your dealer for further instructions.

4.3.4 Troubleshooting - message code from charger (013-XXX)

Code 013-XXX contains setup, maintenance, or reference hint messages, generally, there is no impact on charging. Please charge with general process and contact your dealer.

4.3.5 Troubleshooting - message code from EV (023-XXX)

023-XXX contains messages from EV, it means communication or charging procedure error, these errors cause charging or cable unplug cannot be proceeded. Please refer to your EV manual for charging setup or backup procedure, then take into consideration the following recommendation, or contact charger management staff.

1. Unplug the charging cable and wait for 5 more seconds. Plug the charging cable completely with a “clicking” sound and try the charging procedure again.
2. Unplug the charging cable, try with the other one or charger.
3. Unplug the charging cable, drive the EV away for few meters / feet and return, stop the EV, unplug the key, and try again.
4. After unplugging the charging cable, check the EV to see whether charging mode and time limit have been enabled.
5. If the charging process cannot be started and EV meter or charging indicator shows abnormal status or error messages, please follow your EV user manual for troubleshooting.
6. After unplugging the charging cable, contact management staff to turn it off, restart the charger and try again.
7. If charging terminated but the charging cable cannot be unplugged, please follow the EV user manual, press release button (on EV or remote controller) or manual unlock switch. If all these methods are unavailable, please contact management staff to turn off and restart the charger.

Status Code	Conditions	Troubleshooting methods
23758	EV side feedback code procedure error	1. Please unplug the charging cable, release EV side charging limit, and try again. 2. Please follow step 1~7 above for trouble-shooting.
23809	Charger missed the first message from EV	1. Charging cable is not locked by EV side, please unplug, and plug the charging cable completely with a “clicking” sound. 2. Please follow step 1~7 above for trouble shooting
23814	EV side hand shaking feedback incorrect	1. Please unplug the charging cable, restart BMS on EV side, and try again. 2. Please follow step 1~7 above for trouble-shooting.
23844	EV side V2G communication time out	1. Please unplug the charging cable, restart BMS on EV side and try again. 2. Please follow step 1~7 above for trouble shooting.
23847	Charging cable insulation test time out	1. Please unplug the charging cable and try again. 2. Please unplug the charging cable, restart the charger, and try again.
23889	Noise interference or charging terminated from EV side causes control guide status error	1. Please unplug the charging cable, restart BMS on EV side, and try again. 2. Please follow step 1~7 above for trouble shooting.
23891	Charger not ready	1. Please unplug the charging cable, wait for 5 more seconds, and try again. 2. Please unplug the charging cable, restart the charger and try again.
23983	Charging terminated by unknown request from EV	1. Check whether charging target or time is limited. 2. Follow the EV operating indication for trou-bleshooting. 3. Please unplug the charging cable, restart BMS on EV side and try again.

4.3.6 Troubleshooting - message code from charger network (033-XXX)

033-XXX contains messages from charger control server which is running intelligent remote control. Please follow the remote procedure or contact management staff to arrange for charging.

Status Code	Conditions	Troubleshooting methods
033900 033901 033902	Back-End disconnected for the moment	1. Code scanning and app authorization is unavailable for the moment, please change to RFID or others authorization. 2. Please contact management staff to check Back-End server connectivity. 3. If the connection cannot be restored after router or AP restart, please restart the main/ sub cabinets. 4. If the connection cannot be restored after main/ sub cabinet restart, please turn off the whole charger and restart. 5. Please contact your dealer.
033903	Charging started by remote control	1. Remote authorization passed, please plug in the charging cable for charging. 2. Contact management staff for further instructions.
033904	Charging stopped by remote control	1. Charging meets setup time, Watt-Hour or amount, charging terminated by remote control. 2. Contact management staff for further instructions.
033905	Restart by remote control	1. Charger reset and maintain process by remote control, charging terminated. 2. Contact management staff for further instructions.

4.3.7 Troubleshooting - Spilt Cabinet Charger Status Code (04X-XXX)

04X-XXX contains special purpose messages from charger, please refer to message code 01X-XXX.

4.3.8 Service Procedure and Order

1) Contact our customer service representative
2) Provide charger model name and serial number
3) Describe the problem what you meet and provide your EV model name and status code or failure which shows on the charger display.
4) Please help to connect the charger to the internet for remote troubleshooting.
5) Please help to plug in / out the charging cable.
6) Please inform our available time, expected time for on-site services.

4.4 Status Codes (V0.46)

*For latest status code, please contact with your charge point operator.

Status Code	Description
11001	CHAdeMO output fuse blew
11002	CCS output fuse blew
11003	GB output fuse blew
11004	RCD/CCID self-test fail
11005	AC input contactor 1 welding
11006	AC input contactor 1 driving fault
11007	AC input contactor 2 welding
11008	AC input contactor 2 driving fault
11009	AC output relay welding
11010	AC output relay driving fault
11011	CHAdeMO output relay welding
11012	CHAdeMO output relay driving fault
11013	CCS output relay welding
11014	CCS output relay driving fault
11015	GB output relay welding
11016	GB output relay driving fault
11017	AC connector temperature sensor broken
11018	CHAdeMO connector temperature sensor broken
11019	CCS connector temperature sensor broken
11020	GB connector temperature sensor broken
11021	WiFi module broken
11022	3G/4G module broken
11023	Aux. power module broken
11024	Relay control module /smart box broken
11025	CHAdeMO connector lock fail
11026	GB connector lock fail
11027	AC connector lock fail
11028	CHAdeMO module broken
11029	CCS module broken

Status Code	Description
11030	GBT module broken
11031	PSU module broken
11032	RCD/CCID module broken
11033	Maximum Output Current setup error
11034	Shutter fault
11035	Ble module broken
11036	Rotary switch fault
11037	CCS liquid chiller water level fault
11038	Chiller temperature sensor broken
11039	Parallel relay welding
11040	Parallel output relay driving fault
12200	System L1 input OVP
12201	System L2 input OVP
12202	System L3 input OVP
12203	System L1 input UVP
12204	System L2 input UVP
12205	System L3 input UVP
12206	PSU L1 input OVP
12207	PSU L2 input OVP
12208	PSU L3 input OVP
12209	PSU L1 input UVP
12210	PSU L2 input UVP
12211	PSU L3 input UVP
12212	System L1 input drop
12213	System L2 input drop
12214	System L3 input drop
12215	System AC output OVP
12216	System AC L1 output OCP
12217	System CHAdeMO output OVP
12218	System CHAdeMO output OCP
12219	System CCS output OVP
12220	System CCS output OCP

Status Code	Description
12221	System GB output OVP
12222	System GB output OCP
12223	System ambient/inlet OTP
12224	System critical point OTP
12225	PSU ambient/inlet OTP
12226	PSU critical point OTP
12227	Aux. power module OTP
12228	Relay board/smart box OTP
12229	CHAdeMO connector OTP
12230	CCS connector OTP
12231	GB connector OTP
12232	AC connector OTP
12233	RCD/CCID trip
12234	CHAdeMO GFD trip
12235	CCS GFD trip
12236	GB GFD trip
12237	SPD trip
12238	Main power breaker trip
12239	Aux. power breaker trip
12240	PSU communication fail
12241	WiFi module communication fail
12242	3G/4G module communication fail
12243	RFID module communication fail
12244	Bluetooth module communication fail
12245	LCM module communication fail
12246	Aux. power module communication fail
12247	Relay control board/smart box communication fail
12248	CCS module communication fail
12249	CHAdeMO module communication fail
12250	GBT module communication fail
12251	Emergency stop
12252	Door open

Status Code	Description
12253	System fan decay
12254	Fail to create share memory
12255	CSU initialization failed
12256	AC Ground Fault
12257	MCU self-test Fault
12258	Relay self-test Fault
12259	CHAdeMO groundfault detection timeout (GFD)
12260	CCS groundfault detection timeout (GFD)
12261	GB groundfault detection timeout (GFD)
12262	System AC L1 output Circuit Short
12263	PSU Duplicate ID
12264	PSU Output Short Circuit
12265	PSU Discharge Abnormal
12266	PSU Dc Side ShutDown
12267	PSU Failure Alarm
12268	PSU Protection Alarm
12269	PSU FanFailure Alarm
12270	PSU Input UVP
12271	PSU Input OVP
12272	PSU WalkIn State
12273	PSU Power Limited State
12274	PSU Id Repeat
12275	PSU Severe Uneven Current
12276	PSU Three Phase Input Inadequate
12277	PSU Three Phase Onput Imbalance
12278	PSU Ffc Side ShutDown
12279	NO PSU Resource
12280	Self test Failed due to communication of Relayboard failure
12281	Self test Failed due to communication of Fanboard failure
12282	Self test Failed due to communication of Primary failure
12283	Self test Failed due to communication of Chademoboard failure
12284	Self test Failed due to communication of CCSboard failure

Status Code	Description
12285	Self test Failed due to AC Contact failure
12286	Self test Failed due to communication of PSU failure
12287	Self test Failed due to Model name is none match
12288	CCS output UVP
12289	Chademo output UVP
12290	GBT output UVP
12291	Self test Failed due to communication of GBTboard failure
12292	Self test Failed due to communication of AC failure
12293	Self test Failed due to communication of Ledboard failure
12294	AC input ovp
12295	AC input uvp
12296	CHAdeMO groundfault detection - warning
12297	CCS groundfault detection - warning
12298	GB groundfault detection - warning
12299	System AC L2 output OCP
12300	System AC L3 output OCP
12301	System AC L2 output Circuit Short
12302	System AC L3 output Circuit Short
12303	CCS liquid chiller water level warning
12304	disconnected from power cabinet
12305	Meter communication timeout
12306	The dip switch of the PSU may be incorrect
12307	Psu Fault : Infy => Fuse Burn-Out · UU => Pfc internal OVP
12308	Psu Fault : Infy => Pfc And Dcdc Communication Fault ·UU => Pfc And Dcdc Communication Fault
12309	Psu Fault : Infy => Bus Voltage Unbalance · UU => Dc output voltage unbalance
12310	Psu Fault : Infy => Bus Over Voltage · UU => Ac site OVP
12311	Psu Fault : Infy => Bus Voltage Abnormal · UU => Ac site UVP
12312	Psu Fault : Infy => Bus Under Voltage · UU => Pfc internal UVP
12313	Psu Fault : Infy => Input Phase Loss · UU => Dc to Dc don't work
12314	Psu Fault : Infy => Fan Full Speed · UU => Fan don't work

Status Code	Description
12315	Psu Fault : Infy => Temperature Power Limit · UU => env OTP 、Pfc OTP 、output relay broken 、Dc OTP
12316	Psu Fault : Infy => Ac Power Limit · UU => Ac OVP and shutdown
12317	Psu Fault : Infy => Dcdc Eeprom Fault · UU => Dc to Dc broken
12318	Psu Fault : Infy => Pfc Eeprom Fault · UU => Pfc broken
12319	Psu Dcdc Over Voltage
12320	System CHAdeMO output UCP
12321	System CCS output UCP
12322	System GBT output UCP
12323	System Chiller output OTP
12324	Connector 1 detects abnormal voltage on the output line
12325	Connector 2 detects abnormal voltage on the output line
12326	System task is lost
12327	System DC input ovp
12328	System DC input uvp
12329	Psu Fault : Infy => Psu Can Communication Fault · UU =>
12330	Psu Fault : Infy => Psu Dc to Dc OTP · UU => env UTP
12331	Psu Fault : Infy => Psu Dc to Dc OVP · UU => Dc output OVP
12332	Chiller Tube OTP
12333	Psu Fault : Infy => DC input ovp (Phase OVP) · UU => Dc output UVP
12343	Tilt sensor self-test failed
12344	Meter IC communication timeout
12345	Pilot negative error
12346	Psu Communication error with CSU
12347	AC: Local power sharing communication error (Slave disconnect from Master)
12352	Payment system communication timeout
13600	Normal stop charging by user
13601	Charging Time's up
13602	Replace system air filter
13603	Reach to CHAdeMO max. plugging times.
13604	Reach to CCS max. plugging times.

Status Code	Description
13605	Reach to GB max. plugging times.
13606	Reach to AC max. plugging times.
13607	CSU fimrware update fail
13608	CHAdeMO Module fimrware update fail
13609	CCS Module fimrware update fail
13610	GB Module fimrware update fail
13611	Aux. power module fimrware update fail
13612	Relay control module fimrware update fail
13613	LCM module fimrware update fail
13614	Bluetooth module fimrware update fail
13615	WiFi module fimrware update fail
13616	3G/4G module fimrware update fail
13617	SMR fimrware update fail
13618	RFID module fimrware update fail
13619	configured by USB flash drive
13620	configured by backend
13621	configured by webage
13622	disconnected from Internet through Ethernet
13623	disconnected from Internet through WiFi
13624	disconnected from Internet through 3G/4G
13625	disconnected from AP through WiFi
13626	disconnected from APN through 3G/4G
13627	WiFi disabled (separated charger only)
13628	4G disabled (separated charger only)
13629	PSU quantity not match
023700	CHAdeMO EV communication Fail
023701	CCS EV communication Fail
023702	GB EV communication Fail
023703	AC: pilot fault
023704	CHAdeMO: battery malfunction
023705	CHAdeMO: no charging permission
023706	CHAdeMO: battery incompatibility

Status Code	Description
023707	CHAdeMO: battery OVP
023708	CHAdeMO: battery UVP
023709	CHAdeMO: battery OTP
023710	CHAdeMO: battery current difference
023711	CHAdeMO: battery voltage difference
023712	CHAdeMO: shift position
023713	CHAdeMO: battery other fault
023714	CHAdeMO: charging system error
023715	CHAdeMO: ev normal stop
023716	CHAdeMO: connector temperature sensor broken
023717	CHAdeMO: connector lock fail
023718	CHAdeMO: d1 on no receive
023719	CHAdeMO: bms k to j on timeout
023720	CHAdeMO: bms charge allow timeout
023721	CHAdeMO: wait groundfault timeout (Output short circuit)
023722	CHAdeMO: bms ev relay on timeout
023723	CHAdeMO: bms req current timeout
023724	CHAdeMO: bms k to j off timeout
023725	CHAdeMO: bms ev relay off timeout
023726	CHAdeMO: adc more than 10v
023727	CHAdeMO: adc more than 20v
023728	CHAdeMO: bms charge before stop
023729	CHAdeMO: charger get normal stop cmd
023730	CHAdeMO: charger get emergency stop cmd
023731	CHAdeMO: isolation result fail
023732	CHAdeMO: mother board miss link
023733	CHAdeMO: output voltage more than limit
023734	CHAdeMO: req current more than limit
023735	CHAdeMO: re capability bms eqr current exceed
023736	CHAdeMO: charge remaining count done
023737	CCS_EVCC_EVErrorCode_FAILED_RESSTemperatureInhibit
023738	CCS_EVCC_EVErrorCode_FAILED_EVShiftPosition

Status Code	Description
023739	CCS_EVCC_EVErrorCode_FAILED_ChargerConnectorLockFault
023740	CCS_EVCC_EVErrorCode_FAILED_EVRESSMalfunction
023741	CCS_EVCC_EVErrorCode_FAILED_ChargingCurrentdifferential
023742	CCS_EVCC_EVErrorCode_FAILED_ChargingVoltageOutOfRange
023743	CCS_EVCC_EVErrorCode_FAILED_ChargingSystemIncompatibility
023744	CCS_EVCC_EVErrorCode_FAILED_EmergencyEvent
023745	CCS_EVCC_EVErrorCode_FAILED_Breaker
023746	CCS_EVCC_EVErrorCode_FAILED_NoData
023747	CCS_EVCC_EVErrorCode_FAILED_reserved_by_DIN_A
023748	CCS_EVCC_EVErrorCode_FAILED_reserved_by_DIN_B
023749	CCS_EVCC_EVErrorCode_FAILED_reserved_by_DIN_C
023750	CCS_EVCC_EVErrorCode_FAILED_reserved_by_ISO_1
023751	CCS_EVCC_EVErrorCode_FAILED_reserved_by_ISO_2
023752	CCS_EVCC_EVErrorCode_FAILED_reserved_by_ISO_3
023753	CCS_EVCC_EVErrorCode_FAILED_reserved_by_OEM_1
023754	CCS_EVCC_EVErrorCode_FAILED_reserved_by_OEM_2
023755	CCS_EVCC_EVErrorCode_FAILED_reserved_by_OEM_3
023756	CCS_EVCC_EVErrorCode_FAILED_reserved_by_OEM_4
023757	CCS_EVCC_EVErrorCode_FAILED_reserved_by_OEM_5
023758	CCS_SECC_ResponseCode_FAILED_SequenceError
023759	CCS_SECC_ResponseCode_FAILED_SignatureError
023760	CCS_SECC_ResponseCode_FAILED_UnknownSession
023761	CCS_SECC_ResponseCode_FAILED_ServiceIDInvalid
023762	CCS_SECC_ResponseCode_FAILED_Payment SelectionInvalid
023763	CCS_SECC_ResponseCode_FAILED_IdentificationSelectionInvalid
023764	CCS_SECC_ResponseCode_FAILED_ServiceSelectionInvalid
023765	CCS_SECC_ResponseCode_FAILED_CertificateExpired
023766	CCS_SECC_ResponseCode_FAILED_CertificateNotYetValid
023767	CCS_SECC_ResponseCode_FAILED_CertificateRevoked
023768	CCS_SECC_ResponseCode_FAILED_NoCertificateAvailable
023769	CCS_SECC_ResponseCode_FAILED_CertChainError
023770	CCS_SECC_ResponseCode_FAILED_CertValidationError

Status Code	Description
023771	CCS_SECC_ResponseCode_FAILED_CertVerificationError
023772	CCS_SECC_ResponseCode_FAILED_ContractCanceled
023773	CCS_SECC_ResponseCode_FAILED_ChallengeInvalid
023774	CCS_SECC_ResponseCode_FAILED_WrongEnergyTransferMode
023775	CCS_SECC_ResponseCode_FAILED_WrongChargeParameter
023776	CCS_SECC_ResponseCode_FAILED_ChargingProfileInvalid
023777	CCS_SECC_ResponseCode_FAILED_TariffSelectionInvalid
023778	CCS_SECC_ResponseCode_FAILED_EVSEPresentVoltageToLow
023779	CCS_SECC_ResponseCode_FAILED_PowerDeliveryNotApplied
023780	CCS_SECC_ResponseCode_FAILED_MeteringSignatureNotValid
023781	CCS_SECC_ResponseCode_FAILED_NoChargeServiceSelected
023782	CCS_SECC_ResponseCode_FAILED_ContactorError
023783	CCS_SECC_ResponseCode_FAILED_CertificateNotAllowedAtThi-sEVSE
023784	CCS_SECC_ResponseCode_FAILED_GAChargeStop
023785	CCS_SECC_ResponseCode_FAILED_AlignmentError
023786	CCS_SECC_ResponseCode_FAILED_ACDError
023787	CCS_SECC_ResponseCode_FAILED_AssociationError
023788	CCS_SECC_ResponseCode_FAILED_EVSEChargeAbort
023789	CCS_SECC_ResponseCode_FAILED_NoSupportedApp-Protocol
023790	CCS_SECC_ResponseCode_FAILED_ContractNotAccepted
023791	CCS_SECC_ResponseCode_FAILED_MOUnknown
023792	CCS_SECC_ResponseCode_FAILED_OEM_Prov_CertificateRevoke
023793	CCS_SECC_ResponseCode_FAILED_OEM_SubCA1_CertificateRev-oked
023794	CCS_SECC_ResponseCode_FAILED_OEM_SubCA2_CertificateRev-oked
023795	CCS_SECC_ResponseCode_FAILED_OEM_RootCA_CertificateRev-oked
023796	CCS_SECC_ResponseCode_FAILED_MO_Prov_CertificateRevoked
023797	CCS_SECC_ResponseCode_FAILED_MO_SubCA1_CertificateRev-oked

Status Code	Description
023798	CCS_SECC_ResponseCode_FAILED_MO_SubCA2_CertificateRevoked
023799	CCS_SECC_ResponseCode_FAILED_MO_RootCA_CertificateRevoked
023800	CCS_SECC_ResponseCode_FAILED_CPS_Prov_CertificateRevoked
023801	CCS_SECC_ResponseCode_FAILED_CPS_SubCA1_CertificateRevoked
023802	CCS_SECC_ResponseCode_FAILED_CPS_SubCA2_CertificateRevoked
023803	CCS_SECC_ResponseCode_FAILED_CPS_RootCA_CertificateRevoked
023804	CCS_SECC_ResponseCode_FAILED_reserved_1
023805	CCS_SECC_ResponseCode_FAILED_reserved_2
023806	CCS_SECC_ResponseCode_FAILED_reserved_3
023807	CCS_SECC_ResponseCode_FAILED_reserved_4
023808	CCS_SECC_ResponseCode_FAILED_reserved_5
023809	CCS_SECC_TIMEOUT_SLAC_TT_EVSE_SLAC_init
023810	CCS_SECC_TIMEOUT_SLAC_TP_match_response
023811	CCS_SECC_TIMEOUT_CM_START_ATTEN_CHAR_IND
023812	CCS_SECC_TIMEOUT_SLAC_TT_EVSE_match_MNBC
023813	CCS_SECC_TIMEOUT_SLAC_TP_EVSE_avg_atten_calc
023814	CCS_SECC_TIMEOUT_SLAC_CM_ATTEN_CHAR_RSP
023815	CCS_SECC_TIMEOUT_SLAC_CM_VALIDATE_REQ_1ST__CM_SLAC_MATCH_REQ
023816	CCS_SECC_TIMEOUT_SLAC_TT_EVSE_assoc_session
023817	CCS_SECC_TIMEOUT_SLAC_TT_EVSE_vald_toggle
023818	CCS_SECC_TIMEOUT_SLAC_CM_MNBC_SOUND_IND
023819	CCS_SECC_TIMEOUT_SLAC_CM_VALIDATE_REQ_2ND__CM_SLAC_MATCH_REQ
023820	CCS_SECC_TIMEOUT_SLAC_reserved_3
023821	CCS_SECC_TIMEOUT_SLAC_reserved_4
023822	CCS_SECC_TIMEOUT_SLAC_reserved_5
023823	CCS_SECC_TIMEOUT_SLACC_SDP_UDP_TT_match_join
023824	CCS_SECC_TIMEOUT_SLACC_SDP_TCP_TT_match_join

Status Code	Description
023825	CCS_SECC_TIMEOUT_SLACC_SDP_TP_amp_map_exchange
023826	CCS_SECC_TIMEOUT_SLACC_SDP_TP_link_ready_notification
023827	CCS_SECC_TIMEOUT_SLACC_SDP_reserved_1
023828	CCS_SECC_TIMEOUT_SLACC_SDP_reserved_2
023829	CCS_SECC_TIMEOUT_SLACC_SDP_reserved_3
023830	CCS_SECC_TIMEOUT_SLACC_SDP_reserved_4
023831	CCS_SECC_TIMEOUT_SLACC_SDP_reserved_5
023832	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_SupportedAppProtocolRes
023833	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_SessionSetupRes
023834	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_ServiceDiscoveryRes
023835	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_ServicePaymentSelectionRes
023836	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_ContractAuthenticationRes
023837	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_ChargeParameterDiscoveryRes
023838	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_PowerDeliveryRes
023839	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_CableCheckRes
023840	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_PreChargeRes
023841	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_CurrentDemandRes
023842	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_WeldingDetectionRes
023843	CCS_SECC_TIMEOUT_V2G_Msg_Performance_Time_SessionStopRes
023844	CCS_SECC_TIMEOUT_V2G_Sequence_Time
023845	CCS_SECC_TIMEOUT_V2G_ReadyToCharge_Performance_Time
023846	CCS_SECC_TIMEOUT_V2G_CommunicationSetup_Performance_Time

Status Code	Description
023847	CCS_SECC_TIMEOUT_V2G_CableCheck_Performance_Time (Output short circuit)
023848	CCS_SECC_TIMEOUT_V2G_CPState_Detection_Time
023849	CCS_SECC_TIMEOUT_V2G_CPOscillator_Retain_Time
023850	CCS_SECC_TIMEOUT_V2G_PreCharge_Performace_Time
023851	CCS_SECC_TIMEOUT_V2G_reserved_2
023852	CCS_SECC_TIMEOUT_V2G_reserved_3
023853	CCS_SECC_TIMEOUT_V2G_reserved_4
023854	CCS_SECC_TIMEOUT_V2G_reserved_5
023855	CCS_CAN_TIMEOUT_TP_GET_EV_TARGET_INFO
023856	CCS_CAN_TIMEOUT_TT_GET_EV_TARGET_INFO
023857	CCS_CAN_TIMEOUT_TP_GET_EV_BATTERY_INFO
023858	CCS_CAN_TIMEOUT_TT_GET_EV_BATTERY_INFO
023859	CCS_CAN_TIMEOUT_TP_EV_STOP_EVENT
023860	CCS_CAN_TIMEOUT_TT_EV_STOP_EVENT
023861	CCS_CAN_TIMEOUT_TP_EVSE_STOP_EVENT
023862	CCS_CAN_TIMEOUT_TT_EVSE_STOP_EVENT
023863	CCS_CAN_TIMEOUT_TP_GET_MISC_INFO
023864	CCS_CAN_TIMEOUT_TT_GET_MISC_INFO
023865	CCS_CAN_TIMEOUT_TP_DOWNLOAD_REQUEST
023866	CCS_CAN_TIMEOUT_TT_DOWNLOAD_REQUEST
023867	CCS_CAN_TIMEOUT_TP_START_BLOCK_TRANSFER
023868	CCS_CAN_TIMEOUT_TT_START_BLOCK_TRANSFER
023869	CCS_CAN_TIMEOUT_TP_DATA_TRANSFER
023870	CCS_CAN_TIMEOUT_TT_DATA_TRANSFER
023871	CCS_CAN_TIMEOUT_TP_DOWNLOAD_FINISH
023872	CCS_CAN_TIMEOUT_TT_DOWNLOAD_FINISH
023873	CCS_CAN_TIMEOUT_TP_ISOLATION_STATUS
023874	CCS_CAN_TIMEOUT_TT_ISOLATION_STATUS
023875	CCS_CAN_TIMEOUT_TP_CONNECTOR_INFO
023876	CCS_CAN_TIMEOUT_TT_CONNECTOR_INFO
023877	CCS_CAN_TIMEOUT_TT_RTC_INFO

Status Code	Description
023878	CCS_CAN_TIMEOUT_TP_RTC_INFO
023879	CCS_CAN_TIMEOUT_TP_EVSE_PRECHARGE_INFO
023880	CCS_CAN_TIMEOUT_TT_EVSE_PRECHARGE_INFO
023881	CCS_CAN_TIMEOUT_MSG_Sequence
023882	CCS_CAN_MSG_Unrecognized_CMD_ID
023883	CCS_SECC_DIN_Msg_Decode_Error
023884	CCS_SECC_DIN_Msg_Encode_Error
023885	CCS_SECC_ISO1_Msg_Decode_Error
023886	CCS_SECC_ISO1_Msg_Encode_Error
023887	CCS_SECC_ISO2_Msg_Decode_Error
023888	CCS_SECC_ISO2_Msg_Encode_Error
023889	CCS_SECC_CP_State_Error
023890	CCS_SECC_Unexpected_60V_Before_Charing_Error
023891	CCS_SECC_Not_Ready_For_Charging
023892	CCS_SECC_TIMEOUT_QCA7000_COMM (The firmware code of QCA7000 may not be installed, yet)
023893	CCS_SECC_FAIL_QCA7000_SETKEY
023900	GBT_LOS_CC1
023901	GBT_CONNECTOR_LOCK_FAIL
023902	GBT_BATTERY_INCOMPATIBLE
023903	GBT_BMS_BROAA_TIMEOUT
023904	GBT_CSU_PRECHARGE_TIMEOUT
023905	GBT_BMS_PRESENT_VOLTAGE_FAULT
023906	GBT_BMS_VOLTAGE_OVER_RANGE
023907	GBT_BSM_CHARGE_ALLOW_00_10MIN_COUUNTDONE
023908	GBT_WAIT_GROUNDFAULT_TIMEOUT
023909	GBT_ADC_MORE_THAN_10V
023910	GBT_ADC_MORE_THAN_60V
023911	GBT_CHARGER_GET_NORMAL_STOP_CMD
023912	GBT_CHARGER_GET_EMERGENCY_STOP_CMD
023913	GBT_ISOLATION_RESULT_FAIL
023914	GBT_MOTHER_BOARD_MISS_LINK

Status Code	Description
023915	GBT_OUTPUT_VOLTAGE_MORE_THAN_LIMIT
023916	GBT_REQ_CURRENT_MORE_THAN_LIMIT
023917	GBT_OUTPUT_VOLTAGE_MORE_THAN_10_PERCENT
023918	GBT_OUTPUT_VOLTAGE_DIFF_BCS_5_PERCENT
023919	GBT_STOP_ADC_MORE_THAN_10V
023930	GBT_CEM_BHM_TIMEOUT
023931	GBT_CEM_BRM_TIMEOUT
023932	GBT_CEM_BCP_TIMEOUT
023933	GBT_CEM_BRO_TIMEOUT
023934	GBT_CEM_BCL_TIMEOUT
023935	GBT_CEM_BCS_TIMEOUT
023936	GBT_CEM_BSM_TIMEOUT
023937	GBT_CEM_BST_TIMEOUT
023938	GBT_CEM_BSD_TIMEOUT
023939	GBT_CEM_BEM_OTHER_TIMEOUT
023940	GBT_BEM_CRM_TIMEOUT
023941	GBT_BEM_CRMAA_TIMEOUT
023942	GBT_BEM_CTS_CML_TIMEOUT
023943	GBT_BEM_CRO_TIMEOUT
023944	GBT_BEM_CCS_TIMEOUT
023945	GBT_BEM_CST_TIMEOUT
023946	GBT_BEM_CSD_TIMEOUT
023947	GBT_BEM_BEM_OTHER_TIMEOUT
023950	GBT_BST_SOC_GOAL
023951	GBT_BST_TOTAL_VOLTAGE_GOAL
023952	GBT_BST_CELL_VOLTAGE_GOAL
023953	GBT_BST_GET_CST
023954	GBT_BST_ISOLATION
023955	GBT_BST_OUTPUT_CONNECTOR_OTP
023956	GBT_BST_COMPONEN
023957	GBT_BST_CHARGE_CONNECTOR
023958	GBT_BST_OTP

Status Code	Description
023959	GBT_BST_OTHER
023960	GBT_BST_HIGH_V
023961	GBT_BST_CC2
023962	GBT_BST_CURRENT
023963	GBT_BST_VOLTAGE
023964	GBT_GET_BST_NO_REASON
023970	GBT_BSM_CELL_OVER_VOLTAGE
023971	GBT_BSM_CELL_UNDER_VOLTAGE
023972	GBT_BSM_OVER_SOC
023973	GBT_BSM_UNDER_SOC
023974	GBT_BSM_CURRENT
023975	GBT_BSM_TEMPERATURE
023976	GBT_BSM_ISOLATE
023977	GBT_BSM_OUTPUT_CONNECTOR
023979	EV full charging
023980	ERROR_CODE_CHADEMO_BMS_CHARGE_ALLOW_ERROR
023981	ERROR_CODE_CHADEMO_OUTPUT_VOLTAGE_MORE_THAN_10_PERCENT
023982	ERROR_CODE_CHADEMO_ADC_LESS_THAN_10V
023983	STOP by EV with unknow reason
023984	STOP by EVSE condition (Config or OCPP)
033900	disconnected from backend through Ethernet
033901	disconnected from backend through WiFi
033902	disconnected from backend through 3G/4G
033903	Remote start charging by backend
033904	Remote stop charging by backend
033905	Remote reset by backend
041004	RCD/CCID self-test fail
041005	AC input contactor 1 welding
041006	AC input contactor 1 driving fault
041007	AC input contactor 2 welding
041008	AC input contactor 2 driving fault

Status Code	Description
041009	AC output relay welding
041010	AC output relay driving fault
041017	AC connector temperature sensor broken
041021	WiFi module broken
41022	3G/4G module broken
41023	Aux. power module broken
41024	Relay control module /smart box broken
41031	PSU module broken
41032	RCD/CCID module broken
41033	Maximum Output Current setup error
41034	Shutter fault
41035	Ble module broken
41036	Rotary switch fault
42200	System L1 input OVP
42201	System L2 input OVP
42202	System L3 input OVP
42203	System L1 input UVP
42204	System L2 input UVP
42205	System L3 input UVP
42206	PSU L1 input OVP
42207	PSU L2 input OVP
42208	PSU L3 input OVP
42209	PSU L1 input UVP
42210	PSU L2 input UVP
42211	PSU L3 input UVP
42212	System L1 input drop
42213	System L2 input drop
42214	System L3 input drop
42223	System ambient/inlet OTP
42224	System critical point OTP
42225	PSU ambient/inlet OTP
42226	PSU critical point OTP

Status Code	Description
42227	Aux. power module OTP
42228	Relay board/smart box OTP
42232	AC connector OTP
42233	RCD/CCID trip
42237	SPD trip
42238	Main power breaker trip
42239	Aux. power breaker trip
42240	PSU communication fail
42241	WiFi module communication fail
42242	3G/4G module communication fail
42244	Bluetooth module communication fail
42246	Aux. power module communication fail
42247	Relay control board/smart box communication fail
42251	Emergency stop
42252	Door open
42253	System fan decay
42254	Fail to create share memory
42255	CSU initialization failed
42257	MCU self-test Fault
42258	Relay self-test Fault
42262	System AC L1 output Circuit Short
42263	PSU Duplicate ID
42264	Psu Fault : Infy => Output Short Circuit · UU => Abnormal discharge circuit
42265	PSU Discharge Abnormal
42266	PSU Dc Side ShutDown
42267	PSU Failure Alarm
42268	PSU Protection Alarm
42269	Psu Fault : Infy => Fan Fault · UU => Fan Fault
42270	PSU Input UVP
42271	PSU Input OVP
42272	PSU WalkIn State

Status Code	Description
42273	Psu Fault : Infy => Power Limited State · UU => Dc OVP and shut-down
42274	Psu Fault : Infy => Id Repeat · UU => Id Repeat
42275	Psu Fault : Infy => Severe Uneven Current · UU => Pfc internal un-balance
42276	PSU Three Phase Input Inadequate
42277	PSU Three Phase Onput Imbalance
42278	PSU Ffc Side ShutDown
42279	NO PSU Resource
42280	Self test Failed due to communication of Relayboard failure
42281	Self test Failed due to communication of Fanboard failure
42282	Self test Failed due to communication of Primary failure
42283	Self test Failed due to communication of Chademoboard failure
42284	Self test Failed due to communication of CCSboard failure
42285	Self test Failed due to AC Contact failure
42286	Self test Failed due to communication of PSU failure
42287	Self test Failed due to Model name is none match
42291	Self test Failed due to communication of GBTboard failure
42292	Self test Failed due to communication of AC failure
42293	Self test Failed due to communication of Ledboard failure
42294	AC input ovp
42295	AC input uvp
42299	System AC L2 output OCP
42300	System AC L3 output OCP
42301	System AC L2 output Circuit Short
42302	System AC L3 output Circuit Short
42304	disconnected from dispenser
42305	Meter communication timeout
42306	The dip switch of the PSU may be incorrect
42307	Psu Fuse Burn-Out
42308	Psu Pfc And Dcdc Communication Fault
42309	Psu Bus Voltage Unbalance

Status Code	Description
42310	Psu Bus Over Voltage
42311	Psu Bus Voltage Abnormal
42312	Psu Bus Under Voltage
42313	Psu Input Phase Loss
42314	Psu Fan Full Speed
42315	Psu Temperature Power Limit
42316	Psu Ac Power Limit
42317	Psu Dcdc Eeprom Fault
42318	Psu Pfc Eeprom Fault
42319	Psu Dcdc Over Voltage
42326	System task is lost
42327	DC input ovp
42328	DC input uvp
43600	Normal stop charging by user
43601	Charging Time's up
43602	Replace system air filter
43607	CSU fimrware update fail
43611	Aux. power module fimrware update fail
43612	Relay control module fimrware update fail
43614	Bluetooth module fimrware update fail
43615	WiFi module fimrware update fail
43616	3G/4G module fimrware update fail
43617	SMR fimrware update fail
43618	RFID module fimrware update fail
43619	configured by USB flash drive
43620	configured by backend
43621	configured by webage
43622	disconnected from Internet through Ethernet
43623	disconnected from Internet through WiFi
43624	disconnected from Internet through 3G/4G
43625	disconnected from AP through WiFi
43626	disconnected from APN through 3G/4G

Status Code	Description
43627	WiFi disabled (separated charger only)
43628	4G disabled (separated charger only)
43629	PSU quantity not match

5. Maintenance

5.1 Before Maintenance

To meet NFPA-70E, OSHA 1910.333 and other Health/safety/security codes, please adhere to the notice and get the permit needed in advance as below:

1) Turn off power (Work de-energized whenever possible)
2) Lockout/Tagout (LOTO)
3) Live work permit (Input terminals with HV after door open)
4) Plan the Work/Permit To Work
5) Use Personal Protective Equipment (PPE)
6) Safe workplace condition & space

5.1.1 Maintance Check List

Please refer to Appendix for more details.

5.2 General Maintenance

- Press the release button on the holster for the CCS2 charging plug before detaching the CCS2 charging plug from the holster of the charging station.
- The DC Fast Charger is cooled by forced air. Please keep charger in a ventilated location and do not block the air vents of the DC Fast Charger .
- Please clean or replace the air filters regularly to ensure the DC Fast Charger works properly.
- The housing was made of welding process and surface painting. It is necessary to keep the exterior clean all the time. It's easy to get rusty if not keeping the exterior clean especially in corrosion sensitive environment. Slightly rusty will not affect charger performance, but if charger is serious rusty during or exceed the warranty period, please contact local vendor for instruction.
- Clean the DC fast Charger at least three times a year, keep the exterior clean at all times.
- Clean the outside of the cabinet with damp cloth or wet cotton towel, only use low-pressure tap water and cleaning agents with PH level between 6 to 8.
- Do not apply high-pressure water jets.
- Do not use cleaning agents with abrasive components and do not use abrasive tools. Improper cleaning agents might spoiled coating, painting, surface, brightness and durability of all exterior parts.
- If there is water intruding into the DC Fast Charger then please cut off the power source immediately and contact the DC Fast Charger provider for repair.
- Please make sure the charging plug is returned to the holder of the charging plug

after charging to prevent damage.

- If there is damage to the charging plug, charging cable or holder of the charging plug then please contact the DC Fast Charger provider.
- When using the DC Fast Charger please handle properly. Do not strike or scrape the cabinet or screen.
- If the enclosure or screen is broken, cracked, open or shows any other indication of damage then please contact the Standalone DC Fast Charger provider.

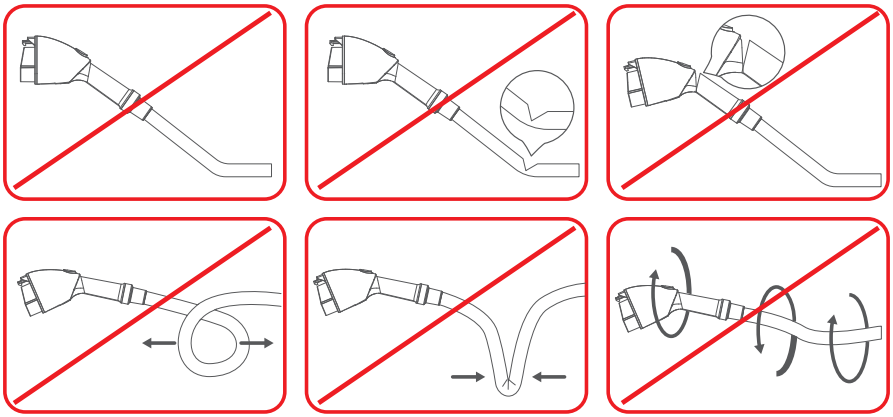
WARNING: Danger of electrical shock or injury. Turn OFF power at the panelboard or load center before working on the equipment or removing any component. Do not remove circuit protective devices or any other component until the power is turned OFF.

- Disconnect electrical power to the DC Fast Charger before any maintenance work to ensure 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:

- Before switching off main breaker to begin maintenance, please record the status code number on the LCD monitor.
- After maintenance door opened or MCCB of charger turned off the charger is still hazardous. Only visual inspection can be operated.
- Maintenance of the DC Fast Charger shall be conducted only by a qualified technician.
- After opening the front door of the DC Fast Charger, turn off the main breaker and auxiliary breaker before any maintenance work.
- Replace the ventilation filter every six to twelve months.
- Please confirm the main power junctions are tightened every month, and rotate cables testing when the power off. If any main power screw is loose will be resulted in damage on charger or smoke on the connections. Please confirm screw torque requirement table.
- Charging cable maintenance: Do not twist, bend the charging cable. The metal contact should not fade or be rusty.
- Please provide the EVSE information including serial number ,model name,status code ,failure behavior and timing ,and also connect the EVSE to the Internet before remote diagnostics and uprading .
- Inspect the charging plug, pump, cooling unit and coolant every 3 months
- Do not twist, swing, bend, drop or crush the charging cable. Never drive over it with a vehicle.

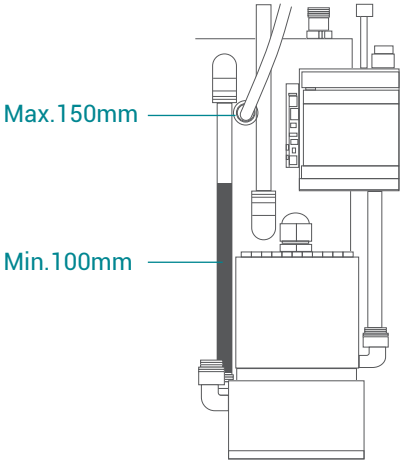
- Inspect the charging plug, pump, cooling unit and coolant every 3 months
- Do not twist, swing, bend, drop or crush the charging cable. Never drive over it with a vehicle.
- Turn off power distribution cabinet to the Power Dispenser before any maintenance work to ensure it is separated from the supply of AC mains. Failure to do so may cause physical injury or damage to the electrical system and charging unit.
- Before switching off main breaker to begin maintenance, please record the status code number on the LCD monitor.
- After opening the doors of the power dispenser, turn off the main breaker and auxiliary breaker before any maintenance work.
- Maintenance of the power dispenser shall be conducted only by a qualified technician.
- Replace the air filter every six to twelve months.
- Inspect the charging plug, pump, cooling unit and coolant every 3 months
- Do not twist, swing, bend, drop or crush the charging cable. Never drive over it with a vehicle.



- Make sure that the minimum bending radius is not exceeded.
- After charging, place the cable immediately back into the holder of the charging station.
- Leakage or material degradation may occur if a coolant other than that specified by the manufacturer of the accessory is used.
- Pump must not be operated without coolant ; level of coolant should be keep in 100mm~150mm .

Note: Considering the different environmental conditions, we recommend the minimum height greater than 130mm.The air will be concentrated in cooling system if the charger is not used for a period.

- Please exhaust the air first as instruction after setting.
- If you observe that the customer has not used it for a long time, please pay special attention.



- Please carry the following inspection at specified interval for liquid cooled charging cable system

A. Recommended maintenance interval every 3 months or as needed Plug:
   - Visual inspection for defects or damage.
   - Check cover for scratches.
   - When exchanging the cover, check for mechanical damages.
   - Check the screws for secure fastening.
   - Clean the outside of the plug with damp cloth.
   - Clean the outside of the plug with a wet cotton towel.

   Cable:
   - Visual inspection for defects or damage.
   - Check the charging cable for secure fastening.
   - Clean the charging cable with a wet cotton towel.

Cooling Unit:
• Visual inspection for defects or damage.
• Check the cooling unit for secure fastening.
• Check the level of the coolant. (If required refill the coolant)

B. Recommended maintenance interval every 12 months Wait until the charging system has coole down. Cable, plug and cooling unit:
• Check for firm seat.
• Visual inspection for defects or damage.
• Check the safety function.

Cooling Unit:
• Visual inspection for defects or damage.
• Check the cooling unit for secure fastening.
• Check the level of the coolant.

5.3 Replacement Kits and Accessories

The DC EVSE offers the following replacement kits and accessories.

Replacement Kit List
21.5-inch LCD
Emergency Stop Button
MW Aux. Power HEP-100-12V/24V for DWIN Panel & Backplane
Control & Supervisory Unit (CSU3.1)
Surge Protection Device (SPD)
DC Fan
Air Filters
DC Relay
Coolant
Cooling unit
Relay board
Fan board
LED board

6. Limited Product Warranty

The warranty period of this charger is according to purchasing contract; two years typically.

Any spare parts provided by Supplier and used as replacements for repair are covered by a five-year guarantee.

Replacement and repair parts manufactured by alternative manufacturers to those on the maintenance parts are only allowed if authorized by Supplier.

The housing was made of welding process and surface painting. It is necessary to keep the exterior clean all the time. It's easy to get rusty if not keeping the exterior clean especially in corrosion sensitive environment. Slightly rusty will not affect charger performance, but if charger is serious rusty during or exceed the warranty period, please contact local vendor for instruction.

Warranty Exclusions:

- Damage or rendered non-functional as a result of power surges, lighting,earthquake, fire, flood, pest damage, abuse, accident, misuse, negligence or failure to maintain the product or other event beyond Suppier's reasonable control or not arising from normal operating condition.
- Cosmetic or superficial defect, dents, marks or scratches after use.
- Components which are separate from the product, ancillary equipment and consumables, such as door key, RFID card, air filter, fuse, cable, wires and connectors.
- Damage as a result of modifications, alterations or disassembling which were not pre-authorized in writing by Supplier.
- Damage due to the failure to observe the applicable safety regulations governing the proper use of the product.
- Installed or operated not in strict conformance with the documentation, including without limitation, not ensuring sufficient ventilation for the product as described in Supplier installation instruction.

If a defect in the product arises and valid claim is received within the warranty period, your sole and exclusive remedy will be for Supplier, at its sole discretion and to extent permitted by law, to

1. Repair the defect in the product at no charge, using new or refurbished parts.
2. Exchange the product with new or refurbished product that is functionally equivalent to the original product.

Any remedy hardware product will be warranted for the remainder of the original warranty period or 90 days from delivery to the customer, whichever is longer.

In order to receive the remedy set for above, you must contact ZEROVA during the warranty period and provide the model number, series number, proof of purchase, and date of purchase.

This warranty does not cover the damages caused by adapter usage accident or by other unauthorized operation/service.

Appendix 1 - Package List

Power Dispenser

Item	Description	Q'ty	Remark
1	User Manual	1	
2	OQC Report	1	
3	RFID Card	2	
4	Key of cabinet	1	
5	Waterproof plastic bolt fot Top side	4	
6	CAT6A FTP RJ45 Plug	2	
7	Cable Management	1	Optional

Cable management system (Option)

Item	Description	Q'ty	Remark
1	Slinger Ring - Dh-28	2	
2	Slinger Ring - Dh-31	2	
3	Slinger Ring - Dh-36.5	2	
4	Slinger Ring - Dh-39.5	2	
5	Screw Socket Cap	4	
6	Flat Washer	4	
7	Bolt Cover	4	
8	Spring Washer	4	

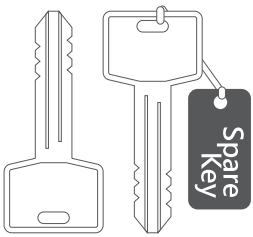
Appendix 2 - Preventive Maintenance Check List

No.	Item	Description	0.5 year	1st year	2nd year	3rd year	4th year	5th year
1	Preventive maintenance		I	I	I	I	I	I
2	Appearance inspection	Appearance visual inspection	I	I	I	I	I	I
3	System fan	Fan clean and spinning smoothly check	I	I	I	R	I	I
4	Air filter	Air filter, air inlet and outlet clean	I	I	R	I	I	I
5	Charging cable	Appearance clean	I	I	I	R	I	I
6	PCBA	Visible section clean	--	I	I	I	I	R
7	SPD	SPD status indication check	I	I	I	I	I	R
8	DC output bolts torque	Bolts torque check	--	I	I	I	I	I
9	AC input bolts torque	Bolts torque check	--	I	I	I	I	I
10	LCD display	Display sharpness and backlight check	--	I	I	I	I	R
11	Selection button	Indication light and function check	--	I	I	I	I	R
12	RFID reader	Function check	--	I	I	I	I	R
13	Emergency stop button	Function check	--	I	I	I	I	R
14	Breaker and RCD	Function check	--	I	I	I	I	R
15	Aux power supply	No maintenance requirement	--	--	--	--	--	R
16	PSU module	Not applicable for Dispenser	--	--	--	--	--	R

Note:
I: Inspection R: Replacement or refill --: No maintenance needed

Appendix 3 - Spare Key Service

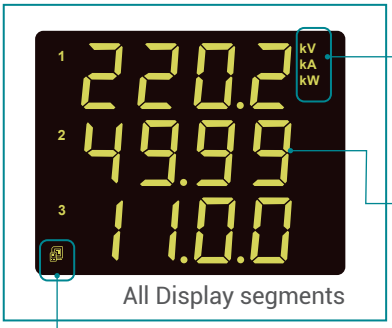
- Each charging equipment will be checked and confirmed that the accessories include the handle or switch key before shipment.
- If unfortunately lose it, please contact the manufacturer for assistance in providing spare parts.
- This is a Paid service



Series	ZEROVA PN.
AP63	6300D000211-R00
DW30	6306D0400009-R00
DM30	63043000001-R00
DS 60 D0 360 DD360	63065000001-R00
DS90-180	63043000002-R00

** This Product is DD360 series

Appendix 4 - Meter Interface

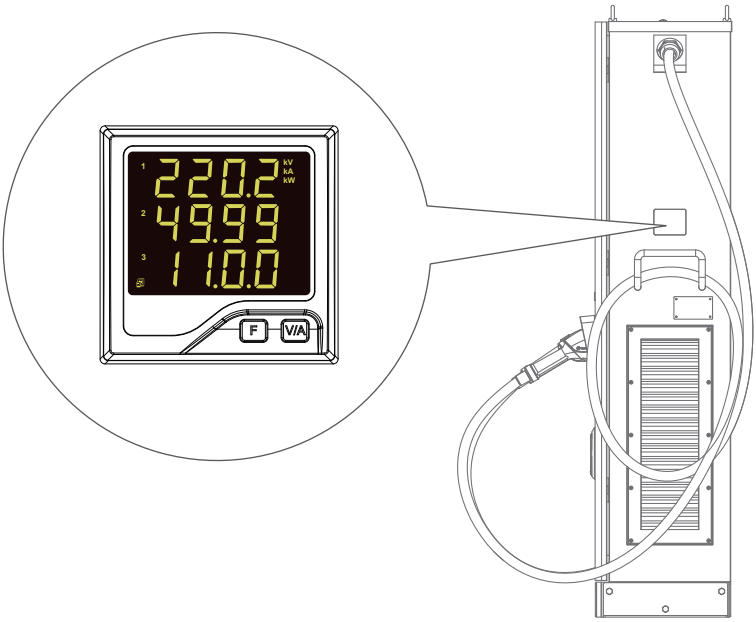


Unit

V=Voltage
A=Ampere
kW= Kilowatt

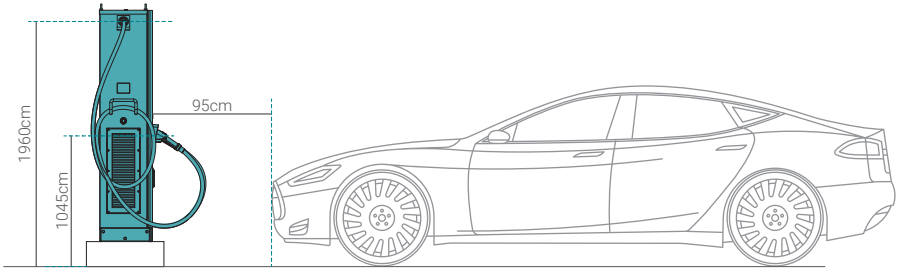
1. Output Voltage
2. Output Current
3. Output Wattage

DATA UPDATE

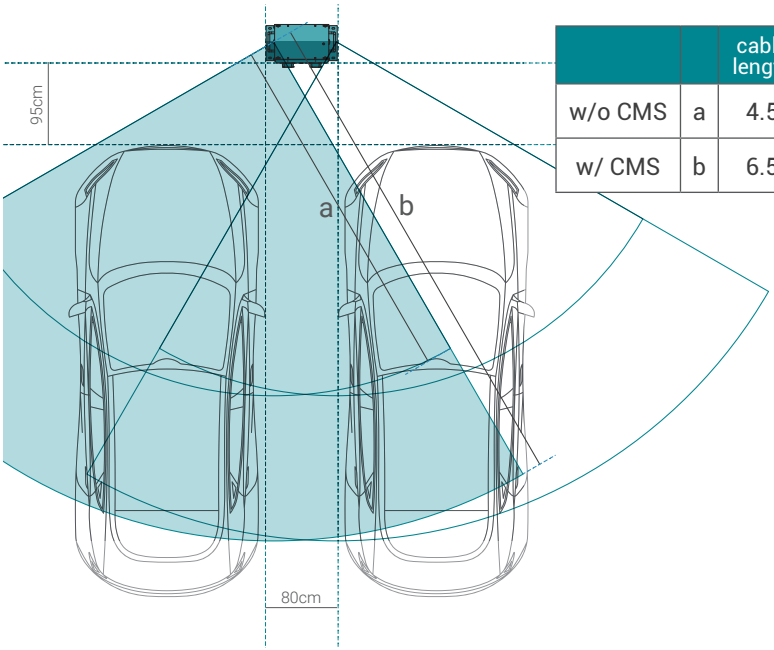


Appendix 5 - The Charging Plug Usable Range

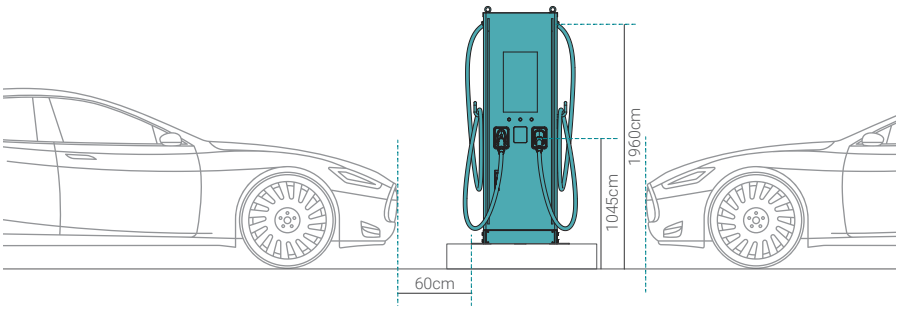
- Please refer the normal parking space setting as below, the plug actual support range depend on the Charing equipment install space and cable length.

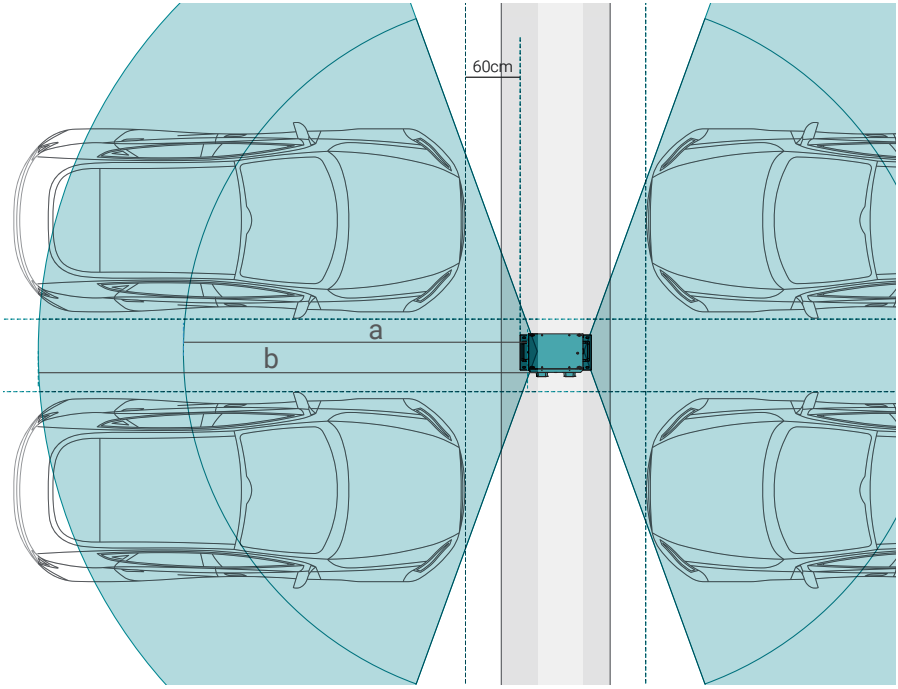


- If setting the Charing equipment is setting in the middle of parking space, the plug support range as below image for reference only. Actual distance will depend on the cable length and Charing equipment position and height.



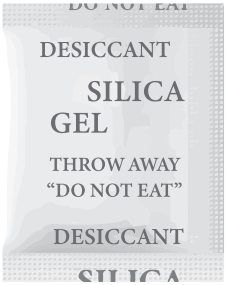
		cable length	support range
w/o CMS	a	4.5	3.9
w/ CMS	b	6.5	5





		cable length	support range
w/o CMS	a	4.5	3.9
w/ CMS	b	6.5	5

Appendix 6 - Desiccant



- A cool cabinet with a desiccant, can serve as a good stable humidity area to avoid moisture
- Desiccant allows to generate remotely and efficiently a moisture absorbing
- Do No Eat the Desiccant
- Please remove the desiccant after unpacking and installation

Appendix 7 - Electromagnetic Interference Prevention Of Lightning Strike

At convection coefficient environment result in high frequency lightning strikes, if the lightning strikes hit the building or nearby area, may lead to the communication computer, changer, and other electrical equipment damage. The root cause is cause by the capacitor effect and electromagnetic coupling of grounding system of building, metal wires and conductors, resulting in the transient state surge of power wire, communication system and grounding system into the building respectively and then make the equipment impact. When the lightning strikes happening, the current via the grounding system into ground, it will cause potential difference of power wire system and communication wire system, it also may lead to the equipment damage.

The surrounding of building:

1. Please according to building regulations in your region, to setting the lightning protection system.
2. The lightning rod design are able to use active induced dielectric electric current avoidance terminal, and use external sphere design and internal electronics.
3. suggest using independent architecture for every adjacent building for the lightning protection system, power wire, communication, and grounding system to prevent leakage current
4. Suggest using potential equalization clamp to connect lightning protection, power and communication wire system. That clampy normally at off position,

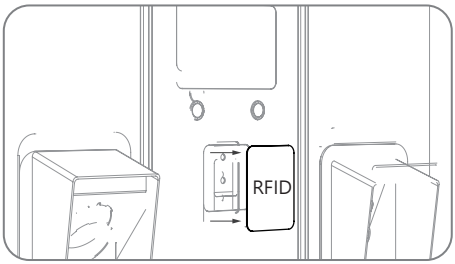
if the system hit by lightning and lead to the potential equalization clamp working and the system on state, the system will becoming equipotential status and prevent the issue of potential difference.

5. Building and setting up the ground grid and using the water insoluble cement structure to improve soil conductivity and reduce ground resistance. That can lead to the lightning stroke energy into the ground and prevent surge issue.

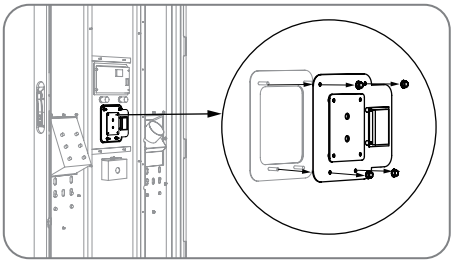
The internal of building :

1. Design the lightning protection system and SPD (Surge Protection Device) at high voltage isolating switch side. If the electricity power underground and substation setting in the outdoor, suggest adding one set of lightning protection system in transformer side.
2. Different type of lightning protection system all good for lead in the surge into grounding and protect the equipment
3. 3) Install surge absorber: The surge absorbers are devices protecting electronic equipment from surge (abnormal voltage), also called Surge Protective Devices (SPD). SPDs protect from entry of surge between the line to line interval or the interval from the line to the ground.
4. Setting the grounding grid according to the building laws and regulations of the country and region. Check the ground grid resistance, if the resistance too high, when the lightning surge into the protection system, maybe can not absorb or lead the surge and energy into the ground and it properly will reflex the surge and make the equipment damage
5. Grounding gird system setting suggestion: Grounding grids, also called multipoint ground structures. The grounding gird system provides the pipeline of lightning surge and connect the power line and communication system. The purpose of grounding gird system is when electrical equipment is normal use, the equipment

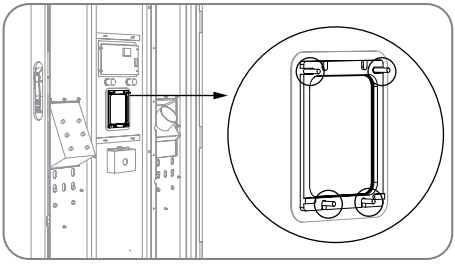
Appendix 8 - Replace RFID to payter.



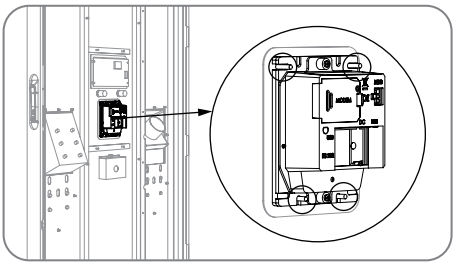
1. Remove RFID COVER.



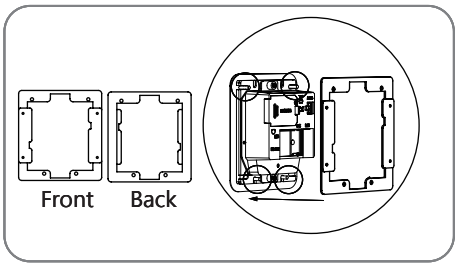
2. After unplugging the wires of the RFID circuit board, unscrew the bolts and remove the RFID kit.



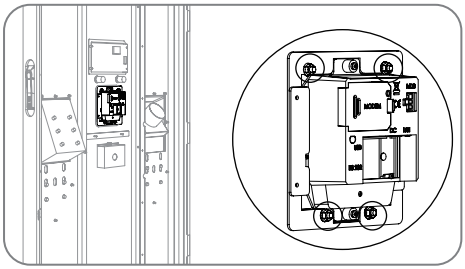
3. The waterproof rubber is firstly inserted into the four pieces of screw thread of the cabinet.



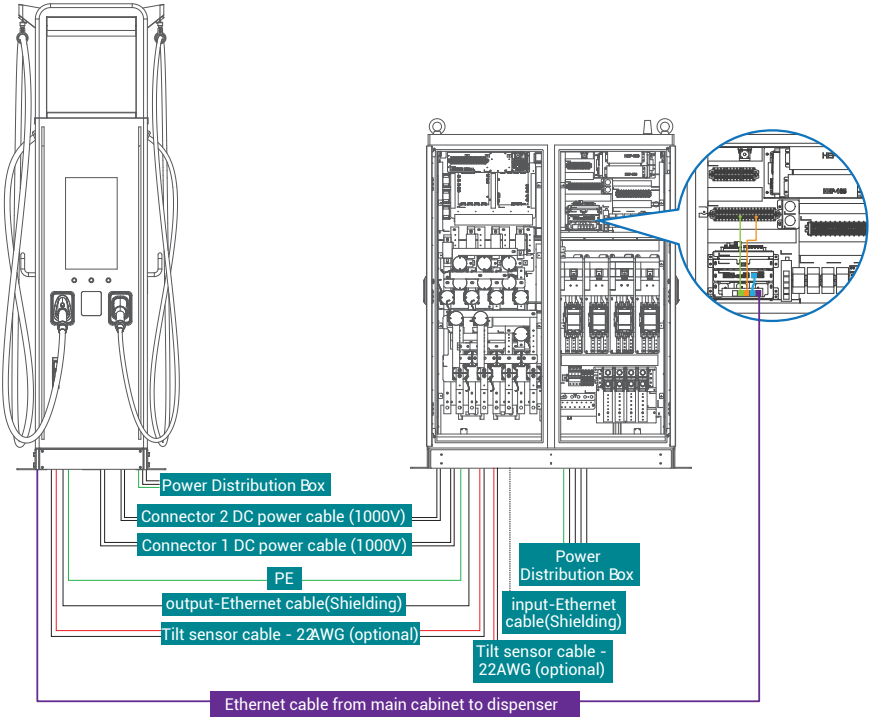
4. Put the P66 or P68 PAYTER into the four pieces of screw thread of the cabinet.

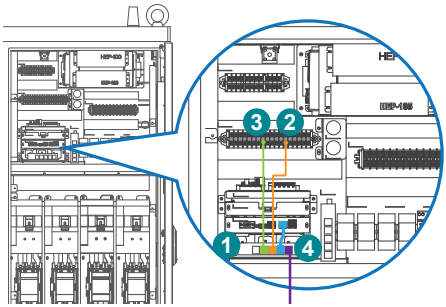


5. Attach the back of the iron part to the back of the payter, and put it into the four pieces of screw thread of the cabinet.

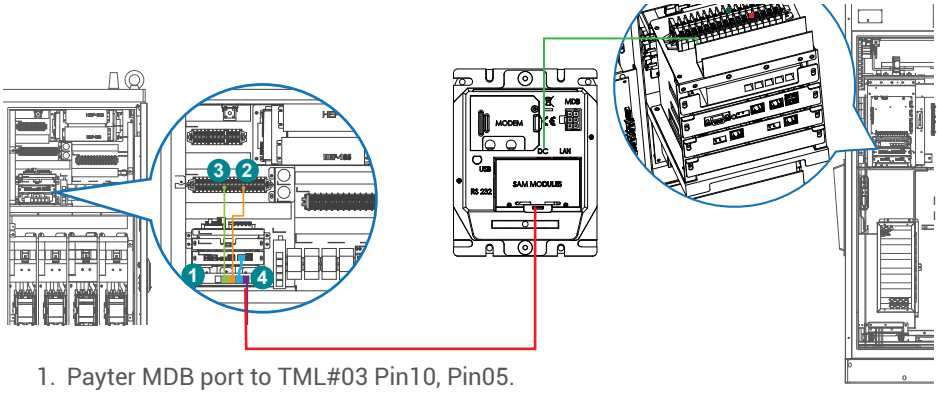


6. Tighten the nut at the circled place.





1. Add one more hub
2. HUB aux power on TML#03 Pin6
3. HUB aux power on TML#03 Pin10
4. RJ45 cable from dcm CNA 2 to second hub.



1. Payter MDB port to TML#03 Pin10, Pin05.
2. RJ45 cable to cabinet hub2 to payter ethernet port.

Manufacturer Contact Info Sticker