ELECTRIC VEHICLE CHARGER
Alp Easy Charge Business

Installation Guideline

CONTENTS

1 - SAFETY INFORMATION

CAUTION
RISK OF ELECTRIC SHOCK

CAUTION: Alp-EV ELECTRIC VEHICLE CHARGER DEVICE SHALL BE MOUNTED BY A LICENSED OR AN EXPERIENCED ELECTRICIAN AS PER ANY REGIONAL OR NATIONAL ELECTRIC REGULATIONS AND STANDARDS IN EFFECT.

CAUTION

AC grid connection and load planning of the electric vehicle charging device shall be reviewed and approved by authorities as specified by the regional or national electric regulations and standards in effect. For multiple electric vehicle charger installations the load plan shall be established accordingly. The manufacturer shall not be held liable directly or indirectly for any reason whatsoever in the event of damages and risks that are borne of errors due to AC grid supply connection or load planning.

IMPORTANT - Please read these instructions fully before installing or operating

1.1 - SAFETY WARNINGS

- Keep this manual in a safe place. These safety and operating instructions must be kept in a safe place for future reference.
- Check that the voltage marked on the rating label and do not use charging station without appropriate mains voltage.
- Do not continue to operate the unit if you are in any doubt about it working normally, or if it is damaged in any way - switch off the mains supply circuit breakers (MCCB and RCCB) in upstream distribution panel. Consult your local dealer.
- The ambient temperature range during charging should be between –25 °C and +50 °C (without direct sunlight) and at a relative humidity of between 5 % and 95 %. Use the charging station only within these specified operating parameters.
- The device location should be selected to avoid excessive heating of the charging station. High operating temperature caused by direct sunlight or heating sources, may cause reduction of charging current or temporary interruption of charging process.
- The charging station is intended for outdoor and indoor use. It can also be used in public places.
- To reduce the risk of fire, electric shock or product damage, do not expose this unit to severe rain, snow, electrical storm or other severe weathers. Moreover, the charging station shall not be exposed to spilled or splashed liquids.
- Do not touch end terminals, electric vehicle connector and other hazardous live parts of the charging station with sharp metallic objects.
- Avoid exposure to heat sources and place the unit away from flammable, explosive, harsh, or combustible materials, chemicals, or vapors.
- Risk of Explosion. This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors. It should not be located in a recessed area or below floor level.
- This device is intended only for charging vehicles not requiring ventilation during charging.
- To prevent risk of explosion and electric shock, ensure that the specified Circuit Breaker and RCD are connected to building grid.

- Charging Station bottom must be at minimum 100mm above the ground level.
- Adaptors or conversion adapters are not allowed to be used. Cable extension sets are not allowed to be used.
- The allowed current value of the service socket is maximum 10A.
- This charging station is floor mounted.

> ⚡ **WARNING:** Never let people (including children) with reduced physical, sensory or mental capabilities or lack of experience and or knowledge use electrical devices unsupervised.

> ⚡ **CAUTION:** This vehicle charger unit is intended only for charging electric vehicles not requiring ventilation during charging.

1.2 - IMPORTANT SAFETY INSTRUCTIONS

> ⚠ Read carefully all the instructions before starting in order ensure properly installation of the charge point.

Charging station is designed for installation in outdoor and indoor usage. For each of condition, the station must be installed safely and proper protection should be ensured.

- Charging station should be installed in areas where there is no risk of explosion.
- Charging station should be installed in areas where there is no risk of falling objects around which may damage the station.
- The installation surface of the station should be withstanded against the physical and mechanical forces.
- The charging station should not be installed near areas where water or any liquid can penetrate into the unit.
- Charging station is designed for charging modes in IEC 61851, it should not be used for anything other than this.
- Do not modify the charging station which will cause rejection of warranty and responsibility of Alp-EV.
- Electrical safety regulations should be followed according to the county which the installation is done.
- There should not be made repairs when the unit is powered.
- Only qualified technician should have access to electrical parts inside the charging station.
- The installation should be checked periodically by qualified and trained technician.
- The station should not be used if the enclosure or charging socket/plug is cracked or damaged.
- The charging station has TYPE 2 AC outlets to be used for mode 3 charging. Also the charging station has optional schuko socket outlets to be used for mode 1 charging.

1.3 - GROUND CONNECTION WARNINGS

- Charging station must be connected to a centrally grounded system. The ground conductor entering the charging station must be connected to the equipment grounding lug inside the charger. This should be run with circuit conductors and connected to the equipment grounding bar or lead on the charging station. Connections to the charging station are the responsibility of the installer and purchaser.
- To reduce the risk of electrical shock, connect only to properly grounded outlets.
- **WARNING :** Make sure that during installing and using, the charging station is constantly and properly grounded.

1.4 - POWER CABLES, PLUGS and CHARGING CABLE WARNINGS

- Be sure that plugs and sockets are compatible on charging station side.
- A damaged charging cable can cause fire or give you an electric shock. Do not use this product if the flexible Charging cable or vehicle cable is frayed, has broken insulation, or shows any other signs of damage.
- Ensure that the charge cable is well positioned thus; it will not be stepped on, tripped over, or subjected to damage or stress.
- Do not forcefully pull the charge cable or damage it with sharp objects.
- Never touch the power cable/plug or vehicle cable with wet hands as this could cause a short circuit or electric shock.
- To avoid a risk of fire or electric shock, do not use this device with an extension cable. If the mains cable or vehicle cable is damaged it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.
- Use appropriate protection when connecting to the main power distribution cable.
- The charging station is permanently connected.

1.5 - REQUIRED UPSTREAM PROTECTIONS

- Class-I/B Lightning Protection must be connected to the upstream distribution panel. The charger contains Class II/C Type Surge Protector Device (SPD)
- MCCB (Thermic Magnetic Adjustable) must be connected to the upstream distribution box.

Model	AC Socket1	AC Socket2	Schuko Socket1	Schuko Socket2	Power Output	Input Max AC Current	Recommended Cross Section for AC Mains	Required Circuit Breaker
EVC05-AC44	22	22	NA	NA	44 kW	64A	25-35 mm2	80A Curve-C
EVC05-AC44*****S*	22	22	3,7	3,7	51,4 kW	80A	25-35 mm2	100A Curve-C

For distances of 50 meters and below, recommended cross section for AC mains can be applicable. For the distances more than 50 meters, the cable section calculation should be made by the electrical installer.

When selecting the installation location, take into consideration the minimum space needed for operating and maintenance. Note that EVC does not have hinges on the maintanance door!

When installing the unit, respect the minimum distances space for maintenance and safety reasons. Please comply accordingly to your country specifications.

• Do not install near areas where water or fluids can penetrate into the unit.

• Do not install the unit in unstable terrain.

2 - DESCRIPTION

2.1 - MODEL DESCRIPTION

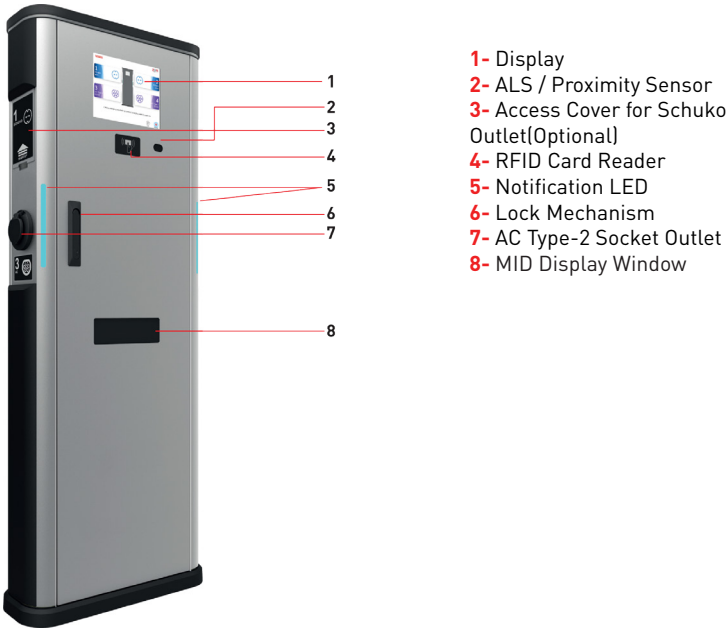|	

Model Name	**EVC05 Series (Name Coding: EVC05-AC****)**
	
	EVC05 : Electric Vehicle AC Charger (Mechanical Cabinet 05)
	
	1st Asterisk (*) can include Outlet Quantity and Rated Power
	        44 : 22kW with dual outlet (3Phase Supply Equipment)
	        22 : 11kW with dual outlet (3Phase Supply Equipment)
	
	2nd Asterisk (*) can include combinations of the communication module options:
	        Blank : Only Ethernet and RFID
	        W : WiFi module
	        L : LTE / 3G / 2G module
	        P : ISO 15118 PLC module
	
	3rd Asterisk (*) can be mentioned for display option
	        D : 10.4" Display with touchscreen
	
	4rd Asterisk (*) can be mentioned for MID option
	        M : Charging unit with MID meter
	
	5rd Asterisk (*) can be mentioned for RCCB Reclosure Unit option
	        Blank : No RCCB Reclosure Unit
	        R : Charging unit with RCCB Reclosure Unit
	
	6rd Asterisk (*) can be mentioned for Schuko Unit option
	        Blank : No Schuko Outlet
	        S : Charging unit with Schuko Outlet
	
	7rd Asterisk (*) can be one of the following:
	        Blank : Case-B Connection with normal socket
	        T2S : Case-B Connection with shuttered socket
	        T2L : Case-B Connection with LID socket
	        T2P : Case-B Connection with Type-2 socket

Cabinet	EVC05

3.1 - INTRODUCTION OF THE PRODUCT COMPONENTS

1- Display
2- ALS / Proximity Sensor
3- Access Cover for Schuko Outlet(Optional)
4- RFID Card Reader
5- Notification LED
6- Lock Mechanism
7- AC Type-2 Socket Outlet
8- MID Display Window

Figure-1

All images are given for the full version of the product.

3.2 - DIMENSIONAL DRAWINGS

Front and Side View

1530

575

205
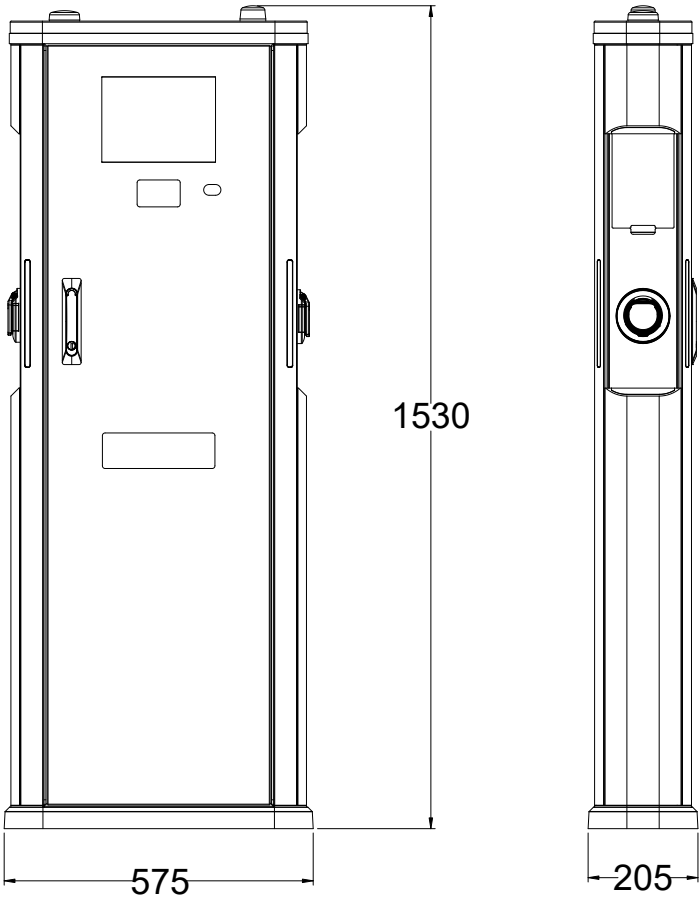
Top View

Figure-2

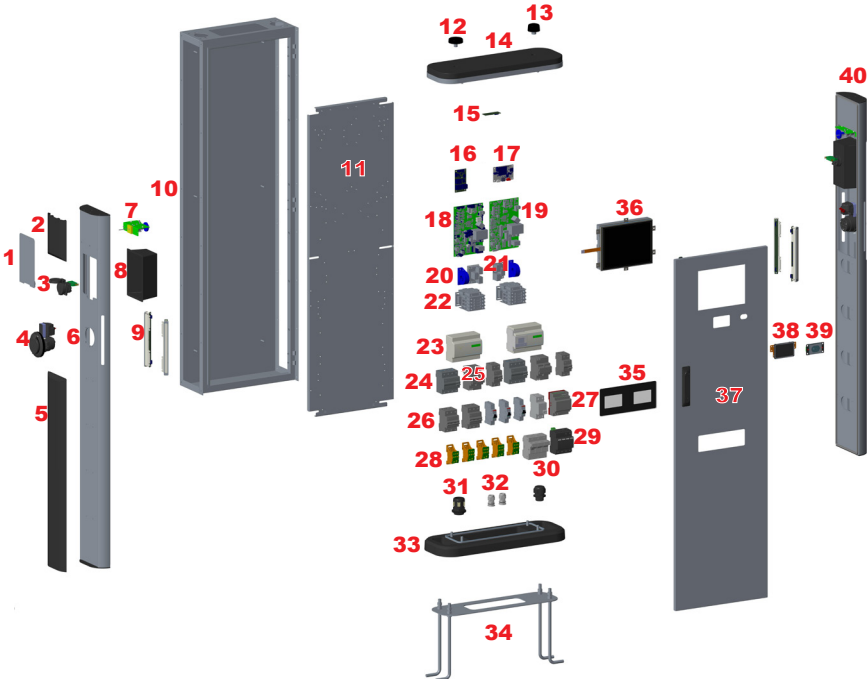# 3.3 - ELECTRIC VEHICLE CHARGING STATION EXPLODED PICTURE

Figure-3

NO	PART DESCRIPTION	NUMBER	NO	PART DESCRIPTION	NUMBER
1	Access cover for schuko outlet	2	21	MCT board	2
2	Cosmetic cover	2	22	Contactor	2
3	Schuko socket	2	23	MID	2
4	Type-2 AC socket	2	24	RCCB	2
5	Cosmetic cover	2	25	RCCB reclosure unit	2
6	Side cover	2	26	MCB	2
7	Schuko interlock mechanism	2	27	Power supply	1
8	Schuko housing	2	28	AC bar	5
9	Notification LED	4	29	Surge protection device	1
10	Main body	1	30	SPD fuse box	1
11	Mounting plate	1	31	AC cable gland	2
12	LTE antenna	1	32	Signal cable gland	2
13	WiFi antenna	1	33	Bottom cover	1
14	Top cover	1	34	Anchor set	1
15	WiFi board	1	35	MID display glass	1
16	Ethernet switch board	1	36	HMI & Display	1
17	GSM board	1	37	Front cover	1
18	AC control card 1	1	38	RFID reader	1
19	AC control card 2	1	39	ALS Sensor	1
20	DC 6mA Sensor	2	40	Side cover group	1

4 - ELECTRICAL SPECIFICATION

IEC Protection class	Class - I
Socket Outlet (Vehicle Interface)	IEC 62196 AC Type-2 IEC 62196 Shuttered Socket (optional) IEC 62196 Locked Cover Socket (optional)
Schuko Socket with Lock Mechanism (Optional)	Type E Type F
Cable Outlet (Vehicle Interface) (Optional)	Cable with TYPE 2 (IEC 62196) Female Plug
Voltage & Current Rating	400 VAC 50/60 Hz - 3-Phase 32A 230VAC 50/60 Hz – 1-Phase 16A (For Schuko)
AC Maximum Charging Output	2 x 22kW for AC Socket outlet 2 x 3,7KW for Schuko outlet Total 51,4KW
Serial Interface	Modbus / M-Bus over RS485
Power Level Control	WebConfig UI
Built-in DC residual current sensor	DC 6 mA
Display	Color 10.4" TFT LCD with resistive touchscreen user interface
Built-in MID meter	Class B MID meter Eichrecht conformity (optional)
Built-in RCCB	Type-A High Immunity
RCCB Reclosing Unit	Optional
Built-in MCB	40A Type C for AC outlets, 20A Type C for Schuko outlets
EV Ready, ZE Ready	Optional
Surge Protection Device	Yes
Built-in Electrical Protection	Over Current, Over Voltage, Under Voltage, DC/AC Residual Current, Over Temperature, Short Circuit, Socket Interlock, Surge/Lightning, Earth Fault, Phase- Neutral Reverse Detection

CONNECTIVITY

Ethernet	100 Mbps Ethernet (Standard with M / W / L / P options) Daisy Chain
Wi-Fi	802.11 a/b/g/n
Mobile Connectivity (Optional)	LTE / 3G / 2G
PLC HLC (Optional)	ISO 15118
RFID Reader	ISO 14443A/B and ISO 15693 w/SAM Module

OTHER FEATURES (Connected Models)

Remote Diagnostics	Remote Diagnostics over OCPP
OCPP	OCPP 1.6
Load Management	Ethernet / Wi-Fi / RS485 OCPP Smart Charging MultiCP Local Load Balancing
Software Update	Remote software update over OCPP Local software update via USB port
USB port (internal)	USB 2.0
Sensors	ALS, Tilt Sensor

MECHANICAL SPECIFICATIONS

Material	Metal Panel	
Protection Degree	Ingress Protection Impact Protection	IP54 IK10 (In screen and sockets IK08)
Dimensions	1530.0 mm (Height) x 575.0 mm (Width) x 205.0 mm (Depth)	
Dimensions (with packing)	1600.0 mm (Height) x 800.0 mm (Width) x 400.0 mm (Depth)	
AC Mains Cable Dimension & Cable Gland Diameters	For 16mm2-35mm2 AC Mains, suitable cable gland diameter interval is 22mm-32mm	
Weight	85 kg	
Weight (with packing)	95 kg	

ENVIRONMENTAL SPECIFICATIONS

Operation Condition	Temperature Humidity Altitude	-25 °C to + 50 °C 5 % - 95 % (Relative humidity, non-condensing) 0-3.000m

5 - REQUIRED EQUIPMENT, TOOLS and ACCESSORIES

5.1 - REQUIRED EQUIPMENT, TOOLS and ACCESSORIES

5.1.1 - SUPPLIED INSTALLATION EQUIPMENTS and ACCESSORIES

1 set (x2) Lock Keys	
Steel Expansion Bolts 10x80mm (4 units)	
M12 anchor special bolt set (4 units)	
Anchor plate (1 unit)	
Product control with internet connection	
Artwork Kit (User and Installation Manuels)	

5.1.2 - RECOMMENDED EQUIPMENTS and TOOLS

Ø20 Drill Bit	Impact Drill	PC
Philips Screwdriver	RJ45 Crimping Tool	Cat5e or cat6 ethernet cable
Spanner set	Hammer	Level Indicator Ruler
Adjustable Wrench (0-50mm)	Allen set	

5.2 - BEFORE INSTALLATION

REQUIRED UPSTREAM PROTECTIONS

- Class-I/B Lightning Protection must be connected to the upstream distribution panel. The charger contains Class II/C Type Surge Protector Device (SPD)

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When selecting the installation location, take into consideration the minimum space needed for operating and maintenance. Note that EVC does not have hinges on the maintanance door!

When installing the unit, respect the minimum distances space for maintenance and safety reasons.

Please comply accordingly to your country specifications.

Minimum 500mm in two sides, 200mm from back side, it is recommended to have space around the charging station. Also to open the front cover completely, it is needed to have minimum 500mm of space in front of the station.

It is also recommended to place a mechanical barrier in front of the charger against the vehicle hits or etc. Between the charging station and this barrier, minimum 500mm is needed.
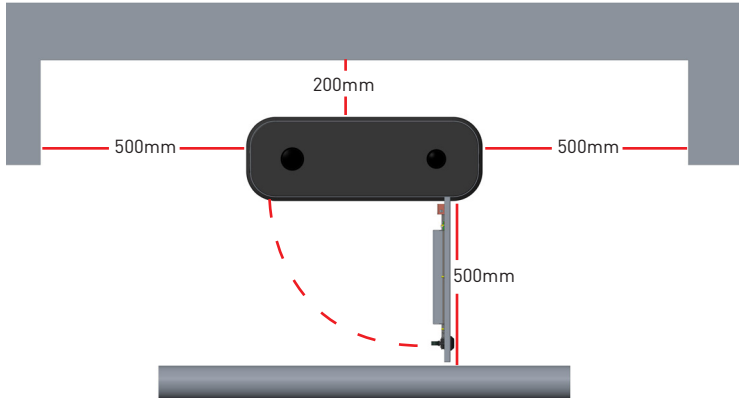
5.3 - INSTALLING CHARGING STATION

Screws inside the product are recommended to be exceeding 240 hours Salt Fog test under ASTM B117 Method. Screws outside the product are recommended to be exceeding 720 hours.

⚡ WARNING: RISK OF ELECTRICAL SHOCK AND INJURY. POWER OFF THE CHARGING STATION MAIN SUPPLY BEFORE ANY INSTALLATION STEPS

⚡ WARNING: TO AVOID PERSONAL INJURY OR DAMAGE THE CHARGING STATION, ENSURE THE INSTALLATION AREA IS SUITABLE AND THE FLOOR CAN WITHSTAND THE WEIGHT OF THE CHARGING STATION.

5.3.1 - UNPACK CHARGING STATION

1- Remove the ropes and films around the package.
2- Remove the carton box upwards.
3- Take supplied equipments from the box.
4- Remove the epees one by one upwards.
5- The station is assembled with bottom part and the palette in production, to be able to carry the station to the installation area easily.
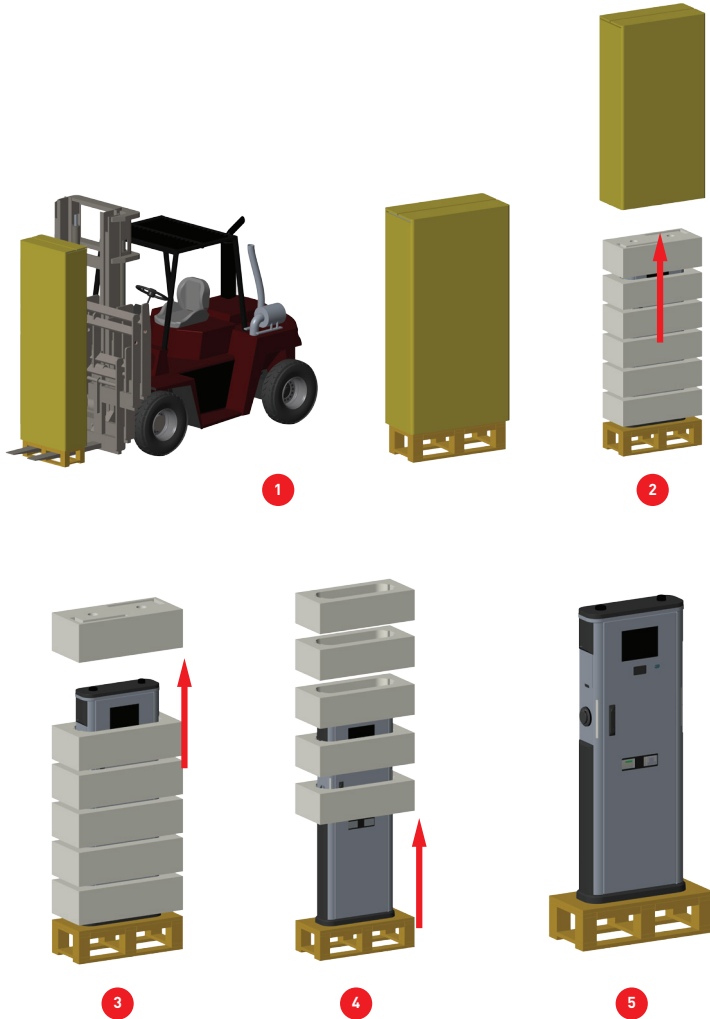
5.3.2 - OPENING THE FRONT COVER

Use the key provided to unlock the front cover. Pull the handle slightly up. Turn the handle through the back side of the charging station with wide-angle.
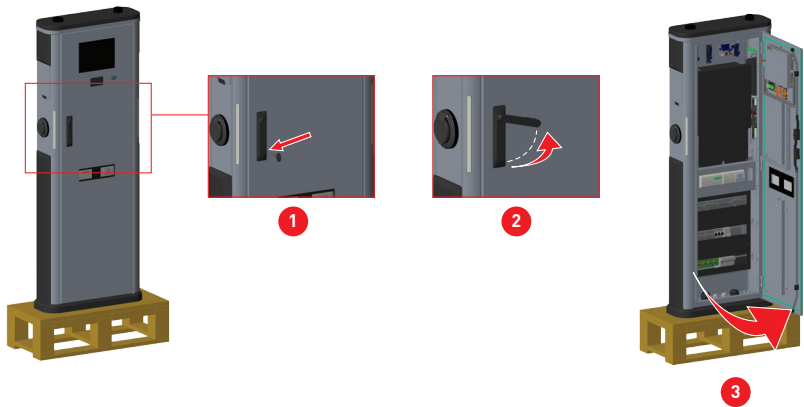
5.3.3 - REMOVING THE BOTTOM PART OF CHARGING STATION FROM THE PALETTE

1- Disassemble the M12 nuts from the bottom part of the charging stations by with wrench as shown in figure.
2- Remove the charging station.
3- Remove the pallette and loosen the cable glands from inside the charging station.
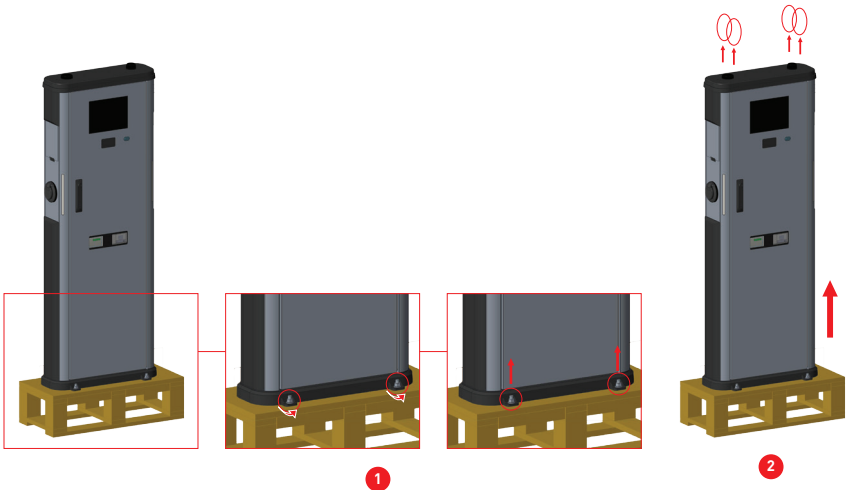
You can install and mount the charging station to the ground with 2 available solutions. By preparing the concrete/anshor plate and second option is to position the charger over the ready concrete (cabling should be ready before).

5.3.4 - INSTALLING THE STATION BY PREPARING THE CONCRETE AND ANCHOR PLATE

Make sure that the materials used for the concrete foundation and the installation procedures follow local building regulations and safety standards.

For Preparing and Mounting the Anchor Plate, below three steps should be followed as also shown in figures:

1- Insert each nut to each bolt one by one as shown in figure.
2- Insert the anchor plate to the bolts as shown in figure.
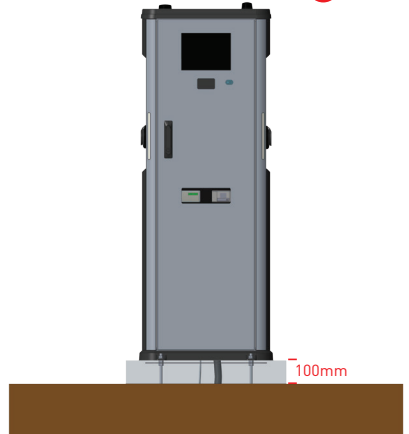**3-** Assemble the nuts over the anchor bolt to fix it with the bolts.
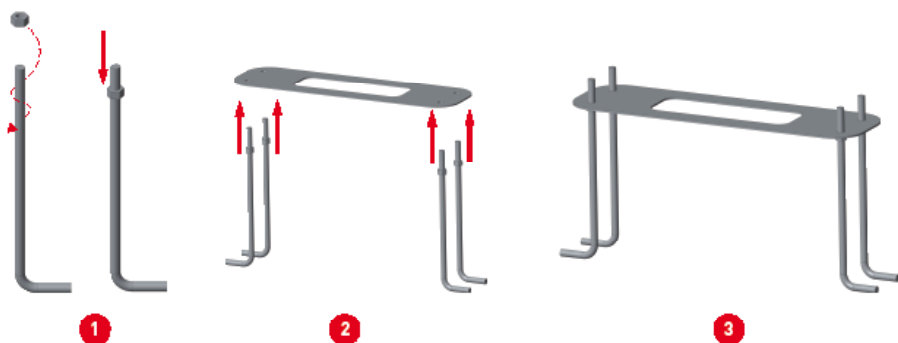
For Preparing Installation area and cabling, below steps should be followed as also shown in figures:

1- Dig a pit (dimensions 350x690x320 – DxWxH in mm) for anchor bolts and plate assembly. The pit floor should be trampled and horizontal
2- Place anchor assembly in the pit.
3- Cables must be placed in the middle and should be pulled through the plate hole, before concrete applied. Pull the supply cable and possible data cable through the ground mounting box cable glands and further through the mounting box cable hole. For AC mains cable minimum 500 mm, for ethernet cable minimum 2 meters from the ground surface of the mounting box should be left.
4- Fill the pit with concrete. Then adjust the assembly as seen in the picture. 2nd bolt top surface must be on the concrete level. Level indicator ruler can be used while adjusting.
5- Let the concrete solidify, make sure the surface stays solid and level during the process.
6- Put the charging station over the anchor plate as shown in figure. Put in the cables trough the cable glands.
7- Assemble the metal holes and nuts over the bottom cover and fix the charging station to the surface, as shown in figure.
8- Tighten the cable glands shown in figure
9- Charging Station bottom must be at minimum 100mm above the ground level.

1

2

4

100mm
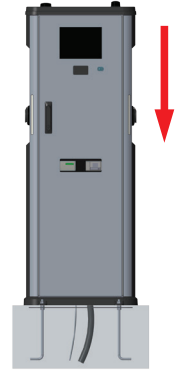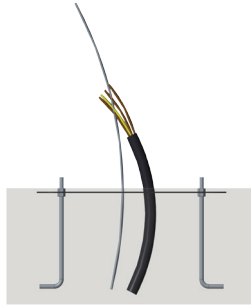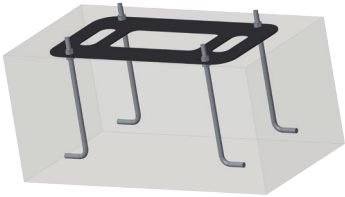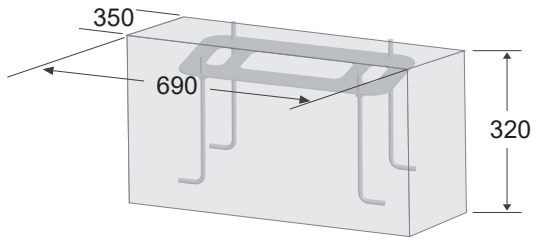
5.3.5 - INSTALLING THE STATION OVER THE READY CONCRETE SURFACE (Where cabling is also ready)

For Preparing Installation area and cabling, below steps should be followed as also shown in figures. Before this, please be sure that cables are placed in the middle and the cables should be prepared before the installation. For AC mains cable minimum 500 mm, for ethernet cable minimum 2 meters from the concrete surface of the mounting box should be left.

1- Open holes over the surface by using the bottom cover of the charging station as drilling template and use the impact drill with metric10 drill pit as in dimensions shown in figure below. (234mm x 385mm). You can use the charging station directly as template for marking the holes.

2- Place bottom cover of the charger over the opened holes and assemble the steel expansion bolts (10x80mm) which are supplied in package of the charging station, as shown figure below. Use a hammer slightly to well position the bolts and then use the appropriate spanner to tighten the bolts.
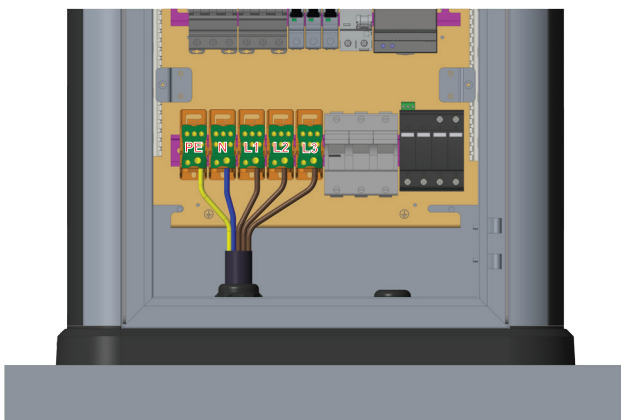
3- Tighten the cable glands shown in figure.
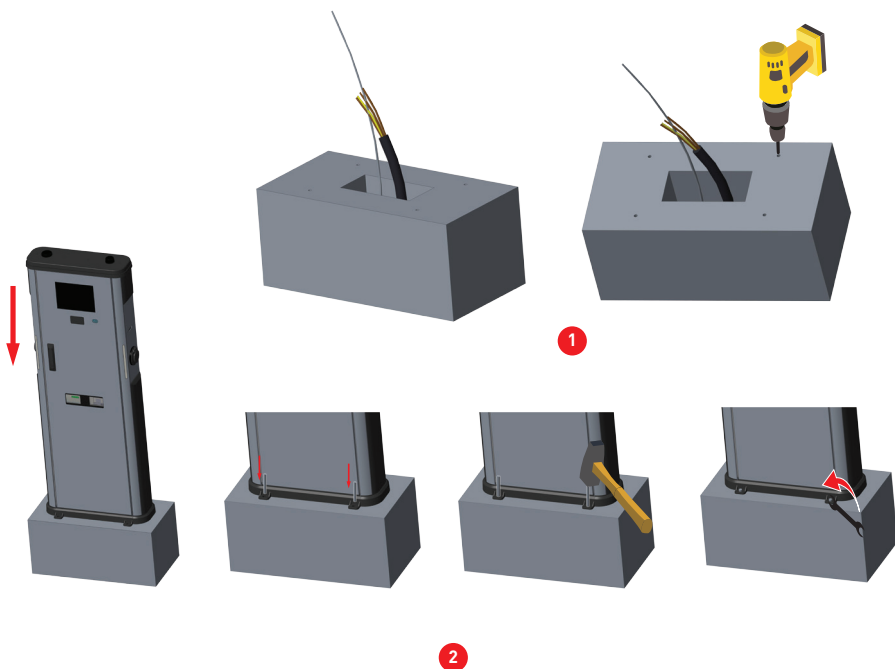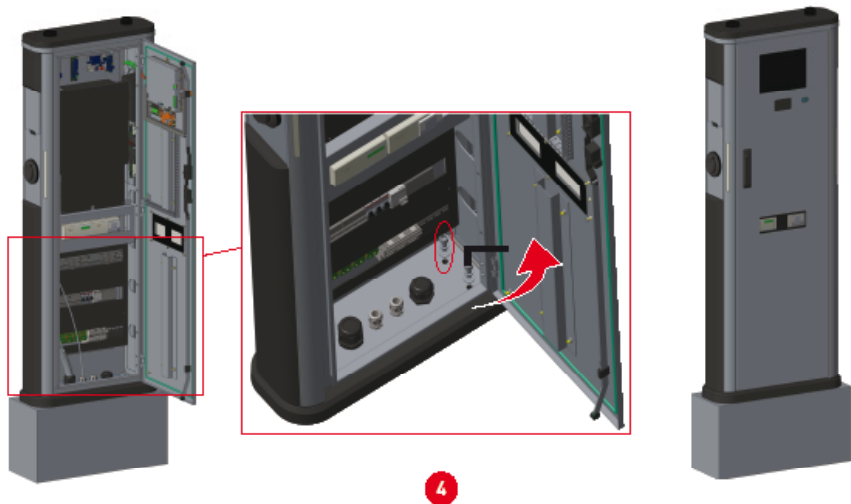
5.3.6 - AC MAINS CABLE INSTALLATION

Connect the AC Mains cables, from left to right as; First connect "Line PE" cable, then "Line N" cable, finally three phase cables ("Line 1", "Line 2", "Line 3") as shown below.

Tighten the cable gland using an adjustable wrench. Close the unused cable entries with cable gland plugs.

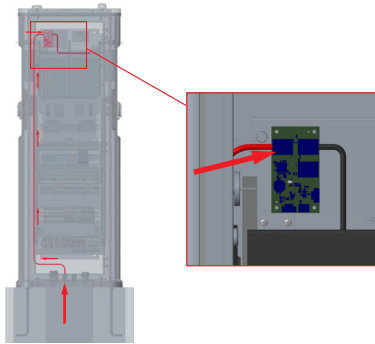After installation it is needed to make controls as;

- Ensure that the PE is connected to the charger.
- Before proceeding, make sure voltage is present in the terminal blocks.
- Plugs should be in good conditions before starting the unit.

- Check no abnormal noise appears while the power is ON and also unit is charging.
- When closing the unit, keep in mind all cables should remain inside.
- Front cover opens and closes smoothly.

5.3.7 - DATA CABLE CONNECTION AND CONNECT OCPP OVER ETHERNET

Insert ethernet cable by passing the cable from the data cable gland in the bottom side of the station as in the figures. Cut the supply cable leads in suitable lengths. In order to connect charging station to the internet over the cable and make the necessary adjustments, first it is needed to prepare the ethernet cable and plug this cable into the locales that should be on the device.

| 1- Insert cable through the cable gland. Pull the cable through the cable clamps as indicated by arrows in below figure.	
3- Using a Crimping Tool, trim the end of the cable you're terminating, to ensure that the ends of the conducting wires are even.	4- Strip off approximately 1 inch of the cable's jacket, using a modular crimping tool or a UTP cable stripper.
5- Separate the 4 twisted wire pairs from each other, and then unwind each pair, so that you end up with 8 individual wires.	6- Moving from left to right, arrange the wires in a flat, side-by-side ribbon formation, placing them in the following order: white/orange, solid orange, white/green, solid blue, white/blue, solid green, white/brown, solid brown.

7- Carefully insert the flattened, arranged wires into the connector, pushing through until the wire ends emerge from the pins.

8- Check to make sure that the wire ends coming out of the connector's pin side are in the correct order. If you realize that a mistake has been made in wire order after termination, you'll have to cut the connector off and start all over again!
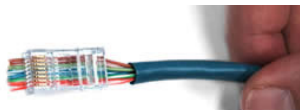

9- Insert the prepared connector/cable assembly into the RJ45 slot in your crimping tool. Firmly squeeze the crimper's handles together until you can't go any further. Release the handles and repeat this step to ensure a proper crimp.

10- If your crimper doesn't automatically trim the wire ends upon termination, carefully cut wire ends to make them as flush with the connector's surface as possible. The closer the wire ends are trimmed, the better your final plug-in connection will be.

11- Termination is complete.
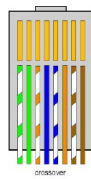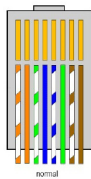
12- Insert the Ethernet cable to the Ethernet bridge board in the left top side of the station as shown in the figures below.
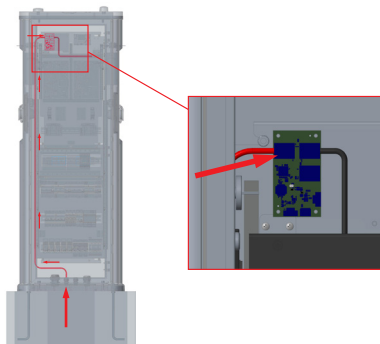

Table-1

5.3.8 - ETHERNET DAISY CHAIN

Daisy-Chain is a wiring method of the devices in a network. It gives an opportunity to add/remove devices to/from network very easily. In order to make Daisy-Chain connection, an Ethernet hub board is used as shown in figure, in the left-up side of the charging station. Basically it distributes all the Ethernet connection among the devices. Ethernet line cable coming from a device, a router or a hub needs to be connected to other device Daisy-Chain input port as shown in Figure. Internal Ethernet connection (Between HMI system of the charging station and Ethernet Hub Board) is made in production of the charging station. So all is needed to make the connections of Daisy-Chain Input port and the Daisy-Chain Output port. Ethernet Daisy Chain Cable routing is shown in red and blue colors in figures.
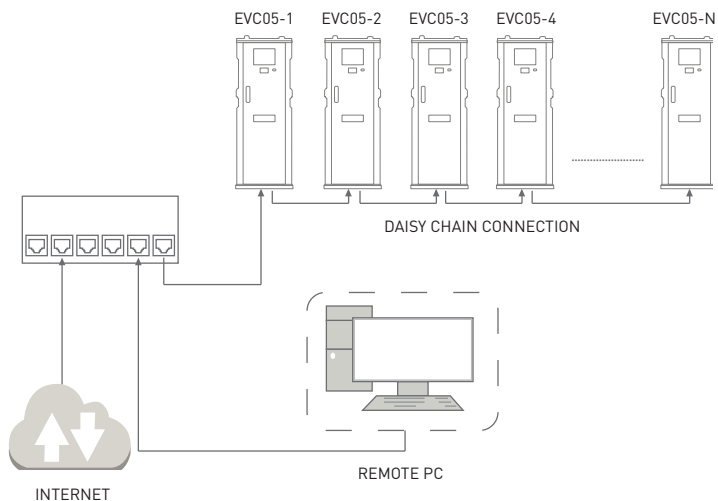

Daisy-Chain Connection Method based on Linear Topology

In linear topology, since devices are connected to each other in series, if one of them is switched off or has a power outage, the remained devices which are supplied from this device will loss the connection with other devices. Thus, there will be two subnetworks if one of the devices has a connection problem.
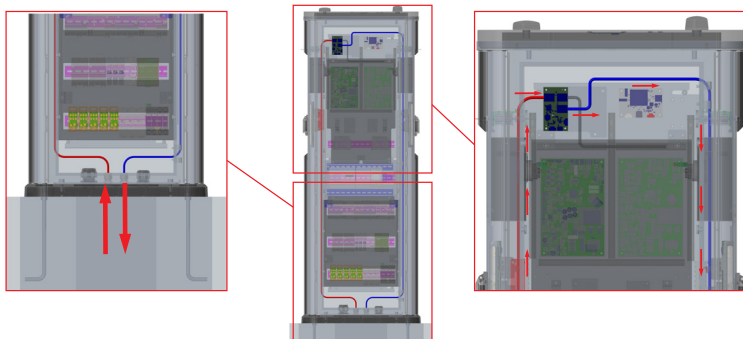
5.3.9 - SIM CARD CONNECTION (Optional)

Insert the Micro SIM card in the cellular module. SIM card slot as shown in the below figure in red color.
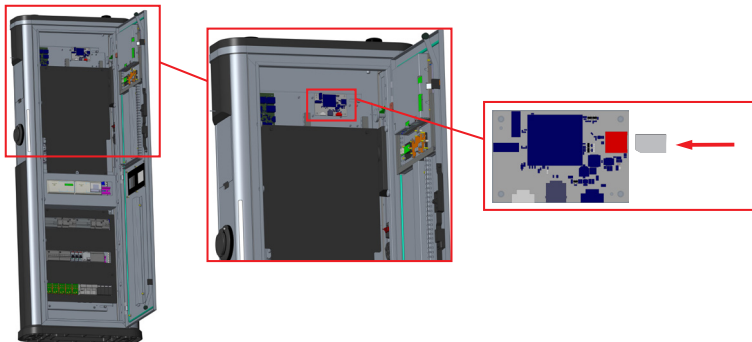
5.4 - CONNECT PC TO THE SAME NETWORK WITH ETHERNET PORT

In order to access Web Config UI, first you need to connect your PC and EV charger to the same ethernet switch or connect EV charger to your PC directly.

Power-on the charging station. Default IP address of HMI board is 192.168.0.10. For this reason, you need to give static IP to your PC in the same network with HMI board. You should assign static IP address to your PC in 192.168.0.0/254 network which means that IP address should be in a range of between 192.168.0.1 and 192.168.0.254 .

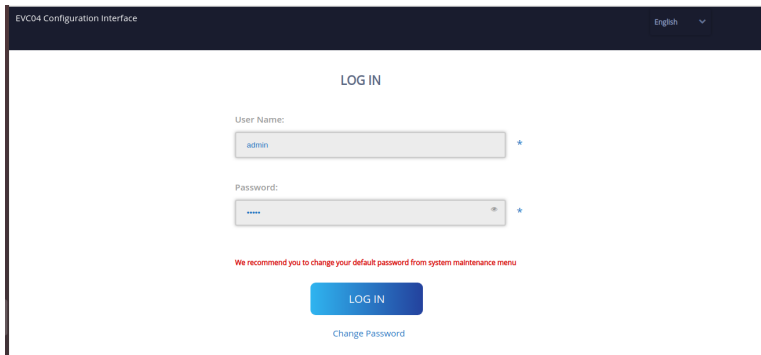For example, 192.168.0.11 can be set as an static IP to your PC.
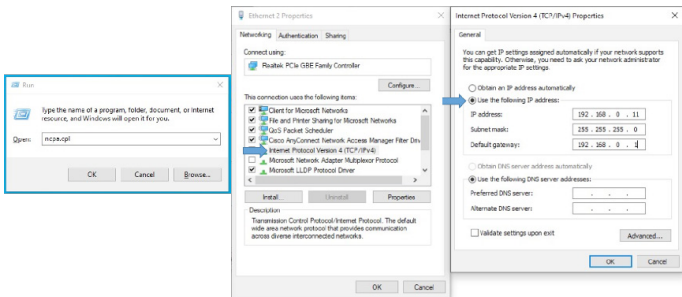
5.4.1 - OPEN WEB CONFIG UI WITH BROWSER

You should write to web url as DEVICE_IP and press the enter 192.168.0.10

Login page to Web configuration interface is as below:

Login Information
username : admin
password : admin

You can change password with Change Password Button in login page or Administration Password section in the System Maintanence tab.

5.4.2 - MAIN PAGE

The user can be able to see device information in mainpage.

After the successfully login operation, you are directed to the main page.

Main page shows the general information about the device that are software versions,connection interface and ids.

You can also change the language and log out of the web config with the buttons in the upper right corner of the page.
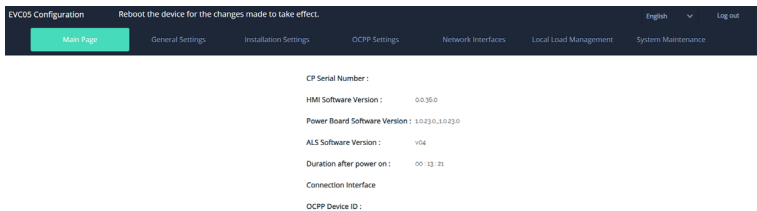
### 5.4.3 - GENERAL SETTINGS PAGE IN WEB CONFIG UI

You can reach Default Interface Language, Display Settings, Display Logo, Boot Logo and Tilt Threshold under General Settings.

User can be able to see and update display language in "Display Language" tab. Also the language of web user interface can be changed from "Web Interface Language" tab.
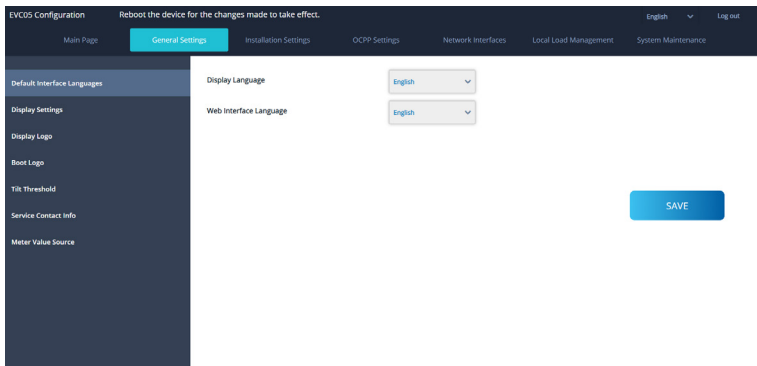
Configuration for display brightness can be set in "Display Settings" tab.

For **"Backlight Dimming"** option; if **Static** is chosen, brightness/outdoor lighting can be set to a fixed level. **"Backlight Dimming Level"** can be chosen as Low/Medium/High.
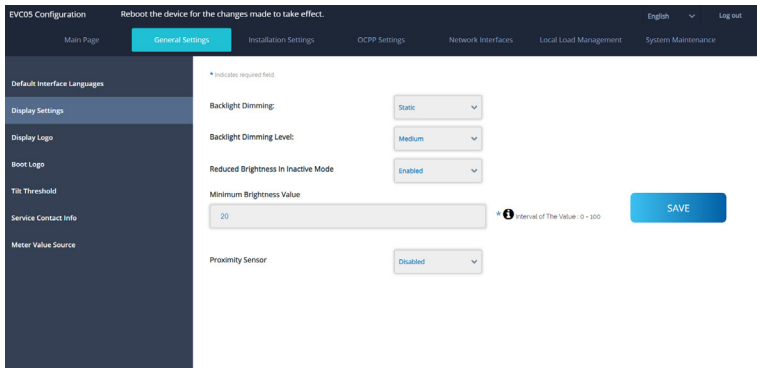
For **"Backlight Dimming"** option; if **"Sensor Based"** is chosen, display brightness is changed based on given sensor value thresholds.

medium threshold interval : 0 - 65536

high threshold interval : 0 - 65536

- In "Reduced Brightness In Inactive Mode" option, configuration can be set to Enabled/Disabled modes.
- When "Reduced Brightness in Inactive Mode" option is chosen as "Enabled", device display can be set to be in minimum brightness when it is not used for one minute.
- Minimum brightness value can be set in interval as 0-100. Default value is set as 20.
- When "Reduced Brightness in Inactive Mode" option is chosen as "disabled", the ability to set to the minimum brightness value will be disabled.The ability to set to the minimum brightness value will be disabled.
- Uploaded customer logos can be located on left or right corners of the screen. Right and left display logos can be shown in user interface. To show and hide these logos, toggle buttons can be used accordingly. Display logo can be uploaded from the page mentioned in figure below.

The details of display logo should be as mentioned below:

- File format should be PNG.
- Image dimensions should be 163 x 63.
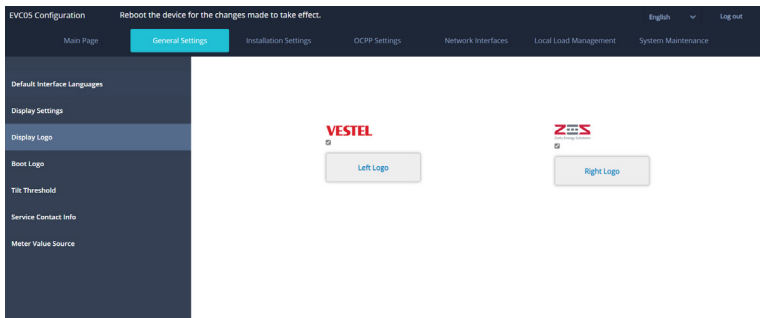
- Uploaded customer bootlogo can be located in the centre of the screen. Bootlogo can be uploaded from the page mentioned figure below.
- The details of bootlogo should be as mentioned below;
1. File format should be BMP.
2. Image dimensions should be 1024 x 768.
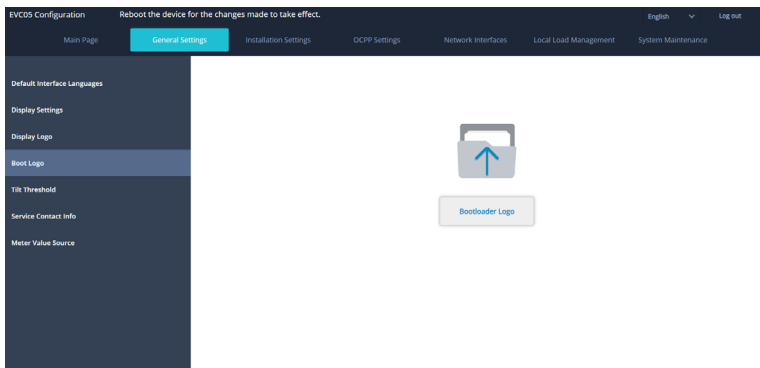
The charging station has ability to detect the tilt of device by a tilt sensor inside. The user can change tilt threshold setting as an angle. Tilt threshold is set by default as 30 and can be set by user between 0-90 degrees.
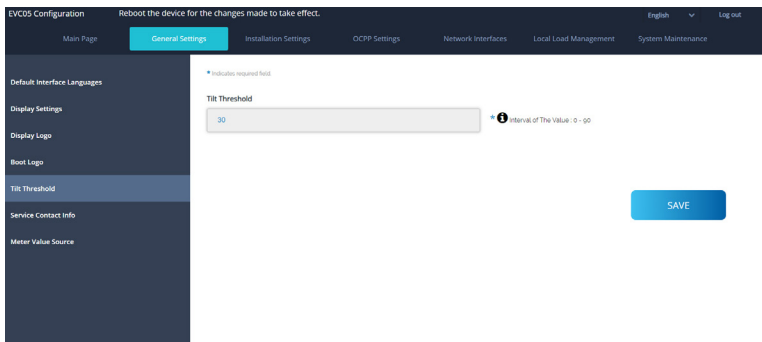
If the user wants to enter the customer care phone number, service contact info tab can be used.
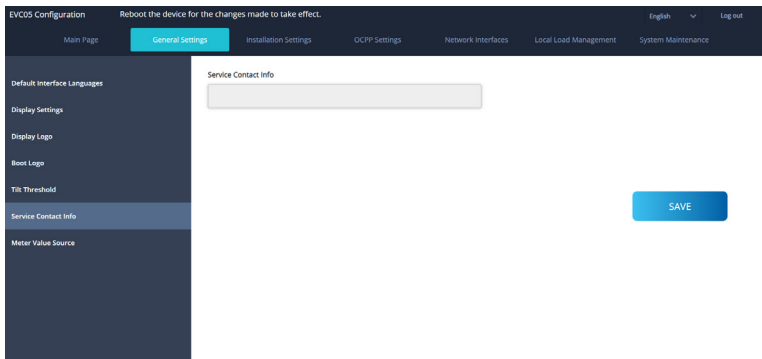
Meter Value Source can be changed from the same menu to the embedded MID meter on the unit or the build-in MID meter on the unit.
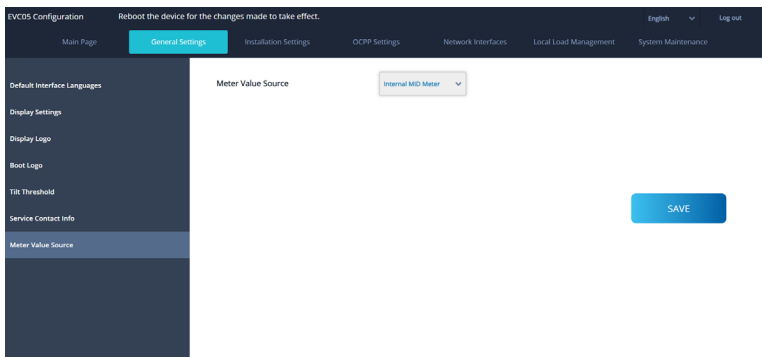
5.4.4 - INSTALLATION SETTINGS IN WEB CONFIG UI

User can set AC mains input current values individually for each socket outlet as shown below. For schuko outlets, maximum current can be set between interval 8-16A. If the user sets maximum current as 10A and if the EV draws over 10A, charging station automatically stops charging and gives overcurrent error. For Type2 AC outlets, maximum current can be set as 32A. Because of OCPP standard, the minimum current should be 6A.

IT network support can be enabled/disabled from Earthing Type Tab in web configuration interface. If Earthing Type is selected as IT, the protective earth error check is disabled. In webconfiguration interface, earthing type is "other" by default
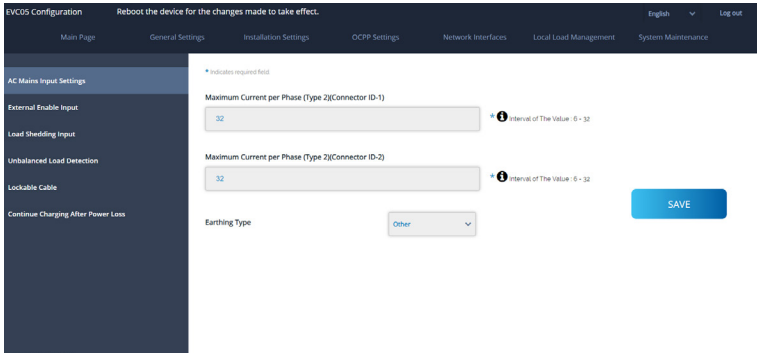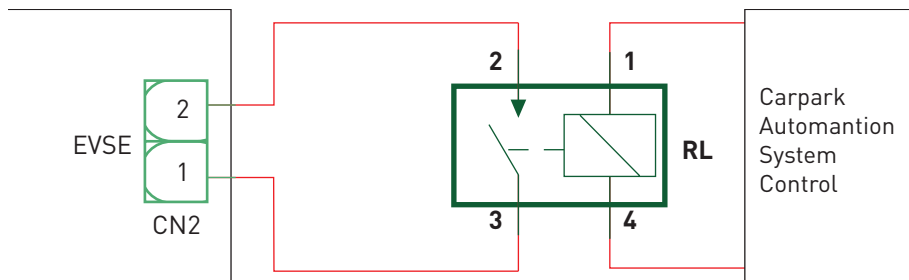

Charging station has **external potential free enable / disable functionality** which can be used for integration of Charging station to an carpark automation systems, energy supplier ripple control devices, time switches, Photovoltaic inverters, auxiliary load control switches, external key lock switches etc.

This Functionality can been set as Enabled/Disabled from Installation Settings Tab.

Default value for this option is set as disabled but if the user wants to use external enable input function, the setting should be set as "enabled"
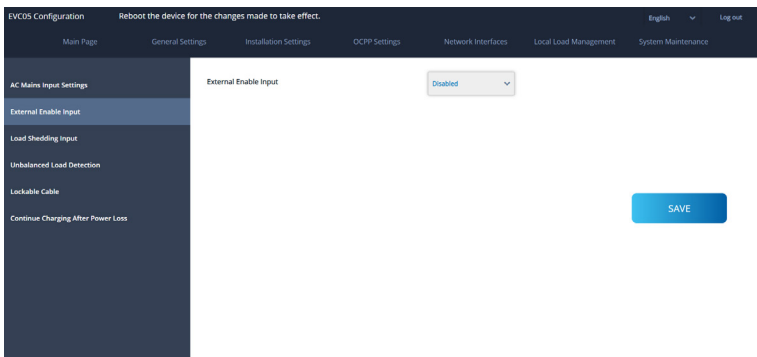
If the functionality is enabled then CN40 connector in controlled board shown in figure below, can be used to enable/disable charger.CN40 connector and external required reference circuitry is shown in below figure.

If the external relay (RL) is in non-conducting (open), the charging station will not be not be able to charge the electric vehicle.

You can connect potential free input signals as shown in above circuitry (see figure below).
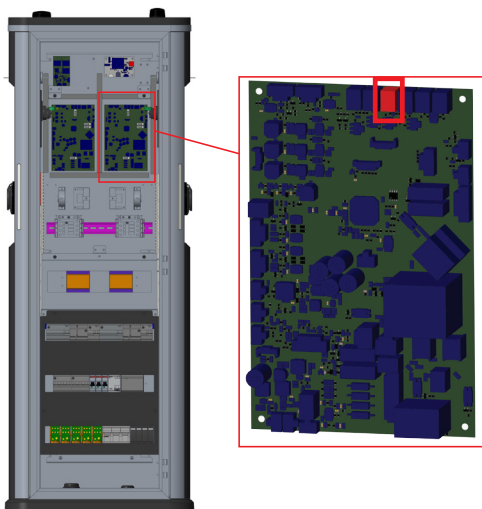
Load Shedding Input support can been enabled/disabled from Installation settings If load shedding Input is selected as enabled, the load shedding Input is active in ACCT. CN44 connector, shown in below figure, is used for this functionality, if CN44 pins are shorted, current is limited to 8A.

Default value for this option is set as disabled in webconfiguration interface.
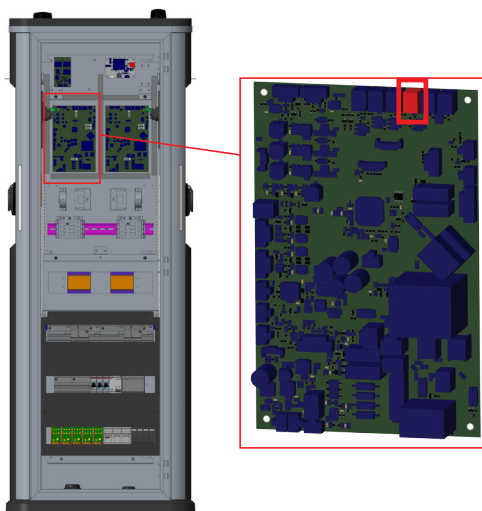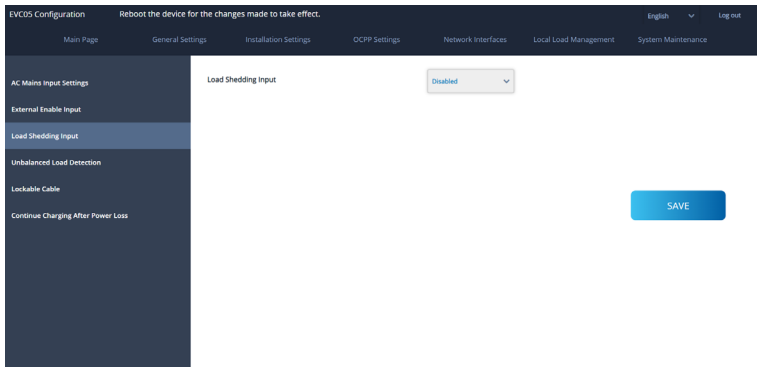
5.4.4.1 - UNBALANCED LOAD DETECTION

This feature is disabled in webconfiguration interface by default.

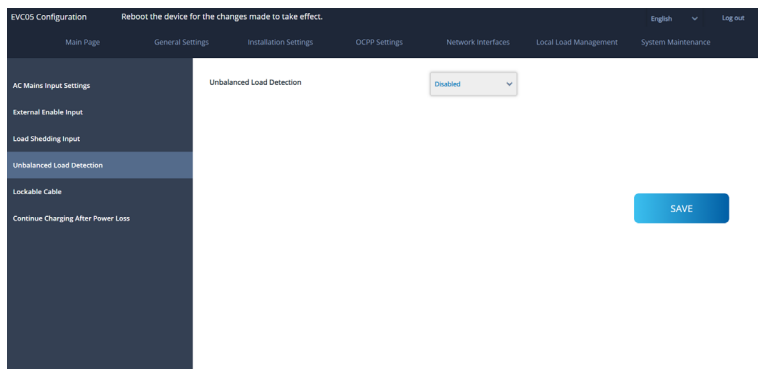Unbalanced load detection function detects too much difference in power drawn between phases. If any phase draws more than 4.6 kW of power (last one minute average) than the other phases, there is an unbalanced load. With this feature, this situation is detected and current limitation is made so that the phases does not exceed this limit value.

For example,
Phase 1 Power :3 kW,
Phase 2 Power :3 kW,
Phase 3 Power: 1 kW.
Power Limit for Phase1 or Phase2 will be 5,6 kW (1 kW + 4.6 kW)
If voltage is 230, current limit will be 5600/230 = 24A.
General Formula;
Power Limit = (Minimum Power + 4.6) (kW)
Current limit = Power Limit / Voltage (Amps)

5.4.4.2 - LOCKABLE CABLE (With Socket Models)

Your seperate charging cable becomes locked and your socket model charging station starts behaving as a cabled model. This option is set "disabled" in web configuration user interface by default.

Below configuration method should be followed to lock cable in charging station:
1. Plug the charging cable to the socket of the station.
2. Set "Locked Cable" feature as enabled from web configuration interface.
3. Power off the charging station.
4. Power on the charging station

EVC05 Configuration   Reboot the device for the changes made to take effect.   English ∨   Log out

Main Page   General Settings   Installation Settings   OCPP Settings   Network Interfaces   Local Load Management   System Maintenance
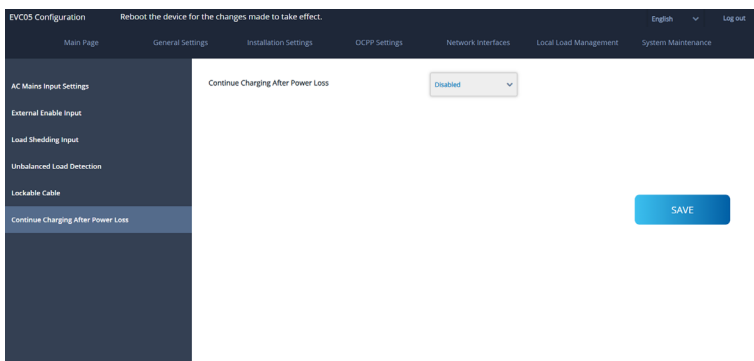
AC Mains Input Settings

External Enable Input

Load Shedding Input

Unbalanced Load Detection

Lockable Cable

Continue Charging After Power Loss

Type 2 (Connector ID-1)   Disabled ∨

Type 2 (Connector ID-2)   Disabled ∨

SAVE

Note : For units with schuko option, lockable cable function can not be provided.

5.4.4.3 - CONTINUE CHARGING AFTER POWER LOSS

If this feature is set as enabled from web configuration interface, if any power cut occurs in charging station while a charging is ongoing, after the power is on, charging can restart with the same charge section IDs.

This feature is disabled in webconfiguration interface by default.

AC Mains Input Settings

External Enable Input

Load Shedding Input

Unbalanced Load Detection

Lockable Cable

Continue Charging After Power Loss

Continue Charging After Power Loss   Disabled ∨

SAVE

5.4.5 - OCPP SETTINGS IN WEB CONFIGURATION INTERFACE

If you select mode as "Enabled"; you should type all fields in the connection settings and configuration parameters sections are enable in the below.
For now, the only available OCPP version is OCPP 1.6, so it will be selected as default.
The Central System Address and Charge Point Id are mandotary fields for saving this page.

If you select OCPP Connection as "Enabled" you can select authorization modes explained below.

OCPP Enabled	Authorization Mode	Details
True	Free Mode	This mode authorizes automatically (without IdTag). The preset IdTag is used for notifying the server related to transactions. **Note:** On EVC05AC with schuko option, Free mode feature is not available.
True	Authorize All	OCPP is enabled. Requires an IdTag to be presented, however does not check its integrity; it accepts all IdTags. Does not send the authorization, start and stop requests to the server. Does not permit the server to change related OCPP Configurations.
True	White-List	OCPP is enabled. Only accepts the IdTag that are preset; rejects others. Does not send authorization, start and stop requests to the server does not permit the server to change related OCPP Configurations.
False	Authorize All	No OCPP connection. Requires an IdTag to be presented, however does not check its integrity; it accepts all IdTags.
False	White-List	No OCPP connection. OCPP is enabled. Only accepts the IdTags that are preset; rejects others.
True	Standart OCPP	Behaves as stated in the OCPP spec.

All OCPP configurations can be configured from the page below.
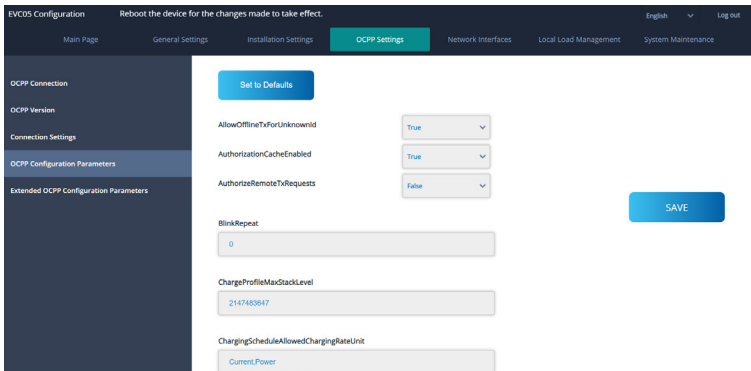
You can set OCPP configuration parameters to their default values by clicking "Set to Defaults" button.

You can select the Ocpp settings type you want from the menu which is at the left side of the page. For example Ocpp Connection,Ocpp Version,Connection Settings and OCPP Configuration Parameters. Then, click "Save" button.
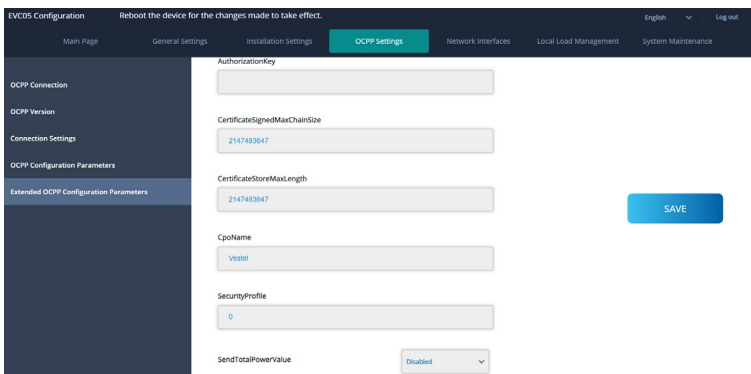
Please be careful for your entered values because the system does not accept the unsuitable values and gives the warning. In this case, values will not be saved. Then the page does not to be redirected the main page so you should check your values.

5.4.6 - NETWORK INTERFACE SETTING CHANGE IN WEB CONFIGURATION INTERFACE

There are three types of network interfaces in this page; Cellular, Ethernet and Wi-Fi.

Select interfaces' modes as "Enabled" if you want to activate it. The priority of the network can be changed from the "priority" part of each network page.

If you set Cellular as enabled, "APN Name" is mandatory.

Cellular settings can be configured such as APN and pin number from the page below.
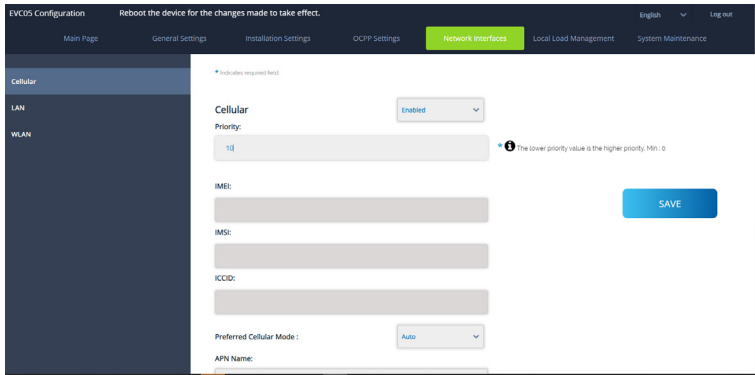
If you select Ethernet or WLAN " Default Gateway" and "Primary DNS" spaces are mandatory. If you set Wi-Fi as enabled, "SSID", "Password", "Security" and "IP Setting" are mandatory DHCP or static configuration can be set for WiFi from the page below.
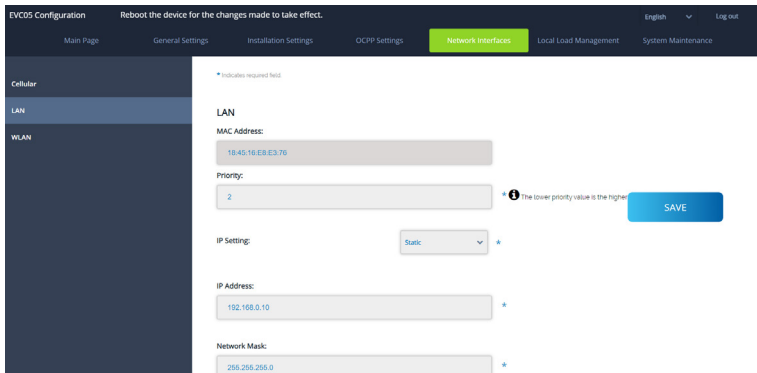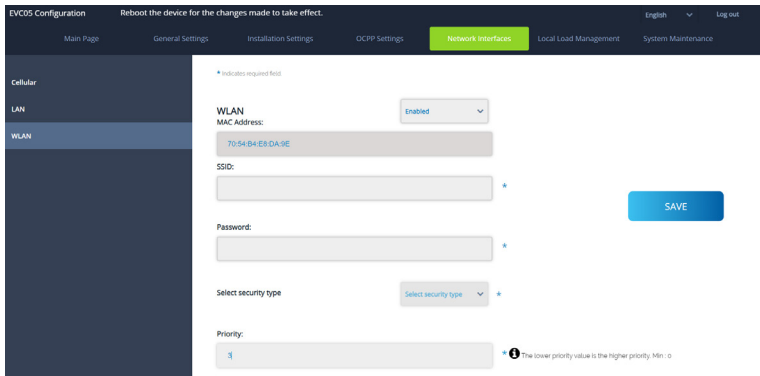
You should fill all spaces in suitable formats.
When you finish it, click "Save" button.

5.4.7 - MAKE SYSTEM MAINTENANCE IN WEB CONFIGURATION INTERFACE

In System Maintenance , you can download OCPP or HMI logs by clicking buttons.
The logs related to device can be downloaded from log file page as belows.
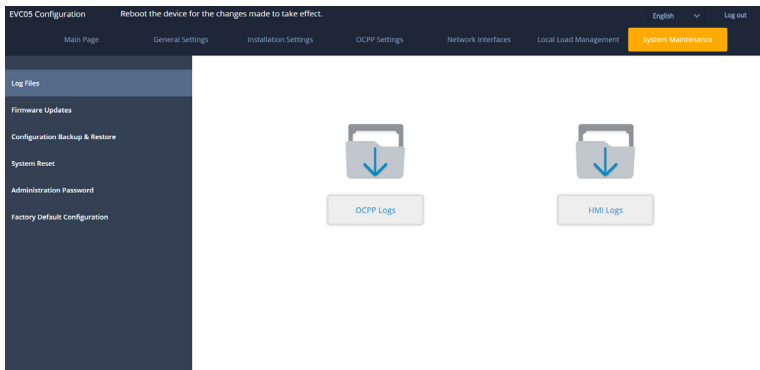
You can upload the firmware update file from your PC by clicking "Upload" button.
After the file is uploaded, you can click "Update" button to start the firmware update.
After the firmware update is finished, your charger will restart automatically. You can see the latest firmware version of your charger from webconfig UI in main page.
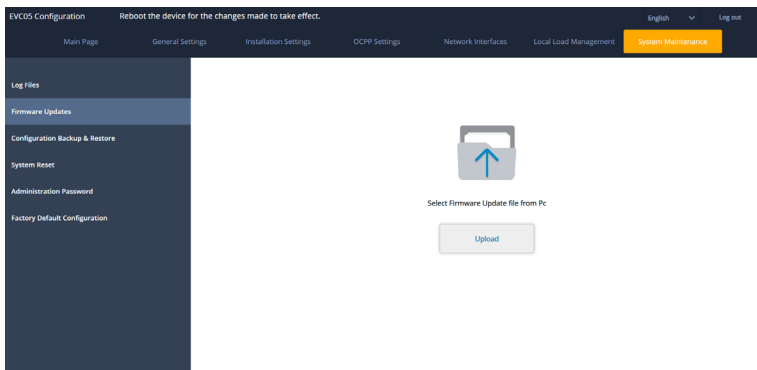
The configurations related to device can be backuped and restored from the page as belows
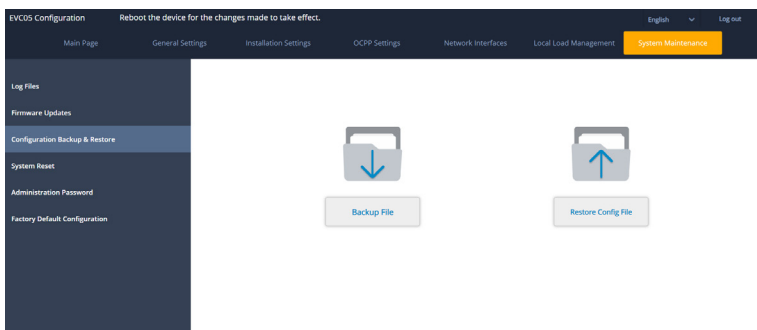
Hard or soft reset can be applied to device from the page below.
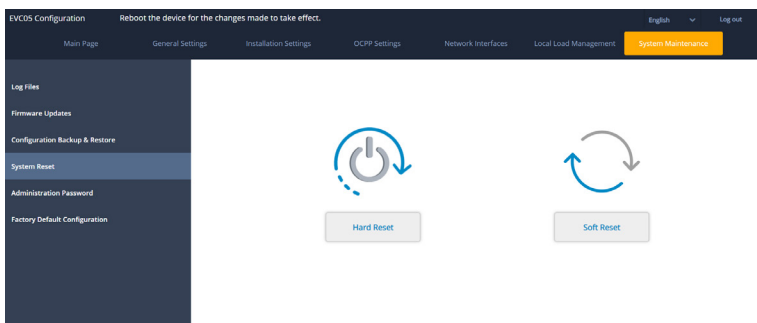
The administrator password can be changed from the page as belows.

New password must contain at least 1 lowercase letter, 1 uppercase letter, 1 numeric character and minimum 6 characters.
All spaces are mandatory.

Factory reset can be applied to device from here.
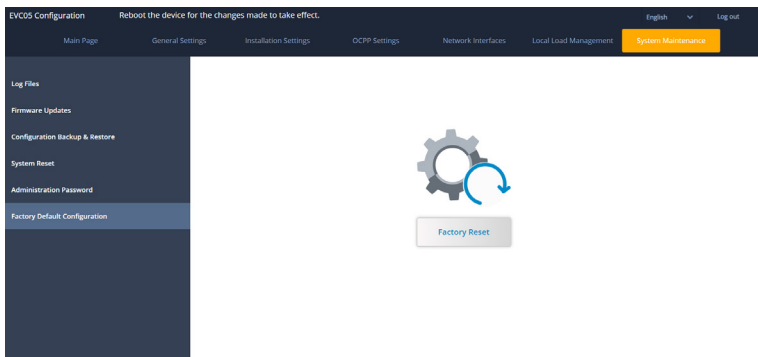
Note that: Restart your device in order for the changes made on the page to take effect.

5.4.7.1 - CONTACTOR WELDED MONITORING

A shunt trip behavior is contained in Control boards of the charging station. If a contactor welded case was occured CN43 connector as shown in below figure starts to apply a PWM signal. If this connector mounted by a shunt trip device, the fuse blows and the energy is cut off.
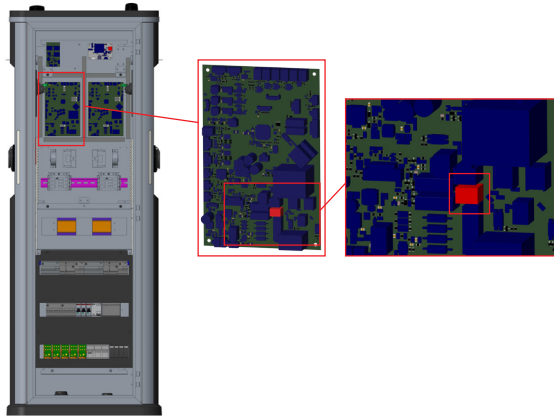
According to IEC 61851-1 and EV/ZE Ready requirements, EVC05 EV Charging Station has welded contactor sensing function, and welded contactor information is provided as a contactor welded output signal from the control board. To detect welded contact failure for the relays, CN43 connector output terminals must be used. In case of a welded contact for the relays CN43 connector output will be 230V AC. The output which has 230V AC should be connected to a shunt trip for RCCB triggering as shown in the following figure. Connector (CN43) terminals must be connected to a Shunt trip module. Shunt Trip module is mechanically coupled to RCCB (or MCB) at the fuse box of the charging station (optionally). The circuitry block diagram that must be used at the fuse box of the charging station is shown below.
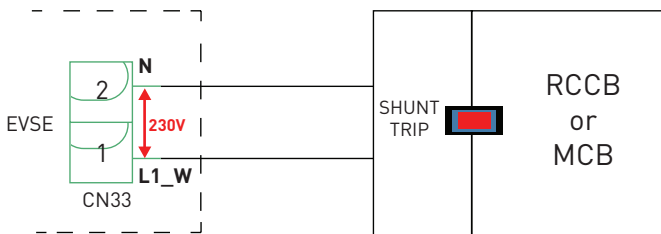
5.4.7.2 - FACTORY RESET

You must push the button on HMI board shown in figure below for factory reset. When you hold the button for 1 seconds, user configuration will be reset to factory configuration.
(e.g OCPP config, Network Config will be back to factory configuration.)

HMI Outputs which may be needed by service (all necessary connections are generally done as factory configured)
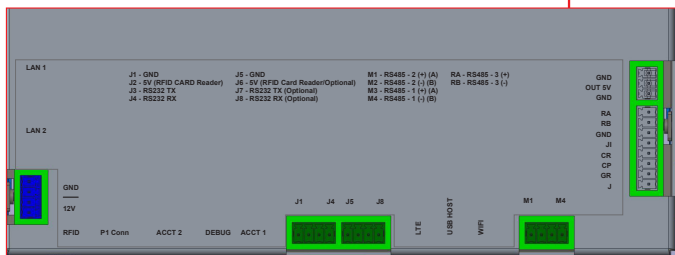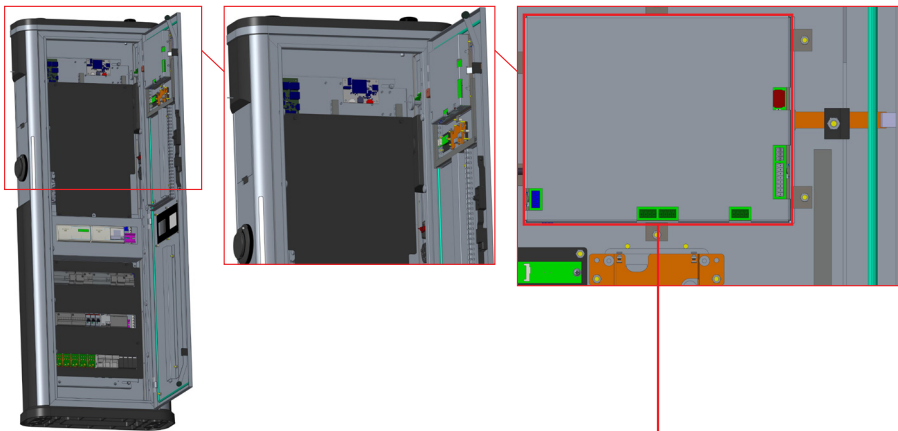
- LAN1 => To make Ethernet connection in DHCP.
- LAN2 => To make Ethernet connection in Static IP and to make same network area between the charger and PC.

- USB Host output can be used for flashing firmware and also to to save the required logs manually.
- DEBUG output is used to see the console logs.
- SD Card output is used to install firmware manually.

6 - CLEANING AND THE MAINTENANCE

DANGER
- Do not clean your electric vehicle charging device while charging your vehicle.
- Do not wash the device with water.
- Do not use abrasive cloths and detergents. Microfiber cloth is recommended.

Failure to follow these warnings may result in death and serious injuries. Also, it may cause damage to your device.

6.1 - INSTALLATION CHECKLIST

This checklist is for ensuring both mechanical and electrical installation and commissioning. Before installation, please read the installation instructions before performing any actions.

Note! Only trained electrician may perform the installation in accordance with the applicable local and national electrical rules and standards.

Before checking the visual, mechanical and electrical installation, make sure that the charging point is un-powered.

Installation Type	Topic	Note
General	All packing and artwork materials are inside the package.	(YES/NO) – Should be YES
	There are no scratches or damages in package or on the device.	(YES/NO) – Should be YES
Mechanical installation	Charging point is fixed pro-perly on the ground	(YES/NO) – Should be YES
	The front cover opens and closes smoothly.	(YES/NO) – Should be YES

Electrical installation	Charging point's power supply capacity meets electrical planning (cable size, MCB…).	Review local electrical design plan.
	Gently push the charging point with a hand to create vibration to ensure no bad contact / connection exist	
	Check tightness of the PE-cable screw.	
	Power supply cables (L1, L2, L3, N and PE) are properly connected.	
	Insulation of L1, L2, L3, N and PE is intact	
	Voltage between PE and N is less than 10 V	
Operational check	All the LED states / color (green, blue, red) and RFID reader is functioning.	
	Available electricity at the sockets. All the contacts (L1, L2, L3) must be tested.	Use EVC tester.

6.2 - Recommended Service Controls

1. Check the charging station exterior:

a. Ensure that the charge indication is blue when the charging station is available.

b. Cables, connectors, contact pins and sockets are available.

c. Outlets and contact pins should be controlled

d. Antenna controls

e. Ground fixture controls

2. Clean the charging station enclosure if any dirt is visible

3. Open the front cover, check the lock mechanism

4. Check the charging station's function using EVC Tester. Follow the instructions on the charging station to start charging

a. Connect EVC Tester to the charging station

b. Check that the power is on and make related simulation

c. Make RFID reader control

d. Check that the type 2 connector is firmly locked to the charging station type 2 outlet during charging if the charging station has type 2 outlets.

5. Control the power supply to the charging station

6. Check seals.

7. Check tightening torque of incoming power supply.

8. Check tightening torque of the charging station's attachment to the ground fixture.

9. Check the tightening torques and connections for contactors, electric meters, MCBs and RCCBs.

10. Measure the earth resistance in the charger cables/outlets using a multimeter.

11. Clean the charging station interior if necessary.

12. Switch on the power to the charging station.

13. Complete and stick a service label inside the station with the date.

6.3 - Other Recommended Controls

NO	CONTROL DETAILS	YES	NO	Suitable Answer
	General Controls			
1	Is the installation area of charging station suitable according to the diamensions of the device and ergonomic for user? In installation area, is it possible enough to reach service covers and cable connections? Enough space for these purposes?			YES
2	Is there a heat source around the charging station area?			NO
3	Is there a pressure water equipment around the charging station area and possibility to be exposed to pressure water towards to the station?			NO
4	Are the installation area and surface type available for installation?			YES
5	Around the installation area, are there any lines of electricity, water, natural gas which may block hole punch and other installations?			NO
6	Is the installation area suitable when compared between the charging station socket en and electrical vehicle charging entrance point? Is the distance exceeds the charging cable? Controls should be done according to the cables even on the charging station if the station is cabled version, or cable of the user if the charging station is socket type.			NO
7	Is the distance between the charging station and main distribution box suitable according the the determined intervals? For distances of 50 meters and below, recommended cross section for AC mains can be applicable. For the distances more than 50 meters, the cable section calculation should be made by the electrical installer.			YES
8	From the main distribution box to the charging station, are the feed line's own MCB and RCCB available? Are these MCB and RCCB specifications match with the charging station accordig to the stated values.			YES
9	Is incoming grounding line, which enters to the charging station, has resistance value below 5 ohms?			YES

10	If the charging station model has cellular connection, is there any signal problem in installation area of the station? It should be checked by a smartphone test application if the signal level is within the range determined before.			NO
11	If the charging station model has WiFi connection, is there any signal problem in installation area of the station? It should be checked by a smartphone WiFi signal test application if the signal level is within the range determined before.			NO

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