



ELECTRIC VEHICLE CHARGER

EVC04 Series

Installation Guideline



Label
Information
Charging station

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1 - SAFETY INFORMATION



CAUTION
RISK OF ELECTRIC SHOCK



CAUTION: 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 (MCB and RCCB). Consult your local dealer.
- The ambient temperature range should be between -25°C and $+50^{\circ}\text{C}$ without direct sunlight and at a relative humidity of between 5 % and 95 %. Use the charging station only within these specified operating condition.
- 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.
- The lowest part of the socket-outlet shall be located at a height between 0,5 m and 1,5 m above ground level.
- Adaptors or conversion adapters are not allowed to be used. Cable extension sets are not allowed to be used.



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 - 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.

1.3 - POWER CABLES, PLUGS and CHARGING CABLE WARNINGS

- Be sure that charging cable is Type 2 socket 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.

1.4 - WALL MOUNTING WARNINGS

- Read the instructions before mounting your charging station on the wall.
- Do not install the charging station on a ceiling or inclined wall.
- Use the specified wall mounting screws and other accessories.

- This unit is rated for indoor or outdoor installation. If this unit is mounted outdoors, the hardware for connecting the conduits to the unit must be rated for outdoor installation and be installed properly to maintain the proper IP rating on the unit.

2 - DESCRIPTION

2.1 - MODEL DESCRIPTION

Model Name	MODEL DESCRIPTION: EVC04-AC**-* EVC04 : Electric Vehicle AC Charger (Mechanical Cabinet 04) 1st Asterisk (*) : Rated Power 22 : 22 kW (3Phase Supply Equipment) 2nd Asterisk (*) can include combinations of the following communication module options. RFID reader is standard equipment for all of the model variants. "S" option must be included for selecting combinations of W and L: S : Smart Board with Ethernet Port W : Wi-Fi module or WiFi & Bluetooth module L : LTE / 3G / 2G module 3rd Asterisk (*) : Can be one of the following: Blank : No Display 4th Asterisk (*) can include combinations of the following: A : Charging unit with Type-A RCCB 5th Asterisk (*) can be one of the following: Blank : Case-B Connection with normal socket
Cabinet	EVC04

3 - GENERAL INFORMATION

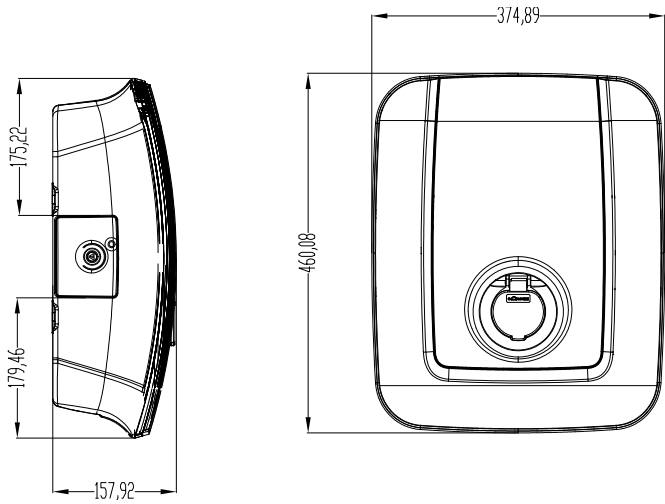
3.1 - INTRODUCTION OF THE PRODUCT COMPONENTS



EN Socket Models

- 1- RFID Card Reader
- 2- Access cover for residual current device (Optional)
- 3- Status indicator LED
- 4- Socket Outlet
- 5- Product Label
- 6- Charging cable (optional) or Out of use
- 7- Charging station Ethernet connection cable gland nut
- 8- Charging station connection cable union nut

3.2 - DIMENSIONAL DRAWINGS



4 - REQUIRED EQUIPMENT, TOOLS and ACCESSORIES

		
Drill Bit 8mm	Impact Drill	PC
		
Volt Indicator	Torx T25 Security Screwdriver	Water Level
		
Flathead Screwdriver (Tip width 2.00-2.5 mm)	Pointed Spudger	Right Angle Screwdriver Adapter / Torx T20 Security Bit
		
RJ45 Crimping Tool	Cat5e or cat6 ethernet cable	

5 - TECHNICAL SPECIFICATION

This product is compliant to IEC61851-1 (Ed3.0) standard for Mode 3 use.

Model		EVC04-AC22SWLA
IEC Protection class		Class - I
Vehicle Interface	Socket Model	Socket TYPE 2 (IEC 62196)
Voltage and Current Rates		400VAC 50/60 Hz - 3-phase 32A
AC Maximum Charge Output		22kW
Built-in Residual Current Sensing module		6mA
Required Circuit Breaker on AC Mains		4P-40A MCB Type-C
Required Leakage Current Relay on AC Mains (for products which are not equipped with RCCB Type A)		4P -40A - 30mA RCCB Type-A
Required AC Mains Cable		5x 6 mm ² (< 50 m) External Dimensions: Ø 18–25 mm

CONNECTIVITY

Ethernet	10/100 Mbps Ethernet (Standard with Smart Options)
Wi-Fi (Optional)	Wi-Fi 802.11 a/b/g/n/ac
Cellular (Optional)	LTE: B1 (2100 MHz), B3 (1800 MHz), B7 (2600 MHz), B8 (900 MHz), B20 (800 MHz), B28A (700 MHz) WCDMA: B1 (2100 MHz), B8 (900 MHz) GSM: B3 (1800 MHz), B8 (900 MHz)

OTHER FEATURES (Connected Models)

Diagnostics	Diagnostics over OCPP WebconfigUI
Software Update	Remote software update over OCPP WebconfigUI update Remote software update with server

AUTHORIZATION

RFID	ISO-14443A/B and ISO-15693
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MECHANICAL SPECIFICATIONS

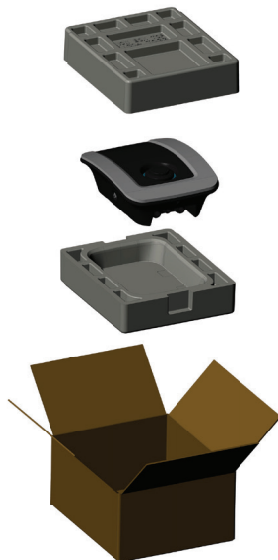
Material	Plastic
Product size	375 mm (Width) x 460 mm (Height) x 158 mm (Depth)
Dimensions (with package)	465 mm (Width) x 525 mm (Height) x 275 mm (Depth)
Product weight	6,18 kg for socket equipped model,
Weight with package	7,90 kg for socket equipped model,
AC Mains Cable Dimensions	For three-phase models Ø 18-25 mm
Cable Inlets	AC Mains / Ethernet / Modbus

ENVIRONMENTAL TECHNICAL SPECIFICATIONS

Protection Class	Ingress Protection Impact Protection	IP54 IK10 (Optional display have IK08 protection)
Usage Conditions	Temperature Humidity Altitude	-25 °C to 50 °C (without direct sunlight) 5% - 95% (relative humidity, non-condensing) 0 - 4,000m

6 - INSTALLING CHARGING STATION

6.1 - BOX CONTENTS FOR CHARGING STATION WITH SOCKET



6.2 - SUPPLIED INSTALLATION EQUIPMENT and ACCESSORIES

Accessory/Material Name	Use For	Quantity	Picture
Dowels (M8x50 Plastic Dowels)	Mounting charging station to the wall	4	
Torx T25 Security Screw (M6x75)	Mounting charging station to the wall	4	
Gasket for screw 6x75	IP for screws which are used for mounting charging station to the Wall.	4	
Torx T20 Security L-Wrench	IP for screws which are used for mounting charging station to the Wall.	1	
Wrench	Disassembling and fastening the cable glands	1	

RCCB Wrench(Optional)	To open the RCCB Cover	1	
RJ45 Male Connector – Optional	LAN Cable connection	1	
Mounting Template	Mounting the charging station to the wall	1	
O-Ring	Mounting the charging station to the pole	3	
Screw M6X20	Mounting the charging station to the pole	3	
Screw M6X30	Mounting and providing earth continuity for the charger, that mounts to metal surface. This screw should be mounted to the right-down hole of charging station to the Wall. Below this screw, there should be rubber under it to fix the ground cable.	1	
IP Rubber	Fixing the ground cable with the screw M6x30. This rubber should be placed to right-down Wall mount hole of charging station, under the ground cable and screw M6x30	1	
User RFID Card	Start&Stop Charging	2	
Master RFID Card	Adding&Removing the User RFID Cards to Local RFID List	1	
Installation Guide	Installation Manual	1 Set	
Instruction Book	User Manual	1 Set	

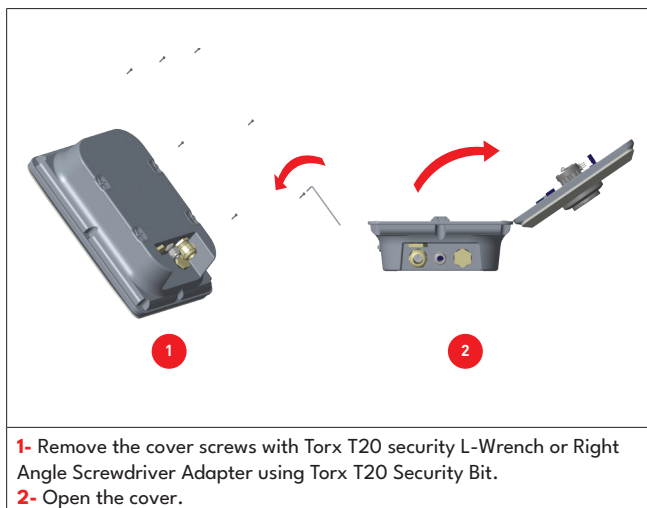
6.3 - PRODUCT INSTALLATION STEPS

CAUTION!

- Ensure that ground resistance of the installation less than 100ohms.
- Prior to mounting your charging station on the wall, read these instructions.
- Do not mount your charging station to the ceiling or an inclined wall.
- Use the wall mounting screws and other accessories specified.
- This charging station is classified as indoor and outdoor installation compatible. If the device is installed outside the building, the hardware that will be used to connect the cables to the charger shall be compatible with outdoor use and the charging station shall be mounted preserving the IP rate of the charger.

6.3.1 - OPENING THE COVER OF THE CHARGING STATION

	CAUTION RISK OF ELECTRIC SHOCK	
Please power off the charging station mains supply 		

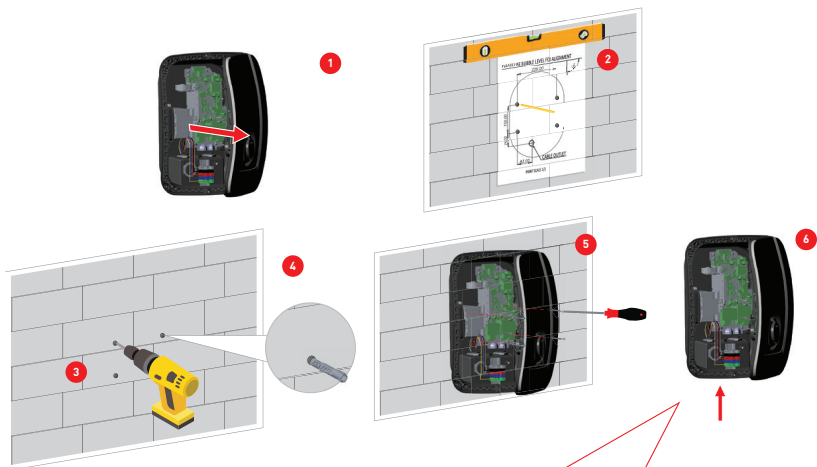


6.3.2 - WALL MOUNT INSTALLATION

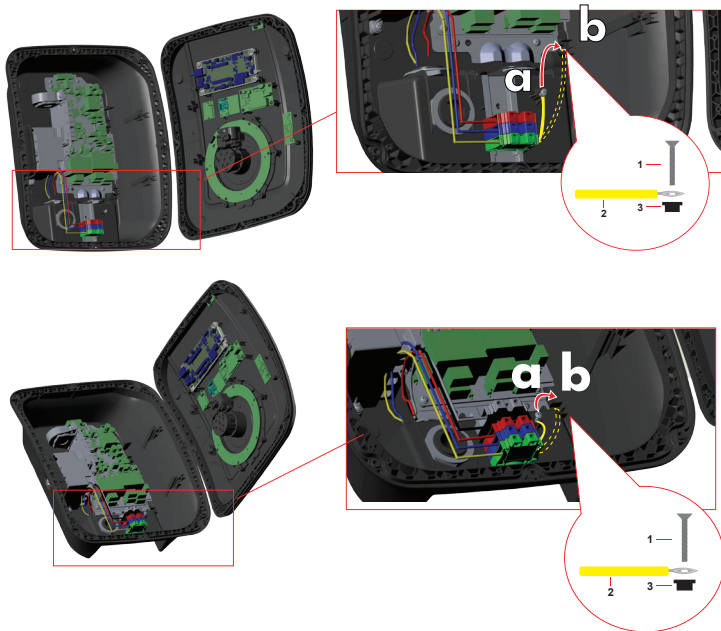
Wall mount installation is common for all charging station models.

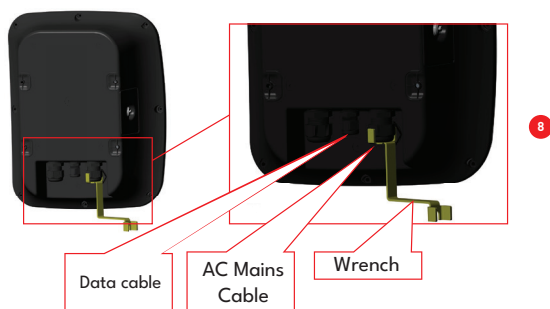
- 1- Open the product front cover by following the instruction.
- 2- Place the charging station to the Wall by using the mounting template which is given in accessory bag and mark the drill bit holes with a pencil.
- 3- Drill the wall on the marked points using the impact drill (8mm drill bit).
- 4- Place the dowels into the holes.
- 5- Tighten the security screws (6x75) of the product using Torx T25 Security Screwdriver.
- 6- Insert the AC mains cable into the charging station from the left cable gland which below the station. Follow the AC Mains Connection instructions on the next pages, depending on the model of the charger. (Single/Three Phase)
- 7- When mounting the charging station on conductive metal surfaces such as metal poles, etc., you can make the grounding connection via the “bottom right” screw using the grounding extension cable as shown in the figure below. To ensure grounding, you need to change the position of the ground wire from “a” to “b” as shown in the figure below. The figure below shows the ground connections for single phase and three phase. Follow the instructions below.
 - i. Insert the plastic support (IP rubber supplied in the unit's accessory package) into the fixing hole (position “b”)
 - ii. Secure the ground wire using the M6x30 screw included in the artwork package, which is also used to mount the product to the conductive metal surface.

Note: Both grounding and sealing are achieved by first putting a rubber gasket under the ground wire and then tightening the screw, respectively, as shown in the figure.
- 8- Tighten the cable glands as shown in the figure. Before closing the cover of the charging station, follow the instructions in next sections if any function related to these sections are used.
- 9- To close the cover of the charging station, tighten the cover screws which you were removed with Torx T20 Security L-Wrench or Right Angle Screwdriver Adapter using Torx T20 Security Bit. (Min:1.2Nm; Maks:1.8Nm)
- 10- Mounting the charging station on the wall is finished.

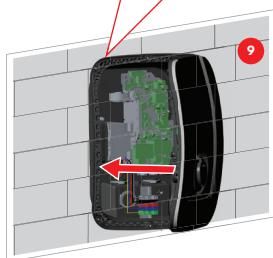


Before next step (7), Please check the instructions for Single Phase or Three Phase cable connections.

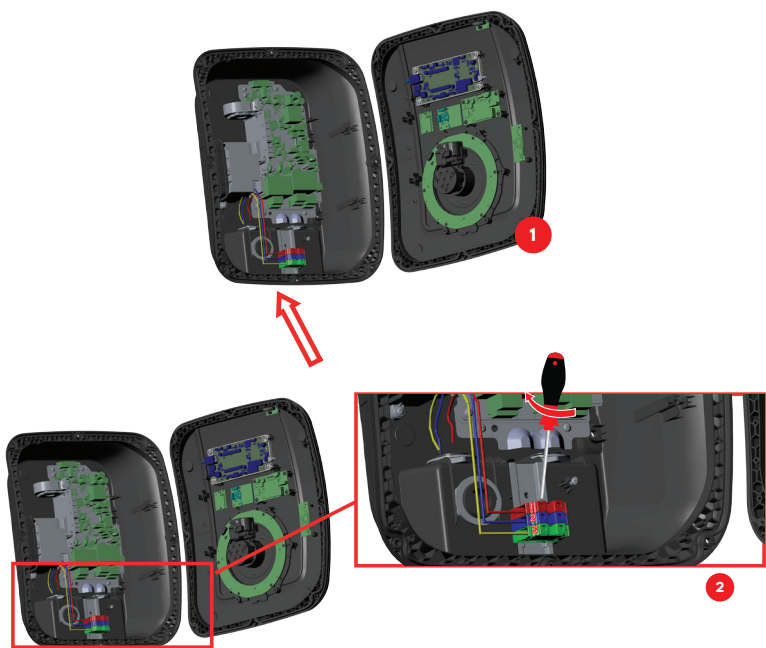




Before closing the cover of the charging station, check next instructions if any function related to these sections are used.



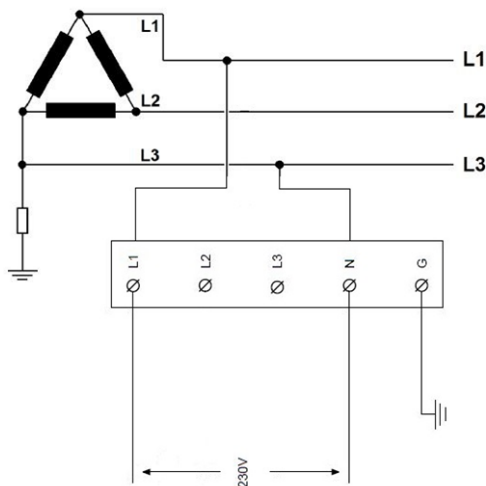
6.3.3- SINGLE PHASE CHARGING STATION AC MAINS CONNECTION



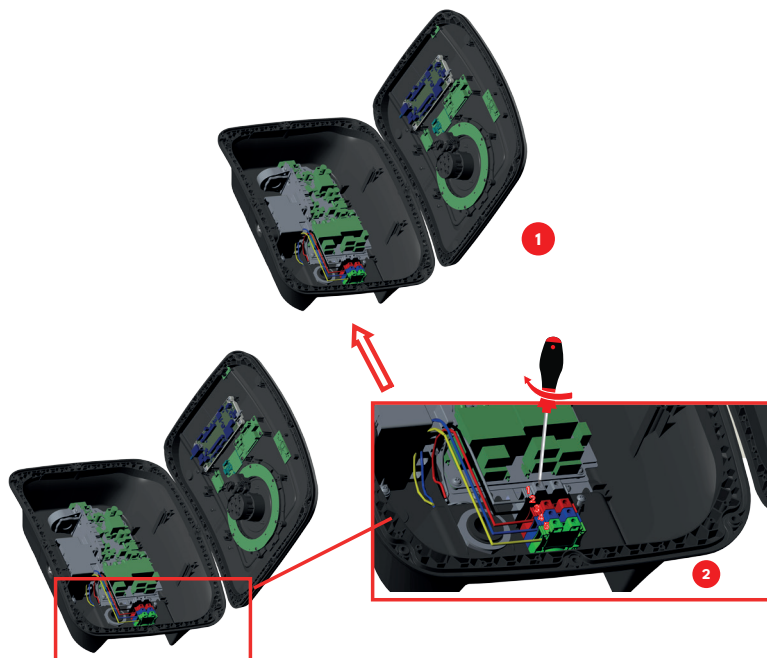
- 1-** Insert the cables into the terminal block as shown in the figure. Check the table below to match the AC Wire Color to the Electrical Terminal number.
- 2-** Tighten the screws on the terminal block with a tightening torque of 2.5 Nm as shown in the picture.

Electrical Terminal	Color of AC Cord
1	AC L1 (Brown)
2	AC Neutral (Blue)
3	Earth (Green-Yellow)

For Single Phase IT Network installation, the wiring diagram shown below should be used. Additionally, "IT Grid" must be selected as the grounding type in the "Installation settings" menu in the web user interface.



6.3.4- THREE PHASE CHARGING STATION AC MAINS CONNECTION



1- Insert the cables to the terminal block as shown in the image. Check the table below to match Electric Terminal number with AC Cable Color.

2- Tighten the screws on the terminal block as shown in the image with the tightening torque of 2.5Nm.

Electric Terminal	AC Cable Color
1	AC L3 (Grey)
2	AC L2 (Black)
3	AC L1 (Brown)
4	AC Neutral (Blue)
5	Earth (Green-Yellow)

If you want to install the three-phase charging station in single-phase, the phase cable connection must be made on terminal L1 as shown in the figure in the SINGLE-PHASE CHARGING STATION AC MAINS CONNECTION section.

6.3.5 - ADJUSTING CURRENT LIMITER

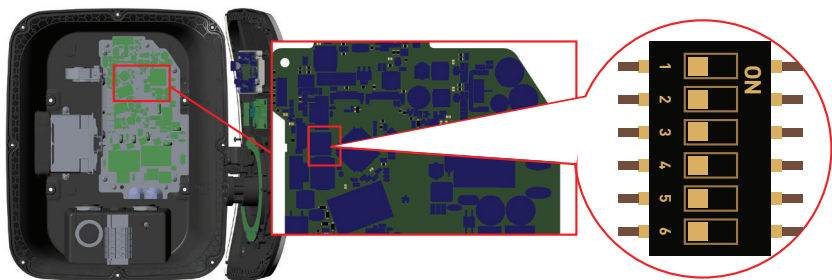
The charging station has current limiter (rotary switch) on the mainboard which is shown in figure below. This switch is used for adjusting the current and power of charging station. The arrow in the middle of the rotary switch must be adjusted gently by rotating with a flathead screwdriver to the position of the required current rate. The details of the current rates are described in table below.



Current Limiter Position	Current Limit Value			
	Phase	22 kW	11kW	7.4kW
0	1-Phase	10 A	10 A	10 A
1		13 A	13 A	13 A
2		16 A	16 A	16 A
3		20 A		20 A
4		25 A		25 A
5		30 A		30 A
6		32 A		32 A
7				
8	3-Phase	10 A	10 A	
9		13 A	13 A	
A		16 A	16 A	
B		20 A		
C		25 A		
D		30 A		
E		32 A		
F				

Required Circuit Braker on AC Mains	
<u>EV Charging Station Current Limiter Setting</u>	<u>C-Curve MCB</u>
10 A	13 A
13 A	16 A
16 A	20 A
20 A	25 A
25 A	32 A
30 A	40 A
32 A	40 A

6.3.6 - DIP SWITCH SETTINGS



Brief descriptions of the DIP switch pin settings can be found in below table.

Pin Number	Description
Pin-1	Reserved
Pin-2	External Enable Input Functionality
Pin-3	Locked Cable Function (only for socket models)
Pin-4-5-6	Power Optimizer (Requires Optional Accessories)

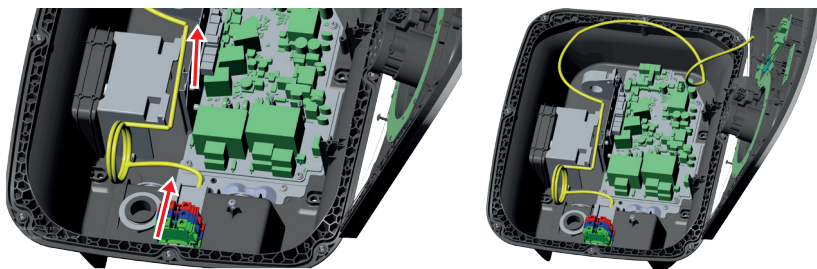
6.3.6.1 - DATA CABLE CONNECTION

1- Insert cable through the cable holes.

2- To connect the wires on mainboard, check next sections depending on the functions to be used.

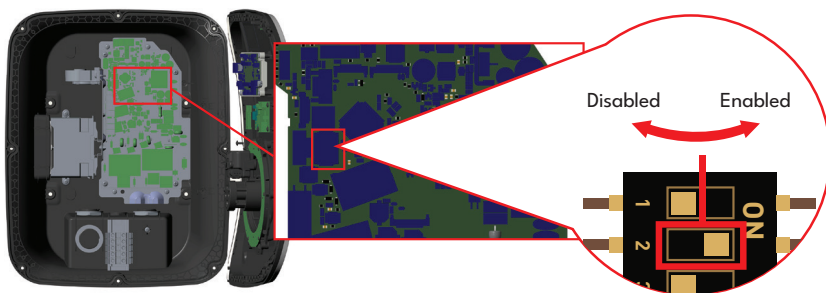
NOTE : Below data connection cables can be inserted through the cable holes;

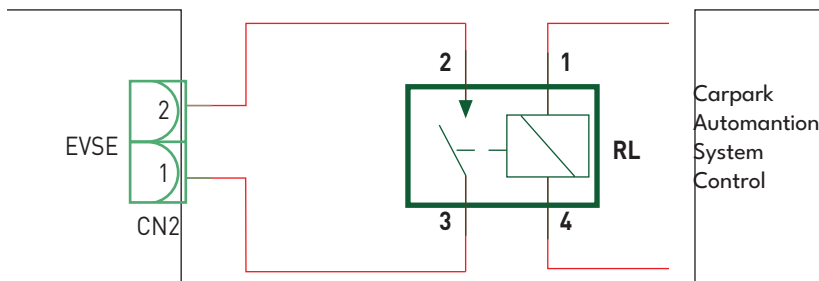
- a. External enable input cable
- b. Power optimizer measurement cable
- c. Ethernet daisy chain connection cables (Optional)
- d. Load shedding triggering signal cable
- e. Shunt trip module control signal cable for welded relay contact failure



6.3.6.2 - EXTERNAL ENABLE INPUT FUNCTIONALITY

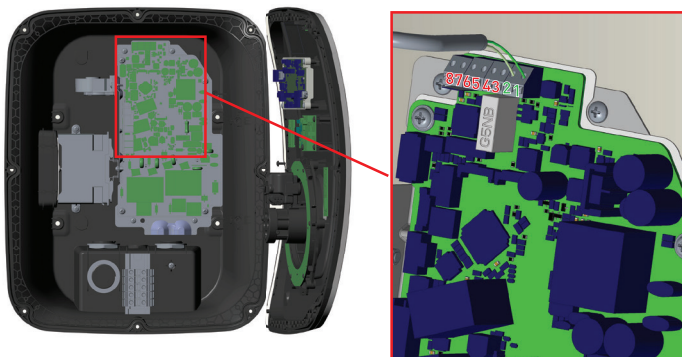
Your charging station has external potential free enable / disable functionality which can be used for integration of your charging station to an carpark automation systems, energy supplier ripple control devices, time switches, photovoltaic inverters, auxiliary load control switches, external key lock switches etc. DIP switch position 2 is used for enabling and disabling this functionality.





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

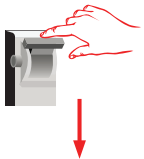
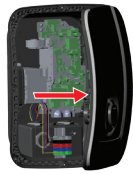
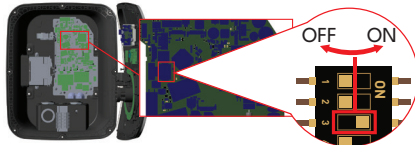
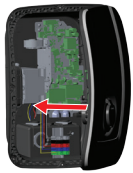
You can connect potential free input signals as shown in above circuitry.



Cable Terminal	Cable Color
1 (CN2-1)	Green
2 (CN2-2)	Green + White Green

6.3.6.3 - LOCKED CABLE FUNCTION (Model With Socket)

This charging station has functionality for fixing the charging cable of the user, to the charging socket of the unit. The cable becomes locked and socket model charging station behaves as a cabled model. For this functionality, the steps in table below can be followed.

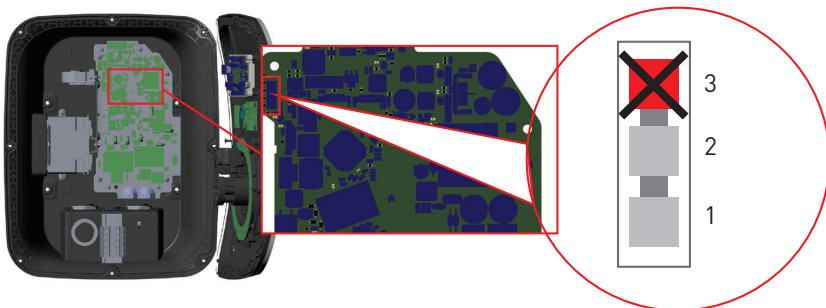
1- Turn off the power to your charging station. 	2- Open the product cover as described in the installation manual. 
3- To activate the locked cable function, turn DIP switch 3 pin to the ON position using an awl or a plastic pointed tool. The DIP switch location is shown in the figure below. 	4- Install the product cover as described in the installation manual. Close it as follows. 
5- Open the front cover of the socket and plug the charging cable into the socket. 	6- Turn on the power of your charging station. The cable locks and the charging station starts working like a wired model. 

6.3.6.4 - POWER OPTIMIZER (REQUIRES OPTIONAL ACCESSORIES)

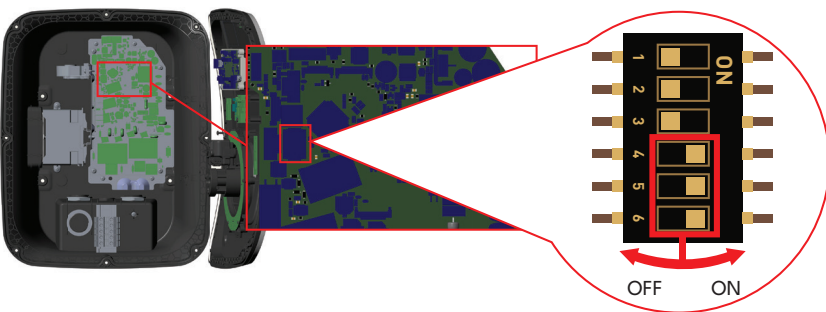
The EV charger has option to make single load balancing with different accessories.

1. Power Optimizer with External MID meter
2. Power Optimizer with External Current Transformer (CT)

To adjust the power optimizer, the slide switch (mode selection switch - SW3) on the control board should be in position to 1 or 2 as shown in figure below. If the switch is set to position 3, power optimizer does not work.



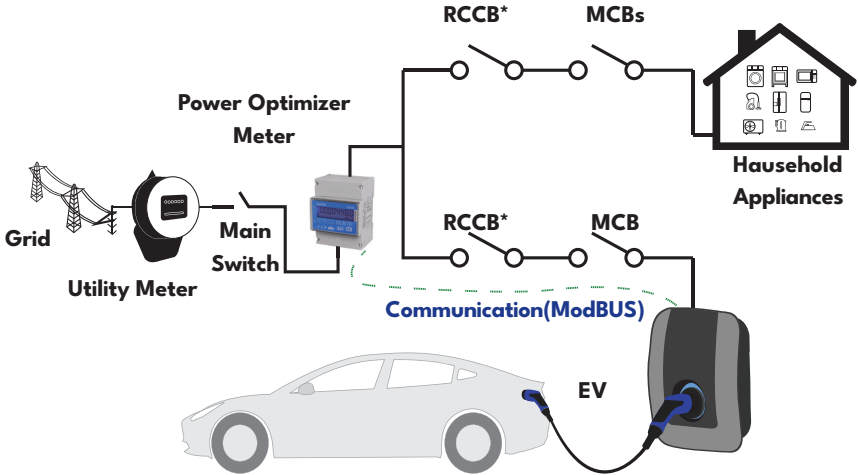
This feature is provided with an optional metering accessories which are sold separately. In power optimizer mode, the total current drawn from the main switch of the house by charging station and other household appliances is measured with current sensor integrated to the main power line. Current limit of the main power line of the system is set through the DIP switches inside the charging station. According to the limit set by the user, charging station adjusts its output charging current dynamically according to the measurement of main power line.



Last 3 DIP switch pins (4,5,6) shown in figure above corresponds to binary digits of the maximum current value as shown in the table below. When 4, 5, 6 pins are in OFF position, power optimizer functionality is disabled.

DIP Switch Positions			Current Limit Value
4	5	6	
OFF	OFF	OFF	Power Optimizer Disabled
OFF	OFF	ON	16
OFF	ON	OFF	20
OFF	ON	ON	25
ON	OFF	OFF	32
ON	OFF	ON	40
ON	ON	OFF	63
ON	ON	ON	80

6.3.6.4.1 - Power optimizer with external MID meter

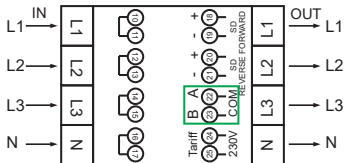


*This figures valid for variants which do not have integrated RCCB. If the charging station has integrated RCCB, there is no need to add additional RCCB in power line.

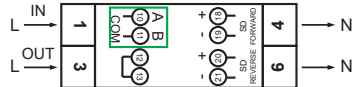
Power Optimizer Meter should be placed just after the main switch of the house as shown in the figure above.

Power Optimizer Meter wiring connections can be made according to the information below.

Three Phase

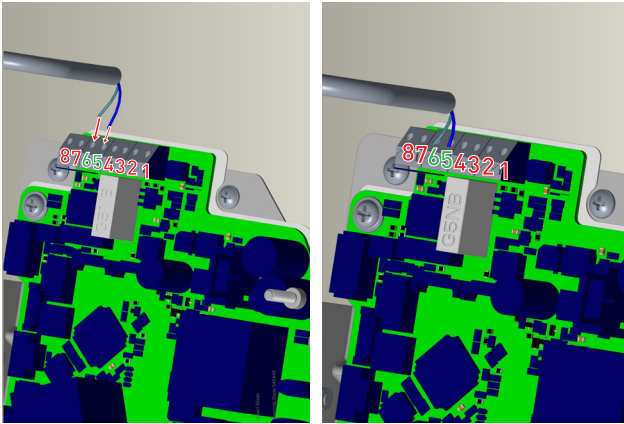


Single Phase



■ 22-23: A-B (COM) Modbus connection over RS485 for three phase charging station models.

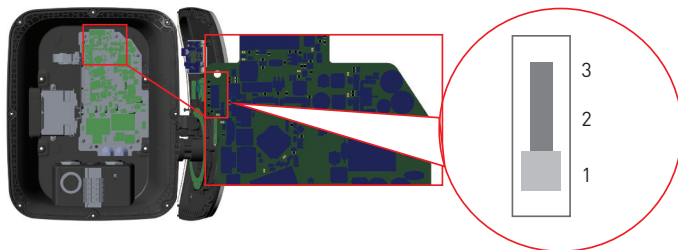
Related board wiring of Power Optimizer connections can be made as shown below:



Cable Terminal	Cable Color	Description
6 (CN20-2)	White Blue	A (COM)
5 (CN20-1)	Blue	B (COM)

6.3.7 - MODE SELECTION SWITCH SETTINGS

This charging station has 3 operation modes. For standard charging the mode selection should be in position 1.



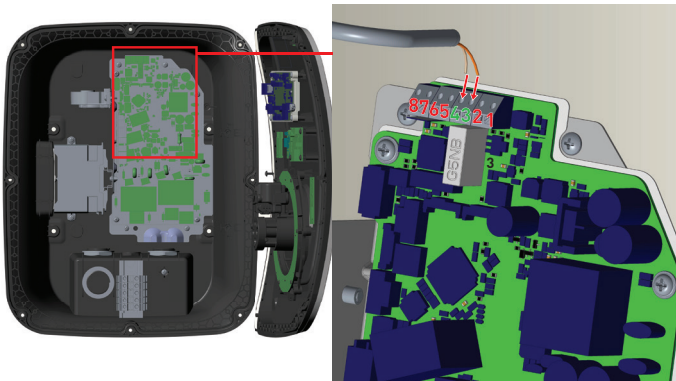
- 1. Operation Mode 1 (Standard Charging):** This mode is factory default configuration. When this mode is selected, charging station does not support peak/off peak time or TIC dynamic charging scenarios.
- 2. Operation Mode 2 (Postponed Charging):** For this mode, slide switch should be positioned as 2. When this mode is selected, charging station supports “C1-C2 Peak/Off Peak Time” signaling input and reacts accordingly for peak/off peak time charging.
- 3. Operation Mode 3 (TIC Dynamic Charging):** When this mode is selected, charging station supports receiving TIC (Tele Information Client) I1-I2 signal and reacts accordingly for peak/off peak time charging and regulates its charging power for dynamic load management according to the information sent by the meter via TIC signal.

6.3.8 - LOAD SHEDDING

This charging station supports load shedding functionality which provides immediate charging current reduction in case of limited supply. Load shedding functionality can be used in any mode including Standalone and OCPP connected modes. Load shedding triggering signal is a dry contact signal which must be provided externally and connected to the terminals 3 and 4 on the power board as shown in figure below

When load shedding is activated by closing the contacts with an external device (Eg. ripple control receivers etc.) charging current reduces down to 8A. When load shedding is deactivated by opening the contacts charging continues with maximum available current. In normal use case when there is no signal connected to the load shedding input (contacts open between terminal 3 and 4) charging station supplies maximum available current.

You can connect dry contact (potential free) load shedding signal as shown in below. See figure below ,tables below.



Cable Terminal	Input
3	Load Shedding Input +
4	Load shedding Input -

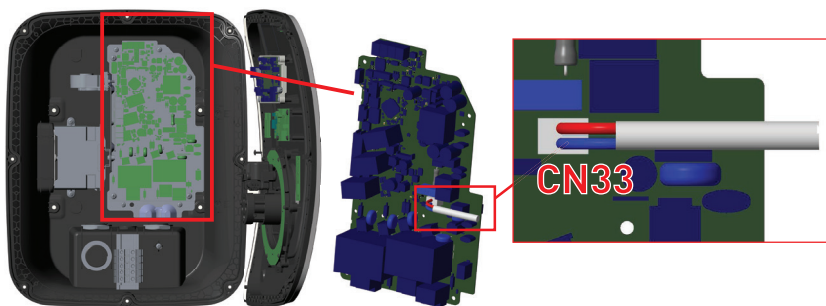
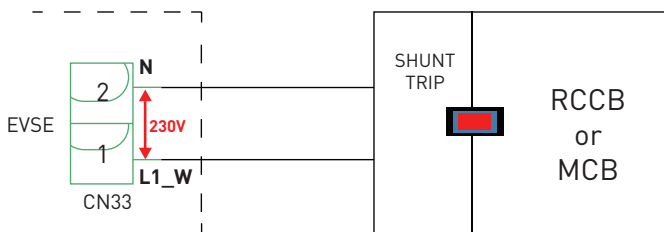
Load Shedding Input State	Behaviour
Opened Contact	Charge with max. available current
Closed Contact	Charge with 8A

6.3.9 - MONITORING OF WELDED RELAY CONTACTS FAILURE

According to IEC 61851-1 and EV/ZE Ready requirements, EVC04 EV Charging Station has welded contactor sensing function and in case of welded contact occurs, shunt trip 230V signal is provided from the main board. To detect welded contact failure for the relays, CN33 connector output terminals must be used.

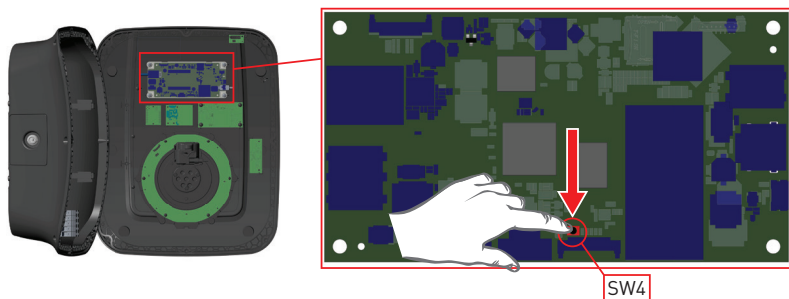
In case of a welded contact for the relays CN33 connector output will be 230V AC. The output which has 230V AC should be connected to a shunt trip for RCCB triggering as shown in figure below. The cabling should be done as shown in figure.

Connector (CN33) 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. The circuitry block diagram that must be used at the fuse box of the charging station is shown below.



6.3.10 - FACTORY RESET

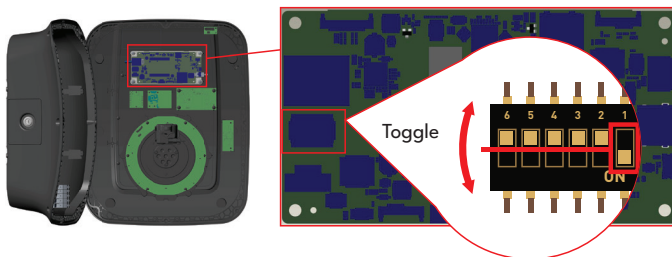
You must push the button on HMI board shown in figure below for factory reset. When you hold the button for 5 seconds user configuration will be reset to factory configuration. (e.g OCPP config, Network Config will be back to factory configuration.)



6.3.11 - RESETTING LOCAL RFID CARD LIST AND REGISTERING NEW MASTER RFID CARD IN STANDALONE USAGE MODE

If you loose your master RFID card and need to define a new master RFID card, below steps should be followed by your authorised service technician.

- Make sure the charging station is powered-off and open the front cover of your charger which is mentioned in installation guideline.
- Toggle the first position of DIP switch which is on the smart board of the charger shown in below. After that please turn on the charger again.



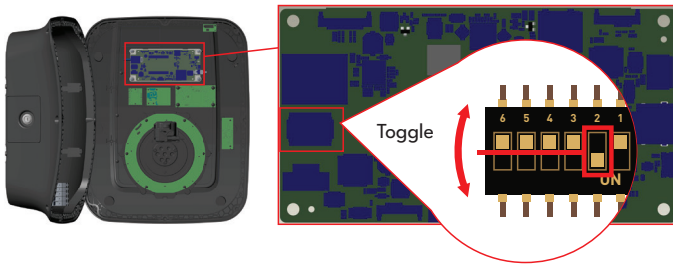
When the charger is powered on again please note that;

- Previously stored master card and user card list, if any exists, are deleted from charging station while entering the configuration mode. In configuration mode, the charger indication LED blinks red.
- If master card had not been registered during 60 seconds then configuration mode expires and charging station behaves as autostart product.
- The first RFID card which is registered within this 60 seconds of duration will be the new master RFID card. Please follow instructions to register RFID user card which is used during charging process.

6.3.12 - SETTING ETHERNET PORT OF CHARGER TO STATIC IP IN STANDALONE USAGE MODE

The charging station is preconfigured to DHCP mode in factory. If you need to connect to the charging station's web configuration interface directly using a computer, rather than using a router having DHCP server, steps below should be followed:

- Make sure the charging station is powered-off and open the front cover of your charger which is mentioned in installation guideline.
- Toggle the second position of DIP switch which is on the smart board of the charger shown in below. After that please turn on the charger again.
- Charging station sets the Ethernet port to 192.168.0.10 address statically and subnet mask will be set to 255.255.255.0



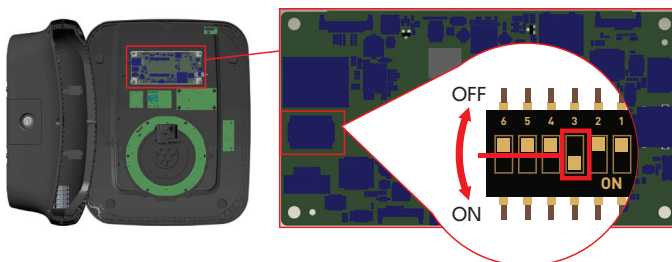
If the charger's LAN interface is needed to be set back to DHCP mode again this can be done from the web configuration interface.

Note: You can also use factory reset function to set the LAN interface back to DHCP mode again but please well note that all other parameters will be set to factory default parameters.

6.3.13 - WEB CONFIGURATION INTERFACE ENABLE / DISABLE

If you need to enable/disable the Web Configuration interface below steps should be followed:

- Make sure the charging station is powered-off and open the front cover of your charger which is mentioned in installation guideline.
- If you want to enable the web configuration interface, third position of DIP switch should be in "OFF" position as shown in figure below.
- If you want to disable the web configuration interface, third position of DIP switch should be in "ON" position as shown in figure below.

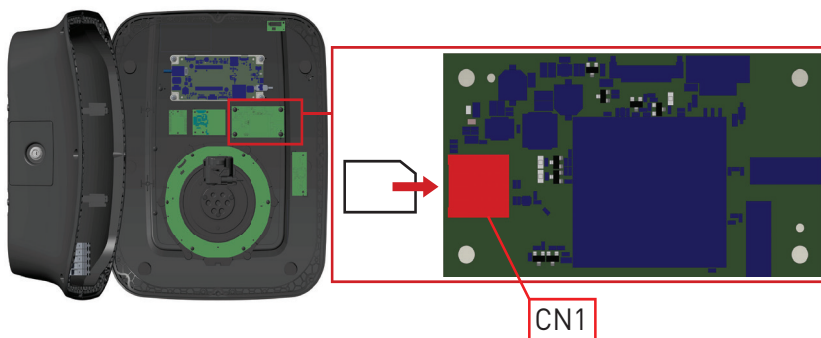


6.4 - OCPP CONNECTION

Make sure the charging station is powered-off.

6.4.1 - CONNECT OCPP OVER CELLULAR NETWORK (Optional)

Insert the micro SIM card in the SIM card slot on cellular module as shown in the below figure.

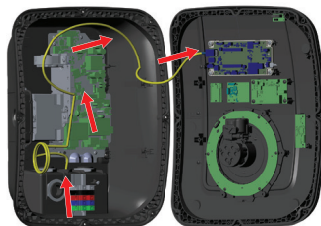


6.4.2 - CONNECT OCPP OVER ETHERNET

1- Insert cable through the cable gland.



2- 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.



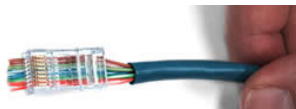
6- Moving from left to right, arrange the wires in a flat, side-by-side ribbon formation, placing them in the following order: white/orange, solid orange, white/green, solid blue, white/blue, solid green, white/brown, solid brown.



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!



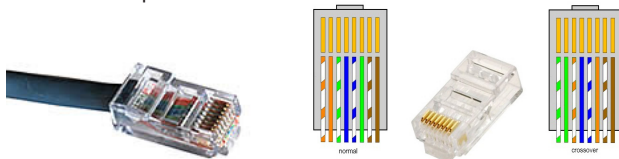
9- Insert the prepared connector/cable assembly into the RJ45 slot in your crimping tool. Firmly squeeze the crimper's handles together until you can't go any further. Release the handles and repeat this step to ensure a proper crimp.



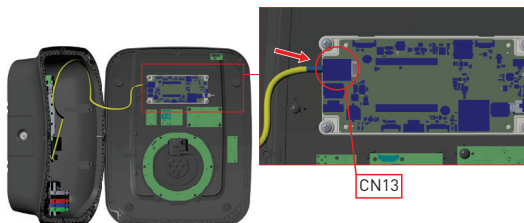
10- If your crimper doesn't automatically trim the wire ends upon termination, carefully cut wire ends to make them as flush with the connector's surface as possible. The closer the wire ends are trimmed, the better your final plug-in connection will be.



11- Termination is complete.



12- Insert the RJ45 connector to the socket as shown in figure below.



6.5 - COMMISSIONING

If you want to connect the charging station's web configuration interface, you have two options;

a. You can directly connect your PC to the charging station using a patch Ethernet cable. If you follow this option, please make sure that you have properly configured your charging station's LAN interface to static IP by following steps in section "SETTING ETHERNET PORT OF CHARGER TO STATIC IP IN STANDALONE USAGE MODE" and your charging station's web configuration interface is enabled via DIP switch which is mentioned in section "WEB CONFIGURATION INTERFACE ENABLE / DISABLE". By default, web configuration interface is enabled.

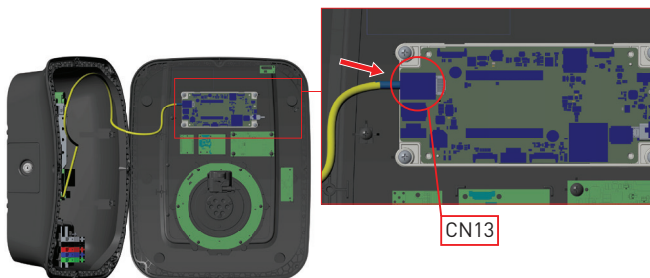
b. You can use a router having DHCP server. In this option, both the charging station and the PC should be connected to the router. Please be sure that you need to check the IP address from the router to be able to make the connection.

For direct PC connection option, you need to connect your PC to the charging station to use functions and make configurations below:

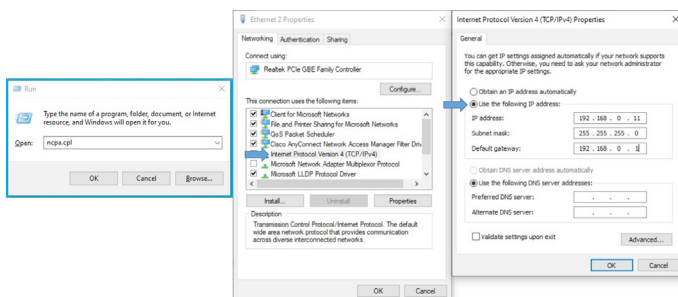
- Login
- Change Password
- Main Page
- General Settings : Display Language, Display Backlight Settings, Led Dimming Settings, Standby Led Behaviour, Display Theme, Display Service Contact Info, Logo Settings, Display QR Code, Scheduled Charging.
- Installation Settings : Earthing System, Current Limiter Settings, Unbalanced Load Detection, External Enable Input, Lockable Cable, Charging Mode Selection and Power Optimizer Configuration-Location -Load Shedding Minimum Current.
- OCPP Settings : OCPP Connection, OCPP Version, Connection Settings, OCPP Configuration Parameters
- Network Interface Settings : Cellular, Ethernet, Wi-Fi, Wi-Fi Hotspot
- Standalone mode settings
- Local Load Management : General Settings
- System Maintenance: Log Files, Firmware Updates, Configuration Backup & Restore, System Reset, Administration Password, Factory Default Configuration, Local Charge Sessions.

6.5.1 - CONNECT PC TO THE SAME NETWORK WITH SMART BOARD

In order to access web configuration interface, first you need to connect your PC and EV charger to the same ethernet switch or connect EV charger to your PC directly.



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 192.168.0.254 network which means that IP address should be in a range of between 192.168.0.1 and 192.168.0.254.



6.5.2 - OPENING WEB CONFIGURATION INTERFACE WITH BROWSER

Open your web browser and type 192.168.0.10 which is IP address of smart board.

You will see login page on your browser;

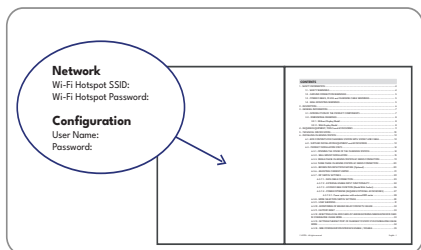
When you want to enter to the web configuration interface in the first time, you will see the warning as “We recommend you to change your default password from system maintenance menu”.

You can enter the system with:

Default username = admin

Default password = admin

This username and password are printed to label inside the front cover of the installation guideline as shown below. You can log in to the Web configuration interface by entering the information written on the label.



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

Attention: For web configuration interface accessibility problems; Web browsers usually save some information from websites in its cache and cookies. Forcing Refresh or Clearing (depending on your operating system and browser) them fixes certain problems, like loading or formatting issues on web page.

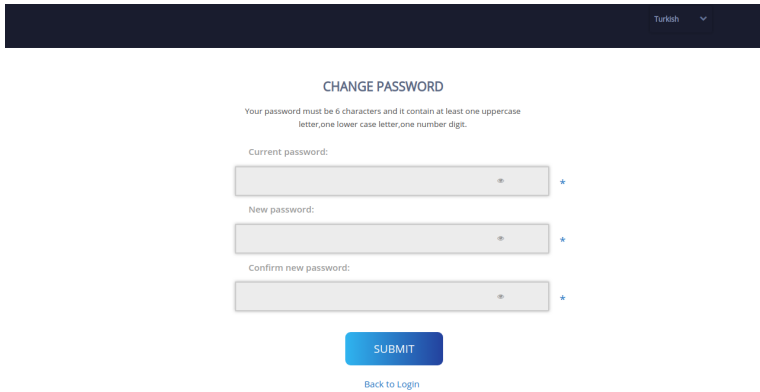
The screenshot shows the login page of the web configuration interface. At the top right, there is a language dropdown menu set to 'English'. The main heading is 'LOG IN'. Below this, there are two input fields: 'User Name:' and 'Password:'. Both fields have a blue asterisk icon to their right. Below the password field, there is a red warning message: 'We recommend you to change your default password from system maintenance menu'. At the bottom, there is a blue 'LOG IN' button and a blue link labeled 'Change Password'.

If you click the “Change Password Button” you will be redirected to the Change Password page. New password must contain at least 1 lowercase letter, 1 uppercase letter, 1 numeric character and minimum 6 characters.

After typing your current password and new password twice, you will be redirected to the login page again to log in with your new password.

All spaces you will see are mandatory in this page.

After submitting this page you will be redirected to login page. Also if you don't want to change the password you can turn back the login page with “Back To Login”. Changing password is important for your security.



Turkish ▼

CHANGE PASSWORD

Your password must be 6 characters and it contain at least one uppercase letter, one lower case letter, one number digit.

Current password:

New password:

Confirm new password:

[SUBMIT](#)

[Back to Login](#)

6.5.3 - OPENING WEB CONFIGURATION INTERFACE VIA WIFI HOTSPOT

For this unit, when accessing to Wi-Fi Hotspot settings in the WEB User Interface, under Network Settings tab, Wi-Fi Hotspot is ON by default, and the timeout time of Wi-Fi Hotspot is set as 15 minutes. Optionally the timeout time can be changed as 5-30 minutes. Also, under the Network Settings tab, Wi-Fi Hotspot can be disabled. During the Wi-Fi Hotspot timeout duration, it is possible to connect a smart device (mobile phone, tablet or laptop) to the charging station.

Wi-Fi Hotspot SSID is set as Serial no and Wi-Fi Hotspot password is CP-ID, as factory configuration. This Wi-Fi Hotspot SSID and Wi-Fi Hotspot password are printed to label inside the front cover of the installation guideline as shown below. You can log in to the Web configuration interface via Wi-Fi Hotspot by entering the information written on the label.

6.6 - WEB CONFIGURATION INTERFACE

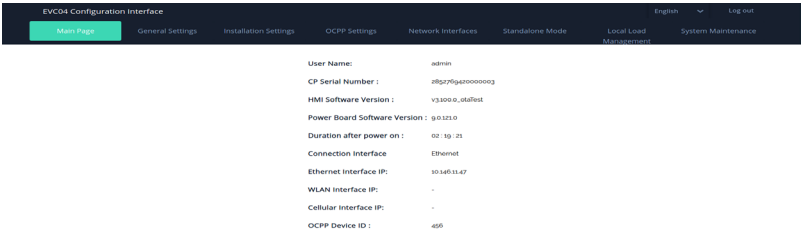
6.6.1 - MAIN PAGE

After you logged in successfully, you are directed to the main page.

Main page shows the general information about the device such as software versions, connection interface and IDs.

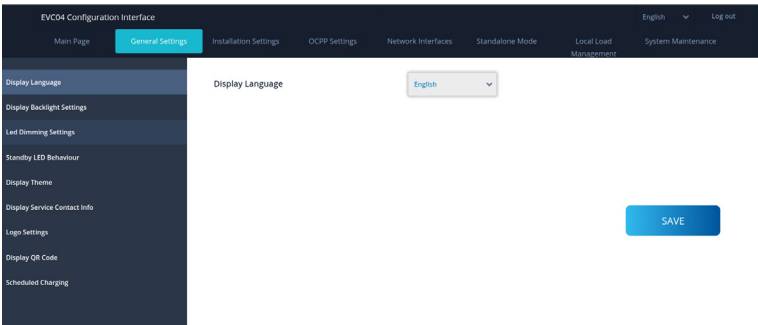
You can also change the web configuration interface language and log out of the web configuration interface with the buttons in the upper right corner of the page.

The following languages are available: Turkish, English, German, French, Romanian, Spanish, Italian, Finnish, Norwegian, Swedish, Hebrew, Danish, Czech, Polish, Hungarian, Slovakian, Dutch, Greek, Bulgarian, Montenegrin, Bosnian, Serbian, Croatian. The boxes are configured in English by default.



6.6.2 - CHANGE GENERAL SETTINGS OF THE DEVICE

6.6.2.1 - Display Language: Technician can select display language from the general settings page. Available languages for display language are as shown in figure below for now. After selecting the language, user can save selection by “Save Button”.



6.6.2.2 - Display Backlight Settings: Technician can select display backlight dimming settings from the general settings page. Sunrise Time and Sunset Time can be selected when Backlight Level is time based. Backlight level options are Very Low,Low,Mid,High and Time Based. Time values can be between 00:00 and 23:59.

EVC04 Configuration Interface

English Log out

Main PageGeneral SettingsInstallation SettingsOCPP SettingsNetwork InterfacesStandalone ModeLocal Load ManagementSystem Maintenance

Display Language

Display Backlight Settings

Led Dimming Settings

Standby LED Behaviour

Display Theme

Display Service Contact Info

Logo Settings

Display QR Code

Scheduled Charging

Backlight Level

Mid

Sunrise Time

07:00

Sunset Time

19:00

SAVE

6.6.2.3 -Led Dimming Settings: Technician can select LED dimming settings from the general settings page. Sunrise Time and Sunset Time can be selected when Led Dimming Level is time based.

Led Dimming level options are Very Low,Low,Mid,High and Time Based. Time values can be between 00:00 and 23:59.

EVC04 Configuration Interface

English Log out

Main PageGeneral SettingsInstallation SettingsOCPP SettingsNetwork InterfacesStandalone ModeLocal Load ManagementSystem Maintenance

Display Language

Display Backlight Settings

Led Dimming Settings

Standby LED Behaviour

Display Theme

Display Service Contact Info

Logo Settings

Display QR Code

Scheduled Charging

Led Dimming Level

Mid

Sunrise Time

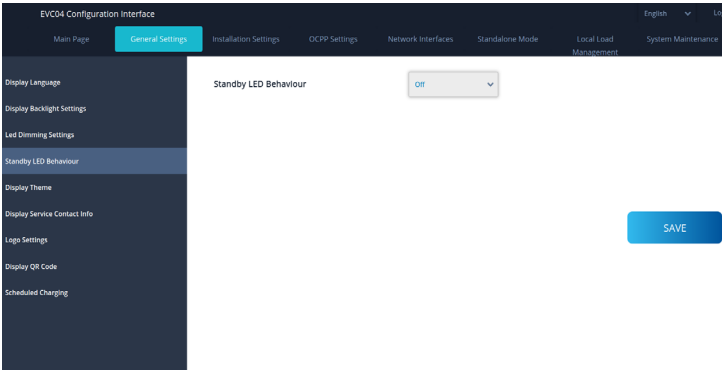
07:00

Sunset Time

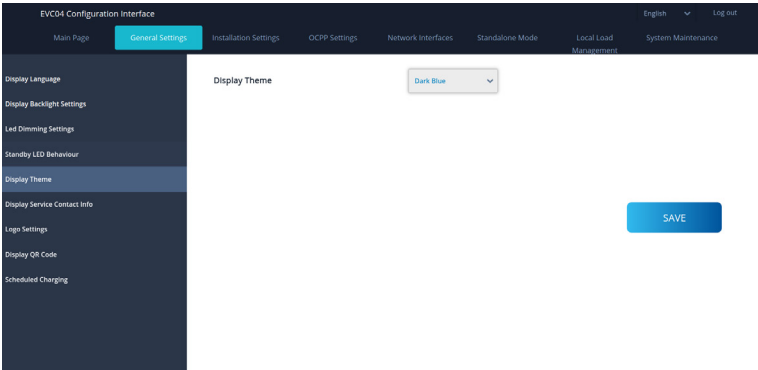
19:00

SAVE

6.6.2.4 - Standby Led Behaviour: Technician can select standby LED behaviour from the general settings page. Standby Led Behaviour can be on or off.

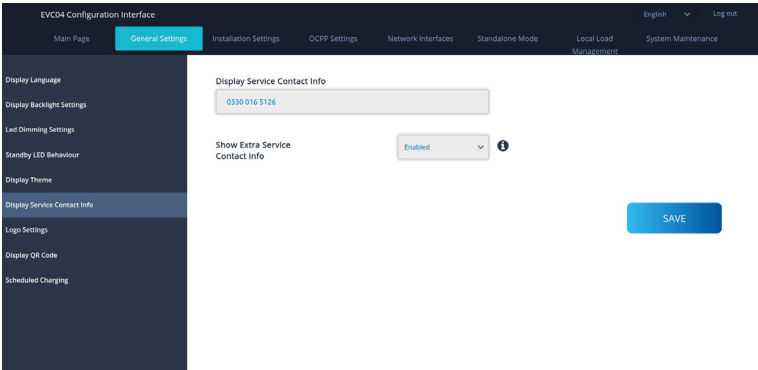


6.6.2.5 - Display Theme: Technician can change display theme from the general settings page. Blue theme is selected as default. If you want to change display theme, you can use this field.



6.6.2.6 - Display Service Contact Info: If your device gets out of order screen with an error, you can get help with the device thanks to the display service contact information entered in this field.

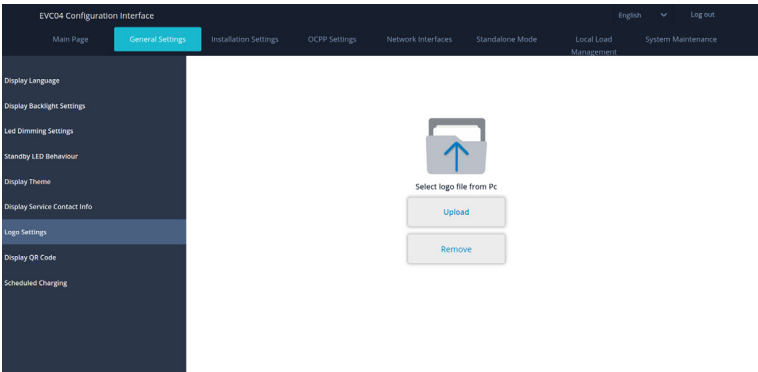
If you want to show this display service contact information on Connect Charging Cable, Preparing For Charging, Initializing and Waiting for Connection Screens you can enable the config from Show Extra Service Contact Info setting.



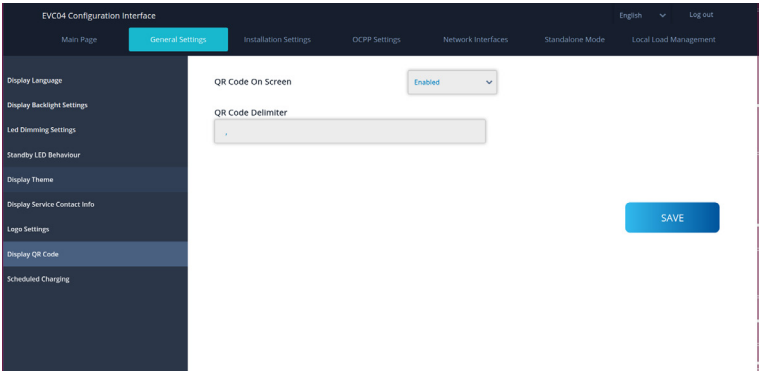
6.6.2.7 - Logo Settings: Technician can change display logo from the general settings page. After choosing the logo with the upload button, you can upload it with the update button.

Technician can only upload png format and the size of the logo you choose should be 80x80.

Also you can remove the logo with remove button.

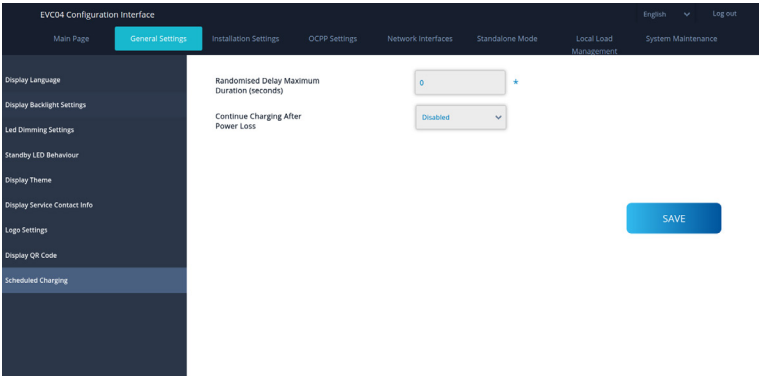


6.6.2.8 - Display QR Code: Technician can upload or remove QR code from the general settings page. QR code delimiter can be minimum 1, maximum 3 characters.
Valid characters are .,:;!#^+\$%&/(){}[]=?*~_@<>|.



6.6.2.9 - Scheduled Charging

If the device is in Standalone Mode, you can only set Randomised Delay Maximum Duration and Continue Charging After Power Loss settings.
Randomised Delay Maximum Duration, can take values between 0 and 1800.



If the device is in Ocpp Mode, for this mode you should enabled Ocpp Connection in Ocpp Settings. In Ocpp Mode you can make all Off Peak Charging settings.

EVC04 Configuration Interface

English Log out

Main PageGeneral SettingsInstallation SettingsOCPP SettingsNetwork InterfacesStandalone ModeLocal Load ManagementSystem Maintenance

Display Language

Display Backlight Settings

LED Dimming Settings

Standby LED Behaviour

Display Theme

Display Service Contact Info

Logo Settings

Display QR Code

Scheduled Charging

Randomised Delay Maximum Duration (seconds)

0

Off-peak Charging

Enabled

Off-peak Charging at the Weekends

Disabled

Off-peak Charging Second Time Period

Disabled

Off-peak Charging Periods

10 : 00 AM10 : 00 PM

Timezone

UTC

Continue Charging at the end of Off-peak Interval

Disabled

Continue Charging After

Disabled

SAVE

6.6.3 - INSTALLATION SETTINGS

6.6.3.1 - Earthing system: Earthing System Tab in web configuration interface. If Earthing Type is selected as IT, the protective earth error check is disabled. In web configuration interface, earthing type is “TN/TT” by default.

EVC04 Configuration Interface

English Log out

Main PageGeneral SettingsInstallation SettingsOCPP SettingsNetwork InterfacesStandalone ModeLocal Load ManagementSystem Maintenance

Earthing System

Current Limiter Settings

Unbalanced Load Detection

External Enable Input

Lockable Cable

Charging Mode Selection and Power Optimizer Configuration

Location

Load Shedding Minimum Current

Earthing System

TN/TT

SAVE

6.6.3.2 - Current Limiter Settings: Current Limiter Phase information can be adjusted in this menu. Also Current Limiter Value can be written manually between 6-32A. If a value below 6A is written, a warning will be shown to write minimum 6A.

Note: The current limiter of the charging station can be set in hardware via the rotary switch or manually in the web configuration interface. There is no hardware or software configuration interface priority. The charging station uses the current value last set by the installer from either interface.

EVC04 Configuration Interface

Main Page General Settings **Installation Settings** OCPP Settings Network Interfaces Standalone Mode Local Load Management System Maintenance English Log out

Earthing System

Current Limiter Settings

Unbalanced Load Detection

External Enable Input

Lockable Cable

Charging Mode Selection and Power Optimizer Configuration

Location

Load Shedding Minimum Current

* REQUIRED PARAMETERS

Current Limiter Phase One Phase

Current Limiter Value 32

SAVE

6.6.3.3 - Unbalanced Load Detection: In this part, you can select Unbalanced Load Detection from Web configuration. Options are Disabled and Enabled.

EVC04 Configuration Interface

Main Page General Settings **Installation Settings** OCPP Settings Network Interfaces Standalone Mode Local Load Management System Maintenance English Log out

Earthing System

Current Limiter Settings

Unbalanced Load Detection

External Enable Input

Lockable Cable

Charging Mode Selection and Power Optimizer Configuration

Location

Load Shedding Minimum Current

Unbalanced Load Detection Disabled

SAVE

If Unbalanced Load Detection is selected as an Enabled, Unbalanced Load Detection Max Current can be selected. Unbalanced Load

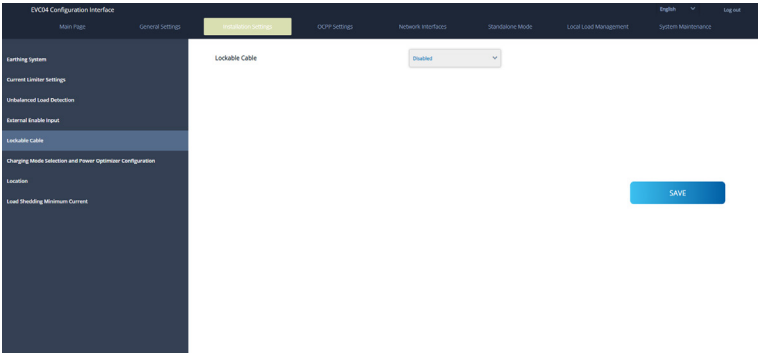
Detection Minimum value is 6, max value is Current Limiter Value. Current Limiter Value can be set on Current Limiter Settings.

The screenshot shows the 'EVC04 Configuration Interface' with the 'Installation Settings' tab selected. The left sidebar lists various settings, with 'Unbalanced Load Detection' highlighted. The main panel displays two dropdown menus: 'Unbalanced Load Detection' set to 'Enabled' and 'Unbalanced Load Detection Max Current' set to '3'. A 'SAVE' button is located at the bottom right.

6.6.3.4 - External Enabled Input: In this part, you can select External Enable Input from Web configuration. Options are Disabled and Enabled.

The screenshot shows the 'EVC04 Configuration Interface' with the 'Installation Settings' tab selected. The left sidebar lists various settings, with 'External Enable Input' highlighted. The main panel displays a dropdown menu for 'External Enable Input' set to 'Disabled'. A 'SAVE' button is located at the bottom right.

6.6.3.5 - Lockable Cable: In this part, you can select Lockable Cable from Web configuration. Options are Disabled and Enabled.



6.6.3.6 - Charging Mode Selection and Power Optimizer Configuration:

In this part, you can select Operation Mode, Power Optimizer Total Current Limit and Power Optimizer External Meter.

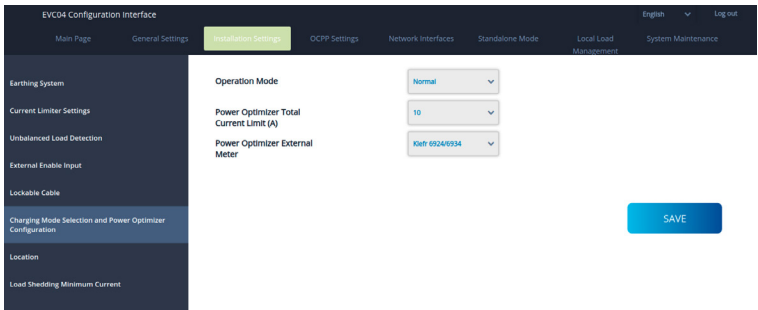
Operation Mode can be Normal, Peak / Off-Peak, TIC Power Optimizer Total Current Limit can be Disabled or can take values between 10 and 100.

When TIC selected in Operation Mode , Power Optimizer Total Current Limit and Power Optimizer External Meter can not be selected.

When Power Optimizer Total Current Limit is Disabled, Power Optimizer External Meter can not be selected.

Power Optimizer External Meter. can be selected Auto Selected, Klefr 6924 / 6934, Garo GNM3T / GNM3D, Embedded Power Optimizer with CT, P1 Slimmeter.

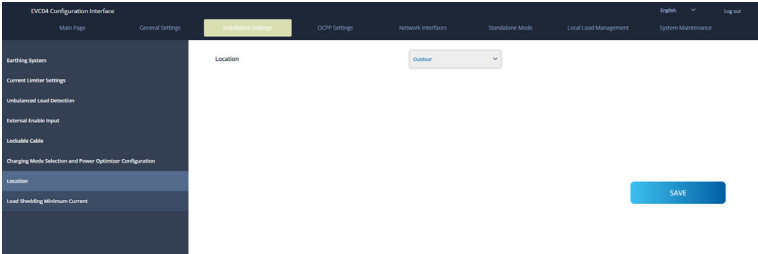
If Power Optimizer External Meter is Auto Selected, Power Optimizer value reads from main board.



6.6.3.7 - Location:

If the EVC is located to indoor, after entering ventilation, relay is open and the interlock is locked. The charger interrupts charging and red led lights up on the screen and warns you to contact the service. It does not charge until the battery returns to the appropriate temperature from the vehicle. Charging continues when the information comes.

If the EVC is located to outdoor, the relay is closed and the interlock is locked. Continues to charge like C state and ventilation doesn't required.

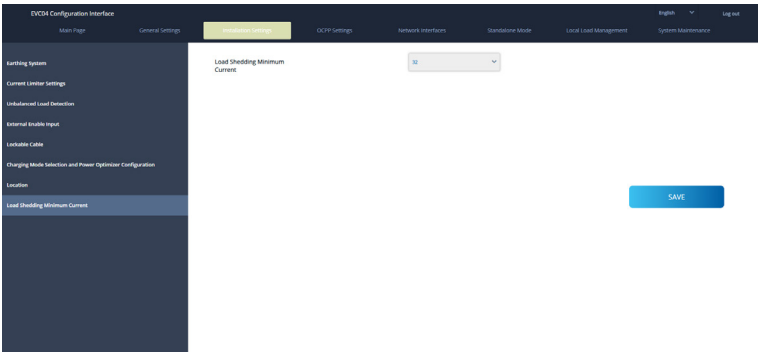


6.6.3.8 - Load Shedding Minimum Current:

This part includes Load Shedding Status and Load Shedding Minimum Current.

In this part, Load Shedding Status is reading from main board, you can select Load Shedding Minimum Current from Web configuration. This parameter can take values between 0 and Current Limiter Value.

Current Limiter Value can be set on Current Limiter Settings.



6.6.4 - CHANGE OCPP SETTINGS OF THE DEVICE

OCPP Connection: 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 mandatory fields for saving this page.

The screenshot displays the 'EVC04 Configuration Interface' with a dark blue sidebar and a light blue header. The sidebar contains a menu with 'OCPP Connection' selected. The main content area is titled 'OCPP Settings' and includes a 'Disabled' dropdown for 'OCPP Connection', an 'OCPP 1.6' dropdown for 'OCPP Version', and a 'Connection Settings' section with text input fields for 'Central System Address' and 'Charge Point ID'. A 'Set to Defaults' button is located below these fields. At the bottom, there is a 'FreeModeActive' dropdown set to 'False'. A 'SAVE' button is positioned to the right of the 'Central System Address' field. A small blue icon with a star and the text 'Indicates required field' is located at the top left of the main content area.

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.

The screenshot shows the 'OCPP Settings' tab in the EVC04 Configuration Interface. The left sidebar contains a menu with 'OCPP Configuration Parameters' selected. The main content area displays various settings: 'FreeModeActive' (False), 'FreeModeRFID' (0), 'AllowOfflineTxForUnknownId' (False), 'AuthorizationCacheEnabled' (False), 'AuthorizeRemoteTxRequests' (False), 'AuthorizationKey' (empty text field), and 'BlinkRepeat' (50). The 'BlinkRepeat' field is highlighted with a red border, and a red warning message is displayed below it: 'BlinkRepeat must be less than or equal to 20'. A 'SAVE' button is visible on the right side of the settings area.

Also if you make changes and you don't save them before the leaving that page, you will see the warning as shown below.

The screenshot shows the same 'OCPP Settings' tab, but a modal dialog box is displayed in the center. The dialog box contains the text: 'Page was not saved. Do you want to save the changes?'. Below the text are two buttons: 'Cancel' and 'SAVE'. The background settings are dimmed, and the 'BlinkRepeat' field remains highlighted with a red border and the warning message.

6.6.5 - CHANGE NETWORK INTERFACES SETTINGS OF THE DEVICE

There are four types of network interfaces in this page; Cellular, Ethernet, Wi-Fi and Wi-Fi Hotspot. Select interfaces' modes as "Enabled" if you want to activate it.

If you select Ethernet or Wi-Fi IP Settings as "Static"; "IP Address", "Network Mask", Default Gateway" and "Primary DNS" spaces are mandatory.

If you set Wi-Fi as enabled, "SSID", "Password" and "Security" are mandatory.

You should fill all spaces in suitable formats.

CELLULAR

The screenshot shows the 'EVC04 Configuration Interface' with the 'Network Interfaces' tab selected. On the left sidebar, 'Cellular' is highlighted. The main content area displays the 'Cellular' configuration form. It includes a status dropdown set to 'Enabled', a 'Cellular Gateway' dropdown set to 'Disabled', and input fields for IMEI (80425040096295), IMSI, ICCID, APN Name, and APN Username. A blue 'SAVE' button is located on the right side of the form.

LAN

The screenshot shows the 'EVC04 Configuration Interface' with the 'Network Interfaces' tab selected. On the left sidebar, 'LAN' is highlighted. The main content area displays the 'LAN' configuration form. It includes a 'MAC Address' field (68:47:49:72:50:20), an 'IP Setting' dropdown set to 'Static', and input fields for 'IP Address' (192.168.0.10), 'Network Mask' (255.255.255.0), and 'Default Gateway'. A blue 'SAVE' button is located on the right side of the form.

WLAN

EVC04 Configuration Interface

EnglishLog out

Main PageGeneral SettingsInstallation SettingsOCPP SettingsNetwork InterfacesStandalone ModeLocal Load ManagementSystem Maintenance

CellularLANWLANWi-Fi Hotspot

Indicates required field

WLAN

MAC Address:Enabled

CC:D3:C1:01:95:8F

SSID:

Password:

Security:Select security type

IP Setting:Please select IP setting

SAVE

When you finish it, click “Save” button.

WIFI HOTSPOT

Details are described in section “OPENING WEB CONFIGURATION INTERFACE VIA WIFI HOTSPOT”

EVC04 Configuration Interface

EnglishLog out

Main PageGeneral SettingsInstallation SettingsOCPP SettingsNetwork InterfacesStandalone ModeLocal Load ManagementSystem Maintenance

CellularLANWLANWi-Fi Hotspot

Indicates required field

Turn on during boot:Enabled

Auto turn off timeout:5

SSID:

Password:

SAVE

6.6.6 - CHANGE STANDALONE MODE SETTINGS OF THE DEVICE

If you have set OCPP as enabled in OCPP settings before, standalone mode cannot be selected. The mode list and “Save” button will be disabled in this situation.

Otherwise, you can select standalone mode from the list. There are three modes in the list;

Select “RFID Local List” mode to authenticate a RFID local list which will be entered by you. You can make an addition or deletion from the RFID local list later.

Select “Accept All RFID’s” mode to authenticate all RFID’s.

Select “Autostart” mode to allow charging without the need for authorization. It will be enough to plug to start charging.

If you are done with mode selection, click “Save” button and reboot the device.

EVC04 Configuration Interface

Main Page General Settings Installation Settings OCPP Settings Network Interfaces **Standalone Mode** Local Load Management System Maintenance

English Log out

Indicates required field.

Standalone Mode:

RFID Local List +

Please select model
RFID Local List
Accept All RFID's
Autostart

Manage RFID Local List:

Add Remove

SAVE

EVC04 Configuration Interface

Main Page General Settings OCPP Settings Network Interfaces **Standalone Mode** Local Load Management System Maintenance

English Log out

Indicates required field.

Standalone Mode:

RFID Local List +

Manage RFID Local List:

Add Remove

SAVE

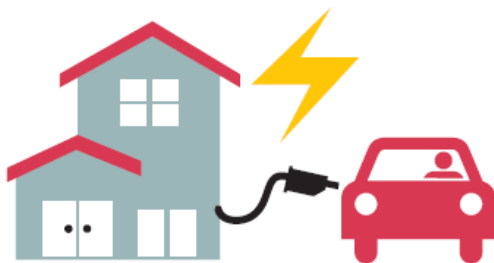
6.6.7 - LOCAL LOAD MANAGEMENT OF THE DEVICE

6.6.7.1 - Modbus TCP/IP Protocol Parameters

EVC04 charging station acts as a slave device in the Modbus TCP/IP communication. Charging station should be in the same network with the master device or a proper routing should be applied to provide communication between slave and the master devices in different sub networks. Each charging station should have different IP address. Modbus TCP communication port number is 502 and Modbus Unit ID is 255 for EVC04 charging stations. There can be only one active Modbus master connection at any time. When a new Modbus connection is established, the master is expected to set the Failsafe Current, Failsafe Timeout and Charging Current registers immediately. The master also periodically sets the Alive register to indicate that the connection is still alive. If the master does not update the value of the alive register until the failsafe timeout, the device switches to the failsafe state; TCP socket is terminated and failsafe current becomes active. As the update period of the Alive register, half of the failsafe timeout is recommended.

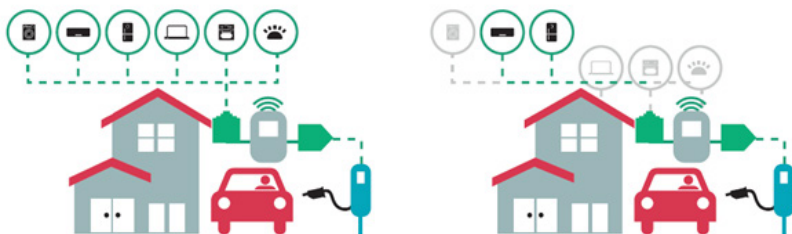
6.6.7.2 - Static Management

For static management, a power limit can be set to the load management group and the charger won't go above the power limit.



6.6.7.3 - Dynamic Management

With the help of dedicated power optimizer option, EV Charging station can manage the power limit based on the available power. When the household appliances consumes more, the charger consumes less and doesn't overload the main switch.



There are 2 different types of network topologies available for connecting multiple EVC04 charging stations in master/slave clusters. According to the customer needs, one of these alternatives can be chosen.

6.6.7.4 - Star Topology

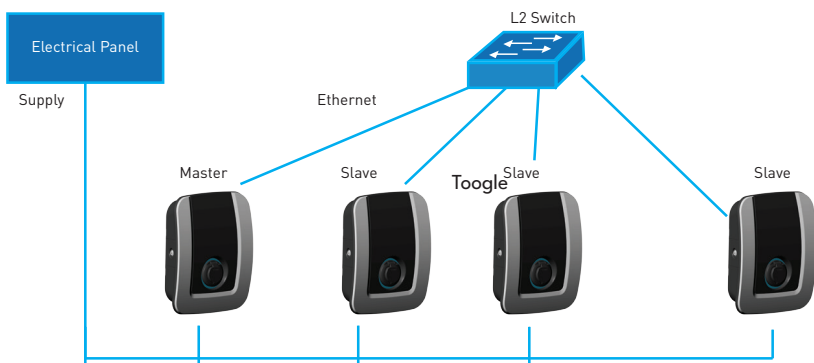
In star network topology, all chargers are connected to the master station via a network switch or router. This topology needs cabling between each charging station and the central switch. This topology is more reliable than daisy chain topology since each charging station has its own connectivity to the network switch. For connection of each station to the central switch, Cat5e or Cat6 Ethernet cables can be used up to 100 meters each.

For the IP configuration of the network, either the router may have DHCP server or the master charging station can be configured as DHCP server. If you use a router with a DHCP server, you need to configure all charging stations including the master station LAN IP address setting as “Dynamic” from “Network Interfaces” menu. In this scenario, all the charging stations get their IP addresses from central DHCP server.

If you use a router or a L2-switch without DHCP server, you need to configure master charging station LAN IP settings to DHCP server and slave charging station LAN IP setting to “Dynamic” from “Network Interfaces” menu. In this scenario, slave charging stations get their IP addresses from master charging station.

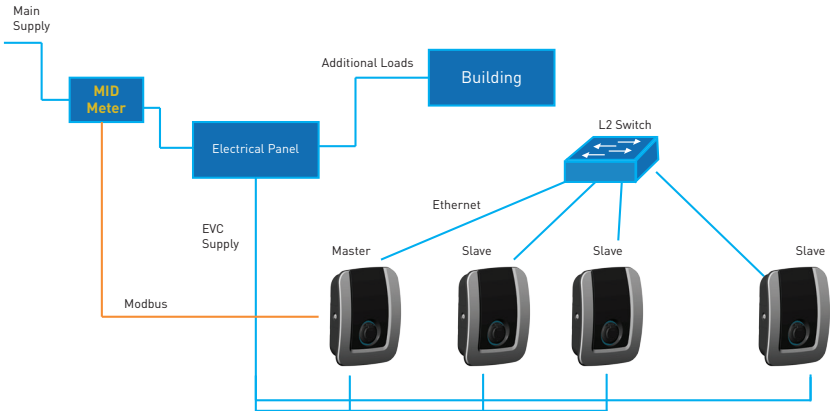
Block diagrams for static and dynamic supply in star network topology are provided as below.

6.6.7.4.1 - Static Supply Star Topology:



Local Load Management configuration of static supply.

6.6.7.4.2 - Dynamic Supply Star Topology:



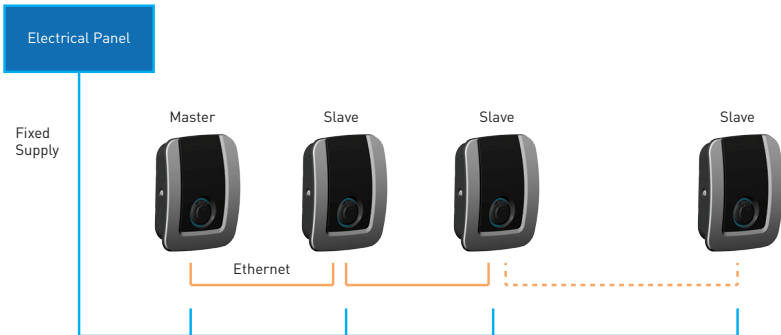
6.6.7.5 - Daisy Chain (Serial)

Daisy chain topology needs cabling between each charging station as in and out connection. To be able to use daisy chain topology, the charging station needs optional daisy chain two port switch board inside. For the connection of each charging station in series topology, Cat5e or Cat6 Ethernet cables can be used up to 100 meters each.

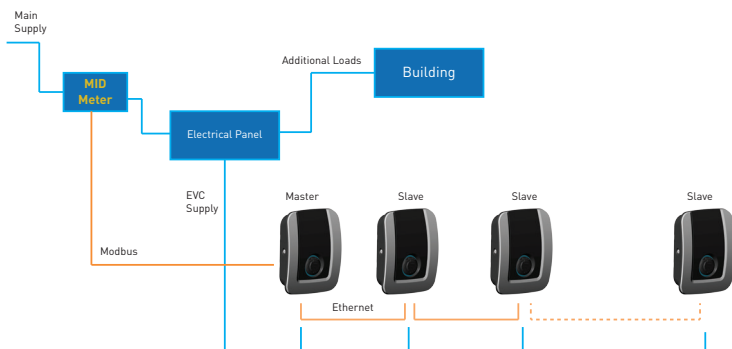
For the IP configuration of the network, master charging station should be configure as DHCP server. You need to configureslave charging stations' LAN IP address setting as "Dynamic" from "Network Interfaces" menu. In this scenario, all the charging stations get their IP addresses from the DHCP server inside master charging station.

Block diagrams for static and dynamic supply in daisy chain network topology are provided as below.

6.6.7.5.1 - Static Supply Daisy Chain Topology:



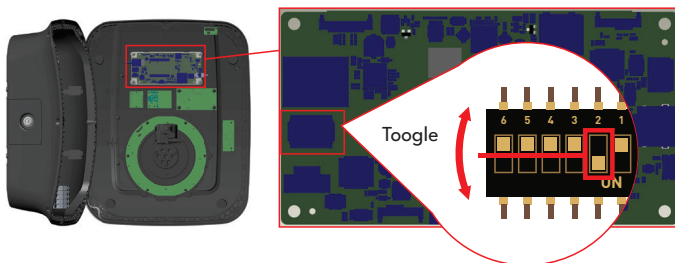
6.6.7.5.2 - Dynamic Supply Daisy Chain Topology:



6.6.7.5.3 - Configuration of Slave Charging Stations

The charging station is preconfigure to DHCP mode in factory. If you need to connect to the charging station's web configuration interface directly using a computer, rather than using a router having DHCP server, steps below should be followed:

- Make sure the charging station is powered-off and open the front cover of your charger which is mentioned in installation guideline.
- Toggle the second position of DIP switch which is on the smart board of the charger shown in figure-below After that please turn on the charger again.
- Charging station sets the Ethernet port to 192.168.0.10 address statically and subnet mask will be set to 255.255.255.0



Open your web browser and type 192.168.0.10 which is IP address of smart board.

You will see login page on your browser;

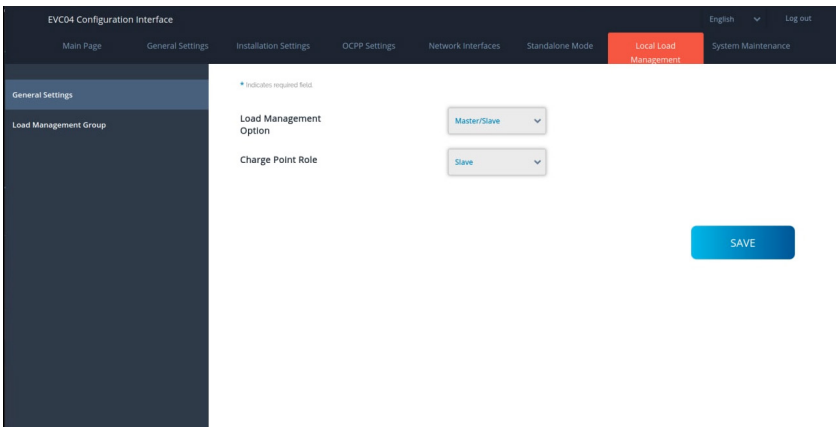
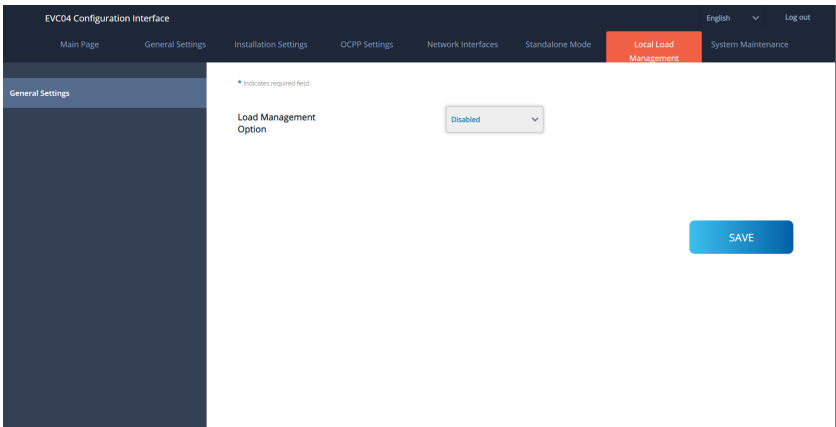
When you want to enter to the web configuration interface in the first time, you will see the warning as "We recommend you to change your default password from system maintenance menu".

You can enter the system with WEB Configuration Interface username and password.

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

Attention: For web configuration interface accessibility problems; Web browsers usually save some information from websites in its cache and cookies. Forcing Refresh or Clearing (depending on your operating system and browser) them fixes certain problems, like loading or formatting issues on web page.

Load management option is “disabled” by default. After accessing to configuration web interface, you need to tab “Local Load Management” menu and select “Master/Slave” in “Load management Option”. “Charge Point Role” should be selected as “Slave” as shown in below menus.



The slave charging stations should be set as DHCP client as shown in image below. Note that, this setting causes disconnection from configuration web interface of the charging station, so

this setting should be the latest setting in slave configuration of the charging station.

EVCD4 Configuration Interface

Main Page General Settings Installation Settings OICPP Settings **Network Interfaces** Standalone Mode Local Load Management System Maintenance

Cellular

LAN

WLAN

Wi-Fi Hotspot

LAN

MAC Address: 68-47-49-72-02-68

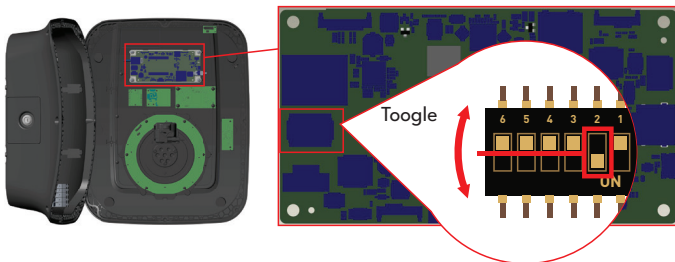
IP Setting: Please select IP setting. Static DHCP Server DHCP Client

SAVE

6.6.7.5.4 - Configuration of Master Charging Station

The charging station is preconfigure to DHCP mode in factory. If you need to connect to the charging station's web configuration interface directly using a computer, rather than using a router having DHCP server, steps below should be followed:

- Make sure the charging station is powered-off and open the front cover of your charger which is mentioned in installation guideline.
- Toggle the second position of DIP switch which is on the smart board of the charger shown in figure below After that please turn on the charger again.
- Charging station sets the Ethernet port to 192.168.0.10 address statically and subnet mask will be set to 255.255.255.0



Open your web browser and type 192.168.0.10 which is IP address of smart board.

You will see login page on your browser;

When you want to enter to the web configuration interface in the first time, you will see the warning as "We recommend you to change your default password from system maintenance menu".

You can enter the system with WEB Configuration Interface username and password.

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

Attention: For web configuration interface accessibility problems; Web browsers usually save some information from websites in its cache and cookies. Forcing Refresh or Clearing (depending on your operating system and browser) them fixes certain problems, like loading or formatting issues on web page.

The master charging station should be set as DHCP server with a valid static IP address. E.g. 192.168.0.10 with DHCP start and end IP addresses 192.168.0.50 and 192.168.0.100, respectively, as shown in the image below.

Note that if there is an external DHCP server in the local network, you also need to set master charging station to DHCP client.

EVCHA Configuration Interface

Main Page General Settings Installation Settings DHCP Settings **Network Interface** Standalone Mode Local Load Management System Maintenance

English Log out

Cellular

LAN

WLAN

Wi-Fi hotspot

* Required configuration

LAN

MAC Address :

8C:C3:74:95:D4:74

IP Setting:

DHCP Server

Please select IP setting: Static DHCP Server DHCP Client

DHCP Server Start IP Address:

192.168.0.50

DHCP Server End IP Address:

192.168.0.100

IP Address :

192.168.0.10

Network Mask:

255.255.255.0

Default Gateway:

SAVE

Activate Windows
Go to Settings to activate Windows.

Load management option is “disabled” by default. After accessing to configuration web interface, you need to tab “Local Load Management” menu and select “Master/Slave” in “Load management Option”. “Charge Point Role” should be selected as “Master” as shown in the image below.

EVCM Configuration Interface

[Main Page](#)
[General Settings](#)
[Installation Settings](#)
[OCP Settings](#)
[Network Interfaces](#)
[Standalone Mode](#)
[Local Load Management](#)
[System Maintenance](#)

English

Logout

General Settings

Load Management Group

Indicates required field

Load Management Option

Master/Slave

Charge Point Role

Master

Grid Settings

Main Circuit Breaker Current

100

DLM Total Current Limit Per Phase

99

Supply Type

Static

Load Management Mode

Equally Shared

RPO Charging Percentage

10

SAVE

Master charging station has additional configuration settings for dynamic load management group.

“DLM Total Current Limit Per Phase ” value should be set to the maximum allowed current which can be drawn from the upstream electrical circuit.

“Supply Type” should be set according to the load management type such as “static” current limit or “dynamic” current limit. For static current limit, “static” option should be selected. For dynamic current measurement, “MID” should be selected in “supply type”. Note that dynamic current limit setting needs optional current measurement accessories.

EVCM Configuration Interface

[Main Page](#)
[General Settings](#)
[Installation Settings](#)
[OCP Settings](#)
[Network Interfaces](#)
[Standalone Mode](#)
[Local Load Management](#)
[System Maintenance](#)

English

Logout

General Settings

Load Management Group

Indicates required field

Load Management Option

Master/Slave

Charge Point Role

Master

Grid Settings

Total Current Limit Per Phase

99

Supply Type

Static

Load Management Mode

Equally Shared

RPO Charging Percentage

10

SAVE

EVCM Configuration Interface

Main Page General Settings Installation Settings OCPP Settings Network Interfaces Standalone Mode **Local Load Management** System Maintenance

General Settings

Load Management Group

Load Management Option Master/Slave

Charge Point Role Master

Grid Settings

Main Circuit Breaker Current 100

DLM Total Current Limit Per Phase 99

Supply Type Static

Load Management Mode Static

FIFO Charging Percentage 50

SAVE

Appropriate load management mode can be selected from three options as “Equally shared”, “First in first out” and “Combined” modes. Combined mode needs extra configuration as “Fifo Charging Percentage” which effects the share between equally shared and first-in first-out calculations of the load management algorithm.

EVCM Configuration Interface

Main Page General Settings Installation Settings OCPP Settings Network Interfaces Standalone Mode **Local Load Management** System Maintenance

General Settings

Load Management Group

Load Management Option Master/Slave

Charge Point Role Master

Grid Settings

Main Circuit Breaker Current 100

DLM Total Current Limit Per Phase 99

Supply Type Static

Load Management Mode Equally Shared

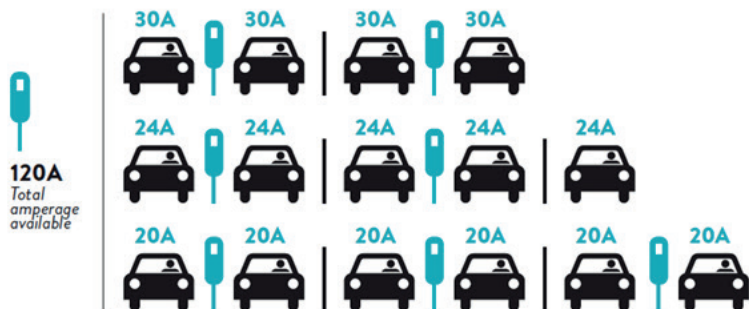
FIFO Charging Percentage FIFO

SAVE

There are 3 different scenarios of load management usage:

6.6.7.6 - Equally shared

All available power is distributed equally to all EVs connected. This is more suitable for workplace or condominium chargings where the cars are parked for a considerable period of time.



6.6.7.7 - FiFo (First in - First Out)

This type of load management is more oriented for fleets in order to let them have more fully charged EVs when they need. The available power is redistributed and when a new EV arrives, it waits until an EV finishes its charge or leaves the charging point.

EVSE\T _p	G _M =120A					G _M =80A	
	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	
1	32A	32A	32A	32A	16A	6A	6A
2	32A	32A	32A	32A	32A	32A	32A
3	32A	32A	32A	32A	32A	32A	32A
4	32A	24A	24A	18A	32A	32A	6A
5	32A	24A	6A	6A	8A	24A	6A

* T_p: Time Period, G_M = Maximum Grid allocated for the chargers. Available maximum current for each EVSE in a certain T_p is indicated in black color. Charging current which is drawn by EV is indicated in Blue color. An EV drawing less current is indicated by "!" symbol.

6.6.7.8 - Combined Load Management

Combined load management is a combination of FiFo and Equally shared methods. A percentage of total power allocated for EV charging cluster can be set and this percentage of total power distributed to all EVs according to FiFo and the remaining power will be delivered as equally shared principal to all EVs.

F%=50	G _M =120A					G _M =80A		G _M =29A	G _M =30A	
EVSE\T _p	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	T ₈	T ₉	T ₁₀
1	32A	32A	32A	32A	20A	6A	6A	8A		6A
2	32A	32A	32A	32A	32A	32A	32A	32A	11A	6A
3	32A	32A	32A	32A	32A	32A	26A	28A	6A	6A
4	32A	24A	24A	12A	24A	32A	8A	10A	6A	6A
5	32A	24A	12A	12A	12A	18A	8A	10A	6A	6A

* T_p: Time Period, G_M = Maximum Grid allocated for the chargers. Available maximum current for each EVSE in a certain T_p is indicated in black color. Charging current which is drawn by EV is indicated in Blue color. A EV drawing less current is indicated by "I" symbol.

After the basic load management configurations are finished, be sure to connect all of the slave charging stations to the master charging station through daisy chain or star network topology.

When all the charging stations are ready to communicate with the master charging station, click "UPDATE DLM GROUP" button in "Load Management Group" menu. When "UPDATE DLM GROUP" button is clicked, master charging station starts slave discovery mode and automatically finds and lists slave charging stations in the list including master charging station itself as connector.

EVChM Configuration Interface

Main Page General Settings Installation Settings OCPP Settings Network Interfaces Standalone Mode **Local Load Management** System Maintenance English Log out

General Settings

Load Management Group

* Indicates required field

Number of Connectors

List of Connectors

Activate Windows
Go to Settings to activate Windows.

After master charging station discovers all the slave charging stations, then you can make other required settings of each connector one by one

EVDM Configuration Interface

Main Page

General Settings

Installation Settings

OCPP Settings

Network Interfaces

Standalone Mode

Local Load Management

System Maintenance

English

Log out

General Settings

Load Management Group

Indicates required field

Number of Connectors

3

UPDATE DLM GROUP

List of Connectors

Choose one

Choose one

07:00:00:00:00:00

00:00:00:00:00:00

00:00:00:00:00:00

SAVE

If the selected connector is required to be prioritized over the other charging stations, you can set “VIP Charging” as enabled as shown in the image below.

EVDM Configuration Interface

Main Page

General Settings

Installation Settings

OCPP Settings

Network Interfaces

Standalone Mode

Local Load Management

System Maintenance

English

Log out

General Settings

Load Management Group

Indicates required field

Number of Connectors

3

UPDATE DLM GROUP

List of Connectors

285488019000001

MAC Address:

80:7e:11:88:00:40

IP Address:

192.168.12.13

VIP Charging:

Disabled

SAVE

Number of Phases

3

Phase Connection Sequence

L1L2L3

Connector State

Available

Maximum Charging Current

32

Minimum Charging Current 1-Phase

6

EVDM Configuration Interface

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Load Management Group

Indicates required field

Number of Connectors

3

UPDATE DLM GROUP

List of Connectors

285488019000001

MAC Address:

80:7e:11:88:00:40

IP Address:

192.168.12.13

VIP Charging:

Disabled

Enabled

Disabled

SAVE

Number of Phases

3

Phase Connection Sequence

L1L2L3

Connector State

Available

Maximum Charging Current

32

Minimum Charging Current 1-Phase

6

For setting the actual phase connection sequence of each charging station, you need to select correct sequence from the dropdown menu as shown in the image below.

Note that if the charging station has only one phase supply, then you just need to select correct phase number from the drop down menu.

EVDM Configuration Interface

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Load Management Group

* Indicates required field

Number of Connectors 2 UPDATE DLM GROUP

List of Connectors 2B853262100045

MAC Address: 8c:c3:74:55:04:74

IP Address: 192.168.12.72

VIP Charging Disabled SAVE

Number of Phases 1

Phase Connection Sequence 1,2

Connector State 1,3

Maximum Charging Current 32

Minimum Charging Current 1-Phase 6

Other parameters are just read only information from the connectors, which can be updated to the latest values by refreshing the configuration web interface.

EVDM Configuration Interface

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IP Address: 192.168.12.72

VIP Charging Disabled UPDATE DLM GROUP

Number of Phases 3

Phase Connection Sequence

Connector State Available

Maximum Charging Current 32

Minimum Charging Current 1-Phase 6

Minimum Charging Current 3-Phase 6

Step 1

Instant Current Phase1 6

Instant Current Phase2 6

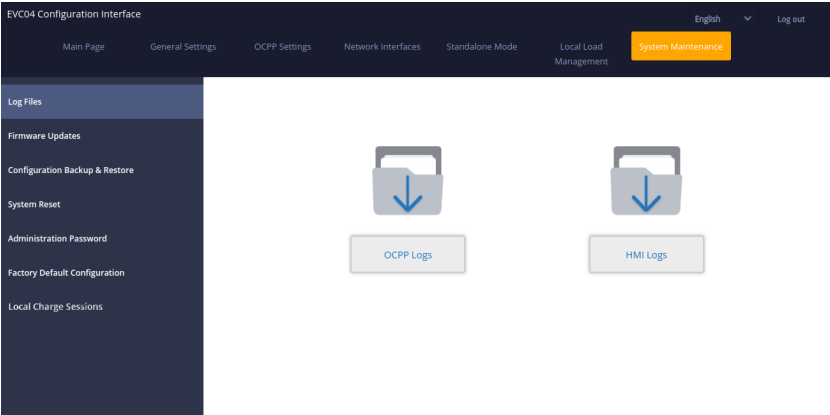
Instant Current Phase3 6

Connection Status Connected SAVE

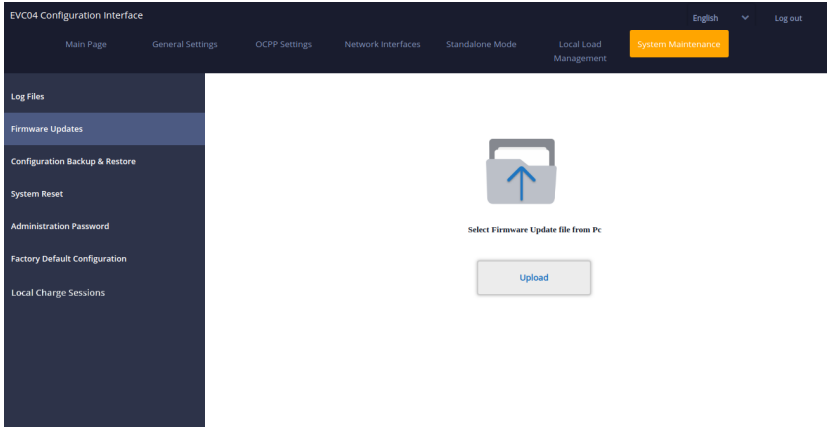
Activate Windows
Go to Settings to activate Windows.

6.6.8 - MAKING SYSTEM MAINTANENCE OF THE DEVICE

In **LOG FILES Page**, you can download OCPP or HMI logs by clicking buttons. Download log files will be shown after a few seconds.

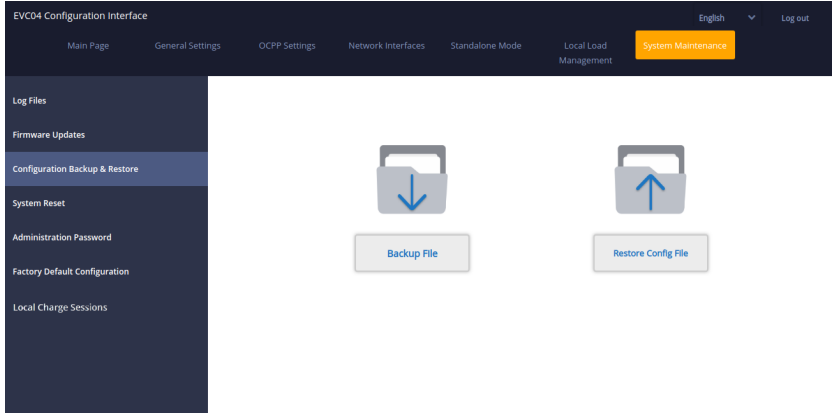


In **FIRMWARE UPDATE Page**, you can upload the firmware update file from your PC by clicking “Upload” button. After the file is uploaded, you can click “Update” button to start the firmware update.

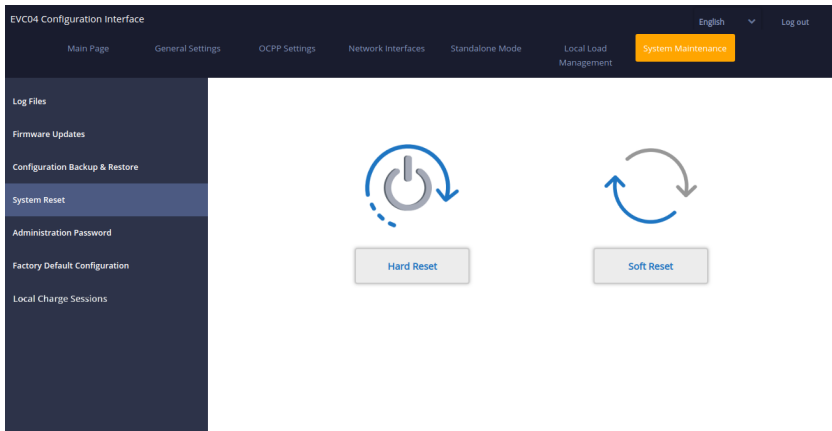


When update is started, your charger's LED indication will be seen as constant green or constant red. If your charger has display, you can see the firmware update screen in display. See to Firmware UptadeScreen Flow section. After the firmware update is finished, your charger will restart automatically. You can see the latest firmware version of your charger from webconfig UI in main page.

In **CONFIGURATION AND BACKUP Page**, you can backup of the sytem. If you want to restore you can click the Restore Config File button and upload the backup file. The system only accepts the .bak files.



In **SYSTEM RESET Page**, you can make Soft Reset and Hard Reset by clicking the buttons.



In **ADMINISTRATION PASSWORD Page**, you can change the web config's login password. New password must contain at least 1 lowercase letter, 1 uppercase letter, 1 numeric character and minimum 6 characters. All spaces are mandatory.

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Administration Password

Factory Default Configuration

Local Charge Sessions

Administration Password:

Your password must be 6 characters and it contain at least one uppercase letter,one lower case letter,one number digit.

Current password:

New password:

Confirm new password:

CHANGE

In **FACTORY DEFAULT CONFIGURATION Page**, you can make factory reset to the device.

EVC04 Configuration Interface

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Factory Reset

In **LOCAL CHARGE SESSIONS Page**, is under “System Maintenance” tab in WEBUI. Information about local charging information can be obtained from a single station. From this page, the full session log and the charging summary of how long it has been charged with which RFID card can be downloaded and viewed in excel file format.

EVC04 Configuration Interface

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Local Charge Sessions

Start DateEnd DateRFID SelectionClear

Row No	Session Id	Authentication Card ID	StartTime	StopTime	TotalTime	Status	Connector Id	InitialEnergy kWh	LeftEnergy kWh	Total Energy kWh
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Full Session Log in CSV

Summary Log in CSV



Togg

Manufacturer

VESTEL KOMÜNİKASYON SANAYİ VE TİCARET A.Ş.

Ege Serbest Bölge Akçay Caddesi Ayfer Sokak No: 144/1

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