



ALP EV EASY CHARGE DUO

Installatie handleiding



Link naar ALP EV CHARGING APP:

<https://alp-ev-charging-50647.web.app/#/>



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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

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 $-25\text{ }^{\circ}\text{C}$ and $+50\text{ }^{\circ}\text{C}$ without direct sunlight and at a relative humidity of between 5 % and 95 %. Use the charging station only within these specified operating conditions.
- 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. This device is not support ventilation.
- 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 adaptors are not allowed to be used. Cable extension sets are not allowed to be used.
- o Use this product at an altitude of less than 4000 meters above sea level.
- This charging station is either pole-mounted or wall-mounted.
- Do not place items filled with liquid, such as cups, bottles, etc., on the product.
- Keep the plastic packing materials out of the reach of babies, small children, and pets to avoid the danger of suffocation.
- Do not wash the device with water.
- Do not use abrasive clothes, wet clothes, alcohol, or detergents. A microfiber cloth is recommended.
- It should be kept in its original box in order not to damage the components of the device during transportation.

- Defects and damage that occur during transportation after the delivery of the product to the customer are not covered by the warranty.
- The product should be used under the porch.



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.

GROUND CONNECTION WARNINGS

- This product must be connected to a grounded, metal, permanent wiring system. or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the product.
- 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.

POWER CABLES, PLUGS and CHARGING CABLE WARNINGS

- Be sure that charging cable is Type 1 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 charging cable is well positioned thus; it will not be stepped on, tripped over, or subjected to damage or stress.
- Do not forcefully pull the charging 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.

WALL MOUNTING WARNINGS

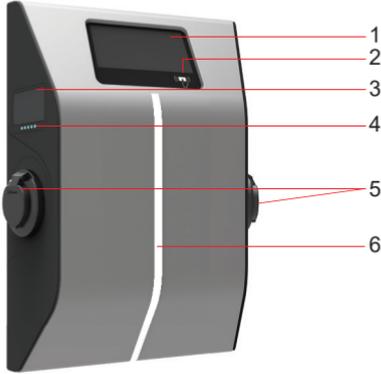
- Read the instructions before mounting your charging station on the wall.
- Do not install the charging station on a ceiling or inclined wall.
- Use the specified wall mounting screws and other accessories.
- This unit is rated for indoor or outdoor installation. If this unit is mounted outdoors, the 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.

MODEL DESCRIPTION

| | |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model Name | <p>MODEL DESCRIPTION: Alp Easy Charge Duo-AC***-*</p> <p>Alp Easy Charge Duo : Electric Vehicle AC Charger (Mechanical Cabinet 10) 1st Asterisk (*) : Rated Power</p> <p>14* : 2*7.4 kW (1Phase Supply Equipment) 22* : 2*11 kW (3Phase Supply Equipment) 44* : 2*22 kW (3Phase Supply Equipment)</p> <p>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:</p> <p>S : Smart Board with Ethernet Port W : Wi-Fi module L : LTE / 3G / 2G module P : ISO 15118 PLC module</p> <p>3rd Asterisk (*) : Can be one of the following: D : 7" TFT color display</p> <p>4th Asterisk (*) can include combinations of the following: A : Charging unit with Type-A RCCB MID: Charging unit with MID Meter PEN: Broken PEN Detection Feature</p> <p>5th Asterisk (*) can be one of the following: Blank : Case-B Connection with normal socket T2S : Case-B Connection with shuttered socket T2P : Case-C Connection with Type-2 plug T1P : Case-C Connection with Type-1 plug</p> |
| Cabinet | Alp Easy Charge Duo |

GENERAL INFORMATION

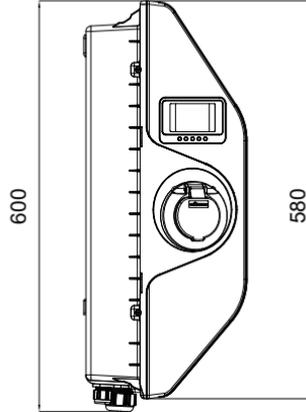
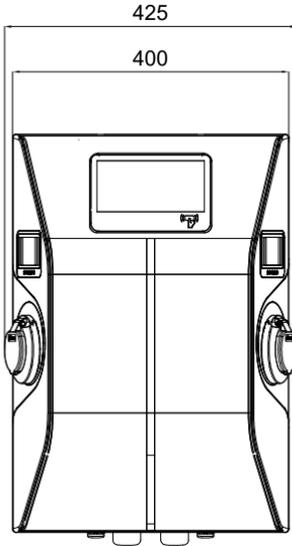
INTRODUCTION OF THE PRODUCT COMPONENTS



Alp Easy Charge Duo Models

1. Information Display
2. RFID Card Reader
3. MID Meter Windows
4. Indicator LED
5. Socket Outlets
6. Illumination LED

DIMENSIONAL DRAWINGS



TECHNICAL SPECIFICATIONS

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

| | |
|-------------------------------------------------|-----------------------------------------------------------------|
| Model | Alp Easy Charge Duo-AC22 Series |
| IEC Protection class | Class - I |
| Cable Model | 2 x Cable with TYPE 2 (IEC 62196) Female Plug |
| Voltage and Current Rates | 400VAC 50/60 Hz-3-phase 16A |
| AC Maximum Charge Output | 22kW |
| Built-in Residual Current Sensing module | 6mA |
| Required Circuit Breaker on AC Mains | 4P-40A MCB Type-C |
| Required AC Mains Cable | 5x6 mm ² (< 50 m) External Dimensions: Ø 18-25 mm |

CONNECTIVITY

| | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet | 10/100 Mbps Ethernet (Standard with Smart Options) |
| Wi-Fi | Wi-Fi 802.11 a/b/g/n/ac |
| Wi-Fi Hotspot | Optionally enabled |
| 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) |

AUTHORIZATION

| | |
|-------------|----------------------------|
| RFID | ISO-14443A/B and ISO-15693 |
|-------------|----------------------------|

MECHANIC SPECIFICATIONS

| | |
|----------------------------------|----------------------------------------------------------------------|
| Material | Plastic |
| Size | 425 mm (Width) x 600 mm (Height) x 238 mm (Depth) |
| Dimensions (Package) | 540 mm (Width) x 640 mm (Height) x 315 mm (Depth) |
| Weight (Product) | 14 kg |
| Weight with package | 17 kg |
| AC Mains Cable Dimensions | For three-phase models Ø 18-25 mm For one-phase models Ø 13-18 mm |
| Cable Inlets | AC Mains / Ethernet / Modbus |

ENVIRONMENTAL TECHNICAL SPECIFICATIONS

| | | |
|-------------------------|--------------------|----------------------------------------------------|
| Protection Class | Ingress Protection | IP54 |
| | Impact Protection | IK10 |
| Usage Conditions | Temperature | -25 °C to 50 °C (without direct sunlight) |
| | Humidity | 5% - 95% (relative humidity, without condensation) |
| | Altitude | 0 - 4,000m |

OTHER FEATURES (Connected Models)

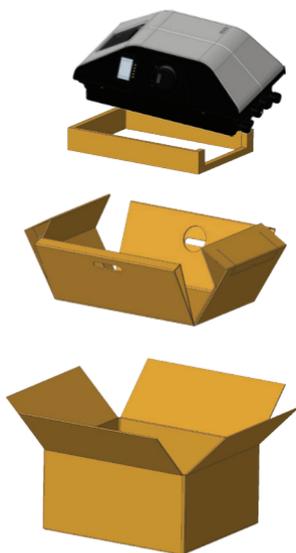
| | |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Potential Free Enable Input | Signal input for controlling the charging station externally |
| Welded Contactor Indication | 230V AC output for shunt trip in case of welded contacts |
| Load Shedding (with Optional Accessories) | Signal input for reducing the charging current down to 8A in case of overload on the upstream transformer. Load Shedding current level is adjustable and comes as 8A by default. |
| Remote Control / Monitoring | Android / IOS Remote Monitoring & Control |
| Remote Diagnostics | Remote Diagnostics over OCPP |
| Load Management | Ethernet / Wi-Fi / RS485 / OCPP 1.6 Smart Charging |
| Software Update | OCPP, Direct Flashing |

REQUIRED EQUIPMENT, TOOLS and ACCESSORIES

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

INSTALLING CHARGING STATION

BOX CONTENTS FOR CHARGING STATION



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 |  |
| 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 |  |
| RJ45 Male Connector – Optional | LAN Cable connection | 1 |  |
| O-Ring | Mounting the charging station to the pole | 2 |  |
| Screw M6X20 | Mounting the charging station to the pole | 4 |  |
| Fixing Bracket | Mounting charging station to wall and the pole. | 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 | |

PRODUCT INSTALLATION STEPS

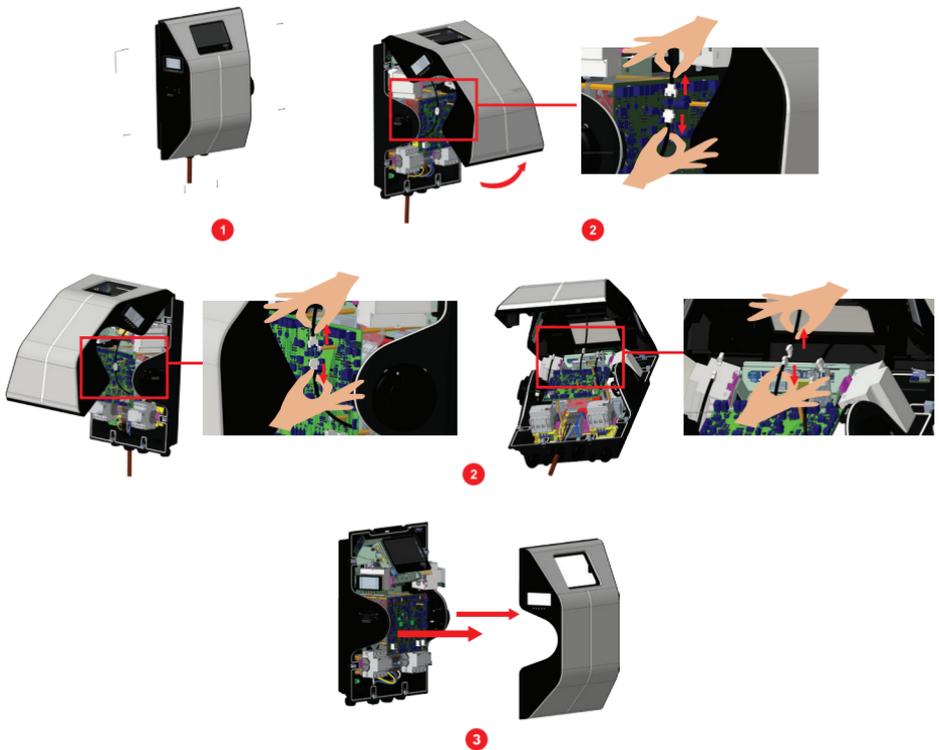
CAUTION!

- Ensure that ground resistance of the installation is less than 100Ω.
- *Read and follow the section "OPENING AND CLOSING THE FRONT COVER OF THE CHARGING STATION" carefully before opening the product cover.
- 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.

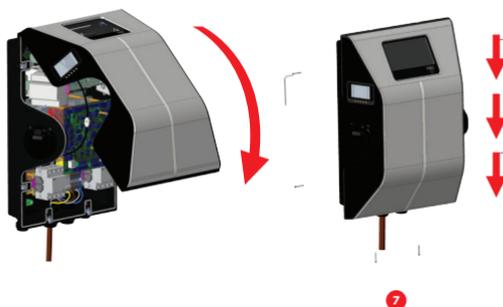
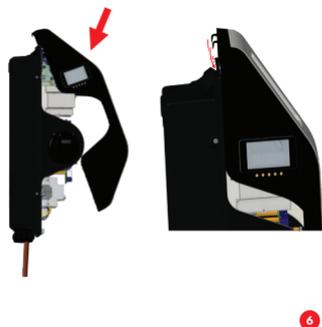
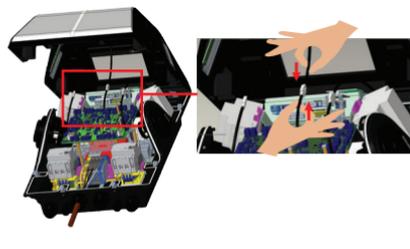
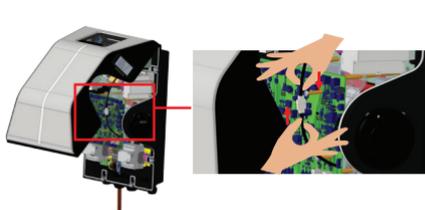
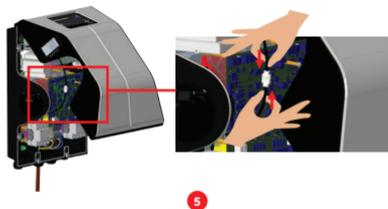
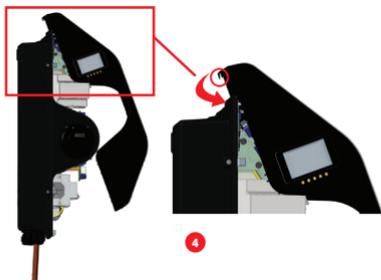
OPENING AND CLOSING THE FRONT COVER OF THE CHARGING STATION

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

1. Remove the cover screws with Torx T20 security L-Wrench or Right Angle Screwdriver Adapter using Torx T20 Security Bit.
2. Open the front cover from bottom side off the unit tightly and before removing the top part of the front cover you need to disconnect the LED cables to prevent damaging the connectors. As shown in figure.
3. Put the front cover to a safe place to be able to reassemble to the unit.



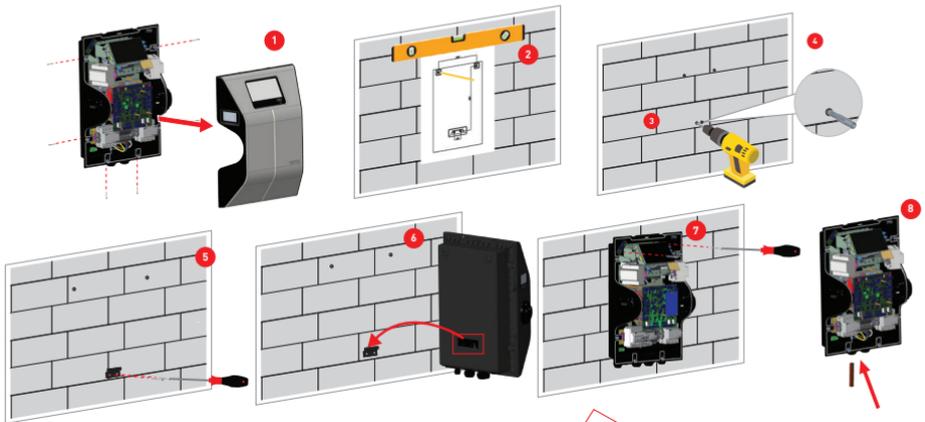
4. After the operation is finished, position the front cover's top part over the top part of the back cover via attaching the hooks.
5. While the hooks of the front cover are hanging, reconnect the LED cables of the unit as shown in figure. Before closing the front cover, make sure that the seal of the back cover is applied properly and LED cables are not stuck in between the front/back cover.
6. After all cables are connected and inspection is done, press the hooks from top of the unit tightly to ensure that it is positioned suitably as shown in figure. The front cover and back cover's top parts should be linear to ensure that it is assembled properly.
7. Assemble all the screws back in 1.5Nm torque value to finished the assemble of front/back cover.



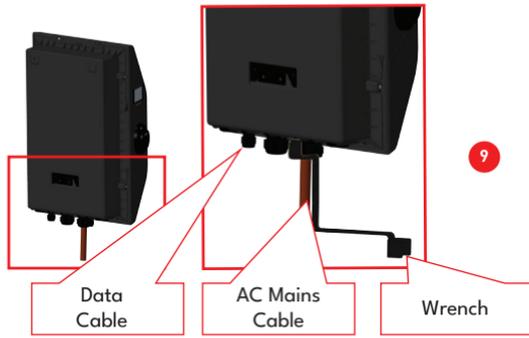
WALL MOUNT INSTALLATION

Wall mount installation is common for all charging station models.

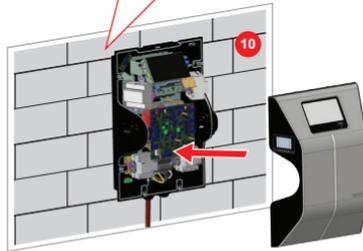
1. Open the product front cover by following the instruction as mentioned in section **"OPENING AND CLOSING THE FRONT COVER OF THE CHARGING STATION"**.
2. Place the template which is given in accessory bag and mark the drill bit holes with a pencil.
3. Drill the wall on the marked points using the impact drill (8mm drill bit).
4. Place the dowels into the holes.
5. Mount the fixing bracket to the wall which is given in accessory bag.
6. Hang the bottom back side of the unit on the fixing bracket.
7. Screw the charging unit to the wall from inner side of the unit's upper right and left corners.
8. Insert the AC mains cable into the charging station from the bottom left cable gland. Follow the AC Mains Connection instructions on the next pages, depending on the model of the charger. (Single/Three Phase)
9. If the Ethernet cable is needed to be used, follow the section **"DATA CABLE CONNECTION"**
10. Before closing the front cover, make sure that LED cables are connected properly. To be able to do that, hang the front cover hooks to the top side of the back cover of the unit. Also carefully check the seal of the unit which turns around the back cover of the unit.
11. Tighten the cable glands. Before closing the cover of the charging station, follow the instructions as mentioned in section **"OPENING AND CLOSING THE FRONT COVER OF THE CHARGING STATION"**.
12. To close the cover of the charging station, tighten the cover screws which you removed with Torx T20 Security L-Wrench or Right Angle Screwdriver Adapter using Torx T20 Security Bit.
13. Mounting the charging station on the wall is finished.



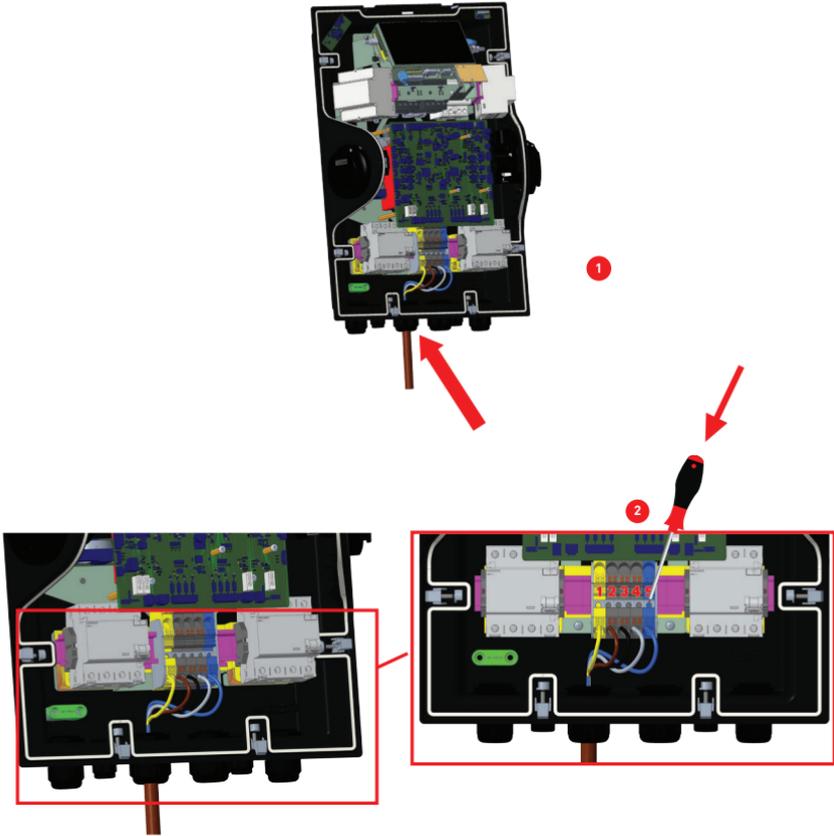
Please refer to the next tab to make single phase and three phase wiring connections.



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



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.

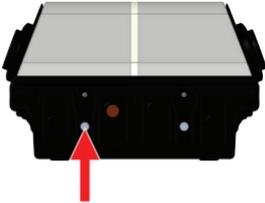
2- Press the button on the terminals via a screw driver or a similar tool to be able to insert and remove the cables.

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

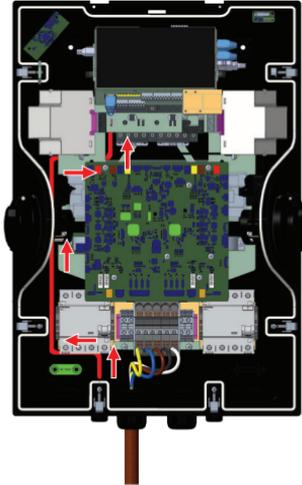
DATA CABLE CONNECTION

1. Remove rubber cork from cable gland.
2. Follow the instructions below.

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.



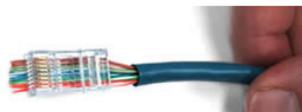
6- Moving from left to right, arrange the wires in a flat, side-by-side ribbon formation, placing them in the following order: white/orange, solid orange, white/green, solid blue, white/blue, solid green, white/brown, solid brown.



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!



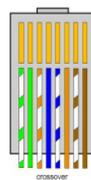
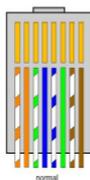
9- Insert the prepared connector/cable assembly into the RJ45 slot in your crimping tool. Firmly squeeze the crimper's handles together until you can't go any further. Release the handles and repeat this step to ensure a proper crimp.



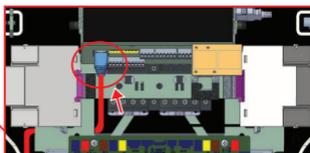
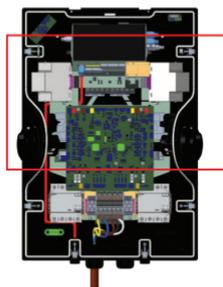
10- If your crimper doesn't automatically trim the wire ends upon termination, carefully cut wire ends to make them as flush with the connector's surface as possible. The closer the wire ends are trimmed, the better your final plug-in connection will be.



11- Termination is complete.



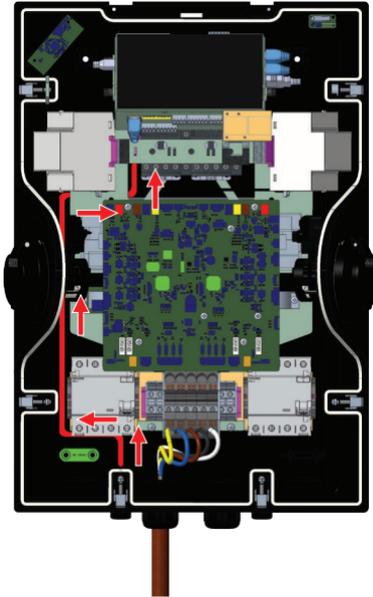
12- Insert the RJ45 connector to the socket as shown in figure below.



3. Finally, to connect the wires on mainboard, check next sections depending on the function(s) 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. Load shedding triggering signal cable
- d. Shunt trip module control signal cable for welded relay contact failure



ADJUSTING CURRENT LIMITER

The charging station has the ability to set the power of the unit with the current limiter setting in the WEB Configuration Interface. This menu is used to set the current and power of the charging station. As shown in the figure below, after selecting the current limiter phase, the current limiter value can be specified at the bottom of the current.

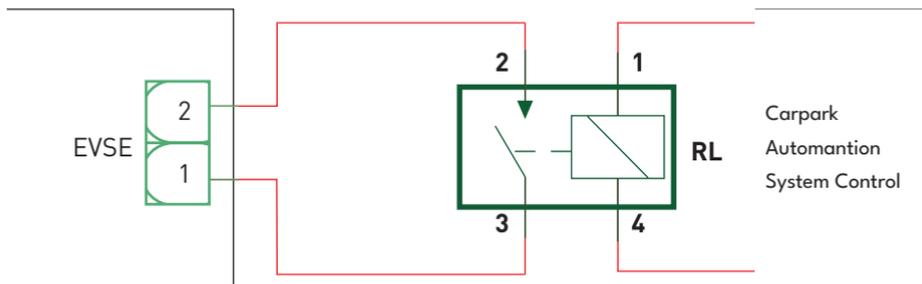
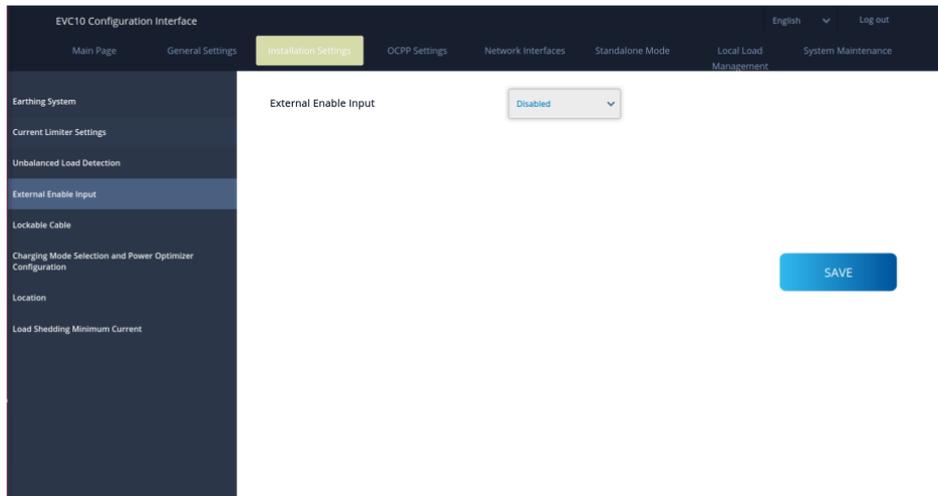
The screenshot displays the EVC10 Configuration Interface. The 'Installation Settings' tab is active. Under 'Current Limiter Settings', the 'Current Limiter Phase' is set to 'Three Phase' and the 'Current Limiter Value' is set to '32'. A 'SAVE' button is located at the bottom right of the configuration area.

| Current Limit Value | | | |
|---------------------|-------|------|-------|
| Phase | 22 kW | 11kW | 7.4kW |
| 1-Phase | 10 A | 10 A | 10 A |
| | 13 A | 13 A | 13 A |
| | 16 A | 16 A | 16 A |
| | 20 A | | 20 A |
| | 25 A | | 25 A |
| | 30 A | | 30 A |
| | 32 A | | 32 A |
| 3-Phase | 10 A | 10 A | |
| | 13 A | 13 A | |
| | 16 A | 16 A | |
| | 20 A | | |
| | 25 A | | |
| | 30 A | | |
| | 32 A | | |

| Required Circuit Breaker on AC Mains | |
|---------------------------------------------|---------------------|
| EV Charging Station Current Limiter Setting | C- <u>Curve</u> MCB |
| 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 |

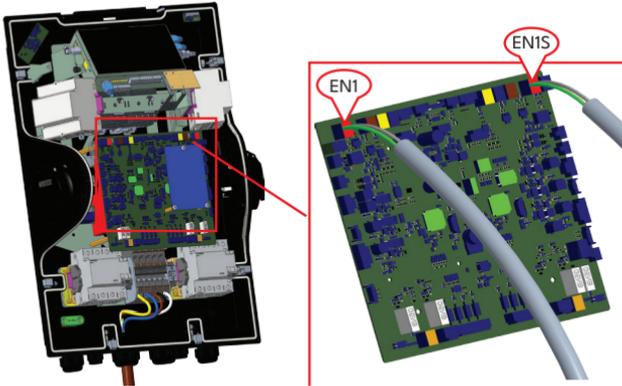
EXTERNAL ENABLE INPUT FUNCTIONALITY

Your charging station has external potential free enable / disable functionality which can be used for integration of your charging station to carpark automation systems, energy supplier ripple control devices, time switches, photovoltaic inverters, auxiliary load control switches, external key lock switches etc. You can enable/disable it from the WEB Configuration interface as shown in the image below.



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.

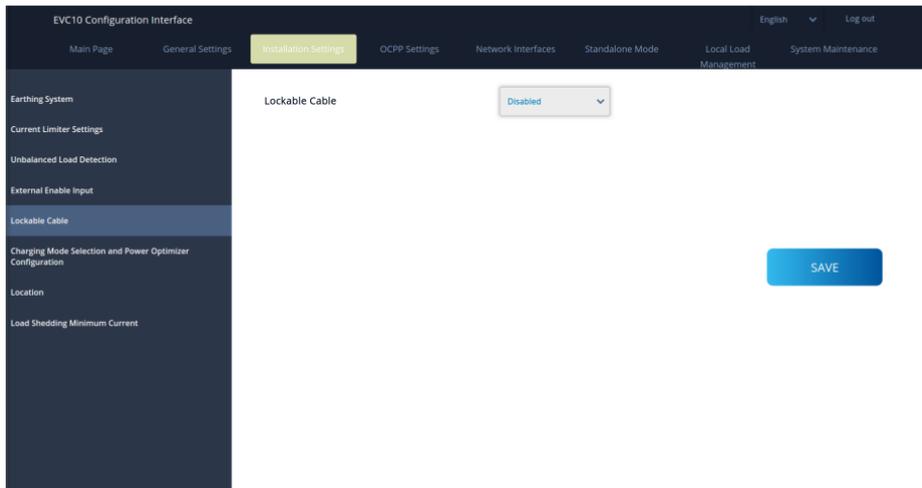


| Cable Terminal | Cable Color |
|----------------|---------------------|
| 1 (EN1) | Green |
| 2 (EN1S) | Green + White Green |

LOCKED CABLE FUNCTION (Model With Socket)

The cable becomes locked and your socket model charging station starts behaving as an attached cable model.

1- To enable locked cable function you need to access to WEB Configuration Interface and Enable the part "Lockable Cable" under "Installation Settings" menu.

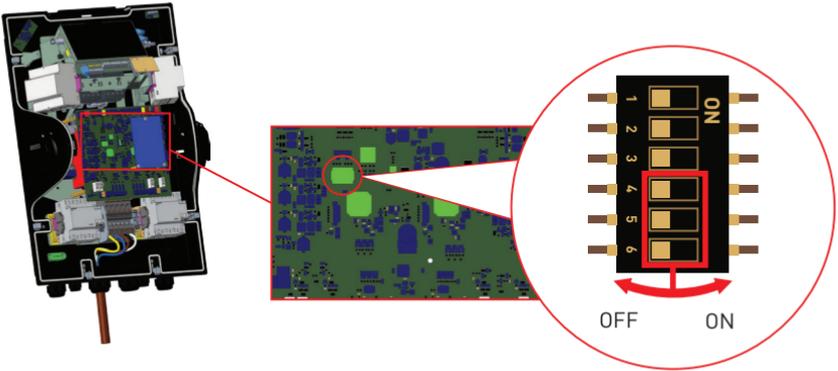


2- Insert the charging cable to the socket of the unit.



3- The cable locks and the charging station starts to behave like a connected cable model. The socket remains open until a cable is plugged into the idle charging socket, when the cable is plugged in, the cable is locked on the other side and both sides behave like a cable pattern.

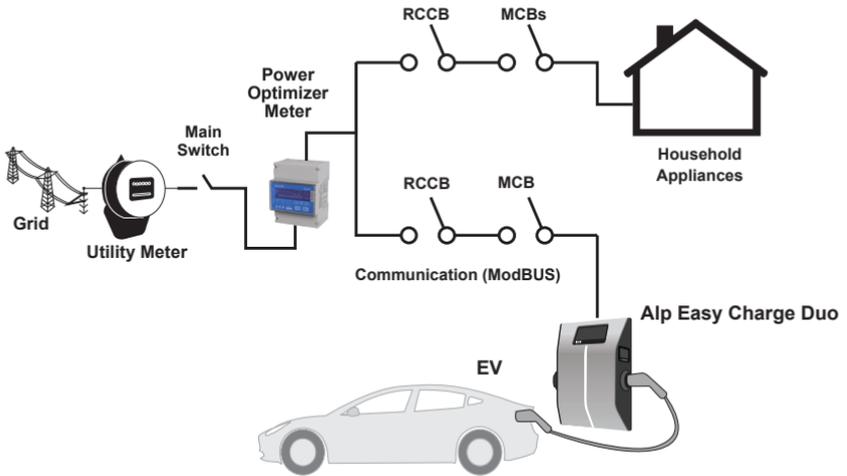
POWER OPTIMIZER (REQUIRES OPTIONAL ACCESSORIES)



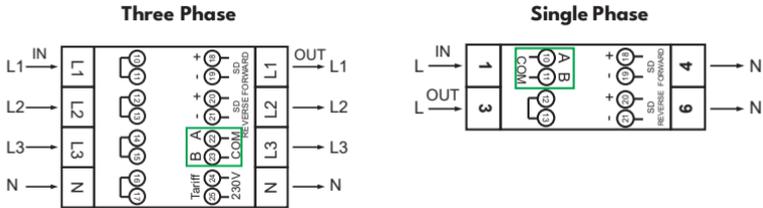
This feature is provided with an optional metering accessories which are sold separately. In power optimizer mode, the total current drawn from the main switch of the house by charging station and other household appliances is measured with current sensor integrated to the main power line. Current limit 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) 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 |



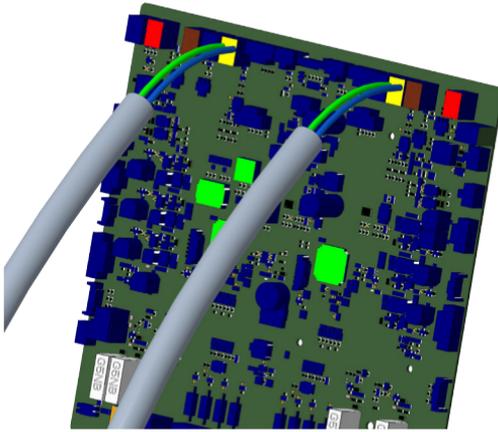
Power Optimizer Meter should be placed just after the main switch of the house as shown in the figure below
 Power Optimizer Meter wiring connections can be made according to the information below.



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

■ 10-11: A-B (COM) Modbus connection over RS485 for single phase charging station models.

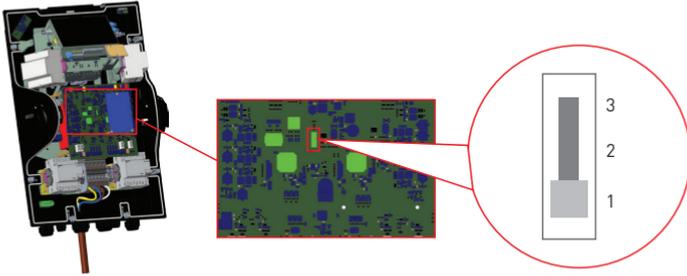
Related board wiring of Power Optimizer connections can be made as shown below:



| Cable Terminal | Cable Color | Description |
|-----------------------|--------------------|--------------------------------|
| (CN69-2) | Green | A (COM) (22 3P MID, 10 1P MID) |
| (CN69-1) | Blue | B (COM) (23 3P MID, 11 1P MID) |

MODE SELECTION SWITCH SETTINGS

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



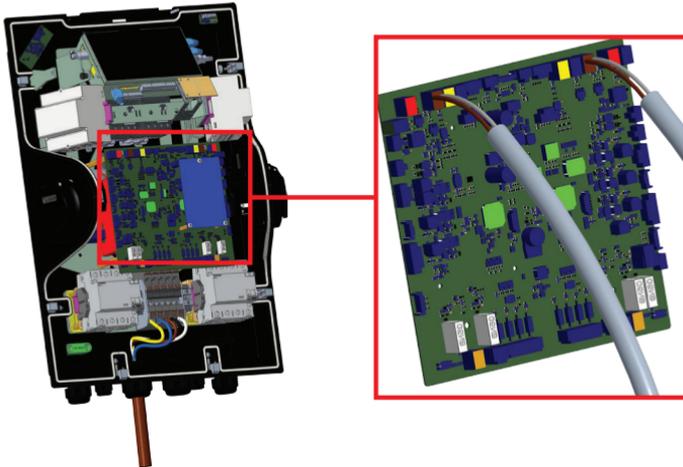
- **Operation Mode 1 (Standard Charging):** This mode is factory default configuration. When this mode is selected, charging station does not support peak/off peak time or TIC dynamic charging scenarios.
- **Operation Mode 2 (Postponed Charging):** For this mode, slide switch should be positioned as 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.
- **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.

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 the dry contact (potential free) load shedding signal as shown in the below figure and tables.



| 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 |

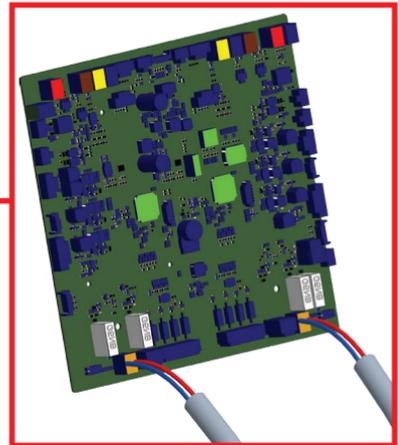
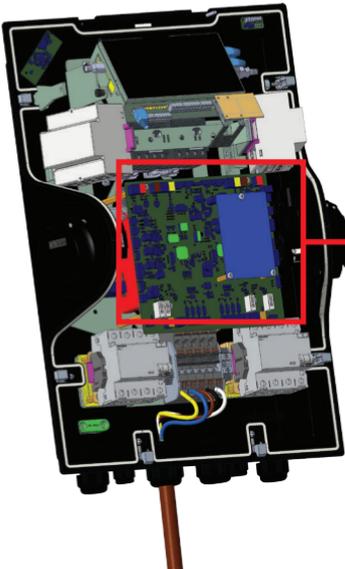
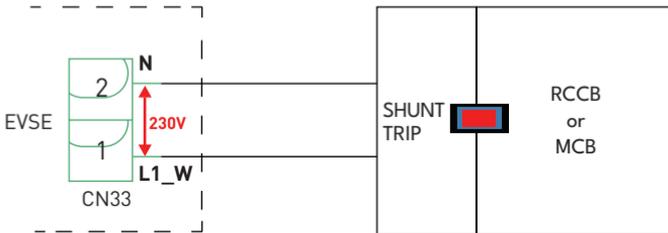
MONITORING OF WELDED RELAY CONTACTS FAILURE

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 the first figure below. The cabling should be done as shown in the second figure below.

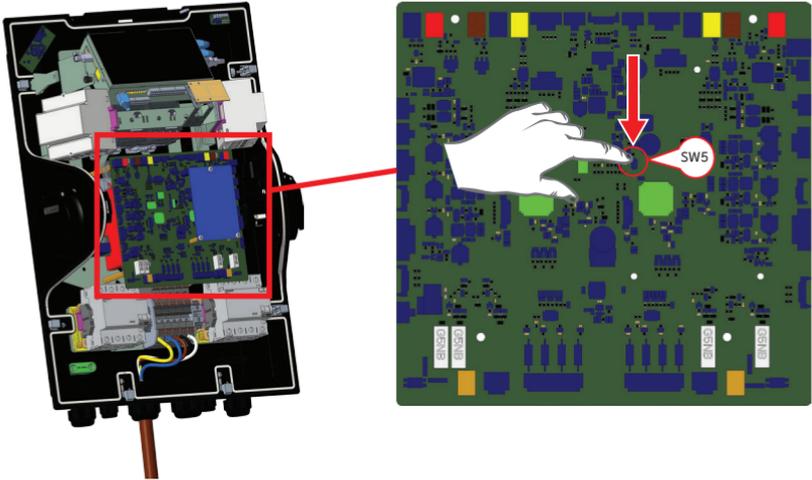
Connector (CN33) terminals must be connected to a shunt trip module. Shunt Trip module is mechanically coupled to RCCB (or MCB) at the fuse box of the charging station.

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



FACTORY RESET

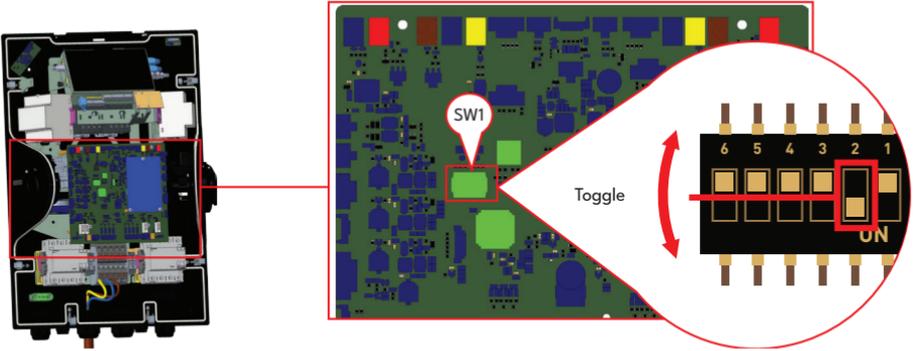
To return to the factory settings, you must press the SW5 button on the ACPW card shown in the figure below. When you hold the button for 5 seconds user configuration will be reset to factory configuration. (e.g OCPP config, Network Config will be back to factory configuration.)



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 that the charging station is turned off and open the front cover of your charger as indicated in the installation manual "**OPENING AND CLOSING THE FRONT COVER ON THE CHARGING STATION**".
- On the 21ACPW10 board, the number 2 DIP Switch in SW1 is toggled. 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.

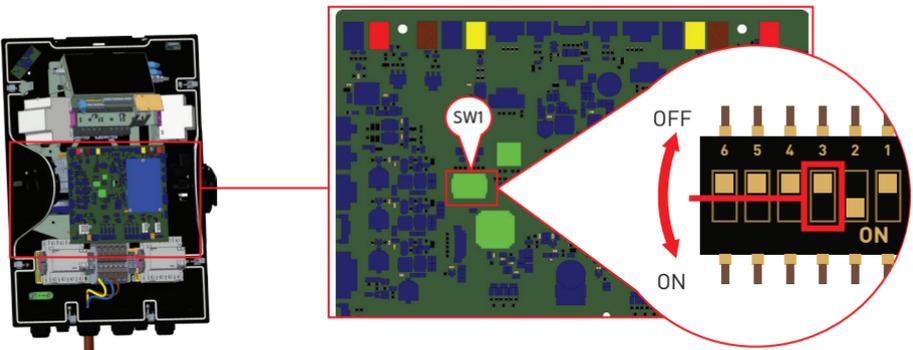
Note: You can also use factory reset function to set the LAN interface back to DHCP mode again but please well note that all other parameters will be set to factory default parameters.

WEB CONFIGURATION INTERFACE ENABLE / DISABLE

The Web Configuration interface is set to "Enable" by default.

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 according to the "OPENING AND CLOSING THE FRONT COVER ON THE CHARGER" section of the installation guideline.
- If you want to enable the web configuration interface, the third position of the DIP switch on the 21ACPW10 board must be "OFF". Position it as shown in the following figure.
- If you want to disable the web configuration interface, the third position of the DIP switch on the 21ACPW10 board must be "ON". Position it as shown in the following figure.

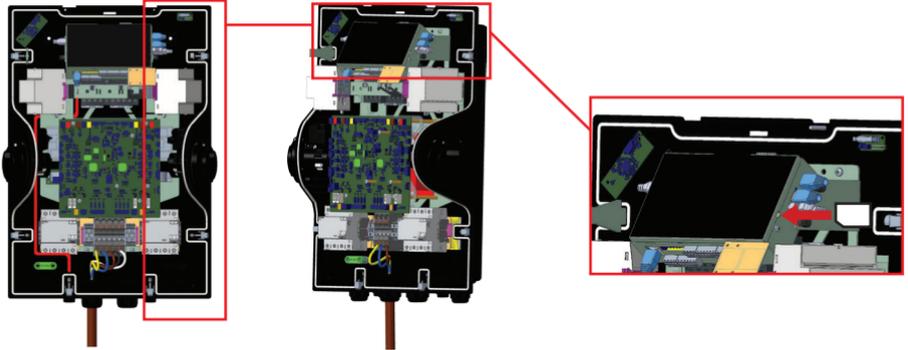


OCPP CONNECTION

Make sure the charging station is powered-off.

CONNECT OCPP OVER CELLULAR NETWORK

Insert the micro SIM card into the SIM card slot on the cellular module as shown in the figure below. The orientation of the SIM card should be such that the notch is to the left.



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 aware that you need to check the IP address from the router to be able to make the connection.

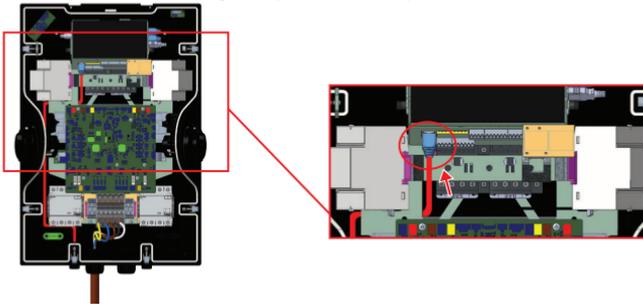
For direct PC connection option, you need to connect your PC to the charging station to use functions and make configurations below:

- Login
- Change Password
- Main Page
- General Settings : Display Language, Display Backlight Settings, Led Dimming Settings, Display Service Contact Info, Logo Settings, Display QR Code and Scheduled Charging
- Installation Settings : Earthing System, Current Limiter Settings, Unbalanced Load Detection, External Enable Input, Lockable Cable, Power Optimizer Total Current Limit, Location and 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: Load Management Option
- System Maintenance:
- Log Files, Firmware Updates, Configuration BackUp&ResWebconfig UI v2tore, System Reset, Administration Password, Factory Default Configuration

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 192.168.0.0/24 network which means that IP address should be in a range of between 192.168.0.1 and 192.168.0.254.

OPENING WEB CONFIGURATION INTERFACE WITH BROWSER

Open your Mozilla Firefox or Google Chrome web browser and type 192.168.0.10 which is IP address of HMI board.

You will see login page on your browser;

During your first time in the Web Config Interface or if you have never changed your password, you will see the warning which is “We recommend you to change your default password from system maintenance menu”.

You can enter the system with:

Default username = admin

Default password = admin

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, such as loading or formatting issues on web page.

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 once more 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 your password is important for your security.

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](#)

OPENING WEB CONFIGURATION INTERFACE VIA WIFI HOTSPOT

For this unit, WiFi Hotspot feature is enabled by factory configuration and "turn on during boot" is 10 minutes which means, during every power cycle of the charging station, configuration WiFi hotspot is activated during 10 minutes for configuration of the charging station. During this time, it is possible to connect a device (mobile, tablet or a notebook) to the charging station.

WiFi Hotspot SSID is the unit's serial number. WiFi Hotspot password is unique and should be requested from the customer support. After connecting "Wi-Fi Hotspot" network, user can open WEB browser from computer or mobile device and type 192.168.35.1 which is IP address of the charging station. For android mobile devices, it is needed by the user to enable the "Show the Desktop Site" setting from the menu at the upper right corner in Chrome browser.

For iOS mobile devices, it is needed by the user to enable the "Show the Desktop Site" setting and also the text size should be set to 50% from the AA setting at the upper left corner in Safari browser.

LOG IN

User Name:

Password:

We recommend you to change your default password from system maintenance menu

[LOG IN](#)

[Change Password](#)

User Name and Password information to enter to web configuration interface are as below.

- User Name: admin
- Password: admin

Note: Maximum 3 users can connect to WEB Configuration Interface via Wi-Fi hotspot. It supports 2.4Ghz.

WEB CONFIGURATION INTERFACE

| | |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAIN PAGE | <p>After the successful login operation, you are directed to the main page.</p> <p>Main page shows the general information about the device that are user name, software versions, connection interface and ids.</p> <p>You can also change the language and log out of the web config with the buttons in the upper right corner of the page.</p> <p>Preset Settings : If you set preset settings in the vfactory partition part, these preset settings are listed in the main page as shown below. Appropriate setting can be selected and save button is clicked.</p> |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CHANGE GENERAL SETTINGS OF THE DEVICE

| | |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display Language | <p>You can select HMI display language from the general settings page.</p> <p>Available languages are English, Turkish. You can save your selection with "Save Button".</p> |
| Display Backlight Settings | <p>You can select HMI display backlight dimming settings from the general settings page. Sunrise Time and Sunset Time can be selected when Backlight Level is time based.</p> <p>Backlight level options are Very Low, Low, Mid, High and Time Based. Time values can be between 00:00 and 23:00.</p> |
| Led Dimming Settings | <p>You can select HMI led dimming settings from the general settings page. Sunrise Time and Sunset Time can be selected when Led Dimming Level is time based.</p> <p>Led Dimming level options are Very Low, Low, Mid, High and Time Based. Time values can be between 00:00 and 23:00.</p> |
| Standby Led Behaviour | <p>You can select HMI standby LED behaviour from the general settings page.</p> <p>"Standby Led Behaviour" can be ON or OFF.</p> |
| Display Theme | <p>You can make display theme selection from "Display Theme" menu</p> |
| Display Service Contact Info | <p>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.</p> |
| Logo Settings | <p>You can change HMI display logo from the general settings page. After choosing the logo with the upload button, you can upload it with the update button.</p> <p>You 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.</p> |
| Display QR Code | <p>You can upload or remove QR code from the general settings page.</p> |
| | |

INSTALLATION SETTINGS

| | |
|------------------------|-------------------------------------------------------------------------------------------------------------------|
| Earthing system | <p>In this part, you can select Earthing System from Web configuration. Options are TN/TT and IT/Split Phase.</p> |
|------------------------|-------------------------------------------------------------------------------------------------------------------|

| | |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Current Limiter Settings | <p>In this part, you can select Current Limiter Settings from Web configuration. User can select Current Limiter Phase, options are One Phase or Three Phase. Current Limiter Value can take value between 6 and 32.</p> |
| Unbalanced Load Detection | <p>In this part, you can select Unbalanced Load Detection from Web configuration. Options are Disabled and Enabled.</p> <p>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.</p> |
| External Enabled Input | <p>In this part, you can select External Enable Input from Web configuration. Options are Disabled and Enabled.</p> |
| Lockable Cable | <p>In this part, you can select Lockable Cable from Web configuration. Options are Disabled and Enabled.</p> |
| Charging Mode Selection and Power Optimizer Configuration | <p>In this part, you can select Operation Mode, Power Optimizer Total Current Limit and Power Optimizer External Meter.</p> <p>Operation Mode can be Normal, Peak / Off-Peak, TIC</p> <p>Power Optimizer Total Current Limit can be Disabled or can take values between 10 and 100.</p> <p>When TIC selected in Operation Mode , Power Optimizer Total Current Limit and Power Optimizer External Meter can not be selected.</p> <p>When Power Optimizer Total Current Limit is Disabled, Power Optimizer External Meter can not be selected.</p> <p>Power Optimizer External Meter. can be selected Auto Selected, Klefr 6924 / 6934, Garo GNM3T / GNM3D, Embedded Power Optimizer with CT, P1 Slimmeter.</p> <p>If Power Optimizer External Meter is Auto Selected, Power Optimizer value reads from ACPW.</p> |
| Location | <p>In this part, you can select Location from Web configuration. Options are Indoor and Outdoor.</p> |
| Load Shedding Minimum Current | <p>This part includes Load Shedding Status and Load Shedding Minimum Current.</p> <p>In this part, Load Shedding Status is reading from ACPW, you can select Load Shedding Minimum Current from Web configuration. This parameter can take values between 0 and Current Limiter Value.</p> <p>Current Limiter Value can be set on Current Limiter Settings.</p> |

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.

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.

CHANGE NETWORK INTERFACES SETTINGS OF THE DEVICE

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.

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.

If you set Wi-Fi Hotspot, Turn on during boot as enabled, "SSID" and "Password" are mandatory.

You should fill all spaces in suitable formats.

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.

LOCAL LOAD MANAGEMENT PAGE

If the device without dynamic local load management; local management option can be disabled or modbus TCP.

If the device with dynamic local load management; local management option can be disabled, modbus TCP or Master/Slave.

If Load Management Option is selected as Master/Slave, there will be two part in this page; General Settings and Load Management Group.

If CP role is selected as Master, you can change the slave information connected to the master device with the settings here.

DLM total current limit per phase value should be less than or equal to main circuit breaker current value. Also, DLM total current limit per phase value should be more than half of the main circuit breaker current value.

Supply type can be "Static", "Klefr", "TIC" and "GARO". Also load management mode can be changed as Equally Shared, First In First Out, Combined.

If you are done with CP role selection, click "Save" button.

The local load management tab is enabled only on the master device and this page contains a list of slave devices connected to the master.

CP slave list is shown dynamically. Each new connected slave is appear in this list. The settings for each slave are displayed when a slave is selected. You can change the parameters for the slaves from this menu.

Number of Connectors, MAC Address, IP Address and Number of Phases are read only parameters, so cannot be changed.

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 only zip files. After choosing the file you can carry out firmware update. |
| 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. |
| In FACTORY DEFAULT CONFIGURATION Page | You can make factory reset to the device. |

WIRELESS LAN TRANSMITTER SPECIFICATIONS

| Frequency Ranges | Max Output Power |
|---------------------------------|------------------|
| 2400 - 2483,5 MHz (CH1 - CH13) | < 100 mW |
| 5150 - 5250 MHz (CH36 - CH48) | < 200 mW (*) |
| 5250 - 5350 MHz (CH52 - CH64) | < 200 mW (*) |
| 5470 - 5725 MHz (CH100 - CH140) | < 200 mW (*) |

(*) '< 100 mW' for the Ukraine

Country Restrictions

This Wireless LAN equipment is intended for home and office use in all EU countries, the UK and Northern Ireland (and other countries following the relevant EU and/or UK directive). The 5.15 – 5.35 GHz band is restrictions indoor operations only in all EU countries, the UK and Northern Ireland (and other countries following the relevant EU and/or UK directive). Public use is subject to general authorisation by the respective service provider.

| Country | Restriction |
|--------------------|---------------------------------------------|
| Russian Federation | Indoor use only |
| Israel | 5 GHz band only for 5180 MHz-5320 MHz range |

The requirements for any country may change at any time. It's recommended that user checks with local authorities for the current status of their national regulations for both 2.4 GHz and 5 GHz wireless LANs.

