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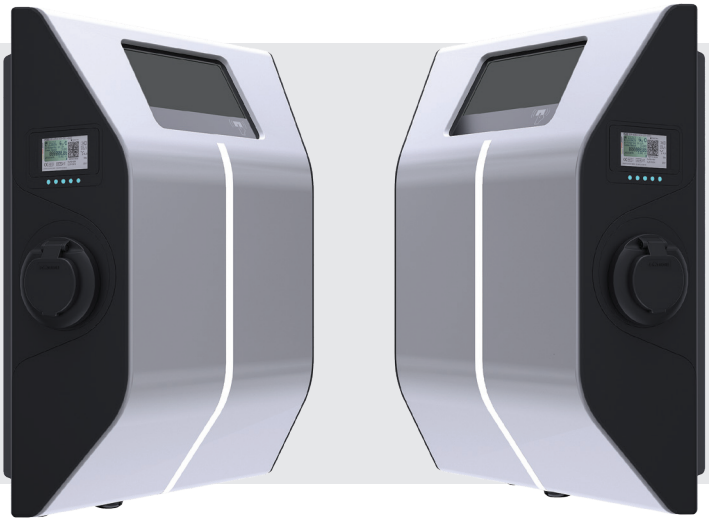

ELECTRIC VEHICLE CHARGER

EVC10 Series

User Manual

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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 ˚C and +50 ˚C without direct sunlight and at a relative humidity of between 5 % and 95 %. Use the charging station only within these specified operating 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 adapters are not allowed to be used. Cable extension sets are not allowed to be used.
- 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.

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- 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.

"MANUFACTURER DOES NOT WARRANT THAT THE OPERATION OF THE PRODUCT WILL BE UNINTERRUPTED OR ERROR-FREE."

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 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 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.

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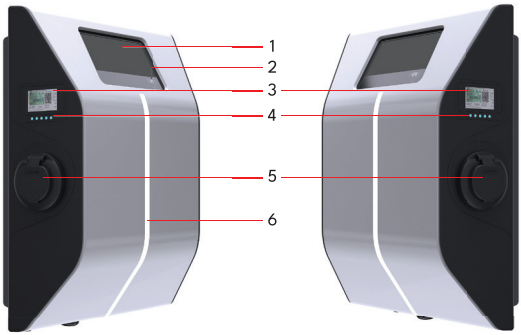
GENERAL INFORMATION

INTRODUCTION OF THE PRODUCT COMPONENTS

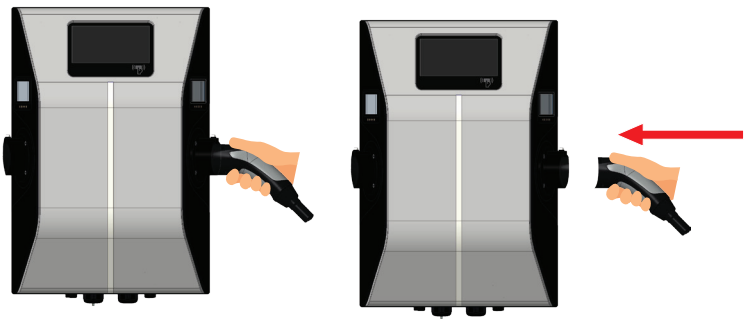


EVC10 Models

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

PLUGGING CHARGING CABLE

Open the cover of the socket outlet and plug charging cable to the socket.



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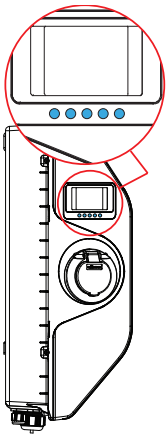
BEHAVIOUR OF THE STATUS INFORMATION LED



Status of the LED		Status of the Charging Station
	No LED Indication	Standby
	Blue Glowing	Charging
	Constant Blue	Charging Suspended or Finished
	Constant Red	Fault condition
	Blue Glowing	Charging in progress
	Blinks Red; 2,4 seconds OFF 1,2 seconds ON	Ventilation Required
	Blinks Purple; 2,4 seconds OFF 1,2 seconds ON	Charging with current limited to 16A due to over temperature
	Constant Purple	Charging not possible due to over temperature
		Park Automation System disabled charging
		Charging paused due to power optimizer low current limit or EVC low current limit
	Blinks Blue; 2,4 seconds OFF 1,2 seconds ON	Charging cable connected and waiting for authorization with RFID card
	Green Glowing	Authenticated
	Blinks Red; 1 second OFF 1 second ON	Config mode
	Constant Green	User rfid card add/remove operation possible since master rfid card tapped(duration: 10 seconds)
	Blinks Green twice; 500 msec ON 500 msec OFF	User rfid card added
	Blinks Red twice; 500 msec ON 500 msec OFF	User rfid card removed from list
	Blinks Red thrice; 500 msec ON 500 msec OFF	Unregistered rfid card tapped

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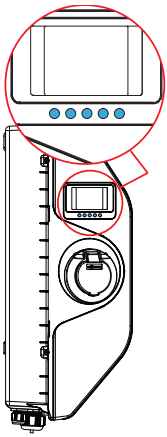

Status of the LED		Status of the Charging Station
	Green Glowing	Authentication with user rfid card while vehicle is in not connected state (timeout: 30 seconds)
	Blinks Red; 1 second & Blinks Blue; 1 second ON	Charging Station is reserved.
	Blinks Red; 1 second OFF 1 second ON, constant Red on bootloader part	Firmware Update In Progress
	Blinks Red; three times; Blinks Blue; 300 msec & Blinks Green; 300 msec ON	Factory Reset

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TECHNICAL SPECIFICATIONS

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

Model	EVC10-AC22 Series	EVC10-AC14 Series	EVC10-AC44 Series
IEC Protection class	Class - I		
Socket Model	2 x Socket TYPE 2 (IEC/EN 62196-1 - IEC/EN 62196-2) 2 x Shutter Socket IEC/EN 62196-1 - IEC/EN 62196-2 Type-2 (Optional)		
Cable Model	2 x Cable with TYPE 2 (IEC 62196) Female Plug		
Voltage and Current Rated	230/400VAC 50/60Hz- 3-phase 16A for 2 outlets, 32A for single outlet	230 VAC 50/60Hz- 1-phase 32A for 2 outlets	230/400VAC 50/60Hz- 3-phase 32A for 2 outlets
AC Maximum Charge Output	22kW	14.8kW	44kW
Built-in Residual Current Sensing module	6mA DC		
Required Circuit Breaker on AC Mains **(Distribution Box)**	4P-40A MCB Type-C	2P-40A MCB Type-C (EVC has MCB inside)	4P-40A - 30mA RCBO Type- A (EVC has RCBO inside)
RCCB on AC Mains	4P - 40A - 30mA RCCB Type-A (EVC has RCCB inside)	2P - 40A - 30mA RCCB Type-A (EVC has RCCB inside)	4P-40A - 30mA RCBO Type- A (EVC has RCBO inside)
Required AC Mains Cable	Min 5x6 mm^2 (< 50 m)	Min 3x6 mm^2 (< 50 m)	Min 5x16 mm^2 (< 50 m)

CONNECTIVITY

Ethernet	10/100 Mbps Ethernet
Wi-Fi	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) WCDMA: B1 (2100 MHz), B8 (900 MHz) GSM: B3 (1800 MHz), B8 (900 MHz)

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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 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.

Hereby, Vestel Komünikasyon SAN. VE TİC. A.Ş., declares that the radio equipment type EVC is in compliance with Directive 2014/53/EU and Radio Equipment Regulations 2017. The full text of the EU declaration of conformity is available at the following address: doc.vosshub.com.

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AUTHORIZATION

RFID	ISO-14443A/B and ISO-15693
ISO-15118/2 PLC	Optional

MECHANIC SPECIFICATIONS

Material	PC 5VA f1 Flame Retardant
Product Dimension	425 mm (Width) x 600 mm (Height) x 235 mm (Depth)
Product Dimension (Packed)	540 mm (Width) x 640 mm (Height) x 315 mm (Depth)
Product Weight	14 kg
Weight with package	17 kg
Cable Inlets	AC Mains / Ethernet / Modbus

ENVIRONMENTAL TECHNICAL SPECIFICATIONS

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

OTHER FEATURES

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	Via OCPP, Direct Flashing

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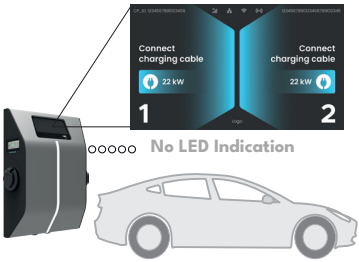
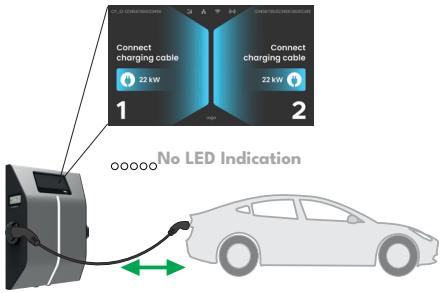
EV CHARGING SCENARIOS

SINGLE VEHICLE CONNECTION

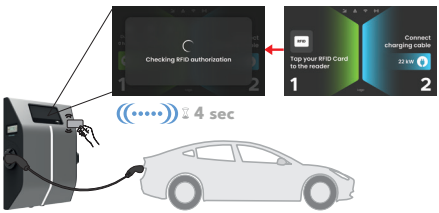
1 - Ensure that your vehicle and the station is ready for charging.



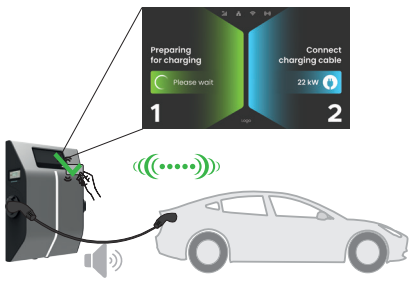
2 - Insert the charging plug to the vehicle inlet and charging station socket outlet.



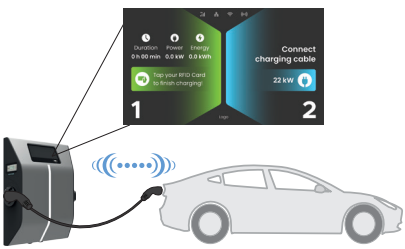
3.A - Tap the RFID card to the RFID reader. You may start charging with a card which is provided by your charging operator.



3.B - You may start charging with a card that has been authorized before. If the RFID Card is authorized by OCPP Central System, charging will start.



4 - Charging starts and status indicator LED glows in blue.



NOTE : Charging operation is rejected by the charging station when you want to start charging with an unauthorized card.

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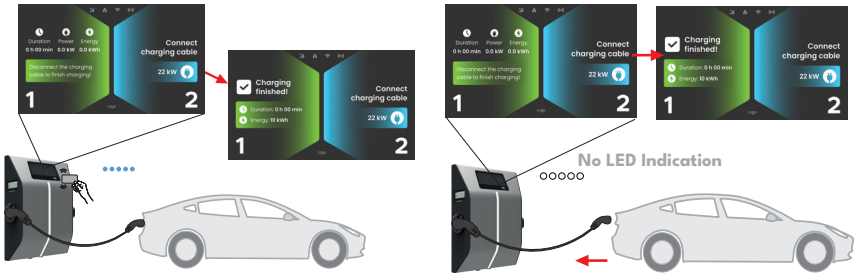
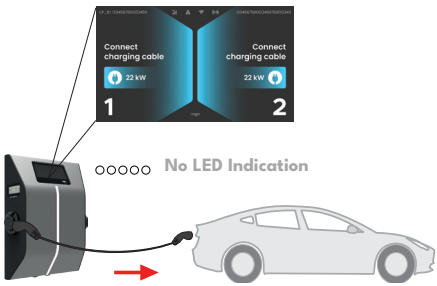
STOP CHARGING

You may follow the alternative methods specified below to stop charging. DO NOT ATTEMPT TO UNPLUG THE CHARGING CABLE FROM THE STATION BEFORE STOPPING CHARGING. OTHERWISE LOCKING MECHANISM MAY BE BROKEN.

1 - You can terminate charging by tapping the RFID card that you have started charging before or if your electric vehicle supports stopping charging session from car, you can stop charging session firstly and unplugged your cable from car.



2 - Unplug the charging cable from the station.



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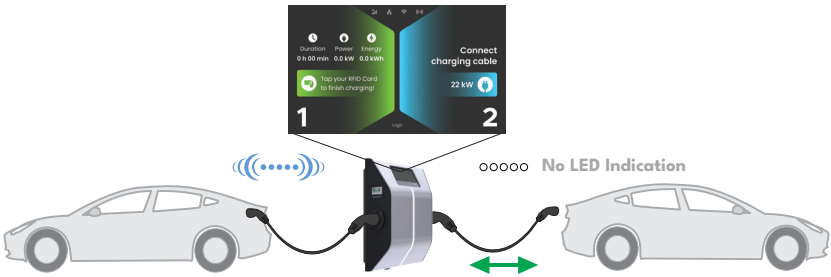
SECOND VEHICLE CONNECTION with INDIVIDUAL RFID CARDS

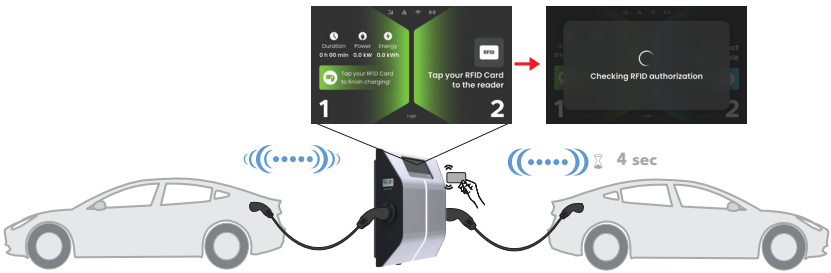
This part explains the usage of second charging outlet of the station in the same time while first outlet has ongoing charging session which is started by tapping different RFID card.

1 - Ensure that your vehicle and the station is ready for charging.

2 - Insert the charging plug to the vehicle inlet and charging station socket outlet.



3- Tap the RFID card to the RFID reader. You may start charging with a card which is provided by your charging operator.



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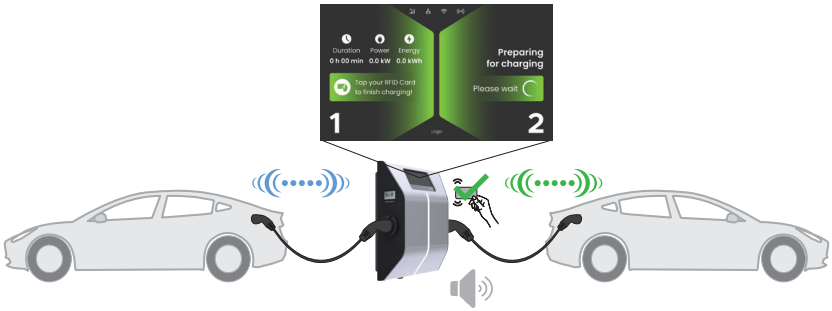
4- You may start charging with a card that has been authorized before. If the RFID Card is authorized by OCPP Central System, charging will start.



5 - Charging starts and status indicator LED glows in blue.

NOTE : Charging operation is rejected by the charging station when you want to start charging with an unauthorized card.

NOTE : If both outputs of the charging station are plugged and there is no authorization for any plug, if you want to start charging by tapping any authorised RFID card , the station will display a warning on the screen and direct you to remove one of the charging cables and will not start charging. For this reason, in order to start charging from separate sockets, first connect any charging cable and authorise that outlet before connecting the other charging cable.

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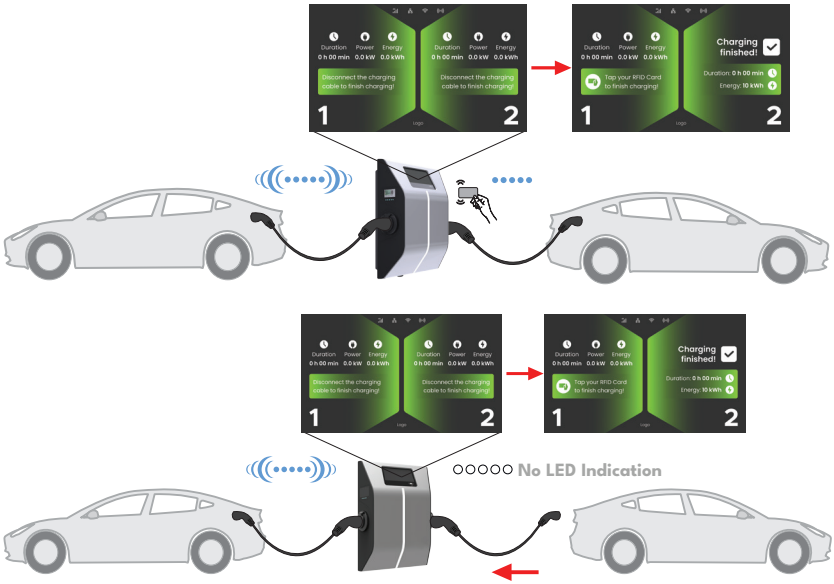
STOP CHARGING

You may follow the alternative methods specified below to stop charging. DO NOT ATTEMPT TO UNPLUG THE CHARGING CABLE FROM THE STATION BEFORE STOPPING CHARGING. OTHERWISE LOCKING MECHANISM MAY BE BROKEN.

1 - Whichever RFID card is used in the selected socket when the charging process is started, the charging process in that socket can be stopped with same RFID card or if your electric vehicle supports stopping charging session from car, you can stop charging session firstly and unplugged your cable from car.



2 - Unplug the charging cable from the station.

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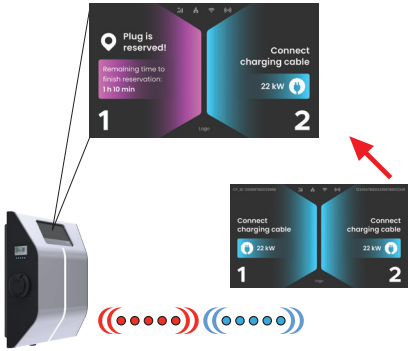
BACK-END CONNECTED DEVICE ADDITIONAL FEATURES

RESERVATION FEATURE

Reservation feature allows the user to reserve the charging station for a period of time. During this period:

- The LED will blink in red and blue.
- Only the RFID card that is used for reservation may initiate the charging process. Other cards are rejected.

If charging is not initiated until the reservation period is expired, the LED will switch to “No Light Indication” mode.



REMOTE CHARGE INITIATION / TERMINATION

This feature is supported by the charging station. If it is also supported by the connected server, then charging process may be initiated/terminated remotely.

HARD RESET/ SOFT RESET

If the electric vehicle charging station is not working properly, the service provider may restart the appliance with this feature. There are two types of restart. Software or hardware reset may be selected.

UNLOCKING THE SOCKET

If the charging cable is locked at the station, the service provider may unlock the cable via this feature.

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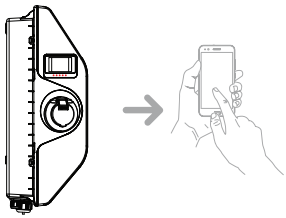
ERROR AND FAULT CONDITIONS

In case of fault, "Out of order" warning is shown on display with error codes.

If the status information LED is constant red, turn off the charging station from your main electrip box and turn on again. if the LED is still constant red then call an authorized service.



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OTHER ERROR CONDITIONS

Status Indicator	Problem	Possible Causes	Recommended Solutions
	Constant LED.	AC supply voltage may not be in the range in the operation manual, grounding connection may not be performed and/or phase/neutral connections may be reversed or the charging station may have a fault.	Please ensure that the voltage is in the specified range and that the grounding connection have been performed. If the button is still solid red, please contact authorized service.
4 sec	Even if the status information LED blinks in blue every four seconds, it is not possible to start charging the electric vehicle or to lock the plug in the charging station	The charging plug may not be connected properly to the charging device or the electric vehicle.	Ensure that the charging plug is connected properly on both sides. Please check if your electric vehicle is in charging mode.
	The status information LED blinks in red	You shall see this error notification if your vehicle is equipped with a battery type that requires ventilation.	This charging station is not suitable to charge such vehicles.

CLEANING AND MAINTENANCE

DANGER

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

FAILURE TO FOLLOW THESE WARNINGS MAY RESULT IN DEATH AND SERIOUS INJURIES. ALSO, IT MAY CAUSE DAMAGE TO YOUR DEVICE AND VEHICLE.

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