VESTEL
MOBILITY

ELECTRIC VEHICLE CHARGER

EVC-X STELLA SERIES

User Manual

CONTENTS

ABBREVIATIONS

PU	Power Unit
DU	Dispenser Unit
AC	Alternative Current
DC	Direct Current
PE	Protective Earth
L	Line
LED	Light Emitting Diot
MID	Measuring Instruments Directive

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

The AC grid connection and the electric vehicle charger's load plan are examined and approved by the electrical regulations and standards of the related region or country determined by the authorities. In the installation of multiple electric vehicle chargers, the load plan will be determined accordingly. The manufacturer shall not be liable in any way, directly or indirectly, for damages or risks caused by the errors that may occur due to AC grid connection or load planning.

CAUTION: FOR DEVICES WITHOUT EMERGENCY BUTTON;

If any suspicious or emergency situation arises at the charging station aside from normal operation, start by halting the charging process through the vehicle (using the appropriate switch or button, which may vary depending on the model), and then disconnect the socket. As an alternative option, consider switching off the MCB or RCCB in the panel where the product is energized by the installer.

IMPORTANT - Please read these instructions fully before installing or operating

1.1 - SAFETY WARNINGS

- Keep this manual in a safe place. These safety and operating instructions must be kept in a safe place for future reference.
- Check that the voltage marked on the rating label and do not use charging station without appropriate mains voltage.
- Do not continue to operate the unit if you are in any doubt about it working normally, or if it is damaged in any way - switch off the mains supply circuit breakers (MCCB and RCCB) in upstream distribution panel. Consult your local dealer.
- The ambient temperature range during charging should be between –35 ˚C and +50 ˚C (without direct sunlight) and at a relative humidity of between 5 % and 95 %. Use the charging station only within these specified operating parameters.
- The device location should be selected to avoid excessive heating of the charging station. High operating temperature caused by direct sunlight or heating sources, may cause reduction of charging current or temporary interruption of charging process.
- The charging station is intended for outdoor and indoor use. It can also be used in public places.

- To reduce the risk of fire, electric shock or product damage, do not expose this unit to severe rain, snow, electrical storm or other severe weathers. Moreover, the charging station shall not be exposed to spilled or splashed liquids.
- Do not touch end terminals, electric vehicle connector and other hazardous live parts of the charging station with sharp metallic objects.
- Avoid exposure to heat sources and place the unit away from flammable, explosive, harsh, or combustible materials, chemicals, or vapors.
- Risk of Explosion. This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors. It should not be located in a recessed area or below floor level.
- This device is intended only for charging vehicles not requiring ventilation during charging.
- To prevent risk of explosion and electric shock, ensure that the specified Circuit Breaker and RCD are connected to building grid.
- Charging Station bottom must be at (or above) the ground level.
- Adaptors or conversion adapters are not allowed to be used. Cable extension sets are not allowed to be used.
- The allowed current value of the service socket is maximum 10A.

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 - INSTRUCTIONS FOR DEALING WITH A FIRE AT ELECTRIC VEHICLE CHARGING STATION

- Personal Safety: If you notice a fire or signs of danger, your own safety is the most important. Do not take risks.
- Immediate Notification of Emergency Services: Contact the appropriate emergency services in your region.
- Discontinuing Charging: If safe to do so, disconnect the charging cable from the vehicle and the charging station.
- Use of Fire Extinguishing Agents: If a fire extinguisher or other fire-fighting equipment is nearby and you are trained to use them, attempt to extinguish the fire. However, never risk your own safety.
- Avoid Direct Contact with the Fire: Do not attempt to extinguish the fire if you do not have the appropriate equipment or knowledge, or if the fire is too large or dangerous.
- Move Away from the Station: If the fire is uncontrolled or growing in strength, move away from the charging station while maintaining a safe distance.
- Avoid Inhaling Smoke: Try to avoid inhaling smoke. If possible, cover your nose and mouth with a damp cloth or clothing.
- Warn Others in the Area: Inform others in the vicinity about the fire hazard and encourage them to leave the area.

- Wait for Emergency Services: After safely leaving the area, wait for the arrival of emergency services at a location that is safe for you.
- No Return to the Station Premises: Do not return to the charging station premises until the emergency services have completed their operation.
- Reporting the Incident: Contact customer support to report the incident.

Remember, safety is paramount. In the event of a fire, always consult with local emergency services and follow their instructions.

1.3 - GROUND CONNECTION WARNINGS

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

1.4 - POWER CABLES, PLUGS and CHARGING CABLE WARNINGS

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

1.5 - REQUIRED UPSTREAM PROTECTIONS

- Class-I/B Lightning Protection must be connected to the upstream distribution panel. Min. cable length between the charger and the protection device recommended to be 10m. *The charger contains Class II Surge Protector Device (SPD).
- MCCB (Thermic Magnetic Adjustable) must be connected to the upstream distribution box.
- Residual Current Device (Toroid) must be connected to the upstream cabinet.
- Single pole 63A MCB must be placed in the upstream cabinet, on the neutral line.

Power Unit (PU)						
Model	**Power output**	**Input Voltage**	**Maximum Input AC current**	**Recommended Cross Section Values L1-L2-L3 (mm2) - (XLPE 1kV 90 °C degrees Copper cable)**	**Suggested Cross-Section Value for Neutral - (Copper Conductor Cable)**	**Recommended Cross-Section Value for PE (mm2) - (Copper Conductor Cable)**
EVCXP-720**	720kW	400V (nom.)	1100A	3x240mm²	1x35mm²	2x240mm²
		360V (-%10)	1220A			
EVCXP-400**	400kW	400V (nom.)	610A	2x185mm²	1x35mm²	1x185mm²
		360V (-%10)	680A			

Dispenser Unit (DU)								
Model	**Input Voltage (DC)**	**Maximum Input DC Current**	**Cooling Unit**	**Meter**	**Recommended Cross Section Values L1-N-PE (mm2) - (Copper Conductor Cable for AC Input)**	**Recommended Cross-Section Values +DC & -DC (mm2) - (XLPE 1kV 90°C degrees Copper cable)**	**Fiber Optic Cables for Per Dispenser Unit (recommended shielded)**	**Ethernet Cables for Per Dispenser Unit**
EVC-XD**	200-920V	600A	YES	YES	3x6mm²	2x2x150mm² (+DC) 2x2x150mm² (-DC)	2xSC to SC, Single Mode, 9um diameter, 1310nm	1x CAT6 SFTP RJ45 Cable
		750A		NO		2x2x240mm² (+DC) 2x2x240mm² (-DC)		

2 - DESCRIPTION

POWER UNIT	
Model Name	**EVC-XP Series (Name Coding: EVC-XP***)** 1st Asterisk (*) : Rated Output Power 720 : 720 kW DC Power Output 400 : 400 kW DC Power Output 2nd Asterisk (*) : Supply Input A : Only AC Supply 3rd Asterisk (*) : Max Number of Charging Interfaces 8 : Power Unit Capable of Supplying Up to 8 Charging Interfaces
Cabinet	EVC-XP

DISPENSER UNIT	
Model Name	**EVC-XD Series (Name Coding: EVC-XD***)** 1st Asterisk (*) : Number of Charging Interfaces CC : Dispenser Unit with liquid cooled or non-cooled double CCS charging output 2nd Asterisk (*) : Max Output Current per Charging Interface 600 : Max 600 A Output Current per Charging Interface 750 : Max 750 A Output Current per Charging Interface 3rd Asterisk (*) : Meter Type Blank : Internal meter without approval -MID : External meter with MID approval -EICH: External meter with Eichrecht approval
Cabinet	EVC-XD

3 - TECHNICAL SPECIFICATION

POWER UNIT		
Protection class		Class - I
Power Input	**Voltage**	230/400 VAC ±10 % , 50/60 Hz
	Current	1220 A max. / phase
	Connection	3P - N - PE
	Power Factor	> 0.98 for over 50 % of rated power
	Efficiency	> % 95 @ rated power
Power Output	**Voltage Range**	200 – 920 V DC
	Total Power	720 kW
	Maximum Current per Charging Interface	750 A (Lower current levels can be provided by the power unit according to the dispenser specifications.)
Power Sharing		Dynamic power allocation with 80-120kW steps
Noise Level		< 80 dBA avg. from 1m distance from front @25˚ C
Electrical Protections		Over current / Over voltage / Under voltage / Short circuit / Over Temperature / Surge Protection

DISPENSER UNIT		
Protection Class		Class - I
Power Input	**Voltage**	200 – 920 V DC
	Current	600 A per charging interface for EVC-XD*600 models 750 A per charging interface for EVC-XD*750 models
Power Output	**Voltage Range**	200 – 920 V DC
	Maximum Power	720 kW
	Maximum Current per Charging Interface	Up to 600 A for EVC-XD*600 models with liquid and non-cooled cable and DC metering Up to 750 A for EVC-XD*750 models with liquid cooled cable.
	CCS Interface Compliance	IEC 62196-1 / 3 / 3-1 IEC 61851-1 / 23 / 24 ISO 15118-1 / 2 / 3 / 20 DIN 70121
Noise Level		< 65 dBA avg. from 1m distance from front @25˚ C
Internal Protections		RCBO Type-A for internal SELV circuit, Insulation monitoring for DC outputs , Over current / Over voltage / Under voltage / Short circuit / Over Temperature / Surge Protection (Type-1, Type-2)
DC Metering (Optional)		DC meter in accordance with IEC 62052-11:2020
Other Safety Features		Emergency Stop button (optional), Tilt sensor, Door Switches, Upstream Protection Trip (NC)

4 - USER INTERFACE & AUTHENTICATION

Display	27" Color TFT LCD
User Interface	Capacitive Touch Screen
RFID Reader Module	ISO-14443A/B and ISO-15693
Automatic Authentication (optional)	AutoCharge using MAC ISO-15118-2 Plug & Charge
Credit Card Reader (optional)	Contactless Credit Card Reader with PIN on Glass

5 - CONNECTIVITY

LAN Connectivity	Ethernet
Cellular Connectivity (Power Unit)	GSM 900/1800 UMTS 900/2100 LTE Band 1/3/7/8/20/28A
OCPP Specification	OCPP 1.6 J, OCPP 2.0.1 (via OTA Update)

6 - MECHANICAL SPECIFICATIONS

Material		Metal	
Protection Degree		Ingress Protection Impact Protection	IP54 IK10
Power Unit Cooling		Forced Air Cooling Fan	
Cable Cooling (Optional)		Liquid Cooled Cable Using Passive Heat Exchanger with Fan	
Cable Length		5.50 m with cable retraction unit 4.00 m without cable retraction unit	
Dimensions (Product)	**Power Unit**	2014 mm (H) x 1052 mm (W) x 1344 mm (D)	
	Dispenser Unit	2000 mm (H) x 637 mm (W) x 422 mm (D) (without cable retraction unit holders)	
Dimensions (With packing)	**Power Unit**	2260.0 mm (H) x 1250.0 mm (W) x 1500.0 mm (D)	
	Dispenser Unit	2200.0 mm (H) x 1000.0 mm (W) x 1000.0 mm (D)	
Weight (Product)	**Power Unit**	1080 kg	
	Dispenser Unit	280 kg (Liquid cooled)	
		255 kg (Non-cooled)	
Weight with Package	**Power Unit**	1265 kg	
	Dispenser Unit	330 kg (Liquid cooled)	
		305 kg (Non-cooled)	

7 - ENVIRONMENTAL TECHNICAL SPECIFICATIONS

Operation Condition	Temperature	-35˚C to + 50˚C (Derating is applied over +40˚C to +50 ˚C) For products with credit card option-20˚C to + 50˚C
	Humidity	5 % - 90 % (Relative humidity, non-condensing)
	Altitude	0 - 2,000m

If the product is kept de-energised in a cold environment (t < -20C), it must be allowed to warm up for a certain period of time before the current is drawn.

8 - BEHAVIOR OF STATUS INFORMATION LED

SOCKET INDICATION LED:

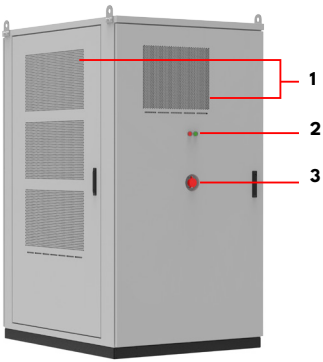
STATUS OF LED		MODE
	Blue and Green Flashes	Initialise EVSE
	No LED Indicator	Rechargeable
	Blue Illuminates	Charging
	Blue Illuminates Steadily	Charging is suspended, finished or plugged
	Red Illuminates Steadily	Error
	Green Illuminates	Charging process is verified

CEILING INDICATION LED:

STATUS OF LED		MODE
	Blue glowing	When the product is initialized
	Green Illuminates Steadily	While the product is in standby (No charge)
	Blue Illuminates Steadily	When the cable is inserted to EV
	Blue glowing	While Charging
	Blue Illuminates Steadily	Charging is suspended, finished or plugged
	Red Illuminates Steadily	Error
	Blue until plug is removed.	Charging is finished

9 - GENERAL INFORMATION

9.1 - INTRODUCTION OF THE PRODUCT COMPONENTS



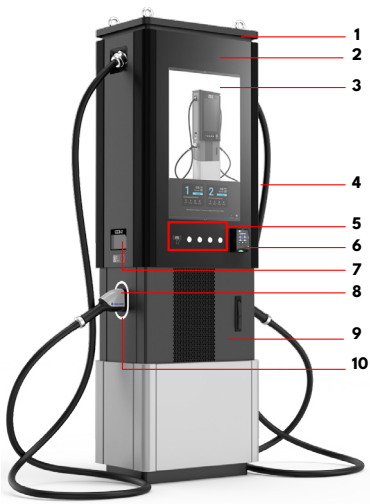
1- Access cover for fans, relays and main power button

2- Indicator LEDs

Red: If active AC power available at the input of the unit, circuit breaker is open.

Green: If active AC power available at the input of the unit, circuit breaker is close and power unit is operational.

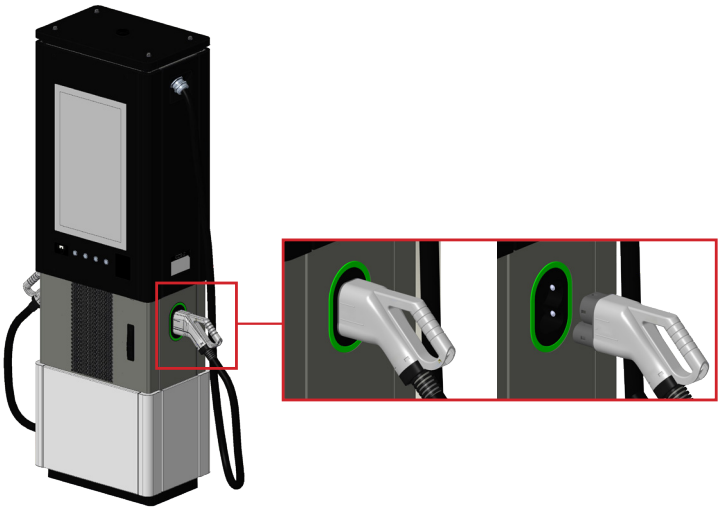
3- Emergency Button



1- LED
2- Branding Area
3- Display
4- Charging Cable
5- RFID Reader and Buttons
6- Payment Terminal (optional)
7- MID Meter (optional)
8- DC Outlet
9- Access Cover for Internal Components and Boards
10- CCS Socket LED

9.2 - CCS Outlet

Unplug the charging plug to remove it from the device. Then plug it into the vehicle to start charging.

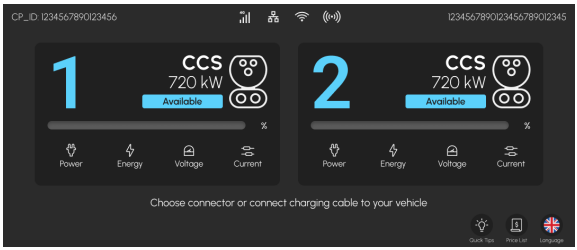


All products' images are given for representative purpose only

10 - CHARGING SCENARIOS (INCLUDES ALL SCENARIOS)

Plug/unplug the charging cable to/from the socket outlet.

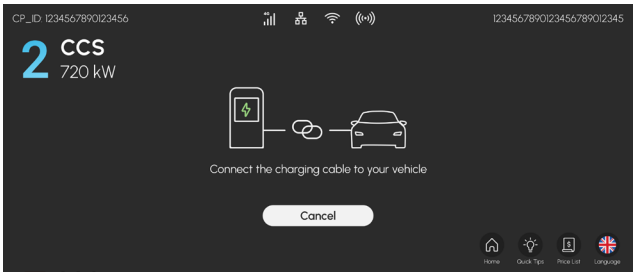
In the main screen on the charging station display, you may either tap the plug you want to use or simply connect that plug to your car.



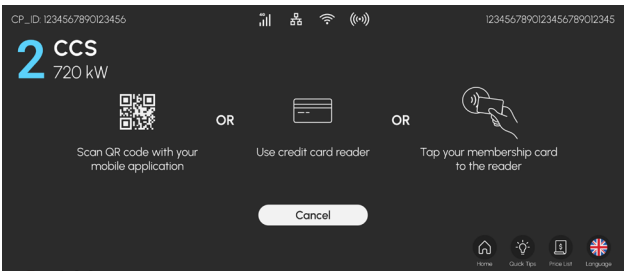
10.1 - DC CCS Outlet

10.1.1 - VEHICLE CONNECTION & CHARGING

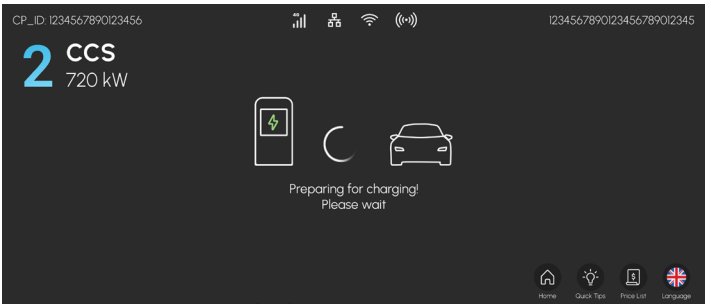
1- Connect charging cable to move to payment screen.



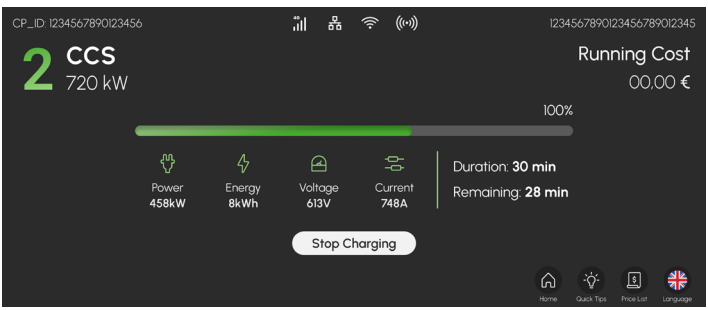
2- Tap your RFID card or scan QR Code to start charging. (If AutoCharge is set in Webconfig and vehicle registration is available in the system, charging starts without reading the RFID card).



3- It may take a few seconds for charging session to start. Charging state can be seen in charging page.

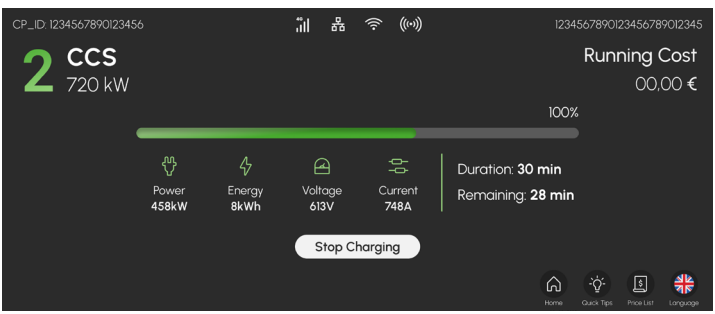


4- While charging, charging state can be seen in the main menu.

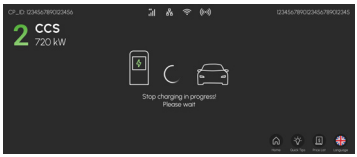


10.1.2 - STOP CHARGING

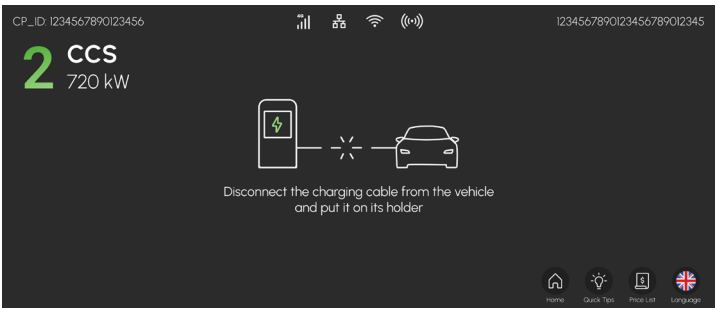
1- Click “Stop Charging” to end the charging session.



2- Scan your RFID card or scan QR Code to stop charging.

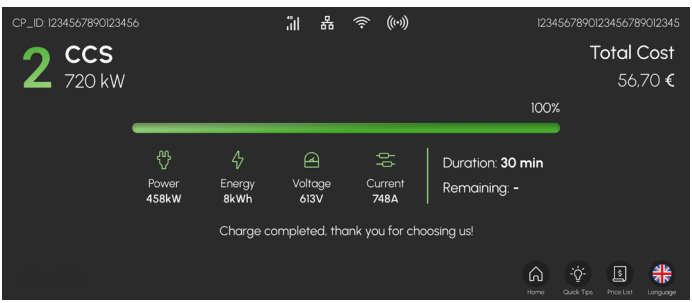


3- Unplug the charging cable. The unit automatically will show the main screen.



10.1.3 - CHARGING COMPLETED

The charging process is successfully completed.

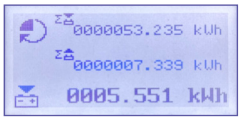


All products' images are given for representative purpose only

11 - PRODUCTS WITH CERTIFIED ENERGY METER (OPTIONAL)

RFID/Autocharge and credit card (optional) authentication methods have different information on the meter display energy register at the beginning of the transaction.

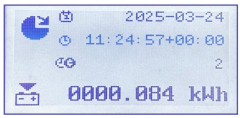
RFID/Autocharge



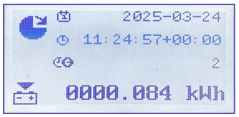
Credit card

Date and time on site at the beginning of the transaction Total duration of the transaction.

RFID/Autocharge

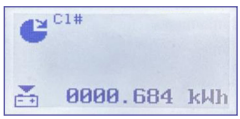


Credit card

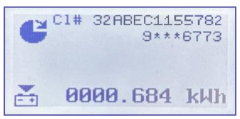


Prefix of the charging station operator, followed by the first 6 digits and the last 4 digits of the credit card ID.

Customer RFID/Autocharge ID

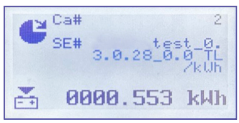


Customer credit card ID

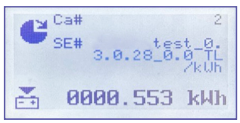


Cable compensation, EVSE identification input and charging point ID_Sw-Version_Tariff (chargepointid_Sw version_ tariff) with currency.

RFID/Autocharge

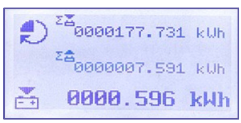


Credit card

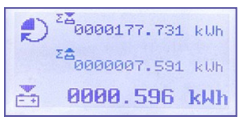


Energy register at the end of the transaction.

RFID/Autocharge



Credit card



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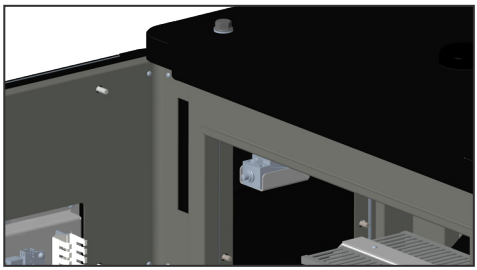
12 - DOOR SWITCH

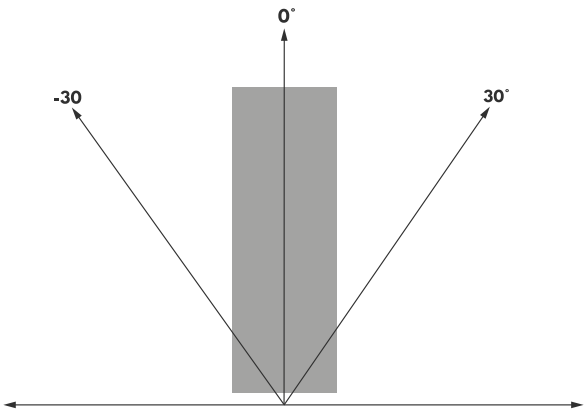
The behaviour of the door position can be monitored with 2 different conditions set as normally open or normally closed given via the terminal. When the doors are opened, the breaker can be controlled over the main panel outside the station with a control lead to be taken over the dry contact. This information is also transmitted to the service via OCPP.



13 - TILT SENSOR

If the product reaches the determined tilt angle in forward or reverse direction, the tilt sensor takes the tilt angle information on the OCPP and disables the sockets and prints “Out Of Order” on the screen. But it does not cut the product energy. In this case, the product must be de-energised by the charging station operator from the energy panel to which it is connected.

Note: The tilt angle is 30 degrees by default, but this value can be changed via the WEB UI link.



14 - ERROR AND FAULT CONDITIONS

There are two type of errors or faults:

- **General Erros**: This fault or error effects all two outputs.
- **Charging Output Errors:** Only one socket or plug effected by this fault or error condition.

14.1 - ERROR CONDITIONS

Problem	Possible Causes	Recommended Solutions
Power Failure	Power outage or the grid voltage is not in specified range.	Check input circuit breakers are not tripped and input voltage range and rotation is as specified in installation guideline.
Fan Failure	Fan malfunctioning.	Check the fans. Remove or clean any elements that may prevent fan blades from spinning.
CCS output unavailable	RCCB is tripped	Check cable isolation first. Turn on RCCB. (See section “CIRCUIT BREAKER LOCATIONS FOR CHARGING OUTPUTS“) Check functionality for the station output.
Chademo output unavailable	RCCB is tripped	Check cable isolation first. Turn on RCCB. (See section “CIRCUIT BREAKER LOCATIONS FOR CHARGING OUTPUTS“) Check functionality for the station.
All outputs unavailable	General error	Please check if there is a power outage. Then, check the upstream distribution box circuit breaker. If the outputs are still unavailable please contact authorized service.

15 - 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.

16 - PERIODIC MAINTENANCE LIST

	Maintenance Period (years)									
	1	2	3	4	5	6	7	8	9	10
Air filters	R	R	R	R	R	R	R	R	R	R
Plugs	I	I	I	I	I	I	I	I	I	I
Screen	C	C	C	C	C	C	C	C	C	C
Distribution elements (MCCB, MCB RCCB)	T	T	T	T	T	T	T	T	T	T
AC input terminals	T	T	T	T	T	T	T	T	T	T
Fan	I	I	I	I	I	I	I	I	I	I
DC relay terminals	T	T	T	T	T	T	T	T	T	T
DC output cable and terminals	T	T	T	T	T	T	T	T	T	T
Body	C	C	C	C	C	C	C	C	C	C
Earthing resistance	M	M	M	M	M	M	M	M	M	M
Liquid cooling unit	I	I	I	I	I	I	I	I	I	I
Liquid cooling unit liquid	I	I	I	I	R	I	I	I	I	R

C : Clean

I : Inspect (check, confirm, clean, tighten or replace if necessary)

M : Measure

T : Tighten

R : Revise

Air filters

Air filters should be changed every year when going for maintenance.

Plugs

All Plugs should be checked when going for maintenance. If the plug is broken or cracked, it should be replaced. In addition, a charge attempt should be made with all plugs.

Screen

When going for maintenance, the screen should be checked by pressing the touchscreen. It can be controlled by pressing all the functions on the screen. If there is no problem with the screen touch, the screen should be cleaned.

Distribution elements (MCCB, MCB RCCB)

Distribution elements (MCCB, MCB RCCB) should be checked and tightened when going for maintenance. It can be tightened with a screwdriver with a torque of 2 Nm.

AC input terminals

When going for maintenance, AC input terminals should be checked and tightened. It should be tightened with 8 Nm for metric 8 bolts and 10 Nm for metric 10 bolts.

Fan

Fans should be checked when going for maintenance. In case of any breakage or damage, the damaged fan must be replaced. If there is no problem with the fans, a charging attempt should be made. It should be checked whether the fans rotate during this charging.

DC relay terminals

When going for maintenance, DC relay terminals should be checked and tightened. The tightening process should be applied with 6.5 Nm.

DC output cable and terminals

DC output cable and terminallet should be checked when going for maintenance. It should be checked for any damage.

Body

When going for maintenance, the outer cabinet should be cleaned.

Earthing resistance

When going for maintenance, a mechanism should be set up like measuring with meger. After the piles are driven, the voltage between the two piles should be less than 1V

Liquid cooling unit **

When going for maintenance, a charge attempt should be made with a liquid-cooled Plug (gun). During charging, after waiting for 5 minutes, it should be observed that there is a liquid flow from the pipes in the liquid cooling unit.

Liquid cooling unit liquid **

When going for maintenance, the liquid cooling unit fluid should be checked. If there are any particles in the liquid, the liquid must be changed. In addition, the fluid should be changed every 5 years.

**** Units available on EVC-X products only. There is a detailed explanation in the liquid cooling section of the service manual.**

VESTEL

MOBILITY

VESTEL MOBİLİTE SANAYİ VE TİCARET A.Ş. EGE SERBEST BÖLGE ŞUBESİ

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