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.)	1125A	3x240mm²	1x35mm²	2x240mm²
		360V (-%10)	1250A			
EVCXP-400**	400kW	400V (nom.)	625A	2x185mm²	1x35mm²	1x185mm²
		360V (-%10)	695A			

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**	200-1000V	500A	NO	NO	3x6mm²	2x2x120mm² (+DC) 2x2x120mm² (-DC)	2xSC to SC, Single Mode, 9um diameter, 1310nm	1x CAT6 SFTP RJ45 Cable
				YES				
		600A	YES	YES		2x2x150mm² (+DC) 2x2x150mm² (-DC)		
		750A		NO		2x2x240mm² (+DC) 2x2x240mm² (-DC)		

2 - DESCRIPTION

This product was developed for charging electric vehicles with a suitable charging system in accordance with the IEC 61851-1 standard for the pilot standard signal. This document describes the specific functions and characteristics of the corresponding variants of charging stations and measuring devices in relation to electrical energy in accordance with § 46 of the German Measurement and Verification Ordinance (MessEV), taking into account PTB-A 50.7 and PTB-REA document 6-A.

Only the following models are certified in accordance with MessEG and MessEV:

EVC-XD-EICH**

In accordance with the German Measurement and Calibration Act, the charging station can be billed according to kWh. You can consult the German Measurement and Verification Act, which is described in chapter 18.

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**-EICH)** 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 500 : Max 500 A Output Current per Charging Interface 600 : Max 600 A Output Current per Charging Interface
Cabinet	EVC-XD

3 - TECHNICAL SPECIFICATIONS

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 – 1000 Vdc
	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 – 1000 V DC
	Current	500 A per charging interface for EVC-XD*500 models 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 – 1000 Vdc
	Maximum Power	720 kW
	Maximum Current per Charging Interface	Up to 500A for EVC-XD*500 models with non-cooled cable. Up to 600 A for EVC-XD*600 models with liquid 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
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.

After the product has been supplied with energy at low temperatures, it should wait for the heating element in the charger to activate and the charging process should only be carried out afterwards.

8 - TECHNICAL SPECIFICATIONS OF THE MEASUREMENT CAPSULE

Model	DCBM_N1M_6000C20_0000C00 DCBM_N2M_6000C20_0000C00
Manufacturer	LEM INTERNATIONAL SA
Sign of the type test certificate	DE-20-M-PTB-0075
Iref [A]	120
Imax [A]	600
Imin [A]	6
Meter constant [imp./kwh]	1000
Un [V]	150/1000 V
Operating temperature	-25...+70 ˚C
Accuracy class	B
Firmware version (measuring device unit)	2.3.0.1
Firmware version (sensor unit)	0.1.3.0
Checksum of the firmware (measuring device unit)	0x7BE605E0439539EECE15E856
Checksum of the firmware (sensor unit)	0x3CBB

9 - BEHAVIOR OF STATUS INFORMATION LED

SOCKET INDICATION LED:

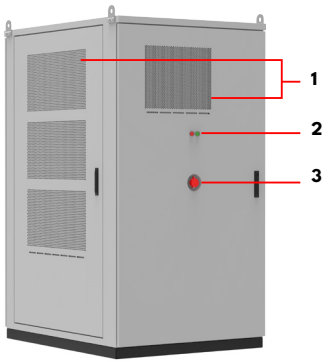
STATUS OF LED		MODE
	Blue and Green Flashes	Initialise EVSE
	No LED Indicator	Rechargeable
	Blue Illuminates	Charging
	Blue Illuminates Steadily	Charging is suspended, finished or plugged
	Red Illuminates Steadily	Error
	Green Illuminates	Charging process is verified

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

10 - GENERAL INFORMATION

10.1 - INTRODUCTION OF THE PRODUCT COMPONENTS



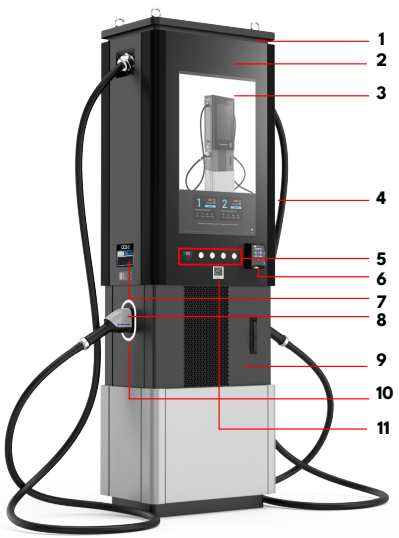
1- Access cover for fans, relays and main power button

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

8- DC Outlet

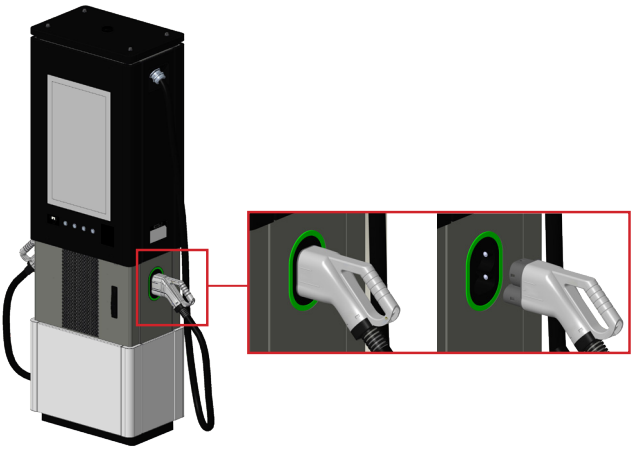
9- Access Cover for Internal Components and Boards

10- CCS Socket LED

11- User manual QR code

10.2 - CCS Outlet

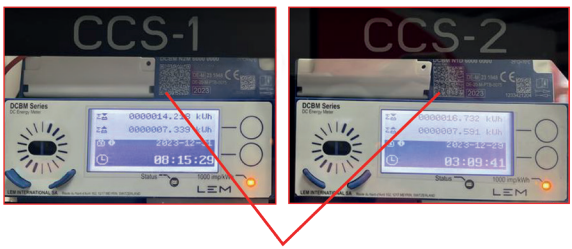
Unplug the charging plug to remove it from the device. Then plug it into the vehicle to start charging.



All products' images are given for representative purpose only

10.3 - PUBLIC KEY

A QR code with the public key is printed in full format on the front of the meter. The signature can be verified using a public key.



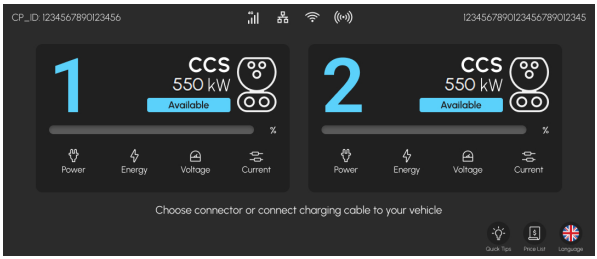
Information on the public key

Public key (for the measuring capsule, shown on the type plate of the charging station's measuring device in the form of a QR code)

11 - 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.

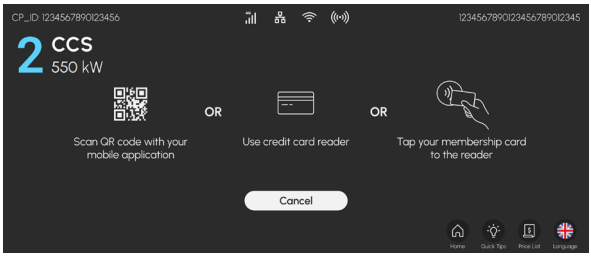


11.1 - DC CCS Outlet

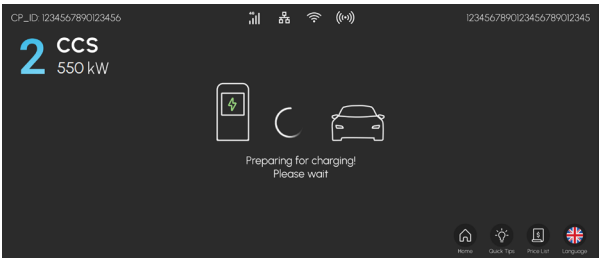
11.1.1 - VEHICLE CONNECTION & CHARGING

1- Connect charging cable to move to payment screen.

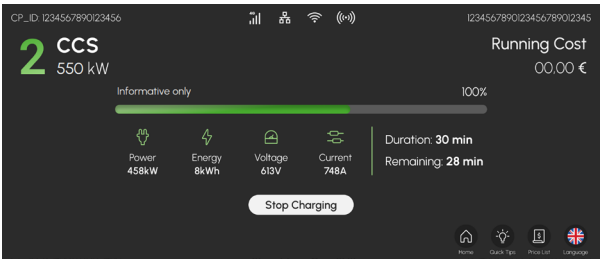
2- Tap your RFID card or scan QR Code to start charging. (If AutoCharge is set in Webconfig and vehicle registration is available in the system, charging starts without reading the RFID card).



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

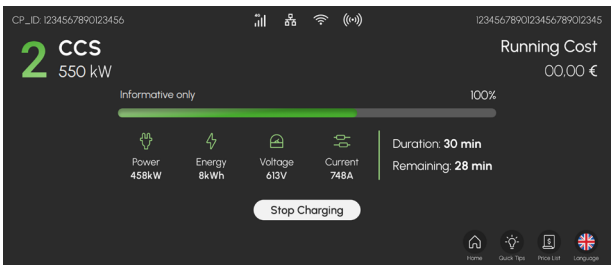


4- While charging, charging state can be seen in the main menu.

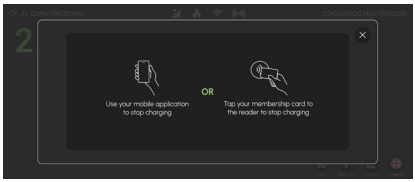


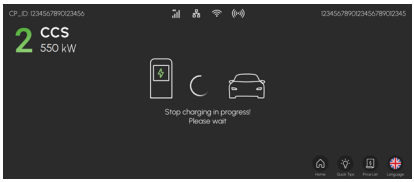
11.1.2 -STOP CHARGING

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

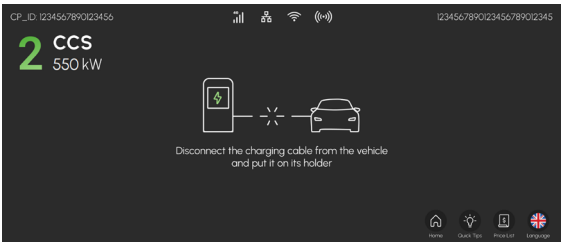


2- Scan your RFID card or scan QR Code to stop charging.



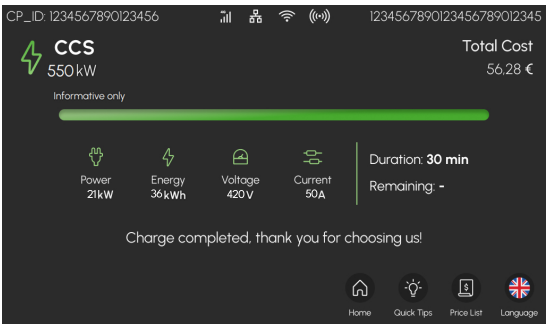


3- Unplug the charging cable. The unit automatically will show the main screen.



11.1.3 - CHARGING COMPLETED

The charging process is successfully completed.

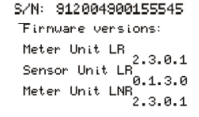
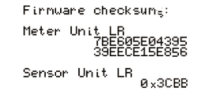
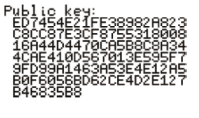


All products' images are given for representative purpose only

12 - LCD DISPLAY

This display can be used to show the various measured values and the associated units and registers in plain text.

PRODUCT START DISPLAY

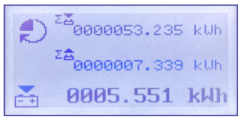
Bildschirm	Beschreibung
	Company logo Serial number of the device
	Identifiers of the DCBM firmware versions
	Integrity checks for legally relevant firmware components
	Public key of the device, for authentication in LEM format (i.e. without OCMF-RFC5480 header), public key with OCMF format is encoded in the data matrix on the front of the device.
	Test screen

The texts on the display are shown in a loop cyclically. The next display appears every 8 seconds. As long as the measuring device is measuring a consumer, the display is permanently illuminated and the scrolling of the display continues.

13 - PRODUCTS WITH CERTIFIED ENERGY METER

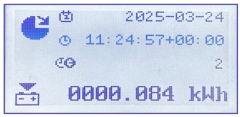
RFID/Autocharge authentication methods have different information on the meter display energy register at the beginning of the transaction.

RFID/Autocharge

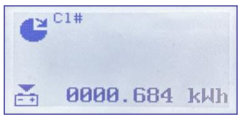


Date and time on site at the beginning of the transaction Total duration of the transaction.

RFID/Autocharge

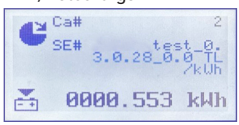


Customer RFID/Autocharge ID



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

RFID/Autocharge



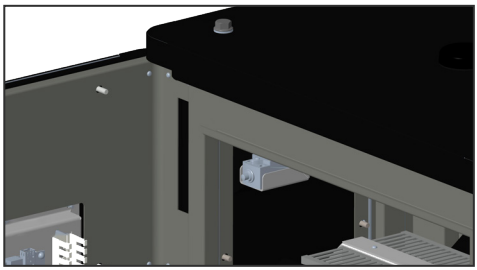
Energy register at the end of the transaction.

RFID/Autocharge

All products' images are given for representative purpose only

14 - DOOR SWITCH

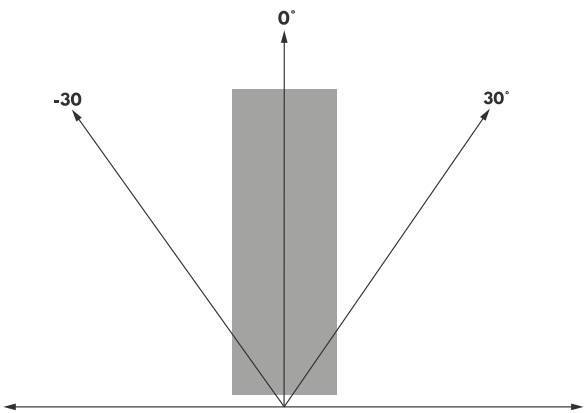
The behaviour of the door position can be monitored with 2 different conditions set as normally open or normally closed given via the terminal. When the doors are opened, the breaker can be controlled over the main panel outside the station with a control lead to be taken over the dry contact. This information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



15 - 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.



16 - CHECKING THE VALIDITY OF THE MEASUREMENT

Data with transparency software

This section deals with billing, the transmission of legally relevant data and the billing procedure in accordance with the German Measurement and Verification Ordinance (MessEV).

With this charging station, the information on the progressive kWh display is shown on the MID display of the meter, which is approved in accordance with calibration law.

If you have used your RFID card to authorize the charging process, you can request the signed measurement data from the operator of your charging station or your electromobility provider.

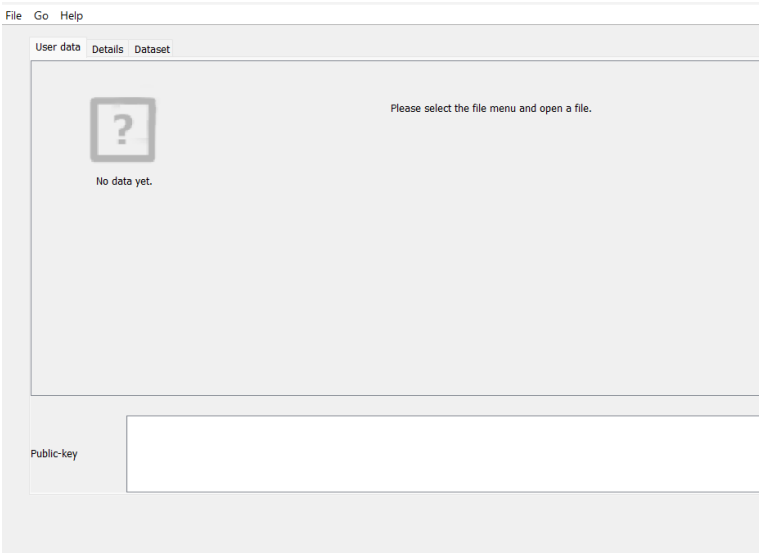
What is transparency software?

You can verify digital signatures with transparency software. Depending on its technical design, a charging station generates digitally signed meter readings for each charging process carried out at this charging station. Using these digital signatures, you can check the measured values with a time delay and thus ensure that no one has manipulated your measured values during transmission to your invoice.

If you want to use the transparency software, you must first download it and then open it on your desktop PC.

You can download the transparency software via the following link. The installation is explained on this website.

https://www.safe-ev.de/en/transparency_software.php



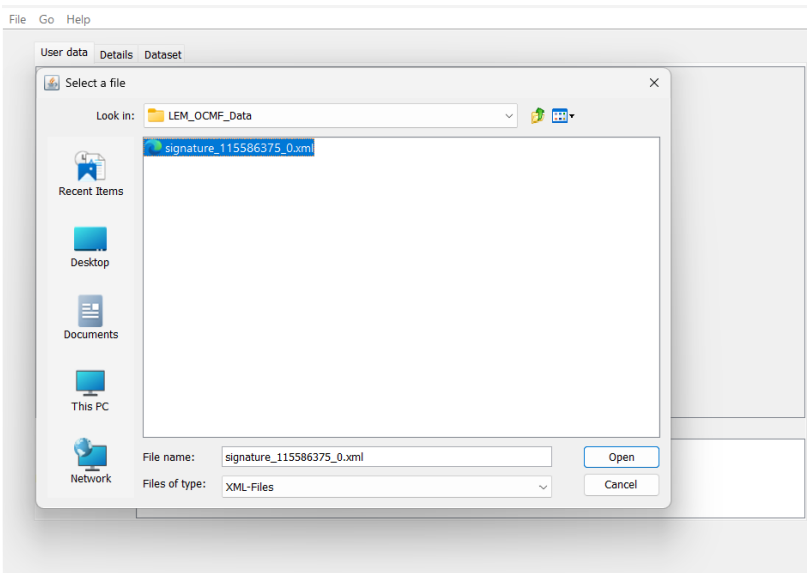
How does the transparency software work?

Transparency software v1.4.1

This software can be used to verify a digital signature. Depending on its technical equipment, a charging station generates a digitally signed meter reading that is linked to the charging station at which an electric vehicle is being charged. With this digital signature, the measured values can be checked with a time delay. As a consumer, you can therefore always be sure that the kWh charged are actually correct and that the measured values can no longer be changed when billing the kWh charged.

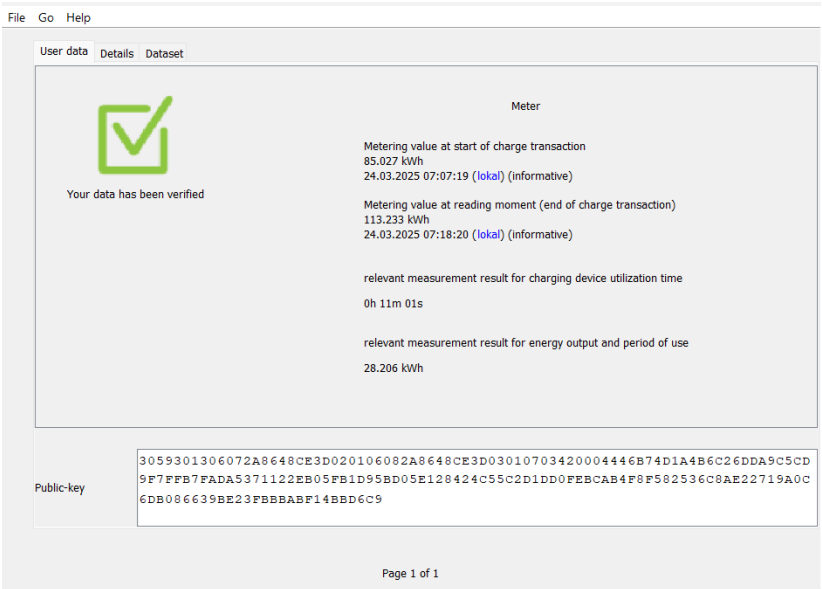
LOADING DIGITAL SIGNATURE DATA

Select the meter readings available to you via the “File”/”Open” function and enter the public key of the charging station.

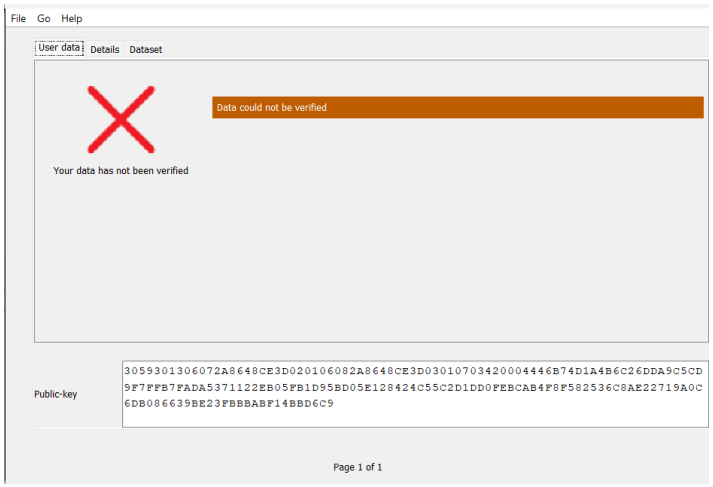


CHECK THE RESULT

Check the result to make sure that the results of the digital signature verification match the information on your invoice or billing document.



If an incorrect public key is entered, the following error message is displayed.



Remote transmission of measurement data to an OCPP backend

The charging station is connected to an OCPP backend and the corresponding signed measurement and log data record is automatically made available to the OCPP backend at the end of a charging process.

Transmission of data records to customers

The transmission of data records to customers is the responsibility of the charging station operator and is not the responsibility of the charging station manufacturer. After the loading process, the signed measurement data records are transferred to a central OCPP system and the end user can access this data via a web interface, email, smartphone app or similar means. The data records are preferably available in .xml format. In the event that you need to verify the charging process data using transparency software, please contact the operator of your charging station or your e-mobility provider to request the signed measurement data.

Verification of the measurement data with the transparency and display software

With the transparency and display software, users can check whether the measurement data originates from a specific charging station and whether its authenticity has been maintained.

The charging station has a public key. The public key is generally accessible and is indicated as a QR code on the type plate of the charging station's measuring unit. The charging station creates a data set with measurement data that is stored in the measuring capsule. The operator of the charging station then creates the invoice based on the signed measurement data record. In addition to the signed measurement data, the public key must also be provided on the invoice or in a customer portal in a format that is compatible with the transparency and display software.

After receiving the invoice, the consumer can enter the digitally signed measured values together with the public key into the transparency and display software. Verification of the signature gives the consumer the opportunity to check the validity of the measured values. For this purpose, the consumer compares the values shown in the transparency and display software with the invoice contents. Validation of the measurement data record using transparency software ensures that the data record is unaltered and admissible for invoicing.

The transparency and display software checks the following data:

The public key as identifier of the charging station. The public key can also be found on the type plate of the charging station's measuring unit.

Correct measured energy value

Correct user/transaction ID

Checking the signed measurement data set

To check the measurement data set:

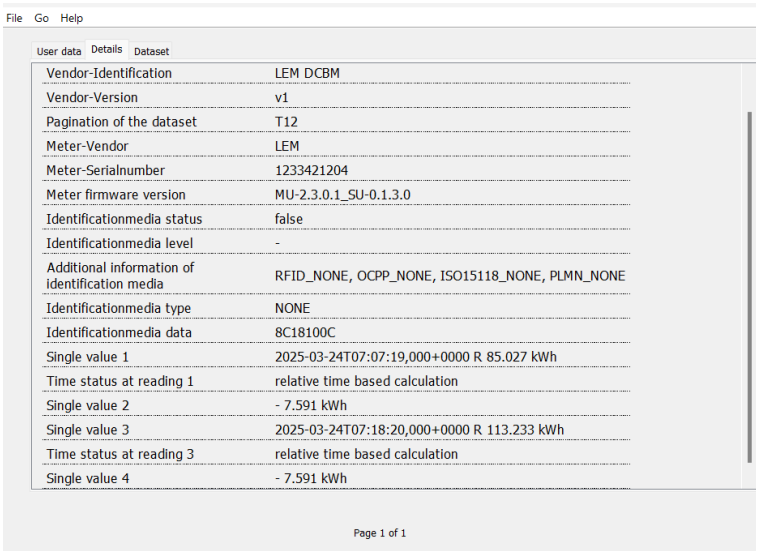
1) Download and install a Java runtime environment (this is available for all operating systems and is usually already pre-installed, e.g. Oracle).

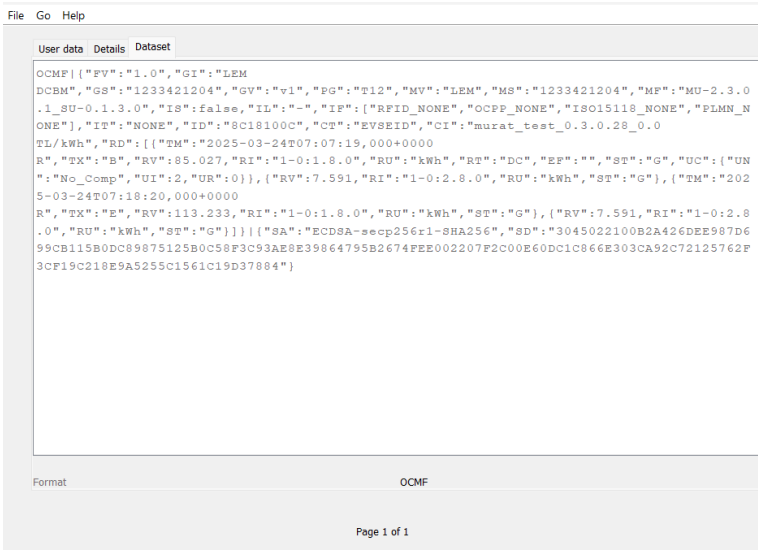
2) Download the transparency and display software from

https://www.safe-ev.de/en/transparency_software.php

3) Enter the following data in the transparency and display software:

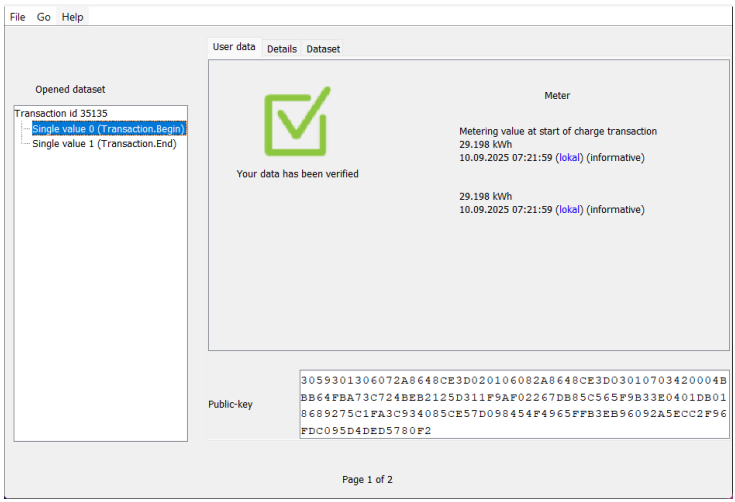
- the signed measurement data set
- the selection of the "OCMF" format
- the public key of the corresponding charging station





4) Once you have entered the required data, you can start the check.

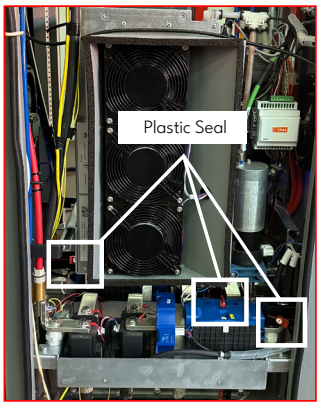
5) Once this check has been completed, it must be checked whether the results of the signature check match the information on the invoice.

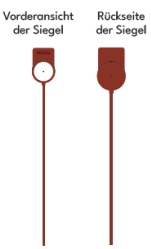


17 - OVERVIEW OF THE CHARGING STATION WITH DESCRIPTION OF THE MANUFACTURER'S/OPERATOR'S SEALS

17.1 - SEALS OF THE MANUFACTURER

During production, the measuring units of the charger are provided with manufacturer seals. The following illustration shows the images of the EVC-X calibration law product seals. The sections mentioned in rectangular indicate the manufacturer's seal.



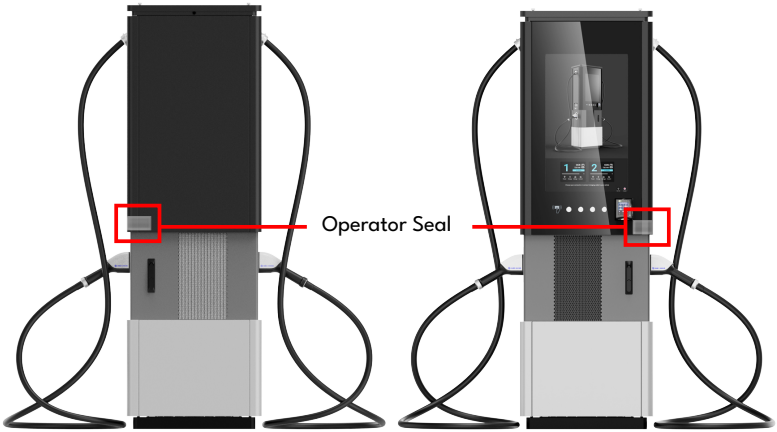


SEAL FOR MID METER

17.2 - RECOMMENDED POSITIONS OF THE OPERATOR SEALS

The recommended place for the operator to seal is as shown in the image below.

The parts circled in red indicate the operator's seal.It is recommended to seal the input terminal after the cable is connected to product the during the electric vehicle charger installation.



18 - LEGAL INFORMATION

18.1 - MEASUREMENT ACCURACY NOTES ACCORDING TO CSA TYPE EXAMINATION CERTIFICATE

I Requirements for the operator of the charging system, which he must fulfill as a necessary prerequisite for proper operation of the charging system.

The operator of the charging device is the user of the measuring device within the meaning of Section 31 of the Measurement and Verification Act.

1. The charging device is only considered to be used as intended and in compliance with calibration law if the meters installed in it are not exposed to ambient conditions other than those for which their type examination certificate was issued.

2. The charging device is only considered to be used as intended and in compliance with calibration law if only the authentication methods listed under point 1.3.2.3.2 of the currently valid BMP of these 6.8 devices are used.

3. When registering the charging points with the Federal Network Agency, the user of this product must also register the public key specified on the charging device for the charging points in their registration form! Without this registration, it is not possible to operate the column in compliance with calibration law. Weblink:

https://www.bundesnetzagentur.de/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen_Institutionen/E-Mobilitaet/start.html

4. The user of this product must ensure that the calibration validity periods for the components in the charging device and for the charging device itself are not exceeded.

5. The user of this product must ensure that charging devices are taken out of operation promptly if operation in compliance with calibration law is no longer possible due to fault or error indications on the display of the human-machine interface relevant to calibration law. The catalog of fault and error messages in these operating instructions must be observed.

6. The User must store the signed data packets read from the loading device - in accordance with the pagination - permanently and without gaps (also) on hardware dedicated to this purpose in his possession or, by corresponding agreement, in the possession of the EMSP or backend system (“dedicated storage”), - and keep them available for authorized third parties (obligation to operate the storage). Permanent means that the data must be stored not only until the conclusion of the business transaction, but at least until the expiry of any statutory appeal periods for the business transaction. No substitute values may be created for billing purposes for data that is not available.

7. The user of this product shall provide an electronic form of a CSA-approved instruction manual to measurement users who receive and use measurements from this product in the course of their business. The user of this product must pay particular attention to the no. II “Requirements for the user of the measured values from the loading device”.

8. The user of this product is subject to the notification obligation in accordance with § 32 MessEG (extract):

§ Section 32 Obligation to notify (1) Anyone using new or renewed measuring devices must notify the competent authority in accordance with federal state law no later than six weeks after commissioning…

9. If deemed necessary by authorized authorities, the meter user must provide the complete content of the dedicated local or backend storage at the EMSP or backend system with all data packets of the billing period.

10. The user of this product must ensure that tariff information shown on the info display of the charging device or an informative display of a payment terminal in the case of spot charging corresponds to the tariff information in the calibrated display and the signed data package.

II Requirements for the user of the measured values from the loading device (EMSP)

The user of the measured values must comply with § 33 of the MessEG:

§ 33 MessEG (quote)

§ 33 Requirements for the use of measured values

(1) Values for measured quantities may not be used in commercial or official dealings or for measurements in the

may only be indicated or used in the public interest if a measuring instrument has been used as intended for their determination and the values are attributable to the respective measurement result, unless otherwise specified in the ordinance pursuant to Section 41 number 2. Other federal regulations that serve comparable protection purposes continue to apply.

(2) Anyone using measured values must ensure, as far as possible, that the measuring device meets the legal requirements and must obtain confirmation from the person using the measuring device that they are fulfilling their obligations.

(3) Anyone who uses measured values must

1. to ensure that invoices, insofar as they are based on measured values, are issued by the person for whom the calculations can be easily reproduced to verify the specified measured values. and

2. to provide suitable aids for the purposes mentioned in number 1 if necessary.

For the user of the measured values, this regulation results in the following specific obligations for the use of measured values in compliance with calibration law:

1. The contract between EMSP and the customer must clearly state that only the supply of electrical energy and not the duration of the charging service is the subject of the contract.

2. The time stamps on the measured values originate from a clock in the charging device that is not certified in accordance with measurement and calibration law. They may therefore not be used to calculate a tariff for the measured values.

3. The EMSP must ensure that the customer is automatically sent a receipt of the measurement and the details for determining the transaction after completion of the measurement and at the latest at the time of invoicing, unless the customer expressly waives this. The details for determining the transaction can be as follows:

   a. Name of the EMSP
   b. Start and end time of the charging process
   c. Charged energy in kWh
   d. Credit card number

4. If the customer requests proof of the correct transfer of the measurement results from the charging device to the invoice, the user of the measured values is obliged to provide proof in accordance with MessEG, § 33, para. (3) is obliged to provide this. If the customer requests a trustworthy permanent proof in accordance with. Annex 2 10.2 MessEV, the user of the measured values is obliged to supply it to him. The EMSP shall inform its customers of these obligations in an appropriate form.

This can be done in the following ways, for example, depending on the authentication method:

a. When charging with a continuing obligation via the textual contract

b. For ad hoc charging using a (contactless) debit card together with the receipt via a short link in the purpose of use in the account statement

5. The EMSP must provide the customer with the billing-relevant data packages automatically after completion of metering and at the latest at the time of invoicing, including signature, as a data file in such a way that they can be checked for falsification using the transparency and display software. The data packets can be made available via channels that are not verified under calibration law in the following ways and depending on the authentication method:

a. When loading with a continuing obligation via e-mail or access to a backend system

b. In the case of ad hoc charging by means of a (contactless) debit card via a short link in the purpose of use in the account statement and associated access to a retrieval platform on which the information mentioned under point 3 is requested to determine the transaction, so that the customer receives the permanent proof. Only information that can also be found on the customer's account statement may be requested to determine the transaction.

In addition, the EMSP must provide the customer with the transparency and display software belonging to the charging device to check the data packets for falsification. This can be done by referring to the source of supply in the operating instructions for the customer or through the channels mentioned above.

6. The EMSP must be able to show in a verifiable manner which means of identification was used to initiate the charging process associated with a specific measured value. This means that he must be able to prove that he has correctly assigned the personal identification data to each business transaction and invoiced measured value. The EMSP shall inform its customers of this obligation in an appropriate form.

7. The EMSP may only use values for billing purposes for which data packets are available in any existing dedicated memory in the charging device and or the memory at the EMSP or backend system. Substitute values may not be created for accounting purposes.

8. The EMSP must make appropriate agreements with the operator of the charging facility to ensure that the data packets used for billing purposes are stored for a sufficient period of time to complete the associated business transactions.

9. The EMSP shall enable the authentication of the copies of the product belonging to these operating instructions used by it by providing suitable means of identification in the event of a justified request for the purpose of carrying out calibrations, diagnostic tests and usage monitoring measures.

10. All of the aforementioned obligations apply to the EMSP as a user of measured values within the meaning of

§ 33 MessEG even if it obtains the measured values from the charging facilities via a roaming service provider.

19 - 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.

19.1 - 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.

20 - 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.

21 - 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

CE

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