



**ELECTRIC VEHICLE CHARGER**  
**EVC16 SPICA L SERIES**

User Manual



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## 1 - SAFETY INFORMATION



### CAUTION THE RISK OF ELECTRIC SHOCK



**CAUTION:** THE ELECTRIC VEHICLE CHARGER CAN ONLY BE INSTALLED BY A LICENSED OR EXPERIENCED ELECTRICIAN BY THE ELECTRICAL REGULATIONS AND STANDARDS OF ANY RELATED REGION OR COUNTRY.



### 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 - Read these instructions fully before installation or operation.**

### 1.1 - SAFETY WARNINGS

- Keep this manual in a safe place. These safety and operating instructions should be kept in a safe place for future reference.
- Check the voltage specified on the rating plate and do not use the charging station without the proper mains voltage.
- Do not continue to use the unit if you have any doubts as to whether it is working normally. If the device has been damaged in any way, switch off the main supply circuit breakers (MCCB and RCCB) in the upstream distribution board. Consult your local dealer.
- During charging, the ambient temperature range (without direct sunlight) should be between  $-35^{\circ}\text{C}$  and  $+55^{\circ}\text{C}$  and the relative humidity should be between 5% and 95%. Use the charging station only within the specified operating parameters.
- The device location should be consciously selected in order to prevent the charging station from overheating. High temperature caused by direct sunlight or heating sources during use may cause the charging current to decrease or the charging process to be temporarily interrupted.
- The charging station is made for indoors and outdoors. It can also be used in public open spaces.

- To reduce the risk of fire, electric shock, or product damage, do not expose the unit to heavy rain, snow, lightning storms or other harsh weather conditions. Furthermore, liquids should not be spilled or splashed on the charging station.
- Do not touch the end terminals of the charging station, the electric vehicle connector and other dangerous current parts with sharp metal objects.
- Avoid exposing the unit to heat sources and place it away from flammable, explosive, hard or caustic materials, chemicals or steam.
- Explosion Risk. This equipment contains internal spark or spark-generating parts and must not be exposed to flammable vapours. It should not be placed in lowered or below ground level locations.
- Make sure that the specified Current Switch and RCD are connected to the building mains to prevent the risk of explosion and electric shock.
- The base part of the charging station should be at (or above) ground level.
- Adapters or converter adapters cannot be used. Cable extension sets cannot be used.
- Use this product at an altitude of not more than 2000 meters above sea level.
- Do not place objects containing liquids, such as glasses and bottles, on the product.
- Against the risk of choking, keep the plastic packaging materials out of the reach of babies, small children and pets.
- Do not wash the device with water.
- Do not use abrasive fabrics, wet cloths, alcohol or detergents. Microfiber fabric is recommended.
- Keep the door lock key, which enables the product panel to be opened and prevents access to electrical parts, out of the reach of small children.
- It should be kept in its original box to prevent damage to device components during transport.
- Defects and damages that occur during transportation after the device shipment to the customer are not covered by the warranty.
- The allowed current value of the service socket is a maximum of 10A.
- Please adhere to the rope warnings outlined in the “Basic Alignment and Layout” section, especially when transporting the product.



**WARNING :** Persons (including children) who are physically, perceptually or mentally incompetent or inexperienced should not use electrical devices without the supervision of a person responsible for their safety.



**CAUTION:** This vehicle charger is designed only for charging the electric vehicles that do not require ventilation during charging.

## 1.2 - FIRE FIGHTING INSTRUCTIONS FOR ELECTRIC VEHICLE CHARGING STATION

- **Personal Safety:** If you observe a fire or notice any danger signs, prioritize your safety above all else. Do not take unnecessary risks.
- **Notify Emergency Services Immediately:** Contact your local emergency services. Dial the emergency number 998 or 112.
- **Stopping the Charging Process:** If it is safe, disconnect the charging cable from the vehicle and the charging station.
- **Use of Fire Extinguishing Agents:** If a fire extinguisher or other firefighting equipment is nearby and you are trained to use it, attempt to extinguish the fire. However, never risk your own safety.
- **Avoid Direct Contact with Fire:** Do not try to extinguish a fire unless you have the appropriate equipment, training, or knowledge, or if the fire is exceptionally large or dangerous.
- **Move Away from the Station:** If the fire cannot be controlled or is intensifying, evacuate from the charging station while maintaining a safe distance.
- **Avoid Inhaling Smoke:** Try to avoid breathing in smoke. If possible, cover your nose and mouth with a damp cloth or clothing.
- **Warn Others in the Area:** Alert others nearby about the fire hazard and urge them to evacuate the area.
- **Wait for Emergency Services:** After safely evacuating the area, wait for emergency services to arrive in a secure location.
- **Do Not Return to Station Facilities:** Do not re-enter the charging station building until emergency services have concluded their operations.
- **Reporting the Incident:** Contact customer support to report the incident.

Remember, safety is always the top priority. In the event of a fire, always seek guidance from local emergency services and adhere to their instructions.

## 1.3 - GROUND CONNECTION WARNINGS

- The charging station should be connected to a central grounding system. The grounding conductor entering into the charging station should be connected to the equipment grounding lug inside the charging station. This should be powered by the circuit conductors and connected to the equipment grounding rod or to the guide member at the charging station. Connections to the charging station are in the charge of the installers and purchasers.
- Connect it only to correctly grounded plugs to reduce the risk of electric shock.
- **WARNING :** Make sure that the charging station is permanently and properly grounded during installation and use.

## 1.4 - POWER CABLES, PLUGS, AND CHARGING CABLE WARNINGS

- Note that the plugs and sockets in the charging station are compatible.
- A damaged charging cable may cause a fire or electrical shock conditions. Do not use this product if the Flexible Charging cable or vehicle cable is worn, has frayed insulation, or shows any different signs of damage.
- Make sure the charging cable is well placed, thus you will not step on and trip over the cable or the cable will not damage or subject to stress.

- Do not forcibly pull on the charging cable or damage the cable with sharp objects.
- Never touch the electric cable/plug or vehicle cable with wet hands as this may cause a short circuit or electric shock.
- To avoid the risk of fire or electric shock, do not use this device with an extension cable. In case of damage to the mains cable or vehicle cable, the cables should be replaced by the manufacturer, service agency or similar qualified persons to prevent any hazards.
- Use appropriate protection while connecting the device to the main power distribution cable.

## 1.5 - PROTECTIONS REQUIRED BEFORE SYSTEM

- Class I/B Lightning Protection should be connected to the upstream distribution board. It is recommended that the cable length between the charger and the protection device be at least 10m. \*The charger is equipped with a Class II/Type C Surge Protective Device (SPD).
- To prevent the residual current, Type A residual current relay with toroidal sensor should be used on the panel before the device. The minimum current sensitivity should be set to 300mA.

Model	Power	Input Voltage	Maximum Input AC current	Recommended Minimum Line Conductor Cross-Section (Cu)	Recommended Minimum Neutral Conductor Cross-Section (Cu)
EVC16-DC160CC	160kW	400V (nom.)	247A	1x185mm <sup>2</sup>	16mm <sup>2</sup>
		360V (-%10)	274A		

- Cable cross-sections must be selected by the installer in accordance with local and international standards, taking into account the specified minimum and maximum AC input current values, installation distances, and mounting location conditions.
- The PE cable cross-section should be at least half of the phase cable cross-section.
- It is recommended to use a CAT6 SFTP Ethernet cable.
- Cables must be suitable for outdoor use.
- Cables must be UV-protected and suitable for installation in underground conduits in compliance with local regulations.
- The AC input cable glands supplied with the product are suitable for cables with diameters in the range of 22-32 mm.

## 2 - MODEL 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:

### **EVC16-DC\*\*\*-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**

<b>Model Name</b>	<p><b><u>EVC16-DC-Series (Name coding: EVC16-DC***-EICH)</u></b></p> <ol style="list-style-type: none"> <li>1. Asterisk (*) : Nennleistung 160 : 160 kW DC Power Output</li> <li>2. Asterisk (*) : DC output combination 1 C : CCS Output</li> <li>3. Asterisk (*) : DC output combination 2 C : CCS Output</li> </ol>
<b>Cabinet</b>	EVC16-DC160

### 3 - TECHNICAL SPECIFICATION

<b>Model</b>		EVC16-DC160CC-EICH
<b>IEC Protection class</b>		Class - I
<b>IEC EMC Class</b>		IEC 61000-6-3 Class B - Residential (Emission) IEC 61000-6-2 Industrial (Immunity)
<b>Input Rated Voltage and Current Value</b>	<b>Input Rating</b>	230/400 V AC $\pm$ 10%, 50/60 Hz, 250 A
	<b>Connection</b>	3 L+N+PE (TN, TT)
	<b>Power Factor</b>	> 0.98
	<b>Efficiency</b>	> %95
	<b>Residual Current Protection</b>	230 V AC RCBO 1P+N, Type A, 30 mA (System)
	<b>Standby Power Consumption</b>	< 80 W
<b>CCS Output - 1</b>	<b>Max. Power</b>	160kW • 1 x 160kW • 2 x 80kW
	<b>Voltage Range</b>	200 – 920V DC
	<b>Maximum Current</b>	500 A • 1 x 160kW 250 A • 2 x 80kW
	<b>Minimum Current</b>	6A
	<b>Min. Energy for guaranteed accuracy</b>	1 kWh
	<b>Interface Compatibility</b>	IEC62196-1 / 3 IEC 61851-1 / 23 / 24 ISO 15118-1 / 2 / 3 DIN 70121 REA-Document 6-A PTB-A 50.7 PTB A 50.8

<b>CCS Output - 2</b>	<b>Max. Power</b>	160kW <ul style="list-style-type: none"> <li>• 1 x 160kW</li> <li>• 2 x 80kW</li> </ul>
	<b>Voltage Range</b>	200 – 920V DC
	<b>Maximum Current</b>	500 A <ul style="list-style-type: none"> <li>• 1 x 160kW</li> </ul> 250 A <ul style="list-style-type: none"> <li>• 2 x 80kW</li> </ul>
	<b>Minimum Current</b>	6A
	<b>Min. Energy for guaranteed accuracy</b>	1 kWh
	<b>Interface Compatibility</b>	IEC62196-1 / 3 IEC 61851-1 / 23 / 24 ISO 15118-1 / 2 / 3 DIN 70121 REA-Documents 6-A PTB-A 50.7 PTB A 50.8

## 4 - USER INTERFACE & AUTHENTICATION

<b>Display</b>	7" Color TFT LCD without Touch Screen (16:9)
<b>User Interface</b>	Illuminated buttons
<b>RFID Reader Module</b>	ISO/IEC 14443A/B and ISO/IEC15693
<b>Payment module (Optional)</b>	Options for contactless credit card equipment Please contact the following service providers regarding installation. <a href="https://www.payter.com/contact">https://www.payter.com/contact</a> <a href="https://www.nayax.com/contact/">https://www.nayax.com/contact/</a>
<b>Eichrecht Compliant DC MID Meter</b>	The charging device complies with Eichrecht.

## 5 - CONNECTIVITY

<b>LAN Connectivity</b>	Ethernet
<b>WLAN Connectivity</b>	2.4GHz/5GHz: 802.11 a/b/g/n/ac
<b>Mobile Connectivity</b>	GSM 900/1800 UMTS 900/2100 LTE-Band 1/3/7/8/20/28A
<b>OCPP Specification</b>	OCPP 1.6 J

## 6 - MECHANICAL SPECIFICATIONS

<b>Materiel</b>	Metal Panel	
<b>Protection Degree</b>	Ingress Protection Impact Protection	IP54 IK10
<b>Cooling</b>	Forced Air Cooling Fan	
<b>Cable Length</b>	CCS: 3,5 m CCS: 4,5 m (option)	
<b>Dimensions (Product)</b>	1500 mm (Height) x 650 mm (Width) x 560 mm (Depth)	
<b>Dimensions (Packed version)</b>	1750 mm (Height) 970 mm (Width) 600 mm (Depth)	
<b>Weight (Product)</b>	Net: 220 kg.	
<b>Packed Weight</b>	With Packing : 253 kg	

## 7 - ENVIRONMENTAL SPECIFICATIONS







<b>Operating Condition</b>	Temperature	-35°C to + 55 °C (Derating is applied over +40°C to +55 °C)
	Humidity	5% to 95% (Relative humidity, non-condensing)
	Altitude	0 - 2,000m

After the product has been powered at low temperatures, it should wait for the activation of the heating element in the charger, and the charging process should only be carried out afterwards.

## 8 - TECHNICAL SPECIFICATIONS OF THE MEASUREMENT CAPSULE

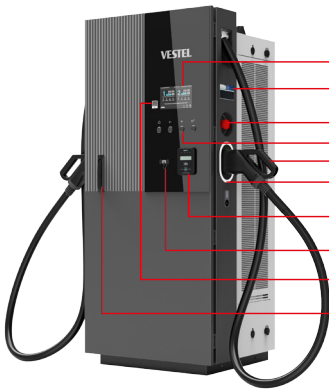
<b>Model</b>	DCBM N1M 6000 0000
<b>Manufacturer</b>	LEM
<b>Sign of the type test certificate</b>	DE-20-M-PTB-0075, Revision 5
<b>Iref [A]</b>	120
<b>I<sub>max</sub> [A]</b>	600
<b>I<sub>min</sub> [A]</b>	6
<b>Meter constant [imp./kwh]</b>	1000
<b>Un [V]</b>	150/1000 V
<b>Operating temperature</b>	-40°C...+85 °C (Sensor Unit) -25°C...+70 °C (Meter Unit) -40°C...+85°C (Data Cable)
<b>Accuracy class</b>	B
<b>Firmware Version (Meter Unit)</b>	2.3.0.1
<b>Firmware Version (Sensor Unit)</b>	0.1.3.0
<b>Firmware checksum (Meter Unit)</b>	0x7BE605E0439539EECE15E856
<b>Firmware checksum (Sensor Unit)</b>	0x3CBB

## 9 - BEHAVIOR OF STATUS INFORMATION LED

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

## 10 - GENERAL INFORMATION

### 10.1 - INTRODUCTION OF THE PRODUCT COMPONENTS

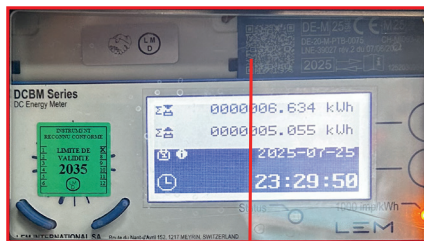


- 1- Display
- 2- Eichrecht Compliant MID Meter
- 3- Emergency Stop Button (optional)
- 4- Buttons
- 5- CCS Output Plug
- 6- LED Indicator
- 7- Payment Terminal (optional)
- 8- RFID Card Reader
- 9- User Manual QR Code Label
- 10- Access Cover for CTB, PLC Card and HMI

*All products images are given for representative purpose only.*

### 10.2 - 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.

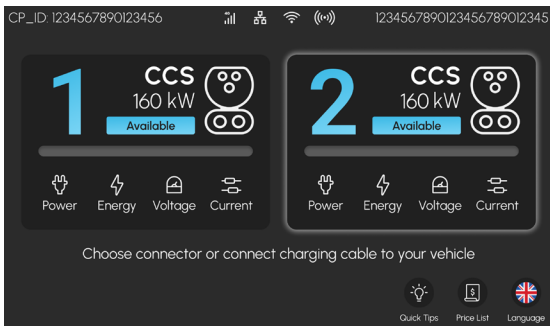


Information on the public key

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 (INCLUDING ALL SCENARIOS)

Connect the charging cable to the socket plug/pull out the charging plug from the socket plug. On the main screen located on the charging station screen, you can press the button you want to use or only connect the plug to your vehicle.



### 11.1 - DC CCS Outlet

#### 11.1.1 - VEHICLE CONNECTION AND CHARGING

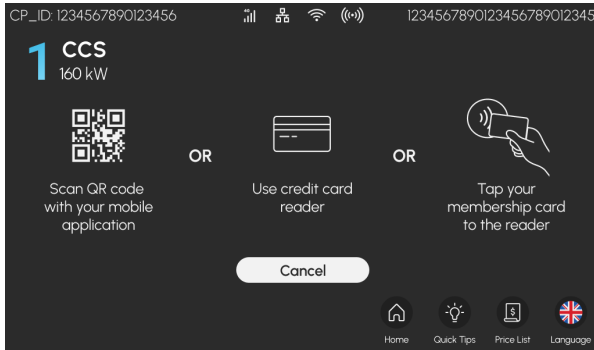
1- Connect the charging cable to the vehicle to start charging



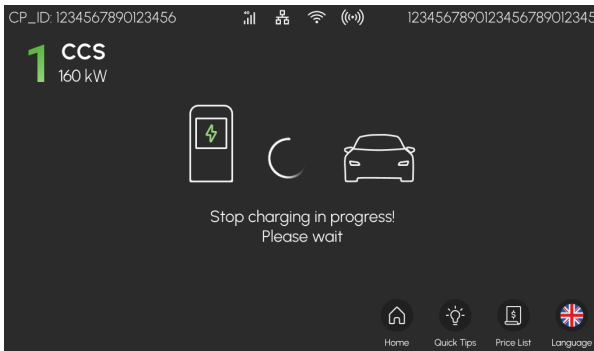
**2-** Scan your RFID card, QR Code to start charging or the use credit card reader.

Credit card reader (optional) appears on the screen when there is a payment module.

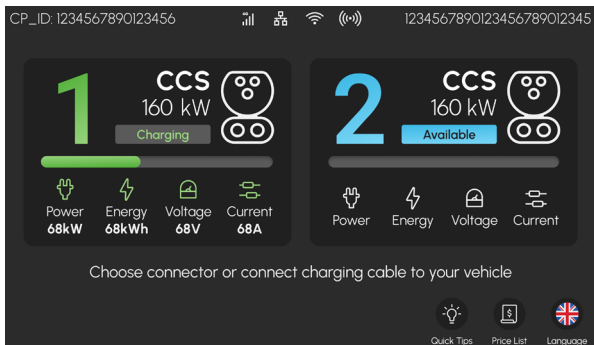
(AutoCharge If it is set in webconfig and vehicle registration is available in the system, charging starts without reading the RFID card)



**3-** It may take a few seconds for the charging session to start. The charging status can be viewed on the charging page.

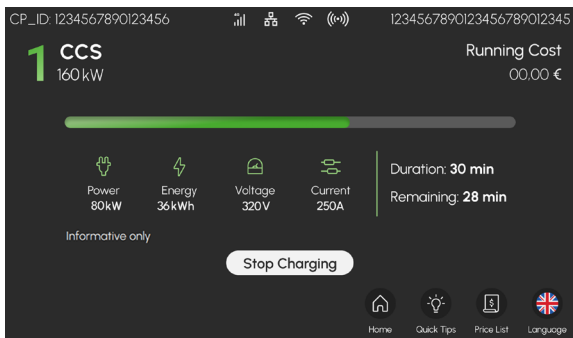


**4-** While charging, the charging status can be viewed in the main menu.



**11.1.2 - STOP CHARGING**

**1-** Press the “Stop Charging” button on the screen to stop charging.

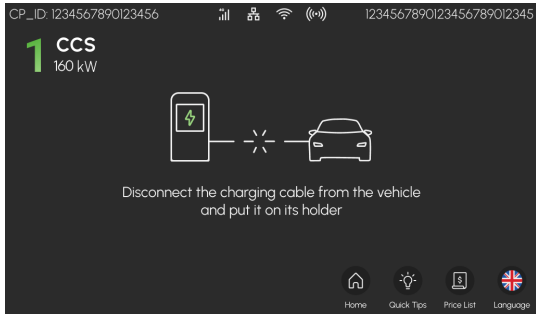


## 2- Scan your RFID card or the QR Code to stop charging.



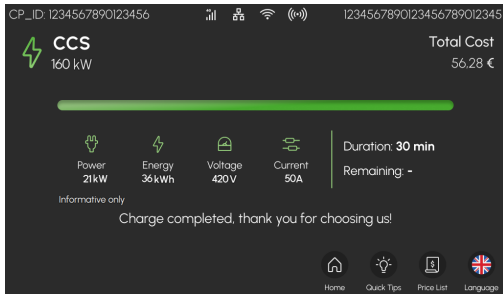
## 3- Disconnect the charging cable.

After disconnecting, you will be automatically switched to the main screen.



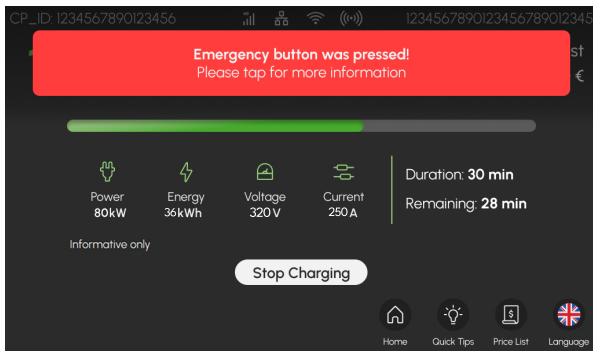
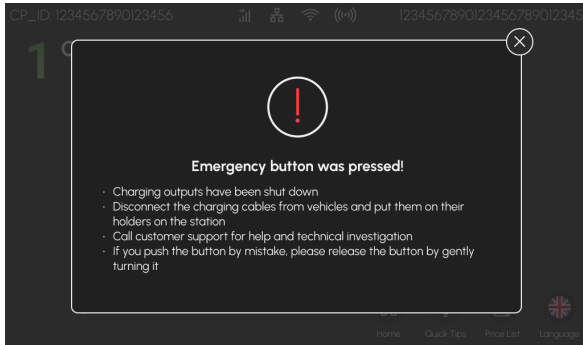
## 11.1.3 - CHARGING COMPLETED

The charging process is successfully completed.



## 11.2 - EMERGENCY BUTTON (OPTIONAL)

Please follow the screen when the emergency stop is pressed.




***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

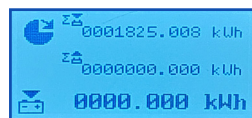
Screen	Description
 S/N: 812004900155545 Firmware versions: Meter Unit LR 2.3.0.1 Sensor Unit LR 0.0.8.0 Meter Unit LNR 2.3.0.1	Company logo Serial number of the device
Firmware checksums: Meter Unit LR 78E05E04395 39EECE15E956 Sensor Unit LR 540F	Identifiers of the DCBM firmware versions
Firmware checksums: Meter Unit LR 78E05E04395 39EECE15E956 Sensor Unit LR 540F	Integrity checks for legally relevant firmware components
Public key: ED7454E27FE38982A823 C8CC87E3CF8755319008 18A4D4479C7589C9B34 4FE4100587013E5557 9FD99A1463A53E4E12A5 B0F60558D62CE4D2E127 B46835B8	Public key of the device, for authentication in LEM format (i.e. without OCMFRFC5480 header), public key with OCMF format is encoded in the data matrix on the front of the device.
Screen test	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.

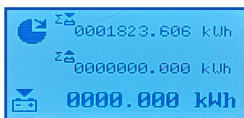
## 13 - PRODUCTS WITH CERTIFIED ENERGY METER

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

RFID/Autocharge

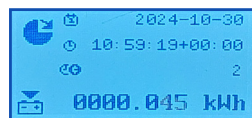


Credit card

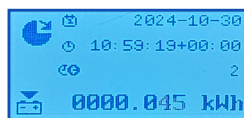


Date and time on site at the start of the transaction Total duration of the transaction.

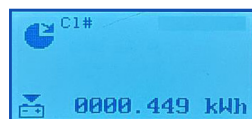
RFID/Autocharge



Credit card

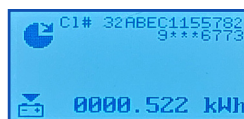


Kunden RFID/Autocharge ID



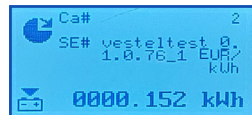
Customer Credit card ID

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

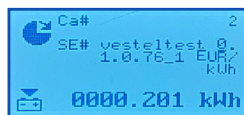


Cable compensation, EVSE identification input and chargepoint ID\_Sw version\_tariff (chargepointid\_Sw version\_tariff) with currency.

RFID/Autocharge

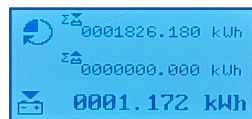


Credit card

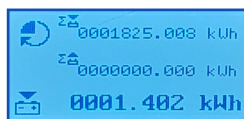


Energy register at the end of the transaction.

RFID/Autocharge



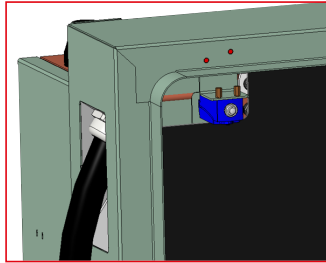
Credit card



*All products images are given for representative purpose only.*

## 14 - DOOR SWITCH

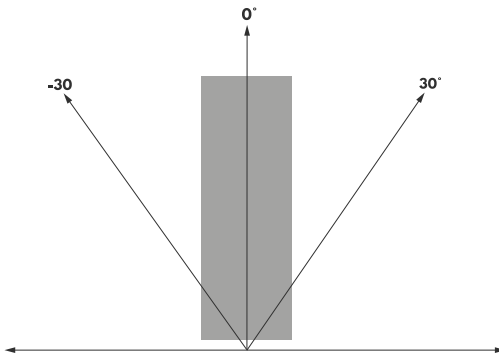
The behavior of the door position can be monitored with 2 different conditions set as normally open or normally closed given via the terminal. When the doors are opened, the breaker can be controlled from the main panel outside the station with a control lead to be taken over the dry contact, and the product enters an out of order state. 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.

If you complete the charging process using your credit card, you will find the invoice amount for the charging process and the link to the receipt server ([www.evc.cash](http://www.evc.cash)) on your credit card statement once the charging process has been completed. You can access the website [www.evc.cash](http://www.evc.cash) via a web browser on your smartphone or computer to download the signed data of the transaction of the loading process by entering the last four credit card digits and the date in the mandatory fields.

To better filter the charging transactions, you can also enter optional fields such as city, country or the ID of the charging station.

Search Receipt

Location:

Select Country  Select City

Chargepoint ID:

Date:

mm/dd/yyyy

Last Four Digit of the Credit Card

SEARCH

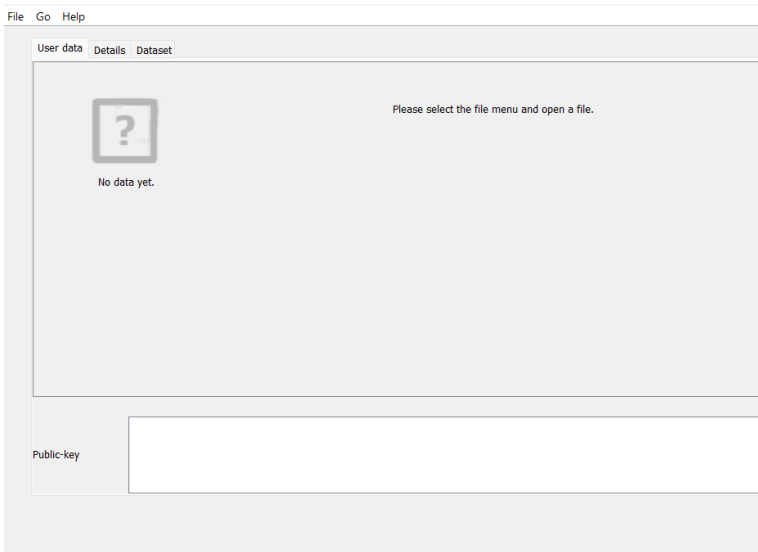
### What is transparency software?

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](https://www.safe-ev.de/en/transparency_software.php)**



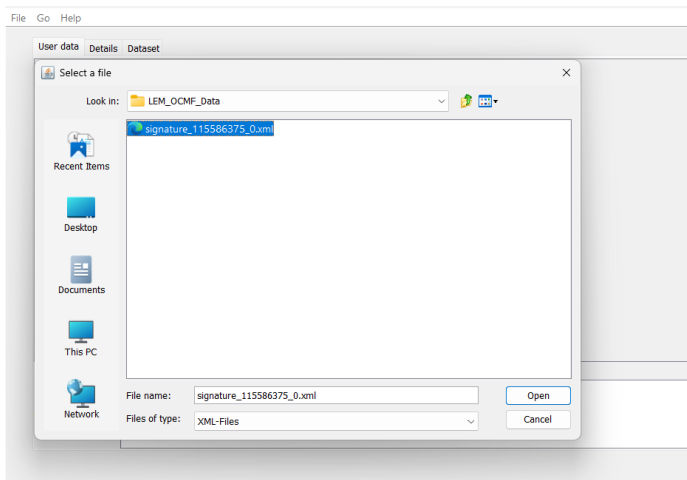
## How does the transparency software work?

### 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.

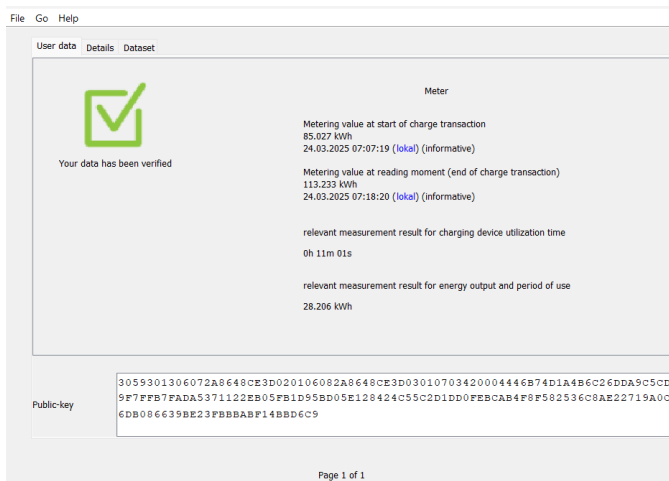
## LOADING DIGITAL SIGNATURE DATA

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

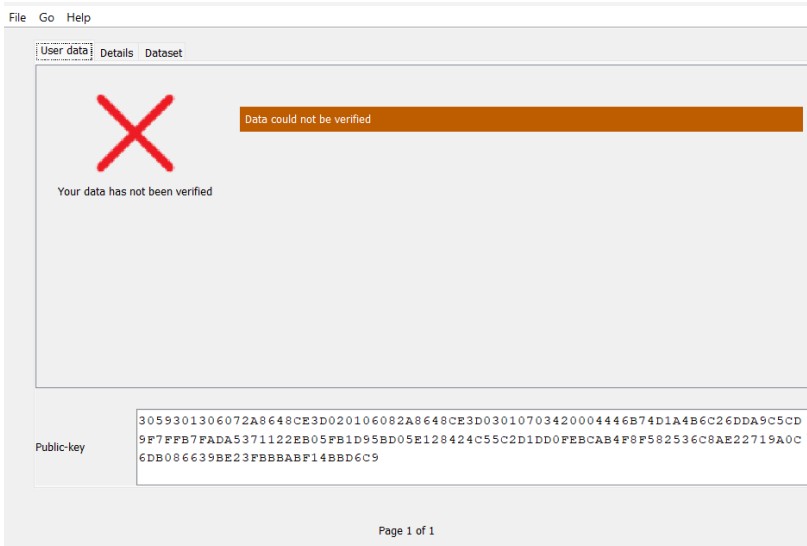


## CHECK THE RESULT

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](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

File Go Help

User data Details Dataset

Vendor-Identification	LEM DCBM
Vendor-Version	v1
Pagination of the dataset	T12
Meter-Vendor	LEM
Meter-Serialnumber	1233421204
Meter firmware version	MU-2.3.0.1_SU-0.1.3.0
Identificationmedia status	false
Identificationmedia level	-
Additional information of identification media	RFID_NONE, OCPP_NONE, ISO15118_NONE, PLMN_NONE
Identificationmedia type	NONE
Identificationmedia data	8C18100C
Single value 1	2025-03-24T07:07:19,000+0000 R 85.027 kWh
Time status at reading 1	relative time based calculation
Single value 2	- 7.591 kWh
Single value 3	2025-03-24T07:18:20,000+0000 R 113.233 kWh
Time status at reading 3	relative time based calculation
Single value 4	- 7.591 kWh

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## Credit Card:

File Go Help

User data Details Dataset

Vendor-Identification	LEM DCBM
Vendor-Version	v1
Pagination of the dataset	T12
Meter-Vendor	LEM
Meter-Serialnumber	1233421204
Meter firmware version	MU-2.3.0.1_SU-0.1.3.0
Identificationmedia status	false
Identificationmedia level	-
Additional information of identification media	RFID_NONE, OCPP_NONE, ISO15118_NONE, PLMN_NONE
Identificationmedia type	NONE
Identificationmedia data	1BABD370454617***2025
Single value 1	2025-03-24T07:07:19,000+0000 R 85.027 kWh
Time status at reading 1	relative time based calculation
Single value 2	- 7.591 kWh
Single value 3	2025-03-24T07:18:20,000+0000 R 113.233 kWh
Time status at reading 3	relative time based calculation
Single value 4	- 7.591 kWh

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File Go Help

User data Details Dataset

```
OCMF{"FV": "1.0", "GI": "LEM",
DCBM": "GS": "1233421204", "GV": "v1", "PG": "P12", "MV": "LEM", "MB": "1233421204", "MP": "MU-2.3.0",
"SU": "0.1.3.0", "IS": "false", "IL": "-", "IP": [{"RFID_NONE", "OCPP_NONE", "ISO15118_NONE", "PLMN_NONE"}],
"IT": "NONE", "ID": "C10100C", "OT": "EVSEID", "CI": "mura_test_0.3.0.20_0",
"/kWh", "RD": [{"FM": "2025-03-24T07:07:19,000+0000",
R": "RX": "B", "RV": "85.027", "RI": "1-0:1.8.0", "RU": "kWh", "RT": "DC", "EP": "", "ST": "G", "UC": {"DN": "Mc_Comp", "OI": "2", "UR": "0"}, {"RV": "7.591", "RI": "1-0:2.8.0", "RU": "kWh", "ST": "G"}, {"TM": "2025-03-24T07:18:20,000+0000",
R": "RX": "E", "RV": "113.233", "RI": "1-0:1.8.0", "RU": "kWh", "ST": "G"}, {"RV": "7.591", "RI": "1-0:2.8.0", "RU": "kWh", "ST": "G"}]} {"SA": "ECCDA-secp256r1-SHA256", "SD": "3045022100B2A426DE98786590C115B0DC89875125B0C58F3C93A2E39864795B2674FEE002207F2C00E60DC1C866E303CA32C72125762F3C19C218E9A5255C1561C19D37884"}
```

Format OCMF

Page 1 of 1

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.


File Go Help

User data Details Dataset

Opened dataset

```
Transaction id 35135
Single value 0 (Transaction.Begin)
Single value 1 (Transaction.End)
```

Meter



Your data has been verified

Metering value at start of charge transaction  
29.198 kWh  
10.09.2025 07:21:59 (local) (informative)

29.198 kWh  
10.09.2025 07:21:59 (local) (informative)

Public-key

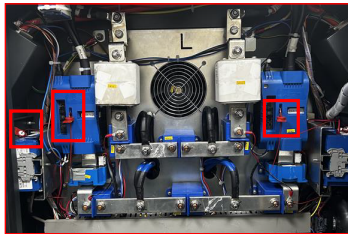
```
3059301306072A8C48CE3D020106082A8C48CE3D03010703420004B
BB64FBA73C7248EB2125D311F9AF02267DB85C565F9B33E0401DB01
8685275C1FA3C934085CE57D098454F4965FFB3EB5E092A5ECC2F96
FDC0C5D4DED5780F2
```

Page 1 of 2

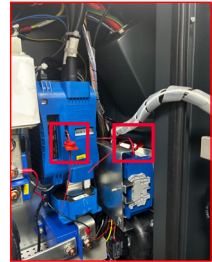
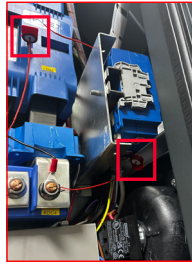
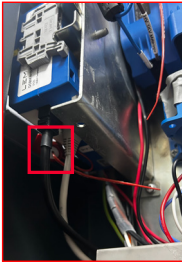
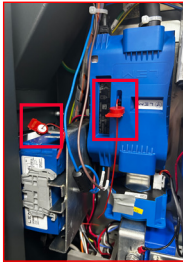
## 17 - OVERVIEW OF THE CHARGING STATION WITH DESCRIPTION OF THE MANUFACTURER'S/OPERATOR'S SEALS

### 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 EVC16 calibration law product seals. The sections mentioned in rectangular indicate the manufacturer's seal.



SEAL FOR MID METER



Vorderansicht  
der Siegel

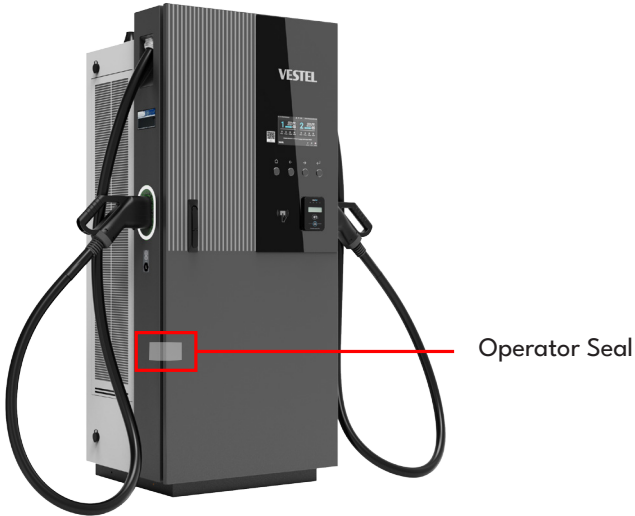


Rückseite  
der Siegel



## 17.2 - RECOMMENDED POSITION OF THE OPERATOR SEAL

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](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 MALFUNCTION CONDITIONS

There are two types of errors or malfunctions:

- **Common Errors:** This malfunction or error affects all four outputs.
- **Charge Output Errors:** Only one socket or plug is affected by this malfunction or error condition.

### 19.1 - ERROR CONDITIONS

Problem	Possible Causes	Recommended Solutions
Power Outage	There is a power outage or the mains voltage is not within the specified range.	Check that the input current switches are activated and that the input voltage range and rotation are as specified in the installation manual.
The CCS output is unavailable	RCBO activated	Check the cable insulation first. Switch the RCBO on. (See. "CIRCUIT BREAKER LOCATIONS FOR CHARGING OUTPUTS" section). Check that the station is functional.
All outputs are unavailable	General error	Please check if there is a power outage. Then check the upstream distribution box current switch. If the outputs are still unavailable, please contact the authorized service.
Fan Failure	Fan malfunctioning.	Check the fans. Remove or clean any elements that may prevent fan blades from spinning.

## 20 - CLEANING AND MAINTENANCE

### DANGER

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

## 21 - DC DEVICE PERIODIC MAINTENANCE LIST

	Maintenance Period (year)									
	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
Display	C	C	C	C	C	C	C	C	C	C
Distribution elements (RCBO)	T	T	T	T	T	T	T	T	T	T
AC input terminals	T	T	T	T	T	T	T	T	T	T
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
Fan	I	I	I	I	I	I	I	I	I	I
Body	C	C	C	C	C	C	C	C	C	C
Grounding resistance	M	M	M	M	M	M	M	M	M	M

C : Clean

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

M: Measure

T : Tighten

R : Review

### Air filters

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

### Plugs

All spark plugs should be checked when going for maintenance. If the plug is broken or cracked, it should be replaced. Furthermore, a charging test should be performed with all Plugs.

### Display

During maintenance, the screen should be checked using the physical buttons, as the screen is non-touch. All functions can be controlled through these buttons. If there is no issue with the button operations, the screen should be cleaned.

### **Distribution elements (RCBO)**

Distribution elements (RCBO) should be checked and tightened when going for maintenance. These elements can be tightened with a screwdriver with a torque of 2 Nm.

### **AC input terminals**

The AC input terminals should be checked and tightened when going for maintenance. These terminals should be tightened with a torque of 8 Nm for metric 8 bolts and 10 Nm for metric 10 bolts.

### **DC relay terminals**

DC relay ends should be checked when going for maintenance. Tightening process should be performed with 6.5 Nm.

### **DC output cable and terminals**

DC output cable and terminals should be checked when going for maintenance. They should be checked for any damage.

### **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.

### **Body**

The outer cabinet should be cleaned when going for maintenance.

### **Grounding resistance**

A mechanism for measuring with a megger should be installed when going for maintenance. After the piles are driven, the voltage between the two piles should be less than 1V.

### **In cases where product transportation is required**

During lifting, it is necessary to use 2 ropes of min 540mm (in case of using a single rope of L min=1080mm, the rope must be fixed from the middle lifting part).

During lifting, there should be a minimum angle of 60 degrees at both rope ends as shown in the image. Using a shorter sling will cause damage to the product.

## 22 - WIRELESS LAN TRANSMITTER SPECIFICATIONS

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

(\*) '< 100 mW' for the Ukraine

### **Country Restrictions**

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

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

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

Hereby, Vestel Mobilite 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](http://doc.vosshub.com).

# VESTEL

## MOBILITY



**Hersteller:** VESTEL MOBİLİTE SANAYİ VE TİCARET A.Ş. EGE SERBEST BÖLGE ŞUBESİ  
Zafer SB Mah. Ayfer sok. No:22 İç Kapı No:1 Gaziemir, İZMİR/TÜRKİYE

**Distributor:** VESTEL HOLLAND B.V. GERMANY BRANCH OFFICE  
Parking 6, 85748 Garching b. München/Germany

Telefon: +49 89 55295-0

Fax: +49 89 55295-5086

Mail: [EVC@Vestel-Germany.de](mailto:EVC@Vestel-Germany.de)

Web: [www.Vestel-echarger.com](http://www.Vestel-echarger.com)

Im Service-oder Garantiefall kontaktieren Sie uns bitte über:

Telefon: 089 211 29 999 (Deutschland)

0800 29 78 52 (Österreich)

E-Mail: [service.evc@vestel-germany.de](mailto:service.evc@vestel-germany.de) (alle Länder)

Unsere Garantiebedingungen für EV-Charger finden Sie unter:

<http://vestel-germany.de/de/page/service>