VESTEL
MOBILITY

ELECTRIC VEHICLE CHARGER
EVC12 VESPER SERIES

Installation Guideline

CONTENTS

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

AC grid connection and load planning of the electric vehicle charging device shall be reviewed and approved by authorities as specified by the regional or national electric regulations and standards in effect. For multiple electric vehicle charger installations the load plan shall be established accordingly. The manufacturer shall not be held liable directly or indirectly for any reason whatsoever in the event of damages and risks that are borne of errors due to AC grid supply connection or load planning.

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 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 RCD) 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 best 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.
- 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.

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. Dial 998 or 112 the emergency number.
- 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 - 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 device should be used on the panel before the device. The minimum current sensitivity should be set to 30mA.
- Circuit Breaker device should be connected to the upstream distribution box.

Model	CCS	Power output	Input Voltage	Input AC current	Recommended Section Values L1-L2-L3 (mm2) (Copper Conductor Cable)	Recommended Cross Section Value for Neutral (Copper Conductor Cable)	Recommended Cross Section Value for PE (mm2) (Copper Conductor Cable)
EVC12-DC40C-EICH	40	40kW	400V +/-%10	61A +/-%10	5x16 mm^2		

Minimum cable cross-sections are provided for maximum AC input current. The final cross-sections of the installation conductors should be calculated by the installer, taking into account the distances and mounting location conditions.

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:

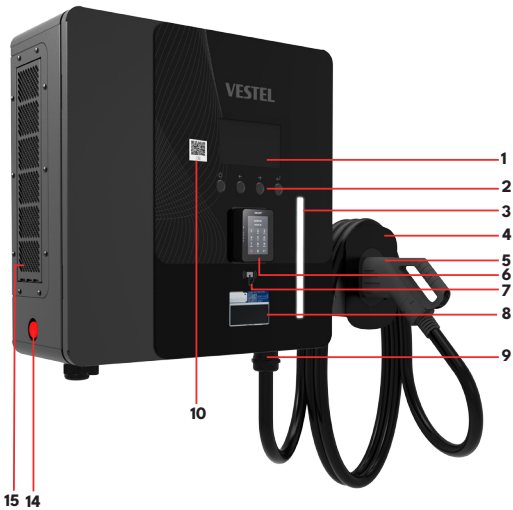
EVC12-DC40C-EICH

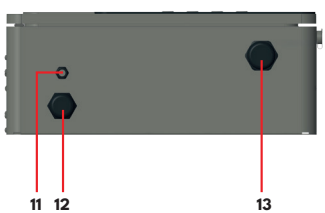
In accordance with the German Measurement and Calibration Act, the charging station can be billed according to kWh. You can consult the German Measurement and Verification Act, which is described in **chapter 14.**

Model Name	**EVC12-DC Series (Name coding: EVC12-DC40C-EICH)** 1st Asterisk (*) : Rated Power 40 : 40 kW DC Power Output 2nd Asterisk (*) : DC output combination 1 C : CCS Output 3rd Asterisk (*) : Meter Option Blank : No MID meter -MID : MID meter -EICH : Eichrecht Meter
Cabinet	EVC12-DC40C

3 - GENERAL INFORMATION

3.1 - INTRODUCTION OF THE PRODUCT COMPONENTS





1- Information Display

2- Buttons

3- Status Indicator LED

4- CCS Dummy Socket

5- DC Outlet

6- Payment Terminal (Optional)

7- RFID Card Reader

8- MID Meter Display

9- Charging station connection cable union nut

10- User Manual QR Code

11- Charging Station Ethernet connection cable gland nut

12- AC Input Socket

13- DC Output Socket

14- Emergency Button

15- Air filter and Access cover for Power Module

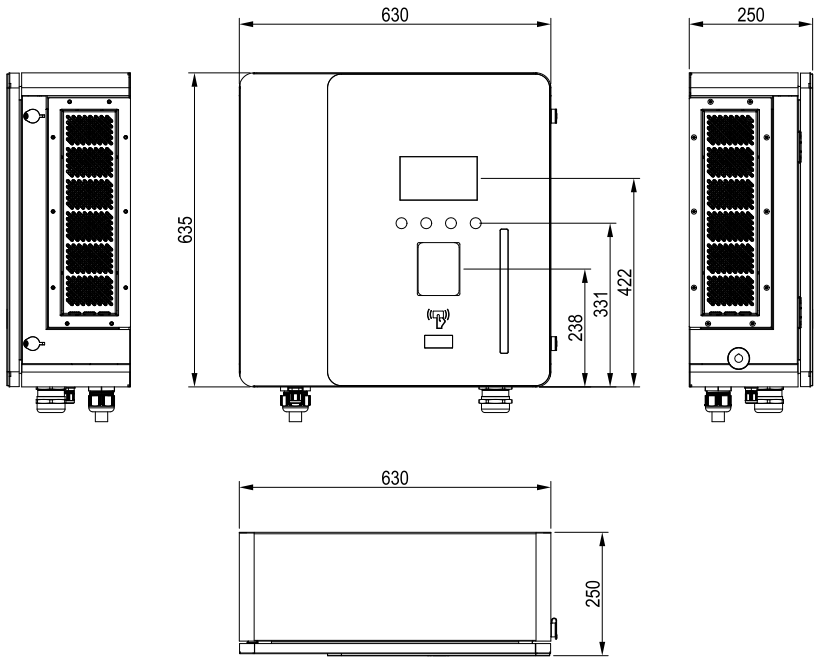
All products' images are given for representative purpose only

3.2 - DIMENSIONAL DRAWINGS

LEFT SIDE VIEW

FRONT SIDE VIEW

RIGHT SIDE VIEW

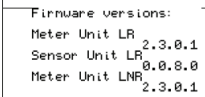
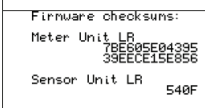
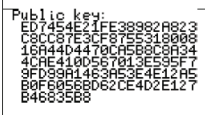


TOP SIDE VIEW

3.3 - 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
	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

3.4 - PRODUCTS WITH CERTIFIED ENERGY METER

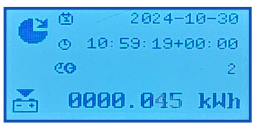
RFID/Autocharge and credit card (optional) authentication methods have different information on the meter display energy register at the beginning of the transaction.

RFID/Autocharge

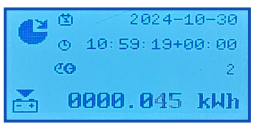
Credit card

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

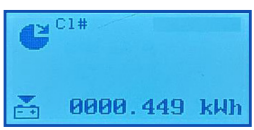
RFID/Autocharge



Credit card

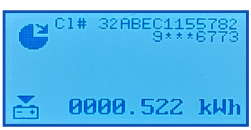


Customer RFID/Autocharge ID



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



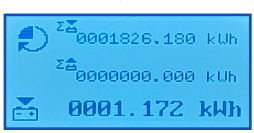
Cable compensation, EVSE identification input and chargepoint ID_Sw version_tariff (chargepointid_Sw version_ tariff) with currency.

RFID/Autocharge

Credit card

Energy register at the end of the transaction.

RFID/Autocharge



Credit card

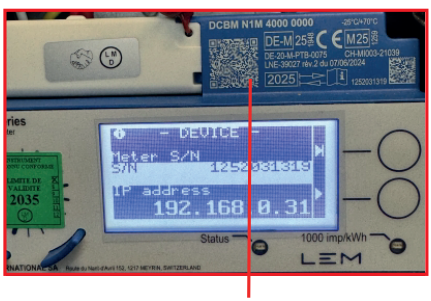
3.5 - TYPE PLATE

The type plate is located in the center right of the EV charger. The CE marking, the serial number and the electrical characteristics of the charger are indicated on the label. Read the instructions before first use.

Example of a type plate for EVC12

3.6 - 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

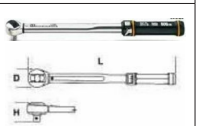
Public key (for the measuring capsule, shown on the type plate of the charging station's measuring device in the form of a QR code).

4 - REQUIRED EQUIPMENT, TOOLS and ACCESSORIES

4.1. - SUPPLIED INSTALLATION EQUIPMENTS and ACCESSORIES

Special Spanner M50 x M40	
Flange M12 Bolts x4	
1 set (x2) Lock Keys	

4.2 - RECOMMENDED EQUIPMENTS and TOOLS

			
Ø20 Drill Bit	Impact Drill	PC	Philips Screwdriver
			
RJ45 Crimping Tool	Cat5e or cat6 ethernet cable	Spanner set	Hammer
			
M20 Steel Expansion Bolt x4	RJ45 Male Connector	T25 Screwdriver	20 - 200 Nm D: 40mm H: 43mm

5 - TECHNICAL SPECIFICATION

IEC Protection class		Class I
Power Input	**Input Rating**	230/400 Vac ±10% , 50/60 Hz, 61A /3 Phase
	Connection	3L - N - PE
	Residual Current Monitoring	230Vac RCBO 1P+N, Type A, 30mA
	Power Factor	> 0.98
	Efficiency	> % 95
CCS Output	**Max Power**	40 kW
	Voltage Range	200 – 920 V
	Maximum Current	133A
	Minimum current	4A
	Min. Energy for guaranteed accuracy	1 kWh
	Interface Compliance	IEC 62196-1 / 3 IEC 61851-1 / 23 / 24 ISO 15118-1 / 2 / 3 DIN 70121 REA-Dokument 6-A PTB-A 50.7 PTB A 50.8

6 - USER INTERFACE & AUTHENTICATION

Display	7” Color TFT LCD without Touch Screen (16:9)
RFID Reader Module	ISO/IEC 14443A/B and ISO/IEC15693
User Interface	Illuminated buttons
Payment module	Optional Contactless module
Plug&Charge	ISO15118
DC MID Meter	Eichrecht Conformity

7 - CONNECTIVITY

LAN Connectivity	10/100 Mbps Ethernet
WLAN Connectivity	2.4GHz/5GHz: 802.11 a/b/g/n/ac
Mobile Connectivity	GSM 900/1800 UMTS 900/2100 LTE Band 1/3/7/8/20/28A
OCPP Specification	OCPP 1.6 J

8 - MECHANICAL SPECIFICATIONS

Material	Sheet Metal	
Protection Degree	Ingress Protection	IP54
	Impact Protection	IK10
Cooling	Forced Air Cooling Fan	
Cable Length	CCS2: 3,5m(default) or 5m(option)	
Dimensions (Product)	Height:635 mm Width:630 mm Depth:250 mm	
Dimensions (with packing)	1000 x 850 x 560 mm (H x W x D)	
Weight (Product)	80kg	
Weight with Package	135kg	

9 - ENVIRONMENTAL TECHNICAL SPECIFICATIONS

Operating 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 % - 95 % (Relative humidity, non-condensing)
	Altitude	0 - 2000m

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.

10 - TECHNICAL SPECIFICATIONS OF THE MEASUREMENT CAPSULE

Modell	DCBM400N1M
Manufacturer	LEM
Sign of the type test certificate	DE-20-M-PTB-0075, Revision 4
Iref [A]	80
Imax [A]	400
Imin [A]	4
Meter constant [imp./kwh]	1000
Un [V]	150/1000 V
Frequenz [Hz]	50/60 Hz
Operating temperature	-25...+70 °C
Accuracy class	B
Firmware version (measuring device unit)	2.3.0.1
Firmware version (sensor unit)	0.0.8.0
Checksum of the firmware (measuring device unit)	0x7BE605E0439539EECE15E856
Checksum of the firmware (sensor unit)	0x3CBB

11 - INSTALLING CHARGING STATION

Screws inside the product are recommended to be exceeding 240 hours Salt Fog test under ASTM B117 Method. Screws outside the product are recommended to be exceeding 720 hours.

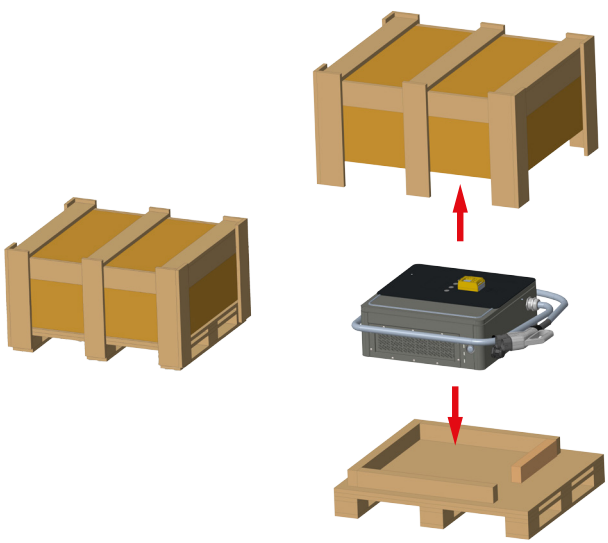
WARNING: RISK OF ELECTRICAL SHOCK AND INJURY. POWER OFF THE CHARGING STATION MAIN SUPPLY BEFORE ANY INSTALLATION STEPS.

WARNING: TO AVOID PERSONAL INJURY OR DAMAGE THE CHARGING STATION, ENSURE THE INSTALLATION AREA IS SUITABLE AND THE FLOOR CAN WITHSTAND THE WEIGHT OF THE CHARGING STATION.

11.1 - UNPACK CHARGING STATION

Unpack the charging station as shown in figures below.

Unscrew all bolts located at the front, rear, and side corners of the crate before removing the top cover.



11.2 - WALL MOUNTING

1- Open the product front cover by following the instruction.

2- Place the charging station to the wall by using the mounting template which is given in accessory bag and mark the drill bit holes with a pencil.

3- Drill the wall on the marked points using the impact drill (8mm drill bit).

4- Place the dowels into the holes.

5- Using a Torx T25 security screwdriver, fasten the wall mounting brackets to the wall with the security screws (6x75).

6- Using a Torx T25 security screwdriver, secure the gun holder part to the gun holder plate with the security screws (5x15).

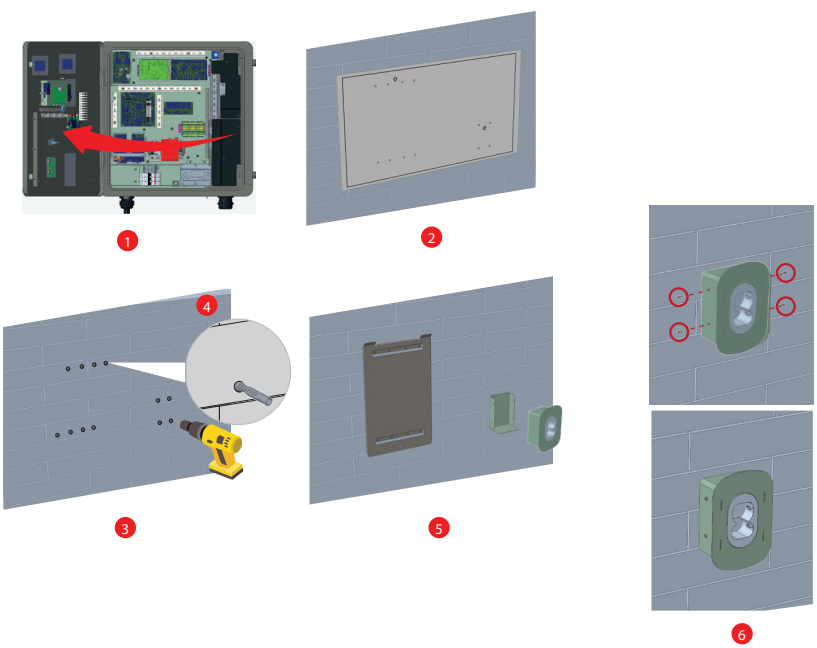
7- Attach the product to the wall mounting bracket as shown.

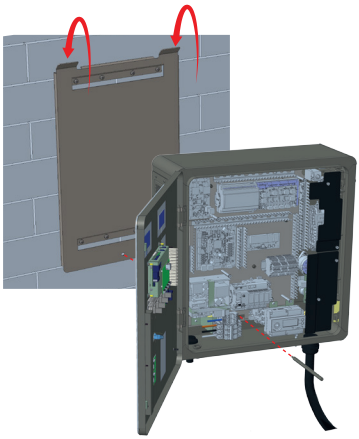
8- Attach the Spacer, washer, and IP rubber washer parts from the accessory bag to the product as illustrated.

9- Depending on the model of the charging unit, follow the AC mains connection instructions provided in the following pages.

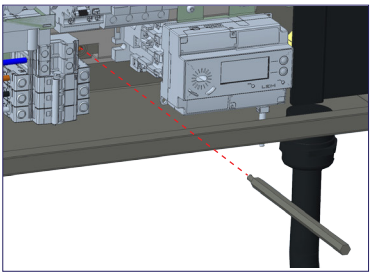
10- Tighten the cable glands. If any subsequent sections require additional functions, follow those instructions before closing the charging station cover.

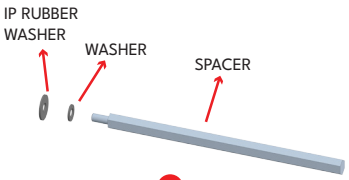
11- The wall-mounting process of the charging station is now complete.



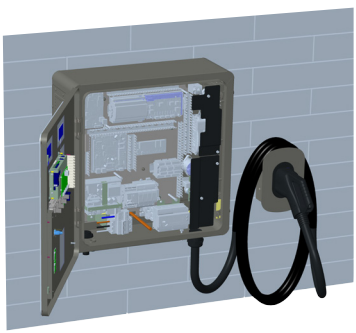


7





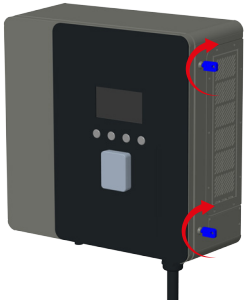
8

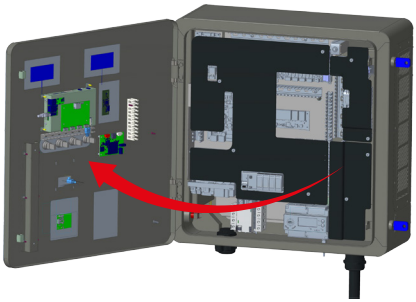


9

11.3 - OPENNING FRONT COVERS

Use the key provided to open the front cover.



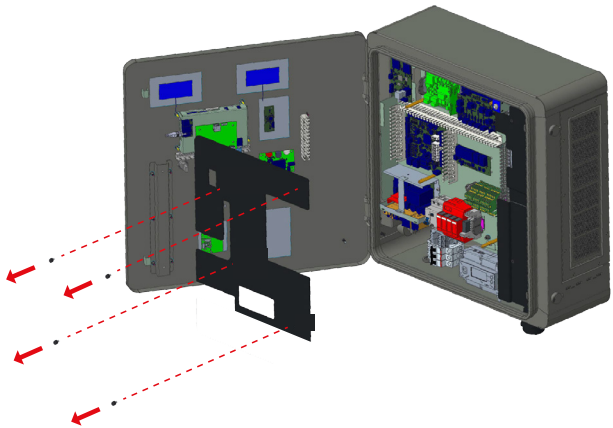


11.4 - CABLE INSTALLATION

11.4.1 - OPENING THE FRONT COVER AND CABLE CONNECTION

1- Open the front cover of the product by turning the two lock sockets located on the right side surface counterclockwise using the key provided with the product.

2- Remove the screws and isolator plate covering the AC Mains cable in the left side.



Clamping shoe positions:

All clamping shoes (L1, L2, L3, PE and N) must be selected for the wire size shown in the table section 1.5- Protections Required Before System.

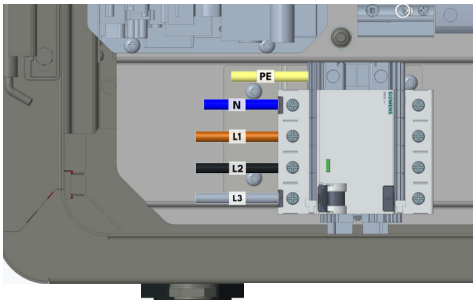
This structure is designed to mount cables with low flexibility with crimping shoes on the MCB and terminal block, as shown in the figure. Thus, the midpoints of the cable glands and crimping shoes are aligned with the same axis (z-axis), as shown in the figure. Installation should be performed as shown in the figure.

Contact surface of cable gland nuts and clamping shoes:

The surface contact of the clamping shoes and cable glands is shown in brown in the figure. The mounting surface of the clamping shoes corresponds to 92% of the surface data shown in the clamping shoe data sheet compatible with a cable cross-section.

3- Pass the cables through the cable glands at the bottom of the charging station.

4- Connect the AC Mains cables. First connect “Line PE” cable, then “Line N” cable, finally three phase cables (“Line 1”, “Line 2”, “Line 3”) as shown below:

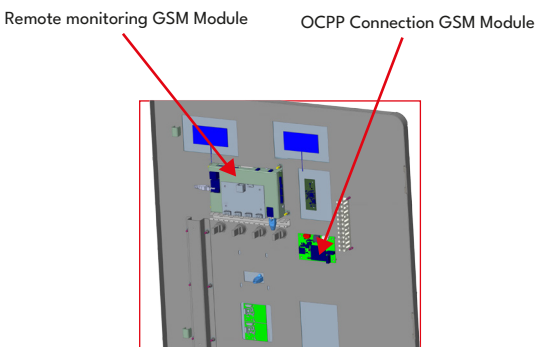


5- Tighten the cable glands using an adjustable wrench. 25Nm.

11.4.2 - SIM CARD CONNECTION

See “Opening the front covers” section and insert the Micro SIM card into the cellular communication module SIM card slot as shown in the figure below.

Ghost OCPP provides the communication between the charging station and the central system via a dedicated APN cellular network. With this system, the manufacturer will have the capability to remotely control any device that has been installed in the field and supported by Ghost OCPP at any time. Thus, controlling the instant status of the products, sending remote commands to the product (restarting the product, diagnostic message), usage data and logs related to the product will be accessible 24/7. With this process, device intervention and controls in the field can be performed quickly/effectively. Within the scope of Ghost OCPP, the manufacturer inserts the SIM card into the Ghost OCPP card and sends it to the field after activating. The management of the Ghost OCPP card is in the charge of the manufacturer.

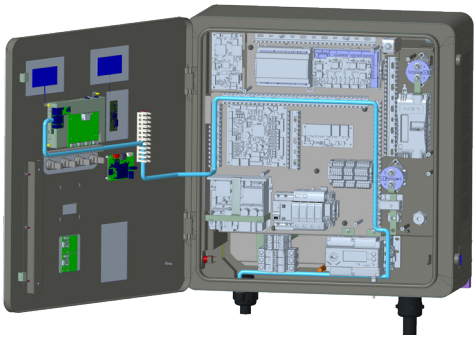


11.5 - COMISSIONNING

11.5.1 - CONNECT OCPP OVER ETHERNET

In order to connect your device to the internet over the cable and make the necessary adjustments, you must first prepare the ethernet cable and plug this cable into the locales that should be on the device.

Insert Ethernet cable through the cable gland. Terminate the Ethernet cable with RJ45 terminal and connect the cable to the Ethernet port as shown below.



11.5.2 - CONNECT PC TO THE SAME NETWORK WITH HMI BOARD

In order to access Web Config UI, first you need to connect your PC and EV charger to the same ethernet switch or connect EV charger to your PC directly.

Power-on the charging station. Default IP address of HMI board is 192.168.0.10. For this reason, you need to give static IP to your PC in the same network with HMI board.

You should assign static IP address to your PC in 192.168.0.0/254 network which means that IP address should be in a range of between 192.168.0.1 and 192.168.0.254.

For example, 192.168.0.11 can be set as an static IP to your PC.

11.5.3 - OPENING WEB CONFIGURATION INTERFACE WITH BROWSER

Open your web browser and type 192.168.0.10 which is IP address of HMI board.

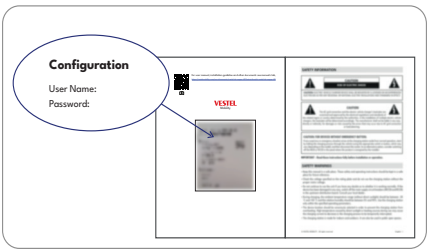
You will see login page on your browser;

Each product has a user name and password set as factory configuration.

In this section you can log in to the Web configuration interface by entering the configuration information printed on the label. User Name and Password informations are located on the label pasted to the Quick Start Guide as shown below.

Only for the first login you will be forced to change your password.

You can change password with Change Password Button in WEBUI login page or Administration Password section in the System Maintenance tab.



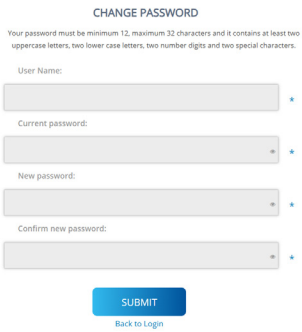
Visual representation is provided

Change Password:

If you click the “Change Password Button“ you will be redirected to the Change Password page.

Your password must be minimum 12 maximum 32 character and it contains at least two uppercase letters two lower case letters two number digits and two special characters.

After typing your current password and new password twice, you will be redirected to the login page again to log in with your new password.



11.6 - WEB CONFIGURATION INTERFACE

You can change the web configuration interface language and log out of the web configuration interface with the buttons in the upper right corner of the page.

MAIN PAGE	The Main page provides an overview of the key system information and connection status of the EVC device. Below are the descriptions of each displayed parameter: **CP Serial Number:** Unique serial number of the device. It is used for device authentication and remote management. **HMI Software Version:** The software version of smart board (HMI) that runs the device's touchscreen interface. **Power Board Software Version:** The version of the software that controls power management and charging operations of device. **PLC Software Version:** The software version of power line communication board. **VCR Software Version:** The software version of the VCR (Voltage Current Resistance) board. **CTB Software Version:** The software version of the CTB (Control Board) board. **OCPP Software Version:** The version of the Open Charge Point Protocol (OCPP) software, which enables communication with the charging network management system. **Duration after Power On:** The total time (in hours, minutes, and seconds) that has passed since the device was last powered on. Useful for uptime tracking and performance monitoring. **Connection Interface:** The current communication method used by device. It can be Ethernet, WLAN (Wi-Fi), or Cellular. **OCPP Device ID:** Unique identification number used by device when communicating with OCPP server. **Connector ID 1 Status:** The current status of charging Connector 1 (e.g., Available, Plugged, Charging, Faulted).

11.6.1 - GENERAL SETTINGS

Default Interface Languages	HMI display language and web interface language can be selected from the general settings page.
Display Settings	• **Static** - Set brightness/outdoor lighting to a fixed level, options include Low/Medium/High • **Reduced Brightness in Inactive Mode** - Sets automatic brightness dimming when the screen is not in use. This option can be enabled or disabled. **Minimum Brightness Value -** Defines the minimum brightness for inactive mode. • **Show Charge Point ID** - Displays the charge point ID on screen (can be enabled/disabled).
Display Logo (Optional)	The user can upload left and right logos to display in the app UI and toggle their visibility using a switch button.
Tilt Threshold	The user can change the tilt threshold in angle. The tilt threshold as an angle is set to 30 for all angles by default. Tilt Threshold Range: 12 - 90
Display QR Code	The user can update the QR Code Settings for each connector on the device. QR Code can be enabled/disabled and if enabled, a limiting value for the QR Code String can be set.
Customer Service Number	You can reach customer service number from WEB UI screen. You can enable or disable it to display on the screen.

11.6.2 - OCPP SETTINGS

The required settings for the OCPP connection (activating and deactivating the OCPP connection, entering the connection address, entering the charging station ID, etc.) are made on this page.

10.6.3 - NETWORK INTERFACES

There are three types of network interfaces in this page; Cellular, Ethernet (LAN), Wi-Fi.
Select interfaces' modes as "Enabled" if you want to activate it.
You should fill all spaces in suitable formats.

11.6.4 - POWER MANAGEMENT	
DC Output Configuration	DC Output Configuration(deprecated-will be renamed as Model Code).
Charge Point Maximum Power	Maximum Power value is used to set the maximum output power delivered from charging station.
Fail Safe Power	Fail Safe Power Limiting feature is used to limit the station output power when the OCPP Server connection is lost. When feature is enabled, the user can set output power value. The default value is 10 kW.
Power Module Configurations	DC power sharing enabled option is used to allow CPO to decide if power sharing will be active for 40 kW power module.
Connector Settings	Connector type and corresponding maximum output power is displayed under Connector Settings menu.

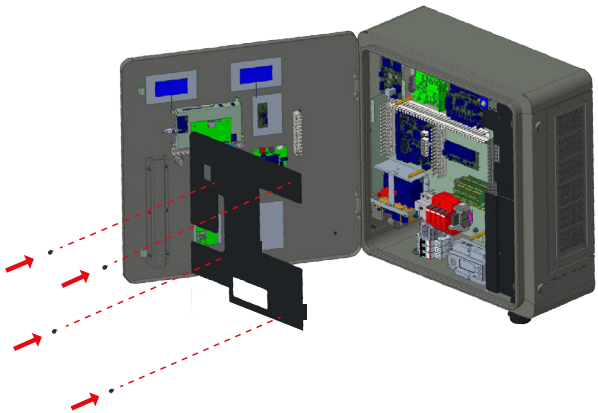
11.6.5 - SYSTEM MAINTENANCE	
Log Files	The logs related to the device can be downloaded from this section.
Firmware Updates	The firmware file of device can be uploaded and upgraded.
Configuration Backup & Restore	The device-related configurations can be backed up and restored from this tab.
System reset	You can proceed to this section to perform Hard Reset and Soft Reset.
Administration Password	The administrator password can be changed from this tab.
Factory Default Configuration	You can reset your device to its factory settings.

11.7 - CLOSE COVER

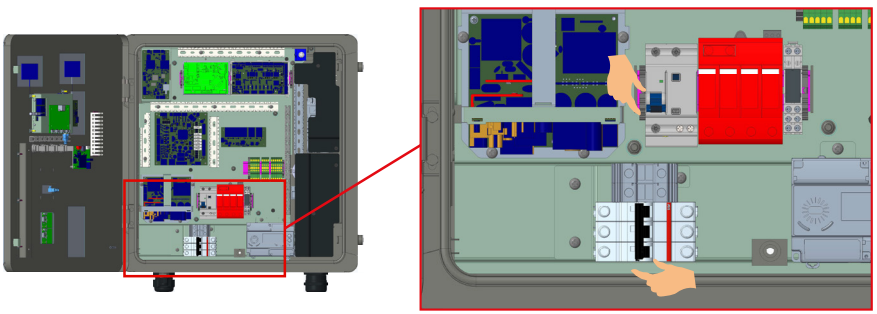
1. Place the (left and right) bottom side plates back and tighten the bolts.

2. Ensure all the cables and plugs are not damaged.

3. Place and tighten the screws of the isolator plate covering the AC Mains cable.



4. Switch the MCB and RCBO on.



5- Close the right side cover of the product by turning the handle clockwise as shown in the section “Opening side covers“using the keys provided.

12 - CHECKING THE VALIDITY OF THE MEASUREMENT

Data with transparency software

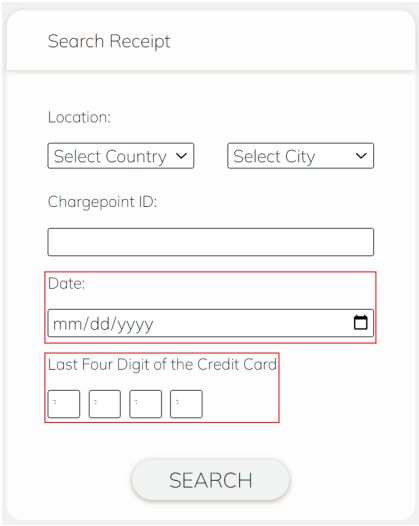
This section deals with billing, the transmission of legally relevant data and the billing procedure in accordance with the German Measurement and Verification Ordinance (MessEV).

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) on your credit card statement once the charging process has been completed. You can access the website 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.



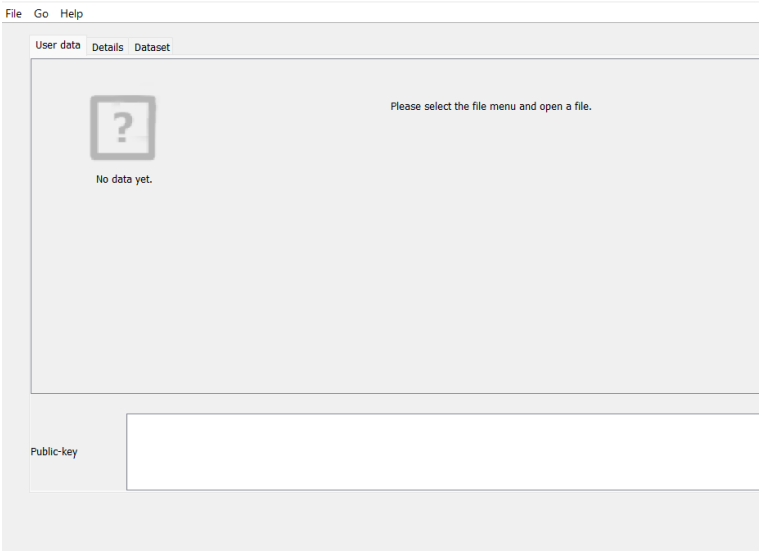
What is transparency software?

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



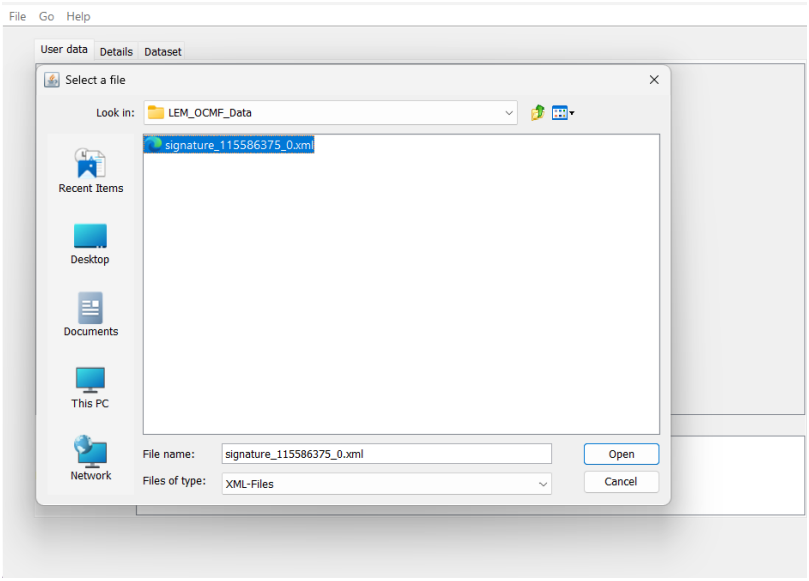
How does the transparency software work?

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.

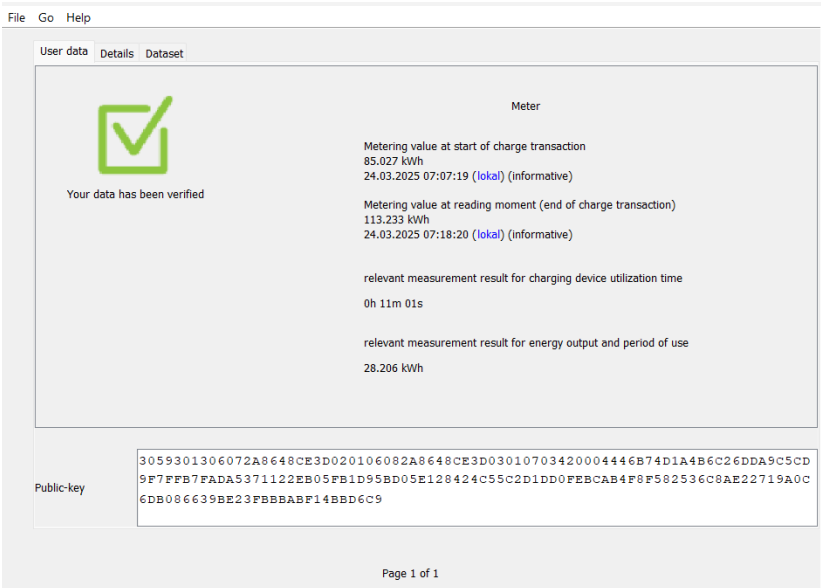
LOADING DIGITAL SIGNATURE DATA

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

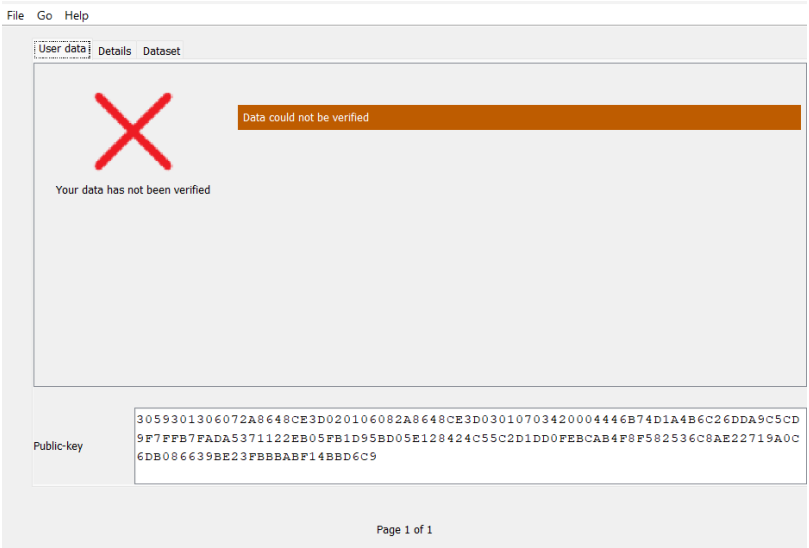


CHECK THE RESULT

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:

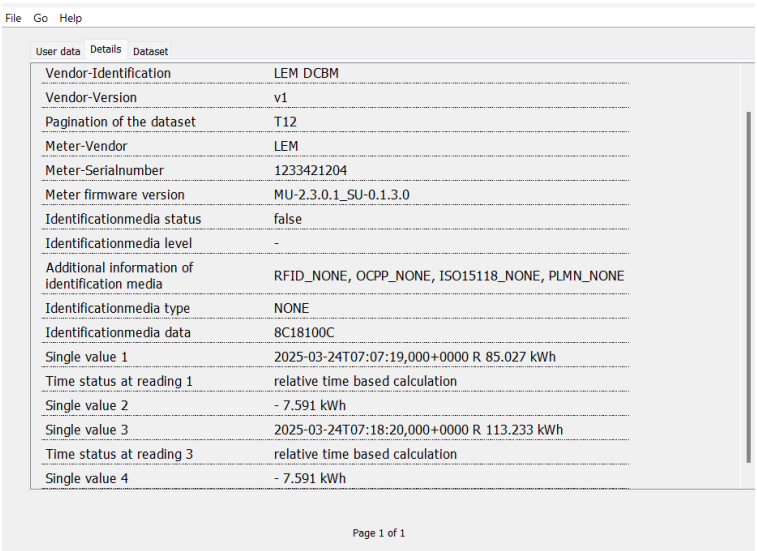
1) Download and install a Java runtime environment (this is available for all operating systems and is usually already pre-installed, e.g. Oracle).

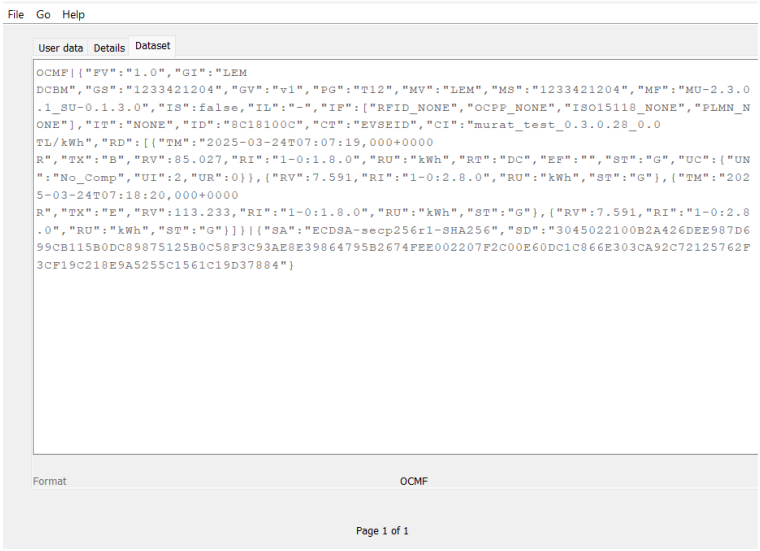
2) Download the transparency and display software from

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

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

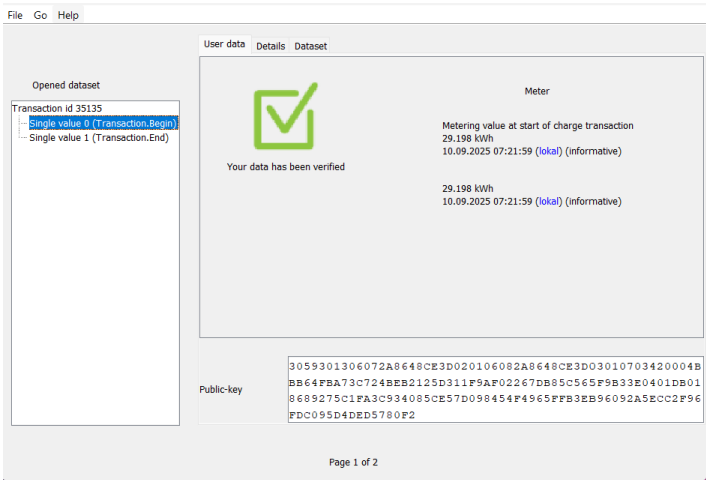
- the signed measurement data set
- the selection of the "OCMF" format
- the public key of the corresponding charging station





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

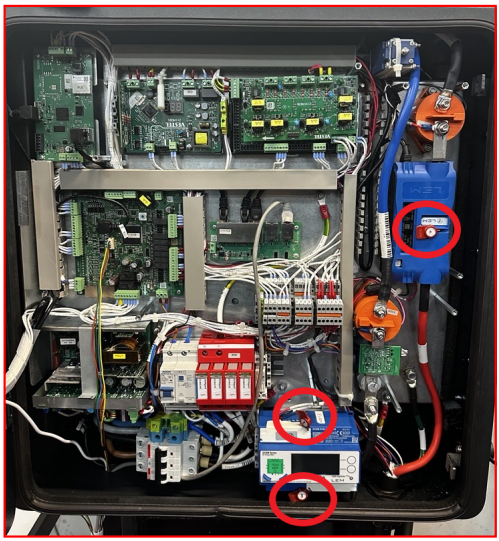
5) Once this check has been completed, it must be checked whether the results of the signature check match the information on the invoice.

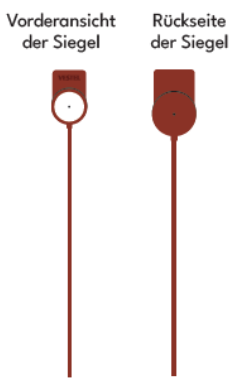


13 - OVERVIEW OF THE CHARGING STATION WITH DESCRIPTION OF THE MANUFACTURER'S/OPERATOR'S SEALS

13.1 - 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 EVC12 calibration law product seals.
The sections circled in red indicate the manufacturer's seal.

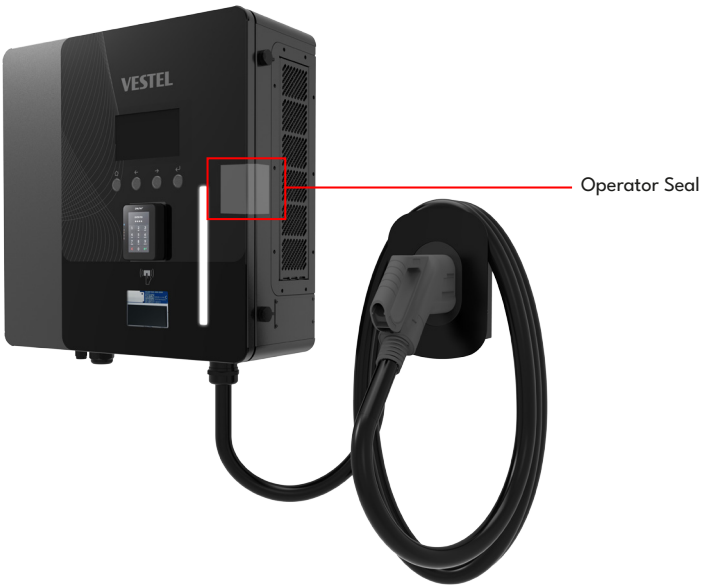




13.2 - RECOMMENDED POSITION OF THE OPERATOR SEAL

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.



14 - LEGAL INFORMATION

14.1 - 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.

15 - MAINTENANCE

The device is maintenance-free. The deadlines for the validity of the calibration must be observed for the electricity meter and the charging station.

Conformity with the points listed in the chapters “Model description”, “Technical specifications” and “Legal information” must be guaranteed over the entire service life of the product. The user must not exceed the validity period for the calibration of the meter and the charging stations. If the calibration period is exceeded, please contact the manufacturer so that an authorized technical service company can replace the measuring device in the charging station.

16 - 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, MCB)	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
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 (MCB, RCBO)

Distribution elements (RCBO, MCB) 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.

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.

17 - WIRELESS LAN TRANSMITTER SPECIFICATIONS

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

(*) '< 100 mW' for the Ukraine

Country Restrictions

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

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

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

Hereby, Vestel 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.

VESTEL

MOBILITY

CE

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
Parkring 6, 85748 Garching b. München/Germany

Telefon: +49 89 55295-0
Fax: +49 89 55295-5086
Mail: EVC@Vestel-Germany.de
Web: 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 (alle Länder)

Unsere Garantiebedingungen für EV-Charger finden Sie unter:
http://vestel-germany.de/de/page/service