Version 2.0

Model DMTC22KW
Domestic Charger AC 22kW

Installation and Use Guide

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DMTC22KW

Installation and Use Guide

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Important Message

This manual contains general descriptions and technical characteristics of the product performance described here. This document is not to be used to determine the suitability or safety of the device.

The purpose of this manual is to provide a safe installation, good operation and maintenance of this equipment. Read this manual carefully and make sure you understand all procedures before installing or operating this equipment.

VOLT-E recommends that all charging products are installed by a qualified technician. The installation must comply with the location where the equipment is to be placed, national electrical codes and standards. Failure to do so may result in serious injury or even death.

For safety reasons and to help ensure equipment compliance, only the manufacturer and its certified technicians should repair the components.

VOLT-E has taken every precaution to create a practical and easy to understand manual, therefore, it will not be responsible for direct, indirect or accidental personal accidents and / or material damage resulting from any misunderstanding, in its interpretation.

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1. Safety Instructions

Keep these informations

This manual contains important instructions for DMTC22KW home chargers, which must be followed during the installation, operation and maintenance of each unit.

This is exclusively intended for the DMTC22K model. The images shown in this manual are only visual examples. The figures and explanations contained in this manual apply only to one of the products. The equipment you have purchased may differ in appearance.

Use of the symbols

DANGER!

Indicates extremely important safety precautionary instructions which, if not strictly followed, will result in death or serious injury.

ATTENTION!

Indicates important safety notes, which, if not followed, could result in personal injury, equipment overheating or even serious fire.

USEFUL INFORMATIONS

Indicates recommendations and referential instructions for the installation, operation and maintenance of the equipment, which do not cover information related to possible personal and material damages or in the scope of safety.

AC household chargers are designed for indoor and outdoor use. The device must be installed safely and with due protection precautions.

Make sure you have carefully read all the instructions described in this manual before starting the installation process. Pay special attention to the following precautions:

√ The installation, commissioning, maintenance or retrofitting of the charger must be carried out by highly trained and qualified technicians, who will be fully responsible for good compliance with existing standards and installation regulations.

√ Incorrect installation of the charger can potentially damage either the vehicle battery and / or the charger. Any resulting damage is excluded from the charger's warranty.

√ Do not install or use the charger near flammable, explosive, rough or combustible, chemical or vapor materials.

√ To avoid the risk of fire or electric shock, do not use the charger with an electric extension cord.

√ The charger must not be installed in areas with a potential explosion hazard.

√ Do not install the charger where falling objects may damage the device.

√ This charger must not be modified in any way. This will void the warranty, compromise protection and may cause possible electric shock or fire hazard.

√ Turn off the power at the circuit breaker before installing and cleaning.

√ The surface of the installation site must withstand mechanical forces.

√ Strictly comply with all applicable local and national electrical standards and regulations.

√ ONLY trained and qualified persons must have access to all electrical parts inside the appliance.

√ Check that the device is regularly inspected by qualified technicians to ensure safe installation and operation.

√ Use ONLY authorized spare parts.

√ The charger can only operate in perfect condition. Do not use the charger if it is in defective condition, has cracks, frayed wires, is broken or has any other anomaly, or if it stops working.

√ Charging with a worn or damaged cable can cause burns or start a fire.

√ Charging with a worn or damaged cable can cause burns or start a fire.

√ Children should be supervised when using this equipment.

√ Do not attempt to open, disassemble, repair, tamper with or modify the Charging Station. Contact VOLT-E for any repairs.

2. Dimensions and characteristics

Study all drawings carefully and make sure you have sufficient knowledge of each functional component. The details of the Station's appearance may vary slightly, depending on the date and production model.

2.1. Assembly drawing

Perspective view and dimensions of the DMTC22KW Loader

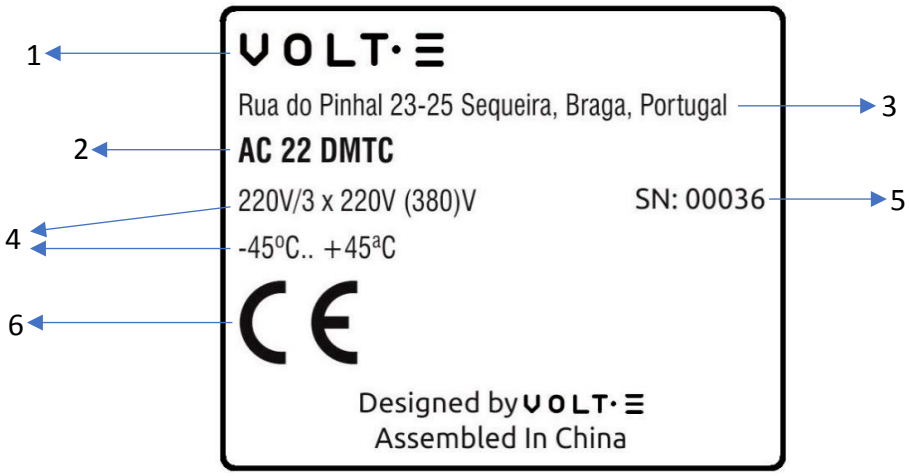
→ Depending on the specific requirements of the customer, the outlet or charging cable may appear different from the images shown in this manual.

1	Brand name	4	Emergency Button
2	Screen	5	RFID Reader
3	Designation of Product	6	Type 2 socket
7	Charger status indicator lights		

→ This equipment can be placed on the wall or on a pedestal. The wall bracket is supplied by Volt-E, together with the charger. If you want the pedestal, you will have to place your order with it.

2.2. Plate of Characteristics

The plate of characteristics is located on the rear of the charger. The attached illustration provides all the information included in it. The actual size of the plate may vary depending on the equipment variant.



1	Brand name	4	Technical Data
2	Designation of product	5	Series number
3	Brand address	6	CE Mark

2.3. Presentation of the product

Domestic chargers have been specially designed to be easily installed, outdoors and indoors, with public and private access, to charge all EV brands on the market in Mode 3 (according to the European standard IEC 61851-1), through Built-in Type 2 charging socket (sockets may vary depending on the model ordered.

Available in various power configurations up to 22kW and with the possibility of incorporating a fixed charging cable, customizable home chargers offer maximum market flexibility for this type of equipment.

With the possibility of integrating the RFID system with access control, domestic chargers are still open to be connected to a remote central management backend or integrated into a public infrastructure network.

2.4. Customizable / Optional Settings

→ **Screen:** The 4.3-inch touchscreen provides, through an intuitive interface, all information related to the charging status, especially the current consumption and the progress of the charging program.

→ **RFID:** User recognition through the proximity of the card reader.

→ **Ethernet:** TCP / IP communication protocol for remote monitoring and configuration.

→ **4G Modem:** For locations where wired communications are not efficient.

2.5. Specifications and Technical Characteristics

→ **Plug & Play:** To start charging, simply connect the cable to the car and the Type 2 socket.

→ **Automatically Lock:** Type 2 sockets are equipped with an automatic locking system to prevent disconnection of the connectors during the charging process.

→ **Consumption Measurement:** A meter is installed inside the charger to measure consumption during charging.

→ **OCPP:** The screen model complies with the open standards communication protocol, which allows easy communication between the charger and the central management system.

The main technical data of the DMTC22KW line products are indicated in the table below. This was designed to be an economical charging solution for all Mode-3 electric vehicles.

Technical Data	DMTC22KW Standard Power
AC input	
Phases / Lines	Mono / Three-phase L1,L2,L3+N+PE
Voltage	220V/380V
Frequency	50Hz
Nominal power input	7/32 A
Wattage	7/22kW
AC output	
Voltage	220V/380V
Power	7/32A
Nominal power	7/22kW
General specifications	
Number of sockets	Single outlet equipment
Type of sockets	IEC62196 Type 2 (others on request)
Installation mode	Wall mounting
Communication with VE	IEC61851-1 (AC)

Interface Man-Machine	By default
Screen	Multicolor touch screen (4,3 inches)
System RFID	ISSO/IEC 14443A
Button	Emergency Button
Comunication	4G/LAN/Wi-Fi
Refrigeration system	Auto cooling
Communication protocol	OCPP 1.6
Local of installation	Indoor/Outdoor
Altitude	Up to 1000m
Environmental conditions	
Operating Temperature	-45ºC up to +45ºC
Storage temperature	-45ºC up to +45ºC
Humidity	10 ~ 90%
Mechanical Data	
Protection Degree	IP55
Material	Stainless steel
Dimensions (W x D x H)	280 x 140 x 420mm
Weight	5,8kg
Standards	
Universal	IEC 60950-1 IEC 61851-1
Connectors	IEC 62196-1 IEC 62196-2
Emission	IEC 61000-6-3 IEC 61000-3-2 IEC61000-3-3

2.5.1. Connectivity

The Charging Station has two different inputs available:

→ USB input (extraction of "logs", installation of software and "key").

→ Ethernet input (for LAN access) ..

Connectivity can be achieved through three options:

1. Wireless
2. 2. LAN network cable

3. SIM card (4G module)

USB and Ethernet input

2.5.2. RFID System

RFID cards are an international standard (ISO / IEC 144443 identification cards - contactless integrated circuit cards), which define proximity cards, used for identification and authentication, with the transmission protocols for communicating with it.

2.5.3. Safety rules

Volt-E Charging solutions meet the following safety standards:

IEC 60950-1: security of technological information equipment.

IEC 61851-1: conductive charging system for electric vehicles.

IEC 62196-1: Plugs, sockets, vehicle connectors and vehicle entrances - Vehicle loading driver - Part 1 - General requirements.

IEC 62196-2: Plugs, sockets, vehicle connectors and vehicle entrances - Electric vehicle charging conductor - Part 2: Dimensional compatibility and interchangeability requirement for a.c. pin and contact tube fittings.

IEC 61000-6-3: Electromagnetic compatibility (EMC) - Part 6-3; Generic standards - Emission standard for residential, commercial and small industries.

IEC 61000-3-2: Electromagnetic compatibility (EMC) - Part 3-2; Limits for harmonious power emissions (power input equipment □16A per phase).

IEC 61000-3-3: Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low voltage supply systems, for equipment with normal current □16 A per phase and not subject to conditional connection.

IEC 61000-6-1: Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low voltage supply systems, for equipment with normal current □16 A per phase and not subject to conditional connection.

IEC 61000-4-2: Electromagnetic compatibility (EMC) - Part 4-2; Test and measurement techniques. Electrostatic discharge immunity test.

IEC 61000-4-3: Electromagnetic compatibility (EMC) - Part 4-3; Test and measurement techniques. Immunity test for radiation, radio frequency and electromagnetic field.

IEC 61000-4-4: Electromagnetic compatibility (EMC) - Part 4-4; Test and measurement techniques. Rapid electrical test of transient / explosion immunity.

IEC 61000-4-5: Electromagnetic compatibility (EMC) - Part 4-5; Test and measurement techniques. Surgical immunity test.

IEC 61000-4-6: Electromagnetic compatibility (EMC) - Part 4-6; Test and measurement techniques. Immunity to disturbances, induced by radio frequency fields.

IEC 61000-4-8: Electromagnetic compatibility (EMC) - Part 4-8; Test and measurement techniques. Immunity to disturbances - energy frequency.

IEC 61000-4-11: Electromagnetic compatibility (EMC) - Part 4-11; Test and measurement techniques. Immunity tests to voltage drops, short interruptions and voltage variations.

3.Before installation

Before any installation work is performed, consult all drawings provided by the supplier for installation, including perspective drawings.

Please read this section carefully before handling the charger wiring. All instructions described below must be strictly followed..

3.1. Electrical protections

To ensure the complete protection of the installation and operation of the charger against any electrical risk, it is mandatory to install a main circuit breaker (MCB) and a residual current device (RCD) upstream of the charger.

These electrical protections and the rest of the installation must be in line with local and national rules. The selectivity of the protections must be guaranteed throughout the installation process.

Electrical Hazard

Take precautions to make the electrical connection inside the charger.

This device must be completely disconnected from

any power source during commissioning.

Attention

Inappropriate operations can result in serious damage to property and void the warranty!

3.2. Security Requirements

→ Eye protection with appropriate glasses (especially when using a drill).

→ During installation, be sure to avoid direct connections, with power distribution cables with additional protection.

→ Always make sure that the power is cut off during the installation process.

→ Use appropriate tools for each role.

3.3. Energy supply

The DMTC22KW Charger must be connected directly to the customer's distribution board for better performance and for safety reasons. The equipment requires a three-phase or single-phase connection. A normal domestic or small connection may not be sufficient. Contact your electricity distributor for more information.

The dimensioning of the charger input power line must be checked by a qualified technician. It is important to note that several factors, such as the cable length between the switchboard and the charging device, the maximum output current of the charging device can affect the selected cable.

The technical data section provides nominal settings taken from the factory with the supply of the maximum output current from the charger. If the current of the power supply is less than the maximum output current, it may be necessary to adjust the rated current to a lower value. For more information, refer to the detailed instructions provided in the operation section.

Depending on the model, the recommended value may be different. Please check the respective recommendation for the model purchased.

3.4. Packing list

Before starting the installation process for this charger, carefully check the packaging received according to the list provided below. If any component described below is not properly packaged, contact the customer service center for replacement.

⇒ Domestic Charger DMTC22KW x1

⇒ Installation and Use guide x1

⇒ Wall installation plate x1

3.5. Installation location

In order to achieve better operating conditions and longer functional life, it is important to take precautions when selecting the installation location. Operational life and performance will be influenced by the selected installation location and the respective operating conditions.

The Charger has been designed to be used both indoors and outdoors. It is therefore necessary to ensure the correct configuration requirements and protection of the device at the installation site.

The following criteria should be considered with regard to site selection:

→ It is important to study the local electrical installation regulations, fire prevention measures and accident prevention regulations, as well as the escape routes from the installation site;

→ The charger must NOT be installed in potentially explosive environments;

→ Install the Charger so that it is not in the direct flow of pedestrians and so that no one can trip over the charging cables and that the cables do not cover or cross pedestrian and motorized traffic;

→ Do not install the charger in places where it is exposed to ammonia or ammonia gas (for example stables);

→ The mounting surface must be sufficiently stable to withstand mechanical forces;

→ Do not install the charger in places where falling objects may damage the device (for example, ladders or overhanging car tires);

→ The equipment must not be exposed to direct spray water (for example, adjacent manual washing installation, high pressure cleaner, garden hose);

→ The equipment must be protected against direct rain, as much as possible, to avoid freezing, hail or similar damage;

→ It is important to observe the permitted environmental conditions;

→ It is recommended not to expose this equipment to high temperatures, dust, corrosive vapors, combustible materials or explosive gases;

→ Select a dry, well-ventilated place;

→ To reduce the risk of fire, install the charger on a concrete surface;

→ If possible, the device should be mounted protected from direct sunlight;

→ To comply with the instructions above, Volt-E recommends that the location where the charger is installed is fully covered;

3.6. Space required

When installing the Charger, it is necessary to respect some minimum distances for reasons of maintenance and safety. In the case of device variants with optional cable support, consideration should be given to the need for additional space at the bottom to hang the charging cable.

If several loaders are installed adjacent to each other, a distance of at least 200mm between the equipment must be observed.

It is recommended to install the equipment at a height of 1.2 to 1.4 m (height of the load socket). It is important to note that national regulations may limit this height.

4. Installation

Before installation, make sure you have studied all related drawings and are familiar with all installation procedures. Strictly carry out the following steps to ensure a safe and functional installation of the equipment.
Depending on the device model, you may need to purchase the appropriate installation materials for the desired installation location separately.
Proper installation is necessary and is outside the manufacturer's responsibility.

4.1. Rainwater Drainage

The Charger must only be installed in the vertical direction at an angle of 90º, and no inclination is allowed. Otherwise, water drainage will not be possible and may result in damage to the equipment.

4.2 Wall Mounting

Use the supplied wall fixing materials (wall plugs and screws) to fix the Charger to the wall. Make sure that the installation surface is flat.

Attention!

The fastenin The fastening materials equipped may vary depending on the types of wall surfacesurfs surface .The use of appropriate fixing devices guarantees the correct
equipment. functioning of the equipment.

Wall mounting plate

→ After correctly adjusting the vertical position of the charger, mark 4 mounting holes in the desired location on the wall. The supplied wall mounting plate can be used as a guide for this purpose.

→ Insert the dowels into the holes drilled on the edge of the wall mounting plate. Use the appropriate screws to secure the installation plate to the wall.

→ After fixing the installation plate on the desired location, the charging device can now be attached to the support plate.

DMTC22KW charger back part

⇒ **Optional:** The DMTC22KW charger can be applied to a pedestal and fixed to the floor. If you want this option, check with the manufacturer Volt-E.

4.3. Spinning

Completely turn off the power during the entire wiring procedure. Make sure that the charger is correctly connected to a permanent metal grounding wiring system or to a grounding conductor.

- Check the color arrangement of the cables (European - IEC);

New Cable Colour Code European (IEC)		
Function	label	Color Cable
Phase 1	L1	
Phase 2	L2	
Phase 3	L3	
Neutral	N	
Protective earth	TE	

⇒ L1 – phase 1 (brown)

⇒ L2 – phase 2 (black)

⇒ L3 – phase 3 (grey)

⇒ N – Neutral (blue)

⇒ PE – Protective earth (yellow/green)

→ Connect the three phases according to the color indications for the 22kW power. For single-phase connection, connect phase 1 to the 7kW power.

→ The DMTC22KW charger is programmable at the factory with powers from 1.6kW to 22kW. With the exception of the screen version (OCPP), this programming will always be done by the manufacturer.

→ Check the protection between the supply and the equipment.

→ Check the earth supply.

→ Check that all screws are tight;

→ Check that the AC power cable breakers are turned off during operation;

→ Do not forget to connect the earth wires to the grounding end plate.

→ Maintenance mode: check that all power supplies have been cut off before carrying out any maintenance work;

→ Check the wires: before closing the front door and fixing the unit, check that all cables are properly placed inside, to ensure the best waterproof performance;

→ Check the connectors: check that the sockets are in good condition before inserting any external connector into the unit;

→ Electrical protections: check that all power supply switches are turned off and that the connection of the charging unit to the external circuit breaker is correctly established;

→ Check that the emergency button is activated;

→ Operation: Check that no abnormal noise appears during the charging process.

5. Operation

Danger!

Improper handling or installation of the unit can result in serious injury and damage to the charging device. In particular, handling with applied voltages can result in electric shock, which can cause death or serious injury.

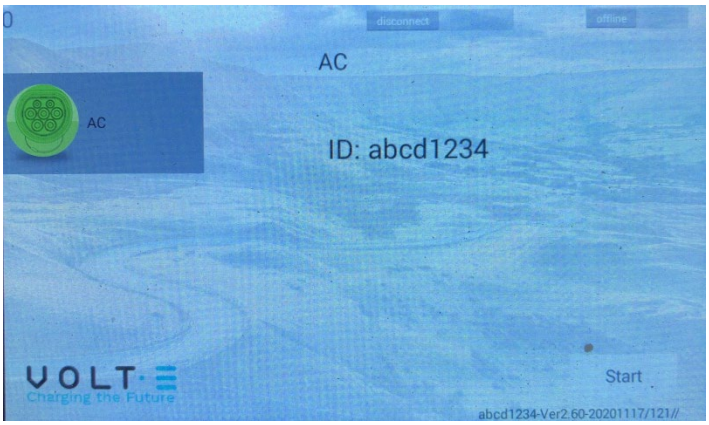
Attention!

Read the manual carefully before connecting the charger. Follow all installation, operation and maintenance instructions throughout the mechanical life of the equipment. Ensure that all required compliance with local electrical codes is met.

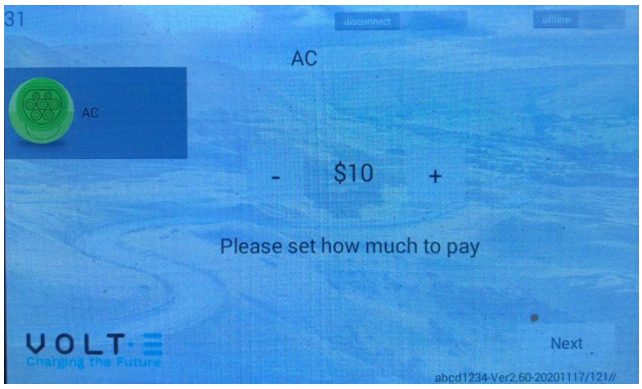
5.1. How to connect:

5.1.1. Basic Software

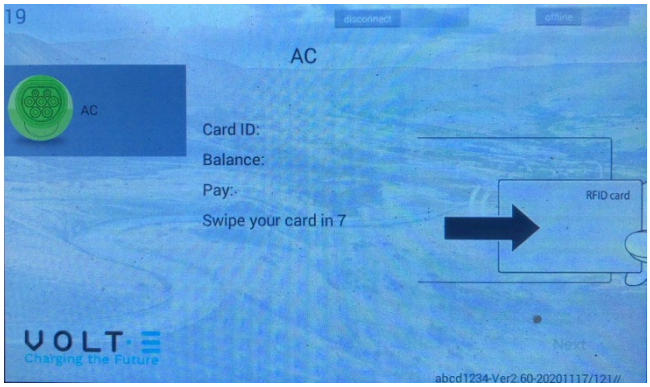
⇒ When connecting the DMTC22KW charger, the following menu will be displayed on the screen, press “Start”;



⇒ Select the desired charging time (minutes), press “Next” to proceed;

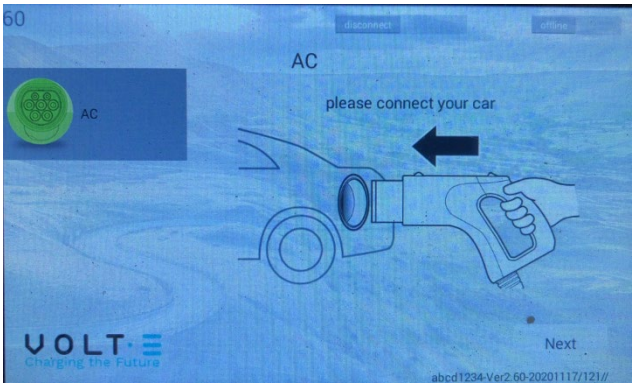


⇒ Swipe the RFID card;

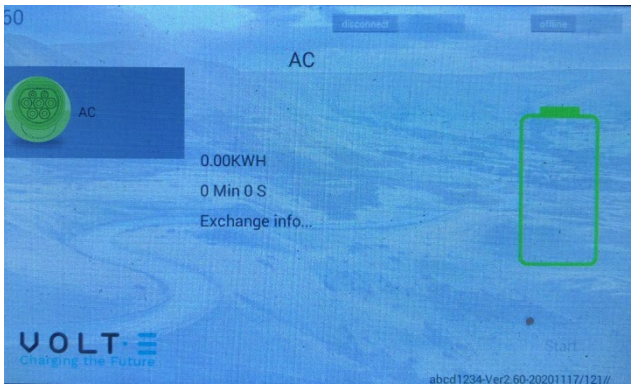


⇒ After swiping the RFID card, the following information will appear on the screen: Card ID; minutes available for charging; minutes discounted on the current charging; press “Next” to proceed;

⇒ Insert the charging cable into the car. Press "Next" to advance;



⇒ The following information will appear on the screen: number of kW charged, speed in kW and elapsed charging time.



⇒ If you want to interrupt the loading before the scheduled time, press "Stop"; Swipe the RFID card again to stop charging and for a refund of discounted minutes that have not been used.

5.1.2. Management Software

OCPP connection with client server (optional).

This protocol allows communication between the charging station and the central management system. In that case, control can be performed remotely.

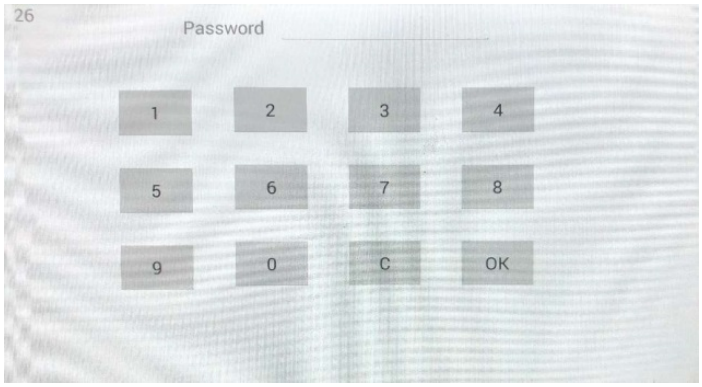
→ If the customer does not have his own server, it is possible to purchase this extra service with Volt-E.

6.Configurations

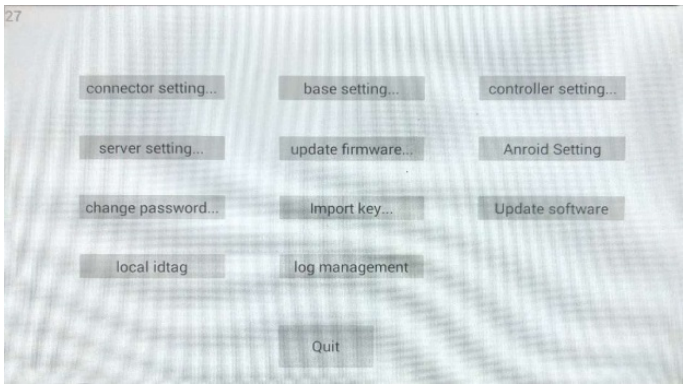
The following will demonstrate how to perform certain settings on the Loader. In addition to the step by step to install and uninstall the Android app.

6.1. Uninstall application (for basic software and OCPP management software)

To uninstall the Charging Station, you need to enter the hidden menu. To enter the hidden menu, return to the standard home menu and click 2x in the lower left corner and enter the default password. The default password is “436174”. You can change this password later.

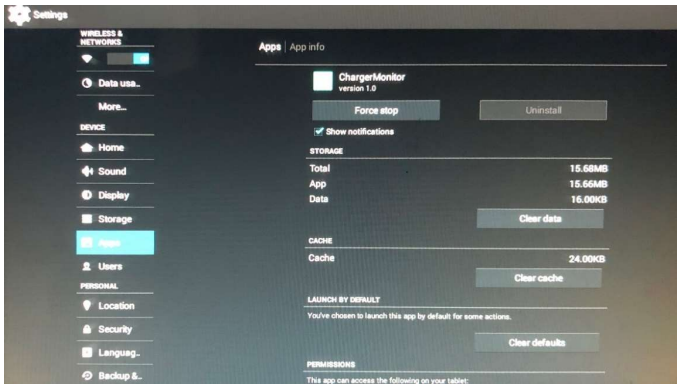


⇒ In the hidden menu you can find the following table of configuration options:



⇒ Click on Android Setting;

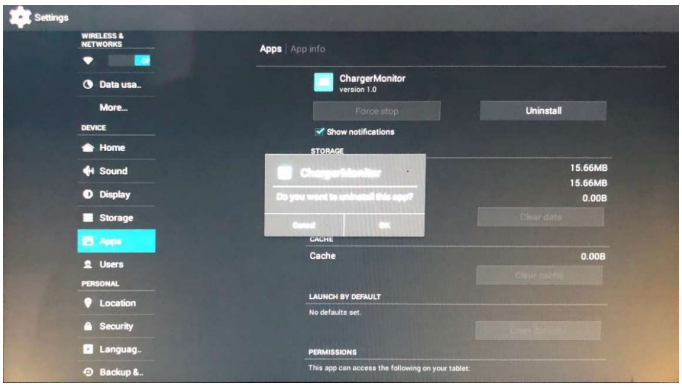
⇒ Follow the steps below:



⇒ On the left side of the screen, press the “Apps” option;

⇒ Then, press the following options that will appear on the screen: "Force Stop", "Clear Data", "Clear Cache" and "Clear Defaults";

⇒ After following these steps, press the “Uninstall” option and the following menu will appear on the screen (if the “Uninstall” option cannot be selected, enter a menu on the left and click on APPS again to select “Uninstall”);



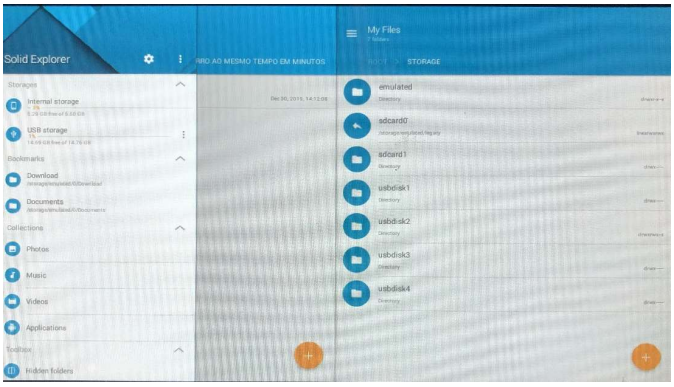
⇒ Select the “Ok” option and the application will be uninstalled;

⇒ Then turn the Station off and on again;

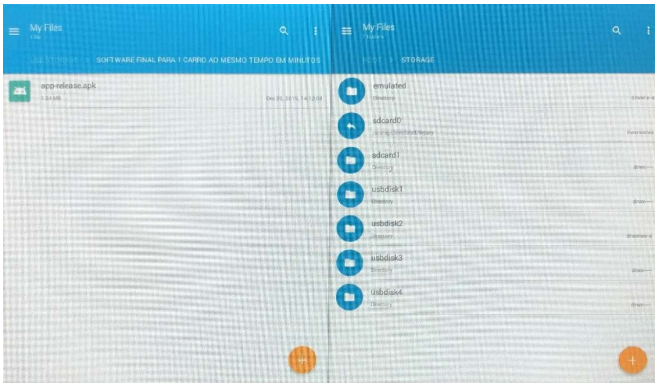
6.2. How to install the Android application (for basic software and OCPP management software)

⇒ Press on the option "Home" and then on "Solid Explorer";

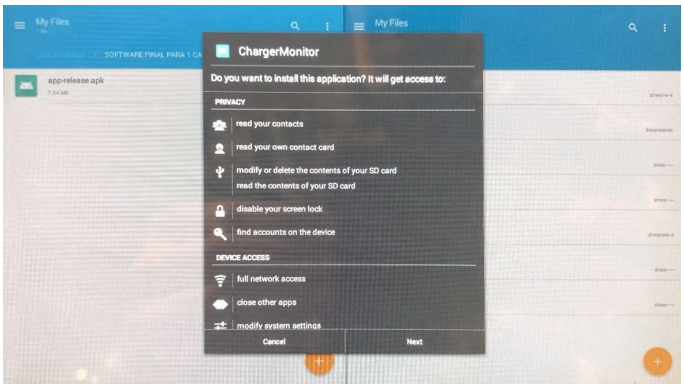
⇒ When opening, access “My files” and choose the pen where the software is located;



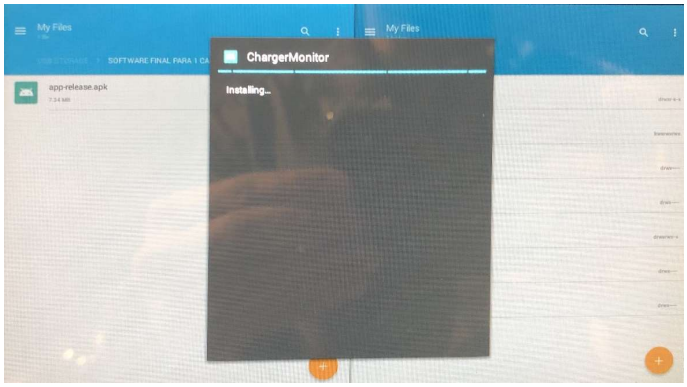
⇒ Select and upload the desired file;

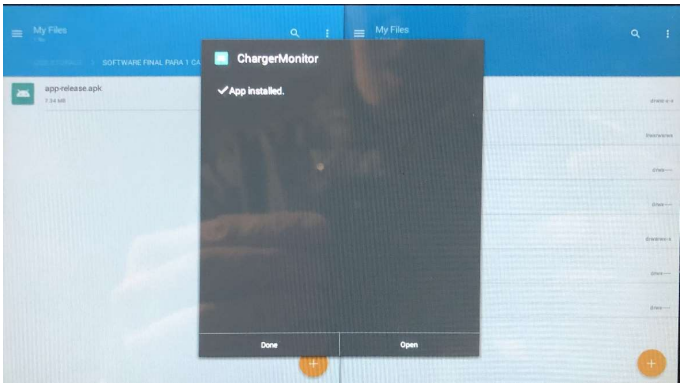


⇒ After, press “Next”;



⇒ Wait while the application is being installed. The message “App installed” will appear when the installation is complete;

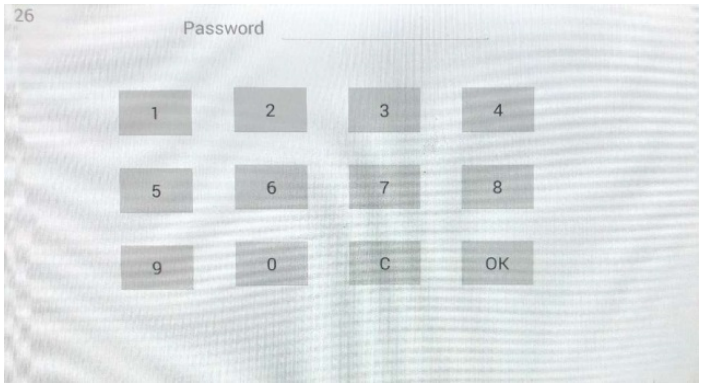




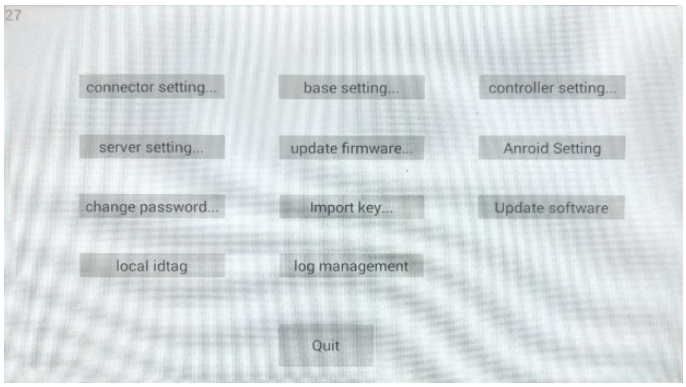
⇒ After following the step by step to install the application, follow the instructions in item 6.3. “How to configure the Charging Station”.

6.3. How to configure the Charging Station (for basic software and OCPP management software)

⇒ To configure the Charging Station, you need to enter the hidden menu. To enter the hidden menu, return to the standard home menu and click 2x in the lower left corner and enter the default password. The default password is “436174”. You can change this password later.



⇒ In the hidden menu you can find the following table of configuration options:



⇒ **Connector Setting:** This menu includes the following configuration options:

→ Defined charger ID: “abcd1234”;

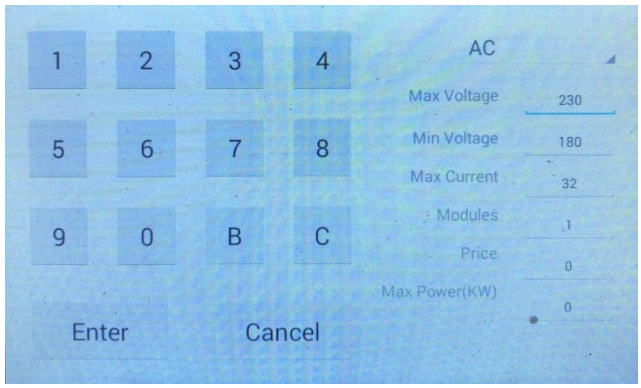
→ Connector name defined: “AC”;

→ On Board1 - Connector1, change CHAdeMO to AC;

→ Disable all other Connectors;

→ Click “Save” to save all changes;

⇒ **Base Setting:** In this menu, you can configure the output values;



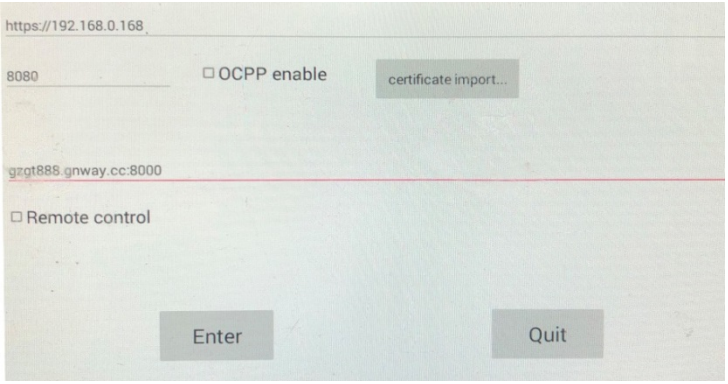
→ Click on “AC1 to configure;

→ To define the maximum voltage, in “Max Voltage”, enter 230; the minimum voltage, click on “Min Voltage, put 180; the maximum current, in “Max Current” put 32; The number of modules in “Modules” place 1;

→ Click “Enter”;

→ Click “Enter” to check each value entered and “Cancel” to cancel the change.

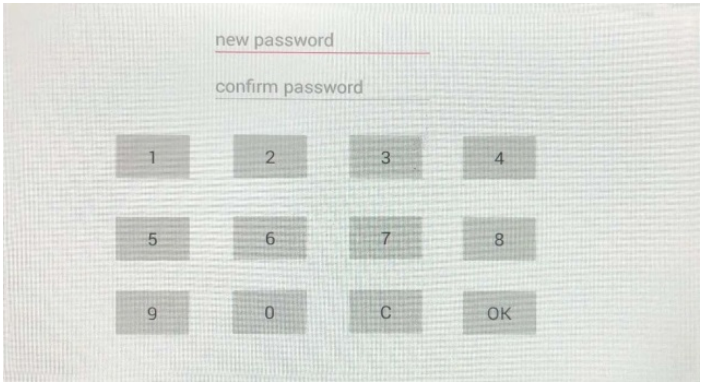
⇒ **Server Setting:** It is mandatory to do this process even if you do not activate OCPP;



→ Click on the default communication address and change https://192.168.0.168 into https://192.168.0.169

→ Click "Enter" to confirm any changes and "Quit" to return to the initial configuration menu.

⇒ **Change the password:** In this menu, you can change the default password to access the hidden settings menu;



→ Click in the “new password” text field and use the numeric keypad to enter a new password;

→ Repeat the password entered in the previous field;

→ Click “OK” to save the new password;

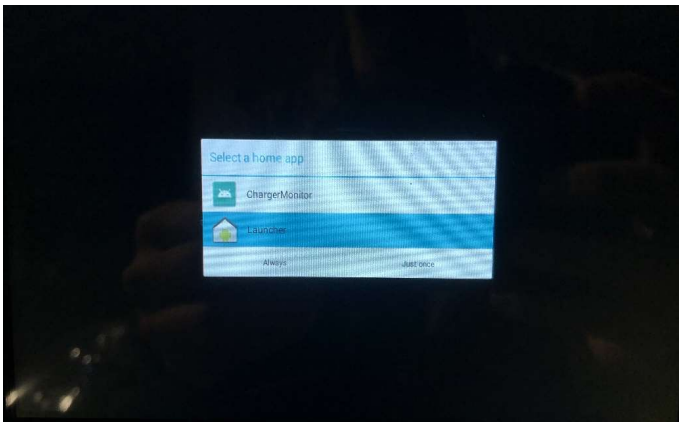
→ Click “C” to cancel the option and return to the initial configuration menu;

→ Keep the new password saved correctly, otherwise you will lose access to the hidden configuration menu.

⇒ **Import Key:** In this menu you have to import a key to authorize the use of RFID cards. If you do not have your key yet, please contact VOLT-E. After clicking on this option, a secondary menu will appear in the middle of the screen and you can select a file to import the key.

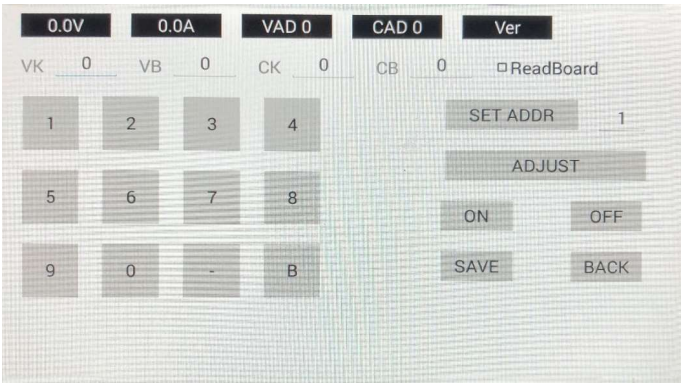
→ After importing the key, turn the station off and on again;

→ At the end of the previous step, the following menu will appear on the screen:



→ Select the option “Charger Monitor” and “Always”.

⇒ **Controller Setting:** The menu below is for maintenance purposes ONLY. DO NOT change the following settings without instructions from qualified personnel.



→ Check the box before “ReadBoard” for Firmware version information;

→ To switch between the two loading plates of the model with two output sockets, click on the content field “1”;

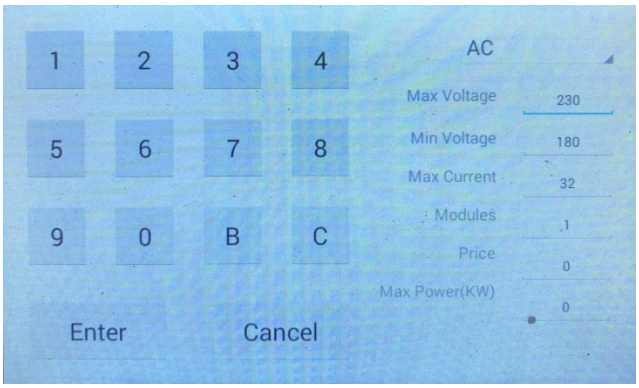
→ Click “Back” to return to the initial configuration menu;

→ For any other advanced settings in this menu, consult qualified service personnel.

→ **DO NOT change any default value without consulting qualified technicians. Inappropriate changes can lead to the failure of the Station.**

6.4. Configure RFID card application (for Basic Software)

⇒ Select the Base Setting menu, to configure the kW value:



→ In the “price” field, select the desired value and press “Enter”;

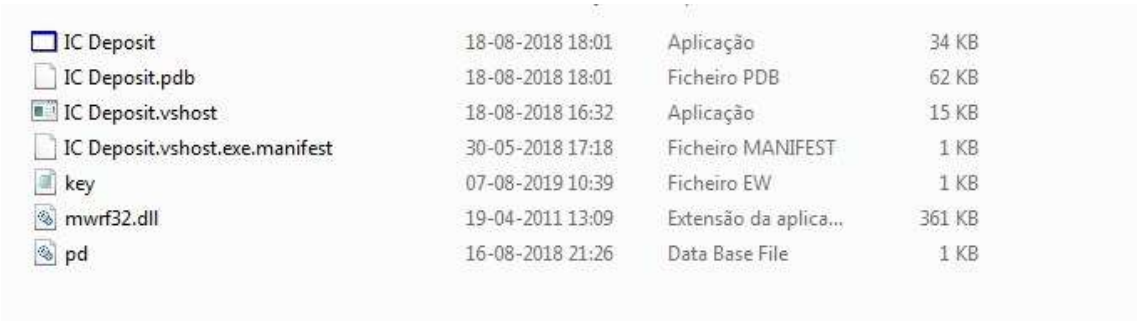
→ After entering the value, press “Enter”.

⇒ To format RFID cards:

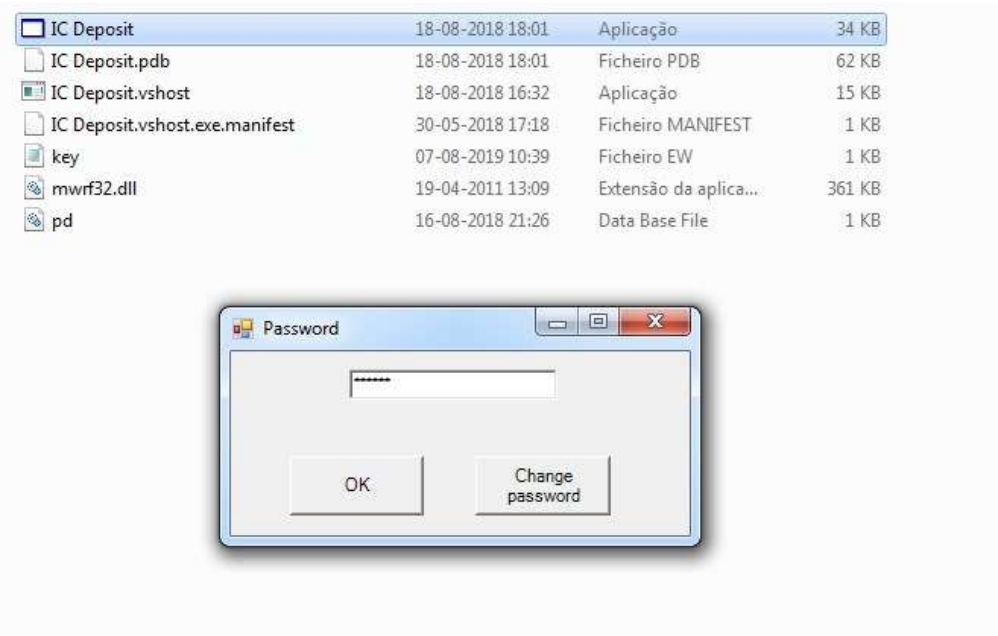
→ To use the RFID card loading software, you need a recent Windows computer;

→ If the computer has an old version of Windows, it is necessary to install the CH341SER application on the computer to use the USB drives;

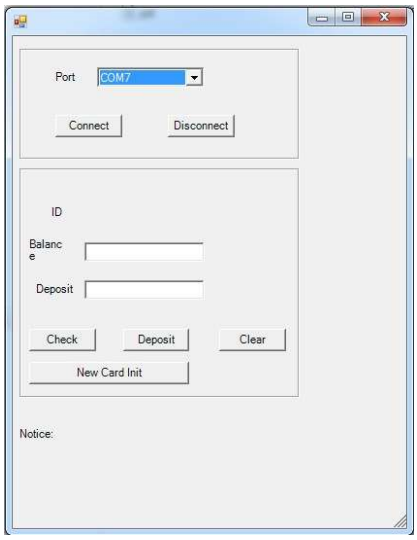
→ After the drives are installed, place all the indicated files in a single folder;



→ Click twice one IC Deposit, enter the password “123456” and select “Ok”;



→ After clicking “Ok” the following window will appear:



→ In the “Port” box, select the port where the “RFID reader” is connected and click “Connect”;

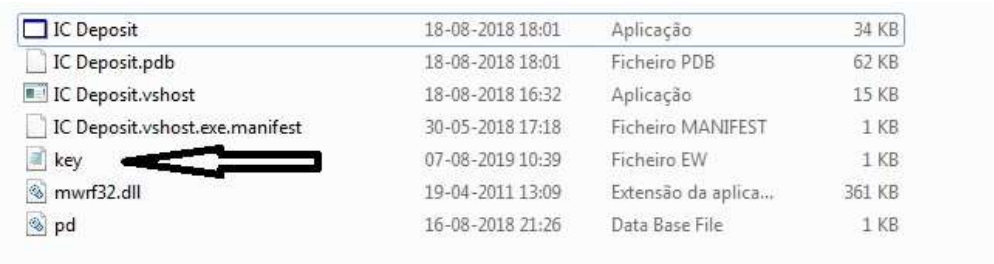
→ Place the new card on top of the machine and click on “New card init” (if it is a new card);

→ Click on “Check” to see the card balance;

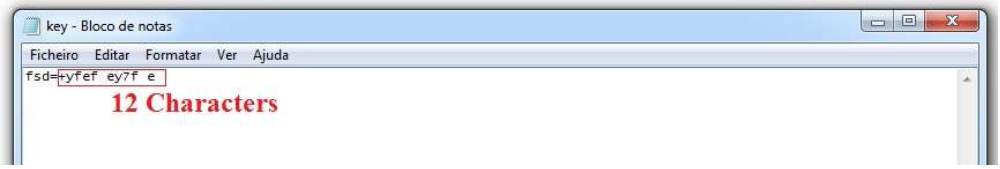
→ Click "Clear" to clear the card balance;

→ Select “Deposit” to add balance to the card;

→ Inside the software folder there is a file called “Key”;



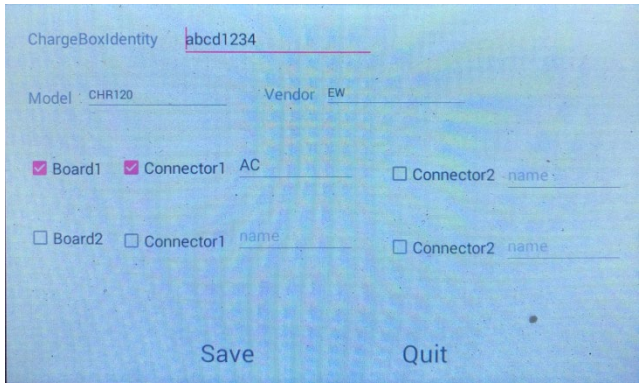
→ Este ficheiro tem 12 caracteres;



→ This file must be imported into the Charging Station, so the use of the RFID card will be linked to it.

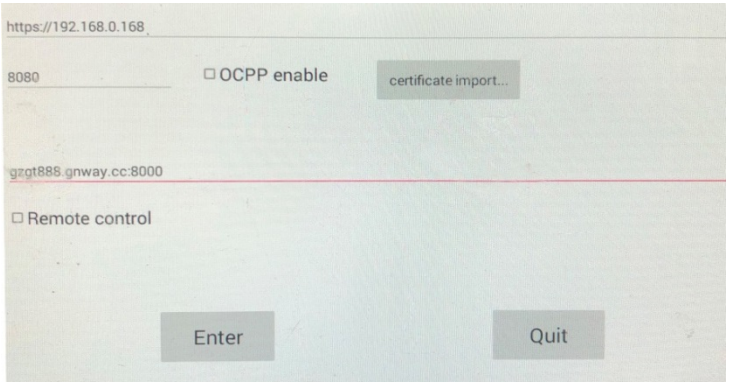
6.5. Configuration for OCPP (only after performing point 6.3).

→ Select “Connector Settings”



→ Change “abcd1234” to the correct “charge box identity” and do “Save”;

→ Select “Server Settings”;



→ Click on the default communication address and change https://192.168.0.168 to the address of the OCPP server.

→ Activate the OCPP “enable”, selecting □;

→ Do not change ANYTHING on the “Remote Control”, nor on its address;

→ Click "Enter" to save.

6.6. Ethernet Connectivity – Cable RJ45

When necessary, it is possible to connect the equipment to a local network through a cable local network, connected to a router or LAN switch. The steps necessary to establish Ethernet connectivity are described below:

→ **Disconnect the network cable -** Disconnect the RJ45 network cable from the Android controller;

→ **Connect to your network -** Connect the network cable you want to the Ethernet terminal of the Android controller;

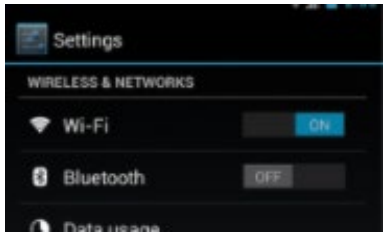
→ **Android secret menu -** is described in section 6.3. of this manual, how to open the Android secret menu, to access its internal settings;

→ **Authenticate yourself -** Put the code by default, or the code you defined to open the menus;

→ **Android Settings** – Choose the Option *Android Settings*;

→ **Menu Wireless & Networks** – Choose the menu*, Wireless & Networks;*

→ **Enable Wi-Fi** – Ensures that the Wi-Fi network interface is OFF;



→ **Restart the equipment –** Physically restart the equipment to ensure that it starts up correctly with the ChargeMonitorApplication application.

6.7. Conectividade Ethernet Connectivity Wi-Fi

When necessary, it is possible to connect the equipment to a local network through a wireless network. The steps necessary to establish Wi-Fi connectivity are described below.

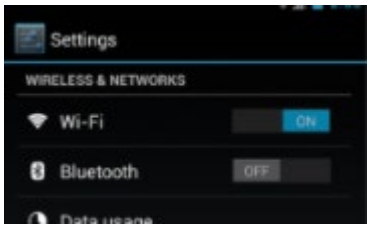
→ **Secret Menu Android** – is described in section 6.3. of this manual, how to open the Android secret menu, to access its internal settings.

→ **Authenticate -** Put the code by default, or the code you set to open the menus.

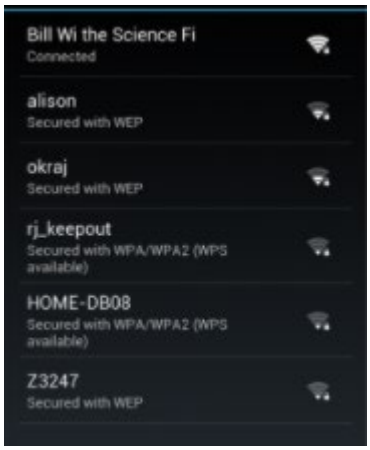
→ **Android Settings** – Choose the option *Android Settings*.

→ **Menu Wireless & Networks** – Choose the menu*, Wireless & Networks.*

→ **Enable the Wi-Fi option -** Ensures that the Wi-Fi network interface is ON.



→ **Select the network -** On the right side, select the SSID of the network you want to connect to. And authenticate with the network password.



→ **Disconnect the Ethernet network** – Disconnect the RJ45 network connector from the Android controller. To ensure that only one network interface forwards packets, thus avoiding future connectivity problems.

→ **Restart the equipment –** Physically restart the equipment to ensure that it starts up correctly with the ChargeMonitorApplication application.

6.8. Connectivity 3G/4G UMTS

If it is necessary to ensure connectivity of the station, in an environment where there is no possibility of connecting to a local network, by wireless or cable, it will always be possible to connect the station via mobile network. This type of connectivity is mandatory in OPC's scenarios, in which it is necessary to establish a connection with the national service management service provider MOBI.E. The UMTS mobile network, with specific parameters, is the way to guarantee the stations access to this private network, which is not accessible through the normal internet network.

This chapter intends to demonstrate how to configure the mobile network at the station.

⇒ **Identify the 4G module inside the station**:

→ Open the Station

→ Search on the left side, behind connector 1;

→ You will find a black ELFIN box, with an RJ45 connection and an antenna connection. Like the one shown in the following figure;

→ **Place the SIM card inside the module. - Using the respective slot, as shown in the figure;**

→ **Put the module back in the equipment -** Place the module inside the equipment in the place where you removed it. Reconnect the RJ45 cable and the 3G / 4G network antenna cable;

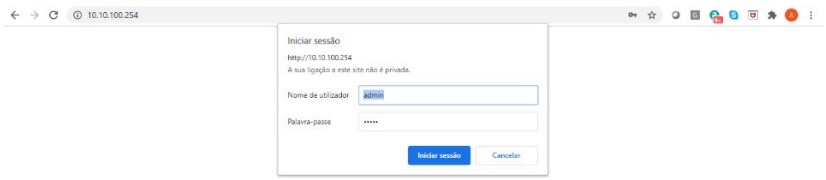
→ **Configure the module –** After inserting the SIM card, and replacing the module back in the device, it is necessary to configure its APN (Access Point Name). This may vary depending on the operator that offers the mobile data service. Or, if applicable, according to the MOBI.E parameters provided for the installation of the station.

⇒ **Connect a PC to the module via Ethernet cable** – Disconnect the RJ45 network cable from the Android controller module (Display) and connect it to your laptop. In this way, he connected the 3G / 4G module to his personal computer.

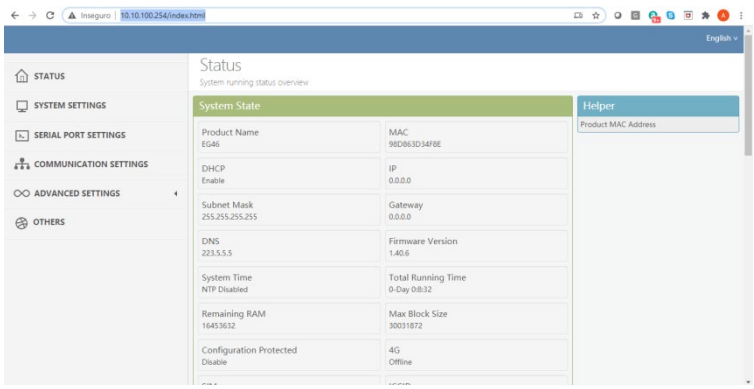
⇒ **Ensure connectivity** – Check in your personal computer settings that the Ethernet network interface is connected.

⇒ **Connect to the module** – Use a browser of your choice to connect to the module. VOLT-E carried out its tests with the Chrome browser. And type the following address in the respective bar http://10.10.100.254.

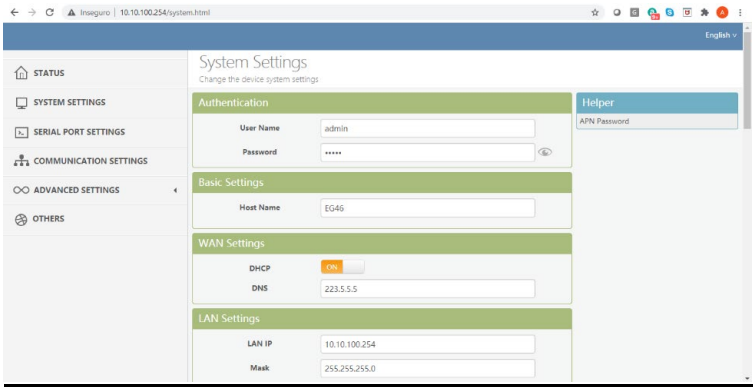
Use the word admin, as user and password.



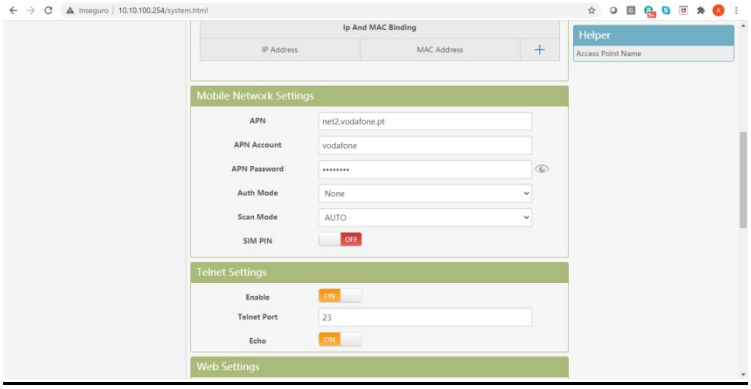
⇒ **Main screen –** After the connection is established, the following screen should be displayed.



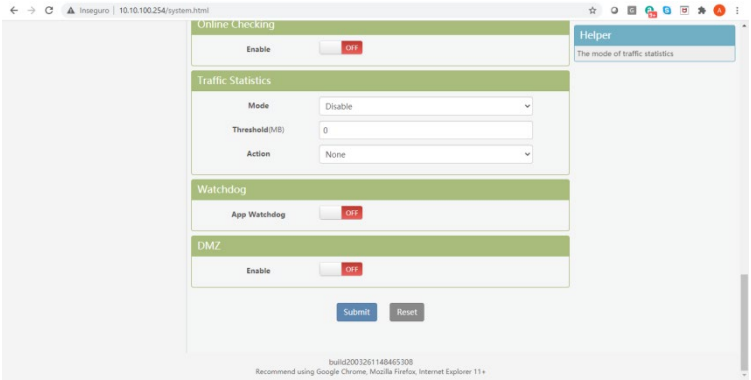
⇒ **Definitions of the system** – Select the option *System Settigns*.



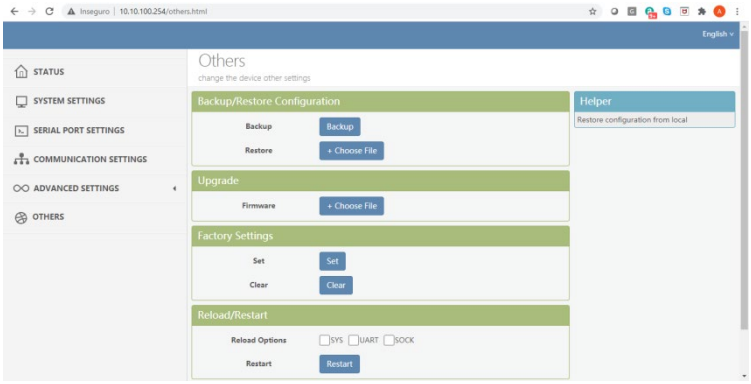
⇒ **Change the APN**– Slide down the System Settings form, and in the Mobile Network Settings group, change the fields: APN, APN Account and APN Password. Enter the data provided to you by the operator. Leave the APN Account and APN Password fields blank, if authentication is not required.



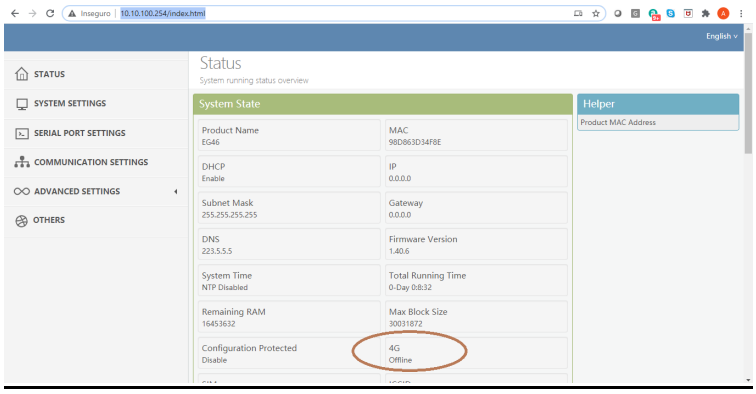
⇒ **Data recording -** scroll through the form until the end and press the Submit button.



⇒ ***Restart the module –*** *One way to restart the module, for the changes to take effect* would be to turn the entire station off and on again. However, this is not necessary, as there is an option / command to perform a restart. To do this, select the Others menu, and press the Restart button.



⇒ **Confirm that the data is correct –** you will experience a period not longer than 5 minutes. Follow step c) and confirm that the data you have entered is changed. After selecting the Status menu, you can check if the 4G section is now online.



⇒ **Disconnect the interface Wi-Fi –** So that the station does not try to forward packets across all of its interfaces, it makes sense to disable the Wi-Fi interface. To do so, enter the secret Android menu, and disable the wireless network interface.

⇒ **Reset the Ethernet cable connection.–** Disconnect the RJ45 cable from your personal computer, and connect it to the device's Android controller. Make a physical restart of the station. This will be ready to connect to the mobile data network.

7. Maintenance

This section provides detailed maintenance recommendations to ensure the best performance and longest mechanical life for the Charging Station.

7.1. Preventive Maintenance

It is advisable to maintain compliance with the specified maintenance plans, which provide cleaning procedures, for the terminals, microswitches, condensers, screen and emergency button. Cleaning should be performed every six Months, or more often, if the charger is installed and operated in adverse environmental conditions, such as excessive dust accumulation.

See the following table for maintenance recommendations:

Operation	Frequency	Estimated Time
Visual verification of the installation	Every 6 months	15 min
Dust cleaning	Every 6 months	30 min
AC input cables	Every 6 months	25 min
Check tightness of the connecting cables	Every 6 months	25 min
Check the microswitches	Every 6 months	20 min
"Stop" button	Every 6 months	5 min

This is the recommended period for normal use. Depending on the working frequency of the Charging Station, the maintenance period may vary to ensure the best performance of the charger. For more information about the maintenance service, please consult the company Volt-E.

7.2. Initialization errors

The following errors may appear when turning on the Station:

→ The monitor does not fire: it may be due to a monitor failure. Check and replace the monitor if necessary.

→ Earth leakage failure: it may be due to a higher current than expected. Disconnect the power supply to force it to restart. If the message continues to appear, contact Volt-E.

→ The charger does not start charging: check the emergency stop button. Turn the emergency button off to allow the charger to function normally.

7.3. Connection inspection

This type of equipment is for electric vehicles, and the AC connection cables must be regularly inspected, especially the wiring and ground conductors connected to the distribution board and the charger terminal. Check that the screws and cables are properly tightened to the specified touch.

7.4. Solution of problems

General	
0x0001	**Emergency button pressed**
0x0002	**DC + and GND insulation failure**
0x0003	**“DC- and GND insulation failure**
0x0004	**isolation device failure**
0x0014	**. Above maximum current**

bit	0	0	0	1(4)	1(3)	1(2)	1(1)	1(0)
(0) Battery overvoltage (0: normal, 1: fault)								
(1) Battery undervoltage (0: normal, 1: fault)								
(2) Battery current deviation error (0: normal, 1: fault)								
(3) High battery temperature (0: normal, 1: fault)								
(4) Battery voltage deviation error (0: normal, 1: fault)								

0x0121 **Over battery voltage voltage**

0xHH22	
HH	

bit	0	0	0	1(4)	1(3)	1(2)	1(1)	1(0)
(0) Vehicle charging enabled (0: disabled, 1: enabled)								
(1) Vehicle shift position (0: Parking position, 1: Other position)								
(2) Charging system fault (0: normal, 1: fault)								
(3) Vehicle status (0: EV contactor closed or welding being detected, 1: EV contactor open or welding detection finished)								
(4) Normal stop request before charging (0: No request, 1: Stop request)								

0x1022 **Normal stop request before full charging**

8. Technical Support

In case of doubts about the installation, operation and maintenance of the charger, contact the Volt-E technical support service. Please go to our official page for more information on the extra technical support package and other customer support services

9.Warranty

Volt-E offers a limited warranty on all its products, against manufacturer defects, except accessories (AC output connectors). The Charging Station is covered by a limited one-year warranty.

9.1. Validity

The guarantee is only valid when:

→ The product is purchased from Volt-E, or its authorized dealers or distributors;
→ The charger cabinet is complete and not opened by non-certified third parties (violation of Void seals);
→ The product is NOT repaired or serviced by a third party, either on property or during the contract period;
→ The product is NOT transferable to third parties, either on property or during the contract period;
→ The plate of characteristics is NOT covered or removed from the product.

9.2. Exclusion

The guarantee does not apply when:
→ Damage or loss caused by modification, alteration, repair by unauthorized third parties;
→ Damage or loss caused by incorrect use by the customer or by people who have access to this product on the customer's premise;
→ Normal wastage;

→ Damage or loss caused by disasters or other sources out of the control of Volt-E;

→ Damage or loss caused by third parties;

→ Damage or loss caused by another device connected to the product;

→ Damage resulting from accidents, misuse, abuse, tampering or customer failure to follow the normal operating procedures described in this installation and use manual;

→ Damage resulting from not respecting the ventilation distance, according to the section “3-Space required”;

→ Damage caused by failure to comply with the maintenance period (carried out every six months), as explained in section “7-Preventive maintenance”;

→ Damage caused by the device connected to the charger to provide a neutral phase (in some countries there is no neutral phase).