# Installation and configuration manual

# Electron Manager v.2

File name: Electron Manager Installation and Configuration Manual

Version: 2.01

Last modified: 31/01/2024

| | | | | |
|---|---|---|---|---|
| Completed:<br>WHAT | Revised: | Approved: | Quality: | |
| Business: | Business: | Business: | Business: | Business: |
| Date:<br>22/05/2023 | | | | |

# VERSION HISTORY

| Version | Author | Date | Modifications |
|---|---|---|---|
| 1.00 | WHAT | 11/07/22 | Creation of the document. |
| 1.01 | WHAT | 22/05/23 | Add connection with SM34 |
| 2.00 | AVA | 31/01/24 | Consumption measurement system. |
| 2.01 | CPP | 24/12/25 | Remote charger update |

## Tabla de contenido

# 1. SAFETY WARNINGS

- The installation and maintenance of the equipment must be carried out by qualified and properly trained personnel.

- Strictly comply with current safety regulations in accordance with the standards of your country.

- Installation and/or maintenance personnel must be properly protected against the risks of accidents caused by direct and indirect contact.

- Before handling the equipment, make sure it is not connected to the electrical network.

- Check that the equipment is permanently connected to the ground connection of the installation and that it complies with the requirements indicated in the current regulations.

- The installation must be checked at least once a year by a qualified technician.

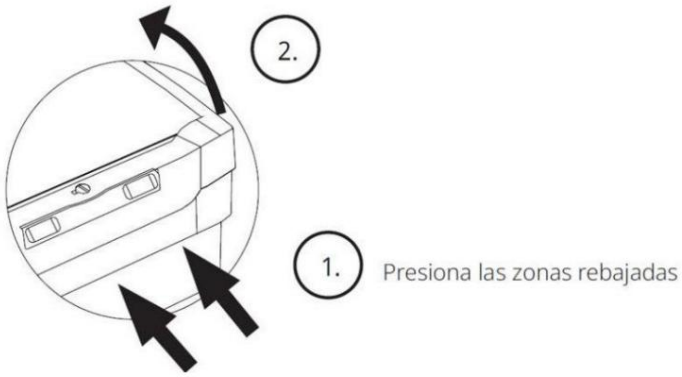
- Use only genuine Simon SAU accessories and spare parts

- Simon SAU is not responsible for damages that may be caused by improper use of the equipment, as well as manipulations that modify the original state of the equipment.

- Do not install near areas where water or other liquids may penetrate. on the team.

# 2. INSTALLATION

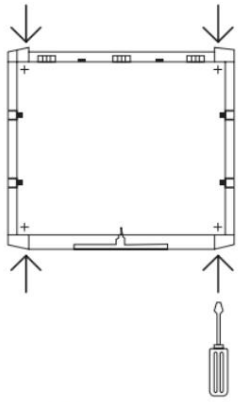
## 2.1 Team Opening




## 2.2 Equipment Placement

- Mark the holes on the wall using a pencil or a pointed object.

- Screw the equipment to the wall, from inside the Electron Manager.



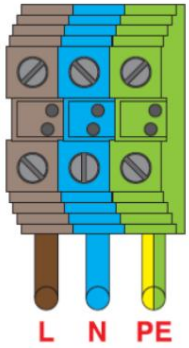
Tapa del equipo abierta

* Screws not included (may vary depending on the type of surface).

## 2.3 Power connection

To carry out the installation, the instructions defined in the Low Voltage Electrotechnical Regulations must be followed.

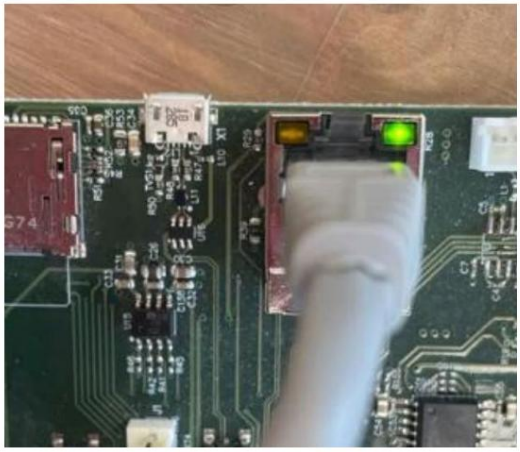
- Connect the equipment to a 230V power supply.




- If deemed necessary, install a cable gland to maintain the IP protection rating of the equipment.

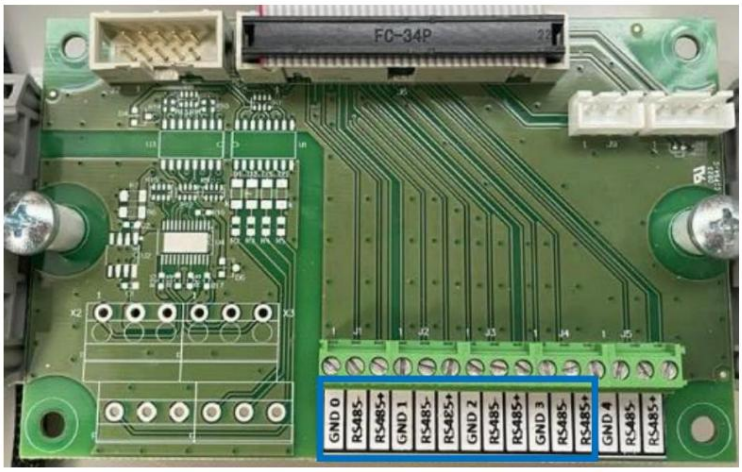
## 2.4 Communications connection

### 2.4.1 Ethernet connection with external servers



- Connect the Ethernet cable to the RJ45 connector on the electronics.

### 2.4.2 RS485 connection with chargers



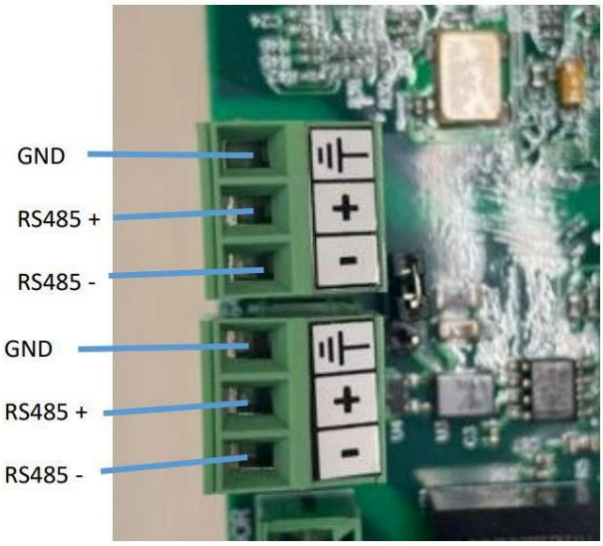

- Connect the chargers via an RS-485 bus on channels 0, 1, 2, and 3 of the Electron Manager. It is recommended to use 2x0.5mm² twisted-pair, shielded cable with ferrules, connecting the cable shield to GND.

Each Electron Manager channel can connect up to 32 sockets (16 double socket devices).

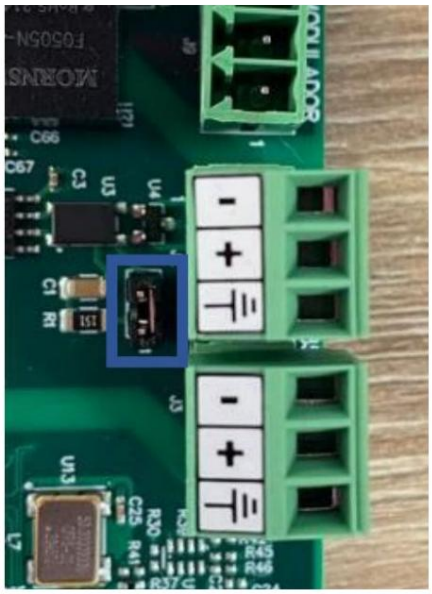
**Connection example**

**RS485 connection on Neon and SM20 equipment:**

- Connect the RS485 bus to the electronics, it doesn't matter which one is used as an input or exit.

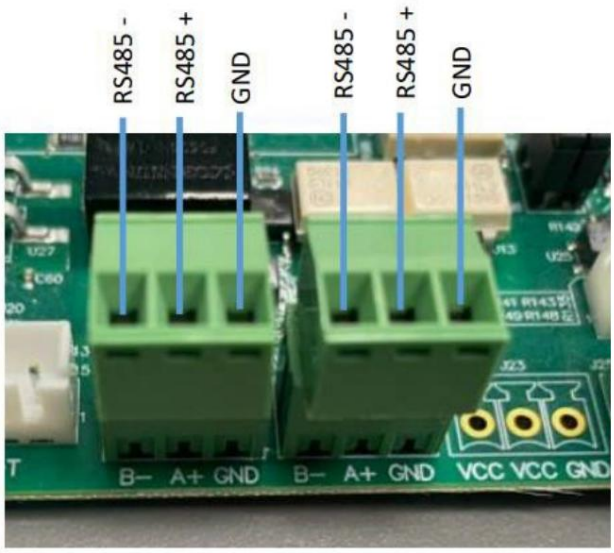



- On the last device of the RS485 bus, jumper J1 must be closed to connect the terminating resistor.

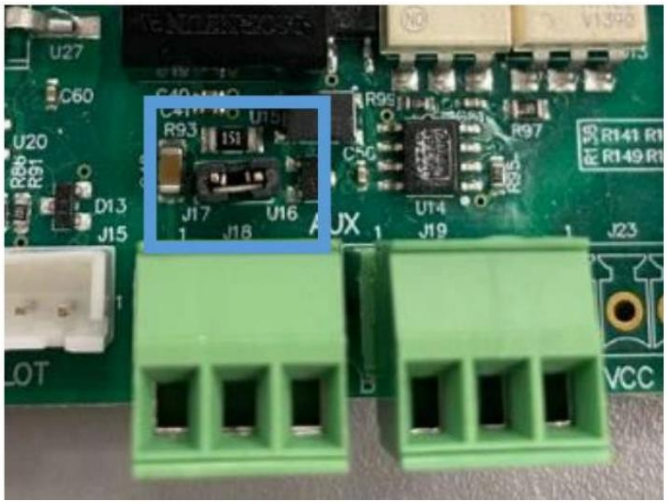


**RS485 connection on SM34 equipment:**

- Connect the RS485 bus to J18 and J19 of the electronics, it doesn't matter which one is used for input or output.




- On the last SM34 of the RS485 bus, jumper J17 must be closed to connect the terminating resistor.



### 2.4.3 RS485 connection with network meters

To perform intelligent power balancing with the installation, one or more network meters must be installed. Use only network meters supplied by Simon SAU.

The references are as follows:

**SINGLE-PHASE METERS**

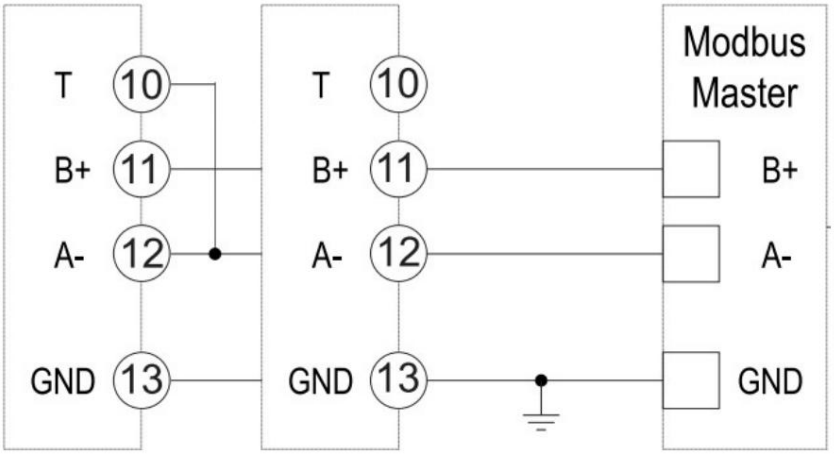
| Referencia<br>Reference | Capacidad máxima<br>Maximum capacity |
|---|---|
| 0691100-000 | 100A |
| 0691200-000 | 200A |
| 0691300-000 | 300A |

**THREE-PHASE METERS**

| Referencia<br>Reference | Capacidad máxima<br>Maximum capacity |
|---|---|
| 0692100-000 | 100A |
| 0692200-000 | 200A |
| 0692300-000 | 300A |
| 0692600-000 | 600A |
| 0692M00-000 | 1000A |

- Connect the meter network via RS485 to channel 4 of the Electron Manager. It is recommended to use 2x0.5mm² twisted-pair, shielded cable with ferrules, connecting the cable shield to GND.

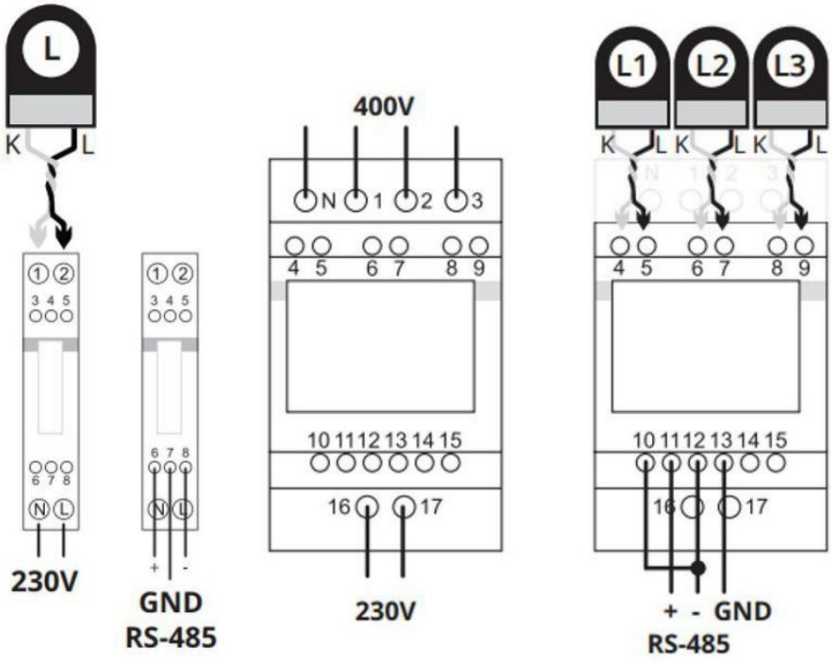
- For correct measurement of lines R, S, T see HI ACC.SPL.
  For correct connection of the Modbus network using RS485, the structure of the following diagram must be followed.




The serial output must be terminated at the terminals of the last connected device on the network. This means that terminating resistors must be placed between terminals A- and T at the end of the RS485 bus to prevent signal reflection problems.

The Electron Manager is the Modbus Master of the system and already includes the terminating resistor as standard.

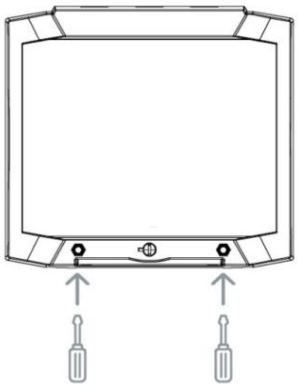

- The connection of the RS485 bus to the meters must be carried out following the following scheme:




## 2.5 Team Closure

- Press the lid of the device from the bottom until it is closed.


- Once the box is closed, screw it in with the two screws included.



# 3. CHARGER CONFIGURATION

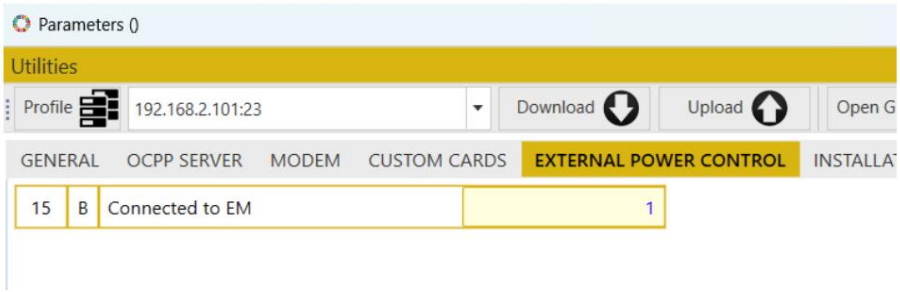
## 3.1 Neon / SM20 Configuration

Consult the GenIO Configuration Manual to configure the equipment.

- Update the chargers to the latest firmware version. Consult with SIMON.

- Configure the charger parameters following the *GenIO Configuration Manual.*

**Attention!** Set the *Connected to EM* parameter to 1 to establish communication between the chargers and the Electron Manager:

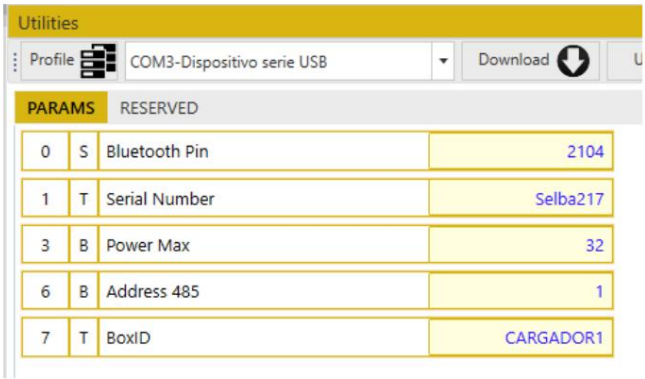



## 3.2 SM34 Configuration

Consult the GenIO Configuration Manual to configure the equipment.

- Update the chargers to the latest firmware version. Consult with SIMON.

- Configure the charger parameters to communicate with the Electron Manager.



PARAMS

• RS485 Address: Each charger must have a different RS485 address, which must be specified in the Electron Manager configuration. The RS485 address must be between 1 and 199, never using **100.**

• BoxID: the name we give to the device. If the device is connected to an OCPP server, it must match the one configured on the server and must be unique for each loader.

# 4. MEASUREMENT SYSTEM CONFIGURATION CONSUMPTION

For a better understanding of the meter nomenclature, the different power levels that appear in this section and the objective sought, see ANNEX I.

The address parameter of the meters must be configured. For this, see Annex II.

## 4.1 Single-phase installations

For the diagrams shown in this section, please note:

- The dashed lines show RS485 communication. Chl 0, Chl 1, Chl 2 and Chl 3 are reserved for chargers and Chl 4 for meters.

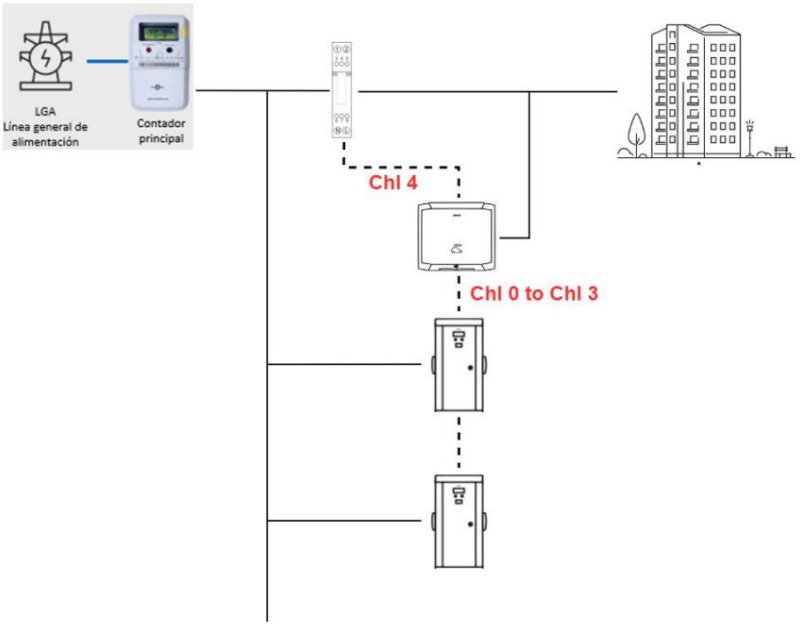
- Thin solid lines show single-phase current.

The meter configuration must display the Building Power in order to determine the Balanced Power with which EM can act on the charging points.

### 4.1.1 Single-phase installation where there is a meter that indicates the Building Power.

No additional meters need to be installed. The difference between that reading and the contracted power gives us the balanced power.

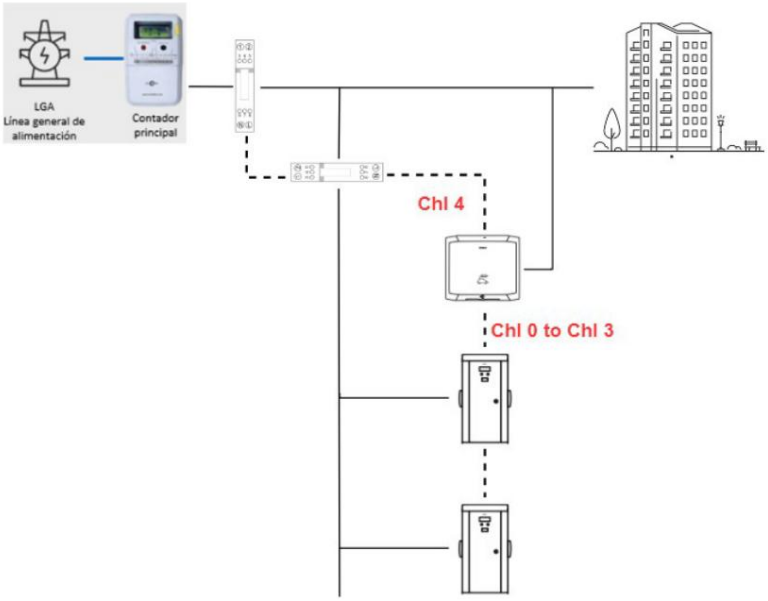
This is the recommended configuration for single-phase installations whenever the circumstances allow it.



### 4.1.2 Single-phase installation where there is a meter that indicates Total Power Consumed.

An additional meter must be installed to calculate the power of the charging points in order to operate on the Total Power Consumed reading and determine the balanceable power.

- Option 1: Add a local power consumption meter for the chargers without having in account for the building's consumption.




## 4.2 Three-phase installations

For the diagrams shown in this section, please note:

- The dashed lines show RS485 communication. Chl 0, Chl 1, Chl 2 and Chl 3 are reserved for chargers and Chl 4 for meters.

- Thin solid lines show single-phase current.

- The thick solid lines show three-phase current.

The meter configuration must display the Building Power in order to determine the Balanced Power with which EM can act on the charging points.

At three-phase charging points, chargers must maintain the same RST phase order to ensure proper power balancing. This order must match the phase order of the analyzer.

**Important note:**

When installing the three-phase meter to measure 1 or 2 lines (R, RS, RT, S, ST, T) the wiring in the meter must be done on the correct line.

Examples:

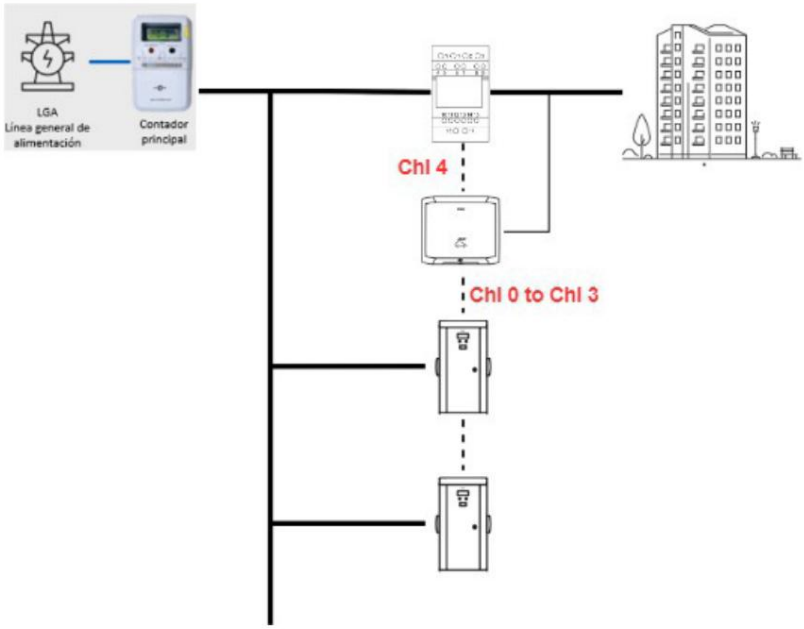
- If we are only measuring line S, it must be connected to the second terminal (the neutral must always be connected to its reserved terminal). Chargers must be connected to line S to perform power balancing correctly.

- If we measure lines R and T, line R should be connected to the first terminal and line T to the third terminal (the neutral must always be connected to its reserved terminal). The chargers must be connected to phases R and T to ensure proper power balancing.

### 4.2.1 Installation with three-phase chargers where there is a meter that indicates Building Power.

No additional meters need to be installed. The difference between that reading and the contracted power gives us the balanced power.

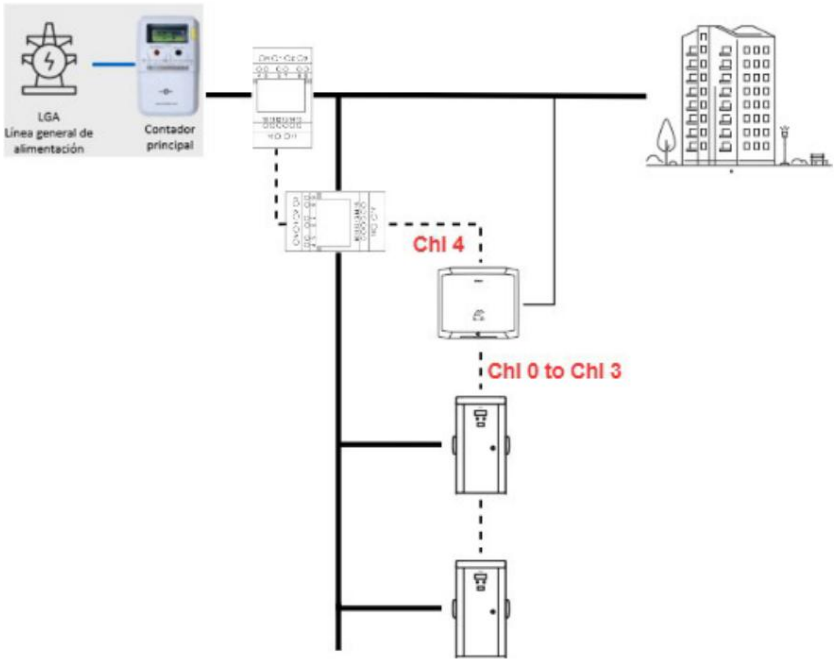
This is the recommended configuration for three-phase installations whenever the circumstances allow it.



### 4.2.2 Installation with three-phase chargers where there is a meter that indicates the Total Power Consumed.

An additional meter must be installed that calculates the power of charging points or the building's power in order to operate on the Total Power Consumed reading and determine the balanceable power.

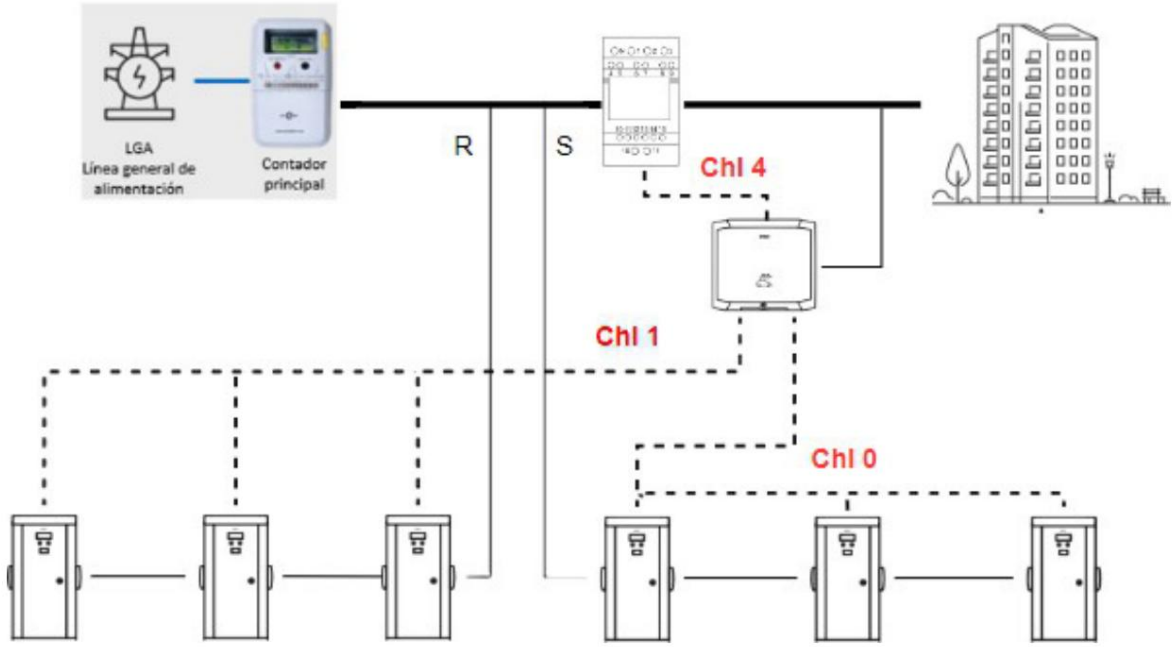
- Option 1: Add a local power consumption meter for the chargers without having in account for the building's consumption.




### 4.2.3 Three-phase installation with single-phase chargers where there is a meter that indicates the Building Power.

No additional meters need to be installed. The difference between that reading and the contracted power gives us the balanced power for each of the lines.

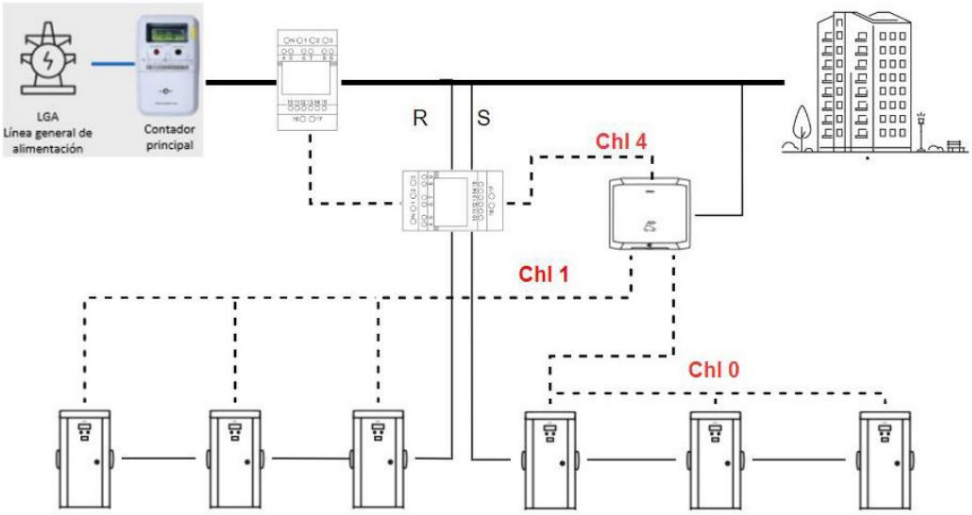
This is the recommended configuration for three-phase installations with single-phase chargers whenever the circumstances allow it.




### 4.2.4 Three-phase installation with single-phase chargers where there is a meter that indicates the total power consumed.

An additional meter must be installed to measure the power of load points in order to operate on the Total Power Consumed reading and determine the balanceable power.

- Option 1: Add a local power consumption meter for the chargers without having in account for the building's consumption.

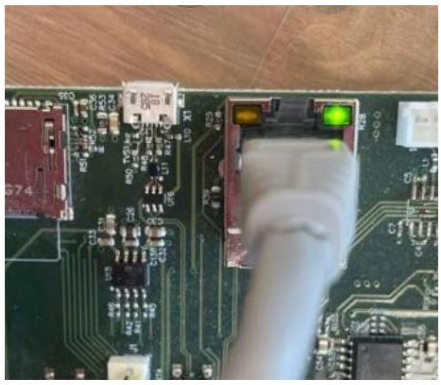


# 5. ELECTRON MANAGER CONFIGURATION / DISPLAY

## 5.1 Required materials / Server access

To configure Electron Manager, you will need a computer with an Ethernet port (or use an Ethernet-to-USB adapter) and an Ethernet cable.

- Connect the Ethernet cable to the RJ45 connector on the electronics.

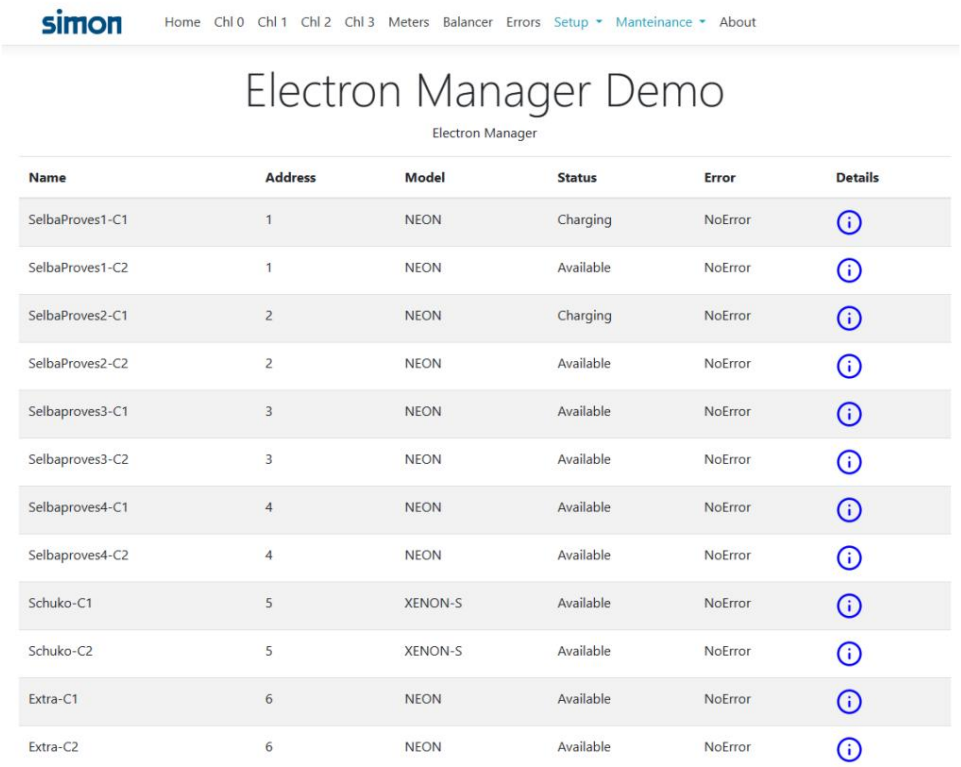


- Open a browser (Google Chrome or Microsoft Edge) and type the following into the address bar: http://192.168.1.119, will access the Electron Manager Configuration Web Browser.

## 5.2 Display Screens

### 5.2.1 Home, Chl 0…Chl 3

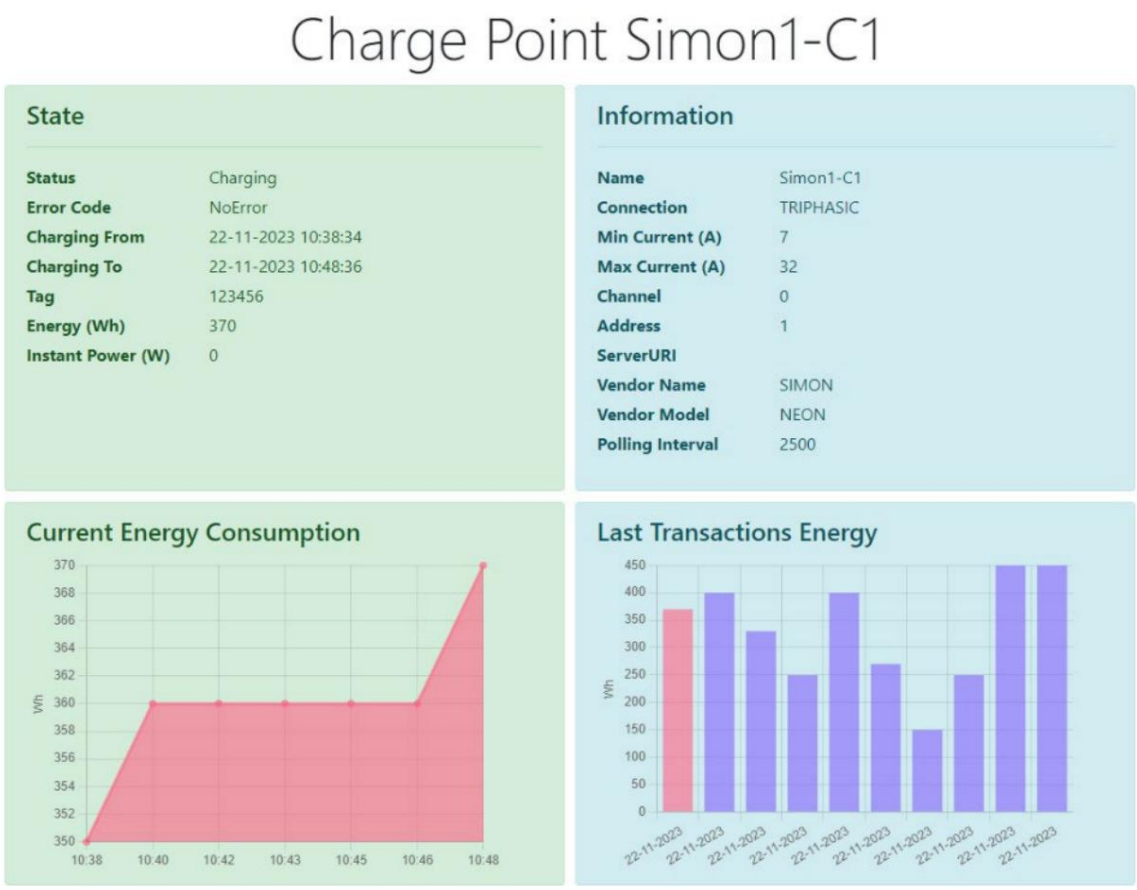
By accessing the URL http://192.168.1.119, You will be able to see the web server's *home* screen . Here, the different chargers in the installation will be displayed. If you have devices with dual outlets, you will see that there are two charging connectors for the same device. You can also see the device model, the status of the chargers, and if the charging point has any errors.




| Name | Address | Model | Status | Error | Details |
|---|---|---|---|---|---|
| SelbaProves1-C1 | 1 | NEON | Charging | NoError | |
| SelbaProves1-C2 | 1 | NEON | Available | NoError | |
| SelbaProves2-C1 | 2 | NEON | Charging | NoError | |
| SelbaProves2-C2 | 2 | NEON | Available | NoError | |
| Selbaproves3-C1 | 3 | NEON | Available | NoError | |
| Selbaproves3-C2 | 3 | NEON | Available | NoError | |
| Selbaproves4-C1 | 4 | NEON | Available | NoError | |
| Selbaproves4-C2 | 4 | NEON | Available | NoError | |
| Schuko-C1 | 5 | XENON-S | Available | NoError | |
| Schuko-C2 | 5 | XENON-S | Available | NoError | |
| Extra-C1 | 6 | NEON | Available | NoError | |
| Extra-C2 | 6 | NEON | Available | NoError | |

- Click on *Chl 0, Chl 1, Chl 2* or *Chl 3* to view the information that appears in the *Home* tab filtered by the different channels that Electron Manager supports.

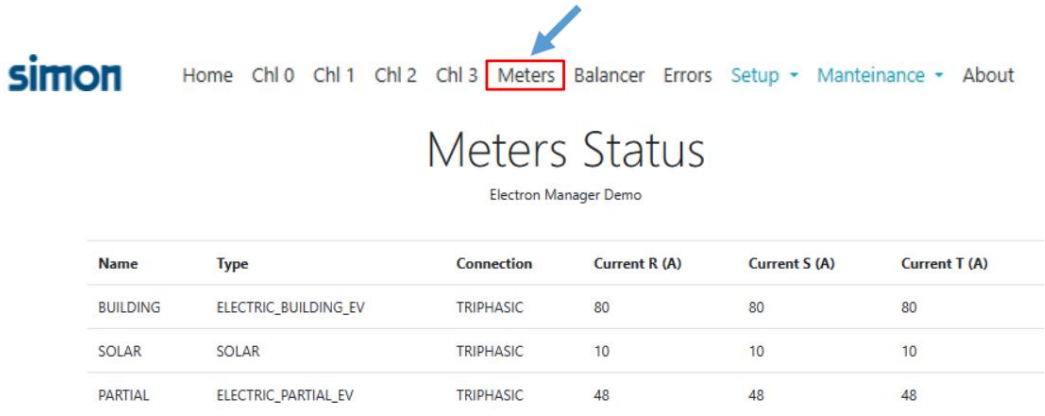

When you press the charging button.  You can access the display of advanced parameters of the point of




The energy supplied in the last transaction will be shown in the *Last Transactions Energy* chart in pink for clarity.

### 5.2.2 Meters

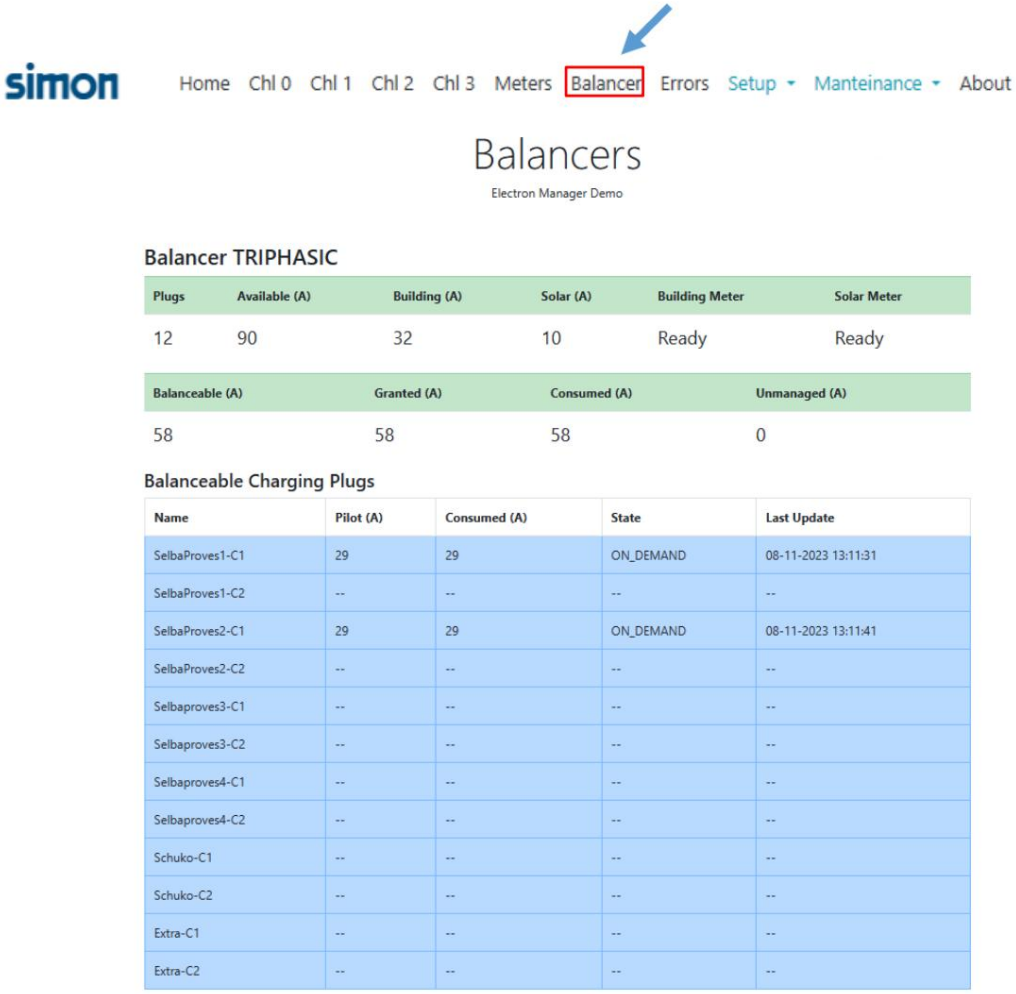
- Click on the *Meters* tab to display the information from the meters of the installation.




This page will show the meter type, the connection type, and the current flowing through each of the meter lines (R, S, or T).

### 5.2.3 Balancer

- Click on the *Balancer* tab to view all power values
  relevant aspects of the installation.




**Plugs:** Number of sockets.

**Available:** Maximum current of the installation (Grid power + Solar production).

**Building:** Current consumed by the building.

**Solar:** Current produced by solar panels.

**Building Meter:** Ready when the meters are correctly configured. Error in any other case.

**Solar Meter:** Ready when the solar meter is correctly configured. Error in any other case.

**Balanced:** Current that can be used in the chargers of the installation.

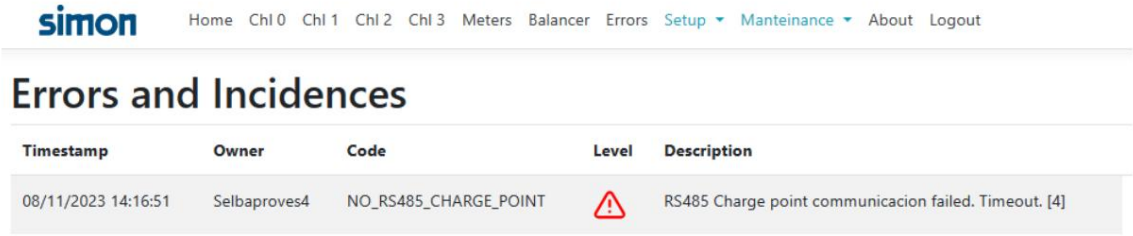
**Granted:** Current granted to the chargers of the installation.

**Consumed:** Current consumed by the chargers in the installation.

**Unmanaged:** Current reserved for chargers that have lost communication with the Electron Manager.

### 5.2.4 Errors

- Click on the *Errors* tab to see a list of errors and incidents in the installation.




The complete list of possible errors is as follows:

| Code | Description | Explanation |
|---|---|---|
| NO_RS485_CHARGE_POINT | RS485 Charge point communicacion failed. Timeout. | There is no communication between the EM and the charger with direction [X] |
| NO_RS485_ENERGY_ANALYZER | RS485 Energy analyzer communicacion failed. Timeout. | There is no communication between the EM and the meter with direction [X] |
| NO_OCPPSEVER_COMMUNICATION | OCPP Server communicacion failed. Review URL and internet connection. | There is no communication between the EM and the OCPP server. Check the URL from the server and the connection a internet. |
| NO_INTERNAL_COMMUNICATION | Internal communication with STM failed. | Internal failure of Communication. Contact us customer service by Simon. |
| DUPLICATE_RS485_ADDRESS | RS485 Address is duplicated. Review charge points setup and restart the system. | There are 2 directions duplicates. Check the charging points and restart the service. |
| NO_COMMUNICATION_EMSLAVE | No Communication with Slave Electron Manager. | It can only appear in facilities of a Special. It is outside the scope of the manual. |
| NO_COMMUNICATION_EMMASTER | No Communication with Master Electron Manager. | |

| | | |
|---|---|---|
| NO_TCP_ENERGY_ANALYZER | TCP Energy analyzer communicacion failed. Timeout | There is no communication between the EM and the meter with IP [X]. |

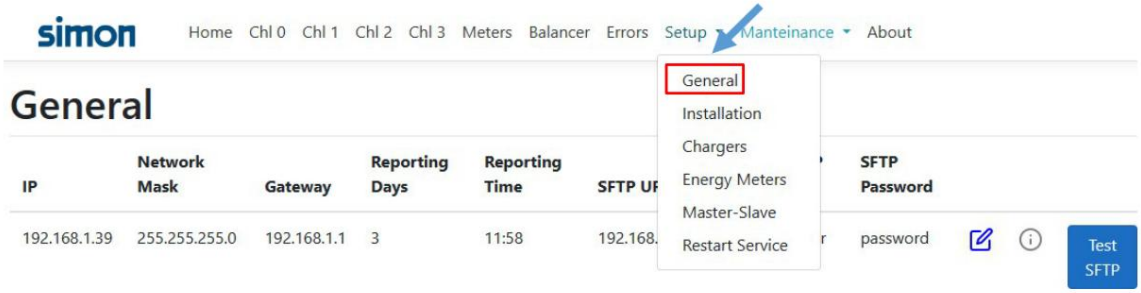
## 5.3 Setup

### 5.3.1 General

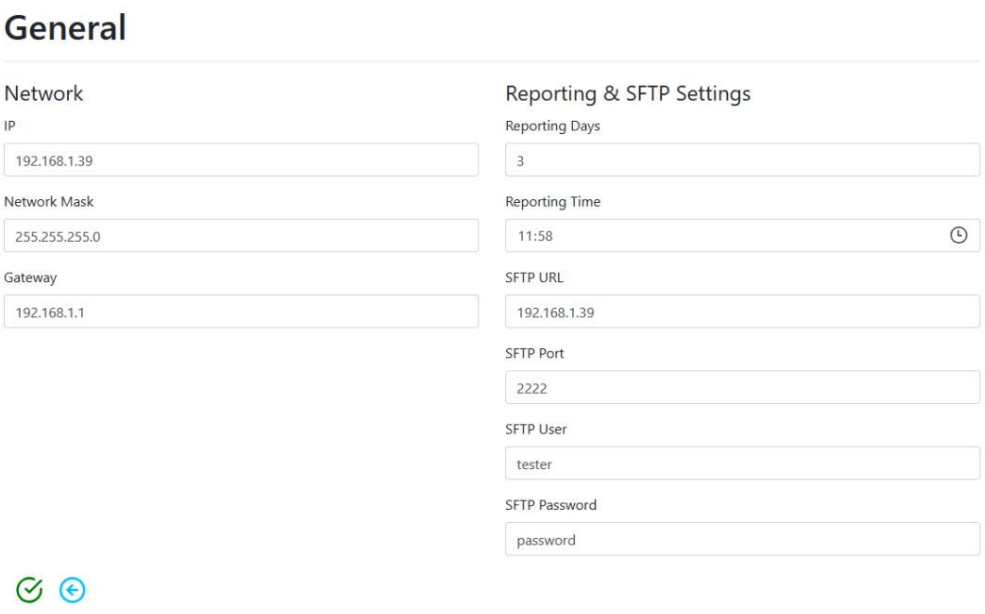
**Important note:** For any configuration changes to take effect, you must Access *Maintenance, Restart Service* to perform a service restart.

- To begin the setup process, go to the *Setup tab, General*

and click on the icon 



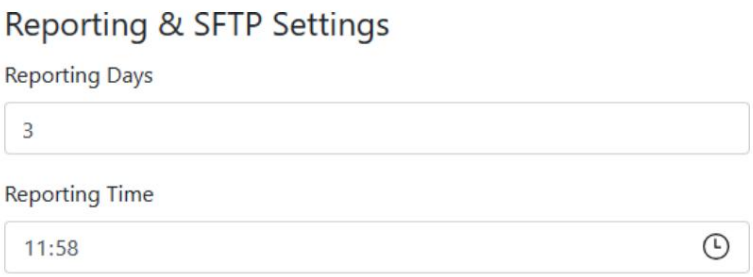

The following screen will appear where the fields can be edited:




Enter the network parameters for the installation:


The Electron Manager automatically generates a data file, with information about the Transactions that will be automatically sent to an SFTP server. For more information about How to configure an SFTP server, see APPENDIX III.

- Configure the time we want this file to be sent *(Reporting Time)* and How many days should the summary *(Reporting Days) cover?*




In order for the file to have information on the energy consumed (Wh) of all equipment The installation must have a MID energy meter, included as standard in the equipment Neon, SM20 and some SM34 models.

| TRANSACTION_ID | BOX_ID | CONNECTOR | NAME | TAG | FROM | TO | ENERGY |
|---|---|---|---|---|---|---|---|
| 3150002 | 1 | 1 | T101-C1 | 44CA19CD | 15/03/2022 11:13 | 15/03/2022 13:19 | 13200 |
| 3150005 | 1 | 2 | T101-C2 | 74BE19CD | 15/03/2022 13:22 | 16/03/2022 15:37 | 8500 |
| 3150007 | 1 | 1 | T101-C1 | 44CA19CD | 15/03/2022 14:43 | 16/03/2022 15:37 | 3800 |
| 3150008 | 2 | 2 | T102-C2 | 74BE19CD | 15/03/2022 14:44 | 15/03/2022 15:47 | 6400 |
| 3150009 | 2 | 1 | T102-C1 | 44CA19CD | 15/03/2022 11:47 | 15/03/2022 14:48 | 18500 |

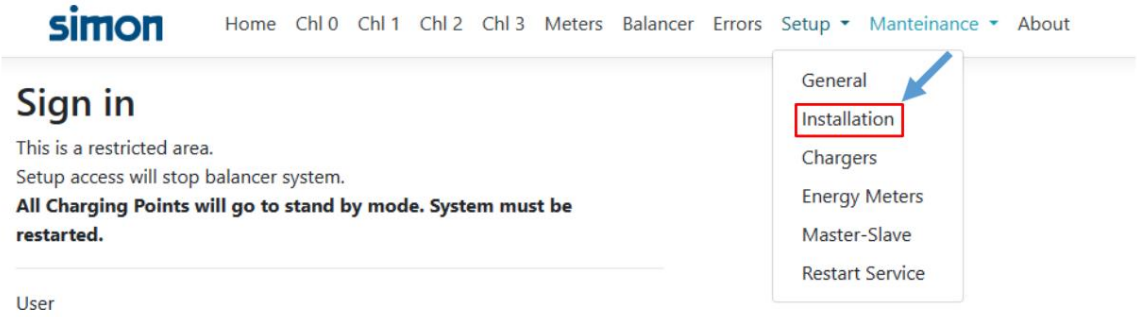
- Configure the parameters of the SFTP server where you want to receive the information from transactions.


These fields can be left blank if you do not need to have a summary of the recharges made.

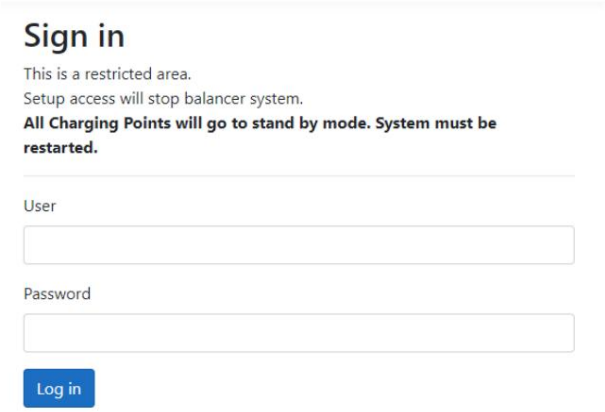
- Pulse  to save all changes made.

### 5.3.2 Installation

- To continue with the setup, click on the *Setup tab, Installation:*




The following screen will appear:




- Enter:

  User: **root**

Password: **2468**

- Click on *Log in.*
- It will appear in the *Installation Power window.* Edit the parameters according to the installation.

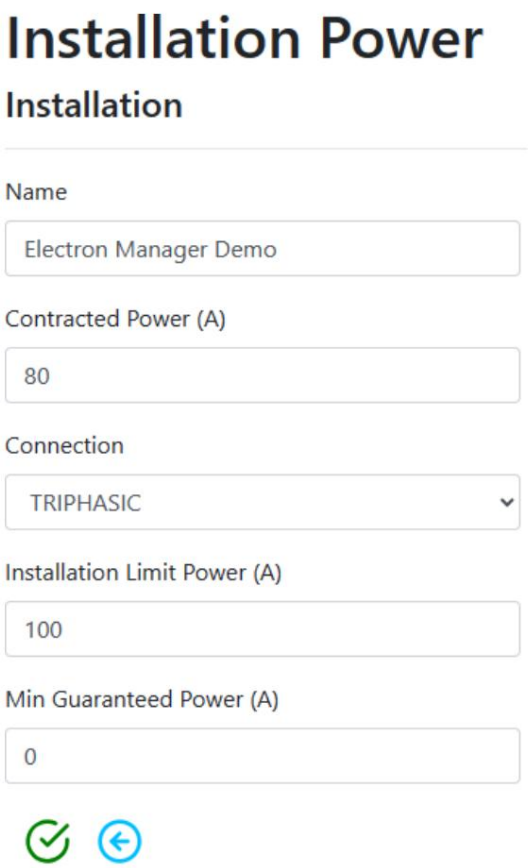
**Name:** the name we give to the installation.

**Contracted Power:** contracted intensity in the installation.

**Connection:** Configure if the installation is single-phase three-phase.

**Installation Limit Power:** Maximum current for the that the Electron installation is sized Manager and the charging points.

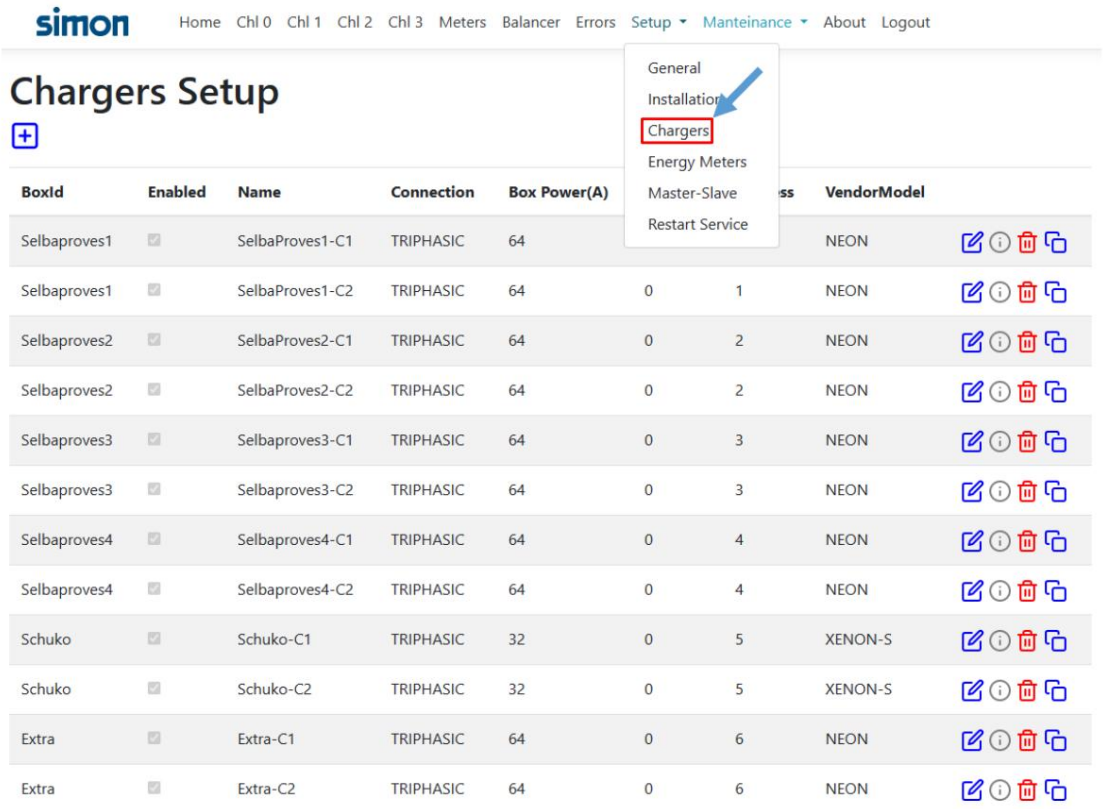
**Minimum Guaranteed Power:** Minimum current that is will be able to supply chargers at any casuistry.




- Pulse to save all changes made.

### 5.3.3 Chargers

- To continue with the setup, click on the *Setup tab, Chargers:*




- A screen similar to this will appear; the list will be empty if it is the initial configuration.

del Electron Manager. Pulse  to add new chargers.

The supported chargers that can be managed with Electron Manager are:

| | |
|---|---|
| NEON | Simon NEON charging point with two sockets T2. |
| NEON-1C | Simon NEON Charging Point with one T2 socket. |
| SM20 | Simon SM20 charging point with one T2 socket. |
| SM20-S | Simon SM20 charging point with two sockets (T2 + Schuko). |
| SM34 | Simon SM34 charging point with one T2 socket. |
| XENON | Simon XENON charging point with two sockets T2. |
| XENON-1C | Simon XENON Charging Point with one T2 socket. |
| XENON-S | Simon XENON Charging Point with two sockets (T2 + Schuko). |

- All chargers in the installation will need to be added. If they are two-socket units, the two sockets (C1, C2) will be created automatically. The following data must be entered for each socket:

**BoxId:** In the case of a connected installation

With an OCPP server, it has to be the same BoxId

from the OCPP server.

**Name:** the name we give to the charger, this name

It is established to facilitate identification by the

facility administrator.

**Connection:** Select whether the charger is single-phase or

Three-phase. It is not possible in single-phase installations.

modify this value, since all points of

The load will be created with a single-phase connection.

In three-phase installations, the following must be selected

TRIPHASIC if the point is three-phase or the line

three-phase R,S,T as appropriate, when the charger

connected is of the single-phase type.

**MinCurrentSetPoint:** minimum intensity of the input.

**MaxCurrentSetPoint:** maximum intensity of the input.

**Box Power (A):** maximum charger current.

**Channel:** RS485 channel through which the

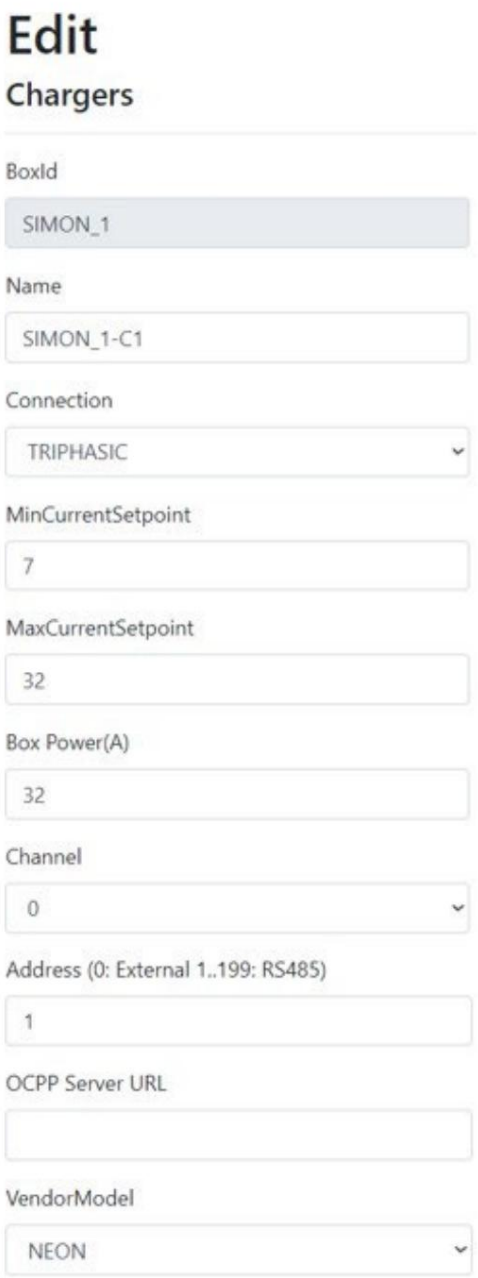
charger to Electron Manager.

**Address:** RS485 address of the charger. You must

match the RS485 address configured in the

Charger. Address values between 1 and 199

excluding 100.




**OCPP Server URL:** This should only be added when Electron Manager is connected to a

OCPP server. Defines the loader endpoint in the server's address space

OCPP. The URL must be written with the corresponding websocket prefix ws://

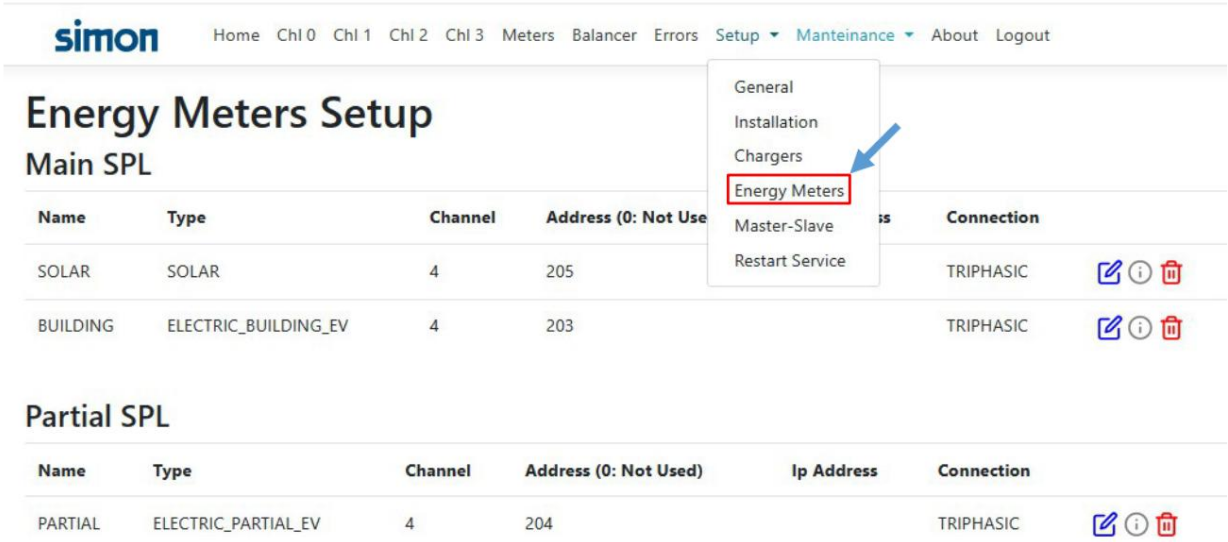
Ejemplo: ws://ocpp.placetoplug.com:80/16-json/

**VendorModel:** Select charger model.

- Pulse  to save all changes made.

### 5.3.4 Energy Meters

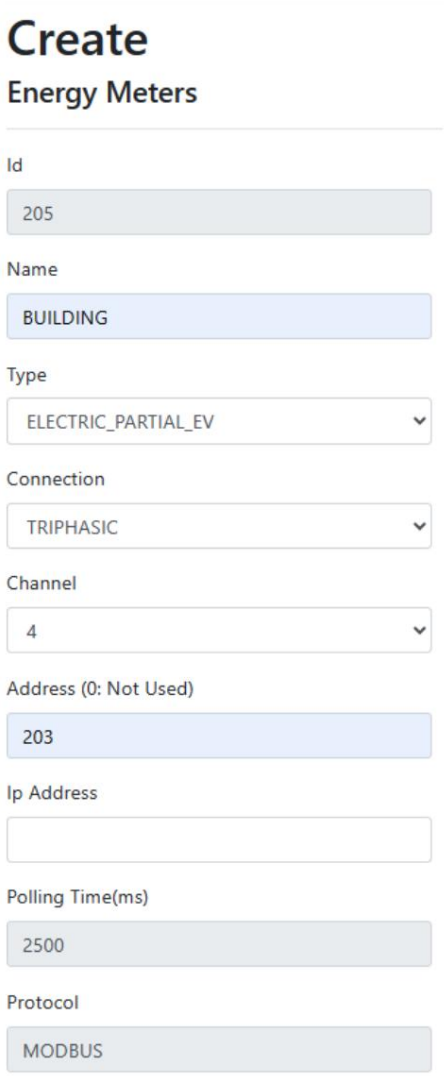
- To continue with the setup, click on the *Setup tab, Energy Meters:*




A screen similar to this will appear; the list will be empty if it is the initial configuration of the Electron Manager.

On this screen you can add main meters or partial meters. The main meters form the basis. of the measurement system and the partials complement the information in the case that they are necessary.

- Pulse  to add new meters or  to modify the configuration of existing ones.




**Name:** The name we give to the energy meter.

**Type:**

**Main SPL.** ELECTRIC_BUILDING, ELECTRIC_BUILDING_EV o SOLAR

**Partial SPL.** ELECTRIC_PARTIAL_EV_ BUILDING, ELECTRIC_PARTIAL_EV. See ANNEX I to determine what type of meter is being configured.

**Connection:** Type of consumption that the meter reads (Monophasic, Triphasic, R, S o T).

**Channel:** RS485 channel through which the meter to Electron Manager (Always channel 4).

**Address:** RS485 address of the meter. Configure values between 200 and 210. See ANNEX II.

**IP Address:** IP address of the meter.

**NOTE: Configure the *Address*** parameter **or the *Ip*** parameter ***Address.* Never configure both parameters.**

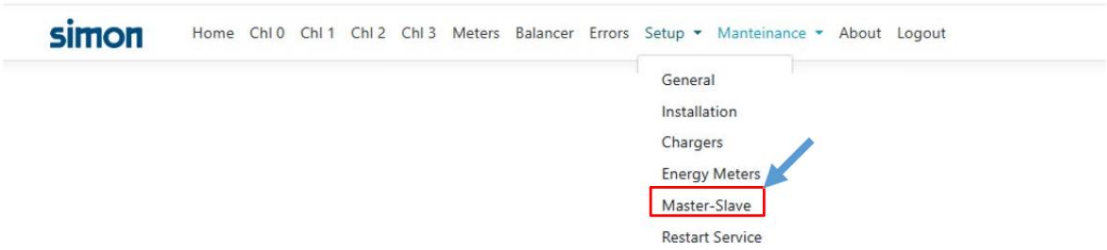
**Polling Time:** Time it takes to refresh the meter information.

**Protocol:** Communication protocol. The meter will communicate via Modbus whenever it Define the *Address* parameter and not the *Ip Address.*

- Pulse to save all changes made.

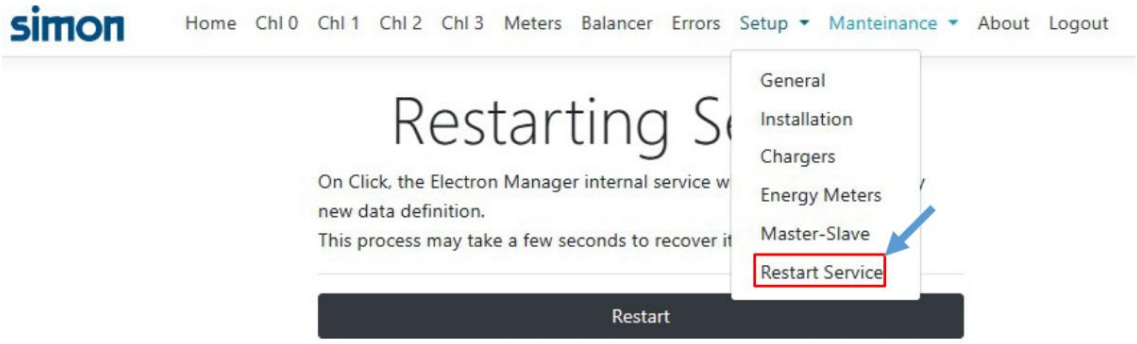
### 5.3.5 Master-Slave

The *Master-Slave* section is reserved for special installations that require additional equipment and whose implementation is beyond the scope of this manual.
For the rest of the applications, leave the factory settings.




### 5.3.6 Restart Service

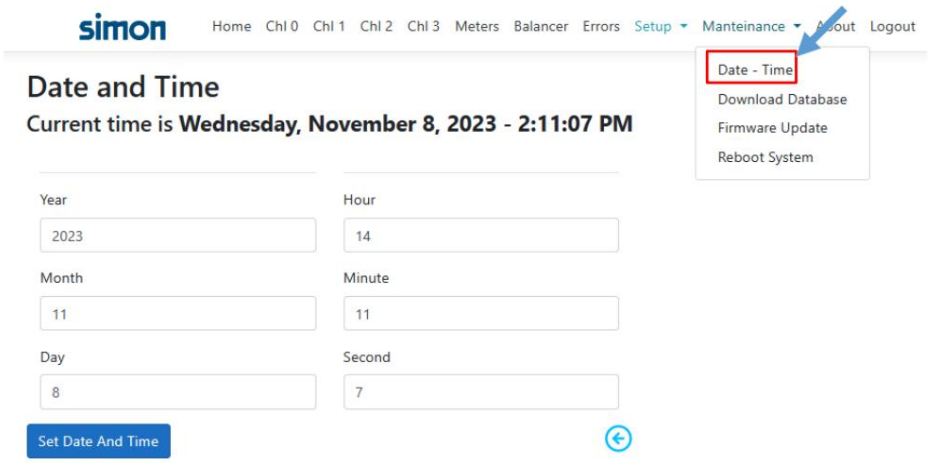
**Important note:** For any configuration changes to take effect, you must
Access *Maintenance, Restart Service* to perform a service restart.




## 5.4 Manteinance

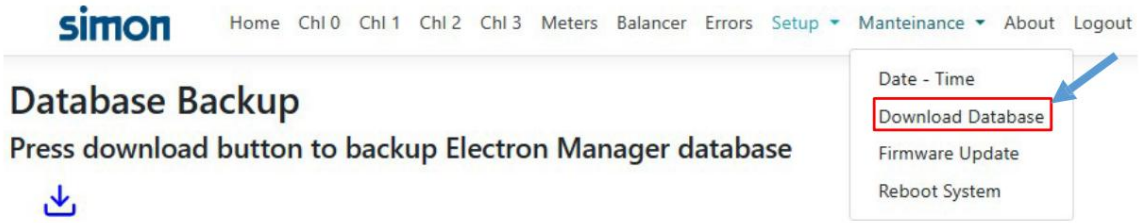
### 5.4.1 Date – Time

- You need to configure the date and time in Electron Manager. To do this, go to *Maintenance, Date-Time* and set the exact date and time.




### 5.4.2 Download Database

- The Electron Manager database can be downloaded for diagnostic purposes by Authorized Simon personnel. To do this, go to *Maintenance, Download Database.*



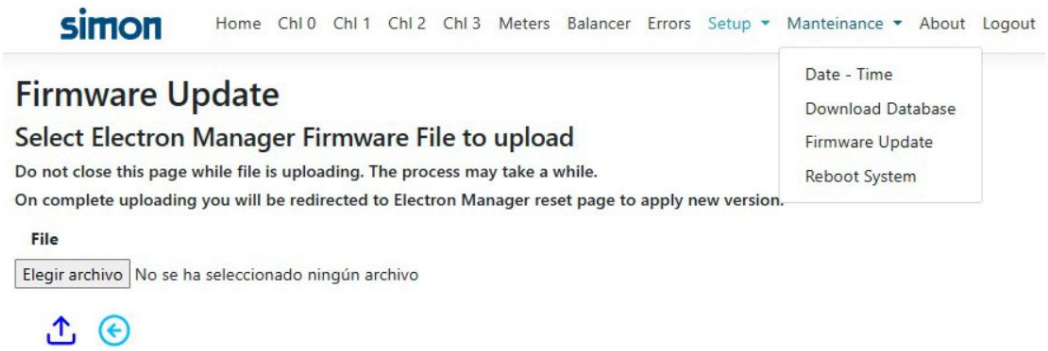

### 5.4.3 Firmware Update

In the event that an Electron Manager firmware update is required, personnel

An authorized Simon representative will provide you with the file that must be uploaded to the computer:

- Click on Maintenance, Firmware Update and choose the file you want to update.

- Click on Choose file and select the firmware version to update.




**Attention! Do not close this page while the update is in progress. The process may take a few minutes.**

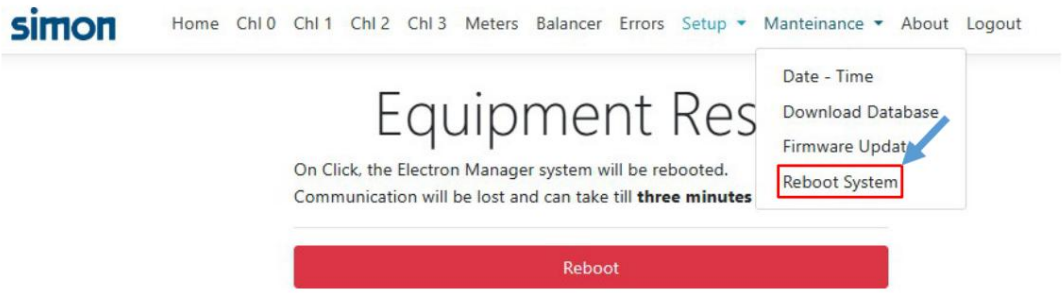
**Once the update is complete, you will be redirected to the Electron Manager restart page. Restart Electron Manager to apply the changes.**

### 5.4.4 Reboot System

You can also perform a restart of the Electron Manager if you deem it necessary.

necessary. To do this, follow these steps:

- Click on *Maintenance, Reboot System* to access the next screen.




- Press on Reboot.

- Wait until the process is finished.

# ANNEX I. MEASUREMENT SYSTEM

## Introduction

The Electron Manager charging point balancer can adjust the consumption of the chargers taking into account the consumption of the building where the chargers are located.

The goal is to optimize consumption and prevent errors in the protection systems of the electrical installation due to generating an excess in the current demanded.

The measurement implies that EM must know the consumption of the building not linked to the chargers, in order to determine the power available for balancing them.

Since EM can control up to 128 outlets, it is not practical to collect the data via communications. The individual power consumption of each charger is used to determine the overall power consumption of the Installation of charging points. Communication time would negatively impact the system. swinging.

The proposed solution consists of using a collection of energy meters that allow determining the building's energy consumption without chargers and the consumption of the chargers without them. take into account the rest of the building.

The type of installation can be very versatile. EM offers the possibility of combine different meters in order to measure the necessary power.

The meters can be installed on single-phase, three-phase or RST lines and by Therefore, the typological solution will be based on the combination of readings of the lines indicated.

The following sections detail how the installation analysis should be carried out, as well as some Examples of implementation in EM.

## Installation Analysis

To determine the meter placement, the following must be taken into account:

- Installation type: Single-phase or three-phase.

- Charger type: Single-phase or three-phase

- Phases where the chargers are connected (Three-phase installations with single-phase chargers).

- Existence of a solar meter.

## Supported meters

EM supports Carlo Gabazzi meters in single-phase and three-phase models.

Each meter must have a unique RS485 address, different from the chargers, and this address must be specified in the Electron Manager configuration.
RS485 that must be configured on the meters range from 200 to 210.

All meters must be connected in series on the same RS485 bus.

## Definitions

**Contracted Power:** Power contracted at the entrance of the installation.

**Total Power Consumed:** Measurement of power consumed in the installation at a given moment
This includes the power consumed by the chargers and the power consumed by the rest of the building.

**Building Power:** Power consumed in the installation without taking into account the points of load.

**Power Points:** Power consumed by the chargers without taking into account the consumption of other elements of the installation.

**Solar Power:** Power generated by solar panels.

**Balanced Power:** Power that we have available to manage the chargers that are in charge.

Total Power Consumed = Building Power + Points Power.

Balanced Power = Contracted Power + Solar Power – Building Power

## Examples of installations with a total power consumption meter

Whenever there is a possibility in the installation to put a main meter of the type ELECTRIC_BUILDING is recommended to be included since this configuration does not require additional meters.

The examples shown below are based on an impossibility on the part of the installation of main meters of type ELECTRIC_BUILDING.

**1. Three-phase installation with three-phase charging points.**

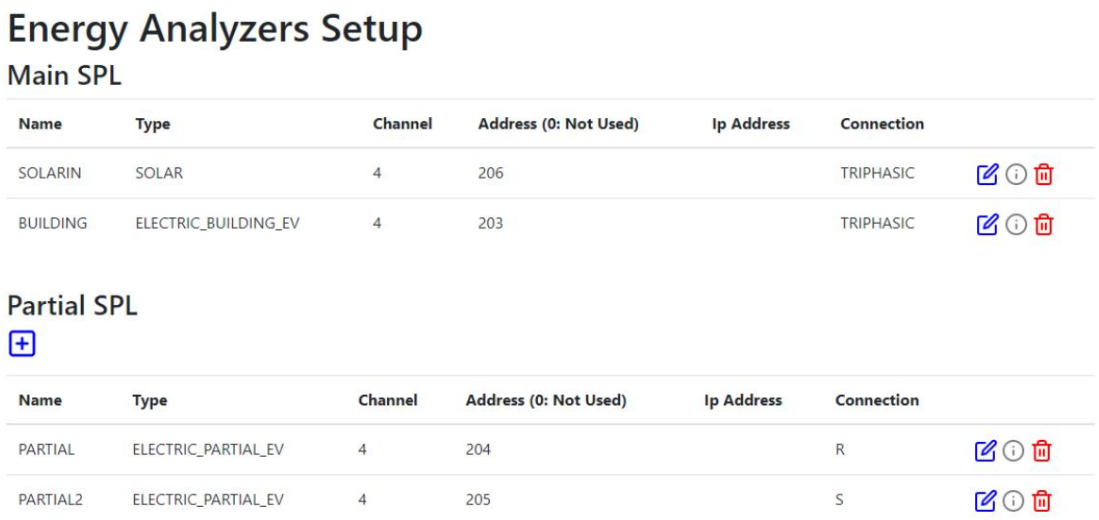
In Electron Manager, a main meter of type ELECTRIC_BUILDING_EV must be defined. which represents the Total Power and an additional three-phase meter for the three-phase line where They are part of the charging system. This second meter will only evaluate the power of charging points.


The difference between the two meters will be the *Building Power* and therefore we can Determine the *Balanceable Power.*

**2. Three-phase installation with single-phase charging points on the different lines RS. Line T does not have chargers installed. There is a solar installation.**

In EM, a main meter of type ELECTRIC_BUILDING_EV must be defined, which It represents the Total Power and a pair of additional meters for lines R and S. Both Meters will collect the consumption of the charging points on lines R and S.

Finally, we will add the SOLAR type meter.




In this case, the difference value between the main meter and the line (RS) will be evaluated for each line. the consumption value of the charging points. Line T has no correction, since there is no chargers are connected and therefore it is all power consumed in the building.

With the solar meter in place, the balanceable power will be determined as:

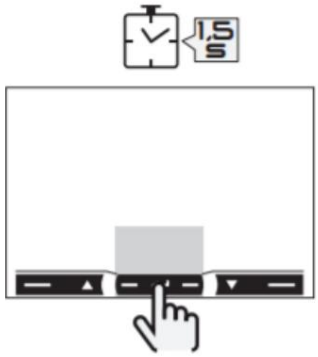
*Balanced Power = (Contracted Power + Solar Power) – Building Power*

# ANNEX II. METER CONFIGURATION

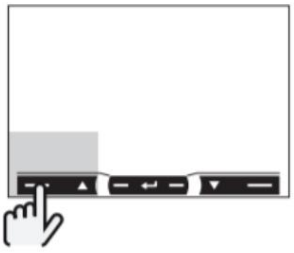
- Supply 230V to the Carlo Gavazzi meter through terminals 16 and 17.

  **(16ÿL+,** 17ÿN-).

- Enter configuration mode by pressing the center button for 1.5s.



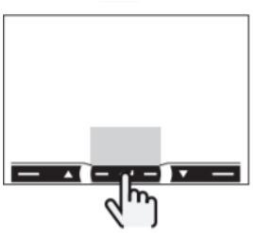

- Leave the default password (0000), press the center button to validate each digit.

- Pulsar  until you reach the Address menu.

- Configure the AddrESS value between 200 and 210. The installation meters

They must have an Address value that is not repeated in any other meter or equipment of the installation.


- Exit the navigation menu, navigating to P18 while holding



- Unplug the analyzer.

# APPENDIX III. SFTP SERVER CONFIGURATION

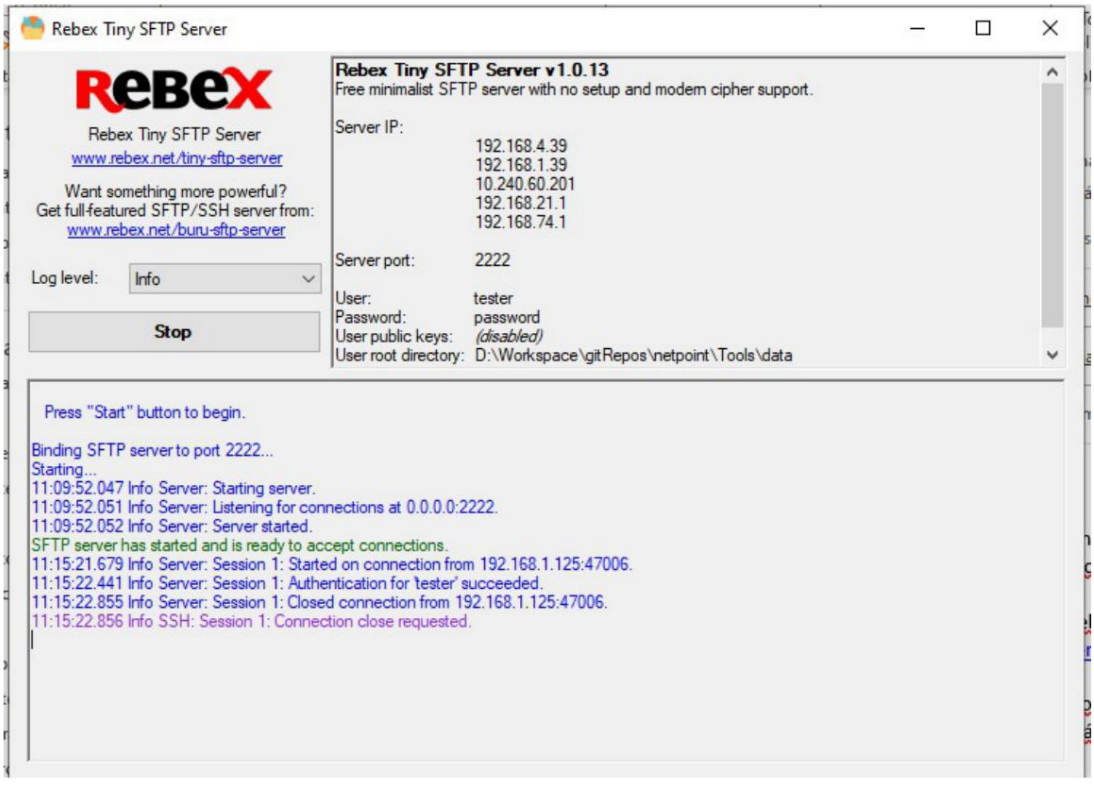
The purpose of this section is to show an example of downloading and configuring a server.
SFTP so that Electron Manager can send a summary of the transactions performed.

## Rebex Tiny SFTP Server

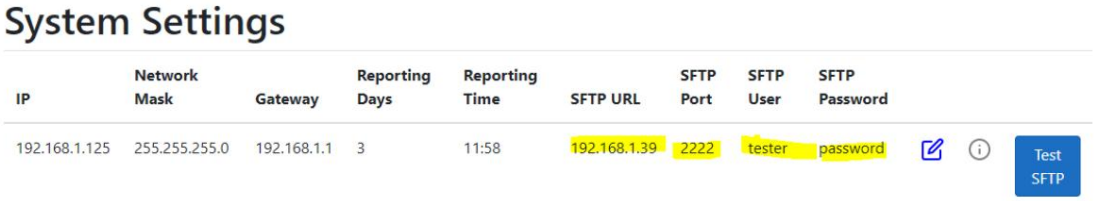
- Download the Rebex software.

RebexTinySftpServer.exe

- Install the software on the PC that we will use to receive the reports from Electron Manager.
- Start the program, press *START* , and keep the default parameters.
  The username/password are the same as the one Electron Manager has by default.



- Access the Electron Manager's *Setup menu, General settings* , and configure access:




Where SFTP URL is the IP address of the computer where we have installed the SFTP application. The rest of the These are the fields that the SFTP server has by default.

- Finally, click on *Test SFTP* to verify that the summary is sent.
  This action will send a summary instantly.

If everything works correctly, the automatic shipments will be made at the time indicated in *Reporting Time* and with information content corresponding to the last few days (Value of (Reporting Days parameter ).

# ANNEX IV. REMOTE UPDATING OF CHARGERS VIA RS-485

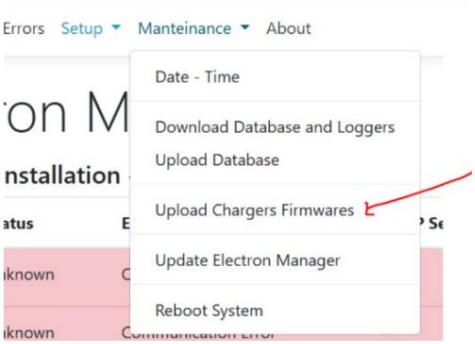
This appendix describes the procedure for performing a **remote and bulk firmware update** of the Chargers connected to **Electron Manager** via **RS-485 communication.** An update is recommended. by groups of equipment, for example, by channel.

## EM firmware update

Before updating the equipment, you must ensure that Electron Manager is up to date.
Firmware version. All files can be found on the installer support page:
Installer support | SIMON

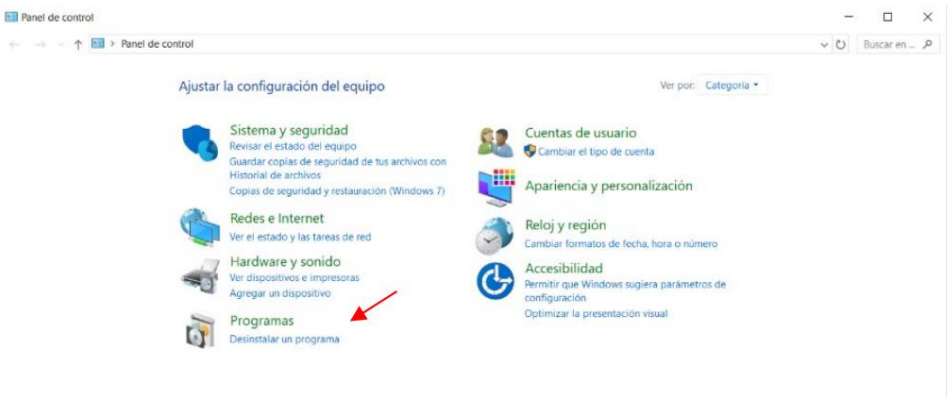
## Charger firmware update

**Step 1:** Go to the top menu, to the Maintenance tab and in the drop-down menu that opens select upload chargers firmwares.
If there are several computers with different motherboards (418, 317...), the different versions must be uploaded.



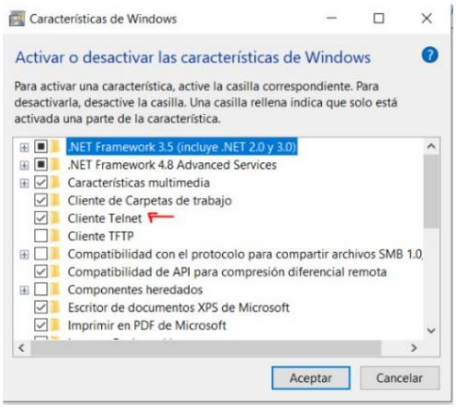

**Step 2:** To update the equipment, you must have the Windows TELNET feature enabled. activated

- To do this, go to the control panel

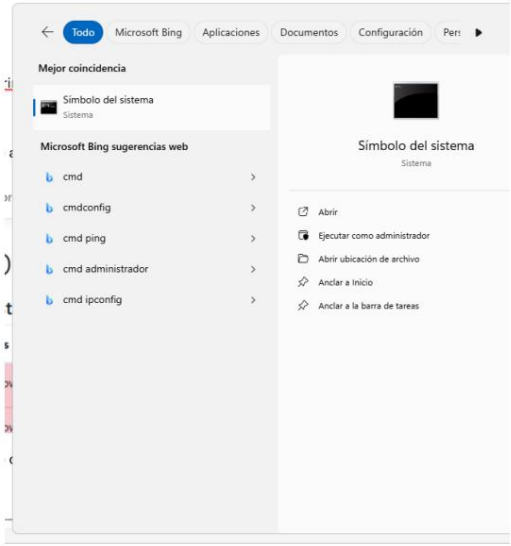



- Click on Programs. Turn Windows features on or off. If you don't have them
  For permissions, you need to talk to the IT team.

- Activate the Telnet Client option and accept.



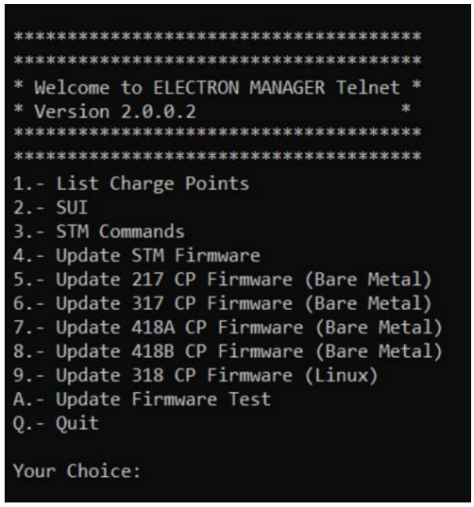

**Step 3:** Open a Windows CMD (Command Prompt)



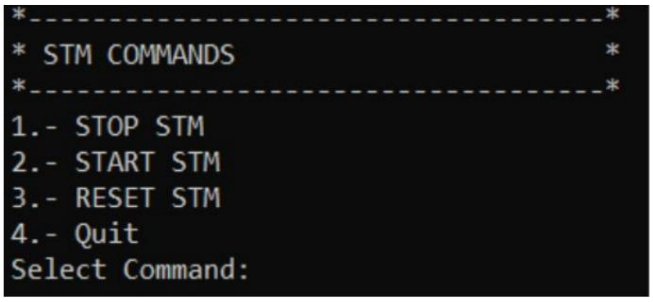

**Step 4:** Type the following: **telnet IP_EM 13000** replacing IP_EM with the actual IP.

Not: telnet 192.168.1.119 13000

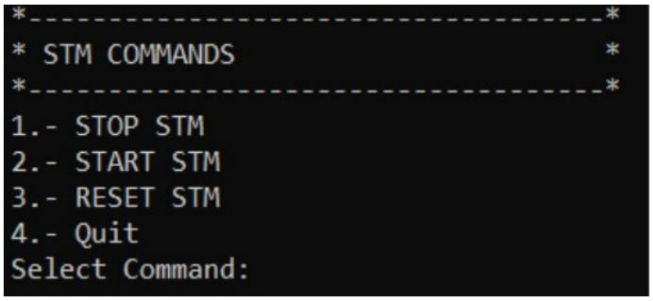
**Step 5:** The following menu will appear, type the number 3, and press enter.



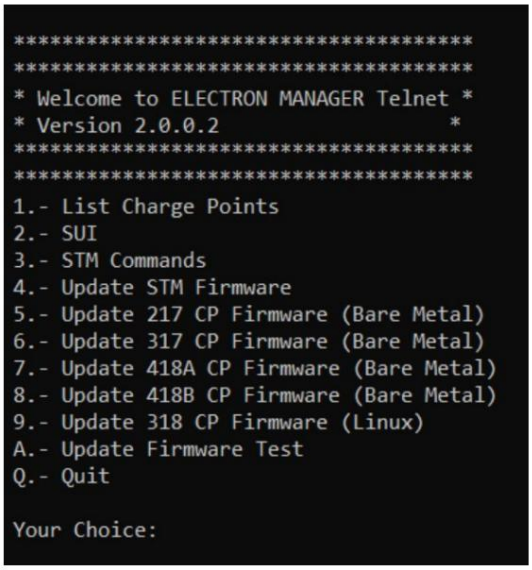
**Step 6:** Type the number 1 to access the STM commands, and press enter.



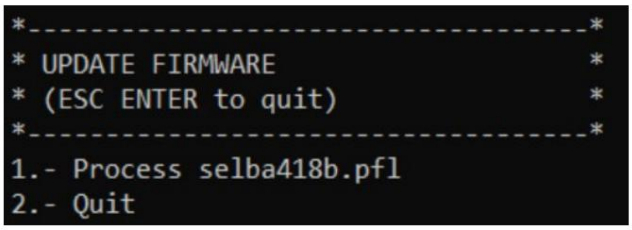

**Step 7:** Type the number 4 and press Enter to exit the commands. This will stop RS485 communication with the equipment, in order to perform the remote upload.



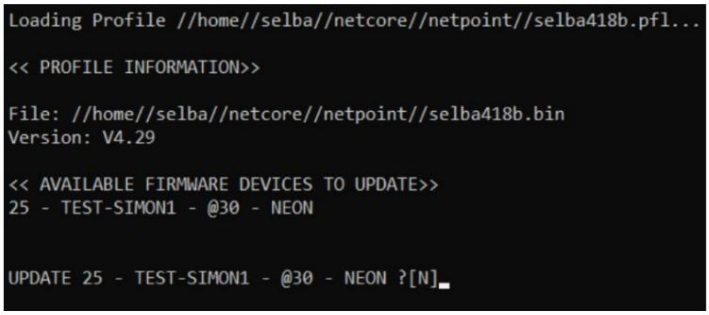

**Step 8:** Return to the main screen. Enter a number between 5 and 8 depending on the teams that are Connect and press enter. If there are several computers with different motherboards (418, 317...), you will have to repeat the process. the procedure for each plate version.



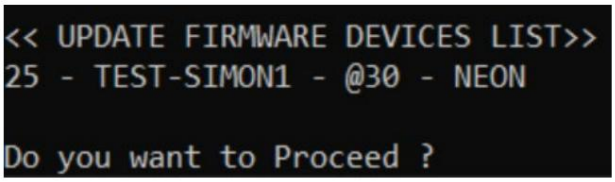
**Step 9:** The .plf file should appear; if it does not, return to step 1 of the update process.
chargers. Type 1 and press enter.




**Step 10:** The question asks which points you want to update. For those you want to update, write the letter 'y'.
and press enter. Those who do not wish to update type the letter 'n' or press enter without typing anything.

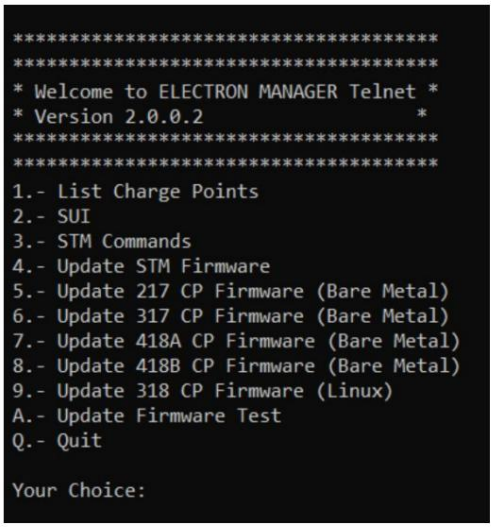



**Step 11:** The list of equipment to be updated is displayed; if it is correct, the letter 'y' is typed and...
Click enter.




**Step 12:** When the process is complete, the number of license plates that could be updated is reported.
correctly. Repeat the update process if you have equipment with a motherboard version
different.

**Step 13:** To finish, type 3 and press enter to return to the STM Commands option.



**Step 14:** Type 2 and press Enter to resume RS485 communication with the devices. To finish Type 4 and press enter to exit.