

USER'S MANUAL

# GREEN'UP PREMIUM CHARGING STATIONS

## COMMUNICATION KIT & RFID READER



This document is a user manual describing the characteristics of the [Legrand communication kit Cat.No 0 590 56](#).

It aims at [completing the installation instructions](#) supplied with the product.

The information given in this manual are helping:

- to [the navigation through the web pages](#) of the communication kit
- to [the complete configuration of your communication kit](#) (using mode, with/without tag reader)
- with [management of the available commands](#) (on, off, programming,...) in your communication kit.
- to [download stored data](#) from your charging station
- to [the software maintenance](#) of your Green'Up station and its communication kit.

For more information, please contact your Legrand Customer Service.

#### LEGAL INFORMATION

Presentation pictures do not always include Personal Protective Equipment (PPE), but this is a legal and regulatory obligation that must be scrupulously respected.

In accordance with its continuous improvement policy, Legrand reserves the right to change the specifications and illustrations without notice. All illustrations, descriptions and technical information included in this document are provided as indications and cannot be held against Legrand.

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# First connection

1st connection for the communication kit :  
Adress : https://192.168.1.200  
Mask: 255.255.255.0  
Gateway: 192.168.1.1



The first time you connect to the communication kit, the customer will be prompted to change the password according to the following security rules :

- At least 12 characters.
- At least one lowercase letter.
- At least one uppercase letter.
- At least one number.



During connection via a web browser, a message will appear informing the user that the charging station is using a self-signed certificate for authentication.

The user will then need to manually confirm the connection in order to proceed, after being notified of the use of a self-signed certificate.

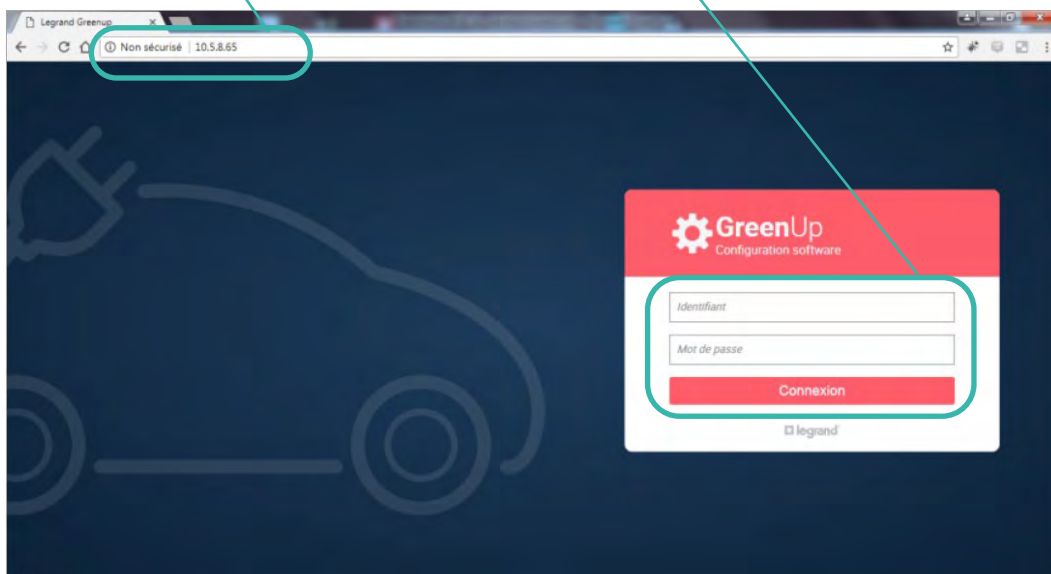
# Connection to the charging station

Adress : https://192.168.1.200  
Mask : 255.255.255.0  
Gateway : 192.168.1.1

Login form, request for valid login and password.  
By default:  
Login: admin  
Password: enter the previously saved password

## TECHNICAL INFORMATION:

- Compatible web pages Internet Explorer, Mozilla, Chrome;
- Automatic disconnection after 15min of inactivity;
- The back button, the closing of the tab or the closing of the browser lead to a cancellation of authorization: the user will be in the obligation to reconnect;



A change of login requires a change of password.



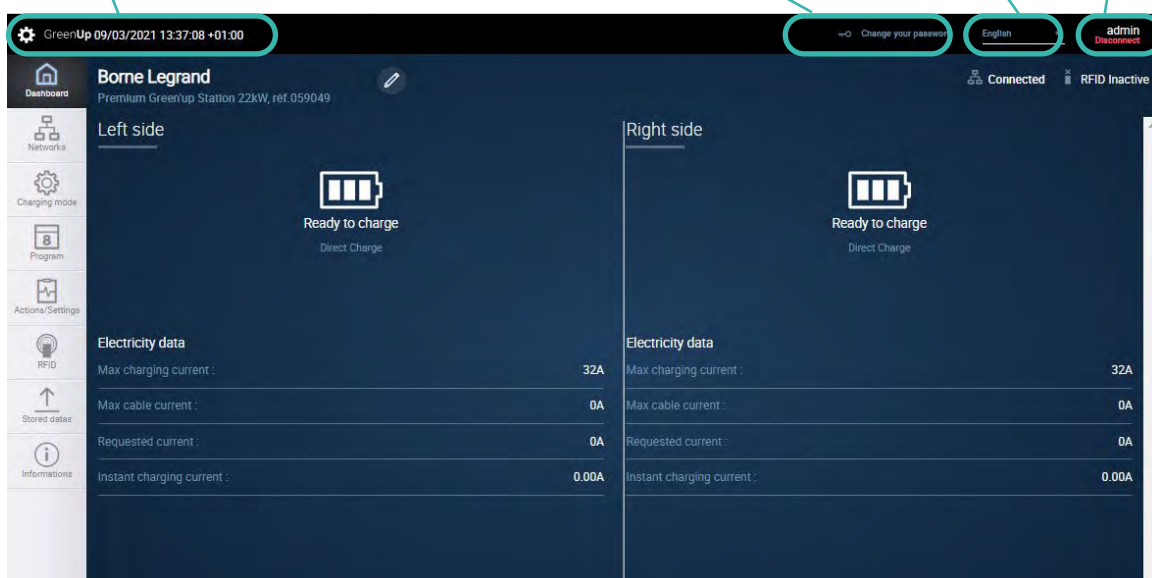
# Date and time of the charging station

Date and time of the charging station: Synchronization of the date and time at each connection.

Allows you to change the login and password.

Allows you to change the language. Changing the language will lead to a disconnection and a return to the login page.

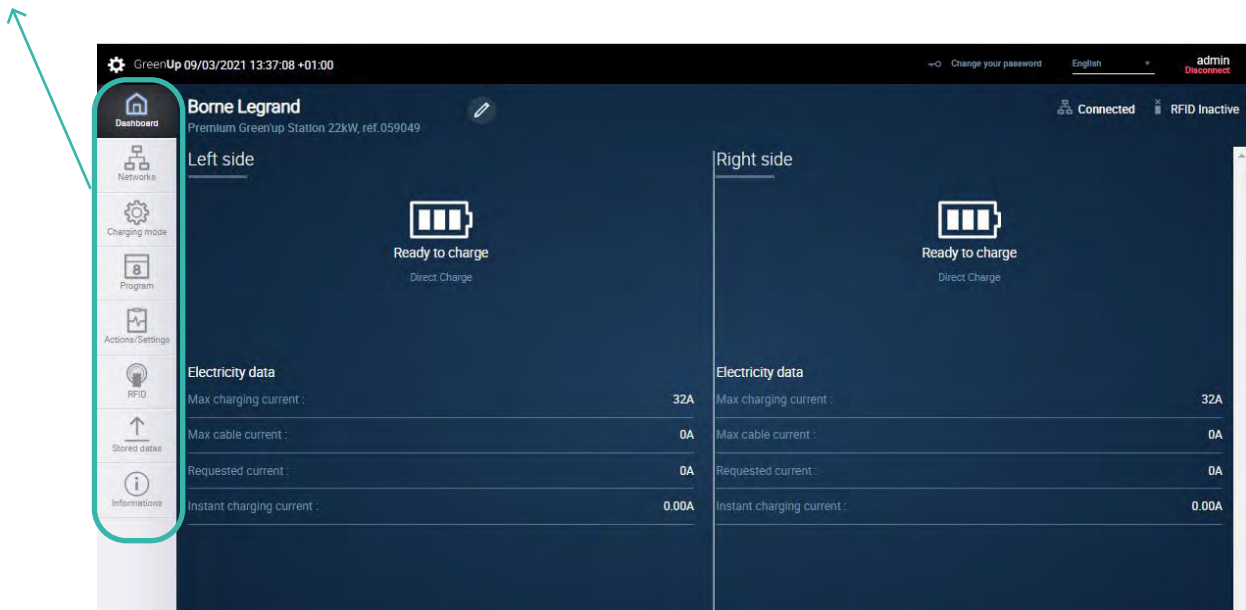
Login reminder. Link to disconnect from the web pages and return to the login page.



# Dashboard (1/4)

Navigation banner of the web pages, each tab corresponds to a link to a new web page.

Dashboard:	Quick and detailed view of the charging station status
Networks:	Modify the wired and wireless network parameters of the communication kit
Charging mode:	Change the operating mode of the charging point(s)*
Program:	Manage a program list of the charging point(s)*
Actions/Settings:	Carry out commands to control the charging point(s). Also allows to manage the maximum charge current of the charging point(s)*
RFID:	Manage the operation of the RFID reader (if installed)
Stored data:	Retrieve consumption histories per charging session and error histories of the charging point(s)*
Information:	Retrieve the technical information of the charging point(s)* Update your charging station Set up automatic e-mails



\* A double charging station corresponds to 2 charging points

# Dashboard (2/4)

Name of the station, allows quick identification of the station.

Typology of the product, maximum power of the station and catalogue number.

Allows you to enter/modify the «name» field of the station. A second click will save it.

Information on the connection type of the communication kit.

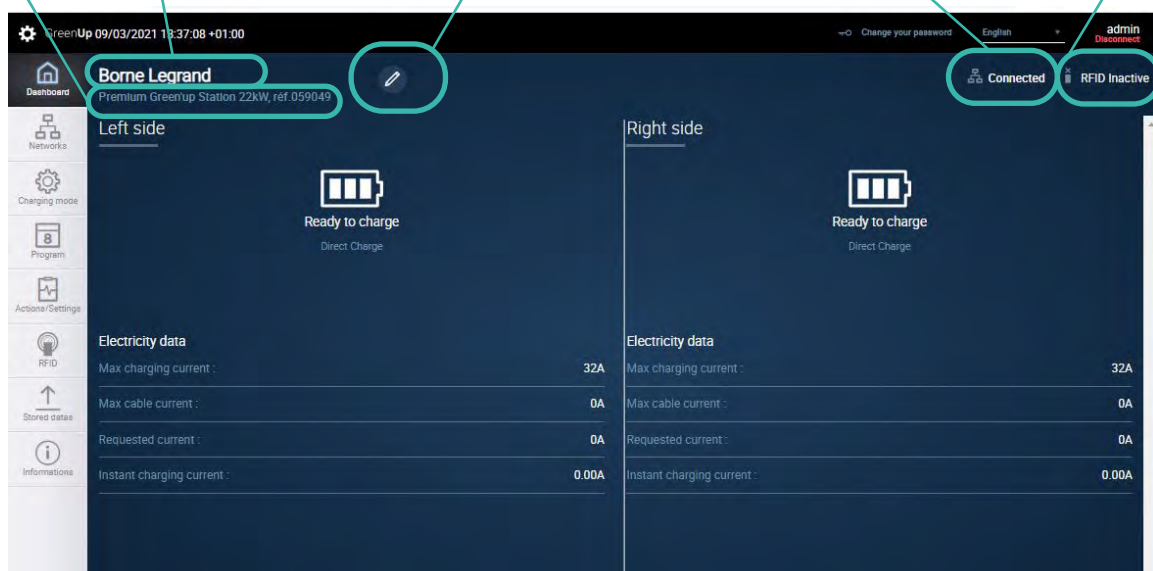
Quick information about the activation status of the RFID option.

Icon for RJ45 connection

Icon for inactive RFID

Icon for WiFi connection

Icon for active RFID

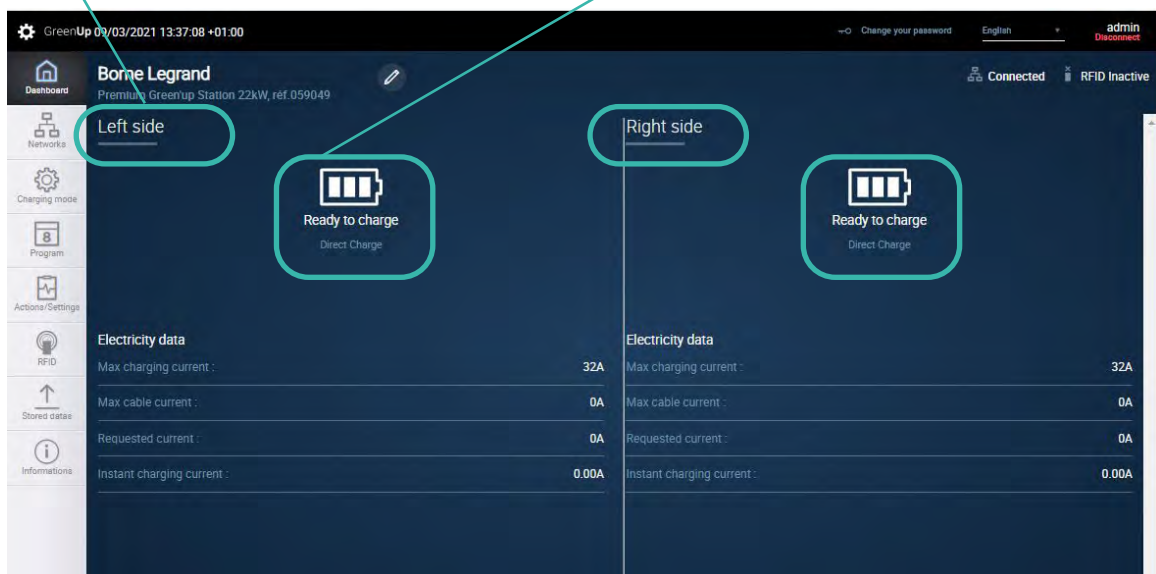


# Dashboard (3/4)

A single charging station is considered to be a single charging point.  
 A double charging station is considered two independent charging points, with the left side physically representing the left charging point when viewed from the front. The right side physically represents the right charging point when viewed from the front.

Information updated every second. Information on the status of the charging points.

- EV not connected to the station => «Ready to charge»
  - EV connected waiting for charge => «T2S waiting to start» or «2P+T waiting to start»
  - EV connected and charging => «T2S on charge» or «2P+T on charge »
  - EV at the end of charging (mode 3) => «T2S Charge completed »
  - Charging station is locked => «Locked »
  - Charging station being updated => «Updating in progress»
  - Faulty charging station => «Error»
- Information about the charging mode used: Immediate charging, External signals, Program, Modbus.  
 If RFID activated, recall of the ID of the tag in use.



# Dashboard (4/4)

Information updated every second.  
Information on current error on the charging station.

Possible error:

- Locking error T2S socket
- Unlocking error T2S socket
- Short Error
- CP circuit on station/cable/vehicle
- Error CP short-circuit on the station
- Error opening switch domestic socket
- Error Closing switch on domestic socket
- Error Opening switch on T2S socket
- Error Closing switch contact T2S socket
- Diode error not detected on the vehicle side
- Error T2S socket overcharge.
- Error Overcharge of the domestic plug
- Unknown error

Information updated every second.  
Information on the electrical data of the charge point(s).

Information:

- Max charge current => Adjustment current of the station that can be changed in the Actions/Settings tab;
- Max cable current => Indicates the charge current of the cable used;
- Setpoint current => Setpoint current sent by the station to the vehicle;
- Instantaneous charging current => Instantaneous charging current recorded by the measuring split cores.



# Networks (1/3)

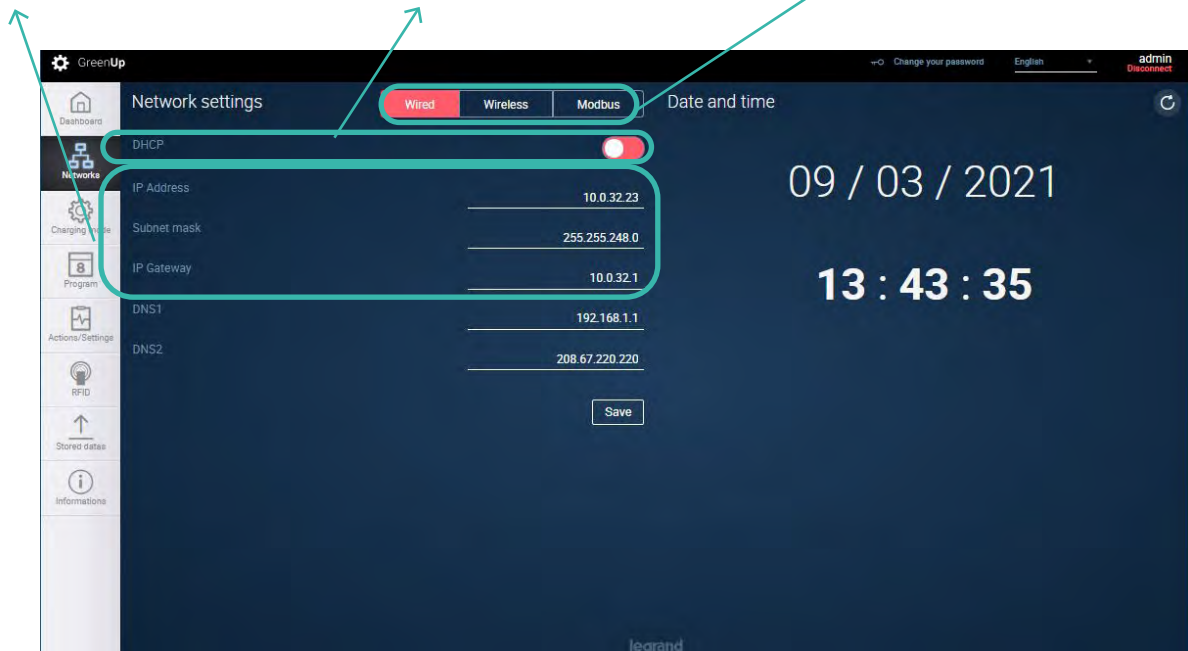
Network parameters including: IP address of the communication package ;  
Subnet mask ;  
IP address of the network gateway;  
In this example, no wireless network is connected. If the DHCP option is activated, the fields can no longer be modified. Each modification requires validation via the Save button. The saving causes an immediate restart of the communication kit.

Button to activate or not the DHCP. In the example the DHCP is activated (default position in wireless). DHCP deactivated => allows to modify the network parameters. DHCP activated => allows the server to assign the network parameters. The modification is instantaneous.

Button to navigate between wired, wireless and Modbus network settings.



DHCP is to be avoided when you want to reach web pages by IP address with your browser.



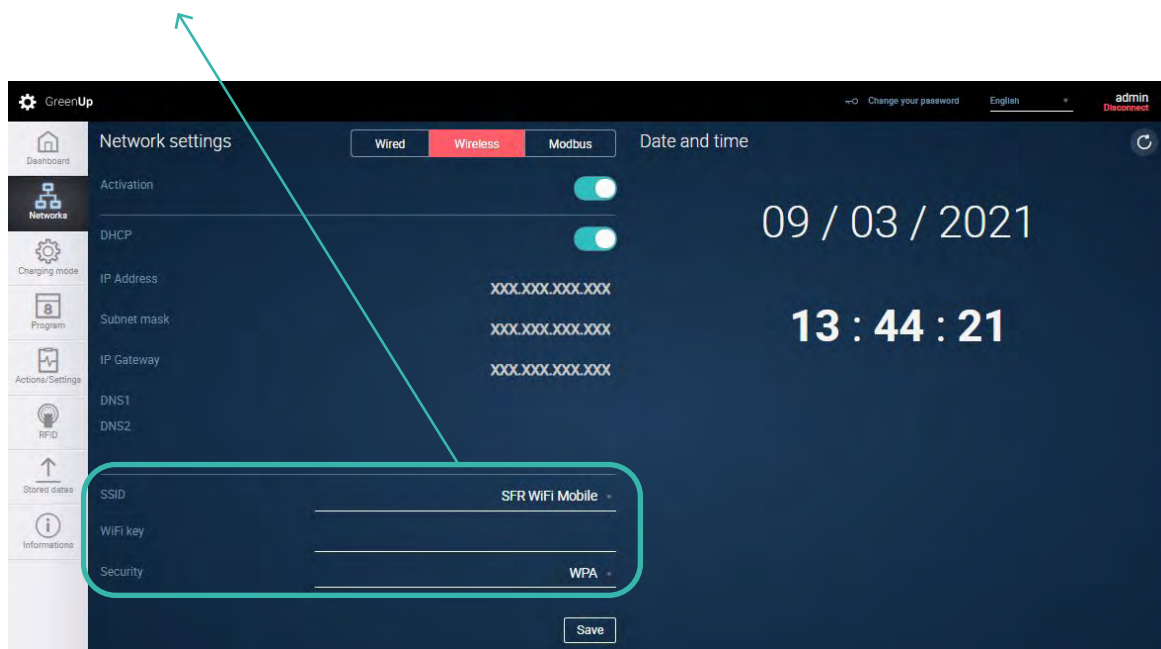
# Networks (2/3)

Wireless network settings:

**SSID:** list of available networks seen by the station (if the station is connected to a wireless network, its SSID will be displayed first);

**WiFi key:** corresponds to the access key of the WiFi network (often called WEP key);

**Security:** type of network security.



# Networks (3/3)

## Modbus network parameters

These parameters are only necessary when the stations are connected on the same RS485 network in an installation with a Legrand webserver in the case of energy management of a charging stations site.

## Modbus parameters of each charge point

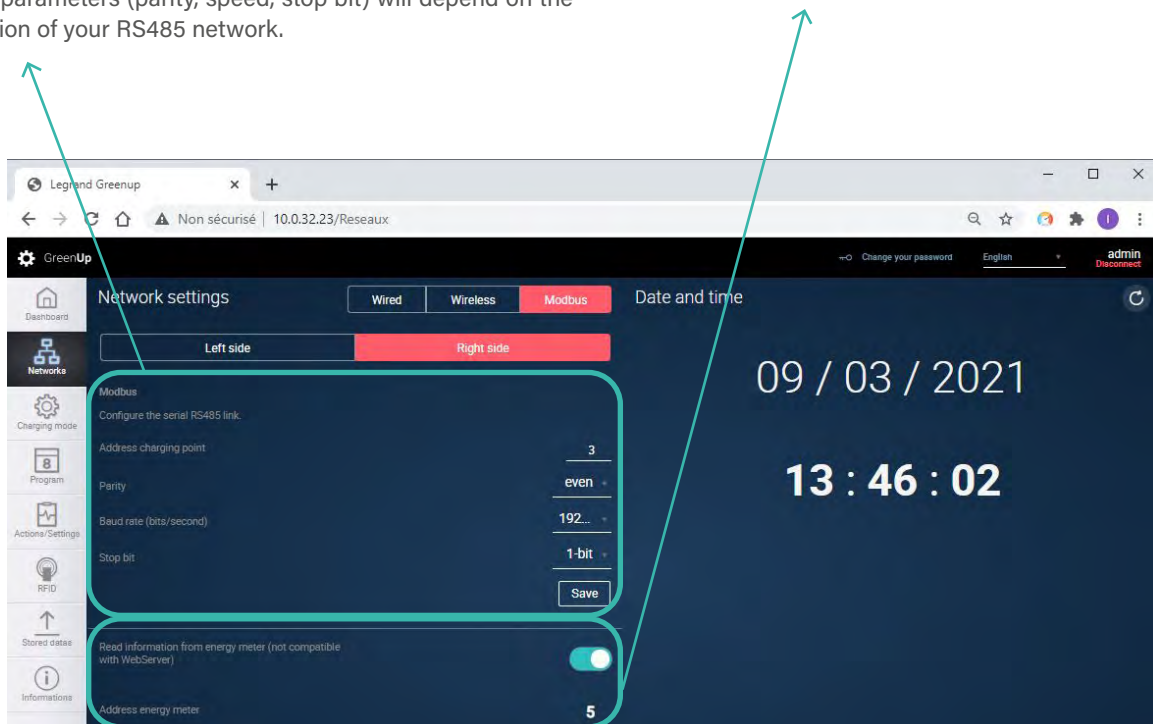
Each charge point will have its own modbus address.

The other parameters (parity, speed, stop bit) will depend on the configuration of your RS485 network.

## Association of a MID meter

It is possible to connect a Legrand MID meter to the RS 485 input of the communication kit. This will allow to send back the consumptions (MID certified) through the OCPP protocol. The Modbus address of the meter must be '5' (default value on Legrand meters).

This possibility is not compatible with the webserver.



# Charging mode

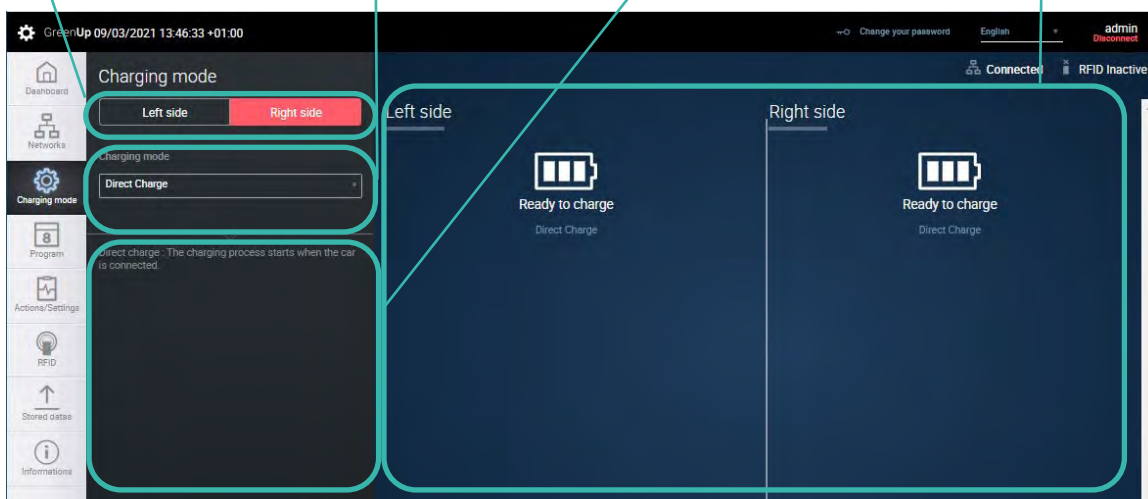
Button to navigate between the right and left side of the station. If the station has only one side, the right side is always displayed.

Button for selecting the charging mode of the charge point.

- Immediate charge (default mode); allows the EV to be charged without waiting for authorization
- External signals: allows you to take into account the dry contact inputs for charging (with or without possible override on the station)
- Programming: allows you to take into account the charge schedules created in the Program tab of the navigation bar.
- Modbus: allows you to set up the Modbus RS485 network and operate your charge point via Modbus with possible integration with the Legrand Energy Web Server.
- OCPP (Open Charge Point Protocol); allows you to set up the station and server connection data and activate the OCPP connection.

Information area for the operation of the charging mode and for setting the parameters according to the selected charging mode.

Fast information zone, refreshes every second.



# Program (1/3)

Button to navigate between the right and left side of the station. If the terminal has only one side, the right side is always displayed.

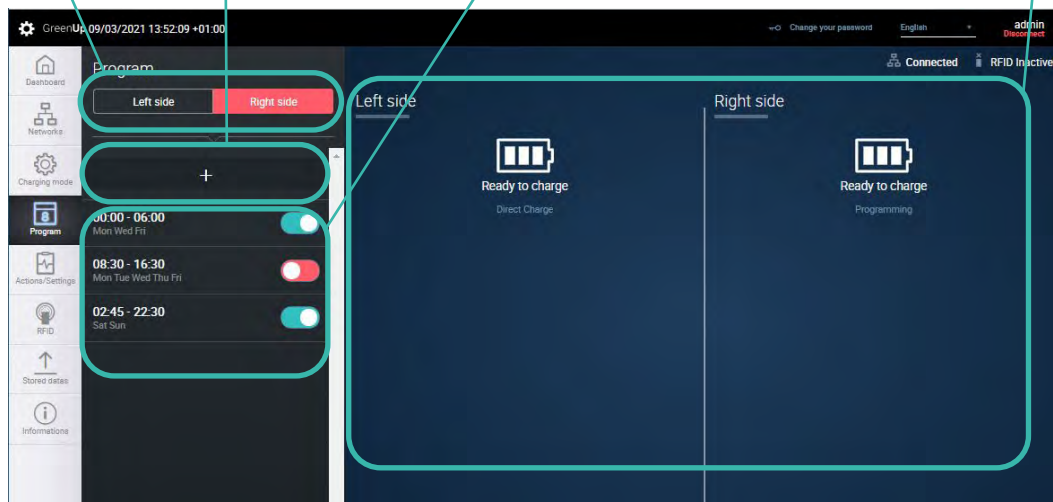
Button to add a program.

Visualization area of the created programs. The information: start time - end time, day of taking into account. It is possible to quickly deactivate the program via the button on the right. In this example, programs 1 and 3 are active and program 2 is inactive. The station will therefore not allow charging during program 2.

Fast information zone, refreshes every second.



It is not possible to create several programs in the same period.



# Program (2/3)

Start time of the program, in this example the start time is set to 4:00 am. The time step is 15 minutes.


Cursor for modifying the setpoint current during the planning period, here 32A.

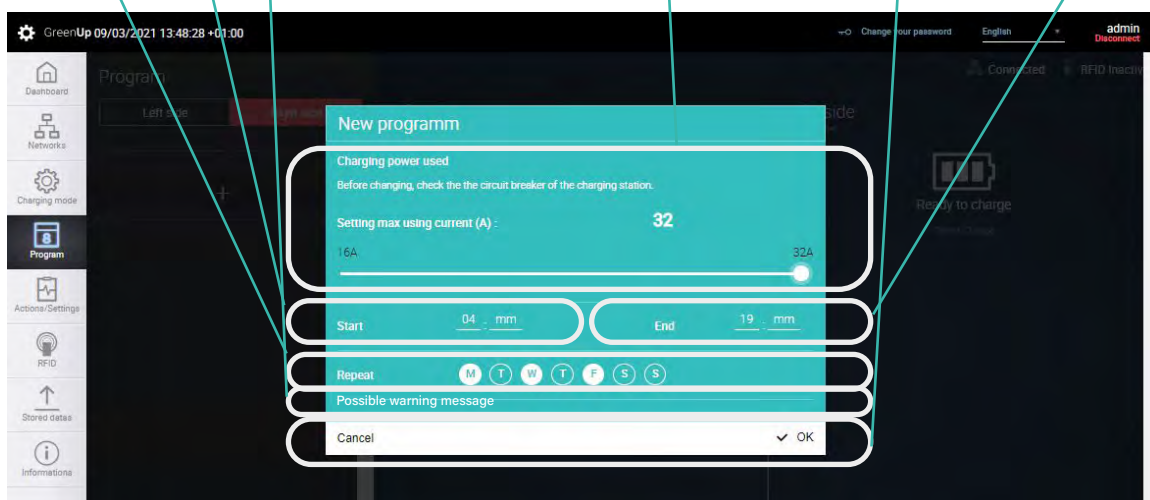
End time of the program, in this example the end time is set to 19:00 in the evening. The time step is 15 min.

Application day of the program, in this example the application days are Monday, Wednesday and Friday.

Warning message indicating a time slot already occupied or an error on the program end time.

Button to cancel the new program or to validate the new program.

 To create a 2 day program. It is necessary to create 2 programs : the 1<sup>st</sup> with an end at 24H00 and the second with a start at 0H00.



# Programm (3/3)

Start time of the program, in this example the start time is set to 0:00 am. The time step is 15 min.

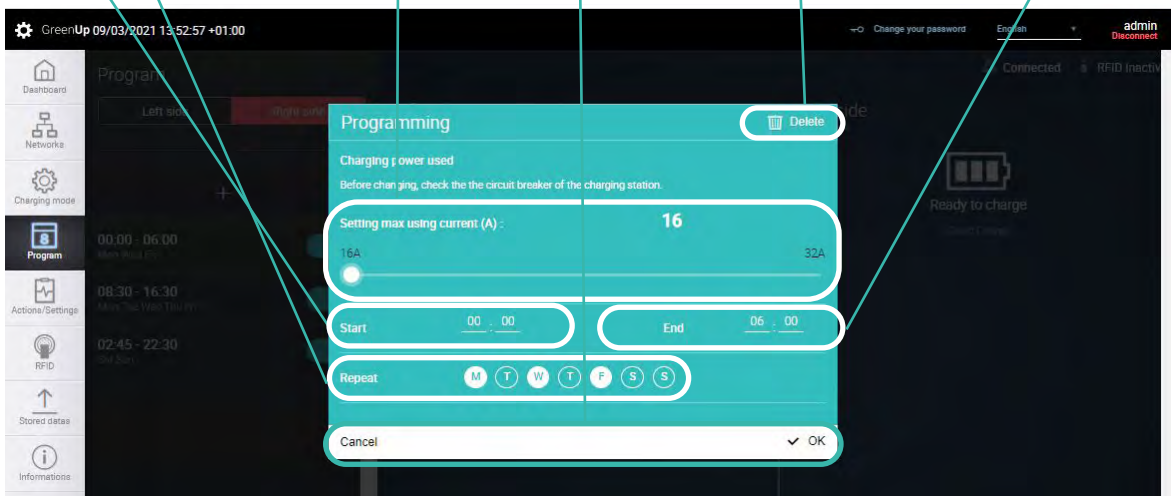
Cursor for modifying the set current during the planning period, here 16A. The maximum power depends on the internal setting of the station during installation (internal switches).

End time of the program, in this example the end time is set to 06:00 am. The time step is 15 min.

Application day of the program, in this example the application days are Monday, Wednesday and Friday.

Button to cancel or validate the new program.

Button to delete the program.



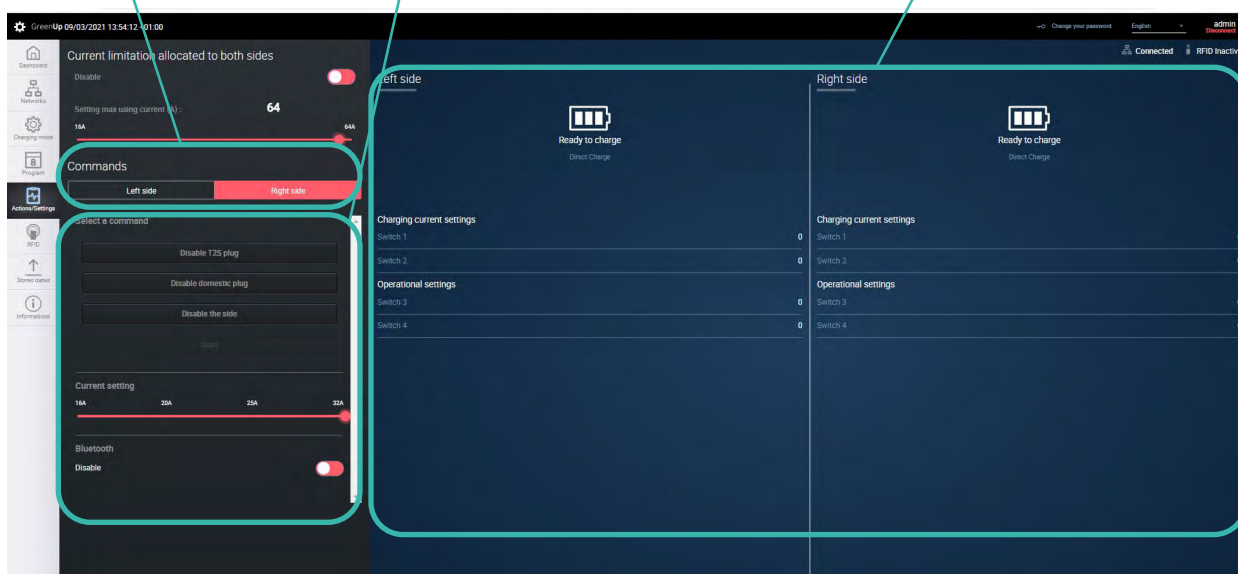
# Actions/Settings (1/2)

Button to navigate between the right and left side of the station. If the station has only one side, the right side is always displayed.

Actions available on the charge point:

- Disable/enable T2S socket => allows to disable the T2S socket, the socket becomes unusable ;
- Disable/enable the 2P+T socket => allows to disable the 2P+T socket, the socket becomes unusable;
- Lock/unlock the side => allows you to make the side not functional, the station is then unusable and can only be activated via this «Lock/unlock» function;
- Start/Stop => allows you to start a charge or stop the charge remotely
- Current setting => allows the setting of the maximum charging current (except in case of programming where the setting is done during the creation of the program).

Fast information zone, refreshes every second.



# Actions/Settings (2/2)

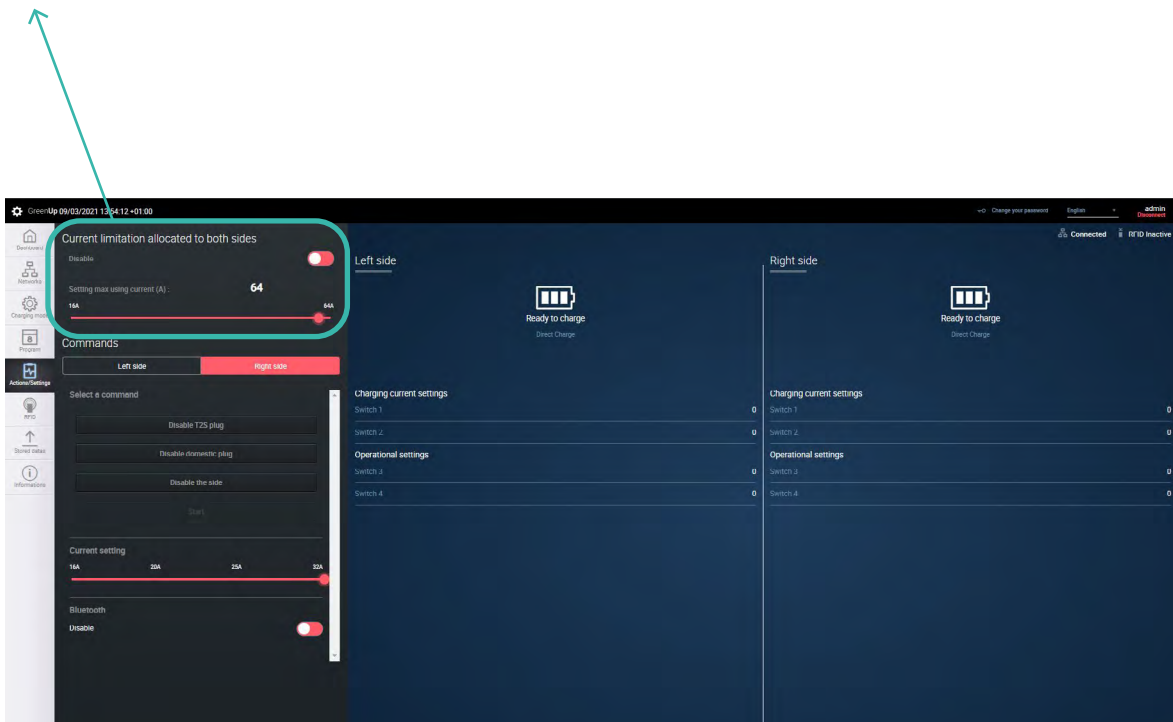
Current limitation allocated to both sides.

This option allows you to allocate a maximum power to a double station. The charge will not exceed the programmed current when two vehicles are charging simultaneously and the current supplied to each side will depend on the need of the vehicles.



Option only available for double stations.

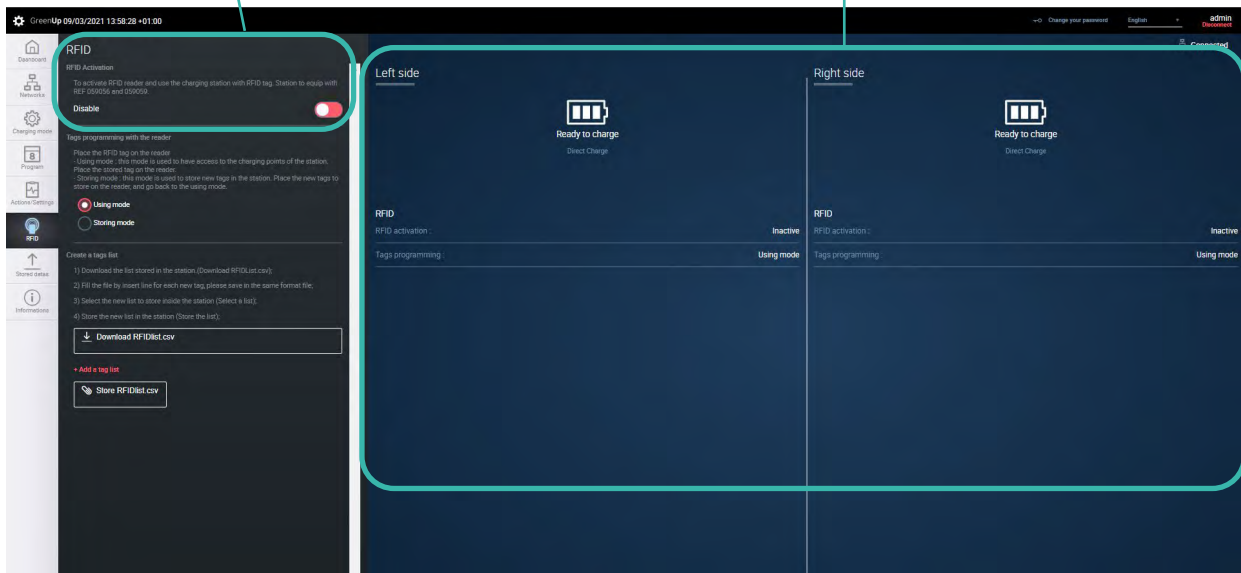
Allows you to activate or not the limitation option and to set the maximum intensity that will be allocated to the two charging points.



# RFID (1/3)

Button to activate or deactivate the RFID function.  
Warning, the RFID kit Cat.No 0 590 59 must be installed before activating this function.  
(otherwise the station is no longer functional).

Fast information zone, refreshes every second.



"For Green'up Premium charging stations Cat.Nos 0 590 05/06/07/08/09/70/71, the badges are supplied but not registered. The customer will have to carry out this operation themselves. The RFID reader will be inactive (switched off)

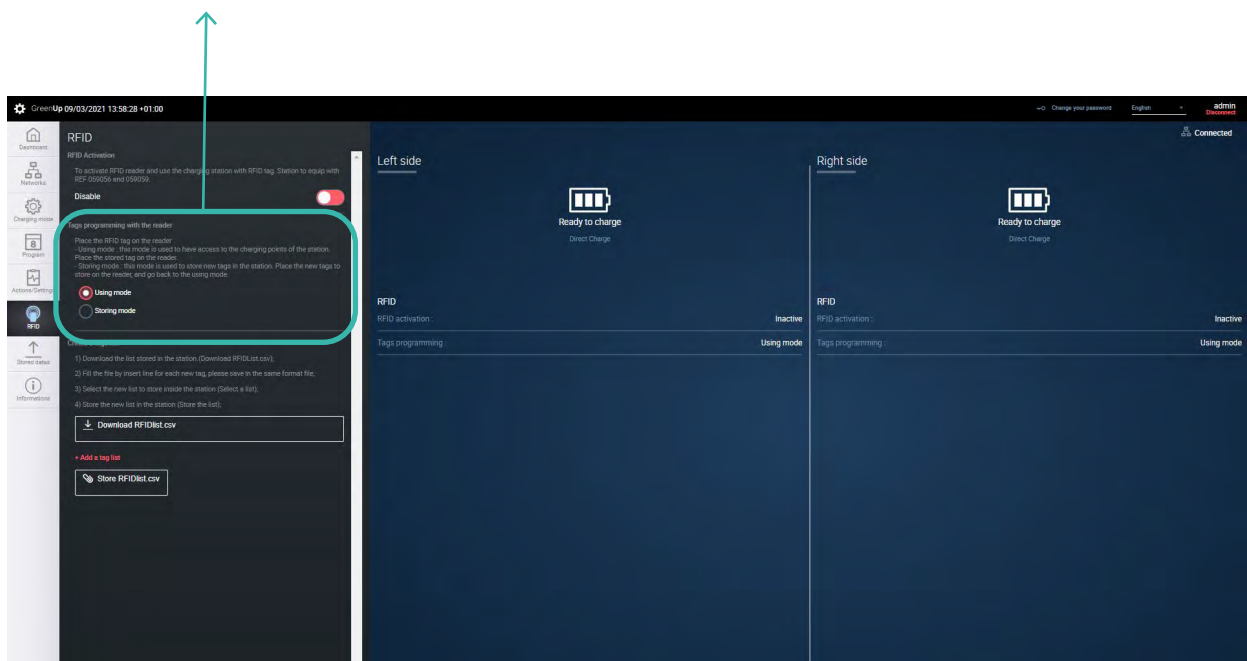


# RFID (2/3)

Tags programming via the reader:

-Using mode, in this case, the station is ready to be used, in local mode, normally. If the user's tag is recognized by the station, then charging is authorized. The user can plug in before or after the tag is presented. An animation of the lights allows to easily identify if the user is recognized or not by the station.

-Storing mode, in this case, the station switches the reader to storing mode. Each tag passed in front of the reader will be stored in the list of authorized tags. An animation of the lights allows to know if the tag has been registered in the list. Once the list has been created, put your station back in using mode.



# RFID (3/3)

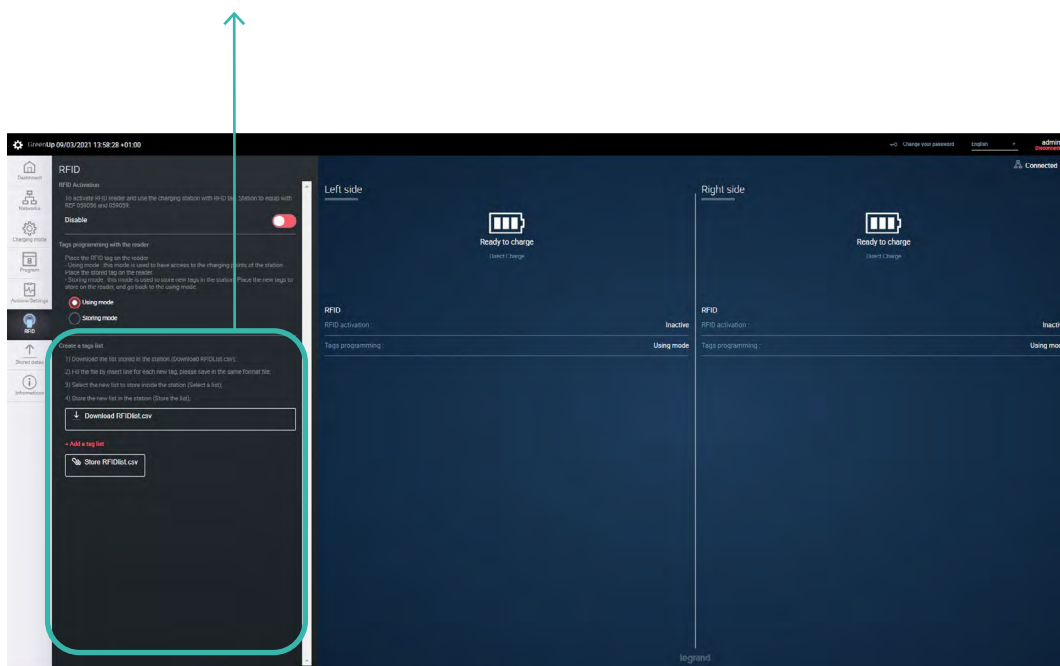
Create a tags list:

-The "Download RFIDList.csv" button allows you to download the list of authorized tags in the communication kit. The file is broken down into three columns, the first column indicates the date and time the tag was saved, the second column indicates the tag ID and the third column indicates the name associated with the tag.

-The "Select a list" button allows you to select a tag list file in csv format on your computer.

-The "Store RFIDList.csv" button is used to load the list of tags into the communication kit. At this moment, this list replaces the previous one.

It is then very easy to create a list of tags and to duplicate it to other stations. In order to create a list of tags manually, it is convenient to download the RFIDList.csv file and to insert lines. The internal format of the RFIDList.csv file must be respected or it will not work properly. (otherwise the list of tags will not be loaded).



# Stored data (1/2)

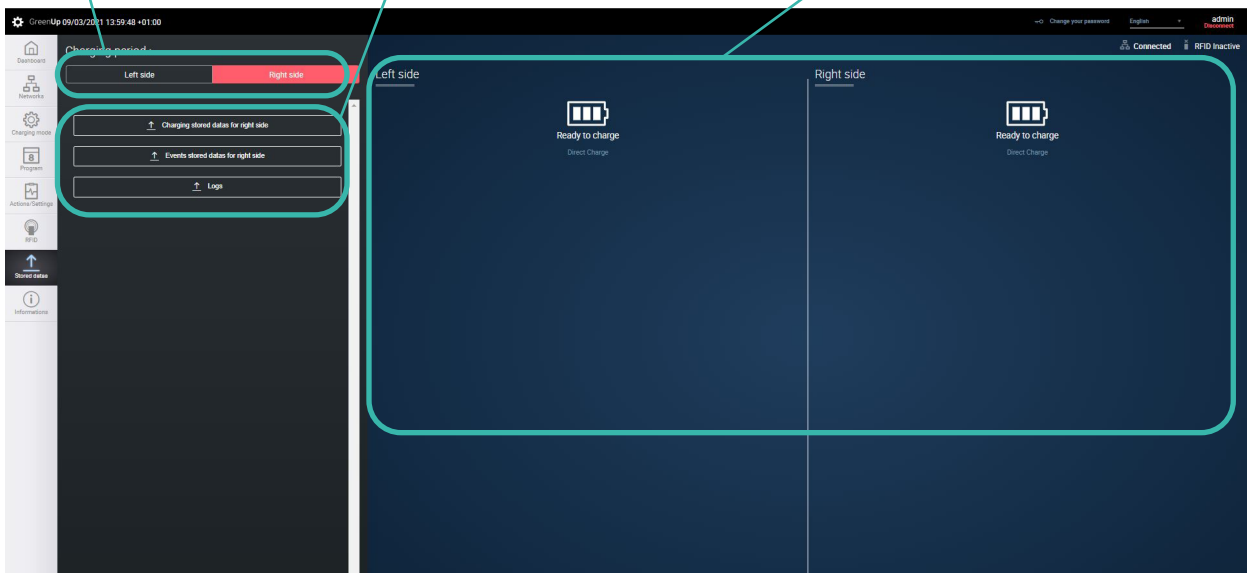
Button to navigate between the right and left side of the station. If the station has only one side, the right side is always displayed.

The «Charging stored datas...» button allows you to download the file (.CSV) containing all the charging stored data of the charging point. The file is broken down as follows:

Session start date and time	Total time in min	Time without charging in min	Charging time in min	Energy in Wh	End of session date and time	Plug type	ID (if RFID is active)	Name (if RFID is active)
15/02/2018 17:53	962	897	65	3029	16/02/2018 09:54	EVplug		
19/02/2018 16:30	116	24	92	6950	19/02/2018 18:26	EVplug		
19/02/2018 18:26	878	877	1	0	20/02/2018 09:03	EVplug		
20/02/2018 10:44	1385	1298	87	127	21/02/2018 09:48	EVplug		
21/02/2018 11:57	69	1	68	4652	21/02/2018 13:05	EVplug		

One can consult the date and time of the beginning of the session, the total time in minutes, the waiting time in minutes, the charging time in minutes, the energy in Wh, the date and time of the end of the session, the type of plug used and the ID of the tag used if RFID is activate.

Fast information zone, refreshes every second.

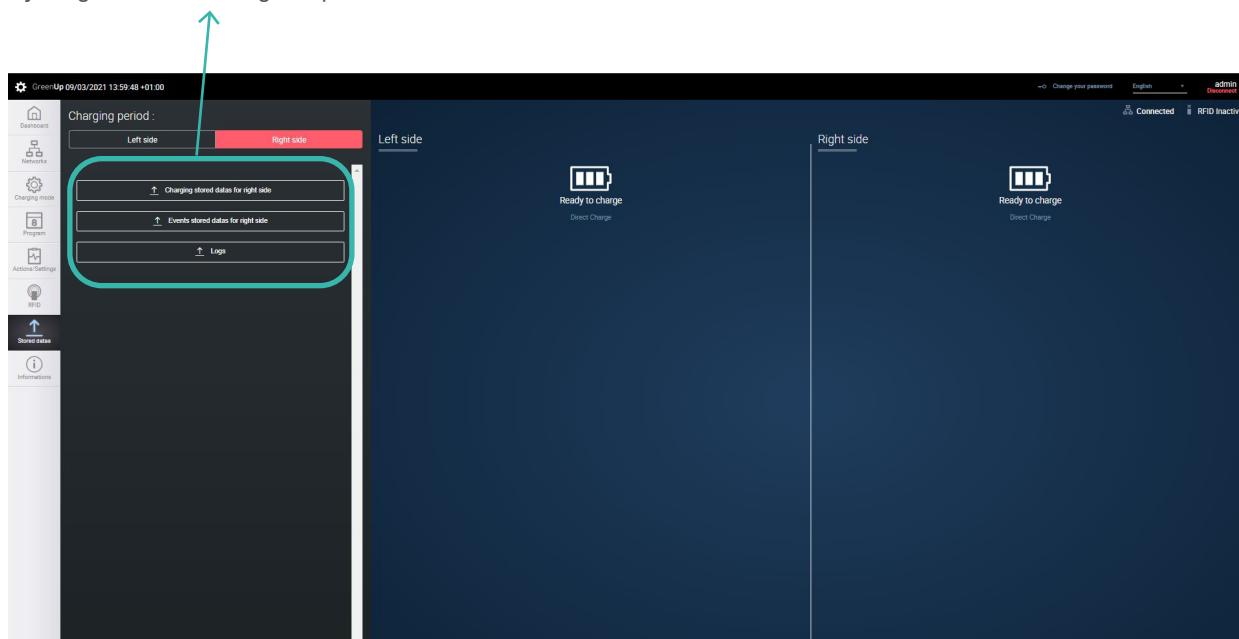


## Stored data (2/2)

The «Events stored datas...» button allows you to download the (.CSV) file containing all the errors stored by the charge point. The file is broken down as follows:

Date	Time	Error code	Error
12/02/2018	12:41:18	0	No error detected
12/02/2018	17:29:05	0	No error detected
15/02/2018	17:46:08	0	No error detected
21/02/2018	10:49:09	0	No error detected

One can consult the date and time of the start of the information, the error code to identify it and a description of the error are stored. At each restart the station performs a check up of the main functions, the «no error detected» report is stored in the file to guarantee that everything went well during this phase.



# Information (1/2)

«Refresh» button to reset the communication kit, pressing it causes a disconnection and a restart of the whole pack.

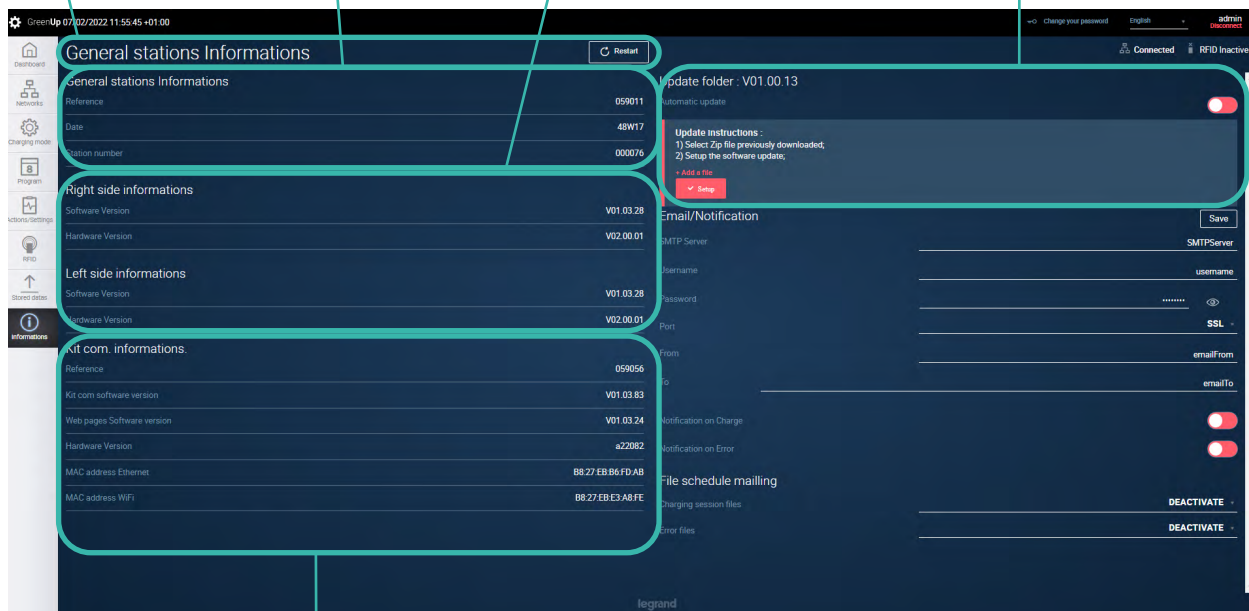
General information with the product reference and type, traceability (date of manufacture) and the serial number of the station.

Charge point information (right and left side separate) with software and hardware version.

Automatic update activation button : This option enables automatic updating. The station will connect to an external server and automatically update with the latest version of the communication kit.

**Please note that some firewalls may block the connection.**

By deactivating this function, the update can be done manually by downloading the latest version available on the Legrand e-catalogue in the software section of the communication kit (0 590 56).



Information on the communication kit with the catalogue number, the software version of the communication part and web pages and the hardware version. Information on the RFID pack with the catalogue number, the software version and the hardware version.

# Information (2/2)

## Sending automatic e-mails

This option allows you to automatically send an e-mail in order to have the information of the beginning and end of the charge, of the consumption of each charge, of the errors in progress.

SMTP server: Address of the SMTP service used, example for the google service `<i> smtp.google.com </i>`.

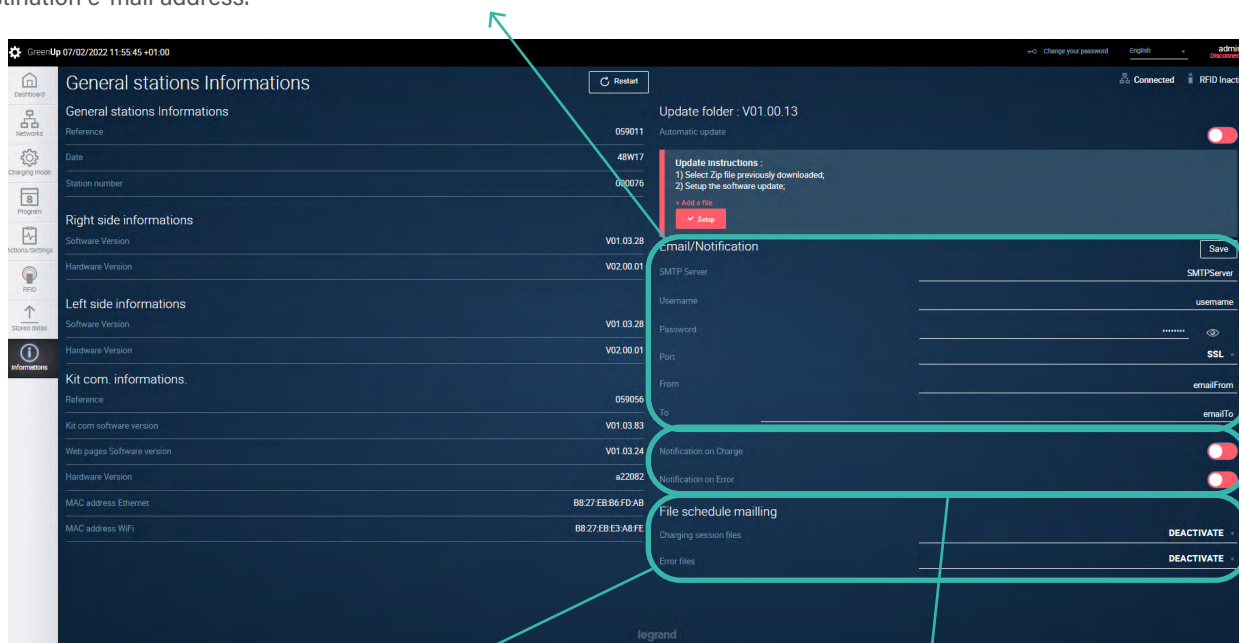
Username: Username filled in when registering the SMTP service.

Password: Password filled in when registering the SMTP service.

Port: Port used for communication, SSL: 465 OR TLS: 587.

From: link from the sender's e-mail address to the SMTP service.

To: destination e-mail address.



Activation and periodicity choice of sending historical files :



Choice of activating charge or error notifications.

It is possible to receive periodic load and error history files by email. To do this, it will be necessary to enter the data relating to the emails notification and to choose the frequency (Day, week or month) of the files wishing to be pushed automatically.



# Modem connection

Green'up Premium charging stations can be connected to a modem when the IP network is not available. Here are two examples of installations and configurations of modems that can be found on the market:

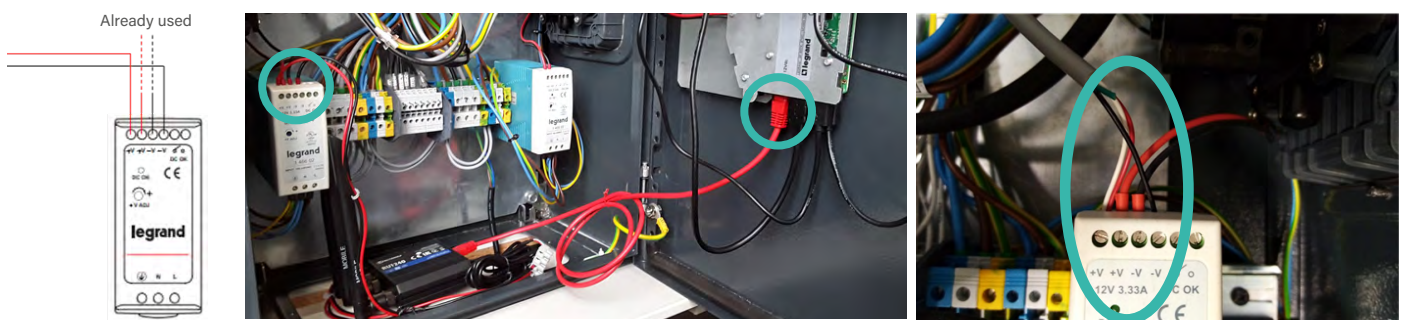
- Teltonika RUT240 modem
- Sierra LX40 modem



## Connection:

These modems must be supplied with direct current from 9 VDC to 36 VDC (30 VDC for the Teltonika RUT240 modem). It is therefore possible to supply them directly from the 12 VDC power supply of the Legrand stations but also from an external power supply.

In order to connect them from the power supply to the Legrand stations, make sure to have the same connection as shown below:



**!** The white cable and the red cable must be inserted in the same terminal. The green cable is optional, so it is not necessary to connect it (please refer to the modem installation instructions).

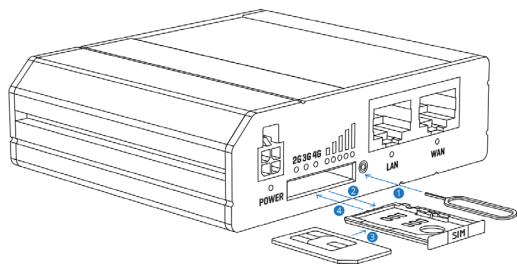
**i** A modem can be used for one or more charging stations (up to 10 charging points). It is necessary to check this point with your charging operator beforehand. The modem can be installed inside the charging station or outside, depending on the network coverage and the quality of the signal. An additional remote antenna can be added.

You must first configure the IP addresses of the station and the modem. To do this, connect your computer to the station and change the IP address (see page 10), then connect your computer to the modem and repeat the same procedure. The IP address of the communication kits is by default 192.168.1.200 and the subnet mask is 255.255.255.0. Once the IP addresses have been changed, connect the modem directly to the communication kit via the RJ45 port. The charging station is then connected to the network via the modem.

### Teltonika RUT240 modem configuration:

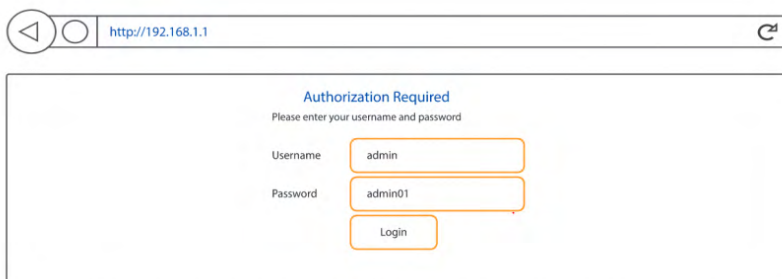
The settings described in this section are specific to the Teltonika RUT240 modem.

- First install the SIM card in the modem following the procedure described below.
- Then connect the 3 antennas to the modem and connect to the RJ45 connection as described on the previous page.

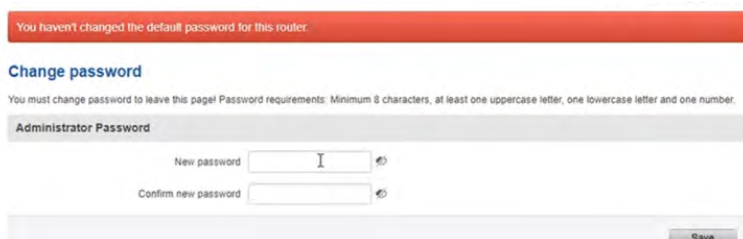


- 1- Press the button on the SIM card holder with the needle
- 2- Remove the SIM card holder
- 3- Place the SIM card in the holder
- 4- Insert the SIM card holder into the Modem

- Enter the modem's default IP address (192.168.1.1) into a search engine.
- Log in using the default user name « **admin** » and password « **admin01** ».



- Once logged in, change the default password for security reasons.



- Click on the « LAN » tab to begin configuring the modem:
  - If you have not changed the default IP address of the modem: enter an IP address from 192.168.1.1 to 192.168.1.254
  - If you have changed the default IP address of the modem: enter an IP address in the range of the new modem address

**Configuration**

General Setup
Advanced Settings

IP address

IP netmask

IP broadcast

IPv6 Address

IPv6 Prefix Length

IPv6 Prefix

**ULA Prefix**

ULA Prefix

- Click on the « Mobile Configuration » tab to set up the wireless network. To do this, enter the PIN code of your SIM card in the corresponding field.

**Mobile Configuration**

SIM 1

Connection type

Mode

Passthrough and Bridge modes are disabled when multiwan is enabled

Auto APN

Connection will be established automatically

PIN number

PUK code

Dialing number

MTU

Service mode

Deny data roaming



- Click on the « WiFi configuration » tab and change the password in the « key » field.

WiFi Configuration

Enable wireless

SSID

Mode

Channel

Encryption

Cipher

Key

Country Code

Then connect to the WiFi network generated by the modem with the password you set earlier and which you can identify with the SSID « RUT240\_FFFF » if you did not change the default SSID.

Once connected to the modem's WiFi network, you can go to a browser and connect to the charging station's web pages by entering its IP address.

## Sierra LX40 modem configuration:

The settings described in this section are specific to the Sierra LX40 modem.

- First, install the SIM card in the modem following the procedure described below.
- Then connect the antenna to the modem and connect it to the RJ45 connection as described in the modem installation instructions.
- Enter the modem's default IP address (192.169.13.31) into a search engine.
- Connect using the default user name (already entered) and the password written on the label on the modem.
- Click on the « WAN/Cellular » tab and enter the APN and the SIM card PIN.

The screenshot displays the configuration web interface for a Sierra LX40 modem. The top navigation bar includes buttons for 'Software and Firmware', 'Template', 'Refresh All', 'Reboot', 'Help', and 'Logout'. Below this, a secondary navigation bar shows tabs for 'Status', 'WAN/Cellular' (selected), 'LAN', 'VPN', 'Security', 'Services', 'Events Reporting', 'Applications', 'I/O', and 'Admin'. The main content area shows the 'WAN/Cellular' configuration page, which is updated as of 10/11/2020 at 16:48:14. The page is organized into sections: 'General', 'Cellular', 'Monitor', 'Ethernet', 'Static Configuration', and 'Policy Routing'. The 'Cellular' section is expanded, showing various settings:

Section	Parameter	Value
General	APN in Use	wlapn.com
	User Entered APN	wlapn.com
	3G RX Diversity	Disable
	SIM PIN	SIM PIN
Cellular	IP Address Preference	IPv4
	Band Setting	[+] Band Setting
Ethernet	Cellular Watchdog	[+] Cellular Watchdog
Static Configuration	Advanced	[-] Advanced
Policy Routing	Network Authentication Mode	NONE
	Network User ID	freshmile
	Network Password	*****



Static IP:

- Click on the «LAN» tab and configure the IP address from 192.168.1.1 to 192.168.1.254.
- Then set the subnet mask to 255.255.255.0 and the gateway to 192.168.1.1.
- Then click on the «Security» tab and set up as many static IPs as there are stations as described in the modem manual.

The screenshot shows the 'Security' configuration page of a modem. The 'Port Forwarding' section is active, with 'DMZ Host Enabled' set to 'Disable' and 'Port Forwarding' set to 'Enable'. Below this is a table with the following data:

	Public Start Port	Public End Port	Protocol	Host IP	Private Start Port
X	9191	0	TCP	192.168.13.31	9191
X	80	0	TCP	192.168.13.101	80

There is an 'Add More' button at the bottom right of the table.



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