

## Raption 50 Series

(((0)))

**EV Quick Chargei** 

2 00

1 🔛

User Manual

### Raption 50 Series User Manual

#### COPYRIGHT INFORMATION

This document is copyrighted, 2020 by Circontrol, S.A. All rights are reserved. Circontrol, S.A. reserves the right to make improvements to the products described in this manual at any time without notice.

No part of this manual can be reproduced, copied, translated or transmitted in any form or by any means without the prior written permission of the original manufacturer. Information provided in this manual is intended to be accurate and reliable. However, the original manufacturer assumes no responsibility for its use, or for any infringements upon the rights of third parties that may result from its use.

All other product names or trademarks are properties of their respective owners.

## Here is your guide to use and configure Raption 50 Series

1	— So, Hello!	04
2	— Features	06
	A - Main features	06
	B - Overview	07
	C - Dimensions	08
	D - Status Beacon lights	09
	E - Connectors	10
3	— How to use it?	14
	A - General	14
	B - Starting a charging session	17
	C - Special events starting a charge	20
	D - Stopping a charging session	25
	E - Charging information	27
	F - Charging summary	30

	G - Emergency button	32
	H - Connectors status	33
	I - Consulting the connectors status	35
	J - Errors	39
4	— How to configure it?	40
	A - Introduction	40
	B - What is needed?	41
	C - Network topology	42
	D - LAN connection procedure	43
	E - Setup Webpage	48
5	— Communications	62
	A - Introduction	62
	B - Teltonika RUT240 configuration	63
	C - Sierra Wireless AirLink configuration	78
6	— OCPP Integrations	88
	A - Introduction	88
	B - Previous requirements	89
	C - Starting up configuration	91
	D - Checking configuration	99



7 — Monitoring		
A - Introduction	100	
B - CirCarLife client - Connection	101	
C - CirCarLife client - Overview	103	
D - CirCarLife client - Devices	109	
E - CirCarLife client - Graphs	118	
F - CirCarLife client - Tables	121	
G - CirCarLife client - Events	125	
8 — Output power setup	126	
A - Introduction	126	
B - Maximun output power for DC	127	
C - Maximun output power for AC	132	
9 — Technical Data	134	
10 — Need help?	138	



This manual contains all the necessary information for the proper use of the Charge Point and helps the user to perform charging with a high level of efficiency and safety.

The CIRCONTROL Charge Point provides the fastest way to charge electric vehicles nowadays. Its innovative and original design provides a quick and intuitive way for recharging the electric vehicles, according to the current regulations. It can carry out loads into alternating current (AC) and direct current (DC), either individually or simultaneously.

The unit integrates an intuitive user interface and easy to use, it is an 8" touch screen by which all necessary for recharging operations are performed. It has been designed vandal-proof in compliance with all requirements regarding IK indices. In addition, the Charge Point also has a communications system that allows monitoring and control remotely via OCPP and use XML parameters and information while the recharging is being performed. This feature provides an easy way to integrate the Charge Point into superior systems that allow to the owner or system manager monitor it.

- Compliant with IEC 61851; Electric vehicle conductive charging system (IEC 61851-1, IEC 61851-22 and IEC 61851-23).
- Compliant with IEC 62196; Plugs, sockets-outlets, vehicle connectors and vehicles inlets, Conductive charging of electric vehicles (IEC 62196-1, IEC 62196-2 and IEC 62196-3).
- Compliant with CHAdeMO certification.
- Meets the CCS specification, DIN SPEC 70121. ISO/IEC 15118 ready.
- Directives: 2014/53/UE, Radio and Telecommunication Terminal equipment; 2014/30/UE, Electromagnetic Compatibility (EMC); 2014/35/UE, Low Voltage directive.
- RFID complies with ISO 14443A/B



## So, hello!



Read carefully all the instructions before using the Charge Point.

### Important safety instructions

- Read all the instructions before using and configuring the Charge Point.
- Do not use the Charge Point for anything other than electric vehicle charging modes are expected in IEC 61851.
- Do not modify the Charge Point. If modified, CIRCONTROL will reject all responsibility and the warranty will be void.
- Comply strictly with electrical safety regulations according to your country.
- Do not make repairs or manipulations with the unit energized.
- Only trained and qualified personnel should have access to the electrical parts inside the Charge Point.

- Check the installation annually by qualified technician.
- Remove from service any item that has a fault that could be dangerous for users (broken connectors, caps that don't close...).
- Use only Circontrol supplied spare parts.
- Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
- Adaptors or conversion adapters and cord extensions set are NOT allowed to be used.

# 2 A Main features

• HMI: there is a TFT colour touch screen of 8 inches, is the interface between the Charge Point and the user. Provides detailed information for starting and stopping the charge, including information concerning the recharge that is in progress (charge state of the battery, charging time remaining, etc).

• RFID: there is a radio frequency reader that allows user authentication to proceed with the recharging of the electric vehicle. At the discretion of the facility operator, the user's recharge also can be allowed or denied.

• User Management: provides a database that associates users with one or more identification cards, you can also assign consumption and charging logs.

• Beacons light: by a LED beacons located above connectors, it is indicated the charging status of the socket/connector.

• Ethernet: the unit allows communicate using TCP / IP on an Ethernet network, giving flexibility to the system operator and management of the Charge Point.

• Remote monitoring and control in real-time 3G/4G: it can be done a remote device connection or make OCPP integrations thanks to the integrated modem. In addition, by using a standard Web browser, you can access to the Charge Point to monitor the status of recharge and even run a Start / Stop remote.

• Historic charge transactions: the system is able to generate charging process reports, according to the historical database of the Charge Point.

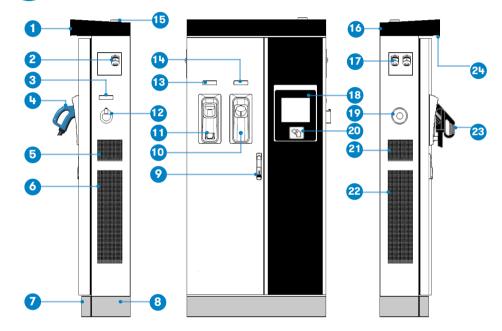
• Energy metering: Integrated meter, independent for AC and DC, is measuring power and energy consumed by the EV during a charge session.

• OCPP integration: OCPP is a communication protocol between the Charge Point and management platforms (BackOffice) for comprehensive management of charging. This integration allows, among other things, management and user authentication as well as a variety of parameters to monitor during a recharge.



## **Features**



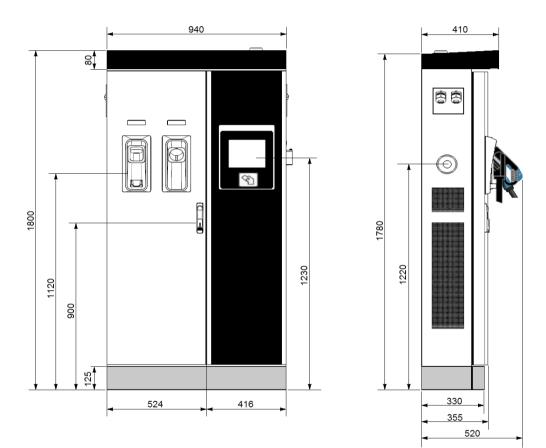


1- Cover	2- Exit AC cable	3- AC light beacon	4- CHAdeMO connector	5- Unit air inlet
6- Power Modules air outlet	7- Decorative front panel	8- Decorative rear panel	9- Handle	10- CHAdeMO holder
11- CCS holder	12- AC holder or socket 32A *	13- CCS light beacon	14- CHAdeMO light beacon	15- Antenna
16- Unit air outlet	17- Exit DC cable	18- Touch screen	19- Emergency button	20- RFID reader
21- Unit air inlet	22-PowerModules air inlet	23- CCS connector	24- Courtesy light	

(\*) Depending of the model, the components can vary.



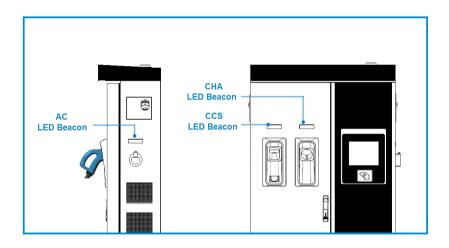
• Units specified in millimeters:







Over each connector there is a beacon light, it indicates the state of charge in which the socket/connector is located.



Colour	Status	Description
Green	Available	The connector or socket is available to start a charging session
Blue	Charging	The connector or socket is performing a charging session
Cyan	Booked (OCPP 1.5)	The connector or socket has been booked by system operator through OCPP
Red	Error	The Charging Station indicates that the emergency button has been activated or some error has occurred. Check the HMI Screen and follow the instructions



The Charge Point is equipped with three connectors of different load; these can recharge a large range of vehicles:

- AC (Mode 3): Type 2 tethered cable (63A/44kW) or Type 2 socket (32A/22kW)\*
- DC (Mode 4): CHAdeMO, Tethered cable, 3m. Until 125 A / 50 kW
- DC (Mode 4): Combo 2 (CCS), Tethered cable, 3m. Until 125 A / 50 kW
- (\*) Depending of the model, the components can vary.



The following considerations, before using this Charge Point, must be considered.

Of the three types of charges that the Charge Point can perform, it can carry out:

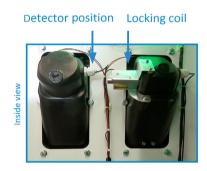
- Only AC
- Only DC CHAdeMO
- Only DC CCS 2
- Simultaneous, AC and one DC connector at the same time



### Watch Out!!

If your Charge Point is equipped with the **'Mechanical connector locking'** accesory at DC holders, is not possible to pull back the connectors from holders without first unlocking it.

There are one label placed between the CHAdeMO and the CCS holders explaining about this function. Follow the instructions given in this label and the HMI screen.



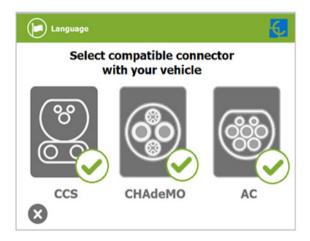
Space for the instruction label

Also, there is one Led over each holder indicating the lock state:

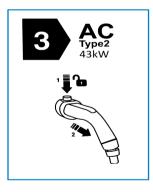
- $\mathbf{Red} \rightarrow \mathbf{Connector} \ \mathbf{locked}$
- $\mathbf{Off} 
  ightarrow$  Connector unlocked



The connectors will be delivered right in the moment than the user push over the 'Connector touching button' when choose the option in the HMI screen:



At the AC side for every Charge Point (It is not an optional device) there is a manual lock for keeping the connector, follow the indications shown on the label in order to remove the AC connector.



- 1- Push over the upper plastic button in order to release the connector.
- 2- Pull back the connector.





The first time the Charge Point is powered on, the system will take around 10 seconds for starting up, the screen will show next image:



In the lower right corner, it shows the firmware version. After that 10 seconds have passed, the first screen that appears is the screensaver,



Tap over this screen, and the HMI will skip to the next screen:



## How to use it?

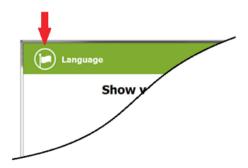


At this new screen, the Charge Point is asking for showing the identification card or touch the screen, as you can see there are two options.

The first option, showing the identification card, is the option that will let to initiate a 'Charging session' to the user that has been registered in advance or has the identification card.

The second option, touch the screen, is only to get information about the connectors status and the charging process so as to know the Charge Point availability but you cannot start or do any action over the currently charging session.

Also, at this screen and during all the process is possible to change language, pressing on the top of the screen over the **'Flag'** touch symbol:



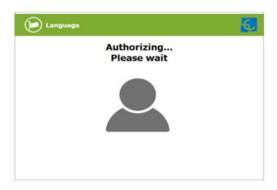
Next screen will appear, press over your language's flag:





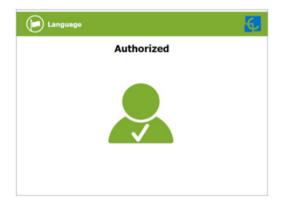


- Once you have shown your identification card, the HMI will show next screen:

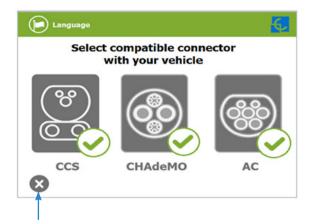


Wait while Charge Point performs identification

- If everything is correct and the user is authorized, the HMI will show next screen:



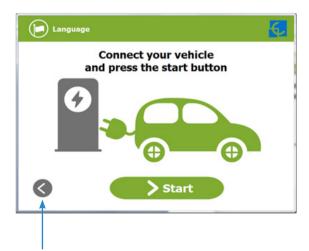
- Now, the user can choose the connector, always depending of the sort of vehicle that you have and if the connector status is available:



At any time is possible to press over this button in order to go back to the "identification screen".

- Once you have chosen your connector, instruction screens will appear successively, follow the instructions:

1- Connect your vehicle and press the 'Start' button



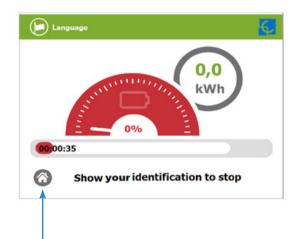
At any time is possible to press over this button in order to go back to the previous screen.



#### 2- Checking vehicle connection... Please wait



- In a few seconds, the charging session will start and the HMI will show the charging process.



Pressing over this button, the screen will go back to the "identification screen".

## **O** Special events starting a charge

**A - "Not authorized"**: some Charge Points could be working under the supervision of the main management system, called Back Office. It can generate a whitelist in order to register new users, manage charging sessions, etc. If the user is not authorized, the HMI will show the following message:



**B** - "Authorization failed": if there is some communication problem with the Back Office right at the connecting time:





**C** - "Not authorized, Concurrent charge": in this case, the identifier is already involved in another charge transaction:



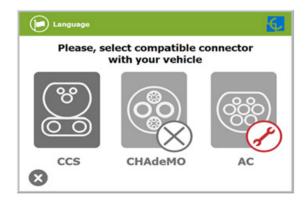
**D** - "Not authorized, Authorization expired": is possible that the back office has put deadline to your identification card and this date is already expired:



**E** - "Not authorized, Authorization blocked": is possible that the back office has blocked temporarily your identification card.



**F** – After the user has been properly authorized and just at the moment that has to choose the connector, the screen will show the connectors status, it could appear some problem. It is possible to use the connector painted in dark grey but it will be impossible to use any connector with another symbol or light grey, like next:





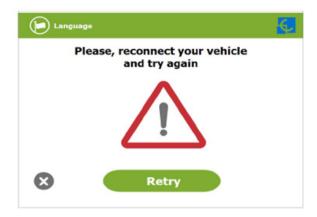
**G** - Another issue that can occur is **"Vehicle not detected"**, unlock the connector, connect again and press over **'Retry'** button.



**H** – Almost all vehicles cannot charge if the shift lever is not in parking mode position. This situation can be detected for the Charge Point and it will be displayed by HMI as **"Please, check vehicle shift position, put in parking mode"**, after press over **'Retry'** button.



I – Is possible that the problem than appears is not a concrete one, the HMI will show next screen, press over **'Retry'** button.





## **D** Stopping a charging session

- The HMI is showing the charging process and next message **"Show your identification to stop"**, the session can be stopped by the same user that has started it.



- After showing your identification card, the Charge Point will allow you to stop the charging session, press over the **'Stop'** touch button:



- Once you have stopped the charging session, the HMI will show the summary screen, press over the **'Exit'** touch button and disconnect your vehicle:

Language 🧃 Informa	ation 🧑	
Charging has finished Disconnect your vehicle		
<b>34,1 kWh</b> Energy charged	Bh50min 32s	
User request Reason for stopping		
Exit		
Thank you for using our chargers		



Depending of the kind of charging that it has been done either AC or DC, the HMI screen can show different process information.

There are different information for AC (mode 3), DC (CCS) and DC (CHAdeMO); the following images show the basic charging process information.



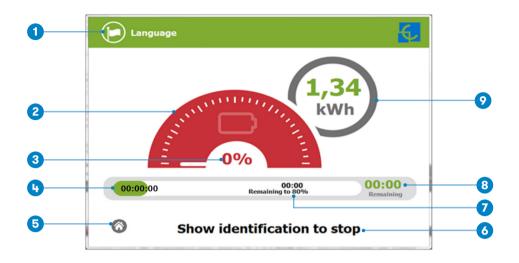
#### 1 - CHARGING AC (MODE 3)

1-Language button: pressing over this button it is possible to change the HMI language.

**2-** *Analog process indicator:* at first moment it is red, as the vehicle is charging it will change to green, passing before for orange.

- 3- Charge time with status bar: charging time elapsed so far.
- 4- House touch button: it goes back to the "identification screen".
- 5- Additional information: current status, errors, battery status, etc.
- 6- Energy charged: energy supplied to the vehicle so far.

#### 2 - CHARGING DC (CCS)



**1-** Language button: pressing over this button it is possible to change the HMI language.

**2-** *Analog process indicator:* at first moment it is red, as the vehicle is charging it will change to green, passing before for orange.

**3-** *Battery SOC:* It indicates the current battery state of charge.

4- Charge time with status bar: charging time elapsed so far.

5- House touch button: it goes back to the "identification screen".

- 6- Additional information: current status, errors, battery status, etc.
- 7- Remaining time until 80 %: remaining time until getting 80 % of the SOC.
- 8- Remaining time until 100 %: remaining time until 100 % of the SOC.
- 9- Energy charged: energy supplied to the vehicle so far.



#### 3 - CHARGING DC (CHADEMO)



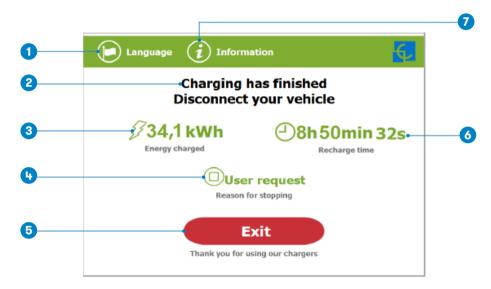
**1-** Language button: pressing over this button it is possible to change the HMI language.

**2-** *Analog process indicator:* at first moment it is red, as the vehicle is charging it will change to green, passing before for orange.

- **3-** *Battery* **SOC:** It indicates the current battery state of charge.
- 4- Charge time with status bar: charging time elapsed so far.
- 5- House touch button: it goes back to the "identification screen".
- 6- Additional information: current status, errors, battery status, etc.
- 7- Remaining time until 100 %: remaining time until 100 % of the SOC.
- 8- Energy charged: energy supplied to the vehicle so far.

## **(F)** Charging summary

The following image appears when EVs have finished charging or the session has been interrupted by the user. There are different summary screen, depending of you are charging on AC (mode 3) or DC (CCS / CHAdeMO).



#### 1 - SUMMARY SCREEN FOR AC (MODE 3)

1-Language button: pressing over this button it is possible to change the HMI language.

2- Process instructions: different instructions can be displayed.

3- Energy charged: total energy charged at the end of the charging session.

4- Stop reason: It shows why the charging session has been stopped.

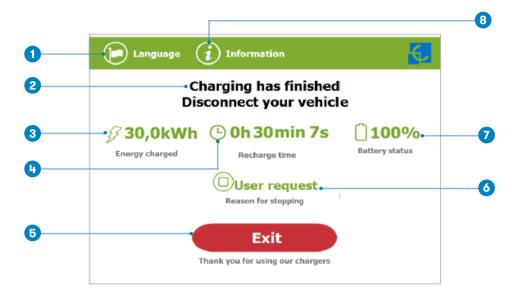
**5-** *Exit button:* It has to be pressed in order to finish the charging session. After pressing, the HMI screen will go back to the "identification screen".

6- Recharge time: total recharging time at the end of the charging session.

**7-** *Information button:* pressing over this button you can get information about the charging session, per example the "reason for stopping" or another one.



#### 2 - SUMMARY SCREEN FOR DC (CCS / CHADEMO)



1-Language button: pressing over this button it is possible to change the HMI language.

2- Process instructions: different instructions can be displayed.

3- Energy charged: total energy charged at the end of the charging session.

4- Recharge time: total recharging time at the end of the charging session.

**5-** *Exit button:* It has to be pressed in order to finish the charging session. After pressing, the HMI screen will go back to the "identification screen".

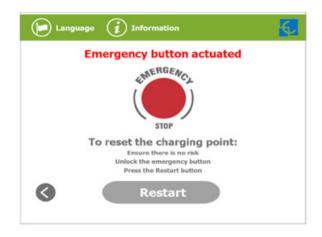
6- Stop reason: It shows why the charging session has been stopped.

**7-** *Battery* **SOC:** It indicates the final battery state of charge at the end of the charging session.

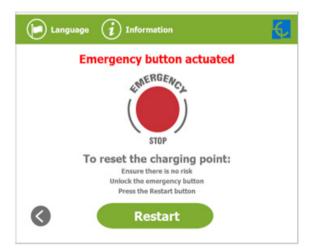
**8-** *Information button:* pressing over this button you can get information about the charging session, per example the "reason for stopping" or another one.



If for any reason the Emergency button has been pressed, the beacon lights are in red and it will not be possible to do any charge. All the power modules will shut down in order to protect the user and the own Charge Point. The HMI screen will remain power up in order to show the instructions.



At first moment, the **'Restart'** touch button will be in light grey and it will not be able for pressing, once you have unlock the emergency button, the **'Restart'** touch button will be in green and able to use.







The HMI screen shows a different symbols over the connector pictures, as you can see below:

	-Itmeansthatthereisnotanyprobleminthisconnectorand is ready for use.
6860	- This connector is out of service for any technical reason. Press over <b>'Information'</b> touch button in order to get more information about it.
	- The Charge Point is out of service because the emergency button has been pressed. This fact affects all the connectors at the same time.
	- The connector is disabled. The Charge Point is out of order due to some maintenance job or because the Back office has decided to stop it.

	- The user cannot use this connector because another user is already using it.
6860)	<ul> <li>This connector has been reserved and only will be able to use per the user that has made the reserve.</li> <li><b>NOTE:</b> if the user that has reserved the Charge Point is yourself the charging session will start normally, if not, the Charge Point will not be able to charge until the date and time displayed have expired.</li> </ul>
	- Only for DC connectors. As the Charge Point only can performance one DC charging session at the same time, CCS or CHAdeMO, it could be possible to find one of these connectors with this symbol because the other is charging or has been reserved.



## Consulting the connectors status

 $\label{eq:lispossibletopressovereach} It is possible to pressovereach connector picture to get more information about the status:$ 

#### 1 - CONNECTOR ABLE



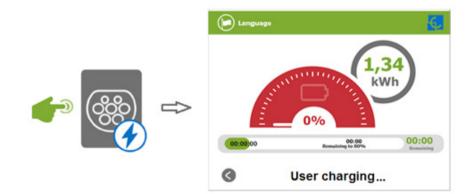
#### 2 - ERROR CONNECTOR



#### 3 - CONNECTOR DISABLE



4 - CONNECTOR IN USE

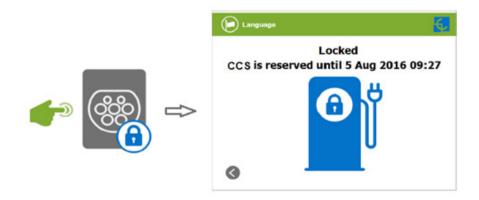




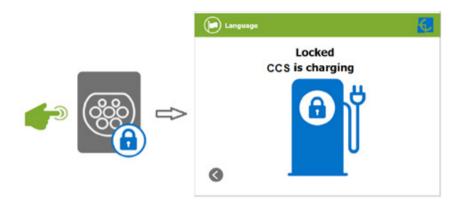
#### 5 - CONNECTOR RESERVED



#### **6 - CONNECTOR BLOCKED PER RESERVED**



#### 7 - CONNECTOR BLOCKED PER CHARGING





## J Errors

The Charge Point can report about different sort of errors, it can be from different parts or devices from it.



When the **'Error screen'** appears, the **'Information'** touch button has to be pressed in order to see the error message, as you can see below:

Errors
Chargepoint: 0x0
Plug: 0x20000
Socket: 0x2000
$\otimes$





The Charge Point can be configured and monitored to establish owner preferences or specific setup using integrated Ethernet communication port allocated in HMI screen device (see below).

OnceServicePCisconfiguredasbellowprocedureandconnectionestablishedwiththe Charge Point, direct access to the main setup page will be showed.

The Charge Point is shipped from the factory with default network setting of "DHCP enabled". It means that the Charge Point will try to obtain an IP address from a DHCP server available on the network.

Step by step below guide detailed setup an IP address to the Charge Point in case there is no DHCP server available on the network.



The Ethernet port is located at the bottom left side of the rear part of the HMI screen.



# How to configure it?

## B What is needed?

Below table shows, hardware and software needed to setup and IP address to the Charge Point.

×	- Service PC running Microsoft Windows, at least Windows XP .
	- UTP Cable (Crossover recommended)
IPSetup.exe	- IPSetup.exe (*)
	- CirCarLife Scada Client (*)

(\*) In order to get the software needed, you can download it from http://circontrol. com/downloads/ or contact with ps-support@circontrol.com

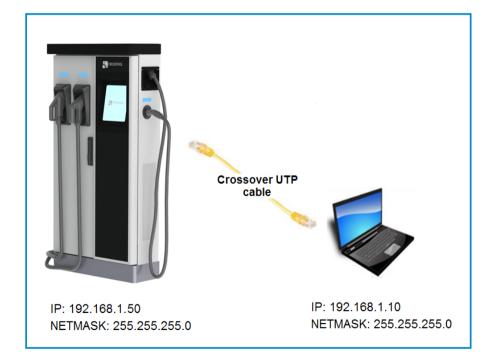


Connecting the Service PC with Charge Point needs to be done with static IP address and TCP/IP v4 protocol.

Next section shows how to do this configuration. Below image shows Ethernet connection topology and the IP addresses used in this guide as example.

For Service PC → IP: 192.168.1.10 NETMASK: 255.255.255.0

For Charge Point  $\rightarrow$  IP: 192.168.1.50 NETMASK: 255.255.255.0

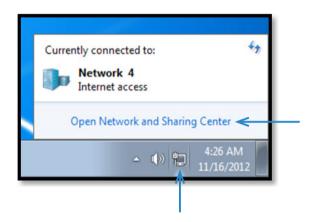




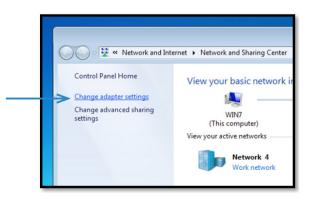
## **D** LAN connection procedure

This section provides a step-by-step guide to connect the Service PC to the Charge Point in order to see real-time status.

1- On the Service PC click over the **'Network icon'** next to the clock of the taskbar, and click on **'Open Network and Sharing Center'** 



2- On the left pane, click on 'Change adapter settings'



3- Make right click on 'Local Area Connection' and then click on 'Properties'

C V Vetwork and Interne	► Net	work connections	•
Organize   Disable this network	levice	Diagnose this connection	Rename th
Local Area Connection			
Intel 21140-Based PCI Fast Er	herr 🤫	Disable	
		Status	
		Diagnose	
	•	Bridge Connections	
		Create Shortcut	
	6	Delete	
	9	Rename	
	-	Properties	1

4- Select 'Internet Protocol Version 4 (TCP/IP)' option and click on 'Properties'

🕌 Local Area Connection Properties 🛛 🔀	
Networking	
Connect using:	
Intel 21140-Based PCI Fast Ethemet Adapter (Emulated)	
Configure	
This connection uses the following items:	
Client for Microsoft Networks	
QoS Packet Scheduler	
File and Printer Sharing for Microsoft Networks	
✓ Internet Protocol Version 4 (TCP/IPv4) ✓ Link-Layer Topology Discovery Mapper I/O Driver	i i
Install Uninstall Properties	
Description	
Transmission Control Protocol/Internet Protocol. The default	
wide area network protocol that provides communication	
across diverse interconnected networks.	
OK Cancel	



5- Setup IP address and subnet mask like as shown here below and click **'OK'** twice to complete the assigning IP address process to the computer.

his capability. Otherwise, you no or the appropriate IP settings.	automatically if your network support eed to ask your network administrator	
<ul> <li>Obtain an IP address autor</li> <li>Use the following IP address</li> </ul>		
IP address:	192 . 168 . 1 . 10	<
Subnet mask:	255 . 255 . 255 . 0	
Default gateway:		
Obtain DNS server address Use the following DNS serve Preferred DNS server: Alternate DNS server:		
Validate settings upon exit	Advanced	

6- Now execute IPSetup.exe software provided on the Service PC



- 7- Enter the following parameters and click on 'Configure'
- MAC of the Charge Point (see label on the cover's screen)
- IP address: i.e.(192.168.1.50)
- Netmask: i.e. (255.255.255.0)
- Gateway: leave default settings.

🛃 IPSetup	[	- • •
	>>	
	MAC	
	I	
	192 . 168 . 1 . 50	←
	Netmask 255 . 255 . 255 . 0	
	Gateway	
	0.0.0.0	
$ \longrightarrow $	Configure Exit	

8- Wait 30 seconds approximately until the process is complete.

Please wait...



9- The process will complete when the following message appears, click on **'OK'** 



10- If the message shown is the next one, check the following parameters and click on 'OK'



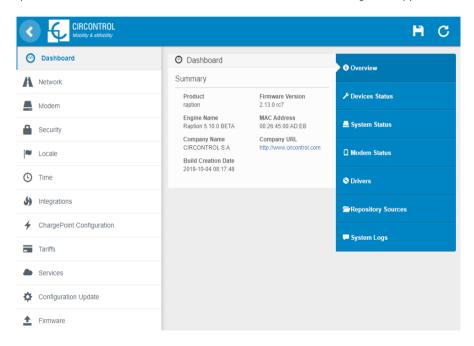
- Check IP address entered.
- Check the MAC of the device entered.
- Try with another UTP CAT5e cable.



Setup webpage allows managing network setup, upgrading devices and other options.

Once the Service PC is already connected to Charge Point, it is possible to open Setup Webpage throug the IP entered. In the example shown in the previous section, it has been set 192.168.1.50

Open a web browser on the service PC and enter this IP, next image will appear.



The webpage opened shows the **'Dashboard' Overview'** as a main screen, but there are many more options. In the next points, they will be explained.



## A) Dashboard

#### OVERVIEW

			H	С
> <sup>(2)</sup> Dashboard	O Dashboard		Overview	<
A Network	Product raption	Firmware Version 2.13.0 rc7	✤ Devices Status	
Security	Engine Name Raption 5.10.0 BETA Company Name	MAC Address 00:26:45:00:AD:EB Company URL	System Status	
Locale	CIRCONTROL S.A Build Creation Date 2019-10-04 08:17:48	http://www.circontrol.com	G Modem Status	
<ul><li>Time</li><li>Integrations</li></ul>	_		© Drivers	
4 ChargePoint Configuration			Repository Sources System Logs	
Tariffs				
<ul> <li>Services</li> <li>Configuration Update</li> </ul>				
Firmware				

#### As a relevant information, the **'Summary'** shows:

Value	Description
Firmware version	Version of the firmware currently installed in the Charge Point
MAC Address	Identifier of the network card of the Charge Point

#### DEVICES STATUS

Dashboard	Dashboard     Devices Status		Overview
Network			► Devices Status
Security	Device Name	Status ٨	P Devices Status
🛈 Time	Serial	Ok	💻 System Status
Integrations	EVSE	Ok	Orivers
Services			Repository Sources
Firmware			E System Logs

In this section, it can be consulted the status of the devices which are communicating via RS-485.

As a relevant information, the 'Devices Status' shows:

Value	Description
Device name	Name of the devices inside the Charge Point
Status	OK: online
Status	NOT OK: offline



#### SYSTEM STATUS

← → C ① 192.168.1.11/html/setup.html					№ ☆
					H C
🕑 Dashboard	O Dashboard				Overview
A Network	System Status				-
Security	Uptime 7h07m02s		MemUsed 72.00%		
() Time	MemTotal 244 MB		MemFree 68 MB		System Status
Integrations	cpu_usr 24%		cpu_sys 25%		© Drivers
Services	disk_used 109.6M		disk_available 1.3G		EREPOSITORY SOURCES
Firmware	Ethernet RX/TX 2.9 MiB / 5.6 MiB				루 System Logs
	Network Status				
	Protocol	Local Address	Foreign Address	State	
	tcp	0.0.0.0:50000	0.0.0.0:*	LISTEN	
	tcp	0.0.0.0:webcache	0.0.0.0:*	LISTEN	

The information shown in this section is basically relative to the state of the PC of the Charge Point. It is necessary for the technical service staff but does not show any information regarding to the external connection of the Charge Point or to the charging session.

#### DRIVERS

 $\rightarrow$ 

← → C (192.168.1.11/html/setup.html		@ ☆ :
CIRCONTROL Mobility & eMobility		H C
🔭 Dashboard	O Dashboard	Overview
A Network	Drivers	
Security	A8 Embedded CEM-C20	✗ Devices Status
C Time	CEM-C30 M3CD	System Status
Integrations	Mode 4 DELTA	O Drivers
<ul> <li>Services</li> </ul>	TCP2RS ModbusTCP Tag reader	
		Repository Sources
Firmware		🗭 System Logs

The information shown in this section refers to the drivers that the Charge Point needs in order to recognize the different devices inside the Charge Point, such as the meters, the mode 3, the RFID reader, etc.



#### REPOSITORY SOURCES

	$\leftrightarrow$ $\rightarrow$ C $(192.168.1.11/html/$	setup.html	@☆:
	CIRCONTROL Mobility & eMobility		H C
<b>&gt;</b>	② Dashboard	O Dashboard	Overview
	A Network	Platform Sources	
	Security	/var/svn/charger20kw/branches/162800_Raption_50_kW → 304	✗ Devices Status
	C Time	/var/svn/circarlife/hmi/branches/162800_Raption_50_kW/src + 5977	E System Status
	Integrations	Web Setup Sources	🛇 Drivers
	Services	/var/svn/embedded-web/branches/P162800_Raption_50 → 104	Repository Sources
	1 Firmware	/var/svn/circarlife/integrations/branches/162800_Raption_50_kW/ocpp1.5 → 5843 Engine Sources	루 System Logs
		/var/svn/circarlife/raption/branches/162800_Raption_50_kW/motor → 5975	

The information shown in this section is basically related to the internal behavior of the Charge Point.

#### SYSTEM LOGS

O Dashboard       O Dashboard       O Overview         Network       System Logs       O Overview         Date A       Source       Severity       Message       A Devices Status         O Time       Sep 15 16:55:10       raption       userer       pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled       System Status         Services       Sep 15 16:55:09       raption       userer       pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled       O Drivers         Services       Sep 15 16:55:09       raption       userer       pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled       O Drivers         Services       Sep 15 16:55:08       raption       userer       pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled       Sep 15 16:55:08       Services         Services       Sep 15 16:55:08       raption       usererr       pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled       Sep 15 16:55:08       Services         Sep 15 16:55:08       raption       usererr       pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled       Sep 15 16:55:08       Services       Sep 15 16:55:08       Services       Sep 15 16:55:08       Services       Servic						≊ ☆ 『
Network       System Logs       Pate A       Source       Severity       Message       A log       Polycices Status         Image: Security       Image: Security       Sep 15 16.55.10       raption       userer       pss[211] PLUG DC: Sockets SHOULD have Emergency enabled       Image: Security       Image: Security       Image: Security       Security       Security       Image: Security       Image: Security       Image: Security       Security       Image: Security       Se			rd			
Security       Source seventy message       Source seventy message         Sep 15 16 55:10       raption       userer       psg[211]: PLUG DC: Sockets SHOULD have Emergency enabled         Integrations       Sep 15 16:55:10       raption       userer       psg[211]: PLUG DC: Sockets SHOULD have Emergency enabled         Integrations       Sep 15 16:55:09       raption       userer       psg[211]: PLUG DC: Sockets SHOULD have Emergency enabled         Services       Sep 15 16:55:09       raption       userer       psg[211]: PLUG DC: Sockets SHOULD have Emergency enabled         Services       Sep 15 16:55:08       raption       userer       psg[211]: PLUG DC: Sockets SHOULD have Emergency enabled         Firmware       Sep 15 16:55:08       raption       userer       psg[211]: PLUG DC: Sockets SHOULD have Emergency enabled	A Network	System Logs				<b>Overview</b>
Sep 15 16:55:10       raption       user.err       pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled       Image: Sep 15 16:55:10       Sep 15 10:55:10 <t< td=""><td>A Security</td><td>Date 🔨</td><td>Source Sev</td><td>verity</td><td>Message</td><td>✗ Devices Status</td></t<>	A Security	Date 🔨	Source Sev	verity	Message	✗ Devices Status
One         Sep 15 16:55:10         raption         usererr         pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled           Integrations         Sep 15 16:55:09         raption         user.err         pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled         © Drivers           Services         Sep 15 16:55:08         raption         user.err         pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled         © Repository Sources           Firmware         Sep 15 16:55:08         raption         user.err         pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled         © Repository Sources	Security	Sep 15 16:55:10	raption use	er.err	pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled	
Integrations     Sep 15 16:55:09 raption user.err pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled     Sep 15 16:55:08 raption user.err pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled     Firmware     Sep 15 16:55:08 raption user.err pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled	C Time	Sep 15 16:55:10	raption use	er.err	pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled	System Status
Services     Sep 15 16:55:08 raption user.err pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled     Firmware     Sep 15 16:55:08 raption user.err pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled	Integrations	Sep 15 16:55:09	raption use	er.err	pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled	S Drivers
Sep 15 16:55:08 raption usererr pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled     Firmware Sep 15 16:55:08 raption usererr pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled		Sep 15 16:55:09	raption use	er.err	pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled	
	<ul> <li>Services</li> </ul>	Sep 15 16:55:08	raption use	er.err	pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled	Repository Sources
	Firmware	Sep 15 16:55:08	raption use	er.err	pss[211]: PLUG DC: Sockets SHOULD have Emergency enabled	두 System Logs

The logs shown in this section are automatically produced by the Charge Point. It is a detailed list of the charging sessions, system performance or user activities.

When Charge Point is powered ON, system begins to register log files. If the Charge Point is restarted these logs are lost and immediately are created new ones.

However, it is highly recommended to check log files in the next URL:

http://IPADDRESS/services/cpi/log



### **B)** Network

This section provides basic configuration of the network parameters.

CIRCONTROL Mobility & ofMobility		H C
Dashboard	A Network	
A Network	Hostname	Public Address Manager
Modem	raption-4500adeb	Address Type Local Address
Security		
Locale	DHCP	DNS Primary DNS server
( Time	OFF	192.168.11.3
Integrations	DHCP Client	Secondary DNS server
ChargePoint Configuration		
Tariffs	IP Address Settings	
Services	IP Address	Netmask
Configuration Update	192.168.11.45	255.255.240.0
Firmware	Gateway	
	192.168.11.3	

In the table below there are explained the different sections of 'Network'

Value	Description
Hostname	Name of the Charge Point on the network.
DHCP	Enable or disable the IP address assignment by a DHCP server (router). To be enabled when working with the integrated modems.

Value	Description
	Select the source of the public IP to be used in OCPP 1.5:
	• Local address: select this option if the OCPP central system is connected to the same private local network than the Charge Point.
	• <b>Static address:</b> select this option if the external modem/router is different than the ones listed below. It shall have static public IP address. Check it with your SIM provider.
Addases Tures	<b>NOTE:</b> public IP address must be entered manually in the "Public IP" text box.
Address Type	• <b>SIERRA Wireless Raven XE H2295EW:</b> select this option only when SIERRA Wireless RAVEN XE cellular router is connected to the Charge Point.
	• <b>SIERRA Wireless AirLink LS300:</b> select this option only when SIERRA Wireless AirLink LS300 cellular router is connected to the Charge Point.
	• <b>Circutor SGE-3G/GPRS:</b> select this option only when Circutor SGE-3G/GPRS cellular router is connected to the Charge Point.
	• <b>Teltonika RUT240 LTE:</b> select this option only when Teltonika RUT240 LTE cellular router is connected to the Charge Point.
DHCP Client ID	Client ID associated to the DHCP server (if available).
Public IP Displayed when 'Static Addess' option is selected in Address Manager' section. Introduce the static public the external modem.	
IP Address	IP Address assigned to the Charge Point.
Netmask	Netmask of the network.
Gateway	Gateway of the network.
DNS Servers	DNS servers of the network.



## C) Modem

If password is changed in the modem, it needs to be adjusted in the Charge Point too. Otherwise communication between modem and Charge Point will be lost.

			Ħ	С
Dashboard	📕 Modem			
A Network	Reset Web Password			
📥 Modem	on			
Security	Web User			
Locale	burnin			
C Time	Web Password	Repeat Web Password		
Solutions				
ChargePoint Configuration				
Tariffs				
Services				
Configuration Update				
Firmware				

Value	Description
Reset Web Password	Charge Point will use default modem password after saving settings when selecting "ON".
Web Password	Introduce the new password that will be used on the modem side.

## D) Security

This section provides basic configuration of the security parameters. Once configured, user and password will be required to enter in the Setup Webpage, avoiding unauthorised access.All parameters are disabled from factory settings.

		H C
Oashboard	Security	
A Network	Authentication OFF	
A Modem	User Name	
Security	Password	Repeat password
Locale	Fassword	
Time		
S Integrations		
4 ChargePoint Configuration		
Tariffs		
Services		
Configuration Update		
Firmware		

Value	Description
Authentication	<b>ON:</b> authentication enabled <b>OFF:</b> authentication disabled
User Name	
Password	Username and Password authentication for Setup web page
Repeat password	

**NOTE:** Do not forget the credentials. There is no way to restart the Charge Point to default factory settings.



## E) Time

This section allows setting the time and region time for the Charge Point.

		H C
Oashboard	O Time	
A Network	Time Zone	Primary NTP server
L Modem	UTC	
Security	Time	Secondary NTP server
Cocale	Sync Device Time 4/12/2019 17:07:35	
Time		
S Integrations		
ChargePoint Configuration		
Tariffs		
Services		
Configuration Update		
Firmware		

Next, we will explain the different sections of the 'Time'

Value	Description
Time Zone	Select the regional time for the Charge Point according to the location
Time	Current date and time of the Charge Point
Primary NTP Server	
Secondary NTP Server	Synchronize the time through internet automatically

## F) Locale

In **'Locale'** section there are two parameters that can be adjusted.

		H	С
Ø Dashboard	l∾ Locale		
A Network	Language		
Modem	English		
Security	Currency British pound (£)		
Eocale			
C Time			
Integrations			
ChargePoint Configuration			
Tariffs			
Services			
Configuration Update			
Firmware			

Value	Description
Locale	Language can be selected here. However, it is prefered to use the section available in the <b>'Services'</b> section.
Currency	Select the currency from your country.



## **G**) Integrations

Clicking over the 'Integrations' tab, user will be able to activate OCPP integrations.

	H C
Dashboard	<ul> <li>Integrations</li> </ul>
A Network	Available Integrations Setup Page (OCPP 1.6)
A Modem	OCPP 1.6
Security	
Locale	
() Time	
> integrations	
ChargePoint Configuration	
Tariffs	
Services	
Configuration Update	
Firmware	

**NOTE:** the integration of the Charge Point needs a separate chapter. In the next chapter number 6 it is explained how to integrate OCPP.

## **H)** Charge Point Configuration

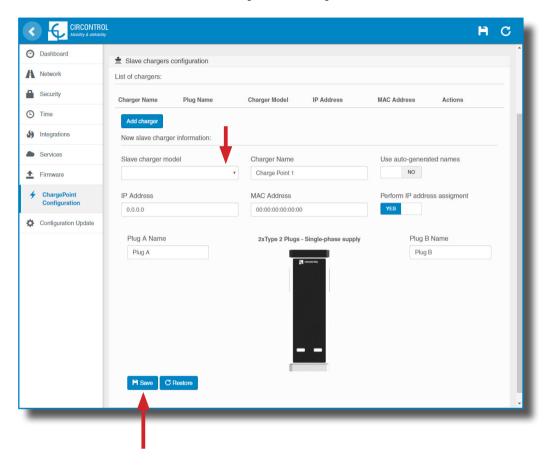
This section applies ONLY when the Raption is working as a Master, as a part of our Master-Slave solution. Please, if that is not the case, skip this section.

The Charge Point is capable of balancing the available power based on the number of outlets in use.

<		Ĺ					H	С	
0	Dashboard	PowerBalance							
A	Network	Enable Power Bala		al Consumption	PowerBalance C	Configuration			
•	Security	NO	0		H Save				
©	Time								
6	Integrations	🛓 Slave chargers c	onfiguration						
-	Services	List of chargers:	oninguration						
±	Firmware	Charger Name	Plug Name	Charger Model	IP Address	MAC Address	Actions		
+	ChargePoint Configuration	Add charger							
۵	Configuration Update								

Value	Description
Enable Power Balance	<b>YES:</b> the Charge Point shares equally the power delivered to each ongoing Charge Transaction without exceeding the limit configured.
	<b>NO:</b> the Charge Point does not take in consideration any limit, giving the maximum power for each connector.
Total Consumption	Maximum current value offered by the Charge Point that shares between the ongoing Charge Transactions.
	<b>*NOTE:</b> This value must be equal or higher than 6A multiplied by the number of outlets. Meaning that it must be equal or higher than the sum of current delivered when all outlets are charging at the minimum.





More fields are shown when selecting a 'Slave charger model'.

By clicking the **'Save'** button, all the configuration inside **'Slave chargers configuration'** is applied. Before doing so, make sure all fields are properly filled.

Consider that Master Charge Point reboots after clicking 'Save' button.

Do not perform these actions meanwhile a Charge Transaction is active.

Value	Description
Slave charger model	List of Slave Charge Point models.
	<b>*NOTE:</b> Select it carefully according to the model described on the label.
Charger Name	Allows to specify the name of the charger.
	<b>*NOTE:</b> this name only serves as a label, it does not affect the correct operation of the equipment.
Use auto-generated	<b>YES:</b> 'Charger Name' assigned by default.
names	<b>NO:</b> 'Charger Name' can be edited manually.
IP Address	IP address of the Slave Charge Point
MAC Address	MAC address of the Slave Charge Point
Perform IP address assigment	<b>YES:</b> when clicking the <b>'Save'</b> button on the bottom of the web- page, the desired IP address is assigned to the Slave Charge Point with the MAC address specified.
	<b>NO:</b> when clicking the <b>'Save'</b> button on the bottom of the web- page, the Slave Charge Point with the IP address specified is added to the list ignoring the MAC address field.
Plug A Name	Plug A name can be edited manually.
	<b>*NOTE:</b> this name is shown on the Master Charge Point screen
Plug B Name	Plug B name can be edited manually.
	<b>*NOTE:</b> this name is shown on the Master Charge Point screen

## I) Tariffs

In this section, it can be adjusted the cost of a charge transaction in the Raption station. These settings are just displayed to inform the customer.

It is necessary to work with an integrated system for the payment, such as Kit VISA or OCPP Integrations. The payment will be done through one of these platforms.

As explained in the previous paragraphs, this is just information for the final user. When adjusting these settings, they will be displayed in the charger screen even if there is not a platform in charge of the receipt.

Make sure that values are set according to the final price from these platforms.

					н	С
② Dashboard	Tariffs					
A Network	Price Limit					
Modem	20	Enable				
Security	AC				Enable	
Locale	Description	Price	Units	Enabled		
🕒 Time	Toll fee to charge		£	ON		
Integrations	Price per energy consumed		£/kWh	ON		
ChargePoint Configuration	Price per time of charge		£/min	ON		
<b>Tariffs</b>	DC				Enable	
Services	Description	Price	Units	Enabled		
Configuration Update	Toll fee to charge		£	ON		
1 Firmware	Price per energy consumed		£/kWh	ON		
	Price per time of charge		£/min	ON		
	Restore					

Remember to press 'Save button to apply the settings.

Value	Description
Price Limit	Maximum cost of the charge transaction
Toll fee to charge	Price of a new charge transaction.
Price per energy consumed	Amount of money to be payed based on the energy delivered to the EV
Price per time of charge	Amount of money to be payed based on the duration of the charge transaction

There are few parameters that can be adjusted:

All these settings can be combined according to the customer preferences.



## J) Services

In this section, there can be adjusted many settings related with the Display.

Clicking over the '**Services'** tab, next image will appear.

Dashboard	Services	
Network	Grid Test	
Modem	OFF	
Security	Charge Point HMI Configuration	
occany	Default Language (English)	Error view timeout (s)
Locale	English	• 10
Time	URL or email support	Enable URL or email support
Integrations	www.circontrol.com	OFF
ChargePoint Configuration	Authentication	
Tariffs	ON	
Services	User	Password
Configuration Update	admin	
Firmware	Screensaver	

Value	Description
Grid Test	HMI shows a test screen to check that touch function works properly.
Default language	It is possible to choose the default language for the HMI screen
Screensaver	Timeout for screensaver can be adjusted

Tariffs	Advertisements			
Services	ON			
Configuration Update	Images interval (s)			
Firmware	5			
	Upload Images			
	File	Size	Status	Actions
	File Select File	Size	Status	Actions
		Size	Status	Actions
		Size	Status	Actions

Value	Description
Advertisements	*It is possible to customize the Screensaver image by uploading a .zip file.
Images interval (s)	Period of time before each image swaps to the next.

There are a few restrictions regarding to the file that can be uploaded:

- File must be ZIP format, otherwise won't be accepted.
- If a new ZIP file is uploaded, previous images will be replaced by the new ones.
- ZIP file up to 20 megas. Every image up to 3 megas.
- If image weight is higher than 3 megas, it will be discarded.
- Up to 25 different pictures.
- Pictures are displayed in alphabetic order.
- Accepted formats: BMP, GIF, JPG, JPEG, PNG, PBM, PGM, PPM, XBM, XPM.
- Higher resolution than 800x600, will be cut according to the display size,



### **K)** Configuration Update

Configuration Update refers to the internal application of the Charge Point. With this file, HMI knows which drivers has to expect and which components should be communicating. Those vary depending on the model of the charger.

<		OL <sup>exy</sup>				н	С
Ø	Dashboard	Configuration Update					
A	Network	File	Size	Status	Actions		
	Security	Select File					
٩	Time						
59	Integrations						
-	Services						
±	Firmware						
	ChargePoint Configuration						
٥	Configuration Update						

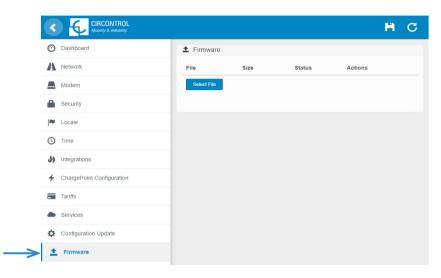
A window will pop up in order to choose the file, then click on 'upload'.

A Netw	vork	Configuration U								
<b>D</b>		File			Size	Status	Actions			
Secu	urity	configuration.tar			75.97 MB		Upload	Ø Cancel	Remove	
Time	э	Upload File Progress	1							
) Integ	grations									
Servi	rices									
Firm	ware									
	rgePoint figuration									
	nfiguration date									

To obtain the appropriate configuration file, please contact CIRCONTROL Post Sales Department.

## L) Firmware

Through 'Firmware' tab, the Charge Point firmware can be upgraded remotely.



A window will pop up in order to choose the file, then click on 'upload'.

	H C
Ø Dashboard	1 Firmware
A Network	File Size Status Actions
Security	firmware.upgrade 75.96 MB O Upload O Cancel
C Time	Upload File Progress
Integrations	
Services	
1 Firmware	
<ul> <li>ChargePoint Configuration</li> </ul>	
Configuration Update	
-	



To obtain the latest firmware version, please contact CIRCONTROL Post Sales Department.



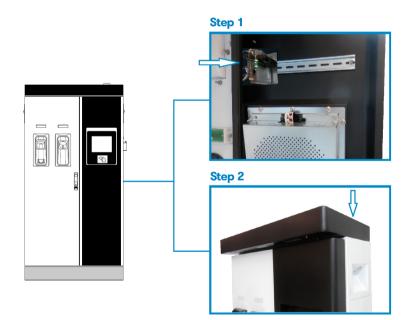




This section describes how to install the SIM card and setting up the modem. The modem that has been installed in Raption series can be two models, Teltonika RUT 240 or Sierra Wireless AirLink LS300.

#### Modem location

The modem is installed inside the unit and the antenna is fixed outside, right on the Charge Point's roof.



#### Steps:

1- Open the right door of the Charge Point and locate the modem, right on the rear side.

2- Check that the Charge Point is provided with the antenna on the cover top.



## Teltonika RUT 240

# **B** Teltonika RUT 240 configuration

#### 1 - MODEM OVERVIEW

The 4G modem installed from factory in the Charge Point is:

#### Teltonika RUT240



This device allows to the Charge Point connects over 4G networks to remotely view or manage the Charge Point status. RUT240 is part of the RUT2xx series of compact mobile routers with high speed wireless and Ethernet connections.





1	LAN Ethernet port	7	Signal strength indication LEDs
2	WAN Ethernet port	8	SIM card holder
3	LAN Led indicator	9	WiFi antenna connector
4	WAN Led indicator	10	Reset button
5	Power connector	11	LTE antenna connectors
6	Power LED		

#### 2 - CONNECTION STATUS LED

Explanation of connection status LED indication:

- 1. Signal strength status LED's turned on: router is turning on
- 2. 2G and 3G LED's constant blinking every 1 sec: no SIM or bad PIN
- 3. 2G/3G LED's blinking every 1 sec: connected 2G/3G, but no data session established
- 4. Blinking from 2G LED to 3G LED repeatedly: SIM holder not inserted
- 5. 2G/3G LED turned on: connected 2G/3G with data session

6. 2G/3G LED blinking rapidly: connected 2G/3G with data session and data is being transferred.





#### 3 - SIM CARD INSTALLATION

Explanation of SIM card installation:

Insert SIM card which was given by your ISP (Internet Service Provider). Correct SIM card orientation is shown in the picture.



- 1. Push the SIM holder extract button
- 2. Pull out the SIM holder
- 3. Insert the SIM card
- 4. Push in the SIM holder

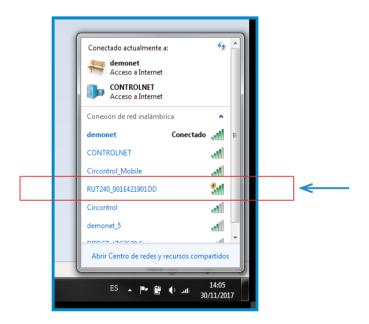
After installing the SIM card, check out that the 4G antenna (mobile), WiFi antenna and the power connector are properly attached.

**NOTE:** SIM card is not provided with equipment.

#### 4 – LOGGING IN

After you're complete with the setting up as described in the section above, you are ready to start logging into your router and start configuring it. This example shows how to connect through WiFi:

4.1 At your service computer, look for access point named RUT240\_xxxxxxxxx, and connect on it.





4.2 Open a web browser and type *http://192.168.1.1* . Use the following parameters when prompted for authentication, and then either click Login with your mouse or press the Enter key.

User name: **admim** Password: **admin01** 

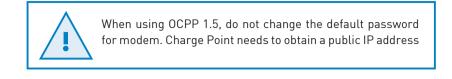
👯 Teltonika-	RUT240.co	m - Web 🛛 🗙	+	THE R. LEWIS CO., LANSING MICH.
$\leftrightarrow \rightarrow c$	÷۵		î 💋	192.168.1.1/cgi-bin/luci
		<b>(TEL</b>	ΤΟΝΙΚΑ	1
		Autho	rization	Required
		Please enter	your usernar	me and password.
		Username	admin	
		Password	•••••	
			Login	
	Teltonika	a solutions		www.teltonika.lt

You have now successfully logged into the RUT240!, from here on out you can configure almost any aspect of your router.

4.3 **Configuration Wizard** will start after logging in. It is necessary to complete Configuration Wizard to setup modem to the correct mode.

Go to **Status**  $\rightarrow$  **Network**  $\rightarrow$  **Mobile** and pay attention to 'Sim card state' field, it has to be *Ready*.

÷		0 192.168.1.1	/cgi-bin/lud/;stok=15	ede55410566	0443ce36b5a4f8ff1ca/admin/status/netinfo		
<	TELTONIKA	Status -	Network - S	ervices -	System -	Logout	▲
	You haven't changed the	default passw	ord for this router. To	change route	r password click here.	-	← /I`
ſ	Mobile WAN LAN	Wireless	OpenVPN VRR	P Access			<u> </u>
	Mobile Informa	tion					See not
	Mobile all						next p
	Data connection state						
	IMEI		861107031557813				
	IMSI		214017501304502				
	ICCID		893456750100034	2653F			
$\geq$	Sim card state		Ready				
-	Signal strength		-77 dBm				
	Cell ID		15065313				
	RSCP		-75 dBm				



4.4 **Network Mobile configuration.** Here you can configure mobile settings which are used when connecting to your local network.

Go to **Network**  $\rightarrow$  **Mobile**  $\rightarrow$  **General** > *Mobile Configuration* 

eltonika-RUT240.com - Overvi 🗙	+			_	_	_				9 <b>-</b> 010	
→ C @ @	) 🔏 192.168.1.1	/cgi-bin/luci/;stok=49	96cc89d8	bf3878e08d1710	e13c06ba/a	idmin/network/mob	ile/general/	♥ ☆	Q Buscar	lii\	60
<b>TELTONIKA</b>	Status -	Network 🔹 Serv	vices -	System -				Log	out 🖻		
You haven't changed the	default password	for this router. To ch	nange rou	iter password ell	ck here.						
General Mobile Data	a Limit										
Mobile Configura	tion										
Mobile Configuration	uon										
Mobile Configuration	Connection type	QMI 💌									
	Mode	NAT									
<u> </u>	APN	[									
	PIN number										
	Dialing number	*99#									
Aut	thentication method	None 💌									
	Service mode	Automatic 💌									
	Deny data roaming										
	Use IPv4 only	<b>V</b>									
Mobile Data On Demand											
	Enable										
	o data timeout (sec)	10									
Force LTE network	Enable										
	Reregister										
	Interval (sec)										
								0.00			
								Save			
Teltonika solutions							,	www.teltonii	ka.lt		

Type the APN from your SIM provider and push over 'Save' tab.

#### NOTES:

1. If your SIM provider require any authentication ask them about what type, PAP or CHAP, select it on 'Authentication method' field and introduce a password and username.

2. If you need to do some custom over the modem configuration, ask the Circontrol PS-Support staff in order to get the Teltonika modem manual.



4.5 In order to know if the connection has been done properly, check next steps:

Go to Status  $\rightarrow$  Network  $\rightarrow$  Mobile and pay attention to Data connection state, it has to be Connected

🖑 Telto	onika-RUT2	40.com - C	wervi X	+					
€-	→ C <sup>i</sup> 1	ŵ	0	192.168.1.1/	:gi-bin/luci/;sto	ok=60216	ef007effb4	db184bcee999cae98/ad	min/status/netinfo/mobile/
4	TEL	TONI	KA	Status -	Network	Serv	ices -	System -	Logout
	You have	n't chang	ed the de	efault passwo	ord for this rou	ıter. To ch	ange route	er password click here	
	Mobile	WAN	LAN	Wireless	OpenVPN	VRRP	Access		
	Mot	oile Infe	ormatio	on					
	Mobile	all.							
	Data co	innection s	state		Connected	-		_	
	IMEI				8611070315	557813			
	IMSI				214017501	304502			
	ICCID				893456750	1000342653	BF		
	Sim car	rd state			Ready				
	Signal :	strength			-77 dBm				
	Cell ID				15065313				
	RSCP				-75 dBm				

Go to  $\textbf{Status} \rightarrow \textbf{Network} \rightarrow \textbf{WAN}$  and pay attention to IP address, the modem must has found a public IP address

→ C' û	③ 192.168.1.1	/cgi-bin/luci/;stok=	d3a035145102	8aa79b6ec0e44b4bea16/adm	in/status/netinfo/wan/
TELTONIK	A Status	Network -	Services -	System -	Logo
You haven't change	d the default passw	ord for this router.	. To change rou	ter password click here.	
Mobile WAN	LAN Wireless	OpenVPN V	RRP Access	3	
Interface		Mobile			
WAN					
		QMI	_		
Туре					
Type IP address		77.209.11.31	$\leftarrow$		
		77.209.11.31	2		
IP address			2		
IP address Netmask		255.255.255.19	2		
IP address Netmask Gateway		255.255.255.19 77.209.11.32	2		

Go to **Status**  $\rightarrow$  **Network**  $\rightarrow$  **LAN**  $\rightarrow$  *DHCP Leases* and pay attention to *IP addresses* 

( <del>←</del> ) →	<b>û</b> ()	192.168.1.1/cg	i-bin/luci/;stok=	d9f6bb7e4t 90%	🚥 🛡 🏠 🔍 Busco	ur	III\ 🗊
		<b>VIKA</b> Sta	tus - Netwo	ork Services	System -		Logout
	You haven't change	d the default pass	word for this rou	ter. To change router	password click here.		
	Mobile WAN	LAN Wire	eless OpenV	PN VRRP	Access		
	LAN Informa	tion					
	LAN Information						
	Name	IP address	Netmask	Ethernet MAC addr	ess Connected for		
	Lan	192.168.1.1	255.255.255.0	00:1E:42:19:01:DB	0h 5m 13s		
	DHCP Leases						
	Hostname	IP address	LAN name	MAC address	Lease time remaining		
$\rightarrow$	Service PC	192.168.1.206	Lan	A0:88:69:27:D4:B8	11h 56m 3s		
$\rightarrow$	raption-4500c402	192.168.1.240	Lan	00:26:45:00:C4:02	11h 55m 23s		
	Ports		•				
					×.		
						Refresh C	

At **'DHCP Leases'** check that the modem has detected the automatic IP address and MAC number for both, your Service PC and the Charge Point.

#### NOTES:

1. If the modem has not detected the automatic IP address, switch off the Q10.1 circuit breaker, wait for 10 seconds and switch on again. Connect again your Service PC to the access point named RUT240\_xxxxxxxxx, and repeat the steps 4.2 y 4.5

2. To make sure that the Charge Point's MAC number is correct, it can be seen in one label behind the HMI screen.





#### 4.6 Go to **Network** $\rightarrow$ **LAN** > *Static Leases*

   		1.1/cgi-bin/luci/;stok=d9f6bb7e46	90% ··· 🛛 🏠 🔍 Buscar	lii\ 🗉
	<b>TELTONIKA</b>		vices - System -	Logou
		Start 100		
		Limit 150		
•		Lease time 12	Hours	
	Static Leases			
	Hostname	MAC address	IP address	
->	Raption	00:26:45:00:c4:02 (192.168.	1.240) • 192.168.1.50 • Dele	te
			• Dele	te
	Add			
	IP Aliases			
	There are no IP aliases created	l yet		
	Add			
			>[	Save

Complete the fields with next information:

Hostname - It can be written the name that you want for your Charge Point

MAC address - It will be the MAC number found behind the HMI screen, on the label

*IP address - 192.168.1.50* 

After filling the fields, push over **'Save'** button.

4.7 Disconnect the MCB Q10.1 inside the Charge Point in order to do a hard reset over the modem and the HMI screen, after 10 seconds switch ON again the MCB.



- 4.8 Repeat again the points 4.1 and 4.2 explained above:
  - 4.1 look for modem access point and connect on it.
  - 4.2 log on modem webpage with authentication.



4.9 Now, go again to **Status**  $\rightarrow$  **Network**  $\rightarrow$  **LAN**  $\rightarrow$  *DHCP Leases* and confirm that the information written at the point 4.6 has been successfully recorded:

Hostname - the name given for Charge Point

MAC address - the MAC of the Charge Point

IP address - 192.168.1.50

	Mobile WAN L	AN Wireless Ope	NVPN VRRP Access	i -	
	LAN Information	n			
	LAN Information				
	Name	IP address	Netmask	Ethernet MAC address	Connected for
	Lan	192.168.1.1	255.255.255.0	00:1E:42:19:01:DB	0h 59m 17s
	DHCP Leases				
>	Hostname	IP address	LAN name	MAC address	Lease time remaining
-	Raption	192.168.1.50		00:26:45:00:C4:02	11h 30m 52s
	Service PC	192.168.1.206	Lan	A0:88:69:27:D4:B8	11h 59m 47s
	Ports				
				wAN	Refresh

#### 4.10 Go to **Network > Firewall > Port Forwarding >** *New Port Forward Rule*

(),,TEL	LTONIKA Stat	us • Network • Service	s System	I
You haven't changed the	e default password for this	s router. To change router passw	ord click here.	
General Settings	Port Forwarding Tr	affic Rules Custom Rules	DDOS Prevention	Port Scan Prevention
Firewall - Port I	orwarding			
		net to connect to a specific compu	er or service within the prival	te LAN.
Port Forwarding Rule	s			
Name	Protocol	Source Via	Destination	Enable Sort
Enable_SSH_WAN_PAS	STHROUGH TCP	From any host To any router I in wan port 22	P at Forward to IP 127.0 port 22 in Ian	.0.1, Edit
New Port Forward Ru	le			
Name	Protocol	External port (s) In	ternal IP Internal	l port (s)
New rule's name	TCP+UDP	1800 or 2000-2200	■ 1800 o	r 2000-2200 Add
				Save
				-

Introduce the ports that you can see in the table below:

Name	Protocol	External port (S)	Internal IP	Internal port (S)
80	ТСР	80	192.168.1.50	80
8080	ТСР	8080	192.168.1.50	8080
50000	ТСР	50000	192.168.1.50	50000
9191	ТСР	9191	192.168.1.1	80

After noting down the ports, push over **'Save'** button and check that all of them has been successfully introduced.



#### 4.11 Go to Network > Firewall > Traffic Rules

		LTONIKA		vork • Services •	System •	
	You haven't changed t	Port Forwarding		Custom Rules	ICK here.	Port Scan Prevention
	Firewall - Tr					
		cles for packets tra	veling between differ	ent zones, for example t	o reject traffic betw	een certain hosts or to open
	Traffic Rules					
	Name	Protocol	Source	Destination	Action Enab	le Sort
	Allow-DHCP-Relay	UDP	From any host in wan	To any router IP at port 67 on this device	Accept input	Edit     Delete
┢	Enable_HTTP_WAN	TCP, UDP	From any host in wan	To any router IP at port 80 on this device	Accept input	Edit Delete
>	Enable_HTTPS_WAN	TCP, UDP	From any host in wan	To any router IP at port 443 on this device	Accept input	Edit     Delete

Roll down and look for '*Enable\_HTTP\_WAN*' and '*Enable\_HTTPS\_WAN*' fields and enable these.

eitonika-Ku1240.com - LAN	- × 🕂					Logout 3
Tetemarking Value Can. Low       ×         → C       ①       192.165.1.1/cgi-bin/luci/stoke/956bb7e4i       995       …       ©       Q. Buscar       III       □         C       ①       192.165.1.1/cgi-bin/luci/stoke/956bb7e4i       995       …       ©       Q. Buscar       III       □         Were forward rule       LAN       •       •       Add         Source NAT       Bource INT       Add         Source NAT       Protocol       Source Destination       SNAT       Enable         There are no source NAT rules created yet       Name       Source IP       Source port         New Source NAT       LAN       WAN       ©       Do not rewrite       Add						
!! TEL</td <td>LTONIKA Stat</td> <td>tus Networ</td> <td>k · Services ·</td> <td>System -</td> <td></td> <td>Logout</td>	LTONIKA Stat	tus Networ	k · Services ·	System -		Logout
New forward rule	LAN	WAN	Add			
Source NAT						
			ned control over the	source IP used for ou	utgoing traffic,	
(etherds KM) (24/2 cm · DM → X						
There are no source NAT	rules created yet					
New Source NAT						
New Course InAl						
Name	Source	Destination	Source IP	Source port		
Control       Status       Network       Services       System       Logout?         New forward rule       LN       WAN       Add         Source NAT       Source NAT       Source NAT       Source NAT       Source NAT       Enable         Source NAT       Protocol       Source       Destination       SNAT       Enable         There are no source NAT rules created yet       Image: Source NAT       Enable       Add         Name       Source       Destination       Source port       Add         Name       Source       Destination       Source port       Add         New StAtT rule       LAN       WAN       Do not rewrite       Add						
					Save	
					Save	
Teltonika solutions						

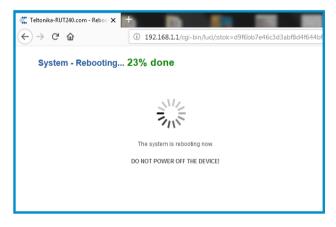
Roll down again and push over **'Save'** button.

4.12 For ending with the modem logging is necessary to do a reboot:

🚛 Teltonika-RUT240.com - Reboo 🗙				
$\overleftarrow{\bullet}$ $\rightarrow$ C $\widehat{\mathbf{u}}$	i 192.168.1.1/cgi-bin/lu	ıci/;stok=d9f6	bb7e46c3d3ab	f8d4f644bf
	<b>TELTONIKA</b>	Status -	Network -	Services
You haven't changed the default p	assword for this router. To chang	e router passw	ord click here.	
Router Reboot				
Warning! During reboot you will te	mporarily lose the connection.			
Reboot	-			

Go to  $System \rightarrow Reboot$  and push over the 'Reboot' tab

During the process, the system will show the progress, do not switch off the modem.



4.13 Repeat again the points 4.1 and 4.2 explained above:

4.1 - look for modem access point and connect on it.

4.2 - log on modem webpage with authentication.



4.14 It is necessary to check that the Teltonika RUT240 LTE modem option is chosen and DHCP is ON at Charge Point's setup webpage:

Make sure that your Service PC is still connected with the Charge point through wifi, open a web browser and type 192.168.1.50, next screen will appear:

🞆 Teltonika-RUT240.com - LAN - 🗙	🗔 Device Setup Page 🛛 🗙 🕂		
$\overleftarrow{\bullet}$ $\rightarrow$ C $\widehat{\mathbf{\omega}}$	③ 192.168.1.50/html/setup.html	🚥 🔽 🔄 🔍 Buscar	\ ⊡ ≡
			H C
🙆 Dashboard	A Network		<b>∧</b> í
A Network	Hostname		
Security			
() Time	DHCP	Public Address Manager	
Integrations	ON	Address Type Teltonika RUT240 LTE	•
Services	DHCP Client	Public IP	E
firmware			
	IP Address Settings		
	IP Address		-
	Netmask	Gateway	

#### DCHP: ON

Address Type: Teltonika RUT240 LTE

Click over the **'Disk' symbol** tab in order to save.



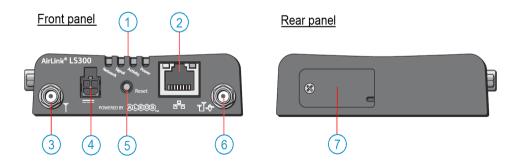
#### **1 - MODEM OVERVIEW**

The 3G modem installed from factory in the Charge Point is:

#### Sierra Wireless AirLink LS300



This device allows to the Charge Point connects over 3G networks to remotely view or manage the Charge Point status.





1	Status LEDs	5	Reset button
2	Ethernet connector	6	GPS/Diversity antenna connector
3	Antenna connector	7	SIM card port
4	Power connector		

#### 2 - CONNECTION STATUS LED

Explanation of connection status LED indication:

These show the device's operating status. Each LED can be red, green, yellow or off. They are:

- **Power:** when green, the device is connected to power.
- Activity: when green, the radio link is active.
- **Signal:** when green it is receiving a cellular signal.

• **Network:** when green the device is connected to a cellular network with an IP address assigned and a channel acquired.

#### LED Colors

The four front panel LEDs show the status of various items and can be used as a troubleshooting aid. They are multi-colored:

- Off: No activity
- Red: Not functional
- Yellow: Limited functionality
- Green: Fully functional
- Blinking: Shows altered or reduced functionality

**NOTE**: When the LEDs are cycling yellow, the reset button has been pushed and the device is restarting.

#### Power LED

This monitors the input power or shows if the device sees a GPS signal.

- **Off:** No power or input voltage  $\neg$  36VDC or  $\neg$  7.5VDC.
- **Red:** The device is not operational (failure or in low power mode)
- Yellow: The device is entering low power mode or system low level boot.
- Green: The device is connected to nominal power and is operating normally.
- Green with a momentary yellow flash: The device has a GPS fix.

#### Activity LED

This shows the radio's activity.

- **Off:** The LED's normal appearance.
- Flashing green: The radio is transmitting or receiving.

#### Signal LED

This shows the cellular network's signal level.

- **Flashing red:** No signal is present. (RSSI  $\rightarrow$  -110 dBm)
- **Red:** A bad signal is present. (RSSI  $\rightarrow$  -100 dBm or  $\ltimes$  -110 dBm)
- Yellow: A marginal signal is present. (RSSI  $\rightarrow$  -85 dBm or  $\ltimes$  -100 dBm)
- **Green:** A good signal is present. (RSSI 下 -85 dBm)



#### Network LED

This monitors the cellular network.

• **Red:** No cellular network is present or the device is in radio passthru mode. (There is no network coverage at the location.)

- Flashing red: The device is attempting to connect to the cellular network.
- Yellow: The cellular network is found and the device is connecting.

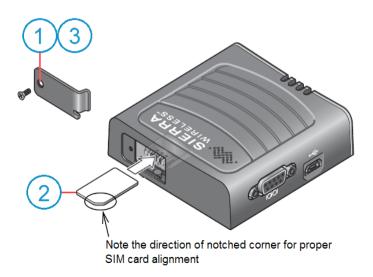
• **Flashing yellow:** The cellular network is unavailable. (The device was unable to authenticate on the network.)

- Green: Connected to the cellular network.
- Flashing Green: The device is roaming.

#### 3 - SIM CARD INSTALLATION

Explanation of SIM card installation:

Disconnect the power supply for modem and insert the SIM card which was given by your ISP (Internet Service Provider).



- 1. Remove the SIM card cover.
- 2. Gently slide the card into the slot in the connector until it stops.
- 3. Replace the SIM card cover.

After installing the SIM card, check out that the 3G antenna (mobile) and the power connector are properly attached.

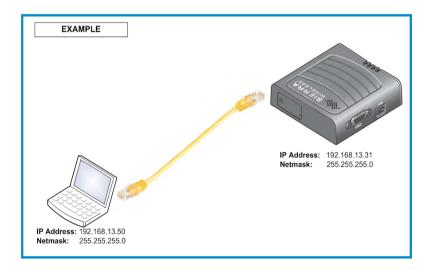
**NOTE:** SIM card is not provided with equipment.

#### 4 – LOGGING IN

Plug again the power supply for the modem.

**NOTE:** After plugging back the modem, it can take until 5 minutes to respond.

3G modem configuration is performed using the Ethernet interface. Connect your Service PC using an Ethernet cable as shown in the following image:



Set the IP number **192.168.13.50** on your laptop, following the previous Chapter **'4-D'** ---→

-LAN Connection procedure -



#### Steps:

4.1 Open a web browser in the computer and enter **http://192.168.13.31:9191**. Wait until ACE manager login screen appears.

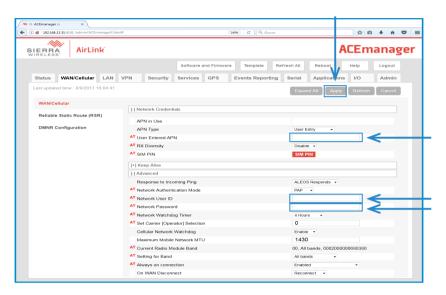
(Jern) C Q Buscar	☆ 🖨 🗍 🗢 😇 🚍
	ACEmanager
	Support Website
LOGIN	
User Name: User	
Password: ••••• Log In	
DEVICE STATUS	
Network State: Network Ready	
Deel V A	
	LOGIN User Name: User Password: ••••• Log In DEVICE STATUS

Default user name is '**user'** and default password is '**12345**'. Do not change the default credentials; the Charge Point requires consulting information from the 3G modem.

4.2 The ACE manager homepage appears. You can now configure each device with ACE manager. Make click over **'WAN/Cellular'** tab.

	tml£	6	476 C Q Burnt		公白土金田
In MARCellular     In Marce					
V		Software and Firmware	Template Refres	h All Reboot	Help Logout
Status WAN/Cellular LAN	VPN Security	Services GPS	Events Reporting Se	erial Applications	I/O Admin
Last updated time : 8/9/2017 16:04:41			(	Expand All Apply	Refresh Cancel
WAN/Cellular					
Reliable Static Route (RSR)					
DMNR Configuration			Use	er Entry	
				Expand Al Apply Refresh Cancel er Entry able •	
	AT RX Diversity		Dis	able -	
	AT SIM PIN		SI	M PIN	
	LAN VPN Security Services QPS Events Reporting Serial Application UD Admin     TR D441     Example A Apple Reflect Cauce      APN in Use     APN     APN				
	()	tity Services GPS Events Reporting Serial Applications VO Admin Expand Al Apply Refersh: Cancel table User Entry Dasble •			
	[+] Advanced				Help Logout
	[+] APN Backup				
	[+] Bandwidth Throttle				
	(.) contamout throthe				

4.3 Once clicking over **'WAN/Cellular'** tab, introduce the 'APN' provided by the SIM's company. In case of 'User ID' and 'Password' are required too, it has to be added in the 'Advanced' section.



Make click over 'Apply' tab in order to save.

4.4 In the **'Security'** tab, the **'DMZ Enabled'** must be 'Disable', while the **'Port Forwarding'** must be 'Enable'. Then, you will need to add the ports used by the charger. These ports are next:

\*The OCPP Listening port is 50000 by default. If your Central System works with a different port, add this one instead in OCPP web settings (http://"IP\_ADDRESS":8080) and into the Security tab of Sierra modem. Fill each field according to the next picture:

Setup Webpage	OCPP Incoming listening ports *	OCPP Settings	SCP Remote Access
80	50000	8080	22

#### NOTE:

The OCPP Listening port is 50000 by default. If your Central System works with a different port, add it instead. You will need to configure it afterwards in the OCPP web settings (http://"IP\_ADDRESS":8080). **See chapter 6.** 



Fill each field according to next picture:

		ık						ACEmana	g
			V		Software and Firmware	Template	Refresh All Reboo	t Help Logout	
Status	WAN/Cellular	LAN VPN	Security	Services GPS	Events Reportin	g Serial	Applications I/O	Admin	
Extende	rwarding ed Port Forwarding tering - Inbound			Forwarding Forwarding		Enable -	<u> </u>		
				Public Start Port	Public End Port	Protocol	Host IP	Private Start Port	
Port Fil	tering - Outbound		×	80	80	TCP & UDP -	192.168.13.100	80	
Trusted	IPs - Inbound (Frie	nds)	X	50000	50000	TCP & UDP 🔻	192.168.13.100	50000	
Trusted	IPs - Outbound		X	8080	8080	TCP & UDP 🔹	192.168.13.100	8080	
		$\rightarrow$	× X	22	22	TCP & UDP 🔻	192.168.13.100	22	
MAC FI	Itering							Add More	

Remember to 'Apply' the changes when finish.

4.5 Click over **'Reboot'** button and wait for 3-4 minutes. After that, the modem should has found a public IP. Check it in the **'Status'** tab.

Image: Solution of the soluti											
<ol> <li>         1 2.168.13.31:9191 /admin/ACEmanagerX.     </li> </ol>	html#			140%	C	Q, Buscar				+ ń	C
AirLink								A	Ema	nag	ļ
V			Softwar	e and Firmwa	ire	Template	Refresh All	Reboot	Help	Lo	ge
Status WAN/Cellular LAN	VPN Se	curity	Services	GPS	Event	s Reporting	Serial	Application	ns I/O	Adm	nin
Last updated time : 8/9/2017 13:23:1	9							Ap	ply Refr	esh 🛛 Ca	ane
Image: Status 2017 13:23:19       Image: Status 2017 13:23:19         Image: Status 2017 1											
Aast updated time : 80/2017 13:23:19 Home WANIC+Ilutar LAN VPN Security Services OPS	AT Active WAN	AT Active WAN IP Address				77.210.175.140					
	AT Network Stat	e				Network Read	у				
LAN	AT Cell Info	AT Active WAN IP Address AT Network State AT Cell Info AT Current Network Operator AT Radio Technology				Cellinfo: TCH: 10713 RSSI: -88 L/			1 CellID: 103	56	
VPN	AT Current Netw	AT Active WAN IP Address AT Network State AT Cell Info AT Current Network Operator AT Radio Technology Network Service Type				vodafone, 214	01				
	AT Radio Techno	ology				HSPA					
Last updated time : 0/0/2017 13.23 Home WAN/Cellular LAN VPN Security Services QPS	Network Service	vice Type				3G					
Services	AT Signal Streng	th (RSSI)				-88					
	AT Phone Number AT Active WAN IP Address AT Active WAN IP Address AT Active VAN State AT Cell Info AT Cadi Echnology Network Service Type AT Signal Strength (RSSI) AT Signal Strength (RSSI) AT Signal Gode VO					-2.4					
GPS	Received Sig	AT Phone Number AT Active VAN IP Address AT Active VAN IP Address AT Unetwork State AT Current Network Operator AT Gurent Network Service Type AT Signal Stength (RSSI) AT Signal Stength (RSSI) AT Signal Code Pow AT Channel		P)		-93					
Serial	AT Channel	VPN Security Sen AT Phone Number AT Active WAN IP Address AT Network State AT Cell Info AT Cell				10713					
Alatiji utgi Administrationecomenegetic     AirLink     MainLink     MainLink	WAN/Cellular	r Bytes Ser	nt			776959					
Applications	WAN/Cellular	Bytes Rov	rd .			233839					
About	Persisted WA	N/Cellular	Bytes Sent			827486342					
VAN/Cellular LAN Last updated time : 4/4/2017 13:23:10 Home WAN/Cellular LAN VPN Security Services QPS Serial Applications	Persisted WA	N/Cellular	Bytes Rovd			1518823524					
	ALEOS Softv	vare Versio	n			4.4.3					
	AT Customer De	uico Nomo				CA035030064	1006				

- Connect the modem to the unit again. If the process has been done properly, we should have remote access to the Charge Point using the public IP from the step before.

4.6 It is necessary to check that the Sierra Wireless AirLink LS300 modem option is chosen and DHCP is ON at Charge Point's setup webpage:

Using the public IP from the step before, open a web browser and type it, next screen will appear:

🞆 Teltonika-RUT240.com - LAN - 🗙	🔂 Device Setup Page 🛛 🗙 🕂		
$\overleftarrow{\leftarrow}$ $\rightarrow$ C $\overleftarrow{\omega}$	③ 77.210.175.140/html/setup.html	••• 🛡 🏠 🔍 Buscar	\ ⊡ ≡
			H C
Oashboard	A Network		
A Network	Hostname raption-4500c402		
Security			
Time	DHCP	Public Address Manager	
Integrations		Address Type Sierra Wireless AirLink LS300	•
Services	DHCP Client	Public IP	E
1 Firmware			
	IP Address Settings		
	IP Address		
	Netmask	Gateway	

#### DCHP: ON

Address Type: Sierra Wireless AirLink LS300

Click over the 'Disk' symbol tab in order to save.





The goal of the Open Charge Point Protocol (OCPP) is to offer a uniform solution for the communication between Charge Point and a Central System. With this open protocol it is possible to connect any Central System with any Charge Point, regardless of the vendor.

Follow next steps in order to configure OCPP 1.5 in the Circontrol Charge Points.



## **OCPP 1.5**



Check following steps in order to ensure the correct function of OCPP 1.5:

#### Go to the Setup Webpage ightarrow 'Network' tab

Public Address Manager establishes where the Charge Point must obtain the public IP address in order to send it later to the backend. Different values can be selected in the **'Address Type'** section:

Dashboard	A Network	
Network	Hostname	
Security	raption-50	
Time	DHCP	Public Address Manager
	OFF	Address Type
Integrations		SIERRA Wireless Airlink LS300
Services		Local Address Static address
	DHCP Client	SIERRA Wreless Raven XE H2295EW
Firmware		SIERRA Wireless Atlink LS300
	IP Address Settings	Circutor SGE-3G/GPRS
	IP Address	Teitonika RUT240 LTE
	192.168.1.11	
	Netmask	Gateway
	255.255.255.0	0.0.0
	Primary DNS server	Secondary DNS server

Choose the option selected under 'Address Type' according to your network topology.

When done, please do not forget to save changes using **'Save'** button in the upper right bar.



#### Go to the Setup Webpage $\rightarrow$ 'Integrations' tab

Charge Point supports different versions of OCPP but only one can be enabled at the same time.

Go back to setup web page and click on the **'Integrations'** tab, choose the option selected under **'Available integrations'** according to your backend policies as shown in the picture:

<		DL ≁	H	С
Ø	Dashboard	Integrations		
A	Network	Available Integrations		
	Security	None v		
©	Time	OCPP 1.6		
5)	Integrations			
-	Services			
1	Firmware			
4	ChargePoint Configuration			
۵	Configuration Update			

**NOTE:** Charge Point is working as stand-alone if **'none'** option is selected. All ID cards are authorized to start/stop a new charge transaction and no requests are sent to the backend.





#### Go to the Setup Webpage ightarrow 'Integrations' tab

Once OCPP 1.5 option is selected, a link appears allowing access to the OCPP configuration.

Please, click on the link button as shown in the picture:

	L Y	нс
Ø Dashboard	Integrations	
A Network	Available Integrations	Setup Page (OCPP 1.5)
Security	OCPP 1.5	CLink
C Time		
Integrations		
Services		
1 Firmware		
ChargePoint Configuration		
Configuration Update		
-		

New tabs are opened to show OCPP Settings. It can also be accessed directly typing: http://<IP>:8080/html/setup.html

These tabs require a user identification:

User: admin

Password: 1234

First time is running the integration selected on the Charge Point, it starts as configuration mode and all fields are empty.

Settings are always stored even when the Charge Point is powered off or even the integration is disabled/stopped.

#### On the OCPP webpage, go to 'Charge Box' tab

Check Charge Box Identity and the incoming ports according to the backend policies, please contact to the Central System to get the configuration parameters:

			нс
O Dashboard	4 Charge Box		
Application Parameters	Id	Public IP timeout	
🗲 Charge Box	Raption 50	120	
* Engine	OCPP Internal Port	OCPP Public Port	
Central System	50000	50000	×
-	Client Certificate	Protocol	
OCPP Settings	NO	HTTP	•
SSL Certificates	Authentication		
Load / Store Setup	OFF		

Value	Description	
ID	Charge Point identifier	
Public IP timeout	Maximum waiting time to obtain the public IP address of the 3G modem	
OCPP Internal port	Incoming listening port for remote request (internal)	
OCPP Public port	Incoming listening port for remote request (public)	
Client Certificate	Provided by the Central System	
Protocol	If HTTPS is selected, make sure to have CS Server CA certificate	
Authentication	Set an authentication if is required	



#### Go to 'Central system' tab

Allows the Charge Point to know where the central system is hosted to notify all the requests.

Check Central System URL according to the backend policies, please contact to the Central System to get the configuration parameters:

			н	С
🕑 Dashboard	<ul> <li>Central System</li> </ul>			
Application Parameters	ID Tag Endianness	Host URL http://192.168.6.83:4080/CentralSystemService152		
4 Charge Box				
Engine	Authentication			
Central System				
CCPP Settings				
SSL Certificates				
Load / Store Setup				
_			_	

Value	Description	
ID Tag Endianness	Storage type for system data	
Host URL	URL address of the central system	
Authentication	It can be set an authentication for avoinding changes in this page	

#### Go to 'OCPP Settings' tab

Check OCPP Settings according to the backend policies, please contact to the Central System to get the configuration parameters:

			НC
Dashboard	CCPP Settings		
Application Parameters	Use local white-list	Authorization check order	
🗲 Charge Box	NO	CS	
# Engine	Authorize always in offline mode	Retry after CS internal error	
Central System	Use OCPP time synchronization	Compress OCPP messages	
CCPP Settings	NO	NO	
SSL Certificates	Energy for Start/Stop transaction	Energy for Metervalues	
Load / Store Setup	Total	Total	
	Stop charge if StartTransaction rejects the user	Stop charge if StartTransaction replies ConcurrentTx	
	Require auth. at remote start	Active power in Metervalues	
	Use Sockets as connector ID	Heartbeat interval	
	Socket	600	*
	Connection timeout	Meter value sample interval	
	100	60	
			_

Before making any changes read following table and set each option according to your backend provider.



Value	Description
Use local white-list	<b>YES:</b> local list of authorized users $- \rightarrow$ Enabled <b>NO:</b> local list of authorized users $- \rightarrow$ Disabled
Authorization check order	<ul> <li>LOCAL: ID authorization has first place on the local white- list. If the user does not exist locally, then in second place backend is asked to obtain the authorization.</li> <li>CS: ID authorization is always asked to the backend.</li> <li>NOTE: This setting only applies when Charge Point is online; otherwise the authorization is only locally.</li> </ul>
Authorize always in offline mode	<ul> <li>YES: If user is not present locally in the local white-list and charge point cannot ask to the backend, user is allowed to start a new charge transaction.</li> <li>NO: If user is not present locally in the local white-list and charge point cannot ask to the backend, the user is not allowed to start a new charge transaction.</li> </ul>
Retry after CS internal error	YES: Enabled. If StatusNotification, StartNotification or StopNotification are not received correctly by the backend, charge point retries again to send those requests until it is received correctly. NO: Disabled. NOTE: Special development must be done in backend in order to retry the messages by charge point.

Value	Description
	<b>YES:</b> Synchronization of date and time $- \rightarrow$ Enabled.
Use OCPP time synchronization	<b>NO:</b> Synchronization of date and time - $ ightarrow$ Disabled.
Synchronization	*NOTE: Date and Time is sent from backend on each heartbeat response.
	YES: Compress messages between Charge point and backend -→ Enabled.
Compress OCPP messages	<b>NO:</b> Compress messages between Charge point and backend - $\rightarrow$ Disabled.
	<b>*NOTE:</b> Before enabling this option consult to your backend administrator if central system allows this function.
Energy for Start/Stop transaction	<b>PARTIAL:</b> Consumed value of energy by the vehicle sent between start and stop.
	<b>TOTAL:</b> actual count of the total accumulated energy meter sent between start and stop.
Energy for Motor)/aluga	<b>PARTIAL:</b> Sends partial energy consumption while vehicle is charging.
Energy for MeterValues	<b>TOTAL:</b> sends the actual count of the total accumulated energy meter.
Stop charge if StartTrans-	<b>YES:</b> Stop existing charge transaction after response from backend (StartTransaction.conf) when user is blocked, expired or Invalid.
action rejects the user	<b>NO</b> : Charge transaction does not stops even if backend rejects the user. (StartTransaction.conf)
	<b>*NOTE:</b> Set this option according to your backend system.



Value	Description
Stop charge if StartTransaction replies ConcurrentTx	<ul> <li>YES: Stop existing charge transaction after response from backend (StartTransaction.conf) when user has already involved in another transaction.</li> <li>NO: Charge transaction does not stops even if backend rejects the user. (StartTransaction.conf)</li> <li>*NOTE: Set this option according to your backend system.</li> </ul>
Require auth. At remote Start	YES: Charge point sends an authorization request before starting a new remote charge transaction request. NO: Charge point starts a new remote charge transaction without authorization request.
Active Power in MeterValues	YES: Send power (Power.Active.Import) and energy (Energy.Active.Import.Register) consumed by the vehicle within meter values requests. NO: Only energy consumed is sent within meter values request.
Heartbeat interval	Heartbeat send interval (in seconds) for the back-end system.
Connection timeout	Timeout (in seconds) before connecting to the central sys- tem.
Meter value sample interval	Meter value sample send interval (in seconds) during charge transaction. <b>*NOTE:</b> Meter values are disabled if 0 seconds is set

Once done, please do not forget to save changes using **'Save'** button in the upper right bar:



Please, wait until the new configuration is being applied to the Charge Point. A message is displayed informing the progress:





After applying new settings, please go to next URL from Charge Point in order to check properly connection from the integration chosen:

http://<IP>/services/cpi/log?app=ocpp1.5

Look especially for the following messages:

Jan 10 14:55:49 raption user.debug ocpp1.5: Registering CB after boot
Jan 10 14:55:49 raption user.info ocpp1.5: Setting heartbeat interval to 300 s
Jan 10 14:55:49 raption user.info ocpp1.5: Heart-beat interval changed to 300
Jan 10 14:56:09 raption user.debug ocpp1.5: Synchro date: Done
Jan 10 14:56:09 raption user.info ocpp1.5: OCPP time synchronization
Jan 10 14:56:09 raption user.info ocpp1.5: CB boot notification: success

If **'CB boot notification: success'** appears then Charge Point is properly connected to the back-end.

Otherwise, if the message shown is **'Registering CB in the CS: failed'** then check following items:

- Backend URL. Case sensitive. Check all the URL is correct.

- Charge Point ID. Case sensitive. Check if the name entered is same as backend expects to receive.

- Connectivity. Check if modem is power up and connected to the HMI screen. Ask to the backend provider if any request has been received from the charge point (BootNotification, StatusNotification or HeartBeat) after upgrading.



The goal of the Open Charge Point Protocol (OCPP) is to offer a uniform solution for the communication between Charge Point and a Central System. With this open protocol it is possible to connect any Central System with any Charge Point, regardless of the vendor.

Follow next steps in order to configure OCPP 1.6 in the Circontrol Charge Points.



### **OCPP 1.6**

## **B** Before starting

Check following steps in order to ensure the correct function of OCPP 1.6:

### Go to the Setup Webpage ightarrow 'Network' tab

Public Address Manager establishes where the Charge Point must obtain the public IP address in order to send it later to the backend. Different values can be selected in the **'Address Type'** section:

	OL May	H C
Dashboard	A Network	
A Network	Hostname	
Security	raption-4500adeb	
C Time	DHCP	Public Address Manager
Integrations	OFF	Address Type Teltonika RUT240 LTE
Services	DHCP Client	Local Address Static address SIERRA Wireless Raven XE H2295EW SIERRA Wireless Airlink LS300
1 Firmware		Circutor SGE-3G/GPRS Teltonika RUT240 LTE
ChargePoint Configuration	IP Address Settings	
Configuration Update	IP Address	
	192.168.110.45	
	Netmask	Gateway
	255.255.255.0	192.168.110.254
	Primary DNS server	Secondary DNS server
	192.168.0.9	

Choose the option selected under **'Address Type'** according to your network topology. When done, do not forget to save changes using **'Save'** button in the upper right bar:



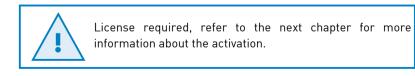
### Go to the Setup Webpage $\rightarrow$ 'Integrations' tab

Charge Point supports different versions of OCPP but only one can be enabled at the same time.

Go back to setup web page and click on the **'Integrations'** tab, choose the option selected under **'Available integrations'** according to your backend policies as shown in the picture:

② Dashboard	Integrations
A Network	Available Integrations
Security	None  V None
C Time	OCPP15 OCPP18
Integrations	
Services	
1 Firmware	
<ul> <li>ChargePoint Configuration</li> </ul>	
Configuration Update	
-	

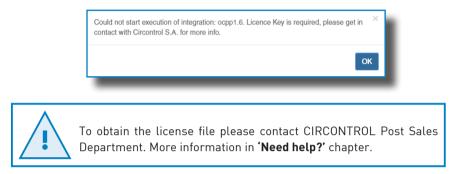
**NOTE:** Charge Point is working as stand-alone if **'none'** option is selected. All ID cards are authorized to start/stop a new charge transaction and no requests are sent to the backend.







If the Charge Point does not have the license applied, the following message pops up:



The license can be applied by clicking on the 'Select File' button.

	OL <sub>My</sub>	Ħ	С
Oashboard	Integrations		
A Network	Available Integrations		
Modem	None		
Security	Provide a license file to activate your product Size Status Actions		_
Locale	Select File		
• Time			
S Integrations			
<b>firmware</b>			
Configuration Update			
_			

A window will pop up in order to choose the file, then click on '**upload'**.

	)L V				H	С
⑦ Dashboard	Integrations					
A Network	Available Integrations					
Modem	None					
Security	Provide a license file to activate your product	Size	Status	Actions		_
Eucale	activationKey Upload File Progress	0.34 KB		O Upload ⊘ Cancel	lemove	
Time				•		
S Integrations						
Firmware						
Configuration Update						





### Go to the Setup Webpage ightarrow 'Integrations' tab

Once OCPP 1.6 option is selected, a link appears allowing access to the OCPP configuration.

Please, click on the link button as shown in the picture:

	OL <sub>Ny</sub>	H C
⑦ Dashboard	Integrations	
A Network	Available Integrations	Setup Page (OCPP 1.6)
Security	OCPP 1.6	C Link
Time		<b>A</b>
Integrations		
Services		
Firmware		
ChargePoint Configuration		
Configuration Update		

New tabs are opened to show OCPP Settings. It can also be accessed directly typing: http://<IP>:8080/html/setup.html

These tabs require a user identification:

User: admin

Password: 1234

First time is running the integration selected on the Charge Point, it starts as configuration mode and all fields are empty.

Settings are always stored even when the Charge Point is powered off or even the integration is disabled/stopped.

On the OCPP webpage, go to 'Charge Box' tab

Check Charge Box Identity and the incoming ports according to the backend policies, please contact to the Central System to get the configuration parameters:

	IOL <sub>nity</sub>	нс
② Dashboard	✓ Charge Box	
Application Parameters	ld ZW99994	Cache max. size
<ul><li>Charge Box</li><li>Engine</li></ul>	Use OCPP time synchronization	Energy for Start/Stop transaction
<ul><li>Central System</li><li>OCPP Settings</li></ul>	Energy for Metervalues Total	User confirmation required on remote start
SSL Certificates		
_		



Value	Description	
ID	Charge Point identifier	
Cache max. size	Maximum size of the <i>Authorization Cache</i> , that autonomously maintains a record of previously presented identifiers that have been successfully authorized by the Central System.	
	It can be viewed accessing to the following URL: http://←IP→:8080/services/cmd/dump_cache.xml	
Use OCPP time synchronization	<b>YES:</b> Synchronization of date and time $- ightarrow$ Enabled.	
Synchionization	<b>NO:</b> Synchronization of date and time - $ ightarrow$ Disabled.	
	*NOTE: Date and Time is sent from backend on each heartbeat response.	
Energy for Start/ Stop transaction	<b>PARTIAL:</b> Consumed value of energy by the vehicle sent between start and stop.	
	<b>TOTAL:</b> actual count of the total accumulated energy meter sent between start and stop.	
Energy for MeterValues	<b>PARTIAL:</b> Sends partial energy consumption while vehicle is charging.	
	<b>TOTAL:</b> sends the actual count of the total accumulated energy meter.	
User confirmation required on remote start	<b>ON:</b> user confirmation needed to proceed with a remote start (i.e. touch the screen)	
Start	<b>OFF:</b> user confirmation NOT needed to proceed with a remote start	

### Go to 'Central system' tab

Allows the Charge Point to know where the central system is hosted to notify all the requests.

Check Central System URL according to the backend policies, please contact to the Central System to get the configuration parameters:

	01. */	H C
🕝 Dashboard	• Central System	
Application Parameters	ID Tag Endianness Host URL Little wss://ocpp-central-system.com	
✤ Charge Box		
* Engine		
• Central System		
OCPP Settings		
SSL Certificates		
Load / Store Setup		

Value	Description		
ID Tag Endianness	Storage type for system data		
Host URL	URL address of the central system		



### Go to 'OCPP Settings' tab

Check OCPP Settings according to the backend policies, please contact to the Central System to get the configuration parameters:

	OL <sub>Ny</sub>	нс
🙆 Dashboard	Core Profile	A
Application Parameters	Authorization cache enabled	Authorize remote Tx requests
🗲 Charge Box	Local pre-authorize	Allow offline Tx for unknown Id
* Engine	ON	NO
O Central System	Local authorize off-line	Stop transaction on invalid Id
OCPP Settings	YES	YES
SSL Certificates	Stop transaction when EV unplugged	Unlock CP side when EV unplugged
Load / Store Setup	Supported profiles	Maximum number of configuration Keys
	Core, Firmware Management, Local AuthList Management, Remote Triggement, Core, Firmware Management, Core, Firmware Management, Local AuthList Management, Remote Triggement, Core, Firmware Management, Core, Fi	20
	Heartbeat interval	WebSocket ping interval
	900	30
	Metervalue (select one or more)	Transaction message attempts
	Current.Import Energy.Active.Import.Register	1
	Energy, Reactive. Import. Register Frequency Power. Active. Import	Metervalue sample interval
	Power.Factor Power.Reactive.Import	15
	Transaction message retry interval	Charging cable connection timeout
	60	65
	Cocal Authorization List Management Profile	
	Local authList enabled	Local auth list max. length
	YES	100000
	Send local list max. length	
	5000	
	Contraction Profile	
	Reserve connector zero supported	
	YES	
		-

Value	Description		
Authorization cache enabled	<b>YES:</b> maintain a local list of all presented identifiers that have been successfully authorized by the Central System.		
	<b>NO:</b> authorization for presented identifiers is requested directly to the Central System		
Authorize remote Tx requests	<b>YES:</b> the Charge Point asks for authorization when the Central System sends a remote start		
	<b>NO:</b> the Charge Point starts the Charge Transaction when the Central System sends a remote start		
Local pre- authorize	<b>YES:</b> Charge Point looks for locally-authorized identifiers withou waiting for the Central System authorization.		
	<b>NO:</b> Charge Point requests authorization for presented identifiers to the Central System.		
Allow offline Tx for unknown Id	<b>YES:</b> during offline period unknown identifiers are allowed to start charging		
	<b>NO:</b> during offline period unknown identifiers are NOT allowed to start charging		
Local authorize off-line	<b>YES:</b> during offline period locally-authorized identifiers are allowed to start charging		
	<b>NO:</b> during offline period locally-authorized identifiers are NOT allowed to start charging		
Stop transaction on invalid Id	<b>YES:</b> stop existing Charge Transaction after response from Central System when user is blocked, expired or invalid.		
	<b>NO</b> : Charge Transaction does not stop even if backend rejects the user.		



Value	Description		
Stop transaction when EV unplugged	<b>YES:</b> Charge Transaction stops when the cable is disconnected from the EV		
unpraggeu	<b>NO:</b> Charge Transaction does not stop when the cable is disconnected from the EV; furthermore, if it is reconnected energy transfer is allowed again. It is required for the user to present the identifier in order to stop the Charge Transaction.		
Unlock CP side when EV	<b>YES:</b> Charge Point unlocks the connector when the cable is disconnected from the EV		
unplugged	<b>NO:</b> Charge Point keeps the connector locked when the cable is disconnected from the EV, it is required for the user to present the identifier in order to unlock the connector		
Supported profiles	List of supported profiles on the Charge Point		
	<b>*NOTE:</b> this field is for information purposes, it cannot be modified.		
Maximum number of configuration	Maximum number of requested configuration keys that can be requested by the Central System.		
Keys	<b>*NOTE:</b> this field is for information purposes, it cannot be modified.		
Heartbeat interval	Number of seconds between Heartbeats.		
	<b>*NOTE:</b> setting this value to 0 disables the Heartbeat.		
WebSocket ping interval	Number of seconds between Pings.		
intervat	<b>*NOTE:</b> setting this value to 0 disables the Websocket Ping/Pong.		
Metervalue (select one or more)	List of supported values used in the MeterValue.		
· · · · · · · · · · · · · · · · · · ·	<b>*NOTE:</b> hold 'Ctrl' key in order to select more than one Measurand.		
Transaction message attempts	How many times the Charge Point should try to send a request to the Central System.		

Value	Description		
Metervalue sample interval	Number of seconds between MeterValue during an ongoing Charge Transaction.		
	<b>*NOTE:</b> setting this value to 0 disables the MeterValue.		
Transaction message retry	Number of seconds between transaction message attempts.		
interval	<b>*NOTE:</b> setting this value to 0 disables the attempts.		
Charging cable connection timeout	Number of seconds the Charge Point must wait for the user to plug/unplug the cable.		
	<b>*NOTE:</b> this field is for information purposes, it cannot be modified.		
Local authList enabled	YES: Local Authorization List enabled		
	NO: Local Authorization List disabled		
Local auth list max. length	Maximum size of the <i>Local Authorization List</i> , a list of identifiers that can be synchronized with the Central System.		
	It can be viewed accessing to the following URL: http://←IP→:8080/services/cmd/dump_localList.xml		
	<b>*NOTE:</b> this field is for information purposes, it cannot be modified.		
Send local list max. length	Maximum number of identifications that can be send in a single request from the Central System.		
	<b>*NOTE:</b> this field is for information purposes, it cannot be modified.		
Reserve connector zero supported	<b>Yes:</b> Charge Point supports reservations on connector 0. That reservation is not done on a specific connector, one connector remains available for the reserved idTag.		
	<b>NO</b> : Charge Point does NOT support reservations on connector 0.		



Once done, please do not forget to save changes using **'Save'** button in the upper right bar:





After applying new settings, please go to next URL from Charge Point in order to check properly connection from the integration chosen:

http://<IP>/services/cpi/log?app=ocpp1.6

If **'CB boot notification: success'** appears then Charge Point is properly connected to the back-end.

Otherwise, if the message shown is **'Registering CB in the CS: failed'** then check following items:

- Backend URL. Case sensitive. Check all the URL is correct.

- Charge Point ID. Case sensitive. Check if the name entered is same as backend expects to receive.

- Connectivity. Check if modem is power up and connected to the HMI screen. Ask to the backend provider if any request has been received from the charge point (BootNotification, StatusNotification or HeartBeat) after upgrading.



The IP address assigned in the chapter 5, will be useful to connect with the Charge Point in order to monitor the real-time status.

The main way to connect is using the **CirCarLife client software** (Supplied by Circontrol PS-Support staff) or you can download from:

http://circarlife.com/en/downloads/

**NOTE:** Java software needs to be installed on your computer in order to run the client software, please, download last version from: www.java.com



In remote connections, where is required communicate via 3G/4G data with the Charge point in order to monitor its parameters, it should be noted that there will be a HIGH consumption of data.

In the case of doing the Charge point monitoring, it is reccommended to use Ethernet communications via internet (see chapter 4-D).



### Monitoring

# **B** CirCarLife client - Connection

### Steps:

1- Execute CirCarLife Client software at your computer



2- Push on 'General' tab and after on 'Connect' tab



3- Enter the IP address given to the Charge Point and port number  $\pmb{80},$  after, press over ' $\pmb{0k'}$ 

Market EVSE - Raption Options Views General		۰ <b>۲</b> ۲
🕜 Previous 🌍 Next 🔻 📗	Devices 🎢 Graph 🥅 Table 🍃 Events 🧬 Properties	Drint Print
$\rightarrow$	Connect	1177/17 11:44:19 AM
Server not found or inactive		

Once you have done the previous steps it is possible to monitor the Charge Point.





CirCarLife Scada client software allows displaying and reporting all parameters generated by devices connected to the engine of the Charge Point.

Client platform is implemented in Java and can be executed on many devices.

🍗 Devices statu								┍╴┖╴⊠	
Options Views		0		_				-	$-\underline{0}$
Previous	🕤 Next 🔻	Devices	🎢 Graph	Table	🍞 Events	Properties	Drint	-	<b>—</b> (2)
-								+	_ <u>3</u>
😝 Server Ok (1	92.168.1.222:80)							F	-4

**NOTE:** devices connected to the Charge Point may vary depending on model purchased.

CirCarLife Scada client is divided on 4 sections:

- 1. Menu bar
- 2. Toolbar
- 3. Screen information
- 4. Status bar

Following section describes in detail each of the points mentioned above.

### 1 — MENU BAR

Menu bar is located at the top and provides access to all available client features. There are three main menus, **'Options'**, **'Views'** and **'General'** 

	Options Views General
ns:	
	Marchaeter - Raption
	Options Views Conoral
	Options Views General
	💣 Properties 🔊 Next 🔻 🔲 De
	Properties Next - D

Option		Description		
Properties		Displays properties of the currently active view.		
	Print	Print currently active view. *		
	Export	Exports currently active view. *		
	Exit	Close the CirCarLife client software.		

Note (\*): this option can be active or not, depending on the view in progress.



Views:



Option		Description		
G	Previous	Displays the previous view.		
$\bigcirc$	Next	Displays the next view (If available).		
	Historic	Displays any view previously consulted.		
2	Study	Displays graph and tables views.		
	Devices	Display the general status of all connected devices.		
1	Events	Displays the events log or the active events windo		
	Devices status	Display the general status of all connected devices.		

### General:



Option		Description
	Toolbar Displays or hides the toolbar.	
	Statusbar	Displays or hides the status bar.
□ 🗹	Alarm	Visual and audible alarm if communication is lost between Charge Point and computer connected.
	Internal toolbar	Not available tab.
	Event actions	List of actions enabled in the CirCarLife software.
	Time zone	It lets to change the time over GMT.
	Connect	Connects with the Charge Point monitored.
0	Language	Changes the CirCarLife client software language.
<b>V</b>	Graphs properties	Changes graph appearance.
ij	About	Displays client application version information.



### 2 - TOOLBAR

Toolbar contains the most frequent options used in the CirCarLife client software.

🕞 Previous 🜔 Next 🔻 [	Devices Maraph	Ta <u>b</u> le ≽ <u>E</u> vents (	Properties 🔊 Print
-----------------------	----------------	-----------------------------------	--------------------

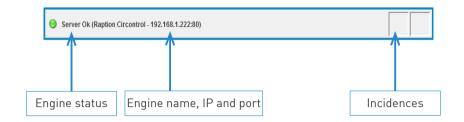
Option		Description	
G	Previous	Displays the previous view.	
$\bigcirc$	Next	Displays the next view (If available).	
	Devices	Device list shortcut.	
<u> 24</u>	Graph	Creates a graph about the charging session.	
	Table	Creates a table about the charging session.	
>	Events	Displays event history.	
in the second	Properties	Displays the properties window of the current view.	
	Print	Allows us to print the current view.	

It is possible to hide or display buttons for the toolbar. Doing right-click on the toolbar and following setup menu will appear:

Previous button
Next button
Devices button
Graph button
I Table button
Events button
Properties button
Print button

### 3 — STATUSBAR

Status bar is located at the bottom of the CirCarLife client software and it contains general information about status of the connection.



Status	Description
Server Ok	OnlineCirCarLifeScadaengineandworkingproperly.
Server not found or inactive	Offline CirCarLife Scada engine.

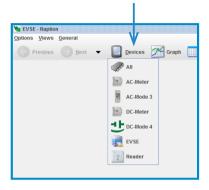
Incidences	Description
	One or more devices are not communicating. See device status section to find witch device is not communicating.
	One or more devices are not reporting.
<u>.</u>	One or more events are active.







Toolbar contains the most frequent options used in the CirCarLife client software. In this case we are going to explain about Devices icon.



A 43

The A8 device refers to the HMI screen, it is reserved to the factory, no change has to be made in this tab.



The AC- Meter refers to all the electrics parameters that can be read regarding the AC charge session.

ons <u>V</u> iews <u>G</u> eneral				
Prev <u>i</u> ous <u>N</u> ext •	• 📃 <u>D</u> e	ovices 🗡 Gi	raph 🚺 Ta	i <u>b</u> le 🏷
	AC	Meter		
Seneral				
	L1	L2	L3	Ш
	226.4	007.0	007.0	226.0
Phase-neutral voltage (V)	236,1	237,2	237,3	236,9
Current (A)	0,08	0,13	0,09	0,10
Active power (+) (kW)	0,000	0,000	0,002	0,002
Capacitive power (+) (kvarC)	0,019	0,018	0,020	0,059
Inductive power (+) (kvarL)	0,000	0,000	0,000	0,000
Apparent power (+) (KVA)	0,019	0,018	0,020	0,059
Cosine phi (+)	0,00	0,00	0,09	



The **'AC-Mode 3'** tab refers to the Mode 3 device, after pressing on this tab, press on **'Properties'** tab and on 'Advanced' in order to see more details about Mode 3 device.

AC-Mode 3 - Raption			r D, I
Previous Next -	Devices or Graph Table	Events OProperties	Print
	AC-Mod	le 3	11/13/17 1:52:15 F
Status	Available	Charge relay	
Car connected		Digital Input Charge begin date	=0=0= 11/10/17 6:23:04 PM
Connector lock 🕤	View selection		11/10/17 6:23:11 P
Recharge	Views	e time	00:00:0
Power reduction (%) 0	V1 23.1 V2 24.2 V3 23.7	harge stop	
Lindule	¥1 23.1 ¥2 24.2 ¥3 23.7	<	
	V Ok	Cancel	

tions <u>V</u> iews <u>G</u> eneral					
😑 Prevjous 🍚 🛛	ext 👻 📃 Der	vices 🔀 Graph	Ta <u>b</u> le 🏷	Events 💣 Properties 💩 Eri	int
			AC-Mode 3		11/13/17 4:08:55 F
Mode 3					
Status	0	Availa	ble	Charge relay	
	$\sim$			Digital Input	-0-0-
Car connected				Charge begin date	11/10/17 6:23:04
Connector lock	<b>9</b>	Lock	Unlock	Charge end date	11/10/17 6:23:11 F
Recharge		Remote start	Remote stop	Charge time	00:00:
Power reduction (%)	0	Activate	Deactivate	Last charge stop	
Enable		Disable	Enable	Analog value of the code of the cable	1.0
Voltage alarm delay	199	Activate	Deactivate	Value of the code of the cable	
				Analog value of the pilot signal	8
				Max. intensity of socket (A)	
				State of the charge cycle	



		Description			
		Plug Status			
Status			0		
	Available	Charging	Fault		
ted	Vehicle connection status				
Car connected		4			
Car	Car connected	Car not c	onnected		
ock	Connector lock status (only socket models)				
Connector lock	9	<b>_</b>			
Coni	Locked plug	Unlocked plug			
		Recharge status			
Recharge	Remote start	Remot	e stop		
Re	Starts a charge from remotely point	Stop charging in progress			
	Power reduction (%) Status				
uction (%	Activate	Deact	livate		
Power reduction [%]	It activates the power reduction, it is based on a percentage going down from the total AC power		e power reduction and give the total AC power		

	Enabl	led status	
Enabled	Disable	Enable	
Ē	The plug can be disabled, as an example, for any maintenance job	The plug is enabled again and ready to use.	
delay	Voltage ala	rm delay status	
alarm	Activate	Deactivate	
Voltage alarm delay	It activates the option of having a voltage alarm by the case of under-level voltage	It deactivates the option	
ay	Charge relay status		
Charge relay		-~-	
Cha	Voltage is being supplied to the vehicle.	No voltage is being supplied to the vehicle	
Charge	begin date	Starting date of the last charge session	
Charge	end date	Ending date of the last charge session	
Charge	time	Duration of the last charge session	
Last charge stop		Reason for the last charge session stop	
Analog value code cable		Reserved value for factory	
Value code cable (A)		Max.currentcapacityfortetheredcable	
Analog	value pilot signal	Reserved value for factory	
Max. Int	ensity of socket (A)	Max. current capacity for Socket	
State of	the charge cycle	Vehicle' s charge state	



DC-Meter

The DC- Meter refers to all the electrical parameters that can be read regarding the DC charge session, but, upstream of the power modules, reading AC consumption.

tions <u>V</u> iews <u>G</u> eneral				
子 Prev <u>i</u> ous 💮 <u>N</u> ext 🤜	• 📃 <u>D</u> e	ovices 🎢 Gr	aph 🔢 Ta	<u>b</u> le 🏷
	DC	Meter		
General				
	L1	L2	L3	Ш
Phase-neutral voltage (V)	236,1	237,2	237,3	236,9
Current (A)	0,08	0.13	0.09	0,10
Active power (+) (kW)	0,000	0,000	0,002	0,002
Capacitive power (+) (kvarC)	0,019	0,018	0,020	0,059
Inductive power (+) (kvarL)	0,000	0,000	0,000	0,000
Apparent power (+) (kVA)	0,019	0,018	0,020	0,059
Cosine phi (+)	0,00	0,00	0,09	



At this tab, '**DC-Mode 4**', it can be seen a lot of parameters regard to the DC charging sessions, for both kind of charges, CHAdeMO and CCS. The most important, how to setup the output power, will be explained in the next points in this document.



The **'EVSE'** tab is useful so as to see a quickly view of the currently charging session, for both kind of charges started in that moment, DC and AC.

			EVSE	11	1/7/17 4:19:38 PM
Charge point status					
Lights		9	0	N OF	F
oc					
Status		Cha	rging	Active energy (kWh)	338,388
Car connected	$\frown$			Partial active energy (kWh)	14,068
Carconnected	∿∎√			Active power (kW)	1,237
Reserved	00B50792B7	Reserve	Release	Voltage (V)	238,5
Recharge		Remote start	Remote stop	Current (A)	2,7
Enable		Enable	Disable	Charge request date	11/7/17 3:00:08 PM
Leakage	×	Reset	OFF	Charge begin date	11/7/17 3:00:16 PM
Emergency	×		Reset	Charge end date	
				Charge time	01:19:22
				Last charge stop	
IC					
Status		Cha	rging	Active energy (kWh)	105,872
Car connected				Partial active energy (kWh)	3,882
				Active power (kW)	2,394
Reserved	00E2D761A1	Reserve	Release	Voltage (V)	238,6
Recharge		Remote start	Remote stop	Current (A)	3,5
Enable		Enable	Disable	Charge request date	11/7/17 3:12:09 PM
Shortcircuit		Reset	OFF	Charge begin date	11/7/17 3:12:11 PM
Emergency	~		Reset	Charge end date	
				Charge time	01:07:26
				Last charge stop	

DC Side

AC Side



Almost all the information appeared here, **'EVSE'** tab, has been already explained in the previous **'AC-Mode 3'** tab. Next, we are going to explain the different options, as susch as :

Lights;Reserved;Leakage;Emergency;Activeenergy;Partialactiveenergy;Activepower; Voltage; Current; Charge request date.

	Ligtl	ns status		
Lights	ON	OFF		
	Courtesy lights can be switched on from here without touching the screen	It switches off the courtesy lights		
	Reser	ved status		
Reserved	Reserve	Release		
Res	It lets to activate the charging session for one specific identifier tag			
	RCD/N	ICB status		
ij	<b>~</b>	×		
hortcircu	Normal operation	The device has tripped		
Leakage/Shortcircuit	OFF	Reset		
Ĺ	If for any reason, such as mainte- nance work, and the RCD or MCB has remote control, it is possible to switch off	If the charge point is equipped with RCD or MCB with remote control, it is possible to reconnect pressing over 'Reset'		

Emergency	Emergency status		
	~		×
	Normal operation		The emergency button has been pressed or the charge point's door is opened
			Reset
			After pulling back the emergency but- ton or/and closing the charge point's door it is possible to 'Reset' the unit
Active energy (kWh)		Totalchargepoint'smeasuredenergysinceinstalled	
Partial active energy (kWh)		Partial energy meter of the last charging session	
Active power (kW)		Active power for the active charging session	
Voltage (V)		Present voltage of the active charging session	
Current (A)		Present amps of the active charging session	
Charge request date		Date of the last charge request	



Reader	
--------	--

Clicking over '**Reader**' tab, it can be checked if the reader is working properly, reading the RFID identifier. The identifier number will appear for a short time meantime the RFID card is shown to the reader.

🎽 Reader - Rapti	ion							់ថ 🛛
Options Views	<u>G</u> eneral							
Prev <u>i</u> ous	Next	-	Devices	K Graph	Ta <u>b</u> le	be Events	Properties	<u>Print</u>
					Reader			11/20/17 1:38:00 PM
		Tag						
		Value					00E2D761A1	
Server Ok (R	aption Circont	rol - 192.168.	1.222:80)					

# E CirCarLifeclientsoftware-Graphs

One of the most powerful tools of CirCarLife client software is graphs tools, it shows, in real time, the charging session progress for the device choosen in advance, it means, if it choosen a device on the **'Device'** tab and after the **'Graph'** icon is pressed at the TOOLBAR, the graph shown will make reference to this device.

Options       Views       General         Previous       Mext       Image: Devices       Graph         Image: Ac-Mode 3       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4         Image: Dc-Mode 4       Image: Dc-Mode 4       Image: Dc-Mode 4	🐚 EVSE - Raption		🐚 EVSE - Raption	
A8 AC-Meter AC-Meter Charge point status Lights DC-Meter Charge point status Lights DC-Meter Charge point status Lights DC-Meter Charge point status Lights DC-Meter Charge point status	<u>O</u> ptions <u>V</u> iews <u>G</u> eneral			V
AC-Meter AC-Mode 3 DC-Meter Charge point status Lights DC-Meter DC-Mode 4 Status	Previous Next -		Previous 💮 Mext 🔻 📃 Device	ıs 🞢 Graph 🛄 Ta <u>b</u> le 🍗 <u>E</u> ver
L DC-Mode 4		AC-Meter		
EVSE Status		and the second sec	 _ DC	
Reader Car connected	$\rightarrow$		Status	
		Reader	Car connected	

As an example, we are going to show the graph for **EVSE device:** 

Following image, shows the variables selection that can be done in order to show after in the graphs, for both, DC and AC charging session:

Variables selection (EVSE)				X
DC AC				
			All	
	L1	L2	L3	III
				V
Active energy				<b>P</b>
Active power				<b>v</b>
Current	2	<b>F</b>	~	V
Voltage	<b>v</b>	*	<b>P</b>	V
V Ok		×	Cancel	



AC-Meter ₩s Current I 4 - 6 3.2 ₹., 0.0 Con Rhi I 4 0.8 0.4 0.0 Capacitive power L1 0.34 UB0,18 Inductive power L1 0.06 -0.10 arent power L1 \$1,0 itage L2 ber 2017 😋 Back 💿 Next 🛅 Go to 🧐 Grouped by 🥝 Period Server Ok (Raption Circontrol - 192.168.1.222:80

Once you have chosen the different variables to show, it will appear next image:

Graph tool has following sections:

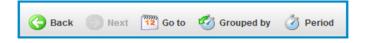
- Title: situated on the upper area. It is a text describing the represented variables

- **Representation areas:** data represented by bars for energy or by lines for the other magnitudes, such as power, current, voltage, etc. Each area contains some common characteristics:

- **Key:** provides general information about the variables represented in the area.
- **Y Axis:** provides information on the units of the variables that are represented in this axis and the range of values that are being displayed.
- X Axis: typically, this is the time axis and is located at the bottom of the representation area. Here the time interval being represented may be seen. Usually predefined time intervals are represented (day, month, etc.). But the user can choose the most suitable as can be seen later.

- **Drawing area:** it contains the actual figures, representing the variables of the area in question. There is a drawing area for each area of representation.

- **Graph toolbar:** contains a series of actions that can be performed on the graph. Depending on the type of graph it will contain more or fewer options:



Option	Description
Back	Displays the previous interval of data
Next	Displays the next interval of data
Go to	Allows choosing a closed graph interval
Grouped by	Allowschoosing standard graph interval, by day, week, monthor year
Period	Sampling period variables



÷

F CirCarLife client - Tables

Another important tool of CirCarLife client software is Table tool, it shows the charging sessions data for every device choosen in advance, it means, if it choosen a device on the **'Device'** tab and after the **'Table'** icon is pressed at the TOOLBAR, the table shown will make reference to this device.

🐚 EVSE - Raption		🐚 EVSE - Raption	
<u>O</u> ptions <u>V</u> iews <u>G</u> eneral		Options Views General	V
Previous 🕑 Next 🔻	Devices Maph	🕜 Previous 🕜 Next 🔻 📗 Devices	Graph Table 🏷 Eve
	A8		
	AC-Meter	Charge point status	
	AC-Mode 3	Lights	Y
	DC-Meter		
	UC-Mode 4	DC	
$\rightarrow$	EVSE	Status	
	Reader	Car connected	
			000

As an example, we are going to show the table for **EVSE device**:

Once the **'Table'** button is pressed, a discriminator window appears, there are two types of tables:

- **Standard:** sampling variable (energy, power, voltage) depending on the meter installed on the charge point. Choose **'Standard'** and after press over **'OK'** 

Options Views General	Devices Graph Table > Events Properties	Print
		11/21/17 1:51:54 PM
	Discriminator and type selection (EVSE)	
$\rightarrow$	Standard Recharge	
	V Ok Kancel	

Now, another pop-up window appears, you can choose either, DC or AC, and after choose the variables to be shown, such as, Active energy, Active power, Current and voltage :

Variables selection (EVSE)				[	3	Variables selection (EVSE)					$\boxtimes$
	L1	L2	ul L3				L1	L2	All L3		
Active energy				r	I.	Active energy				2	
Active power				2	L	Active power				2	
Current		<b>P</b>	×	r	Ŀ	Current	~	~	~	V	
Voltage	*	<b>P</b>	×	r	I.	Voltage	<b></b>	~	<b>V</b>	V	
					L						
	Ok	2	Cancel				Ok	2	Cancel		

Following image shows the appearance of Standard table:

•	Next •	<u>D</u> evio	es 🎢 Grapi	_		Properties	- A Tune			
Dateitime	EVSE.DC. Active energy	EVSE.DC. Current II (A)	EVSE.DC. Current L1 (A)	EVSE.DC. Current L2 (A)	EVSE.DC. Current L3 (A)	EVSE.DC. Active power (KW)	EVSE.DC. Voltage III (V)	EVSE.DC. Voltage L1 (V)	EVSE.DC. Voltage L2 (V)	EVSE.DC. Voltage L3 (V
onday 20 17:30:00	10,026	64,8	64,8	64,8	64,8	46,872	235,9	235,9	235,9	235,9
onday 20 18:00:00	6,022	16,4	16,4	16,4	16,4	12,055	239,7	239,7	239,7	239,7
nday 20 18:30:00	0,956	2,9	2,9	2,9	2,9	1,930	240,1	240,1	240,1	240,1
nday 20 19:00:00	0,178	2,0	2,0	2,0	2,0	0,929	239,9	239,9	239,9	239,9

The other type of table is:

- **Recharge:** summary of recharges on the charge point. Choose **'Recharge'** and after press over **'OK'** 

y EVSE - Raption priores Years General Prenipus 🚱 Next 🔻 [	) genters 🖉 Graph 📄 Tagle 🍃 (trents 📌 Properties 🤍 Brief	p <sup>6</sup> D <sup>7</sup> ⊠ 112117 15154 PM
$\rightarrow$	Descrimentate and type solucion (0150)	
Server Ok (Raption Circostrol - 192.16	1.122280]	



Now, another pop-up window appears, you can choose either, DC or AC, after press over **'Charge transaction'** tab and over **'Ok'** 

Variables selection (EVSE)	Variables selection (EVSE)
DC AC	DC AC
V Ok Cancel	V Ok Cancel

Following image shows the appearance of Standard table:

🕞 Previous 🌍 Next	<ul> <li>Devic</li> </ul>	es 🎢 Graph	Ta <u>b</u> le 🍃 <u>E</u> vents	Properties Derint
	Week 47	20 November 20	17 - 26 November 2017	
Charge begin date	Charge time	Plug	Energy consumed (kWh)	Tag
londay 20 08:33:38	4h 50' 56"	AC	6,961	00E2D761A1
londay 20 16:38:14	1h 26' 32"	AC	0,574	00E2D761A1
londav 20 17:46:53	1h 24' 41"	DC	17.188	00D53A068B
,				
,				

Table tool has following sections:

- **Title:** data period displayed.
- **Body:** it contains a series of columns with the values registered.
- **Toolbar:** personalization data showed in the table.\*

 $\label{eq:tabletoolbarhassame} * Table tool barhassame options and functionality as explained on tool bargraphs section.$ 

#### TABLE PROPERTIES

It is possible to configure some aspects for the tables pressing over **'Properties'** icon at the TOOLBAR, such as it can been seen next:

🔪 Table properties 🗖 👔	Z				
Variable	1				
AC-Meter.Current III (A)					
AC-Meter.Current L1 (A)					
AC-Meter.Current L2 (A)					
AC-Meter.Current L3 (A)					
AC-Meter.Active power III (kW)					
AC-Meter.Active power L1 (kW)					
AC-Meter.Voltage L3 (V)					
Add 🔯 Remove					
V Ok K Cancel					

Using this option it is possible to add new variables to the table in the same way as they are added to the graph, by clicking on **'Add'**.

It is also possible to delete variables from the table selecting the desired variables and clicking on the **'Remove'** button.

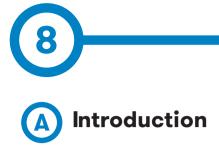
User can print or export the current table displayed using **'Print'** or **'Export'** option on the **'Options'** menu of the Menu bar.



### **CirCarLife client - Events [G** Events 🚱 Properties Graph Next Previous Devices Table Print -Historic events - Week 47, 20 November 2017 - 26 November 2017 - R r 🗗 🗵 ns ⊻iews <u>G</u>eneral 🚽 Previous 🏐 Next 👻 📗 Devices 🎢 Graph 🥅 Table 🍗 Events Properties Drint Week 47, 20 November 2017 - 26 November 2017 🈋 Back 💿 Next 🍱 Go to 🦸 Grouped by 🚜 Group 🥡 Event 😣 Add up Server Ok (Raption Circontrol - 192.168.1.222:80)

CirCarLife Scada client enables current events to be viewed in real time, both the simple events that are active and those that must also be acknowledged by the user.

**NOTE:** this option is not able for Raption's Series because all this functions can be done by OCPP.



This section shows how to manage the output power delivered by the Charge Point for DC and AC. To do this action you have to keep connected through the program CirCarLife Client software.

Limiting the output power will be useful if the input power supply for the Charging Point is not enough powerful to feed and keep a good level of charge for electric vehicles.

The power reduction can be done for both, DC and AC outlet

- DC output power can be limited in watts.
- AC output power can be limited in amps.



### **Output power setup**



### Steps:

1- Execute CirCarLife Client software



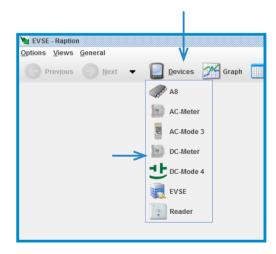
2- Push on 'General' tab and after on 'Connect' tab



3- Enter the IP address given to the Charge Point and port number  $\pmb{80},$  after, press over ' $\pmb{0k'}$ 

Ma EVSE - Raption Options Views General		e d 🛛
🕜 Previous 🕥 Next 👻 📘	Devices 🛛 Graph 📰 Table 🏷 Events 🧽 Properties	Drint
$\rightarrow$	Connect CP/IP address 192.168.1222 Example  Port 80  Cancel	1177/17 11:44:19 AM
Server not found or inactive		

4- Press on the 'Device' tab icon at the TOOLBAR and after click on 'DC-Mode 4':



**NOTE:** inside DC-mode 4 is necessary to modify the output power for both DC charges type, CHAdeMO and Combo (CCS)



5- Once the **'DC-Mode4' device** is already opened, press over the **'CHAdeMO-General 1' tab**:

Prevjous 🕥 Next 🔻 📘	Table 🏷 Event	s Propertie	es Print	11/24/17 1.02:32
INDO-General Combo-General Equipment-General Irsions ICRESION, MACDEUS_IMAP ICRESION_FRANKARE RESION_FRANKARE RESION_MACHINE_POWER RESION_MACHINE_POWER RESION_MACHINE_COMBO	es Combo-Enror Cor Addoo-Ceneral 1 Addoo-Ceneral 1 Addoo-Ceneral 1 FAULT 2 FAULT 2 FAULT 3 FAULT 3 FAULT 5 FAULT 5 FAULT 5 FAULT 6 FAULT 6 FAULT 7 FAULT 8	veter-General CHAGEUO	Converter - Status messages / Converter - Error Central / CH-deMO - Status mess Setup PRE_WOOLLES_NUMBER 4 EOUIPMENT_TYPE 2 TEMP_SETPOINT (C) 40 Temperatures setup	ages CHAdeMO - Error Actions Reset electronic power Reset maintenance

6- Once the 'CHAdeMO-General 1' is already opened, press over 'Setup' tab:

					DC-Mod	e 4			11/24/17 1:58:01
	ombo - Status me	essages Combo - Error Converter - Gen	eral Conve						
Equipment - General		CHAdeMO - General 1			deMO - Genera	12		HAdeMO - Status	messages CHAdeMO - Erro
hide		Charger		Limits			Actions		
Protocol number car	0	Protocol number charger	1	Limit current (A) CURRENT REGULATION LIM		125 125	Star	rt charge	
fax battery voltage (V)	0	Relay detection enabled	1	Percent decrease of maximum		125			
arget battery voltage (V)	0	Available output voltage (V)	550	Limit voltage (V)	current (%)	550			
Charging current request (A) Tax charging time (s)	0	Present voltage (V) Threshold voltage (V)	2	VOLTAGE_REGULATION_LIMIT	τoo	550			
tax charging time (s) temaining battery capacity (KWh)	0.000	Available output current (A)	125	Limit power (W)		50.000			
otal battery capacity (KWh)	0,000	Present current (A)	125	POWER_REGULATION_LIMIT	(W)	55.000	Res	et alarms	
harge state (%)		Remaining charging time (s)	ů	Time limit (s)		3.600			
Vehicle fault		Charger status fault		Limit battery (%)		100			
		Charger States have		Battery limit start (%)		100			
Battery overvoltage				Voltage of isolation test (V)		500	Reset nort	ial time counter	Reset total time counter
Battery undervoltage		Charger status		TIME_ISOLATION_TEST (8)		1.000 ) 130			
Battery current differential				TEMP_CONNECTOR_HYSTER TEMP_CONNECTOR_HYSTER					
				TEMP_BOARD_CTRL_HYSTEP					
~ right basely temperature		Charger malfunction		TEMP_BOARD_CTRL_HYSTEP					
Voltage diferential							Reset en	ergy delivered	Reset maintenance
Bit 5 - Reserved		Charger connector lock		Setup	Temperatur				
Bit 6 - Reserved		<u> </u>		Comp	remperator	es setup			
Bit 7 - Reserved									
Bit 7-Reserved		Battery incompatibility							
Vehicle status				4					
		Battery malfunction							
Vehicle charging enabled		- Dates in an arcs of							
Vehicle shift position									
Other vehicle faults		Charging stop control							
Bit 3-Reserved									
- Dir D'riteberred		Bit 6 - Reserved							
Bit 4-Reserved		_ ON O HODEWED							
Bit 5-Reserved									
Bit 6 - Reserved		Bit 7 - Reserved							
Bit 7 - Reserved									

7- The pop-up window below appears, at **'Limit Power'** tab it is possible to set the maximum DC power output, it can be selected from 10000 W til 50000 W.

DC-Mode 4	
Limit current	
125	
CURRENT_REGULATION_LIMIT	
125	
Percent decrease of maximum current	
50	
Limit voltage	
550	
VOLTAGE_REGULATION_LIMIT	
550	
 Limit power	
50000	-
 POWER_REGULATION_LIMIT	
55000	
Time limit	
3600	
Limit battery	
100	
Battery limit start	
100	
Voltage of isolation test	
500	
TIME_ISOLATION_TEST	
1000	

Click '**OK'** to confirm changes.

**NOTE:** It is mandatory write the same variables for CHAdeMo as for Combo (CCS). Do not change any other vaiable.



8- After changing the CHAdeMO output power, we are going to change the CSS output power, press over **'Combo - General 1'** tab and then over **'Setup'** tab:

DC-More 4 - Raption								್ ದೆ
ions <b>S</b> iews <u>G</u> eneral								
Realities 🕥 Next 👻	Device	es 🎢 Graph 🥅 Table 🍃 Eve	nts 2	Properties Print				
	- 1	· · · · · · · · · · · · · · · · · · ·						
•					DC-	Mode 4	11/24/1	17 4:35:05
ombo - General 1 Combo - Genera	12 Comt	oo - Status messages   Combo - Error   C	onverter - Ger	reral Converter - Status messages	Converter - Error	Power Modules - General 1 & 2 Power	Modules - General 3 & 4	
Equipment - Genera			- General 1	r	CHAdeMO - Ge			IO - Error
Handler 1		IO Handler 2		EVA Board		Limits		
Session ID	79	Evse max voltage limit	550	Eva board 1 byte 0	F	Limit current (A)		1
EvsellD	0	Evse max voltage limit multi	3	Ev requested transfer	ŝ	CURRENT_REGULATION_LIMIT (A)		1
IO handler 1 bite 4	11	Evse current regulation tolerance	z	Eva board 1 byte 1	30	Limit voltage (V)		5
Service category	0	Evse peak current ripple	2	Everror code	0	VOLTAGE_REGULATION_LIMIT (V)		
Evse supported energy	3	IO handler 4 byte 0	23	Ev max current limit multiplier	3	Limit power (W)		50.0
Service ID	п	Evse peak current ripple multiplier	3	Charge state (%)	100	POWER_REGULATION_LIMIT (W)		55.
Schedule tuple ID	0	Evse energy to be delivered multi	4	Ev max current limit	125	Time limit (s)		3.
max	0	Combo evse energy to be delivered	50	Ev max power limit	0	Limit battery (%)		
Itart	0	Evse present current	0	Eva board 1 byte 5	18	Battery limit start (%)		
Ouration	0	IO handler 4 byte 3	18	Ev max power limit multiplier	0	Voltage of isolation test (V)		
D handler 2 byte 6	4	Evse present current multiplier	3	Ev max voltage limit multiplier	3	TIME_ISOLATION_TEST (s)		5.
vse isolation status	0	Evse present voltage multiplier	3	Ev max voltage limit	400	Percent decrease of maximum current		
vse status code	1	Evse present voltage	0	Total battery capacity (kWh)	0,000	TEMP_CONNECTOR_HYSTERESIS_L		
Evse notification	0	IO handler prog state	0	Eva board 2 byte 1	0	TEMP_CONNECTOR_HYSTERESIS_H		
O handler 2 byte 7 none	0	Evse max current limit	125	Ev max energy capacity multiplier	0	TEMP_BOARD_CTRL_HYSTERESIS_		
Votification max delay	0	IO handler 5 byte 1	3	Ev max energy request multiplier	0	TEMP_BOARD_CTRL_HYSTERESIS_	HIGH ("C)	
O handler 3 byte 2	18	Evse max current limit multi	3	Ev max energy request	0			
Evse current regitolerance multi	3	IO hamdler 5 reserved 32bit	0	Full soc	100	Setup	Temperatures set	up
Evse max power limit multiplier	3	IO handler 5 reserved 8bit 1	0	Bulk soc	80			
Evse max power limit	50	IO handler 5 reserved 8bit 2	0	Ev target current	0			
				Ev target voltage	400	Articos		
				Sslected schedule tuple ID	0			
				Charging profile entry start	0	Start charge		
				Charging profile max power	0			
				Eva board 3 byte 3	0			
				Remaining time to bulk soc (s)	0			
				Remaining time to full soc (s)	0	Reset Jarms		
				Eva request prog state	0			
				Eva board 4 reserved 32bit	10000			
				Eva board 4 reserved 8bit 1	0	Reset partial time counter	Reset total time co	unter
				Eva board 4 reserved 8bit 2	0			
						Reset energy delivered	Reset maintenar	
						Reset energy derivered	Reset maintenar	ncê

9- Force the **'Limit power'** variable between 10000 W til 50000 W as has been shown in the previous step 7 **for CHAdeMO**.

Click 'OK' to confirm changes.

**NOTE:** It is mandatory write the same variables for CHAdeMo as for Combo (CCS). Do not change any other vaiable.

# **O** Maximum output power for AC

For setting the maximum output power for AC is necessary to use de software **'Charge Point Setup'**, ask for it to the CIRCONTROL technical support staff.

#### Steps:

1- Execute Charge Point Setup



- 2- Introduce the Charge Point's IP and push over 'Connect' tab.
- 3- Write down the 'Max. Current per plug (A)'and push over 'Apply settings' tab.

Charge Point Setup	(1.1d)						
Communication		V					
IP Address:							
Charge Point Information	n						
Charge Point Mode	Ŀ						
Firmware installed:							
	Go to setup.html						
Plug Information							
		<b>a</b> .					
Plugs	Max. Current	Status					
	NOTE: Only Mode3 plugs are lis	sted					
SELECTED DE	VICES -> Max. Current per pl	ua (A): 32					
		-3 C / UL					
	Apply settings						





GENERAL DATA				
Display	TFT 8". Multi-language touch screen			
Light beacon	RGB Colour indicator			
RFID reader	ISO / IEC 14443A/B MIFARE Classic/Desfire EV1 ISO 18092 / ECMA-340 NFC 13.56MHz			
Compliance	IEC-61851; IEC-62196; CE; CHAdeM0 Certified; CCS (DIN 70121)			
Rated diversity factor	0,8			

MECHANICAL DATA					
Enclosure rating	IP54 / IK10				
Enclosure material	Stainless steel				
Enclosure access	Frontal key locked door				
	AC	DC			
Connector type	Type 2 tethered cable / socket	JEVS G105	CCS 2/ CCS 1*		
Cable length	3 meters /	3 meters	3 meters		
Net weight	235 Kg				
Dimensions (D x W x H)	410** x 940 x 1800 mm				

ENVIRONMENTAL CONDITIONS			
Operating temperature	-30°C to +45°C		
Storage temperature	-20°C to +60°C		
Operating humidity	5% to 95% Non-condensing		
Sound level in operation	< 55 dB		



## **Technical Data**

CONNECTIVITY	
Ethernet	10/100BaseTX (TCP-IP)
Cellular	Modem 4G / GPRS / GSM *
Interface protocol	OCPP

ELECTRICAL DATA	
Power supply	3P+N+PE
Voltage range	400 VAC +/- 10%
Power factor	> 0.98
Efficiency	95 % at nominal output power
Standby consumption	38 W
THDi	< 5%
Frequency	50/60 Hz
Electrical protections	Overcurrent protection, RCD and Overvoltage protection $^{\ast}$
AC electrical meter	Complies with the EN 50470 (MID European standards)

(\*) Depending on the model, these components are optionals.

(\*\*) 520 mm with the cables hanged.

MODEL SPECIFICATIONS					
	MODELS				
	CCS CHA T2C63	CCS CHA T2S32	CCS CHA	CCS T2S32	
Maximum AC input current	138 A	108 A	76 A	108 A	
Required power supply capacity	96 KVA	75 KVA	53 KVA	75 KVA	
Maximum output power	DC: 50 kW AC: 44 kW	DC: 50 kW AC: 22 kW	DC: 50 kW	DC: 50 kW AC: 22 kW	
Output voltage range	DC: 50-500 VDC AC: 400 VAC	DC: 50-500 VDC AC: 400 VAC	DC:50-500 VDC	DC: 50-500 VDC AC: 400 VAC	
Maximum output current	DC: 0-125 A AC: 63 A	DC: 0-125 A AC: 32 A	DC: 0-125 A	DC: 0-125 A AC: 32 A	
Number of connectors	3	3	2	2	
Connector type	CCS2; JEVS G105; Type 2 tethered cable	CCS2; JEVS G105; Type 2 socket	CCS2; JEVS G105;	CCS2; Type 2 socket	



MODEL SPECIFICATIONS					
	MODELS				
	CHA T2S32	CCS	СНА		
Maximum AC input current	108 A	76 A	76 A		
Required power supply capacity	75 KVA	53 KVA	53 KVA		
Maximum output power	DC: 50 kW AC: 22 kW	DC: 50 kW	DC: 50 kW		
Output voltage range	DC: 50-500 VDC AC: 400 VAC	DC: 50-500 VDC	DC:50-500 VDC		
Maximum output current	DC: 0-125 A AC: 32 A	DC: 0-125 A	DC: 0-125 A		
Number of connectors	2	1	1		
Connector type	JEVS G105; Type 2 socket	CCS2	JEVS G105		





## **Need help?**

In case of any query or need further information, please contact our **Post-Sales Department** 





### CIRCONTROL Raption 50 Series USER MANUAL

A comprehensive guide on how to use and configure your Raption 50 Charge Point.

V1.5, April edition 2020