

LinkRay

Quick Start Guide



August 2024

1.05 (Firmware Version 1.3.11)

EN



KEY STEPS

1 Physical Setup

2 Initial Startup

3 Remote Access

4 Select Your Device

5 Log In

6 Configure the Site Power Limits

7 Network Settings

8 Charger Configuration [part 1]

9 Charger configuration [part 2]

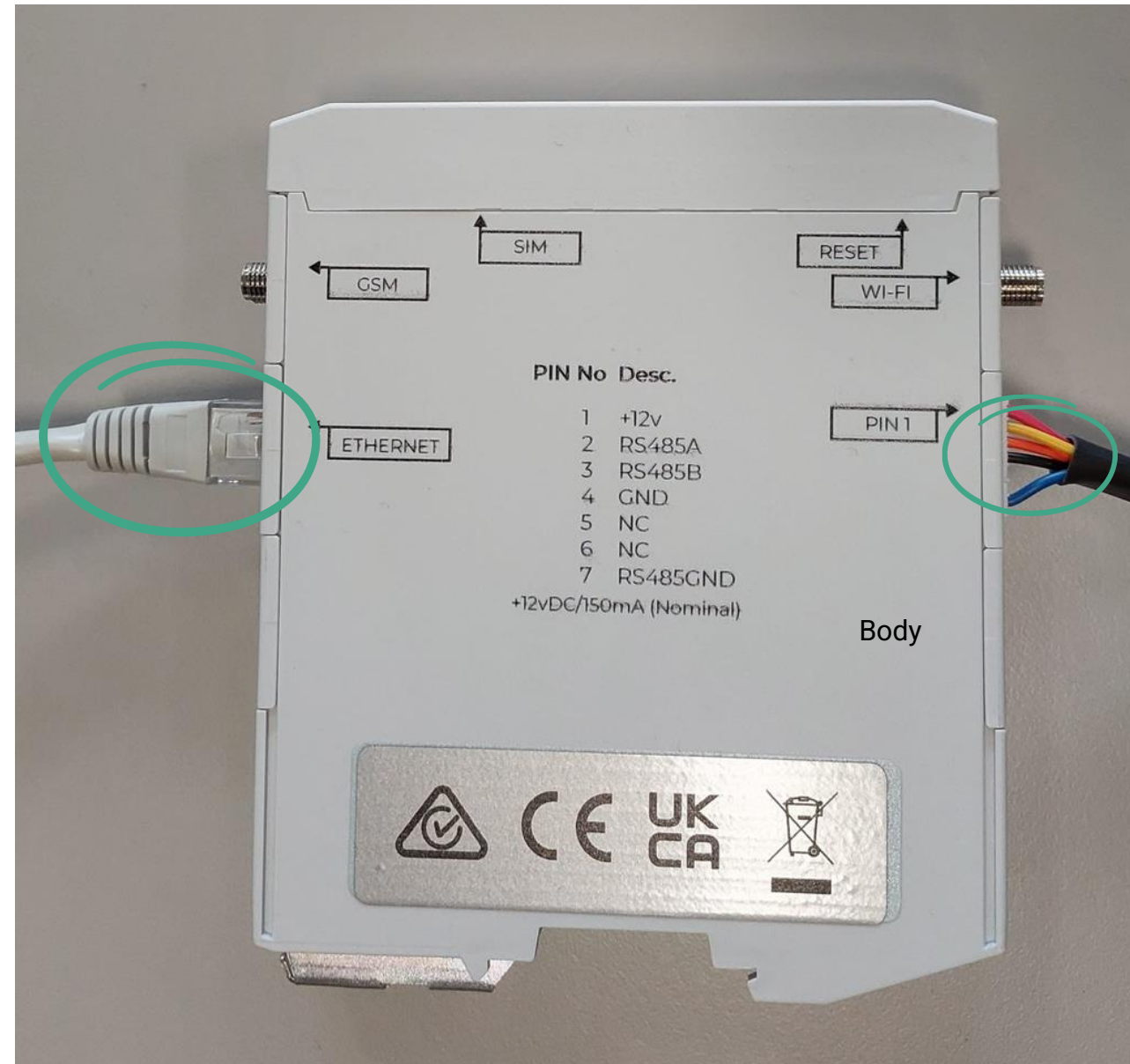
10 Charger Configuration [part 3]

11 Charger Configuration [part 4]

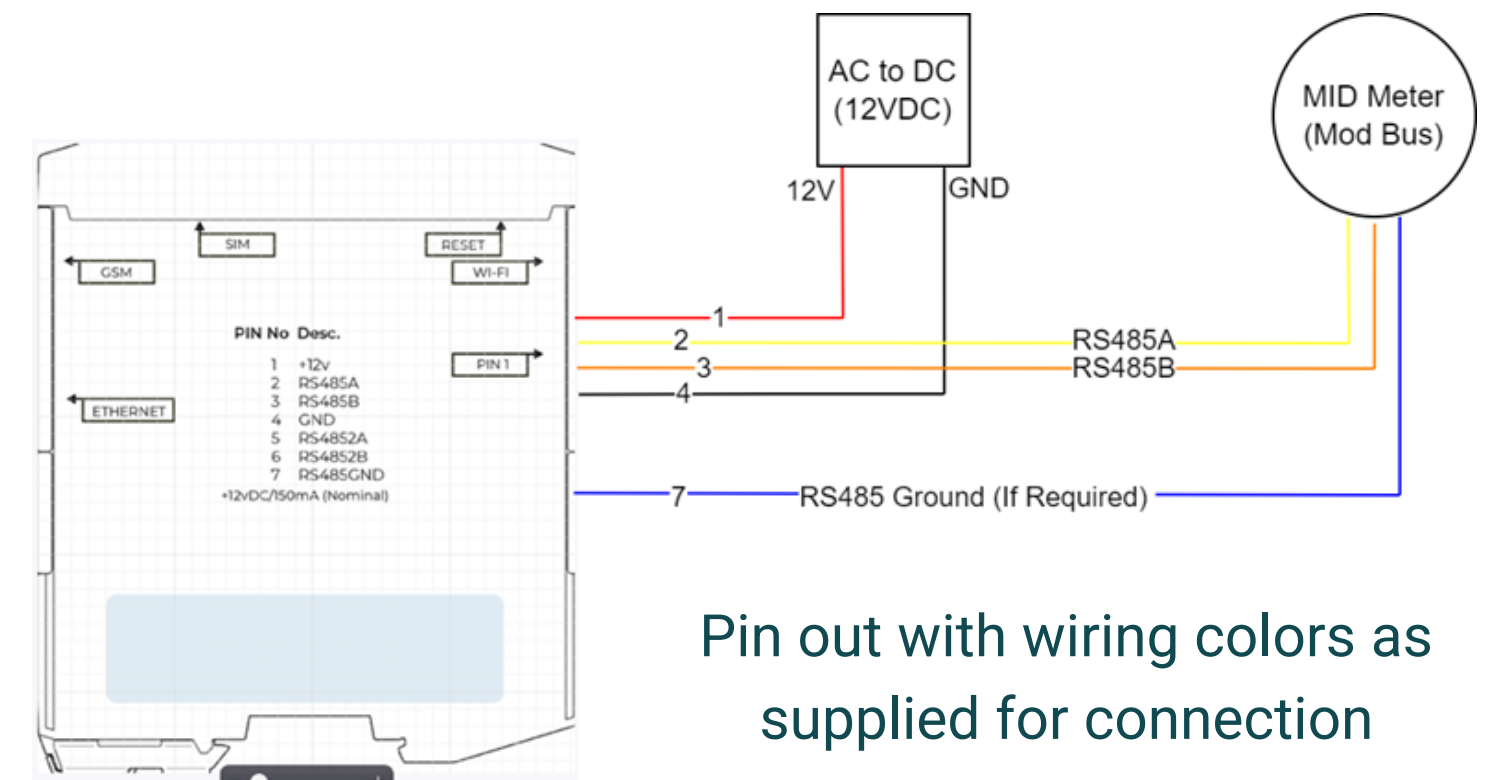
12 Enable & Add Any RFID Tags (Optional) + TEST

1 Physical Setup

Connect the power and ethernet cables

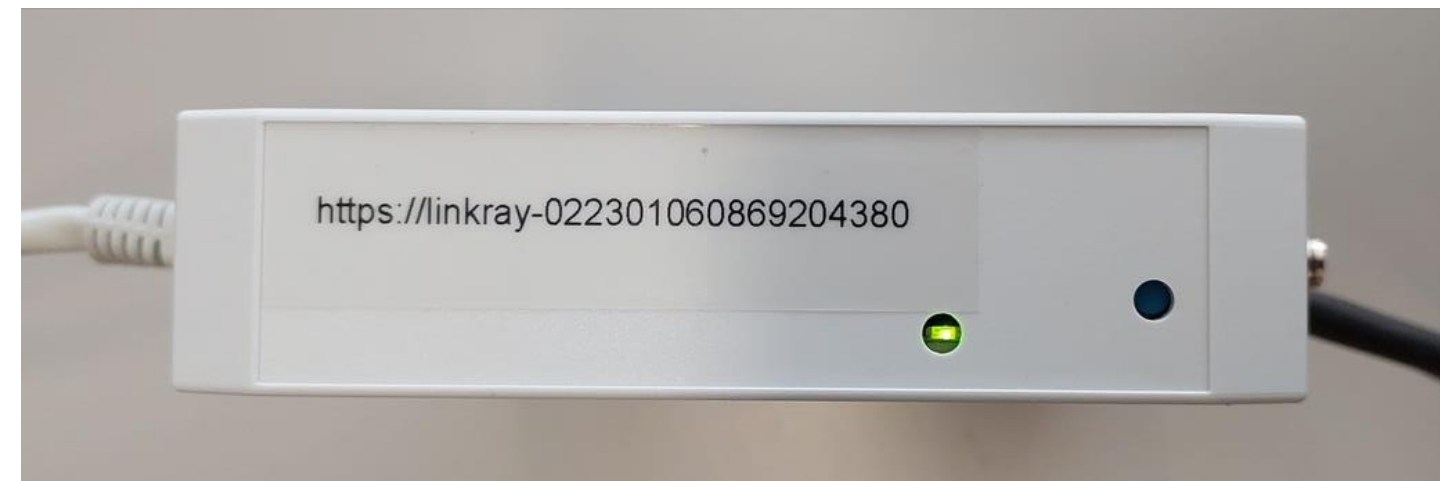


In the wiring diagram there is also Modbus connections to a mid-meter RS485A & RS485B, this is only applicable on relevant installs



Pin out with wiring colors as supplied for connection

LED Patterns:
solid green - starting up
Blinking green - normal operation
solid red - Fault



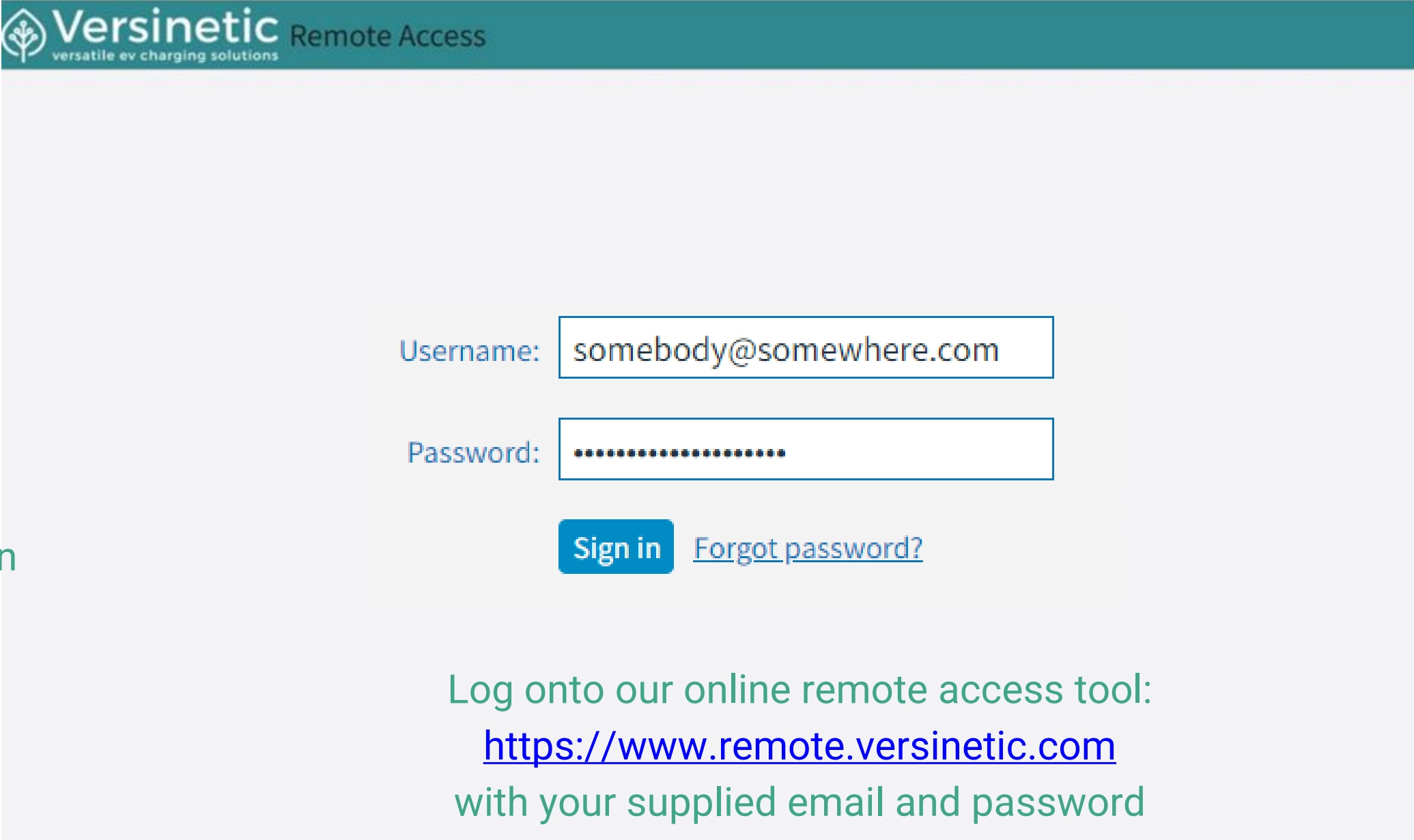
The LinkRay device will follow this procedure given no faults occur:

1. It will take about 2 minutes to boot and start up - LED will be ON
(If the LED is still **UNBLINKING** after this, it is most likely updating to the most recent software version - the time this takes varies as devices with older software versions need to update multiple times)
2. Then it will be operating normally - LED will be **FLASHING** green

3 Remote Access



The LinkRay device should automatically start once provided power and connection to the internet, it can now be connected to remotely



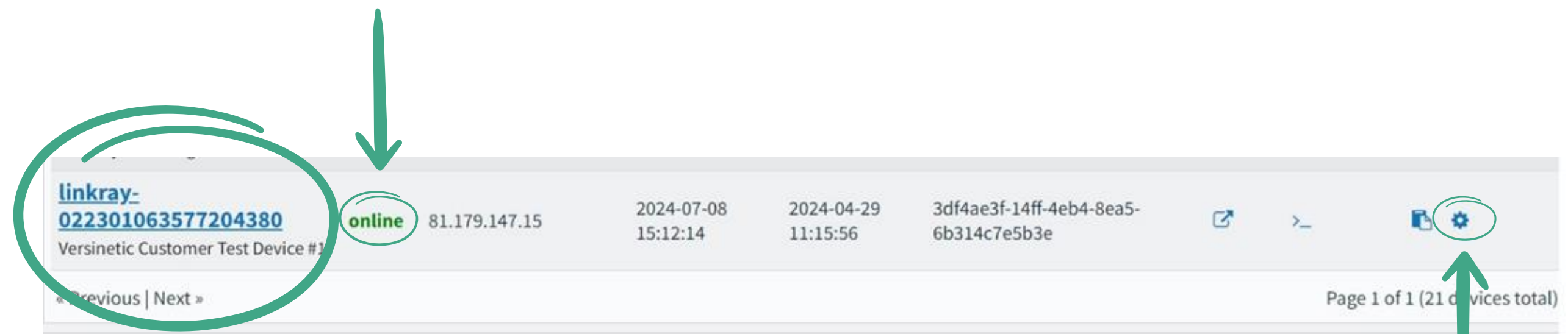
The screenshot shows the Versinetic Remote Access login interface. At the top left is the Versinetic logo and the text "Remote Access". Below this, there are two input fields: "Username:" with the value "somebody@somewhere.com" and "Password:" with a masked password of 12 dots. Below the password field is a blue "Sign in" button and a blue link for "Forgot password?". At the bottom of the screenshot, there is a green text instruction: "Log onto our online remote access tool: <https://www.remote.versinetic.com> with your supplied email and password".

4 Select Your Device | Online Remote Access Tool




All devices on your account will be shown with their availability (on/offline)



Select the LinkRay name to connect. This will take you through to the LinkRay User Interface



The screenshot shows a table of devices. The first row is highlighted with a green circle around the name and a green arrow pointing to the 'online' status. A green arrow also points to the 'online' status. A green arrow points to a cog icon in the right-hand column of the first row. The table has columns for device name, status, IP address, and dates. The footer indicates 'Page 1 of 1 (21 devices total)'.

linkray-022301063577204380 Versinetic Customer Test Device #1	online	81.179.147.15	2024-07-08 15:12:14	2024-04-29 11:15:56	3df4ae3f-14ff-4eb4-8ea5-6b314c7e5b3e			
--	--------	---------------	---------------------	---------------------	--------------------------------------	---	---	---

Sites can be renamed here with the cog symbol

5 Log In | LinkRay User Interface

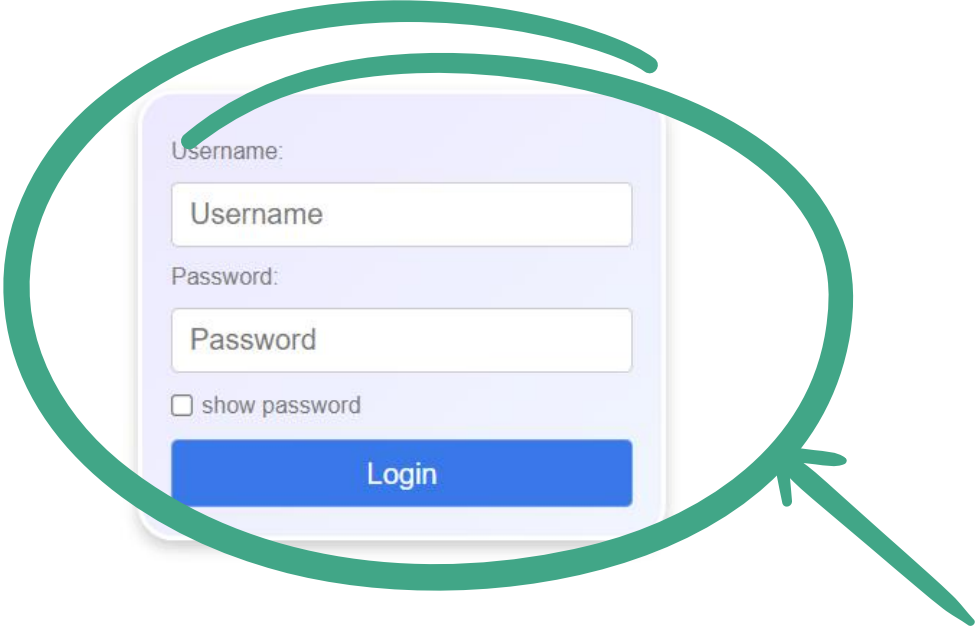


LINKRAY USER INTERFACE

Default User: **Assembler**
Default Password:
2WW%[4%9nU`HWhGe



Login



Username:
Username

Password:
Password

show password

Login

Type: LR
Hostname: linkray-022301030997204380
Firmware Version: linkray-1.3.11

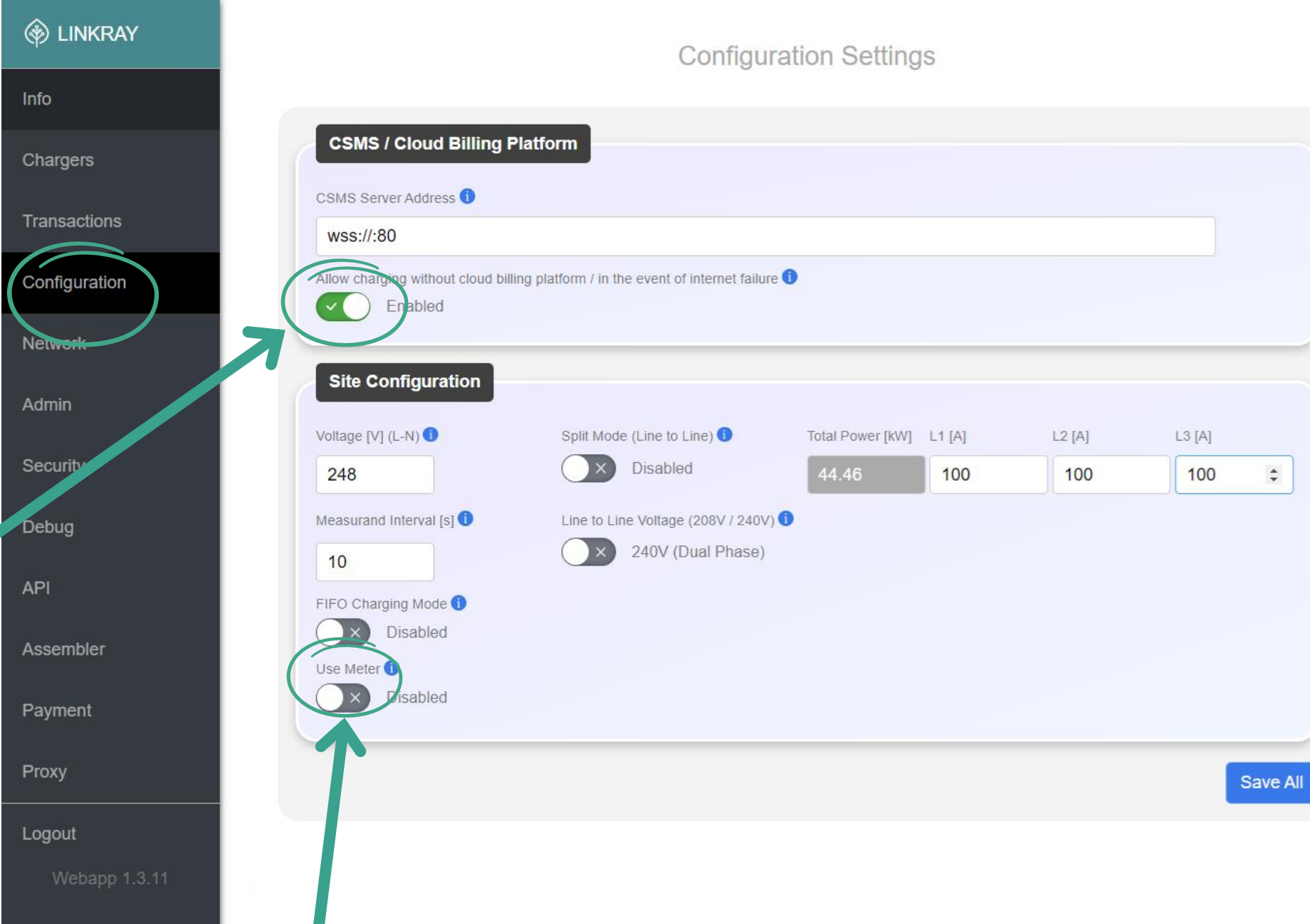
Log into the LinkRay device

Versinetic 2024



No CSMS URL (or default: ws://:80) means LinkRay is running without payment backend

'Allow New Charging While Offline' ENABLED indicates the LinkRay can authorise charging sessions itself (required when running offline mode)



LINKRAY

Info

Chargers

Transactions

Configuration

Network

Admin

Security

Debug

API

Assembler

Payment

Proxy

Logout

Webapp 1.3.11

Configuration Settings

CSMS / Cloud Billing Platform

CSMS Server Address ⓘ

wss://:80

Allow charging without cloud billing platform / in the event of internet failure ⓘ

Enabled

Site Configuration

Voltage [V] (L-N) ⓘ

248

Split Mode (Line to Line) ⓘ

Disabled

Total Power [kW]

44.46

L1 [A]

100

L2 [A]

100

L3 [A]

100

Measurand Interval [s] ⓘ

10

Line to Line Voltage (208V / 240V) ⓘ

240V (Dual Phase)

FIFO Charging Mode ⓘ

Disabled

Use Meter ⓘ

Disabled

Save All

'Use meter' disabled means that the LinkRay will control charging limits without monitoring for additional power usage (such as building power). In this mode, ensure that the limits cannot be exceeded by lowering the total by a safe margin



In this example:
Site power is set to '100A' on each of the three phases to the site: L1, L2, L3

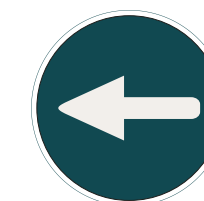
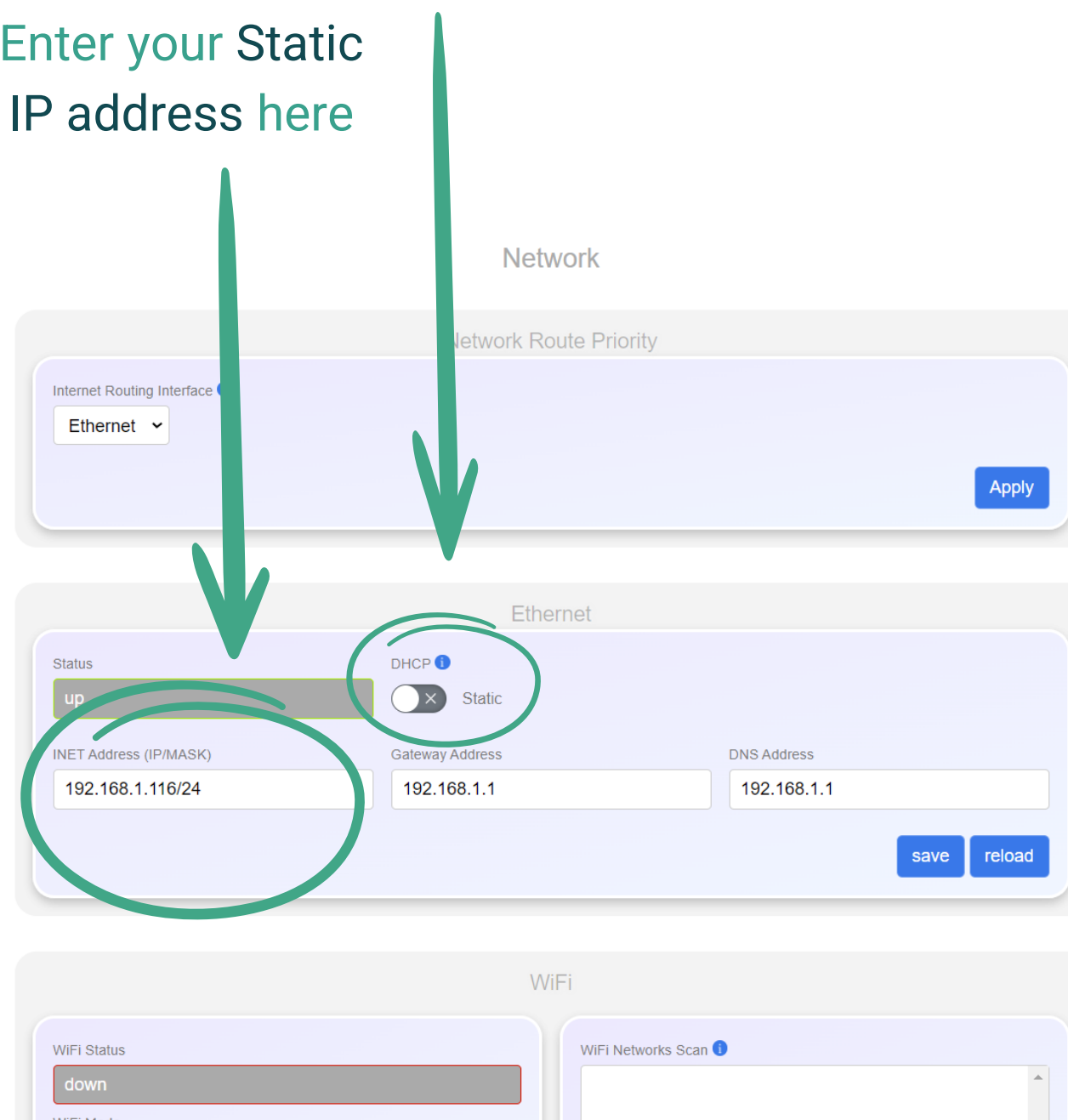
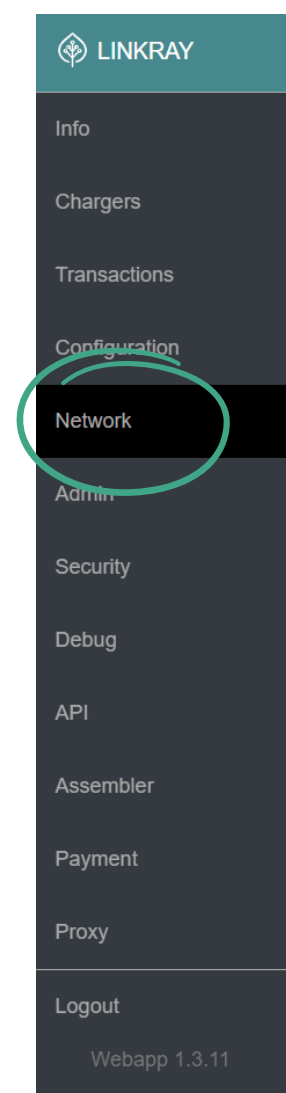
7 Network Settings

Set a Static IP address & ideally also reserve the LinkRay IP in the routers DHCP lease



(If you leave this option as dynamic, an IP address is automatically assigned)

Enter your Static IP address here

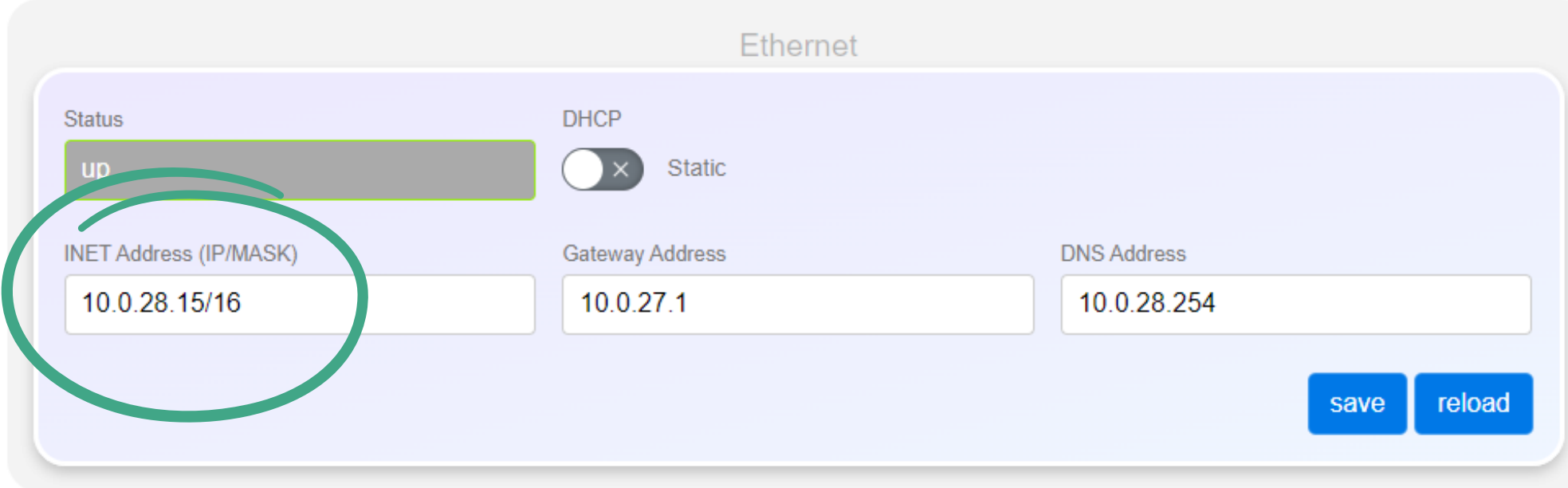


NB: after swapping between DHCP & Static, the LinkRay will need to be rebooted

Why is this important?
All chargers need to be configured to point to the LinkRay. The IP address must stay at a fixed IP for LinkRay to function

8 Charger Configuration [Part 1]

Get the IP of the LinkRay from Network -> ethernet



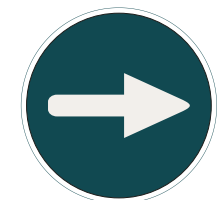
Add the prefix "ws://" OR "wss://"
Remove the backslash and all subsequent numbers
Add the suffix ":8887" OR ":8886"

E.G., "10.0.28.15/16" becomes "ws://10.0.28.15:8887"

You will need to copy this or write it down to enter it into a charger later, it will be referred to as CSMS URL or Server URL or

It should be in the format of: ws://aaa.bbb.ccc.ddd:8887 OR wss://aaa.bbb.ccc.ddd:8886 (where each section of numbers can be 1, 2, or 3 long)

- ws indicates a web socket (like http) - more likely to work (better for initial setup)
- wss indicates secure web sockets (like https) - more secure (more advanced)

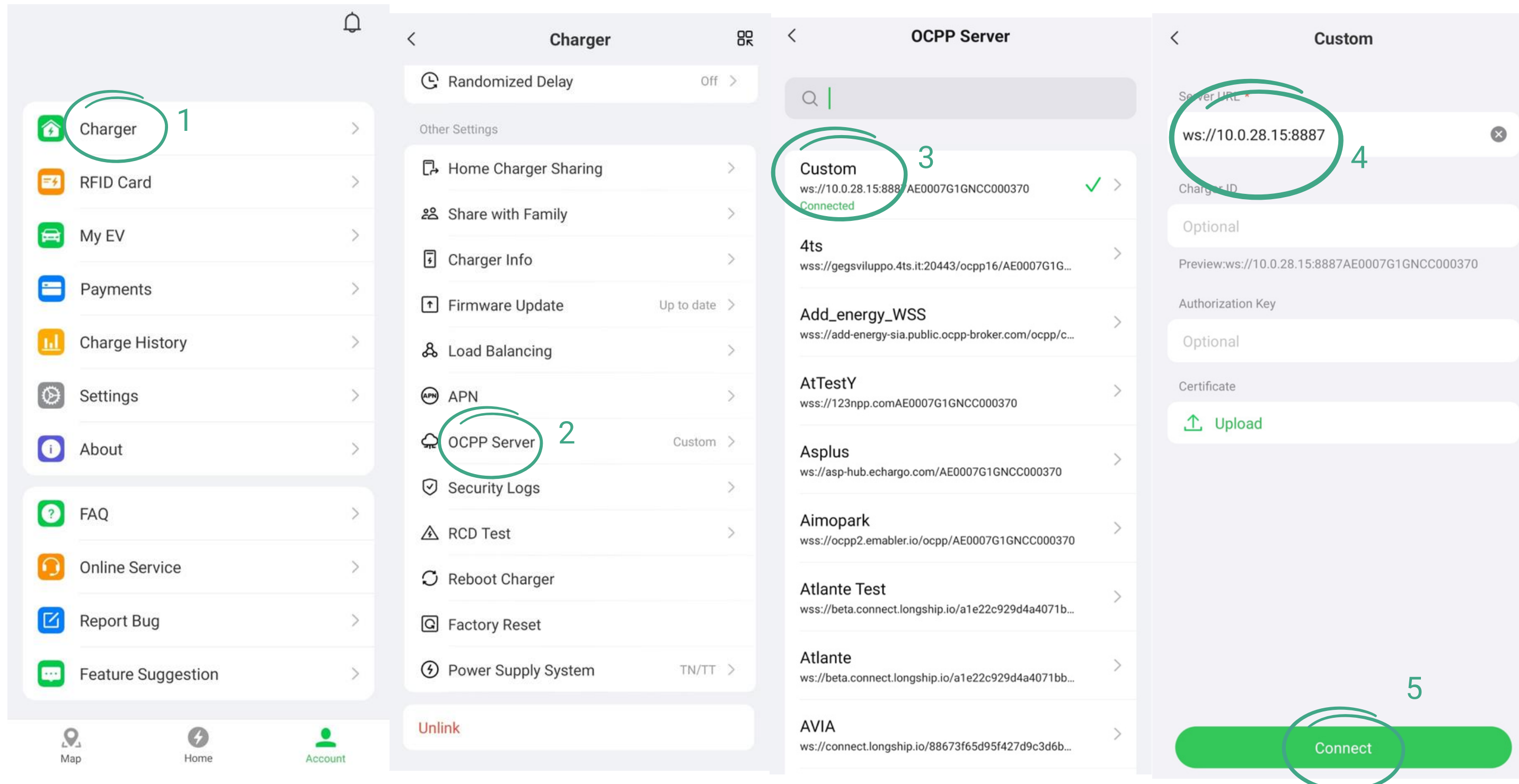


The Subsequent 3 pages all cover the same thing: connecting a charger to the LinkRay device. They are from 3 different chargers and are only examples, your charger may differ in the steps themselves, but the principle is the same

9.i Charger Configuration [Part 2 - Example 1: AUTEL]

Download the “Autel Charge -EV Charging” and connect to the charger via Bluetooth (done easily by scanning the QR code on the charger and then the QR code with the manual)

AUTEL

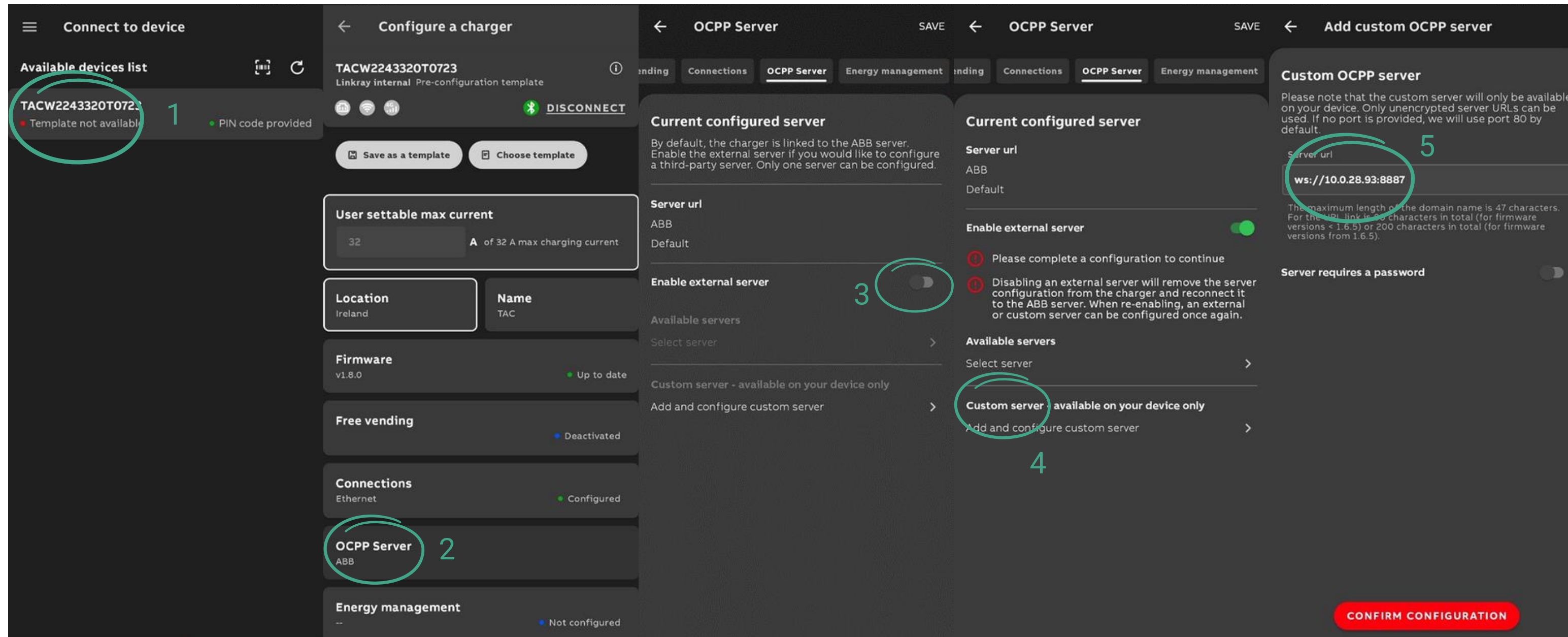


1. Select “Charger”
2. Scroll down and select “OCPP Server”
3. Select Custom
4. Type in the Server URL
5. Connect

9.ii Charger Configuration [Part 2 - Example 2: ABB]



Using the ABB TerraConfig App log onto the charger using Bluetooth. You maybe required to enter the user PIN at this point.

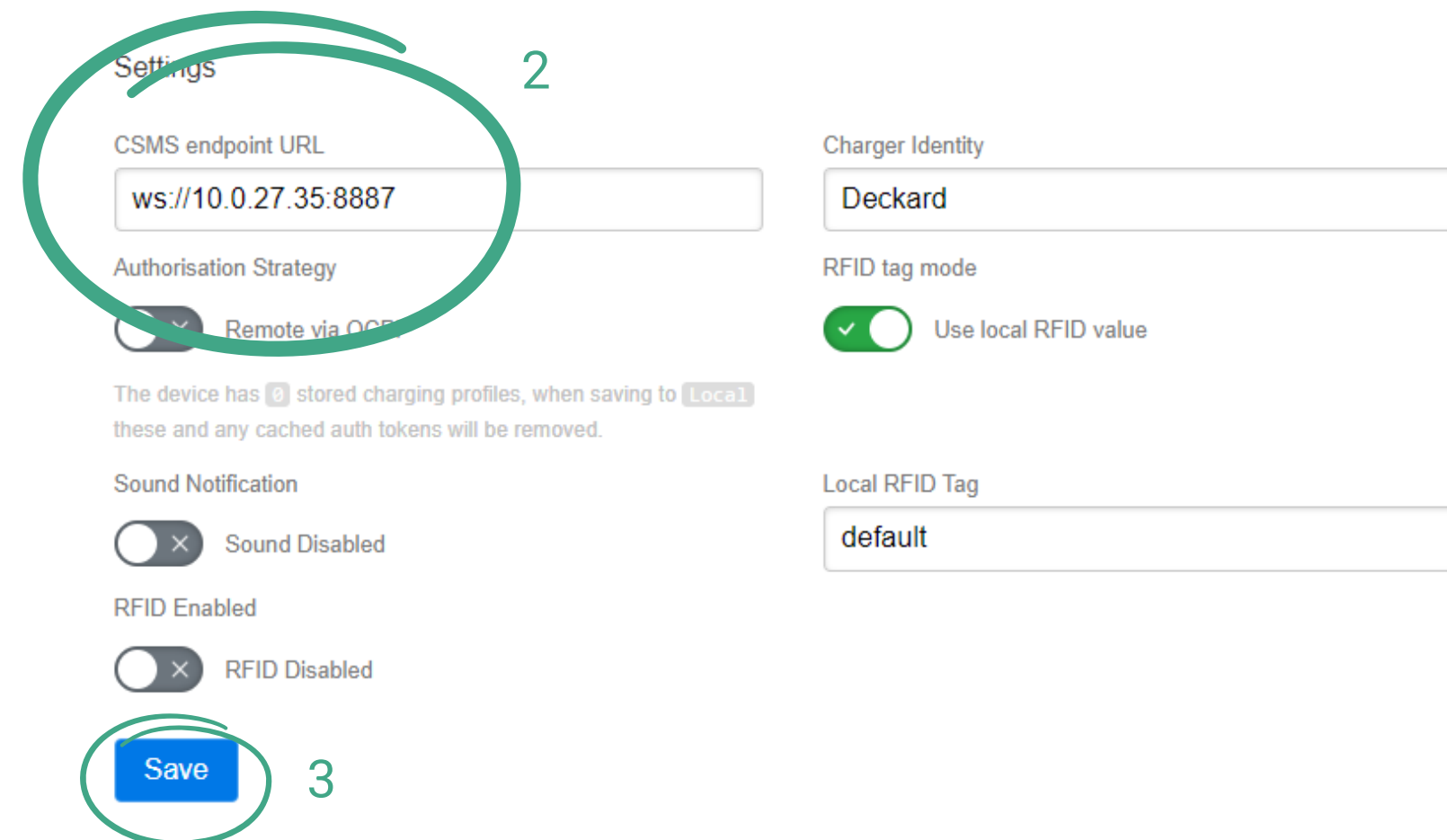
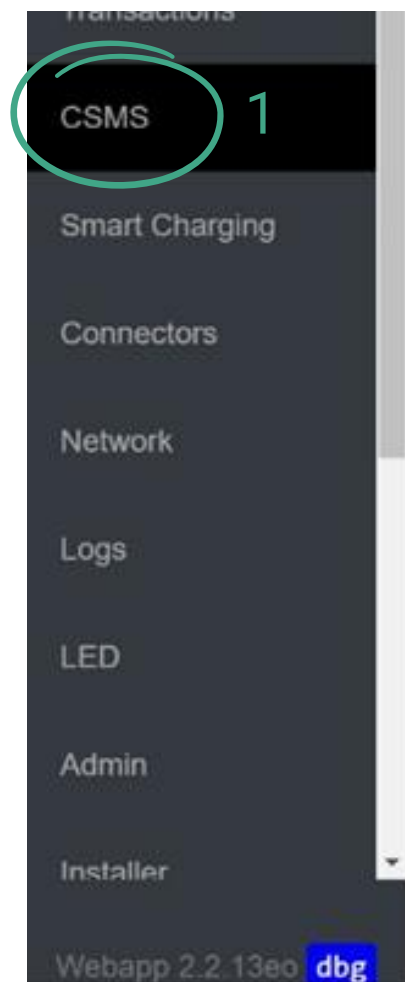


1. Log onto the charger using Bluetooth
2. The default server will be ABB, click to update it
3. Enable the external server slider

4. Select "Add and configure custom server"
5. Enter IP address of LinkRay device

9.iii Charger Configuration [Part 2 - Example 3: EO]

eo



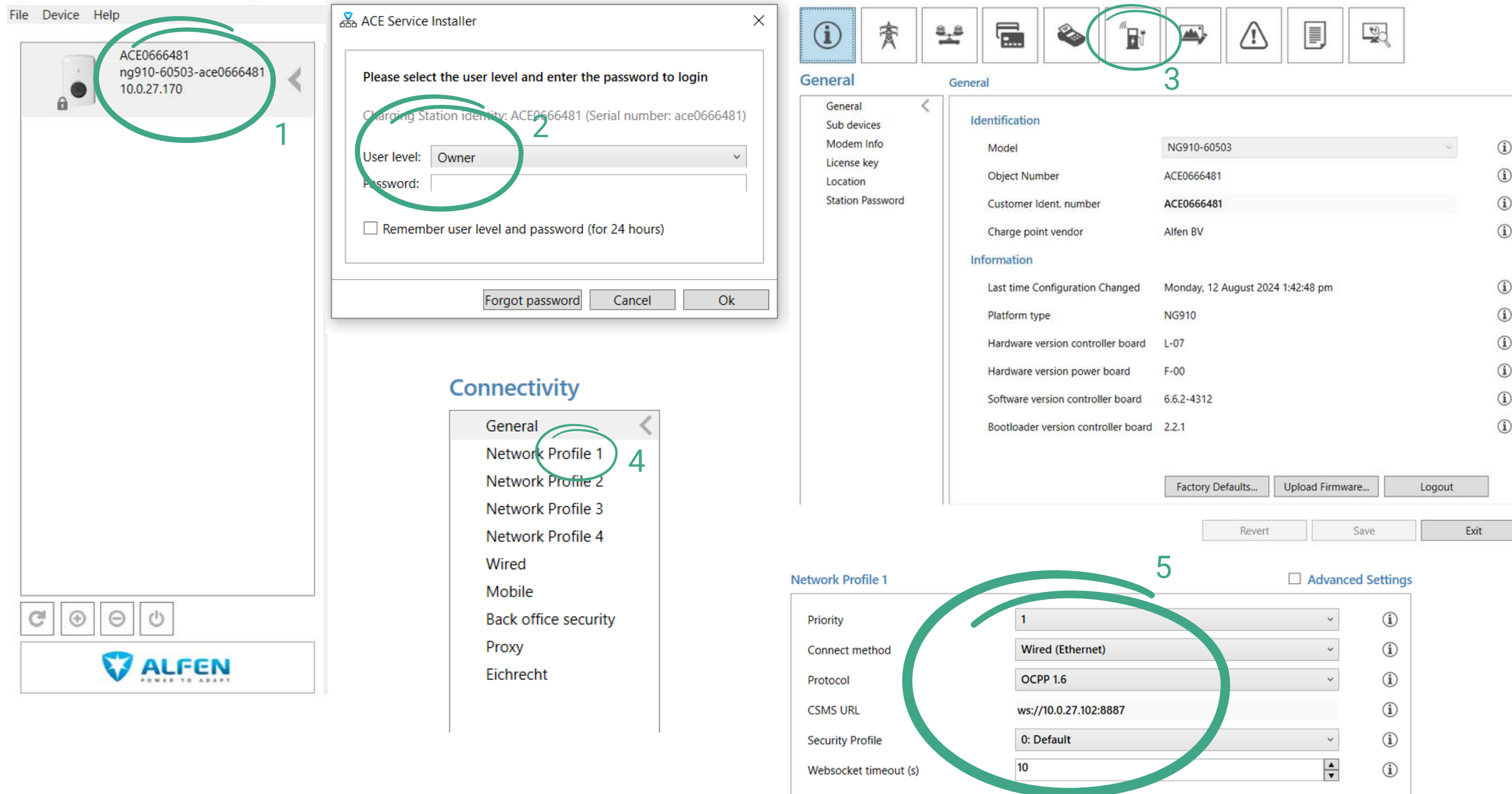
1. Navigate to the CSMS tab
2. Enter the CSMS endpoint URL
3. Save

9.iv Charger Configuration [Part 2 - Example 4: ALFEN]



The MyEve mobile app is NOT a valid way to set up an ALFEN charger as it does not allow for custom CSMS URL's, instead you MUST install the ACE Service installer, and contact ALFEN support for details to log in. Once logged in then you can add chargers with the code found with the charger.

ACE Service Installer 3.6.15-207 - Settings: 2.3.0-1157 -

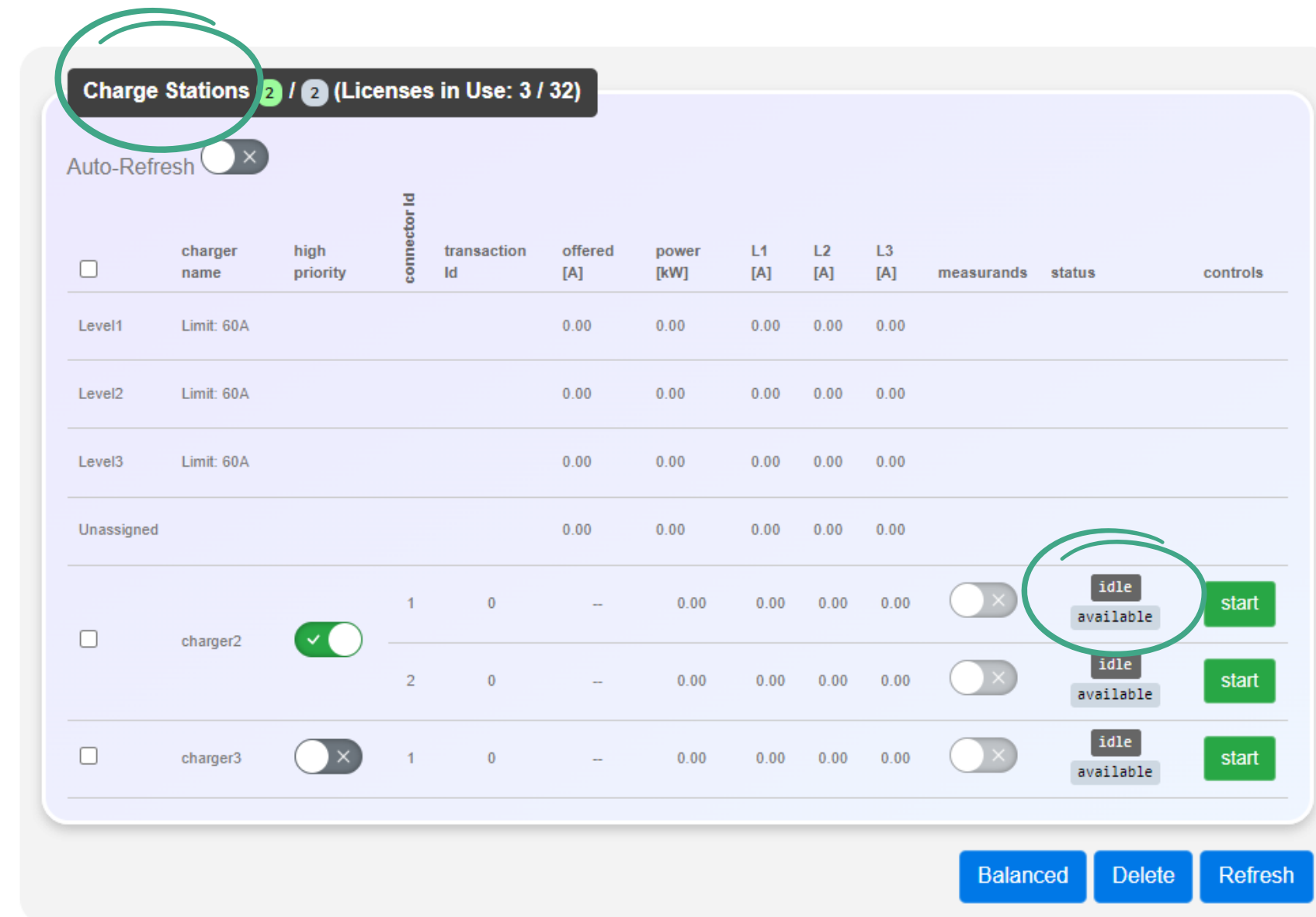
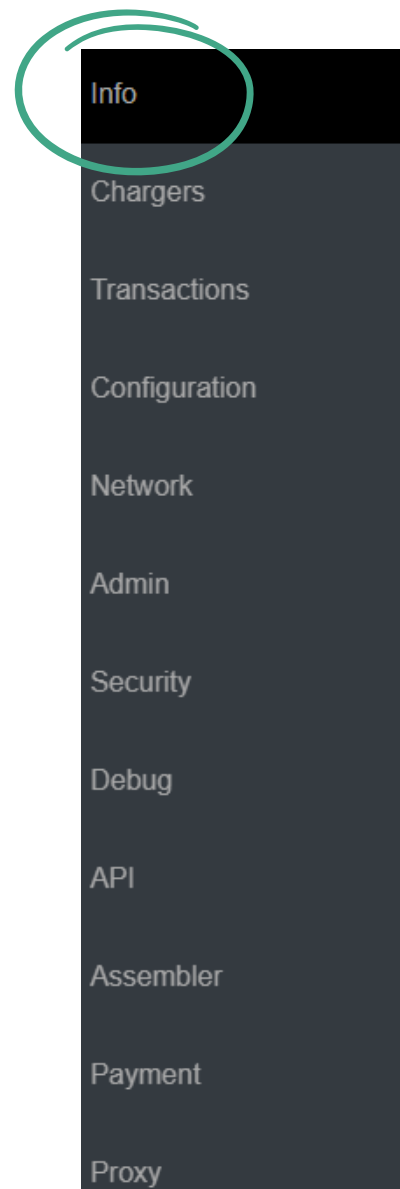


The image displays several screenshots from the ACE Service Installer application, illustrating the configuration process for an ALFEN charger. The steps are numbered 1 through 5:

- Step 1:** A screenshot of the main interface showing a list of devices. One device is highlighted with a green circle, containing the text: ACE0666481, ng910-60503-ace0666481, 10.0.27.170.
- Step 2:** A login dialog box titled "Please select the user level and enter the password to login". The "User level" dropdown is set to "Owner" and is circled in green. The "Charging Station Identity" field contains "ACE0666481 (Serial number: ace0666481)".
- Step 3:** A screenshot of the "General" settings page. The "EV charging" icon in the top toolbar is circled in green. The "Identification" section shows: Model: NG910-60503, Object Number: ACE0666481, Customer Ident. number: ACE0666481, Charge point vendor: Alfen BV.
- Step 4:** A screenshot of the "Connectivity" settings page. The "Network Profile 1" option in the dropdown menu is circled in green.
- Step 5:** A screenshot of the "Network Profile 1" configuration page. The "Advanced Settings" section is circled in green, showing: Priority: 1, Connect method: Wired (Ethernet), Protocol: OCPP 1.6, CSMS URL: ws://10.0.27.102:8887, Security Profile: 0: Default, Websocket timeout (s): 10.

- 1.add the charger and select it
- 2.log in using the credentials given
3. Select the EV charging symbol
- 4.select "Network Profile 1"
- 5.Copy the drop downs as seen, but enter your own CSMS URL

10 Charger Configuration [Part 3]



Charge Stations 2 / 2 (Licenses in Use: 3 / 32)

Auto-Refresh

	charger name	high priority	connector id	transaction id	offered [A]	power [kW]	L1 [A]	L2 [A]	L3 [A]	measurands	status	controls
	Level1	Limit: 60A			0.00	0.00	0.00	0.00	0.00			
	Level2	Limit: 60A			0.00	0.00	0.00	0.00	0.00			
	Level3	Limit: 60A			0.00	0.00	0.00	0.00	0.00			
	Unassigned				0.00	0.00	0.00	0.00	0.00			
<input type="checkbox"/>	charger2	<input checked="" type="checkbox"/>	1	0	--	0.00	0.00	0.00	0.00	<input type="checkbox"/>	idle available	start
<input type="checkbox"/>	charger3	<input type="checkbox"/>	2	0	--	0.00	0.00	0.00	0.00	<input type="checkbox"/>	idle available	start
<input type="checkbox"/>	charger3	<input type="checkbox"/>	1	0	--	0.00	0.00	0.00	0.00	<input type="checkbox"/>	idle available	start

Balanced Delete Refresh



If saved correctly, the charger will appear in 'Charge Stations' & will indicate: 'idle' OR 'available' (idle status is pictured in the screengrab). You may need to refresh the page to see this

11 Charger Configuration [part 4]

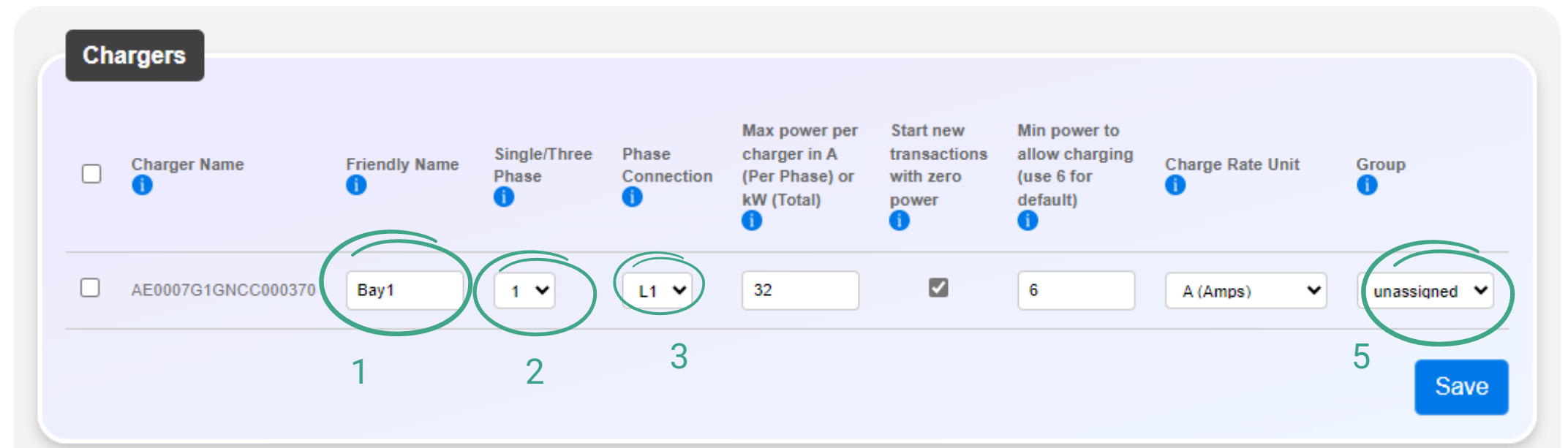
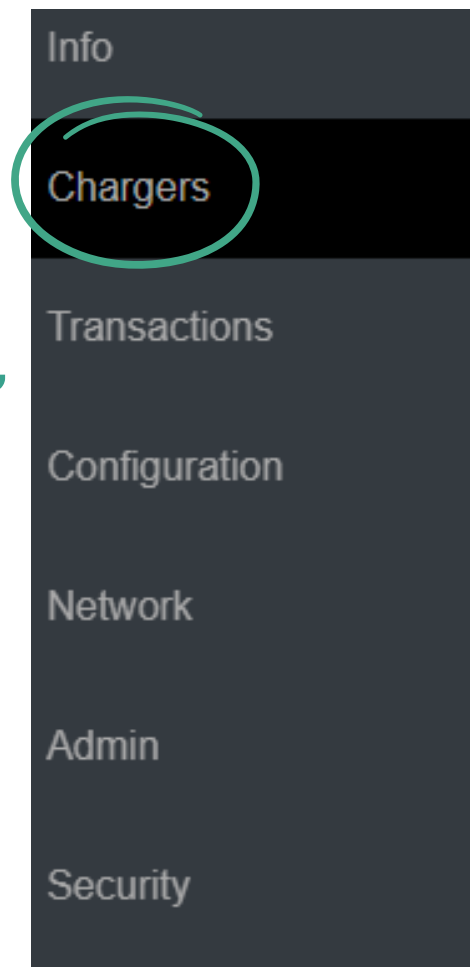
1) Select the 'Charger' tab and enter a 'Friendly Name' to aid identifying devices

2) Select if the charger is 'Single Phase' or 'Three Phase'


3) Select the physical phase connections, i.e. L1-L1/L2-L2/L3-L3

4) Optional: Chargers can be grouped with limits, per group (if required)

5) Click on SAVE



The 'Chargers' configuration page shows a table with the following columns: Charger Name, Friendly Name, Single/Three Phase, Phase Connection, Max power per charger in A (Per Phase) or kW (Total), Start new transactions with zero power, Min power to allow charging (use 6 for default), Charge Rate Unit, and Group. A row is shown with the following values: AE0007G1GNCC000370, Bay1, 1, L1, 32, checked, 6, A (Amps), and unassigned. The fields for Friendly Name, Single/Three Phase, Phase Connection, and Group are circled in green and labeled 1, 2, 3, and 5 respectively. A 'Save' button is at the bottom right.



The 'Add Group' form has two input fields: 'Group Name' and 'Limit'. The 'Limit' field contains the value '0'. An 'Add Group' button is at the bottom right, circled in green.

4

12 Enable & Add Any RFID Tags (Optional) + TEST

1) Enable:

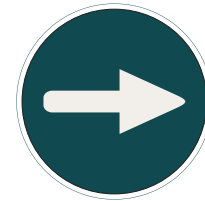
If required turn on a whitelist for RFID authorisation

2) Add tags by:

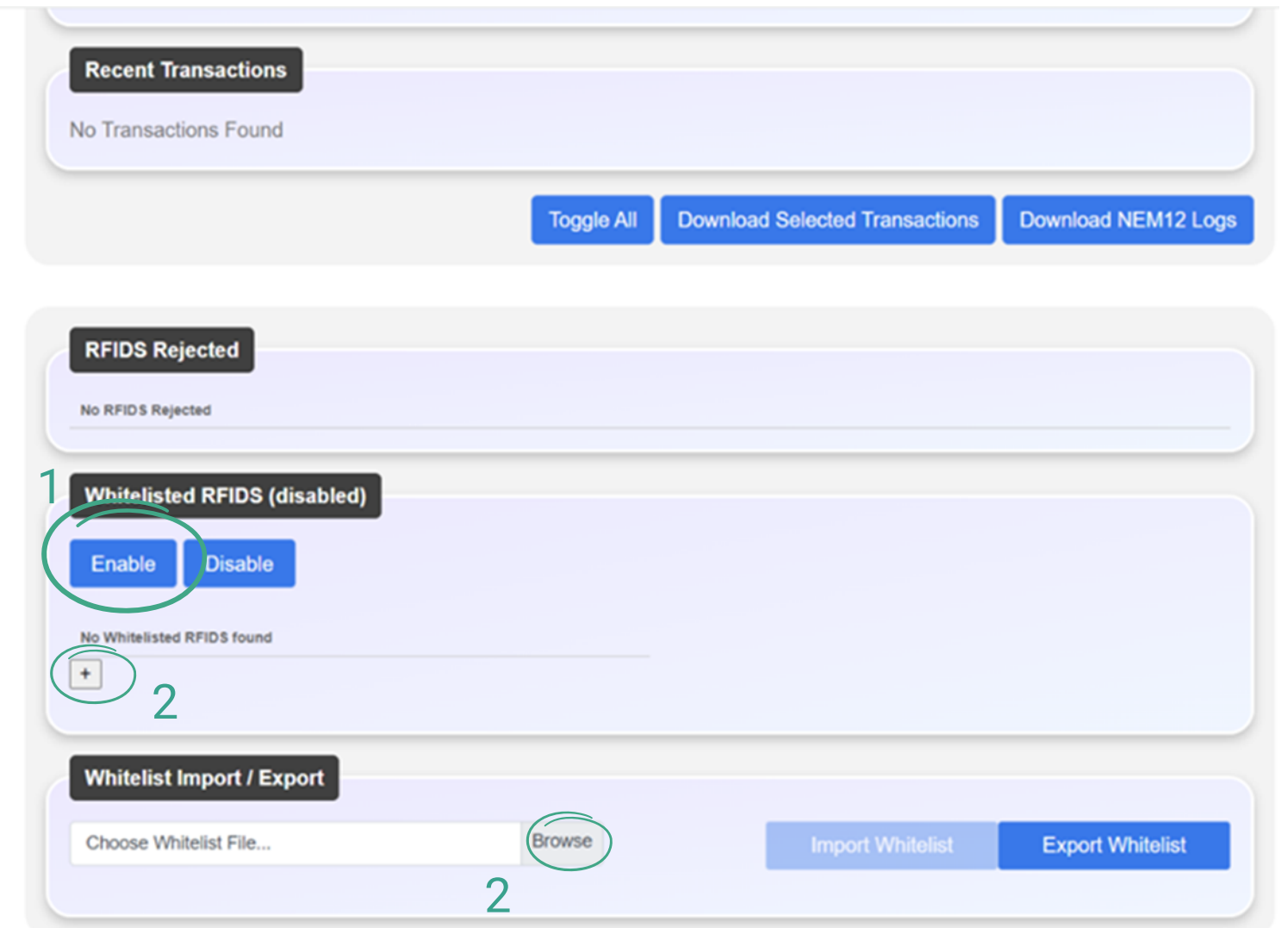
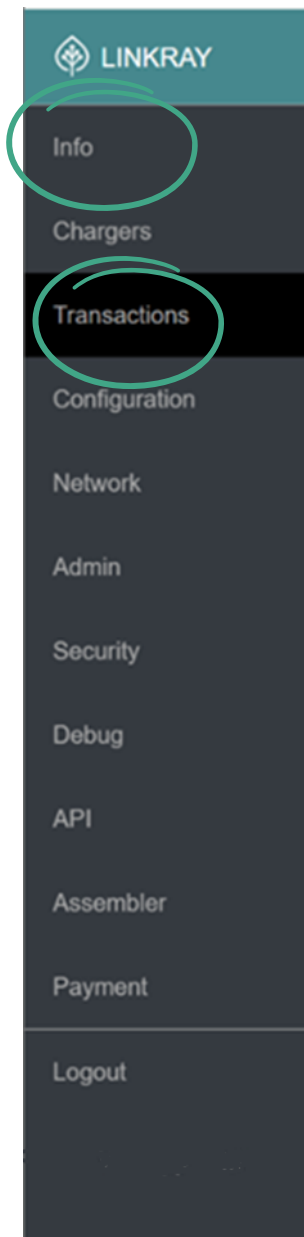
- presenting them to a configured charger (manually tap the RFID card onto the charger). Then selecting it from the “RFIDS rejected” using the tick box
- OR uploading a CSV file
- OR manually using the [+] button

3) Test:

Navigate to the ‘Info’ tab, the system is ready to be tested



3



Full user manuals are available at:
<https://docs.versinetic.com>

Discover more about LinkRay:
<https://www.versinetic.com/hardware/linkray-charge-station-load-balancing-controller/>