

ECCLite
Ecotap Controller Configuration
Lite Edition
Version 1.1, 2024-16-04
[internal & external usage]



ecotap EVC4.x Controller Configuration Lite Edition User Guide

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Version History

Version	Date	Author
1.0	21-03-2024	Ludo Stanziani
1.1	16-04-2024	Ludo Stanziani

History of changes:

- Version 0:
 - Creation
 - Chapters 5 to 10 are based in Tijn Lax's content in the original ECC Manager manual, adapted and made relevant to ECCLite, by Ludo Stanziani (in a Product Owner Role).

Version 1.1:

- Add three table references, out of Jack de Veer's full EVC4 and EVC5 R&D Manuals to the JSON Parameters. By Ludo Stanziani (in a Product Owner Role).

Introduction

This document serves as a guide for updating firmware and modifying configuration via the ECCLite.

With the lite version you can configure settings regarding; Power, Load- management/Grid and internet connectivity.

The lite version also protects you from changing any configuration on the station that could permanently damage it. If you still use the full ECC Manager instead of the lite version, you will do that at your own risk of voiding warranty.

Using ECCLite is described step by step and can be applied to the EVC4.x, EVC5.x and the ECC.x controller that run the V32Rx software.

The following topics are addressed in this manual:

- Required hardware, software and related
- Updating Firmware via the ECCLite
- Sending selected parameters to the

Important!

A) Standard Factory settings .JSON files with selected parameters should always be supplied by Ecotap!

1. If the ECCLite software is used in a way other than indicated in the manual, Ecotap cannot guarantee that the controller will work
2. Primary information- Ecotap Controller Configuration – Lite Edition

ECCLite is an application dedicated for owners, installers and operators of charging stations. Everything that can be done on this software tool, must in principle be done via remote commands from your selected backend. As the Ecotap stations are made for convenient remote control, in batch by using OCPP compatible backend platforms. That is especially the case for all parameters needed to determine the power and grid settings that match your charging infrastructure.

In most cases Ecotap manufacturing will have preset all communication data as such the station will automatically make connection to the backend determined in the purchasing process. If you need to check, correct or modify the backend connectivity, or if you can't access the backend to configure power and grid settings. You will need to use ECCLite.

This software toolkit works only on the windows platform and only if the firmware on supported controllers is on version V32RXX and up.

To download the latest version & the manual, click here: <https://www.ecotap.nl/ecclite/>

Generic information about Updating your Firmware:

To update the firmware, you will need the manufacturer advised .BIN file. You can find the latest published firmware and their release notes on the web page: <https://www.ecotap.nl/ecclite/>

Mind that you should always check the release notes to evaluate if that firmware file is compatible to your type of controller module.

An update of the firmware of your station is best done remotely and in batch by the charge point operator via his OCPP-backend access.

In cases you need to do it manually, you can use this software toolkit 'ECCLite'.

WARNING: a firmware update is different from commonly known software updates. If you update the firmware in technical terms, you flash the chip memory. That means that it completely rewrites itself. If you interrupt

this process by removing power or data cable. Your controller module can brick itself. And become useless. You lose your warranty and need to swap the controller module. If you don't know what you are doing, always first

consult the manufacturer Ecotap/Legrand.

Unlike with OTA (over-the-air) software updates. With firmware, you as owner of the device decide whether or not you want to update your device to the manufacturer advised version.

If you have a stable version running on your charger, it is not advised to update. Only update if you read in the release notes that the update solves a problem hampers your charger operations. MIND that IT IS NOT possible to DOWNGRADE the firmware anymore. Project specific firmware on custom product should thus NEVER be upgraded!

OCPP Connectivity :

Because Ecotap Charging Stations are infrastructure objects, the OCPP connectivity to the selected backend platform is pre-configured in the factory. If connectivity is lost or connectivity settings are accidentally wiped and/or contracts with the backend provider are terminated and a switch to a new party is needed. You will need to reconfigure connectivity yourself.

To connect an OCPP backend platform, you will need receive information from the platform provider. Namely, the link to the backend. Called an Endpoint.

In most cases it will look like this:

Endpoint URL:

`"wss://devices.ecotap.com/registry/ocpp/NL*ECO*1000"`

The [NL*ECO*1000] part is unique to a singular charging station and it's backend page, called the OCPP-ID. Sometimes, if the backend has a kind of security layer. You receive one Token per charging station as well. That will match it's unique charging station OCPP-ID. It will look like here below;

Token: `"53Umkk1q7rEM"`

The above information for the Endpoint and OCPPID will be split in the following fields.

<input type="checkbox"/> authorizationKey	NL*ECO*1000:53Umkk1q7rEM
<input type="checkbox"/> com_Endpoint	devices.ecotap.com:443/registry/ocpp/#OSN#
<input type="checkbox"/> com_OCPCID	NL*ECO*1000
<input type="checkbox"/> com_Options	comMaster=0,Events=1,BlockBeforeBoot=1,Wdt=0,updSendIdle=0,UseTLS=1,blockLgFull=0

In this case the [wss://] in the endpoint link you receive from the CPO is removed. If the link was [ws _s://] you place in [com_Options] the value UseTLS=1.

If the link was [ws://] you place in [com_Options] the value UseTLS=0. As you can see after the [.com] part, a port number is added.

- Port :80 is WS
- Port :443 is WSS

The [NL*ECO*1000] part is replaced by [#OSN#], that will mean that now the endpoint to this backend is not anymore unique per charger, but is applicable to every charging station connected to this backend.

The unique OCPPID is then filled in after [com_OCPCID]. And this is the parameter unique to every charging

station.

If in the cases this charging station and OCPPID need an [authorizationKey] you will add that after the parameter. In that value field you start with the OCPPID, and [:] an after that the per charger unique key. In this example after [authorizationKey] it will look like this;

[NL*ECO*1000:53Umkk1q7rEM].

Mind that you can set this parameter and after that you can't read it again. This is for safety.

Required Setup

In order to use ECCLite and its functionalities, there are several supplies that are required. Make sure these are present before proceeding.

Required Hardware

Product	Info
Computer (incl. 1x USB connection, type A)	To use the ECCLite software tool.
USB to TTL cable	Cable to connect the controller with the computer (cable is proprietary to Ecotap).Article number: 3510019Supplied by Ecotap.
Ecotap controller (EVC4.x / EVC5.x / ECC.x)	The controller inside the charging station to be programmed / configured.
12V DC power supply	Properly working power supply to power on the controller module inside the charging station.

Required Software

Name	Version	Info
ECCLite	1.0.0 or later	Software for programming and changing configurations on the EVC4.x / EVC5.x / ECC.x controllers that at least have the V32 Firmware. This can be downloaded from the Ecotap Website: https://www.ecotap.nl/ecclite/

Required Files

Name	Version	Notes
Factory standard ".Json" file. (optional)	Unique per charger model	A file containing all (correct) standard settings for selected parameters.To fall back on if you want to go back to factory settings.This should be requested from Ecotap. Depending on the model of

		station you are using.
“.bin” file (optional)	–	<p>A file containing the (new) firmware. Required for updating firmware. This should be requested from Ecotap.</p> <p>Only the latest release can be downloaded from the website: https://www.ecotap.nl/ecclite/</p> <p>Older version / ‘Legacy firmwares’, can be requested at your technical advisors at Ecotap.</p>

Preparing The Setup

The first step is to unzip the ECCLite.EXE, to a folder on your PC or to a USB Stick.

Download the **ECCLite.zip** file and save it to your computer. When doing so, choose a location that is easy to find on your PC.



Figure 5.1 – ECC manager .zip file.

(The zip-file icon may look different)

Right-click on the file and select **Extract All**.

An additional screen will now open, click extract again.

In the same location as the .zip file, there will now be a folder created with the same name.



Figure 5.2 – ECCmanager folder after unzipping zip file.

Open this folder and then double-click **ECCLite.exe** to open the application.



Figure 5.3 – ECCLite application.

ECCLite will now start up and is ready to use.

As you can notice there is no installer needed. This software toolkit works as a pocket 'lite' version.

Note: when opening the application, it could occur that Microsoft Defender prevents the starting of it. If this is the case, see Chapter 9 on how to solve this easily.



Do **not** power on the module **yet**, during the following steps!

Connect the USB to TTL cable with the controller.

Attach the USB side of the cable to one of the computer's USB ports. At the other end of the cable, attach the green connector (to which the black, orange and yellow wires are connected) directly to the module. When doing so, make sure the connector is attached to the pins of the **RFID2 reader**, see the sticker with I/O layout on the controller:

For the EVC4.x controller:

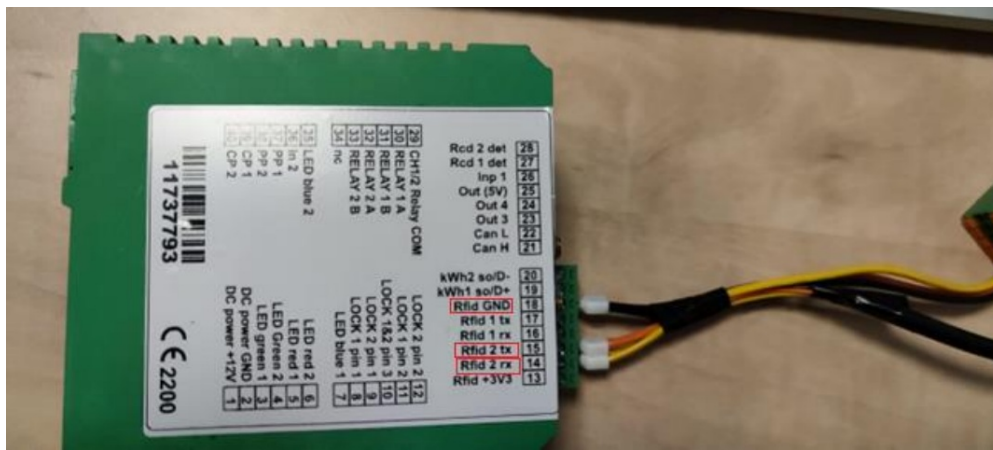


Figure 5.4 – Connecting the USB to TTL cable to the controller (EVC 4.x).

For the EVC5.x/ECC.x controller:

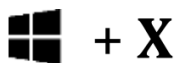


Figure 5.5 – Connecting the USB to TTL cable to the controller (EVC 5.x).

Establish Communication with the Module.

Before changing the configuration, find out which COM port is used for serial communication. If the USB is not already connected to the computer and/or to the controller, do so first (see chapter 5).

Once the USB to TTL cable is connected to the computer, use the following key combination on the keyboard :



This will reveal the following screen.



Figure 6.1 – Pop-up window after clicking [Windows + X] key combination.

Next, click on **Device Manager**.

Look for the **Ports (COM & LPT)** heading and 'double-click' on it (or once on the arrow to the left of the name).



The visual representation of the menu's depends on the operating system that is used, and therefore can differ.

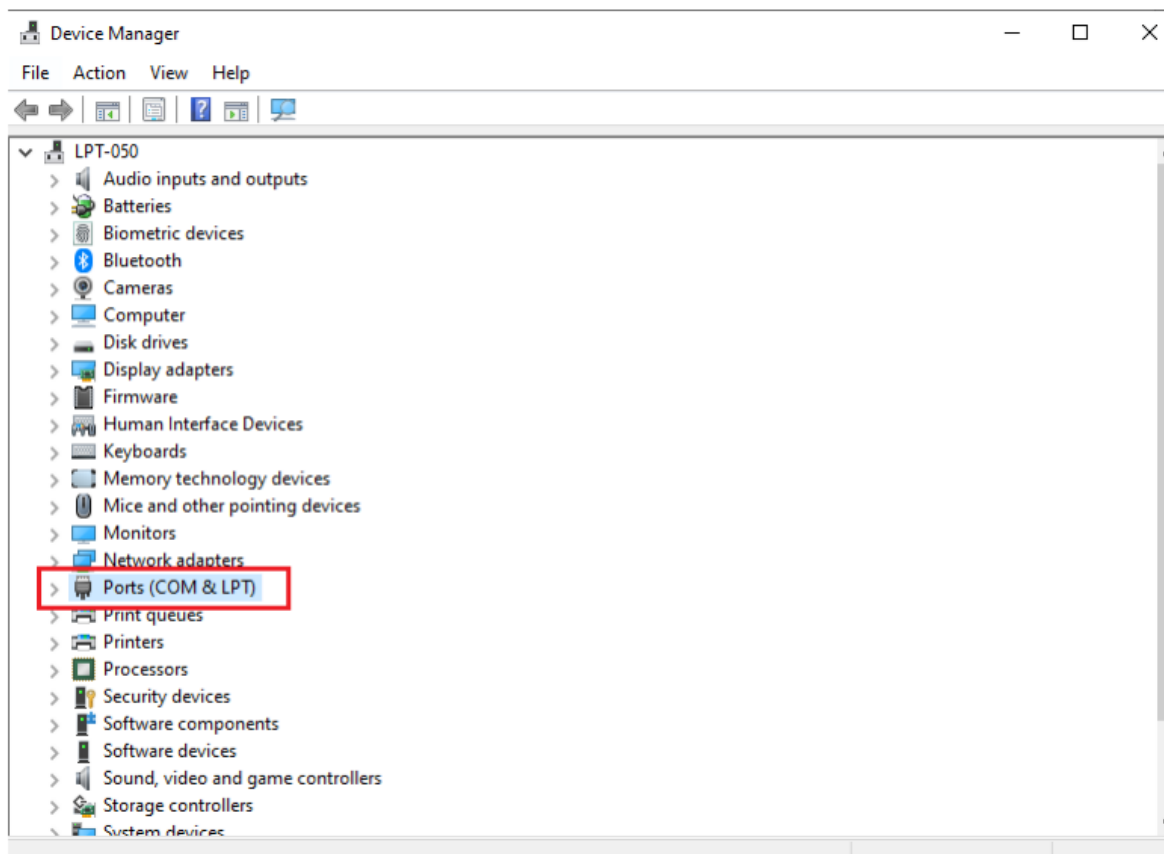


Figure 6.3 – Display active ports on the PC.

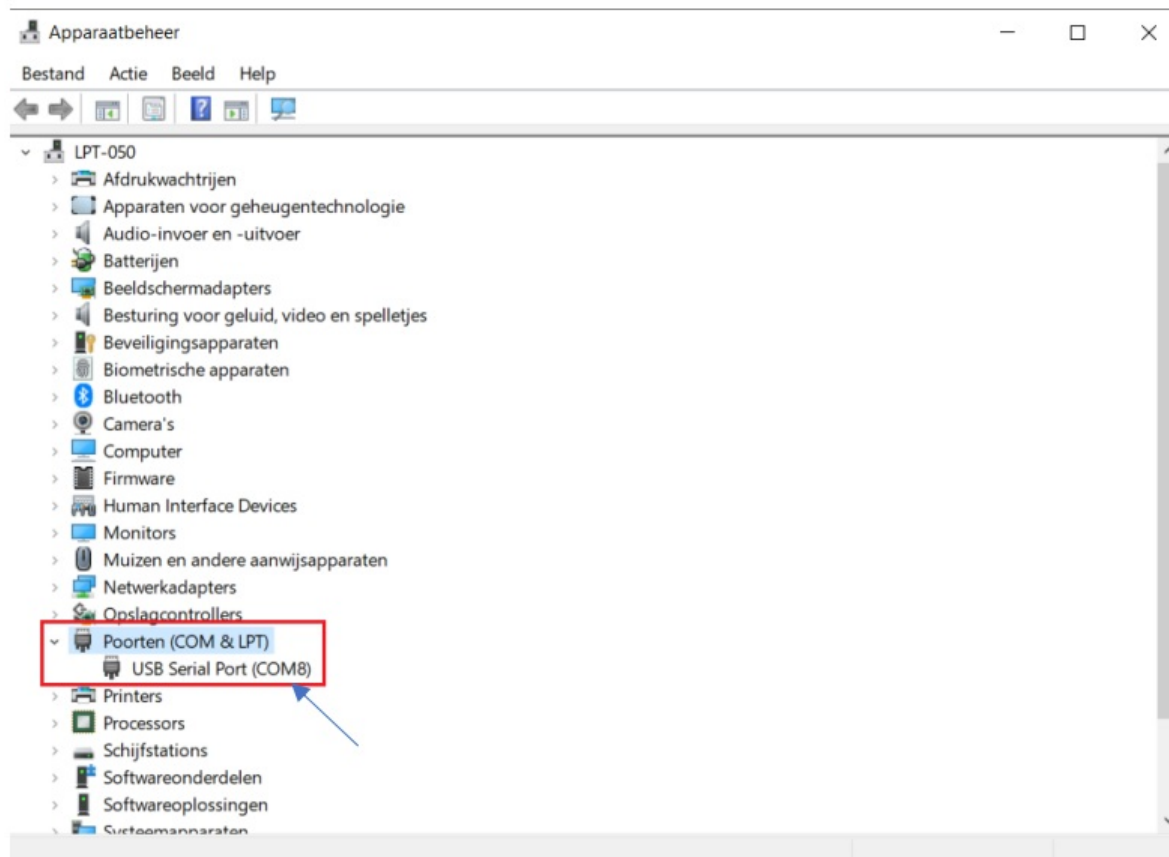


Figure 6.2 – Device manager overview



In case more than one “USB Serial Port (COMx)” are displayed, you can check which port is used for the controller. Simply disconnect the USB to TTL cable from your PC, and re- connect it: the COM port that disappears and appears again is the correct one.

In the example above, only one USB to TTL cable has been connected to the computer. So here, the COM port we are looking for is **COM8**. Note that the COM port may vary depending on the following (so always check the COM port first):

- The USB to TTL cable (with controller) is connected to another
- A different USB to TTL cable is

Open **ECCLite**.

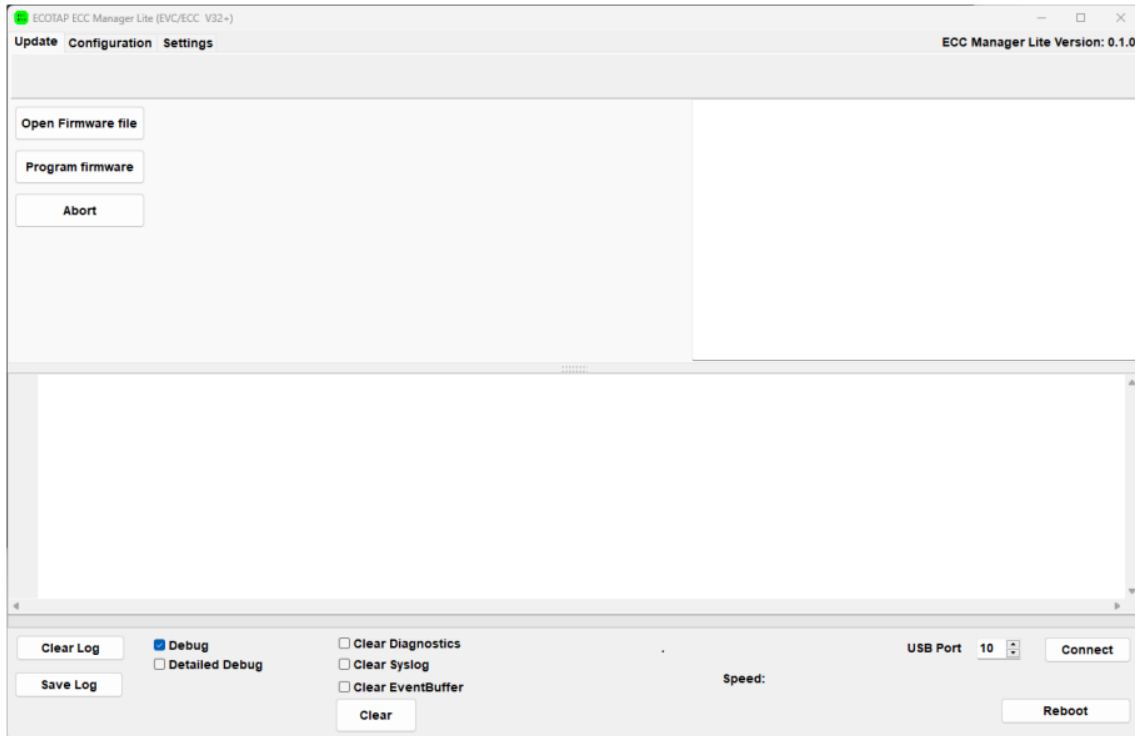


Figure 6.4 – ECCLite.

Enter the COM number, which we looked up earlier, in the field next to **USB port**. So, in the case of this example, we enter **10** here.

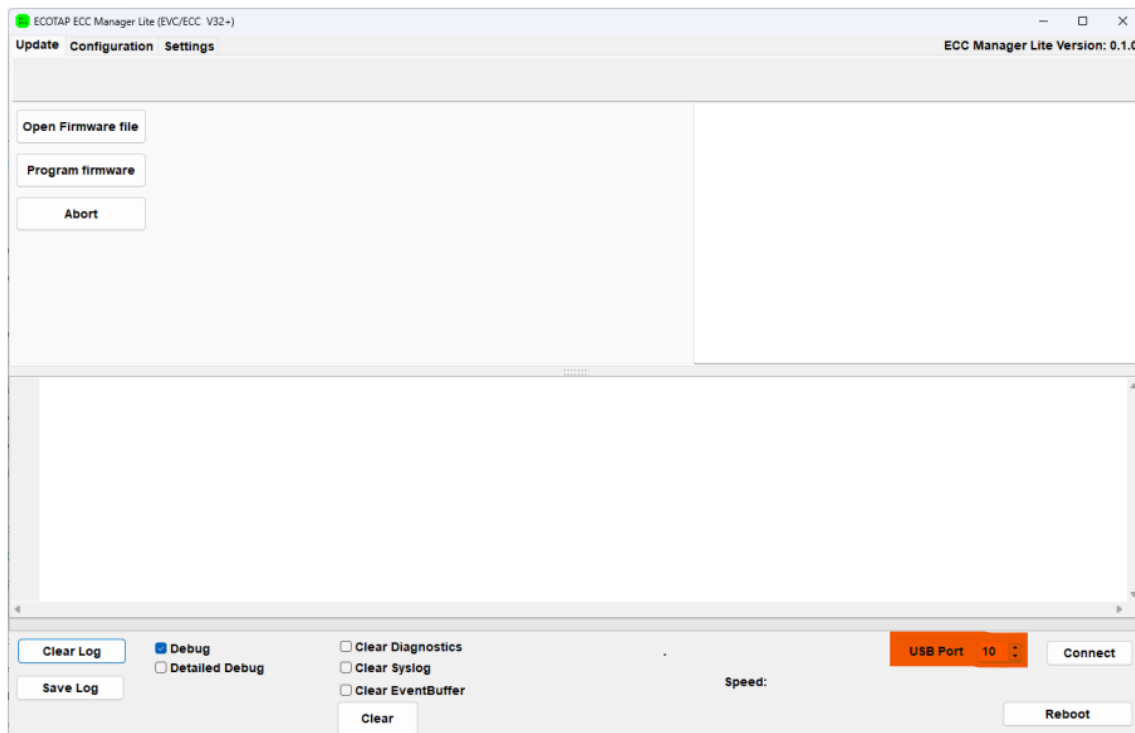


Figure 6.5 – Entering the correct COM port.

Now click on the **Connect** button at the bottom right of the ECC Manager, and then make sure the checkmark for **Debug** is checked (at the bottom left of the ECC Manager).

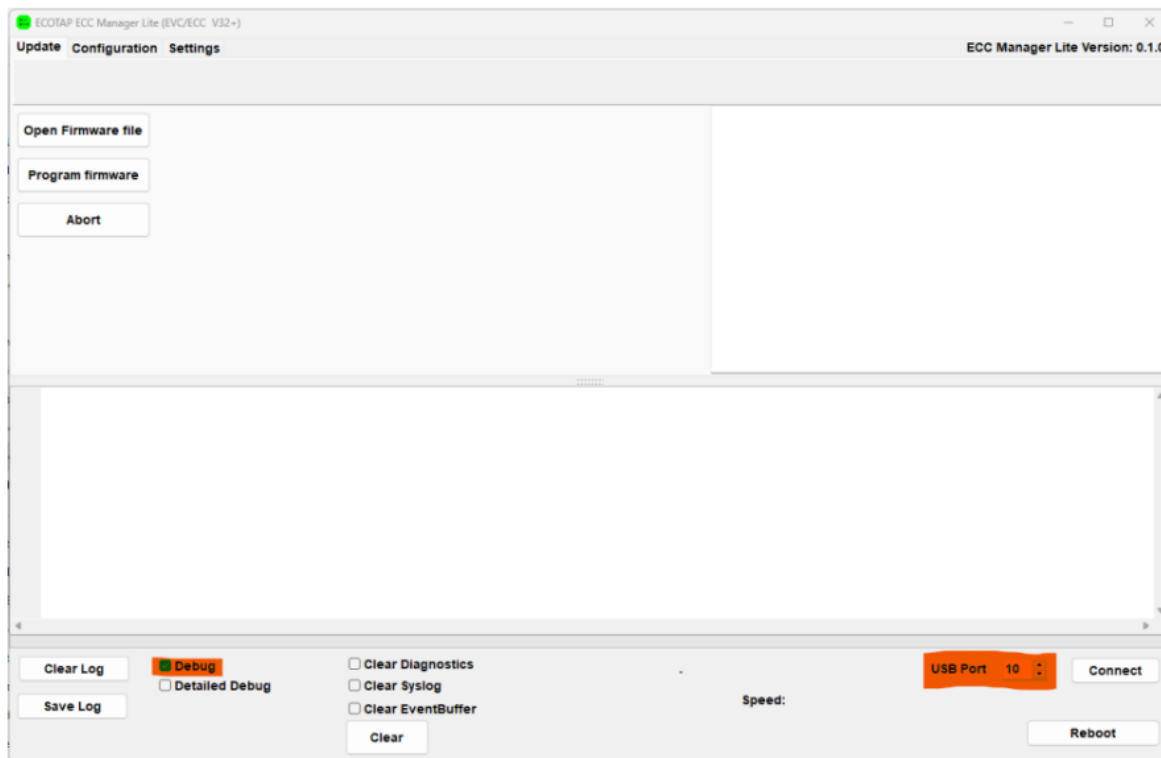


Figure 6.6 – Connect to the controller & check debug.

Connect the 12V+ pin of the controller, to the 12V+ of the DC power supply. Connect the “DC power GND pin” on the controller to the ground of the DC power supply.

Next, power on the controller.

After a couple of seconds, logging will appear in the lower display of the ECCLite (lines of blue text).

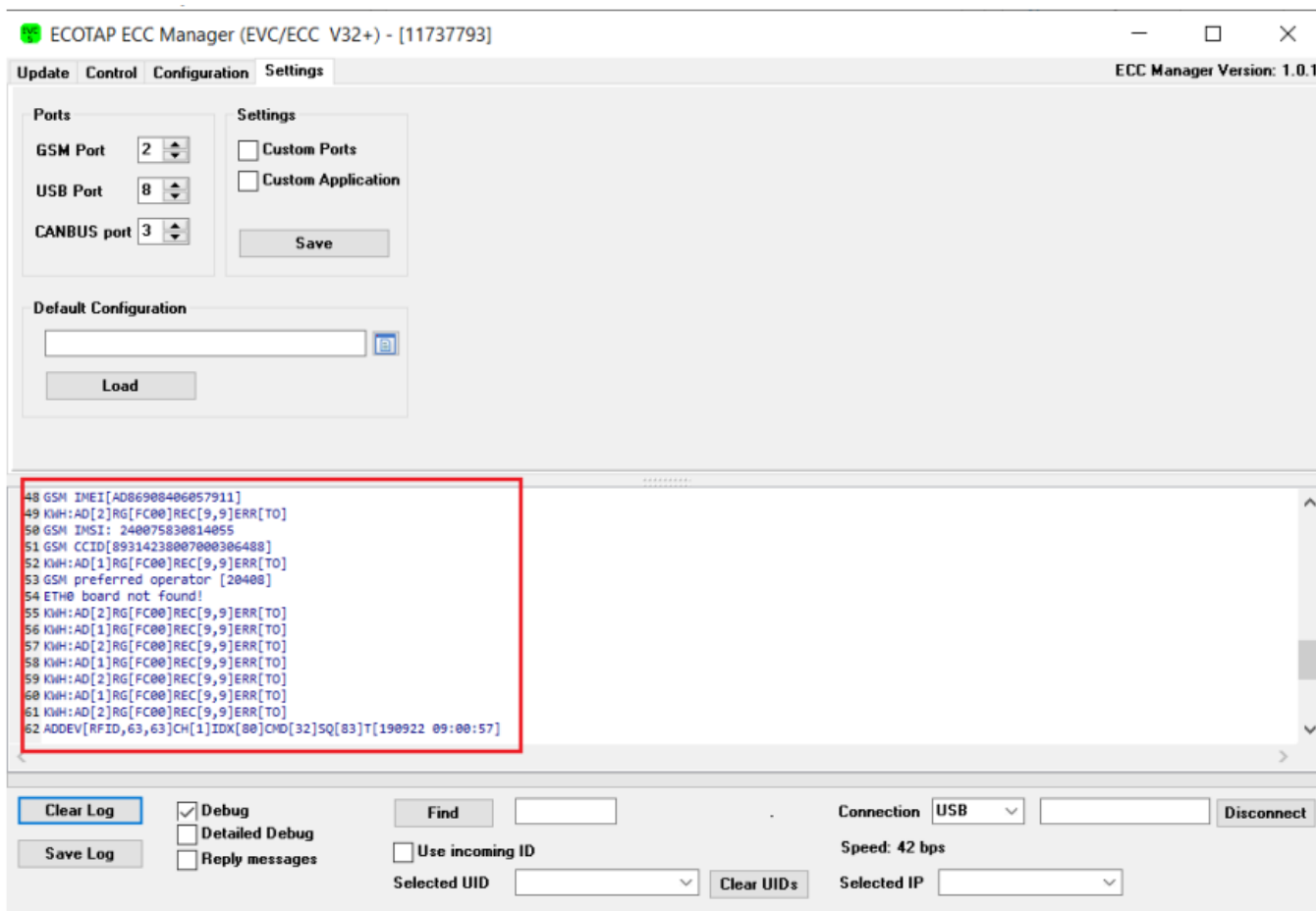


Figure 6.7 – Communication with the controller on similar software ECCManager (heavy version).

If you don't see blue text, remove power from the module, wait 10 seconds, and turn the power back on. Now the blue text should still become visible.

Firmware Update

This section describes how to update the controller's firmware via ECCLite.



It is important that, during the update process, the USB to TTL cable remains connected to the PC and/or controller and that the controller is continuously powered-on (provided by the 12V DC supply)!

Pre-requisites:

A.Download the “.bin” file and save it to an easily retrievable place on the

B.Make sure there is communication with the module, see chapter 6 (blue log text).

Only continue when the pre-requisites are met.

1. Open ECCLite Click the “Update” tab and then “Open Firmware file”.



Figure 7.1 – Open firmware file (picture is from the heavy program but looks the same on the portable version ‘ECCLite’).

2. Look-up the .bin file and open
3. Check that the software version name matches the name of the .bin file, as now displayed in ECCLite (see image below). In this example, the module will be updated to the V32R16 firmware.

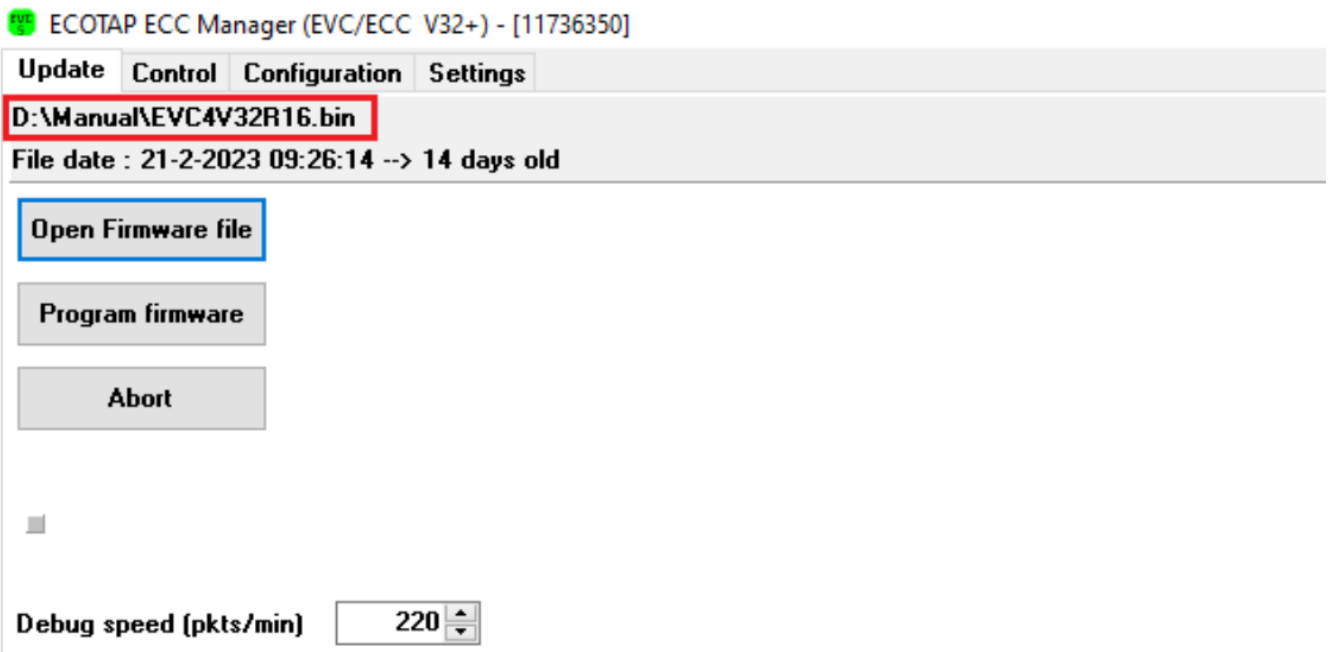


Figure 7.2 – Check the name of the opened bin file.

4. Click on “Program firmware”.

Now software info (in green) will appear in the logging. Also, a progress bar at the bottom of ECCLite will start running. This indicates how far the update has progressed. Wait for it to fill up.



Figure 7.3 – Firmware update in progress.

When the progress bar is completed, green text is displayed again followed by a piece of red text. This is

internal info of the module, characterized by 'copy flash' and 'erase' remarks in the logging.

Figure 7.4 – Firmware update is complete.

5. Verify the controller's firmware

It can be found in the application's startup information (blue text), after about 20 lines. See image below (based on an EVC 4.31 controller).

```
142 NO NEW FIRMWARE FOUND
143 FLASH ID 1F 47 1 0
144 Checking Firmware signature (size:602E4, CRC:808A)
145 PRGCODE CRC VALID 808A, 808A
146 Starting APPLICATION CODE
147 1970-01-01
148 00:00:00:Syslog init [3] 0,553,553
149 00:00:00:===== BOOTLOADER INFO =====
150 00:00:00:===== END INFO =====
151 00:00:01:LPCID [1700D01A95C81420611EB3F2F50020C4] FLASHID [1F470100]
152 00:00:01:LD CFG():10, 728(300-1028), 3E34002D=3E34002D
153 00:00:01:LD INT_CFG():160, B2AE7166=B2AE7166 (end:298)
154 14:52:20:Protocol [CH][TYPE]:[1:GSM][0:LMS]
155 14:52:20:PGrid[0:STATION_CTRL]MIN.I[6]STATION[23]INSTALLATION[0]SUPERVISOR[0]
156 14:52:20:APN:[m2mservices.com],[],[ ]
157 14:52:20:SMS SERVER:[ ]
158 14:52:20:WS PING:[180s]
159 14:52:20:OCPP ID [11736350]
160 14:52:20:Model Name [EVC4.31]
161 14:52:20:Vendor Name [Ecotap]
162 14:52:20:Changepoint serial [11736350]
163 14:52:20:DEST:[/#SN#],[ws.evc-net.com:80]
164 14:52:20:OPTIONS: APP[268470348], CH[18,18]
165 14:52:20:OUT1/2 CFG:[1,2]
166 14:52:20:RELAY2 CFG:[0,0]
167 14:52:20:PHASE ORDER (L0=off) [L1L2L3][L1L2L3]
168 14:52:20:ENCRYPT KEY:[F207F374DA9B816AC655AB5E5DAA92]
169 14:52:20:Save Json CFG to FLASH
170 14:52:20:search_json(key):tag not found [0-0][0][0]
171 14:52:20:Chk erase 90000-91946
172 X90000X91000
173 14:52:20:Chk erase END
174 14:52:20:Saved 6470 bytes of Json CFG to FLASH crc:78DC
175 14:52:20:HW4.XFW32R16
176 14:52:20:MODULES:[OCPP,ETH]
177 14:52:20:Chk erase 7F000-7FFA5
```

Figure 7.5 – Check that the controller boots with the correct firmware.

During boot of the application, the V32R16 is shown in the logging; it has been successfully installed.



It is important that, during the update process, the USB to TTL cable remains connected to the PC and/or controller and that the controller is continuously powered-on (provided by the 12V DC

supply).

Load and Send Configuration to the Module.



A configuration that is incorrect or incorrectly set, can permanently damage the controller and Ecotap cannot be held responsible for this. When in doubt, always contact Ecotap up front.

Download the factory standard .json file provided by Ecotap, for the exact station model you have at hand. Save it somewhere on the PC, where the file can be found easily. As an example in this manual, we will use "test.json".

Again, only use the factory standard .json file provided by Ecotap specifically for that station model!

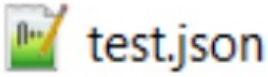


Figure 8.1 – .json file (provided by Ecotap)

(The icon of the .json file may look different)



In ECCLite, go to the **Settings** tab, and then click the button.

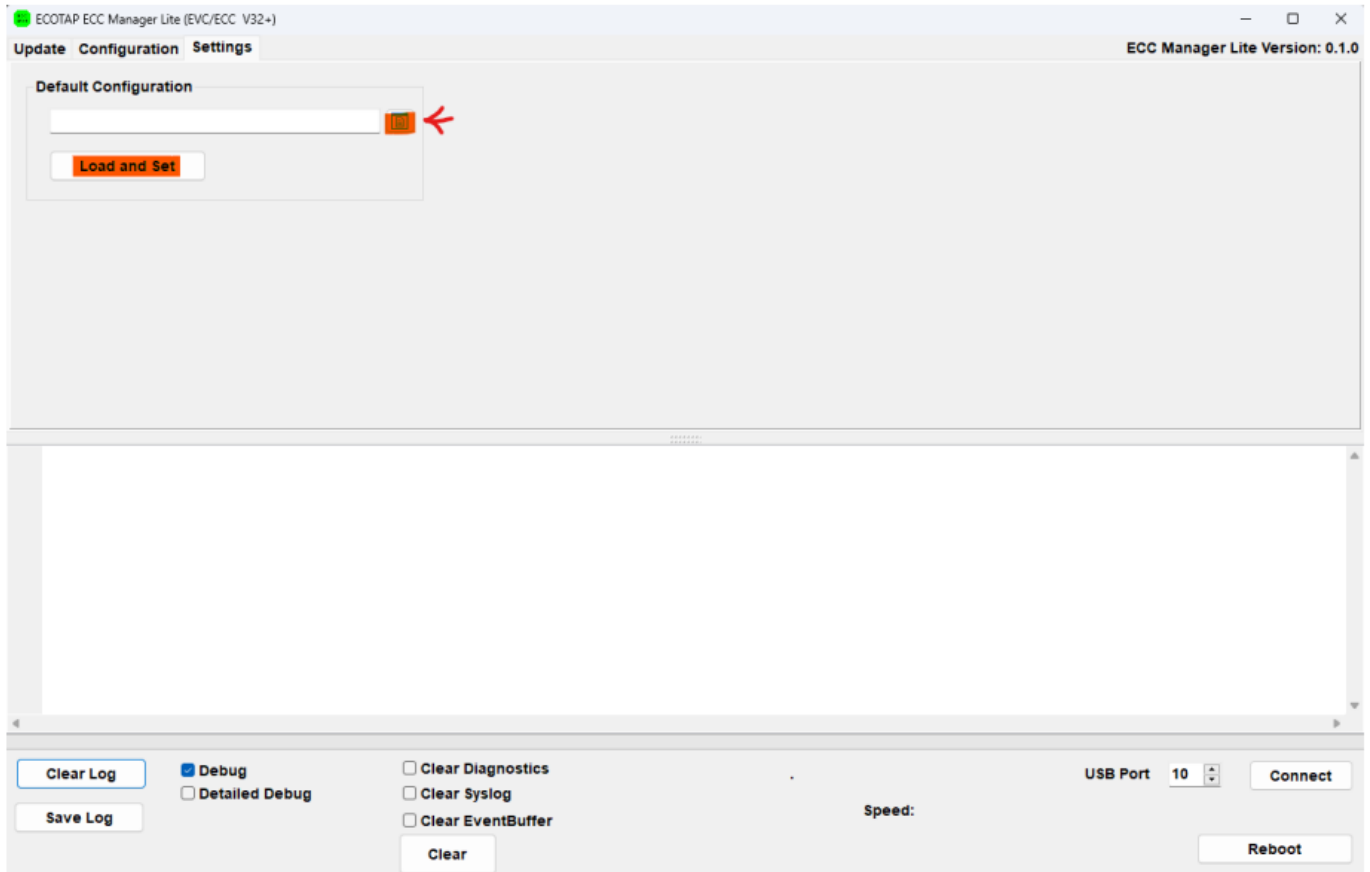


Figure 8.2 – Loading the configuration.

Now the explorer will open. On your PC, search for the location where the .json file was placed earlier.

Next, click on the file and click **Open**.

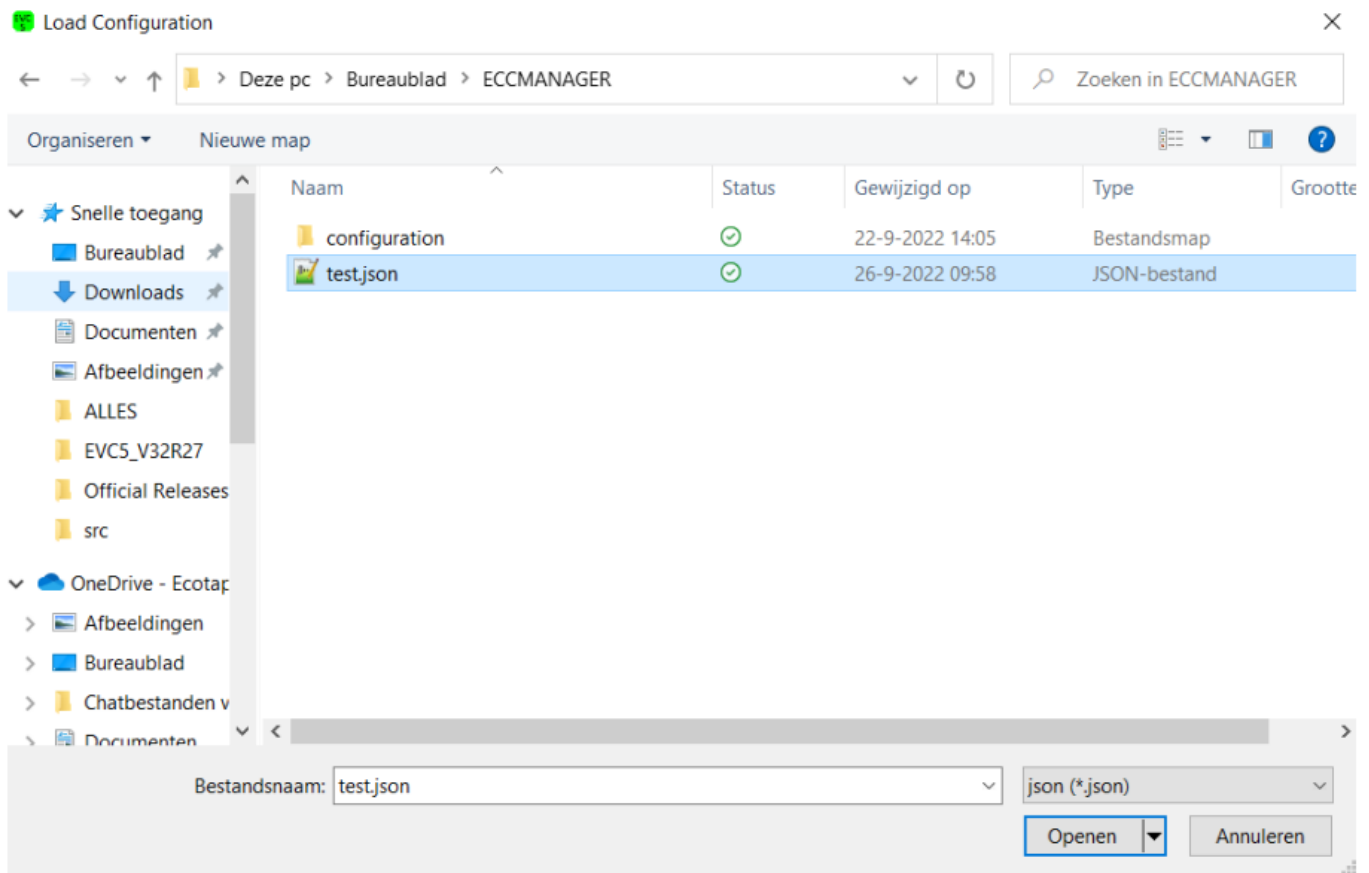


Figure 8.3 – Loading the .json file.

It will show a selection of parameters that Ecotap has specified for you within the Json file. For these selected configuration keys, you can adjust the values. Below an example is given with dummy values.

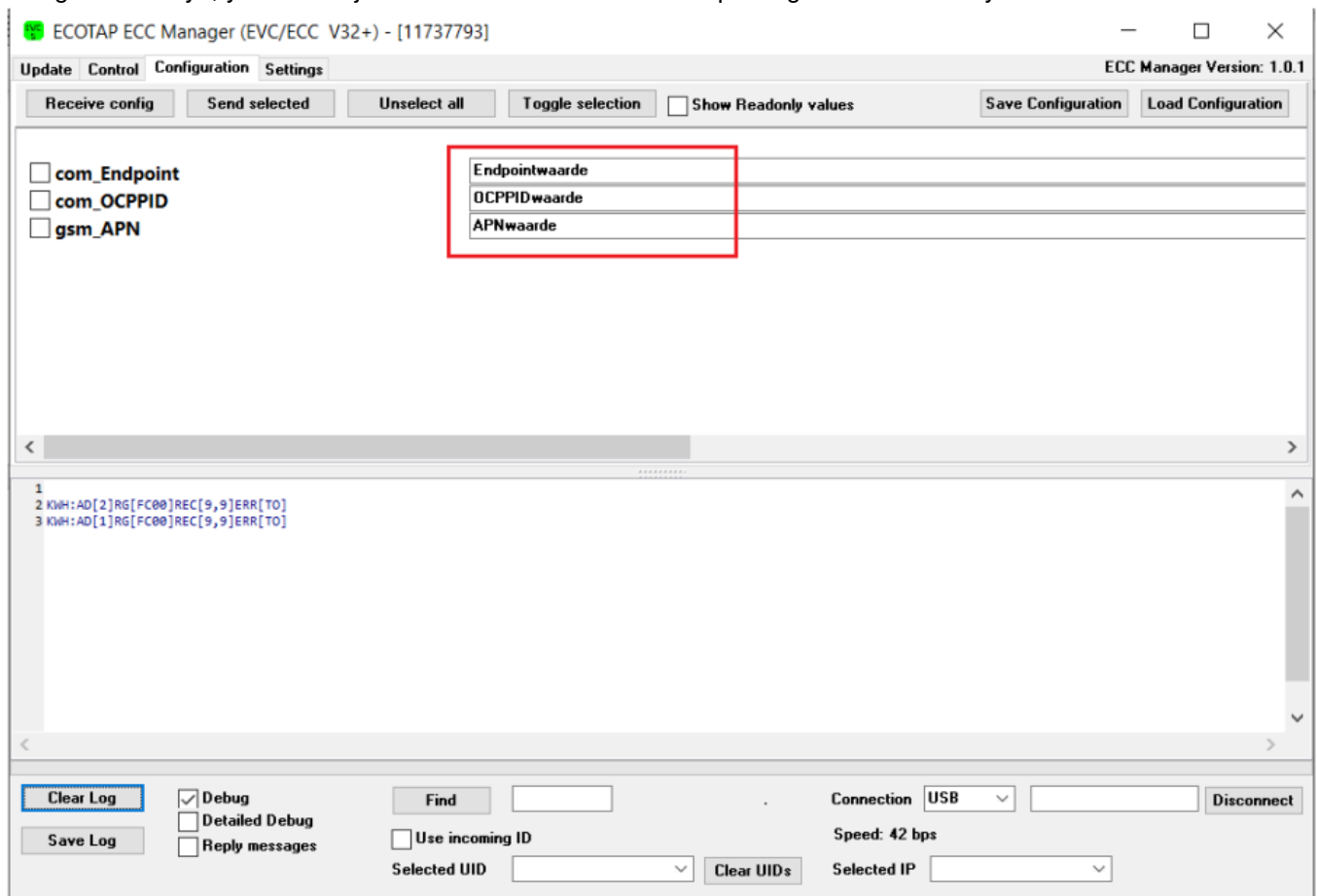


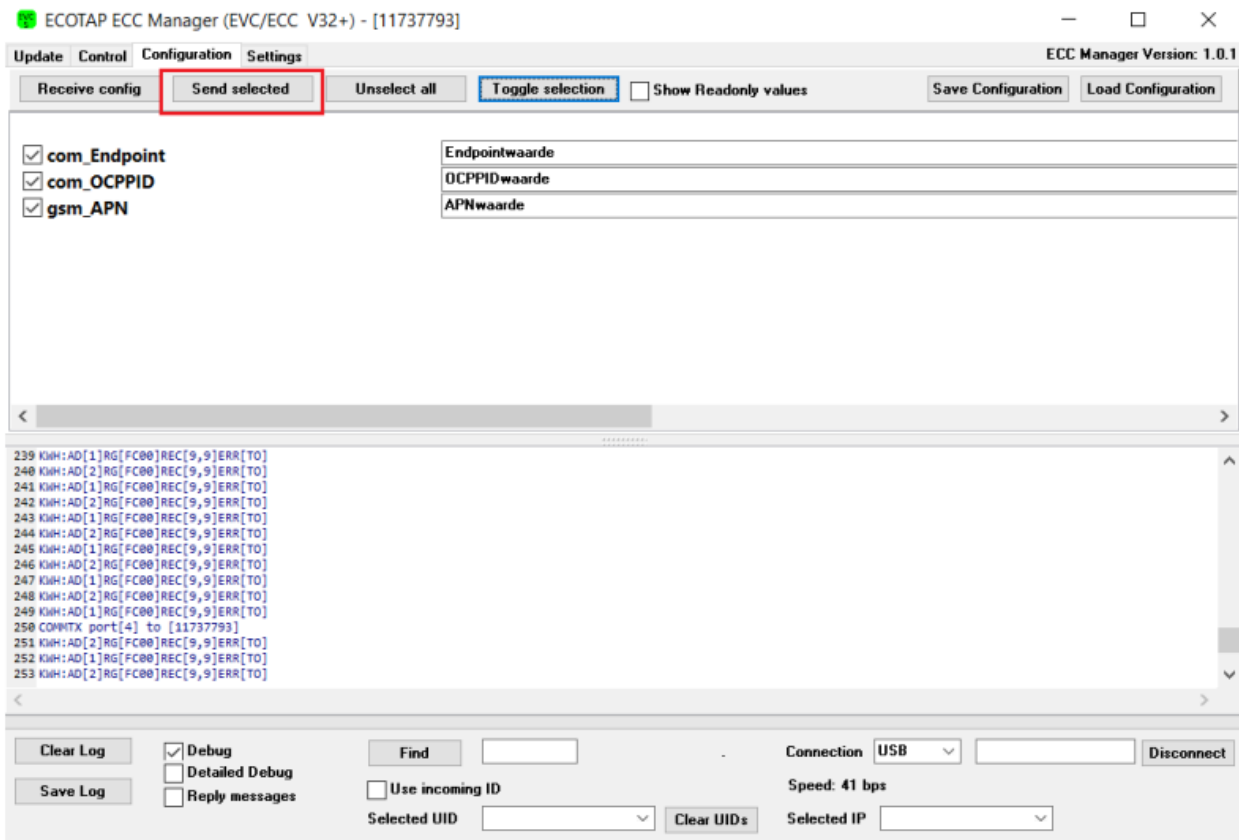
Figure 8.4 – Entering parameter values

Adjust the values of these parameters, if applicable. When in doubt, always contact Ecotap!

When the values are entered correctly, click the **Select All** button.

This selects the parameters, identified by the checked box to the left of the parameter names.

Then click the **Send selected** button, which sends these parameters with their values to the module.



Figure

8.6 – Sending parameters to controller.

Now check the logging again, for the specific code line "SV CFG() ". This indicates that the configuration change has successfully been accepted.

```
200 Snd uid[0] cmd[JSON_COMMAND_REQ[31]]seq[147]len[80]tobytes[92
201 JSON Data received OK [22]
202 {"status":"Accepted"}
203 12:32:00:cmd_JSON_COMMAND [ChangeConfiguration][2][80]
204 Send 1 Cfg Items OK
205 12:32:01:KWH:AD[1]RG[FC00]REC[9,9]ERR[TO]
206 12:32:03:KWH:AD[2]RG[FC00]REC[9,9]ERR[TO]
207 12:32:05:KWH:AD[1]RG[FC00]REC[9,9]ERR[TO]
208 12:32:05:SV CFG():1A967BFC
```

Figure 8.7 – SV CFG(): message to verify the configuration changes.

Next, to validate if the configuration has changed. **Reboot** the controller. Wait a couple of seconds, then proceed to **Select all**, again and **Receive config**.

If the parameters are set correctly, the correct values will be read out of the controller module.

Under chapter 11 you will find a dictionary of parameters available for you to modify based on your

chargers differing installation situations. Any other parameters that need to be changed should be done remotely from the connected OCPP Back-Office platform.

Troubleshooting

Should any problems arise while following the manual, a possible solution to fix the problem can be found in this section.

‘Windows protected your PC’ message.

It is possible that you might end up with this screen when trying to open ECCLite software. This is a message from Microsoft Defender to protect your computer from malicious software. In this case the software is not malicious but unknown to Microsoft Defender.

To go further with this, click on **More info**.



Figure 7.1 – Microsoft Defender window.

This will show you more info about the application that you want to run. Because we know this software is not malicious you can click on the **Run anyway** button. After this, the application will start as expected.

JSON Configuration OCPP Dictionary

ECCLite supports JSON Get and Set configuration. The configuration items consist of OCPP parameters and Ecotap proprietary parameters and can be set via OCPP (Open Charge Point Protocol). The OCPP parameters can be found in the appropriate OCPP standard. Below you will find Ecotap's

implementation of these parameters.

Mind that in the input value of these parameters, if you have a comma “ , ”. That means that after that comma will

be the next input value. So, with the *chg_RatedCurrent* = [16,16]. That means left channel is on 16 amps and the right channel is on 16 amps as well. Keep that in mind.

Configuration Key	R/W	Description
authorizationKey	WO	<p>Here the authorization for a secure WebSocket must be entered. The key can only be written to and cannot be read out for security reasons. The option 'useTLS' must be set to use the key.</p> <p>The firmware uses Basic Authentication for HTTPS connections and hence the key must be entered as follows:</p> <p>Format: <username>:<password></p> <p><username> Username as known by the Central System <password> Password as known by the Central System</p> <p><i>Example Authorization Key:</i> ECOTAP-1802500:9N8gGyS8Un7g4lY9dRICK</p>
chg_Debug	RW	<p>Set debug logging options. (CSL) See Table 1: Debug options and levels for the allowed options and their levels.</p> <p>The value of an option must be entered as a bitmask where each bit represents a debug level. The following levels are implemented: 0 = Off 1 = Level 2 = Level 4 = Level 8 = Level 16 = Level 32 = Level 64 = Level 128 = Level 256 = Level 512 = Level 1024 = Level 2048 = Level 4096 = Level 8192 = Level 16384 = Level 32768 = Level 65536 = Level 131072 = Level 262144 = Level 524288 = Level 1048576 = Level 2097152 = Level 4194304 = Level 8388608 = Level 16777216 = Level 33554432 = Level 67108864 = Level 134217728 = Level 268435456 = Level 536870912 = Level 1073741824 = Level 2147483648 = Level 4294967296 = Level 8589934592 = Level 17179869184 = Level 34359738368 = Level 68719476736 = Level 137438953472 = Level 274877906944 = Level 549755813888 = Level 1099511627776 = Level 2199023255552 = Level 4398046511104 = Level 8796093022208 = Level 17592186044416 = Level 35184372088832 = Level 70368744177664 = Level 140737488355328 = Level 281474976710656 = Level 562949953421312 = Level 1125899906842624 = Level 2251799813685248 = Level 4503599627370496 = Level 9007199254740992 = Level 18014398509481984 = Level 36028797018963968 = Level 72057594037927936 = Level 144115188075855872 = Level 288230376151711744 = Level 576460752303423488 = Level 1152921504606846976 = Level 2305843009213693952 = Level 4611686018427387904 = Level 9223372036854775808 = Level 18446744073709551616 = Level 36893488147419103232 = Level 73786976294838206464 = Level 147573952589676412928 = Level 295147905179352825856 = Level 590295810358705651712 = Level 1180591620717411303424 = Level 2361183241434822606848 = Level 4722366482869645213696 = Level 9444732965739290427392 = Level 18889465931478580854784 = Level 37778931862957161709568 = Level 75557863725914323419136 = Level 151115727451828646838272 = Level 302231454903657293676544 = Level 604462909807314587353088 = Level 1208925819614629174706176 = Level 2417851639229258349412352 = Level 4835703278458516698824704 = Level 9671406556917033397649408 = Level 19342813113834066795298816 = Level 38685626227668133590597632 = Level 77371252455336267181195264 = Level 154742504910672534362390528 = Level 309485009821345068724781056 = Level 618970019642690137449562112 = Level 1237940039285380274899124224 = Level 2475880078570760549798248448 = Level 4951760157141521099596496896 = Level 9903520314283042199192993792 = Level 19807040628566084398385987584 = Level 39614081257132168796771975168 = Level 79228162514264337593543950336 = Level 158456325028528675187087900672 = Level 316912650057057350374175801344 = Level 633825300114114700748351602688 = Level 1267650600228229401496703205376 = Level 2535301200456458802993406410752 = Level 5070602400912917605986812821504 = Level 10141204801825835211973625643008 = Level 20282409603651670423947251286016 = Level 40564819207303340847894502572032 = Level 81129638414606681695789005144064 = Level 162259276829213363391578010288128 = Level 324518553658426726783156020576256 = Level 649037107316853453566312041152512 = Level 1298074214633706907132624082305024 = Level 2596148429267413814265248164610048 = Level 5192296858534827628530496329220096 = Level 10384593717069655257060992658440192 = Level 20769187434139310514121985316880384 = Level 41538374868278621028243970633760768 = Level 83076749736557242056487941267521536 = Level 166153499473114484112975882535043072 = Level 332306998946228968225951765070086144 = Level 664613997892457936451903530140172288 = Level 1329227995784915872903807060280344576 = Level 2658455991569831745807614120560689152 = Level 5316911983139663491615228241121378304 = Level 10633823966279326983230456482242756608 = Level 21267647932558653966460912964485513216 = Level 42535295865117307932921825928971026432 = Level 85070591730234615865843651857942052864 = Level 170141183460469231731687303715884105728 = Level 340282366920938463463374607431768211456 = Level 680564733841876926926749214863536422912 = Level 1361129467683753853853498429727072845824 = Level 2722258935367507707706996859454145691648 = Level 5444517870735015415413993718908291383296 = Level 10889035741470030830827987437816582766592 = Level 21778071482940061661655974875633165533184 = Level 43556142965880123323311949751266331066368 = Level 87112285931760246646623899502532662132736 = Level 174224571863520493293247799005065324265472 = Level 348449143727040986586495598010130648530944 = Level 696898287454081973172991196020261297061888 = Level 1393796574908163946345982392040522594123776 = Level 2787593149816327892691964784081045188247552 = Level 5575186299632655785383929568162090376495104 = Level 11150372599265311570767859136324180752990208 = Level 22300745198530623141535718272648361505980416 = Level 44601490397061246283071436545296723011960832 = Level 89202980794122492566142873090593446023921664 = Level 178405961588244985132285746181186892047843328 = Level 356811923176489970264571492362373784095686656 = Level 713623846352979940529142984724747568191373312 = Level 1427247692705959881058285969449495136382746624 = Level 2854495385411919762116571938898990272765493248 = Level 5708990770823839524233143877797980545530986496 = Level 11417981541647679048466287755595961091061972992 = Level 22835963083295358096932575511191922182123945984 = Level 45671926166590716193865151022383844364247891968 = Level 91343852333181432387730302044767688728495783936 = Level 182687704666362864775460604089535377456991567872 = Level 365375409332725729550921208179070754913983135744 = Level 730750818665451459101842416358141509827966271488 = Level 1461501637330902918203684832716283019655932542976 = Level 2923003274661805836407369665432566039311865085952 = Level 5846006549323611672814739330865132078623730171904 = Level 11692013098647223345629478661730264157247460343808 = Level 23384026197294446691258957323460528314494920687616 = Level 46768052394588893382517914646921056628989841375232 = Level 93536104789177786765035829293842113257979682750464 = Level 187072209578355573530071658587684226515959365500928 = Level 374144419156711147060143317175368453031918731001856 = Level 748288838313422294120286634350736906063837462003712 = Level 1496577676626844588240573268701473812127674924007424 = Level 2993155353253689176481146537402947624255349848014848 = Level 5986310706507378352962293074805895248510699696029696 = Level 11972621413014756705924586149611790497021399392059392 = Level 23945242826029513411849172299223580994042798784118784 = Level 47890485652059026823698344598447161988085597568237568 = Level 95780971304118053647396689196894323976171195136475136 = Level 191561942608236107294793378393788647952342390272950272 = Level 383123885216472214589586756787577295904684780545900544 = Level 766247770432944429179173513575154591809369561091801088 = Level 1532495540865888858358347027150309183618739122183602176 = Level 3064991081731777716716694054300618367237478244367204352 = Level 6129982163463555433433388108601236734474956488734408704 = Level 12259964326927110866866776217202473468949912977468817408 = Level 24519928653854221733733552434404946937899825954937634816 = 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803469022129495137770981046170581301261101496891396417650688 = Level 1606938044258990275541962092341162602522202993782792835301376 = Level 3213876088517980551083924184682325205044405987565585670602752 = Level 6427752177035961102167848369364650410088811975131171341205504 = Level 12855504354071922204335696738729300820177623950262342682411008 = Level 25711008708143844408671393477458601640355247900524685364822016 = Level 51422017416287688817342786954917203280710495801049370729644032 = Level 102844034832575377634685573909834406561420991602098741459288064 = Level 205688069665150755269371147819668813122841983204197482918576128 = Level 411376139330301510538742295639337626245683966408394965837152256 = Level 822752278660603021077484591278675252491367932816789931674304512 = Level 1645504557321206042154969182557350504982735865633579863348609024 = Level 3291009114642412084309938365114701009965471731267159726697218048 = Level 6582018229284824168619876730229402019930943462534319453394436096 = Level 13164036458569648337239753460458804039861886925068638906788872192 = Level 26328072917139296674479506920917608079723773850137277813577744384 = Level 52656145834278593348959013841835216159447547700274555627155488768 = Level 105312291668557186697918027683670432318895095400549111254310977536 = Level 210624583337114373395836055367340864637790190801098222508621955072 = Level 421249166674228746791672110734681729275580381602196445017243910144 = Level 842498333348457493583344221469363458551160763204392890034487820288 = Level 1684996666696914987166688442938726917102321526408785780068975640576 = Level 3369993333393829974333376885877453834204643052817571560137951281152 = Level 6739986666787659948666753771754907668409286105635143120275902562304 = Level 13479973333575319897333507543509815336818572211270286240551805124608 = Level 26959946667150639794667015087019630673637144422540572481103610249216 = Level 53919893334301279589334030174039261347274288845081144962207220498432 = Level 107839786668602559178668060348078522694548577690162289924414440996864 = Level 215679573337205118357336120696157045389097155380324579848828881993728 = Level 431359146674410236714672241392314090778194310760649159697657763987456 = Level 862718293348820473429344482784628181556388621521298319395315527974912 = Level 1725436586697640946858688965569256363112777243042596638790631055949824 = Level 3450873173395281893717377931138512726225554486085193277581262111899648 = Level 6901746346790563787434755862277025452451108972170386555162524223799296 = Level 13803492693581127574869511724554050904902217944340773110325048447598592 = Level 27606985387162255149739023449108101809804435888681546220650096895197184 = Level 55213970774324510299478046898216203619608871777363092441300193790394368 = Level 110427941548649020598956093796432407239217743554726184882600387580788736 = Level 220855883097298041197912187592864814478435487109452369765200775161577472 = Level 441711766194596082395824375185729628956870974218904739530401550323154944 = Level 883423532389192164791648750371459257913741948437809479060803100646309888 = Level 1766847064778384329583297500742918515827483896875618958121606201292619776 = Level 3533694129556768659166595001485837031654967793751237916243212402585239552 = Level 7067388259113537318333190002971674063309935587502475832486424805170479104 = Level 14134776518227074636666380005943348126619871175004951664972849610340958208 = Level 28269553036454149273332760011886696253239742350009903329945699220681916416 = Level 56539106072908298546665520023773392506479484700019806659891398441363832832 = Level 113078212145816597093331040047546785012958969400039613319782796882727665664 = Level 226156424291633194186662080095093570025917938800079226639565593765455331328 = Level 452312848583266388373324160190187140051835877600158453279131187530910662656 = Level 904625697166532776746648320380374280103671755200316906558262375061821325312 = Level 1809251394333065553493296640760748560207343510400633813116524750123642650624 = Level 3618502788666131106986593281521497120414687020801267626233049500247285301248 = Level 7237005577332262213973186563042994240829374041602535252466099000494570602496 = Level 14474011154664524427946373126085988481658748083205070504932198000989141204992 = Level 28948022309329048855892746252171976963317496166410141009864396001978282409984 = Level 57896044618658097711785492504343953926634992332820282019728792003956564819968 = Level 115792089237316195423570985008687907853269984665640564039457584007913129639936 = Level 231584178474632390847141970017375815706539969331281128078915168015826259279872 = Level 463168356949264781694283940034751631413079938662562256157830336031652518559744 = Level 926336713898529563388567880069503262826159877325124512315660672063305037119488 = Level 1852673427797059126777135760139006525652319754650249024631321344126610074238976 = Level 3705346855594118253554271520278013051304639509300498049262642688253220148477952 = Level 7410693711188236507108543040556026102609279018600996098525285376506440296955904 = Level 14821387422376473014217086081112052205218558037201992197050570753012880593911808 = Level 29642774844752946028434172162224104410437116074403984394101141506025761187823616 = Level 59285549689505892056868344324448208820874232148807968788202283012051522375647232 = Level 118571099379011784113736688648896417641748464297615937576404566024103044751294464 = Level 237142198758023568227473377297792835283496928595231875152809132048206089502588928 = Level 474284397516047136454946754595585670566993857190463750305618264096412179005177856 = Level 948568795032094272909893509191171341133987714380927500611236528192824358010355712 = Level 189713759006418854581978701838234268226797542876185500122247305638564871602071</p>

		charger and will normally be the same as the MCD for this channel. The current delivered to the EV will never be higher than this value. <i>Example for a standard charger:16,16</i>
chg_StationMaxCurrent	RW	The maximum current that a charger may consume in total per phase for all phases in amps.The value of this setting may not exceed the maximum current allowed by the wiring of the charger model. However, when the connection to the utility grid has a fuse with a smaller rating, the value of this rating must be used. This often happens for public chargers which can carry up to 32A but are fused with 25A. <i>Example for a public charger fused with 25A:25</i>
com_Endpoint	RW	Endpoint for the central system In the definition of the endpoint the user may define two variables:#SN# Replaced by the serial number of the controller module #OSN# Replaced by the OCPP ID of the controller module <i>Example:ws.evc.net:80/#SN#</i>
com_OCPCID	RW	OCPP Identification ID (Maximum length = 25 characters) When the ID is changed the charger will restart after 60 seconds. <i>Example:EcotapTestID</i>
com_ProtCh	RW	Communication channel for the Central System <i>Example for a standard charger, connection via the modem : GSMExample for a standard charger where Ethernet interface is used:ETH</i>
com_ProtType	RW	Communication protocol for the Central System See Table 2: Supported communication <i>Example for a standard charger:OCPP1.6J</i>
eth_cfg	RW	Ethernet Interface configuration (CSL) Format: type=<type>,ip=<ip>, netmask=<netmask>,dns=<dns>,gw=<gw> where <type> IP address type Enter 'static' or 'dhcp'<ip> I PV4 address of the EVC<netmask> IPV4 netmask<dns> IPV4 address of the domain name server<gw> IPV4 address of the gateway <i>Example:Type=dhcp,ip=0.0.0.0,netmask=0.0.0.0,dns=0.0.0.0,gw=0.0.0.0</i>
grid_InstallationMaxcurrent	RW	The maximum current allowed for a master/slave grid (per phase for all phases) in amps. Range 0...9999This option must be set on a master to the value for that master/slave grid. This option must be set on a supervisor to the current available for all grids. <i>Example:250</i>
grid_InstallationSave Current	RW	The maximum current allowed for a master/slave grid (per phase for all phases) in amps when the master loses communication with the supervisor.Range 0...9999Must be set on a master and is only used there.. <i>Example:100</i>
grid_Role	RW	Operation mode in a local power gridSee Table 3: Grid roles for the allowed roles. <i>Example for a standard charger:Station_ctrl</i>
gsm_APN	RW	GSM APN Information

		<p>Format: <APN name>,<APN user>,<APN password> The name is limited to 39 characters while the user and password are limited to 24 characters. <i>Example for a standard charger:m2mservices,,</i></p>
gsm_Oper	RW	<p>GSM Preferred Operator for the mobile network Set to 0 (default) if automatic selection is preferred otherwise it should be formatted as LLLXX, where LLL is the country code and XX is the provider code.For the Netherlands possible values are 20404 (Vodafone NL), 20408 (KPN NL), 20416 9T-Mobile NL) <i>Example for a standard charger:0</i></p>
gsm_Options	RW	<p>GSM options (CSL)0 = Disabled, 1 = Enabled The following options are allowed: Option Description noSmsChk If enabled allows all originating numbers to send SMS commandsIf disabled only the number set in parameter 'gsm_SMS' may send SMS commands. AutoAPN Only present to prevent errors with older configurations. Now obsolete. 3G4G Only present to prevent errors with older configurations. Now obsolete. <i>Example for standard grid:noSmsChk=0,AutoAPN=0,3G4G=0</i></p>
gsm_SigQ	RO	<p>GSM signal quality(0..99). Must be greater than 8 to have a valid GSM connection. A value of 99 means that no strength could be determined. <i>Example for a standard charger:15</i></p>

Chg_Debug Levels :

Option	Levels	Description
warn	1	Show warnings. Default set to level 1
error	1	Show errors. Default set to level 1
date	1	Show data and time before each line.
syslog	1	Log syslog entries
gsm	1...3	Log mobile communication
events	1...4	Log event system info
com	1...4	Log communication info
ocpp	1...3	Log OCPP info
eth	1...3	Log ethernet info
grid	1...4	Log power grid info
ctrl	1...3	Log charger control
general	1...2	Log general events
sensors	1...2	Log sensors
fw	1...2	Log firmware update info
modbus	1...2	Log Modbus info
canbus	1...3	Log CAN-bus info
sys	1...3	Log sys info

Table 1: Debug options and levels

Com_ProtType :

Option	Description
LMS	Proprietary LMS protocol. (Deprecated. Only still used for Master/Slave grids)
OCPP1.5J	OCPP Versie 1.5 JSON. (Deprecated)
OCPP1.6J	OCPP Versie 1.6 JSON.
Clear	Clear all events in the event buffer without changing the current protocol.Used to clear old events before switching to a new protocol to prevent protocol errors on the Central System.Recommended to use when switching from LMS to OCPP and vice versa.


Table 2: *Supported communication protocols.*

Grid_Role :

Option	Description
No_ctrl	The controller module disables the internal power manager
Station_ctrl	The controller module uses the internal power manager for the station only. The configuration key 'chg_StationMaxCurrent' will be used to limit the maximum power
Slave	The controller module will function as a slave that will connect to a master/supervisor. The configuration key 'chg_Station MaxCurrent' will be used to limit the maximum power
Master	The controller module uses the internal power manager for control of the power on the master and the connected slaves. The configuration key 'grid_InstallationMaxcurrent' defines the total current for this master/slave grid

Table 3: Grid roles

Documents / Resources

	ecotap EVC4.x Controller Configuration Lite Edition [pdf] User Guide EVC4.x, EVC4.x Controller Configuration Lite Edition, Controller Configuration Lite Edition, Configuration Lite Edition, Lite Edition
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References

- devices.ecotap.com/registry/ocpp/NL*ECO*1000
- [User Manual](#)

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