SELFENERGY SUPERVISOR USER MANUAL

MU CLC 20220906 1B

Version B
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Selfenergy is a brand of Clairitec

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1 Object

The purpose of this document is to describe the use of the Selfenergy Supervisor for "Light" and "Silver" modes.

2 Table of contents

3 Document history

Version	Description of updates	Date
Version A	Document creation	Sept. 6, 2022
Version B	Minor corrections	Oct. 17, 2022

4 Glossary

- GND : ground reference
- NC : Not Connected
- SOC : State Of Charge
- TBD : To Be Defined
- TBC : To Be Confirmed

5 Product summary

5.1 Precautions

Here is a short list of precautions to take:

- Make sure you have the right power and communication connections according to the User Manual.
- Make sure your Peak System USB device is connected before you launch the "Selfenergy Supervisor" application.
- Very important: close the "Selfenergy Supervisor" application before unplugging the Peak System USB device.

5.2 Setup

A setup file allows the installation of the "Selfenergy Supervisor" application.

The materials needed to use this application are:

- A computer with a *Microsoft Windows©* operating system. The minimum configuration is *Windows XP©*, the compatibility occurs until today's *Windows 10©* operating system. A tablet with a *Microsoft Windows 10©* operating system and a computer microprocessor (x86 family) can also be used. It is not compatible with *Arm©* microprocessors.
- PCAN-USB hardware from Peak System. It is recommended to use the reference IPEH-002022 with the galvanic isolation on the CAN connection up to 500 V. You can order it directly on the supplier website: http://www.peak-system.com/PCAN-USB.199.0.html?&L=1
- The Selfenergy device is powered by a battery or a power supply.

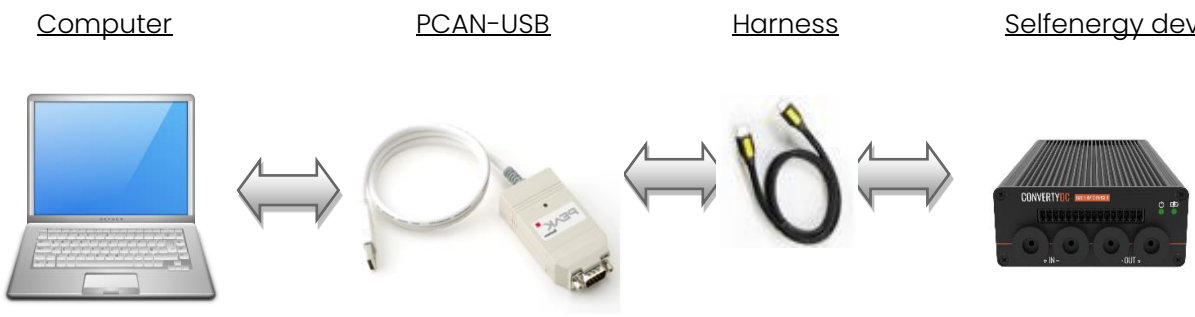


Figure 1 : Equipment

Important: you will need to add one or two terminal 120 ohm resistors on the CAN bus in order to have the right impedance level. Without this terminal resistor, the communication won't work.

For connection details (connectors, pinout), refer to the user manual of your Selfenergy device.

5.3 Software installation

Please launch the setup file entitled "*SelfEnergy_Supervisor_vX.Y_setup.exe*".

Your antivirus software may react at this moment, or for the first use of the supervisor application. Don't worry about it and launch the application normally.

Follow the setup wizard until you reach this window:

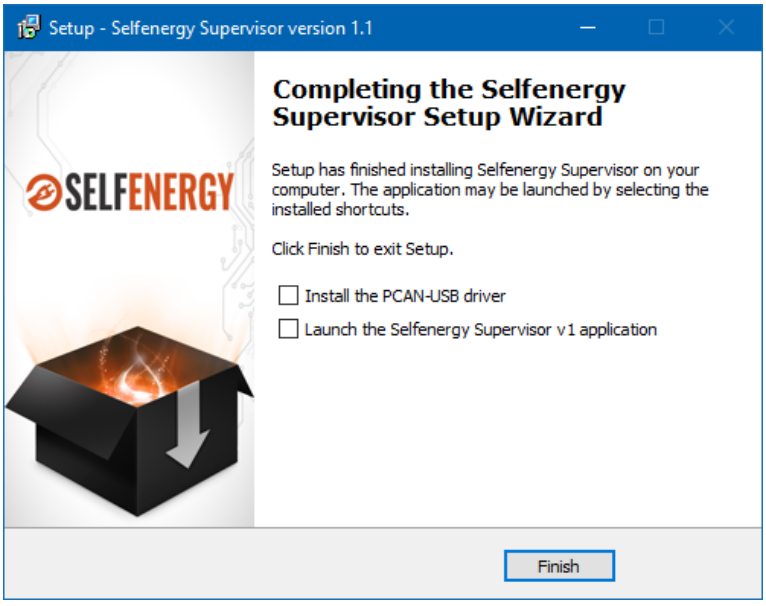


Figure 2 : Setup wizard

If you never have installed the PCAN-USB driver, please tick the box labeled "Install the PCAN-USB driver". The Peak OEM drivers' installation wizard will be sent automatically after you click the "Finish" button.

Figure 3 : Peak OEM driver's installation wizard

Follow the setup wizard until you reach this following window:

Figure 4 : Driver choice

Please be sure that at least the first box "PCAN-USB, PCAN-USB Hub" is checked. The other tools are not used by the supervisor application.

Then follow the wizard's steps until the end:

Figure 5 : Peak OEM driver's installation wizard, final window

You may be asked to restart your computer. Once done, you will be ready to use the supervisor application.

The supervisor can be used by different users :

- The “Light” mode access will allow the user to see the real time data on a single window
- The “Silver” mode access will allow an installer to modify the main power parameters like the maximum output current, the casing maximum temperature and choose to use or not the D+ option. It can also reprogram the device if needed.
- The “Gold” mode will allow a complete configuration of the device for a specific use but also see the minor and major errors and a detailed hardware live view. This mode can be granted to a certified installer.

WARNING: You must only use the the access level you have been granted. You are responsible of the configuration you settle.

6 « Light » Mode

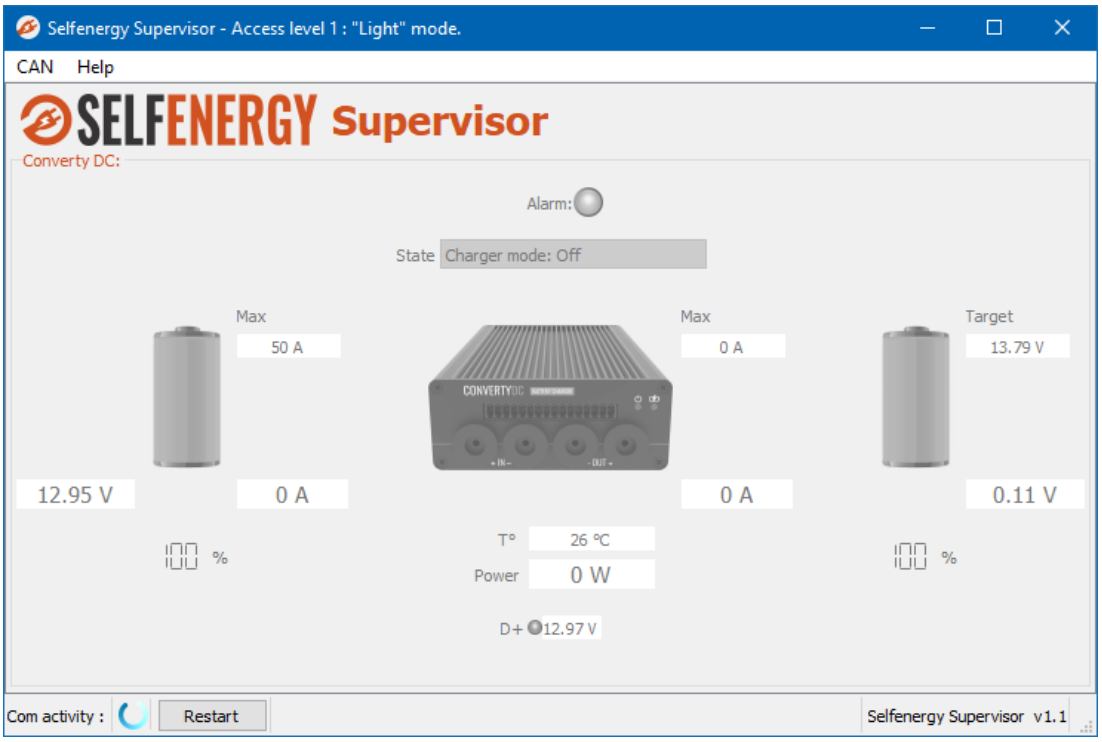


Figure 6 : “Light” Mode panel

Here is the one and only panel seen in “Light” mode:

When the Selfenergy's product starts to communicate, the fields are filled up:

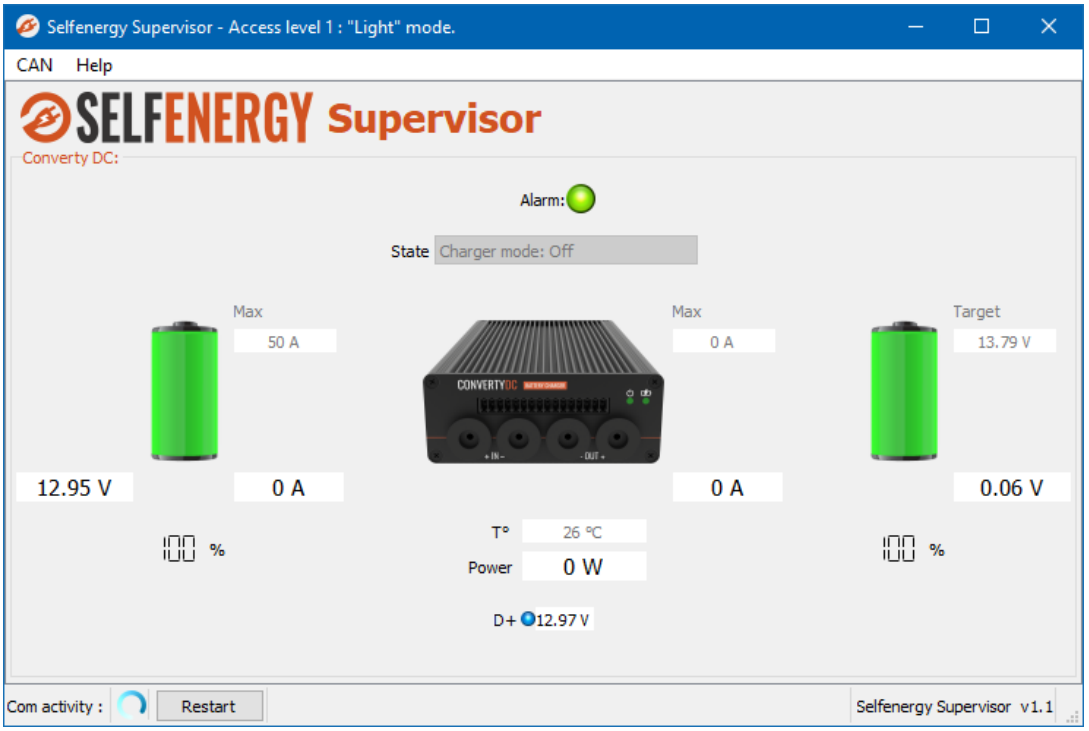


Figure 7 : Selfenergy product communicating (here a ConvertyDC)

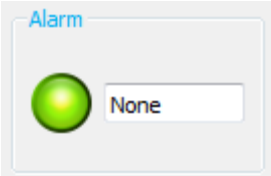
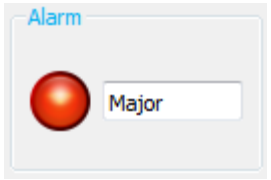
	Green arrows mean that current is flowing.

If the supervisor does not communicate, it might be a baudrate issue. In the mainwindow you can choose between three different baudrates: 125kbps,250kps and 500kbps (default choice is 500kbps).

Figure 8 : CAN Baudrate choice in the Main window

6.1 Alert detection

The product distinguishes three levels of alerts:

	None: No alarming situation.
	Minor alarm: in most of the cases, this is just an indication. The environment is not optimum for the use of the product, but the system is still functional.
	Major alarm: the product detected something unhealthy. The product is not functional.

Details about the alarms are accessible in “Silver” mode only.

6.2 Communication status

	Activity on the CAN bus : • **Spinning: the product and the “Selfenergy Supervisor” are communicating.** • **Freezed: No CAN messages on the bus, the Selfenergy device is not responding:** ➢ **The product may be sleeping** ➢ **The PCAN may not be correctly plugged** ➢ **…**
	By clicking on this button, the user restart the handshake between the “Selfenergy Supervisor” and the product. This is useful: ➢ **when the Selfenergy device plugged to the PCAN has been changed** ➢ **when an heavy CANbus error occured**

7 « Silver » Mode

Here is the main panel seen in « Silver » mode :

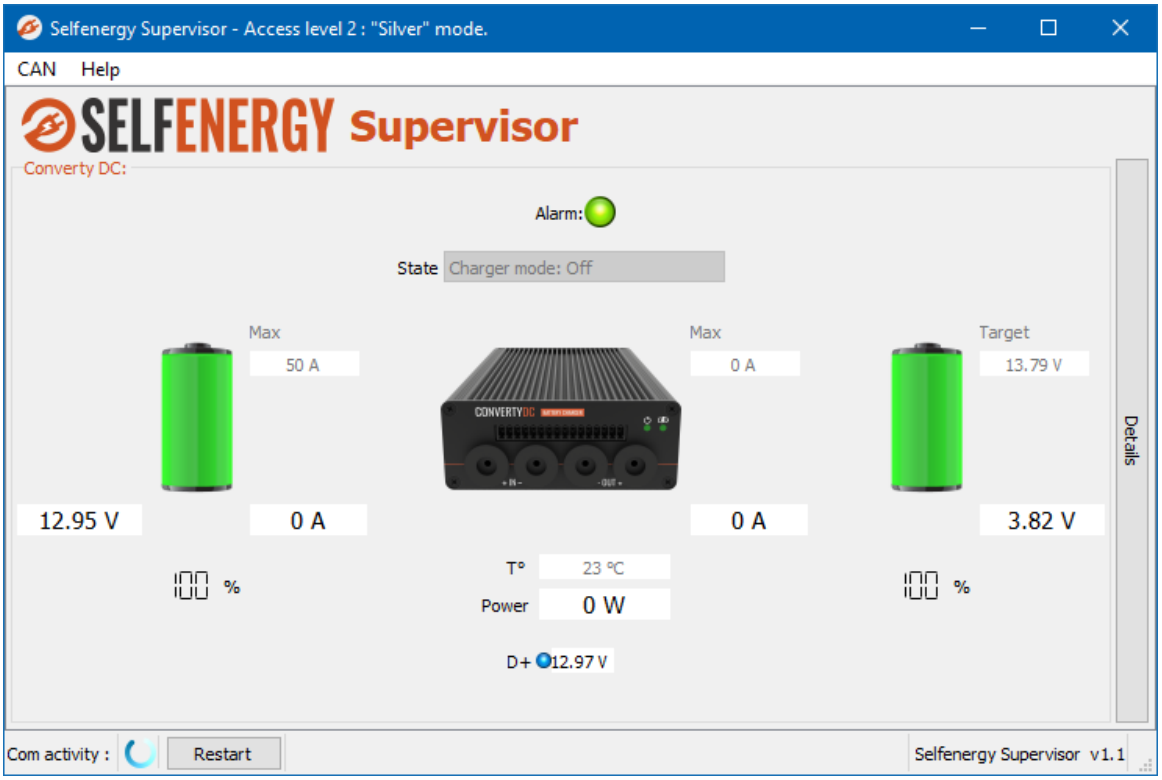


Figure n°9 : Supervisor's main panel in Silver mode

This is the same panel as in « Light » mode with new elements added :

- The « Details » button (on the right side)
- The D+ status and the D+ input wire voltage (not available if D+ option is not used)

7.1 The « Details » window

7.1.1 Parameters

The "Details" button raises an eponym panel useful to see specific details about the battery. In "Silver" mode, this panel is split in two tabs:

- "Parameters" gives the state of the charger parameters and allow some modifications.
- "Reprog" allows the user to update the firmware of your Selfenergy device

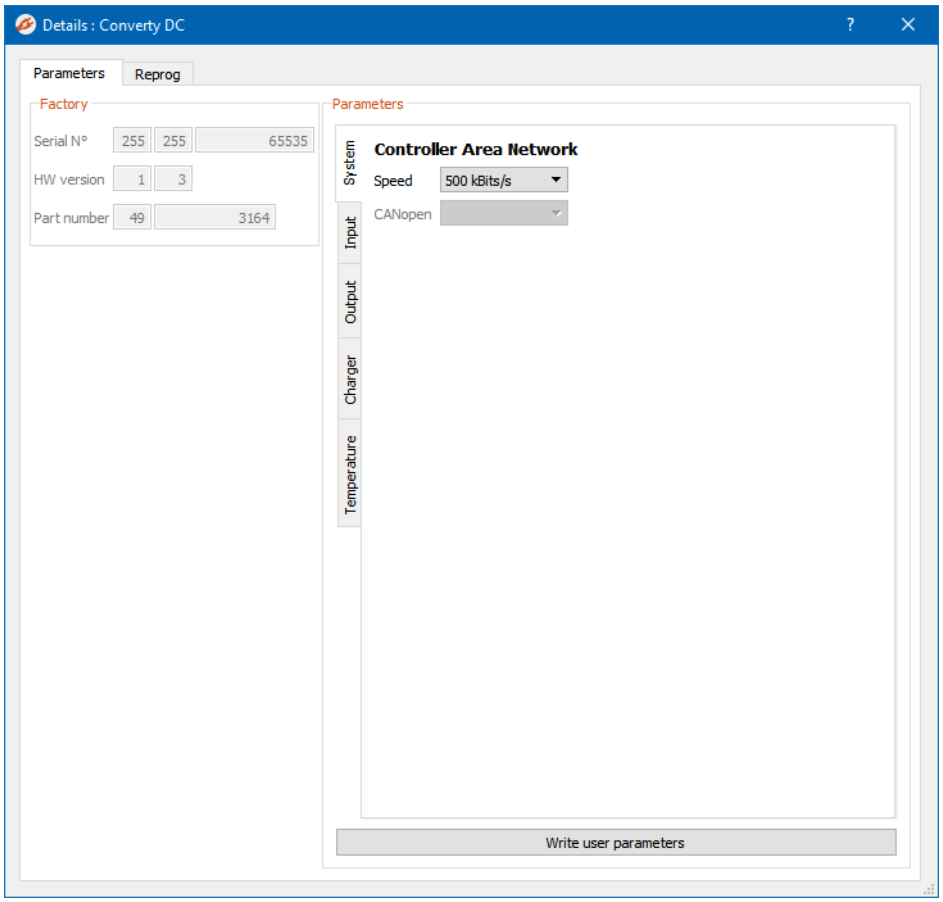


Figure n°10 : Supervisor's « Details » panel in Silver mode, « Parameters » tab, « System » subtab

The parameter tabs show different subtabs:

- System: allows you to change the CAN speed of the Selfenergy device and activate CANopen communications.
- Input: allows you to change the maximum current allowed on the input side of the Converty and to choose whether you want to use the D+ input or not.
- Output: allows you to change the maximum current allowed on the output side of the Converty
- Charger: allows you to check that charging parameters are convenient to your use
- Temperature: allows you to change the maximum casing temperature

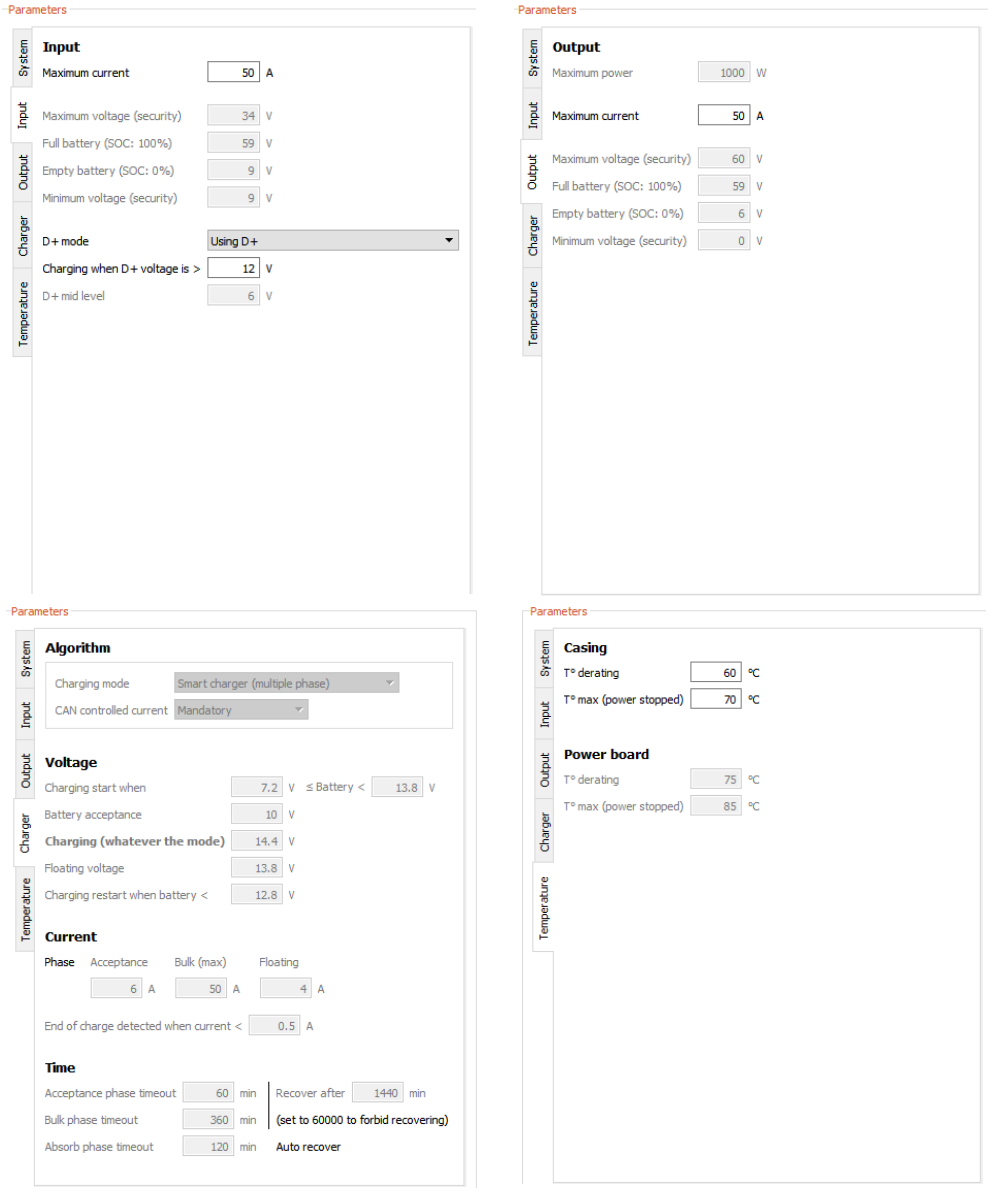


Figure 11 : Supervisor's « Details » panel in Silver mode, « Parameters » tab, different subtabs

D+ choice:

- If you choose to use the D+ option: the Converty will start charging only if you have a D+ voltage higher than your parameter, if not the Converty will fall into sleep mode.
- If you choose not to use the D+ option: the Converty will start charging if the battery voltage is within its working range (see Charger subtab).

7.1.2 Reprog

The "Reprog" tab allows to update the Selfenergy device firmware via the CANbus communication.

Only use binary files provided by Selfenergy. Failing to do so may result in breakage of the

Selfenergy device and void the warranty.

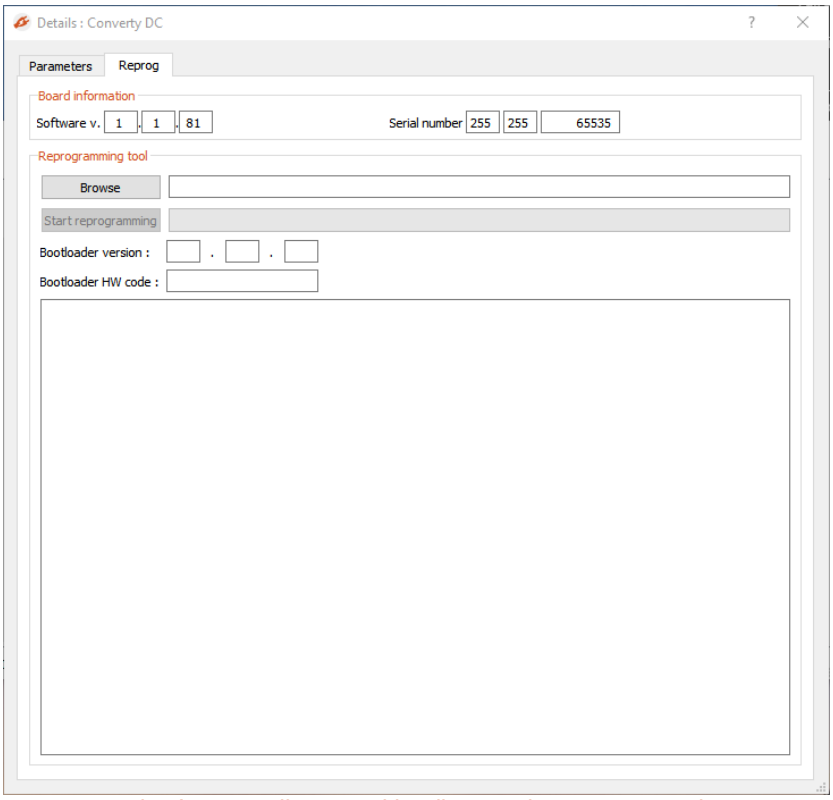


Figure n°12 : Supervisor's « Details » panel in Silver mode, « Reprog» tab

To reprogram the Selfenergy device, follow these steps:

- Choose the binary file to download on the Selfenergy device by clicking the "Browse" button
- Then click on the "Start reprogramming" button to launch the process
- If the supervision software initiates correctly the communication with the Selfenergy device, the bootloader information will be indicated on the top of the window
- The different steps of the reprogramming will be indicated in the text box at the bottom of the window

To be able to reprogram the Selfenergy device, the following conditions must be met:

- The Selfenergy device must be already programmed with a correct bootloader. Consult Selfenergy for any information about the bootloader.
- The Selfenergy device must be switched on before starting the reprogramming process.

Be careful never to cut the power to the Selfenergy device during reprogramming.

During the reprogramming process, the normal behavior of the Selfenergy device will be stopped and the power bus will be opened.

8 «Gold » Mode

In « Gold » mode you will be granted the right to new features:

8.1 Log Menu

On the Main window you will be able to configure, start and stop a log function.

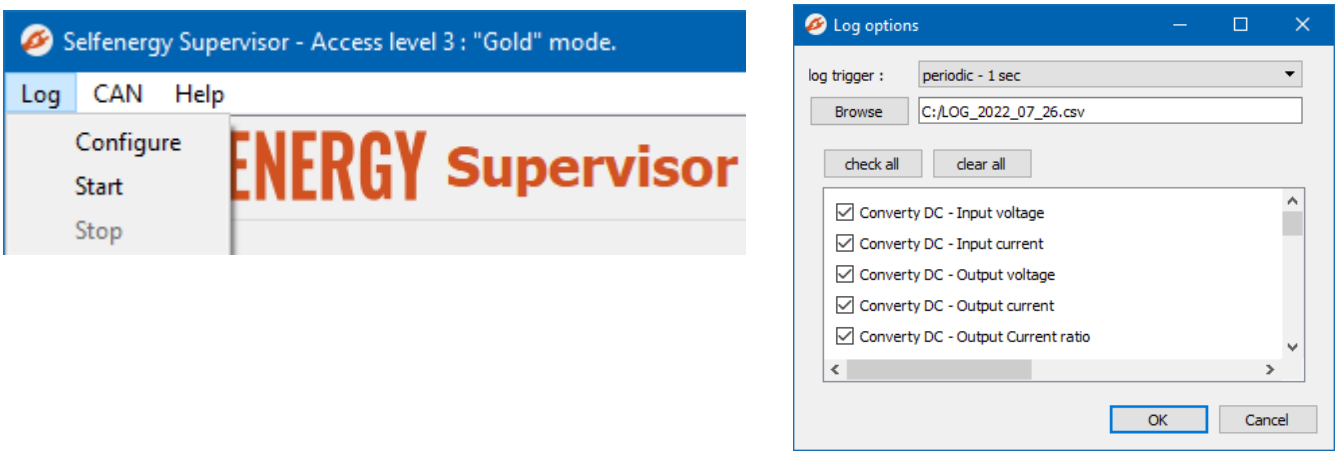


Figure 13 : Log menu and its configuration window

8.1.1 Live view tab

By clicking on the « Details » button, you will be able to see a new tab named « Live View ». In this tab you can see more details on the real time data as to

- the input
- the ouput
- the hardware stages
- the user command (if using CAN Control as mandatory)
- Minor and major alerts

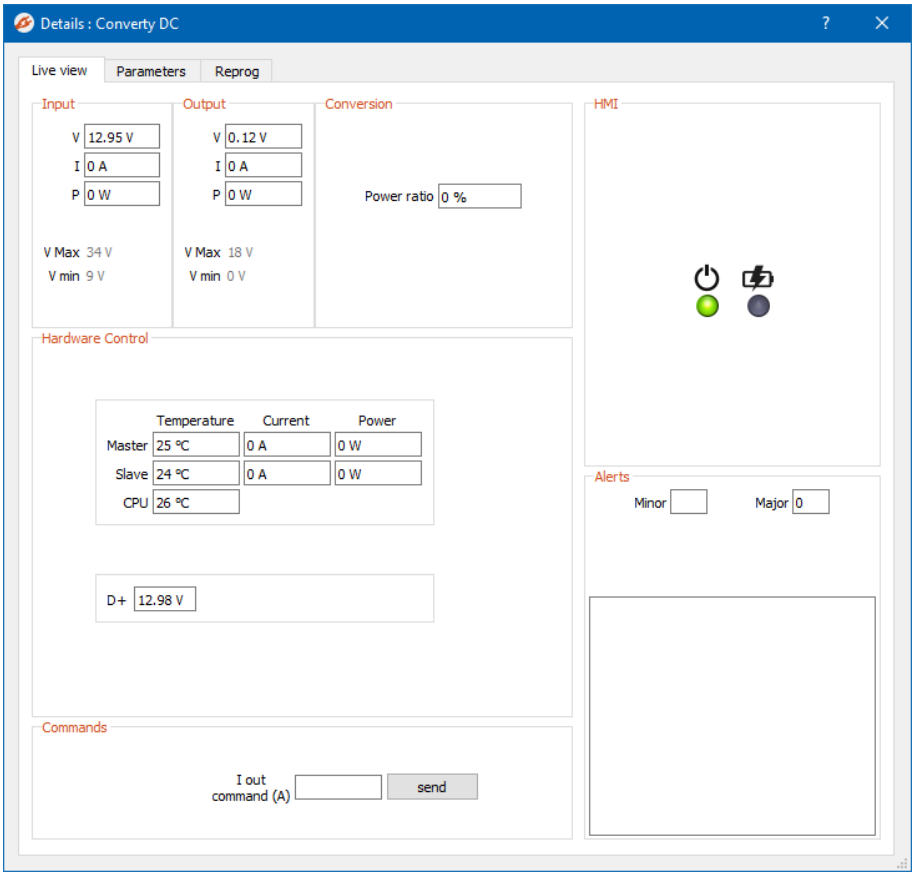


Figure 14 : Details window, "Live view" tab in "Gold" mode

8.1.2 Parameters tab

In this "Gold" mode you will be able to:

- Modify every parameter according to your configuration (internal temperature excluded)
- Import and export all these parameters to upload them on another device or store it.

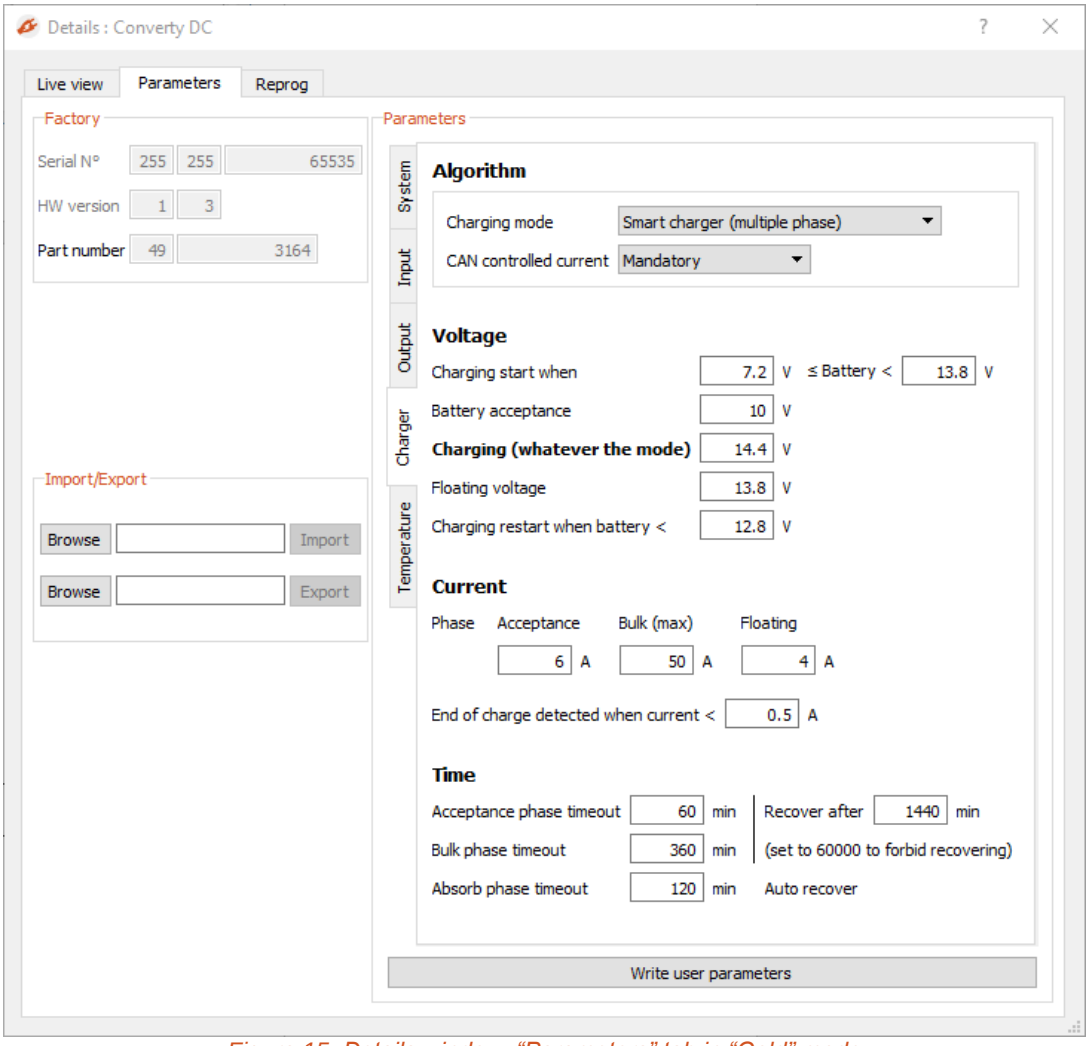


Figure 15 :Details window, "Parameters" tab in "Gold" mode