

**QUICK-START GUIDE (QSG)**

**CAIRSOFT**

**V5.0  
AND MORE**

**JULY 2021**

ENVEA RECOMMENDS TO READ ALL THESE INSTRUCTIONS  
BEFORE POWERING ON AND USING THE EQUIPMENT



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- Enter the address « <https://www.envea.global/envea-connect/> » in the Smartphone/Tablet internet browser, or directly enter “ENVEA connect” in the Play store (Android) or in the App store (iOS)
- Download the application.
- Click on the icon  to launch the “ENVEA connect” application.

### - Downloads -

To download the Micro-sensor documentation or the Cairsoft software, go to our website <https://www.envea.global/fr/solutions/mesure-environnementale/faq-cairnet-cairsens-caircloud/#downloads>

In order to contribute to environmental preservation, hard copies of the manuals will no longer be printed by ENVEA.



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## 1. MINIMUM SYSTEM REQUIREMENTS

- Operating system supported:

Windows Vista SP2

Windows 7 SP1

Windows 8

Windows 8.1

Windows 10

Windows Server 2008 SP2

Windows Server 2008 R2 SP1

Windows Server 2012

Windows Server 2012 R2

- Hardware:

Processor 1 GHz

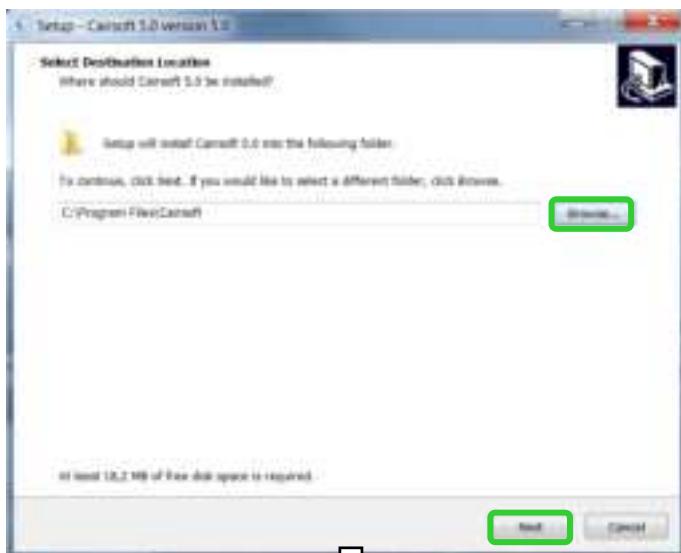
512 Mo of RAM

- Microsoft .Net Framework 4.6 and up

## 2. DOWNLOAD FROM INTERNET

- Go to our website <https://www.envea.global/solutions/ambient-monitoring/faq-cairnet-cairsens-caircloud/>
- Or click on the following link: [click here](#).
- Download “**CairsoftV5.x.x**” (Version 5.0 and more).
- Launch setup “**setup-Cairsoft-5.x.x.exe**” (Version 5.0 and more).

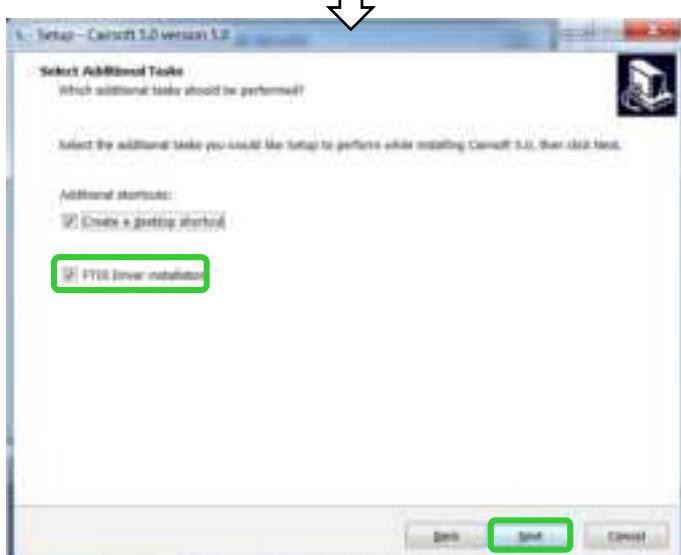
## 3. CAIRSOFT INSTALLATION



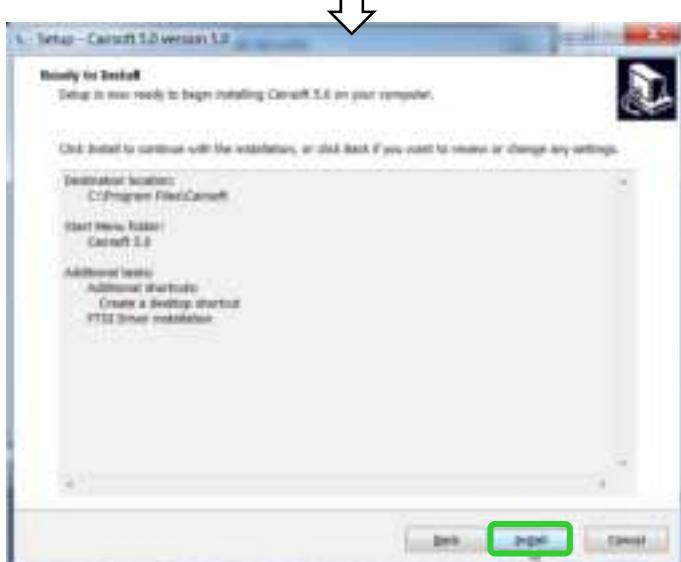
1 – Double click on “Setup\_Cairsoft5.X.exe” to launch the setup (Version 5.0 and more). Select the location with the “Browse...” button, then click on “OK” and “Next”

The installer checks for the required framework version (see Requirements section). If this good version is not available on your PC, it will be automatically installed (internet access required).

Otherwise, the framework version 4.6 (or more) can be installed manually. Restart the installer after, at the step 1 –.



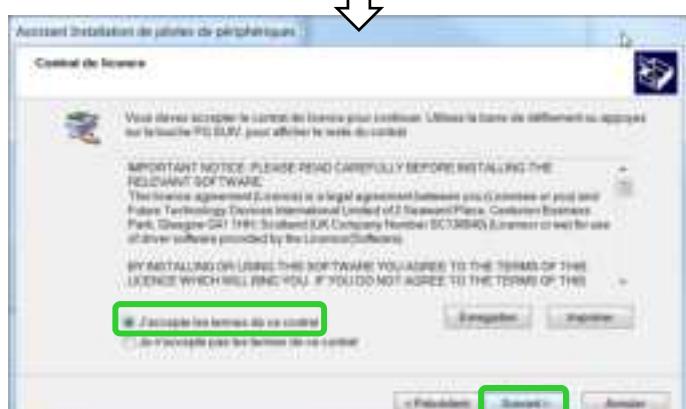
2 – Check the “FTDI driver installation” box and follow the instructions of the installer.



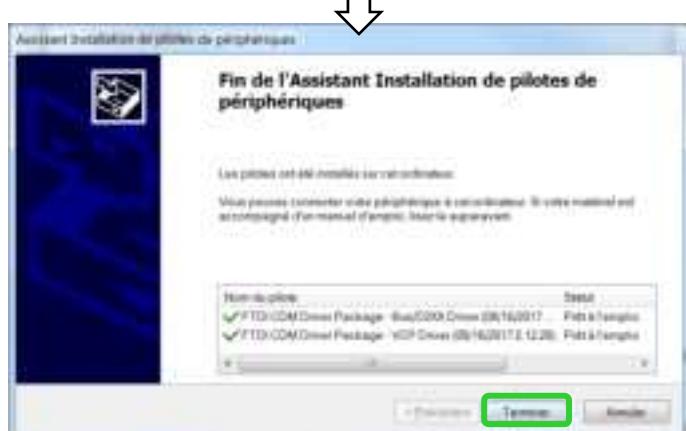
3 – Click-on “Install”.



3 – Click-on “Extract”.



4 – Check the box “J’accepte les termes du contrat” and Click on “Suivant”.



5 – Then, click on “Terminer”.



6 – Click on “Finish” opens the Quick-Start.

**It is strongly advised to read the quick-Start before connecting the Cairsens.**

## 4. CONNECTION OF MULTIPLE CAIRSENS TO A PC

Up to 5 simultaneous Cairsens can be supported by this new Cairsoft Depending of the current configured communication and the used USB connector. The Cairsens have to be plugged to the PC's USB port by using a specific “Serial converter FTDI 3V3 type” cable (not provided) or “USB A” to “mini USB B” cable (provided with the Cairsens or an cable on the market would fit). For more details, refer to the technical manual of the Cairsens.

**→ DO NOT connect the Cairsens configured on UART or Modbus protocol directly to the PC's USB port.**

## 5. STARTING CAIRSOFT

Follow the procedure given below:

- 1 – Connect the Cairsens to the PC using the USB cable OR FTDI (see previous section 4).
- 2 – Launch Cairsoft from the “Cairsoft V5.” (*Version 5.0 and more*) shortcut on the desk or from the folder “Cairpol” in Start menu.
- 3 – The download windows appear, the downloading of all the data in the connected Cairsens begins.  
**DO NOT disconnect the Cairsens from the PC.**
- 4 – After downloading ends, the main window of Cairsoft appears and gives access to:
  - The main menu consisting of 9 icons allowing to customize the Cairsens and to visualize the measurement history, change the communication mode and transfer the data on Caircloud.
  - This instruction manual of Cairsoft (English version) is accessible with the icon  on the right menu of the main window.
  - The newly connected Cairsens can be detected by the refresh icon  on the top menu of the main window.
  - Links for renewal of Cairsens and product information, accessible by the two left buttons.

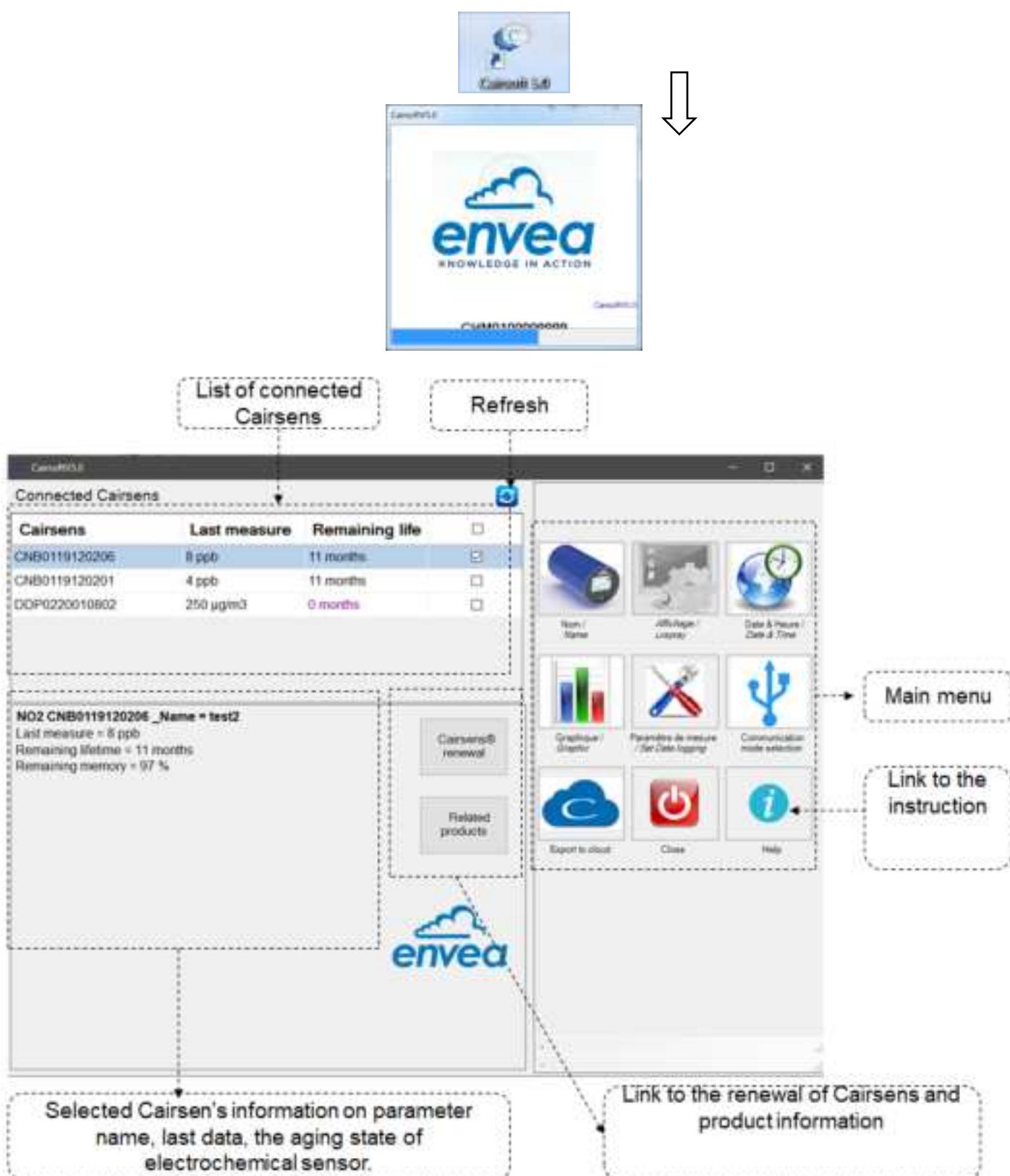


Figure 1 – Starting Cairsoft scheme

## PERSONALIZATION OF THE SELECTED CAIRSENS

When 1 Cairsens is selected and its menu accessible: All Buttons are activated except "Display/ Affichage".

When 2 or more Cairsens are selected, only the following buttons are activated and their menu are accessible:

- "Set Data logging / Paramètres de mesure"
- "Date & Time / Date & heure"
- "Export to Caircloud"

### 6.1. CHANGE THE CAIRSENS NAME



The default name of the Cairsens is its serial number (example: "CCB0100000891").

Click on the "Name" icon to change the Cairsens name:



- The "CairSoft: Name" pop-up is displayed. In the "Nom / Name" field, enter the desired name. Then click on the green button  to validate and close the pop-up window. The new name is memorized in the Cairsens and appears in the main window.
- The red button  is used to cancel.

The name of Cairsens can be modified as often as wished.

## 6.2. DISPLAY MODE



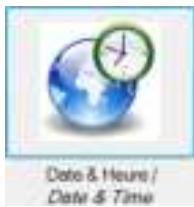
The display mode is disabled for the Cairsoft V5.x.x and the later versions.

## 6.3. SET DATE AND TIME

In case of clock loss, the timestamp restarts automatically at the date of "2030.01.01" and the time of "00:00".

In such case, it is highly recommended to proceed to the time setting of the Cairsns, to ensure a valid timestamp for the future measurement data (refer to Cairsns' s user guide for more information).

This feature uses the "Date and Time" of the PC to which the Cairsns is connected.



Click on the "Date & Time" icon to start the date and time setting of the Cairsns.



- Select the geographical area (EU or US).
  - Select the "time" format (AM or PM).
  - Then click on the green button  to validate and close the pop-up window.
- The red button  is used to cancel.

**WARNING:** if the confirmation is accepted, all data previously stored in the Cairsns will be deleted.

The Cairsoft restart with the new configuration of the Cairsns (DO NOT disconnect the Cairsns from the PC).

## 6.4. SET SAMPLING / MEASUREMENT INTERVAL

This feature allows to change the measurement step of the Cairsns. The sensor makes continuous measurements and stores averages, to be chosen among 1 minute, 15 minutes or 1 hour.

The selected measurement step directly affects the number of data stored in the Cairsns.

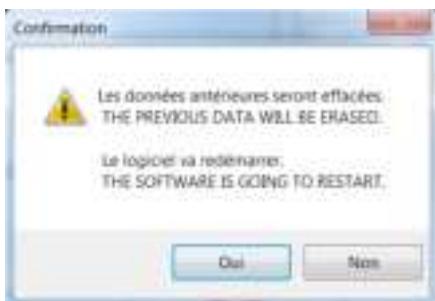


Click on the “Set Data logging” icon to modify the time interval between 2 measurements.

The “Time interval measuring device” pop-up is displayed:



- Select the measurement step. Then click on the green button  to validate.



- A “Confirmation” pop-up is displayed: click on “Oui” to confirm, or on “Non” to cancel.

The red button  is used to cancel.

**WARNING:** if the confirmation is accepted, all data previously stored in the Cairsns will be deleted.

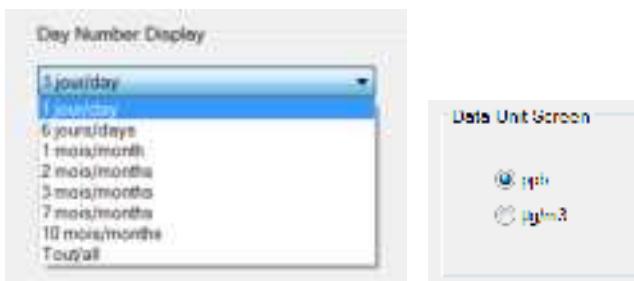
Cairsoft restarts with the new configuration of the Cairsns (DO NOT disconnect the Cairsns from the PC).

## 6.5. GRAPH VISUALIZATION AND DATA EXPORT

This feature allows to view and/or export (in .csv format) the measurements on one or several days. By default, the visualization period and data export are one day and in ppb. It is possible to view and export all the available data to the Cairsns memory.



In the main window of Cairsoft, click on the “Graphic” icon.



(1) Select the measurement period: 1 day or all measured data available (the other selections, 6 days, 1 – 2 – 3 – 7 and 10 months, are not active).

(2) Select the measurement unit (ppb or  $\mu\text{g}/\text{m}^3$ ).

Click on the green button  to validate and refresh the graph.

(3) An interactive menu (edit, zoom, print ...) is available with a right click on the graph.

(4) For export in XLSX type, click on the Excel logo (Microsoft copyright).

(5) Information about the aging status of the Cairsns,

(6) Measurement step or time interval of the Cairsns.

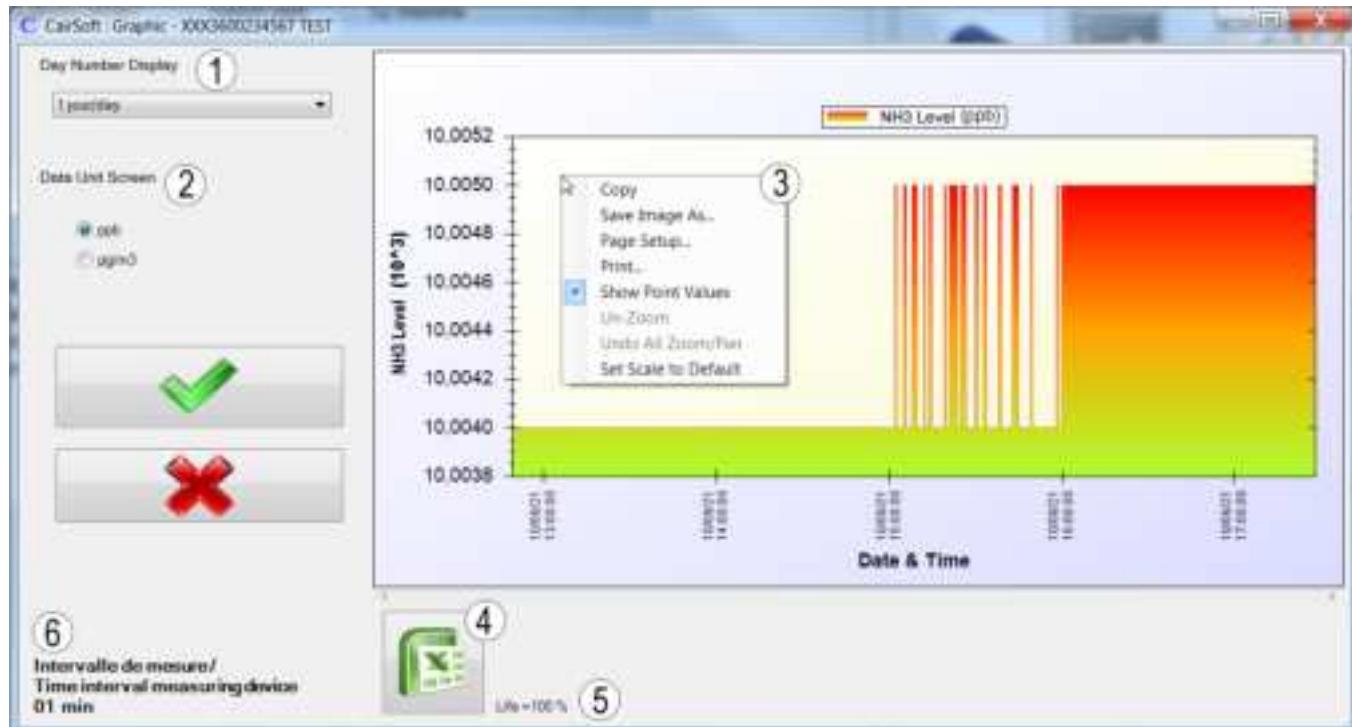


Figure 2 – Graph visualization and data export

## 6.6. DATA VISUALIZATION ON THE XLSX TYPE TABLE

The export in xlsx table allows to retrieve the following parameters:

- The reference of the Cairsns.
- The aging stated in % translated as follows:
  - 100 % = 0 month of operating for the Cairsns,
  - 50 % = 6 months of operating for the Cairsns.
  - 00 % = 12 months of operating for the Cairsns. In this case, the boxes for corresponding measurements in the table are red and part of Cairsoft graph changes from green to red (see example picture below).
- The time stamp corresponding to the selected measurement period in “Measure parameters” window.
- Measurements with the unit selected in “Graphic” window.
- Power supply voltage Bat.(mV) in mV translated as follow: Warning: this data is the voltage level of the external supplied power, the Cairsns itself don't have any battery or internal power supply:
- Measures of the temperature in Celsius degrees (°C). **Unavailable for Cairsns V2 and more (produced after 2018).**
- Measures of relative humidity (RH %) in %. **Unavailable for Cairsns V2 and more (produced after 2018).**

A	B	C	D	E	F
1 Equipment number	CHM0100000002	V(%)	0	0 Life(%)	300
2 Time	Eq. H2S (TR5) Level (ppb)	Bat.(mV)	Temp. hygro °C	Hgro. %	
3 08/11/2015 08:41:00	1	4710	25	35	
4 08/11/2015 08:42:00	1	4710	25	35	
5 08/11/2015 08:43:00	0	4711	25	35	
6 08/11/2015 08:44:00	1	4709	25	35	
7 08/11/2015 08:45:00	1	4710	25	35	
8 08/11/2015 08:46:00	1	4710	25	35	
9 08/11/2015 08:47:00	1	4711	25	35	
10 08/11/2015 08:48:00	1	4709	25	35	
11 08/11/2015 08:49:00	1	4711	25	35	
12 08/11/2015 08:50:00	1	4711	25	35	
13 08/11/2015 08:51:00	1	4709	25	35	
14 08/11/2015 08:52:00	1	4710	25	35	
15 08/11/2015 08:53:00	0	4710	25	35	
16 08/11/2015 08:54:00	1	4711	25	35	
17 08/11/2015 08:55:00	1	4711	25	35	
18 08/11/2015 08:56:00	1	4709	25	35	
19 08/11/2015 08:57:00	1	4711	25	35	
20 08/11/2015 08:58:00	1	4711	25	35	
21 08/11/2015 08:59:00	1	4710	25	35	
22 08/11/2015 09:00:00	0	4710	25	35	
23 08/11/2015 09:01:00	1	4710	25	35	
24 08/11/2015 09:02:00	1	4711	25	35	
25 08/11/2015 09:03:00	1	4710	25	35	
26 08/11/2015 09:04:00	1	4709	25	35	
27 08/11/2015 09:05:00	1	4710	25	35	
28 08/11/2015 09:06:00	2	4710	25	35	
29 08/11/2015 09:07:00	1	4710	25	35	
30 08/11/2015 09:08:00	0	4710	25	35	
31 08/11/2015 09:09:00	1	4710	25	35	
32 08/11/2015 09:10:00	1	4710	25	35	
33 08/11/2015 09:11:00	0	4709	25	35	
34 08/11/2015 09:12:00	2	4711	25	35	
35 08/11/2015 09:13:00	0	4711	25	35	
36 08/11/2015 09:14:00	1	4710	25	35	
37 08/11/2015 09:15:00	1	4710	25	35	
38 08/11/2015 09:16:00	1	4711	25	35	
39 08/11/2015 09:17:00	0	4709	25	35	
40 08/11/2015 09:18:00	0	4709	25	35	
41 08/11/2015 09:19:00	0	4709	25	35	
42 08/11/2015 09:20:00	0	4709	25	35	
43 08/11/2015 09:21:00	0	4709	25	35	
44 08/11/2015 09:22:00	0	4709	25	35	
45 08/11/2015 09:23:00	0	4709	25	35	
46 08/11/2015 09:24:00	0	4709	25	35	
47 08/11/2015 09:25:00	0	4709	25	35	
48 08/11/2015 09:26:00	0	4709	25	35	
49 08/11/2015 09:27:00	0	4709	25	35	
50 08/11/2015 09:28:00	0	4709	25	35	
51 08/11/2015 09:29:00	0	4709	25	35	
52 08/11/2015 09:30:00	0	4709	25	35	
53 08/11/2015 09:31:00	0	4709	25	35	
54 08/11/2015 09:32:00	0	4709	25	35	
55 08/11/2015 09:33:00	0	4709	25	35	
56 08/11/2015 09:34:00	0	4709	25	35	
57 08/11/2015 09:35:00	0	4709	25	35	
58 08/11/2015 09:36:00	0	4709	25	35	
59 08/11/2015 09:37:00	0	4709	25	35	
60 08/11/2015 09:38:00	0	4709	25	35	
61 08/11/2015 09:39:00	0	4709	25	35	
62 08/11/2015 09:40:00	0	4709	25	35	
63 08/11/2015 09:41:00	0	4709	25	35	
64 08/11/2015 09:42:00	0	4709	25	35	
65 08/11/2015 09:43:00	0	4709	25	35	
66 08/11/2015 09:44:00	0	4709	25	35	
67 08/11/2015 09:45:00	0	4709	25	35	
68 08/11/2015 09:46:00	0	4709	25	35	
69 08/11/2015 09:47:00	0	4709	25	35	
70 08/11/2015 09:48:00	0	4709	25	35	
71 08/11/2015 09:49:00	0	4709	25	35	
72 08/11/2015 09:50:00	0	4709	25	35	
73 08/11/2015 09:51:00	0	4709	25	35	
74 08/11/2015 09:52:00	0	4709	25	35	
75 08/11/2015 09:53:00	0	4709	25	35	
76 08/11/2015 09:54:00	0	4709	25	35	
77 08/11/2015 09:55:00	0	4709	25	35	
78 08/11/2015 09:56:00	0	4709	25	35	
79 08/11/2015 09:57:00	0	4709	25	35	
80 08/11/2015 09:58:00	0	4709	25	35	
81 08/11/2015 09:59:00	0	4709	25	35	
82 08/11/2015 10:00:00	0	4709	25	35	
83 08/11/2015 10:01:00	0	4709	25	35	
84 08/11/2015 10:02:00	0	4709	25	35	
85 08/11/2015 10:03:00	0	4709	25	35	
86 08/11/2015 10:04:00	0	4709	25	35	
87 08/11/2015 10:05:00	0	4709	25	35	
88 08/11/2015 10:06:00	0	4709	25	35	
89 08/11/2015 10:07:00	0	4709	25	35	
90 08/11/2015 10:08:00	0	4709	25	35	
91 08/11/2015 10:09:00	0	4709	25	35	
92 08/11/2015 10:10:00	0	4709	25	35	
93 08/11/2015 10:11:00	0	4709	25	35	
94 08/11/2015 10:12:00	0	4709	25	35	
95 08/11/2015 10:13:00	0	4709	25	35	
96 08/11/2015 10:14:00	0	4709	25	35	
97 08/11/2015 10:15:00	0	4709	25	35	
98 08/11/2015 10:16:00	0	4709	25	35	
99 08/11/2015 10:17:00	0	4709	25	35	
100 08/11/2015 10:18:00	0	4709	25	35	
101 08/11/2015 10:19:00	0	4709	25	35	
102 08/11/2015 10:20:00	0	4709	25	35	
103 08/11/2015 10:21:00	0	4709	25	35	
104 08/11/2015 10:22:00	0	4709	25	35	
105 08/11/2015 10:23:00	0	4709	25	35	
106 08/11/2015 10:24:00	0	4709	25	35	
107 08/11/2015 10:25:00	0	4709	25	35	
108 08/11/2015 10:26:00	0	4709	25	35	
109 08/11/2015 10:27:00	0	4709	25	35	
110 08/11/2015 10:28:00	0	4709	25	35	
111 08/11/2015 10:29:00	0	4709	25	35	
112 08/11/2015 10:30:00	0	4709	25	35	
113 08/11/2015 10:31:00	0	4709	25	35	
114 08/11/2015 10:32:00	0	4709	25	35	
115 08/11/2015 10:33:00	0	4709	25	35	
116 08/11/2015 10:34:00	0	4709	25	35	
117 08/11/2015 10:35:00	0	4709	25	35	
118 08/11/2015 10:36:00	0	4709	25	35	
119 08/11/2015 10:37:00	0	4709	25	35	
120 08/11/2015 10:38:00	0	4709	25	35	
121 08/11/2015 10:39:00	0	4709	25	35	
122 08/11/2015 10:40:00	0	4709	25	35	
123 08/11/2015 10:41:00	0	4709	25	35	
124 08/11/2015 10:42:00	0	4709	25	35	
125 08/11/2015 10:43:00	0	4709	25	35	
126 08/11/2015 10:44:00	0	4709	25	35	
127 08/11/2015 10:45:00	0	4709	25	35	
128 08/11/2015 10:46:00	0	4709	25	35	
129 08/11/2015 10:47:00	0	4709	25	35	
130 08/11/2015 10:48:00	0	4709	25	35	
131 08/11/2015 10:49:00	0	4709	25	35	
132 08/11/2015 10:50:00	0	4709	25	35	
133 08/11/2015 10:51:00	0	4709	25	35	
134 08/11/2015 10:52:00	0	4709	25	35	
135 08/11/2015 10:53:00	0	4709	25	35	
136 08/11/2015 10:54:00	0	4709	25	35	
137 08/11/2015 10:55:00	0	4709	25	35	
138 08/11/2015 10:56:00	0	4709	25	35	
139 08/11/2015 10:57:00	0	4709	25	35	
140 08/11/2015 10:58:00	0	4709	25	35	
141 08/11/2015 10:59:00	0	4709	25	35	
142 08/11/2015 11:00:00	0	4709	25	35	
143 08/11/2015 11:01:00	0	4709	25	35	
144 08/11/2015 11:02:00	0	4709	25	35	
145 08/11/2015 11:03:00	0	4709	25	35	
146 08/11/2015 11:04:00	0	4709	25	35	
147 08/11/2015 11:05:00	0	4709	25	35	
148 08/11/2015 11:06:00	0	4709	25	35	
149 08/11/2015 11:07:00	0	4709	25	35	
150 08/11/2015 11:08:00	0	4709	25	35	
151 08/11/2015 11:09:00	0	4709	25	35	
152 08/11/2015 11:10:00	0	4709	25	35	
153 08/11/2015 11:11:00	0	4709	25	35	
154 08/11/2015 11:12:00	0	4709	25	35	
155 08/11/2015 11:13:00	0	4709	25	35	
156 08/11/2015 11:14:00	0	4709	25	35	
157 08/11/2015 11:15:00	0	4709	25	35	
158 08/11/2015 11:16:00	0	4709	25	35	
159 08/11/2015 11:17:00	0	4709	25		

- ! o Below is shown the example of a Cairsoft graph for a Cairsens which the electrochemical cell operated for a time equal to 12 months and more (Life = 00%):

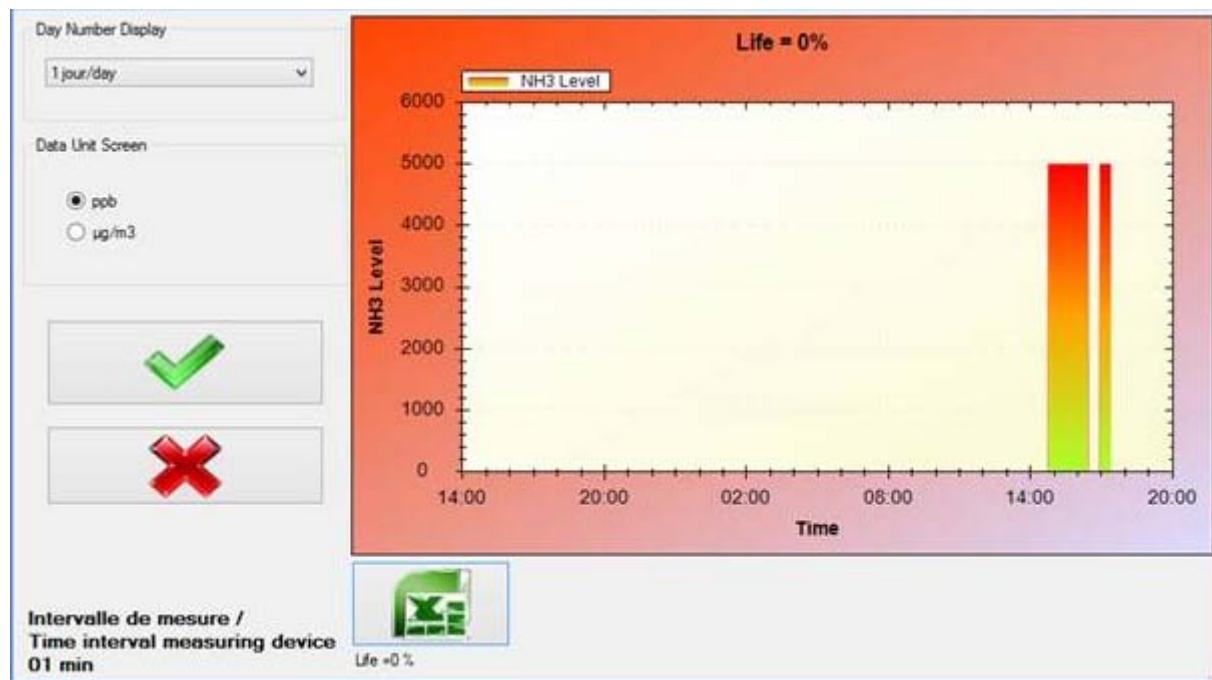


Figure 3 – Example of a Cairsoft Graph for an electrochemical cell operated more than 12 months

## 6.7. COMMUNICATION MODE SELECTION

This feature allows to change the communication mode of selected Cairsens to USB/UART from the PC to which the Cairsens is connected.

### 6.7.1. REGARDING THE GASEOUS CAIRSENS

The main communication with Cairsoft to download data and make all communication is the USB communication not UART communication.



This Sensor has 2 USB ports for 3 Communication protocols:

- Mini-USB port: USB by default, switchable to UART protocol,
- Micro-USB port: UART by default, switchable to RTU Modbus protocol.

**Cairsoft 5.0 allows for Gaseous Cairsens to:**

- Communicate and download data of the Cairsens,
- Show the graph and export data to locally Excel Sheet,
- Set up the date and Time,
- Set up the Name,
- Export data to Caircloud,
- Convert the USB port communication.

#### Converting the mini and micro-USB port communication:

- **When Cairsens connects through the mini-USB configured on USB communication:**
  - The Cairsens is connected directly to the PC's USB port by using a mini-USB to type A USB cable.
  - For mini-USB connector: it allows to switch the communication mode from USB to UART protocol.
  - For micro-USB connector: it allows to switch the communication mode from UART to Modbus protocol (or vice versa, depending on the previous mode).
  - All functionalities described above.
- **When Cairsens connect through the mini-USB configured on UART communication:**
  - The Cairsens is connected to an FTDI converter (TTL 3V3) and this last one to the PC's USB port.
  - For mini-USB connector: it allows to switch the communication mode from UART to USB protocol.
  - For micro-USB connector: it allows to switch the communication mode from UART to Modbus protocol (or vice versa, depending on the previous mode).
  - **No other function:** to retrieve data or access to the other functions, the mini-USB connector must be set on USB communication.

## 6.7.2. REGARDING THE PM CAIRSENS:

The main communication with Cairsoft to download data and make all communication is the UART communication not Modbus communication.



This Sensor has only 1 USB port for 2 Communication protocol.

- Micro-USB port: UART by default, switchable to RTU Modbus protocol.

**Cairsoft 5.0 allows for PM Cairsens to:**

- Communicate and download data of the Cairsens,
- Show the graph and export data to locally Excel Sheet,
- Set up the date and Time,
- Set up the Name,
- Export data to Caircloud.

**Converting the micro-USB port communication:**

- When Cairsens connect through the mini-USB configured on **UART communication:**
  - The Cairsens is connected to an FTDI converter (TTL 3V3) and this last one to the PC's USB port,
  - It allows to switch the communication mode from UART to Modbus protocol (or vice versa, depending on the previous mode),
  - All functions are only available on UART communication mode.

## 6.8. EXPORT TO CLOUD.

This feature allows exporting on cloud all downloaded data of the selected Cairsens. Once data exported, then the user can see all data on <https://caircloud.envea.cloud> using login account.



Click on the “Export to cloud” icon to upload data on Caircloud.

The window “Export to CairCLOUD” is displayed:



- Enter the Cloud login account details to connect to the CairCLOUD.
- Check the “Save account access” box to save login details of Cloud account.
- Then click on the green button to validate and export: a “Confirmation” pop-up is displayed.
- The red button is used to cancel.

**WARNING:** if the Login credential is accepted, then only all stored data will export to CairCLOUD.

Cairsoft restarts with the new configuration of the Cairsens (DO NOT disconnect the Cairsens from the PC).