envea Cairsoft Micro Sensor User Guide

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Contents

CAIRSOFT (QSG)

– Warning –

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– Smartphone / tablet connection –

The "ENVEA Connect" application for Smartphone/Tablet can be download as follows:
– 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/faqcairnet-cairsens-caircloud/#downloads**

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

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**

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)

CAIRSOFT INSTALLATION

1. 1Double 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".

4. Click-on "Extract".

5. Check the box "J'accepte les termes du contrat" and Click on "Suivant".

6. Then, click on "Terminer".

7. Click on "Finish" opens the Quick-Start.

It is strongly advised to read the quick-Start before connecting the Cairsens.
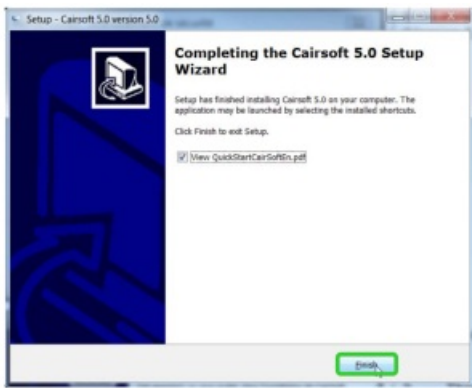
CONNECTION OF MULTIPLE CAIRSENS TO A PC

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.**

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.
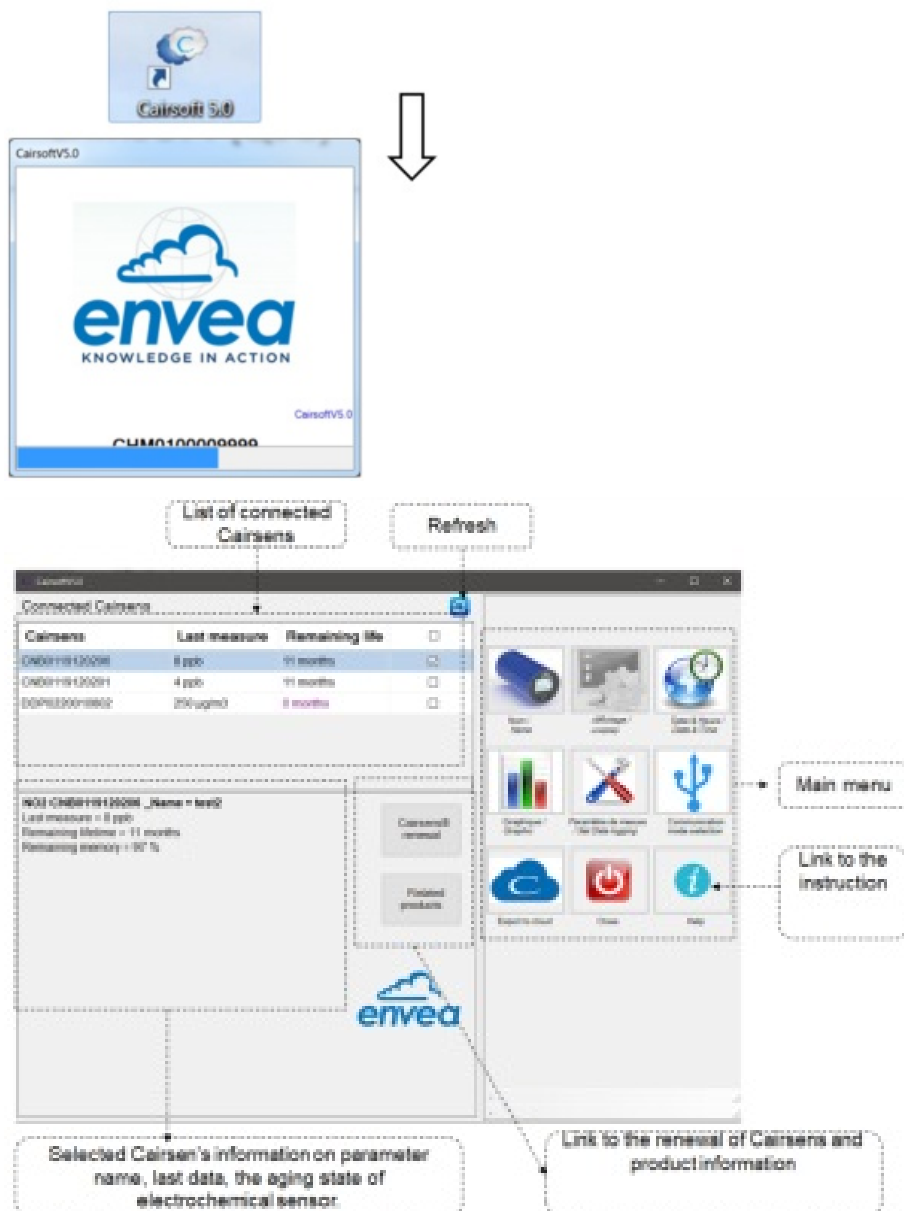- Links for renewal of Cairsens and product information, accessible by the two left buttons.

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"

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:

Nom /
Name

- The "CairSoft: Name" pop-up is displayed. In the "Nom / Name" field, enter the desired name.
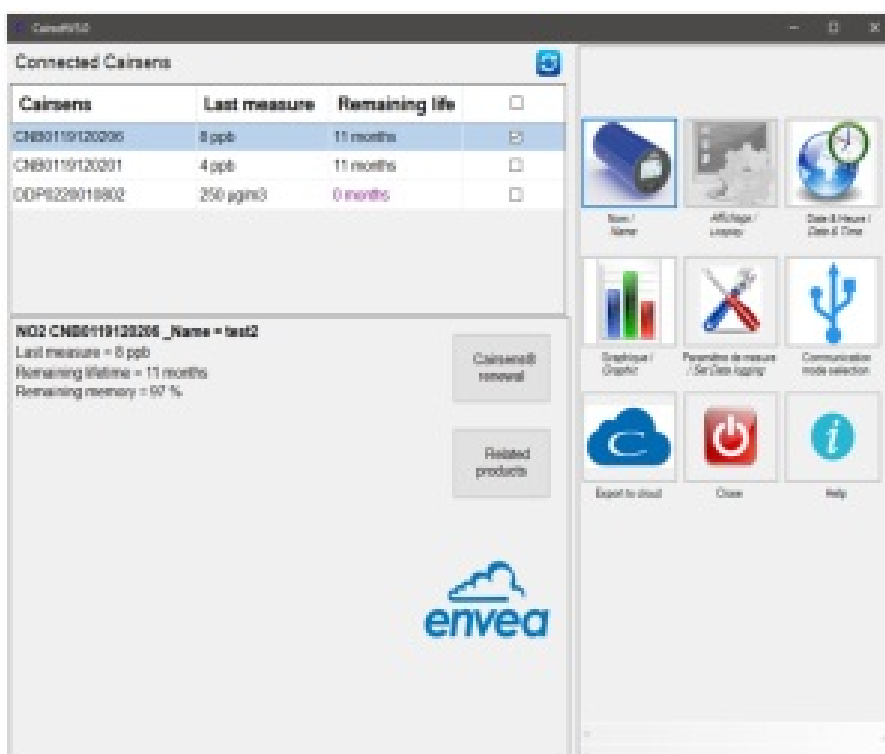
  Then click on the green button to validate and close the pop-up window.

  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.

DISPLAY MODE

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

Affichage /
Display

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 Cairsens, to ensure a valid timestamp for the future measurement data (refer to Cairsens' s user guide for more information). This feature uses the "Date and Time" of the PC to which the Cairsens is connected.

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

Date & Heure /
Date & Time

- 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.

SET SAMPLING / MEASUREMENT INTERVAL

This feature allows to change the measurement step of the Cairsens. 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 Cairsens.

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.
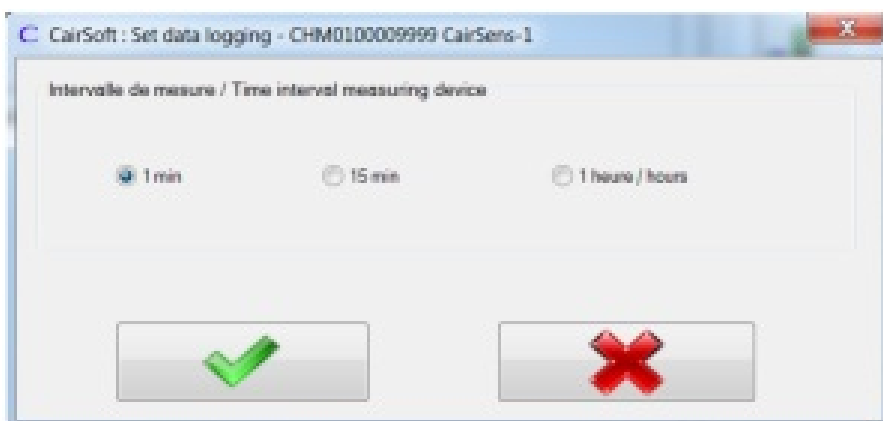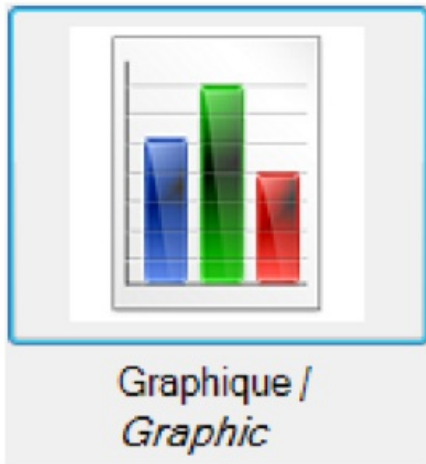
GRAPH VISUALIZATION AND DATA EXPORT

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 Cairsens 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 µg/m3).

   Click on the green button and refresh the graph. to validate
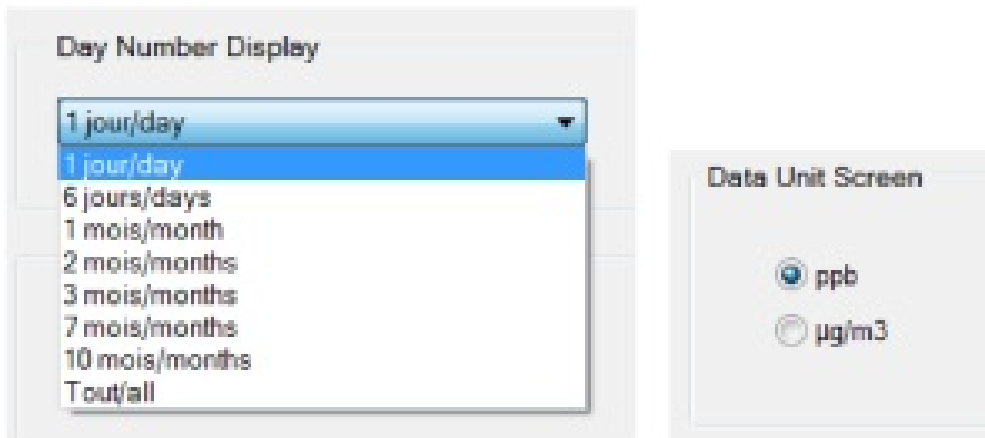
3. An interactive menu (edit, zoom, print …) is available with a right click on the graph.
4. For export in XLSX type, click on the Excel logo (Microsoft copyright).
5. Information about the aging status of the Cairsens,
6. Measurement step or time interval of the Cairsens.

Figure 2 – Graph visualization and data export

DATA VISUALIZATION ON THE XLSX TYPE TABLE

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

- The reference of the Cairsens.
- The aging stated in % translated as follows:
  - 100 % = 0 month of operating for the Cairsens,
  - 50 % = 6 months of operating for the Cairsens.
  - 00 % = 12 months of operating for the Cairsens. 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 Cairsens itself don't have any battery or internal power supply:
- Measures of the temperature in Celsius degrees (°C). **Unavailable for Cairsens V2 and more (produced after 2018).**
- Measures of relative humidity (RH %) in %. **Unavailable for Cairsens V2 and more (produced after 2018)**
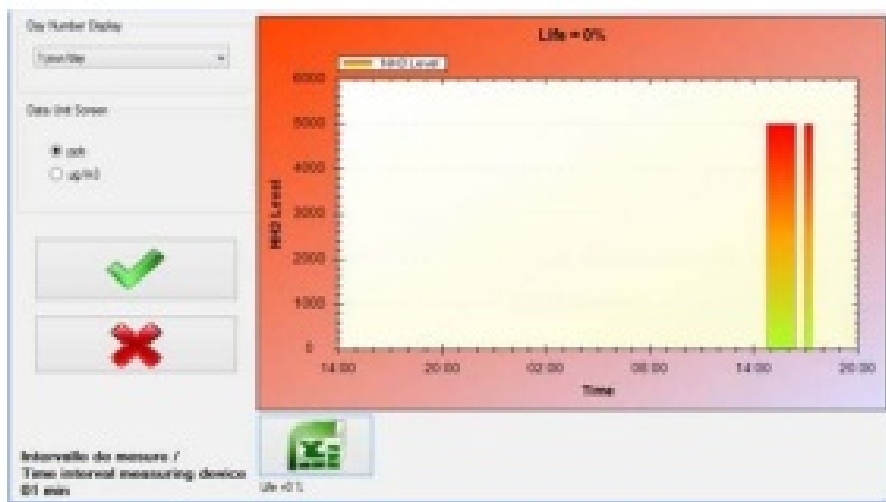
Figure 3 – Example of a Cairsoft Graph for an electrochemical cell operated more than 12 months

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.

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.

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.

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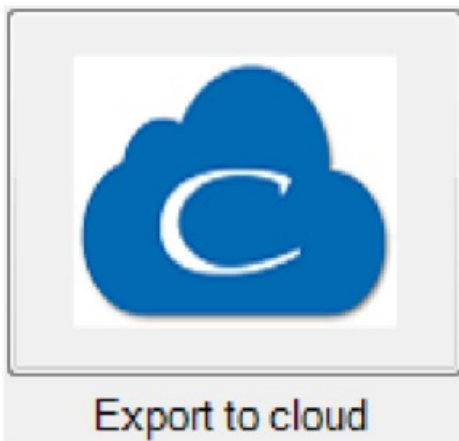
- Enter the Cloud login account details to connect to the CairCLOUD.
- Check the "Save account access" box to save login details of Cloud account.
- Then click on the green button to validate and export: a "Confirmation" pop-up is displayed.
- The red button is used to cancel.

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).

Documents / Resources

QUICK-START GUIDE (QSG) **CAIRSOFT** V5.0 AND MORE JULY 2021 ENVEA RECOMMENDS TO READ ALL THESE INSTRUCTIONS BEFORE POWERING IN AND USING THE EQUIPMENT envea KNOWLEDGE IN ACTION 11, Av Ampère - CS 60015 - 78304 Poissy Cedex 4 - FRANCE Tel : +33(0)1 39 22 38 00 - Fax : +33(0)1 39 65 38 08 www.envea.global	**envea Cairsoft Micro Sensor** [pdf] User Guide Cairsoft, Micro Sensor