



CaBER 1 Software Version 5 Installation

This document describes how to install the CaBER 1 software version 5.

Computer system (PC) requirements

Certain requirements regarding the PC hardware and the PC operating system must be fulfilled in order for the CaBER 1 software installation to be successful and in order for the CaBER 1 software to be able to communicate with the CaBER 1 rheometer.

Operating systems requirements

The CaBER 1 software only runs on a PC with a Microsoft Windows operating system.

The CaBER 1 software 5.0.x has been tested to run under the following Windows operating systems:

- Microsoft Windows 7, 32-bit or 64-bit, with or without Service pack 1.
- Microsoft Windows 8(.1), 32-bit or 64-bit.
- Microsoft Windows 10, 32-bit or 64-bit

The CaBER 1 software 5.0.x has *not* been tested and is consequently *not* supported for use under the following Windows operating systems (It is strongly recommend to use Windows 7 or newer instead):

- Microsoft Windows XP
- Microsoft Windows Vista, 32-bit or 64-bit, with or without Service pack 1 or 2.

PC hardware requirements

No special PC is required for the convenient use of the CaBER 1 software. A PC meeting the requirements of the respective operating system for an office PC is fully suitable for the purpose.

As of July, 2015, the following configuration is recommended:

- An IBM compatible PC with a 2,5 GHz (or faster) processor).
- At least 4 GB RAM of main memory.
- A hard disk with a minimum of 2 GB available free space.
- A DVD-ROM drive.
- A 19" (or larger) monitor with a minimum resolution of 1024x768 pixels.

- A keyboard and a mouse.

For the communication with the CaBER 1 rheometer, the following ports are required:

- A Serial (RS232) interface (or a USB interface in combination with an USB to RS232 adapter), for the CaBER 1 linear motor,
- An USB interface for the NI USB-6212 DAQ card.

Hardware requirements

The CaBER 1 software version 5.x.x is only compatible with the external NI USB-6212 DAQ card (see [Figure](#)), that is not with the NI PCI 6024E or NI PCMCIA 6024E DAQ cards which were used with the previous CaBER software versions.

Figure 1. National Instrument USB-6212 DAQ card



IMPORTANT Remove any other NI DAQ card (for example the above mentioned previously used NI PCI 6024E or NI PCMCIA 6024E DAQ cards) from the computer the CaBER 1 is controlled from.

Software installation

The installation of the CaBER 1 software package, which consist of the National Instruments software and drivers and the CaBER 1 control and analysis software, is described step-by-step in the following procedure.

Note Do *not* follow the software installation instructions in the main CaBER 1 manual.

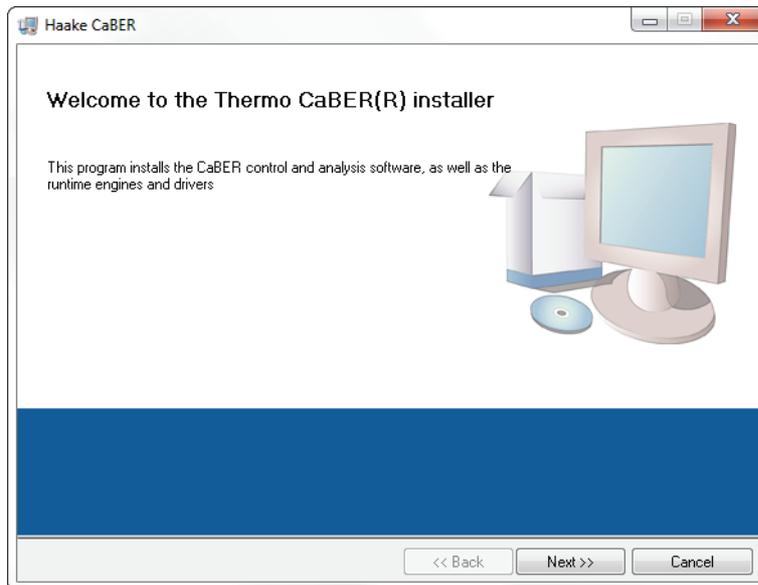
IMPORTANT Do *not* install any software from the CD that is delivered with the National Instrument USB-6212 DAQ card. The installation program from the CaBER 1 software version 5.x.x CD will install all the necessary National Instrument software and drivers as well as the CaBER 1 software.

❖ To install the CaBER 1 software.

1. Launch the setup.exe program from the CaBER 1 software version 5.x.x CD.

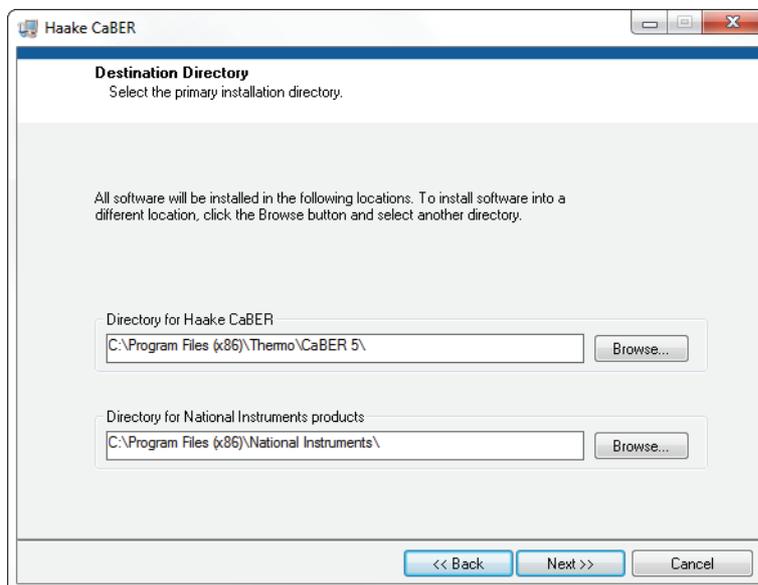
2. In the installation welcome screen (see [Figure 2](#)) click the **Next >>** button to continue.

Figure 2. Installation welcome screen



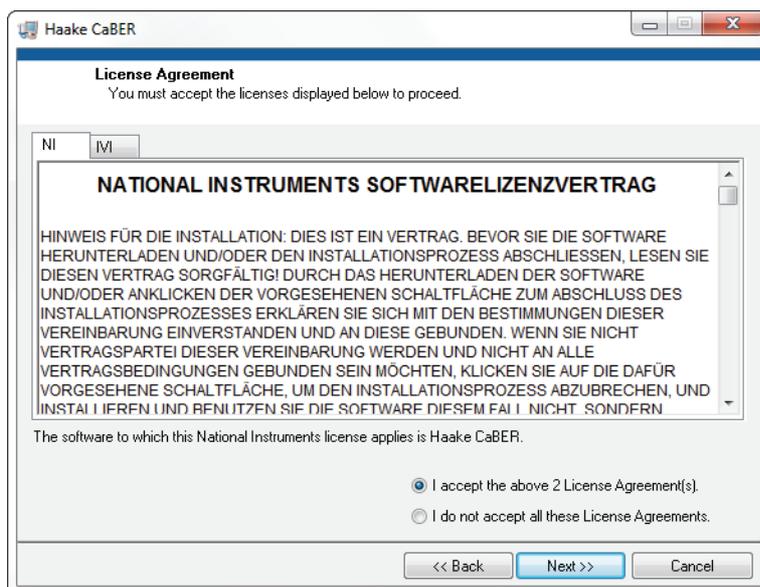
3. In the designation directory screen (see [Figure 3](#)) select the directories in which the CaBER 1 software and the National Instruments products should be installed. It is recommend to use the default directories.
4. In the designation directory screen (see [Figure 3](#)) click the **Next >>** button to continue.

Figure 3. Designation directory screen



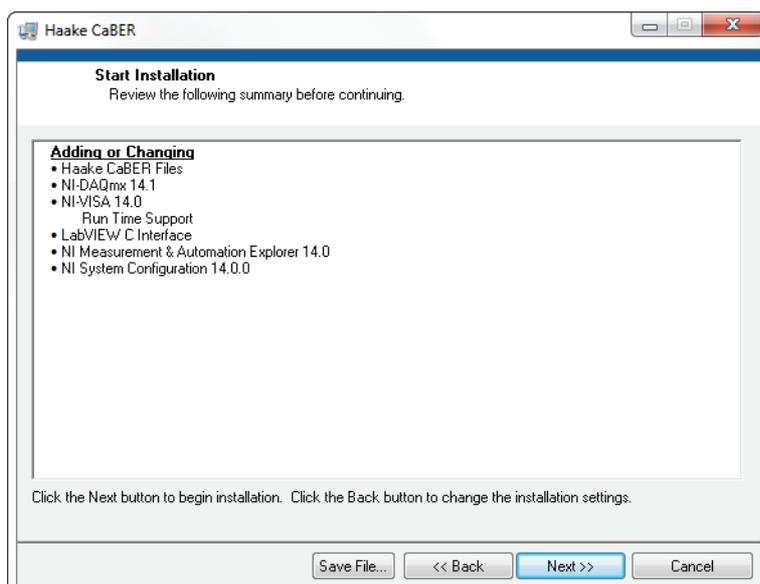
5. In the license agreement screen (see [Figure 4](#)) select the **I accept the above (2) license Agreement(s)** option.
6. In the license agreement screen (see [Figure 4](#)) click the **Next >>** button to continue.

Figure 4. License agreement screen



7. In the start installation screen (see [Figure 5](#)) click the **Next >>** button to continue.

Figure 5. Start installation screen

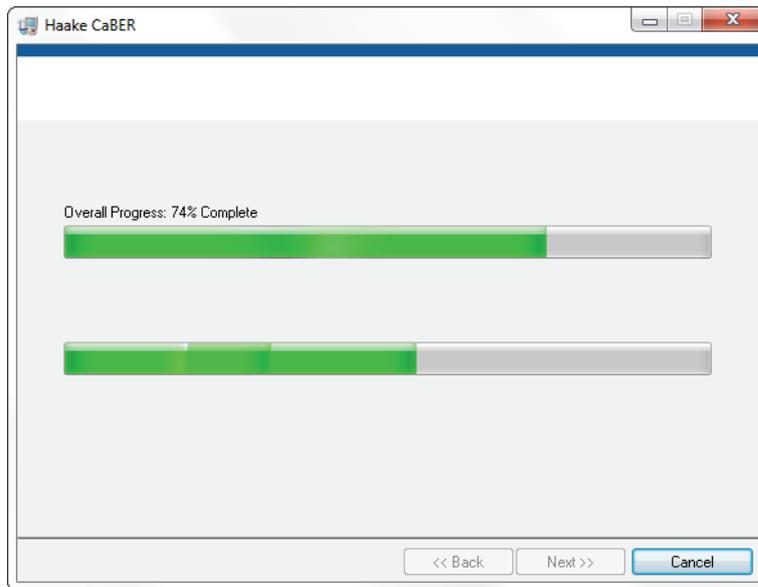


The installation progress is displayed in the progress dialog (see [Figure 6](#)).

Note The installation may take 10 minutes or more.

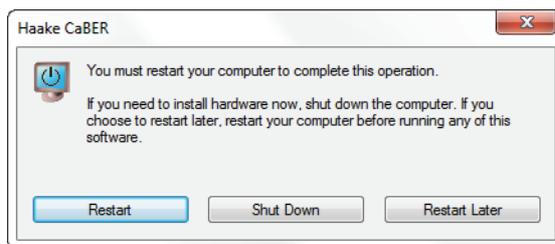
8. When the installation is complete click the **Next >>** button in the progress dialog (see [Figure 6](#)) to continue.

Figure 6. Installation progress



9. In the final installation dialog (see [Figure 7](#)) select one of the options to finish the installation process.

Figure 7. Final installation dialog



CaBER 1 diameter calibration parameters

After the installation of the CaBER 1 software, the specific diameter calibrations parameters that are delivered with each CaBER 1 instrument must be entered in the CaBER 1 software configuration file.

❖ To enter the diameter calibration parameters

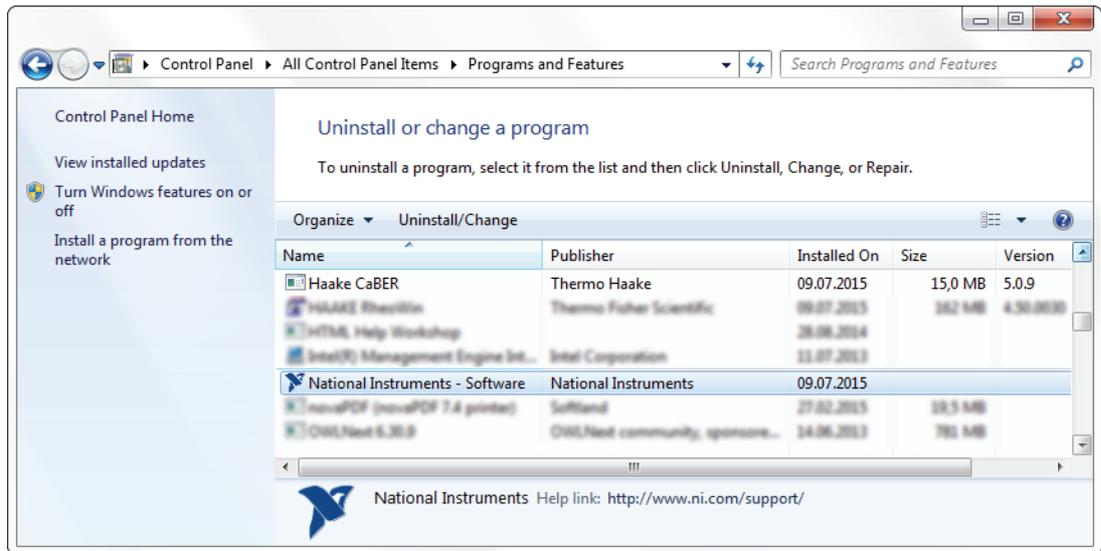
1. Make sure the CaBER 1 control program is *not* running.
2. Open the `caber_config.cfg` file from the `C:\ProgramData\Thermo\caber` directory using any suitable text editor program (for example the Notepad.exe program that comes with Windows).
3. In the `caber_config.cfg` file scroll downward until the following text is visible
[Caber calibration]
Diameter Quadratic Term=0.000000
Diameter Gradient term=0.000000
Diameter Offset Term=0.000000
4. Replace the 0.000000 values with the corresponding values that are listed on the CaBER calibration document that was delivered with the CaBER 1 instrument.

5. Save the `caber_config.cfg` file and close the text editor program.

Software deinstallation

In order to completely remove the CaBER 1 software package CaBER 1 software installation from a PC the CaBER 1 software and the National Instruments products must be deinstalled separately, see [Figure 8](#).

Figure 8. Windows control panel > Programs and Features dialog



Problem solving

The following problem was observed on some CaBER 1 software installations for unknown reasons. When trying to run a measurement in High-Speed Measurement Sampling Mode (in contrast to Real-Time Measurement Sampling Mode) a message about error 89130 occurring is displayed (see [Figure 9](#)).

Figure 9. NI-DAQ error 89130



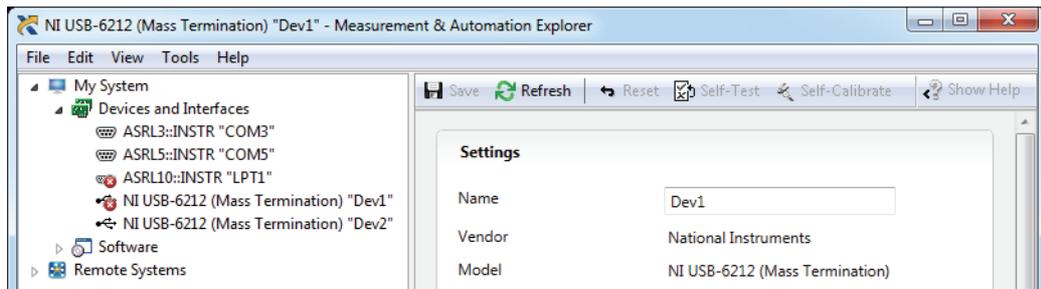
❖ To solve the Error 89130 occurring problem

1. Double-click on the **NI MAX**  desktop icon to launch the National Instrument NI MAX program which is part of the CaBER 1 software installation.

2. In the NI MAX program double-click on **My System** in the tree structure on the left hand side of the main program window, then double-click on **Devices and Interfaces** (see Figure 10).

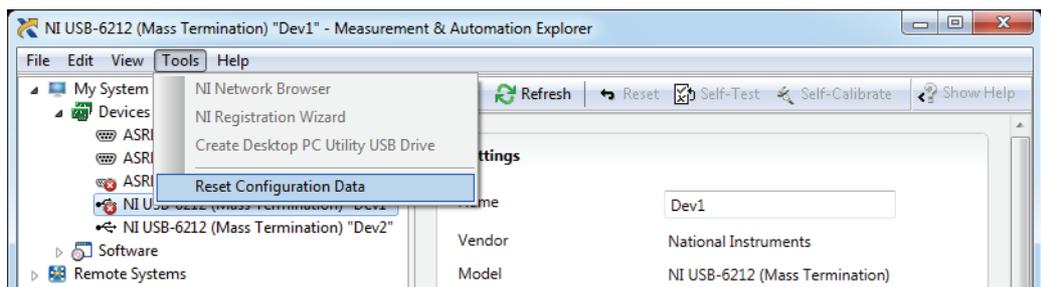
The NI USB-6212 data acquisition card will now most probably be listed twice: One time as **NI USB-6212 (Mass Termination) "Dev1"** and a second time as **NI USB-6212 (Mass Termination) "Dev2"** with one instance marked with a white cross in a red circle. This although only one NI USB-6212 card is connected to computer. The extra instance is the cause of error 89130 occurring.

Figure 10. NI MAX main program window



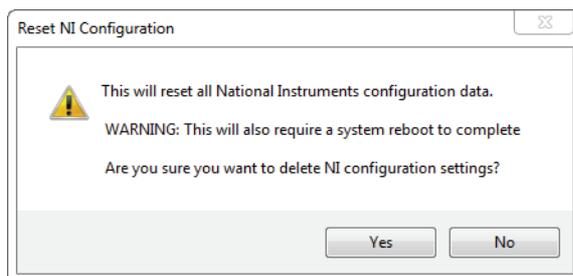
3. In the NI MAX program select **Tools > Reset Configuration Data** from the main menu to reset the NI MAX configuration and remove the extra instance (see Figure 11).

Figure 11. NI MAX Reset Configuration Data



4. In the Reset NI Configuration dialog select **Yes** (see Figure 12).

Figure 12. NI MAX Reset Configuration Data



5. Reboot the computer when instructed to do so.
6. Restart the CaBER 1 software.

Measurements in High-Speed Measurement Sampling Mode should work fine now.