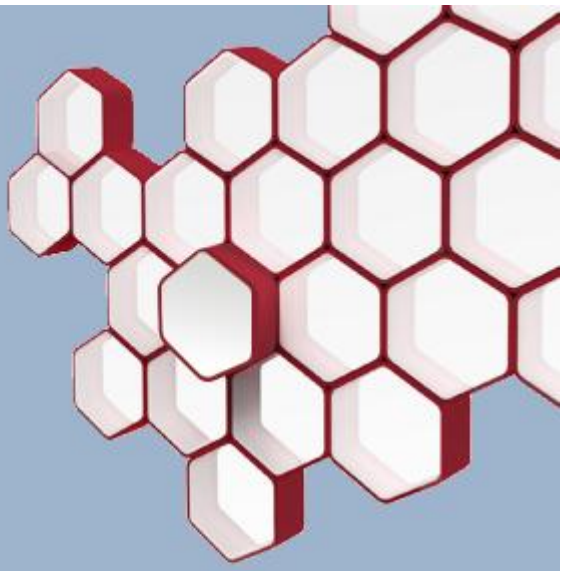
APPLICATION INSTRUCTION



Moog Valve and Pump Configuration Software (MoVaPuCo) B99464-DV0**-A-010

Rev. M

Moog Valve and Pump Configuration Software (MoVaPuCo) using IXXAT USB-to-CAN adapter via VCI driver

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Completeness
This document is complete only when used in conjunction with the product-related hardware and software documentation required for the relevant application, as for example operating instructions of the valve and other manuals.

Selection and qualification of personnel
As specified in the product-related hardware and software documentation required for the relevant application, only users properly qualified and authorized for these tasks may work with and on our products.

Note
This document has been prepared with great care in compliance with the relevant regulations, state-of-the-art technology and our many years of knowledge and experience, and the contents have been generated to the best of the authors' knowledge. However, the possibility of error remains and improvements are possible.
Please feel free to submit any comments about possible errors and incomplete information to us.

Document version

The following table shows possible language versions of this document:

ES	DA	DE	EL	EN	FR	IT	NL	PT	FL	SV	CS	ET	LV	HU	MT	PL	SK	SL	BG	RO	GA
-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Revision record

The following table shows the revision record:

Revision	Description	Prepared	Checked	Approved	Date
A	Initial version	HOS	TYG, SCR		Aug. 2020
B	Add VCI 4.0.939	HOS			Dec. 2021
C	Extension adapter not recognized / device manager	HOS			Jan. 2022
D	Formulations improved	HOS	SCN		May 2022
E	Add VCI 4.0.1003. Adjustments for new installation packages.	HOS	SCN	PAV	July 2022
F	Update Moog addresses and document number	HOS			March 2023
G	Update HMS Links	HOS			Sep. 2024
H	Change Copyright	HOS	KLD		Apr. 2025
J	Add Win11 and VCI 4.0.1240	HOS			Jun. 2025
K	Warning for VCI 3.5 and added VCI 4.0.13** Update links and screenshots	HOS	KLD		Feb. 2026
L	USB-to-CAN FD / professional; VCI 4.0.1348	HOS	KLD		Mar. 2026
M	Recommend VCI 4.0.1374 Add hint to USB-to-CAN/FD Standard	HOS			Nov. 2026

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1 Overview

The Moog Valve and Pump Configuration Software (MoVaPuCo) with the Moog number B99464-DV0**-A-010 is used to configure digitally controlled valves. (** stands for the different version numbers e.g. 4.0 => B99464-DV040-A-010).

In most cases MoVaPuCo uses a USB-to-CAN adapter from IXXAT to connect to the CAN service connector of the valve. MoVaPuCo accesses a VCI driver from IXXAT to communicate with the USB-to-CAN adapter. In the past, issues have occurred in the interaction of MoVaPuCo due to different hardware and firmware versions of the USB-to-CAN adapter or due to different VCI drivers and different Windows versions. In this document, these issues are discussed and solutions are suggested.

USB-to-CAN V2 with MoVaPuCo Version >= 3.4

VCI driver version	Windows 7 (4) & 8.1 (4)	Windows 10 (4)	Windows 11
3.5.2.4268	recommended	is working	**may damage the Windows 11 installation of your computer. As a result, your computer does not start any more!**
3.5.4.4543	not working	not working	
4.0.793	is working (1) (2) (3)	is working (1) (2) (3)	
4.0.939	is working (1) (2) (3)	is working (1) (2) (3)	
4.0.1003		is working (1) (2) (3)	is working (1) (2) (3)
4.0.1240		recommended (1) (2) (3)	is working (1) (2) (3)
4.0.1341			not sufficiently tested
4.0.1348			is working (1) (2) (3) (5)
4.0.1374			recommended (1) (2) (3) (5)

(1) USB-to-CAN V2 Firmware must be >= v1.07.00
(2) Old Moog tools do not work (MoVaCo)
(3) If the CAN bus is not connected/terminated, old (< 2014) USB-to-CAN compact adapters may be destroyed. (A good reason to buy a current USB-to-CAN V2)
(4) Moog support ended
(5) MoVaPuCo versions < 4.4 need “SDK VCI3 (.NET)” selected during the VCI installation. Starting with MoVaPuCo 4.4, this is no longer necessary.

Please check if a newer version of this document is available on our download page.

https://www.moogsoftwaredownload.com/valves-pumps/valves-pumps-software.html

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2 Different hardware of the USB-to-CAN adapter

At the beginning the USB-to-CAN compact was sold under the Moog part number C43094-001 and later, under the same number, its replacement the USB-to-CAN V2 compact.

2.1 USB-to-CAN compact





An old USB-to-CAN compact adapter existed that worked with USB 1.1, but it has been discontinued by IXXAT (now HMS) since 2014.
IXXAT and Moog no longer support it.

Depending on the age of its firmware (recommended version: V1.6) it can still work with different versions of VCI drivers and Windows versions. However, we recommend using the current USB-to-CAN V2 adapter.

2.2 USB-to-CAN V2 compact





The USB-to-CAN V2 compact is the adapter recommended and supported by Moog. It uses USB 2.0 and is therefore significantly faster than its predecessor.

It works well together with different versions of the VCI driver. Only the first firmware versions of the adapter from before 1_07_00 (2022) have issues with the VCI 4.0 driver. These issues can be resolved with a firmware update.

We recommend to update the firmware independent of the version of the VCI driver.

See chapter 5.3 Firmware Update of the USB-to-CAN Adapter

2.3 USB-to-CAN FD compact



The USB-to-CAN FD compact works with the VCI driver version 4.0 and later, but is not officially supported by Moog in the event of any issues.
CAN FD (**F**lexible **D**ata Rate) is an evolution of the classic CAN (Controller Area Network). Currently, no Moog valve supports FD mode, but the adapter still works with our devices.

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2.4 USB-to-CAN V2 professional



It works well with the VCI driver version 4.0 or later and can be used with the Moog Valve and Pump Configuration Software (MoVaPuCo) version 4.4 or later. However, Moog does not officially support it in case of problems.

2.5 USB-to-CAN/FD Standard

HMS / Ixxat has released a combined successor to the “USB-to-CAN FD compact” and “USB-to-CAN V2 compact.” Once this version has been tested and approved, it will be recommended in the online version of this document.

Please check if a newer version of this document is available on our download page.

https://www.moogsoftwaredownload.com/valves-pumps/valves-pumps-software.html

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3 VCI Driver

A USB-to-CAN adapter requires the installation of a VCI driver.

Please use only drivers, which are recommended on our homepage.

https://www.moogsoftwaredownload.com/valves-pumps/valves-pumps-software.html

3.1 VCI 3.5

The latest driver 3.5, released as 3.5.4.4543, does not work together with MoVaPuCo. Do not use it on Windows 10 computers with activated Secure Boot.

(Secure Boot is a part of the UEFI specification, which is supposed to guarantee the authenticity or originality of important software parts of the firmware).

We recommend using VCI 4.0. If VCI 3.5 must be used, please only use version **VCI V3.5.2.4268**. This is older, but works with Windows 7 / 8.1 and Windows 10 (independent of Secure Boot).

Installing of driver version V3.5.2.4268 on Windows 11 may damage the operating system of your computer. As a result, your computer does not start anymore!

In that case, you'll need to restart your computer until Windows boots up in Safe Mode (with Networking). Then you can remove the driver. If that's not possible, you'll need to reinstall Windows 11.

3.2 VCI 4.0

We recommend using VCI 4.0.

Only use the 4.0 driver version tested by us from our homepage.

https://www.moogsoftwaredownload.com/valves-pumps/valves-pumps-software.html

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4 Troubleshooting

4.1 Driver is not recognized by MoVaPuCo

If the VCI driver is not detected during starting MoVaPuCo:



This is no problem if a USB-to-CAN adapter is not in use, e.g. because the connection is established via EtherCAT only.

Possible solutions:

Is the USB-to-CAN adapter connected? The VCI driver is only recognized if a CAN adapter (e.g. CAN_to_USB) has already been recognized, and Windows completes the driver installation. See also next chapter 4.2.

- Chapter 5.2 Connecting the USB-to-CAN adapter to a USB port

Is the VCI driver installed?

- Chapter 5.1.3 Install VCI driver

The VCI driver may not be installed correctly and must be removed and reinstalled:

- Chapter 5.1 New installation VCI driver

Issues are possibly caused by damaged / faulty MoVaPuCo installation:

- Chapter 5.4 New installation MoVaPuCo

4.2 USB-to-CAN adapter is not recognized

The VCI driver is installed, the USB cable of the USB-to-CAN adapter is plugged into a working USB port and a LED is blinking or on, but still the adapter is not recognized in MoVaPuCo or in "canAnalyser3 Mini". Possibly not even the driver is recognized in MoVaPuCo. See previous chapter 4.1.

A possible cause is that the USB-to-CAN adapter was plugged in before the driver installation and therefore a wrong or no driver was assigned to the device by Windows.

It is even possible that one adapter is recognized and another one is not.

Possible solutions:

- Chapter 5.5 Device Recognition in the Device Manager

4.3 Blue Screen with VCI 4.0 driver

Some crashes with blue screen were observed when the USB-to-CAN adapter had a firmware version older than 1_07_00.

Possible solutions:

- Chapter 5.3 Firmware Update of the USB-to-CAN Adapter

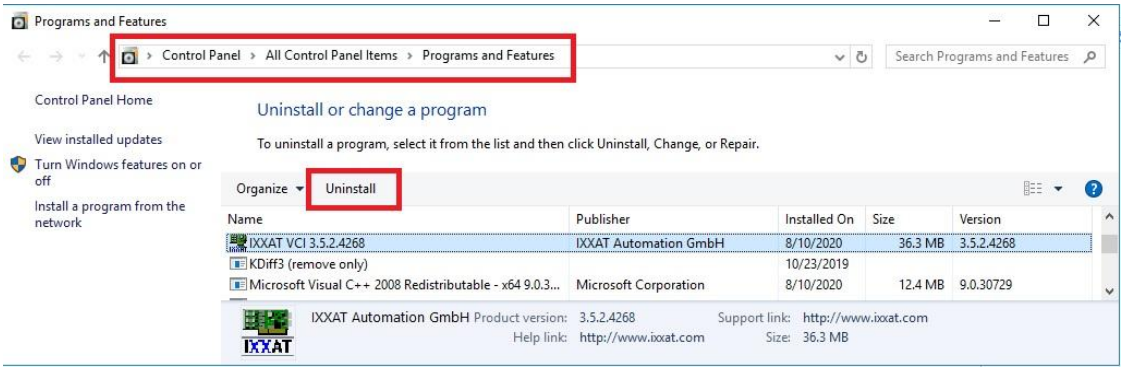
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5 Suggested solutions

5.1 New installation VCI driver

5.1.1 Uninstall VCI driver

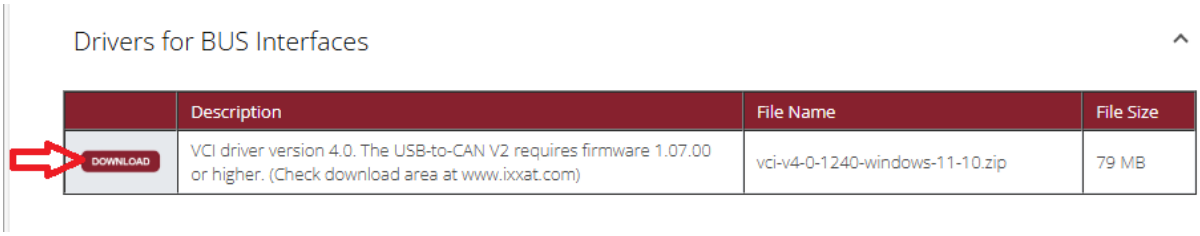
- Close all applications that use the driver.
  Example: MoVaPuCo, MiniMon, CAN-Analyzer.
- Disconnect USB-to-CAN adapter from PC USB port.
- At Control Panel\Programs\Programs and Features
  select the IXXAT driver and press Uninstall.
- Follow the instructions.
- Restart Windows.



5.1.2 Driver Download

The driver recommended by Moog can be downloaded from this page:

https://www.moogsoftwaredownload.com/valves-pumps/valves-pumps-software.html



5.1.3 Install VCI driver

Preconditions:

- Uninstalling existing drivers see chapter 5.1.1 Uninstall VCI driver
- Obtain installation software see chapter 5.1.2 Driver Download
- Administrator rights on the PC
- Close all applications that use the driver.
  Example: MoVaPuCo, MiniMon, CAN-Analyzer, …
- Disconnect USB-to-CAN adapter from PC USB port.

Execute installation

Unzip the installation software and place it in a directory that is not called temp, tmp or download or in subdirectories of it since on some systems, the rights of programs started in such folders are restricted.

Call the installation program e.g. ‚Ixxat VCI Setup 4.0.1374.0.exe‘ and follow the instructions.

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5.2 Connecting the USB-to-CAN adapter to a USB port

Preconditions:

- Chapter 5.1.3 Install VCI driver

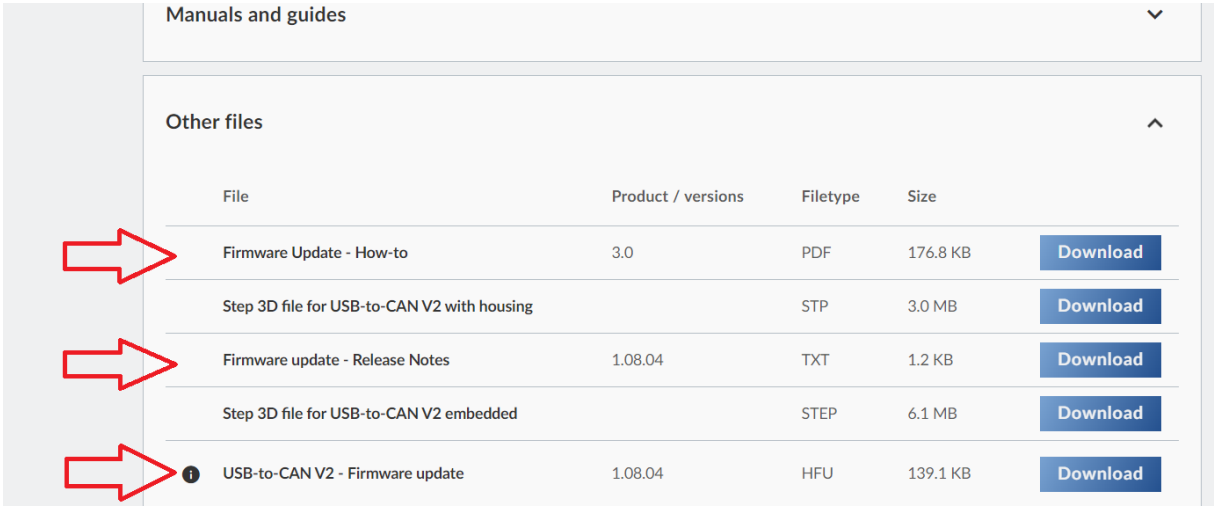
After the installation is completed, connect the USB-to-CAN adapter to the PC via USB. If necessary, wait a moment until Windows has recognized the new device, set up the driver and reports the device ready for use. This may appear differently or not at all with different Windows versions.

Only now, MoVaPuCo is able to recognize and use the installed driver.

5.3 Firmware Update of the USB-to-CAN Adapter

Download instructions and firmware from the manufacturer and install according to instructions.

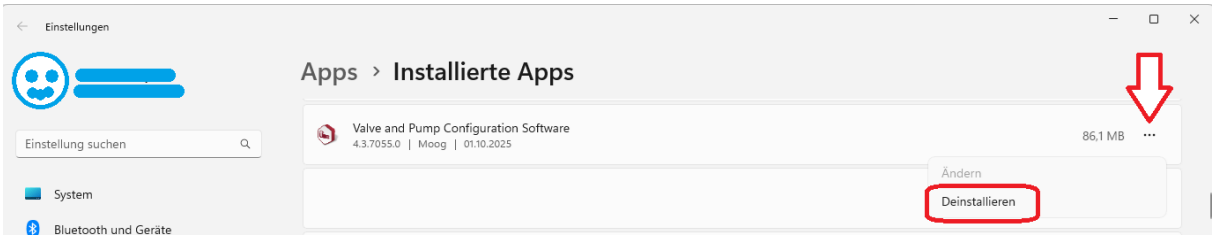
https://www.hms-networks.com/p/1-01-0281-12001-ixxat-usb-to-can-v2-compact?tab=tab-support



5.4 New installation MoVaPuCo

5.4.1 MoVaPuCo Deinstallation

- Close MoVaPuCo
- At **Control Panel\Programs\Programs and Features** select the **Moog Valve and Pump Configuration Software** and click **Uninstall**.
- Follow the instructions.



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5.4.2 MoVaPuCo Download

You accept the license conditions when you download the MoVaPuCo from this page as a zip file:

https://www.moogsoftwaredownload.com/valves-pumps/valves-pumps-software.html

Configuration Software

	Description	File Name	File Size
DOWNLOAD	Latest Moog Valve and Pump Configurator (MoVaPuCo) version 4.4	MoVaPuCo_4.4.zip	35 MB
DOWNLOAD	Installation package for MoVaPuCo help videos for installations without internet access	MoVaPuCo_Videos.zip	355 MB

The standard installation e.g. MoVaPuCo_4.4.zip contains among other things the installation package. After the installation, the help videos for MoVaPuCo can be viewed via the Internet.

For target PCs without or with poor internet access, please download the MoVaPuCo_Videos.zip and install the installation package to have the help videos always available offline.

5.4.3 MoVaPuCo installation

Preconditions:

- Chapter 5.4.2 MoVaPuCo Download
- Administrator rights on the PC

Execute installation

Unzip the installation software and place it in a directory that is not called temp, tmp or download or in subdirectories thereof since on some systems, the rights of programs started in such folders are restricted.

Start the installation package (e.g. MoVaPuCo-4.4.7654.0-Release-x64.msi) and follow the dialogs.

Note:

If you want to use MoVaPuCo with a USB-to-CAN adapter, then you first need to install the VCI driver. See chapter 5.1.3 Install VCI driver.

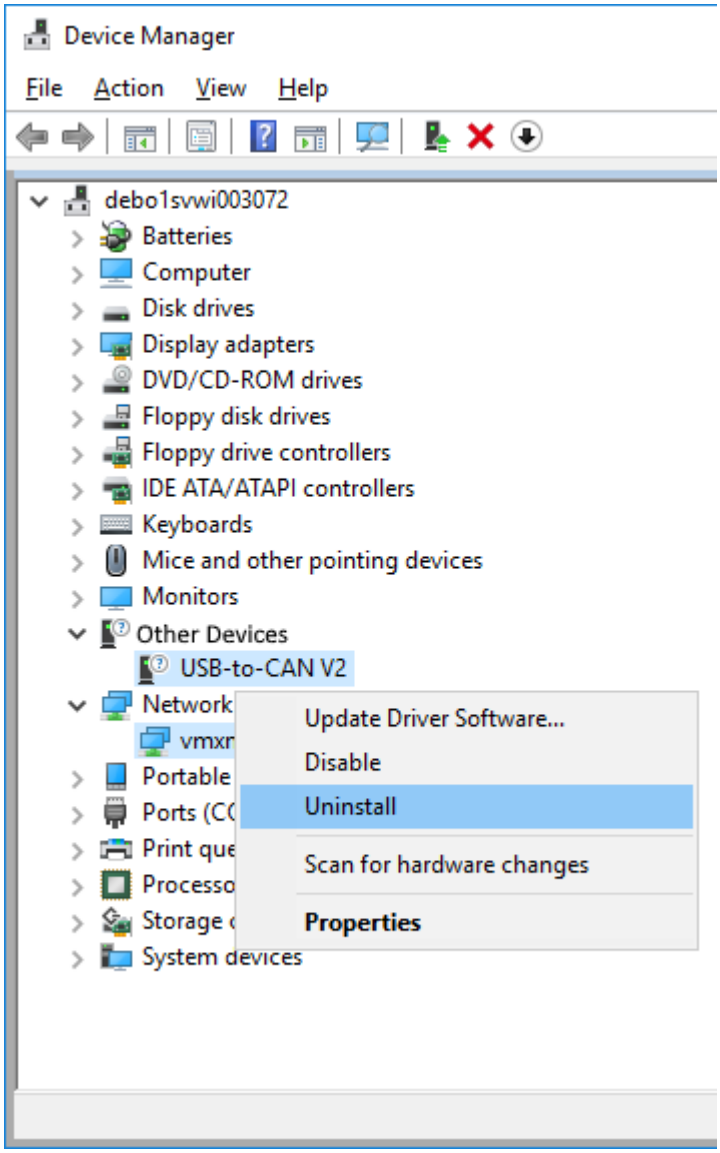
If MoVaPuCo is operated exclusively via EtherCAT, the warning about the missing VCI driver can be ignored.

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5.5 Device Recognition in the Device Manager

Sometimes it can happen that the USB-to-CAN Adapter will not be found by the MoVaPuCo. This may be the case when the USB-to-CAN adapter has not been recognized correct by the Device Manager. This can happen if the USB-to-CAN adapter was connected any time before the VCI driver installation. To fix this we recommend the following procedure:

- Open the Device Manager (Start->Control Panel, then Device Manager or in the file explorer via right click on "This PC"->Administrative Tools, then Device Manager).
- Search for devices not found correctly, e.g. under "Other devices" or under "Network adapters". (The icon contains a question mark)
- Uninstall device via right click



- The Device Manager should now find the USB-to-CAN adapter during its update of the "Hardware search" and assign the installed driver correctly.
  (Possibly only then the driver installation is complete and the adapter is visible in MoVaPuCo and canAnalyser3 Mini).

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Application Instruction B99464-DV0**-A-010
Rev. M, Document Id. CDL67075-en