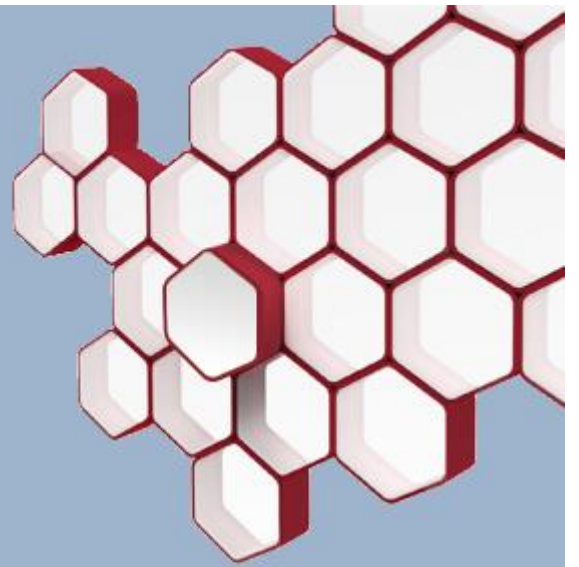


APPLICATION INSTRUCTION



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

Rev. G, September. 2024

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

Copyright

© 2024 Moog GmbH
Hanns-Klemm-Straße 28
71034 Böblingen
Deutschland

Phone: +49 7031 622-0
Telefax: +49 7031 622-191
E-Mail: sales.germany@moog.com
Internet: <http://www.moog.com/Industrial>

All rights reserved

No part of this document may be reproduced in any form (print, photocopies, microfilm, or by any other means) or edited, duplicated, or distributed with electronic systems without our prior written consent.
Offenders will be held liable for the payment of damages.

Subject to change without notice

We reserve the right to make changes to this document at any time and without specified reasons.

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

Table of Contents

Document version.....	2
Revision record.....	2
1 Overview.....	4
2 Different hardware of the USB-to-CAN adapter	5
2.1 USB-to-CAN compact.....	5
2.2 USB-to-CAN V2 compact	5
3 VCI Driver	6
3.1 VCI 3.5.....	6
3.2 VCI 4.0.....	6
4 Troubleshooting	7
4.1 Driver is not recognized by MoVaPuCo	7
4.2 USB-to-CAN adapter is not recognized.....	7
4.3 Blue Screen with VCI 4.0 driver.....	7
5 Suggested solutions	8
5.1 New installation VCI driver	8
5.1.1 Uninstall VCI driver	8
5.1.2 Driver Download	8
5.1.3 Install VCI driver	8
5.2 Connecting the USB-to-CAN adapter to a USB port.....	9
5.3 Firmware Update of the USB-to-CAN Adapter	9
5.4 New installation MoVaPuCo	9
5.4.1 MoVaPuCo Deinstallation.....	9
5.4.2 MoVaPuCo Download	10
5.4.3 MoVaPuCo installation	10
5.5 Device Recognition in the Device Manager	11

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, problems 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 problems are discussed and solutions are suggested.

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

VCI driver version	Windows 7 / 8.1	Windows 10
3.5.2.4268	recommended	is working
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		recommended ^{(1) (2) (3)}

⁽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 USB-to-CAN compact adapters can be destroyed.

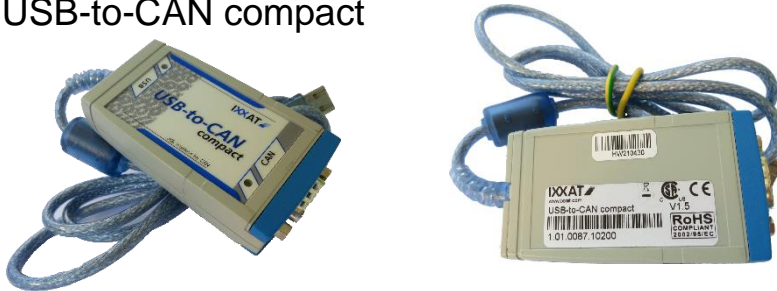
Please check if a newer version of this document is available on our download page.

<https://www.moogsoftwaredownload.com/valves-pumps.html>

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

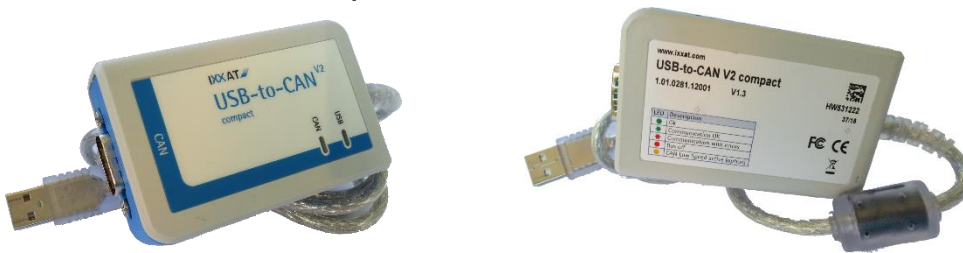


An old USB-to-CAN compact adapter existed that worked with USB 1.1, but it has been discontinued by IXXAT (now HMS) since 2014.

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 works with USB 2.0 and is therefore significantly faster than its predecessor.

It works well together with different versions of the VCI driver 3.5. Unfortunately, firmware versions of the adapter earlier than 1_07_00 have problems with the VCI 4.0 driver. There are occasional Windows crashes with blue screen. A firmware update with instructions is offered on the manufacturer's website.

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

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

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.html>

3.1 VCI 3.5

The latest driver 3.5, released as 3.5.4.4543, does not work together with MoVaPuCo. Furthermore, it must not be used with Windows 10 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 to use 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).

3.2 VCI 4.0

We recommend to use VCI 4.0.

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

<https://www.moogsoftwaredownload.com/valves-pumps.html>

4 Troubleshooting

4.1 Driver is not recognized by MoVaPuCo

If the VCI driver is not found during starting MoVaPuCo:



This is not a 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 connected? The driver is only recognized if an adapter 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 have been installed correctly and must be removed and reinstalled:

- Chapter 5.1 New installation VCI driver

Problems 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:

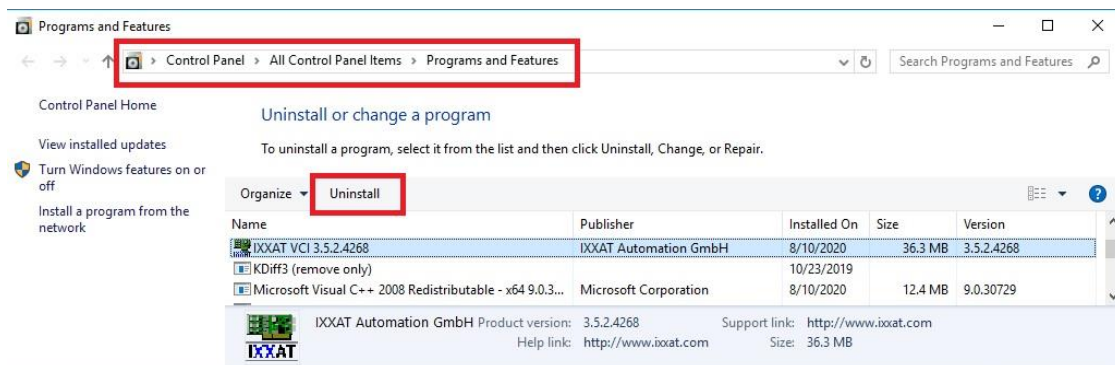
- Chapter 5.3 Firmware Update of the USB-to-CAN Adapter

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.html>

Drivers for BUS Interfaces

	Description	File Name	Size
Download	VCI driver version 4.0. The USB-to-CAN V2 requires firmware 1.07.00 or higher. (Check download area at www.ixxat.com)	vci-v4.0.1003.0-windows-11-10.zip	85 MB
Download	VCI driver V3.5.2.4268 is very well tested with MoVaPuCo on Windows 10	VCI_V3.5.2.4268.zip	26.7 MB

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 4.0.1003.0.exe' and follow the instructions.

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>

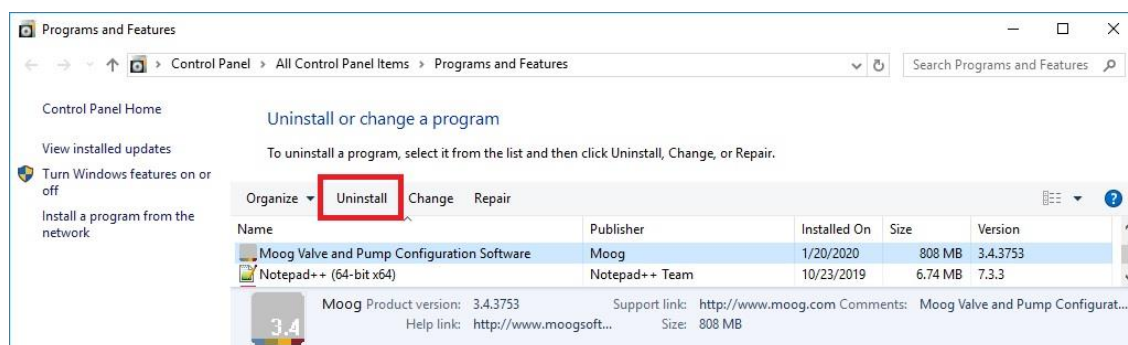
Manuals and guides				
Other files				
File	Product / versions	Filetype	Size	
Firmware Update - How-to	3.0	PDF	176.8 KB	Download
Step 3D file for USB-to-CAN V2 with housing		STP	3.0 MB	Download
Firmware update - Release Notes	1.08.04	TXT	1.2 KB	Download
Step 3D file for USB-to-CAN V2 embedded		STEP	6.1 MB	Download
 USB-to-CAN V2 - Firmware update	1.08.04	HFU	139.1 KB	Download

The instructions only refer to the VCI 4.0 driver, but also work with the VCI 3.5 driver. In this case, use the C:\Program Files\IXXAT\VCI 3.5\VCI3loadGUI.exe instead of the C:\Program Files\HMS\Ixxat VCI 4.0\VCI4loadGUI.exe program.

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 press Uninstall.
- Follow the instructions.



5.4.2 MoVaPuCo Download



After the license conditions have been accepted, MoVaPuCo can be loaded in two different versions from this page as a zip file:

<https://www.moogsoftwaredownload.com/valves-pumps.html>

Important! You must agree to the [Moog Software License \(Softwarelizenzvertrag\)](#) before downloading our software packages.

I have read and agree to the Moog Software License

Configuration Software

	Description	File Name	Size
	Latest Moog Valve and Pump Configuration Software (MoVaPuCo) version 4.0.	MoVaPuCo_4.0.zip	30 MB
	Installation package for MoVaPuCo help videos for installations without internet access	MoVaPuCo_Videos.zip	355 MB

The standard installation e.g. MoVaPuCo_4.0.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-4.0.5688.0-Release-x86.msi) and follow the dialogs.

Note:

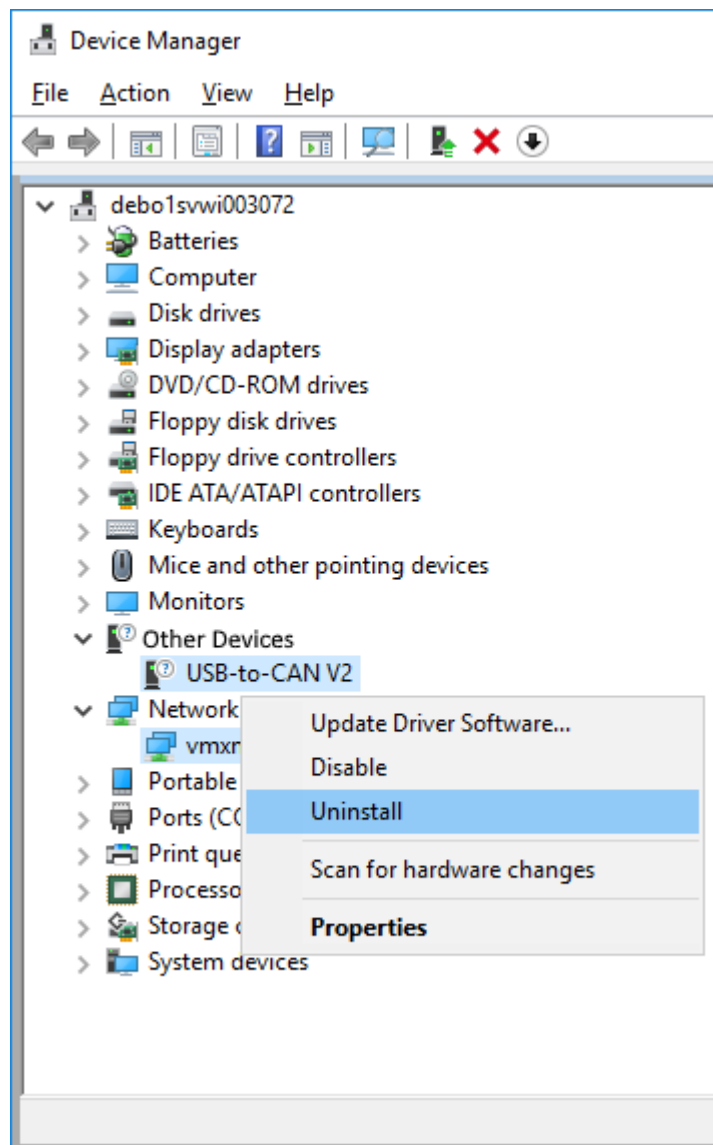
If MoVaPuCo is to work via a USB-to-CAN adapter, the VCI driver must first be installed. See chapter 5.1.3 Install VCI driver.

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

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 correctly 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).

MORE PRODUCTS. MORE SUPPORT.

Moog designs a range of motion control products to complement those featured in this document. Moog also provides service and support for all of our products. For more information, contact the Moog facility closest to you.

Australia
+61 3 9561 6044
Service + 61 3 8545 2140
info.australia@moog.com
service.australia@moog.com

Brazil
+55 11 3572 0400
info.brazil@moog.com
service.brazil@moog.com

Canada
+1 716 652 2000
info.canada@moog.com

China
+86 21 2893 1600
Service +86 21 2893 1626
info.china@moog.com
service.china@moog.com

France
+33 1 4560 7000
Service +33 1 4560 7015
info.france@moog.com
service.france@moog.com

Germany
+49 7031 622 0
Service +49 7031 622 197
info.germany@moog.com
service.germany@moog.com

Hong Kong
+852 2 635 3200
info.hongkong@moog.com

India
+91 80 4057 6666
Service +91 80 4057 6604
info.india@moog.com
service.india@moog.com

Ireland
+353 21 451 9000
info.ireland@moog.com

Italy
+39 0332 421 111
Service 800 815 692
info.italy@moog.com
service.italy@moog.com

Japan
+81 46 355 3767
info.japan@moog.com
service.japan@moog.com

Korea
+82 31 764 6711
info.korea@moog.com
service.korea@moog.com

Luxembourg
+352 40 46 401
info.luxembourg@moog.com

The Netherlands
+31 252 462 000
info.thenetherlands@moog.com
service.netherlands@moog.com

Singapore
+65 677 36238
Service +65 651 37889
info.singapore@moog.com
service.singapore@moog.com

South Africa
+27 12 653 6768
info.southafrica@moog.com

Spain
+34 902 133 240
info.spain@moog.com

Sweden
+46 31 680 060
info.sweden@moog.com

Turkey
+90 216 663 6020
info.turkey@moog.com

United Kingdom
+44 (0) 1684 858000
Service +44 (0) 1684 278369
info.uk@moog.com
service.uk@moog.com

USA
+1 716 652 2000
info.usa@moog.com
service.usa@moog.com

For product information, visit **www.moog.com/industrial**
For service information, visit **www.moogglobalsupport.com**

Moog is a registered trademark of Moog Inc. and its subsidiaries.
All trademarks as indicated herein are the property of Moog Inc. and its subsidiaries.

© 2024 Moog GmbH. All rights reserved. All changes are reserved.

Application Instruction TNB99464-DV0**-A-010
Rev. G, September 2024 Document Id. CDL67075-en