Operating Instruction Manual

cifX Device Driver

Installation and Operation for Windows XP/Vista/7/8/10

V1.8

Hilscher Gesellschaft für Systemautomation mbH

www.hilscher.com

DOC060601OI11EN | Revision 11 | English | 2019-01 | Released | Public

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1 Introduction

1.1 About this Manual

This manual contains a description of the installation of the cifX Device Driver for PC cards cifX for Windows® XP/Vista/7/8/10. You can configure the cifX Device Driver via the cifX Driver Setup Utility user interface.

1.1.1 List of Revisions

Index	Date	Version	Chapter	Revisions
9	2013-09-16	1.2.x.x	3.1	Slide corrections added. Section *System* Requirements added.
10	2017-04-12	1.3		Windows 10 added
11	2019-01-23	1.5		Driver version cifX Device Driver - V1.5

Table 1: List of Revisions

1.1.2 Notes on Driver Versions

Note:

- The cifX Device Driver up to version **0.94x** identifies devices via its device and serial number. For the device exchange service respectively a manual intervention is required.
- The cifX Device Driver versions **0.950** and higher identify devices alternatively via its Slot Number if this is supported by the hardware.

This manual describes the following version:

Driver		Version
cifX Device Driver	`cifX Device Driver Setup.exe`	1.5

Table 2: Reference to Driver

Note: Refer to the information in the user manual of your device, which minimum version of the cifX Device Driver is required for your device.

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1.1.3 Conventions in this Manual

Notes, operation instructions and results of operation steps are marked as follows:

Notes

Important: <important note you must follow to avoid malfunction>

Note: <general note>

<note, where to find further information>

Operation Instructions

1. <instruction>
2. <instruction>

or

➢ <instruction>

Results

<result>

1.1.4 Used Terminology

Note: In this manual

- the **„Rotary Switch Slot Number (Card ID)“** is named as **„Rotary Switch“** and
- the **„Slot Number (Card ID)“** as **„Slot Number“**.

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2 Quick Start

Installation Sequence

First, install the cifX Device Driver and afterwards your device hardware.

Note: Uninstall a previous Version of the Driver

If you have already installed a previous version of the cifX Device Driver than first uninstall this.

You can uninstall the cifX Device Driver via **Start > Settings > Control Panel > Add or Remove Programs > cifX Device Driver Vx.x.x.x** and click **Remove**.

1. Install the Driver

Important: Install the cifX Device Driver only by help of the cifX Device Driver Setup.

Note: You need administrator privileges for the cifX Device Driver installation!

The cifX Device Driver Setup installation automatically detects your Windows operating system and installs the corresponding driver. Follow the installation instruction on the screen. A detailed description can be found in this manual in chapter *Installation*.

2. Install the Hardware

3. Check the Installation

After you have completed the installation of the cifX Device Driver and the device hardware, you can use the Windows Device Manager to check the correct installation and if the hardware is detected by the driver.

Note: The device hardware still has to be configured.

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3 Installation

3.1 System Requirements

In order to download the product DVD, you need an Internet access.

The system requirements listed below are valid for the **cifX Device Driver**:

- PC with 586-, Pentium® processor or higher
- Windows® XP, Windows® Vista (32-Bit) SP2, Windows® 7 (32- and 64-Bit) SP1, Windows® 8 (32- and 64-Bit), Windows® 10 (32- and 64-Bit)
- Administrator privilege is required for installation and to configure the driver
- Free disk space: min. 100 MByte
- USB (optional)
- PC card cifX or NXPCA-PCI and NXHX development board

3.2 Where the Driver Setup is to be found?

You can find the installation program *cifX Device Driver Setup.exe* on your product CD or DVD, which you can download from the website http://www.hilscher.com (under products, directly on the product information). Or you can download the installation program directly from the Hilscher website.

Medium	Name/Address	Directory / Menu Item
CD / DVD as ZIP file	NXDRV-WIN CD	*\Installation*
	Communication Solutions DVD	*\Driver and Toolkit\Device Driver (NXDRV-WIN)\Installation*
Web	www.hilscher.com	Support > Download

Table 3: Where the Driver Setup is to be found?

3.3 General Notes

Note: For Windows® XP/Vista/7/8/10 the cifX Device Driver setup detects if the 32 bit driver or the 64 bit driver are to be installed.

- For 32 bit systems the name **cifX Device Driver (x86)** is displayed

  and

- for 64 bit systems the name **cifX Device Driver (x64)** is displayed.

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3.4 Windows XP

Requirement

The following steps describe the installation of the cifX Device Driver for Windows® XP via the cifX Device Driver Setup if the device hardware is not installed yet.

Installation Steps

1. Close all application programs on the system and download the NXDRV-WIN CD or the Communication Solutions DVD as a ZIP-file to the local hard disk of your PC and unpack it.

➧ The driver setup *cifX Device Driver Setup.exe* can be found in the directory ... *Installation* or on the Communication Solutions DVD in the directory … *Driver and Toolkit\Device Driver (NXDRV-WIN)\Installation*.

2. Start the driver setup by double-clicking on the *cifX Device Driver Setup.exe* or via the Autostart menu of the Communication Solutions DVD.

➧ The language of the graphical user interface of the cifX Device Driver setup is selected automatically for *German*, *French* and *English* and for all the other languages the graphical user interface is in *English*.

➧ The **License Agreement** pane is displayed.

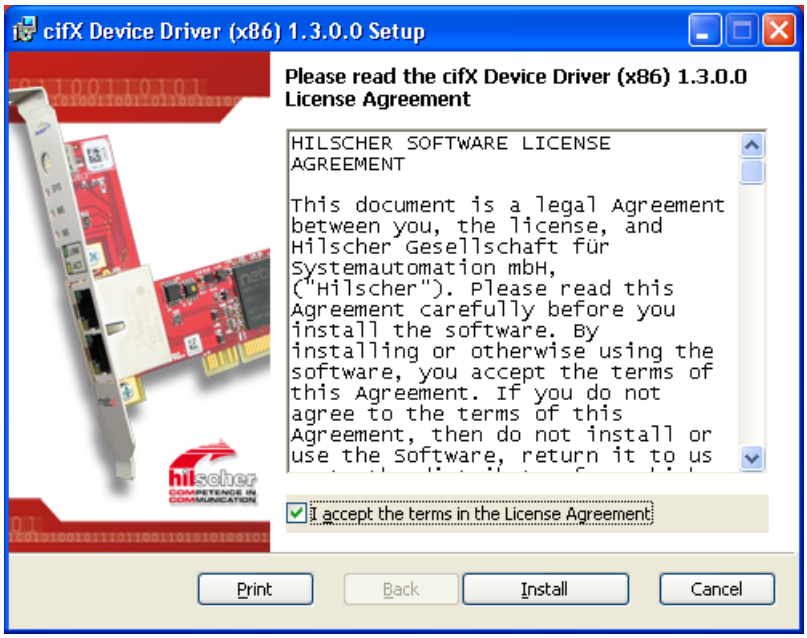

Figure 1: cifX Device Driver-Setup - License Agreement

3. Check **I accept the terms in the License Agreement**.

➢ Click **Install**.

➧ The cifX Device Driver installation is started.

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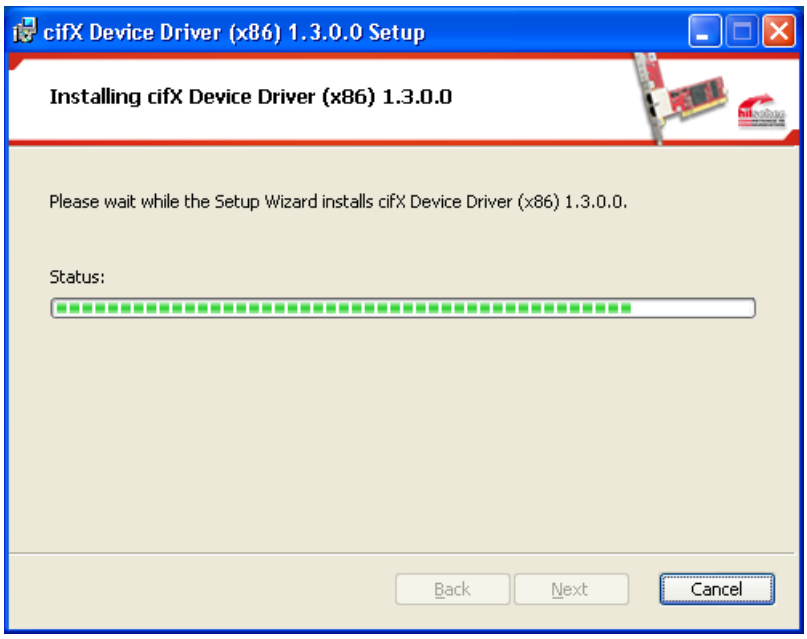

Figure 2: cifX Device Driver Installation is running

➮ The **Completed the cifX Device Driver Setup Wizard** pane is displayed.

Figure 3: cifX Device Driver Installation is completed

➢ Click **Finish**.

4. Shut down your PC and install your device hardware.

Perform the installation of the device hardware according to the specifications in the user manual of your device.

Important: Obey all safety and warning instructions for the hardware installation in the user manual!

5. Restart the PC.

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Note: When the installation of the cifX Device Driver and of the device hardware is complete, you need to restart your PC, to activate the current configuration of the device driver.

Note for Windows XP: After executing the cifX Device Driver setup the installation files of cifX Device Driver are backuped in the driver directory. If you have installed your devices hardware and restarted the PC, Windows will detect the new hardware and asks you via the **Found New Hardware Wizard** to perform final installation steps. To complete the installation of the cifX Device Driver, for Windows XP, you must run the wizard manually, as described hereafter. Using the wizard, then the physical installation of your device is performed, during which various driver installation files will be copied from the driver directory into the Windows directory.

How to run the Wizard for Windows XP manually:

After you have executed the cifX Device Driver setup and installed the device hardware or restarted the PC, for Windows XP the **Found New Hardware Wizard** appears:

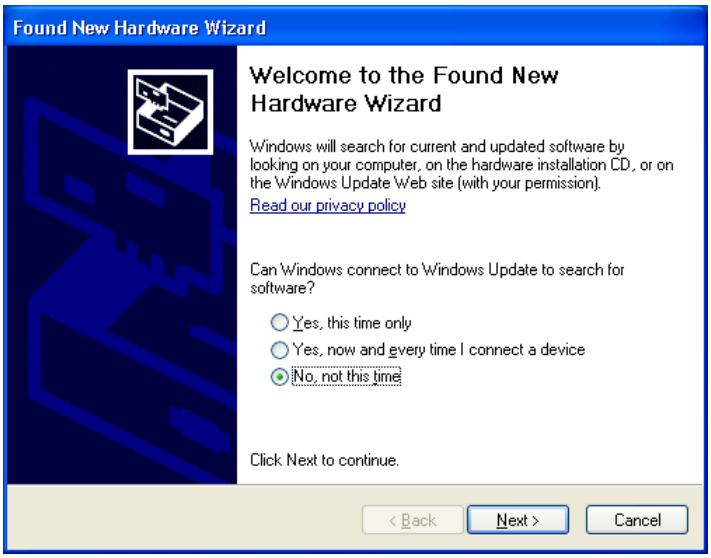

Figure 4: Found New Hardware Wizard: Select 'No, not this time'

- Select **No, not this time**.
- Click **Next**.

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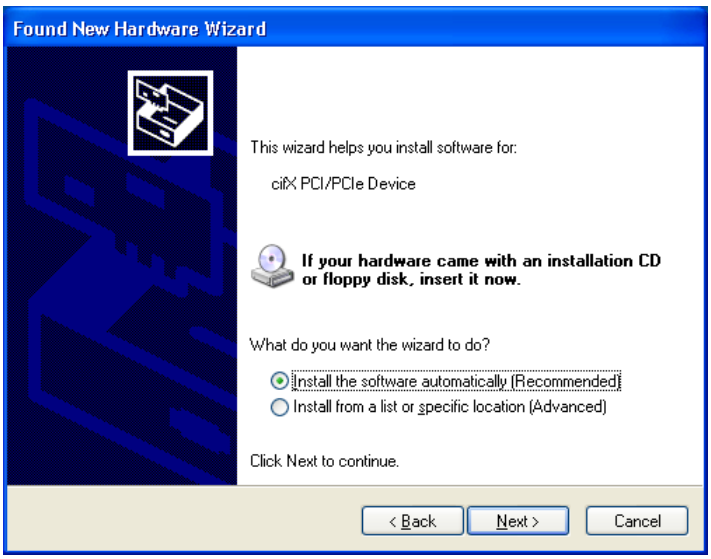

Figure 5: Found New Hardware Wizard: Select 'Install the software automatically'

➢ Select **Install the software automatically [Recommended]**.

➢ Then click **Next**.

➢ Windows copies the driver installation files to the Windows directory.

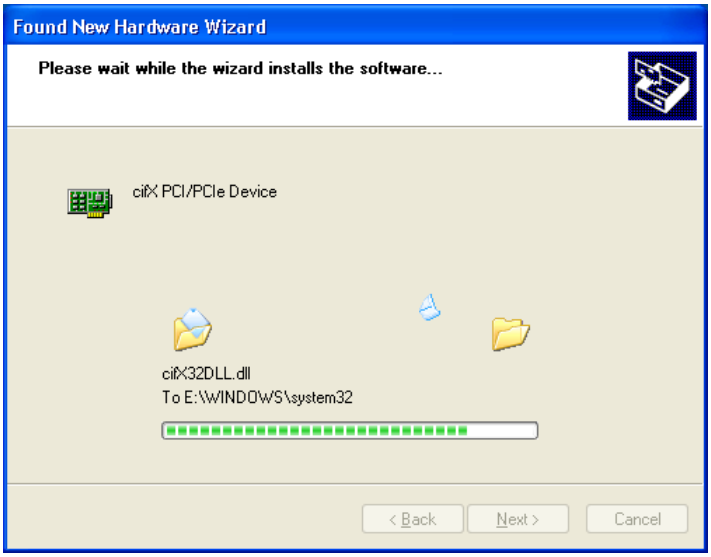

Figure 6: Found New Hardware Wizard: Software is installed

➢ Then the **Finish** pane appears:

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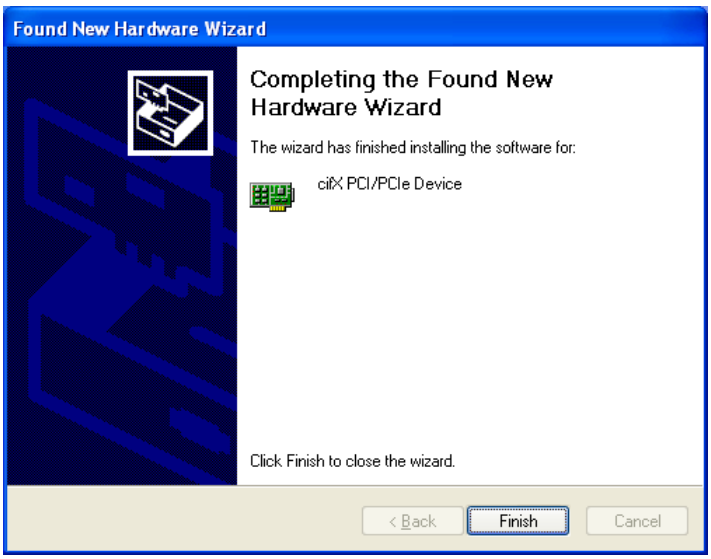

Figure 7: Found New Hardware Wizard: Click 'Finish'

➢ Click **Finish**.

➮ The Installation of the cifX Device Driver is complete and the cifX Device Driver is ready for operation.

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3.5 Windows VISTA / Windows 7

Requirement

The following steps describe the installation of the cifX Device Driver for Windows® VISTA and Windows® 7 via the cifX Device Driver Setup if the device hardware is not yet installed.

Installation Steps

1. Close all application programs on the system and download the NXDRV-WIN CD or the Communication Solutions DVD as a ZIP-file to the local hard disk of your PC and unpack it.

➧ The driver setup *cifX Device Driver Setup.exe* can be found in the directory ... *Installation* or on the Communication Solutions DVD in the directory … *Driver and Toolkit\Device Driver (NXDRV-WIN)\Installation*.

2. Start the driver setup by double-clicking on the *cifX Device Driver Setup.exe* or alternatively by right-clicking and **Run as administrator**, or via the Autostart menu of the Communication Solutions DVD.

Note: Reduce the number of Windows® security requests by running the driver setup as administrator. You also need administrator rights to uninstall the software.

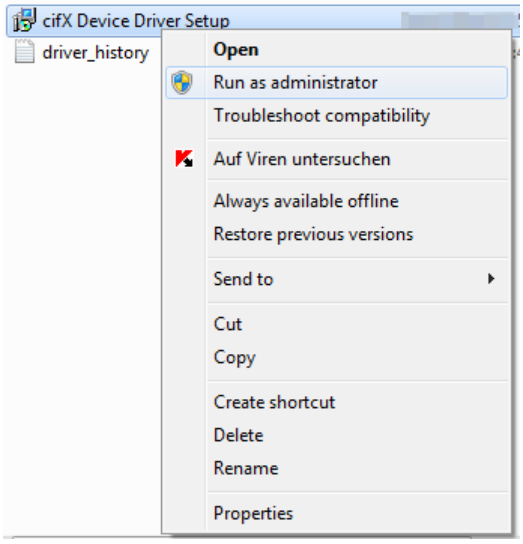

Figure 8: Running cifX Device Driver Setup.exe as administrator

➢ When you start the driver setups as an administrator, a Windows® security request appears. Click **Yes**.

➧ The **License Agreement** pane is displayed.

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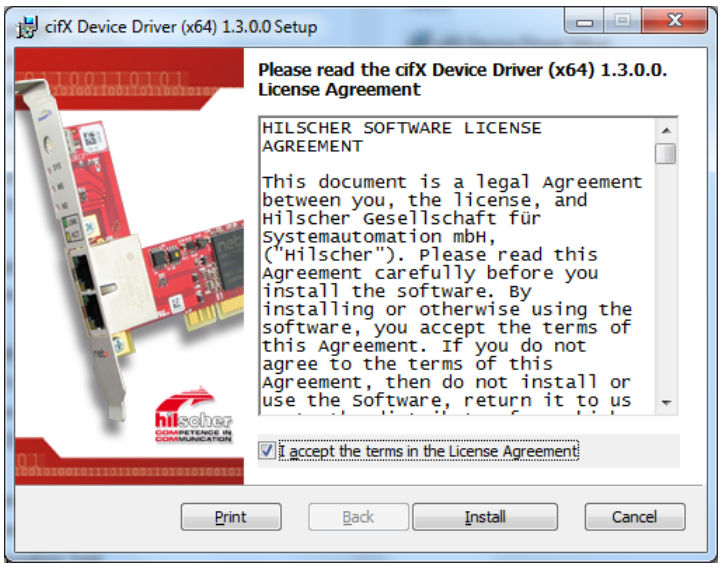

Figure 9: cifX Device Driver Setup - License Agreement

3. Check **I accept the terms in the License Agreement**.

➢ Click **Install**.

➢ If Windows® displays during installation a security request, answer it with **Install**.

➢ The cifX Device Driver installation is started.

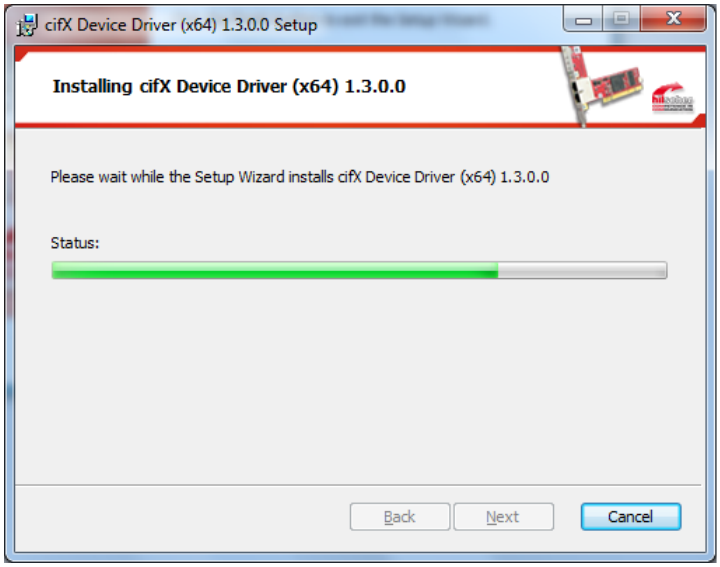

Figure 10: cifX Device Driver Installation is running

➢ The **Completed the cifX Device Driver Setup Wizard** pane is displayed.

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Figure 11: cifX Device Driver Installation is completed

➢ Click **Finish**.

4. Shut down your PC and install your device hardware.

Perform the installation of the device hardware according to the specifications in the user manual of your device.

Important: Obey all safety and warning instructions for the hardware installation in the user manual!

5. Restart the PC.

Note: When the installation of the cifX Device Driver and of the device hardware is complete, you need to restart your PC, to activate the current configuration of the device driver.

After restart, the PC automatically detects your netX based device hardware, and the cifX Device Driver is started.

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3.6 Windows 8

Requirement

The following steps describe the installation of the cifX Device Driver for Windows® 8 via the cifX Device Driver Setup if the device hardware is not yet installed.

Installation Steps

1. Close all application programs on the system and download the NXDRV-WIN CD or the Communication Solutions DVD as a ZIP-file to the local hard disk of your PC and unpack it.

➪ The driver setup *cifX Device Driver Setup.exe* can be found in the directory ... *Installation* or on the Communication Solutions DVD in the directory … *Driver and Toolkit\Device Driver (NXDRV-WIN)\Installation*.

2. Start the driver setup by double-clicking on the *cifX Device Driver Setup.exe* or alternatively by right-clicking and **Run as administrator**, or via the Autostart menu of the Communication Solutions DVD.

Note: Reduce the number of Windows® security requests by running the driver setup as administrator. You also need administrator rights to uninstall the software.

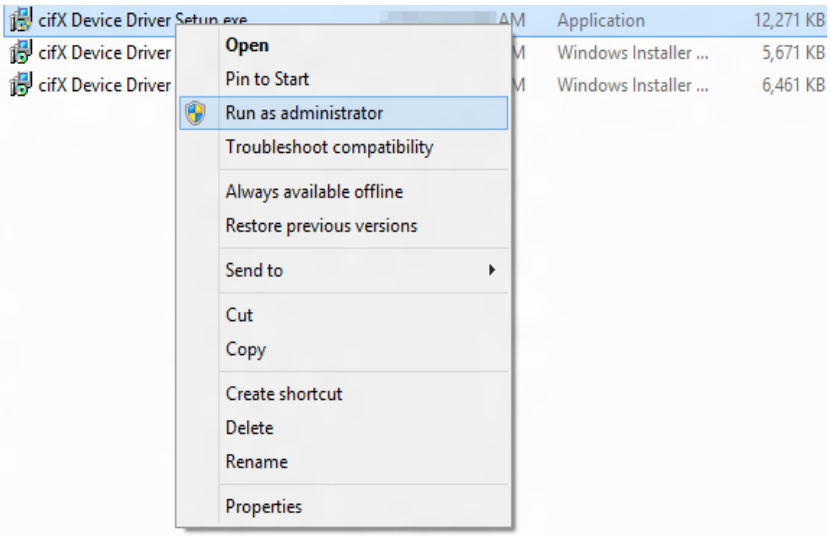

Figure 12: Running cifX Device Driver Setup.exe as administrator

➢ When you start the driver setups as an administrator, a Windows® security request appears. Click **Yes**.

➪ he **License Agreement** pane is displayed.

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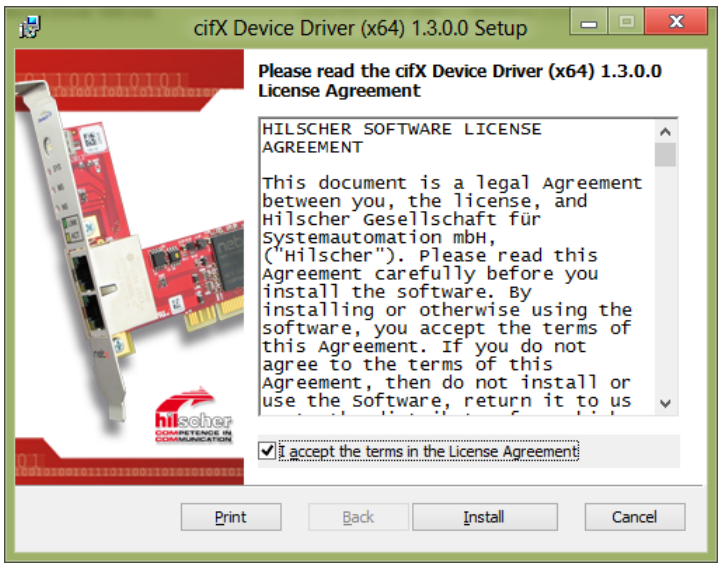

Figure 13: cifX Device Driver Setup - License Agreement

3. Check **I accept the terms in the License Agreement**.

➢ Click **Install**.

➢ If Windows® displays during installation a security request, answer it with **Install**.

➮ The cifX Device Driver installation is started.

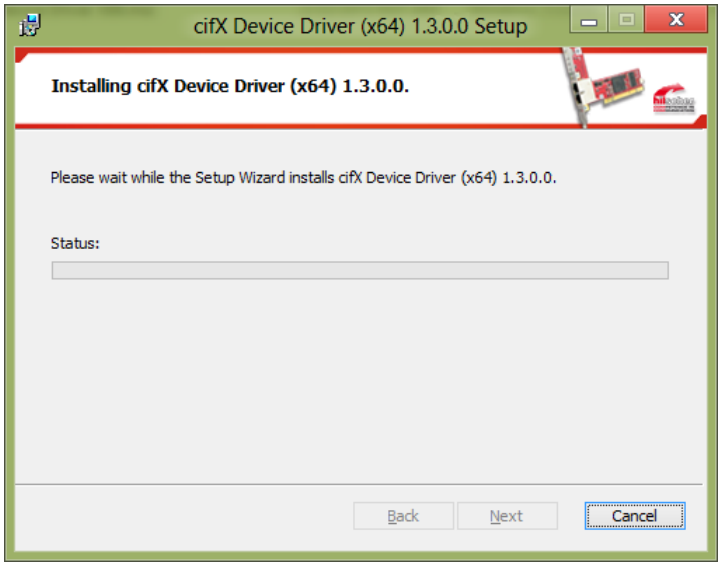

Figure 14: Installing cifX Device Driver is installed

➮ The **Completed the cifX Device Driver Setup Wizard** pane is displayed.

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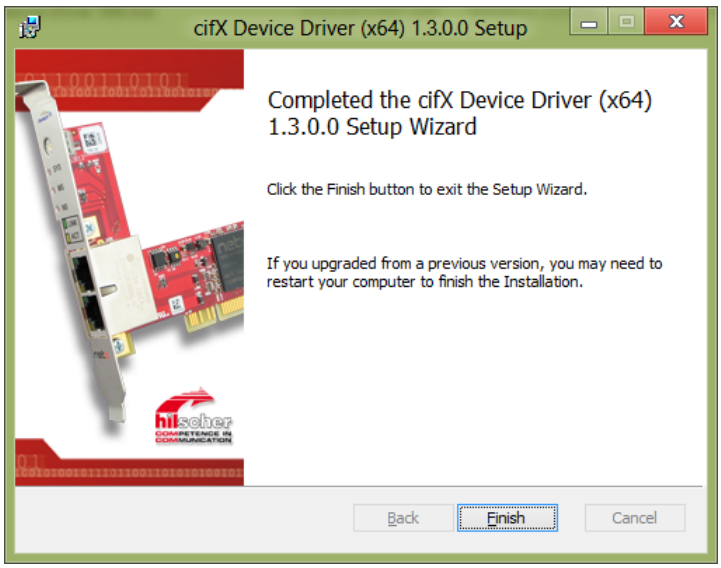

Figure 15: cifX Device Driver Installation is completed

➢ Click **Finish**.

4. Shut down your PC and install your device hardware.

Perform the installation of the device hardware according to the specifications in the user manual of your device.

Important: Obey all safety and warning instructions for the hardware installation in the user manual!

5. Restart the PC

Note: When the installation of the cifX Device Driver and of the device hardware is complete, you need to restart your PC, to activate the current configuration of the device driver.

➢ After restart, the PC automatically detects your netX based device hardware, and the cifX Device Driver is started.

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3.7 Windows 10

Requirement

The following steps describe the installation of the cifX Device Driver for Windows® 10 via the cifX Device Driver Setup if the device hardware is not yet installed.

Installation Steps

1. Close all application programs on the system and download the NXDRV-WIN CD or the Communication Solutions DVD as a ZIP-file to the local hard disk of your PC and unpack it.

➧ The driver setup *cifX Device Driver Setup.exe* can be found in the directory *... \Installation* or on the Communication Solutions DVD in the directory *… \Driver and Toolkit\Device Driver (NXDRV-WIN)\Installation*.

2. Start the driver setup by double-clicking on the *cifX Device Driver Setup.exe* or alternatively by right-clicking and **Run as administrator**, or via the Autostart menu of the Communication Solutions DVD.

Note: Reduce the number of Windows® security requests by running the driver setup as administrator. You also need administrator rights to uninstall the software.

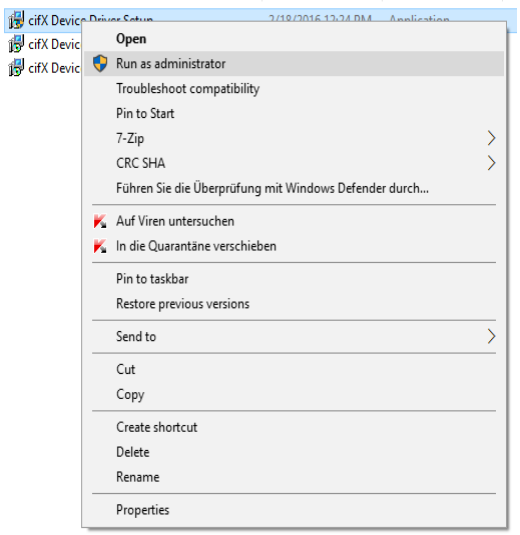

Figure 16: Running cifX Device Driver Setup.exe as administrator

➢ When you start the driver setups as an administrator, a Windows® security request appears. Click **Yes**.

➧ The **License Agreement** pane is displayed.

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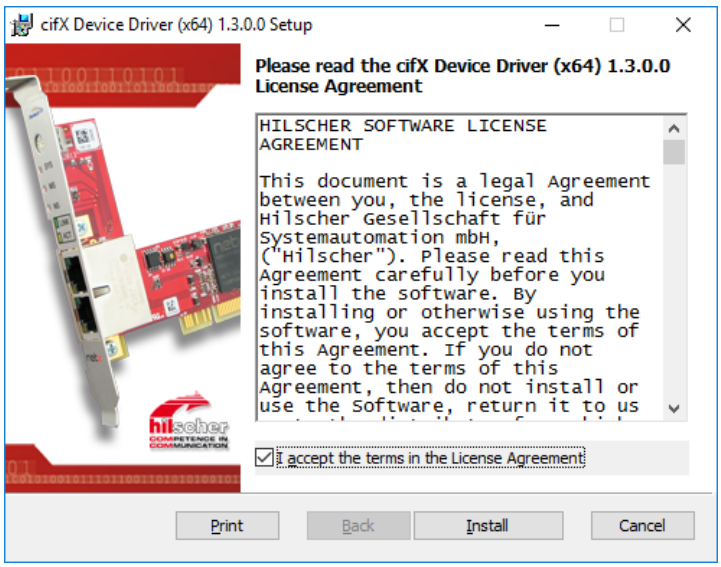

Figure 17: cifX Device Driver Setup - License Agreement

3. Check **I accept the terms in the License Agreement**.

➢ Click **Install**.

➢ If Windows® displays during installation a security request, answer it with **Install**.

➮ The cifX Device Driver installation is started.

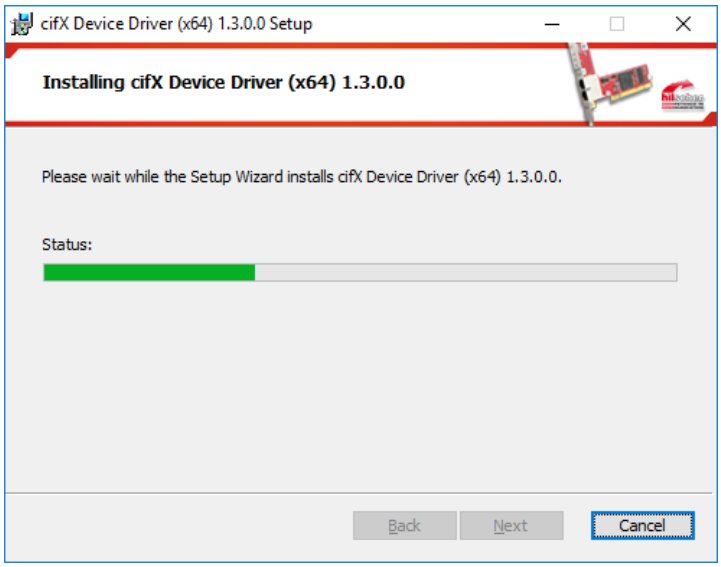

Figure 18: cifX Device Driver Installation is running

➮ The **Completed the cifX Device Driver Setup Wizard** pane is displayed.

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Figure 19: cifX Device Driver Installation is completed

➢ Click **Finish**.

4. Shut down your PC and install your device hardware.

Perform the installation of the device hardware according to the specifications in the user manual of your device.

Important: Obey all safety and warning instructions for the hardware installation in the user manual!

5. Restart the PC.

Note: When the installation of the cifX Device Driver and of the device hardware is complete, you need to restart your PC, to activate the current configuration of the device driver.

After restart, the PC automatically detects your netX based device hardware, and the cifX Device Driver is started.

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3.8 If the Hardware has been installed first

3.8.1 Windows XP

Requirement

The following steps describe the installation of the cifX Device Driver for Windows® XP, when the hardware installation is already complete.

Note: If the hardware gets installed at the PC before the cifX Device Driver installation has been done, the Windows® Found New Hardware Wizard is started and the operating system Windows® asks for the driver.

Preparation

The installation of the device hardware you need to perform according to the specifications given in the user manual for your device.

Important: For the hardware installation, you must observe all safety precautions and warnings in the user manual.

Installation Steps

To install the cifX Device Driver proceed as described hereafter:

1. After the installation of the device hardware restart your PC.

➢ Windows® XP recognizes the PCI based device hardware automatically.

➢ The message **Found New Hardware** is displayed.

Figure 20: Found New Hardware (Example for PC card cifX)

2. Close the **Found New Hardware** message.
3. Now install the cifX Device Driver via the *cifX Device Driver Setup.exe* file.

Note: After you have completed the installation of the device hardware and of the cifX Device Driver, you need to restart your PC.

➢ After the restart the PC automatically detect your netX based device hardware and the cifX Device Driver is started.

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3.8.2 Windows VISTA / Windows7

Requirement

The following steps describe the installation of the cifX Device Driver for Windows® VISTA and Windows® 7, when the hardware installation is already complete.

Note: If the hardware gets installed at the PC before the cifX Device Driver installation has been done, the Windows® Found New Hardware Wizard is started and the operating system Windows® asks for the driver.

Preparation

The installation of the device hardware you need to perform according to the specifications given in the user manual for your device.

Important: For the hardware installation, you must observe all safety precautions and warnings in the user manual.

Installation Steps

To install the cifX Device Driver proceed as described hereafter:

1. After the installation of the device hardware restart your PC.

➢ Windows® VISTA respectively Windows® 7 recognize the PCI based device hardware automatically.

➢ The message **Device driver software was not successfully installed** is displayed.

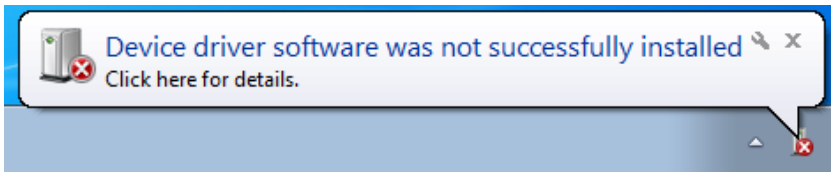

Figure 21: Device Driver Software was not successfully installed

2. Close the **Device driver software was not successfully installed** message.
3. Now install the cifX Device Driver via the *cifX Device Driver Setup.exe* file.

Note: After you have completed the installation of the device hardware and of the cifX Device Driver, you need to restart your PC.

➢ After the restart the PC automatically detect your netX based device hardware and the cifX Device Driver is started.

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3.8.3 Windows 8

Requirement

The following steps describe the installation of the cifX Device Driver for Windows® 8, when the hardware installation is already complete.

Note: If the hardware gets installed at the PC before the cifX Device Driver installation has been done, the Windows® **Found New Hardware Wizard** is started and the operating system Windows® asks for the driver.

Preparation

The installation of the device hardware you need to perform according to the specifications given in the user manual for your device.

Important: For the hardware installation, you must observe all safety precautions and warnings in the user manual.

Installation Steps

To install the cifX Device Driver proceed as described hereafter:

1. After the installation of the device hardware restart your PC.

➪ Windows® 8 recognizes the PCI based device hardware automatically.

2. Now install the cifX Device Driver via the *cifX Device Driver Setup.exe* file.

Note: After you have completed the installation of the device hardware and of the cifX Device Driver, you need to restart your PC.

➪ After the restart the PC automatically detect your netX based device hardware and the cifX Device Driver is started.

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3.8.4 Windows 10

Requirement

The following steps describe the installation of the cifX Device Driver for Windows® 10, when the hardware installation is already complete.

Note: If the hardware gets installed at the PC before the cifX Device Driver installation has been done, the Windows® **Found New Hardware Wizard** is started and the operating system Windows® asks for the driver.

Preparation

The installation of the device hardware you need to perform according to the specifications given in the user manual for your device.

Important: For the hardware installation, you must observe all safety precautions and warnings in the user manual.

Installation Steps

To install the cifX Device Driver proceed as described hereafter:

1. After the installation of the device hardware restart your PC.

➪ Windows® 10 recognizes the PCI based device hardware automatically.

2. Now install the cifX Device Driver via the *cifX Device Driver Setup.exe* file.

Note: After you have completed the installation of the device hardware and of the cifX Device Driver, you need to restart your PC.

➪ After the restart the PC automatically detect your netX based device hardware and the cifX Device Driver is started.

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3.9 Checking the Driver Installation

3.9.1 Windows XP

When the installation of the cifX Device Driver and installation of the device hardware are complete, check in the Device Manager whether your netX based device hardware is installed properly. Do the following steps:

1. Open the Device Manager.

➢ Select **Start** > **Settings** > **Control Panel**.

➢ Double click on the icon **System**.

➧ The **System Properties** pane is displayed.

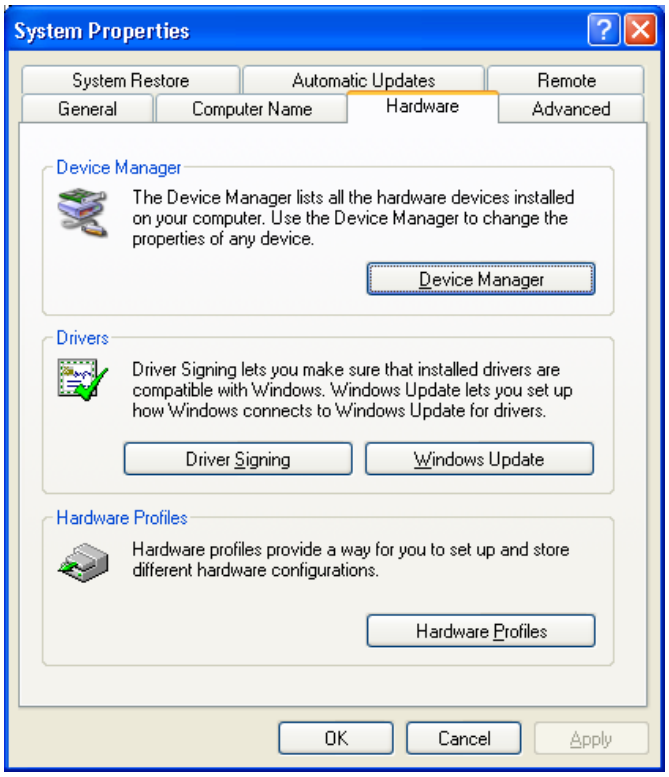

Figure 22: System Properties

➢ Click on **Device Manager**.

➧ The Device Manager starts.

2. Check, whether the Windows® Device Manager display shows the correct name for your device.

Example: This example shows the name **CIFx Communication Interface** > **cifX PCI/PCIe Device** for the PC card cifX

Note: The device hardware still has to be configured.

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3.9.2 Windows VISTA / Windows7

When the installation of the cifX Device Driver and the device hardware are complete, check in the Device Manager, whether your netX based device hardware is installed correctly. Do the following steps:

1. Open Start

➢ Click on **Start** .

2. Search and start the Device Manager

➢ Enter **Device Manager** into the search field.

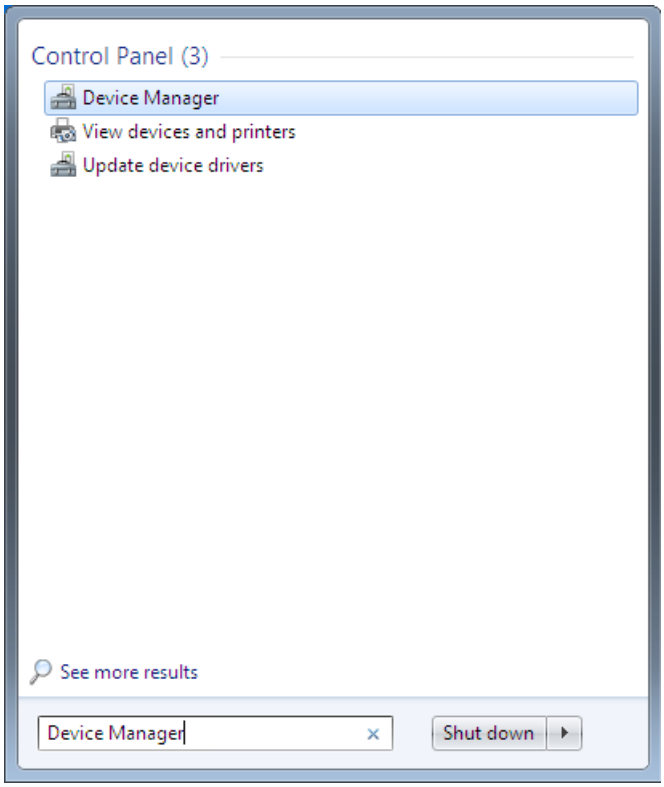


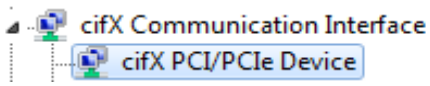
Figure 23: Control Panel

➢ Click on **Device Manager**.

➢ The Device Manager starts.

3. Check, whether the Windows® Device Manager display shows the correct name for your device.

Example: This example shows the name **cifX Communication Interface** > **cifX PCI/PCIe Device** for the PC card cifX



Note: The device hardware still has to be configured.

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3.9.3 Windows 8

When the installation of the cifX Device Driver and the device hardware are complete, check in the Device Manager, whether your netX based device hardware is installed correctly. Do the following steps:

1. Open Windows® 8 Start Screen.

Figure 24: Startbildschirm Windows 8

2. Search and start the Device Manager.

➢ Press the keys **[Win]** and **[F]**.

➢ Select **Settings**.

➢ Enter **Device Manager** into the search field.

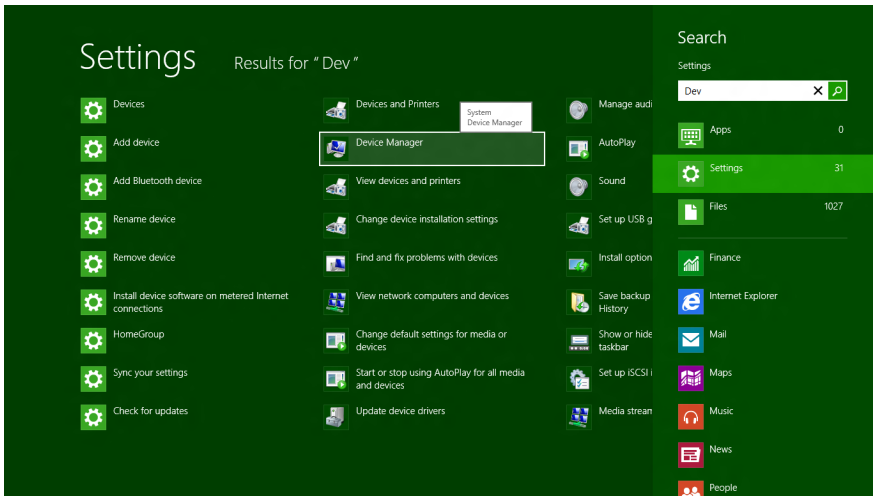


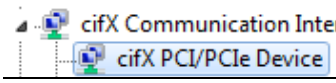
Figure 25: Search and start the Device Manager

➢ Click on **Device Manager**.

➢ The Device Manager starts.

3. Check, whether the Windows® Device Manager display shows the correct name for your device.

Example: This example shows the name **cifX Communication Interface** > **cifX PCI/PCIe Device** for the PC card cifX



Note: The device hardware still has to be configured.

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3.9.4 Windows 10

When the installation of the cifX Device Driver and the device hardware are complete, check in the Device Manager, whether your netX based device hardware is installed correctly. Do the following steps:

1. Open Windows® 10 Start Screen.

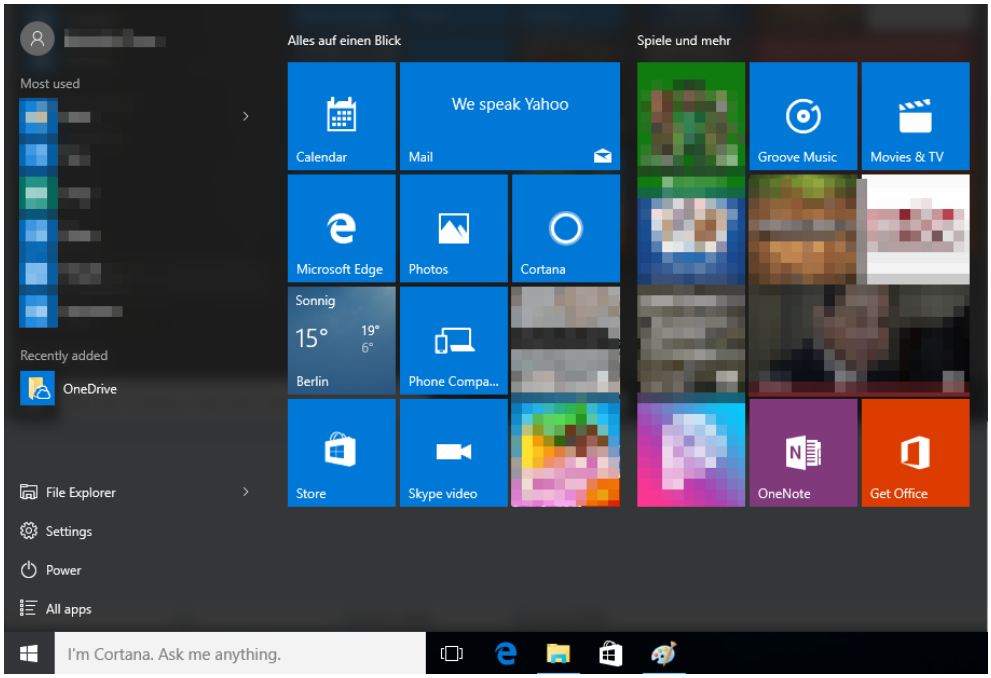

Figure 26: Startbildschirm Windows 10

2. Search and start the Device Manager.

➢ Select **Settings**.

➢ Enter **Device Manager** into the search field.

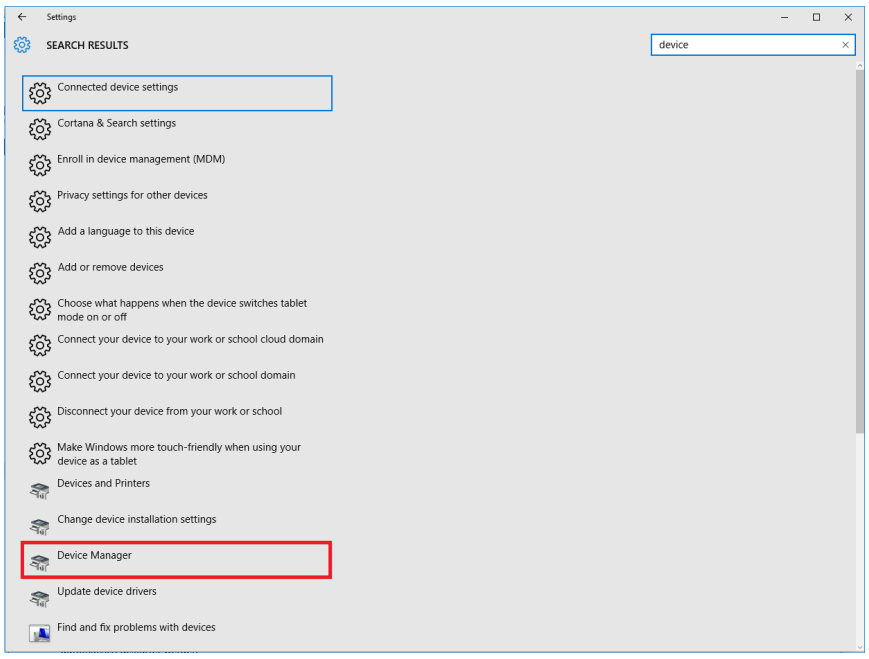

Figure 27: Search and start the Device Manager

➢ Click on **Device Manager**.

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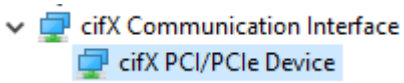
The Device Manager starts.

3. Check, whether the Windows® Device Manager display shows the correct name for your device.

Example: This example shows the name **cifX Communication Interface** > **cifX PCI/PCIe Device** for the PC card cifX



Note: The device hardware still has to be configured.

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4 Uninstallation

4.1 Windows XP

Requirement

Note: You need administrator privileges Windows® XP to uninstall the cifX Device Driver software from your PC.

Steps for Uninstalling

To uninstall the cifX Device Driver proceed as follows:

1. Select **Start > Settings > Control Panel**.

➢ Select the symbol **Add or Remove Program** from the list and double click **Add or Remove Program**.

➢ The **Add or Remove Program** pane is displayed.

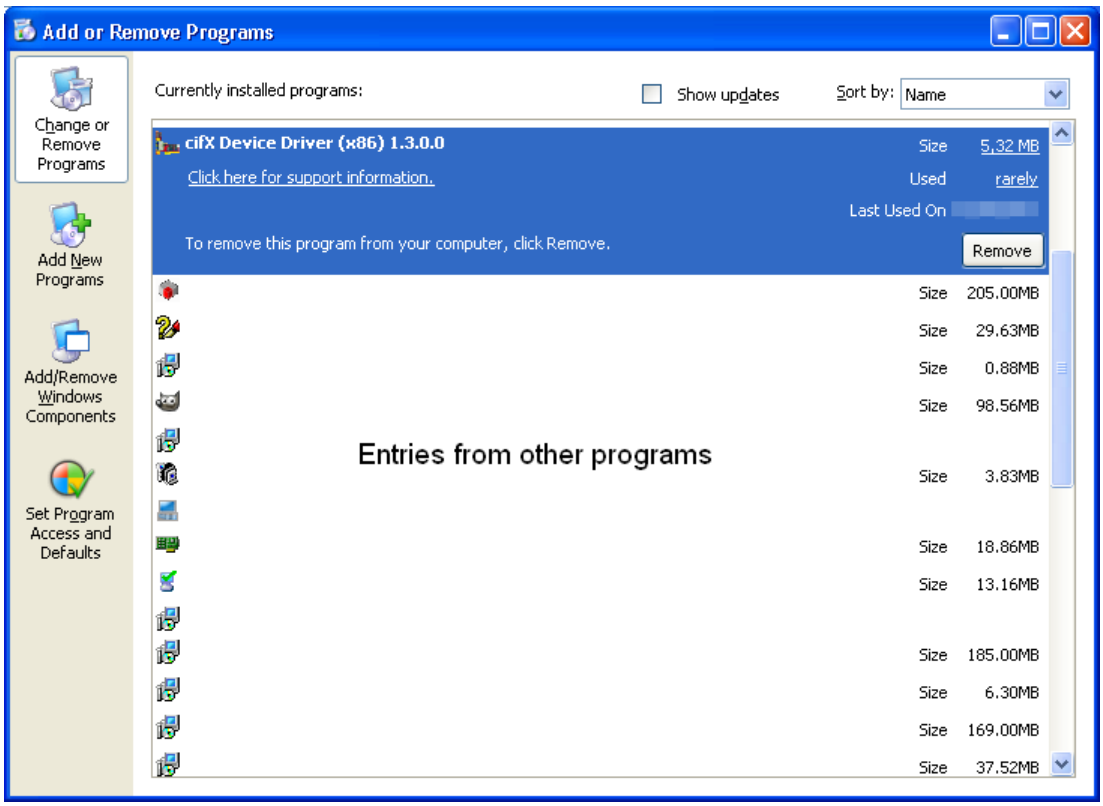

Figure 28: „Software“ Pane

2. Click on the cifX Device Driver entry.

➢ Click on **Remove**.

➢ The security message **Add or Remove Programs** is displayed.

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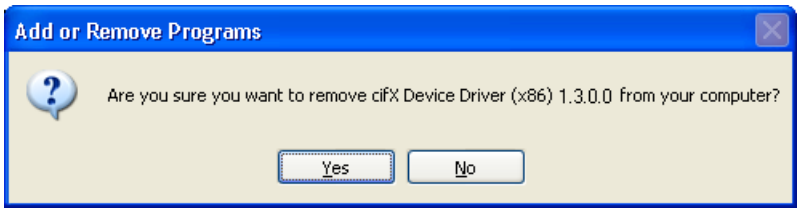

Figure 29:Message „Software“

➢ Click on **Yes**.

➮ The cifX Device Driver is uninstalled from your PC.

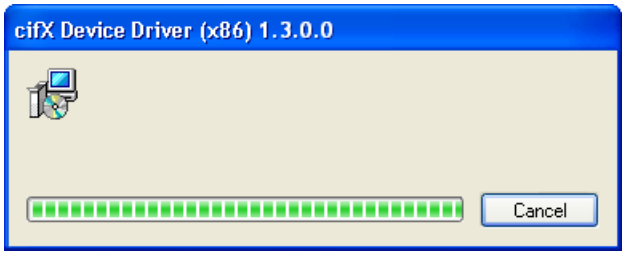

Figure 30: cifX Device Driver is uninstalled

3. Restart your PC.

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4.2 Windows VISTA / Windows 7

Requirements

Note: You need administrator privileges under Windows® VISTA and Windows® 7 to uninstall the cifX Device Driver software from your PC.

Steps for Uninstalling

To uninstall the cifX Device Driver, proceed as follows:

1. Open Start

➢ Click on **Start** .

2. Search and start the Device Manager.

➢ Enter **Device Manager** into the search field.

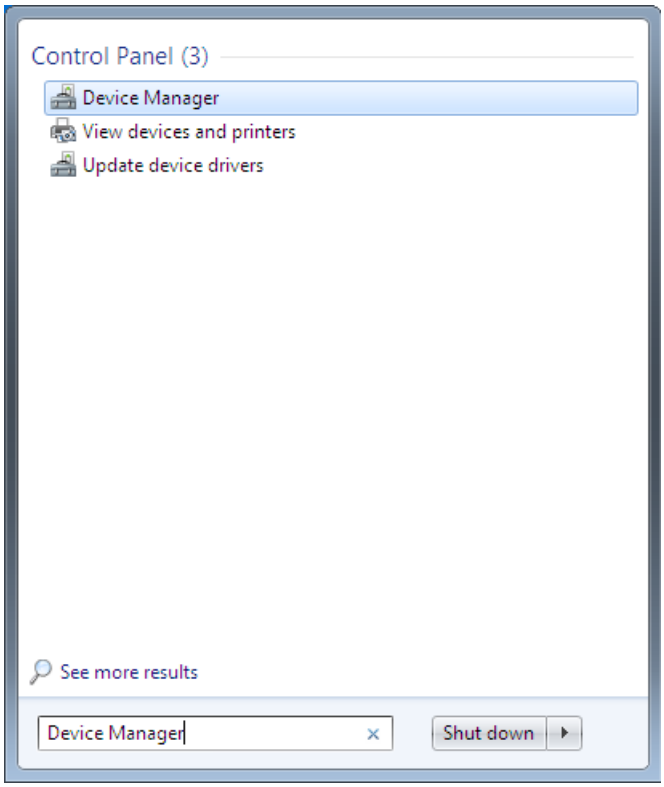

Figure 31: Control Panel

➢ Click on **Device Manager**.

➢ The Device Manager starts.

3. Uninstall the cifX Device Driver.

➢ Right click in the **Device Manager** on the entry of your device.

➢ Click on **Properties**.

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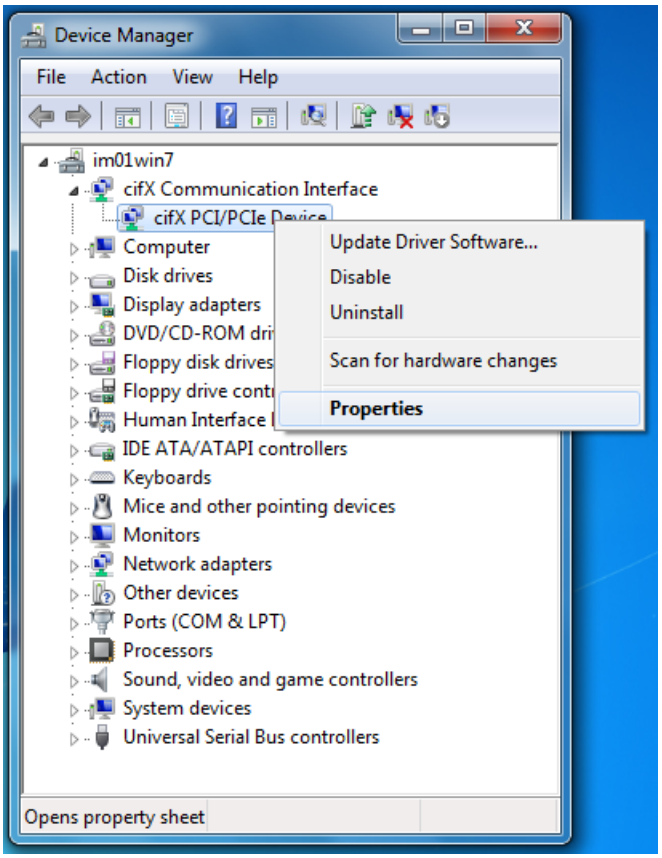

Figure 32: Device Manager (Example for PC card cifX)

➧ **… Device Properties > General** is displayed.

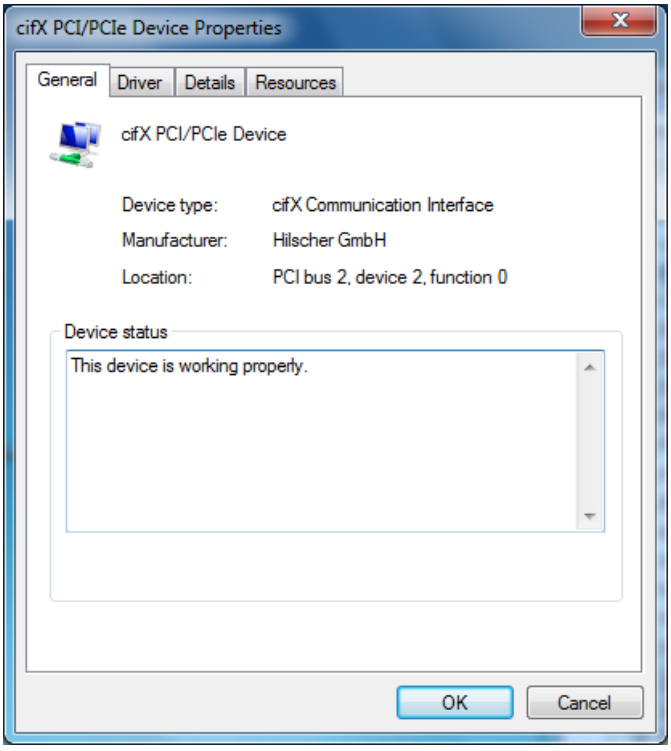

Figure 33: Device Properties > General (Example for PC card cifX)

➢ Select the **Driver** tab.

➧ **… Device Properties > Driver** is displayed.

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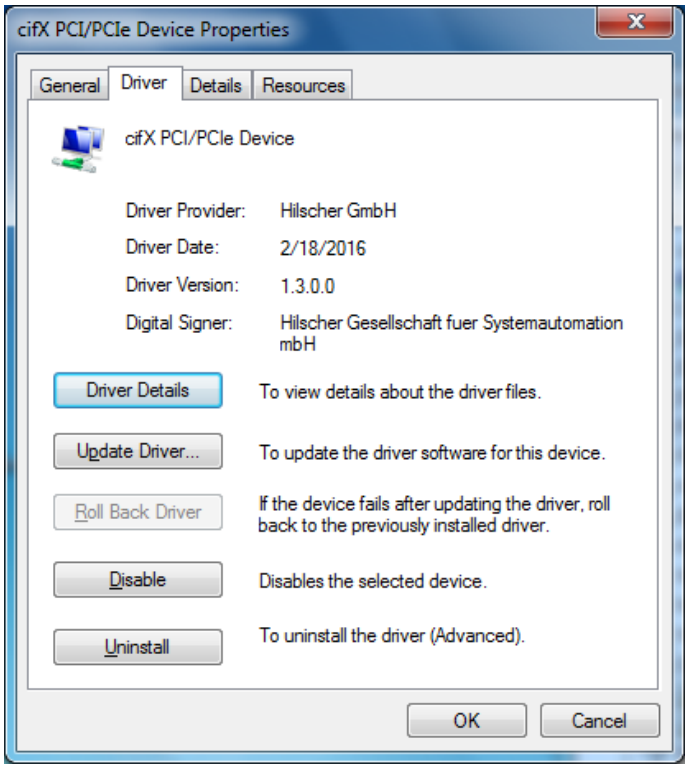

Figure 34: Device Properties > Driver(Example for PC card cifX)

➢ Select **Uninstall**.

➢ **Confirm Device Uninstall** is displayed.

Figure 35: Confirm Device Uninstall (Example for PC card cifX)

➢ Check **Delete the driver software for this device**.

➢ Click **OK**.

➢ The cifX Device Driver for this device gets uninstalled.

4. Repeat step 1 to 3 for other devices if necessary.

Then uninstall the entry for the cifX Device Driver from the list **Uninstall or change programs**.

5. Open **Start**

➢ Click on **Start** .

6. Uninstall program.

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➢ Enter **Uninstall a program** into the search field.

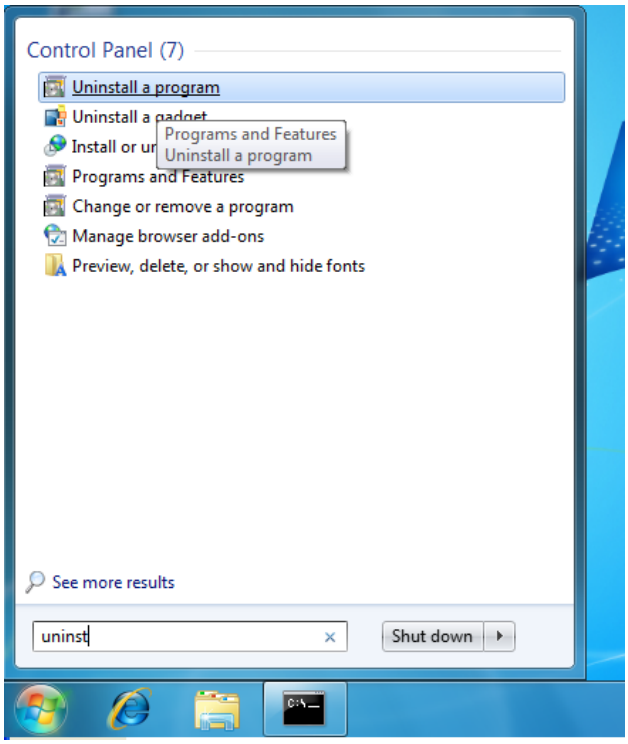

Figure 36: Control Panel > Uninstall a program

➢ Click on **Device Manager**.

➢ **Uninstall or change a program** is displayed.

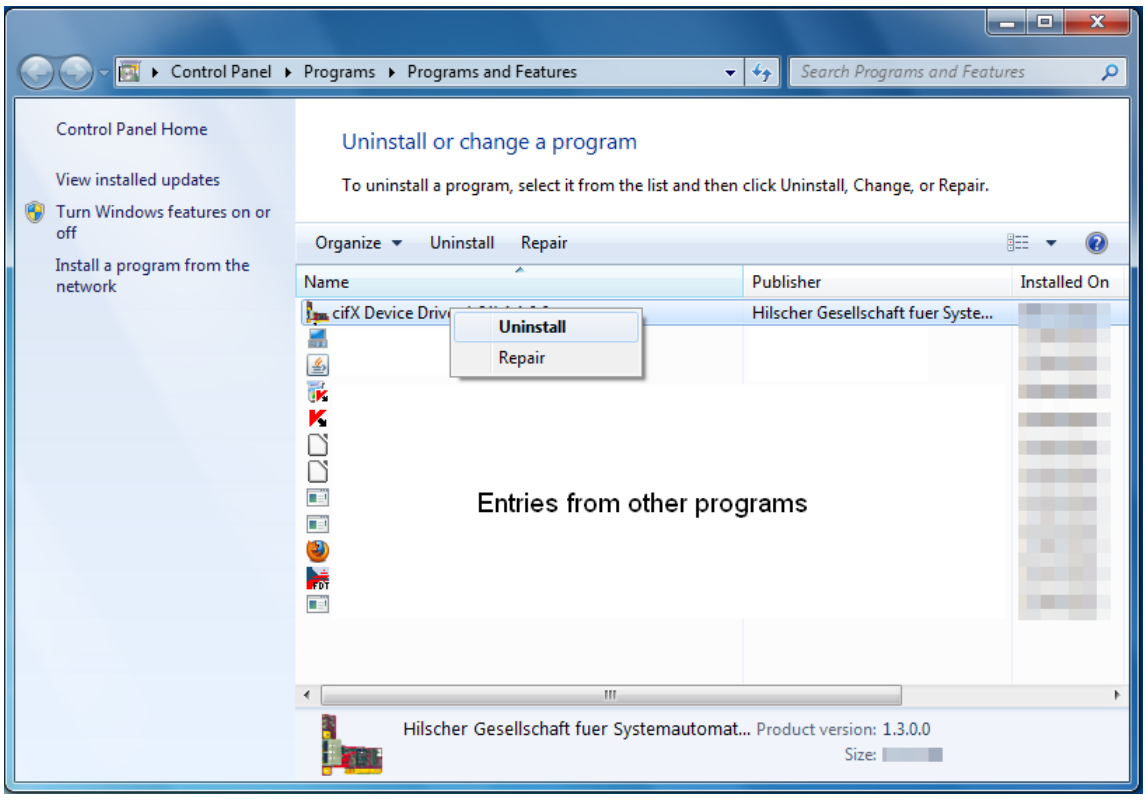

Figure 37: Uninstall or change a program > Uninstall

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7. Uninstalling cifX Device Driver.

➢ Rightclick on the cifX Device Driver entry.

➢ Click on **Uninstall**.

➧ The **Programs and Features** is displayed.

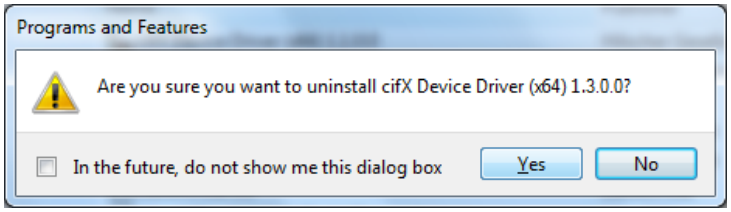

Figure 38: Programs and Features

➢ Click on **Yes**.

➧ The cifX Device Driver is uninstalled from your PC.

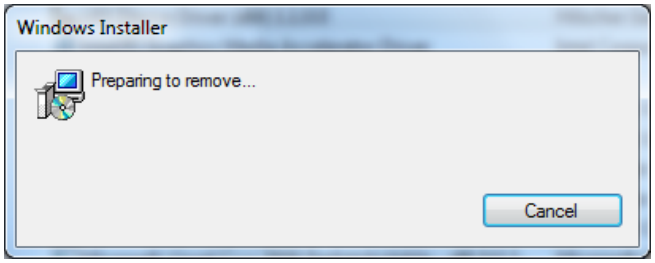

Figure 39: Windows Installer

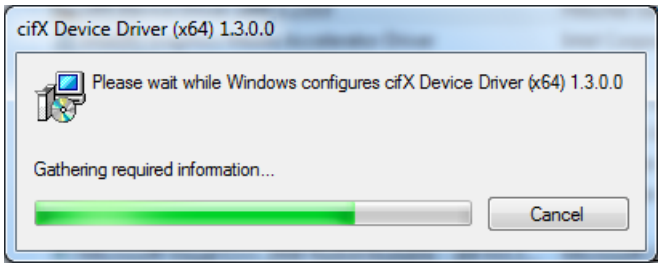

Figure 40: Unistalling cifX Device Driver

➧ The cifX Device Driver pane is closed and the uninstall procedure is completed.

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4.3 Windows 8

Requirements

Note: You need administrator privileges under Windows® 8 to uninstall the cifX Device Driver software from your PC.

Steps for Uninstalling

To uninstall the cifX Device Driver, proceed as follows:

1. Open Windows® 8 Start Screen.

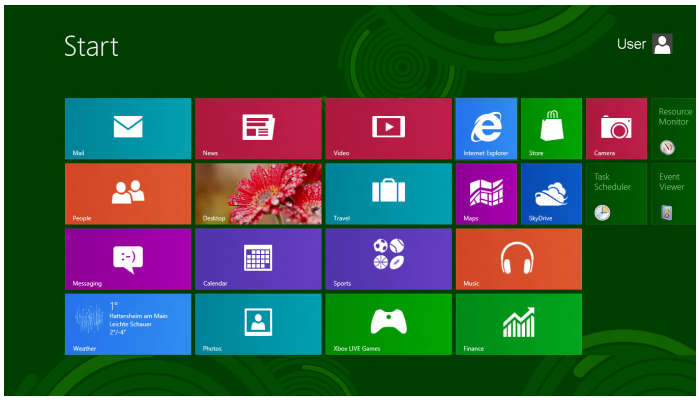

Figure 41: Start Screen Windows 8

2. Search and start the Device Manager.

➢ Press the keys **[Win]** and **[F]**.

➢ Select **Settings**.

➢ Enter **Device Manager** into the search field.

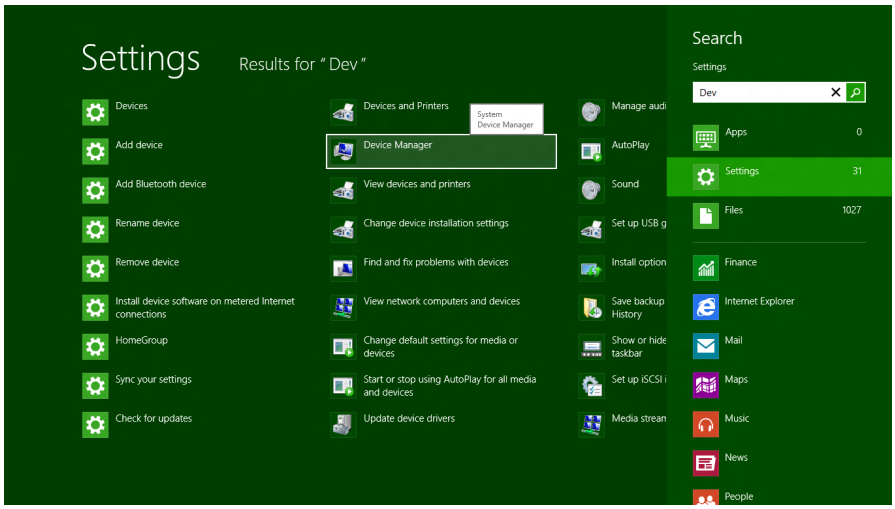

Figure 42: Search and start the Device Manager

➢ Click on **Device Manager**.

➢ The Device Manager starts.

3. Uninstall the cifX Device Driver.

➢ Right click in the Device Manager on the entry of your device.

➢ Click on **Properties**.

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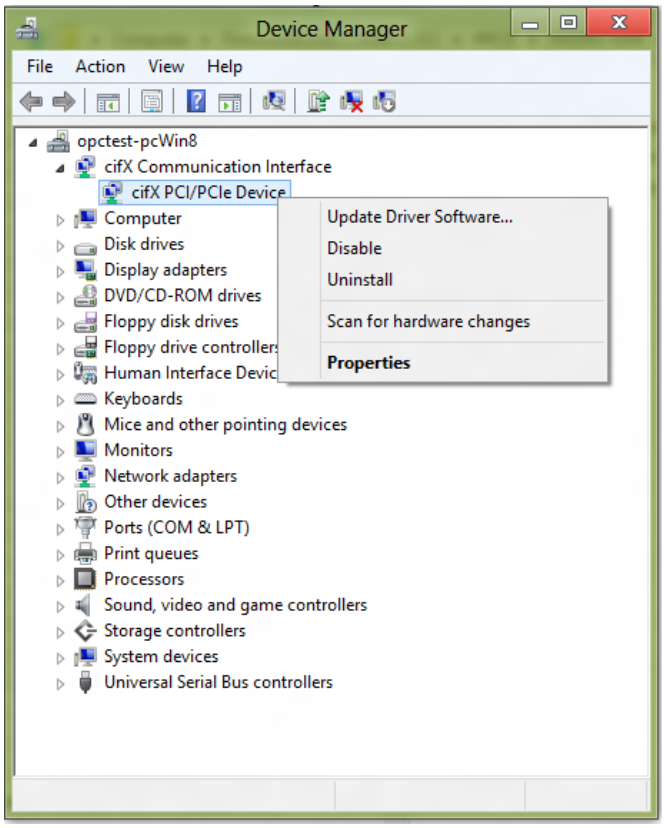

Figure 43: Device Manager (Example for PC card cifX)

➭ **… Device Properties > General** is displayed.

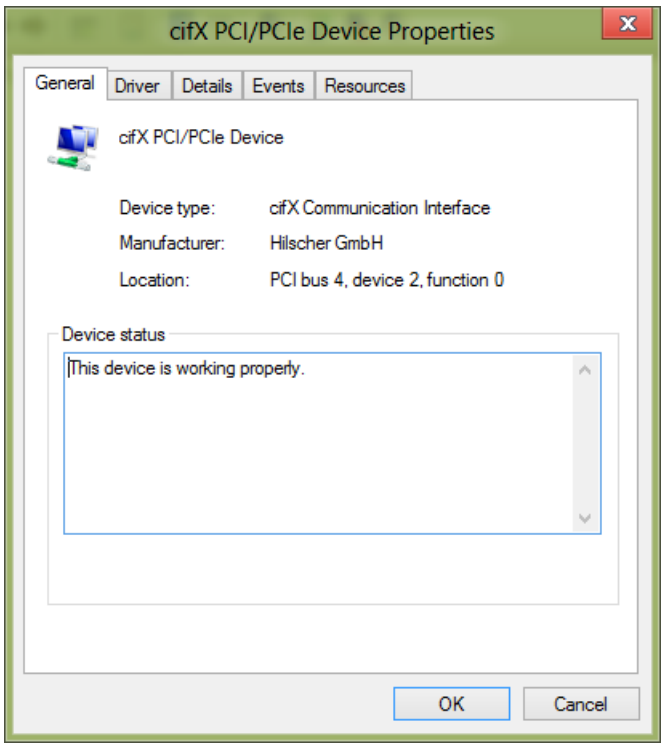

Figure 44: Device Properties > General (Example for PC card cifX)

➢ Select the **Driver** tab.

➭ **… Device Properties > Driver** is displayed.

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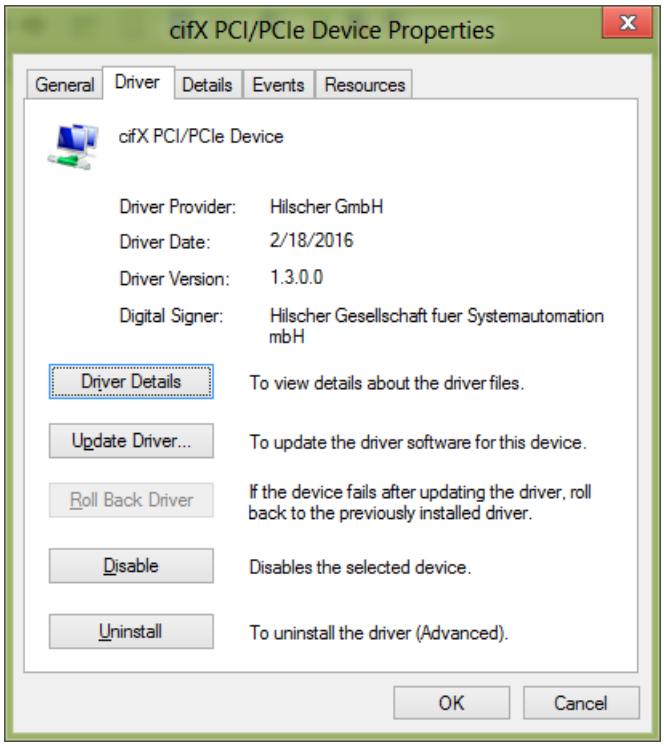

Figure 45: Device Properties > Driver (Example for PC card cifX)

➢ Select **Uninstall**.

➢ **Confirm Device Uninstall** is displayed.

Figure 46: Confirm Device Uninstall (Example for PC card cifX)

➢ Check **Delete the driver software for this device**.

➢ Click **OK**.

➢ The cifX Device Driver for this device gets uninstalled.

4. Repeat step 1 to 3 for other devices if necessary.

Then uninstall the entry for the cifX Device Driver from the list **Uninstall or change programs**.

5. Open Windows® 8 Start Screen.

➢ Press the keys **[Ctrl]** and **[ESC]**.

6. Uninstall program.

➢ Press the keys **[Win]** and **[F]**.

➢ Select **Settings**.

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➢ Enter **Uninstall a program** into the search field.

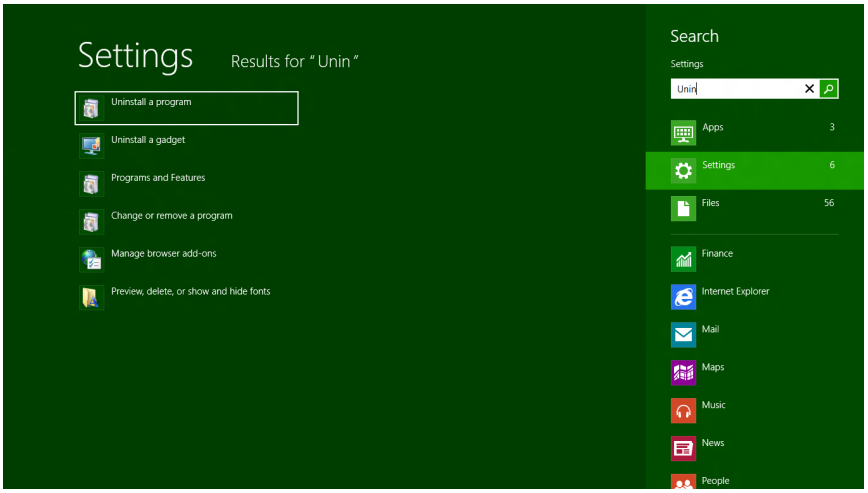

Figure 47: Uninstall a program

➢ Click on **Uninstall a program**.

➢ **Uninstall or change a program** is displayed.

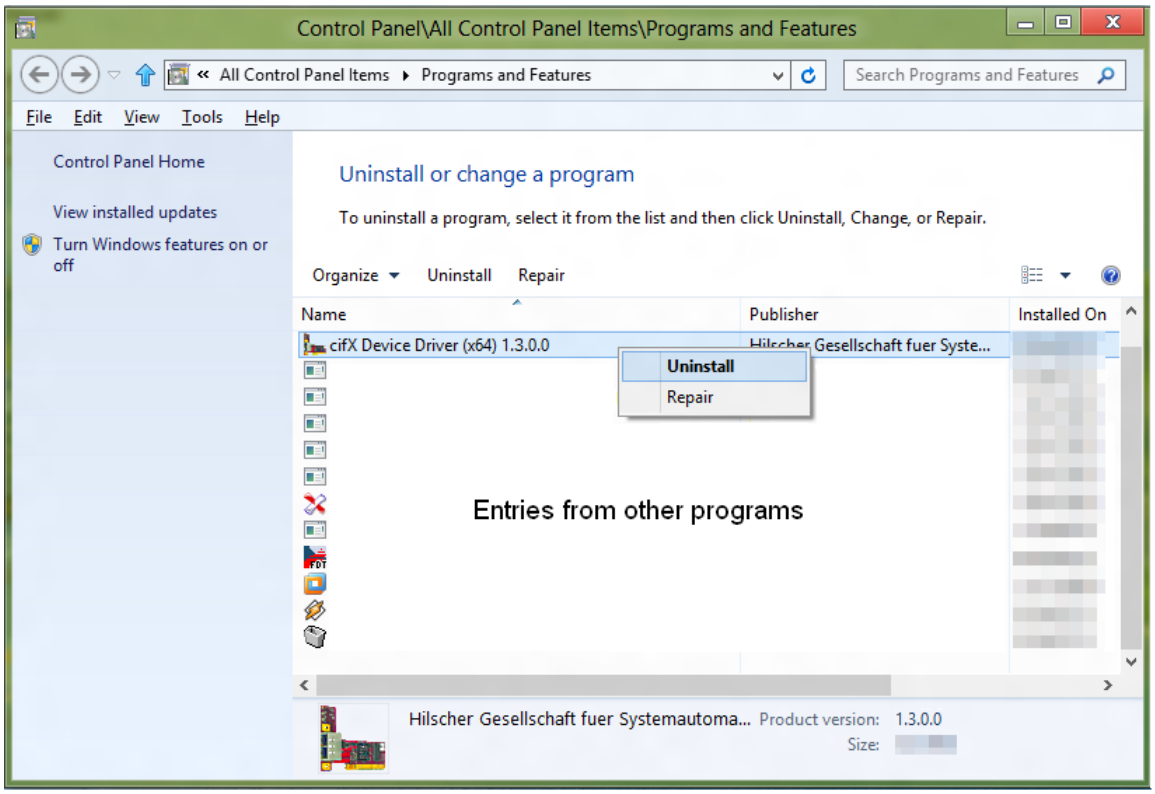

Figure 48: Uninstall or change a program > Uninstall

7. Uninstalling cifX Device Driver.

➢ Rightclick on the cifX Device Driver entry.

➢ Click on **Uninstall**.

➢ The **Programs and Features** is displayed.

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Figure 49: Programs and Features

➢ Click on **Yes**.

➮ The cifX Device Driver is uninstalled from your PC.

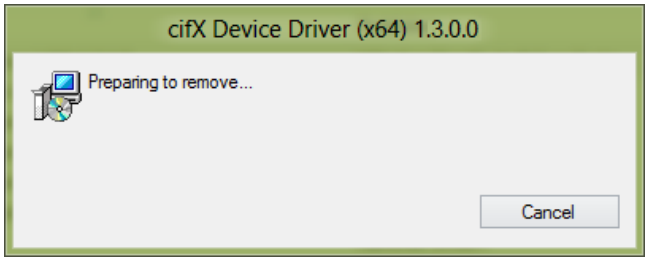

Figure 50: Windows Installer

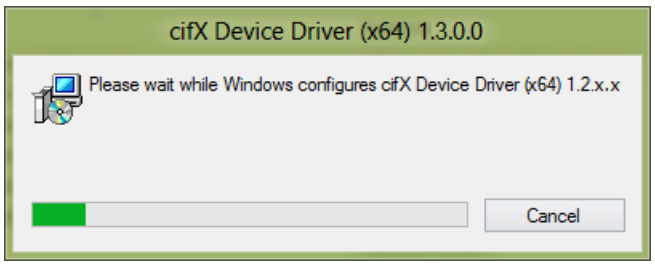

Figure 51: Unistalling cifX Device Driver

➮ The cifX Device Driver pane is closed and the uninstall procedure is completed.

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4.4 Windows 10

Requirements

Note: You need administrator privileges under Windows® 10 to uninstall the cifX Device Driver software from your PC.

Steps for Uninstalling

To uninstall the cifX Device Driver, proceed as follows:

1. Open Windows® 10 Start Screen.

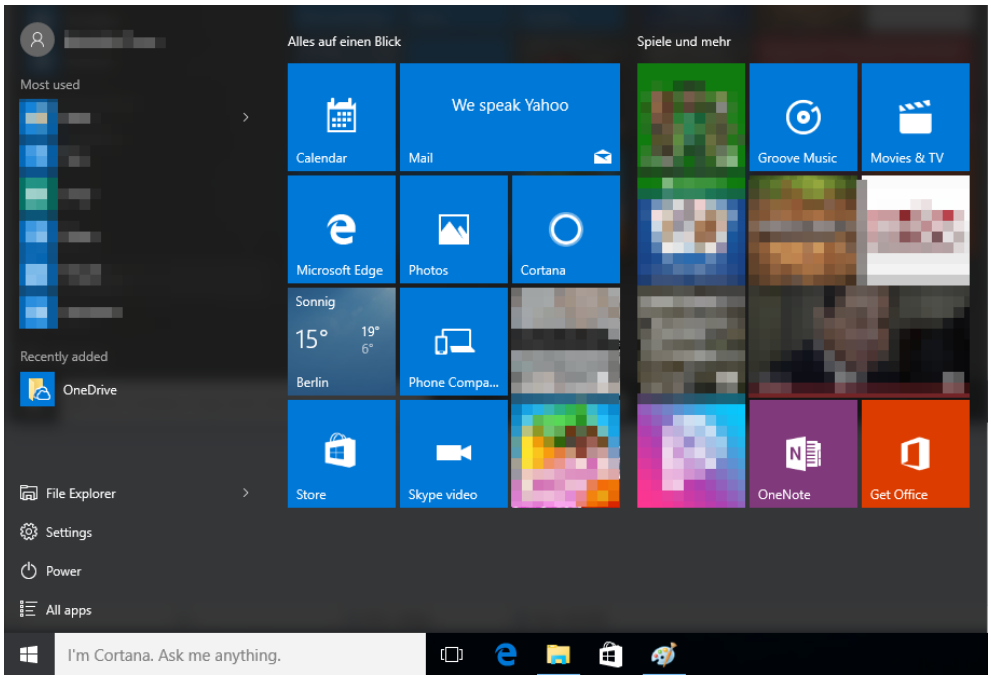

Figure 52: Start Screen Windows 8

2. Search and start the Device Manager.

➢ Select **Settings**.

➢ Enter **Device Manager** into the search field.

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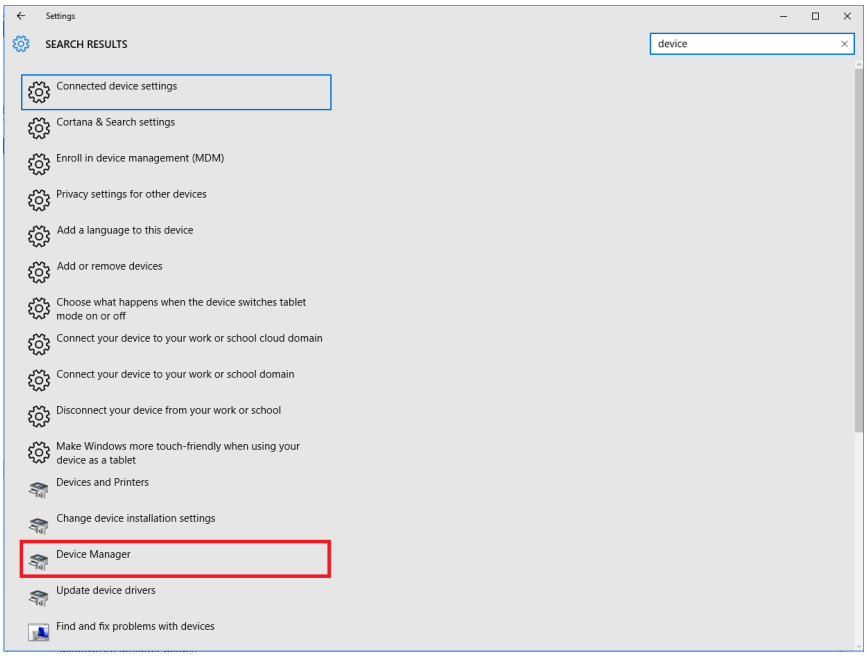

Figure 53: Search and start the Device Manager

➢ Click on **Device Manager**.

➢ The Device Manager starts.

3. Uninstall the cifX Device Driver.

➢ Right click in the Device Manager on the entry of your device.

➢ Click on **Properties**.

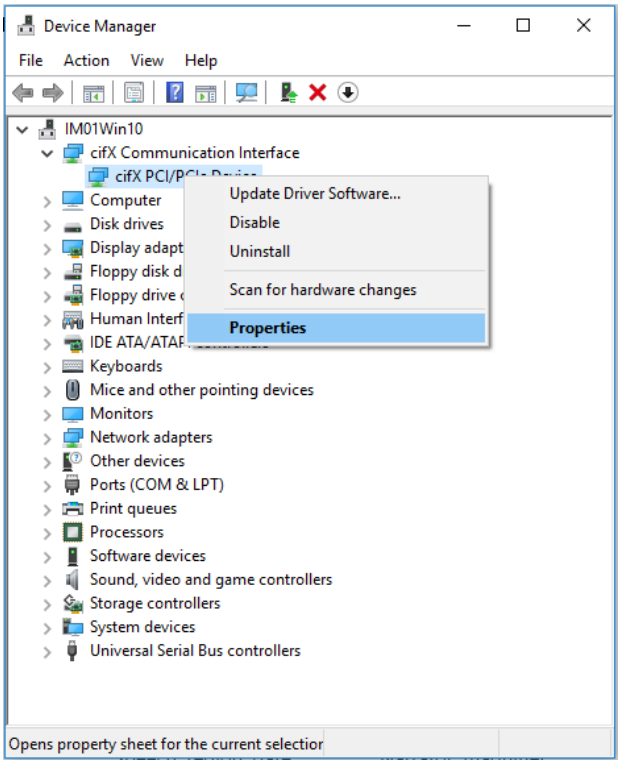

Figure 54: Device Manager (Example for PC card cifX)

➢ **… Device Properties > General** is displayed.

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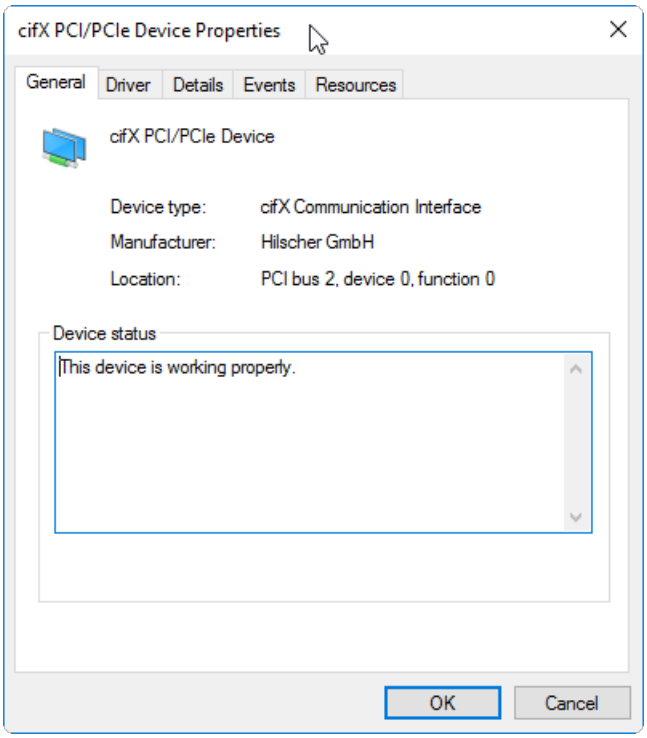

Figure 55: Device Properties > General (Example for PC card cifX)

➢ Select the **Driver** tab.

➢ **… Device Properties > Driver** is displayed.

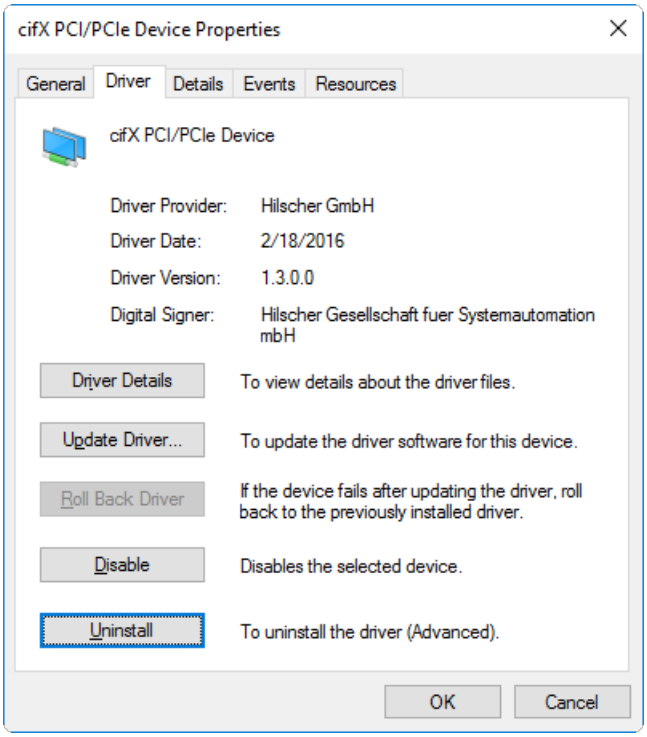

Figure 56: Device Properties > Driver (Example for PC card cifX)

➢ Select **Uninstall**.

➢ **Confirm Device Uninstall** is displayed.

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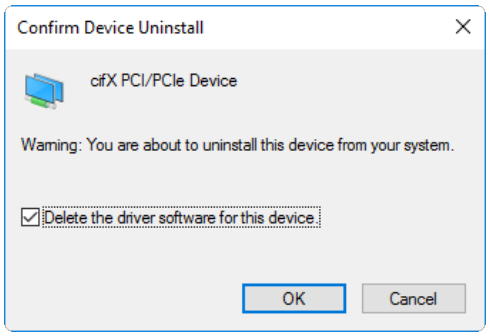

Figure 57: Confirm Device Uninstall (Example for PC card cifX)

➢ Check **Delete the driver software for this device**.

➢ Click **OK**.

➢ The cifX Device Driver for this device gets uninstalled.

4. Uninstall the cifX Device Driver entry from the **Uninstall or change programs** list.

➢ Select **Settings**.

➢ Enter **Uninstall a program** into the search field.

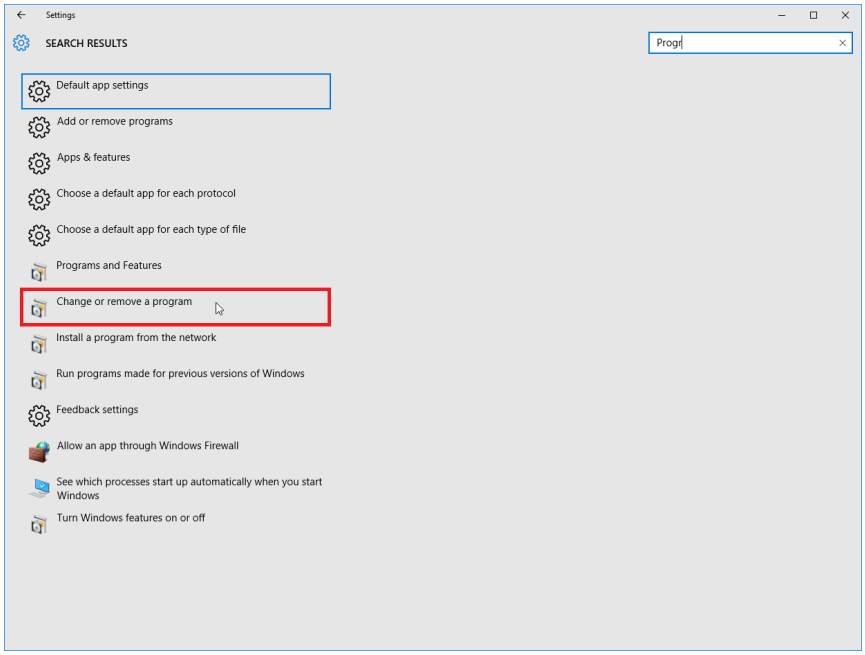

Figure 58: Uninstall a program

➢ Click on **Uninstall a program**.

➢ **Uninstall or change a program** is displayed.

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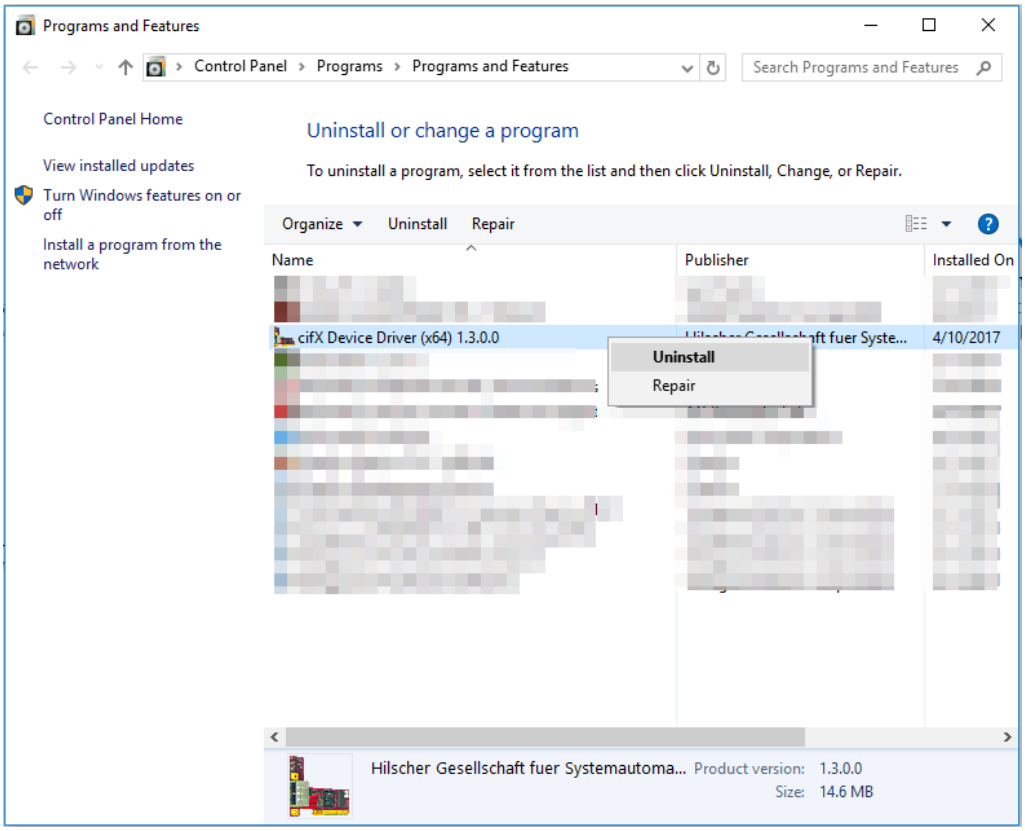

Figure 59: Uninstall or change a program > Uninstall cifX Device Driver entry

- ➢ Rightclick on the cifX Device Driver entry.
- ➢ Click on **Uninstall**.
- ➢ The **Programs and Features request** is displayed.

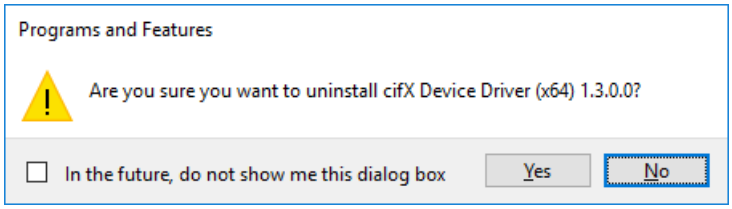

Figure 60: Programs and Features

- ➢ Click on **Yes**.
- ➢ The cifX Device Driver entry is uninstalled from your PC.

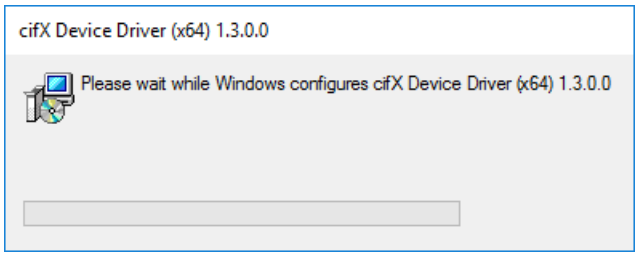

Figure 61: Unistalling cifX Device Driver

- ➢ The cifX Device Driver pane is closed and the uninstall procedure is completed.

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5 Settings and Configuration

5.1 Where to find the Driver Setup Program?

➢ In the Windows® explorer double click to the file *C:\Programs\cifX Device Driver\cifXSetup.exe*.

Or:

➢ For Windows XP:
Select **Start > Settings > Control Panel > Other Control Panel Options > cifX Setup**.

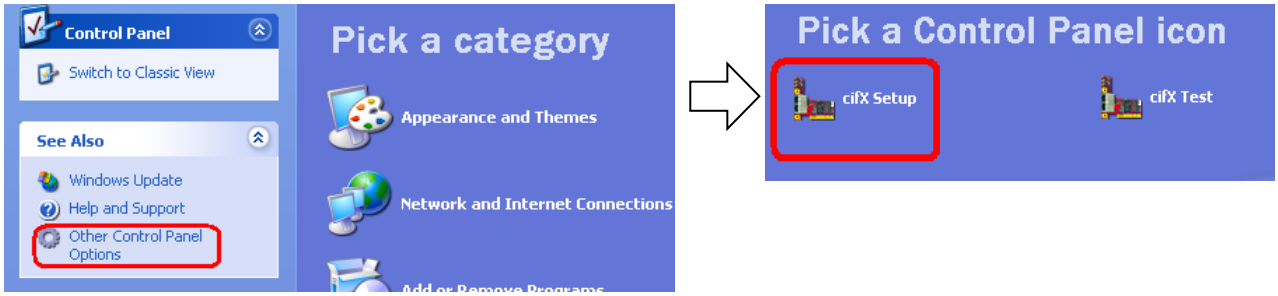

Figure 62: Opening cifX Driver Setup Utility for Windows XP via Control Panel

➢ For Windows 7:
Select **Start > Settings > Control Panel > cifX Setup**.

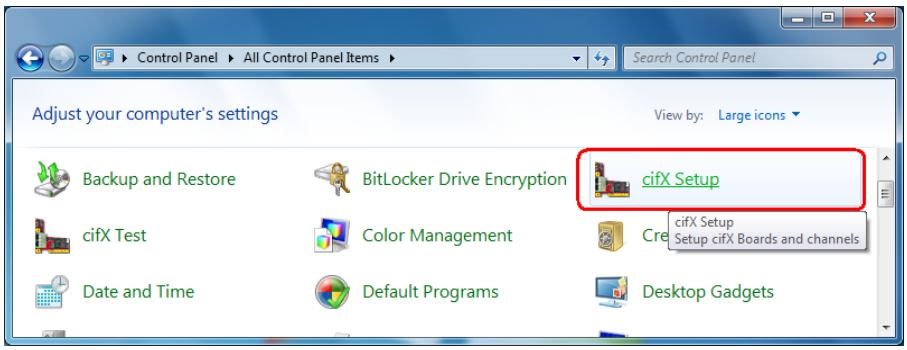

Figure 63: Opening cifX Driver Setup Utility for Windows 7 via Control Panel

➢ For Windows 8:
Select **Start > Desktop > Control Panel > cifX Setup**.

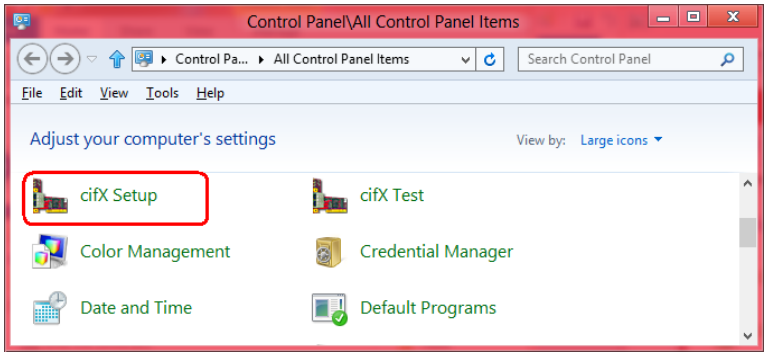

Figure 64: Opening cifX Driver Setup Utility for Windows 8 via Control Panel

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➢ For Windows 10:
Select **Rightclick to Start Windows logo > > Control Panel > cifX Setup**.

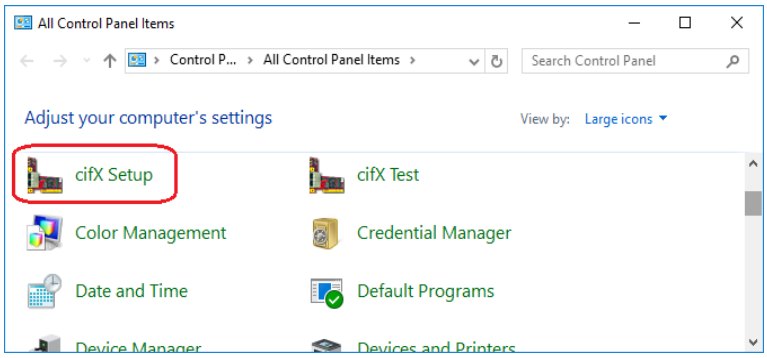

Figure 65: Opening cifX Driver Setup Utility for Windows 10 via Control Panel

➢ The cifX Driver Setup Utility is started:

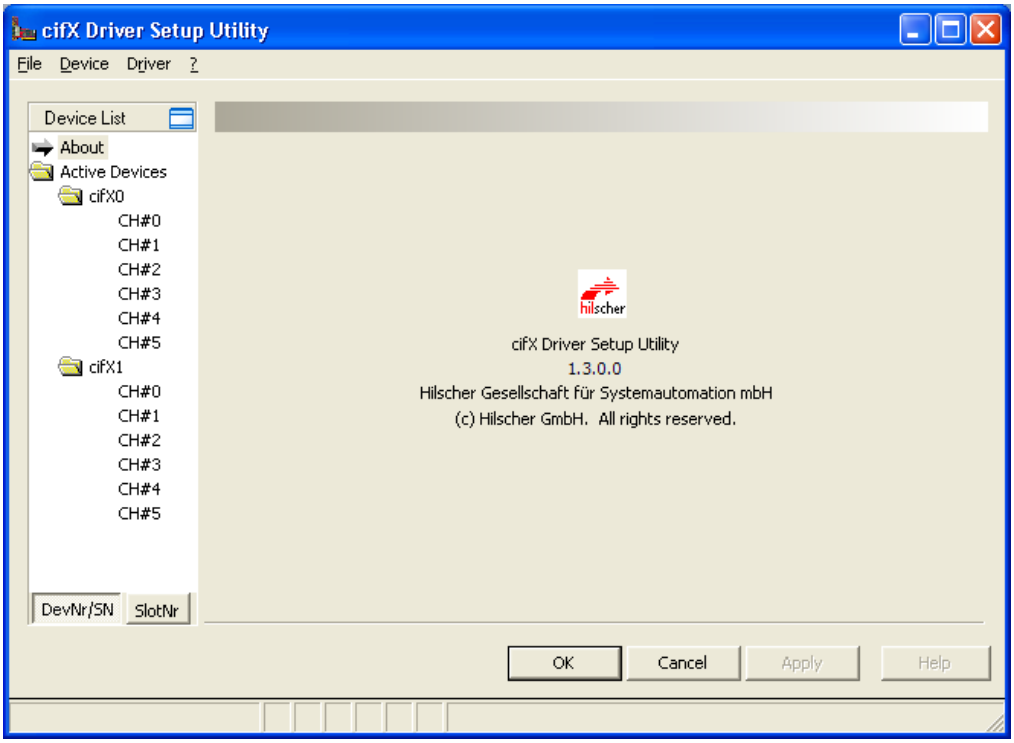

Figure 66: User Interface cifX Driver Setup Utility (Example Windows XP)

Note: You can quit the cifX Driver Setup Utility via **File > Quit**.

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5.2 cifX Driver Setup Utility

The graphical user interface cifX Driver Setup Utility is composed of different areas and elements:

1. Menus **File**, **Device** and **Driver** (above),
2. **Device List** (left side),
3. **Dialog pane** (right side),
4. General buttons **OK**, **Cancel**, **Apply** and **Help**,
5. **Status bar** containing further information.

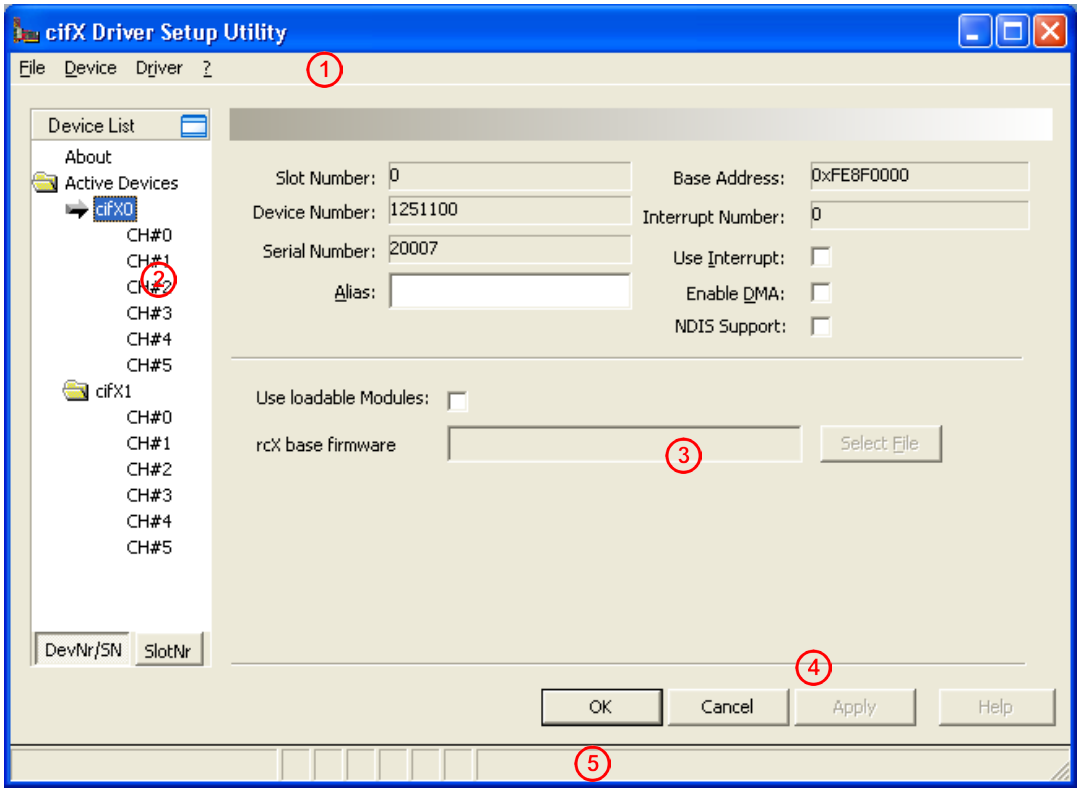
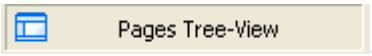


Figure 67: Dialog Structure cifX Driver Setup Utility

5.2.1 Device List

Via the **Device List** dialog boxes for the device configuration can be opened.

The **Device List** can be hidden via or displayed via 

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5.2.2 General Buttons

The table below gives some explanations to the general buttons in the user interface.

Button	Meaning
OK	To confirm the settings, click **OK**. All set or changed values are applied. *The dialog then closes.*
Cancel	To cancel the latest changes, click **Cancel**. Then the changed values will not be applied on the frame application database. *The dialog then closes.*
Apply	To confirm your latest settings, click **Apply**. All changed values will be applied on the frame application database. *The dialog remains opened.*
Help	(for future applications)

Table 4: General Buttons

5.2.3 Status Bar

The **status bar** displays information on the current state of the cifX Driver Setup Utility user interface, e. g. on the state of the instant data set.

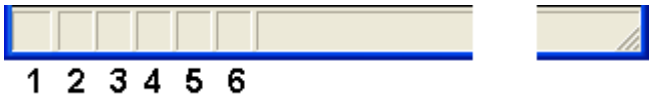

Figure 68: Status Bar

The table below gives information on the status bar icon 3.

Status Field	Icon / Meaning	
3	**States of the instance Date Set**	
	-	All data loaded
		Valid Modified: Parameter is changed (not equal to data source).
	-	Initial data set = Parameter value is equal to data source value (data base or field device).

Table 5: Status Bar Icon 3

Note: For configuration changes the icon (valid modified) is displayed in the status bar of the cifX Driver Setup Utility user interface.

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5.3 Device Identification

Hilscher PC cards cifX with PCI/PCIe can be identified through two different ways. By default, the card is identified via the device and serial number of the card (see matrix label). For newer cards also a rotary switch on the hardware has been integrated, which enables to assign to each card a unique card ID. The cifX driver evaluates these rotary switches and uses the setting for card identification.

5.3.1 Via Device and Serial Number (DevNr/SN)

Preconditions:

By default, the devices are detected via their device and serial number. If the hardware is equipped with a rotary switch, this corresponds to the switch position "**0**".

Device List View "DevNr/SN" (Rotary Switch Position "0"):

➢ Select the Device List view **DevNr/SN**.

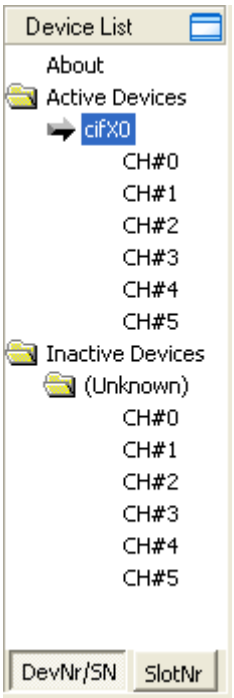

Figure 69: Device List View DevNr/SN

Parameter	Meaning
About	Current cifX Driver Setup Utility version, Hilscher manufacturer and copy right information.
Active Devices, Inactive Devices	Under **Active Devices** devices are displayed which are installed in the computer. Under **Inactive Devices** firmware and configuration files are displayed, of devices which had been installed to the computer but which are not any more there.
cifX0, **cifX1** … **(Unknown)**	Device name in the cifX Driver Setup Utility of the currently by the driver identified device. Is displayed for formerly identified devices not any more installed in the PC.
CH#0 … CH#5	Communication channels **CH#0** … **CH#5**. By default only channel CH#0 is used. For modularly assembled firmware all channels **CH#0** … **CH#5** in the Device List are used.

Table 6: Parameters Device List View DevNr/SN

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DevNr/SN: Dialog Window for Device Configuration

➢ Select **Device List > DevNr/SN** > **Active Devices > cifX**.

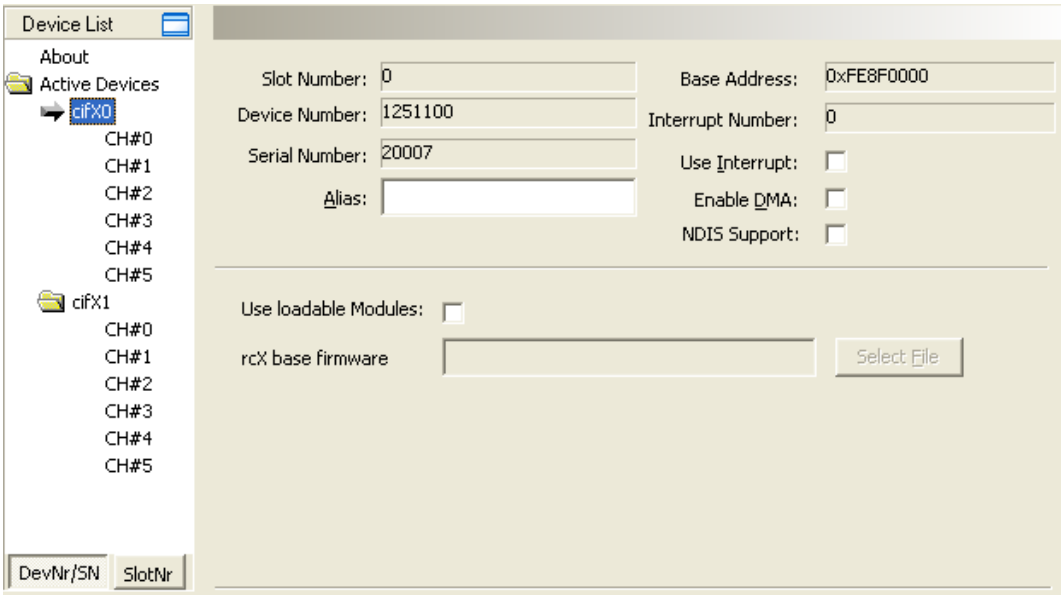

Figure 70: DevNr/SN: Dialog Window Device Configuration, Slot Number (card ID) „0“

Parameter	Meaning
Slot Number*	Corresponds to the setting of the rotary switch on the card and is used to explicitly identify the PC card cifX. Value 0: means that the PC card cifX is identified via its device and serial number. Values from 1 to 9: correspond to the rotary switch position 1 to 9.
Device Number	Number of the device
Serial Number	Serial number of the device
Alias	As Alias you can enter a separate name for the device. This name is always assigned to the device number and to the serial number of the device.
Base Address	Starting address of the dual port-memory of the card in the PC memory
Interrupt Number	Interrupt number of the card
Use Interrupt	Check to activate card interrupts.
Enable DMA	Check to enable DMA.
NDIS Support	(for future application)
Use loadable Modules	Check to use loadable modules (for future application).
rcX base firmware/ Select File	Load „rcX base“ firmware via **Select File**: cifXrcX.nxf, comXrcX.nxf (only if **Use Loadable Modules** is selected)
DevNr/SN, SlotNr	Change from **DevNr/SN** to **SlotNr** presentation.

Table 7: Parameters Dialog Window Device Configuration via „DevNr/SN“

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5.3.2 Via Slot Number

Preconditions:

Therefore the cifX devices require a rotary switch. The switch position of the rotary switch must be set on the number „**1**“ to „**9**“ of the slot to be used. Devices without rotary switch are not supported.

Device List View “SlotNr”:

For slot number „1“:

- Select the Device List view **SlotNr**.

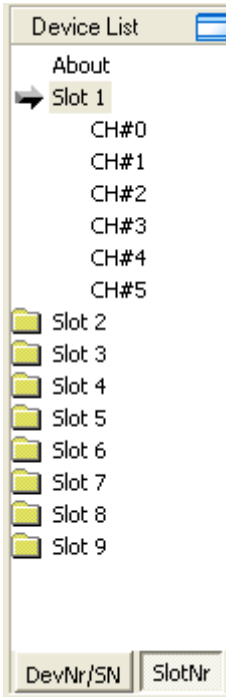

Figure 71: Device List View SlotNr

Parameter	Meaning
About	Current cifX Driver Setup Utility version, Hilscher manufacturer and copy right information.
Slot 1 … **Slot 9**	**Slot Number** in the cifX Driver Setup Utility of the currently by the driver via the **Slot Number (Card ID)** identified device. Corresponds to the setting of the rotary switch.
CH#0 … CH#5	Communication channels **CH#0** … **CH#5**. By default only channel CH#0 is used. For modularly assembled firmware all channels **CH#0** … **CH#5** in the Device List are used.

Table 8: Parameters Device List View DevNr/SN

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SlotNr: Dialog Window for Device Configuration

For rotary switch position = „**1**“:

➢ Select **Device List > Slot1**.

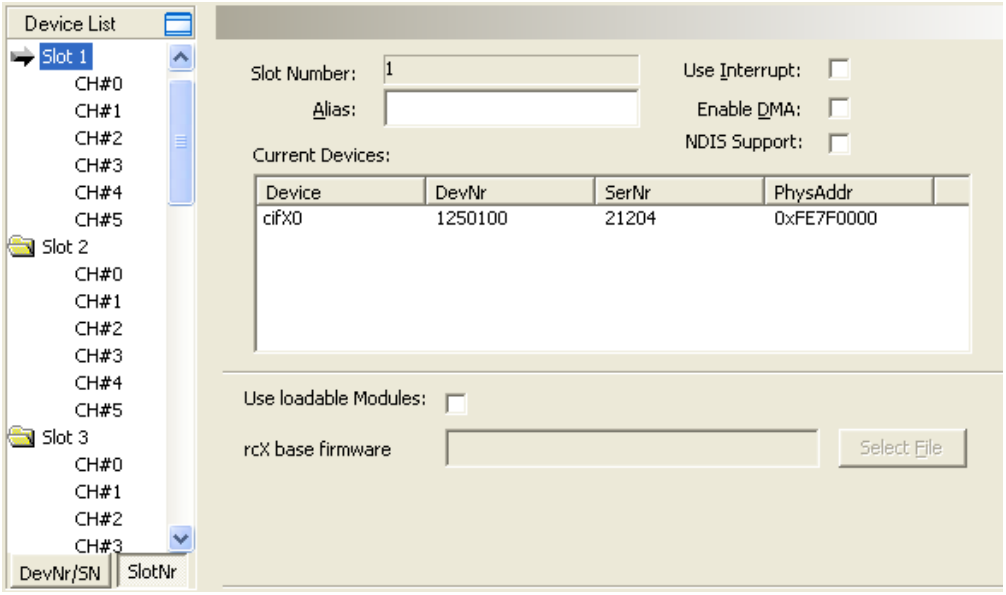

Figure 72: SlotNr: Dialog Window Device Configuration, Slot Number (card ID) „1“

Parameter	Meaning	
Slot Number*	Corresponds to the setting of the rotary switch on the card and is used to explicitly identify the PC card cifX. Value 0: means that the PC card cifX is identified via its device and serial number. Values from 1 to 9: correspond to the rotary switch position 1 to 9.	
Alias	As Alias you can enter a separate name for the device. This name is always assigned to the device number and to the serial number of the device.	
Interrupt Number	Interrupt number of the card	
Current Devices	Device	Device name of the current device: cifX0, cifX1 …
	DevNr	Number of the current device
	SerNr	Serial number of the current device
	PhysAddr	Physical address of the current device
Enable DMA	Check to enable DMA.	
NDIS Support	(for future application)	
Use loadable Modules	Check to use loadable modules (for future application).	
rcX base firmware/ Select File	Load „rcX base“ firmware via **Select File**: cifXrcX.nxf, comXrcX.nxf (only if **Use Loadable Modules** is selected)	
DevNr/SN, SlotNr	Change from **DevNr/SN** to **SlotNr** presentation.	

Table 9: Parameters Dialog Window Device Configuration via „SlotNr“

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5.3.2.1 Slot Number

Hereafter a description is given, how the **Slot Number** (Card ID) is displayed in the cifX Driver Setup Utility user interface.

Prerequisites:

Previously a **Slot Number** (Card ID) between 1 and 9 has been set at the PC card cifX

The description below uses for **Slot Number** (Card ID) the value „1“.

1. Open the cifX Driver Setup Utility user interface.

➢ Select **Start > Control Panel**.

➢ Double click on the **cifX Setup** symbol.

➮ The cifx Driver setup program starts.

2. **DevNr/SN** View:

➢ Select **Device List** > **Active Devices** > **cifX**.

➮ The dialog window for device configuration via **DevNr/SN** is displayed.

➮ The field **Slot Number** shows the Slot Number (Card ID) for the PC card cifX. For this description the Slot Number (Card ID) has the value „1“.

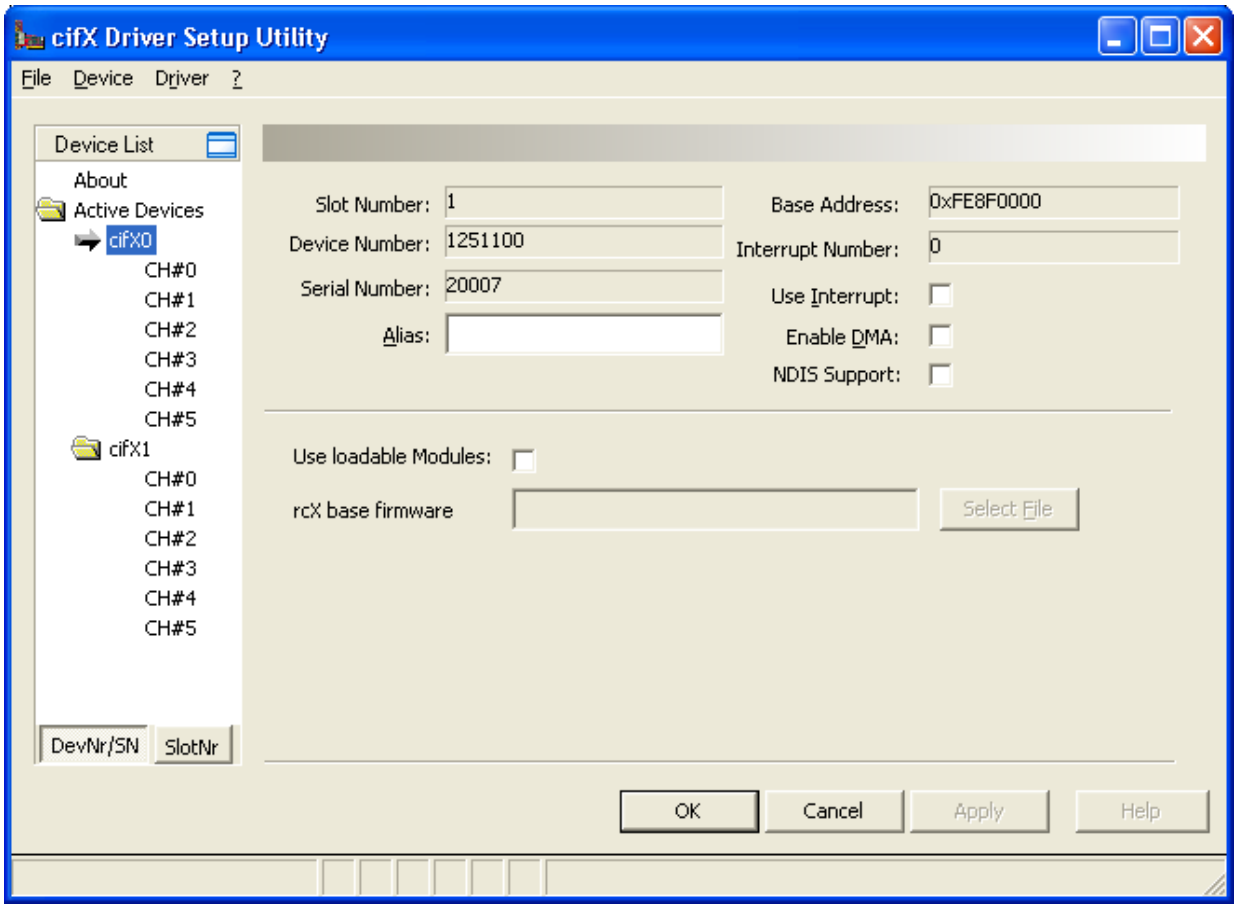

Figure 73: DevNr/SN: Dialog Window Device Configuration, Slot Number (card ID) „1“

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Or:

3. **SlotNr** View:

➢ Select **Device List** > **SlotNr**.

➢ The dialog window for device configuration via **SlotNr** is displayed.

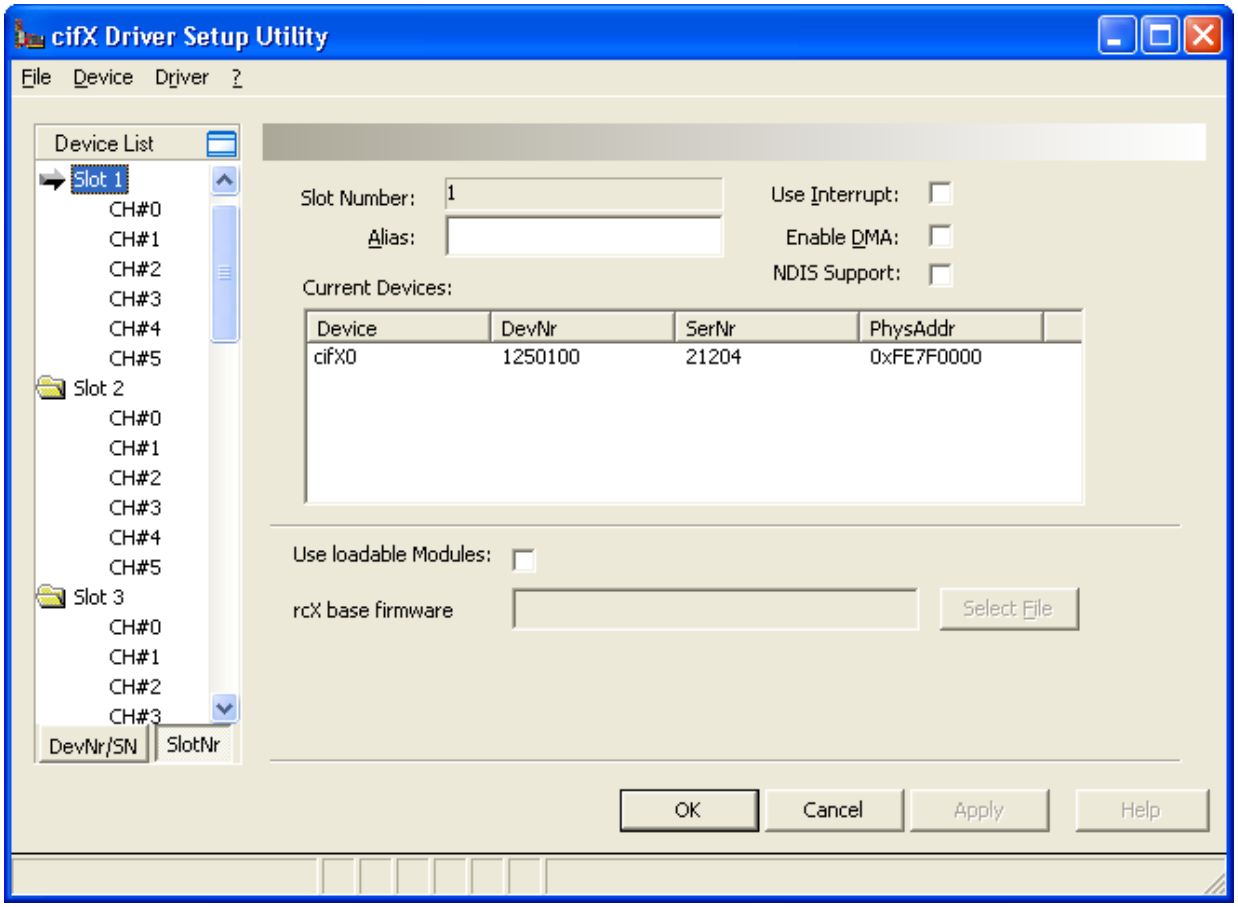

Figure 74: SlotNr: Dialog Window Device Configuration, Slot Number (card ID) „1“

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5.4 Activating DMA Mode

This section describes how to activate the **DMA Mode** in the cifX Driver Setup Utility user interface.

Case 1: Previously a Slot Number (Card ID) between 1 and 9 has been set at the PC card cifX.

Case 2: Previously the Slot Number (Card ID) value 0 has been set at the PC card cifX or the PC card cifX is not equipped with a Rotary Switch Slot Number (Card ID).

The description below refers to case 1 and uses for Slot Number (Card ID) the value „1“.

1. Open the cifX Driver Setup Utility user interface.
2. Switch to the **SlotNr** view.

➢ Select **Device List** > **SlotNr**.

3. Activate DMA Mode:

➢ Select **Device List** > **Slot 1**.

➢ Check **Enable DMA**.

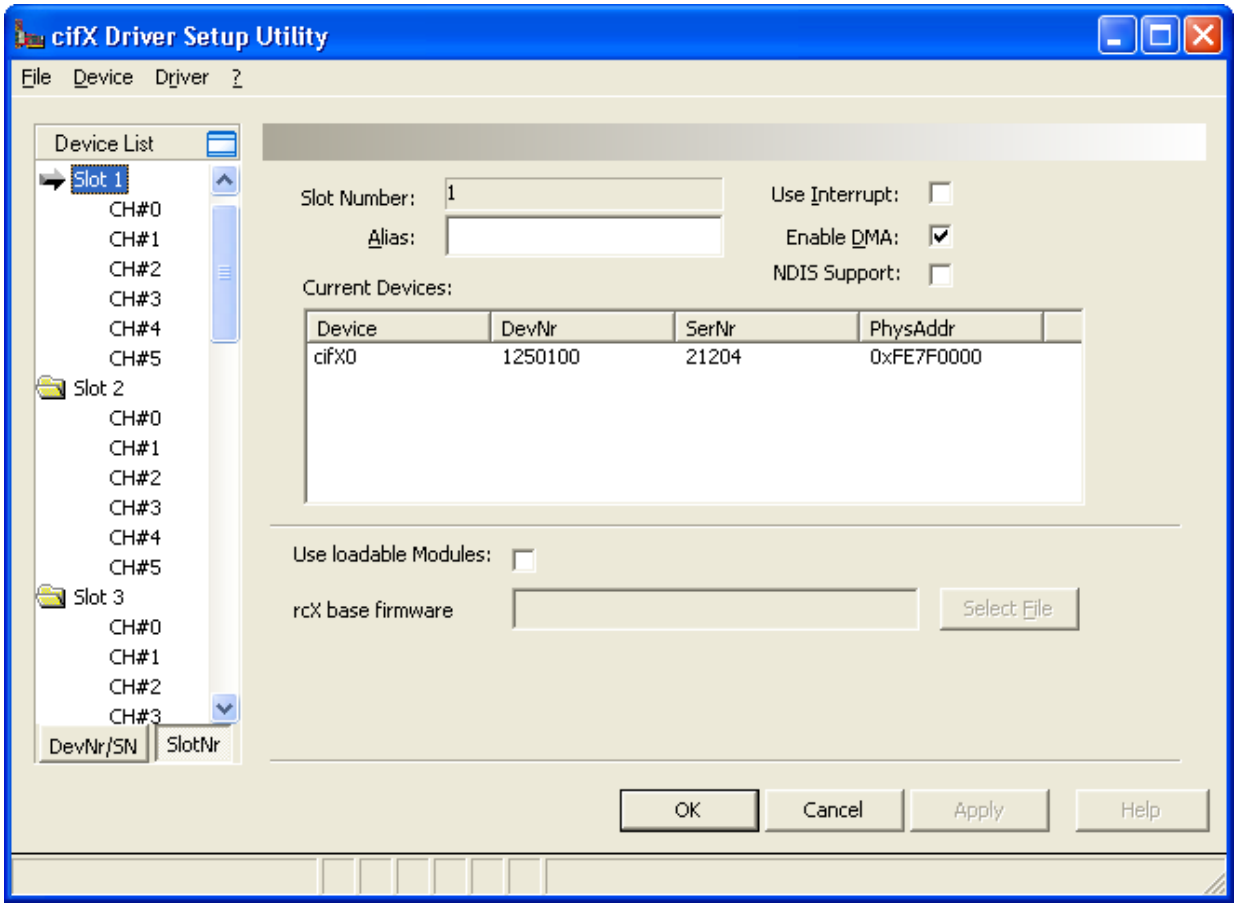

Figure 75: SlotNr: Dialog Window Device Configuration, Slot Number (card ID) „1“, Enable DMA checked

4. Apply Settings

➢ Click **Apply**.

➢ The **DMA Mode** is activated.

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5.5 Deleting Device

Using the **Device > Delete** menu, you can delete devices from the cifX Driver Setup Utility configuration:

➢ Select under **Device List > DevNr/SN** > **Active Devices** to the folder **cifX** of the device to be deleted.

➢ Select **Device > Delete.**

Figure 76: Device > Add / Delete

➢ The device is deleted.

5.6 Global Driver Settings

In the **Global Driver Settings** window you can set different trace levels.

According to the selected settings different entries with error notes are made and saved to device specific driver log files into the driver directory *[disk drive]:\Program Files\cifX Device Driver*.

The log file name corresponds to the device name of the current PC card cifX: e. g. cifX0.log, cifX1.log.

Note: If the PC card cifX remains in the not ready state, the cifX Device Driver cannot create the driver log file. In such a case Windows® writes the error messages to the *System Error Event* viewer.

➢ Via **Driver > Global Settings** open the **Global Driver Settings** window.

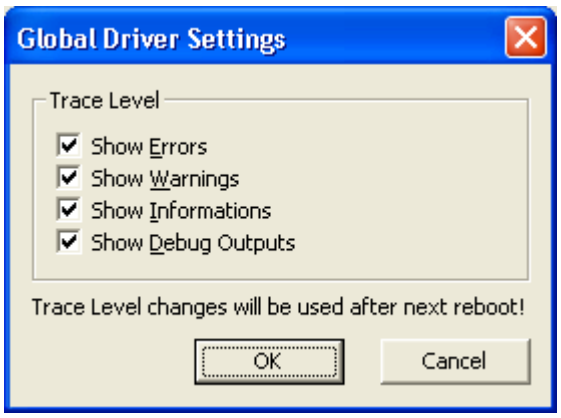

Figure 77: Global Driver Settings

➢ Check the required **Trace Level**(s):

- **Show Errors**,
- **Show Warnings**,
- **Show Information**,
- **Show Debug Outputs**.

➢ Close the **Global Driver Settings** window via **OK**.

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5.7 Assigning Firmware and Configuration Files

Monolithic Firmware

A firmware and one or several configuration files can be assigned to each of the communication channels **CH#0** to **CH#5** in the **Device List**.

By default only channel **CH#0** is used.

Modular Firmware

For modularly assembled firmware all channels **CH#0** to **CH#5** in the **Device List** can be used.

A modular firmware comprises an rcX base firmware **.nxf* and the corresponding firmware modules **.nxo.*

The rcX base firmware always is saved in **CH#0**. In addition the firmware module with its configuration files for the first communication channel is registered also in **CH # 0**.

Further firmware modules can be assigned to the communication channels **CH#0** to **CH#5**.

The assignment of the firmware file, of the module(s) and of the configuration file(s) is made in the dialog window of the correspondent channel. All firmware files, modules and configuration files are filed in the configuration directory of the cifX Device Driver and they are opened during driver startup.

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5.7.1 Assignment for Device Identification via „DevNr/SN“

For rotary switch position = „**0**“ or if no rotary switch is provided:

➢ Select **Device List > DevNr/SN > Active Devices > cifX > CH#0**.

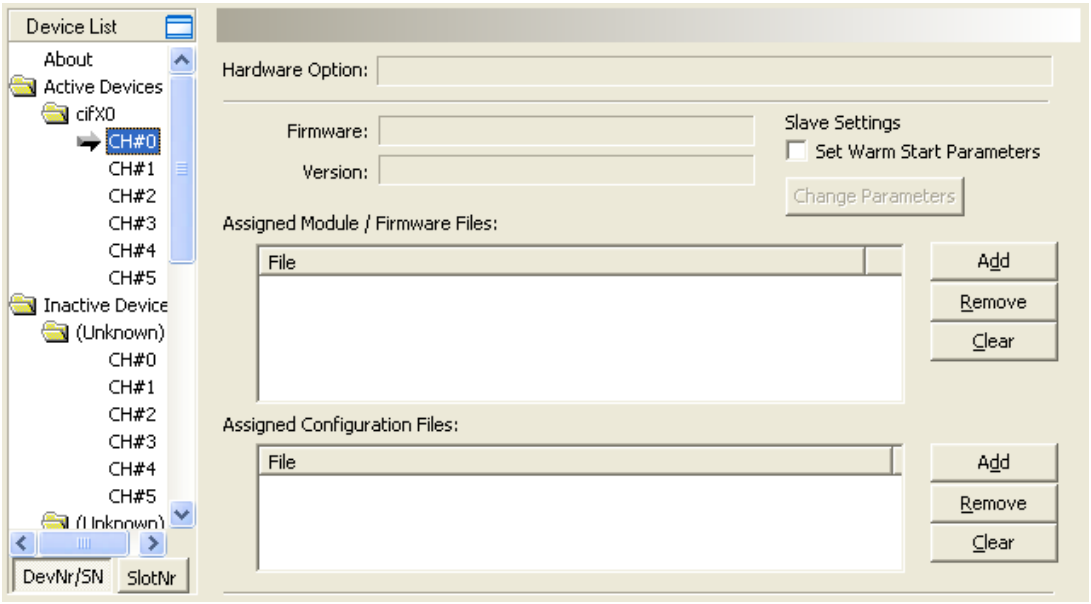

Figure 78: DevNr/SN: Dialog Window Firmware and Configuration, Slot Number (card ID) „0“

Parameter	Meaning
Hardware Option (only for **DevNr/SN**)	Shows the values for the „Hardware Assembly Options“ for the xC port 0 ... 3. The "Hardware Assembly Options" set the current hardware configuration of the xC ports. Thus, the respective type of the physical interface to the netX peripherals is defined. [1]
Firmware	Firmware name of the firmware file selected in the **Assigned Module / Firmware Files** window
Version	Firmware version of the firmware file selected in the **Assigned Module / Firmware Files** window
Slave Settings / Set Warmstart Parameters	Checkbox to activate the warmstart parameters
Change Parameters	If the checkbox **Slave Settings / Set Warmstart Parameters** is activated, via **Change Parameters** the window **Change Warmstart Parameters** can be opened.
Assigned Module / Firmware Files	In this window all downloaded modules or firmware files are displayed with their corresponding file paths.
Assigned Configuration Files	In this window all downloaded configuration files are displayed with their corresponding file paths.
Add / Remove / Clear	Add firmware or configuration files via **Add**, remove them via **Remove** or clear them via **Clear**.

Table 10: Parameters Dialog Window Firmware and Configuration

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1. Selecting Firmware File:

Figure 79: Select Firmware File

- Select **Assigned Module / Firmware Files > Add**.
- Select in the subsequent selection menu a firmware file **.nxf* and exit the selection menu via **OK**.
- Activate the file download via **Apply** or **OK**.
- Under **Assigned Module / Firmware Files > File** the filing path and the file name of the firmware file(s) are displayed.

The firmware file **.nxf* is copied to the directory *[disk drive]:\ Program Files\cifX Device Driver\[Device Number]_[Serial Number]\Channel0*.

File	Note
[Name Communication System].nxf	Firmware file, depending from the used communication system.
[Name Communication System].nxo	Firmware module, for the corresponding communication system.

Table 11: Firmware Files cifX Device Driver

2. Or for modularly assembled firmware assign rcX base firmware:

- Select **Device List > DevNr/SN** > **Active Devices > cifX**.
- Check **Use loadable Modules**.
- Click **rcX base firmware/ Select File**.
- Select in the subsequent selection menu an rcX base firmware **.nxf* and exit the selection menu via **OK**.
- Activate the file download via **Apply** or **OK**.
- Select **Device List > DevNr/SN > Active Devices > cifX > CH#0**.
- Under **Assigned Module / Firmware Files > File** the filing path and the file name of the rcX base firmware **.nxf* is displayed.

The rcX base firmware **.nxf* is copied to the directory *[disk drive]:\ Program Files\cifX Device Driver\[Device Number]_[Serial Number]\Channel0*.

File	Note
cifXrcX.nxf, comXrcX.nxf	rcX base firmware, depending from the used device.

Table 12: rcX Base Firmware cifX Device Driver

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Further

- Select **Device List > DevNr/SN** > **Active Devices > cifX> CH#1** to **CH#5**.
- Select **Assigned Module / Firmware Files > Add**.
- Select in the subsequent selection menu a firmware module **.nxo* and exit the selection menu via **OK**.
- Possibly assign additional firmware modules **.nxo*.
- Activate the file download via **Apply** or **OK**.
- Under **Assigned Module / Firmware Files > File** the filing path and the file name of the firmware module(s) are displayed.

The firmware module **.nx*o is copied to the directory *[disk drive]:\ Program Files\cifX Device Driver\[Device Number]_[Serial Number]\ Channel0*.

File	Note
[Name Communication System].nxo	Firmware module, for the corresponding communication system.

Table 13: Firmware Modules cifX Device Driver

3. Selecting Configuration File:

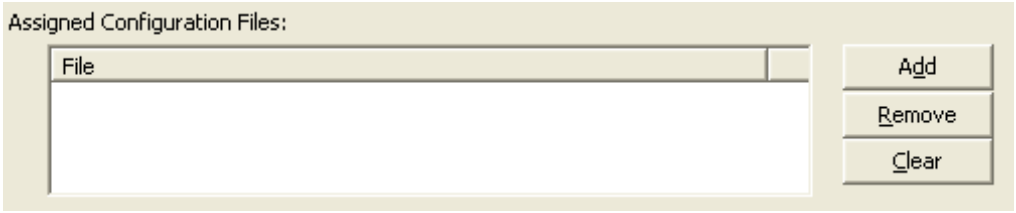

Figure 80: Select Configuration File

- Select **Assigned Configuration Files > Add**.
- Select in the subsequent selection menu a configuration file **.nxd* and exit the selection menu via **OK**.
- Activate the file download via **Apply** or **OK**.
- Under **Assigned Module / Firmware Files > File** the filing path and the file name of the configuration file(s) are displayed.

The configuration file **.nxd* is copied to the directory *[disk drive]:\ Program Files\cifX Device Driver\[Device Number]_[Serial Number]\Channel0*.

File	Note
CONFIG.nxd	Configuration file (= data base file)
NWID.nxd	Network ID, for Real-Time Ethernet Systems

Table 14: Configuration Files cifX Device Driver

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5.7.2 Assignment for Device Identification via „SlotNr“

For rotary switch position „**1**“:

➢ Select **Device List > SlotNr/ > Slot1** > **CH#0**.

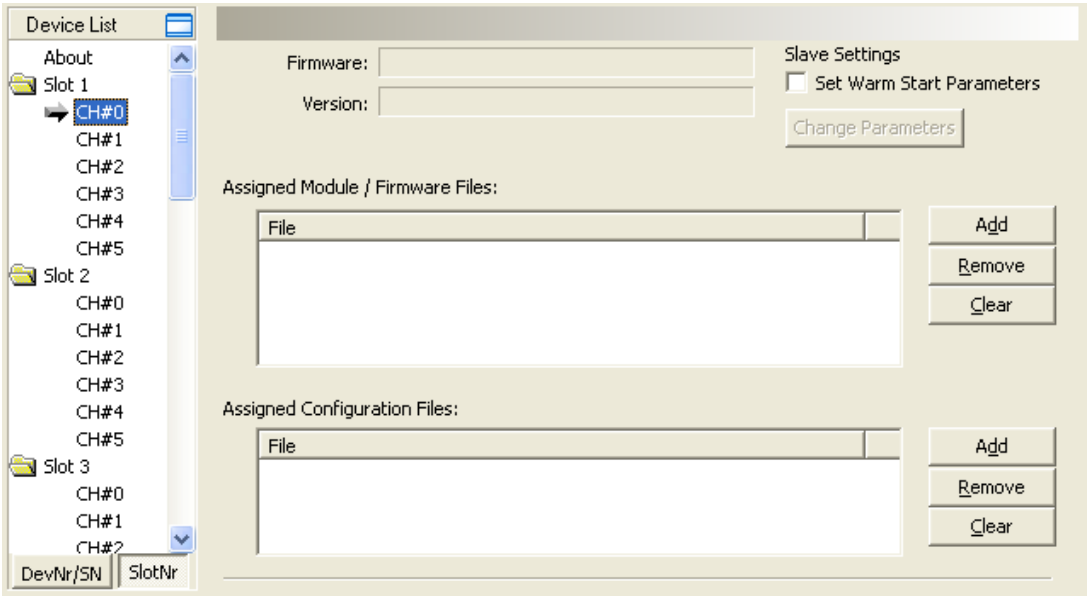

Figure 81: SlotNr: Dialog Window Firmware and Configuration, Slot Number (card ID) „1“

Parameter	Meaning
Firmware	Firmware name of the firmware file selected in the **Assigned Module / Firmware Files** window
Version	Firmware version of the firmware file selected in the **Assigned Module / Firmware Files** window
Slave Settings / Set Warmstart Parameters	Checkbox to activate the warmstart parameters
Change Parameters	If the checkbox **Slave Settings / Set Warmstart Parameters** is activated, via **Change Parameters** the window **Change Warmstart Parameters** can be opened.
Assigned Module / Firmware Files	In this window all downloaded modules or firmware files are displayed with their corresponding file paths.
Assigned Configuration Files	In this window all downloaded configuration files are displayed with their corresponding file paths.
Add / Remove / Clear	Add firmware or configuration files via **Add**, remove them via **Remove** or clear them via **Clear**.

Table 15: Parameter Dialog Window Firmware and Configuration

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1. Selecting Firmware File:

Figure 82: Select Firmware File

- Select **Assigned Module / Firmware Files > Add**.
- Select in the subsequent selection menu a firmware file **.nxf* and exit the selection menu via **OK**.
- Activate the file download via **Apply** or **OK**.
- Under **Assigned Module / Firmware Files > File** the filing path and the file name of the firmware file(s) are displayed.

The firmware file **.nxf* is copied to the directory *[disk drive]:\ Program Files\cifX Device Driver\[Slot_n]\Channel0*.

File	Note
[Name Communication System].nxf	Firmware file, depending from the used communication system.

Table 16: Firmware Files cifX Device Driver

2. Or for modularly assembled firmware assign rcX base firmware:

- Select **Device List > SlotNr/ > Slot1** or to **Slot9**.
- Check **Use loadable Modules**.
- Click **rcX base firmware/ Select File**.
- Select in the subsequent selection menu an rcX base firmware **.nxf* and exit the selection menu via **OK**.
- Activate the file download via **Apply** or **OK**.
- Select **Device List > SlotNr/ > Slot1** or to **Slot9** > **CH#0**.
- Under **Assigned Module / Firmware Files > File** the filing path and the file name of the rcX base firmware **.nxf* is displayed.

The rcX base firmware **.nxf* is copied to the directory *[disk drive]:\ Program Files\cifX Device Driver\[Slot_n]\Channel0*.

File	Note
cifXrcX.nxf, comXrcX.nxf	rcX base firmware, depending from the used device.

Table 17: rcX Base Firmware cifX Device Driver

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Further

- Select **Device List > SlotNr/ > Slot1** or to **Slot9** > **CH#1** to **CH#5**.
- Select **Assigned Module / Firmware Files > Add**.
- Select in the subsequent selection menu a firmware module **.nxo* and exit the selection menu via **OK**.
- Possibly assign additional firmware modules **.nxo*.
- Activate the file download via **Apply** or **OK**.
- Under **Assigned Module / Firmware Files > File** the filing path and the file name of the firmware module(s) are displayed.

The firmware module **.nx*o is copied to the directory *[disk drive]:\ Program Files\cifX Device Driver\[Slot_n]\Channel0*.

File	Note
[Name Communication System].nxo	Firmware module, for the corresponding communication system.

Table 18: Firmware Modules cifX Device Driver

3. Select Configuration File:

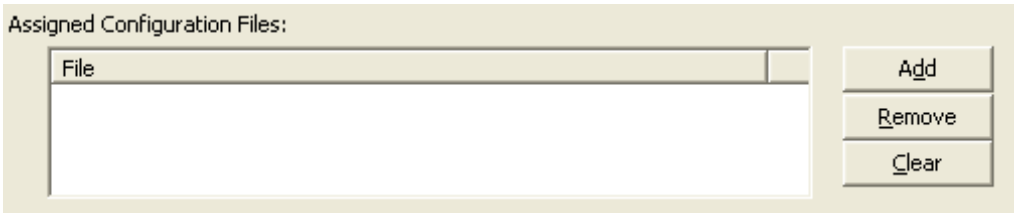

Figure 83: Select Configuration File

- Select **Assigned Configuration Files > Add**.
- Select in the subsequent selection menu a configuration file **.nxd* and exit the selection menu via **OK**.
- Activate the file download via **Apply** or **OK**.
- Under **Assigned Module / Firmware Files > File** the filing path and the file name of the configuration file(s) are displayed.

The configuration file **.nxd* is copied to the directory *[disk drive]:\ Program Files\cifX Device Driver\[Device Number]_[Serial Number]\Channel0*.

File	Note
CONFIG.nxd	Configuration file (= data base file)
NWID.nxd	Network ID, for Real-Time Ethernet Systems

Table 19: Configuration Files cifX Device Driver

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5.7.3 Applying the Settings and restarting the Device

Case 1: Only cifX Driver Setup Utility **is opened**

If only the cifX Driver Setup Utility program is open and no further application program:

➢ The following request **cifX Setup** - **Do you want this device to be restarted?** is displayed:

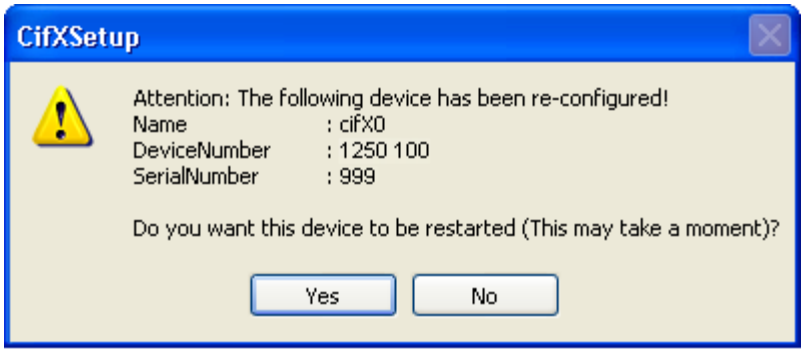

Figure 84: cifX Setup - Restart after Device Configuration

1. Acknowledge the request cifX Setup - Do you want this device to be restarted? by Yes (Ja).

➢ After restart of the PC card cifX, the new configuration is active.

Case 2: A further Application Program with access to the cifX Hardware is opened

If in addition to the cifX Driver Setup Utility program further application programs with access to the cifX hardware are open:

➢ At first the following request **cifX Setup** - **Do you want this device to be restarted?** is displayed:

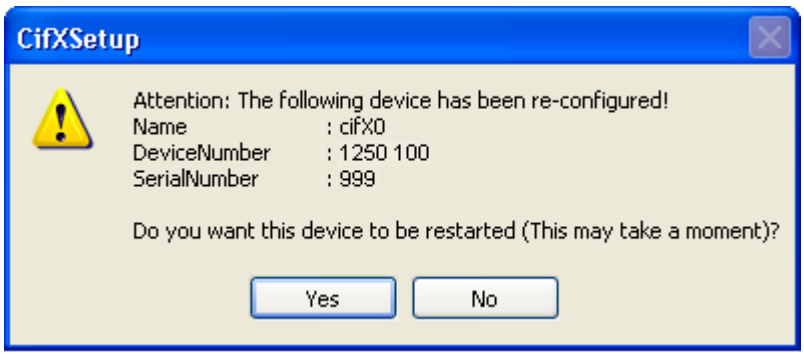

Figure 85: cifX Setup - Restart after Device Configuration

2. Acknowledge the request **cifX Setup** - **Do you want this device to be restarted?** by **Yes**.

➢ Then the Windows® request **System Settings Change** is displayed:

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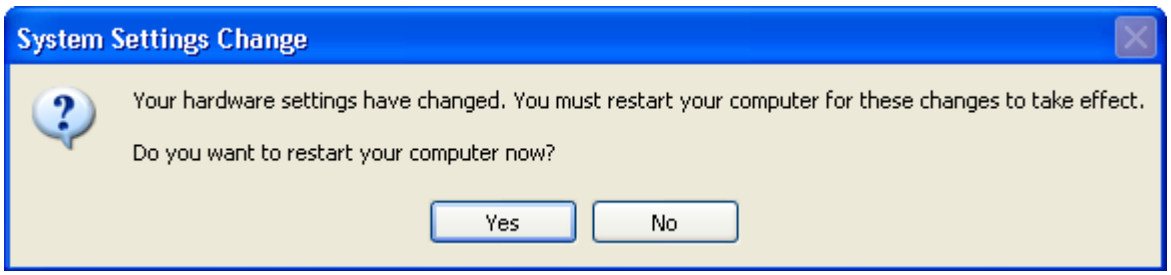

Figure 86: cifX Setup - System Settings Change

Note: The additional request to acknowledge also the computer restart is displayed:

- if one or several programs are still open in addition to the cifX Driver Setup Utility program,
- if an online connection is still established between the device and the application program after the transfer of the warmstart parameters.

3. Acknowledge the request by **Yes**.

After restart of the PC card cifX, the new configuration is active.

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6 Appendix

6.1 Configuring Warmstart Parameters for Slave Firmware

Important: By default the warmstart parameters are configured using the configuration software **SYCON.net** or **netXConfiguration Tool**. The program **cifX Driver Setup Utility** should be used here only for testing Slaves.

6.1.1 Configuring Warmstart Parameters using cifX Driver Setup Utility

Using the user interface cifX Driver Setup Utility for each channel the warmstart parameters can be configured. Then the warmstart parameters are stored in cifX Device Driver directory and they are accessed when you start the driver.

Note: Warmstart parameters can only be set for slave firmware. Set the warmstart parameters only for the communication system, the PC card cifX shall be configured for.

1. Open the dialog **Change Warmstart Parameters** and select the communicating system.

➢ Check **Slave Settings / Set Warm Start Parameters**

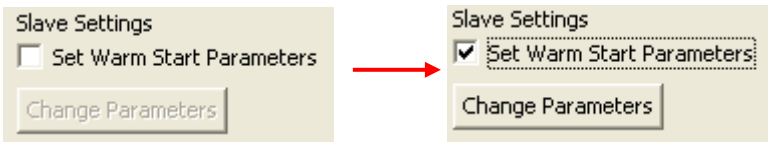

Figure 87: Activating Checkbox Set Warmstart Parameters (slave only)

↬ The dialog **Change Warmstart Parameters** is displayed and he button **Change Parameters** can be selected.

2. Select the communication system in the window **Change Warmstart Parameters** via **Communication System**.
3. Configure the warmstart parameters.

For further information to this refer to the subsections *CANopen Slave* page 70, *DeviceNet Slave* page 71, *EtherCAT Slave* page 72, *EtherNet/IP Slave* page 73, *Open Modbus/TCP Slave* page 75, *PROFIBUS Slave* page 77, *PROFINET IO-Device (V2)* page 79, *sercos Slave (V2)* page 80.

6.1.2 Applying Warm Start Parameters

To apply the newly configured warmstart parameters:

➢ Click in the window **Change Warmstart Parameters** on **OK**.

↬ The warmstart parameters file *warmstart.dat* is saved in the directory [disk drive]:\ Program Files\cifX Device Driver\

For slot number (card ID) „0“ or if no rotary switch is provided: *[Device Number]_[Serial Number]**Channel0*\.

For slot number (card ID) „1“: *[Slot_n]**Channel0*\.

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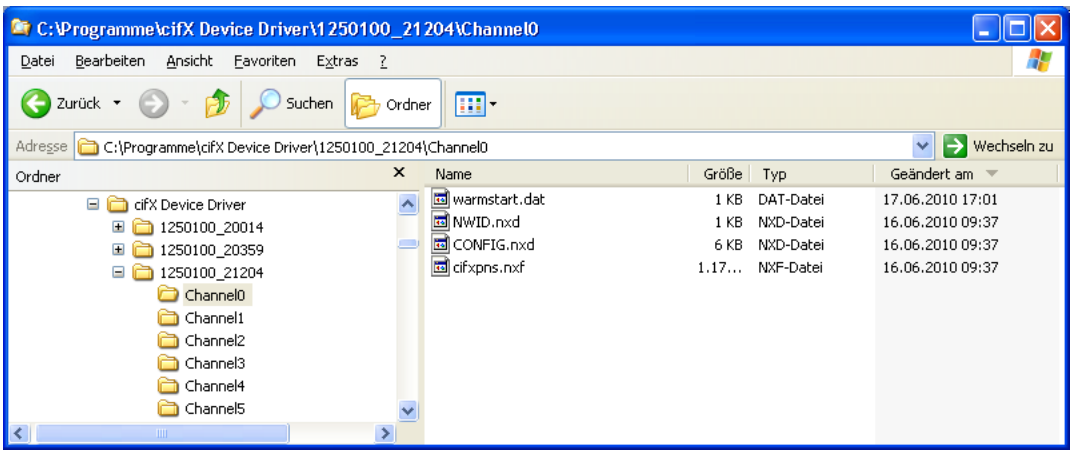

Figure 88: Filing location Warmstart Parameters Files

6.1.3 CANopen Slave

Parameter	Meaning	Rage of Value / Value
Communication System	List field to select the communication system	Here: CANopen
Bus Startup	Communication start application controlled or automatic	Application controlled, Automatic (Default)
Watchdog Time [ms]	Watchdog time within which the device watchdog must be retriggered from the application program while the application program monitoring is activated. When the watchdog time value is equal to 0 the application program monitoring is deactivated.	[0, 20 … 65535] ms, default = 1000 ms, 0 = Off
Node Address	Node ID of the CANopen Slave	1 … 127, Default: CIFX CO/COS: 2
Baudrate	Baudrate of the CANopen connection	1 Mbaud, 800 Kbaud, 500 Kbaud, 250 Kbaud, 125 Kbaud, 100 Kbaud, 50 Kbaud, 20 Kbaud, 10 Kbaud, Default CIFX CO/COS: 1 MBaud
I/O Data Status	Status of the input or the output data. For each input and output data the following status information (in Byte) is memorized in the dual-port memory: Status 0 = None (default) Status 1 = 1 Byte (for future use) Status 2 = 4 Byte (for future use)	None, (1 Byte, 4 Byte) Default: None

Table 20: Warmstart Parameters - CANopen Slave

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6.1.4 DeviceNet Slave

Parameter	Meaning	Rage of Value / Value
Communication System	List field to select the communication system	Here: DeviceNet
Bus Startup	Communication start application controlled or automatic	Application controlled, Automatic (Default)
Watchdog Time [ms]	Watchdog time within which the device watchdog must be retriggered from the application program while the application program monitoring is activated. When the watchdog time value is equal to 0 the application program monitoring is deactivated.	[0, 20 … 65535] ms, default = 1000 ms, 0 = Off
Node Address	This parameter defines the DeviceNet address of the device within the network.	0 … 63
Baudrate	Baud rate of DeviceNet connection	500 kBaud, 250 kBaud, 125 kBaud, Default CIFX DN/DNS: 500 kBaud
I/O Data Status	Status of the input or the output data. For each input and output data the following status information (in Byte) is memorized in the dual-port memory: Status 0 = None (default) Status 1 = 1 Byte (for future use) Status 2 = 4 Byte (for future use)	None, (1 Byte, 4 Byte) Default: None
Produced Size	ProducedSize sets the number of send bytes.	0 … 255, Default: 2
Consumed Size	ConsumedSize sets the number of receive bytes.	0 … 255, Default: 2
Config Flags	The variable ConfigFlags defines configuration parameters. *Ignore Address Switch*: ignore address switch, *Continue On Bus Off*: continue operation after BUS OFF event, *Continue On Loss NP*: continue operation in case of loss of network voltage, *Receive Idle Clear Data*: set receive data to 0 in the "Receive idle" mode, *Receive Idle User Data*: transfer user defined receive data in the "Receive idle“ mode. If a flag is unchecked, the default value is used.	0x00000000 ... 0x0000001F (hex), Default: 0x00000000C (hex)
Vendor ID	Identification number of the manufacturer If unchecked, the default value is used.	0x00000000 ... 0x0000FFFF (hex), Hilscher: 0x00000011B (hex)
Product Type	Communication Adapter If unchecked, the default value is used.	0x00000000 ... 0x0000FFFF (hex), Default: 0x00000000C (hex)
Product Type	Product code of the device If unchecked, the default value is used.	0x00000000 ... 0xFFFFFFFF (hex), Default CIFX DN/DNS: 0x0000001C (hex), NETX 500 DN/DNS: 0x00000029 (hex), NETX 100 DN/DNS: 0x00000027 (hex), NETX 50 DN/DNS: 0x00000025 (hex)
Product Name	The variable Product Name is a text string that should represent a short description of the product/product family. If unchecked, the default value is used.	0 ... 31 ASCII Characters
Minor Rev	Minor Revision If unchecked, the default value is used.	1 ... 255, Default: 1

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Parameter	Meaning	Rage of Value / Value
Major Rev	Major Revision If unchecked, the default value is used.	1 ... 255, Default: 1
Serial Number	Serial number of the device If unchecked, the default value is used.	0x00000000 ... 0xFFFFFFFF (hex)

Table 21: Warmstart Parameters - DeviceNet Slave

6.1.5 EtherCAT Slave

Parameter	Meaning	Rage of Value / Value
Communication System	List field to select the communication system	Here: EtherCAT
Bus Startup	Communication start application controlled or automatic	Application controlled, Automatic (Default)
Watchdog Time [ms]	Watchdog time within which the device watchdog must be retriggered from the application program while the application program monitoring is activated. When the watchdog time value is equal to 0 the application program monitoring is deactivated.	[0, 20 … 65535] ms, default = 1000 ms, 0 = Off
I/O Data Status	Status of the input or the output data. For each input and output data the following status information (in Byte) is memorized in the dual-port memory: Status 0 = None (default) Status 1 = 1 Byte (for future use) Status 2 = 4 Byte (for future use)	None, (1 Byte, 4 Byte) Default: None
Input Length	Length of the input data in Byte	1… 256 Byte Default: 200 Byte
Output Length	Length of the output data in Byte	1… 256 Byte Default: 200 Byte
Vendor ID	Identification number of the manufacturer	0x00000000 ... 0xFFFFFFFF (hex), Hilscher: 0xE0000044 (hex)
Product Code	Product code of the device	0x00000000 ... 0xFFFFFFFF (hex), Default: CIFX RE/ECS: 0x00000001 (hex), COMX RE/ECS: 0x00000003 (hex), NETX 500 RE/ECS: 0x00000009 (hex), NETX 100 RE/ECS: 0x0000000C (hex), NETX 50 RE/ECS: 0x0000000A (hex)
Revision Number	Revision number of the device	0x00000000 ... 0xFFFFFFFF (hex), Default: CIFX RE/ECS, COMX RE/ECS: 0x00020001 (hex), NETX 500 RE/ECS, NETX 100 RE/ECS, NETX 50 RE/ECS: 0x00010000 (hex)
Serial Number	Serial number of the device	0x00000000 ... 0xFFFFFFFF (hex)

Table 22: Warmstart Parameters - EtherCAT Slave

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6.1.6 EtherNet/IP Slave

Parameter	Meaning	Rage of Value / Value
Communication System	List field to select the communication system	Here: EtherNet/IP
Bus Startup	Communication start application controlled or automatic	Application controlled, Automatic (Default)
Watchdog Time [ms]	Watchdog time within which the device watchdog must be retriggered from the application program while the application program monitoring is activated. When the watchdog time value is equal to 0 the application program monitoring is deactivated.	[0, 20 … 65535] ms, default = 1000 ms, 0 = Off
I/O Data Status	Status of the input or the output data. For each input and output data the following status information (in Byte) is memorized in the dual-port memory: Status 0 = None (default) Status 1 = 1 Byte (for future use) Status 2 = 4 Byte (for future use)	None, (1 Byte, 4 Byte) Default: None
Input Length	Length of the input data in Byte	1… 504 Byte, Default: 16 Byte
Output Length	Length of the output data in Byte	1… 504 Byte, Default: 16 Byte
Vendor ID	Identification number of the manufacturer	0 … 65535, Hilscher: 283
Product Type	Communication Adapter	0 … 65535, Default: 12
Product Code	Product code of the device	0 … 65535, Default CIFX RE/EIS: 257 COMX RE/EIS: 259 NETX 500 RE/EIS: 261 NETX 50 RE/EIS: 263 NETX 100 RE/EIS: 265
Major Rev	Major Revision	0 … 255, Default: 0
Minor Rev	Minor Revision	0 … 255, Default: 0
Devicename	Device name of the device station as character string, e. g. EtherNet/IP Adapter (Slave).	0 - 31 ASCII characters
IP Address	Valid IP address for the device If ‘Enabled’ is unchecked (Default setting), the device obtains its IP Address from a DHCP server or also from a BOOTP server, if this one is checked. If ‘Enabled’ is checked, the device uses the manually entered value.	Valid IP address Default: unchecked
Netmask	Valid Network mask for the device If ‘Enabled’ is unchecked (Default setting), the device obtains its Netmask from a DHCP server or also from a BOOTP server, if this one is checked. If ‘Enabled’ is checked, the device uses the manually entered value.	Valid network mask Default: unchecked
Gateway	Valid Gateway address for the device If ‘Enabled’ is unchecked (Default setting), the device obtains its Gateway Address from a DHCP server or also from a BOOTP server, if this one is checked. If ‘Enabled’ is checked, the device uses the manually entered value.	Valid gateway address Default: unchecked

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Parameter	Meaning	Rage of Value / Value
Gateway (continued)	There are three methods available, how the device can obtain its IP Address, Netmask and Gateway Address, one of which must be selected. These methods can also be combined. The device performs the following sequence in order to obtain the addresses: 1. from a DHCP server if DHCP is checked (if a DHCP server provides the requested addresses to the device, then the device uses these addresses) 2. from a BootP server if BootP is checked (if a BootP server provides the requested addresses to the device, then the device uses these addresses) 3. the addresses manually set are used. If the IP Address is set manually also the Network Mask must be set manually. The manually set Gateway Address is optional. If no DHCP server and no BootP server and no manually set addresses exist, then the protocol is not ready for initialization or for operation.	Valid gateway address Default: unchecked
Flags	BootP: If checked, the device obtains its IP Address, Netmask and Gateway address from a BOOTP server.	Default: unchecked
	DHCP: If checked, the device obtains its IP Address, Netmask, Gateway Address from a DHCP server.	Default: checked
	100Mbit: Speed Selection, If checked, the device will operate at 100 MBit/s, else at 10 MBit/s. This parameter will not be in effect, when auto-negotiation is active.	Default: unchecked
	FullDuplex: Duplex Operation, If checked, full-duplex operation will be used. The device will operate in half-duplex mode, if this parameter is set to zero. This parameter will not be in effect, when auto-negotiation is active.	Default: unchecked
	Auto-neg.: Auto-Negotiation, If checked, the device will auto-negotiate link parameters with the remote hub or switch.	Default: checked

Table 23: Warmstart Parameters - EtherNet/IP Slave

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6.1.7 Open Modbus/TCP Slave

Parameter	Meaning	Rage of Value / Value
Communication System	List field to select the communication system	Here: Open Modbus/TCP
Bus Startup	Communication start application controlled or automatic	Application controlled, Automatic Default CIFX RE/OMB: Automatic
Watchdog Time [ms]	Watchdog time within which the device watchdog must be retriggered from the application program while the application program monitoring is activated. When the watchdog time value is equal to 0 the application program monitoring is deactivated.	[0, 20 … 65535] ms, default = 1000 ms, 0 = Off
Open Server Sockets	Server Connections Number of sockets to provide for server requests* *A value of 0 means that the Open Modbus/TCP task exclusive works as Client, while a Value of 16 means that the Open Modbus/TCP task exclusive works as Server in Message-Mode. The parameters Send Timeout, Connect Timeout and Close Timeout are for the Timeout between the Open Modbus/TCP Task and the TCP Task.	0 ... **4** ... 16
Answer Timeout	Telegram Timeout Only for client jobs in message-mode. After expiration of this time, the job will be canceled and an error is send to the application. Value is multiplied with 100 ms. Note: This timeout starts after command is send to the destination device via TCP	100 ... **2000** ... 6000000
OMB Open Time	Connection remain open time Only for client jobs in message-mode. The connection to the destination-device stays open, until timeout is expired. Value is multiplied with 100 ms. Note: This timeout starts, after receiving the answer to a command	100 ... **1000** ... 6000000
Send Timeout	TCP Task SendTimeout Parameter Parameter for TCP task (in milliseconds) . Used OMB task internal. It specifies the timeout for trying to send messages via TCP/IP If the value 0 is selected, the default value of 31000 milliseconds is used.	**0** ... 65535
Connect Timeout	TCP Task Connect Timeout Parameter Parameter for TCP task (in milliseconds). Used OMB task internal. It specifies the timeout for trying to establish a connection with the TCP task. If the value 0 is selected, the default value of 31000 milliseconds is used.	**0** ... 65535
Close Timeout	TCP Task Close Timeout Parameter Parameter for TCP task (in milliseconds). Used OMB task internal. It specifies the timeout for trying to close a connection with the TCP task. If the value 0 is selected, the default value of 13000 milliseconds is used.	**0** ... 65535
Mode	Mode of data exchange: Message-Mode or IO-Mode	I/O Mode (default), Message Mode
Swap	Data-storage mode: Data will not be swapped or Data will be swapped.	Data will be swapped (default), Data will not be swapped
MAC Address	This parameter defines the Open Modbus address of the device within the Ethernet network. If ‘Enabled’ is unchecked (Default setting), the default value internally saved in the device is used. If ‘Enabled’ is checked, the device uses the manually entered value.	Valid MAC Address
IP Address	Valid IP address for the device If ‘Enabled’ is unchecked (Default setting), the device obtains its IP Address from a DHCP or BOOTP server. If ‘Enabled’ is checked, the device uses the manually entered value.	Valid IP address Default: unchecked

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Parameter	Meaning	Rage of Value / Value
Netmask	Valid Network mask for the device If 'Enabled' is unchecked (Default setting), the device obtains its Netmask from a DHCP or BOOTP server. If 'Enabled' is checked, the device uses the manually entered value.	Valid network mask Default: unchecked
Gateway	Valid Gateway address for the device If 'Enabled' is unchecked (Default setting), the device obtains its Gateway Address from a DHCP or BOOTP server. If 'Enabled' is checked, the device uses the manually entered value.	Valid gateway address Default: unchecked
IP Address Netmask Gateway (continued)	There are three methods available, how the device can obtain its IP Address, Netmask and Gateway Address, one of which must be selected. These methods can also be combined. The device performs the following sequence in order to obtain the addresses: 1. from a DHCP server if DHCP is checked (if a DHCP server provides the requested addresses to the device, then the device uses these addresses) 2. from a BootP server if BootP is checked (if a BootP server provides the requested addresses to the device, then the device uses these addresses) 3. the addresses manually set are used. If the IP Address is set manually also the Network Mask must be set manually. The manually set Gateway Address is optional. If no DHCP server and no BootP server and no manually set addresses exist, then the protocol is not ready for initialization or for operation.	
Flags	BootP: If checked, the device obtains its IP Address, Netmask, Gateway Address from a BOOTP server.	Default: unchecked.
	DHCP: If checked, the device obtains its IP Address, Netmask, Gateway Address from a DHCP server.	Default: unchecked.

Table 24: Warmstart Parameters - Open Modbus/TCPSlave

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6.1.8 PROFIBUS Slave

Parameter	Meaning	Rage of Value / Value
Communication System	List field to select the communication system	Here: PROFIBUS
Bus Startup	Communication start application controlled or automatic	Application controlled, Automatic (Default)
Watchdog Time [ms]	Watchdog time within which the device watchdog must be retriggered from the application program while the application program monitoring is activated. When the watchdog time value is equal to 0 the application program monitoring is deactivated.	[0, 20 … 65535] ms, default = 1000 ms, 0 = Off
Ident Number	PROFIBUS Identification Number	0x00000000 ... 0x0000FFFF (hex), Default: CIFX DP/DPS: 0x000000B69 (hex)
Bus Address	PROFIBUS address of the device	0 … 126
Baudrate	Network Baud Rate	9,6 kBit/s 19,2 kBit/s 93,75 kBit/s 187,5 kBit/s 500 kBit/s 1,5 MBit/s 3 MBit/s 6 MBit/s 12 MBit/s 31,25 kBit/s 45,45 kBit/s Auto detect Default: CIFX DP/DPS: Auto-Detect
Flags	DPV1 Enable: If checked, DPV1 is supported or the DPV1 functions are activated.	Default: unchecked
	Sync supported: If checked, the Slave stack supports the SYNC command or the SYNC mode is activated.	Default: unchecked
	Freeze supported: If checked, the Slave stack supports the FREEZE command or the FREEZE mode is activated.	Default: unchecked
	Fail safe supported: If checked, the FAILSAFE operation is supported or the FAILSAFE mode is activated.	Default: unchecked
	Address change not allowed: If checked, the Slave stack supports the Set Slave Address command. The bus address can be changed via the Master.	Default: unchecked
I/O Data Status	Status of the input or the output data. For each input and output data the following status information (in Byte) is memorized in the dual-port memory: Status 0 = None (default) Status 1 = 1 Byte (for future use) Status 2 = 4 Byte (for future use)	None, (1 Byte, 4 Byte) Default: None
Config Data Length	Number of bytes following	Default: 2

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Parameter	Meaning	Rage of Value / Value
Config Data	Configuration data for the output and input length. The identifier Byte (can be specified in two alternative forms): General Identifier Byte (coded according to the Profibus standard) or Special Identifier Byte Format (SIF) For details refer to the PROFIBUS-DP Slave Protocol API Manual: for the General Identifier Byte refer to chap. 5.3.3.2, for the Special Identifier Byte Format (SIF) refer to chap. 5.3.3.3/5.3.3.4. Example: 21.11 / \ 2 Byte Output 2 Byte Input	Default: 21,11 hex

Table 25: Warmstart Parameters - PROFIBUS Slave

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6.1.9 PROFINET IO-Device (V2)

Note: By default the warmstart parameters for the PROFINET IO-Device (V3 Stack) are supported.

Parameter	Meaning	Range of Value / Value
Communication System	List field to select the communication system	Here: PROFINET
Bus Startup	Communication start application controlled or automatic	Application controlled, Automatic (Default)
Watchdog Time [ms]	Watchdog time within which the device watchdog must be retriggered from the application program while the application program monitoring is activated. When the watchdog time value is equal to 0 the application program monitoring is deactivated.	[0, 20 … 65535] ms, default = 1000 ms, 0 = Off
Name of Station	Station name or network name of the PROFINET IO-Controller or Device station. Must be DNS compatible name.	Character string, 0 - 240 characters
Type of Station	Type name of the PROFINET station; name can be assigned freely.	Character string, 0 - 240 characters
Vendor ID	Identification number of the manufacturer, assigned by PROFIBUS Nutzerorganisation e. V.	0x00000000 ... 0xFFFFFFFF (hex), Hilscher: 0x00000011E (hex)
Device ID	Identification number of the device, freely eligibly by the manufacturer, fixed for every device.	0x00000000 ... 0x0000FFFF (hex), für CIFX 50-RE: 0x00000103 (hex)
Device Type	Description of the device type, freely eligible	Character string, 0 - 25 characters
Order ID	Hilscher device number (e. g. 1250 100) or order description of the customer for its device	Character string, 0 - 20 characters
I/O Data Status	Status of the input or the output data. For each input and output data the following status information (in Byte) is memorized in the dual-port memory: Status 0 = None (default) Status 1 = 1 Byte (for future use) Status 2 = 4 Byte (for future use)	None, (1 Byte, 4 Byte) Default: None
Input Data Length	Length of the input data in Byte	0 … 1024 Byte Default: 128 Byte
Output Data Length	Length of the output data in Byte	0 … 1024 Byte Default: 128 Byte

Table 26: Warmstart Parameters - PROFINET IO-Device (V2 Stack)

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6.1.10 sercos Slave (V2)

Note: By default the warmstart parameters for the sercos (V3 Stack) are supported.

Parameter	Meaning	Range of Value / Value
Communication System	List field to select the communication system	Here: sercos Slave
Bus Startup	Communication start application controlled or automatic	Application controlled, Automatic
Watchdog Time [ms]	Watchdog time within which the device watchdog must be retriggered from the application program while the application program monitoring is activated. When the watchdog time value is equal to 0 the application program monitoring is deactivated.	[0, 20 … 65535] ms, default = 1000 ms, 0 = Off
I/O Data Status	Status of the input or the output data. For each input and output data the following status information (in Byte) is memorized in the dual-port memory: Status 0 = None (default) Status 1 = 1 Byte (for future use) Status 2 = 4 Byte (for future use)	None, (1 Byte, 4 Byte) Default: None
Device Address	Address for the sercos Slave. The address range is from 1 to 127.	[1 … 127]
Object Dictionary	Location of the Object Dictionary for Service Channel: local or Host	local, Host 0= local 1= Host (not supported yet) Default = 0
IP Address Netmask Gateway Flags (BootP, DHCP)	The sercos Slave does not support the settings of the IP Address, Netmask and Gateway address or the methods for its transmission DHCP and BootP.	

Table 27: Warmstart Parameters - sercos Slave (V2 Stack)

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[2] cifX Device Driver, Windows 2000/XP/Vista/7/8, V1.2.x.x, Revision 22, Hilscher GmbH 2013

6.7 Glossary

cifX

Communication **I**nter**F**ace based on net**X**

netX

networX on chip, Hilscher network communication controllers

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