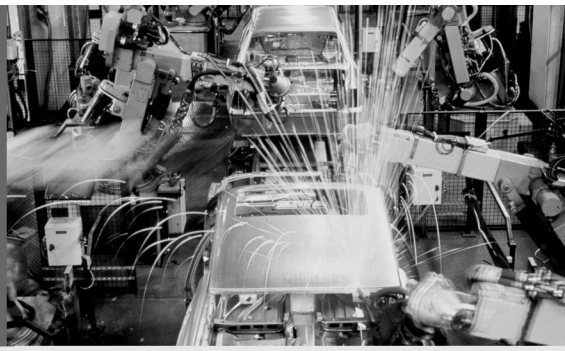
INSTALLATION INSTRUCTIONS

DeviceNet Safety™ Configurator



Safety Network Configuration Tool

GB

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Sensor Intelligence.

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1 About this document

Thank you for purchasing SICK DeviceNet Safety Configurator software. Please read this chapter carefully before working with this documentation and the software.

Note When used, the product code *SNCT* contained in this document is synonymous to the SICK DeviceNet Safety Configurator, a Safety Network Configuration Tool for DeviceNet Safety. Please refer to separate operating instructions for DeviceNet Safety components that are used with this software.

1.1 Function of this document

These installation instructions are designed to address *the technical personnel of the machine manufacturer* or *the machine operator* with regard to the installation of DeviceNet Safety Configurator software.

These installation instructions do not provide instructions for operating machines on which this software has been, or could be installed or integrated. Information on this is to be found in the appropriate operating instructions of the machine provided by the machine manufacturer.

1.2 Target group

This manual is intended for the following personnel, who must have knowledge of electrical systems (an electrical engineer or the equivalent).

- personnel in charge of introducing factory automation and safety systems into production facilities
- personnel in charge of designing factory automation and safety systems
- personnel in charge of managing factory automation facilities
- personnel who have the qualifications, authority, and obligation to provide safety during each of the following product phases: mechanical design, installation, operation, maintenance, and disposal

1.3 Scope

These operating instructions are applicable DeviceNet Safety Configurator version 1.34 or higher.

You will require version 3.11 or higher of the CDS (Configuration & Diagnostic Software) in order to configure and diagnose these devices locally or via the DeviceNet/DeviceNet Safety network. Verify that you are installing the correct version of CDS by checking the version reference on the installation CD. After installation, you may determine the version of your CDS software version, by selecting the **Info...** option in the **?** menu.

1.4 Abbreviations and definitions

ODVA Open DeviceNet Vendor Association = A non-profit association of vendors established for the promotion of DeviceNet/DeviceNet Safety.

SNCT Safety Network Configuration Tool used for the configuration of DeviceNet Safety-capable devices (i. e. DeviceNet Safety Configuration Tool with Safety Extensions)

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1.5 Symbols used

Recommendation Recommendations are designed to give you some assistance in your decision-making process with respect to a certain function or a technical measure.

Notes Refer to notes for special features of the device.

WARNING

Warning!

A warning notice indicates an actual or potential risk or health hazard. They are designed to help you to prevent accidents.

➢Carefully read and follow the warning notices!

Software notes show the location in the CDS (Configuration & Diagnostic Software) where you can make the appropriate settings and adjustments.

DeviceNet™ DeviceNet™ is a registered trademark of the Open DeviceNet Vendor Association, Inc. (ODVA). Other product names and company names referenced in this manual are trademarks or registered trademarks of their respective companies.

1.6 System compatibility

The minimum requirements for installation of DeviceNet Safety Configurator are indicated in the table below:

Tab. 1: System requirements

Description	Requirement
Hardware Requirements	Intel Pentium™ Microprocessor 350MHz or faster 128 MB RAM 300 MB Hard Disk Drive CD-ROM Drive VGA Monitor
Operating System	Microsoft™ Windows 2000™ or Microsoft™ Windows XP™

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1.7 Related documents

These installation instructions describe the installation of a DeviceNet Safety Configurator and the subsequent installation of the Configuration and Diagnostic Software (CDS) and the UE4470 USB driver.

➢ Please read these installation instructions and the operating instructions associated with devices utilized as part of your safety system carefully and be sure you understand the information provided before attempting to configure a DeviceNet Safety system.

WARNING

Read and understand the operating instructions of this software and the devices that are connected on your DeviceNet and DeviceNet Safety network!

Failure to read and understand the information provided in this manual and the operating instructions associated with devices that are monitored or controlled via DeviceNet and DeviceNet Safety may result in personal injury or death, damage to the product, or product failure. Please read each section in its entirety and be sure you understand the information provided in the section and related sections before attempting any of the procedures or operations given.

The following manuals provide additional information regarding DeviceNet, DeviceNet Safety and SICK DeviceNet Safety components:

- **DeviceNet Safety System Configuration Manual (SICK Part No. 8011293)**

  This manual explains how to configure the DeviceNet Safety system using the DeviceNet Safety Configurator.

- **UE4470 Safety Network Controller Operating Instructions (SICK Part No. 8011215)**

  This manual describes the specifications, functions, and usage of the UE4470-22EE690.

- **UE4421 IP20 Remote I/O Operating Instructions (SICK Part No. 8011213)**

  This manual describes the specifications, functions and usage of the UE4421 IP20 Remote I/O devices.

- **UE4455 IP67 Remote I/O Operating Instructions (SICK Part No. 8011214)**

  This manual describes the specifications, functions and usage of the UE442x and UE445x IP67 Remote I/O devices.

- **DeviceNet Cable System — Planning and Installation Manual (Pub. 00027R1)**

  This manual, published by the **Open DeviceNet Vendor Association (ODVA)**, describes the construction and connection of a DeviceNet network. It provides detailed information on the installation and specifications of cables, connectors, and other peripheral equipment used in the network, and on the supply of communications power. Obtain this manual and gain a firm understanding of its contents before using a DeviceNet system.

1.8 Suitability for use

SICK shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

1.9 Programmable products

SICK shall not be responsible for your programming of a programmable product, or any consequence thereof.

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1.10 Changes to specifications

SICK product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your SICK representative at any time to confirm actual specifications of purchased products.

1.11 Errors and omissions

The information in this manual has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

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2 Installation of DeviceNet Safety Configurator

The installation begins by inserting the DeviceNet Safety Configurator CD-ROM into your computer. When the CD is inserted into the computer, the installation should start automatically.

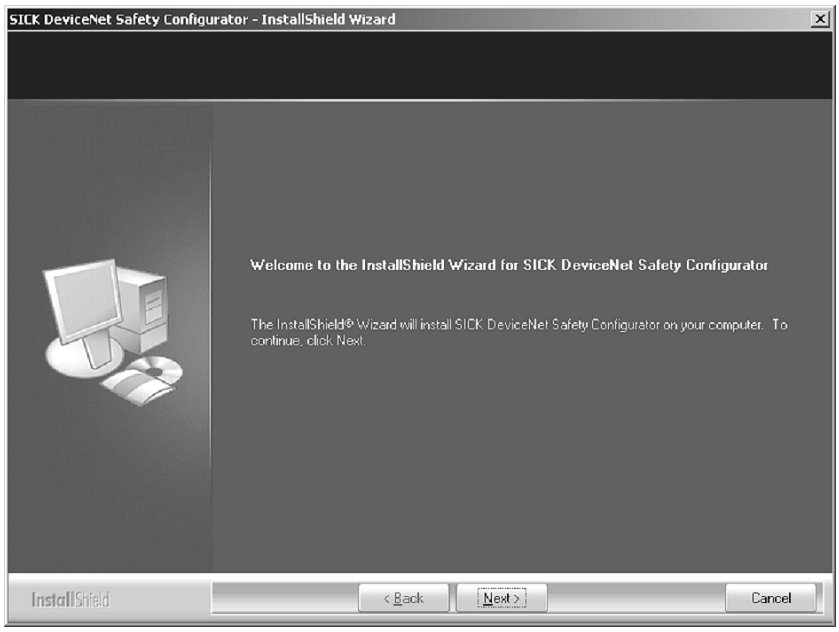
If the installation does not start automatically, click **Start** and then select **Run** and then click **Browse**. Locate and select the **setup.exe** file located on the CD-ROM and then click **OK**. This will start the installation of the software.

The following screens outline the software installation steps.

2.1 Step 1: Welcome screen

Step 1 is provides an introduction screen as shown below.

Fig. 1: SNCT installation — welcome screen



➢When you are finished reading the information, Click **Next >**.

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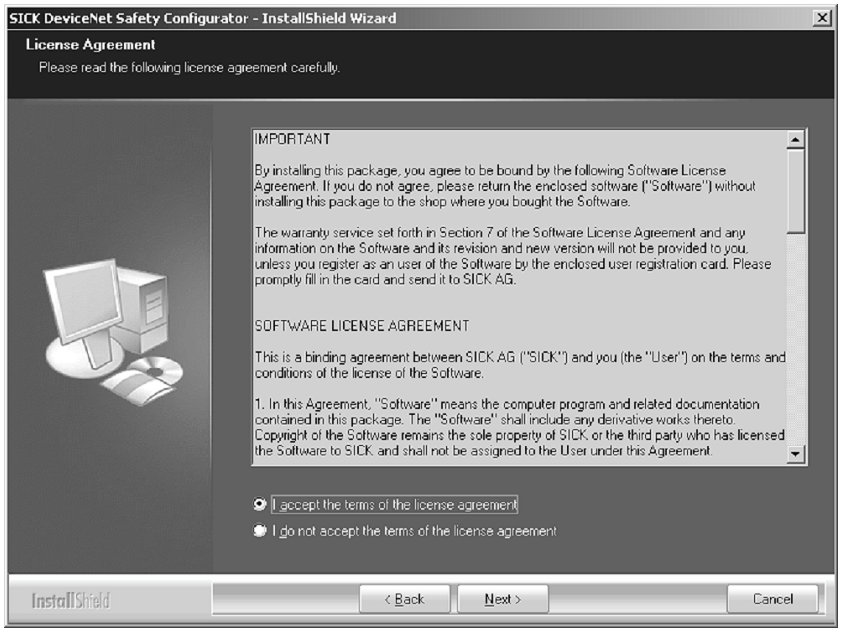
2.2 Step 2: Licensing agreement

The next screen outlines the license agreement for the software.

Fig. 2: SNCT installation — license agreement

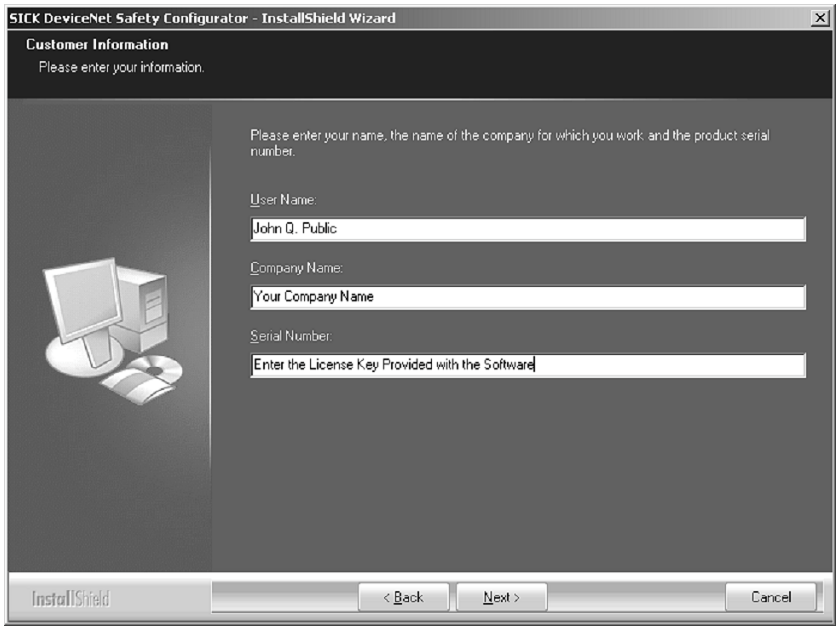


➢ When you are finished reading the information, you must indicate your acceptance of this license agreement by clicking the appropriate radio button and then click the **Next >** button.

2.3 Step 3: Customer information and license key

➢ Enter your **user name**, **company name** and the **serial number** (license key) information. The license key was provided to you on a separate sheet of paper that also includes the terms and conditions of use. This document should have accompanied your CD-ROM installation software. When you are finished entering this information, click the **Next >** button.

Fig. 3: SNCT installation — customer information and license key



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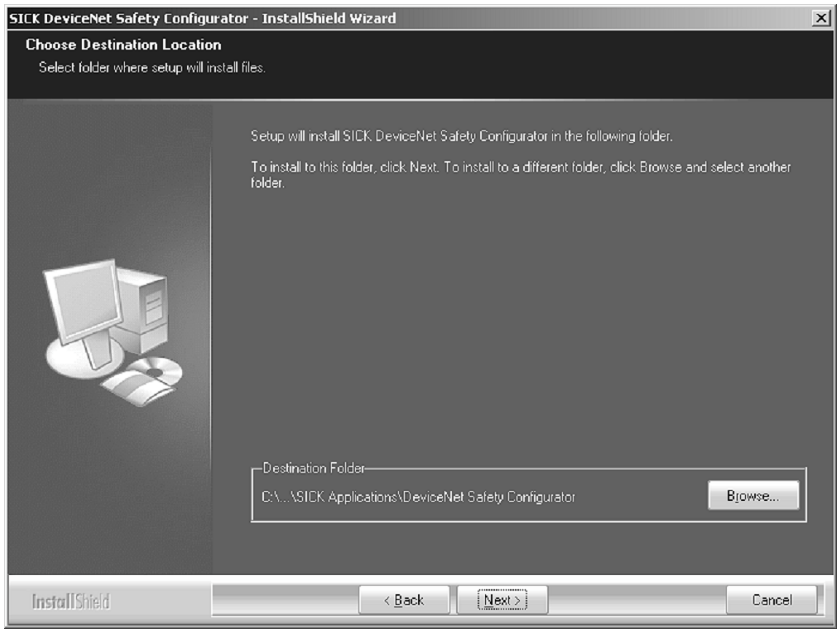
2.4 Step 4: Choose destination folder

The next screen prompts you to provide a folder location for the installation to occur. We recommend that you utilize the default folder information indicated at the bottom of the screen (e.g. **Destination Folder** shown below).

Fig. 4: SNCT installation — choose destination folder



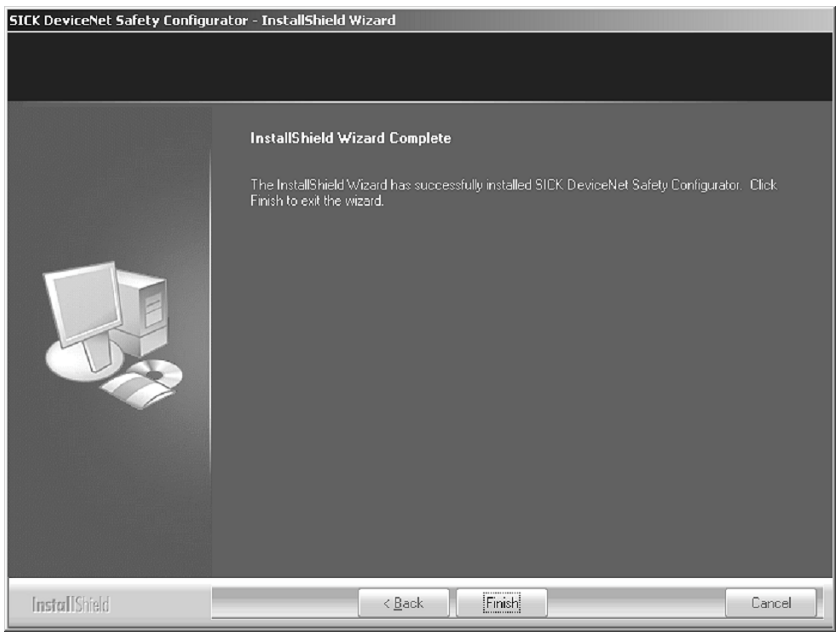
➢ If you wish to change the default folder, click the **Browse** button and follow the prompts.

➢ Click the **Next >** button to install DeviceNet Safety Configurator on to your computer.

2.5 Step 5: Finish installation

When the following screen appears, you have successfully installed DeviceNet Safety Configurator.

Fig. 5: SNCT installation — finish



➢ Click the **Finish** button to complete the installation process and close the dialog.

➢ To install the configuration files for DeviceNet Safety Devices, you may utilize the **.EDS** file installation tool (described in the system configuration manual) or install Configuration and Diagnostic Software (CDS) as described in chapter 4 on page 14.

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3 UE4470 USB driver installation

The UE4470 Safety Network Controller has a built in interface for DeviceNet Safety that allows you to utilize DeviceNet Safety Configurator to configure the DeviceNet network, DeviceNet Safety Network and devices connected to the network.

Access to this interface is accomplished via Universal Serial Bus (USB) using a proprietary protocol that must be installed into DeviceNet Safety Configurator. The following sections identify the process steps to accomplish the installation of the UE4470 USB protocol into your PC.

To connect DeviceNet Safety Configurator to DeviceNet/DeviceNet Safety via the USB port on the UE4470 Safety Network Controller, you must install the UE4470 USB protocol driver on your computer. The following steps are required:

3.1 Step 1: Software and hardware requirements

- Provide connection of power to the UE4470 Safety Network Controller by connecting 24 V DC to U_{L1}, U_{L2} and U_S and COM to G_{L1}, G_{L2} and G_S.
- Turn ON the power supply to the UE4470 Safety Network Controller.
- Connect the UE4470 Safety Network Controller to the computer using a USB-A to USB-B cable (see UE4470 Safety Network Controller Accessories for ordering information).
- Insert the DeviceNet Safety Configurator CD-ROM into the CD-ROM drive of your computer.

3.2 Step 2: Hardware wizard starts

New hardware will be found, and the Hardware Wizard will start.

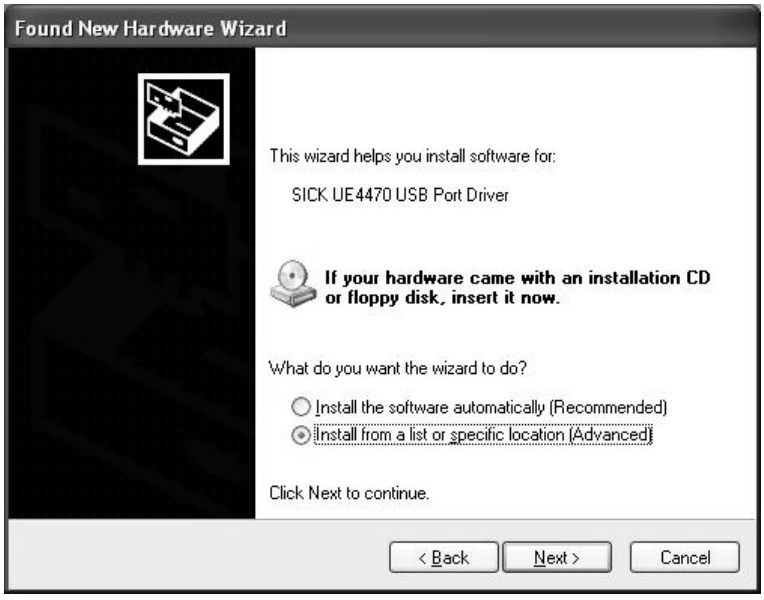

Fig. 6: USB driver installation — found new hardware wizard

- Select the **Install from a list or specific location** option and click the **Next >** button.

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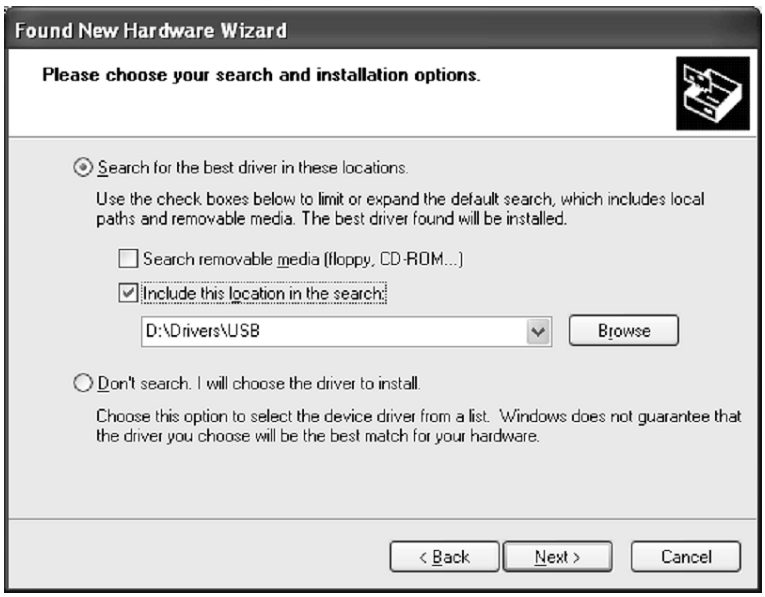
3.3 Step 3: Specify hardware wizard driver location

➢ Select the **Search for the best driver in these locations** option to install the driver from the CD-ROM and select the **Include this location in the search** check box.

➢ Specify the **\Drivers\USB** folder on the CD-ROM drive for the folder to search in the driver and click the **Next >** button.

Fig. 7: USB driver installation — installation options



3.4 Step 4: Potential warning message

A warning message may be displayed that indicates the driver has not passed Windows Logo testing.

Fig. 8: USB driver installation — verifying windows driver compatibility

➢ If such a warning message is displayed, ignore it and click the **Continue Anyway** button to go on to the next step.

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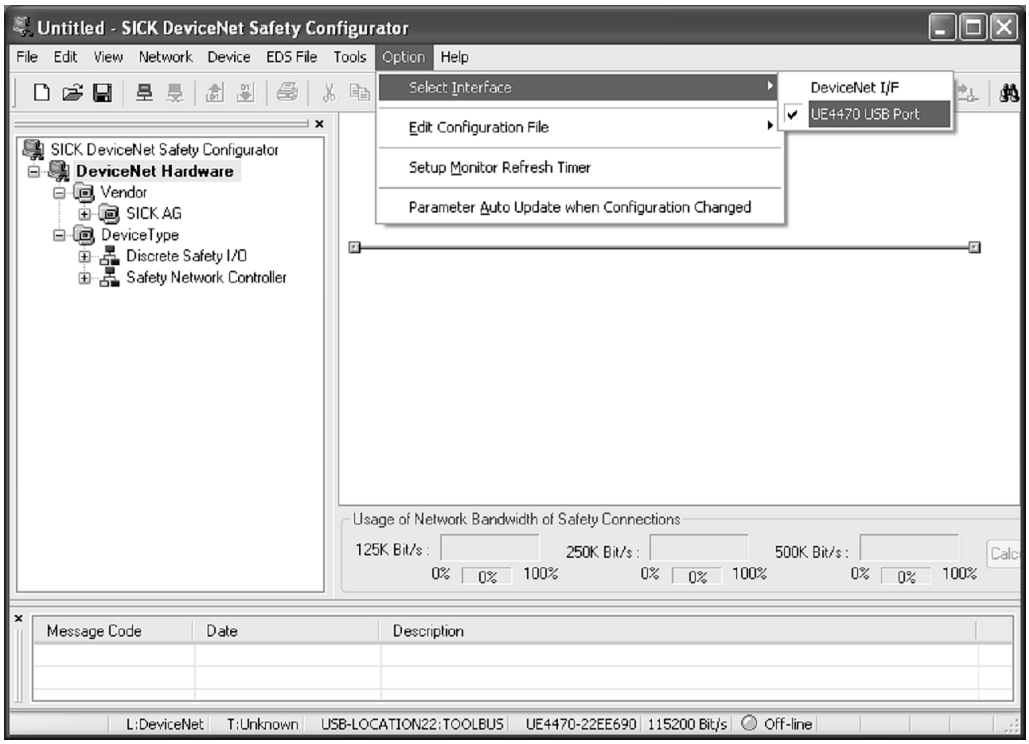
3.5 Step 5: Finish installation

At this point Windows will continue with the installation of the driver. When the installation is finished, the following dialog box will be displayed.

Fig. 9: USB driver installation — finish

- Click the **Finish** button to complete the installation process and close the dialog.
- To verify that DeviceNet Safety Configurator recognizes the USB port driver, start the DeviceNet Safety Configurator Software.
- Select **Option** and then **Select Interface** to verify that the UE4470 USB Port is available and checked.

Fig. 10: USB driver installation — interface selection in DeviceNet Safety Configurator



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4 Installation of DeviceNet Safety Component Configuration Tools

After DeviceNet Safety Configurator is installed on your computer, the next step is to install the DeviceNet Safety configuration tools. These tools may be downloaded from the SICK or ODVA websites, but are also included on the Configuration and Diagnostic Software (CDS) that accompanies the DeviceNet Configurator Installation software that you just installed.

These configuration tools consist of electronic data sheets (**.EDS**) files and special plug-in software for embedding the configuration tool into a compatible safety network configuration tool (SNCT) like DeviceNet Safety Configurator.

To install these configuration tools into your safety network configuration tool, use the steps outlined in following sections. For local configuration of devices using stand-alone CDS, follow the instructions that accompany the software.

The installation begins by inserting the Configuration and Diagnostic Software (CDS) CD-ROM into your computer. When the CD is inserted into the computer, the installation should start automatically.

If the installation does not start automatically, Click **Start** and then select **Run** and then click **Browse**. Locate and select the **setup.exe** file located on the CD-ROM and then click **OK**. This will start the installation of the software.

The following screens outline the software installation steps.

4.1 Step 1: Select language

Once the installation program has started, you will be prompted to select the language you wish to use during the installation.

Fig. 11: CDS installation — language selection

➢Select which language you would like to utilize and then click the **OK** button.

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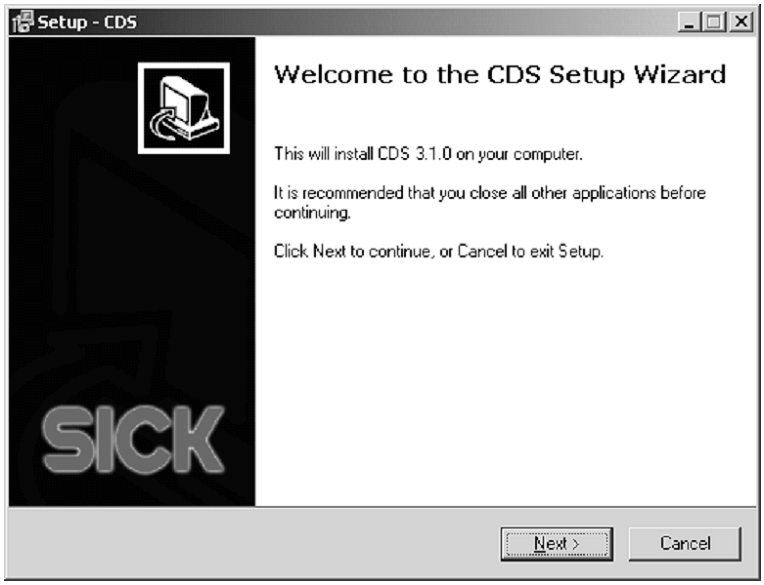
4.2 Step 2: Welcome screen

The next screen is the welcome screen for the installation process.

Fig. 12: CDS installation — welcome screen

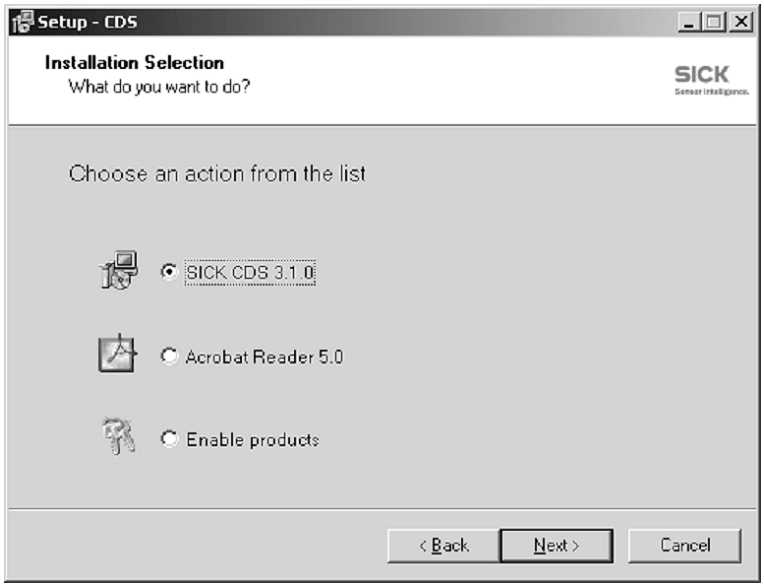


➢ Once you have read the information presented, click the **Next >** button to proceed.

4.3 Step 3: Installation selection

Select the function you wish to perform using the radio buttons as shown below.

Fig. 13: CDS installation — installation selection



➢ For initial installation, select the **SICK CDS 3.#.#** radio button and then click the **Next >** button.

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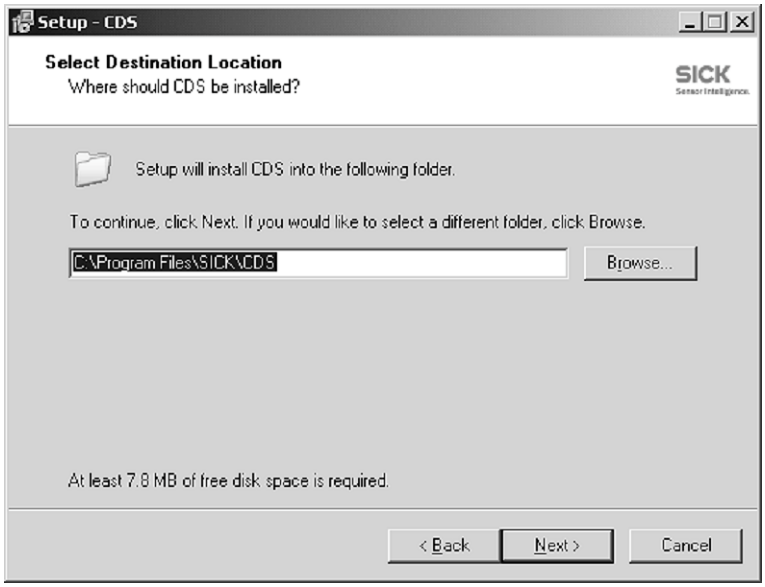
4.4 Step 4: Destination location

Fig. 14: CDS installation — destination location

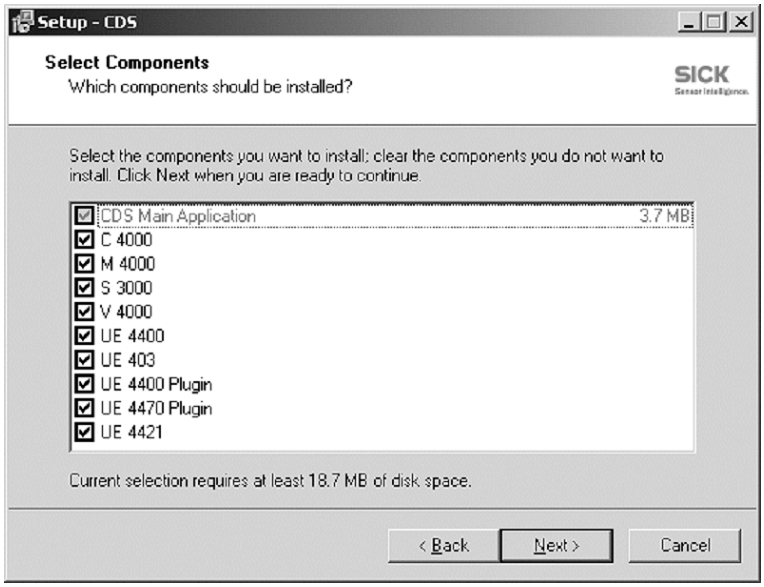


➢ Enter the folder you wish to have the software installed into. We recommend that you utilize the default direction that is indicated in the dialog box shown below.

➢ Click the **Next >** button.

4.5 Step 5: Select components

Fig. 15: CDS installation — select components



➢ Select the components you will utilize for configuration.

– For DeviceNet Safety, make sure that the UE4400 Plugin, the UE4470 Plugin and the UE4421 checkboxes are checked.

– If you will be utilizing C4000 safety light curtains or S3000 scanners, make sure that these checkboxes are checked as well.

➢ When you have finished making your selections, click the **Next >** button.

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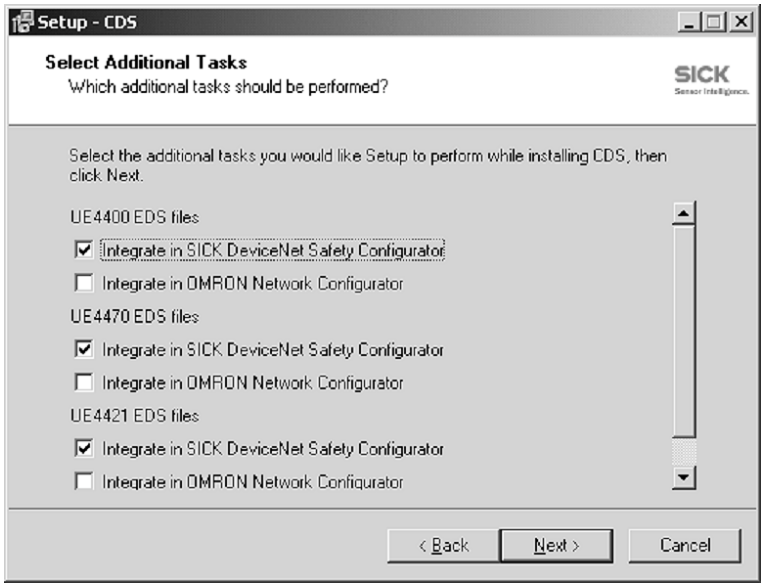
4.6 Step 6: Integration with DeviceNet Safety Configurator (additional tasks)

The next dialog provides a means of integrating the device configuration tools directly into DeviceNet Safety Configurator or other compatible safety network configuration tool. The software automatically detects the location of the safety network configuration tool(s) installed on your computer.

Fig. 16: CDS installation — additional tasks

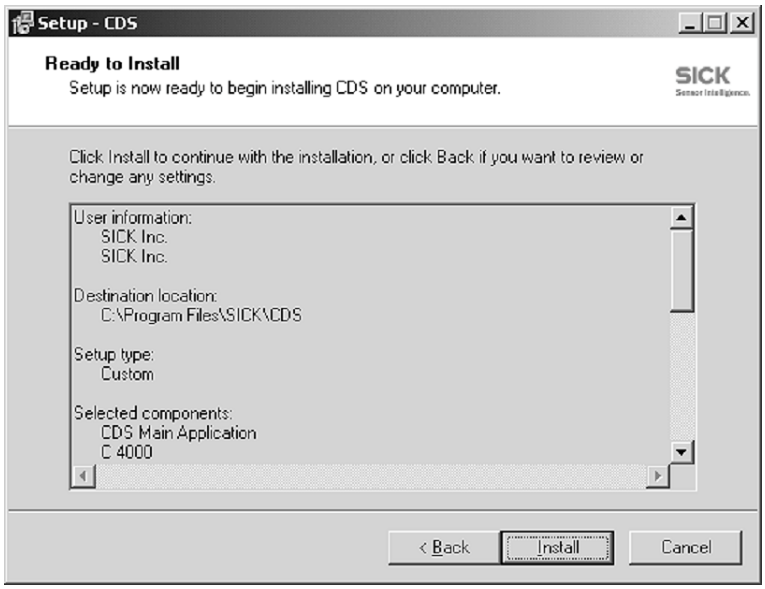


➢Check the appropriate checkboxes and then click the **Next >** button.

4.7 Step 7: Confirmation of installation settings

The next dialog provides a summary of the configuration parameters you have selected for your installation.

Fig. 17: CDS installation — confirmation of installation settings



➢Review the information presented and if acceptable, click the **Install** button.

Or

If you wish to make changes, click the **< Back** button to return to previous dialogs to make the necessary adjustments.

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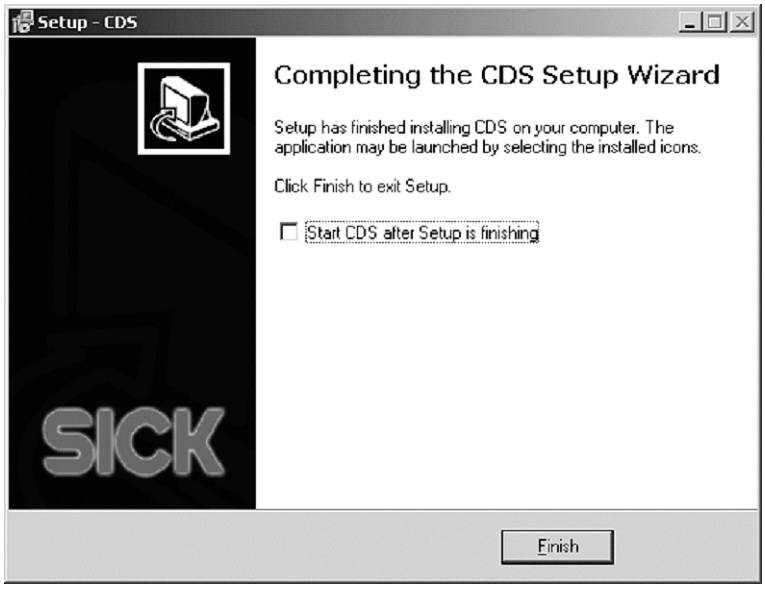
4.8 Step 8: Finish installation

Fig. 18: CDS installation — finish installation

When the installation process is finished, the following dialog is displayed:



- If you wish to launch CDS for local configuration of UE4400 IP67 remote I/O bus nodes, check the checkbox entitled **Start CDS after Setup is finishing**.
- Click the **Finish** button to complete the installation process and close the dialog.

For configuration of devices using DeviceNet Safety Configurator, start the DeviceNet Safety Configurator software to access the configuration parameters. Refer to the DeviceNet Safety Configurator System Configuration Manual for additional information.

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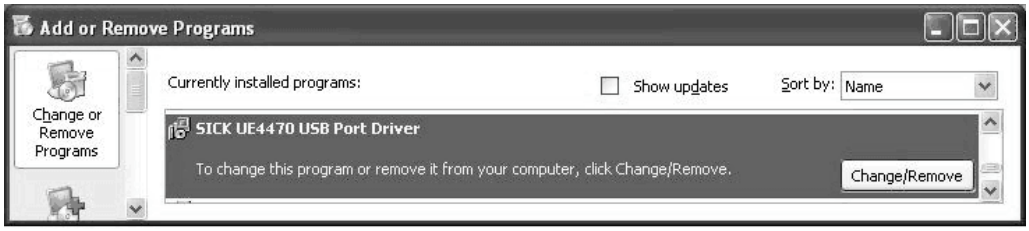
5 Uninstalling DeviceNet Safety Configurator

To uninstall DeviceNet Safety Configurator from your computer, please use the following procedure:

5.1 Step 1: Removal of the UE4470 USB driver

➢ Open the Control Panel and double-click on the **Add or Remove Programs** icon. The following dialog will be displayed.

Fig. 19: USB driver removal — accessing the uninstall programm



➢ From the list of programs, select the **SICK UE4470 USB Port Driver**.

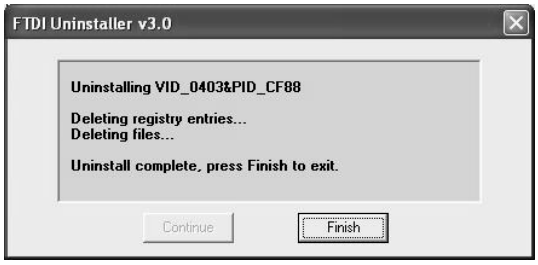
➢ Click on the **Change/Remove** button. This will cause the uninstall program for the USB driver to start. The following dialog will be displayed:

Fig. 20: USB driver removal — confirmation of the uninstall process

➢ If the USB cable is still connected between your computer and the UE4470, please disconnect the cable.

➢ Then click on the **Continue** button. When the uninstall process is complete the following dialog is displayed:

Fig. 21: USB driver removal — finish



➢ Click the **Finish** button to complete the uninstall process of the UE4470 USB driver.

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5.2 Step 2: Removal of DeviceNet Safety Configurator

➢ Open the Control Panel and double-click on the **Add or Remove Programs** icon. The following dialog will be displayed.

Fig. 22: SNCT removal — accessing the uninstall programm

➢ From the list of programs, select the **SICK DeviceNet Safety Configurator**.

➢ Click on the **Change/Remove** button. This will cause the uninstall program for DeviceNet Safety Configurator to start. The following dialog will be displayed:

Fig. 23: SNCT removal — preparing the uninstall process

Then a confirmation dialog will be displayed asking you to confirm that you want to remove DeviceNet Safety Configurator from your computer.

Fig. 24: SNCT removal — confirmation of the uninstall process

➢ To confirm that you wish to uninstall the software and begin the process, click the **Yes** button.

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When the uninstall process is finished, the following dialog is displayed:

Fig. 25: SNCT removal — finish

➢Click **Finish** to complete the uninstall process and close the dialog.

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