

Leica T-Scan 5

PC Installation Manual



Version 1.10
English

- when it has to be **right**

Leica
Geosystems

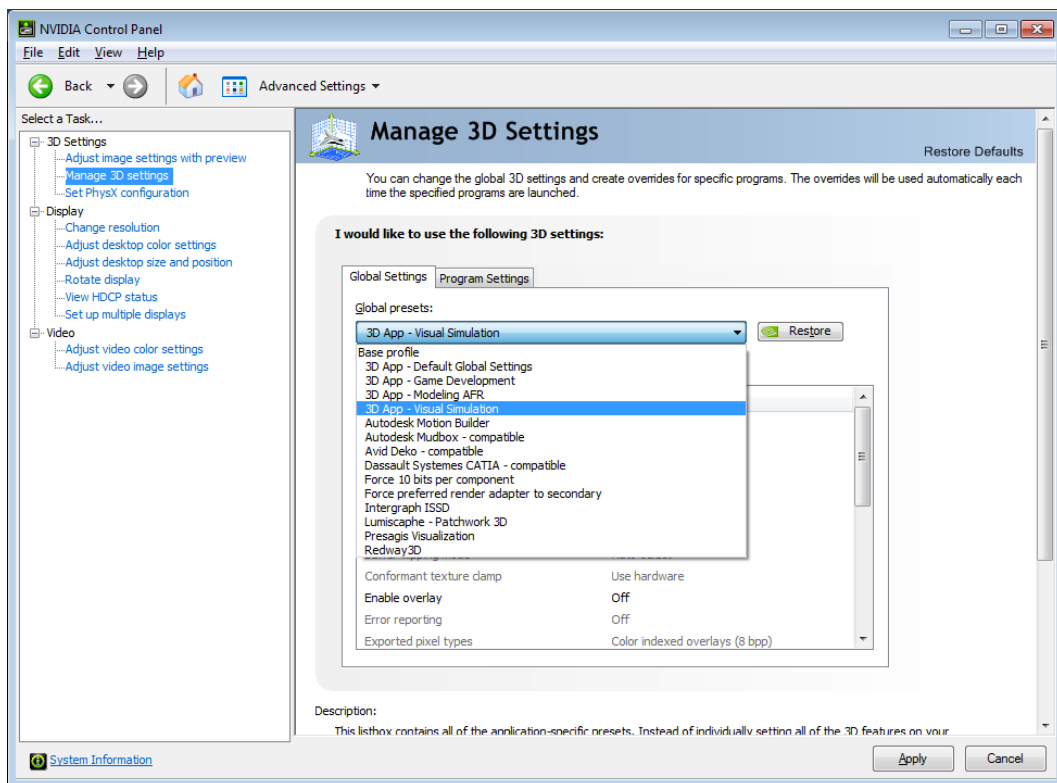
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1 Windows Settings


1.1 Set NVIDIA global Preset

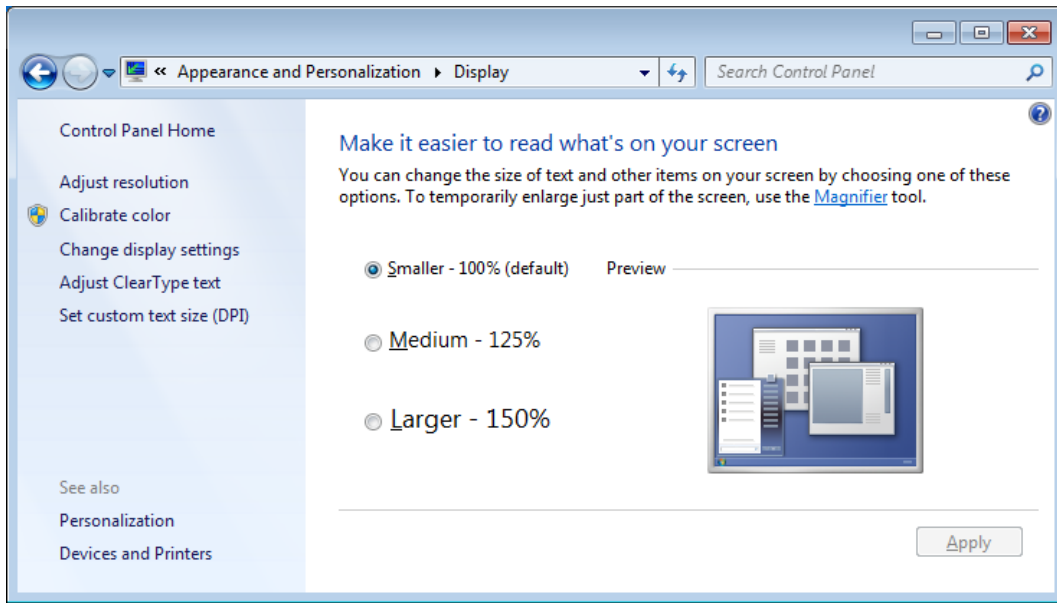
1. Right click into an empty area on the Windows desktop to open the context menu. Click on 'NVIDIA Control Panel'.
2. In the Task Menu on the left side select 3D-Settings -> 'Manage 3D settings'.
3. In the 'Global Settings' tab click on the drop-down box for the 'Global presets'.
4. Select '3D App – Visual Simulation' and click 'Apply'.
5. Close the 'NVIDIA Control Panel'.



1.2 Set Size of Text and other Items



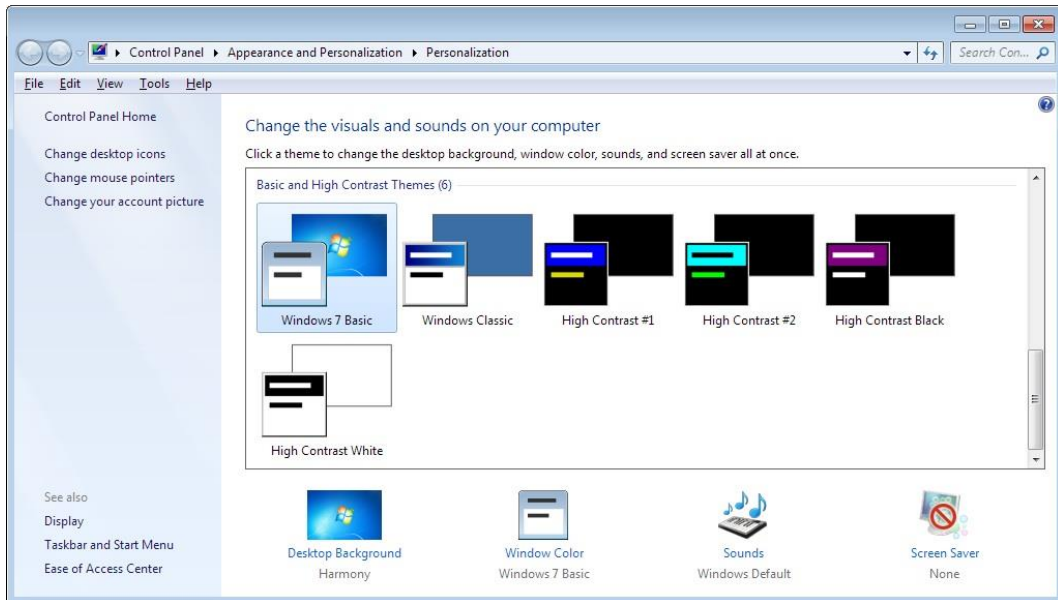
1. Press the Windows key , enter 'Display' in the control panel and start the application.
2. Choose 'Smaller – 100% (default)' and confirm with 'Apply'.
3. Close the Window.



1.3 Deactivate Windows Aero




1. Press the Windows key, enter 'Personalization' in the control panel and start the application.
2. Select the 'Windows 7-Basic' design.

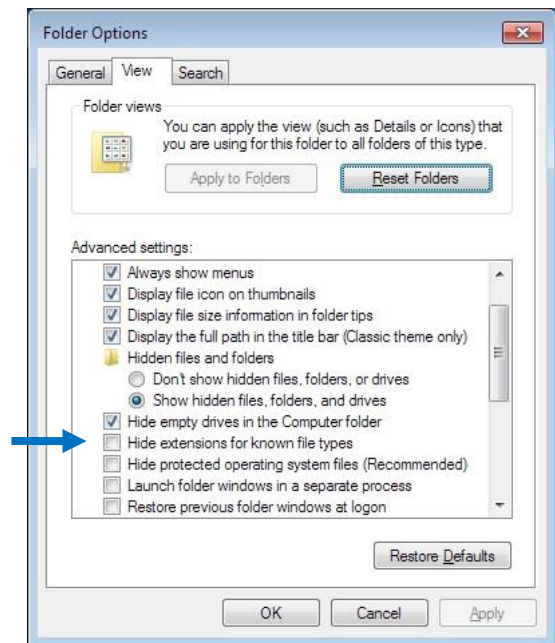
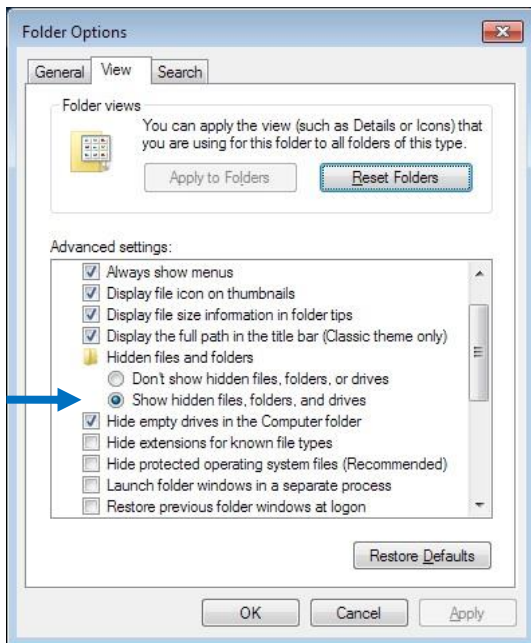


3. Close the dialog window.
4. Aero has been deactivated successfully if the switching of dialogs by key combination <Windows> + <TAB> is disabled.

1.4 Change Display Options of Files and Folders




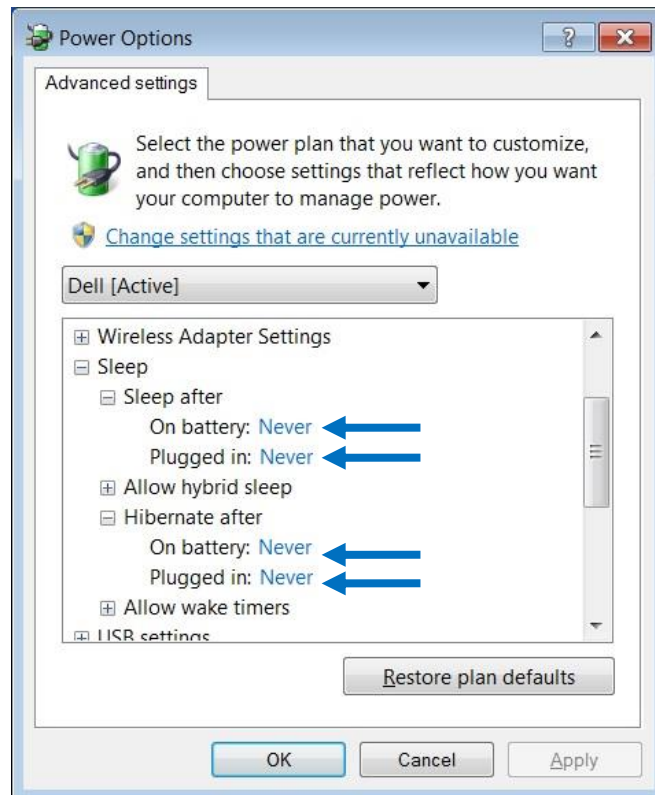
1. Press the Windows key , enter 'Folder Options' in the control panel and start the application.
2. Switch to the 'View' tab.
3. Make sure to check 'Show hidden files, folder and drives' below item 'Hidden files and folders'.
4. Make sure to uncheck 'Hide extensions for known file types' in the 'Advanced settings' list.



1.5 Deactivate Sleep After and Energy saving Modes




1. Press the Windows key , enter 'Power options' in the control panel and start the application.
2. Enlarge the option 'Sleep' and modify the following items:
 - 'Sleep after' →
 - On battery: Never (0 min)
 - Plugged in: Never (0 min)
 - 'Hibernate after' →
 - On battery: Never (0 min)
 - Plugged in: Never (0 min)



3. Close the dialog by pressing "OK".

1.6 Deactivate Energy saving Mode of Network Adapters

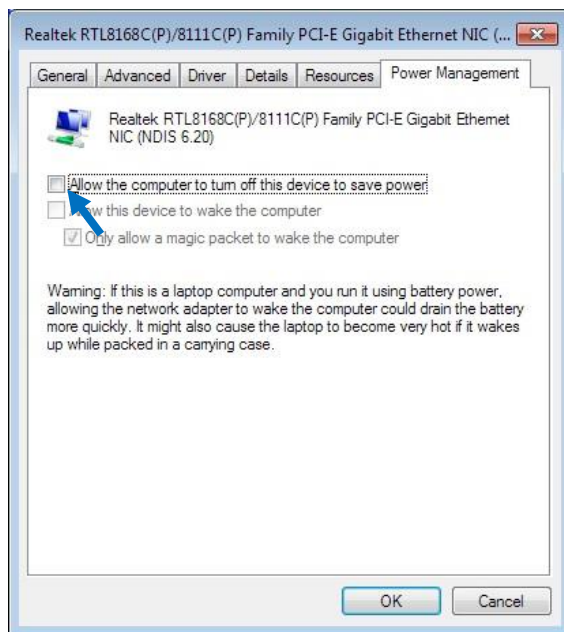


1. Press the Windows key , enter 'Device Manager' in the control panel and start the application.
2. Enlarge the option 'Network adapters'.
3. Right click on the network adapter (e.g. 'Intel(R) 82579'), to which the scanner controller is connected and click on 'Properties'.
4. If an error message occurs, confirm by pressing 'OK'.
5. Switch to the 'Power Management' tab and deactivate the energy saving mode. The following instructions apply to specific Ethernet cards. If you are using a different card, you may have to check the manual of the Ethernet card on how to deactivate the energy saving mode.

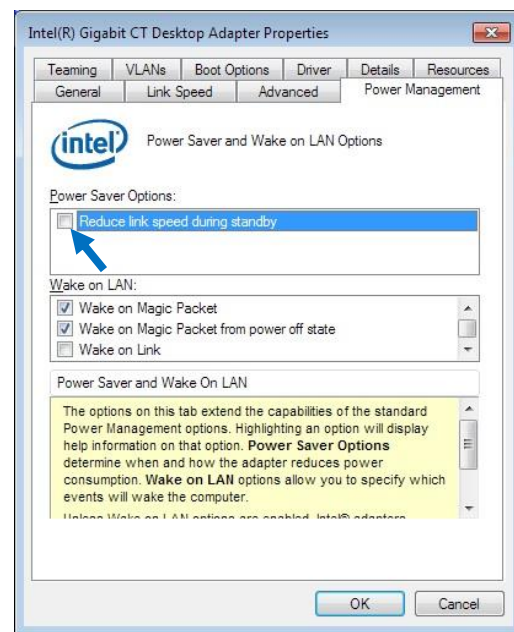
Modify settings depending on your card e.g.:

- 'Allow the computer to turn of this device to save power' -> remove check mark
- or
- 'Reduce link speed during standby' -> remove check mark

Example for Realtek RTL8168C(P)/8111C(P)
PCI-E Gigabit Ethernet NIC




Example for Intel® Gigabit CT Desktop Family
Adapter

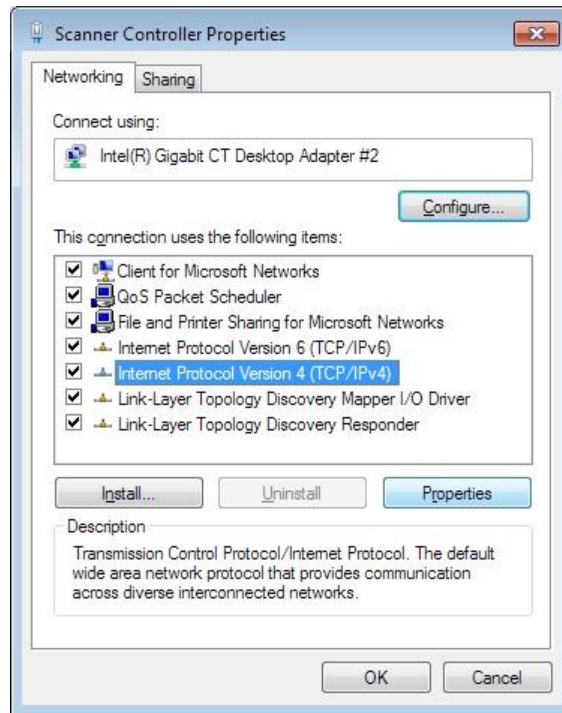


Example of power management settings. Your settings might be different, depending on the Ethernet card you are using.

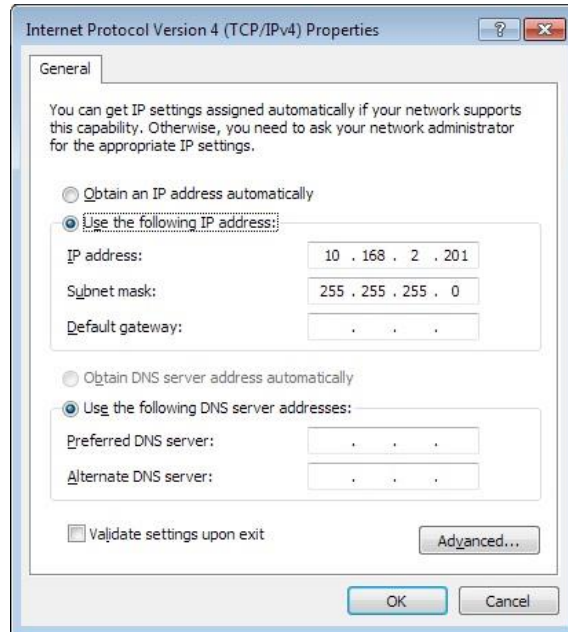
1.7 Setting the IP Address



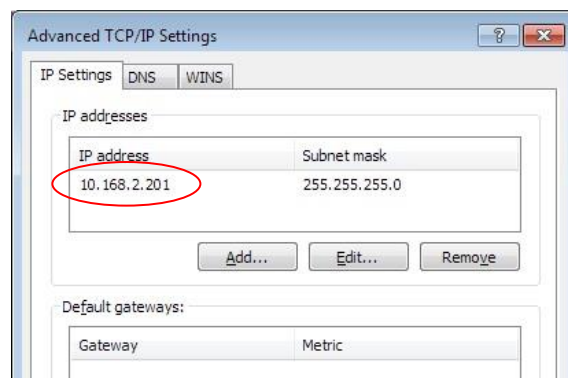
1. Press the Windows key , enter 'View network connections' in the control panel and start the application.
2. Right click on the network adapter of the scanner controller and choose 'Properties'.
3. Select Internet Protocol Version 4 (TCP/IPv4) and click the 'Properties' button.



1. If an IP address is already present, write it down in order not to lose it. Also note the subnet mask.
2. Change the IP address to 10.168.2.201 as shown in the image below.
3. Change the subnet mask to 255.255.255.0



4. Press the 'Advanced...' button and make sure only the IP address just added is in the list. In case more entries are listed, write them down if they should be conserved. Afterwards delete them by selecting the IP address and pressing 'Remove'.

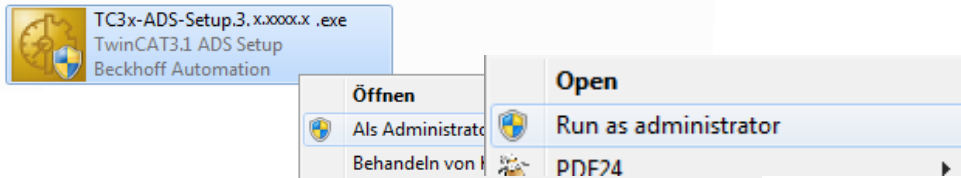


5. Close the dialog by pressing the button 'OK' twice.

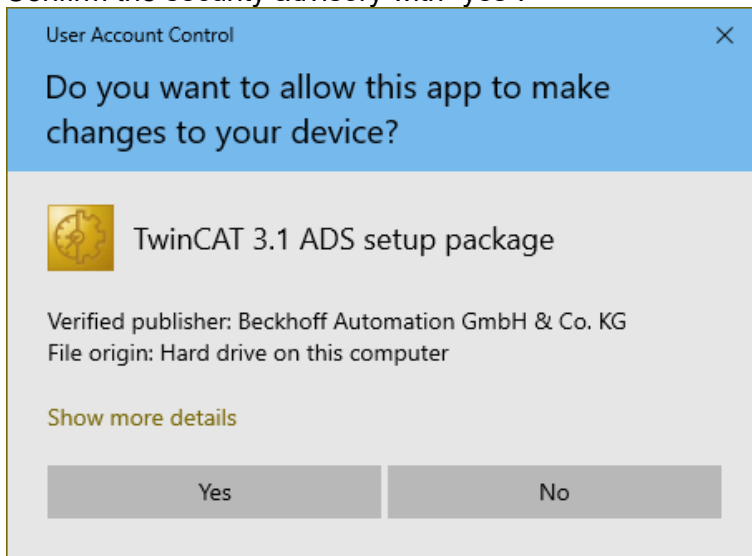
2 TwinCAT 3 ADS Router

2.1 Installation of TwinCAT 3 ADS Router

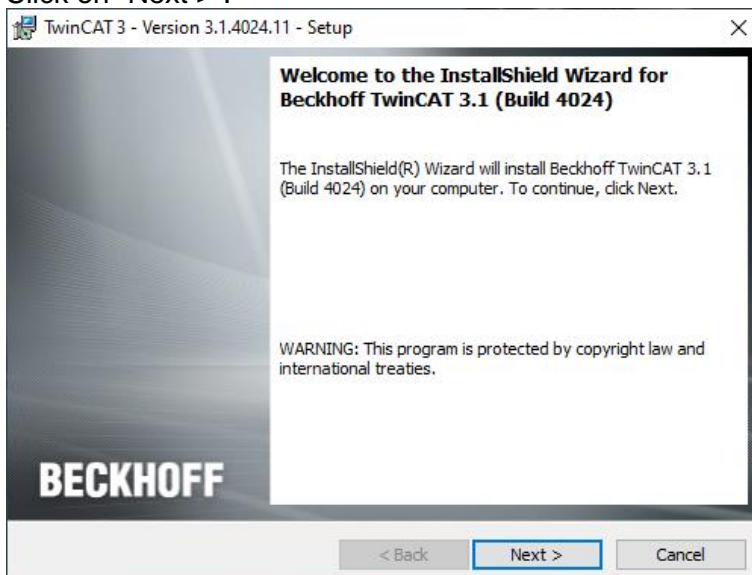
1. In Windows Explorer open the directory path where the installation file “TC3x-ADS-Setup.3.x.xxx.x.exe” is located (e.g. Product USB Stick).
2. To run the setup, right-click the installation file and choose the option “Run as administrator”.



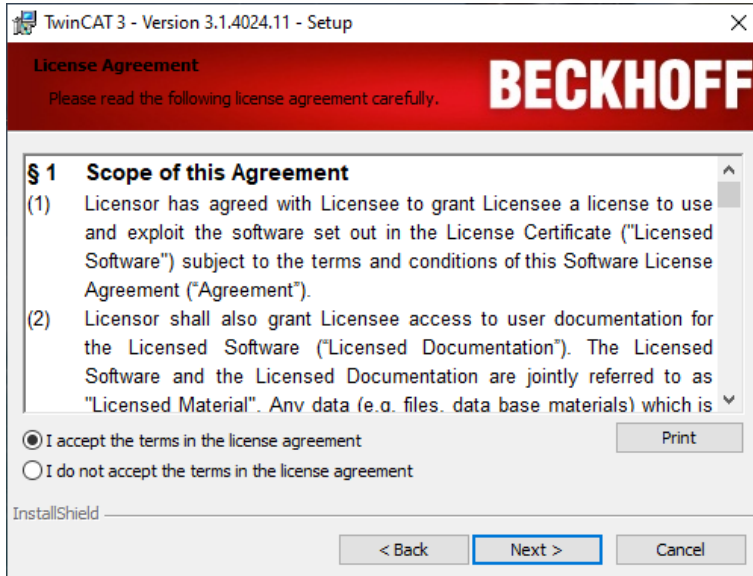
3. Confirm the security advisory with “yes”.



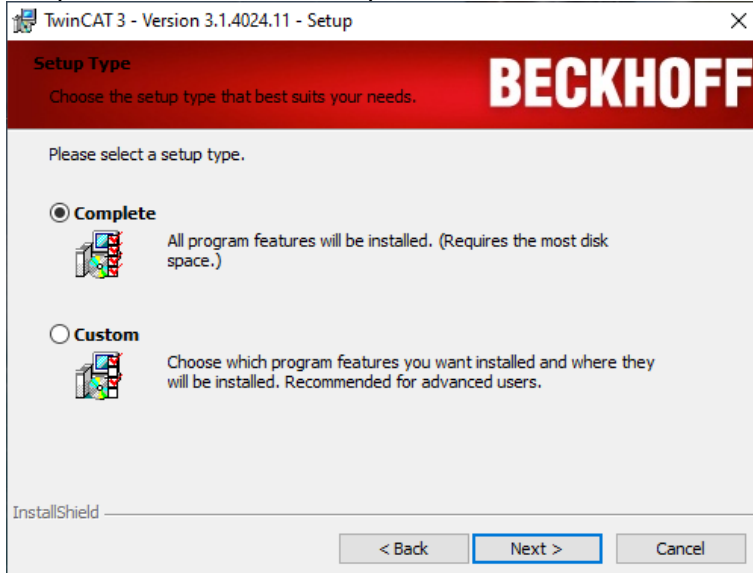
4. Click on “Next >”.



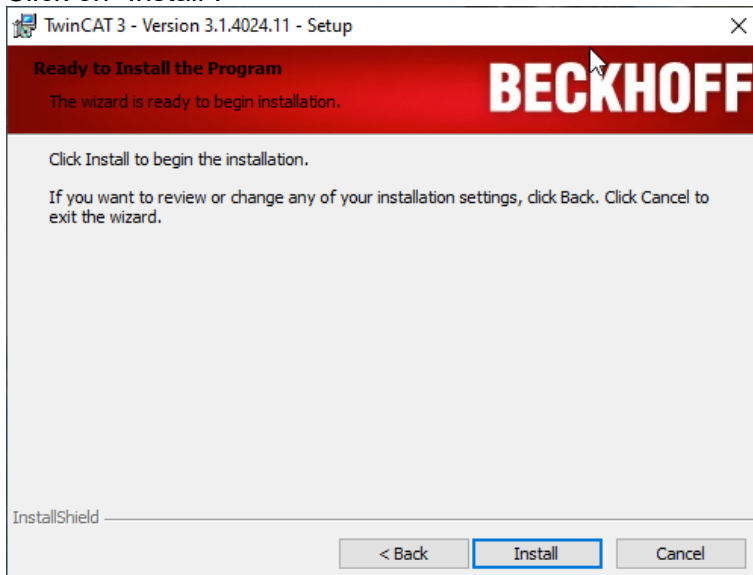
5. Accept the terms in the license agreement by selecting the radio button. Afterwards click on “Next >”.



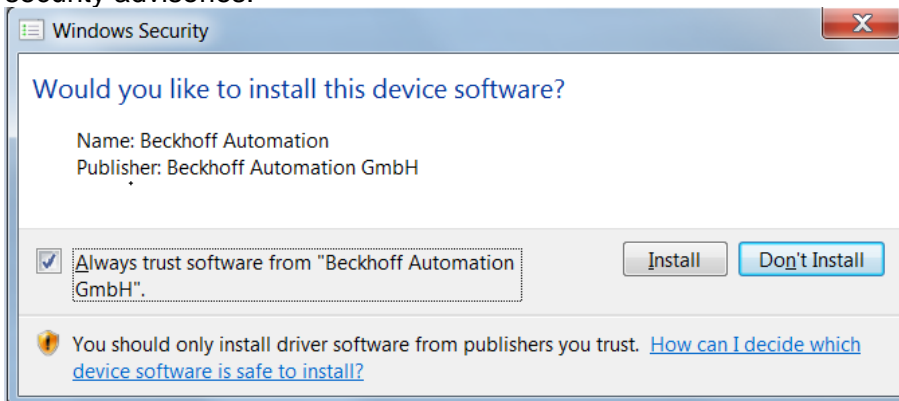
6. Keep the radio-button “Complete” activated and click on “Next >”.



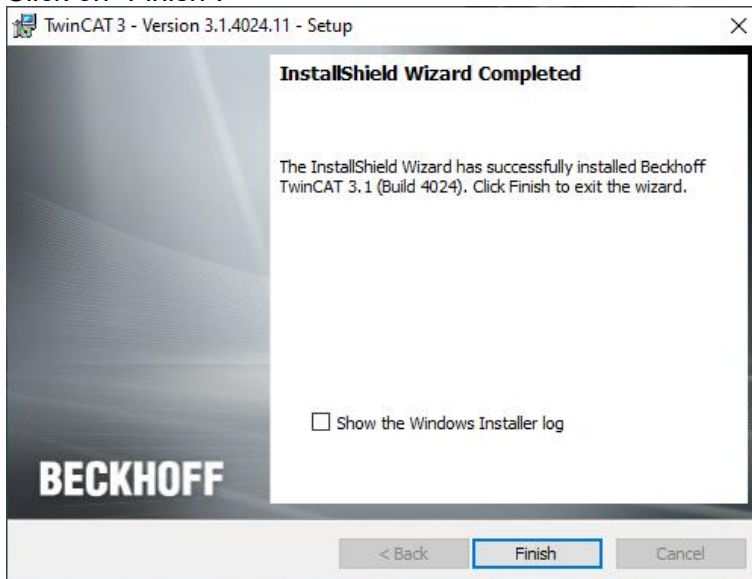
7. Click on “Install”.



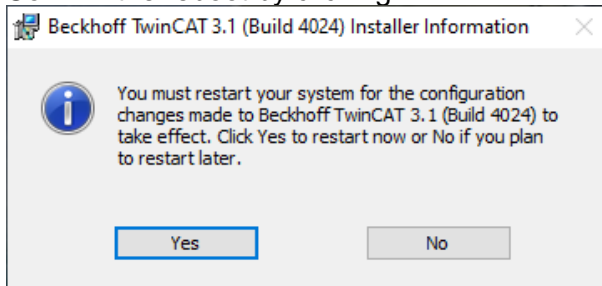
8. On the following security advisory click on “Install”. This message repeats three times. Activate the checkbox “Always trust software from Beckhoff Automation GmbH” to agree with all following security advisories.




9. Click on “Finish”.

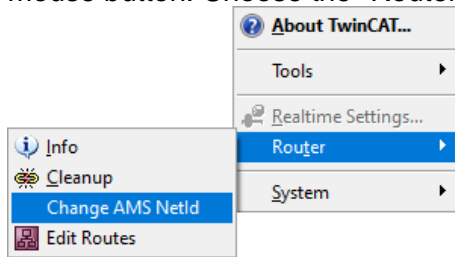


10. Confirm the reboot by clicking “Yes”.

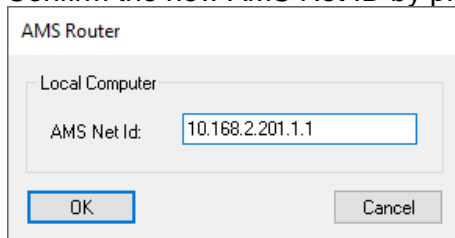


2.2 Change the local AMS Net ID

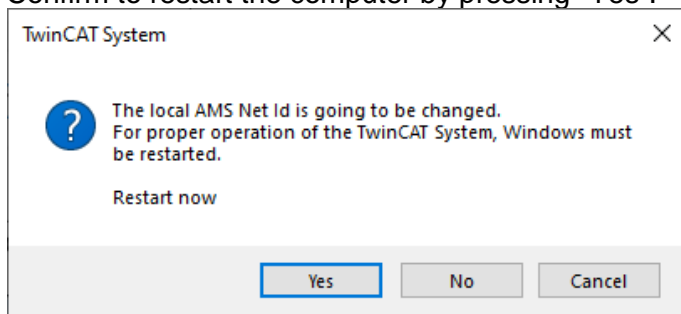
1. Move the cursor to the TwinCAT Icon  in the notification area of the task bar and press the left mouse button. Choose the “Router” menu and the “Change AMS NetId” item.




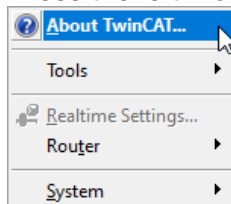
2. Under “Local Computer” -> “AMS Net Id” enter value “10.168.2.201.1.1”.
3. Confirm the new AMS Net ID by pressing “OK”.



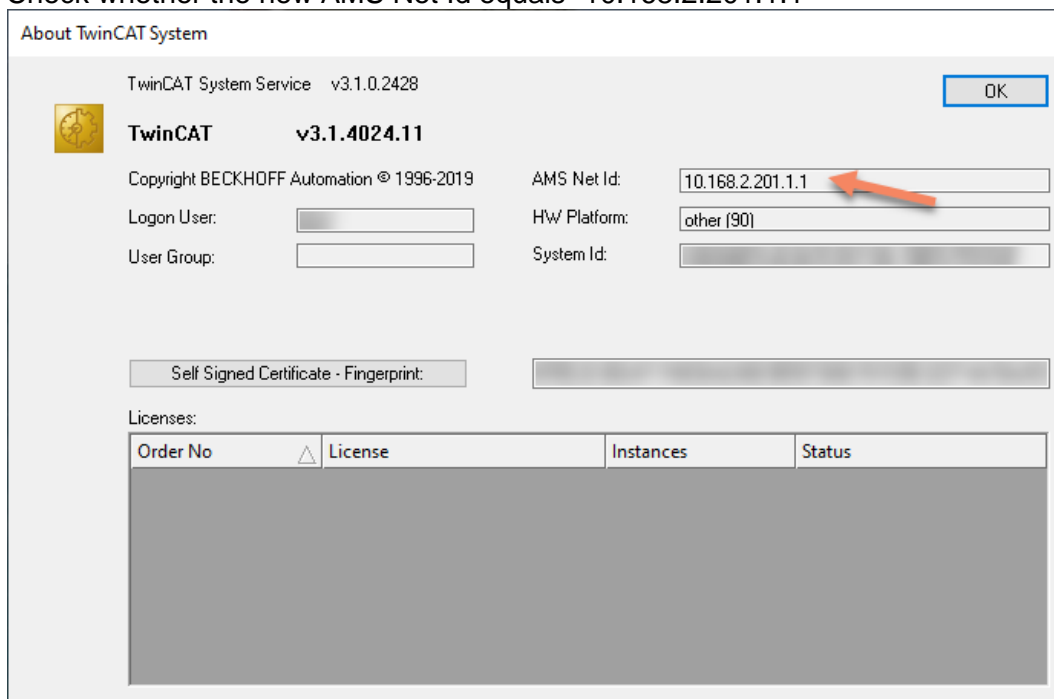
4. Confirm to restart the computer by pressing “Yes”.



5. After restart move the cursor to the TwinCAT Icon  in the notification area of the task bar. Press the left mouse button and choose the menu item “About TwinCAT”




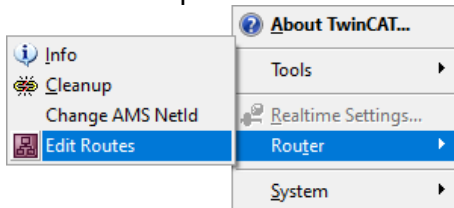
6. Check whether the new AMS Net Id equals "10.168.2.201.1.1"



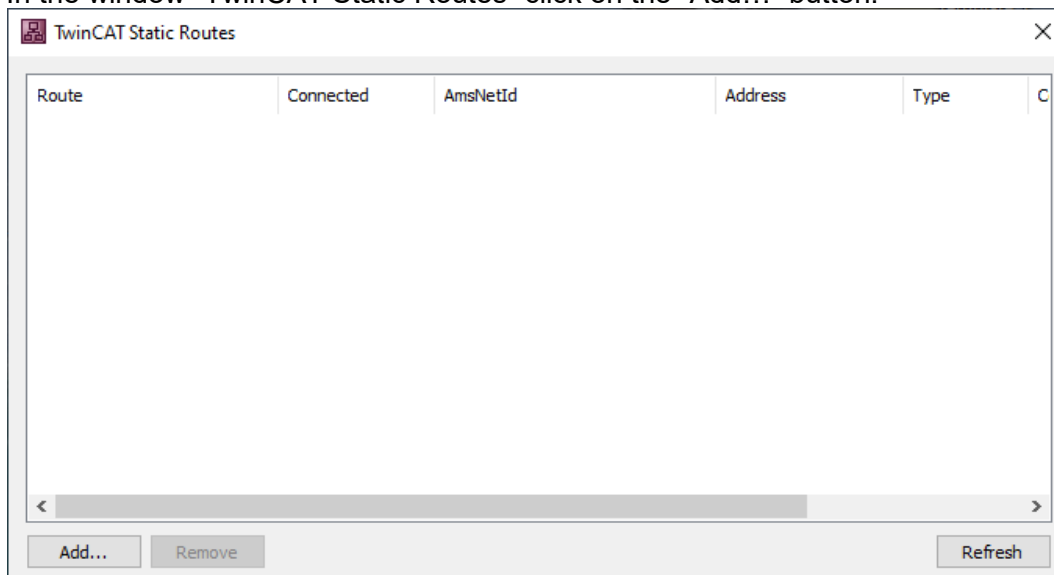
7. Close the window with "OK"

2.3 Set up a Route for the Scanner Controller

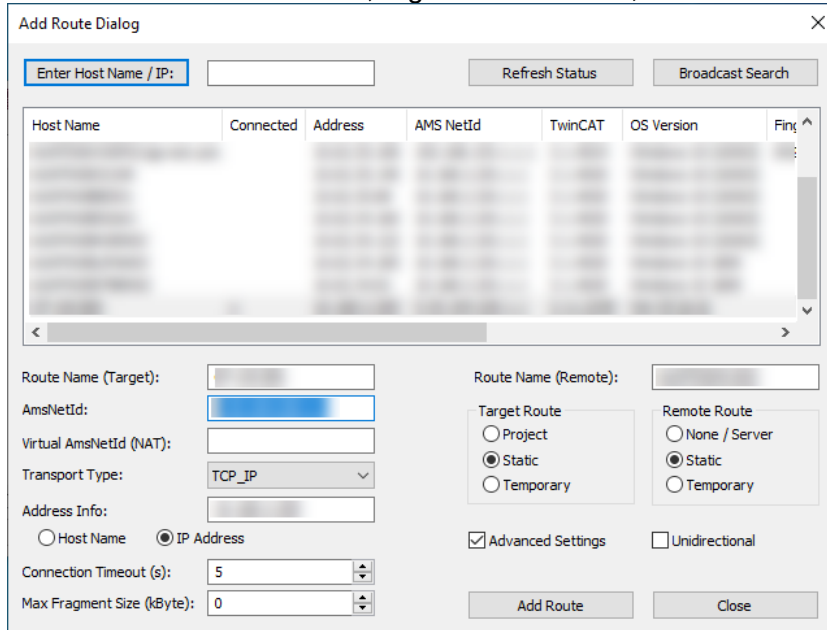
1. Make sure that just one fixed IP address is configured for the network adapter of the scanner controller (see 'Setting the IP Address'). If more than one IP address is registered the broadcast search might fail.
2. Use a LAN cable to connect the LAN interface of the scanner controller with the respective PC LAN interface.
3. Switch on the controller and wait for at least two minutes until the controller has booted.
4. Left-Click the TwinCAT symbol  in the taskbar.
5. Choose the option "Router" - "Edit Routes".



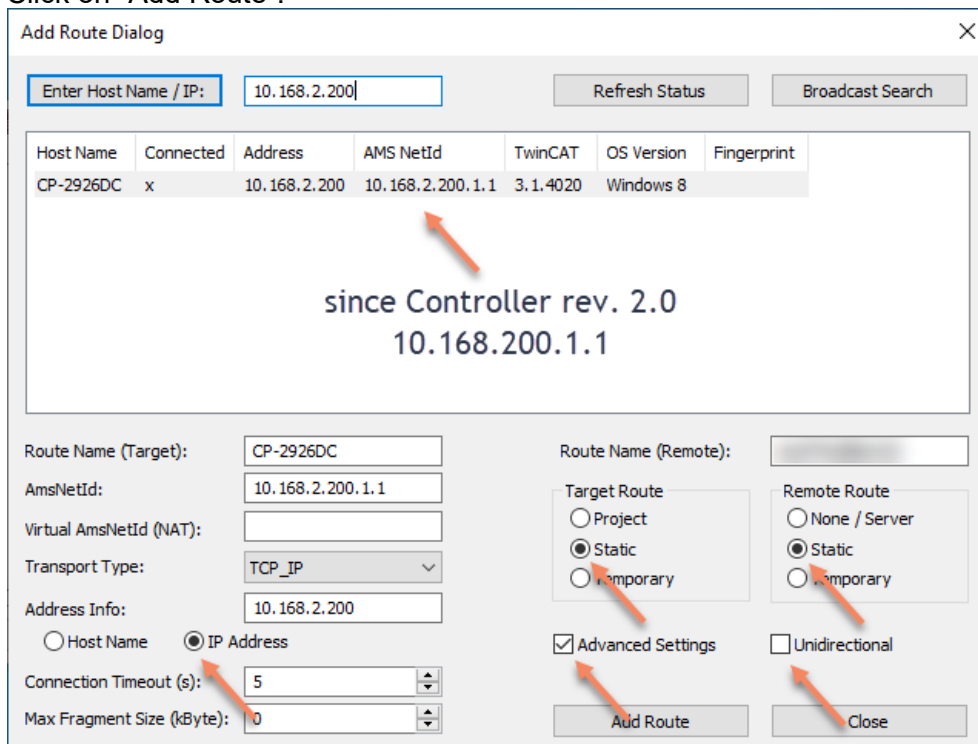
6. In the window "TwinCAT Static Routes" click on the "Add..." button.



- Start a search for the system destination by clicking the “Broadcast Search”-button or enter the IP-address of the Controller, e.g. “10.168.2.200”, into the “Enter Host Name / IP:” field.



- After some time one or more host names should appear. Select the controller that you wish to configure. Make sure the AMSNetID corresponds with the selected controller.
- Check the “Advanced Settings” options check box. If this checkbox is not available, please make sure you have the latest version of TwinCAT ADS 3.1 (version >= 3.1.4024.11).
- Uncheck the checkbox “Unidirectional”
- Choose “Target Route” - “Static”.
- Choose “Remote Route” - “Static”.
- Choose “Address Info” - “IP Address”.
- The input “Route Name (Target)” and “Route Name (Remote)” are not supposed to be empty. If these fields are not filled automatically, enter an arbitrary name (e.g. “OPT-Route”).
- Click on “Add Route”.



16. Enter Logon Information:



- a. In case of a scanner controller **Rev. 2.0 or higher** enter the username “Administrator” and the password “1”. Uncheck the checkbox “TwinCAT 2.x Password Format” and make sure the “Secure ADS” checkbox remains unchecked.

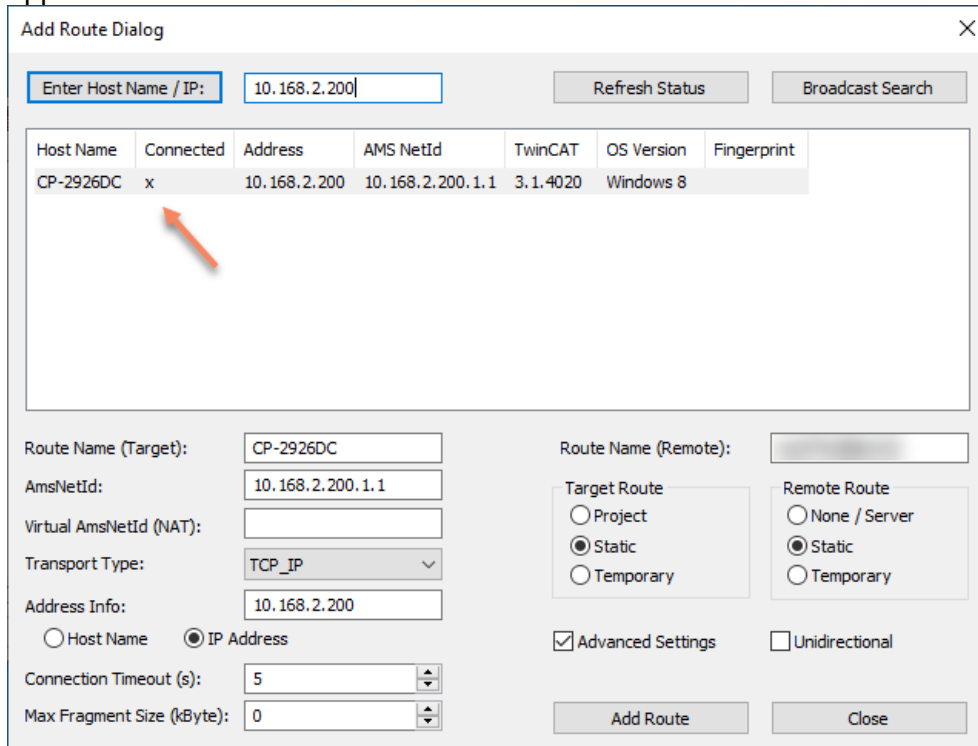
A screenshot of the 'Add Remote Route' dialog box. At the top, there is a checkbox for 'Secure ADS (TwinCAT 3.1 >= 4024)' which is unchecked. Below this is a section for 'Remote User Credentials'. It contains two text input fields: 'User:' with the text 'Administrator' entered, and 'Password:' with a single dot entered. To the right of these fields is a checkbox for 'TwinCAT 2.x Password Format' which is unchecked. At the bottom right, there are 'Okay' and 'Cancel' buttons.

- b. In case of a scanner controller **Rev. 1.x.** leave the username and password fields empty. Check the checkbox “TwinCAT 2.x Password Format” and make sure the “Secure ADS” checkbox remains unchecked.

A screenshot of the 'Add Remote Route' dialog box. At the top, there is a checkbox for 'Secure ADS (TwinCAT 3.1 >= 4024)' which is unchecked. Below this is a section for 'Remote User Credentials'. It contains two empty text input fields: 'User:' and 'Password:'. To the right of these fields is a checkbox for 'TwinCAT 2.x Password Format' which is checked. At the bottom right, there are 'Okay' and 'Cancel' buttons.

17. Confirm with “OK”.


18. Check if the connection is configured correctly. For the selected controller a cross should have appeared in the column “Connected”. Close the window with the “Close” button.

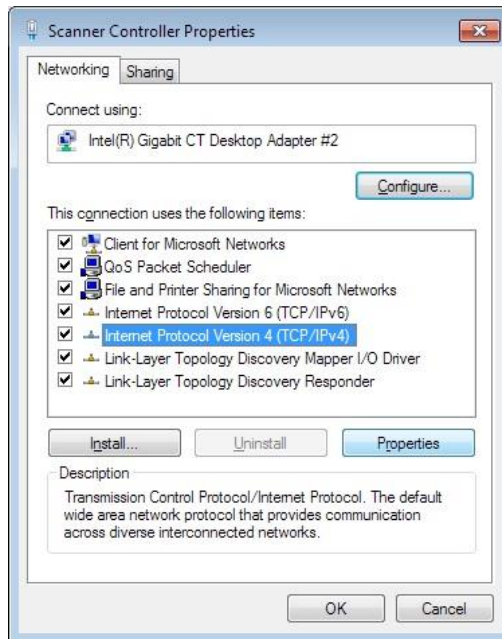


19. Close the Window “TwinCAT Static Routes”.

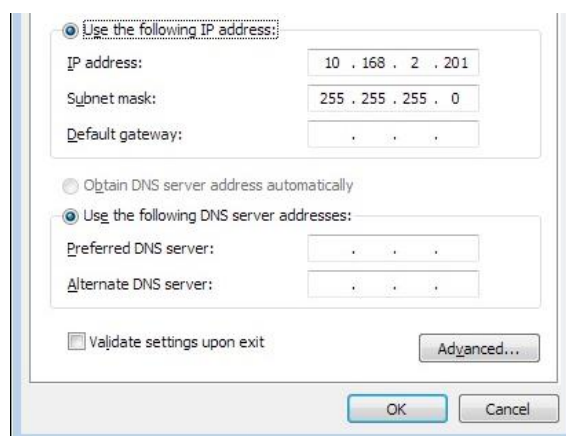
3 Setting the Lasertracker's IP Address



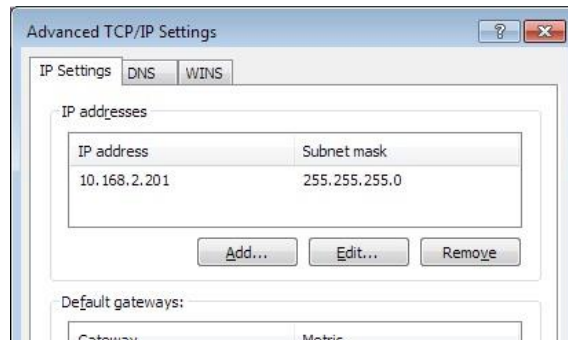
1. Press the Windows key , enter 'View network connections' in the control panel and start the application.
2. Right click on the network interface card of the scanner controller and select 'Properties'.
3. Select 'Internet Protocol Version 4 (TCP/IPv4)' and click 'Properties'.



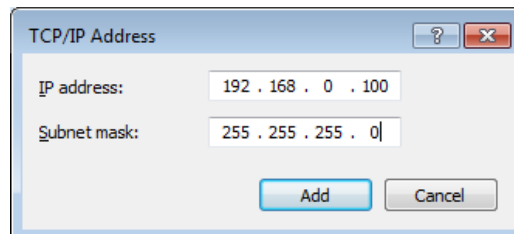
4. Click 'Advanced...'



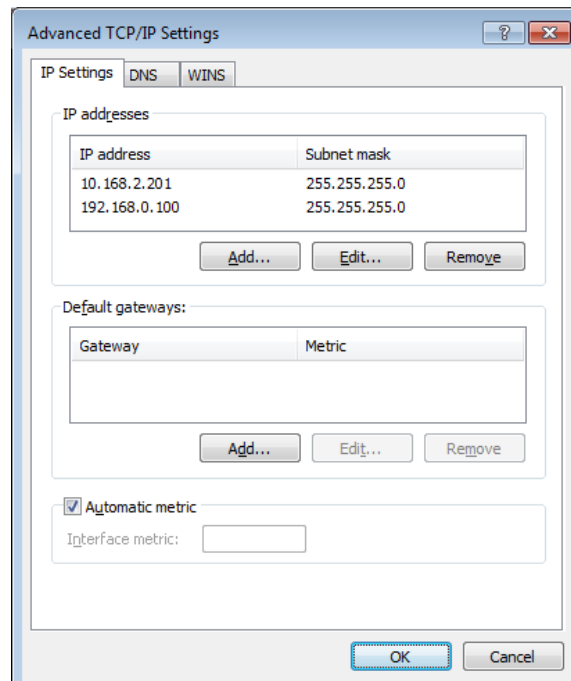
5. Click 'Add...'



6. Enter an IP address and subnet mask in the lasertracker's address space. Confirm by clicking 'Add'.



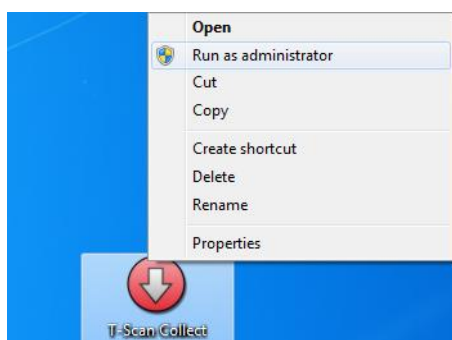
7. Check if the desired IP address is listed and close all open dialogs.



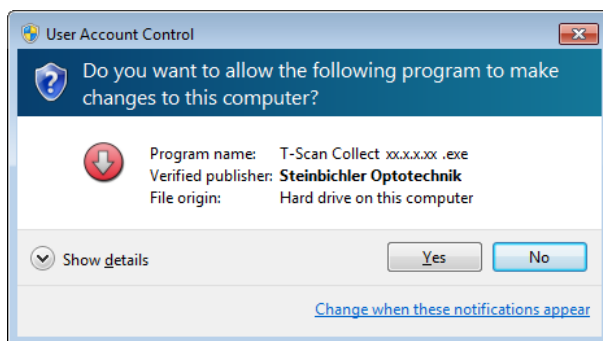
4 Installing T-SCAN Interface

The described installation steps for T-Scan Interface and T-Scan Collect are identical. Previous versions do not need to be uninstalled before updating the T-SCAN Interface application. During re-installation all required files will be updated. All calibration files and the .ini file will be conserved.

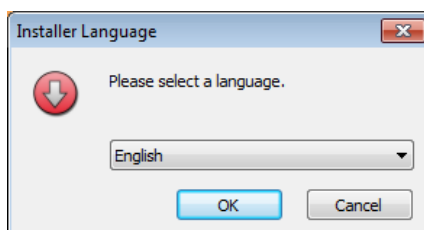
1. Make sure to have administrator privileges on this PC.
2. Run file 'T-Scan Interface xx.x.x.x.exe' by clicking with the right mouse button on the file and by selecting 'Run as administrator' from the pop-up menu.



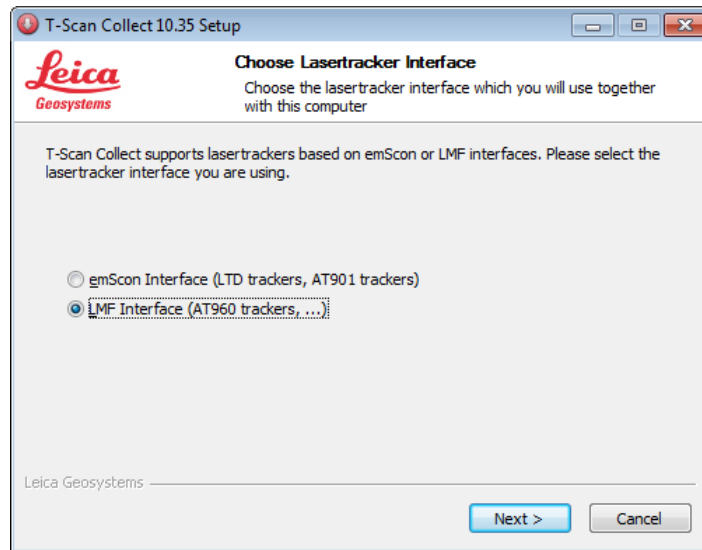
3. Confirm the safety message by clicking 'Yes'.



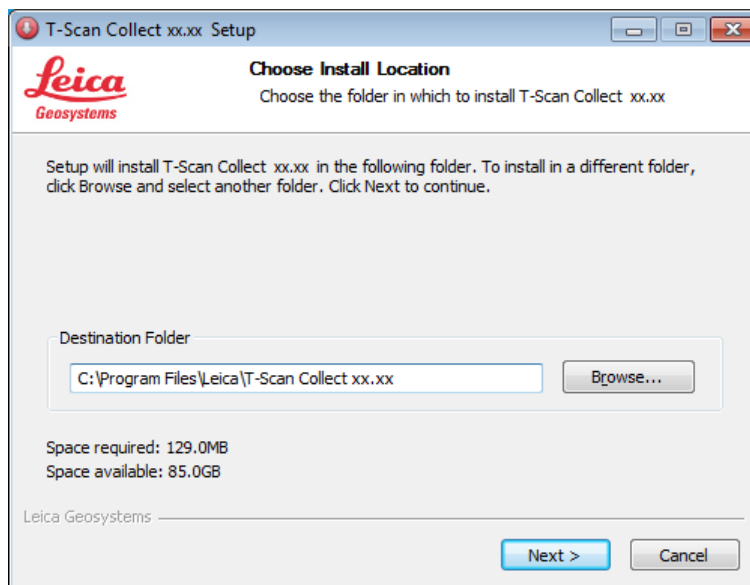
4. Choose the installation language and confirm by clicking 'OK'.



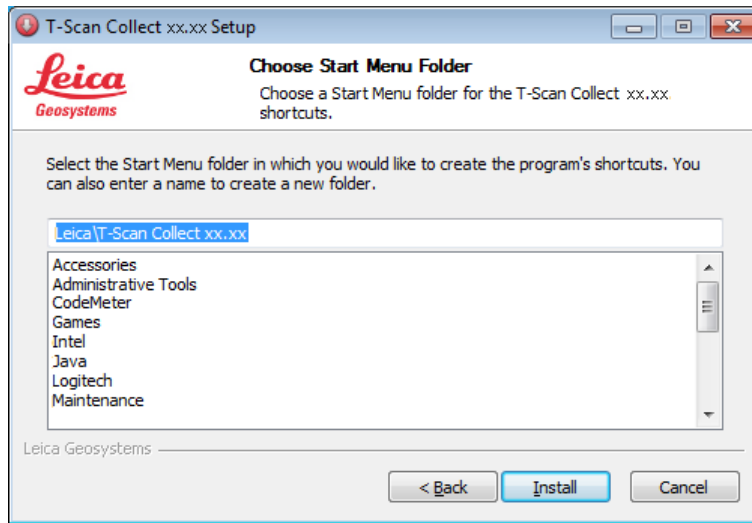
5. Choose the lasertracker interface and confirm by clicking 'OK'.



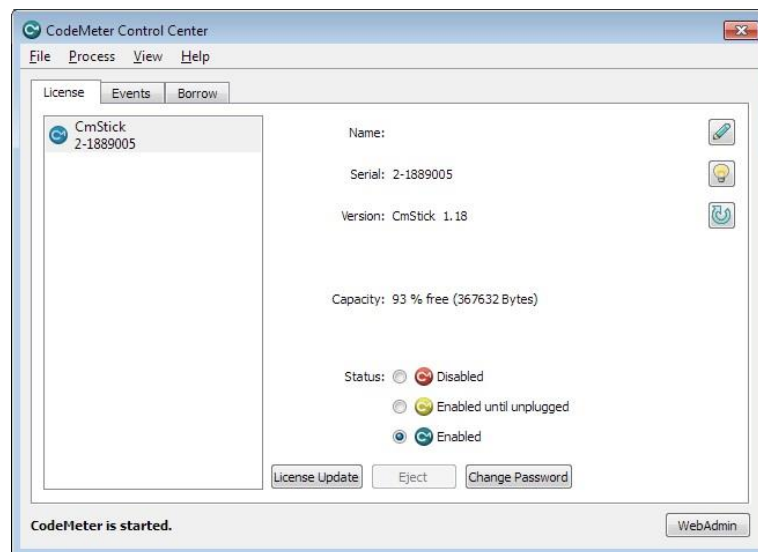
6. Use the default destination folder and click 'Next'.



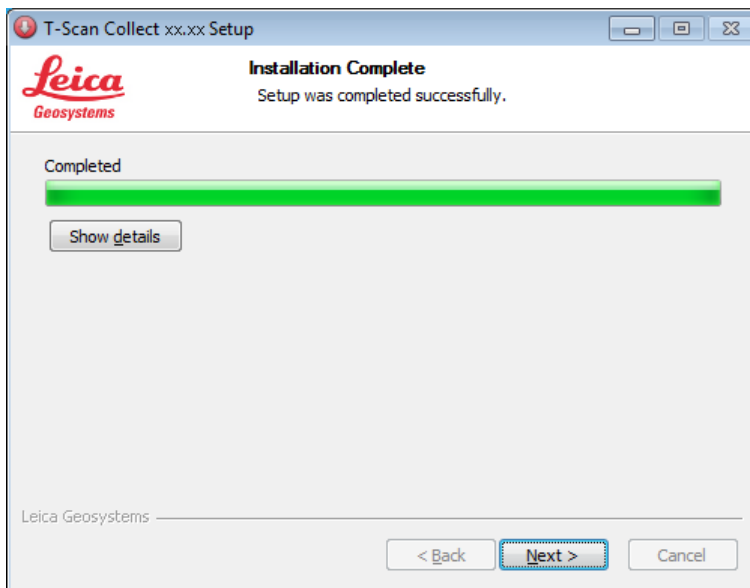
7. Use the default start menu folder and click 'Install'.



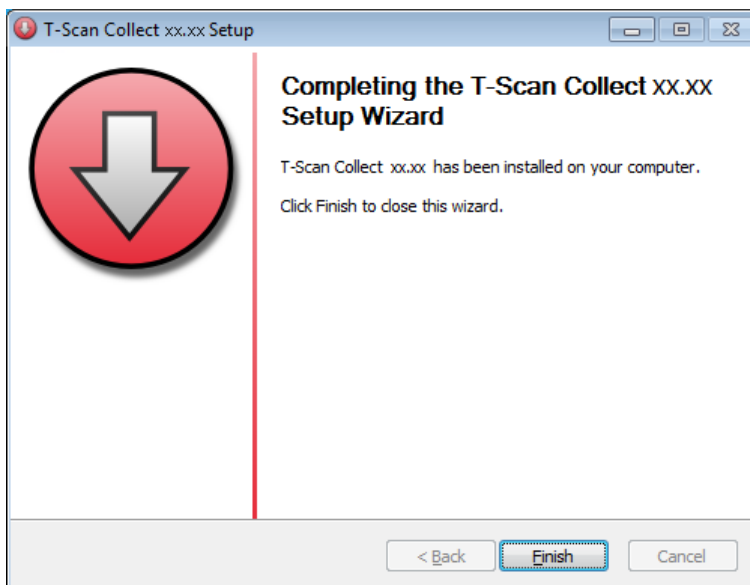
8. The 'CodeMeter Control Center' might pop up during installation. This window can be closed anytime.



9. When setup was completed successfully confirm by clicking 'Next'.



10. Complete the installation by clicking 'Finish'.

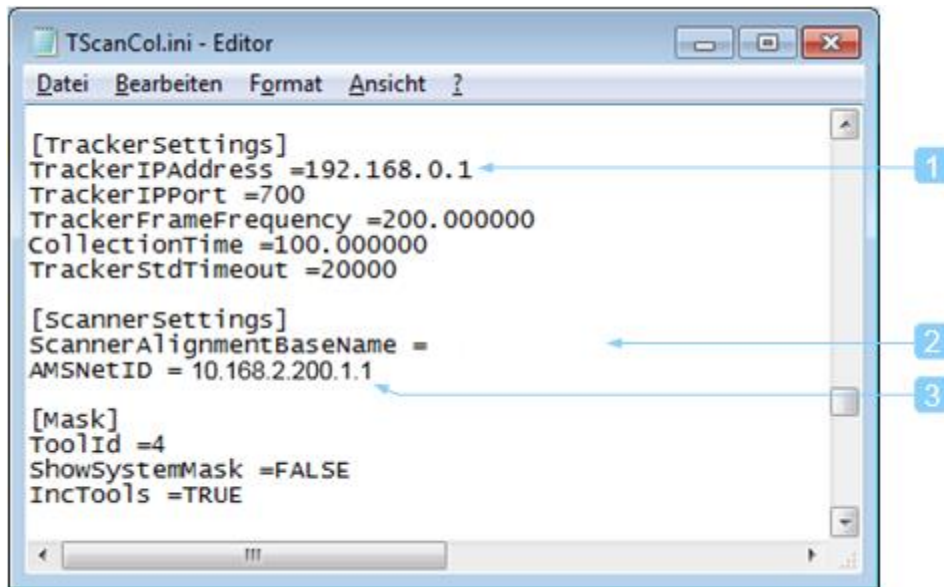


5 Installing Calibration Files

1. Create a new folder named 'Calibration' in 'C:\ProgramData\Steinbichler\T-SCAN\' if it does not exist, yet.
2. If alignment files named 'LLS[SN]R[1-4].mtx' (e.g. LLS1000032R3.mtx) are available, copy the files to 'C:\ProgramData\Steinbichler\T-SCAN\Calibration'. If no alignment files are available a new alignment calibration has to be accomplished in T-Scan Interface for each of the scanner faces.
3. If a measuring range calibration file 'LLS[SN].ini' (e.g. LLS1000032.ini) is available, copy the files to 'C:\ProgramData\Steinbichler\T-SCAN\Calibration'.

6 Customizing TScanCol.ini

1. Close the T-SCAN Interface/Collect application. Otherwise modifications will not be applied.
2. Open the 'TScanCol.ini' file in folder 'C:\ProgramData\Steinbichler\T-SCAN\T-Scan Interface xx.xx\' with a text editor (e.g. Notepad).



1

Move the cursor to entry 'TrackerIPAddress':
The lasertracker's IP address can be configured if it differs from the default address (e.g. 'TrackerIPAddress =192.168.0.1').

2

The entry 'ScannerAlignmentBaseName' is not used anymore.

3

Move the cursor to entry 'AMSNetID':
Controller Rev. 2.0 or higher: Enter AMSNetID '10.168.2.200.1.1'.
Controller Rev. 1.x: Enter the AMSNetID labeled on the controller housing (e.g. 'AMSNetID =5.15.31.28.1.1').

3. Save "TScanCol.ini" and close the text editor.

Leica Geosystems AG
Heinrich-Wild-Strasse
CH-9435 Heerbrugg
Switzerland
Phone +41 71 727 31 31
www.leica-geosystems.com

- when it has to be **right**

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1.10en

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