Beckhoff Automation



TwinCAT 3 PLC Training



Module 2 – Installation



Introduction and Quick Start

Modules 1 – 4

Programming Basics

Modules 5 – 13

Diagnostics and Hardware

Modules 14 – 16

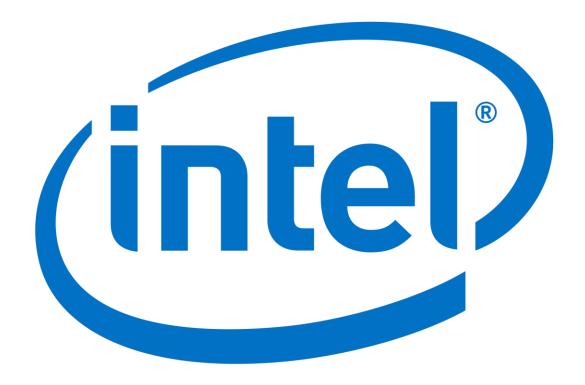
Introduction



- 1. General PLC Architecture
- 2. TwinCAT 3.1 Installation
- 3. First Project
- 4. Setting the Cycle Time

2.1 System Requirements

- Only Intel processors are supported.
- You will need Administrator privileges to install TwinCAT 3.1.
- During installation, you will need to restart your computer.
- Access to network settings (IP address, etc.) is preferred after installation is complete.

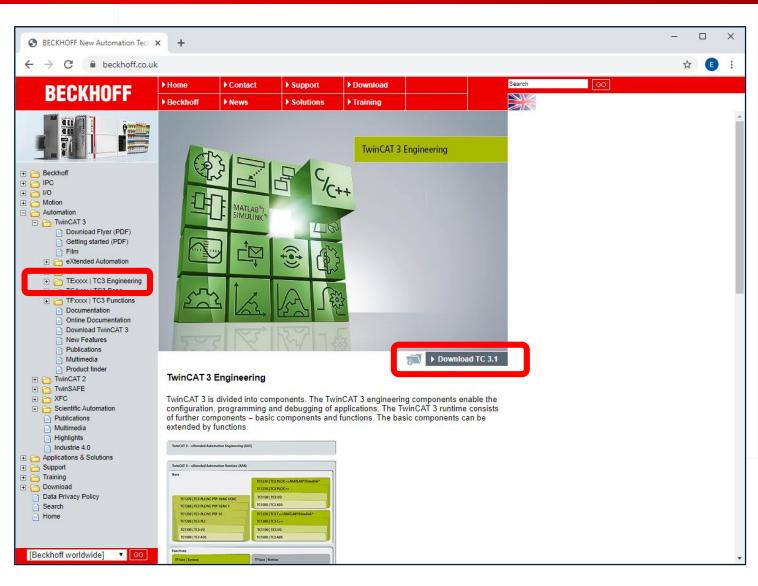






- All tools required for PLC development are free of charge and don't require a license.
- Latest version is available at <u>www.beckhoff.co.uk</u>

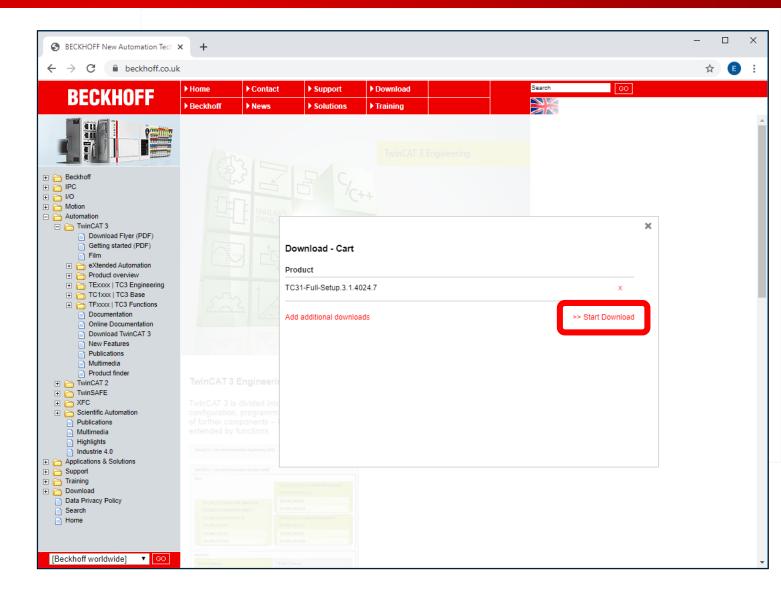
- Open <u>www.beckhoff.co.uk</u> in a web browser.
- In the folder structure on the lefthand side, navigate to Automation
 - - \rightarrow TwinCAT 3
 - \rightarrow TExxxx | TC3 Engineering
- Click on Download TC 3.1.





- This will open the Download Cart window.
- Click on

>> Start Download link

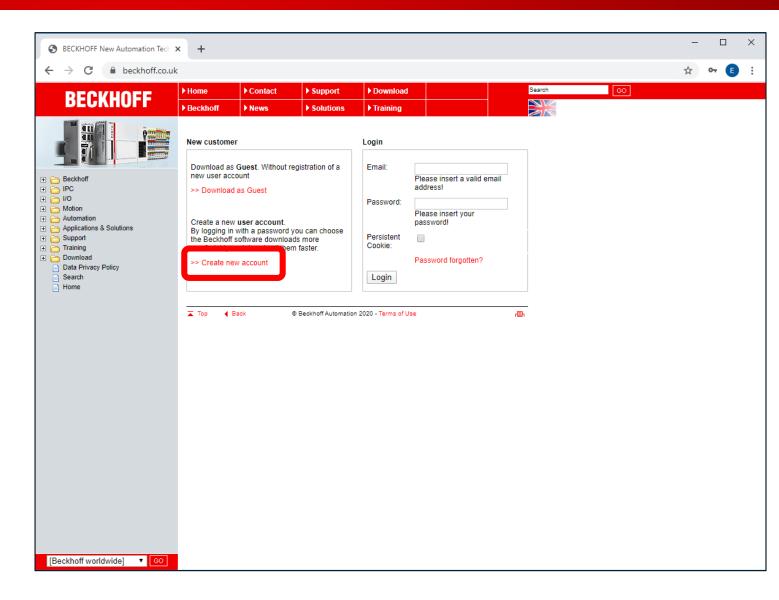




- If you have already created a website account, please log in.
- Otherwise, you can create one by clicking on

>> Create new account

 Creating an account is free and only takes a few minutes.



- Please fill in your contact details.
- The fields with the hext to them are mandatory.
- Please read the Data privacy regulations, and tick the box if you agree.
- Click on the Register button at the bottom.

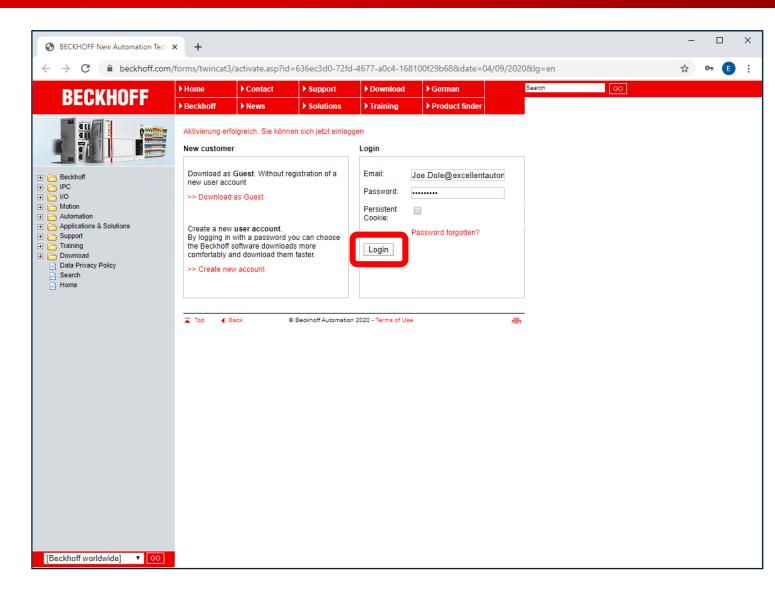
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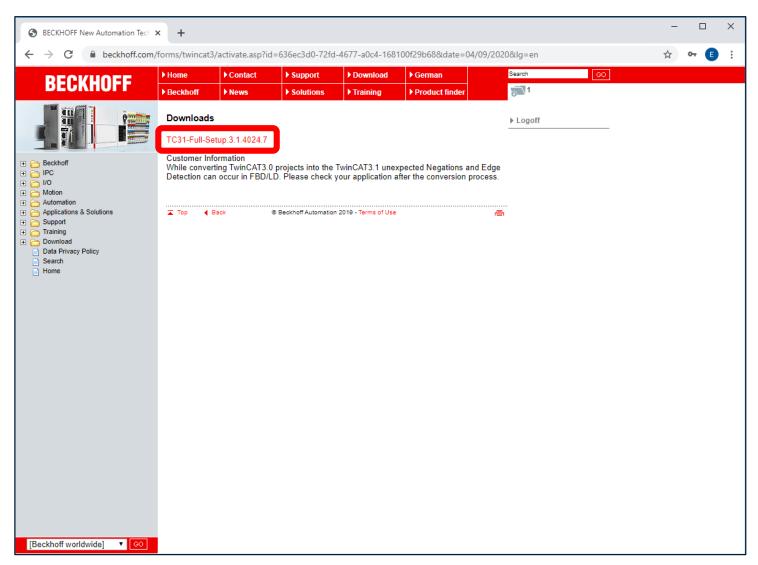
- Check the inbox of the supplied email address for a mail from Beckhoff Automation.
- Click on the link in the mail to confirm your registration.

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	Beckhoff Automation GmbH & Co. KG Huelshorstweg 20 33415 Verl Germany Phone: + 49 (0) 52 46 / 9 63 - 0 Fax: + 49 (0) 52 46 / 9 63 - 1 98 mailto:info@beckhoff.com http://www.beckhoff.com					
	Reply Forward					

- Fill in the email address and password provided during account creation.
- Click on the Login button.



- Once logged in, your download cart is shown.
- Click on the link to download TwinCAT 3.1.





- Once downloaded, right click on the zip file and select
 Extract All...
- Then click the Extract button on the window that pops up.

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2.3 Run Installer as Administrator



- Once extracted, open up the folder containing the TC3.1 installer.
- Right click on the installer and select

Run as Administrator...

 When prompted to allow application to make changes to your system, agree.

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2.3 Run Installer as Administrator



Click Next.

- 🐙 TwinCAT 3 Version 3.1.4024.7 Setup Х Welcome to the InstallShield Wizard for Beckhoff TwinCAT 3.1 (Build 4024) The InstallShield(R) Wizard will install Beckhoff TwinCAT 3.1 (Build 4024) on your computer. To continue, dick Next. WARNING: This program is protected by copyright law and international treaties. 🐙 TwinCAT 3 - Version 3.1.4024.7 - Setup \times BECKHOFF BECKHOFF Please read the following license agreement carefully. <u>N</u>ext > < <u>B</u>ack Scope of this Agreement § 1 Licensor has agreed with Licensee to grant Licensee a license to use (1) and exploit the software set out in the License Certificate ("Licensed Software") subject to the terms and conditions of this Software License Agreement ("Agreement"). (2)Licensor shall also grant Licensee access to user documentation for the Licensed Software ("Licensed Documentation"). The Licensed Software and the Licensed Documentation are jointly referred to as "Licensed Material". Any data (e.g. files, data base materials) which is Y I accept the terms in the license agreement Print I do not accept the terms in the license agreement InstallShield < Back $\underline{N}ext >$ Cancel
- Then read and accept the license agreement.
- Click Next again.

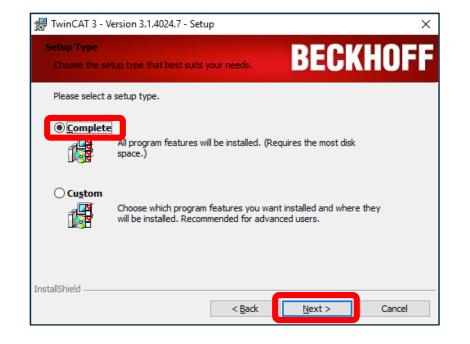


- In order to support multi-user login to the PLC, the installer will need to include Git, which is covered by the GPL License.
- Although a very useful feature, it is not critical to the operation of TwinCAT and can be excluded from the installation if required.

Beckhoff IwinCAI 3.1 (Bu	uild 4024) - InstallShiel	d Wizard	2
3rd Party Software		BECK	HOF
TwinCAT can use 3rd Party So	oftware:		
3rd Party Software: Git for Windows Minimal	License: GPL License	Used by TwinCAT co TwinCAT Multiuser	mponent:
Do you want to install the sof			
I accept the terms of the I do not accept the term			



A complete installation is recommended.



2.3 Run Installer as Administrator

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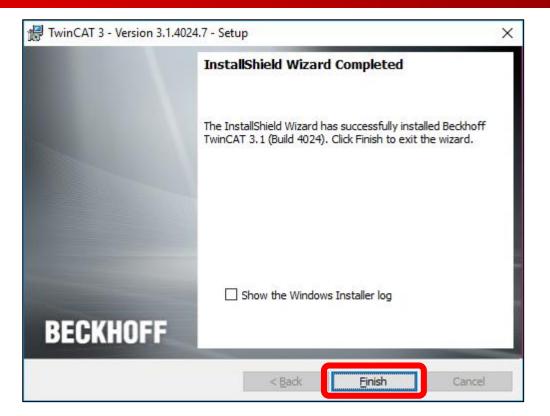
- If an existing installation of Visual Studio 2013/15/17 Shell or Full is detected, TwinCAT can be integrated into it. This is optional.
- In addition, TwinCAT XAE Shell is installed, and will be used for this course.
- Click on Install to start the installation of TwinCAT 3.1, which may take up to 30 minutes.

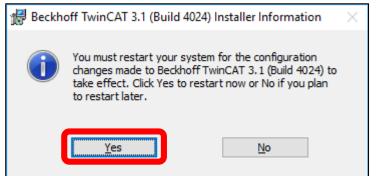
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Microsoft Visual Studio 2013 Shell			
Microsoft Visual Studio 2015 (not installed)			
Microsoft Visual Studio 2017 (not installed)			
TwinCAT 3.1 includes TwinCAT XAE Shell as new det	fault environment. V	Vould vou like	
to install it?	aut environment, v	vouid you like	
✓ Installed TwinCAT XAE Shell will be updated			
IIShield			3.1.4024.7 - Setup
< <u>B</u> ack	<u>N</u> ext >	Cancel	
		The wizard is ready	to begin installation.
		Click Install to begin	
		If you want to review exit the wizard.	w or change any of your installation settings, click Back. Click Cancel to
	Ins	tallShield	

< <u>B</u>ack

Once complete, your computer will need to reboot in order to complete the installation.

Your computer must be restarted before continuing with the next step.









- After rebooting, The Cog should be visible in the System tray.
- This indicates that TwinCAT was installed successfully, and that the background service is running.





One last task remains on Windows 8 and Windows 10 computers to allow simulation on your computer: please run

C:\TwinCAT\3.1\System\win8settick.bat

as Administrator, and allow it make changes to your system, then reboot again.

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🧕	WinMerge	TcAmsRemoteMgr.exe	19/12/2019 13:28	Application	479 KB	
🔊 Nexto 🗂	Restore previous versions	TcAmsSerial.dll	19/12/2019 13:28	Application extens	444 KB	
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This F		TCATGinaU14.dll	19/12/2019 13:28	Application extens	46 KB	
	Symantec Encryption Desktop	TCATHooks.dll	19/12/2019 13:28	Application extens	288 KB	
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📑 Vide	Properties	win8settick.bat	19/12/2019 11:11	Windows Batch File	1 KB	



- TwinCAT 3.1 is now installed on your computer, allowing you to:
 - Write PLC applications,
 - Simulate PLC programs on your computer without any hardware,
 - Connect to an IPC and remotely debug your PLC program whilst running on real hardware.
- No licenses are required to run, deploy and debug TwinCAT 3.1 PLC applications.

Contact



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