# Inhaltsverzeichnis

1  Foreword ............................................................................................................................................... 5  
   1.1  Notes on the documentation ........................................................................................................ 5  
   1.2  Safety instructions .......................................................................................................................... 6  
2  Overview ............................................................................................................................................... 7
1 Foreword

1.1 Notes on the documentation

This description is only intended for the use of trained specialists in control and automation engineering who are familiar with applicable national standards.
It is essential that the documentation and the following notes and explanations are followed when installing and commissioning the components.
It is the duty of the technical personnel to use the documentation published at the respective time of each installation and commissioning.

The responsible staff must ensure that the application or use of the products described satisfy all the requirements for safety, including all the relevant laws, regulations, guidelines and standards.

Disclaimer

The documentation has been prepared with care. The products described are, however, constantly under development.
We reserve the right to revise and change the documentation at any time and without prior announcement.
No claims for the modification of products that have already been supplied may be made on the basis of the data, diagrams and descriptions in this documentation.

Trademarks

Beckhoff®, TwinCAT®, EtherCAT®, EtherCAT G®, EtherCAT G10®, EtherCAT P®, Safety over EtherCAT®, TwinSAFE®, XFC®, XTS® and XPlanar® are registered trademarks of and licensed by Beckhoff Automation GmbH.
Other designations used in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owners.

Patent Pending

The EtherCAT Technology is covered, including but not limited to the following patent applications and patents:
with corresponding applications or registrations in various other countries.

EtherCAT®

EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany

Copyright

© Beckhoff Automation GmbH & Co. KG, Germany.
The reproduction, distribution and utilization of this document as well as the communication of its contents to others without express authorization are prohibited.
Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.
1.2 Safety instructions

Safety regulations
Please note the following safety instructions and explanations!
Product-specific safety instructions can be found on following pages or in the areas mounting, wiring, commissioning etc.

Exclusion of liability
All the components are supplied in particular hardware and software configurations appropriate for the application. Modifications to hardware or software configurations other than those described in the documentation are not permitted, and nullify the liability of Beckhoff Automation GmbH & Co. KG.

Personnel qualification
This description is only intended for trained specialists in control, automation and drive engineering who are familiar with the applicable national standards.

Description of symbols
In this documentation the following symbols are used with an accompanying safety instruction or note. The safety instructions must be read carefully and followed without fail!

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DANGER</strong></td>
<td>Serious risk of injury! Failure to follow the safety instructions associated with this symbol directly endangers the life and health of persons.</td>
</tr>
<tr>
<td><strong>WARNING</strong></td>
<td>Risk of injury! Failure to follow the safety instructions associated with this symbol endangers the life and health of persons.</td>
</tr>
<tr>
<td><strong>CAUTION</strong></td>
<td>Personal injuries! Failure to follow the safety instructions associated with this symbol can lead to injuries to persons.</td>
</tr>
<tr>
<td><strong>NOTE</strong></td>
<td>Damage to the environment or devices Failure to follow the instructions associated with this symbol can lead to damage to the environment or equipment.</td>
</tr>
</tbody>
</table>

Tip or pointer
This symbol indicates information that contributes to better understanding.
2 Overview

The "TF6000 TC3 ADS Communication Library" is delivered with the TwinCAT installation. It enables you to develop applications of your own (e.g. visualizations, measured value acquisition) that can communicate with TwinCAT devices (e.g. PLC, NC or IO devices).

Alternatively, our free TC1000 | TC3 ADS setup provides you with the libraries and the ADS router if you only require ADS functions.

Components of the "TwinCAT ADS API"

Following successful installation the components can be found in the directory ".\TwinCAT\AdsApi". ADS libraries are available for the following target systems and technologies:

Windows (32-bit/64-bit)
Windows CE
WebServices

Windows (32-bit/64-bit)

<table>
<thead>
<tr>
<th>Name</th>
<th>Programming language / technology</th>
<th>Operating system</th>
<th>Description</th>
<th>Path</th>
<th>Reference</th>
<th>Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>TwinCAT.Ads.dll</td>
<td>.NET (C#, VB .Net)</td>
<td>Windows XP, Vista, 7, 8, 10</td>
<td>ADS .NET components for the different versions of the .NET framework (1.0 / 1.1 / 2.0 / 4.0)</td>
<td>Nuget or ..\TwinCAT\AdsApi.NET</td>
<td>Link</td>
<td>C#</td>
</tr>
<tr>
<td>TwinCAT.Ads Reactive Extensions</td>
<td>.NET (C#, VB .Net)</td>
<td>Windows XP, Vista, 7, 8, 10</td>
<td>.Net Framework &gt;= .NET 4.6</td>
<td>Nuget or ..\TwinCAT\AdsApi.NET</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TcAdsDll</td>
<td>C/C++</td>
<td>Windows XP, Vista, 7, 8, 10</td>
<td>The ADS components (DLL / Header / Library) for creating C/C++ applications</td>
<td>..\TwinCAT\AdsApi\TcAdsDll</td>
<td>Link</td>
<td>C++</td>
</tr>
<tr>
<td>AdsOcx</td>
<td>VB, VBA, COM</td>
<td>Windows XP, Vista, 7, 8, 10</td>
<td>The ADS-OCX is implemented as an ActiveX control element, and is based on Microsoft's COM technology.</td>
<td>..\TwinCAT\AdsApi\AdsOcx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AdsToJava</td>
<td>Java</td>
<td>Windows XP, Vista, 7, 8, 10</td>
<td>TcJavaToAds.jar library, which uses the AdsToJava.dll-Wrapper for x86 and x64 systems.</td>
<td>..\TwinCAT\AdsApi\AdsToJava</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TwinCAT ADS Management (TcXaeMgmt) module</td>
<td>Powershell</td>
<td>Windows 7, 8, 10</td>
<td></td>
<td>..\TwinCAT\AdsApi\Powershell</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Windows CE

<table>
<thead>
<tr>
<th>Name</th>
<th>Programming language / technology</th>
<th>Operating system</th>
<th>Description</th>
<th>Path</th>
<th>Reference</th>
<th>Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>TwinCAT.Ads.dll</td>
<td>.NET</td>
<td>Windows CE</td>
<td>ADS .NET components for the different versions of the .NET Compact framework (1.0 / 2.0) for Windows CE</td>
<td>..\TwinCAT\AdsApi.NET\CompactFramework</td>
<td>Link</td>
<td></td>
</tr>
<tr>
<td>TcAdsDllCE</td>
<td>C/C++</td>
<td>Windows CE</td>
<td>CE-based ADS installations (cab files) for use in CE with the headers and libraries for the different CE platforms</td>
<td>..\TwinCAT\AdsApi\TcAdsDllCE</td>
<td>Link</td>
<td></td>
</tr>
</tbody>
</table>

### WebServices

<table>
<thead>
<tr>
<th>Name</th>
<th>Programming language / technology</th>
<th>Operating system</th>
<th>Description</th>
<th>Path</th>
<th>Reference</th>
<th>Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>TcAdsWcf</td>
<td>.NET, HTML, JavaScript</td>
<td>Windows XP, Vista, 7, 8</td>
<td>Windows Communications Foundation (WCF) - web service that is part of the .NET Framework</td>
<td>..\TwinCAT\AdsApi\TcAdsWcf</td>
<td>Link</td>
<td>C#</td>
</tr>
<tr>
<td>TcAdsWebService</td>
<td>HTML, JavaScript</td>
<td>Windows XP, Vista, 7, 8</td>
<td>Extension for the Internet Information Server (IIS)</td>
<td>..\TwinCAT\AdsApi\TcAdsWebService</td>
<td>Link</td>
<td>JavaScript</td>
</tr>
</tbody>
</table>

Further information:
- ADS introduction
- ADS specification