TwinCAT PLC Serial Communication implements communication with serial devices such as printers, bar code scanners, etc. The serial interface of the PC and the serial Beckhoff EL6xxx EtherCAT Terminals and and KL6xxx Bus Terminals are supported.

Via the network-based fieldbus system from Beckhoff the serial terminals can be accessed over a distance of up to 100 m. In addition, it is possible to address virtual COM interfaces of the operating system from the PLC.

Serial communication via the 3964R or the RK512 protocols is implemented via the TwinCAT PLC Serial Communication 3964R/RK512 software library. The PC’s serial interface and the Beckhoff KL6xxx serial Bus Terminals are supported. The library also contains the TwinCAT PLC Serial Communication library.

The TwinCAT Serial Communication RK512 PLC library supports transmission and reception of PLC variables of any type. Data up to 128 bytes long is transferred transparently in the form of data blocks. To ensure secure data transmission, the 3964R protocol is used underneath the RK512 protocol.

TwinCAT Modbus RTU implements Modbus RTU communication via a serial RS232, RS422 or RS485 interface and is thus suitable both for the PC/CX interfaces and for operation with the KL6xxx serial Bus Terminals. It contains function blocks for master and slave operating mode with simple configuration.

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<tr>
<th>Target system</th>
<th>TwinCAT 2 Supplements, Communication</th>
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<tbody>
<tr>
<td><strong>TwinCAT PLC Serial Communication</strong></td>
<td>TwinCAT PLC Serial Communication 3964R/RK512</td>
</tr>
<tr>
<td><strong>Technical data</strong></td>
<td><strong>TS6340</strong></td>
</tr>
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<td>TwinCAT Serial Communication implements communication with serial devices such as printers, bar code scanners, etc. The serial interface of the PC and the serial Beckhoff EL6xxx EtherCAT Terminals and and KL6xxx Bus Terminals are supported. Via the network-based fieldbus system from Beckhoff the serial terminals can be accessed over a distance of up to 100 m. In addition, it is possible to address virtual COM interfaces of the operating system from the PLC. Serial communication via the 3964R or the RK512 protocols is implemented via the TwinCAT PLC Serial Communication 3964R/RK512 software library. The PC’s serial interface and the Beckhoff KL6xxx serial Bus Terminals are supported. The library also contains the TwinCAT PLC Serial Communication library. The TwinCAT Serial Communication RK512 PLC library supports transmission and reception of PLC variables of any type. Data up to 128 bytes long is transferred transparently in the form of data blocks. To ensure secure data transmission, the 3964R protocol is used underneath the RK512 protocol. TwinCAT Modbus RTU implements Modbus RTU communication via a serial RS232, RS422 or RS485 interface and is thus suitable both for the PC/CX interfaces and for operation with the KL6xxx serial Bus Terminals. It contains function blocks for master and slave operating mode with simple configuration.</td>
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<td><strong>Min. TwinCAT level</strong></td>
<td>TwinCAT PLC</td>
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TwinCAT Modbus TCP Server acts as gateway between Modbus TCP devices and TwinCAT runtime systems. It provides both server and client functionalities. In server mode the memory areas of several TwinCAT runtime systems can be mapped directly to the Modbus memory areas. A PLC library is provided for implementing a Modbus TCP client, so that the memory areas of a Modbus TCP device can be accessed.

TwinCAT Modbus TCP Server CE acts as gateway between Modbus TCP devices and TwinCAT runtime systems. It provides both server and client functionalities. In server mode the memory areas of several TwinCAT runtime systems can be mapped directly to the Modbus memory areas. A PLC library is provided for implementing a Modbus TCP client, so that the memory areas of a Modbus TCP device can be accessed.

The TS650x enable IEC 60870-5-10x-compliant communication from the TwinCAT PLC. Both master and slave libraries are available.

PLC library for the realisation of masters for
- IEC 60870-5-101
- IEC 60870-5-102
- IEC 60870-5-103
- IEC 60870-5-104

PLC library for the realisation of slaves for
- IEC 60870-5-101
- IEC 60870-5-104

The TS650x-0030 enable IEC 60870-5-10x-compliant communication from the TwinCAT PLC. Both master and slave libraries are available for applications under Windows CE.

PLC library for the realisation of masters for
- IEC 60870-5-104

PLC library for the realisation of slaves for
- IEC 60870-5-104

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<tr>
<th>Technical data</th>
<th>TS6250</th>
<th>TS6250-0030</th>
<th>TS650x</th>
<th>TS650x-0030</th>
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</thead>
<tbody>
<tr>
<td>TwinCAT Modbus TCP Server</td>
<td>TwinCAT Modbus TCP Server CE</td>
<td>TwinCAT PLC IEC 60870-5-10x</td>
<td>TwinCAT PLC IEC 60870-5-104 CE</td>
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<td>TwinCAT PLC</td>
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</table>
IEC 61850 defines a communication protocol which is used particularly in electrical switchgears. Such standardised communication can be implemented using the PLC library TwinCAT IEC 61850 Server. The communication stack developed by Beckhoff is based on the MMS protocol and as well as the basic IEC 61850 standard also supports the related specialisations. For easy configuration the TwinCAT Telecontrol Configurator can be used, which is delivered with the PLC library. Thanks to the created configuration a PLC code export can be carried out, which can be integrated into existing PLC projects.

IEC 61400-25 is a specialisation of IEC 61850 for wind turbines. The data model is especially extended for objects, such as, for example wind turbine generators. The TwinCAT Telecontrol Configurator can also be used here. Beside PLC codes it can also generate TwinCAT Scope 2 configurations.

The TwinCAT DriveTop Server is a communication server for linking the Indramat DriveTop Tools to TwinCAT. This means that the DriveTop tool can be used for configuration and commissioning of Indramat drives. Configuration with a number of SERCOS rings is also supported.

The DriveCOM user organisation has set itself the aim of facilitating uniform, standardised communication between configuration, commissioning and diagnostic tools from different drive manufacturers, independent of the fieldbus. The TwinCAT DriveCOM OPC Server offers precisely this type of communication connection. It enables data flow from the engineering tool to the drive, independent of the fieldbus. Based on the network-capable ADS TwinCAT communication system, distributed drives can be configured and diagnosed from a central point.

The TwinCAT DriveCOM OPC server requires a subordinate TwinCAT system with an FCxxxx-type Beckhoff fieldbus card. The TwinCAT DriveCOM configurator finds supported drives in the TwinCAT configuration and makes this information available for the engineering tool. The configurator features an automation interface and can therefore be operated remotely by other tools.
# TwinCAT OPC Server, TwinCAT OPC UA Server, TwinCAT OPC UA Server CE

<table>
<thead>
<tr>
<th>TwinCAT OPC Server</th>
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<tr>
<td><strong>Technical data</strong></td>
<td><strong>TS6120</strong></td>
<td><strong>TS6100</strong></td>
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The TwinCAT OPC Server is a standardised data exchange interface. It supports the DataAccess (DA) and XML DA specifications. DataAccess (DA) is based on the Microsoft COM technology and provides data for the client. The OPC XML DA specification enables data exchange through XML via HTTP. Configuration of the server is carried out in a configuration tool or via XML.

**OPC Unified Architecture (IEC 62541)** is the newest technology generation of the OPC Foundation for the secure, reliable and manufacturer-neutral transport of raw data and pre-processed information from the manufacturing level into the production planning or ERP system. With OPC UA, all desired information is available to every authorised application and every authorised person at any time and in any place.

**TwinCAT OPC UA Server**
- certified in the OPC Laboratory, Europe
- functions: DataAccess/
  HistoricalAccess/Alarm&Condition
- PLC blocks for diagnosis and restart
- intermediate storage of data on the server: interruption of the communication connection does not lead to loss of data

**TwinCAT OPC UA Client**
- PLC function blocks for UA DataAccess
- Demo UA client for diagnostic purposes

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**TwinCAT OPC UA Client CE**
- PLC function blocks for UA DataAccess
- Demo UA client for diagnostic purposes

**Target system**
- Windows NT/2000/XP, Windows 7
- Windows NT/2000/XP, Windows 7
- Windows CE

**Min. TwinCAT level**
- TwinCAT I/O
- TwinCAT I/O
- TwinCAT I/O

**Further information**
- [www.beckhoff.com/TS6120](http://www.beckhoff.com/TS6120)
- [www.beckhoff.com/TS6100](http://www.beckhoff.com/TS6100)
<table>
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<tr>
<th>TwinCAT SMS/SMTP Server</th>
<th>TwinCAT SMS/SMTP Server CE</th>
<th>TwinCAT TCP/IP Server</th>
<th>TwinCAT TCP/IP Server CE</th>
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<tbody>
<tr>
<td>TS6350</td>
<td>TS6350-0030</td>
<td>TS6310</td>
<td>TS6310-0030</td>
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TwinCAT SMS/SMTP Server enables the transmission of SMS messages or e-mails using PLC function blocks. The latter also allows the transmission of file attachments, HTML texts and the setting of message priorities. Support for STARTTLS/SSL enables encrypted e-mail communication to be configured.

TwinCAT SMS/SMTP Server CE enables the transmission of SMS messages or e-mails using PLC function blocks. The latter also allows the transmission of file attachments, HTML texts and the setting of message priorities. Support for STARTTLS/SSL enables encrypted e-mail communication to be configured.

TwinCAT TCP/IP Server enables the implementation and realisation of one or several TCP/IP servers and/or clients within the TwinCAT PLC. Corresponding blocks exist for the establishment/disconnection of communication as well as for the pure exchange of data (send and receive). The SNMP library provided enables messages to be sent (traps) and queries to be answered (get) for monitoring TwinCAT runtimes.

TwinCAT TCP/IP Server CE enables the implementation and realisation of one or several TCP/IP servers and/or clients within the TwinCAT PLC. Corresponding blocks exist for the establishment/disconnection of communication as well as for the pure exchange of data (send and receive). The SNMP library provided enables messages to be sent (traps) and queries to be answered (get) for monitoring TwinCAT runtimes.

TwinCAT PLC TwinCAT PLC TwinCAT PLC TwinCAT PLC

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<tr>
<th>Technical data</th>
<th>TS6271</th>
<th>TS6270</th>
<th>TS6280</th>
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<tr>
<td>The TwinCAT PROFINET RT Controller (master) is a supplement that turns any PC-based controller with an Intel® chipset and the real-time Ethernet driver developed by Beckhoff into a PROFINET RT controller. An Ethernet interface becomes a PROFINET controller by enabling a key. The PROFINET supplement is part of the TwinCAT installation and can be operated without key in Config mode. It runs on PCs and Embedded PCs and can be used from TwinCAT 2.11 R3. In conjunction with the EL6631 PROFINET terminal for the EtherCAT I/O system, PROFINET can also be tunneled via EtherCAT. In this case the supplement is not required. In this way, any EtherCAT network can exchange data with PROFINET RT devices.</td>
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<td>The TwinCAT PROFINET RT Device (slave) is a supplement that turns any PC-based controller with an Intel® chipset and the real-time Ethernet driver developed by Beckhoff into a PROFINET RT device. By installing the supplement, an Ethernet interface becomes a PROFINET slave. The supplement can be used on PCs and Embedded PCs. PROFINET can also be tunneled via EtherCAT in conjunction with the EL6631-0010 PROFINET terminal for the EtherCAT I/O system. In this way, any EtherCAT network can exchange data with PROFINET I/O controllers. If the EL6631-0010 is used, the TwinCAT PROFINET RT controller supplement is not required.</td>
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<td>The TwinCAT EtherNet/IP Slave is a supplement turns any PC-based controller with an Intel® chipset and the real-time Ethernet driver developed by Beckhoff into an EtherNet/IP slave. By installing the supplement, the Ethernet interface becomes an EtherNet/IP slave. This product can be used on all PC controllers and Embedded PC controllers running Windows XP and Windows CE.</td>
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<tr>
<td>TwinCAT Virtual Serial COM Driver</td>
<td>TwinCAT FTP Client</td>
<td>TwinCAT PLC RFID Reader Communication</td>
<td>TwinCAT PLC S5/S7 Communication</td>
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<td>TS6360</td>
<td>TS6300</td>
<td>TS6600</td>
<td>TS6610</td>
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</table>

TwinCAT Virtual Serial COM Driver allows the EL60xx EtherCAT Terminals or EP6002 EtherCAT Box modules to be integrated into Windows CE or Windows as normal serial interfaces. The computer on which a serial interface is to be generated for it is defined individually for each EL60xx/EP6002. Access to the device connected to the terminal takes place via Windows API for serial interfaces.

TwinCAT FTP Client enables simple access from the PLC to several FTP servers with the aid of various function blocks. This way, files can be loaded to or from a server after the establishment of a connection (optional with authentication). Additional function blocks allow files or directories to be searched for, created, deleted and renamed.

TwinCAT PLC RFID Reader Communication allows various RFID readers to be addressed via a serial interface. The new TwinCAT RFID reader library offers a general abstract interface that can be used for all readers. The configuration can easily be adapted to a specific reader.

TwinCAT PLC S5/S7 Communication allows the simple connection of TwinCAT to an S5 or S7 controller. The data blocks, flags, inputs, outputs, counters and timers of an S5 or S7 controller can be accessed using function blocks. The communication takes place using TCP/IP.

- TwinCAT I/O
- TwinCAT PLC
- TwinCAT PLC

Windows NT/2000/XP, Windows 7, Windows CE

Windows NT/2000/XP, Windows 7, Windows CE

Windows NT/2000/XP, Windows 7, Windows CE

Windows NT/2000/XP, Windows 7, Windows CE

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