TX500

The HMIs (human machine interfaces) of the TX500 series combine control, operation and monitoring in a full-fledged control thanks to the full-scope CODESYS V3 PLC with integrated visualization. Display sizes of 7", 10" and 13" inches offer you the flexibility to choose a screen size appropriate for your application.

The TX500 devices rely on CODESYS V3 in terms of programming acc. to IEC 61131-3 and visualization. Thus, programming and visualization can be managed comfortably in one software.

Turck provides free CODESYS packages for the users to integrate the TX500 devices simply and conveniently. CODESYS WebVisu enables remote access to the visualization and completes the feature set.

Thanks to the variety and flexibility of the integrated interfaces as well as the available master and slave functionality, the TX500 HMIs are able to communicate with any field devices or parent controls.

Fieldbus and Ethernet Solutions for Automation

No matter what fieldbus you are using: Turck provides you with a complete program for bus solutions and the standard Ethernet protocols: The fieldbus product portfolio includes I/O modules and I/O systems for applications in the Ex and non-Ex area. The modules and systems are available with degree of protection IP67 for installation in the field as well as with degree of protection IP20 for the cabinet. You have the choice between PROFIBUS-DP, DeviceNet™, CANopen, Modbus RTU/ASCII, as well as the Ethernet protocols PROFINET, EtherNet/IP™ Modbus TCP and EtherCat®.

Overview Fieldbus Systems	Fxx20	BL20	BL67	BL compact	TBEN-S	TBxx-L	piconet®
Setup							
Modular		●	●				●
Compact	●			●	●	●	●
IP20	●	●					●
IP65/IP67/IP69K	–/–/–	–/–/–	●/●/–	●/●/●	●/●/●	●/●/●	●/●/–
Functions							
Digital I/O	●	●	●	●	●	●	●
Analog I/O		●	●	●	●		●
Technology modules		●	●	●	●		●
Fieldbus Interfaces							
Profibus-DP	●	●	●	●		●	●
DeviceNet™	●	●	●	●			●
CANopen		●	●	●			●
Modbus RTU/ASCII		●					●
PROFINET	●	●	●	●	●	●	●
EtherNet/IP™	●	●	●	●	●	●	●
Modbus TCP	●	●	●	●	●	●	●
EtherCAT®		●					
System Support							
IO-Link		●	●	●	●	●*	
RFID		●	●	●	●*	●*	
Valve manifolds			●				●
Zone 2	●	●					
Software							
CODESYS V2.3/V3 programmable		●/●	●/●				
I/O-ASSISTANT 2							●
I/O-ASSISTANT 3 (FDT / DTM)	●	●	●	●	●	●	

● **supported**
* **in progress**

28 subsidiaries and over
60 representations worldwide!

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Fieldbus accessories
Turck offers a comprehensive range of fieldbus accessories, of active components such as repeaters or spanner modules via fieldbus cables and connectors, feedthroughs and terminating resistors.

Ethernet components
For building complex systems we offer you Ethernet components such as switches in IP67 for direct installation in the field and in IP20 for mounting on DIN rail. Cables, feedthroughs and field-wireable connectors complete the range.

Power supply
In addition to switching power supplies in IP67 for direct field installation and IP20 for installation in the control cabinet, Turck offers you a wide range of power supply cables and accessories, such as T-pieces or splitters. Coordinated IP67 components facilitate installation in the field by making these "plug & play" capable!

Time and cost savings
With a comprehensive range of accessories Turck offers you the opportunity to purchase "everything from one source". Thus, you safe time and money, not only during installation, but already in the planning phase. You benefit from coordinated components provided by one single partner.

Your Global Automation Partner

Fieldbus Technology Overview

Block I/O Modules

EtherNet/IP · PROFINET · DeviceNet · PROFIBUS · Modbus

Fxx20

With the compact I/O modules of the Fxx20 serie small local stations or control panels can easily be made bus capable.

The IP20 I/O modules are available in the following versions:
- FDP20 (PROFIBUS-DP slave)
- FDN20 (DeviceNet™ slave)
- FEN20 (Multiprotocol Ethernet slave for PROFINET, EtherNet/IP™ and Modbus TCP)

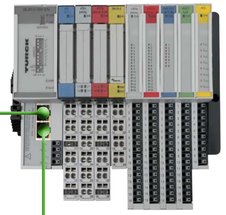
Users can use quickly and effectively the benefits of fieldbus technology over conventional wiring even with a few I/O signals.
- 8 and 16-channel versions with digital inputs/outputs and universal digital channels
- compact: the 8-channel design measures just 62.5 x 55 x 28.5 mm

Modular I/O System

EtherNet/IP · PROFINET · DeviceNet · PROFIBUS · Modbus · EtherCAT · CANopen

BL20

The modular IP20 I/O system BL20 is very versatile due to its flexibility. Any combination of gateway and I/O modules provide the user an application-optimized system design.



Gateways are available for the following fieldbus and Ethernet protocols:
- PROFIBUS-DP
- CANopen®
- DeviceNet™
- Modbus RTU/ASCII
- PROFINET RT and IRT
- EtherNet/IP™
- Modbus TCP
- EtherCAT®

Numerous I/O modules allow connection of virtually any signal:
- digital inputs and outputs (24 VDC and 120/230 VAC)
- analog inputs and outputs for current and voltage signals (optionally HART®-capable)
- analog inputs for RTD and TC
- technology modules for IO-Link, counter, SSI, PWM, RS232, RS485/422 and the RFID system BL ident®
- combinable with base modules featuring screw clamps or cage clamp terminals
- special supply modules allow a redundant system structure
- Zone 2 approvals enable use in hazardous areas

Block I/O Modules

EtherNet/IP · PROFINET · DeviceNet · PROFIBUS · Modbus · CANopen

TBxx

The new generation of TBxx block I/O modules is ideal for the harsh industrial environment thanks to the encapsulated electronics. The fully potted modules with degree of protection IP67 can be mounted directly on the machine and are available in the following variants:

Standard Design:
- TBDP-L (PROFIBUS-DP slave)
- TBEN-L (Multiprotocol Ethernet slave for PROFINET, EtherNet/IP™ and Modbus TCP)

Ultra-Compact Design (32 mm wide):
- TBEN-S (Multiprotocol Ethernet slave for PROFINET, EtherNet/IP™ and Modbus TCP)

BL compact

The BL compact product family combines the advantages of block I/O modules with those of modular systems. The BL compact modules combine a gateway with one or two I/O modules. In this way, they offer the possibility to connect countless combinations of signal types, without having to compromise on benefits such as the fully potted devices.

Modular I/O Systems

EtherNet/IP · PROFINET · DeviceNet · PROFIBUS · Modbus · CANopen

piconet®

The piconet® system offers in addition to coupling modules for almost any bus system a variety of I/O modules that can be flexibly arranged by the connection of optical fibers.

BL67

The modular I/O system BL67 can be mounted directly in the field thanks to its IP67 protection. This not only facilitates the installation but also maintenance. The variety of gateways, I/O modules and base modules which can be combined in countless combinations, enable almost any signal to be connected to almost any bus system.

Flexible use in Ethernet networks
Thanks to the Turck multiprotocol Ethernet technology, the I/O modules can be used in the three Ethernet protocols, PROFINET, EtherNet/IP™ and Modbus TCP. The modules detect the bus protocol used automatically during the startup phase without any interaction by the user.

Support through web server
Integrated web servers in the modules simplify commissioning and diagnostics. The user thus sees the relevant data such as module type, firmware, IP address or PROFINET name at a glance. Diagnostic information is shown on the web server clearly in plain text.

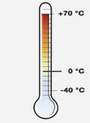
Efficient parameter setting
Turck provides special DTMs which can be integrated in any FDT frame application for its I/O systems and modules. This enables the reading and setting of process data as well as diagnostic functions to be implemented simply and even without a controller.

On and offline planning
PACTware™ simplifies planning, implementation and commissioning of the I/O system. The range of functions in the software includes a selection tool for the modules required, the offline planning and design, as well as the configuration, parameterization and commissioning of the modules.

Remote signal processing
The PG gateways of the BL20 and BL67 systems can be programmed with CODESYS and are thus implemented as remote control units. Possible applications include for example the stand-alone control of an application or the remote pre-processing of signals.

Simple networking
The function of the global network variables integrated in CODESYS enables the simple interconnection of several I/O stations. This makes it possible to connect different systems quickly and simply. Standard transmission protocols enable bidirectional data exchange.

Fast programming
In order to ensure the rapid integration in CODESYS, Turck provides target support packages as drivers for the target system. The I/O modules can thus be simply added to the configuration using drag and drop. Diagnostics and commissioning functions, as well as function blocks also support the user.



Robust modules
The fully potted module electronics and the compliance with IP rating IP65/IP67/IP69K make the block I/O modules extremely robust to withstand the harshest ambient conditions. Many I/O modules also come with an extended temperature range from -40 to +70 °C which extends their application range.