Fieldbus Technology Overview

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 consists of modules and systems for application in the field as well as in the cabinet. The modules and systems are available in a large variety of proven I/O box sizes and variants. The product range comprises Fieldbus modules, Fieldbus Systems, Power supply, Ethernet components and fieldbus accessories.

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

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, of active 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 installation in the field and in IP20 for installation in the control cabinet, Turck offers you a wide range of power supply modules and accessories, such as DIN rail power supplies, bus power supplies and DC/DC converters facilitating bus power supply in broad ranges: "Turck Power" concepts.

Time and cost savings

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

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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 programming of the TX500 devices using automation. CODESYS V3 and CODESYS WebVisu enable remote access and complete the feature set.

To ease the process and flexibility of installation, an integrated I/O-Open application is included. All TX500 HMIs are able to communicate with any field device or process controller.

TX500

The TX500 devices provide you with a complete program of HMI systems for application in the field as well as in the cabinet. The HMIs are available in various sizes and variants: 7”, 10” and 13” touchscreen devices. The flexible product portfolio includes the latest developments in HMI technology and support you with the control of any process. The integrated I/O-Open application allows you to use your own devices and systems for communication between the field and the cabinet.
The modular I/O system BL67 is very versatile in its flexibility. The user can configure his own system for an individual, networked process automation system.

Gateways are available for the following fieldbus and Ethernet protocols:
- PROFINET
- EtherCAT®
- Modbus TCP
- SSI, PWM, RS232, RS485/422

The variety of gateways, I/O modules and configurable systems quickly and simply enables the connection of countless combinations, enable almost any signal to be connected to almost any bus. Thus, the user can find a solution for almost any application. Details about the modules can be found in the product catalogue under the appropriate product name.

Other functions in the software include the following:
- Commissioning functions, as well as the configuration of the I/O system. The range of functions in the software includes the following:
- On and offline planning
- Fast programming
- Remote signal processing
- Symbolic programming

The function of the global network enables the connection of PLCs in different networks. For this purpose, I/O modules can be added to the configuration using special target support packages as well. Variables integrated in CODESYS can be accessed via the input and output of the module. The function of the global network enables the simple interconnection of different systems quickly and simply.

The user can quickly and easily configure the bus餅 though flexible configuration of the bus technology. The Turck multiprotocol technology modules can be used in the three fieldbus and the three Ethernet technologies, thus simplifying commissioning of the modules.

Benefits of the modular system include:
- Integrated web servers in the modules. This enables the reading of module type, firmware, IP address and diagnostics. The user thus sees the relevant data such as module type, firmware, IP address and diagnostics.
- The user can make use of the fully potted module electronics. The fully potted modules with optical fibers.
- The modular I/O system BL67 can be expanded directly to the field devices in the system to any number of modules.

Users can use the Turck multiprotocol technology modules for IO-Link, counter, analog inputs for RTD and TC, analog inputs and outputs for current and voltage signals (optionally HART®-supported), SSI, PWM, RS232, RS485/422 and the possibility to connect countless combinations, enable almost any signal to be connected to almost any bus. Thus, the user can find a solution for almost any application. Details about the modules can be found in the product catalogue under the appropriate product name.