

SOLUTIONS and Services

Industrial Communication – Availability of Industrial Networks

INDUSTRIAL COMMUNICATION



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OUR Expertise

The Industrial Communication Business Unit at a Glance



Photo: Jens Büttner

Availability of Industrial Networks

In the Industrial Communication business unit, Trebing + Himstedt offers products and services for industrial communication systems around the world. Our solutions are designed to increase the availability of industrial networks by using easily applicable concepts. Our focus is on the fields of network diagnostics and Asset Management. Our solutions are applicable during commissioning and daily operations, for troubleshooting as well as inventory takings. Being manufacturer and control system independent, they enable continu-

ous access to all levels of communication – even in complex automation structures.

Gain an overview of the possible fields of application of our products in the “Solutions” chapter and find out which scenarios and solutions are best tailored to your needs. In the subsequent chapters you will find detailed information about specific products and services. For any questions or comments, our Trebing + Himstedt team and our distribution partners’ experts are very happy to help.



SOLUTIONS

SOLUTIONS

| | |
|----|---------------------|
| 08 | Network Diagnostics |
| 12 | Asset Management |

NETWORK Diagnostics

Safe and Reliable Communication in all Networks – Easily Applicable Diagnostics Concepts

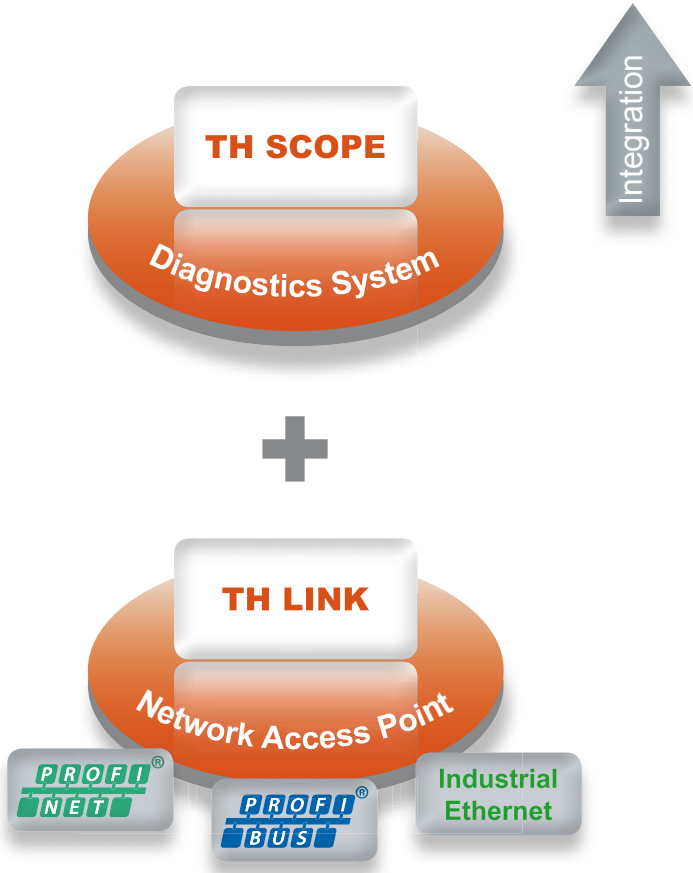


How can you optimally monitor the communication quality of your industrial networks? How can essential diagnostics information be made available in a quick and comprehensible way and be used efficiently? Discover how consistent and easily-applied concepts ensure error-free communication in your networks and reduce your effort needed for commissioning, maintenance and daily operation.

Requirements for efficient network diagnostics are no longer limited to providing diagnosis information of network and stations for acute troubleshooting. Today, it is necessary to develop diagnostics concepts that are standardized across all network protocols, applicable in all life cycle phases of the plant, and that make the required information accessible from any place at any time. It is critical that the costs for you as a user are kept as low as possible: this means integration

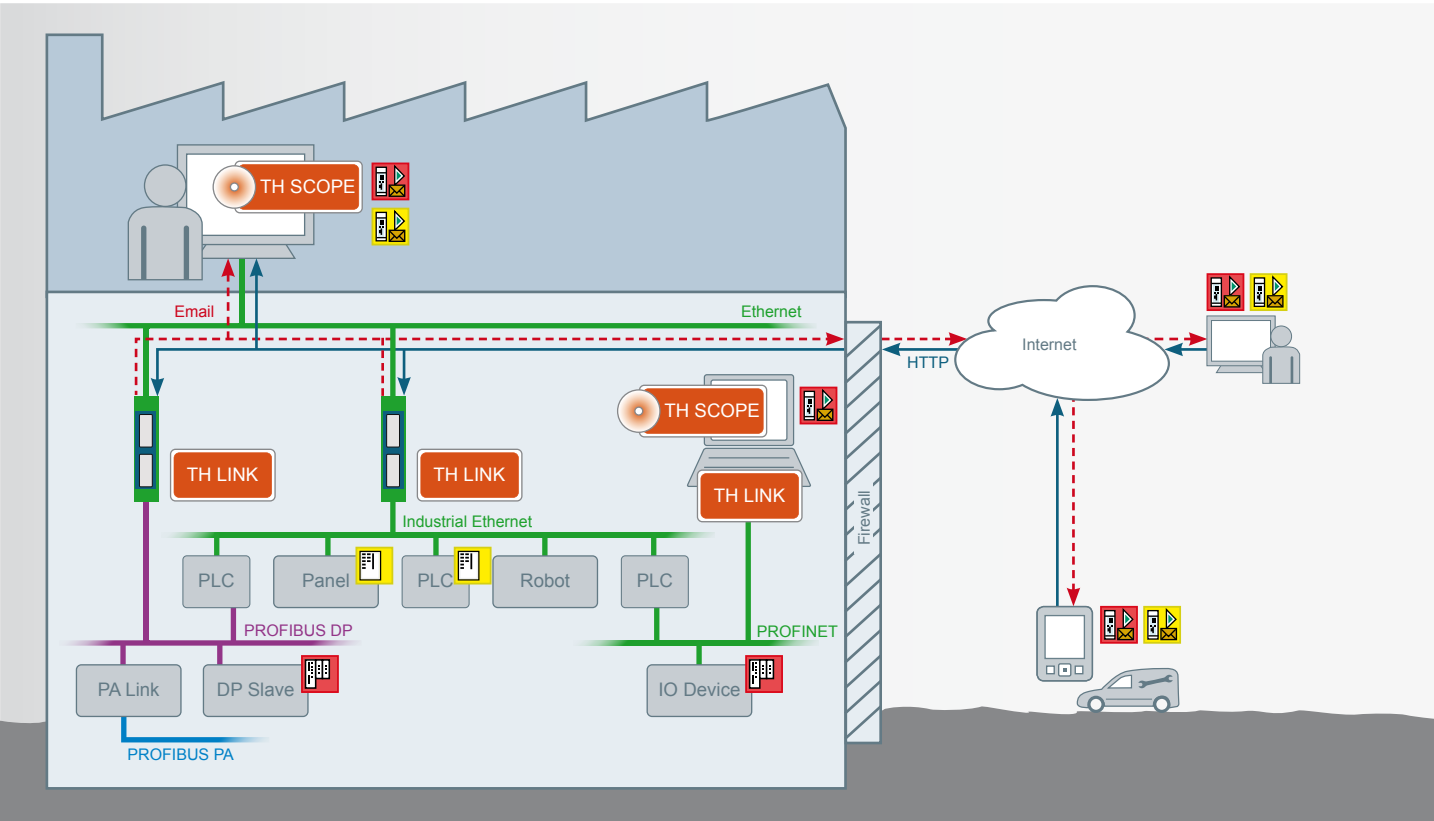
without additional configuration expenses, intuitive operation with a uniform, consistent handling across all communication protocols and an alert concept which permanently monitors networks and ensures you can take quick, targeted action in case of failures.

Our solutions meet these requirements exactly – they are integrated and user-friendly. As long-standing experts on fieldbus diagnostics, we offer modular, harmonized solutions for the most widely-used networks such as PROFIBUS, PROFINET and Industrial Ethernet. The concept consists of the TH SCOPE software and the TH LINK network access point, which is available for both fixed installations and mobile service scenarios. With this approach, you can monitor all networks in one single, unified system and also integrate the diagnostics information in higher-level applications as required.



NETWORK Diagnostics

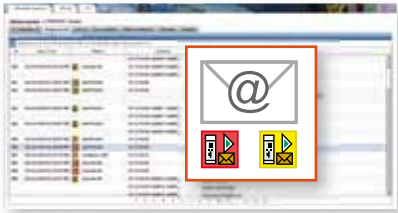
Unified Monitoring of PROFIBUS, PROFINET and Industrial Ethernet Networks



With the standardized diagnostics approach you can monitor all PROFIBUS, PROFINET and Industrial Ethernet networks in your plant in a single application. The web-based TH SCOPE software provides you with information about the communication quality in all networks. Access to the network is established via the TH LINK, which is available for both fixed installations and mobile service use on notebooks. Cross-protocol diagnostics functions, unified views and an intuitive operating concept reduce your monitoring costs and effort and support you in all life cycle phases of your plant. An automatic email alert ensures a quick response to malfunctions when they do occur. Specific recommendations enable you to take immediate and efficient action even without expert knowledge. If required, the diagnostics information can also be integrated into higher-level applications such as Asset Management or process control systems, or exported into MS Office for further analysis.

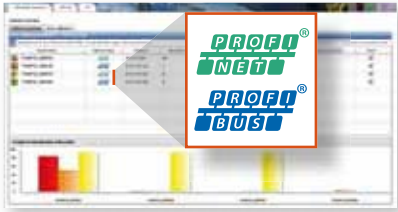
Benefits

- Unified solution for cross-protocol network monitoring
- Short response time in case of failures due to alert functions
- Intuitive operational concept and flexible supply of diagnostics information



Network Monitoring

The intelligent diagnostics approach allows you to have a plant-wide monitoring system with minimal expense and effort and short response times: all networks are permanently monitored and you need only take action in case of failures. As soon as faults or irregularities are detected in a network, you immediately receive an automatic email notification. With specific information about the cause of faults and recommendations to remedy errors, you can take efficient action.



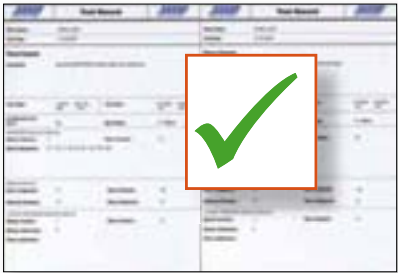
Ensuring Communication Quality

With the web-based TH SCOPE application, you can always access the status and diagnostics information of your networks, both centrally and remotely. Starting with a plant-wide overview of all PROFIBUS, PROFINET and Industrial Ethernet networks, you can navigate to other views and levels of detail. The network quality is evaluated using different parameters and is graphically displayed. In this way, you can identify critical network stations at a glance and analyze network parameters.



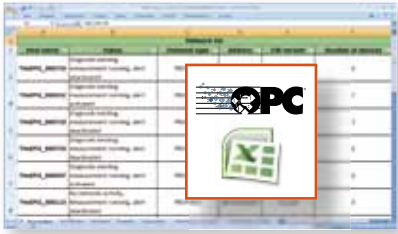
Quick Installation – Modular Extension

From the first steps of putting the diagnostics solution into operation quickly and easily, you will benefit from the user-friendly operating philosophy. The web-based concept of TH SCOPE requires no software installation on the client. You can access the application flexibly with a browser – from your PC or from tablets or smart phones. The universal network access point TH LINK also can be installed without additional software and allows a step-by-step expansion of the concept to additional networks and further fieldbus protocols – to the point of a company-wide diagnostics system if required.



Support of Commissioning, Operation and Inventory Takings

You can use the comprehensive fieldbus diagnostics solution in all life cycle phases of your plant. Commissioning and final acceptance can be facilitated through the rapid detection of deviations in the network's actual and projected performance as well as through comprehensive acceptance inspection measurements and records. You can reduce downtimes and shorten response times during plant operation through continuous monitoring. Furthermore, at the click of a mouse, topology and inventory functions provide valuable information for maintenance staff at any time.

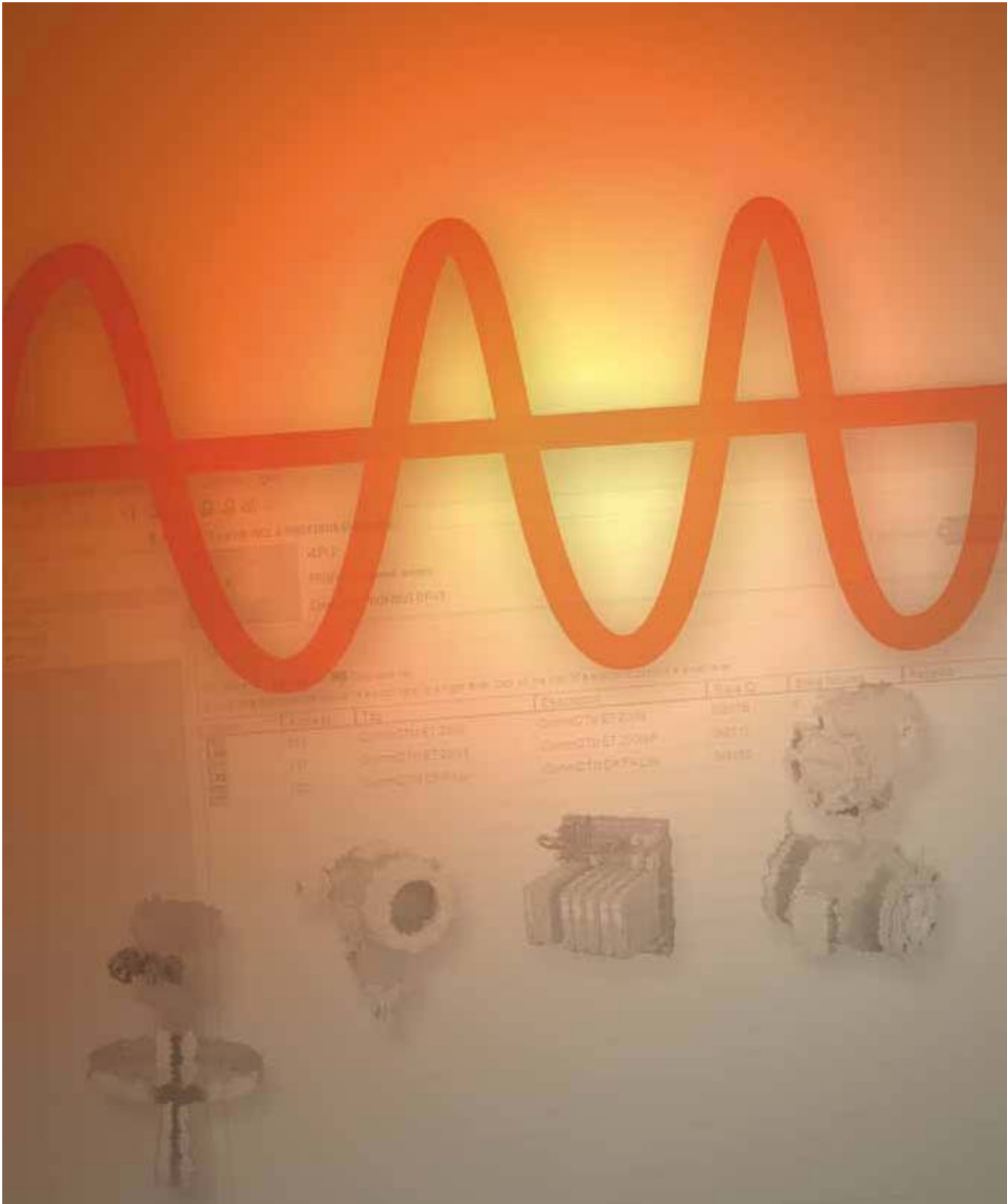


Flexible Integration of Information

The status and diagnostics information on networks and devices available in the diagnostics solution can also be integrated into higher-level systems or portals via OPC. In automation systems such as process control and Asset Management systems, plant operators or maintenance personnel, for instance, can thus use the information in familiar environments. Data export to MS Excel enables you to archive or further evaluate the diagnostics information. In addition, printing features are also available.

ASSET Management

Central Access to all Devices– Manufacturer-Independent Solution Concepts

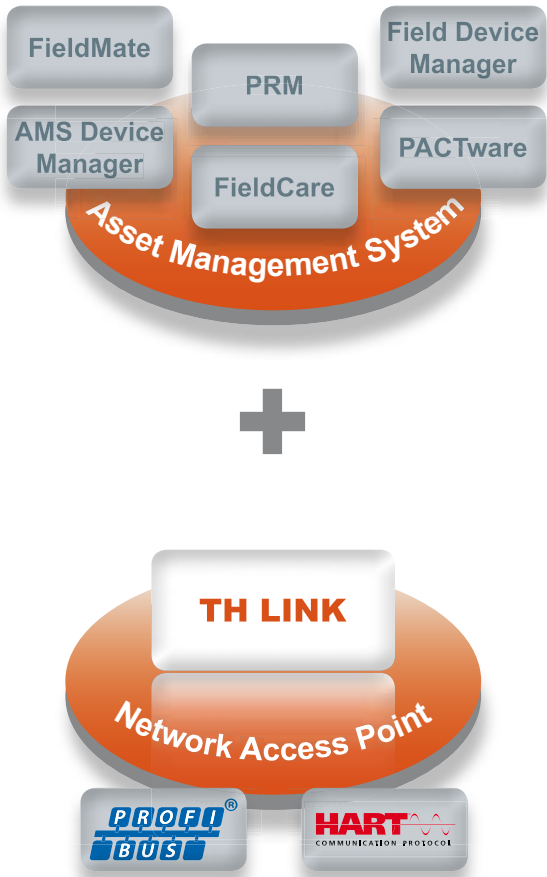


How can you efficiently use and manage the assets of your entire plant? How can you implement central device access across all levels of communication? How can you include the network as a key asset into your Asset Management concepts? Discover how manufacturer-independent concepts and a central Asset Management with seamless device access can reduce your commissioning and maintenance costs and effort.

The challenge of plant-wide Asset Management is to operate and manage as effectively as possible the variety of devices from different manufacturers in increasingly complex plant structures. Efficient Asset Management systems offer the best conditions for targeted use of the high amount of

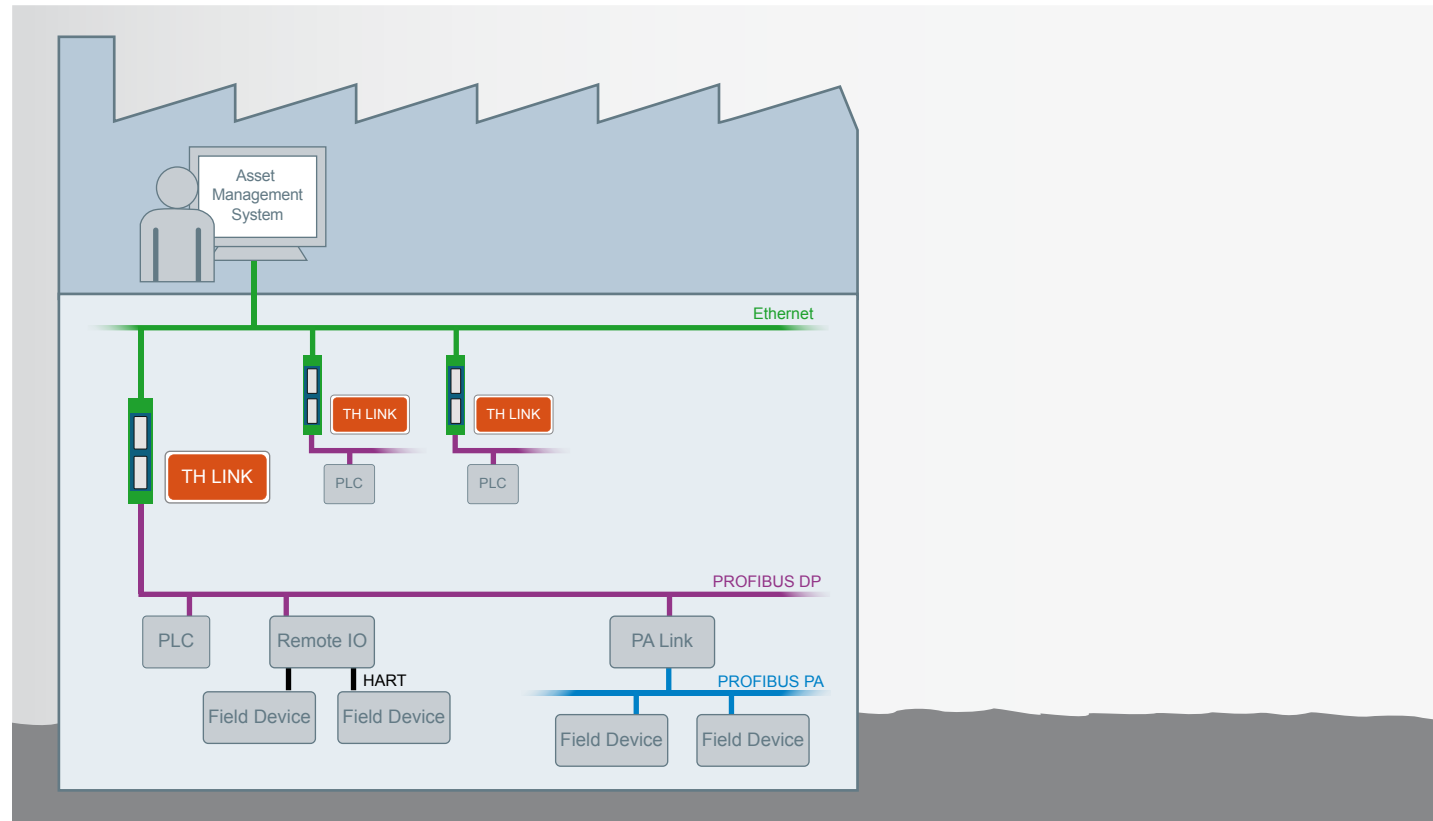
process and device information throughout the complete life cycle of the plant. Particularly in the context of preventive maintenance, it is crucial to be able to access the devices quickly and effectively across various communication levels. Central Asset Management not only reduces the number of software tools, but also allows central data storage, reduces response times and increases the ease of use.

An integration of network monitoring in Asset Management concepts reduces the system diversity and ensures higher plant availability. Learn about how our access concept centered around the TH LINK can be used with leading Asset Management systems independent of manufacturer, control system and technology.



ASSET Management

Central Device Access from Asset Management Systems



Central, seamless access to all field devices reduces your effort and expenses for plant-wide Asset Management. Via Ethernet, you can centrally configure, parameterize and diagnose the devices of any manufacturer across all levels of communication. All data are centrally stored in one system, giving you an overview of your plant and networks at any time and allowing you to take action when necessary. The easy-to-use solution concept, consisting of a network access point from Ethernet to PROFIBUS and a communication driver, can be put into place in different Asset Management systems.

When applied with FDT technology, additional diagnostics information about the state of the PROFIBUS network is displayed in the CommDTM. In this way you can monitor fieldbus and field devices in a single application. DTM for SIMATIC components also enable the use of manufacturer-independent device operation via FDT in Siemens environments.

Benefits

Reduced maintenance cost and effort through monitoring of network and devices

Increased transparency with manufacturer-independent Asset Management

Central data storage and high operational comfort through device access via Ethernet



Central Access to all Devices

The network access point TH LINK as a class 2 master provides the connection from Ethernet to PROFIBUS. In combination with the communication driver for the respective Asset Management system you can access the field devices in your plant across different levels of communication. This central device parameterization, configuration and diagnostics reduce commissioning and maintenance costs and effort.



Parallel Monitoring of Network and Devices

As an essential asset of your plant, the network has a decisive influence on plant availability. This is why it makes sense to also integrate monitoring of the network into your Asset Management concept. The solution concept centered around the TH LINK offers you the possibility of parallel condition monitoring of network and devices. In FDT environments, this can be done in a single application, because the respective CommDTM also provides comprehensive diagnostics information about the corresponding network.



A Manufacturer-Independent Solution Concept

We offer network access via Ethernet for the following Asset Management systems and field device configurators:

- AMS Suite (Emerson)
- PRM (Yokogawa)
- FieldMate (Yokogawa)
- Field Device Manager (Honeywell)
- FieldCare (Endress + Hauser)
- FieldCare (Metso)
- PACTware

In FDT environments, our solutions not only enable central device access from FDT frame applications, but also the application of manufacturer-independent FDT technology in Siemens environments and the parallel monitoring of fieldbus and field devices in one single application.

For Emerson's AMS Device Manager, we provide a HART Over PROFIBUS solution with which you can directly access all HART devices via Ethernet and PROFIBUS DP. Remote IOs of the following manufacturers are supported: ABB, Altus, Pepperl + Fuchs, Siemens, STAHL and Turck.

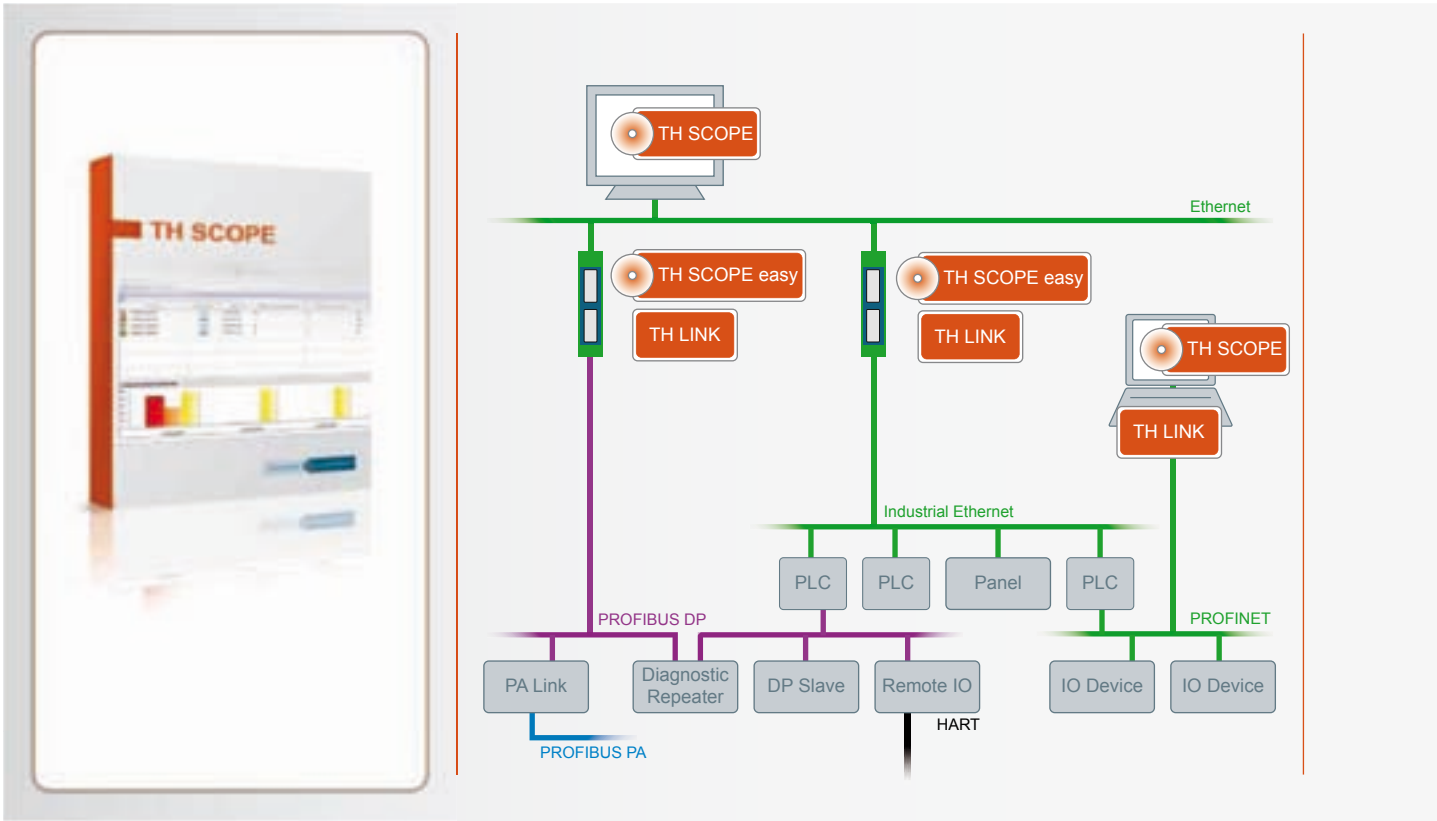
PRODUCTS

PRODUCTS

| | |
|----|--------------------------------|
| 18 | TH SCOPE |
| 20 | TH LINK |
| 22 | PROFIBUS Scope |
| 24 | xEPI 2 |
| 26 | TH OPC Server DP |
| 28 | Trebing + Himstedt DTM Library |
| 30 | PACTware |
| 32 | TACC |
| 34 | SPI 3 |
| 36 | Accessories |

TH SCOPE

Unified Diagnostics Solution for all Networks



The TH SCOPE is a diagnostics software for PROFIBUS, PROFINET and Industrial Ethernet. The TH SCOPE can simultaneously monitor multiple fieldbus networks and communication protocols in one application. Access to the network is realized via the TH LINK. No specialized knowledge of the communication protocols of the monitored system is needed to use the TH SCOPE. The information is presented and provided to the user in an easy-to-understand format. Users are also provided with specific recommendations for eliminating errors in the network. Alert functions can keep TH SCOPE users automatically informed about problems in the networks. Acceptance measurements including generation of acceptance reports are supported by the TH SCOPE. The state of the network can be saved as a reference for later comparison.

Benefits

Unified diagnostics of PROFIBUS, PROFINET and Industrial Ethernet in one application

Easy-to-understand information format – no expertise required

Short response times in case of failures through alert function and web access

Functions

- Parallel network overview of PROFIBUS and PROFINET installations¹⁾
- Network and device status¹⁾
- Diagnostics messages with troubleshooting recommendations¹⁾
- Analysis of device log books¹⁾
- Live List¹⁾
- Statistics¹⁾
- Inventory¹⁾
- Email notification¹⁾
- Data export
- Printing
- Determination and comparison of reference configuration
- Trend analysis
- Acceptance measurements with acceptance reports
- OPC Server DA
- PROFINET topology¹⁾
- PROFIBUS telegram monitor

System Requirements

Operating Systems

- The following operating systems are supported in German and in English in 32 and 64 bit versions: Windows XP, Windows Vista, Windows 7

Communication Processor

- TH LINK and xEPI 2 for access to the fieldbus system

Software

- Web browser with Adobe Flash player 10.0 or higher
- Microsoft Excel 2007 or higher for Excel import
- Adobe Reader 8 or higher to read documentation and for printing

Licensing

- The software must be licensed after installation. This is done via license key.

Scope of Delivery

By Download

- TH SCOPE installation
- Installation Guide
- User Manual
- Release Note

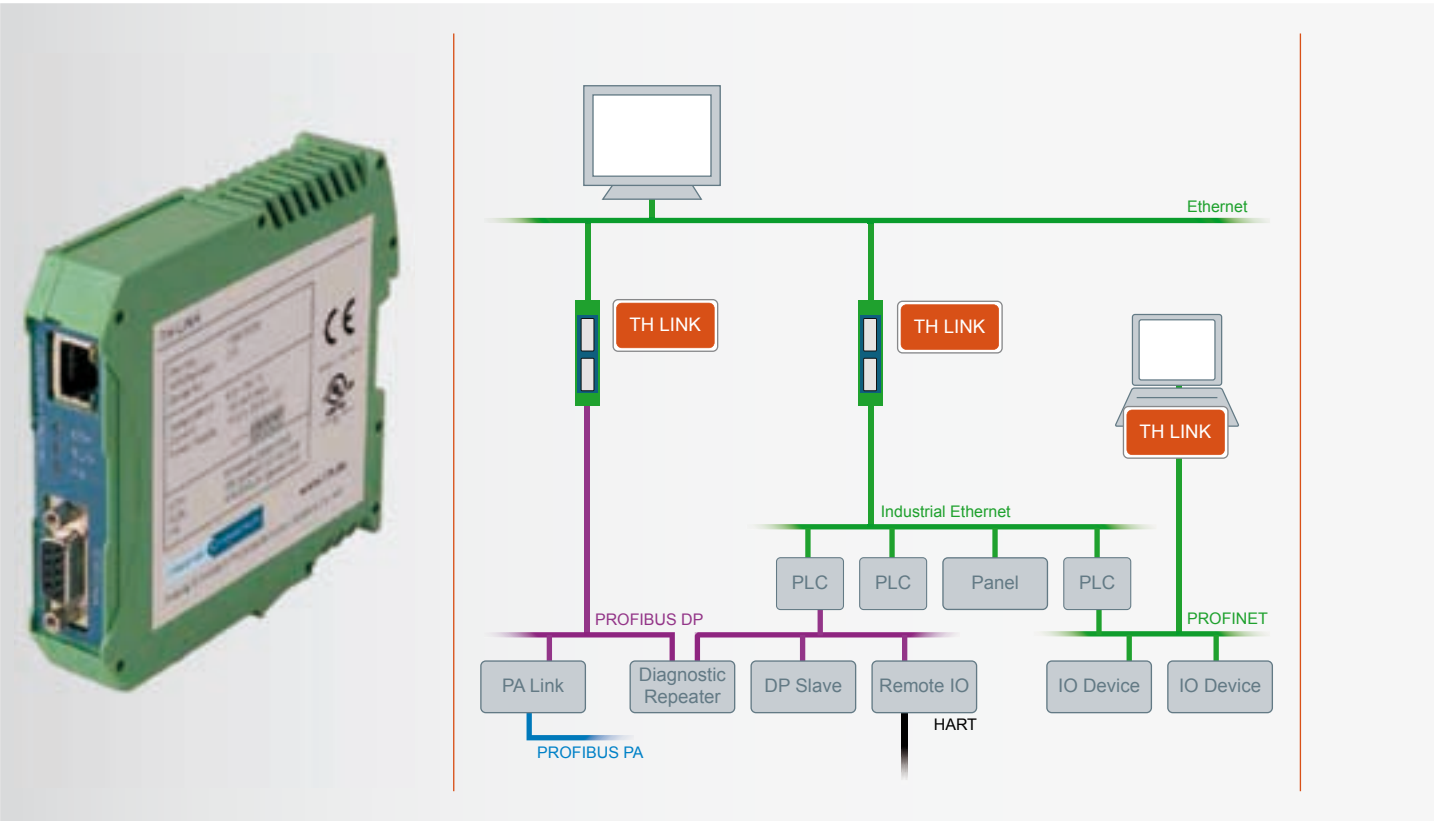
Order Information

| | |
|---|----------|
| • TH SCOPE PROFIBUS | 10003002 |
| • TH SCOPE PROFINET/Industrial Ethernet | 10003004 |
| • TH SCOPE PROFIBUS Upgrade | 10003003 |
| • TH SCOPE PROFINET/Industrial Ethernet Upgrade | 10003005 |

¹⁾ Functionality as TH SCOPE easy as free-of-charge part of the TH LINK

TH LINK

Fieldbus Access



The TH LINK provides access to the communication system and connects the higher-level network structure with the field level. It forms the basis for the Trebing + Himstedt products TH SCOPE, Trebing + Himstedt DTM Library, TACC and TH OPC Server DP. Depending on the operation purpose, the TH LINK is available as a mobile access point for notebooks or as a stationary mounted device. The appropriate TH LINK is available for PROFIBUS and PROFINET/Industrial Ethernet. The TH LINK is quick to assemble/install and to put into operation. Through integrated websites it can be configured without additional software. The delivered default configuration allows start-up in only a few minutes. In order to prevent network disruptions by unauthorized configuration changes, all configuration functions are protected by user administration. Every TH LINK includes the free-of-charge TH SCOPE easy.

Benefits

- Universal platform for network diagnostics and Asset Management
- Easy installation and commissioning, TH SCOPE easy already included
- Available as a stationary mounted device or mobile as a software tool for PC/notebook

Functions

- Connection between higher-level network and field level
- Access to the PROFIBUS network
- Access to the PROFINET/Industrial Ethernet network
- Basis for TH SCOPE, Trebing + Himstedt DTM Library, TACC and TH OPC Server DP
- Access protection through integrated user administration
- TH SCOPE easy preinstalled

Technical Data (10003006/10003007)

| | |
|----------------------------|--|
| Nominal supply voltage | 24 V DC (19.2 ... 28.8) |
| Current consumption | max. 190 mA |
| Ambient temperature range | 0 ... +50°C |
| Transmission rate PROFIBUS | max. 12 MBit/s (TH OPC Server DP, AMS Device Manager, FDT), max. 1.5 MBit/s (TH SCOPE, PROFIBUS Scope) |
| PROFIBUS interface | RS 485 |
| Ethernet interface | RJ-45 (10Base-T/100Base-TX) |
| Mounting | 35 mm DIN top hat rail |
| Dimensions W x H x D | 22.5 x 99 x 114.5 mm |
| Weight | 120 g |
| Certificate | CE UL |

System Requirements (10003008)

Operating Systems

- The following operating systems are supported in German and in English in 32 and 64 bit versions: Windows XP, Windows Vista, Windows 7

Ethernet Interface

- RJ-45 (10Base-T/100Base-TX)

Scope of Delivery

- TH LINK
- Installation Guide

By Download

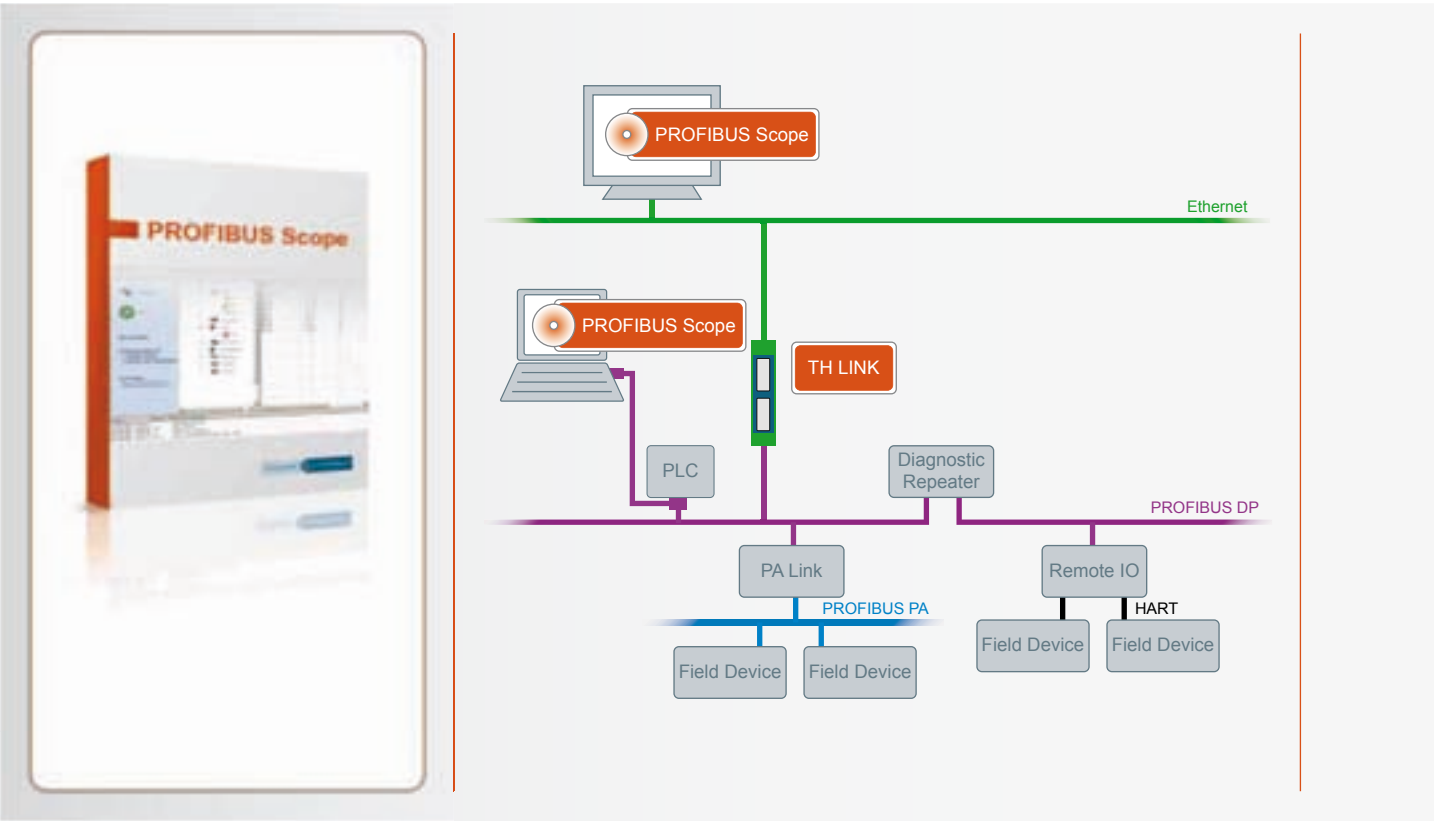
- Release Note

Order Information

| | |
|---|----------|
| • TH LINK – Gateway between ETHERNET and PROFIBUS | 10003006 |
| • TH LINK – Gateway between ETHERNET and PROFINET/Industrial Ethernet | 10003007 |
| • TH LINK – Network access from PC to PROFINET/Industrial Ethernet | 10003008 |

PROFIBUS Scope

PROFIBUS Diagnostics Tool for Mobile Application



The PROFIBUS Scope diagnostics software enables users to analyze and log PROFIBUS networks in a simple way. Various modes of operation ensure that PROFIBUS installation users and maintenance staff as well as experts in planning and development are supplied with all the necessary information for quick error detection and troubleshooting. The PROFIBUS diagnostics software supports faultless operation and documentation of PROFIBUS networks in all phases of the plant life cycle, from commissioning to preventive maintenance and targeted troubleshooting during operation.

Benefits

- Clear display of network stations and their state
- Acceptance documentation through comprehensive logging of measurement results
- Interpretation of manufacturer-specific diagnostics via GSE files

Functions

- Diagnosis Mode**
 - Simple, clear display of current and historical diagnostics information
 - Graphical status indicators and diagnostics messages in plaintext
 - Support of GSE files for plaintext display
 - Automatically generated reports
 - Comparison of current and reference measurements
- Telegram Mode**
 - Telegram display separated by header information and data
 - Search, filter and trigger functions
 - Live List
 - Data export into .csv format
- Logger Mode**
 - Long-term recording and storage of telegrams
- Signals Mode**
 - Recording of process data (cyclic I/O data) and display in a chart

System Requirements

- Operating Systems**
 - The following operating systems are supported in German and English in 32 bit version: Windows 2000 Professional, Windows XP, Windows Server 2003
- Communication Processor**
 - TH LINK (max. transmission rate: 1.5 MBit/s)
 - xEPI 2 (max. transmission rate: 1.5 MBit/s)
 - CP5512 (max. transmission rate: 12 MBit/s)
 - CP5611 or PG with integrated CP5611 (max. transmission rate: 12 MBit/s)
 - The following protocols are supported: DP, DP-V1, FMS, FDL/MPI, PA
- USB Slot**
 - USB version 1.1 (or higher) - for the USB dongle (license)
- Software**
 - DAO3.5
 - Adobe Reader 8.0 or higher for reading the documentation
- Licensing**
 - For measurements to be carried out, the software must be installed locally on the PC and a valid license (USB dongle) is necessary. Without a license the PROFIBUS Scope can still be installed at any time and be used to analyze existing telegram records. However, no new measurements can be taken.

Scope of Delivery

- PROFIBUS Scope software
- USB dongle
- Installation Guide
- User Manual

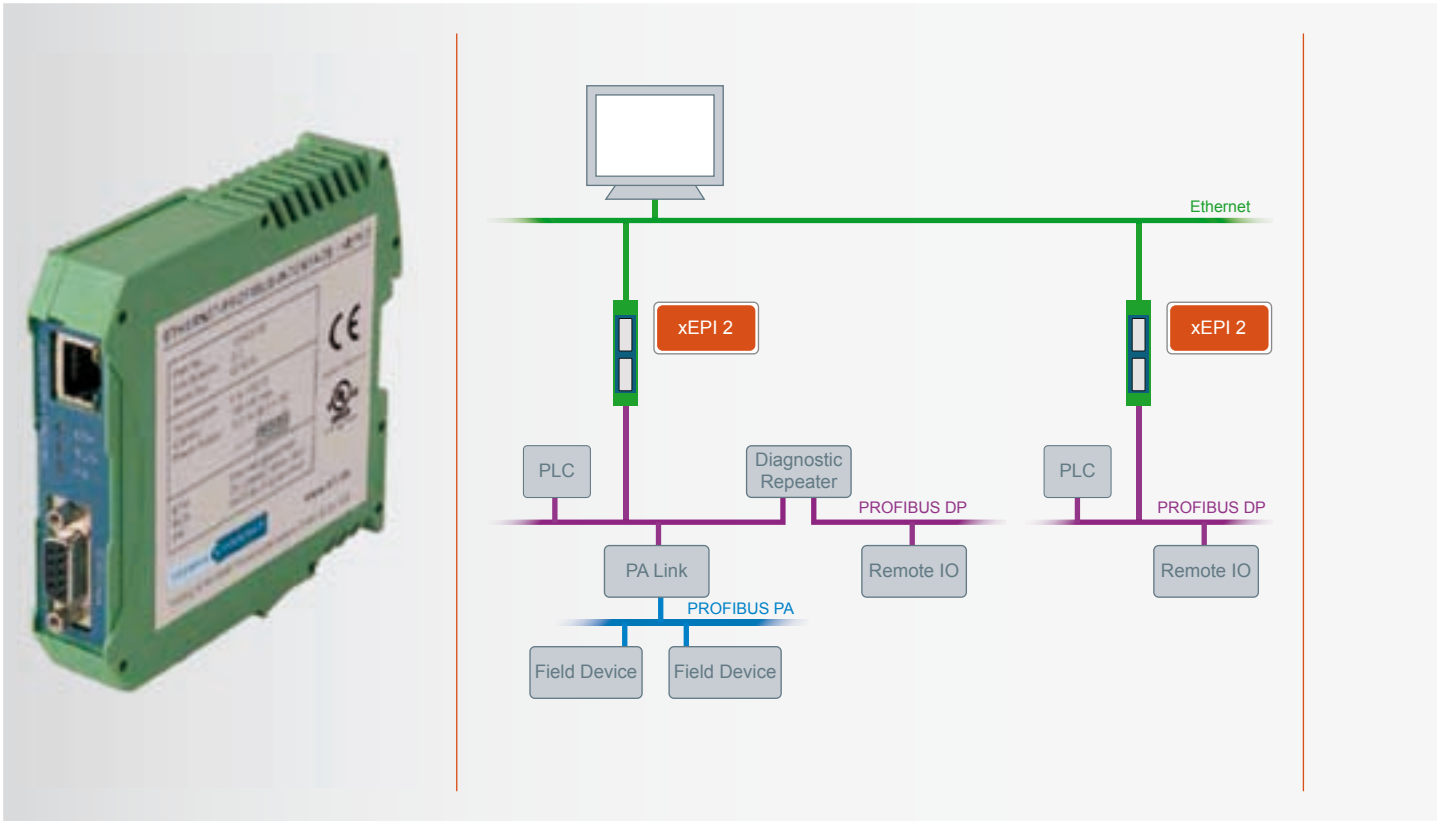
- By Download**
 - Release Note

Order Information

| | |
|--|----------|
| PROFIBUS Scope software | 10001308 |
| PROFIBUS Scope software upgrade (version 3.1 and higher) | 10002255 |
| Product Bundles | |
| PROFIBUS Scope software and xEPI 2 | 10002428 |
| PROFIBUS Scope software and CP5512 | 10002000 |
| PROFIBUS Scope software and CP5611 | 10001645 |

xEPI 2

Diagnostic Unit Network Access



The xEPI 2 enables access to the communication system and connects the higher-level network structure with the field level. It forms the basis for the products Trebing + Himstedt DTM Library, TACC and TH OPC Server DP. The xEPI 2 is quick to put into operation. Through integrated websites it can be configured without additional software. The delivered default configuration allows commissioning in only a few minutes. In order to prevent network disruptions by unauthorized configuration changes, all configuration functions are protected by user administration.

Benefits

Universal platform for PROFIBUS diagnostics and Asset Management

Easy installation and commissioning

Includes web-based diagnostics functions for PROFIBUS

Functions

- Connection between higher-level network and field level
- Access to the PROFIBUS network
- Basis for Trebing + Himstedt DTM Library, TACC and TH OPC Server DP
- Access protection through integrated user administration
- Web-based PROFIBUS diagnostics function

Technical Data

| | |
|----------------------------|--|
| Nominal supply voltage | 24 V DC (19.2 ... 28.8) |
| Current consumption | max. 190 mA |
| Ambient temperature range | 0 ... +50°C |
| Transmission rate PROFIBUS | max. 12 MBit/s (TH OPC Server DP, AMS Device Manager, FDT), max. 1.5 MBit/s (PROFIBUS diagnostics, PROFIBUS Scope) |
| PROFIBUS interface | RS 485 |
| Ethernet interface | RJ-45 (10Base-T/100Base-TX) |
| Mounting | 35 mm DIN top hat rail |
| Dimensions W x H x D | 22.5 x 99 x 114.5 mm |
| Weight | 120 g |
| Certificate | CE UL |

Scope of Delivery

- xEPI 2
- Installation Guide

By Download

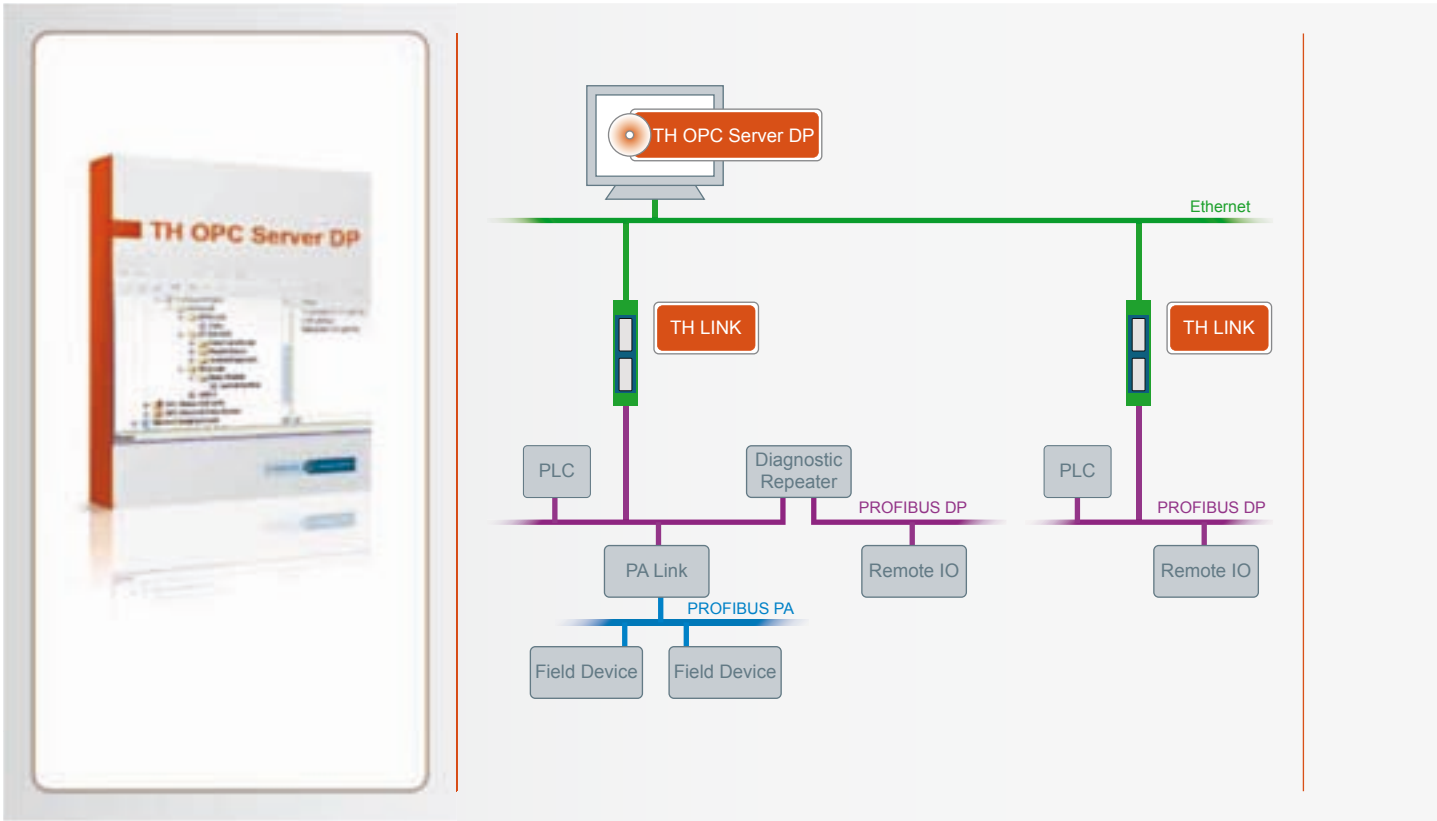
- Release Note

Order Information

| | |
|----------|----------|
| • xEPI 2 | 10002416 |
|----------|----------|

TH OPC Server DP

Integration of PROFIBUS Diagnostics Information



The TH OPC Server DP in combination with the TH LINK allows permanent monitoring of multi-master and multi-strand systems as well as alerting in the case of failures. Users are provided with diagnostics information on PROFIBUS network stations. Via OPC Standard, client applications can access information about failed devices, the status of the master system, and device diagnostics. This information can be incorporated into any OPC-compatible software for the purpose of maintenance, alerting and production data acquisition. Diagnostics messages, alerts and network status information can be saved and used as an alert history or for SAP maintenance (PM module). Even if different control system suppliers or system families are used in the company, a uniform view of the devices in the PROFIBUS network for maintenance purposes is possible. Simultaneous monitoring of cyclic I/O data transfer to the slaves allows easy implementation of monitoring functions and data logging. A graphical configurator enables easy configuration of the TH OPC Server DP.

Benefits

Uniform view of all communicating devices in the PROFIBUS network

Configuration of OPC tags to map the installation or the identification system

Interpretation of manufacturer-specific diagnostics via GSE files

Functions

- Monitoring of all communicating slaves and detection of failed slaves (multi-master functionality)
- Diagnostics messages in plaintext as OPC alert
- Current physical network status by evaluation of diagnostic repeater or DP/PA link
- Parallel reading of slave I/O data as OPC tags
- OPC Data Access 3.0 and Alarm & Events 1.1
- Reading and writing of parameters
- Flexible configuration of OPC tag names, e.g. by adopting the plant identification or structure
- Possible connection of up to 256 PROFIBUS strands per TH OPC Server DP via TH LINK

System Requirements

Operating Systems

- The following operating systems are supported in German and English in 32 bit version: Windows 2000 Professional¹⁾, Windows 2000 Server, Windows XP¹⁾, Windows Server 2003

Communication Processor

- TH LINK (max. transmission rate: 12 MBit/s, protocols: DP, DP-V1),
- xEPI 2 (max. transmission rate: 12 MBit/s, protocols: DP, DP-V1)

USB Slot

- USB version 1.1 (or higher) – for the USB dongle (license)

Software

- Microsoft .NET Framework 1.1 and 2.0
- OPC Core Components 2.00 Redistributable 2.20
- Adobe Reader 8.0 or higher for reading the documentation

Licensing

- After installation the software must be licensed. This is done by software license key. Optionally, licensing with a USB dongle is also possible.

Scope of Delivery

By Download

- TH OPC Server DP installation incl. Configurator and User Manual
- Installation Guide

Optional

- USB dongle

Order Information

Software License

| | |
|--|----------|
| • Basic (≤ 32 PROFIBUS Masters) | 10002717 |
| • Medium (≤ 96 PROFIBUS Masters) | 10002718 |
| • Large (≤ 256 PROFIBUS Masters) | 10002719 |
| • Upgrade Medium (≤ 96 PROFIBUS Masters) | 10002720 |
| • Upgrade Large (≤ 256 PROFIBUS Masters) | 10002721 |

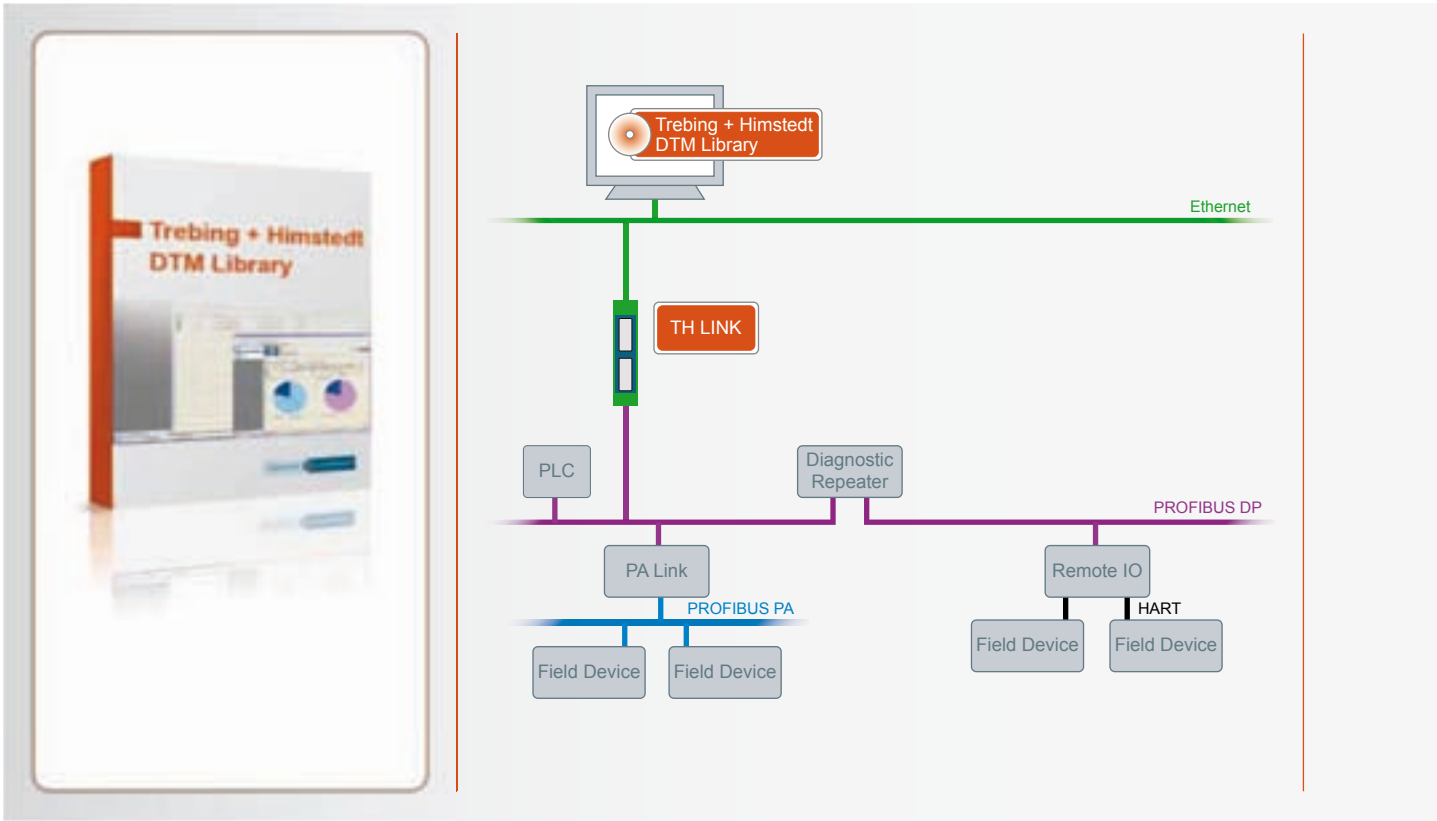
USB Dongle License

| | |
|--|----------|
| • Basic (≤ 32 PROFIBUS Masters) | 10002755 |
| • Medium (≤ 96 PROFIBUS Masters) | 10002756 |
| • Large (≤ 256 PROFIBUS Masters) | 10002757 |
| • Upgrade Medium (≤ 96 PROFIBUS Masters) | 10002759 |
| • Upgrade Large (≤ 256 PROFIBUS Masters) | 10002760 |

¹⁾ Only for TH OPC Server DP Basic version, as a maximum of 10 network connections is possible.

Trebing + Himstedt DTM Library

CommDTM PROFIBUS DP-V1, DP/PA Link, ET 200M, ET 200iSP



The Trebing + Himstedt DTM Library contains CommDTMs for network transition for communication with PROFIBUS DP, PA, and HART devices in PROFIBUS networks.

The Trebing + Himstedt DTM Library CommDTMs can be used in all FDT frame applications according to FDT specification 1.2 + Addendum. These include, amongst others, the Endress + Hauser FieldCare application and PACTware. In addition, the Condition Monitoring functionality in FieldCare is supported by all CommDTMs.

Benefits

Complete package for communication with PROFIBUS DP, PROFIBUS PA and HART devices

Non-interaction through integrated bus parameter test in the CommDTM PROFIBUS DP-V1

CommDTM PROFIBUS DP-V1 with TH LINK offers PROFIBUS diagnostics

Functions

All DTMs

- Automatic bus scan
 - Identification and setting of device address and DTM address
- ### CommDTM PROFIBUS DP-V1
- Establishes the connection with the PROFIBUS network
 - Integrated bus parameter test for non-reacting parameterization
 - Additional functions when using the TH LINK
 - PROFIBUS diagnostics of the network (e.g. diagnosis list, Live List, error statistics, bus statistics)
 - Telegram logger for monitoring of acyclic communication
 - Export of tags and device descriptions from the FDT project into the TH LINK
 - Hyperlink to plant-wide PROFIBUS diagnostics

CommDTM DP/PA Link

- Provides access to PROFIBUS PA devices¹⁾

CommDTM ET 200M

- Provides access to HART devices via the ET 200M¹⁾

CommDTM ET 200iSP

- Provides access to HART devices via the ET 200iSP¹⁾

System Requirements

Operating Systems

- The following operating systems are supported in German and English in 32 bit version: Windows XP, Windows Vista, Windows Server 2003 (English only), Windows 7 (also 64 Bit version)

Communication Processor

- For CommDTM PROFIBUS DP-V1: TH LINK, xEPI 2, CP5512, CP5611, Field PG with integrated CP5611
- For CommDTM DP/PA Link: SIMATIC DP/PA Link
- For CommDTM ET 200M: SIMATIC ET 200M
- For CommDTM ET 200iSP: SIMATIC ET 200iSP

Configuration Tool

- FDT frame application compliant with FDT specification 1.2 + Addendum

Software

- Adobe Reader 8.0 or higher for reading the documentation

Licensing

- The Trebing + Himstedt DTM Library can be used without license and with full functionality for 30 days after installation. For permanent use, a license for the complete DTM library or a single CommDTM as required must be purchased. For use of the TH LINK or the xEPI 2 no additional license for the CommDTM PROFIBUS DP-V1 is required.

Scope of Delivery

By Download

- Trebing + Himstedt DTM Library
- Installation Guide
- User Manual for all DTMs
- Release Note

Optional

- Trebing + Himstedt DTM Docu + Media Kit

Order Information

- | | |
|----------------------------------|----------|
| • Trebing + Himstedt DTM Library | 10002390 |
|----------------------------------|----------|

Single Licenses

- | | |
|--------------------------|----------|
| • CommDTM PROFIBUS DP-V1 | 10001990 |
| • CommDTM DP/PA Link | 10002280 |
| • CommDTM ET 200M | 10002346 |
| • CommDTM ET 200iSP | 10002655 |

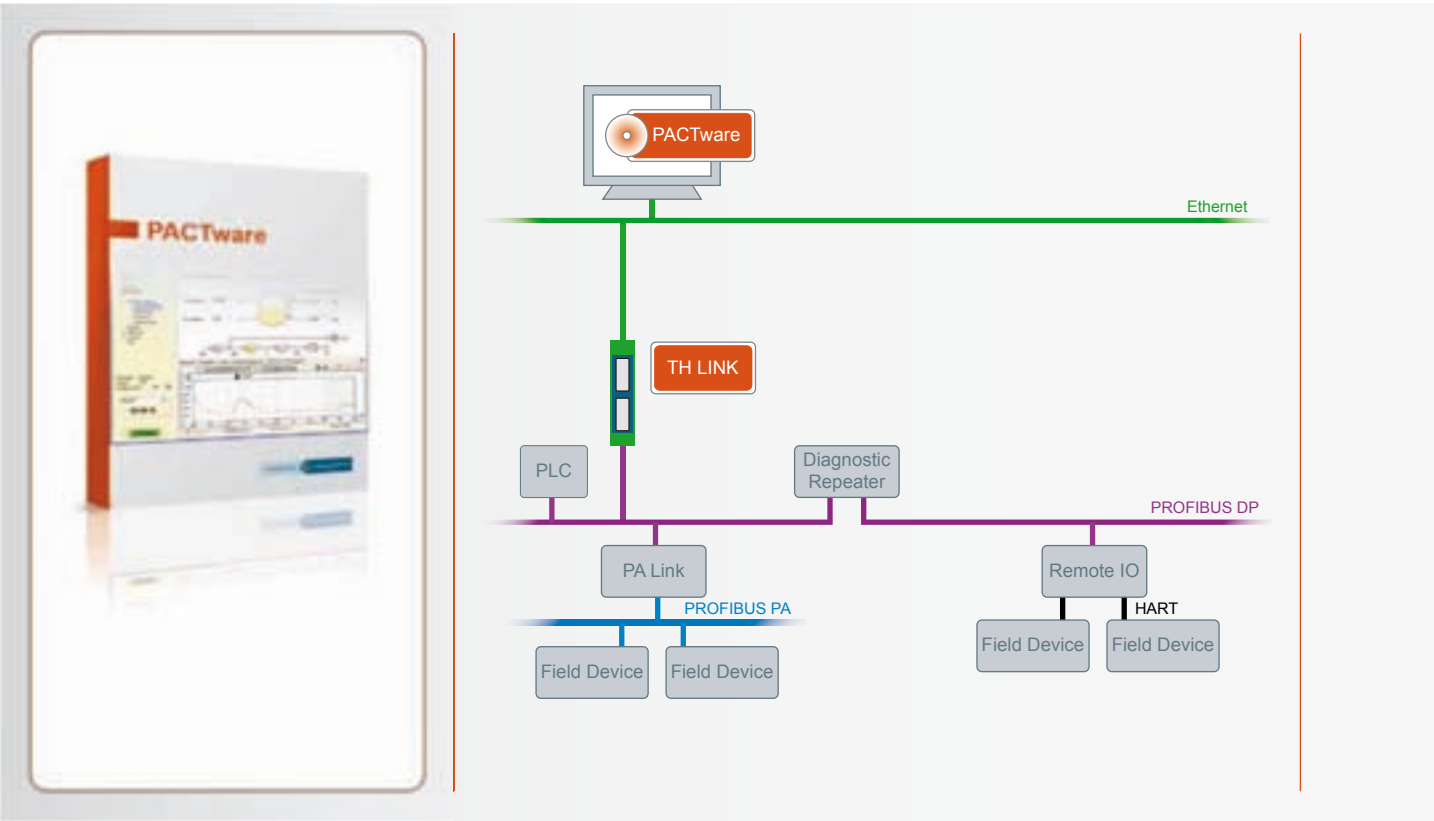
Optional

- | | |
|---|----------|
| • Trebing + Himstedt DTM Docu + Media Kit | 10002393 |
|---|----------|

¹⁾ when using the respective Device DTM

PACTware

Manufacturer-Independent Operating Software for Field Devices



PACTware (Process Automation Configuration Tool) is a manufacturer and fieldbus-independent operating software for field devices. It enables operation of any field devices with only one software by using the FDT standard between the PACTware frame application and the individual software modules for device control. The software modules for device operation are called DTM (Device Type Manager). This approach enables modern and user-friendly operating concepts because the user interface for operation and the device are perfectly matched. In PACTware, these Device DTM and CommDTM can be combined as required. PACTware enables an open and complete operation of various field devices across any bus systems.

Benefits

Uniform software tool for field devices from a variety of manufacturers

Fieldbus-independent application with the corresponding CommDTM

Free-of-charge software application for Asset Management

Functions

- Create and open projects
- Connection between DTM and device
- Data exchange between DTM and device
- Edit device data with a DTM
- Device catalog
- Project view
- Plant view
- Debug monitor
- Error monitor
- PACTware Add-Ins
 - Up/Download Manager Add-In
 - Device State Manager Add-In
 - Device State Add-In
 - Tool Calling Interface (TCI) Support Add-In

System Requirements

Operating Systems

- Windows XP, Windows Vista, Windows 7

Software

- Microsoft .NET Framework 2.0
- To print out field device parameter values, Microsoft Internet Explorer version 4.0 or higher must be installed
- Adobe Reader 8.0 or higher for reading the documentation

Hardware

- 50 MByte hard disk memory
- at least 40 MByte main memory (depending on the complexity of the projects and the applied DTM the required main memory may be a multiple of this)
- Computer with a Pentium IV 450 MHz processor or higher is recommended

Scope of Delivery

By Download

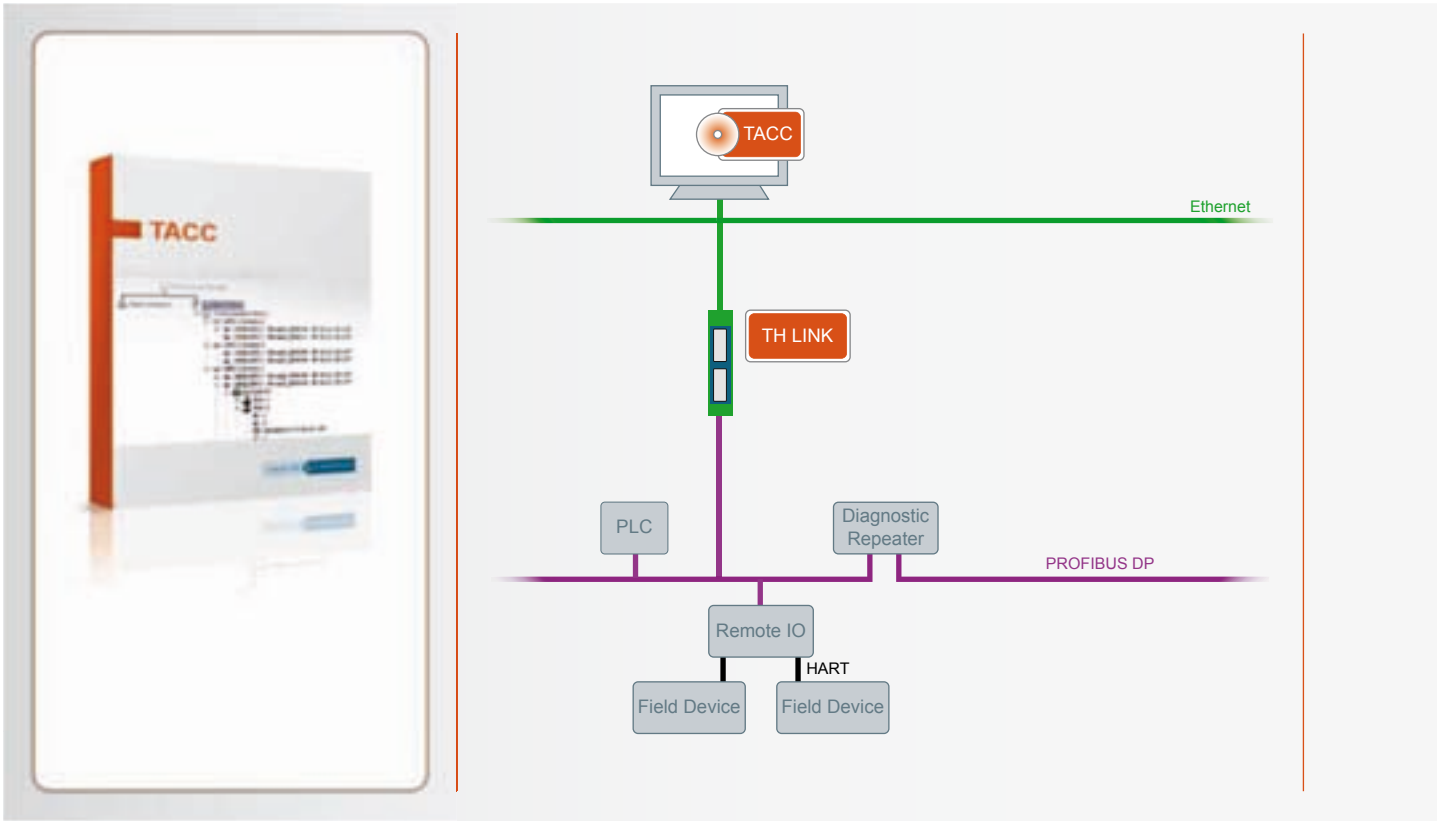
- PACTware
- User Manual

Order Information

PACTware 10003000

TACC

HART Over PROFIBUS Solution for Emerson’s AMS Suite



With the HART Over PROFIBUS solution all HART devices which are connected to the PROFIBUS by means of a Remote IO with HART functionality can be accessed from a central point via Ethernet. Configuration is done with the AMS Device Manager. The PROFIBUS integration into the AMS Device Manager is the outcome of Trebing + Himstedt and Emerson Process Management’s joint development for all leading Remote IO manufacturers such as ABB, Pepperl+Fuchs, Siemens, STAHL and Turck. The advantages of the highly efficient Asset Management functions for commissioning, diagnostics and maintenance can now be directly used for HART devices via the PROFIBUS.

Benefits

- Seamless access to Emerson’s AMS Device Manager in PROFIBUS networks
- Universally applicable for various Remote IO from leading manufacturers
- Central Asset Management of all HART devices

Functions

- In combination with the AMS Device Manager, HART Over PROFIBUS provides a communication solution for HART devices which are connected to the PROFIBUS via a Remote IO
- Central configuration and diagnostics of HART devices via Ethernet
- Supports Remote IO from ABB, Altus, Pepperl+Fuchs, Siemens, STAHL and Turck
- Supports the EDD technology (Electronic Device Description) used by the AMS Device Manager

System Requirements

Operating Systems

- The following operating systems are supported in English in 32 bit version: Windows XP, Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows 7

Communication Processor

- TH LINK (max. transmission rate: 12 MBit/s, Protocol: DP, DP-V1)
- xEPI 2 (max. transmission rate: 12 MBit/s, Protocol: DP, DP-V1)

Software

- AMS Device Manager 11.1
- Adobe Reader 8.0 for reading the documentation

Hardware

- The following Remote IO are supported: ABB S800, ABB S900, Altus Ponto 5064, Altus Ponto 5065 Redundant, Pepperl+Fuchs LB, Pepperl+Fuchs FB, Pepperl+Fuchs RPI, Siemens ET 200iSP, Siemens ET 200M, STAHL I.S.1, Turck Excom (For detailed descriptions of supported modules, see Release Note.)

Scope of Delivery

By Download

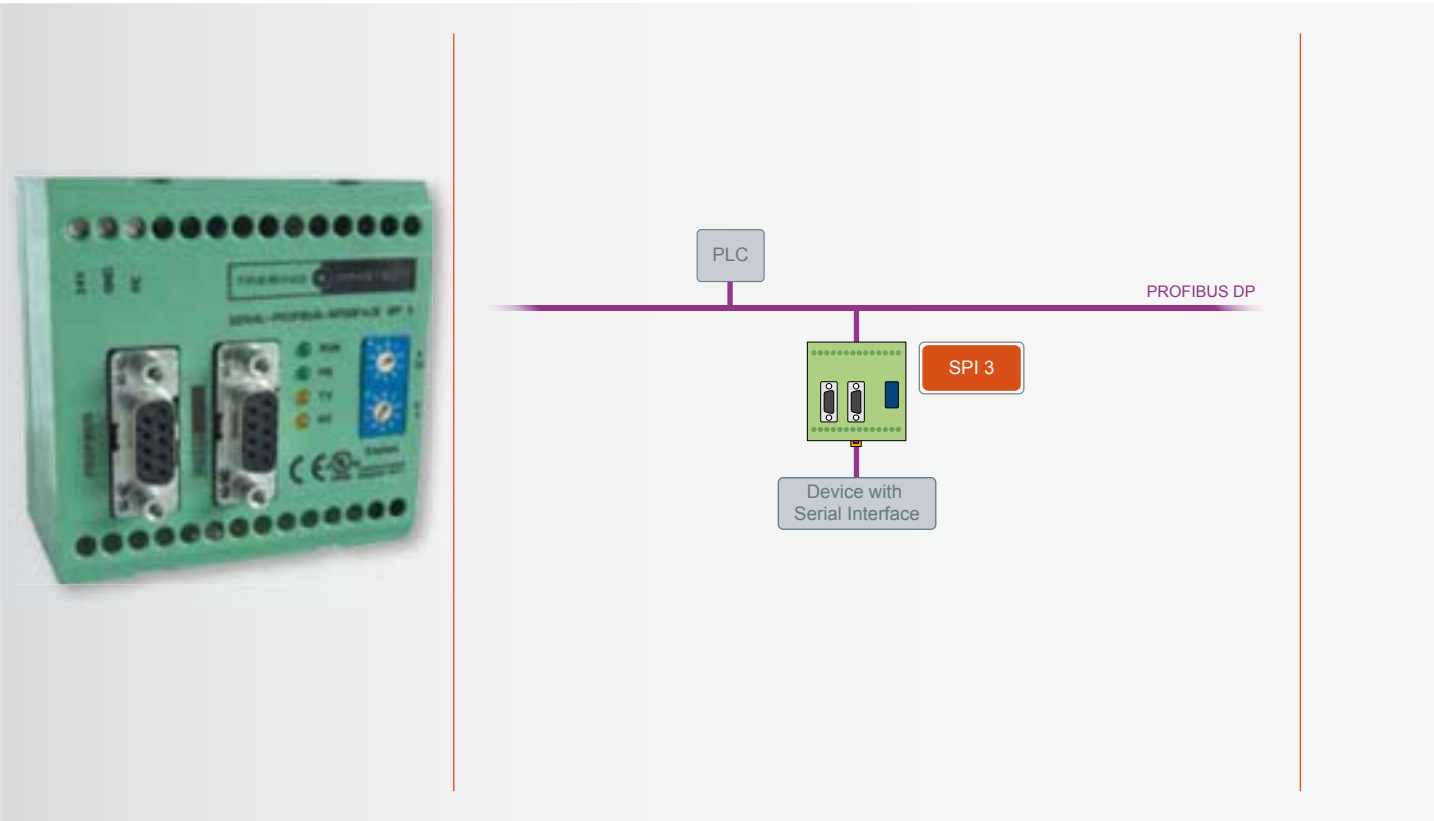
- TACC (TH AMS Device Manager Communication Components)
- Installation Guide
- User Manual for HART Over PROFIBUS
- Release Note

Order Information

| | |
|------|----------|
| TACC | 10003001 |
|------|----------|

SPI 3

Connection of Serial Devices to PROFIBUS



By using the SPI 3, devices with serial interface are integrated in PROFIBUS as DP slaves. Depending on the application, various protocols and physical interfaces are available. In decentralized PROFIBUS installations, the SPI 3 replaces the serial interface inside the PLC.

The SPI 3 is configured via the respective PROFIBUS DP master by means of the SPI 3 GSE file. The PROFIBUS I/O range can be flexibly configured.

The SPI 3 is suitable for simple applications, such as connecting text displays or barcode scanners, as well as for more complex applications such as the integration of identification systems, scales, controllers and laboratory equipment.

Benefits

Easy installation and parameterization

Configuration without additional software

Flexible configuration of PROFIBUS I/O range

Functions

- DP slave with a transmission rate of 9.6 kBit/s up to 12 MBit/s
- Serial transmission rate 110 Bit/s up to 57.6 kBit/s (depending on the protocol)
- Serial interfaces RS 232, RS 422 or RS 485 available
- Configuration with GSE file via the PROFIBUS DP master
- Plug & play integration into PROFIBUS
- I/O range configurable from 2 to 64 data words

Technical Data

| | |
|----------------------------|--|
| Nominal supply voltage | 24 V DC (19.2 ... 28.8) |
| Current consumption | max. 200 mA |
| Ambient temperature range | 0 ... +60°C |
| Transmission rate serial | 110 Bit/s up to 57.6 kBit/s (depending on the protocol) |
| Interface serial | RS 232, RS 422, RS 485 (interface as per order) |
| Protocols serial | Free ASCII driver, 3964R, RK512, MODBUS RTU |
| Transmission rate PROFIBUS | 9.6 kBit/s up to 12 MBit/s |
| Interface PROFIBUS | RS 485 |
| I/O Range PROFIBUS | 2, 4, 8, 16, 32, 64 data words (depending on the protocol) |
| Case, protection class | Plastic, IP 20 |
| Mounting | 35 mm DIN top hat rail |
| Dimensions W x H x D | 75 x 75 x 53 mm |
| Weight | 136 g |
| Certificate | CE, UL |

Scope of Delivery

- SPI 3
- Installation Guide

By Download

- Docu + Media Kit (includes online documentation, GSE, function blocks for SIMATIC S5 and S7, example projects)
- Release Note

Order Information

| | |
|----------------|----------|
| • SPI 3 RS 232 | 10001236 |
| • SPI 3 RS 422 | 10001237 |
| • SPI 3 RS 485 | 10001238 |

ACCESSORIES

Mobile Connection Kit, Active PROFIBUS Cable, Active PROFIBUS Measuring Adapter



Mobile Connection Kit

With the Mobile Connection Kit the TH LINK can be used as a temporary access to the PROFIBUS network. The Mobile Connection Kit contains a wall adapter for the TH LINK power supply, an Ethernet cable to connect the laptop to the TH LINK and a PROFIBUS cable for access to the PROFIBUS network via the TH LINK.

Active PROFIBUS Cable

The Active PROFIBUS Cable serves as a connection to PROFIBUS networks for non-reactive measurements during operation. Thus measurement is enabled without the disruptive effects of a stub line. The respective repeater is integrated into the PROFIBUS connector.

Active PROFIBUS Measuring Adapter

The Active PROFIBUS Measuring Adapter is a non-reactive measuring point, providing the 5 V DC required for measurements. Diagnostics tools are connected via the PG/diagnostics interface at the connector. When the measuring point is at the end of a segment, it also simultaneously performs the function of the active bus termination.

Benefits

Support of various PROFIBUS diagnostics methods

Mobile Connection Kit allows mobile use of the TH LINK

Ensuring non-reactive measurements and exact measuring data in PROFIBUS networks

Functions

Mobile Connection Kit

- Allows mobile access to the PROFIBUS network by using TH LINK

Active PROFIBUS Cable

- Access to PROFIBUS without generating stubs
- Non-reactive measurements during operation

Active PROFIBUS Measuring Adapter

- Access to PROFIBUS without generating stubs
- Non-reactive measurements during operation
- Status indicator LEDs for diagnostics function

Technical Data

Mobile Connection Kit

| | |
|----------------------------|--|
| Nominal supply voltage | Adapter: 90 ... 264 V AC |
| Power output | 5 W |
| Ambient temperature range | 0 ... +40°C |
| Relative humidity max. | 75 % at +25°C |
| PROFIBUS transmission rate | 9.6 kBit/s to 12 MBit/s |
| PROFIBUS interface | RS 485, 9-pin D-Sub |
| Protection class | IP 20 |
| Dimensions W x H x D | Ethernet cable: 3 m PROFIBUS cable: 0.5 m Adapter: approx. 45 x 29 x 72 mm |
| Weight | approx. 360 g |

Active PROFIBUS Cable

| | |
|----------------------------|---|
| Nominal supply voltage | 4.75 - 5.25 V DC (must be supplied by the PROFIBUS station) |
| Ambient temperature ranger | 0 ... +60°C |
| Relative humidity max. | 75 % at +25°C |
| PROFIBUS transmission rate | 9.6 kBit/s to 12 MBit/s |
| PROFIBUS interface | RS 485, 9-pin D-Sub |
| Protection class | IP 20 |
| Dimensions W x H x D | 3 m |
| Weight | approx. 250 g |

Active PROFIBUS Measuring Adapter

| | |
|----------------------------|-------------------------|
| Nominal supply voltage | 24 V DC |
| Ambient temperature range | 0 ... +60°C |
| PROFIBUS transmission rate | 9.6 kBit/s to 12 MBit/s |
| PROFIBUS interface | RS 485, 9-pin D-Sub |
| Protection class | IP 20 |
| Mounting | 35 mm DIN top hat rail |
| Dimensions W x H x D | 22 x 77 x 73 mm |
| Weight | approx. 112 g |

Scope of Delivery

Mobile Connection Kit

- AC/DC switched-mode power supply adapter (Euro plug)
- Ethernet cable (patch cable)
- PROFIBUS cable
- Quick Start Guide

Active PROFIBUS Cable

- Active PROFIBUS Cable
- Quick Start Guide

Active PROFIBUS Measuring Adapter

- Active adapter
- PROFIBUS diagnostics connector with PG
- Quick Start Guide

Order Information

| | |
|-------------------------------------|----------|
| • Mobile Connection Kit | 10002686 |
| • Active PROFIBUS Cable | 10002132 |
| • Active PROFIBUS Measuring Adapter | 10002649 |

SERVICES

SERVICES

| | |
|----|-------------------------------|
| 40 | PROFIBUS Workshop |
| 41 | PROFIBUS Service |
| 42 | PROFIBUS Diagnostics Training |
| 43 | Asset Management Training |

PROFIBUS Workshop

PROFIBUS Expertise for your Daily Operations – Hands-on and On-site



Scope

The workshop answers the question of how PROFIBUS networks can be quickly and efficiently analyzed and documented during commissioning and operation. In the one-day workshop we convey expert knowledge of and practical experiences in efficient ways to prevent errors and to troubleshoot. The number of participants is limited to five to allow active discussions of your questions. We provide a demo installation and all the major diagnostics tools for the practical part of the workshop. Every participant receives a handout with the presented contents as well as a certificate for successful participation in the workshop. One main objective of the workshop is to expand the technical know-how in your company, so that future preventive maintenance as well as troubleshooting can be carried out independently and without external service providers.

Order Information

PROFIBUS Workshop 10002809

The workshop is designed as a one-day event for up to five participants. Workshop dates and further details can be individually arranged after order placement.

We know how precious your time is. That is why we come to you to share our experience in the maintenance of PROFIBUS networks. The workshop covers the whole spectrum, from basic knowledge of PROFIBUS technology to interpretation of the most common error patterns in a user-friendly manner.

Benefits

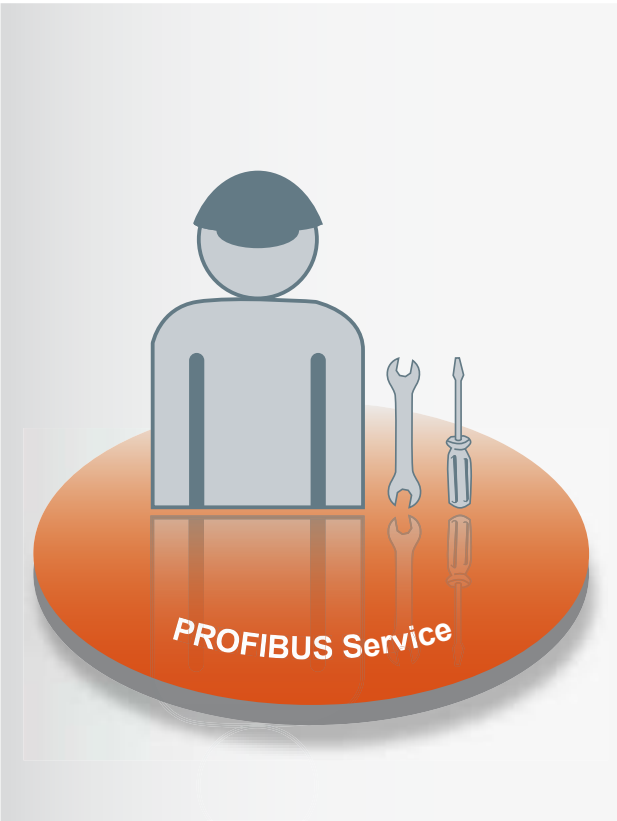
Practical support for PROFIBUS maintenance

Direct on-site training saves you time and reduces your cost budget

Visible benefits by dealing with your individual day-to-day problems

PROFIBUS Service

Expert Support in Case of Error or with Routine Inspections



Scope

The scope of this service includes comprehensive physical and logical measurements at telegram level. Each segment of the plant has to be temporarily taken out of service for any necessary line tests. Please note that measurement and diagnostics during plant operation is only possible at the beginning and end of the respective PROFIBUS segment through existing measurement and diagnostics access points. For every network/master system a test record is generated and a PROFIBUS network quality assessment is given. Metrological quality certificates are based on the recommendations and technical guidelines of the PROFIBUS User Organization (PNO). We also carry out comprehensive acceptance measurements of entire networks with various protocols (PROFIBUS, PROFINET, Industrial Ethernet) within the scope of service projects. Please send us your service tender and we will customize our calculation to your project.

Order Information

PROFIBUS Service 10002813

Please inform us of your network structure and your current problem. After we have received all required details we will provide you with a quote on a time-and-material basis. Possible dates can be individually arranged after order placement.

PROFIBUS is a stable and reliable technology. Nevertheless, in daily operations, unexpected malfunctions may occur for a variety of reasons. It is important then to quickly and accurately identify the failure cause and to remedy it. This is where we provide the services of our experts. In addition, we recommend integrating periodic measurements into maintenance processes, which helps to avoid unforeseeable failures and downtime.

Benefits

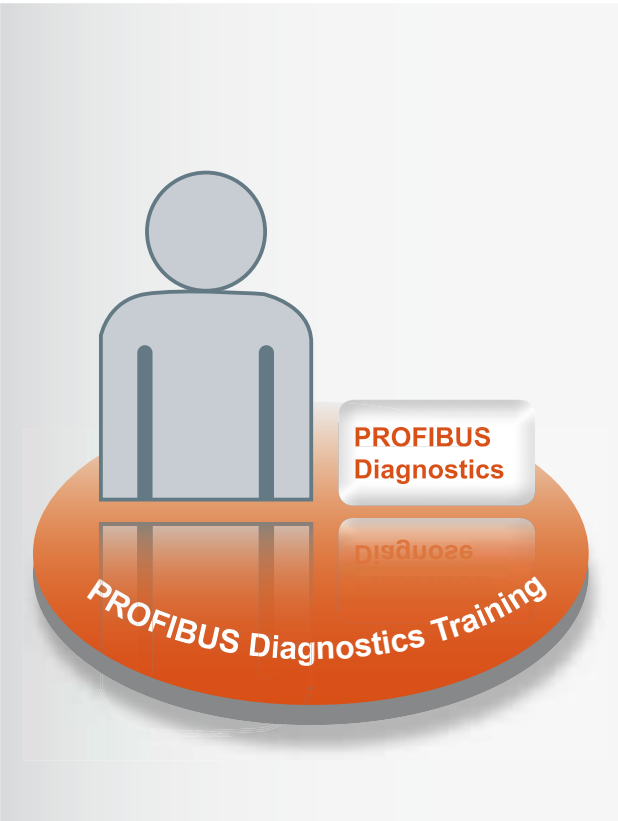
Professional troubleshooting and recommendations for error prevention

Comprehensive network documentation as a basis for permanent network quality evaluation

You gain more time for your key tasks, we take care of your network quality

PROFIBUS Diagnostics Training

The Fast Track to Stable PROFIBUS Operation



Scope

You will receive a detailed practical introduction to the possibilities of continuous PROFIBUS diagnostics with the TH SCOPE during plant operation. A further focal point is the telegram analysis, reference measurements and documentation of your network. Participants are required to have specialized knowledge of PROFIBUS technology. The training session is held in your plant environment or test laboratory respectively. In this way error patterns you have really encountered can be assessed, and acute failures can be eliminated where necessary.

Order Information

| | |
|--|----------|
| PROFIBUS Diagnostics Training | 10002811 |
| Specific dates will be individually arranged after order placement. Please calculate a minimum time of 4 hours and up to a maximum time of 8 hours required on site. | |

PROFIBUS is a well-established and reliable fieldbus technology. However, malfunctions may occur in daily operation for a variety of reasons. The impact on plant operation ranges from “barely noticeable” to “devastating”. In the worst case scenario this results in unexpected plant downtime. In this practical training session you will learn how to avoid this with simple methods and concepts.

Benefits

- Professional introduction to diagnostics methods and systematic error analysis
- Practical training in your own operating environment
- Analysis of network quality and elimination of occurring errors during the training session

ASSET Management Training

All-In-One – Fieldbus and Field Devices under Control



Scope

You will receive a detailed practical introduction to the creation of an FDT project. Questions about the use of various Device DTMs as well as about central PROFIBUS access using the TH LINK will be explained based on user requirements and with practical training. The training session is customized to your selected or previously used FDT frame application and thus supports the smooth introduction or further improvement of plant-wide Asset Management. For users of Emerson's AMS Device Manager the use of the xEPI 2 with the TACC software component (HART Over PROFIBUS) is presented in detail. The training session is held in your plant environment or test laboratory respectively. Availability of all necessary components and licenses is required.

Order Information

| | |
|--|----------|
| Asset Management Training | 10002812 |
| Specific dates will be individually arranged after order placement. Please calculate a minimum time of 4 hours and up to a maximum time of 8 hours required on site. | |

The FDT Standard enables you to configure and parameterize your field devices from within just one FDT frame application, independent of the manufacturer. Furthermore, there are many possibilities for device diagnostics depending on the functional range of each particular Device DTM. For efficient Asset Management, you can also use Emerson's AMS Device Manager. Regardless of which application you use, we will give you an overview of how you can quickly generate benefits for you daily operations with universal fieldbus and field device solutions.

Benefits

- Professional introduction to the possibilities of network-wide Asset Management
- Practical training in your own operating environment
- Focus on the application used and elimination of current failures

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Trebing + Himstedt is an international supplier of products and services for the optimal use of IT in the production environment. With easy-to-use concepts, we support our customers in their manufacturing processes and allow targeted access to production and process information. Our core competence is the continuous integration across different communication levels – from automation level to the ERP system.

In the Industrial Communication business unit our products ensure the availability of industrial networks. The Manufacturing Integration business unit encompasses solutions for production IT, particularly for MES in SAP environments. Innovative products, high-level problem-solving skills and

dedicated employees are key to the success of Trebing + Himstedt. It is what the world's leading corporations as well as medium-sized industrial enterprises trust in. As a reliable partner we accompany our customers into new markets, technologies and applications.

With our trend-setting and user-friendly concepts, we are often pioneers in our industry. Since the company was founded in 1992 the managing partners Stefan Trebing and Steffen Himstedt have pursued a solid and steady course of growth in their Schwerin-based company. Being rooted in the region means Trebing + Himstedt takes its corporate responsibility seriously and is actively committed to its employees and the public good.

