

Release Note

TACC

Version 3.11

1. Components of the Current Product Version

The TACC (TH AMS Communication Components) include HART Over PROFIBUS.

Component	Files	Version
TACC	setup.exe	3.11.0
HART Over PROFIBUS HSIF	AMSTHInterface.dll	4.30.0
TH AMS Link Server	TALS.exe	4.30.0
	ProfibusDll.dll	2.00.0
	HardwareConfigurationTool.exe	4.30.0

2. Manuals of the Current Product Version

Title	Version
Installation Manual TACC	December 2014
User Manual HART Over PROFIBUS	December 2014

3. System Requirements

3.1. Operating Systems

To install TACC on your system, you need approx. 50 MB free hard disk memory.

Supported and tested versions of 32-bit operating systems (English-language version) are:

- Windows Server 2003 Standard Edition SP2
- Windows Server 2003 R2 Standard Edition SP2
- Windows Server 2008 Standard/Enterprise Edition SP2
- Windows 7 Professional/Enterprise SP1
- Windows 8 Professional/Enterprise

Supported and tested versions of 64-bit operating systems (English-language version) are:

- Windows Server 2008 Standard/Enterprise Edition SP2
- Windows Server 2008 Standard/Enterprise R2 SP1
- Windows Server 2012 Standard Edition
- Windows 7 Professional/Enterprise SP1
- Windows 8 Professional/Enterprise

3.2. AMS Device Manager Application

AMS Device Manager 13.0 with ValveLink Snap-On application 12.1 is supported.

3.3. PROFIBUS Communication Processor

Name	Hardware	Firmware	Baud rate
TH LINK PROFIBUS	Rev. 2.0	From version 6.0.0.0	12 MBit/s
xEPI 2	Rev. 2.0	From version 5.2.2.6	12 MBit/s
ETHERNET PROFIBUS INTERFACE xEPI	Rev. 2.0	Version 4.0.0.4	12 MBit/s
Turck PB-XEPI	Rev. 2.0	From version 5.2.2.6	12 MBit/s
Softing PROFIBUS Interfaces PROFiusb PBpro ETH PBpro PCI PBpro PCI Express PBpro CompactPCI PBpro PC104plus PROFI104	From version 1.03 1.00 1.00 1.00 1.00 1.00 1.00	From driver setup version 5.46.0	12 MBit/s

Note:

- TH LINK PROFIBUS, xEPI 2, xEPI, PB-XEPI and TACC work with a maximum baud rate of 12 MBit/s.
The integrated PROFIBUS diagnostics function of these devices supports a maximum baud rate of 1.5 MBit/s. Because of that we recommend to use TACC and TH LINK, xEPI 2, PB-XEPI PROFIBUS diagnostics function together with a maximum baud rate of 1.5 MBit/s and turn it off if you use baud rates higher than 1.5 MBit/s.
- All communication processors listed in the above table are hereafter collectively referred to as “CP hardware”.

4. Scope of Delivery

TACC and the Installation Manual are available via CD from Emerson and for download on our website <http://industrial.softing.com/en/downloads.html>. After successful installation, the user manual (see chapter 2) will be available locally on your system.

5. Compatibility

5.1. Supported Controller for HART Over PROFIBUS

Controller	Hardware	Software Version
ABB AC 800M with CI854	0205	FW 5.54
ABB CMC 70	CMC70-0 / AC 870P / PM875	FW 2.04
Siemens SIMATIC S7	S7 315-2DP (6ES7 315-2AF01-0AB0) S7 400-H CPU 417-4 H (6ES7 417-4HT14-0AB0)	E-Stand 2 E-Stand 1; FW 4.5.6
Altus Ponto 4053 Redundant	CPU PO3247 Master PROFIBUS Interface PO4053	Rev AK 130 Beta 4 Rev BG and BF

5.2. Supported Remote I/Os for HART Over PROFIBUS

Remote I/O Type	Hardware	Software Version
ABB S800	CI840 AI845 AO845 AI895 AO895 CI801 AI815 AO815	FW 3.2/1 FW 1.2/3
ABB S900	CI920S AI930N AI4H AO930N AO4H	FW 1.42 FW 1.79 FW 1.79
Altus Ponto 5064	PO5064 PO1114 8AI PO2134 4AO	FW 1.01 FW 1.00 and FPGA FW 1.00 and FPGA
Altus Ponto 5065 Redundant	PO5065 PO1114 8AI PO2134 4AO	FW 1.01 FW 1.00 and FPGA FW 1.00 and FPGA
MTL MTL8000	850-BI-DP 802-HO-04 818-DX-08 801-HI-04 815-DO-04	FW. 1.63 FW 1.79 FW 1.41 FW 1.43

Remote I/O Type	Hardware	Software Version
Pepperl + Fuchs LB	LB 8106 – PROFIBUS DPV1 Comm. Interface LB 8109 – PROFIBUS DPV1 Comm. Interface LB 3002 1AI HART LB 3102 1AI HART LB 3103 1AI HART LB 3105 4AI HART LB 3106 4AI HART LB 3107 4AI HART LB 4005 4AO HART LB 4002 1AO HART LB 4102 1AO HART LB 4106 4AO HART LB 7104 4AIO HART	Rev. 6.23
Pepperl + Fuchs FB	FB 8206 – PROFIBUS DPV1 Comm. Interface FB 3202 1 AI HART FB 3205 4 AI HART FB 3305 4 AI HART FB 4202 1 AO HART FB 4205 4 AO HART	Rev. 6.25
Pepperl + Fuchs RPI	KSD2-GW2-PRO KSD2-CI-S-Ex.H KSD2-CO-S-Ex.H KSD2-CI-S-Ex.2H	Rev. 1.3 Rev. 3.3 Rev. 2.2 Rev. 1.1
Siemens ET 200iSP	IM 152-1 (6ES7 152-1AA00-0AB0) SM 134 AI 4x HART 2 Wire (6ES7 134-7TD00-0AB0) SM 134 AI 4x HART 4 Wire (6ES7 134-7TD50-0AB0) SM 135 AO 4x –HART (6ES7 135-7TD00-0AB0)	E-Stand 4 E-Stand 4 E-Stand 4 E-Stand 5
Siemens ET 200M	IM 153-2 (6ES7 153-2BA00-0XB0) IM 153-2 (6ES7 153-2BA02-0XB0) SM 336 AI 6x HART (6ES7 336-4GE00-0AB0) SM 331 AI 8x HART (6ES7 331-7TF00-0AB0) (6ES7 331-7TF01-0AB0) SM 332 AO 8x HART (6ES7 332-8TF00-0AB0) (6ES7 332-8TF01-0AB0)	E-Stand: 4 E-Stand: 1 E-Stand: 3; FW 1.02 E-Stand: 4 E-Stand: 1 E-Stand: 1 E-Stand: 2
STAHL I.S.1	CPM 9440/15-01-11 AIM HART 08 9461/12-08-11 AIM HART 08 9461/12-08-21 AOM HART 08 9466/12-08-11 AUM HART 08 9468/32-08-11	FW 02-30 C 00-34 C 02-02

Remote I/O Type	Hardware	Software Version
Turck BL20	GW-DPV1 2AOH-I 2AIH-I E-GW-EN 2AOH 2AIH-I	FW 1.22 VN 01-02 VN 02-01 VN 01-01 FW 1.27 VN 01-02 VN 02-01
Turck Excom	GDP 1,5 AIH40Ex AOH40Ex	FW 1.6.2 FW 1.79 FW 1.79
Wago	750-333 Fieldbus Coupler 750-833 Programmable Fieldbus Controller 750-482 2-Channel Analog Input 750-484 2-Channel Analog Input (Ex i) 753-482 2-Channel Analog Input	SW 17 / HW 20 SW 16 / HW 20 SW 04 / HW 05 SW 03 / HW 03 SW 04 / HW 05

5.3. Supported programs and product versions for Router DTM

Router DTM is only supported in the following product combinations:

Product	Version
TACC	2.1.0.2
xEPI	4.0.0.4
xEPI 2	5.1.0.6
AMS Device Manager	9.0 10.1
AMS ValveLink	10.0
IACC (especially for Router DTM FF)	2.3.1
PACTware	3.6

Higher versions are not supported.

Router DTM is only supported for the following operating systems:

- Windows XP SP3 English
- Windows Server 2003 SP2 English

6. Installation Manual

To use TACC, you first need to install the software on your AMS Server. To do so, start the setup.exe; an installation wizard will guide you through the installation process.

Please note that any former versions of TACC will be uninstalled automatically.

Parameterization and configuration of the gateways are applied to the new version. For tips and notes for hardware use and parameterization, please refer to the HART Over PROFIBUS User Manual. The document will be available in PDF format after installation.

7. New and Changed Functions

New functions

- Support of Pepperl+Fuchs modules LB 8109, LB 3106, LB 3107, LB 4106, LB 4107

Changed functions

- The TTR value is no longer taken into account for bus parameter testing.

8. Corrected failures

- None

9. Notes and known bugs

9.1. HART Over PROFIBUS

- When the ET 200M/ET 200iSP is not in Data Exchange (exchange of I/O data with the master), it switches to “NOT CONFIGURED” status.
- When the cyclic master switches to “STOP” operating status, a substitute value for the HART channels is created at the AO module of the ET 200M/ET 200iSP and communication with ValveLink is interrupted.
- Very rarely, “Communication error” or interruptions of ValveLink communication occur at eight-channel AI and AO version 1.0 modules of the ET 200M. This is caused by a malfunction in Siemens parts which sets parts of communication telegram to Zero. The problem is solved in version 1.0.1 of the AI and AO modules.
- BL20, ET 200M and ET 200iSP do not handle the HART communication accurately with DVC 5000. That is the reason why DVC 5000 is not supported.
- If the PROFIBUS connection at class 1 master is reconnected after disconnection while process variables of HART device connected to ET 200M analog output card (SM 332 AO 8x HART (6ES7 332-8TF01-0AB0)) are displayed, error messages appear and the values are marked black. This is no AMS Device Manager or TACC issue. It is caused by the hardware.
- Module redundancy for ABB S800 modules AI815, AI845, AO815 and AO845 is supported only for the slave head CI840 and not for slave head CI801.
- Depending on the Remote IO, communication problems are caused by HART scanning. That’s why we recommend deactivating the HART scanning at the respective Remote IO.

10. History

Modifications in Release 3.1.0.0 (10-Dec-2015)

New functions

- tbd

Changed functions

- tbd

Corrected failures

- tbd

Modifications in Release 3.0.0.0 (2-Nov-2014)

New functions

- Support of Softing Gateway
- Support of TURCK BL20 E-GW-EN
- In Hardware Configuration is a “Bus parameter test” button added that checks the set bus parameter for errors.

Changed functions

- Changed Corporate Identity
- Renaming of “Set Bus Parameter” tool to “Hardware Configuration”
- Siemens CP5611 and CP5512 are no longer supported

Corrected failures

- None

Modifications in Release 2.4.1.0 (19-Feb-2014)

New and Changed Functions

HART Over PROFIBUS

- Support of Windows Server 2012 (64-bit version) and Windows 8 operating systems.

- Support of STAHL I.S.1 modules AIM HART 08 9461/12-08-21 and AUM HART 08 9468/32-08-11

Corrected failures

- None

Modifications in Release 2.4.0.0 (15-Oct-2012)

New and Changed Functions

HART Over PROFIBUS

- Successive HART Command support for Siemens ET 200M
- Two-Class 2 Master-Redundancy support for Siemens S7 400-H CPU 417-4 H and ET 200M
- Support of ET 200M module SM 336 AI 6x HART (6ES7 336-4GE00-0AB0)

Corrected failures

- The security warning when you run the TACC setup.exe or the driver installation does not appear anymore. The reason was a missing digital signature. The following operating systems were affected:
 - Windows Server 2003 Standard Edition SP2
 - Windows Server 2003 R2 Standard Edition SP2
 - Windows Server 2008 Standard Edition SP2
 - Windows Server 2008 R2 Standard Edition SP1
 - Windows 7 Professional
- During the driver switching from the Siemens driver to the TH driver the message window "Security Alert" appeared. That had no influence on the driver switching.
- The TALS.exe does not crash anymore, if the Ethernet connection at the TH LINK, xEPI 2, xEPI or PB-XEPI is disconnected when the process window of a HART device is opened.

Modifications in Release 2.3.0.0 (15-Aug-2011)

New and Changed Functions

- Support of the following 64-bit operating systems (English-language version; not supported for Router DTM and ValveLink 11.5):
 - Windows Server 2008 Standard Edition SP2
 - Windows Server 2008 Standard R2 SP1
 - Windows 7 Professional SP1

- Support of the remote I/O MTL 8000.
- Support of the Pepperl + Fuchs FB 3202 1 AI HART and FB 4202 1 AO HART.

Corrected failures

- None

Modifications in Release 2.3.0.0 (30-Mar-2011)

New and Changed Functions

- The operating systems Windows Server 2003 R2, Windows Server 2008 and Windows 7 (32-bit versions) are supported for HART Over PROFIBUS.
- HART Over PROFIBUS supports the Remote I/O BL20 from Turck (see chapter 5.2).
- TH LINK and PB-XEPI are supported as PROFIBUS communication processor.
- Set Bus Parameter program naming for xEPI/xEPI 2 changed to TH LINK/xEPI 2.

Corrected failures

- Open handles and memory leaks are fixed.

Modifications in Release 2.2.0.0 (21-May-2010)

New and Changed Functions

- Supports xEPI 2 from version 5.1.0.6
- Supports the modules AI815 and AO815 with CI801 of the RIO ABB S800

Corrected failures

- TACC general: sometimes a slave ident number was not displayed correct. This error is corrected.
- Set Bus Parameter Tool: a rarely occurring error in bus address setting is corrected.

Modifications in Release 2.1.0.2 (19-Jun-2009)

HART Over PROFIBUS

- Supports new Master PROFIBUS Interface ALTUS PO4053
- Supports new RIOs ALTUS Ponto 5064 and ALTUS Ponto 5065 (redundant)
- Supports RIO Pepperl + Fuchs FB 8206 Rev. 6.25
- Set Bus Parameter Program enhanced for redundant systems
- User Guide updated for redundant systems

Router DTM

- Router DTM HART and Router DTM FF are released for AMS Device Manager 10.1.

Modifications in Release 2.0.0.14 (24-Apr-2009)

Fault clearance S800

- error with incorrect channel number is corrected

xEPI 2

- Firmware 5.1.0.6 is supported

Router DTM

- Router DTM HART and Router DTM FF are not released for AMS Device Manager 10.0.

Modifications in Release 2.0.0.13

Fault clearance S800

- request with incorrect channel number is corrected

xEPI

- Firmware 4.0.0.4 or higher is required

Modifications in Release 2.0.0.12

HART Over PROFIBUS

- HART over PROFIBUS is renamed to HART Over PROFIBUS
- Support now for ET 200iSP and ET 200M 8 Channel module
- Fixed wait time out of 4.5 seconds after master start is removed. Now it is possible to configure the time out (default time out are zero seconds).
- Set Bus Parameter program:
 - PROFIBUS Area is renamed to PROFIBUS gateway
 - Changing of the orders of elements in the main view has no effect to the order in the stored configuration.
- The name of master in AMS Device Manager has been changed in the case of xEPI from segment <Number> to xEPI - <host name> - IP <IP address> to show which xEPI is used. If the host name is not available, the caption only shows xEPI - IP <IP address>.

xEPI

- Firmware 4.0.0.3 or higher is required

EPI

- Will no longer be supported

Modifications in Release TACC 1.0.0.0

TH AMS Link Server

- TH_HARTOverPB_Server is renamed to TH AMS Link Server

HART over PROFIBUS

- Is not supported in this version

Router DTM

- Router DTM HART and FF is integrated in TACC

Modifications in Release AMS HART over PROFIBUS 3.0.1.0

AMS HART over PROFIBUS V 3.0 has been enhanced and optimized in essential points with regard to hardware connection, particularly Ethernet communication between AMS Server and CP hardware. Firmware versions for the xEPI | EPI are to be taken into account. There have been no modifications with regard to PROFIBUS communication and connected stations. No changes are required for existing systems.

The tool for setting bus parameters has been newly designed and supports automatic identification of the CP hardware with firmware versions as listed below.

xEPI

For the use of AMS HART over PROFIBUS V 3.0, firmware updates for the xEPI to firmware version 3.0.0.2 or higher are imperative. Bus parameters are set in the revised „Set Bus Parameter“ program V 1.0.0.1.

xEPI units can be automatically searched for with the „Set Bus Parameter“ Program, or they can be added manually via IP address or host name. They are pooled in PROFIBUS areas; 1 - 12 units can be assigned to one PROFIBUS area.

EPI

For applications with AMS HART over PROFIBUS V 3.0, Trebing & Himstedt Prozessautomation GmbH & Co. KG strongly recommend updating the EPI to firmware 1.0.0.2 and, consistently, upgrading the EPI operating system from Windows NT to Windows 2000.

Bus parameters are set in the revised „Set Bus Parameter“ program V 1.0.0.1 locally on the AMS Server. Bus parameters are no longer set on the EPI but centrally on the AMS Server. No shared folder is required anymore.

This hardware can be searched automatically. Every EPI is a separate PROFIBUS area with 1 – 12 channels.

TH_HARTOverPB_Server

The TH Server is started for all CP hardware locally on the AMS Server. The TH Server no longer needs to be installed on the EPI.

Parameterization is done with the revised „Set Bus Parameter“ program V 1.0.0.1 which also supports automatic CP hardware identification.

„Set Bus Parameter“ Program

This tool has been completely revised and supports automatic scan for installed CP hardware. Bus parameters for all CP hardware are stored locally on the AMS Server.

Configured CP hardware is pooled in PROFIBUS areas, with twelve masters grouped into every PROFIBUS area. PROFIBUS areas are created for each CP hardware type respectively. The PROFIBUS area name is used as host name in the AMS network configuration and is displayed in AMS Device Manager.

Parameterized masters can be separately activated and deactivated at the PROFIBUS; all set bus parameters remain unchanged.

Changes with Regard to Supported Remote I/O

As a new RIO, the SIMATIC ET 200M with eight-channel AI and AO modules is supported:

- ET 200M (6ES7 153-2BA00-0XB0)
 - SM 331 AI 8x0/4...20mA HART (6ES7 331-7TF00 0AB0)
 - SM 332 AO 8x0/4...20mA HART (6ES7 332-8TF00 0AB0)

The RIO “LB/FB“ (formerly CEAG) is now listed with the manufacturer entry “Pepperl+Fuchs GmbH”.

11. Frequently Asked Questions

11.1. HART Over PROFIBUS

Q: Why does AMS Device Manager show an empty network after a **Rebuild Hierarchy**?

A: Ensure that your master has been parameterized and activated correctly depending on the cyclic master. If not, it will not be registered in the PROFIBUS network, or PROFIBUS failures might occur.

Q: Why does AMS Device Manager show a gateway without segments?

A: In the Hardware Configuration tool there is a gateway configured, but all assigned masters are deactivated or invalid.

Q: Why does the start-up of AMS Device Manager take so long?

A: HART Over PROFIBUS is designed with a 17-second time-out to build up the connection to TH LINK/xEPI 2 devices. If one of these units cannot be reached via TCP/IP, this time-out situation occurs. Please ensure that all inaccessible units are deactivated in the Hardware Configuration tool.

Q: Why does the hierarchy in AMS Device Manager not show a special Remote I/O?

A: This can happen if there is no class 1 master in the PROFIBUS network of the missing Remote I/O. In this case, it is possible to increase the time before HART Over PROFIBUS begins to communicate with the devices. During this additional time, the Remote I/O has the chance to connect to the PROFIBUS network. In the AMSTHInterface folder of the installation directory, you can access the AMSTHInterface.ini file. Open this file and search for WaitAfterMasterStart and assign the time in seconds that should elapse before communication (default value = 0), e.g., "WaitAfterMasterStart = 5" the wait time is five seconds.

Q: Why are process values highlighted in black in the AMS Device Manager process windows?

A1: The HART device is not accessible. Please check physical connections to HART device.

A2: Some devices are not capable of responding to several HART requests concurrently.

HART requests are processed consecutively which requires more time. Increase the

Communication Timeout in AMS Device Manager Network Configuration. A time-out period of 30000 milliseconds per open process window is recommended.

Q: I had to perform a **Rebuild Hierarchy** because my network structure has changed. Why does the HART communication not work any longer although it worked fine before rebuilding hierarchy?

A: Internal communication processes have to be terminated. Wait two minutes and try again.

Q: I made a **Rebuild Hierarchy** after the master failed. Now the communication with the Remote I/O Pepperl + Fuchs FB is not possible. What can I do?

A1: Reboot the Remote I/O Pepperl + Fuchs FB after the master is in running state.

A2: Avoid a **Rebuild Hierarchy** after the master failed.

Q: Why are no devices detected when a redundant Delta V series 2 Plus cards is used?

A: Please check the firmware version of the Delta V series 2 Plus cards. The firmware version must be 1.28 or higher.

11.2. Hardware Configuration

Q: Why is the **Configured Hardware** window empty after starting the Hardware Configuration tool? All bus parameter fields are grey.

A: No hardware has been configured. Click Hardware and add the new hardware. Bus parameters are only displayed when a master has been selected.

Q: Why are no masters listed in the **Unconfigured Hardware** area?

A1: No TH LINK/xEPI 2 units are available in the network, or they cannot be identified automatically. TH LINK/xEPI 2 units can only be located automatically if the search process is not blocked by firewall settings or similar security settings. If the TH LINK/xEPI 2 units cannot be searched automatically, they have to be inserted by manual addition and IP address entry.

A2: Only configured masters are saved when terminating the program. Unconfigured hardware is no longer displayed after program restart. It has to be added again.

Q: How many TH LINK/xEPI 2 units can I assign to one PROFIBUS gateway?

A: Up to 12 TH LINK/xEPI 2 units can be assigned to one PROFIBUS gateway.

Q: Why is a master listed as **Invalid** after manually adding the TH LINK/xEPI 2 unit via host name?

A: The **Invalid** status is assigned to a master if it has been added manually by entering its host name, but the IP address cannot be identified by the host name. This could be caused by the fact that there is no active DNS server, or if the TH LINK/xEPI 2 with statically set IP address has not been logged on at the DNS server. In this case you need to add your TH LINK/xEPI 2 via IP address.