

Integration Tutorial HON02

Honeywell Experion[®]PKS and PROFIBUS for
Chemical Industry

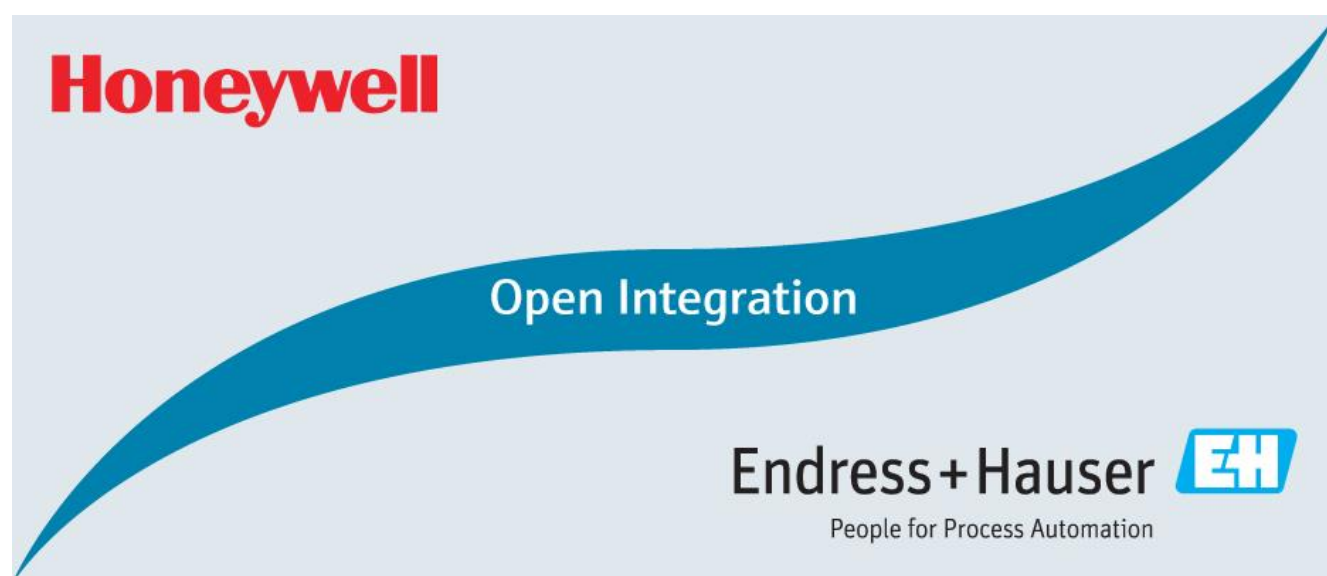


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1 Document Information

1.1 Purpose and Scope

This document provides a step by step description on how to integrate PROFIBUS devices with a Honeywell Experion®PKS System. All content of this document is jointly developed, reviewed and approved by Honeywell and Endress+Hauser as a common deliverable of Open Integration.

1.2 Document History

This is version 1.00.00 of this document. Version history:

Version	Released	Description
1.00.00	2017-12	Initial version

1.3 Related Documents

Please refer to related documents as listed below:

Document	Description
SD02062S/04/EN/01.17	Reference Topology HON02
SD02064S/04/EN/01.17	Integration Test Summary HON02
SD02065S/04/EN/01.17	List of Tested Devices and Versions HON02

2 Pre-Requisites

Readers of this document should be familiar with related documents as listed in chapter 1.3 and basics on how to work with the Honeywell Experion®PKS and PROFIBUS in general. Please refer to recommended literature as listed in chapter 2.1.

2.1 Recommended Literature

2.1.1 Honeywell

Document	Description
EPDOC-X88	PROFIBUS Gateway Module User's Guide
EPDOC-XX11	C300 Controller User's Guide
EPDOC-XX19	Control Building User's Guide

2.1.2 Endress+Hauser

Document	Description
BA00070S	Fieldgate SFG500 Installation and Commissioning

2.1.3 Other

2.1.3.1 Pepperl+Fuchs

Document	Description
tdoct0835g_eng.pdf	POWERHUB Segment Coupler Manual
tdoct0919l_eng.pdf	Advanced Diagnostics Manual

2.2 Operable Control System

This document assumes an operable Honeywell Experion®PKS as defined by Reference Topology HON02. Please refer to the manuals listed in chapter 2.1.1 for an explanation on how to use hard- and software provided by Honeywell.

2.3 Operable Asset Management System

This document assumes an operable Honeywell Experion®FDM as well as an operable Endress+Hauser FieldCare environment as defined by Reference Topology HON02.

2.4 Operable Field Network Infrastructure

This document assumes an operable PROFIBUS DP / PA field network infrastructure as defined by Reference Topology HON02. Please refer to manuals listed in chapter 2.1.3 for installing of hardware and software provided by other parties.

2.5 Operable Field Devices

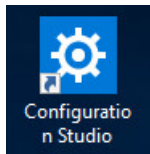
This document assumes an operable selection of Endress+Hauser PROFIBUS DP and PROFIBUS PA devices connected via the field network infrastructure, as defined by Reference Topology HON02. Each field device is adequately powered and prepared with unique tag and PROFIBUS address. If required, please refer to individual device manuals for further advice.

3 Basic Integration

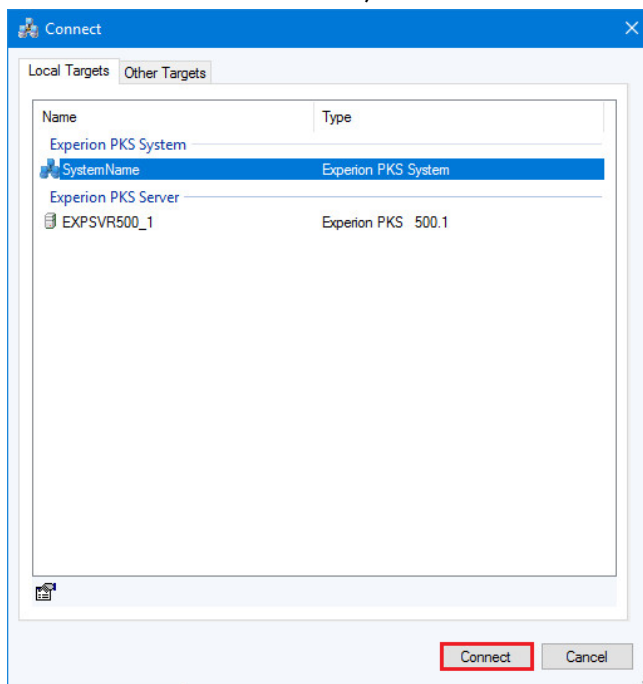
This chapter describes the main workflow for integrating PROFIBUS devices into the Honeywell Experion®PKS. As a result, the cyclic PROFIBUS communication is running and process values with status information are available within the control strategy of the system for further processing.

3.1 New Project

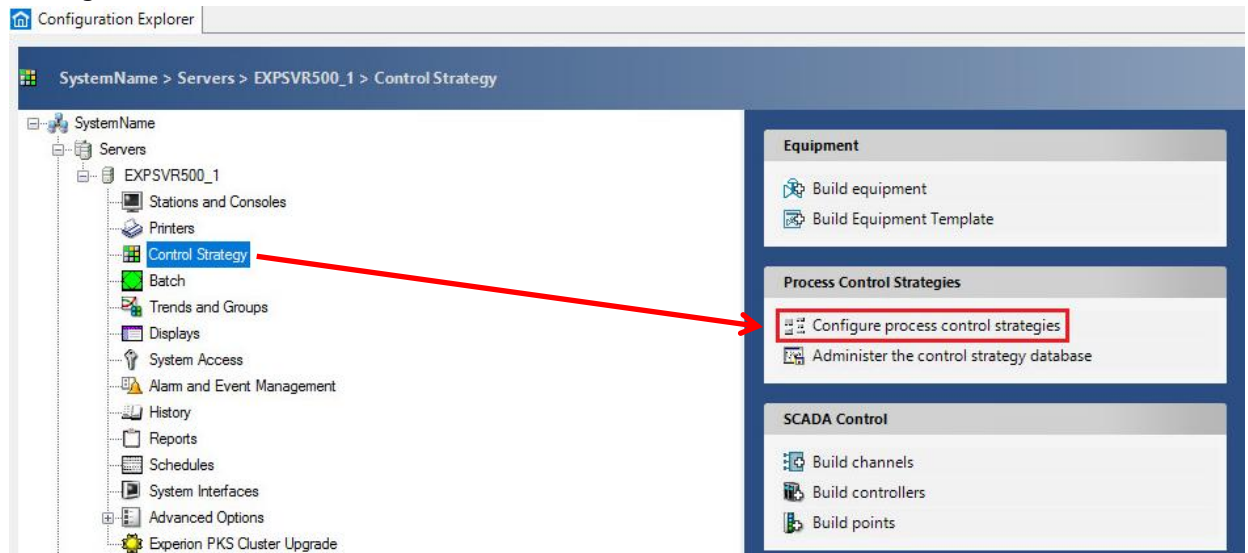
- Start the software Configuration Studio:



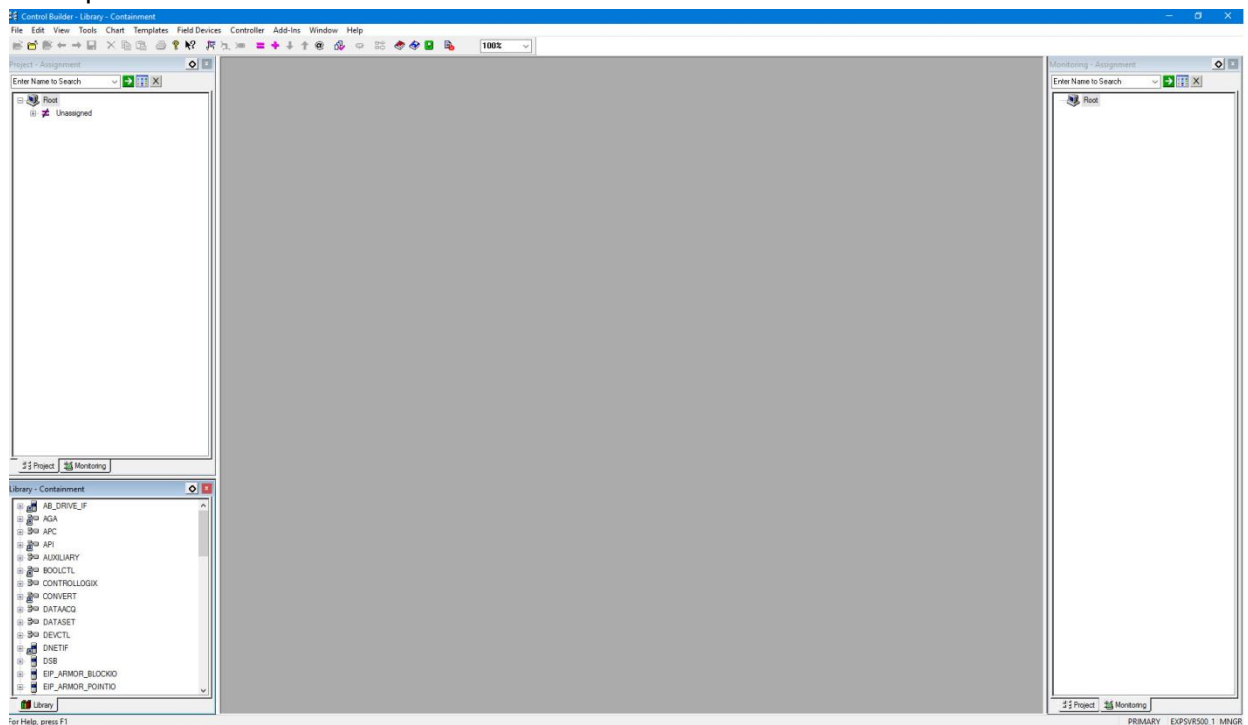
- Select the menu "SystemName" and click on the button "Connect" (Honeywell EPKS System must be connected to the network):



- Select the menu “Control Strategy” and then click on the menu “Configure process control strategies”:



- This opens the Control Builder environment:



3.2 System Configuration

This chapter explains how to configure the IP addresses in Control Builder.

- The target is to work with following network:

Component	IP Address	Subnet Mask
EPKS Server	10.126.93.48	255.255.252.0
FDM Server	10.126.93.49	255.255.252.0
Flexstation	10.126.93.50	255.255.252.0

- By using a redundant C300 Controller with a redundant PGM, Honeywell conventions state that the primary node has an odd address and that primary/secondary node addresses are subsequent:

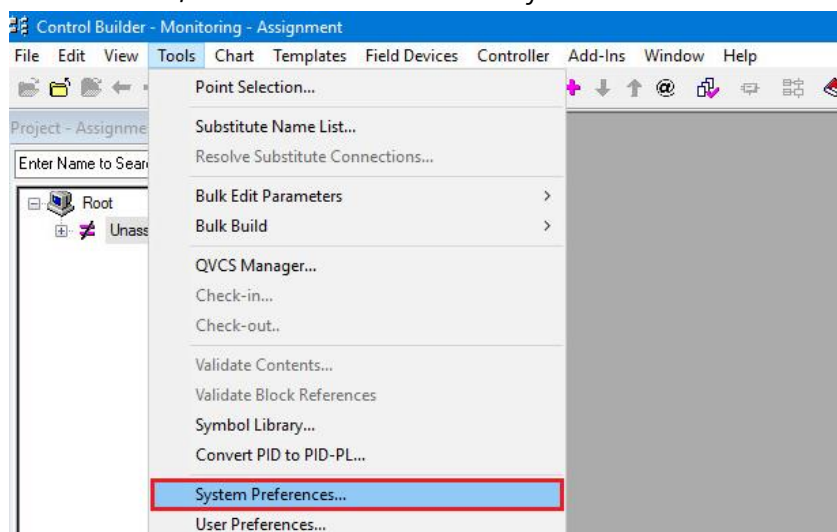
Component	IP Address	Subnet Mask
C300 Primary	10.126.93.51	255.255.252.0
C300 Secondary	10.126.93.52	255.255.252.0
PGM Primary	10.126.93.53	255.255.252.0
PGM Secondary	10.126.93.54	255.255.252.0

- This tutorial describes the configuration of one C300 controller (node address 51) with two PGM modules (node address 53 and 54):

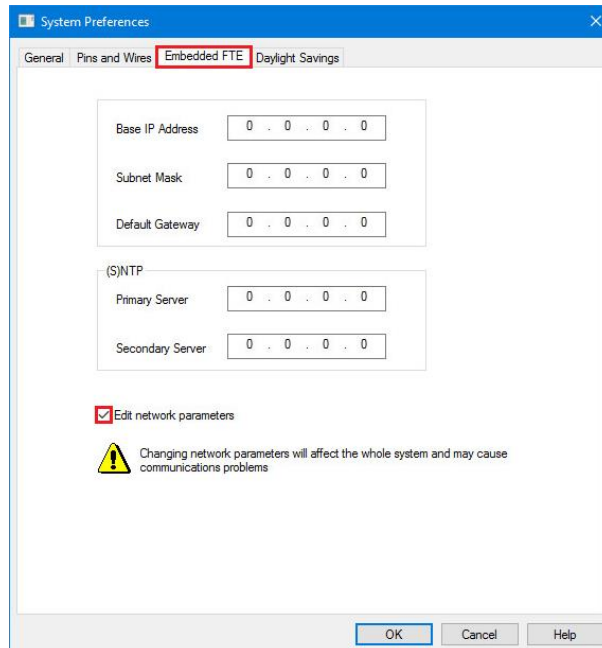
Component	IP Address	Subnet Mask
C300	10.126.93.51	255.255.252.0
PGM Primary	10.126.93.53	255.255.252.0
PGM Secondary	10.126.93.54	255.255.252.0

3.2.1 IP Network Settings

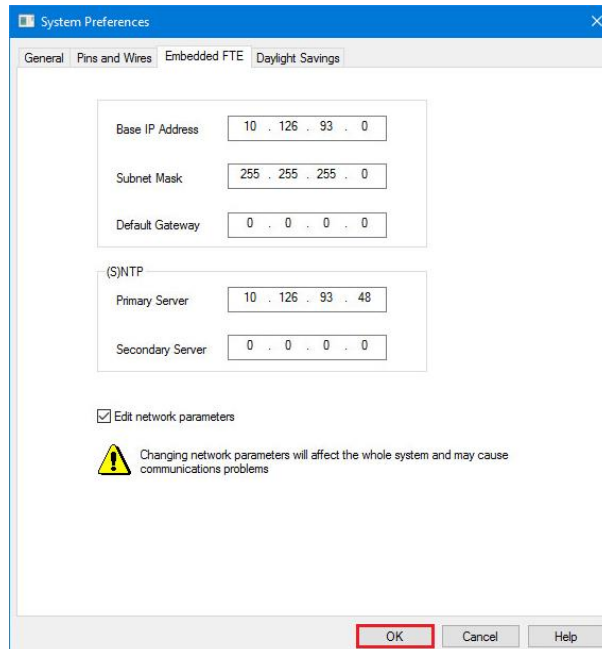
- In the toolbar, select the menu "Tools→ System Preferences":



- Select the tab “Embedded FTE” and enable the “Edit network parameters” checkbox:



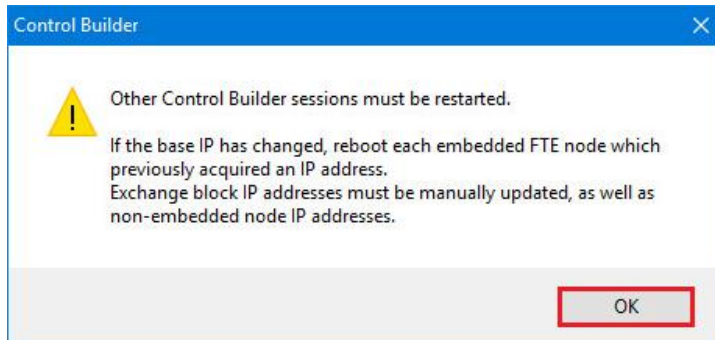
- Edit the network settings according to the corresponding network.
In this example, following configuration has been set:



The IP address of the Primary Server (EPKS Server) is 10.126.93.48.

Click on the button “OK” to continue.

- Following message is displayed:



Click on the button "OK" and restart other Control Builder running at the system, if required.

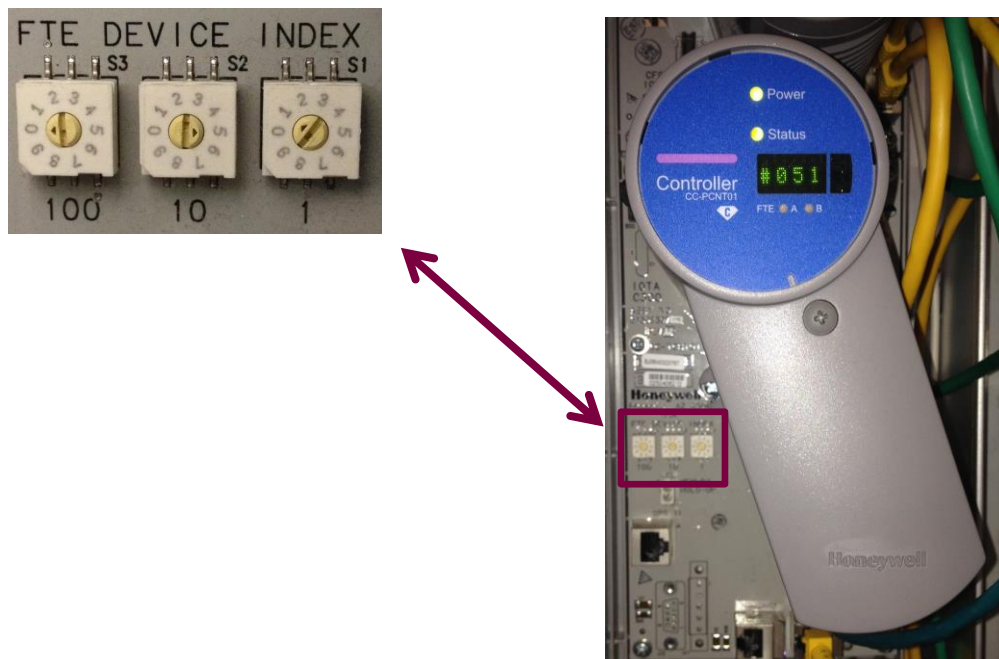
3.2.2 Control System

3.2.2.1 Firewall

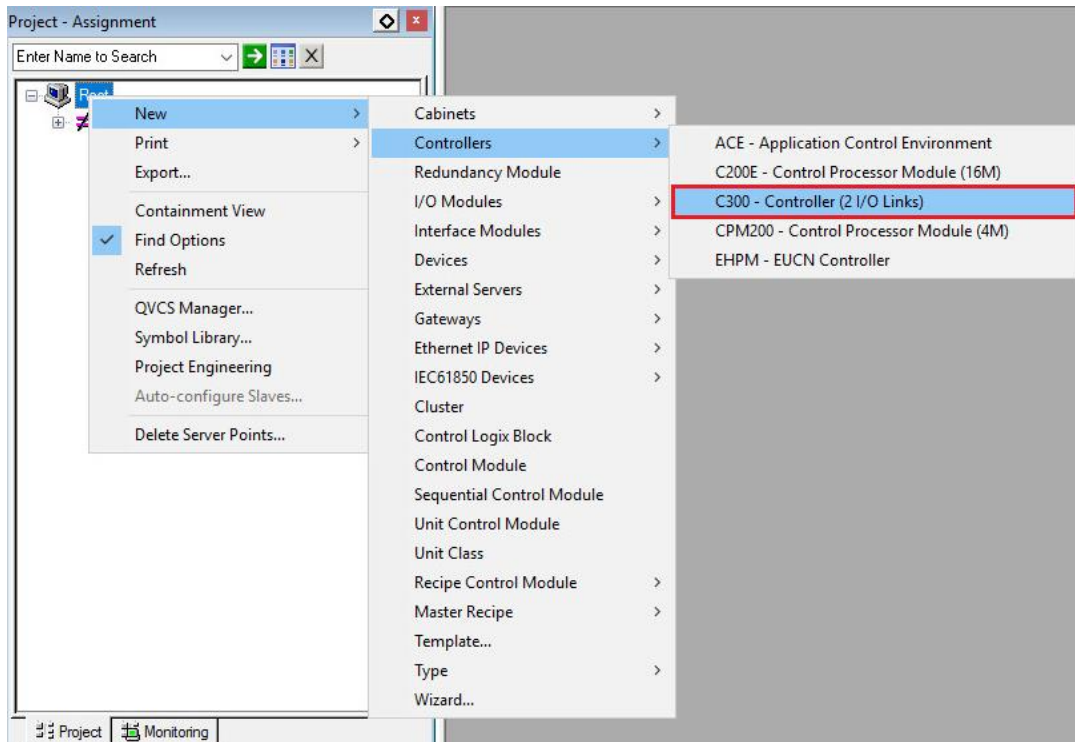
No configuration is needed for this example.

3.2.2.2 C300

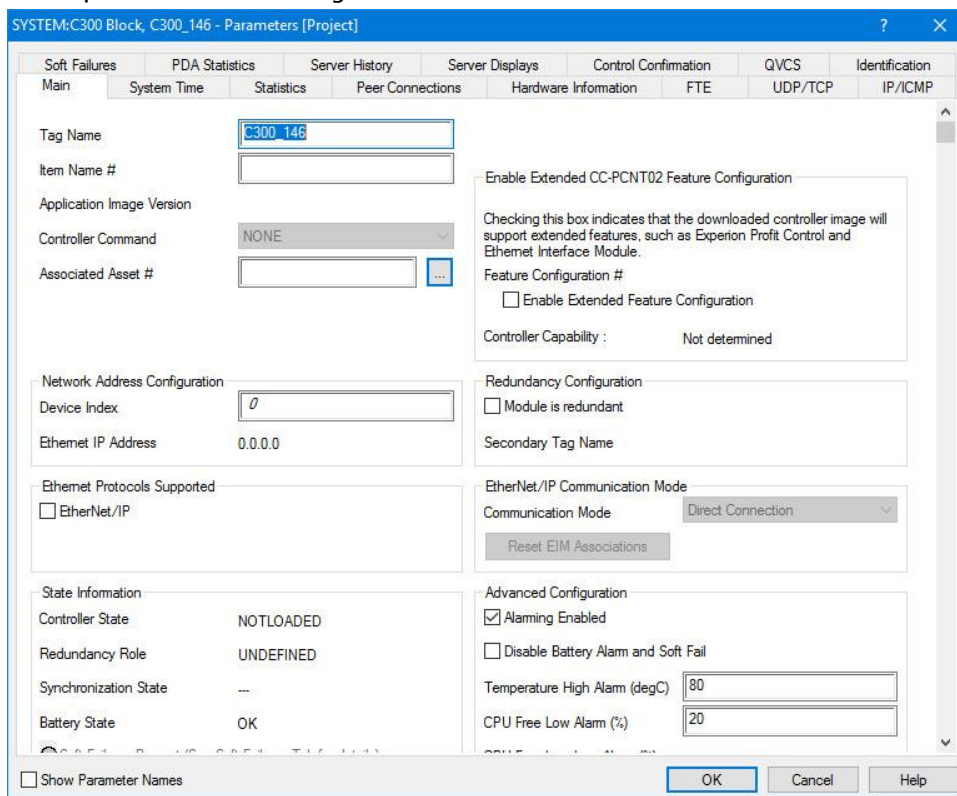
- In our example, the C300 IP address is 10.126.93.51.
The last part of this IP address (10.126.93.051), which is the FTE device index, must be configured with a screwdriver on the switches of the C300 card. The first switch is set to "0", the second one to "5" and the last one to "1":



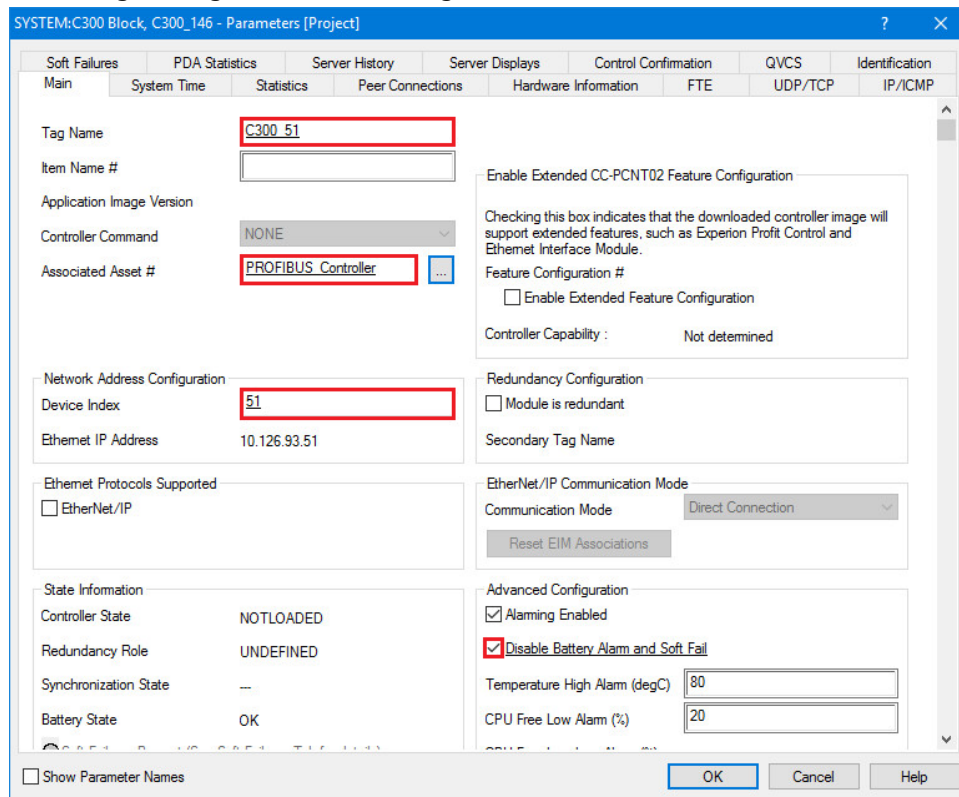
- In the Project-Assignment view, right-click on "Root" and select the option "New→Controllers→C300-Controller(2I/O Links)":



- This opens the C300 configuration window:

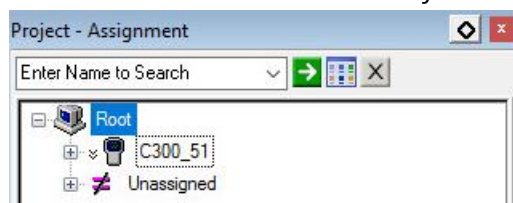


- Following settings have been configured:

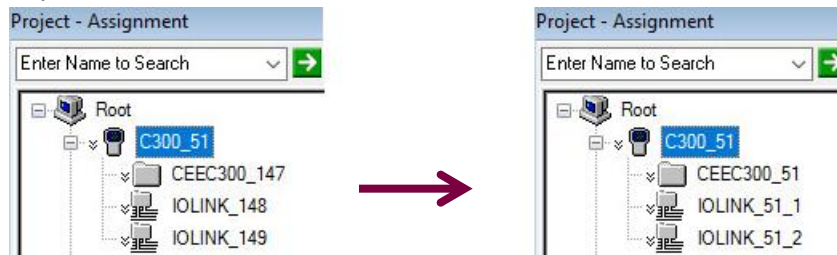


In this example,

- The TAG Name is "C300_51" (name referring to the FTE device index).
 - The selected Associated Asset is "PROFIBUS_Controller" (Associated Asset is an optional setting).
 - The entered Device Index is 51 (index referring to the IP address).
 - The option "Disable Battery Alarm and Soft Fail" shall be enabled, unless a battery support module is installed with the C300 controller.
- Click on the button "OK" to set the configuration.
 - The C300 controller is successfully inserted in the project:



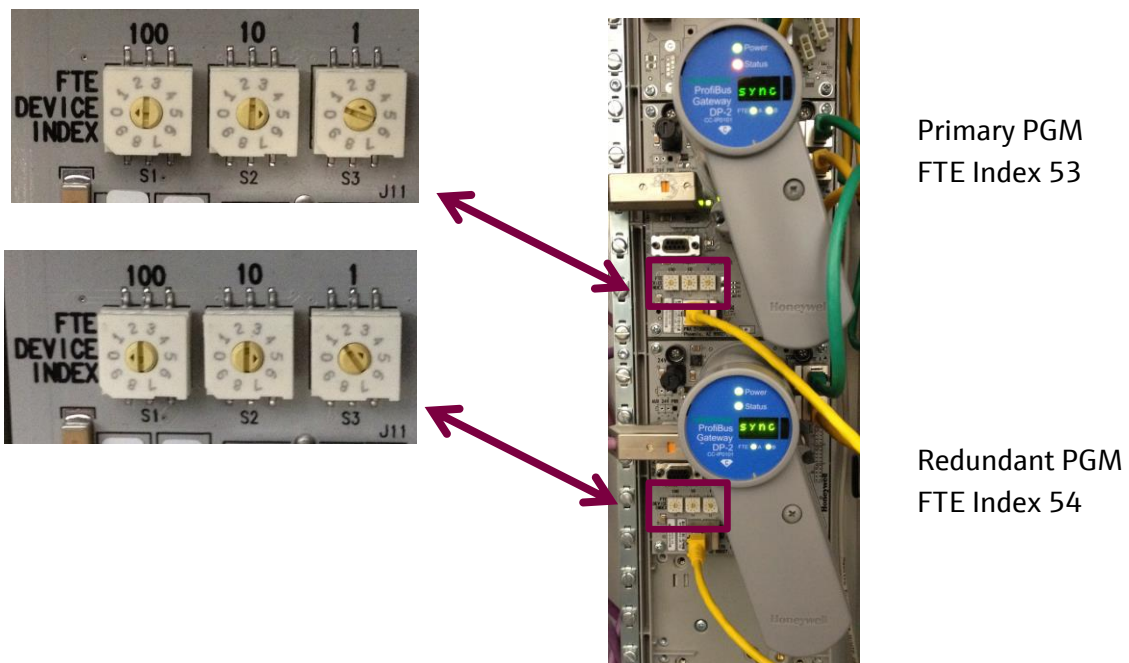
- Expand the "C300_51" menu and rename all modules for a better overview:



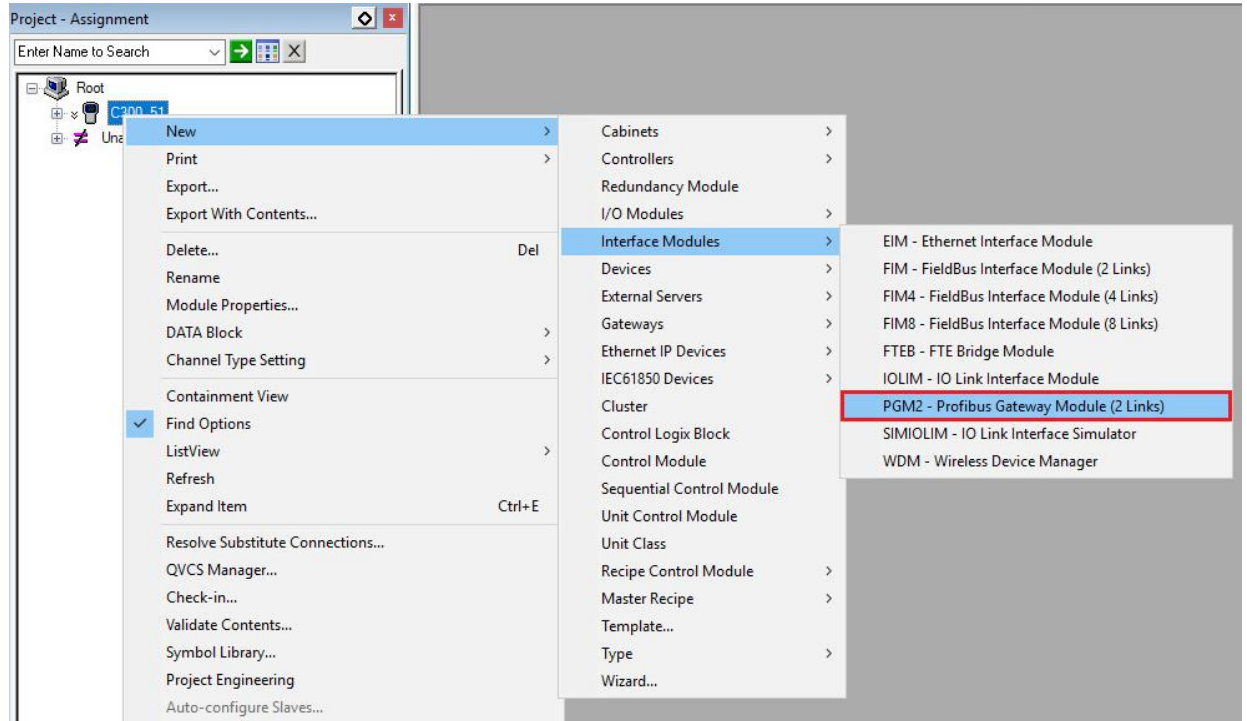
3.2.2.3 PGM

- In our example, the primary PGM IP address is 10.126.93.53 and the secondary PGM IP address is 10.126.93.54.

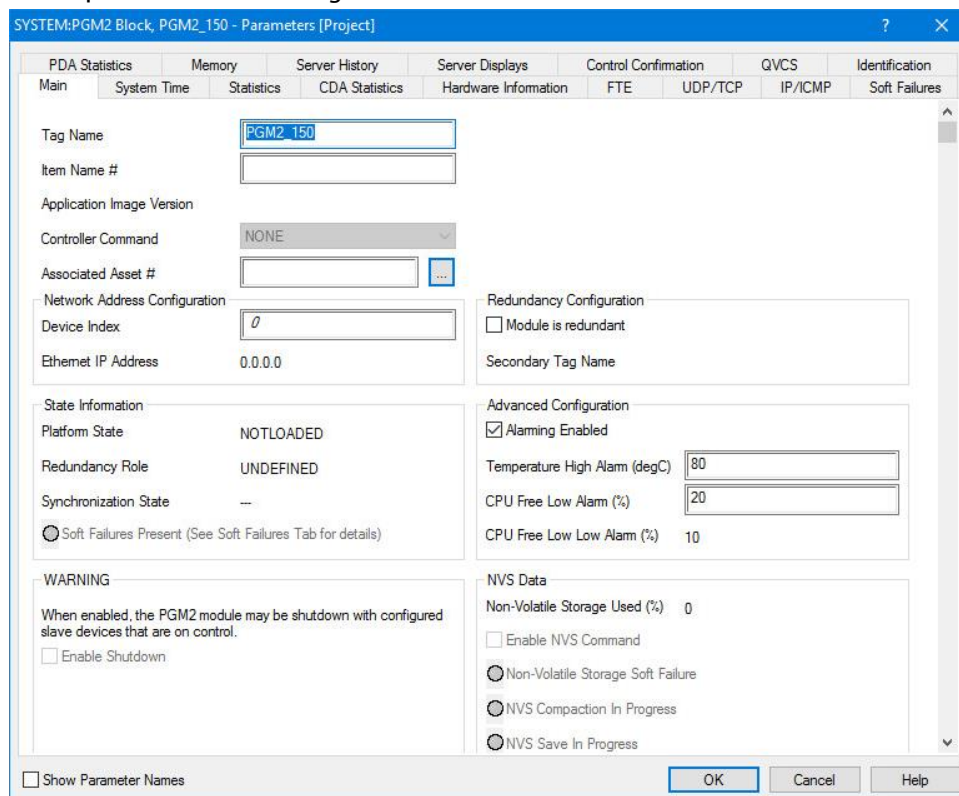
The last part of the IP address (10.126.93.053), which is the FTE device index, must be configured with a screwdriver on the switches of the PGM card. The first switch is set to "0", the second one to "5" and the last one to "3" (Same action for the secondary PGM):



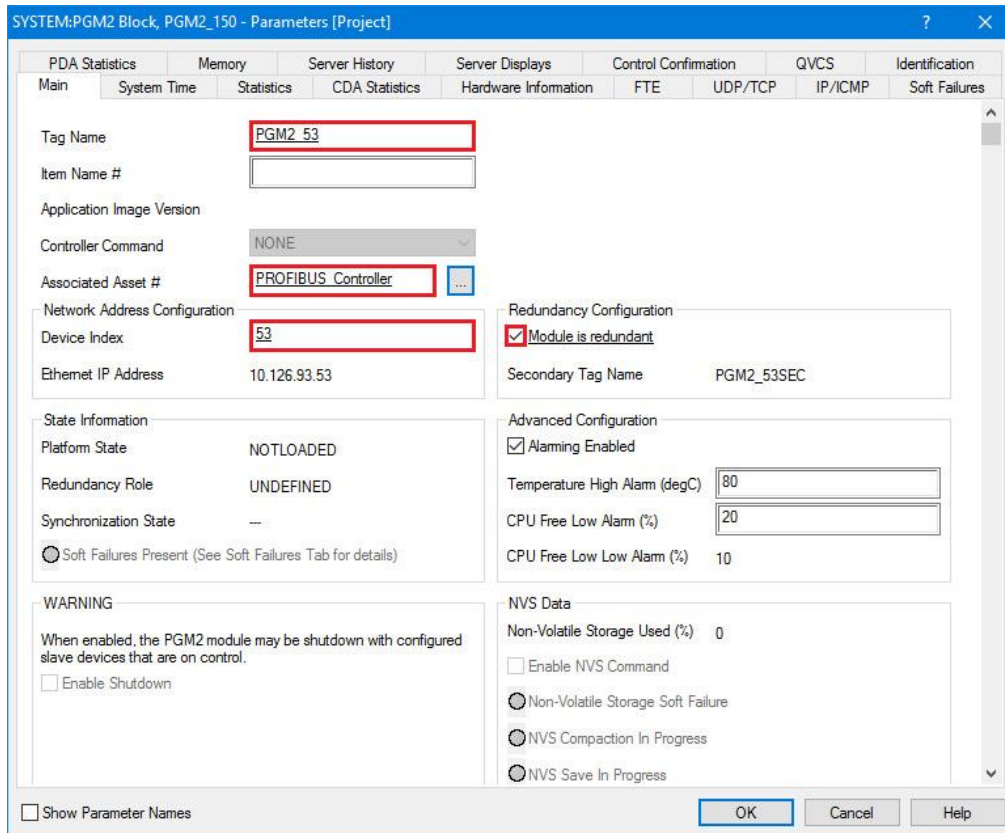
- In the Project-Assignment view, right-click on "Root" and select the option "New→Interface Modules→PGM2-Profibus Gateway Module (2 links)":



- This opens the PGM configuration window:



- Following settings have been configured:



SYSTEM:PGM2 Block, PGM2_150 - Parameters [Project]

PDA Statistics | Memory | Server History | Server Displays | Control Confirmation | QVCS | Identification
 Main | System Time | Statistics | CDA Statistics | Hardware Information | FTE | UDP/TCP | IP/ICMP | Soft Failures

Tag Name: PGM2_53
 Item Name #:
 Application Image Version:
 Controller Command: NONE
 Associated Asset #: PROFIBUS_Controller
 Network Address Configuration:
 Device Index: 53
 Ethemet IP Address: 10.126.93.53

Redundancy Configuration:
☒ Module is redundant
 Secondary Tag Name: PGM2_53SEC

State Information:
 Platform State: NOTLOADED
 Redundancy Role: UNDEFINED
 Synchronization State: --
☐ Soft Failures Present (See Soft Failures Tab for details)

WARNING:
 When enabled, the PGM2 module may be shutdown with configured slave devices that are on control.
☐ Enable Shutdown

Advanced Configuration:
☒ Alarming Enabled
 Temperature High Alarm (degC): 80
 CPU Free Low Alarm (%): 20
 CPU Free Low Low Alarm (%): 10

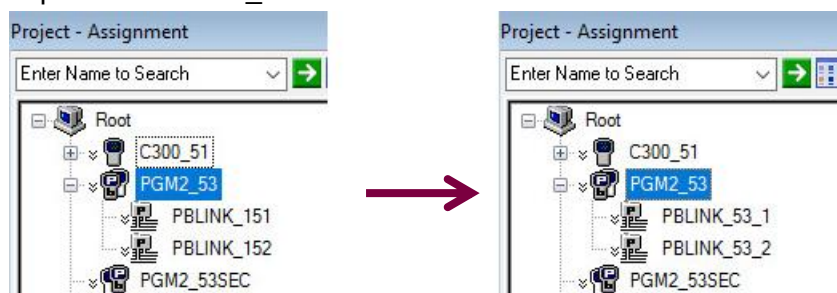
NVS Data:
 Non-Volatile Storage Used (%): 0
☐ Enable NVS Command
☐ Non-Volatile Storage Soft Failure
☐ NVS Compaction In Progress
☐ NVS Save In Progress

☐ Show Parameter Names

OK Cancel Help

In this example,

- The TAG Name is "PGM2_53" (name referring to the FTE device index).
 - The selected Associated Asset is "PROFIBUS_Controller".
 - The entered Device Index is 53.
 - The option "Module is redundant" is enabled.
- Click on the button "OK" to set the configuration.
- Expand the "PGM2_53" menu and rename all modules for a better overview:



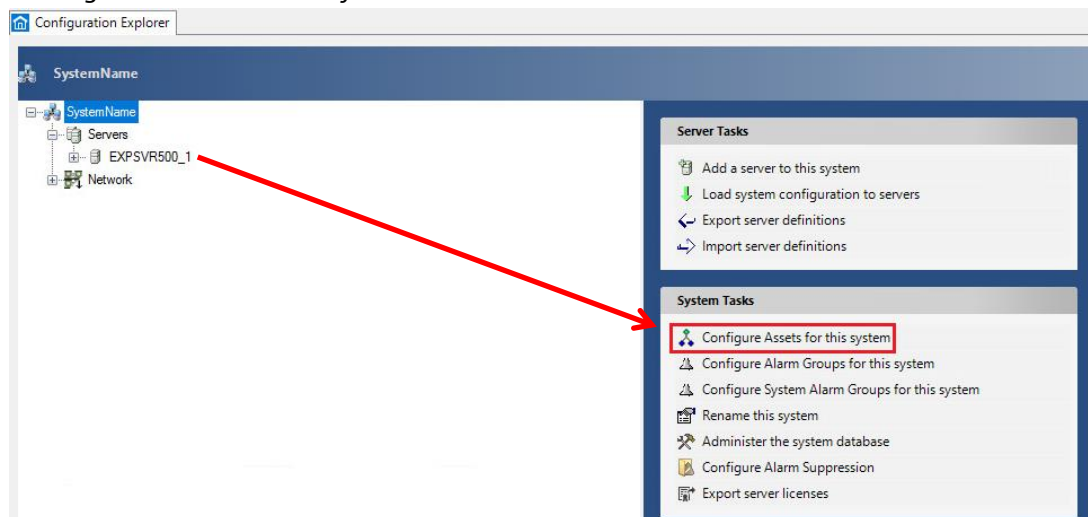
3.2.2.4 IP Settings Configuration Download

- Download the configuration of the C300 and PGM modules.
Refer to part 3.5.1 to proceed.

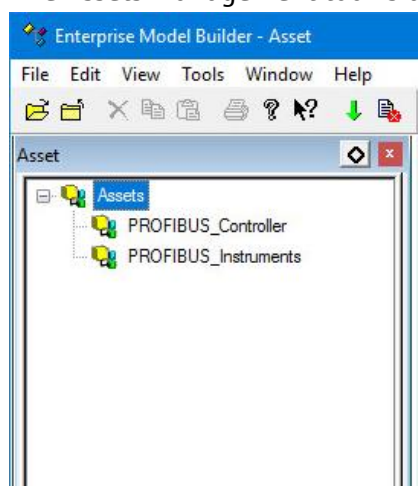
3.2.3 Enterprise Model Configuration (Asset Configuration)

Assets are used to fix the scope of responsibilities in a project. These items are mandatory for Control Strategy. This chapter explains how creating Assets.

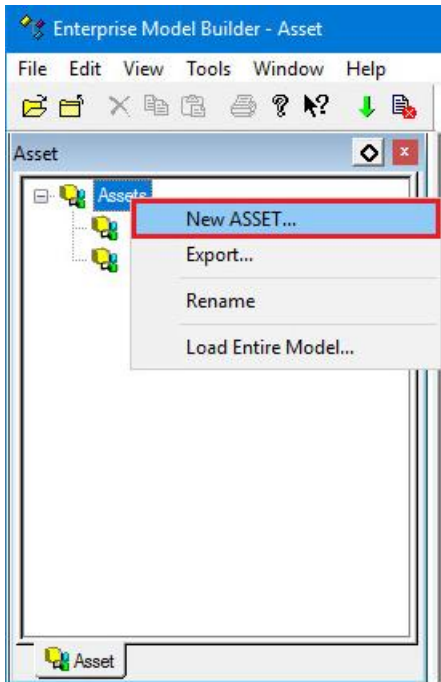
- In Configuration Studio, select "SystemName" in the Configuration Explorer and click on the menu "Configure Assets for this system":



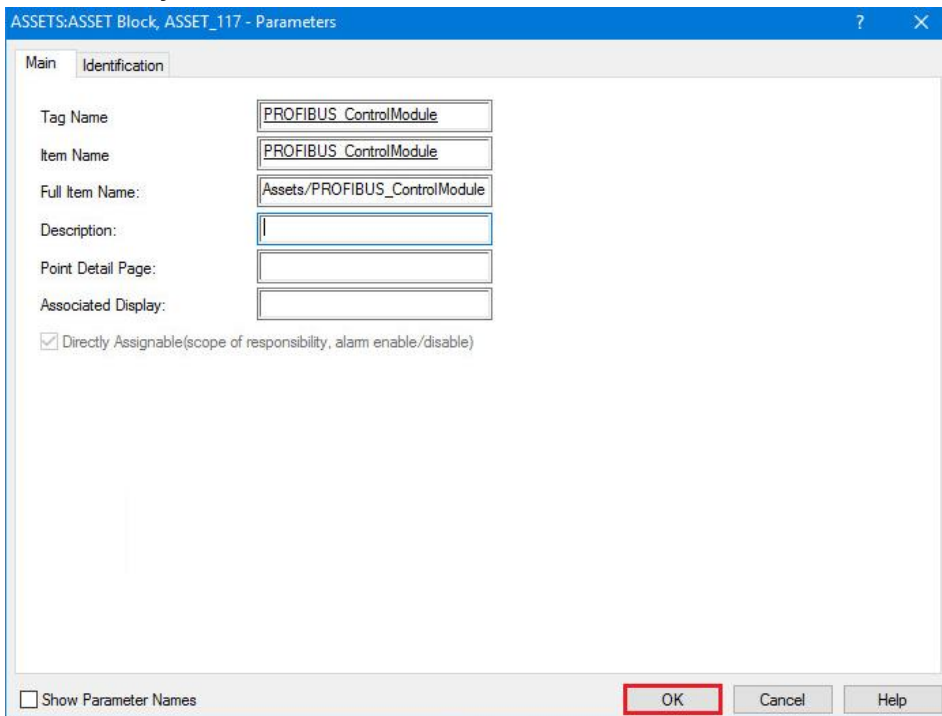
- The Assets management tool is opened and displays configured assets:



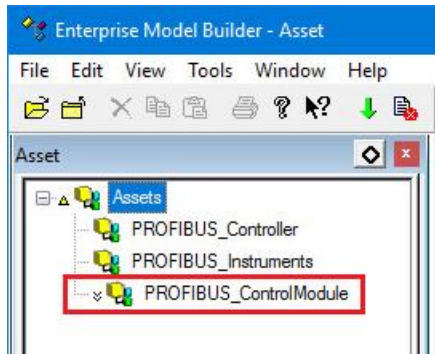
- Right-click on "Assets" and select the menu "New ASSET":



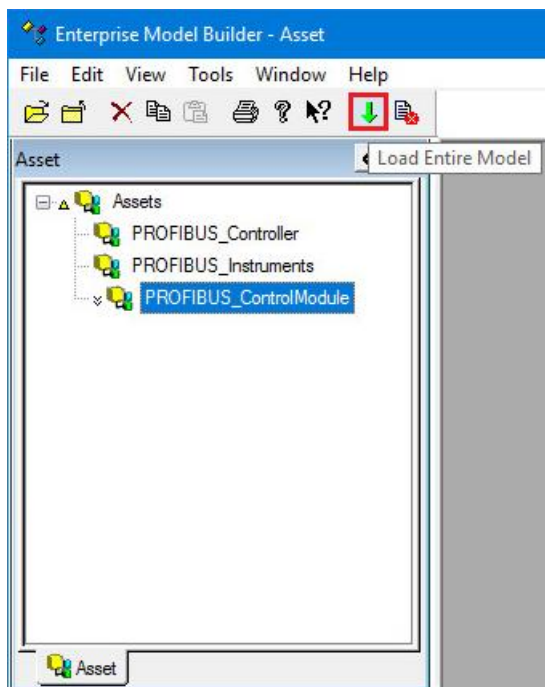
- Configure the Asset "Tag Name" and "Item Name". The parameter "Full Item Name" is refreshed automatically. Click on the button "OK".



- New Asset "PROFIBUS_ControlModule" has been inserted:



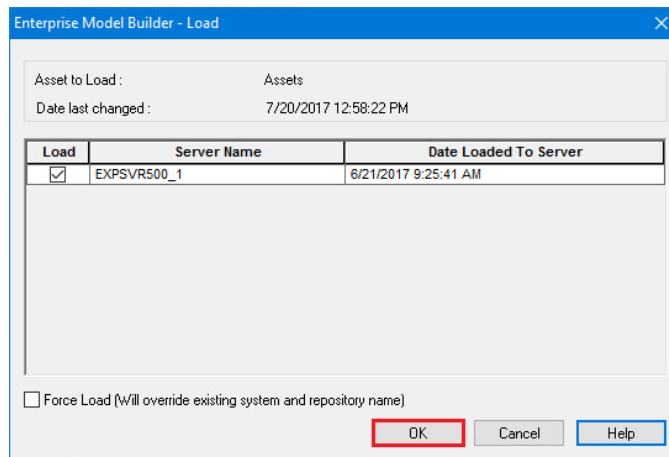
- Select the Assets "PROFIBUS_ControlModule" and click on the shortcut button "Load Entire Model":



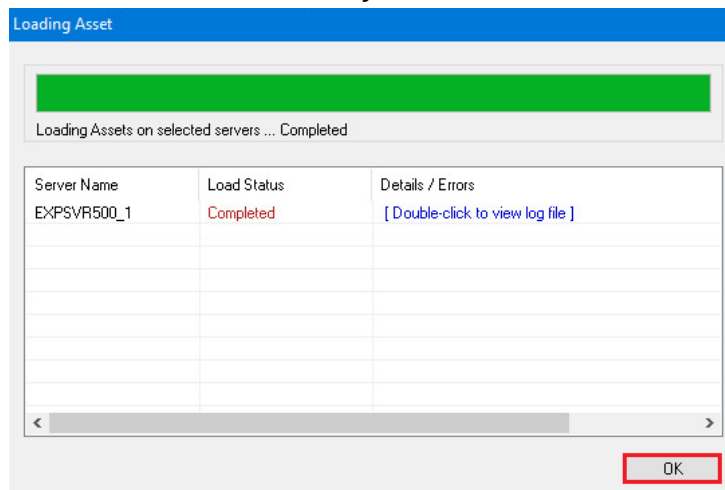
Remark:

- Assets can be created as a hierarchy until 5 levels deep.
- There are direct assignable assets and non-direct assignable assets. Direct assignable assets can be directly included or excluded from a Scope of Responsibility (SOR) while non-direct assignable assets are always following the SOR assignment of its parent.

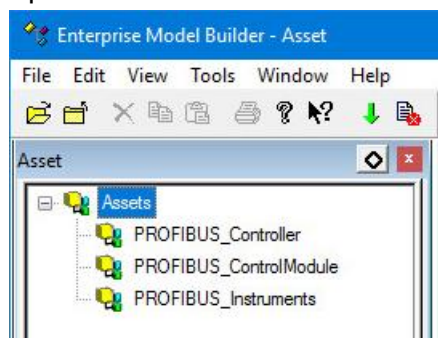
- Click on the button "OK":



- Assets have been successfully loaded. Click on the button "OK".



- Updated Assets:



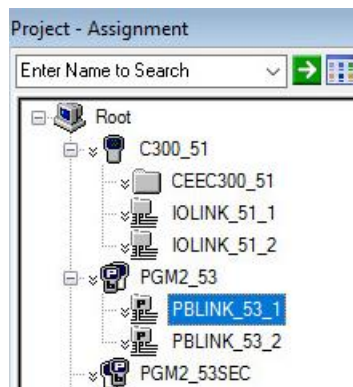
In this tutorial, the used Assets are "PROFIBUS_Controller" for the Hardware, "PROFIBUS_Instruments" for the devices and "PROFIBUS_ControlModule" for the control strategy.

3.3 Field Network Configuration

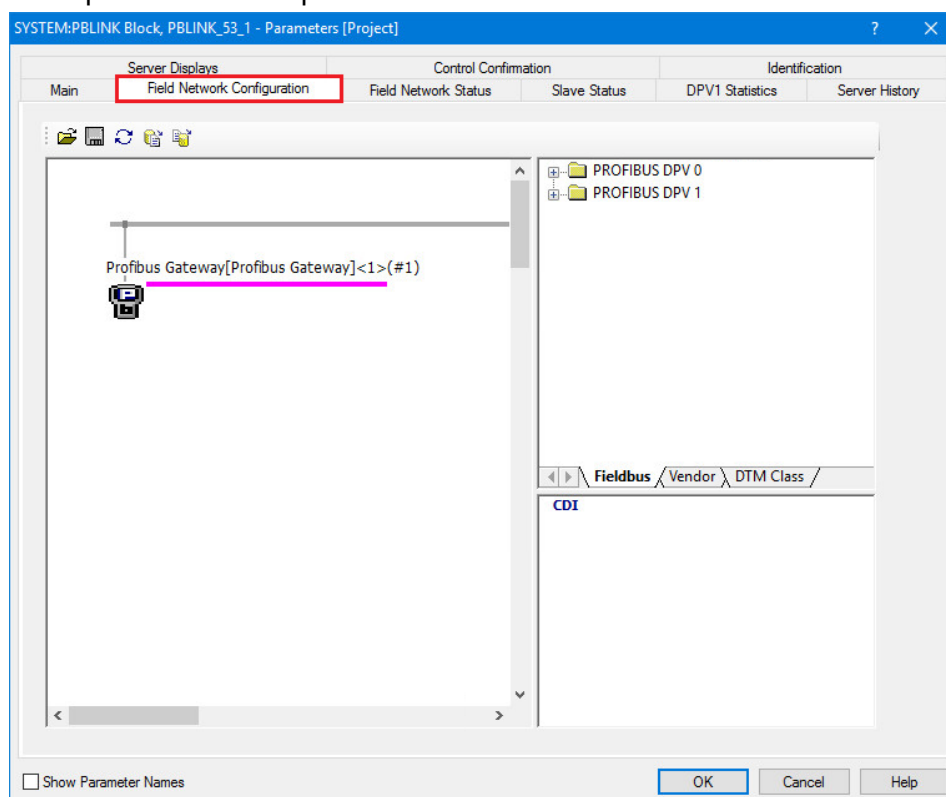
The PROFIBUS network configuration is done using the tool SYCON.net from Hilscher, which is embedded in Honeywell Control Builder.

3.3.1 PROFIBUS DP Master Configuration

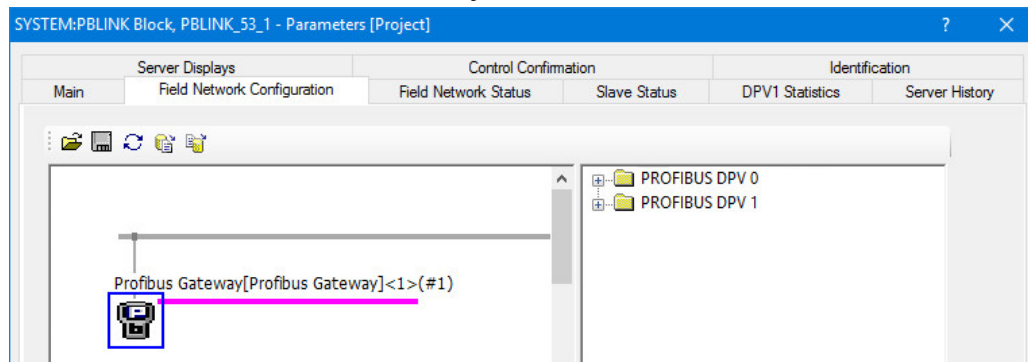
- Double-click on the menu PBLINK_53_1:



- This opens the PBLINK parameters window. Click on the tab "Field Network Configuration":



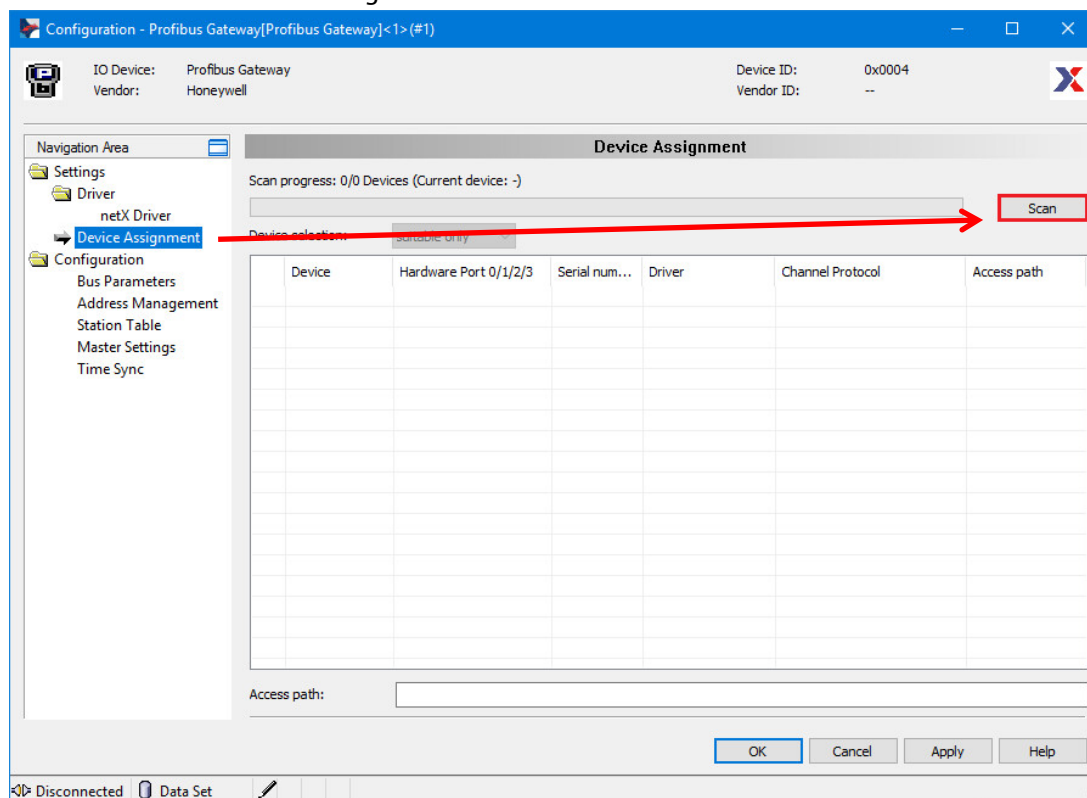
- Double-click on the “Profibus Gateway” icon:



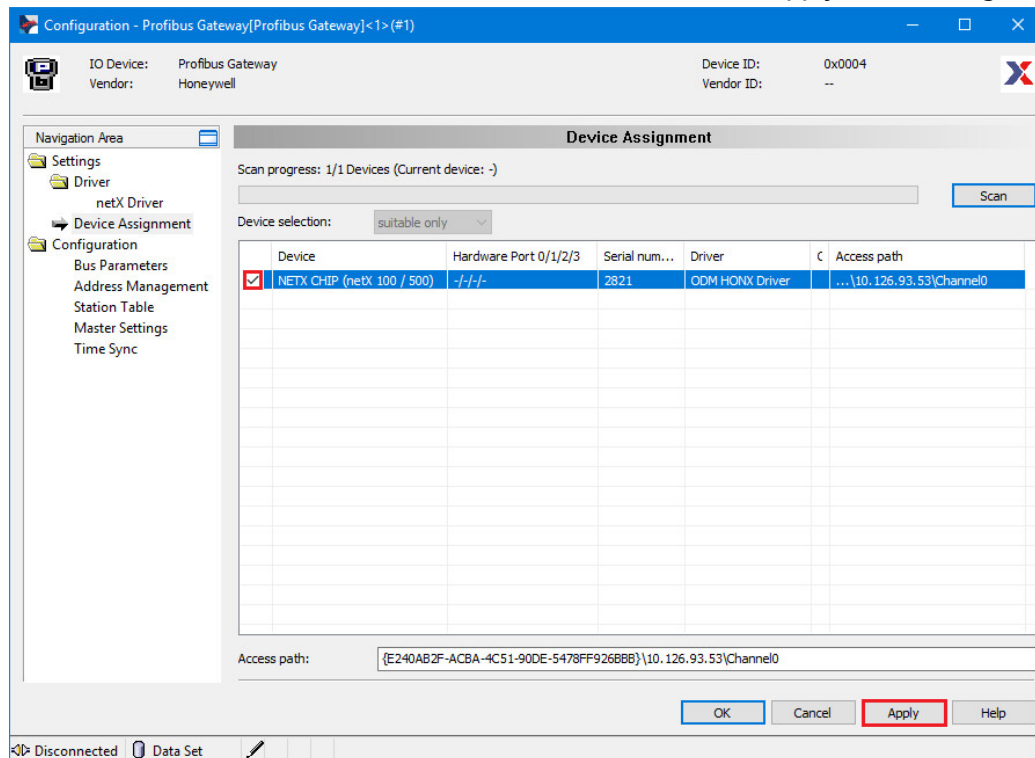
3.3.1.1 Device Assignment

The device assignment is used to link the device in SYCON.net to the PGM module.

- Select the menu “Device Assignment” and click on the button “Scan”:

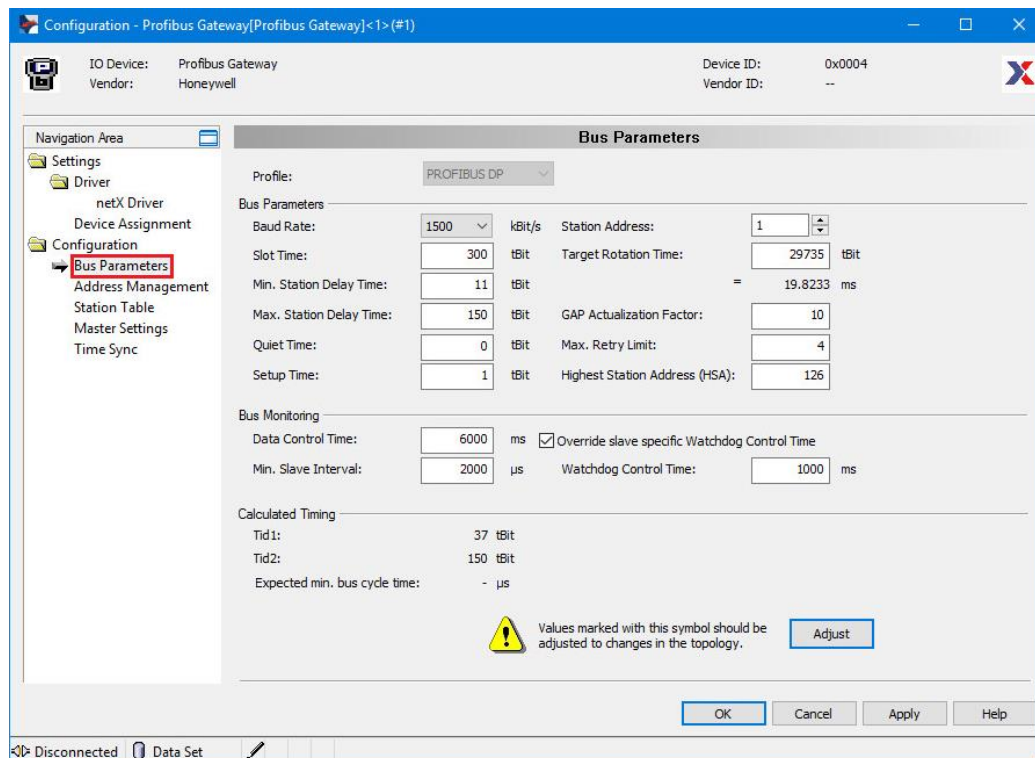


- Select the found device "NETX CHIP" and click on the button "Apply" to the assign the device:



3.3.1.2 Bus Parameters

- Click on the field "Bus Parameters":



- Configured Bus Parameters:

In this example, the Baud Rate has been configured to “1.5 Mbaud”, the Station address to “1” and the Watchdog Control Time to “1000ms”. Other “Bus parameters” will be checked again after adding the PROFIBUS slaves.

- Click on the button “OK” to close the window.

Remarks

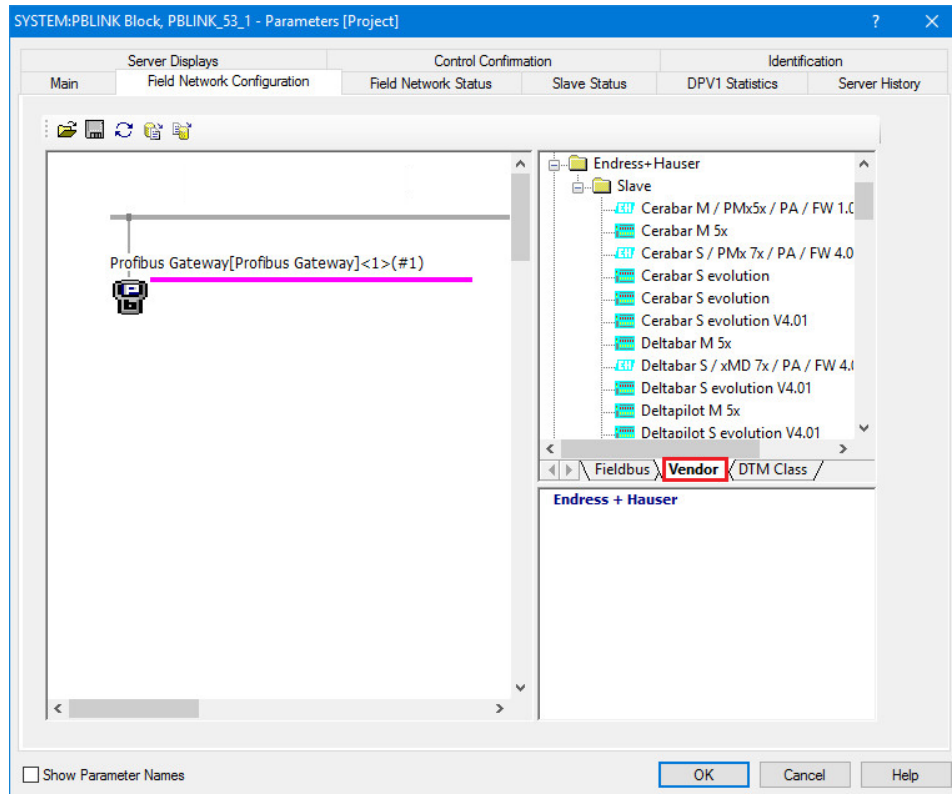
- Recommended Honeywell Watchdog Control Time and Data Control Time according the Baud Rate:

Baud Rate (Baud)	Watchdog Control Time (ms)	Data Control Time (ms)
9.6k	6000	36000
19.2k	5000	30000
45.45k	4000	24000
93.75k	3000	18000
187.5k	2000	12000
500k	1000	6000
1.5k	1000	6000

3.3.2 Field Devices Library

3.3.2.1 Overview

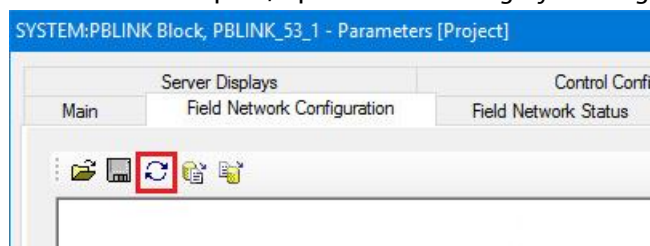
- The library is displayed on the right-side of the Field Network Configuration window:



Field devices can be sorted according to three categories (Fieldbus, Vendor and DTM Class). In this example, Endress+Hauser devices are displayed with the Vendor type. The Slave family structure as defined in the GSD file is not available.

3.3.2.2 Adding a new GSD File in the Library

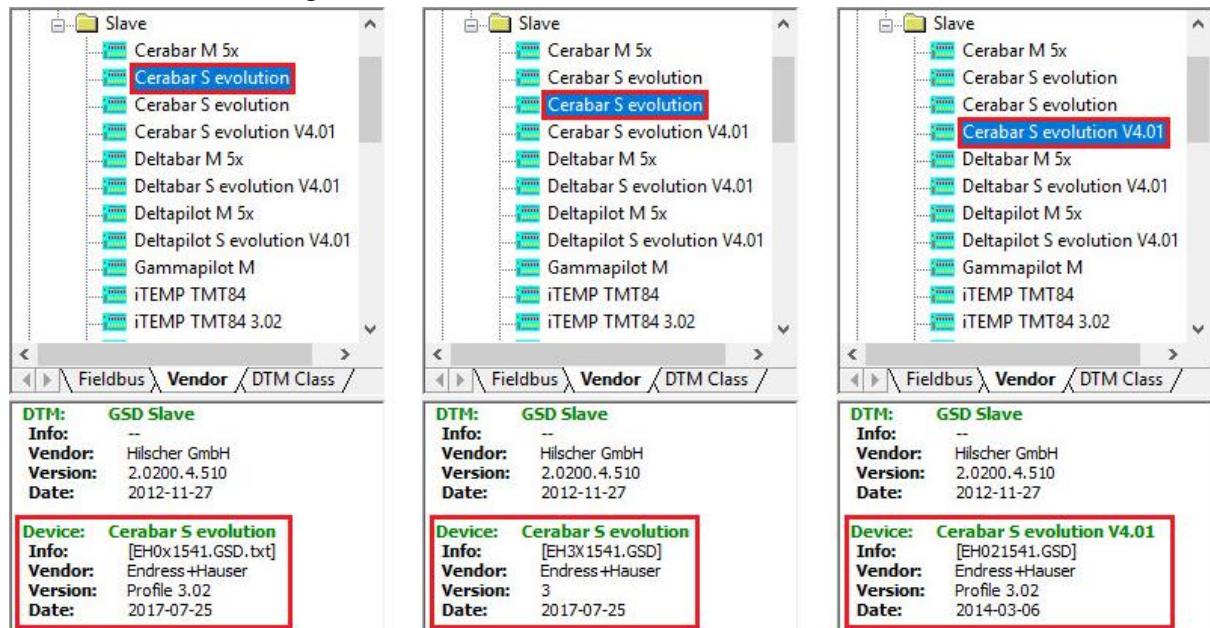
- There exists no function to import GSDs from the SYCON.net tool. GSD files must be copied manually in the windows path "C:\ProgramData\SYCONnet\Profibus\GSD".
- Once the files copied, update the catalog by clicking on the small icon:



3.3.2.3 Multiple GSD revision Handling

SYCON.net can handle multiple GSD file version but only if these have different file names.

- The following example displays different GSD revisions of the Endress+Hauser Cerabar S installed in the SYCON.net catalog:



Slaves are registered with the GSD parameter "Model_Name" in the catalog. This parameter can be identical for two different device GSD revisions. That's why the Cerabar S is registered twice in the SYCON.net catalog with the same name "Cerabar S evolution". In that case, the only way to differentiate them is to look to the parameters "Info", "Version" and "Date".

3.3.2.4 Rule files

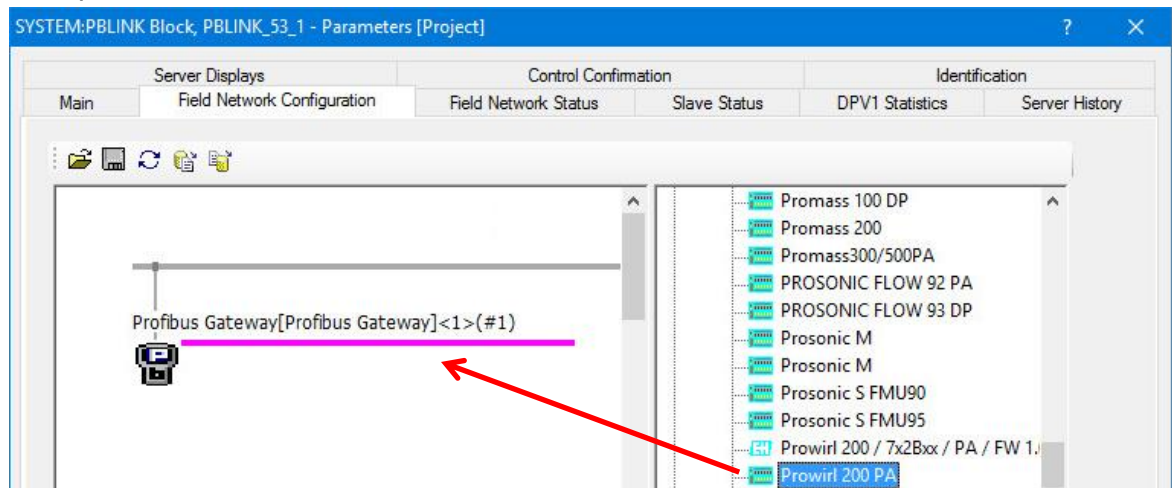
- Rule files are supporting the easy and correct configuration of the block model for the access of the PROFIBUS devices data in Experion®PKS. By this way, all device Slots are configured automatically with the correct IO module. Rule files are supporting all possible module configurations of the devices in a generic manner.
- Rule files are delivered as a XML format by Honeywell and must be copied directly in the windows path "C:\ProgramData\Honeywell\Experion PKS\PBRuleFiles".
- All Rule files for Endress+Hauser PROFIBUS devices are available by Honeywell.

3.3.3 Field Device Configuration

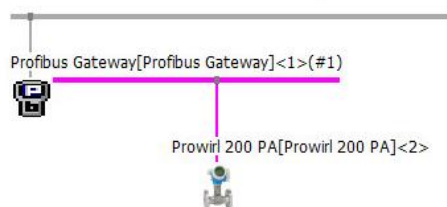
This chapter describes the steps to configure an Endress+Hauser Prowirl200 PA.

3.3.3.1 New Slave

- In the Field Network Configuration window, drag and drop a new slave on the Bus line, for example the Prowirl 200 PA:

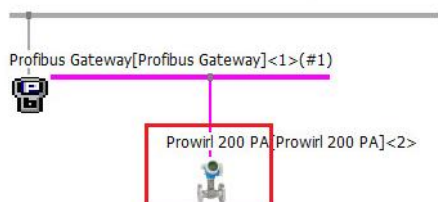


- Device is added in the network:

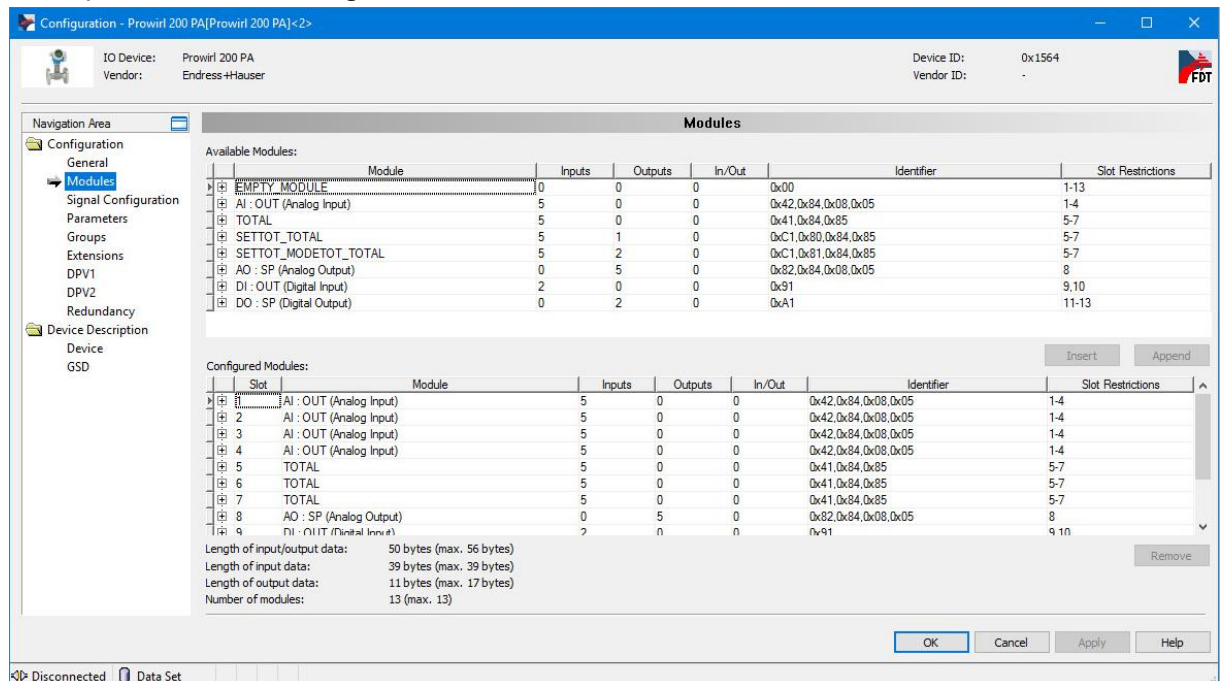


3.3.3.2 IO Modules

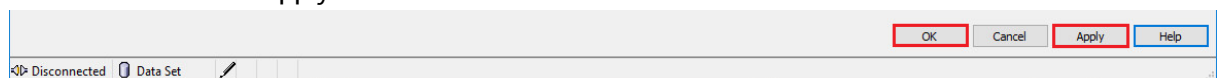
- Double-click on the slave:



- This opens the device configuration window:

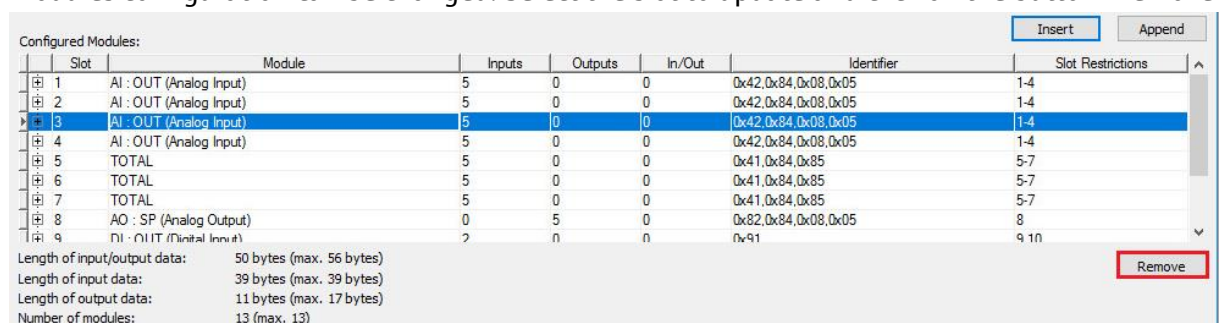


- Click on the button "Apply" and "OK".

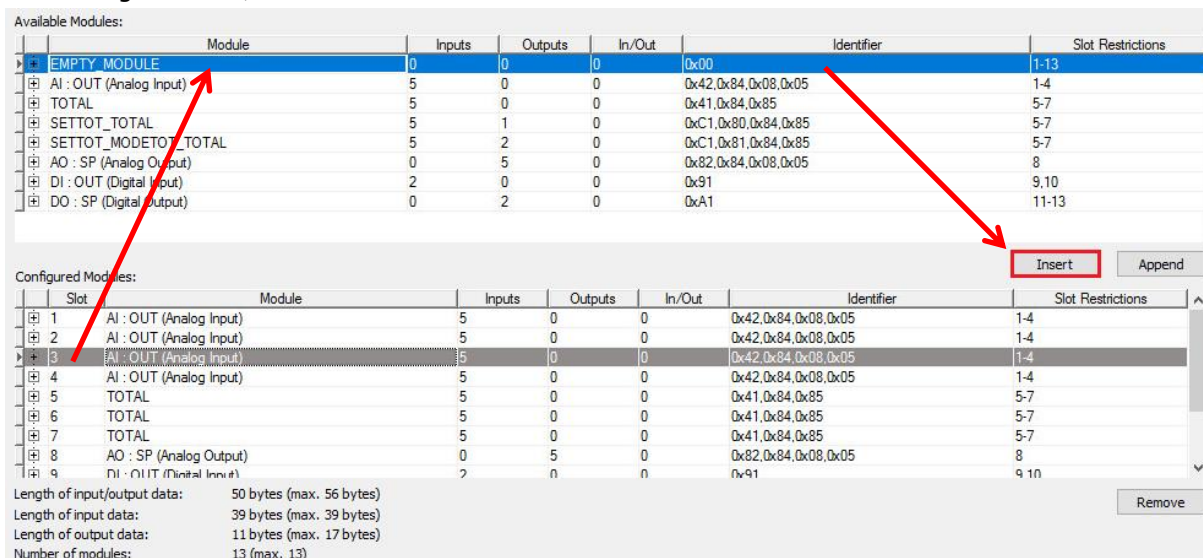


Remark 1

- All slots are configured automatically with their corresponding IO modules. This default IO modules configuration can be changed. Select the slot to update and click on the button "Remove":



- In this example, the "AI" module slot is removed and replaced with an "EMPTY_MODULE". Select at first the Slot3 in the "Configured Modules" and the "EMPTY_MODULE" in the "Available Modules" and then click on the button "Insert" (the button "Append" is setting the module after the last configured slot):



Available Modules:

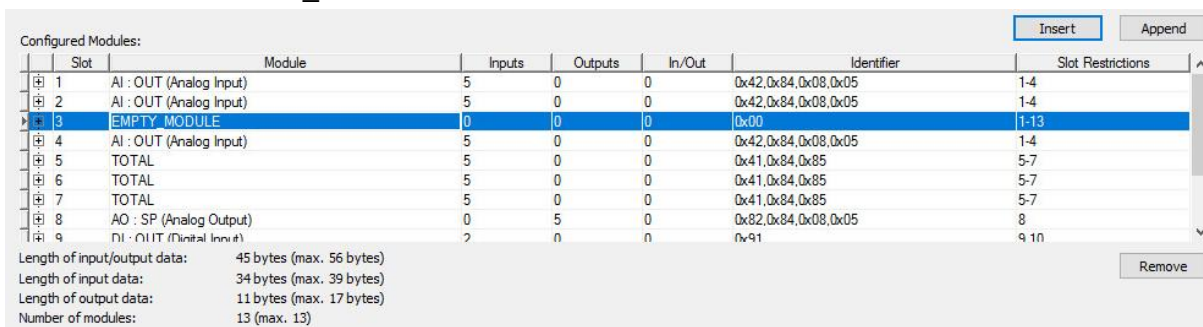
Module	Inputs	Outputs	In/Out	Identifier	Slot Restrictions
EMPTY_MODULE	0	0	0	0x00	1-13
AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-4
TOTAL	5	0	0	0x41,0x84,0x85	5-7
SETTOT_TOTAL	5	1	0	0xC1,0x80,0x84,0x85	5-7
SETTOT_MODULETOTAL	5	2	0	0xC1,0x81,0x84,0x85	5-7
AO : SP (Analog Output)	0	5	0	0x82,0x84,0x08,0x05	8
DI : OUT (Digital Input)	2	0	0	0x91	9,10
DO : SP (Digital Output)	0	2	0	0xA1	11-13

Configured Modules:

Slot	Module	Inputs	Outputs	In/Out	Identifier	Slot Restrictions
1	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-4
2	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-4
3	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-4
4	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-4
5	TOTAL	5	0	0	0x41,0x84,0x85	5-7
6	TOTAL	5	0	0	0x41,0x84,0x85	5-7
7	TOTAL	5	0	0	0x41,0x84,0x85	5-7
8	AO : SP (Analog Output)	0	5	0	0x82,0x84,0x08,0x05	8
9	DI : OUT (Digital Input)	2	0	0	0x91	9,10

Length of input/output data: 50 bytes (max. 56 bytes)
 Length of input data: 39 bytes (max. 39 bytes)
 Length of output data: 11 bytes (max. 17 bytes)
 Number of modules: 13 (max. 13)

- This inserts the "EMPTY_MODULE" on Slot3:



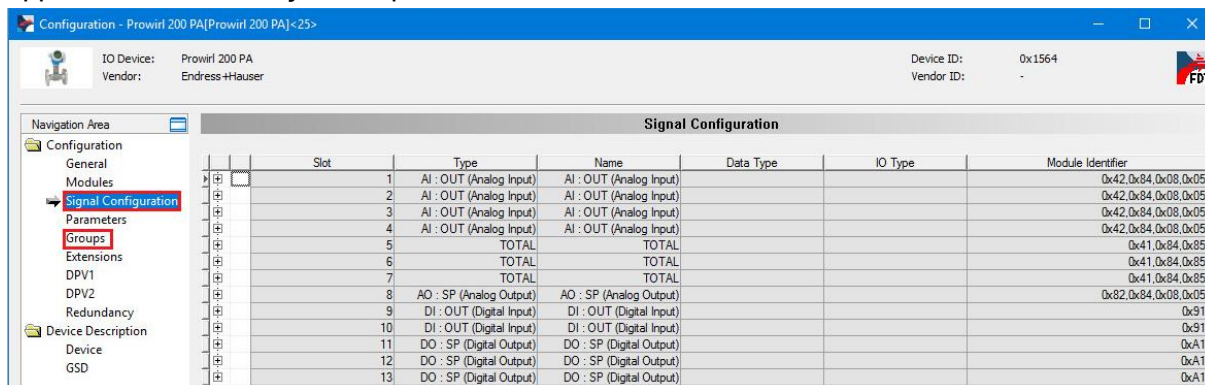
Configured Modules:

Slot	Module	Inputs	Outputs	In/Out	Identifier	Slot Restrictions
1	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-4
2	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-4
3	EMPTY_MODULE	0	0	0	0x00	1-13
4	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-4
5	TOTAL	5	0	0	0x41,0x84,0x85	5-7
6	TOTAL	5	0	0	0x41,0x84,0x85	5-7
7	TOTAL	5	0	0	0x41,0x84,0x85	5-7
8	AO : SP (Analog Output)	0	5	0	0x82,0x84,0x08,0x05	8
9	DI : OUT (Digital Input)	2	0	0	0x91	9,10

Length of input/output data: 45 bytes (max. 56 bytes)
 Length of input data: 34 bytes (max. 39 bytes)
 Length of output data: 11 bytes (max. 17 bytes)
 Number of modules: 13 (max. 13)

Remark 2

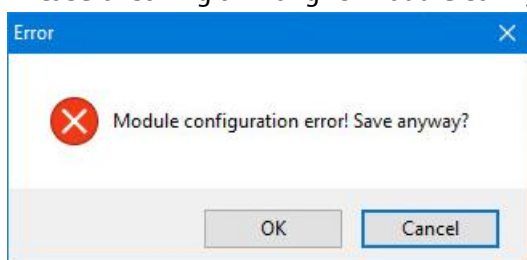
- Other options are available in the "Navigation Area" but are not relevant for this example. By the way, the options "Signal Configuration" and "Groups" are available in the view but are not applicable to the Honeywell Experion®PKS:



- The "Slot Restrictions" column indicates the slot range on which the IO module can be inserted. SYCON.net allows the insertion of modules out of this range but indicates an error with a red marker. In this example, the module "DO" with slot range 13-16 is inserted in slot3:

Configured Modules:								Insert	Append
Slot	Module	Inputs	Outputs	In/Out	Identifier	Slot Restrictions			
1	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-6			
2	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-6			
3	DO : SP (Digital Output)	0	2	0	0xA1	13-16			
4	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-6			
5	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-6			
6	AI : OUT (Analog Input)	5	0	0	0x42,0x84,0x08,0x05	1-6			
7	TOTAL	5	0	0	0x41,0x84,0x85	7-9			
8	TOTAL	5	0	0	0x41,0x84,0x85	7-9			
9	TOTAL	5	0	0	0x41,0x84,0x85	7-9			
Length of input/output data:		59 bytes (max. 68 bytes)							
Length of input data:		44 bytes (max. 49 bytes)							
Length of output data:		15 bytes (max. 19 bytes)							
Number of modules:		16 (max. 16)							
								Remove	

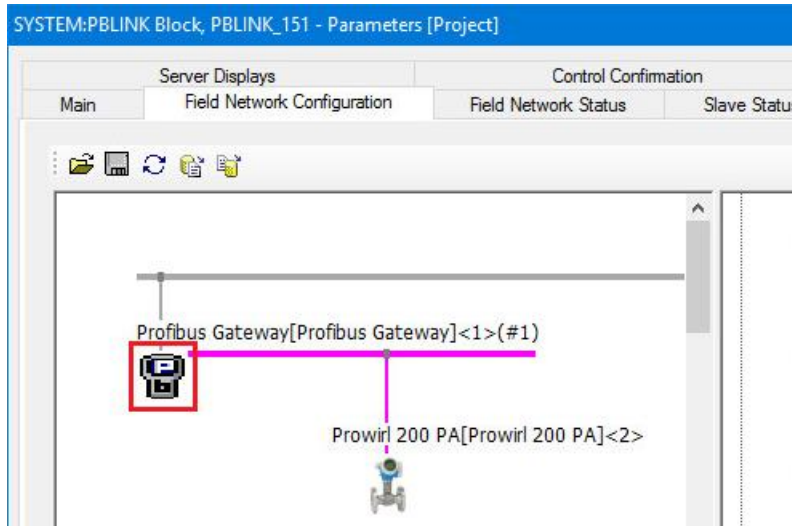
- In case of saving a wrong IO module configuration, an error message is displayed:



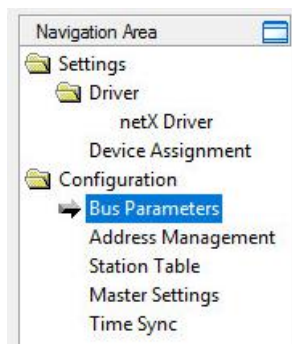
- By this way, the user can click on the button "Cancel" and look for the configuration error. However, clicking on the button "OK" is saving the wrong configuration.
- For the next steps of this tutorial, the standard configuration IO modules configuration is used.

3.3.3.3 Bus Parameters Update

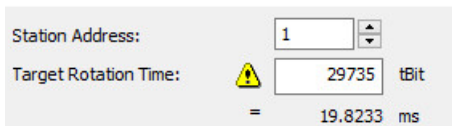
- Double-click on the "Profibus Gateway" icon:



- Select the menu "Bus Parameters":



- Adding new slaves may require an update of the Target Rotation Time. In that case, the symbol "!" is displayed near the Target Rotation Time.

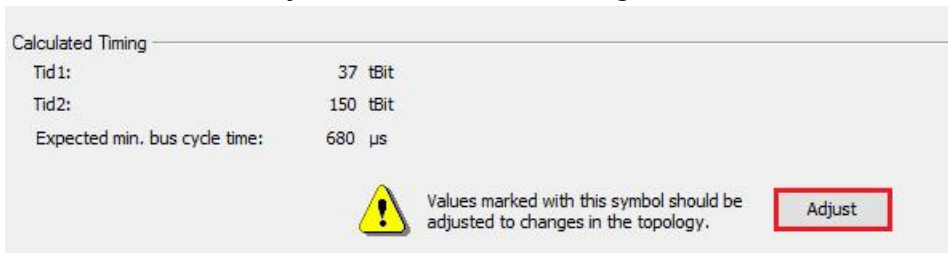


Station Address: 1

Target Rotation Time:  29735 tBit


= 19.8233 ms

- Click on the button "Adjust" to recalculate the Target Rotation Time:



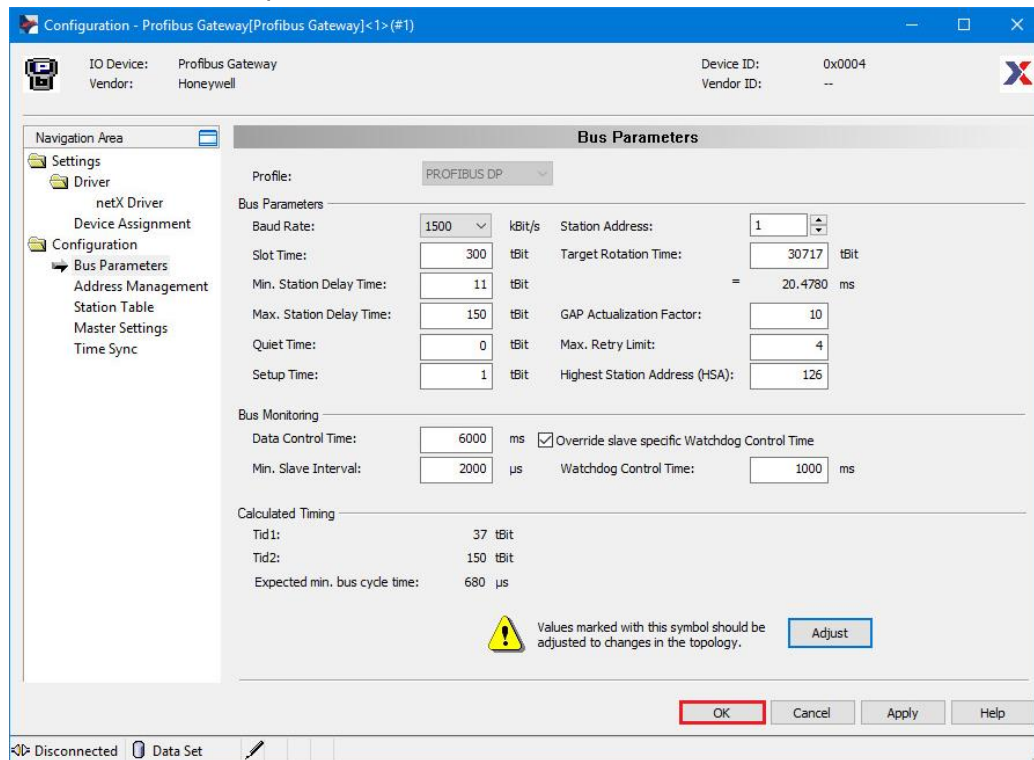
Calculated Timing

Tid 1:	37 tBit
Tid 2:	150 tBit
Expected min. bus cycle time:	680 µs

 Values marked with this symbol should be adjusted to changes in the topology.

Adjust

- Overview of the Bus parameters:



Configuration - Profibus Gateway[Profibus Gateway]<1> (#1)

IO Device: Profibus Gateway
Vendor: Honeywell

Device ID: 0x0004
Vendor ID: --

Navigation Area

- Settings
 - Driver
 - netX Driver
 - Device Assignment
 - Configuration
 - Bus Parameters
 - Address Management
 - Station Table
 - Master Settings
 - Time Sync

Bus Parameters

Profile: PROFIBUS DP

Bus Parameters

Baud Rate: 1500 kBit/s Station Address: 1

Slot Time: 300 tBit Target Rotation Time: 30717 tBit

Min. Station Delay Time: 11 tBit = 20.4780 ms

Max. Station Delay Time: 150 tBit

Quiet Time: 0 tBit

Setup Time: 1 tBit

GAP Actualization Factor: 10

Max. Retry Limit: 4

Highest Station Address (HSA): 126

Bus Monitoring

Data Control Time: 6000 ms ☒ Override slave specific Watchdog Control Time

Min. Slave Interval: 2000 µs Watchdog Control Time: 1000 ms

Calculated Timing

Tid1: 37 tBit

Tid2: 150 tBit

Expected min. bus cycle time: 680 µs

Values marked with this symbol should be adjusted to changes in the topology.

Adjust

OK Cancel Apply Help

Disconnected Data Set

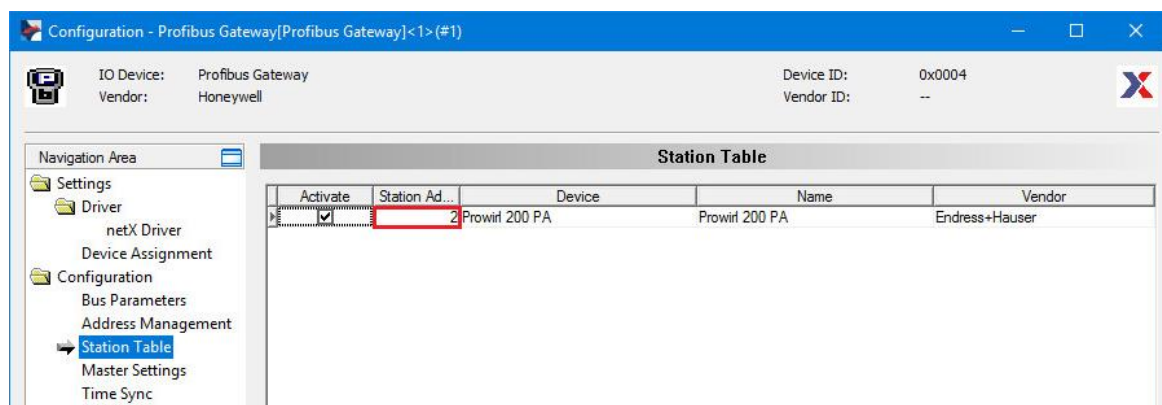
Click on the button "OK" to close the window.

Remark

- It is recommended to tune the TTR upwards by a factor like 1.5 in order to enable easy online device additions later on.

3.3.3.4 Slave Address

- Select the menu "Station Table" of the Navigation Area. This displays the configured station addresses:



Configuration - Profibus Gateway[Profibus Gateway]<1> (#1)

IO Device: Profibus Gateway
Vendor: Honeywell

Device ID: 0x0004
Vendor ID: --

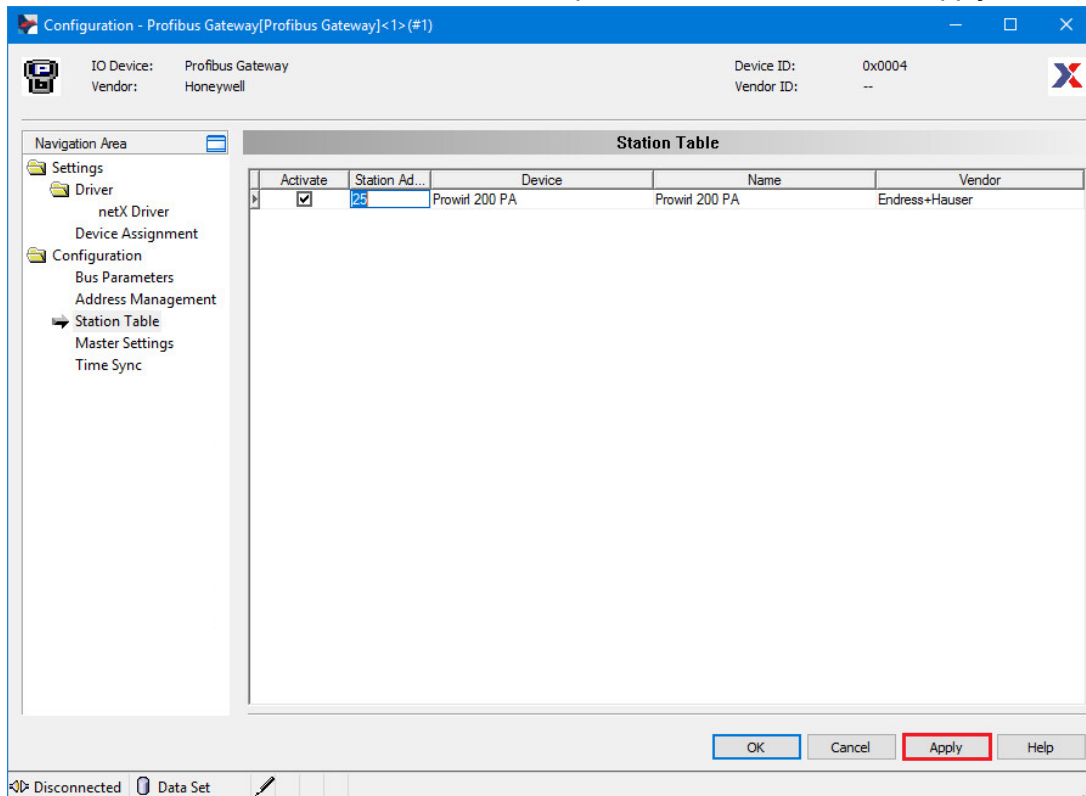
Navigation Area

- Settings
 - Driver
 - netX Driver
 - Device Assignment
 - Configuration
 - Bus Parameters
 - Address Management
 - Station Table
 - Master Settings
 - Time Sync

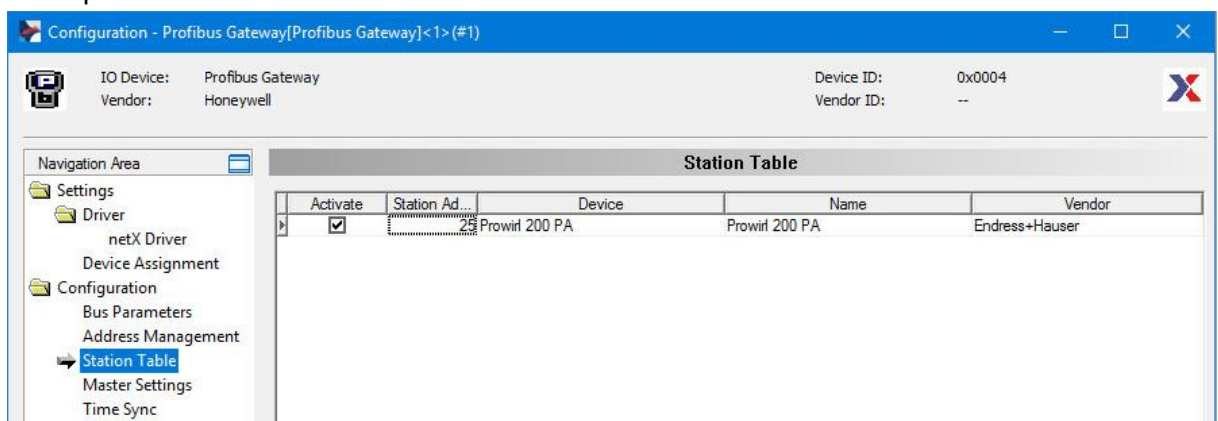
Station Table

Activate	Station Ad...	Device	Name	Vendor
<input checked="" type="checkbox"/>	2	Prowirl 200 PA	Prowirl 200 PA	Endress+Hauser

- Double-click in the Station Address field of the Prowirl200.
Edit the new Station Address, 25 in this example and click on the button "Apply":



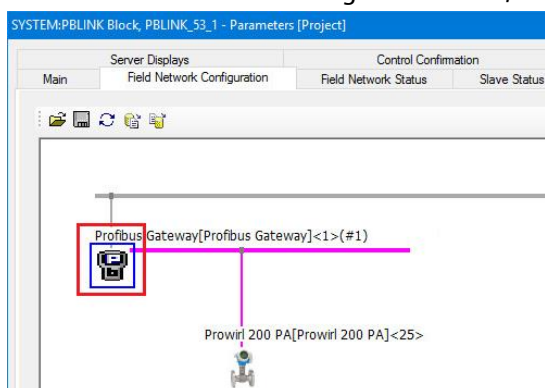
- This update the Station Address:



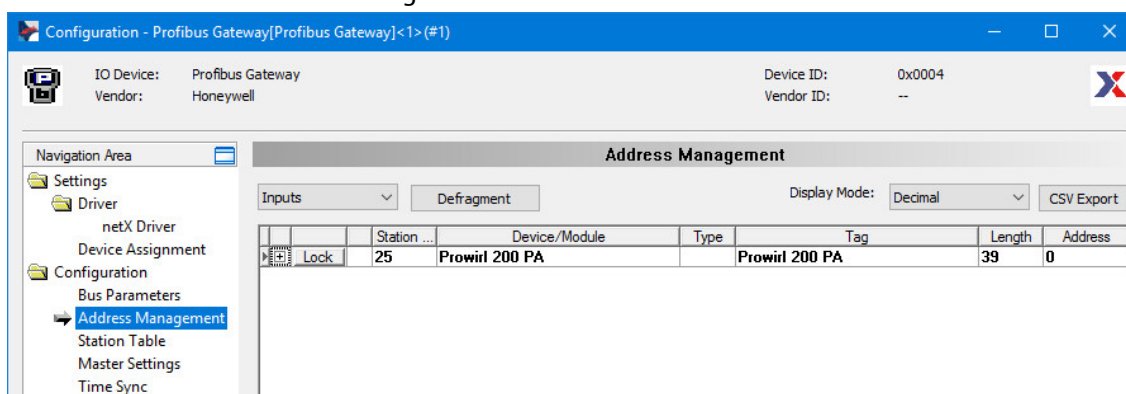
3.3.3.5 IO Modules Grouping

In order to save resources in the Device Support Block (DSB) (and for some complex devices to enable the configuration in Experion®PKS, because the resources in the PROFIBUS PA DSB are limited), it is required to group Input and Output Slots in "Virtual Modules".

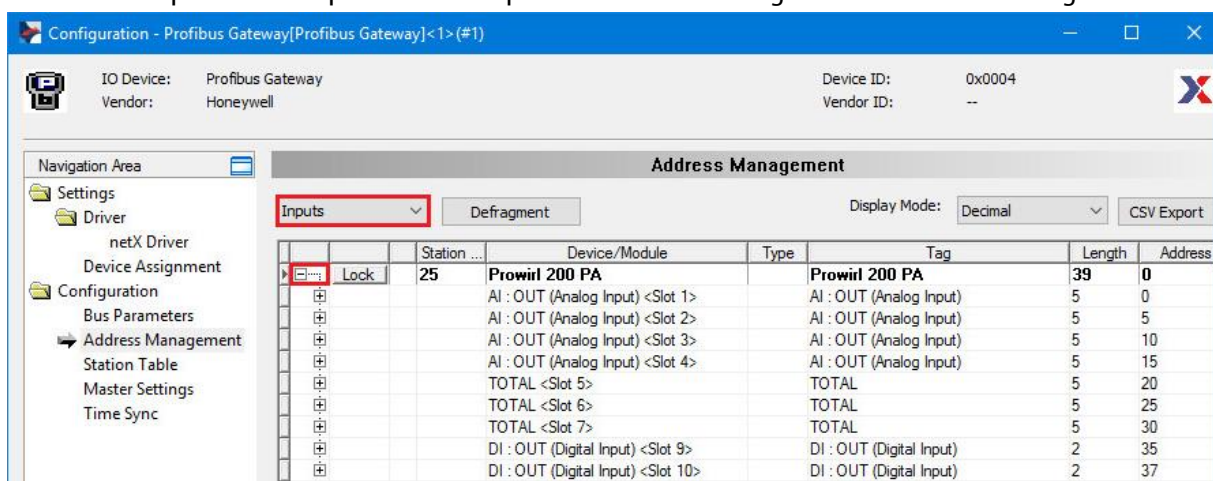
- In the "Field Network Configuration" tab, double-click on the "Profibus Gateway" icon:



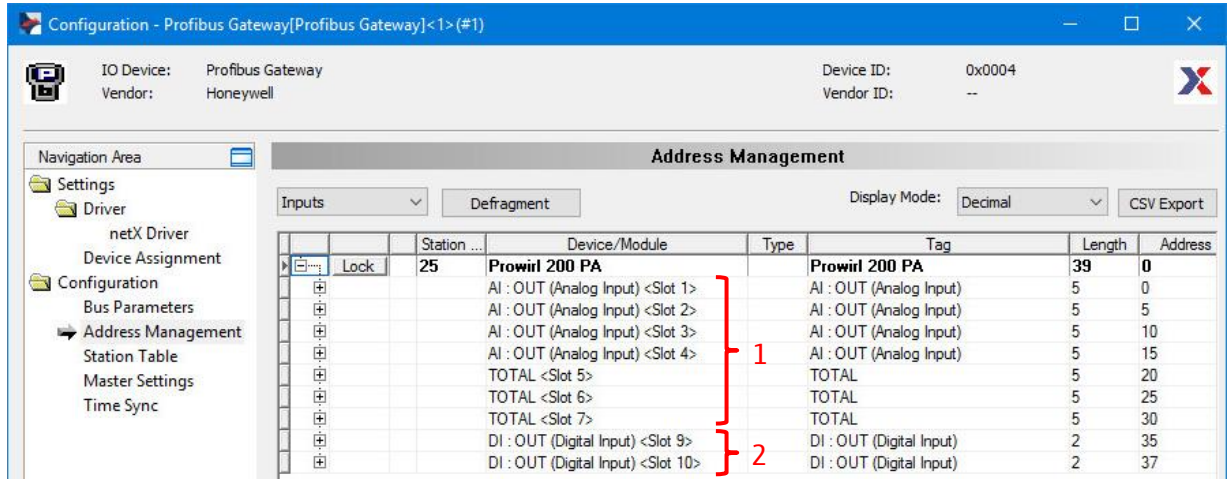
- Select the menu "Address Management":



- Inputs and Outputs Slot configuration are not displayed in the same view. Select the filter to select either the "Inputs" or "Outputs". Then expand the device configuration to see all configured Slots:



- Group as possible successive the Input Slots index. In this example, Slot 1 to 9 and Slots 11 to 12 are grouped:



Configuration - Profibus Gateway[Profibus Gateway]<1>(#1)

IO Device: Profibus Gateway
Vendor: Honeywell

Device ID: 0x0004
Vendor ID: --

Navigation Area

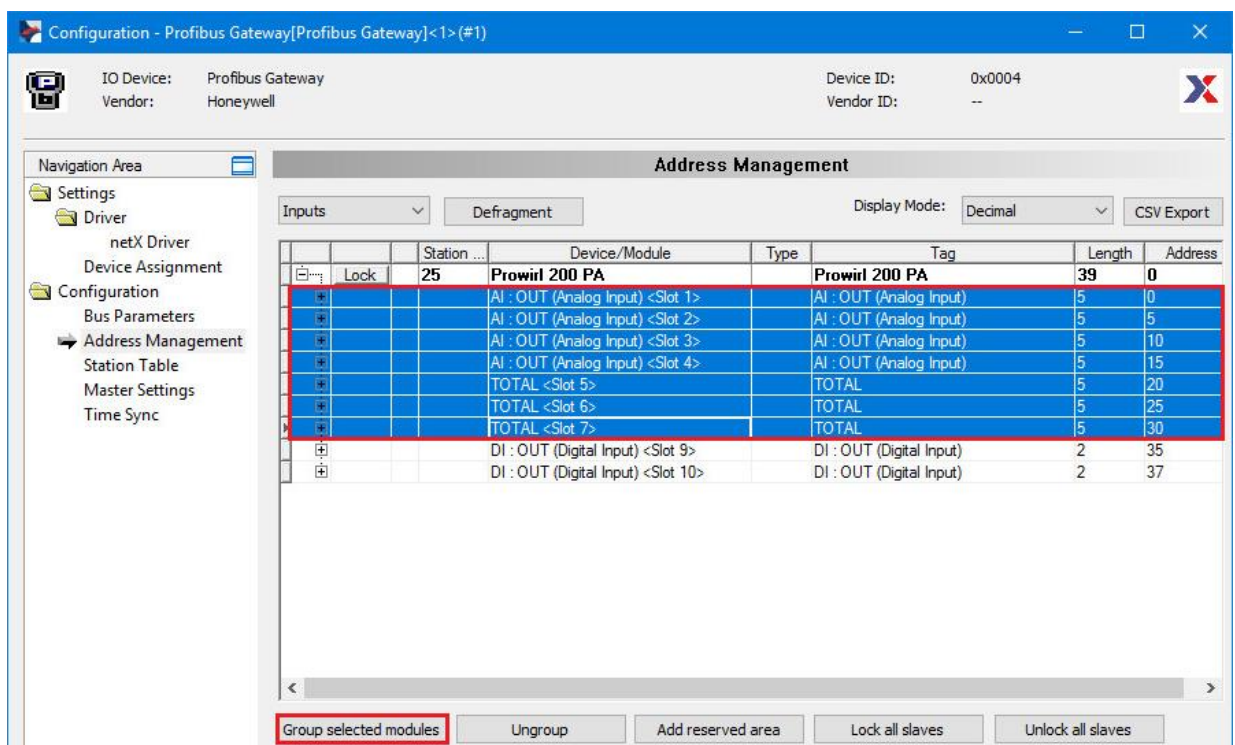
- Settings
 - Driver
 - netX Driver
 - Device Assignment
 - Configuration
 - Bus Parameters
 - Address Management
 - Station Table
 - Master Settings
 - Time Sync

Address Management

Inputs | Defragment | Display Mode: Decimal | CSV Export

	Lock	Station ...	Device/Module	Type	Tag	Length	Address
		25	Prowirl 200 PA		Prowirl 200 PA	39	0
			AI : OUT (Analog Input) <Slot 1>		AI : OUT (Analog Input)	5	0
			AI : OUT (Analog Input) <Slot 2>		AI : OUT (Analog Input)	5	5
			AI : OUT (Analog Input) <Slot 3>		AI : OUT (Analog Input)	5	10
			AI : OUT (Analog Input) <Slot 4>		AI : OUT (Analog Input)	5	15
			TOTAL <Slot 5>		TOTAL	5	20
			TOTAL <Slot 6>		TOTAL	5	25
			TOTAL <Slot 7>		TOTAL	5	30
			DI : OUT (Digital Input) <Slot 9>		DI : OUT (Digital Input)	2	35
			DI : OUT (Digital Input) <Slot 10>		DI : OUT (Digital Input)	2	37

- For grouping some Slots, select the slots (SHIFT+Click) and click on the button "Group selected modules":



Configuration - Profibus Gateway[Profibus Gateway]<1>(#1)

IO Device: Profibus Gateway
Vendor: Honeywell

Device ID: 0x0004
Vendor ID: --

Navigation Area

- Settings
 - Driver
 - netX Driver
 - Device Assignment
 - Configuration
 - Bus Parameters
 - Address Management
 - Station Table
 - Master Settings
 - Time Sync

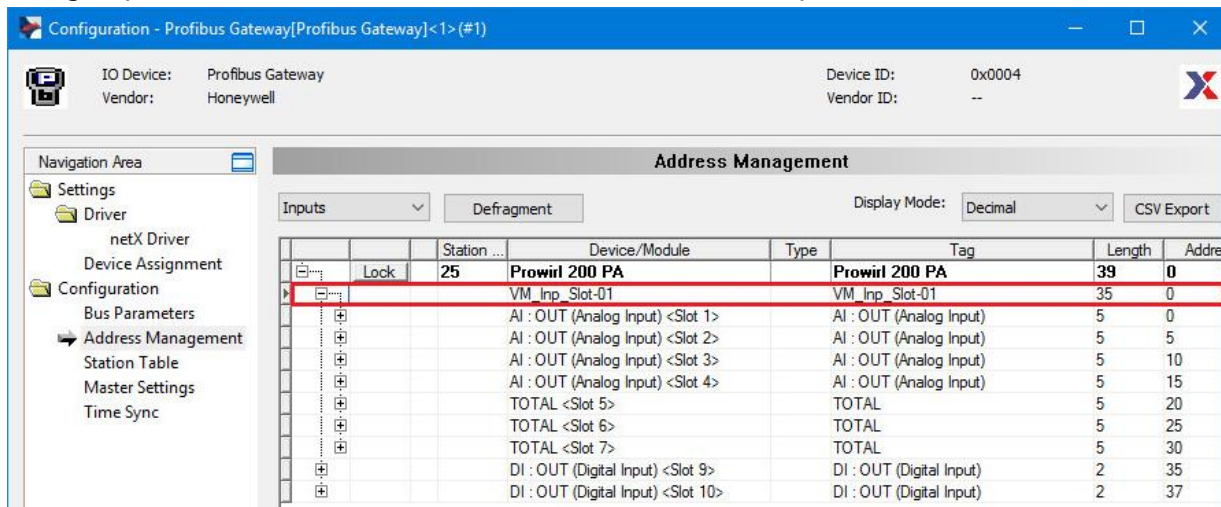
Address Management

Inputs | Defragment | Display Mode: Decimal | CSV Export

	Lock	Station ...	Device/Module	Type	Tag	Length	Address
		25	Prowirl 200 PA		Prowirl 200 PA	39	0
			AI : OUT (Analog Input) <Slot 1>		AI : OUT (Analog Input)	5	0
			AI : OUT (Analog Input) <Slot 2>		AI : OUT (Analog Input)	5	5
			AI : OUT (Analog Input) <Slot 3>		AI : OUT (Analog Input)	5	10
			AI : OUT (Analog Input) <Slot 4>		AI : OUT (Analog Input)	5	15
			TOTAL <Slot 5>		TOTAL	5	20
			TOTAL <Slot 6>		TOTAL	5	25
			TOTAL <Slot 7>		TOTAL	5	30
			DI : OUT (Digital Input) <Slot 9>		DI : OUT (Digital Input)	2	35
			DI : OUT (Digital Input) <Slot 10>		DI : OUT (Digital Input)	2	37

Group selected modules | Ungroup | Add reserved area | Lock all slaves | Unlock all slaves

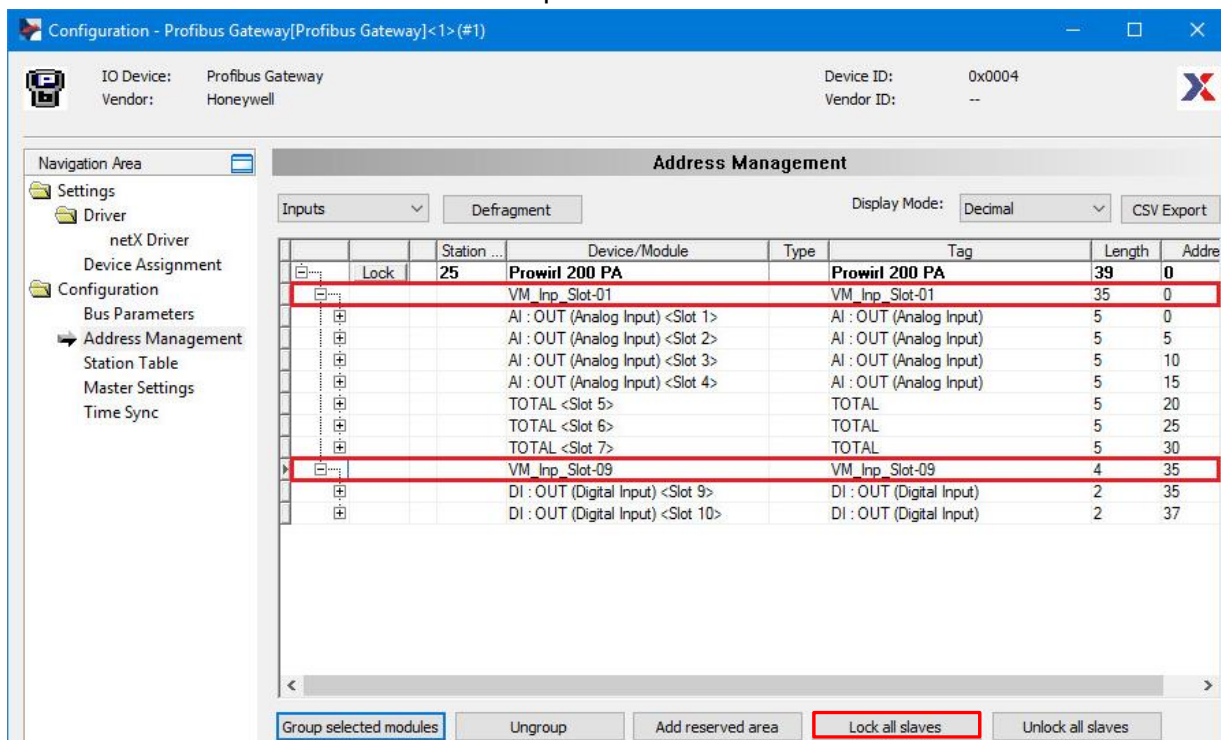
- This groups Slots 1 to 9 are in one virtual module called "VM_Inp_Slot-01":



Lock	Station ...	Device/Module	Type	Tag	Length	Adresse
	25	Prowirl 200 PA		Prowirl 200 PA	39	0
		VM_Inp_Slot-01		VM_Inp_Slot-01	35	0
		AI : OUT (Analog Input) <Slot 1>		AI : OUT (Analog Input)	5	0
		AI : OUT (Analog Input) <Slot 2>		AI : OUT (Analog Input)	5	5
		AI : OUT (Analog Input) <Slot 3>		AI : OUT (Analog Input)	5	10
		AI : OUT (Analog Input) <Slot 4>		AI : OUT (Analog Input)	5	15
		TOTAL <Slot 5>		TOTAL	5	20
		TOTAL <Slot 6>		TOTAL	5	25
		TOTAL <Slot 7>		TOTAL	5	30
		DI : OUT (Digital Input) <Slot 9>		DI : OUT (Digital Input)	2	35
		DI : OUT (Digital Input) <Slot 10>		DI : OUT (Digital Input)	2	37

For Endress+Hauser devices, which are all using the generic PROFIBUS PA DSB, the maximum size of group contains 8 modules (i.e. 8 values). If the device provides more modules (i.e. values) two or more groups are required – even if they are in subsequent slots.

- The same workflow is done for the other input slots:

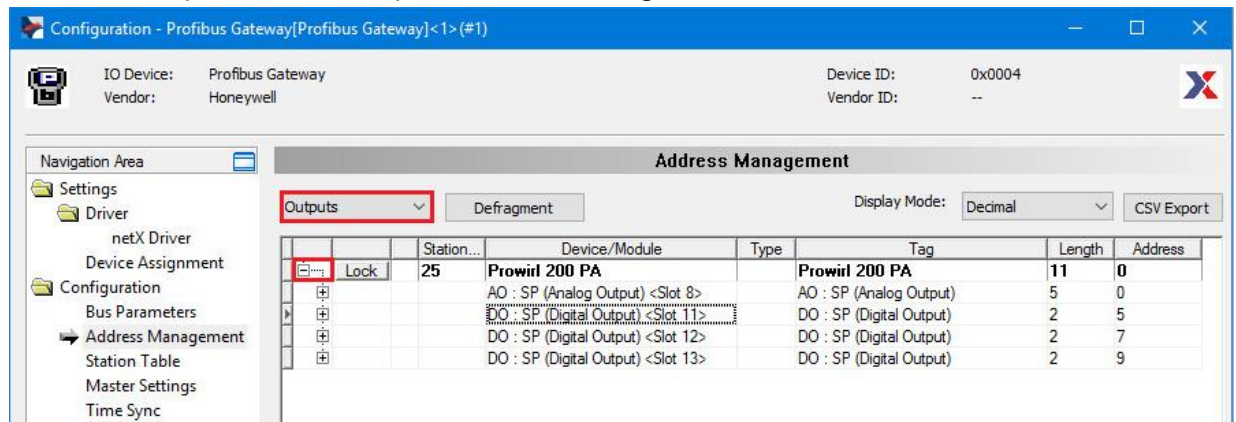


Lock	Station ...	Device/Module	Type	Tag	Length	Adresse
	25	Prowirl 200 PA		Prowirl 200 PA	39	0
		VM_Inp_Slot-01		VM_Inp_Slot-01	35	0
		AI : OUT (Analog Input) <Slot 1>		AI : OUT (Analog Input)	5	0
		AI : OUT (Analog Input) <Slot 2>		AI : OUT (Analog Input)	5	5
		AI : OUT (Analog Input) <Slot 3>		AI : OUT (Analog Input)	5	10
		AI : OUT (Analog Input) <Slot 4>		AI : OUT (Analog Input)	5	15
		TOTAL <Slot 5>		TOTAL	5	20
		TOTAL <Slot 6>		TOTAL	5	25
		TOTAL <Slot 7>		TOTAL	5	30
		VM_Inp_Slot-09		VM_Inp_Slot-09	4	35
		DI : OUT (Digital Input) <Slot 9>		DI : OUT (Digital Input)	2	35
		DI : OUT (Digital Input) <Slot 10>		DI : OUT (Digital Input)	2	37

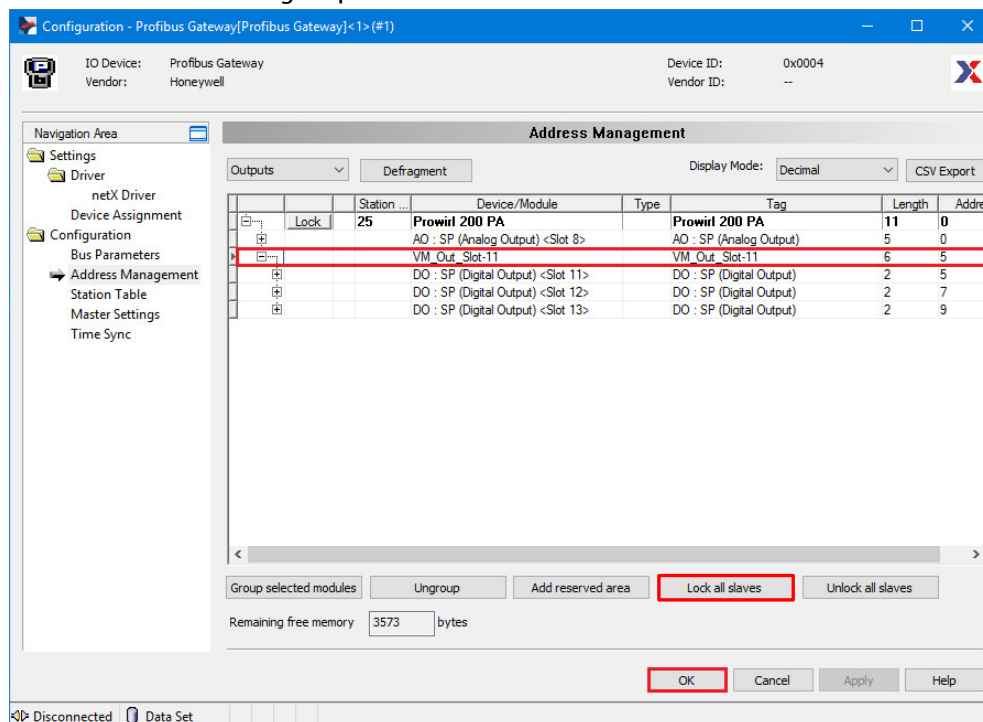
Group selected modules Ungroup Add reserved area **Lock all slaves** Unlock all slaves

Click on the button "Lock all slaves".

- Select the Outputs Slots and expand the Slots configuration:



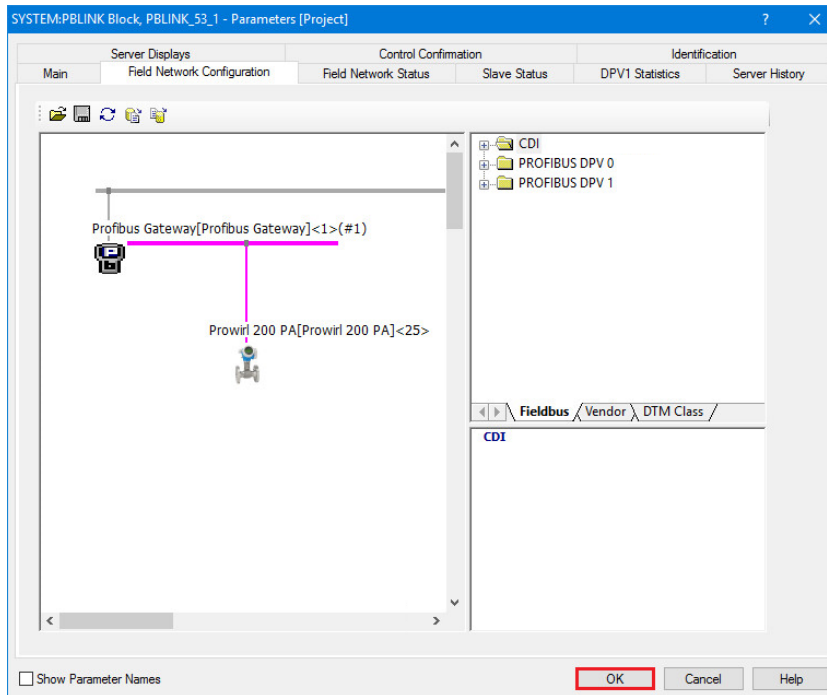
- Group as possible successive the Output Slots index. In this example, Slot 10 cannot be grouped and Slot 13 to 16 are grouped:



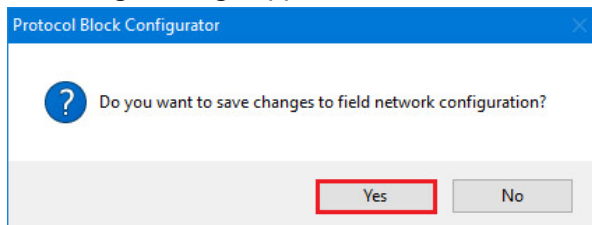
Click on the button "Lock all slaves" and then on the button "OK" to save the "Profibus Gateway" configuration.

It is strongly recommended to lock input and output configurations. This freezes the memory arrangements for the slave and would enable to reconfigure, add or remove devices without affecting other devices.

- Click on the button "OK" to close the "PBLNK_53_1" parameter window:

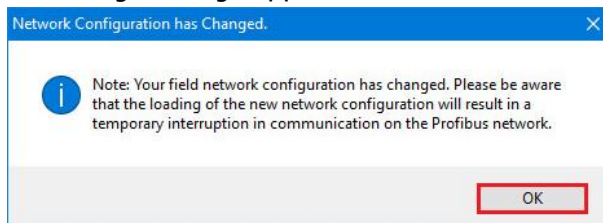


- Following message appears:



Click on the button "Yes" to proceed.

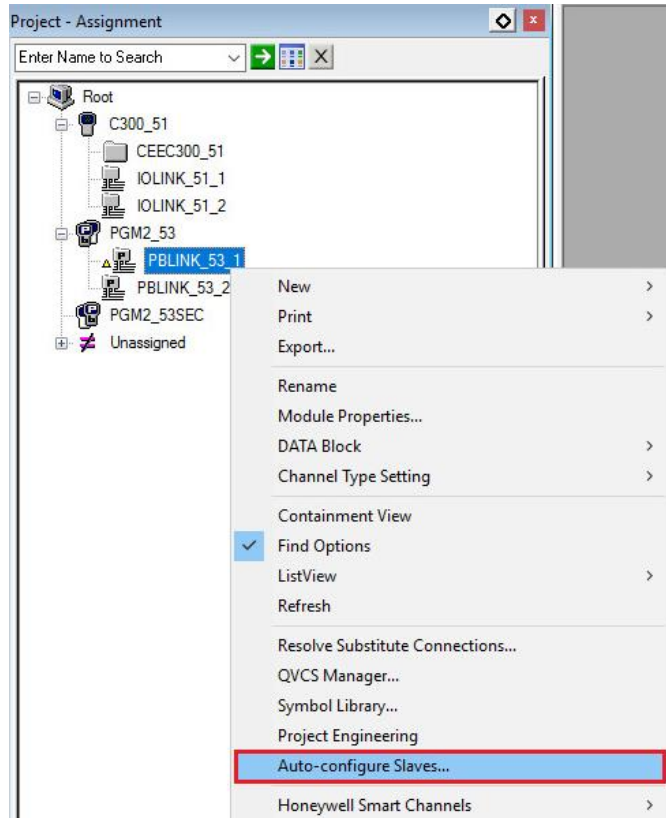
- Following message appears:



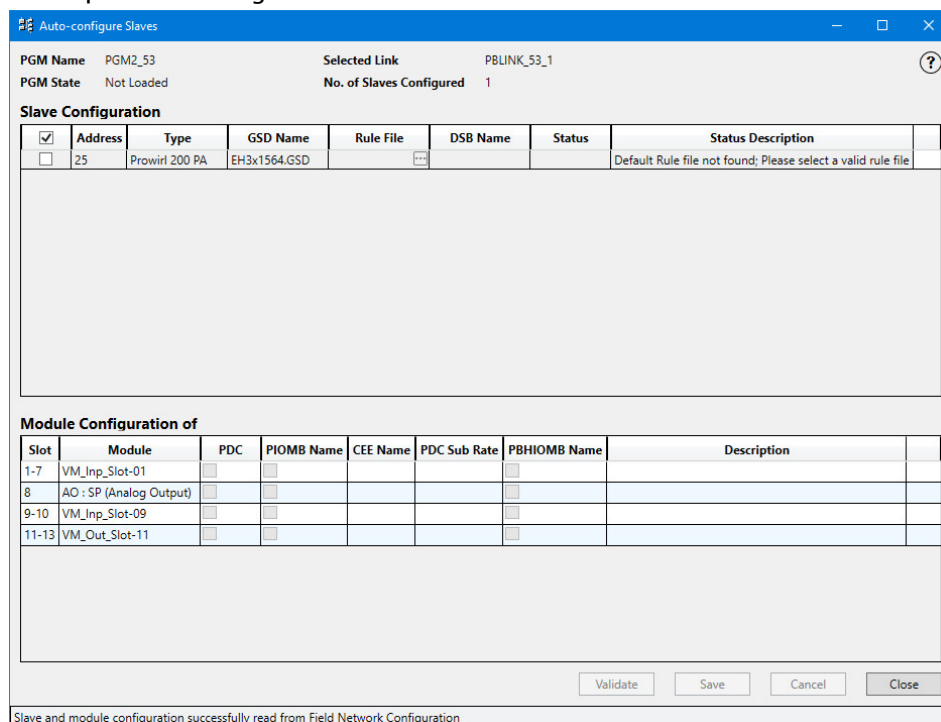
Click on the button "OK" to proceed.

3.3.3.6 Auto-Configure Slaves

- In the Project view, right-click on "PBLINK_53_1" and select the option "Auto-configure Slaves..."



- This opens following window:



The 'Auto-configure Slaves' window displays the following information:

- PGM Name:** PGM2_53
- Selected Link:** PBLINK_53_1
- PGM State:** Not Loaded
- No. of Slaves Configured:** 1

Slave Configuration

<input checked="" type="checkbox"/>	Address	Type	GSD Name	Rule File	DSB Name	Status	Status Description
<input type="checkbox"/>	25	Prowirl 200 PA	EH3x1564.GSD				Default Rule file not found; Please select a valid rule file

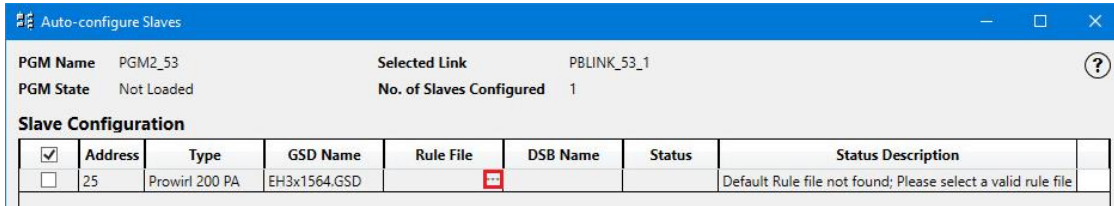
Module Configuration of


Slot	Module	PDC	PIOMB Name	CEE Name	PDC Sub Rate	PBHIOMB Name	Description
1-7	VM_Inp_Slot-01	<input type="checkbox"/>	<input type="checkbox"/>				
8	AO : SP (Analog Output)	<input type="checkbox"/>	<input type="checkbox"/>				
9-10	VM_Inp_Slot-09	<input type="checkbox"/>	<input type="checkbox"/>				
11-13	VM_Out_Slot-11	<input type="checkbox"/>	<input type="checkbox"/>				

Buttons: Validate, Save, Cancel, Close

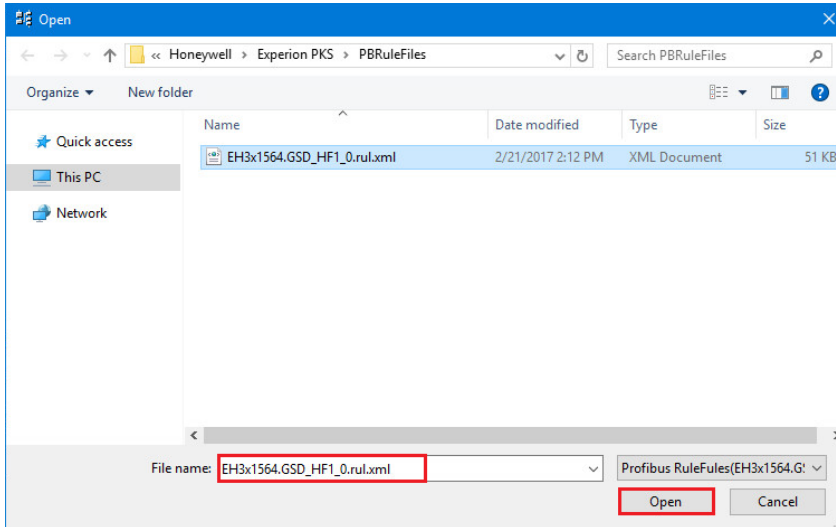
Message: Slave and module configuration successfully read from Field Network Configuration

- Click on the “...” icon in the “Slave Configuration” part:



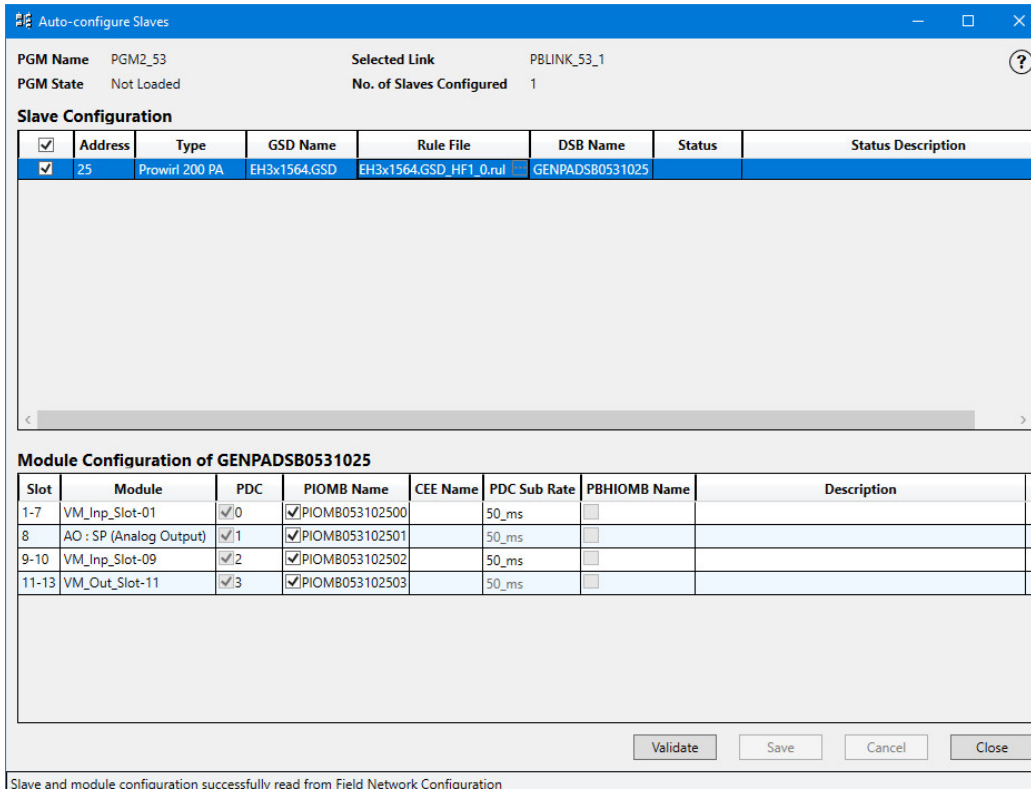
<input checked="" type="checkbox"/>	Address	Type	GSD Name	Rule File	DSB Name	Status	Status Description
<input type="checkbox"/>	25	Prowirl 200 PA	EH3x1564.GSD				Default Rule file not found; Please select a valid rule file

- Select the corresponding device Rule and click on the button “Open”:



File name: EH3x1564.GSD_HF1_0.rul.xml Open Cancel

- This configures the DSB:



<input checked="" type="checkbox"/>	Address	Type	GSD Name	Rule File	DSB Name	Status	Status Description
<input checked="" type="checkbox"/>	25	Prowirl 200 PA	EH3x1564.GSD	EH3x1564.GSD_HF1_0.rul	GENPADS80531025		

Slot	Module	PDC	PIOMB Name	CEE Name	PDC Sub Rate	PBHIOMB Name	Description
1-7	VM_Inp_Slot-01	<input checked="" type="checkbox"/> 0	<input checked="" type="checkbox"/> PIOMB053102500		50_ms	<input type="checkbox"/>	
8	AO : SP (Analog Output)	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> PIOMB053102501		50_ms	<input type="checkbox"/>	
9-10	VM_Inp_Slot-09	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> PIOMB053102502		50_ms	<input type="checkbox"/>	
11-13	VM_Out_Slot-11	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> PIOMB053102503		50_ms	<input type="checkbox"/>	

Validate Save Cancel Close

Slave and module configuration successfully read from Field Network Configuration

- Update the DSB Name if needed. Click in the DSB Name field:

Auto-configure Slaves

PGM Name PGM2_53 Selected Link PBLINK_53_1

PGM State Not Loaded No. of Slaves Configured 1

Slave Configuration

<input checked="" type="checkbox"/>	Address	Type	GSD Name	Rule File	DSB Name	Status	Status Description
<input checked="" type="checkbox"/>	25	Prowirl 200 PA	EH3x1564.GSD	EH3x1564.GSD_HF1_0.rul	GENPADSB0531025		

- Enter a new DSB Name, for example "DSB_adr_25":

Auto-configure Slaves

PGM Name PGM2_53 Selected Link PBLINK_53_1

PGM State Not Loaded No. of Slaves Configured 1

Slave Configuration

<input checked="" type="checkbox"/>	Address	Type	GSD Name	Rule File	DSB Name	Status	Status Description
<input checked="" type="checkbox"/>	25	Prowirl 200 PA	EH3x1564.GSD	EH3x1564.GSD_HF1_0.rul	DSB_adr25		

- In the Module Configuration part, click in the field CEE Name of "VM_Inp_Slot-01" and select the CEE300_51:

Module Configuration of GENPADSB0531025

Slot	Module	PDC	PIOMB Name	CEE Name	PDC Sub Rate	PBHIOMB Name	Description
1-7	VM_Inp_Slot-01	<input checked="" type="checkbox"/> 0	<input checked="" type="checkbox"/> PIOMB053102500	▼	50_ms	<input type="checkbox"/>	
8	AO : SP (Analog Output)	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> PIOMB053102501	CEEC300_51	50_ms	<input type="checkbox"/>	
9-10	VM_Inp_Slot-09	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> PIOMB053102502		50_ms	<input type="checkbox"/>	
11-13	VM_Out_Slot-11	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> PIOMB053102503		50_ms	<input type="checkbox"/>	

- This updates automatically all other CEE Name fields:

Module Configuration of GENPADSB0531025

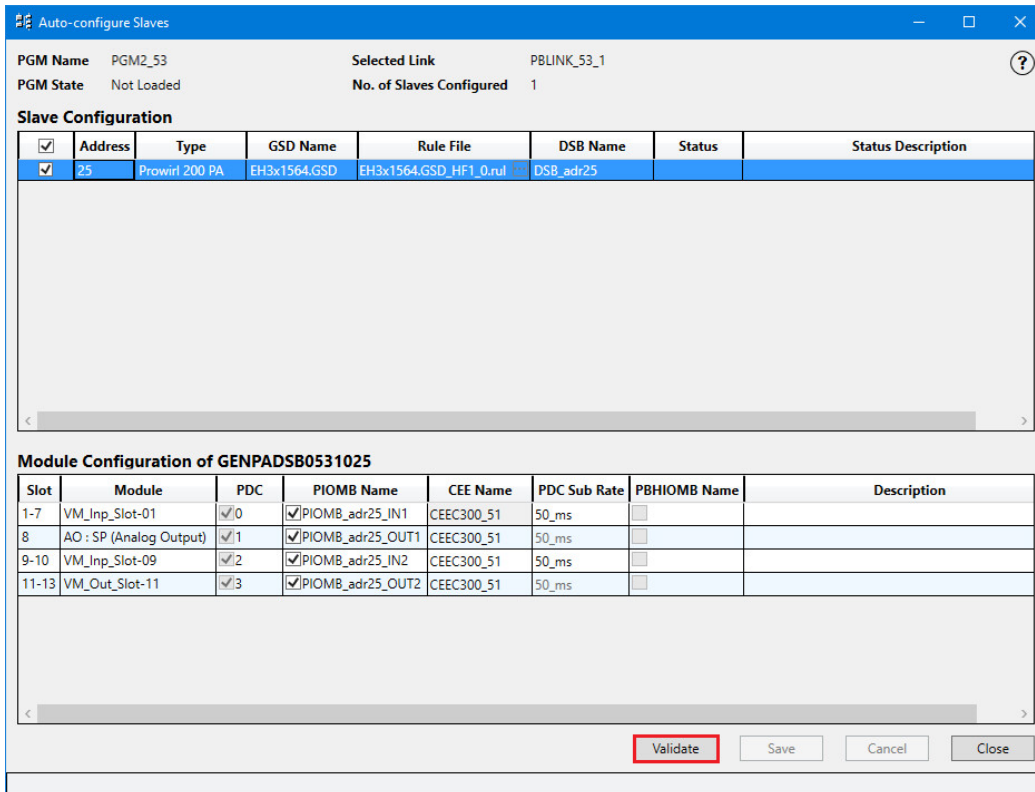
Slot	Module	PDC	PIOMB Name	CEE Name	PDC Sub Rate	PBHIOMB Name	Description
1-7	VM_Inp_Slot-01	<input checked="" type="checkbox"/> 0	<input checked="" type="checkbox"/> PIOMB053102500	CEEC300_51	50_ms	<input type="checkbox"/>	
8	AO : SP (Analog Output)	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> PIOMB053102501	CEEC300_51	50_ms	<input type="checkbox"/>	
9-10	VM_Inp_Slot-09	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> PIOMB053102502	CEEC300_51	50_ms	<input type="checkbox"/>	
11-13	VM_Out_Slot-11	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> PIOMB053102503	CEEC300_51	50_ms	<input type="checkbox"/>	

- Change PIOMB Names if needed:

Module Configuration of GENPADSB0531025

Slot	Module	PDC	PIOMB Name	CEE Name	PDC Sub Rate	PBHIOMB Name	Description
1-7	VM_Inp_Slot-01	<input checked="" type="checkbox"/> 0	<input checked="" type="checkbox"/> PIOMB_adr25_IN1	CEEC300_51	50_ms	<input type="checkbox"/>	
8	AO : SP (Analog Output)	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> PIOMB_adr25_OUT1	CEEC300_51	50_ms	<input type="checkbox"/>	
9-10	VM_Inp_Slot-09	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> PIOMB_adr25_IN2	CEEC300_51	50_ms	<input type="checkbox"/>	
11-13	VM_Out_Slot-11	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> PIOMB_adr25_OUT2	CEEC300_51	50_ms	<input type="checkbox"/>	

- Click on the button "Validate":



Auto-configure Slaves

PGM Name: PGM2_53 Selected Link: PBLINK_53_1
 PGM State: Not Loaded No. of Slaves Configured: 1

Slave Configuration

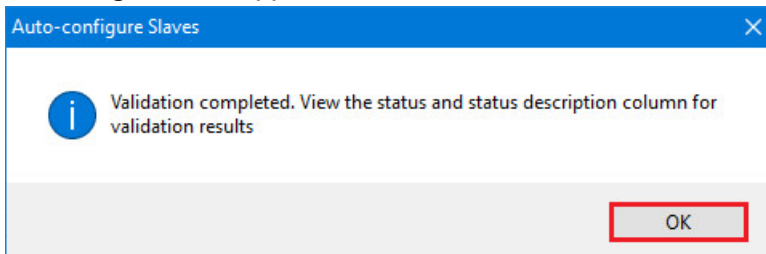
<input checked="" type="checkbox"/>	Address	Type	GSD Name	Rule File	DSB Name	Status	Status Description
<input checked="" type="checkbox"/>	25	Prowirl 200 PA	EH3x1564.GSD	EH3x1564.GSD_HF1_0.rul	DSB_adr25		

Module Configuration of GENPADSB0531025

Slot	Module	PDC	PIOMB Name	CEE Name	PDC Sub Rate	PBHIOMB Name	Description
1-7	VM_Inp_Slot-01	✓0	✓PIOMB_adr25_IN1	CEEC300_51	50_ms		
8	AO : SP (Analog Output)	✓1	✓PIOMB_adr25_OUT1	CEEC300_51	50_ms		
9-10	VM_Inp_Slot-09	✓2	✓PIOMB_adr25_IN2	CEEC300_51	50_ms		
11-13	VM_Out_Slot-11	✓3	✓PIOMB_adr25_OUT2	CEEC300_51	50_ms		

Buttons: Validate (highlighted), Save, Cancel, Close

- Following window appears:



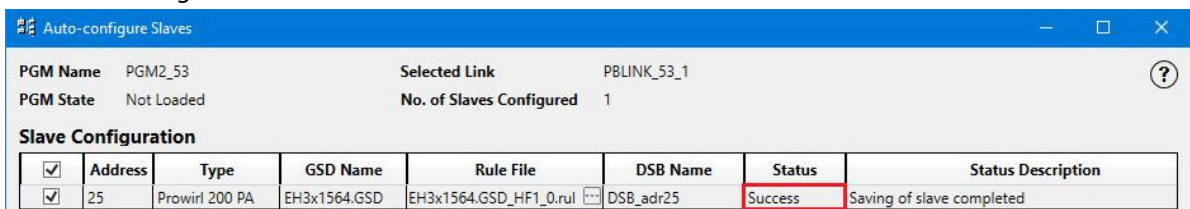
Auto-configure Slaves

i Validation completed. View the status and status description column for validation results

Buttons: OK (highlighted)

Click on the button "OK".

- Status is changed to "Success":



Auto-configure Slaves

PGM Name: PGM2_53 Selected Link: PBLINK_53_1
 PGM State: Not Loaded No. of Slaves Configured: 1

Slave Configuration

<input checked="" type="checkbox"/>	Address	Type	GSD Name	Rule File	DSB Name	Status	Status Description
<input checked="" type="checkbox"/>	25	Prowirl 200 PA	EH3x1564.GSD	EH3x1564.GSD_HF1_0.rul	DSB_adr25	Success	Saving of slave completed

- Save the configuration by clicking on the button "Save":

Module Configuration of GENPADSB0531025

Slot	Module	PDC	PIOMB Name	CEE Name	PDC Sub Rate	PBHIOMB Name	Description
1-7	VM_Inp_Slot-01	<input checked="" type="checkbox"/> 0	<input checked="" type="checkbox"/> PIOMB_adr25_IN1	CEEC300_51	50_ms	<input type="checkbox"/>	
8	AO : SP (Analog Output)	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> PIOMB_adr25_OUT1	CEEC300_51	50_ms	<input type="checkbox"/>	
9-10	VM_Inp_Slot-09	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> PIOMB_adr25_IN2	CEEC300_51	50_ms	<input type="checkbox"/>	
11-13	VM_Out_Slot-11	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> PIOMB_adr25_OUT2	CEEC300_51	50_ms	<input type="checkbox"/>	

Validation completed. View the status and status description column for validation results

Validate Save Cancel Close

- Saving is complete

Auto-configure Slaves

Save is complete. Review the status and status description in the grid

OK

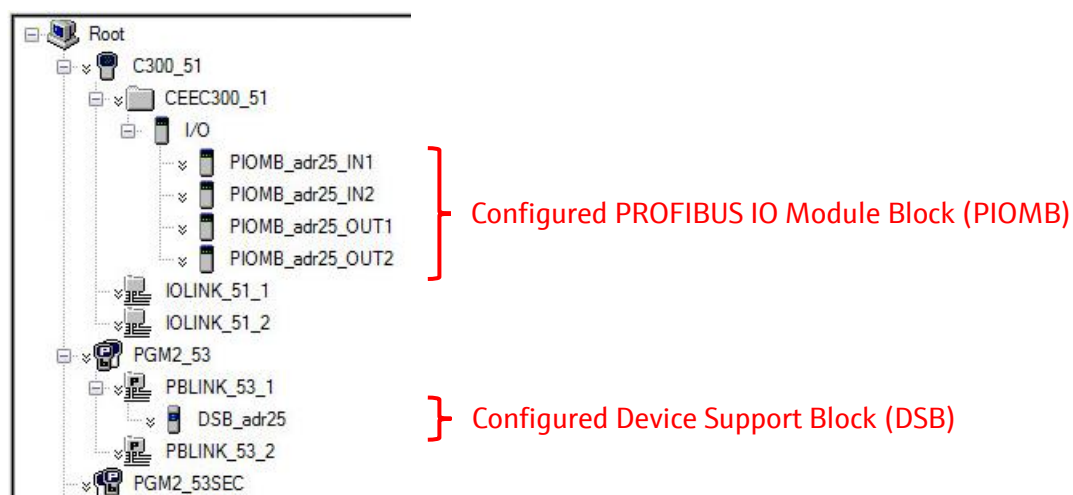
Click on the button "OK" of the message box "Auto-configure Slaves".

- Click on the button "Close":

Validate Save Cancel Close

Save is complete. Review the status and status description in the grid

- In the project view, expand the menus "CEE300_51" and "PBLINK_53_1" to see the configured modules:

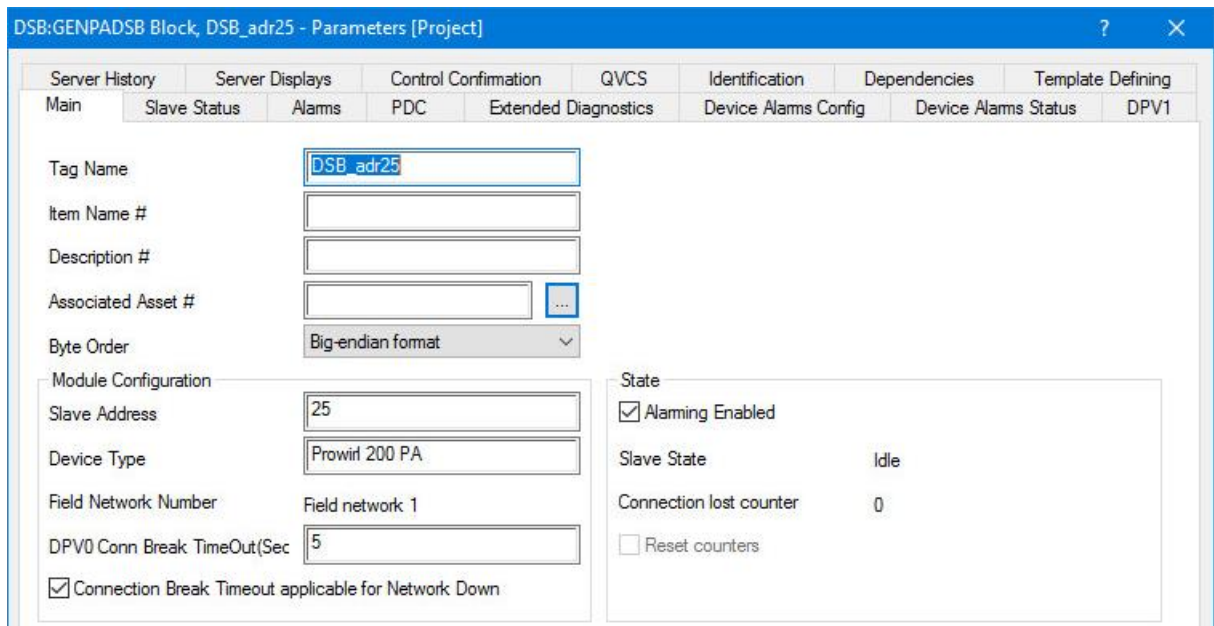


3.3.3.7 Device Support Block (DSB)

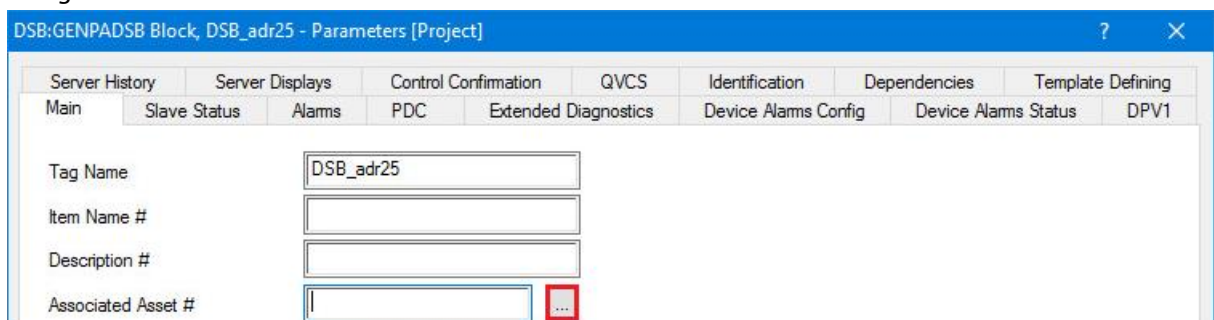
This chapter describes some useful settings of the DSB module. All these settings are automatically populated with default best practice values by the Auto-Configure Slave tool rule files.

Associate Asset (Optional configuration)

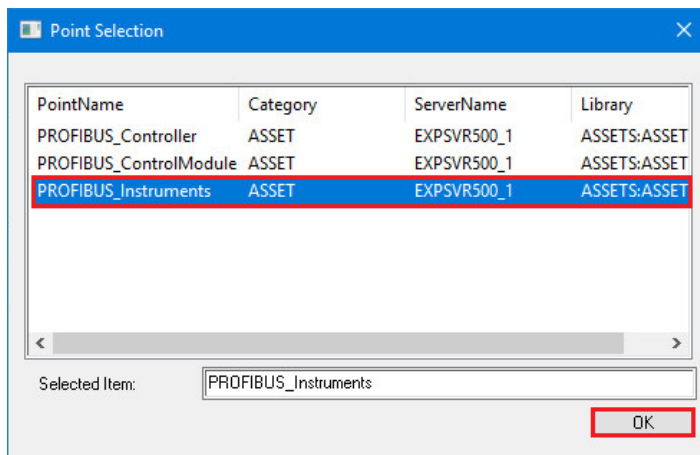
- Double-click on the Prowirl200 DSB "DSB_adr25":



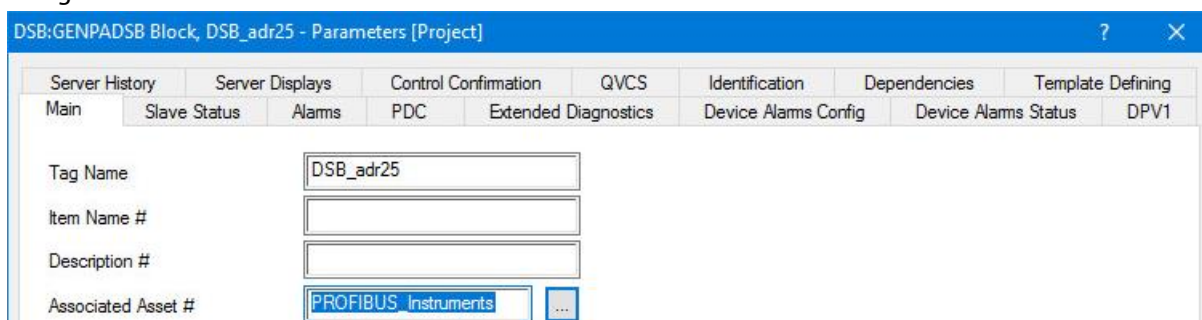
- Assign an Asset. Click on the icon "...":



- Then, select the Associated Asset "PROFIBUS_Instruments" for this example and click on the button "OK":

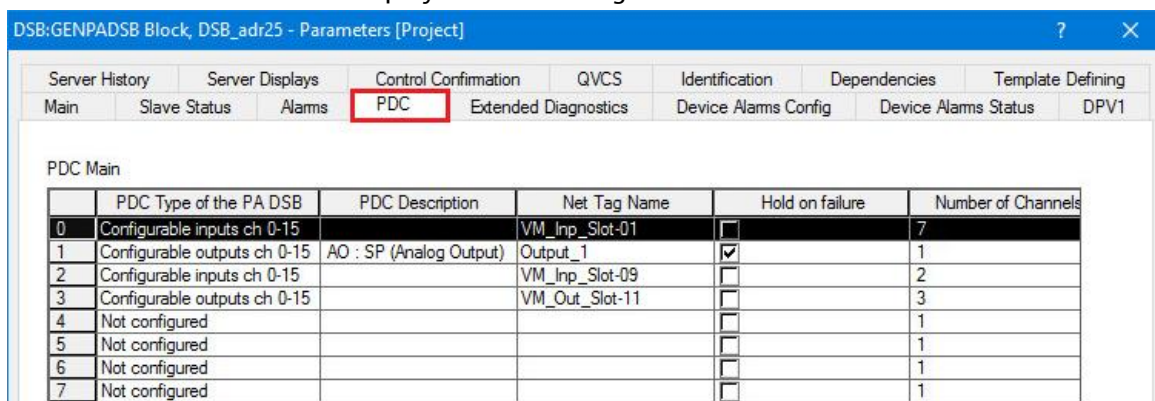


- Assigned Associated Asset:



Process Data Collection (PDC)

- Click on the tab "PDC". This displays all four configured Virtual Modules:



- In this example, the input "VM_Inp_Slot-01" is selected in the "PDC Main" table. This displays the corresponding IO channels in the "Channel main" table. By scrolling to the right, more details are available for identifying the associated PIOMB and channels:

DSB:GENPADSB Block, DSB_adr25 - Parameters [Project]

Server History		Server Displays		Control Confirmation		QVCS		Identification		Dependencies		Template Defining	
Main	Slave Status	Alarms	PDC	Extended Diagnostics	Device Alarms Config	Device Alarms Status	DPV1						

PDC Main

	Hold on failure	Number of Channels	PDC state	Associated PIOMB	Hash Code
0	<input type="checkbox"/>	7	PDC not configured	PIOMB_adr25_IN1	2857429325
1	<input checked="" type="checkbox"/>	1	PDC not configured	PIOMB_adr25_OUT1	1439962552
2	<input type="checkbox"/>	2	PDC not configured	PIOMB_adr25_IN2	448925605
3	<input type="checkbox"/>	3	PDC not configured	PIOMB_adr25_OUT2	1565573841
4	<input type="checkbox"/>	1	PDC not configured		0
5	<input type="checkbox"/>	1	PDC not configured		0
6	<input type="checkbox"/>	1	PDC not configured		0
7	<input type="checkbox"/>	1	PDC not configured		0

Channel Main

	Floating point value	Channel Description	Channel Type	Channel Data Type	PA Status usage
0	0	AI : OUT (Analog Input)	Analog input (AI)	FLOAT32	Update Ch status
1	0	AI : OUT (Analog Input)	Analog input (AI)	FLOAT32	Update Ch status
2	0	AI : OUT (Analog Input)	Analog input (AI)	FLOAT32	Update Ch status
3	0	AI : OUT (Analog Input)	Analog input (AI)	FLOAT32	Update Ch status
4	0	TOTAL	Analog input (AI)	FLOAT32	Update Ch status
5	0	TOTAL	Analog input (AI)	FLOAT32	Update Ch status
6	0	TOTAL	Analog input (AI)	FLOAT32	Update Ch status

Device Alarm Config

This menu allows the user to configure device specific alarms.

- Click on the tab to display the Prowirl200 "Device Alarms Config":

DSB:GENPADSB Block, DSB_adr25 - Parameters [Project]

Server History		Server Displays		Control Confirmation		QVCS		Identification		Dependencies		Template Defining	
Main	Slave Status	Alarms	PDC	Extended Diagnostics	Device Alarms Config	Device Alarms Status	DPV1						

Number of Diagnosis Alarms:

Alarm Configuration

	Type of Diagnosis	Alarm Priority	Alarm Help String	Alarm Severity	Alarm Bit Index
0	126	LOW	Hardware failure electron	0	24
1	126	LOW	Hardware failure mechan	0	25
2	126	LOW	Motor temperature too hi	0	26
3	126	LOW	Electronic temperature to	0	27
4	126	LOW	Memory error	0	28
5	126	LOW	Measurement failure	0	29
6	126	LOW	Device not initialized	0	30
7	126	LOW	Device initialization failed	0	31
8	126	LOW	Zero point error	0	32
9	126	LOW	Power supply failed	0	33
10	126	LOW	Configuration invalid	0	34
11	126	LOW	Restart	0	35
12	126	LOW	Coldstart	0	36
13	126	LOW	Maintenance required	0	37
14	126	LOW	Characteristics invalid	0	38
15	126	LOW	Ident Number violation	0	39

- A priority can be set for each available alarm:

DSB:GENPADSB Block, DSB_adr25 - Parameters [Project] ? X

Server History		Server Displays		Control Confirmation		QVCS		Identification		Dependencies		Template Defining	
Main		Slave Status		Alarms		PDC		Extended Diagnostics		Device Alarms Config		Device Alarms Status	

Number of Diagnosis Alarms

Alarm Configuration

	Type of Diagnosis	Alarm Priority	Alarm Help String	Alarm Severity	Alarm Bit Inde
0	126	LOW	Hardware failure electronics	0	24
1	126	NOT CONFIGURED	Hardware failure mechanics	0	25
2	126	NONE	Motor temperature too high	0	26
3	126	JOURNAL	Electronic temperature too high	0	27
4	126	LOW	Memory error	0	28
5	126	HIGH	Measurement failure	0	29
6	126	URGENT	Device not initialized	0	30

- In this example, the alarm "Hardware failure electronics" is set to priority "HIGH":

DSB:GENPADSB Block, DSB_adr25 - Parameters [Project] ? X

Server History		Server Displays		Control Confirmation		QVCS		Identification		Dependencies		Template Defining	
Main		Slave Status		Alarms		PDC		Extended Diagnostics		Device Alarms Config		Device Alarms Status	

Number of Diagnosis Alarms

Alarm Configuration

	Type of Diagnosis	Alarm Priority	Alarm Help String	Alarm Severity	Alarm Bit Inde
0	126	HIGH	Hardware failure electronics	0	24
1	126	LOW	Hardware failure mechanics	0	25

3.3.4 PGM Configuration Download

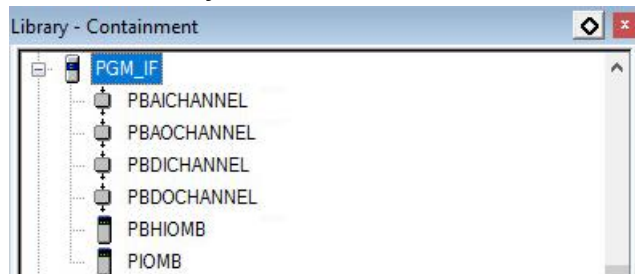
- Download the configuration of the C300 and PGM modules.
Refer to part 0 to proceed.

3.4 Mapping of Process Values and Status to Control Strategy

This chapter explains how assign IO modules function blocks.

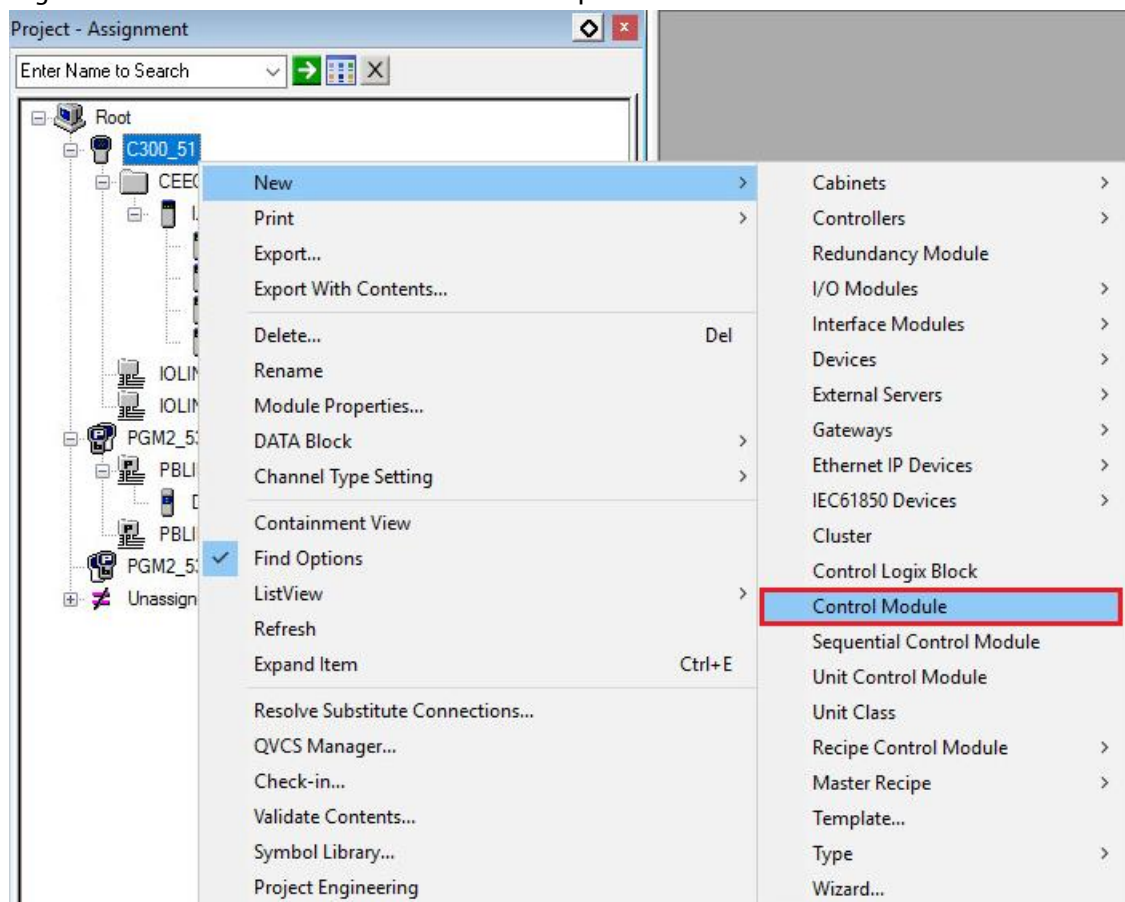
3.4.1 PGM Library

- The PGM Library contains function blocks used for assigning PROFIBUS signals.

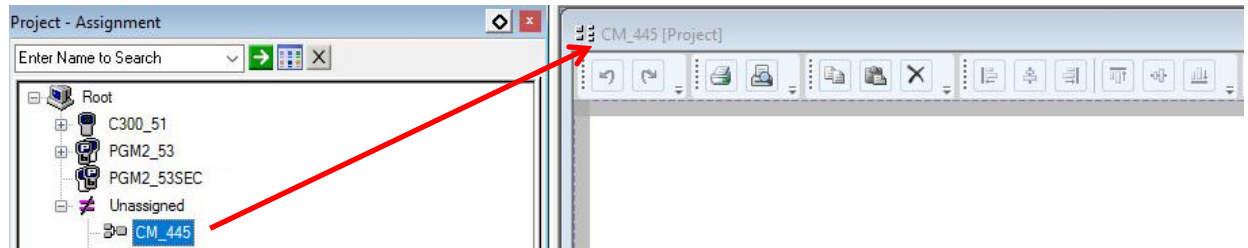


3.4.2 New Control Module

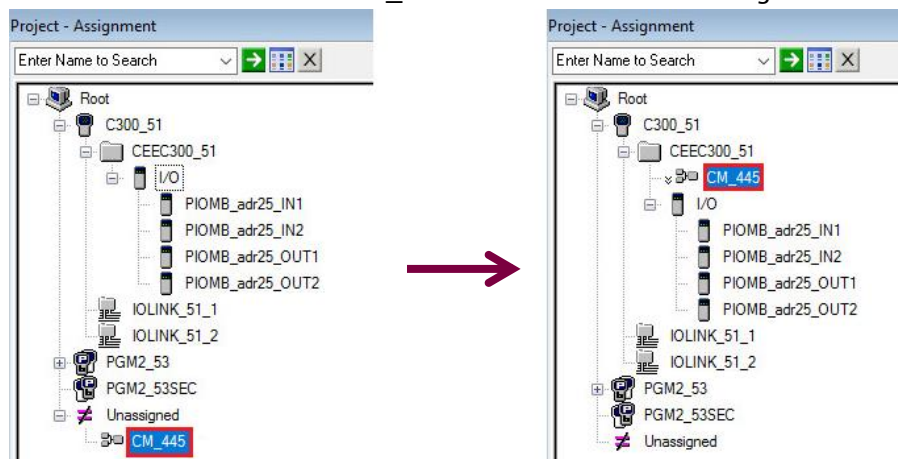
- Right-click on the field "Root" and select the option "New→Control Module":



- The created Control Module is opened automatically and saved under "Unassigned":

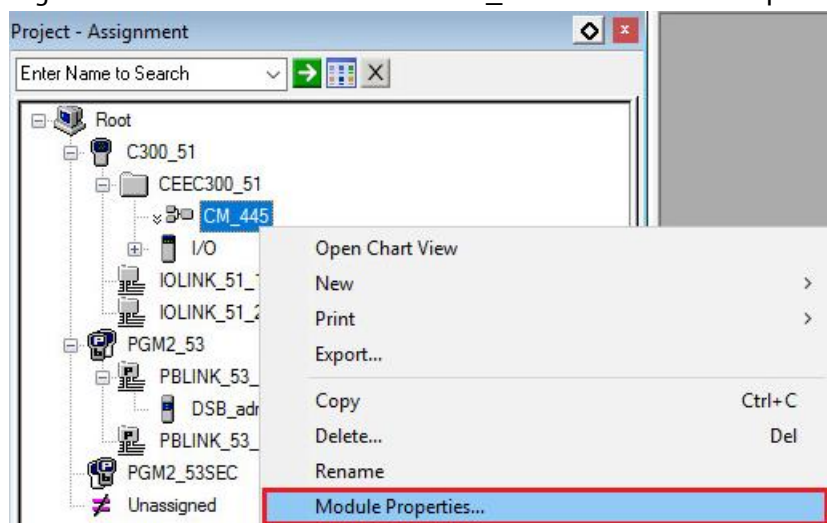


- Close the Control Module window "CM_445".
- Move the Control Module "CM_445" from the folder "Unassigned" to the "CEE300_51":

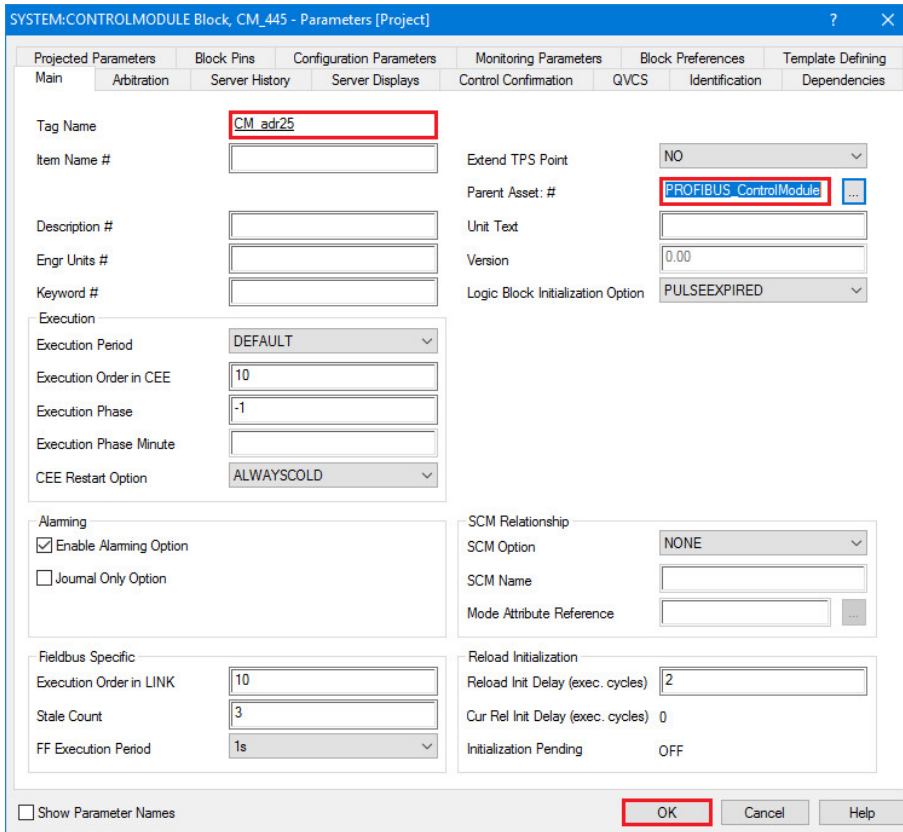


This step is important, otherwise no PROFIBUS IO modules (PIOMB) can be assigned to the function blocks as these one are registered under "CEE300_51".

- Right-click on the Control Module "CM_445" and select the option "Module Properties...":

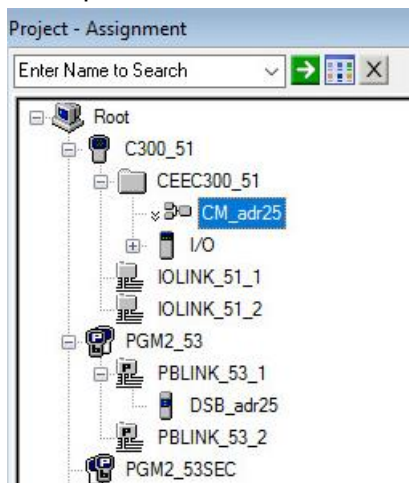


- Enter a new Tag Name and indicate the "Parent Asset #".
In this example, the new Control Module name is "CM_adr25" and the Parent Asset is "PROFIBUS_ControlModule":



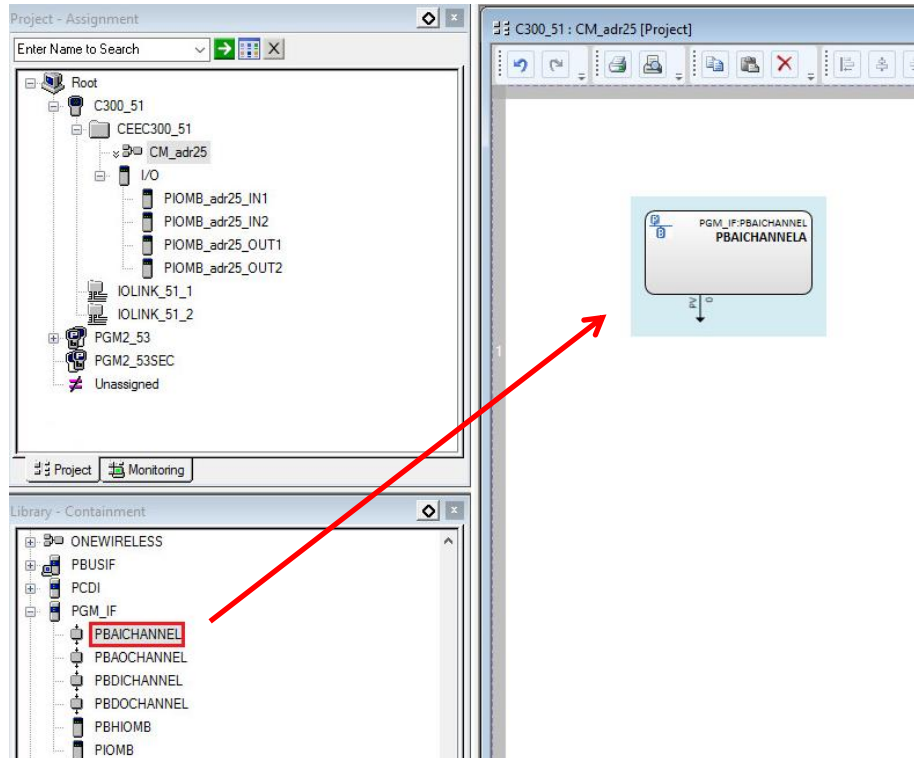
Click on the button "OK" to close the window.

- This updates the Control Module name:

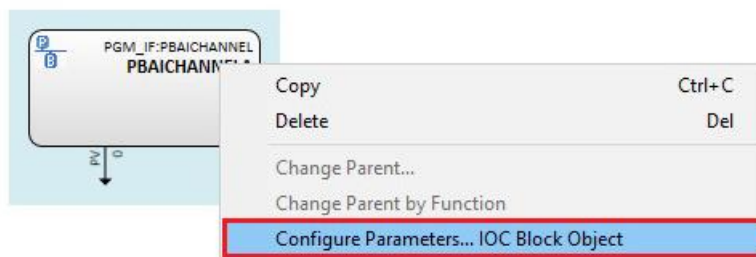


3.4.3 Analog Input Function Block Configuration

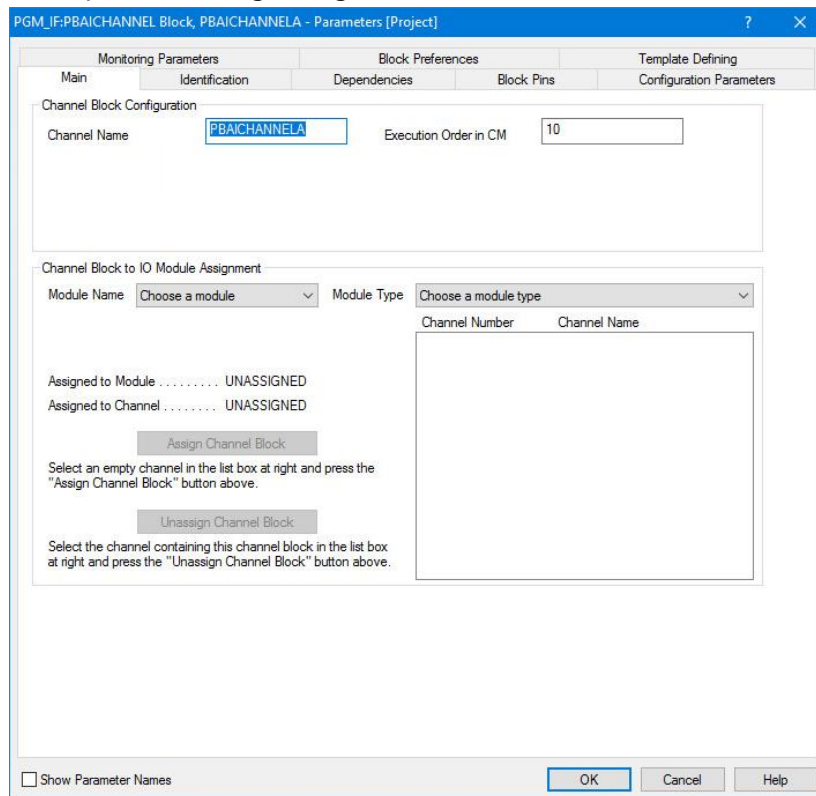
- Open the "CM_adr25", then drag and drop an analog input function block:



- Right-click on the function block and select the option "Configure Parameters... IOC Block Object" :



- This opens following configuration window:



PGM_IF:PBAICHANNEL Block, PBAICHANNELA - Parameters [Project]

Monitoring Parameters | Block Preferences | Template Defining

Main | Identification | Dependencies | Block Pins | Configuration Parameters

Channel Block Configuration

Channel Name: Execution Order in CM:

Channel Block to IO Module Assignment

Module Name: Module Type:

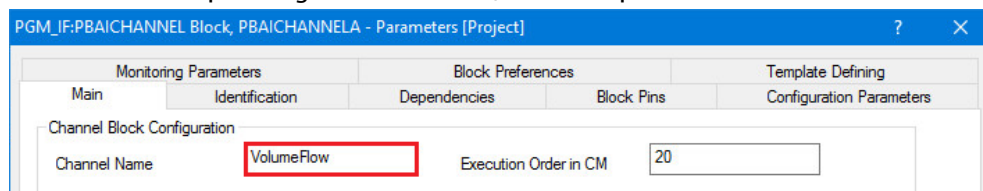
Assigned to Module: UNASSIGNED
Assigned to Channel: UNASSIGNED

Select an empty channel in the list box at right and press the "Assign Channel Block" button above.

Select the channel containing this channel block in the list box at right and press the "Unassign Channel Block" button above.

☐ Show Parameter Names

- Enter the corresponding channel name, for example "VolumeFlow":



PGM_IF:PBAICHANNEL Block, PBAICHANNELA - Parameters [Project]

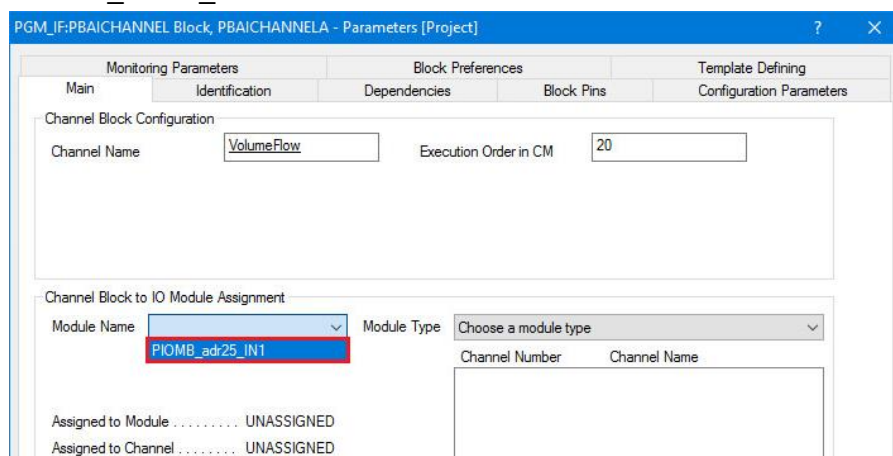
Monitoring Parameters | Block Preferences | Template Defining

Main | Identification | Dependencies | Block Pins | Configuration Parameters

Channel Block Configuration

Channel Name: Execution Order in CM:

- Select the correct PIOMB on which the analog input must be connected. This menu only displays modules which can be connected to the function block. In this example, the created module "PIOMB_adr25_IN1" contains all float values:



PGM_IF:PBAICHANNEL Block, PBAICHANNELA - Parameters [Project]

Monitoring Parameters | Block Preferences | Template Defining

Main | Identification | Dependencies | Block Pins | Configuration Parameters

Channel Block Configuration

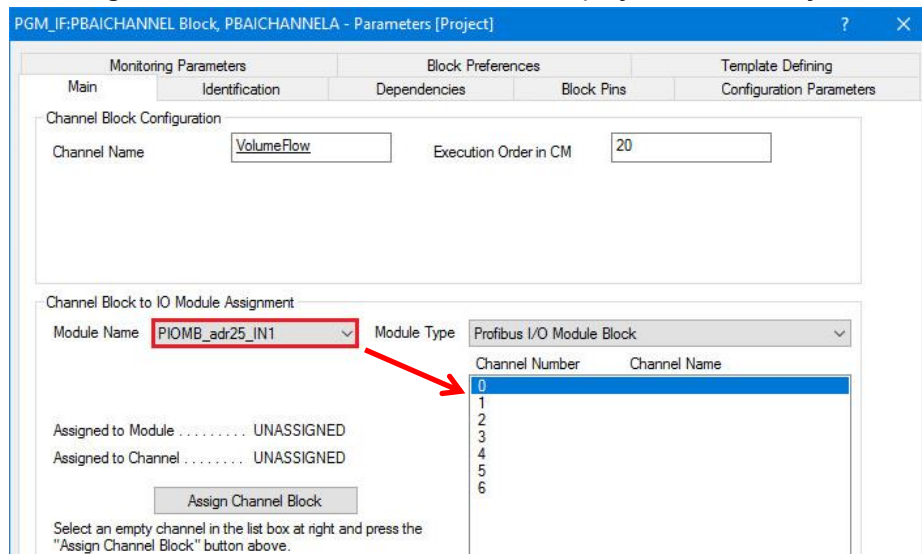
Channel Name: Execution Order in CM:

Channel Block to IO Module Assignment

Module Name: Module Type:

Assigned to Module: UNASSIGNED
Assigned to Channel: UNASSIGNED

- Selecting the "PIOMB_adr25_IN1" module displays automatically all configurable channels:



PGM_IF:PBACHANNEL Block, PBAICHANNELA - Parameters [Project]

Monitoring Parameters | Block Preferences | Template Defining

Main | Identification | Dependencies | Block Pins | Configuration Parameters

Channel Block Configuration

Channel Name: Execution Order in CM:

Channel Block to IO Module Assignment

Module Name: Module Type:

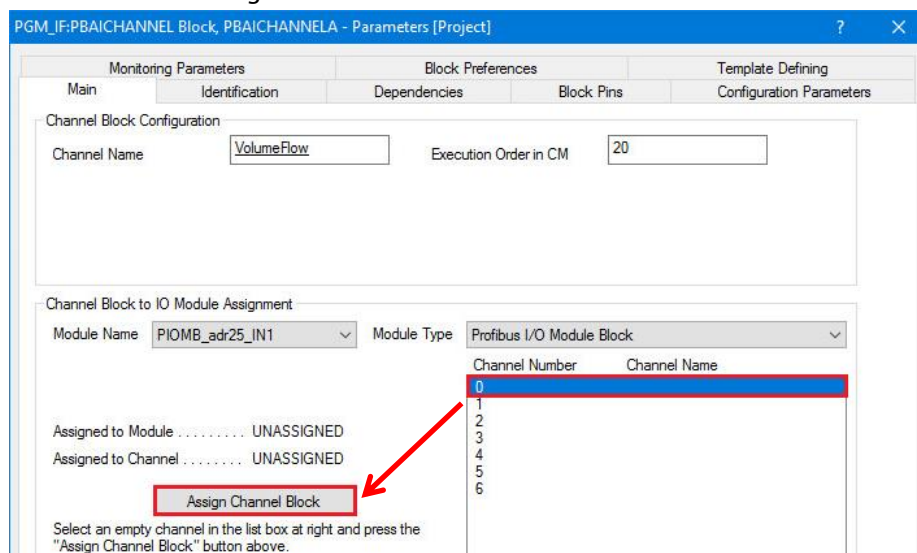
Assigned to Module: UNASSIGNED
Assigned to Channel: UNASSIGNED

Select an empty channel in the list box at right and press the "Assign Channel Block" button above.

Channel Number	Channel Name
0	
1	
2	
3	
4	
5	
6	

In this example, there are seven channels (four analog input values and three totalizer values). This corresponds to the grouping done in SYCON.net in chapter 3.3.3.5.

- Select the Channel Number on which the analog input function block must be assigned and click on the button "Assign Channel Block":



PGM_IF:PBACHANNEL Block, PBAICHANNELA - Parameters [Project]

Monitoring Parameters | Block Preferences | Template Defining

Main | Identification | Dependencies | Block Pins | Configuration Parameters

Channel Block Configuration

Channel Name: Execution Order in CM:

Channel Block to IO Module Assignment

Module Name: Module Type:

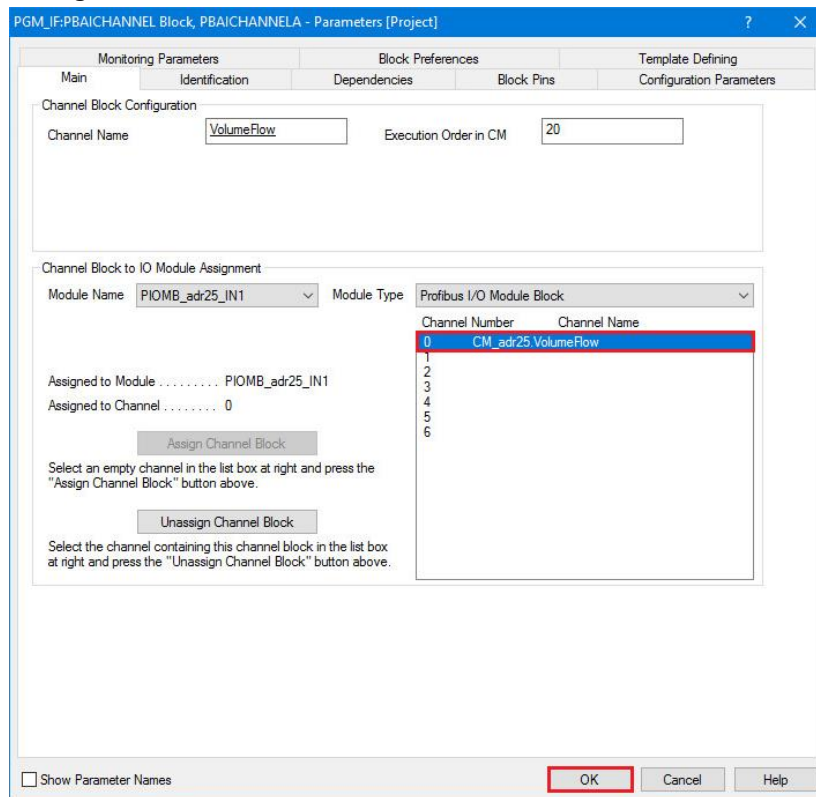
Assigned to Module: UNASSIGNED
Assigned to Channel: UNASSIGNED

Select an empty channel in the list box at right and press the "Assign Channel Block" button above.

Channel Number	Channel Name
0	
1	
2	
3	
4	
5	
6	

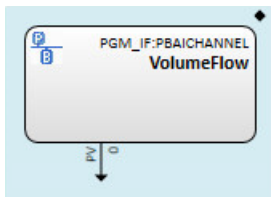
In this example, "Channel Number 0" is selected.

- Configured Channel Number:



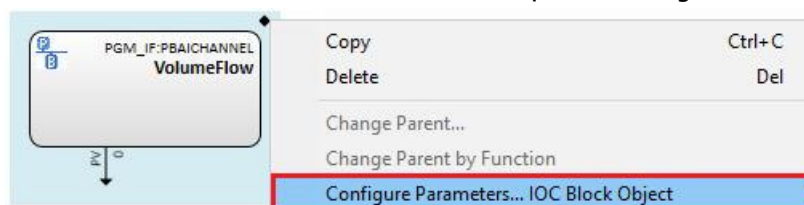
Click on the button "OK" to save and close the window.

- The analog input function block is now assigned to PIOMB channel 0.

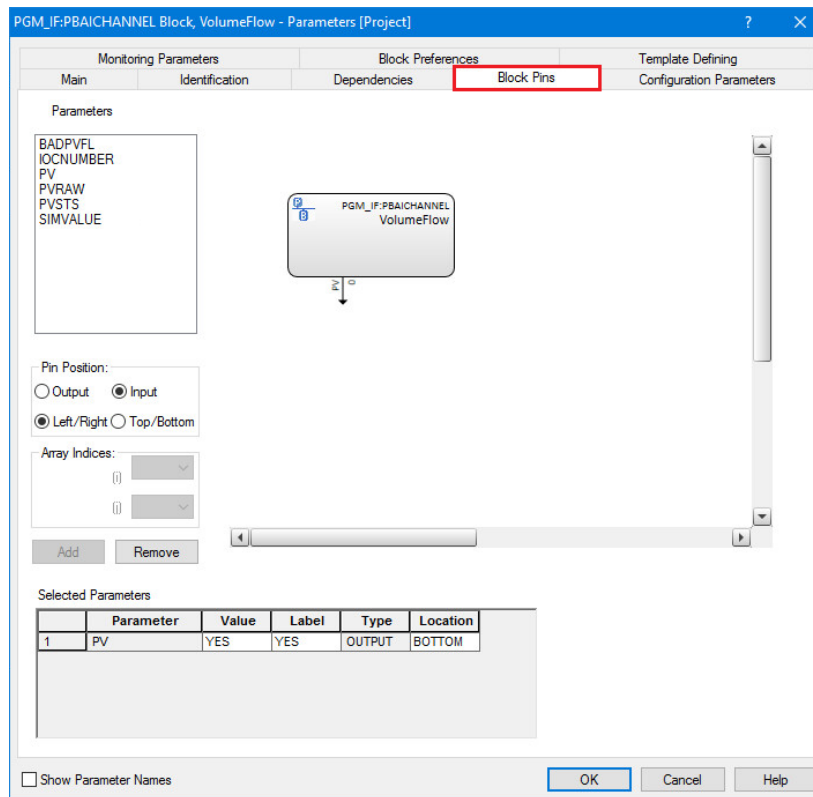


Remarks

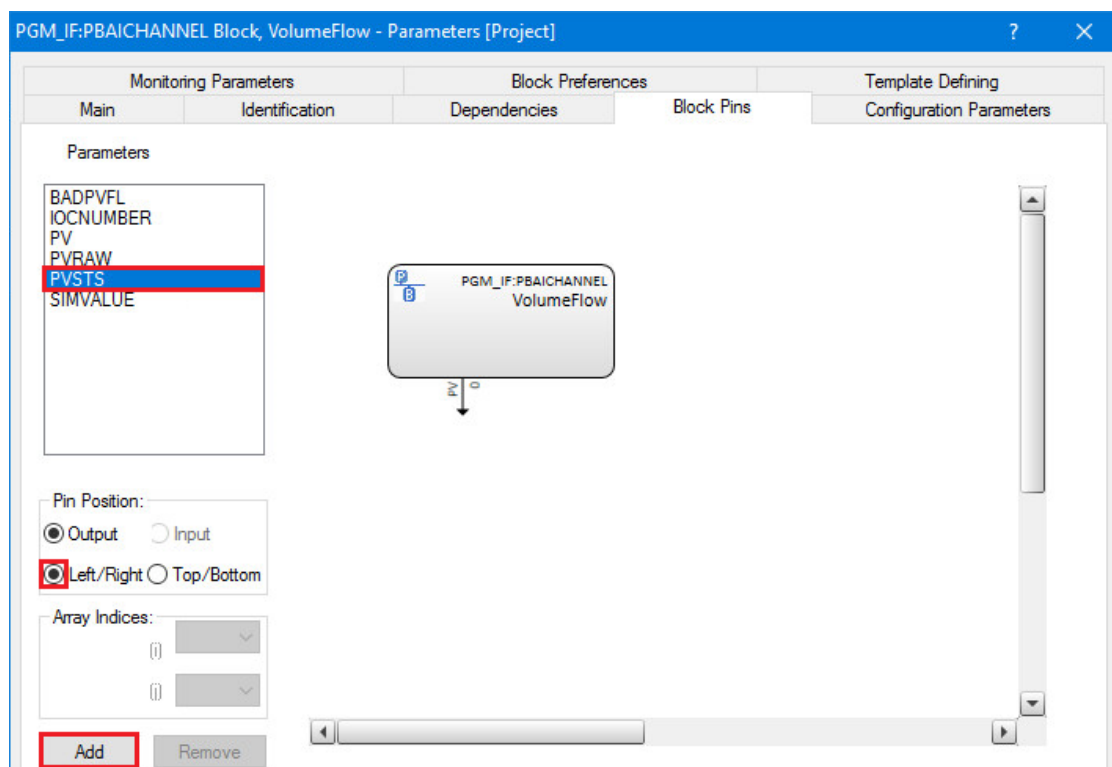
- This Function block can be optimized by adding some additional information as the status. Right-click on the function block and select the option "Configure Parameters... IOC Block Object" :



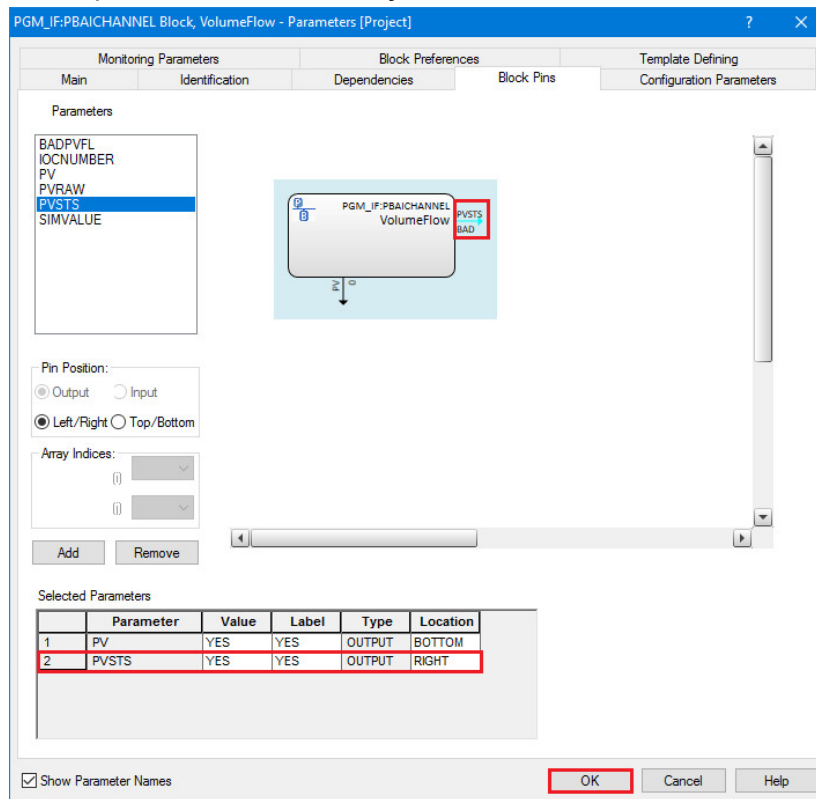
- Select the tab "Block Pins":



- Select for example the Parameter "PVSTS" which is the status of the PROFIBUS value, then select the Pin Position and click on the button "Add":

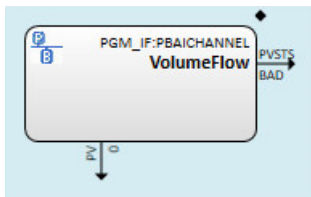


- Status parameter is successfully added on the function block:



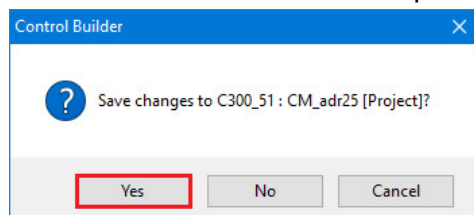
Click on the button "OK" to save and close the window.

- Configured analog input module with status:



For normal use cases it is not required to configure the PVSTS value and use it in the application, because the status values is automatically riding on the back of the used PV value.

- Close the Control Module. This opens following message box:



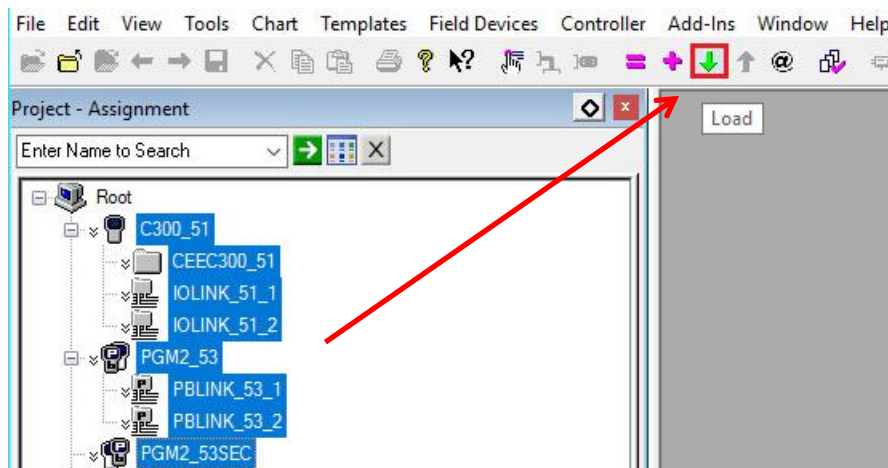
Click on the button "Yes".

3.5 Commissioning of the Control Project

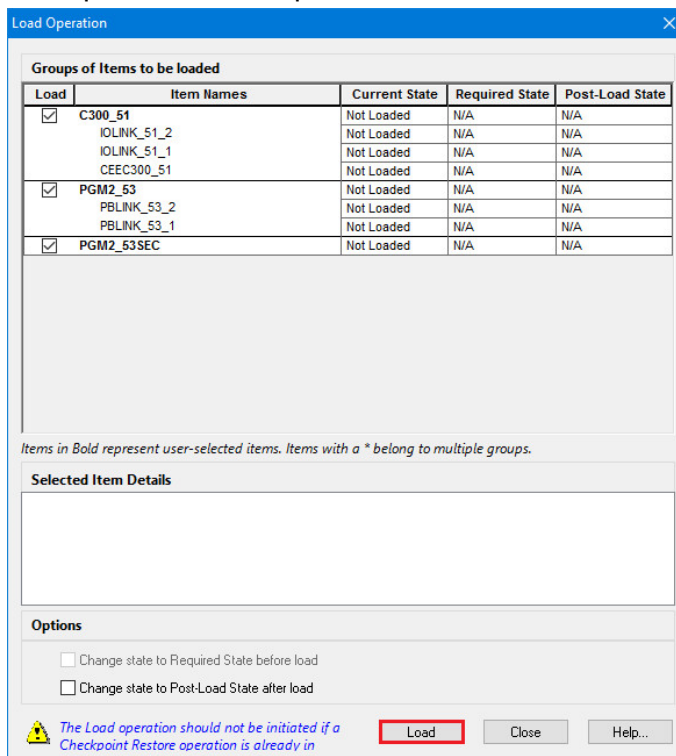
3.5.1 First Download

This part concerns the hardware configuration download of the C300 and the PGM modules.

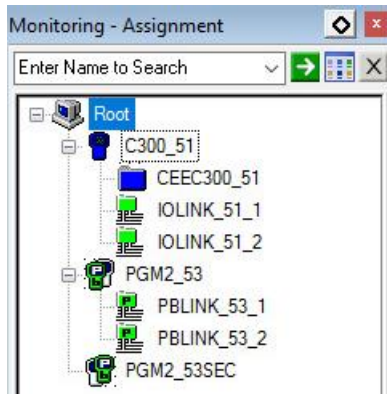
- In the project assignment view, select the C300_51 and PGM_53 module, then click on the shortcut button "Load" in the tool bar menu:



- This opens the "Load Operation" window. Click on the button "Load":

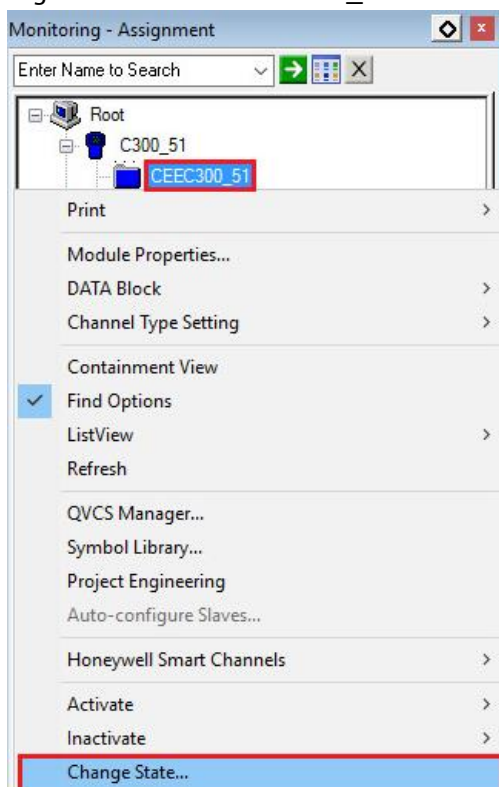


- Download is successful:

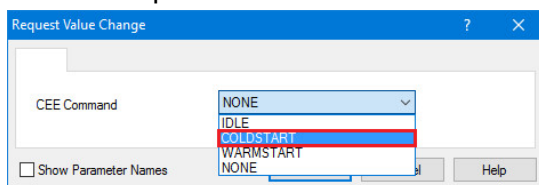


PGM automatically activates itself. C300 needs to be activated.

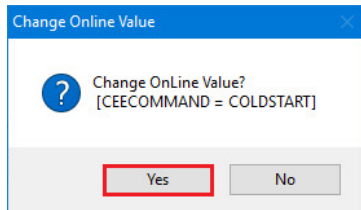
- Right-click on the CEEC300_51 field and select the menu Change State:



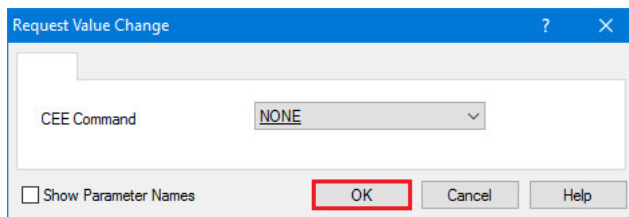
- Select the option "COLD START":



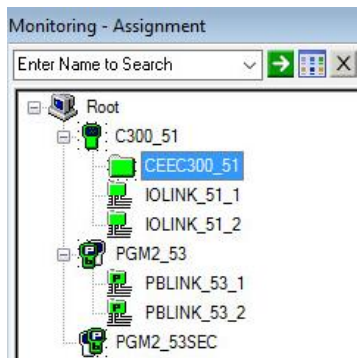
- Click on the button "Yes":



- Click on the button "OK" to close the window:



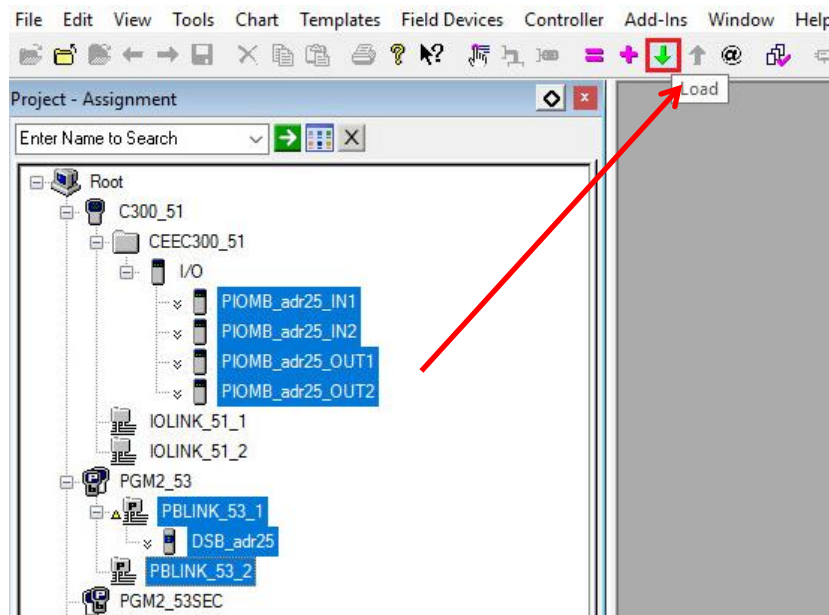
- C300 Controller is now activated:



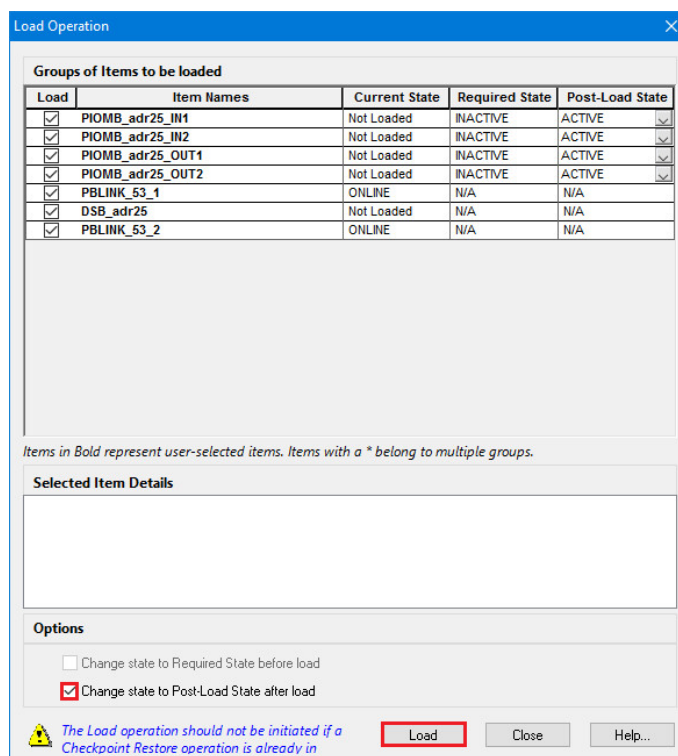
3.5.2 PGM and Device Configuration Download

This part concerns the download of the PIOMB modules and the PGM configuration.

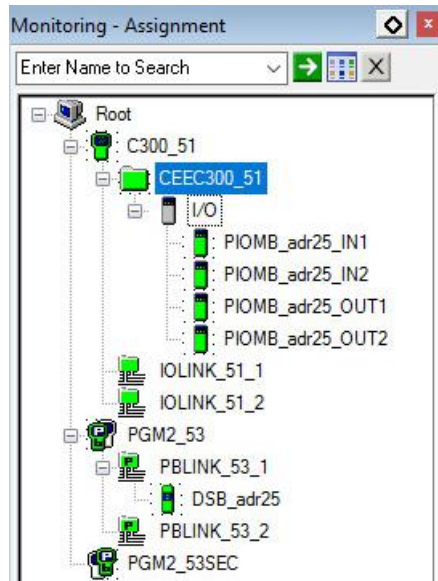
- In the project assignment view, select the PIOMBs, configured PBLINK and the DSB module, then click on the shortcut button "Load" in the tool bar menu:



- This opens the "Load Operation" window. Select the option "Change state to Post-Load State after Load" and click on the button "Load":

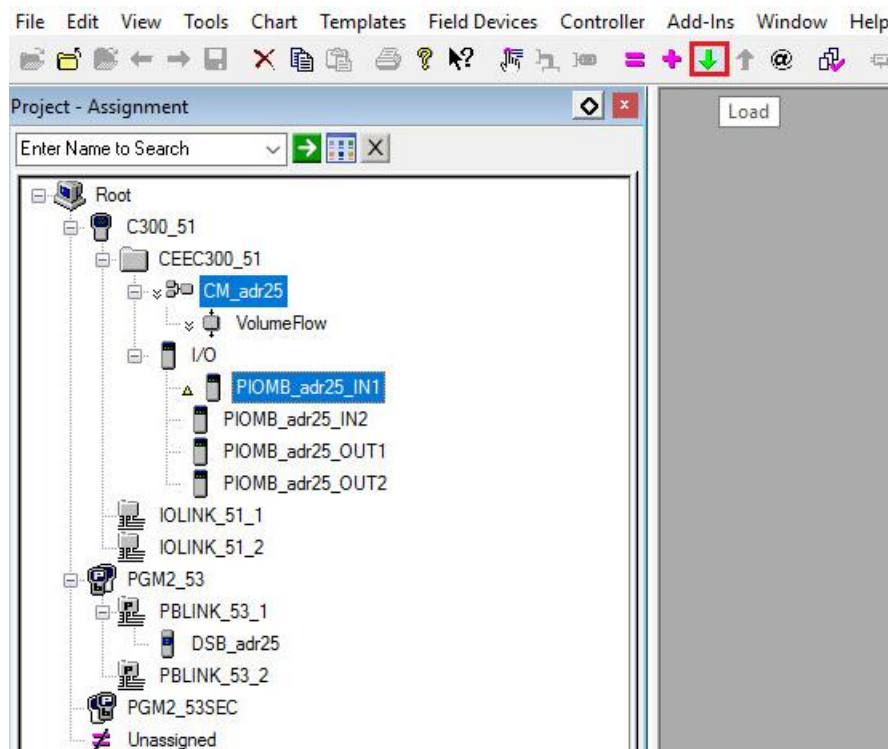


- Download is successful:

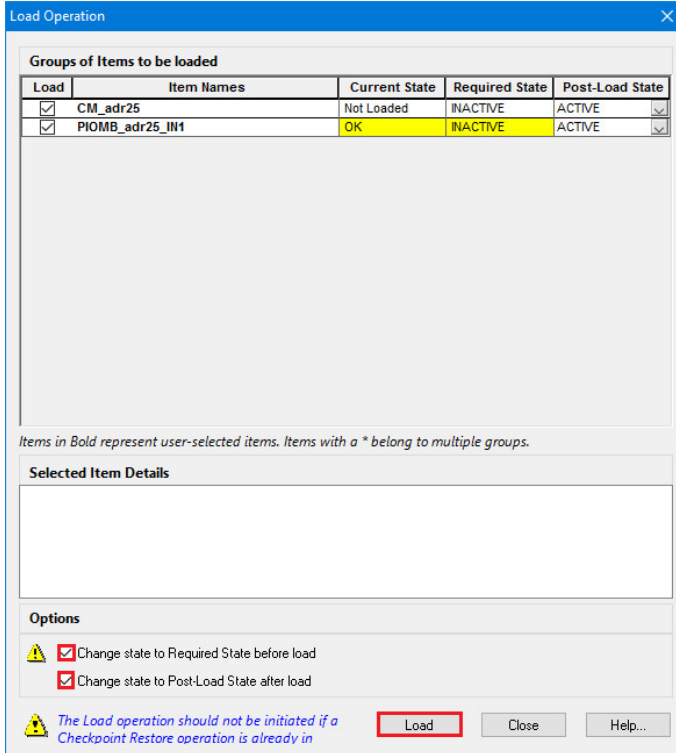


3.5.3 Control Module Download

- In the project assignment view, select the Control Module as well as the PIOMB module and click the shortcut button "Load" in the tool bar menu:
In this example, the Control Module "CM_adr25" is downloaded with the PIOMB "PIOMB_adr_IN1":



- This opens the "Load Operation" window. Select the option "Change state to Post-Load State before Load", "Change state to Post-Load State after Load" and click on the button "Load":



Load Operation

Load	Item Names	Current State	Required State	Post-Load State
<input checked="" type="checkbox"/>	CM_adr25	Not Loaded	INACTIVE	ACTIVE
<input checked="" type="checkbox"/>	PIOMB_adr25_IN1	OK	INACTIVE	ACTIVE


Items in Bold represent user-selected items. Items with a * belong to multiple groups.

Selected Item Details

Options

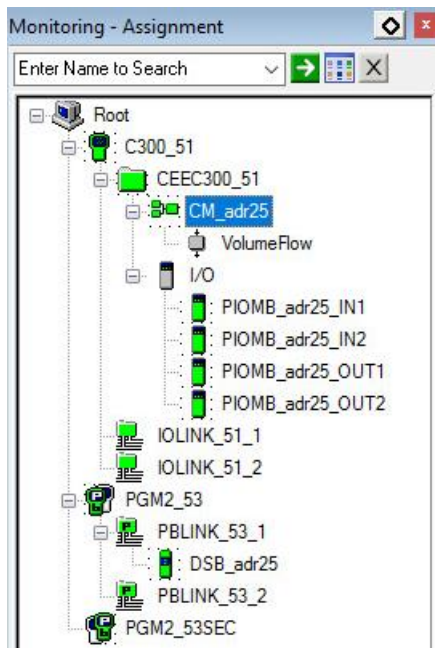
☒ Change state to Required State before load

☒ Change state to Post-Load State after load

 The Load operation should not be initiated if a Checkpoint Restore operation is already in progress

Load Close Help...

- Download is successful:

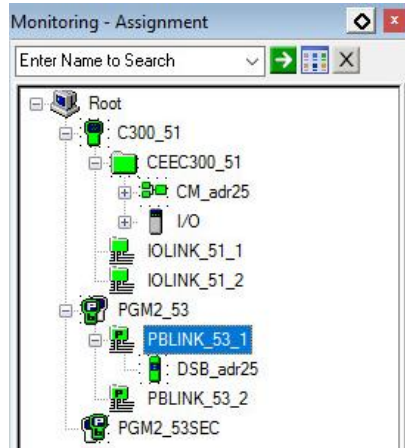


If an error or a warning occurs during download operation, none of the items in the actual download is automatically activated. In such cases even successfully downloaded items must be activated manually.

3.6 Monitoring of Process Values and Status Information

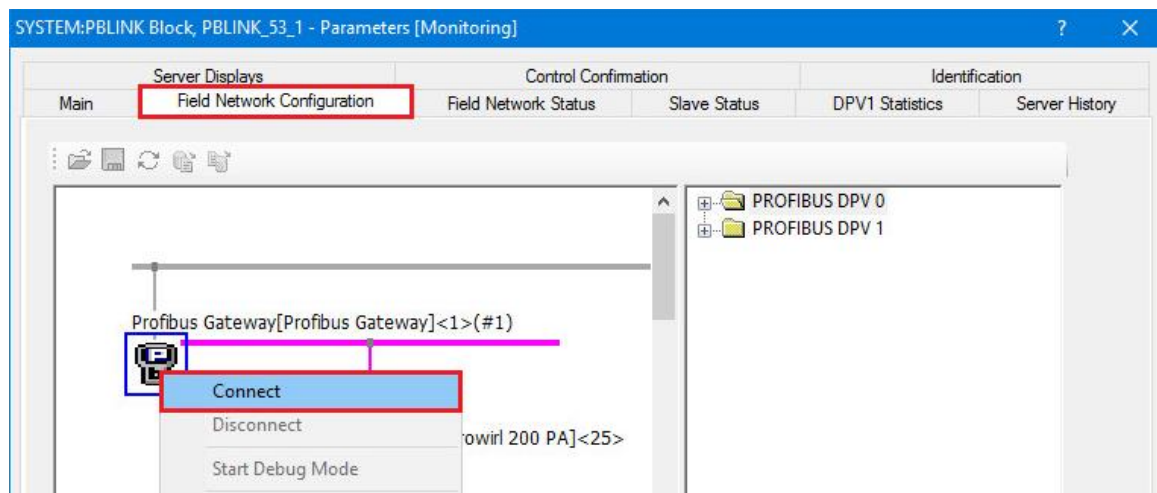
3.6.1 PBLINK Status

- Double-click on "PBLINK_53_1":

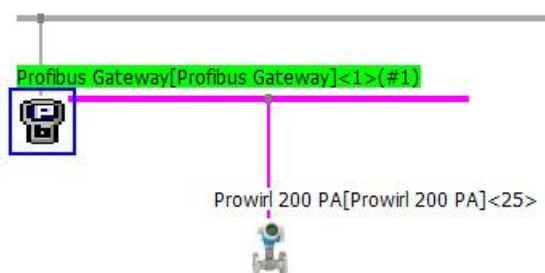


3.6.1.1 Profibus Gateway Status

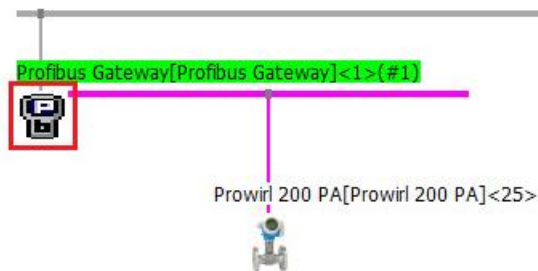
- Select the tab "Field Network Configuration", right-click on the "Profibus Gateway" and select the menu "Connect":



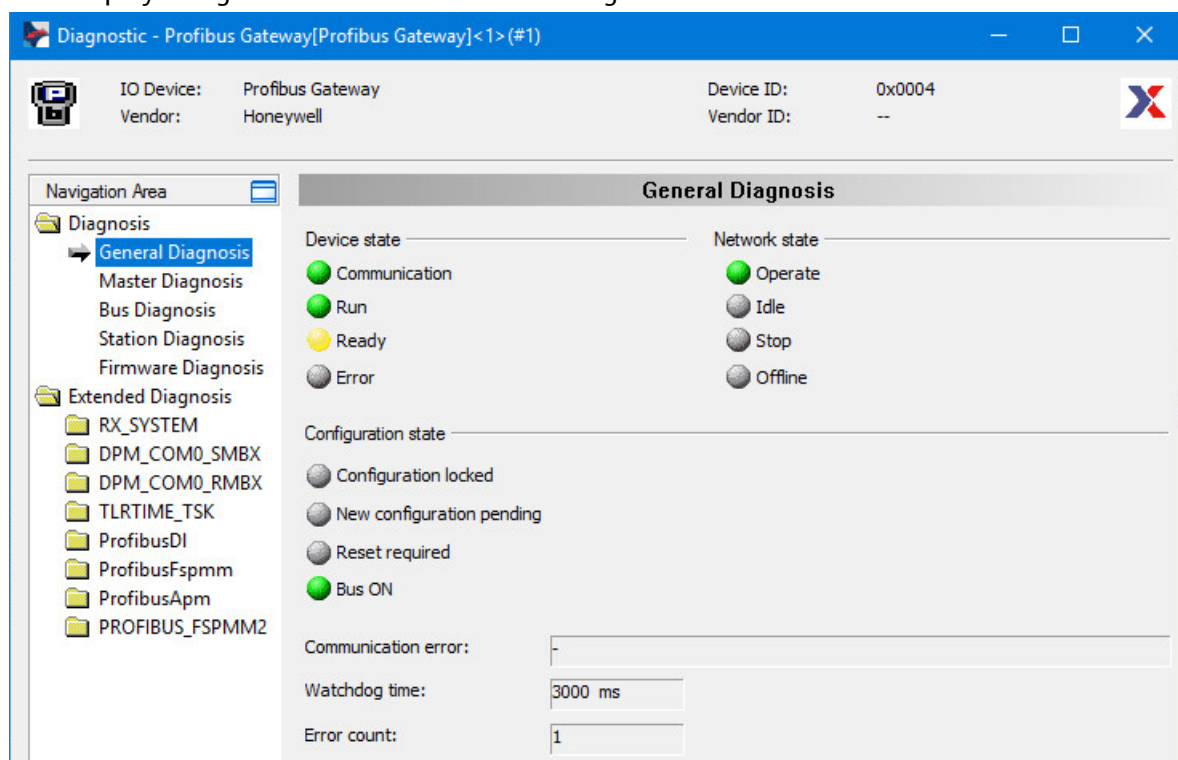
- This connects the Profibus Gateway:



- Double-click on the Profibus Gateway for displaying the Diagnostic data:



- This displays Diagnosis Data of the "General Diagnosis":

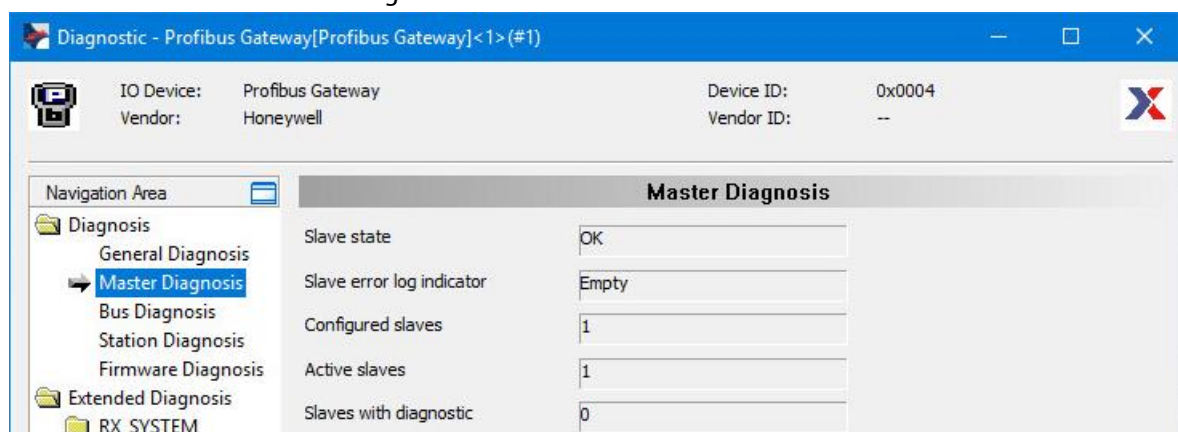


The screenshot shows the 'Diagnostic - Profibus Gateway[Profibus Gateway]<1>(<#1>)' window. The 'General Diagnosis' tab is selected in the 'Navigation Area' on the left. The main panel displays the following information:

General Diagnosis	
IO Device:	Profibus Gateway
Vendor:	Honeywell
Device ID:	0x0004
Vendor ID:	--

General Diagnosis	
Device state	Network state
<input checked="" type="radio"/> Communication	<input checked="" type="radio"/> Operate
<input checked="" type="radio"/> Run	<input type="radio"/> Idle
<input type="radio"/> Ready	<input type="radio"/> Stop
<input type="radio"/> Error	<input type="radio"/> Offline
Configuration state	
<input type="radio"/> Configuration locked	
<input type="radio"/> New configuration pending	
<input type="radio"/> Reset required	
<input checked="" type="radio"/> Bus ON	
Communication error:	-
Watchdog time:	3000 ms
Error count:	1

- Click on the menu "Master Diagnosis" for information related to Slaves:

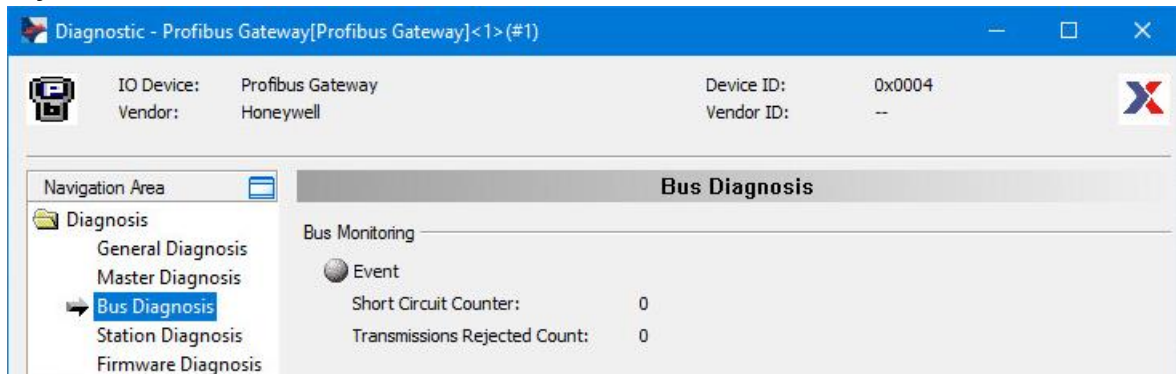


The screenshot shows the 'Diagnostic - Profibus Gateway[Profibus Gateway]<1>(<#1>)' window. The 'Master Diagnosis' tab is selected in the 'Navigation Area' on the left. The main panel displays the following information:

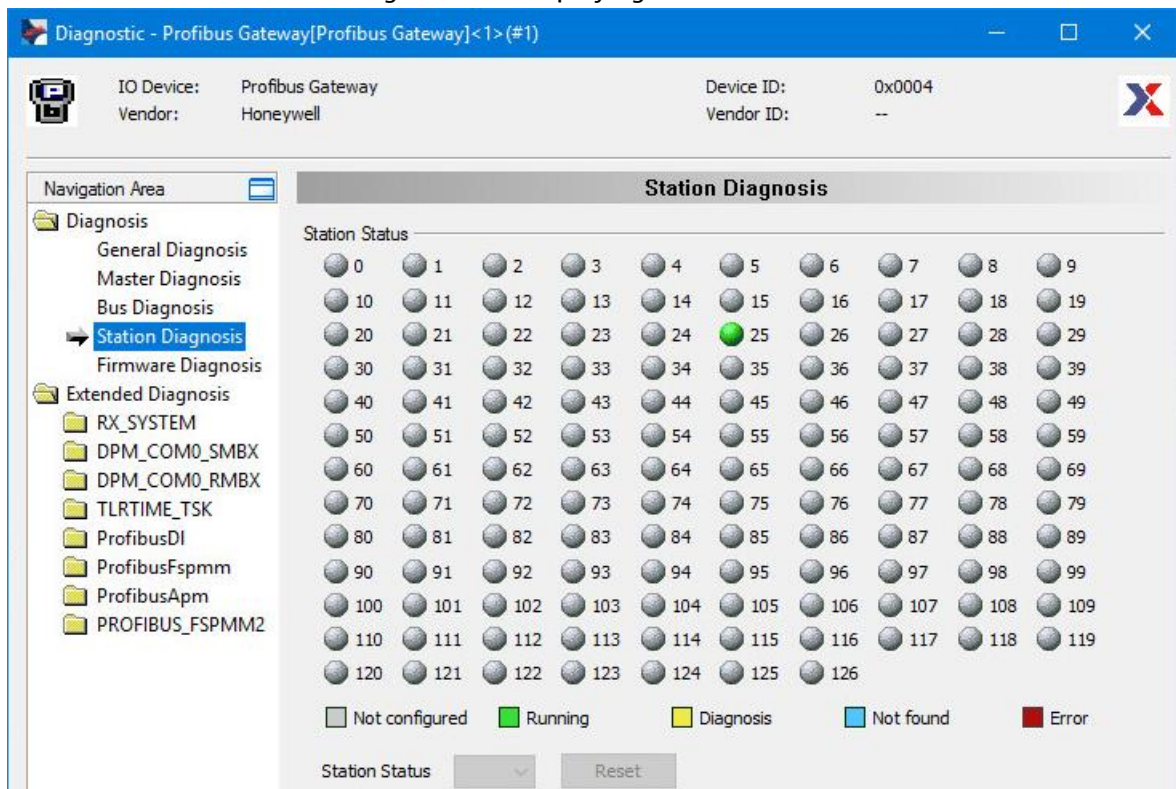
Master Diagnosis	
IO Device:	Profibus Gateway
Vendor:	Honeywell
Device ID:	0x0004
Vendor ID:	--

Master Diagnosis	
Slave state	OK
Slave error log indicator	Empty
Configured slaves	1
Active slaves	1
Slaves with diagnostic	0

- Click on the menu "Bus Diagnosis" for displaying event counter, as "Short Circuit" or "Transmissions Rejected":



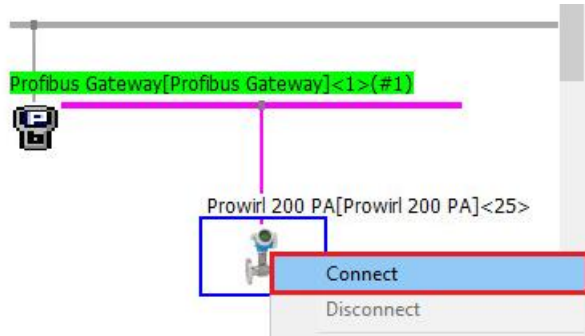
- Click on the menu "Station Diagnosis" for displaying Slaves Status:



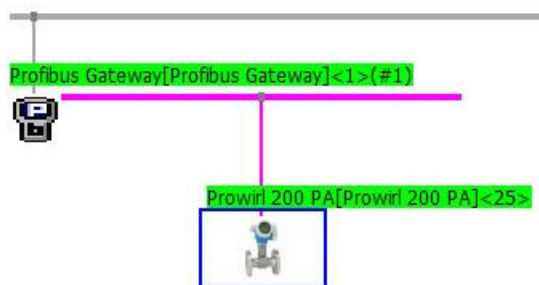
In this example, the Prowirl200 with address 25 is in data exchange mode.

3.6.1.2 Device Status

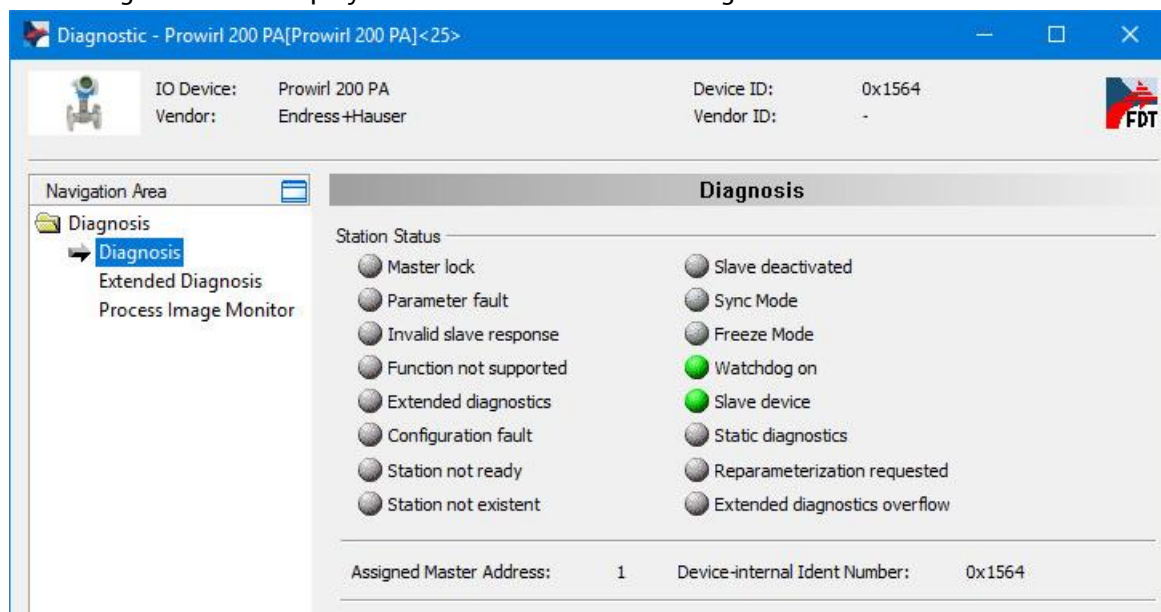
- Right-click on the Prowirl200 and select the option "Connect":



- This connects the Prowirl200:



- Double-click on the device for displaying the Diagnostic data:
Main diagnostics are displayed on window the menu "Diagnosis":



The screenshot shows the 'Diagnostic - Prowirl 200 PA[Prowirl 200 PA]<25>' window. The window has a blue title bar and a navigation area on the left. The main area displays the 'Diagnosis' section, which includes a 'Station Status' table and a summary of assigned master address and device-internal ID number.

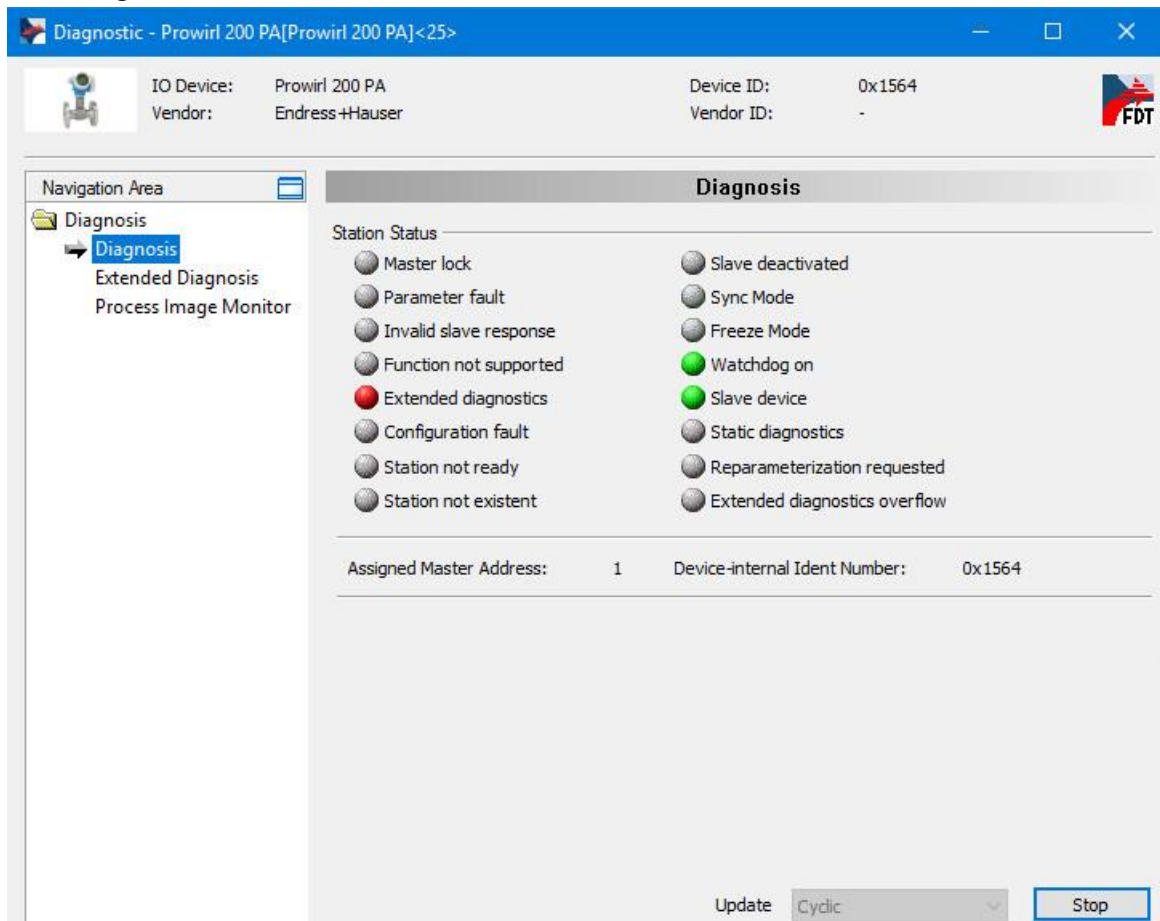
Station Status	
<input type="radio"/> Master lock	<input type="radio"/> Slave deactivated
<input type="radio"/> Parameter fault	<input type="radio"/> Sync Mode
<input type="radio"/> Invalid slave response	<input type="radio"/> Freeze Mode
<input type="radio"/> Function not supported	<input checked="" type="radio"/> Watchdog on
<input type="radio"/> Extended diagnostics	<input checked="" type="radio"/> Slave device
<input type="radio"/> Configuration fault	<input type="radio"/> Static diagnostics
<input type="radio"/> Station not ready	<input type="radio"/> Reparameterization requested
<input type="radio"/> Station not existent	<input type="radio"/> Extended diagnostics overflow

Assigned Master Address: 1 Device-internal ID number: 0x1564

- However, the reading of diagnostics is a one-shot reading during callup and for a cyclic update it must be triggered by clicking on the button "Start":



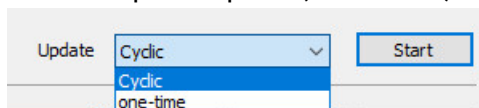
- Read diagnostics:



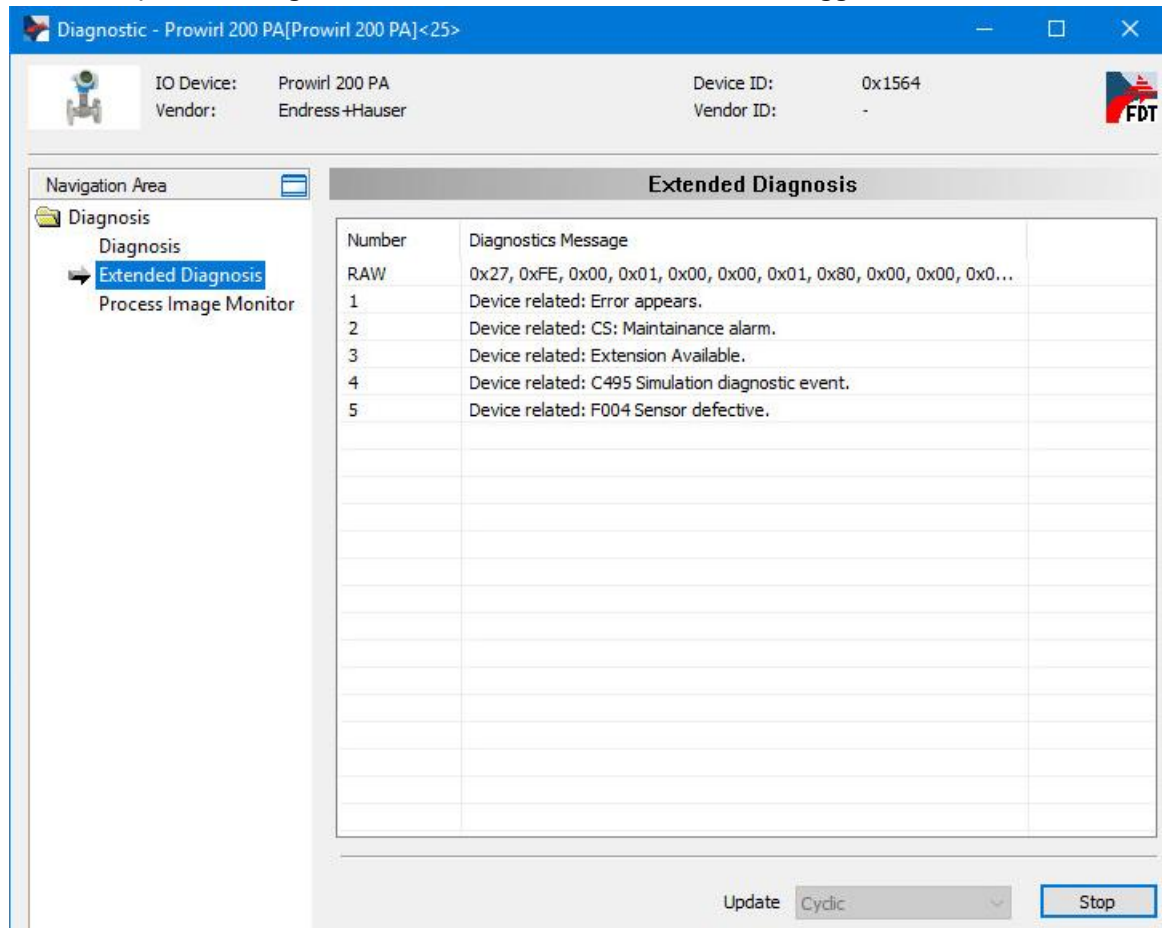
In this example, the diagnostics are read cyclically:



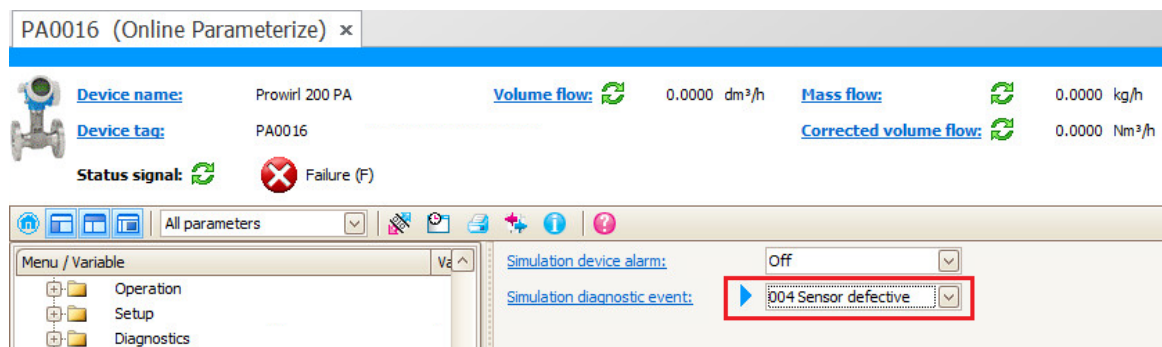
Another update option ("one-time") is available for reading diagnostics only for one cycle:



- Click on the button "Extended Diagnosis" for displaying more details:
As for the previous diagnosis menu, the button "Start" must be triggered:

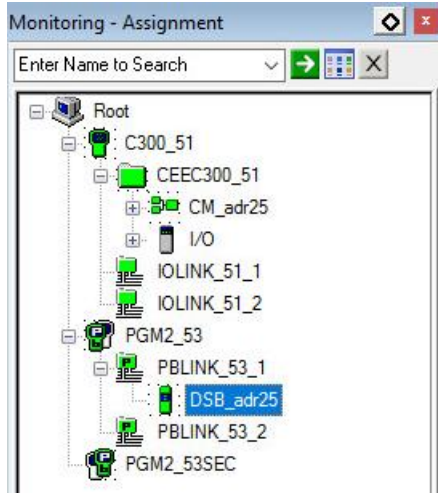


In this example, diagnostics messages are received because the event "004 Sensor defective" is simulated from the deviceDTM in FieldCare:

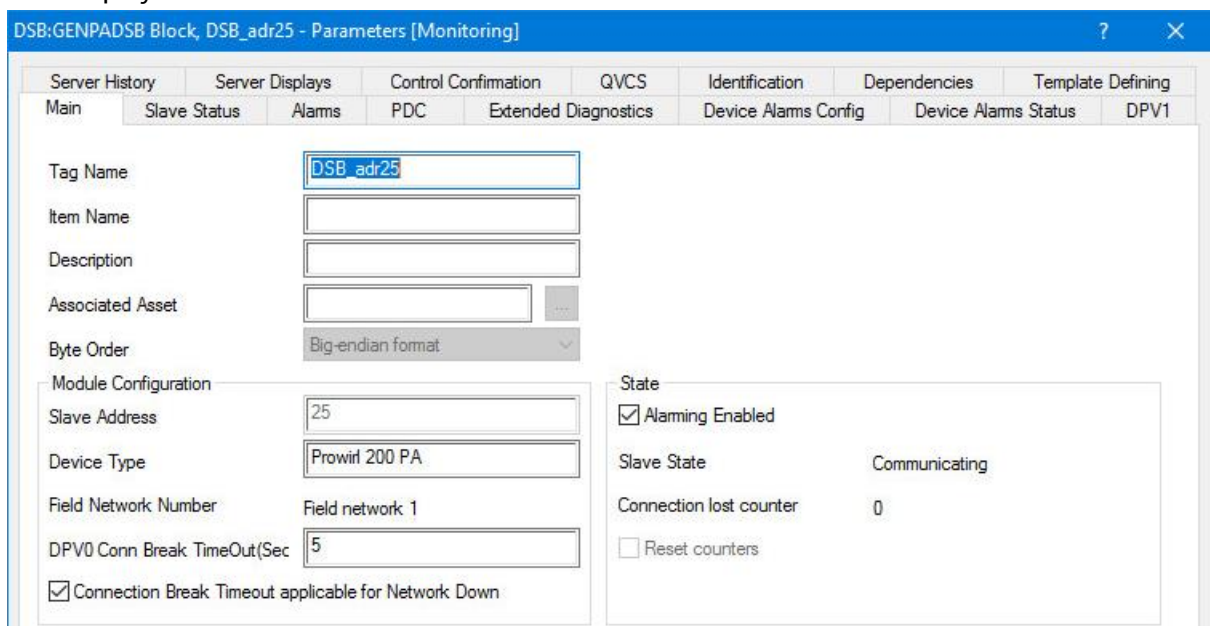


3.6.2 DSB Slave Monitoring

- Double-click on "DSB_adr25":

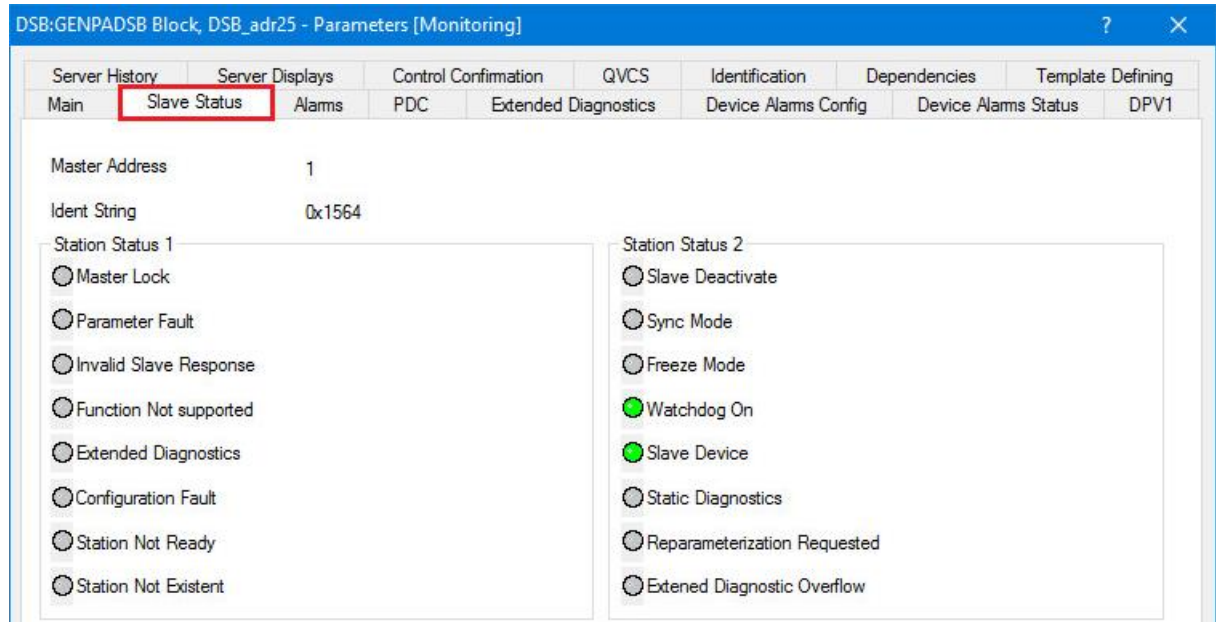


- This displays the DSB Online window view:



3.6.2.1 Slave Status

- Click on the tab "Slave Status" for displaying decoded Station status:



DSB:GENPADSB Block, DSB_adr25 - Parameters [Monitoring]

Server History	Server Displays	Control Confirmation	QVCS	Identification	Dependencies	Template Defining
Main	Slave Status	Alarms	PDC	Extended Diagnostics	Device Alarms Config	Device Alarms Status
DPV1						

Master Address: 1

Ident String: 0x1564

Station Status 1

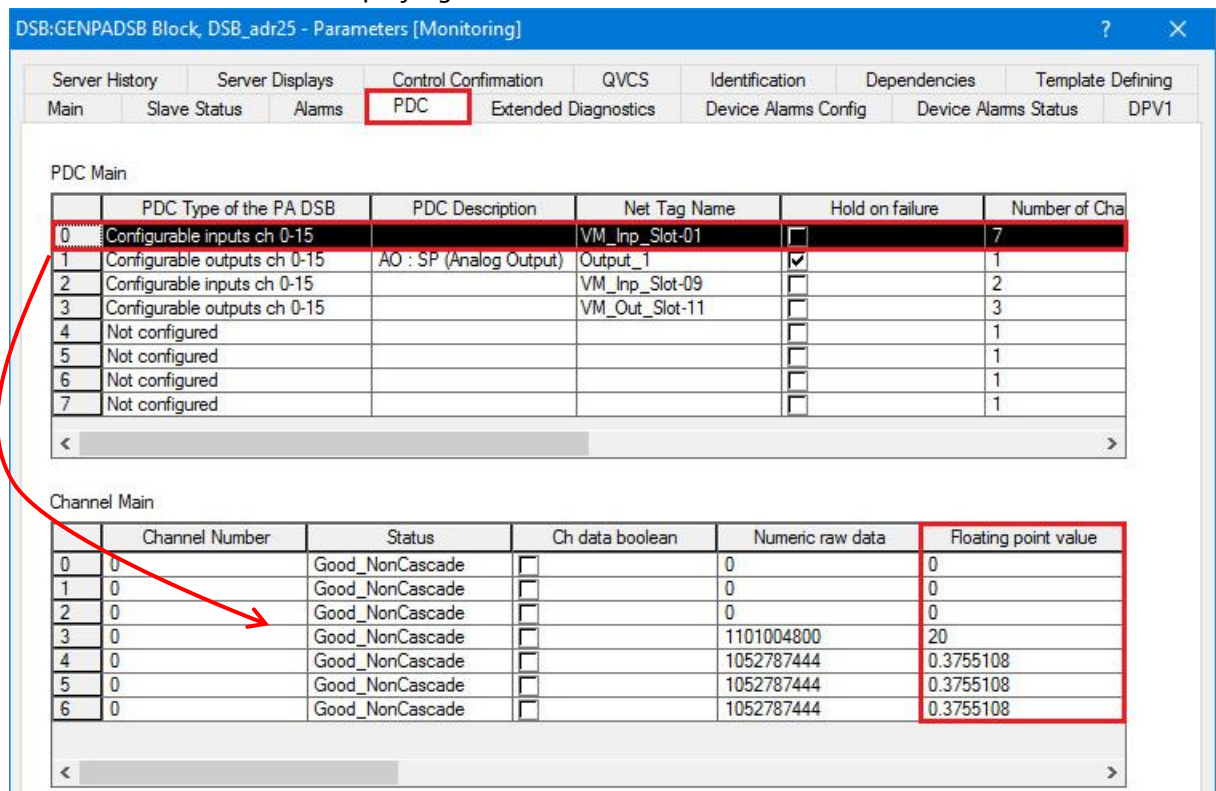
- ☐ Master Lock
- ☐ Parameter Fault
- ☐ Invalid Slave Response
- ☐ Function Not supported
- ☐ Extended Diagnostics
- ☐ Configuration Fault
- ☐ Station Not Ready
- ☐ Station Not Existent

Station Status 2

- ☐ Slave Deactivate
- ☐ Sync Mode
- ☐ Freeze Mode
- ☒ Watchdog On
- ☒ Slave Device
- ☐ Static Diagnostics
- ☐ Reparameterization Requested
- ☐ Extended Diagnostic Overflow

3.6.2.2 PDC

- Click on the tab "PDC" for displaying data:



DSB:GENPADSB Block, DSB_adr25 - Parameters [Monitoring]

Server History	Server Displays	Control Confirmation	QVCS	Identification	Dependencies	Template Defining
Main	Slave Status	PDC	Extended Diagnostics	Device Alarms Config	Device Alarms Status	DPV1

PDC Main

	PDC Type of the PA DSB	PDC Description	Net Tag Name	Hold on failure	Number of Cha
0	Configurable inputs ch 0-15		VM_Inp_Slot-01	<input type="checkbox"/>	7
1	Configurable outputs ch 0-15	AO : SP (Analog Output)	Output_1	<input checked="" type="checkbox"/>	1
2	Configurable inputs ch 0-15		VM_Inp_Slot-09	<input type="checkbox"/>	2
3	Configurable outputs ch 0-15		VM_Out_Slot-11	<input type="checkbox"/>	3
4	Not configured			<input type="checkbox"/>	1
5	Not configured			<input type="checkbox"/>	1
6	Not configured			<input type="checkbox"/>	1
7	Not configured			<input type="checkbox"/>	1

Channel Main

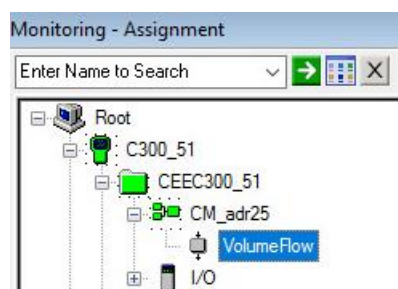
	Channel Number	Status	Ch data boolean	Numeric raw data	Floating point value
0	0	Good_NonCascade	<input type="checkbox"/>	0	0
1	0	Good_NonCascade	<input type="checkbox"/>	0	0
2	0	Good_NonCascade	<input type="checkbox"/>	0	0
3	0	Good_NonCascade	<input type="checkbox"/>	1101004800	20
4	0	Good_NonCascade	<input type="checkbox"/>	1052787444	0.3755108
5	0	Good_NonCascade	<input type="checkbox"/>	1052787444	0.3755108
6	0	Good_NonCascade	<input type="checkbox"/>	1052787444	0.3755108

- In this example, the Virtual Module “VM_Inp_Slot-01” is selected. This displays all configured inputs of this Virtual Module (Four analog inputs and three totalizer values):
 - Received values
 - AI1 = 0 dm³/h (Volume flow)
 - AI2 = 0 kg/h (Mass flow)
 - AI3 = 0 Nm³/h (Corrected volume flow)
 - AI4 = 20 °C (Temperature)
 - TOT1 = 0.375108 m³
 - TOT2 = 0.375108 m³
 - TOT3 = 0.375108 m³

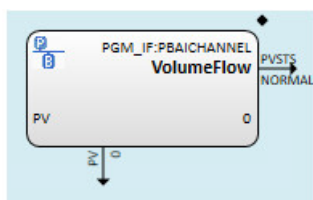
These values are configured in the device and can be accessed via deviceDTM (refer to chapter 5.5.1)

3.6.3 Control Module

- Double-click on the Control module “CM_adr25”:



- Process value and status are displayed:



4 Advanced Integration

This chapter describes the main workflow for integration of PROFIBUS devices into the Honeywell Field Device Manager by means of DTMs. As a result, field devices can be accessed for configuration and maintenance operations.

- Start the software FDM Client on the Flexstation:



- Click on the button "Login":



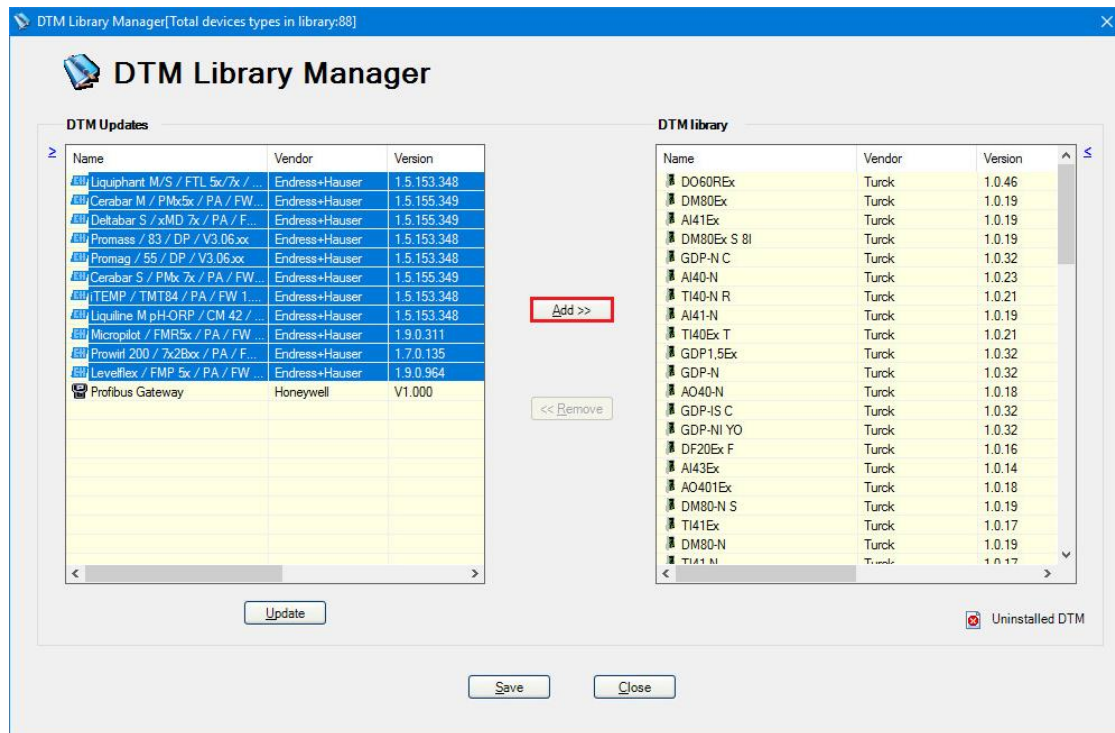
- Connection is in process:



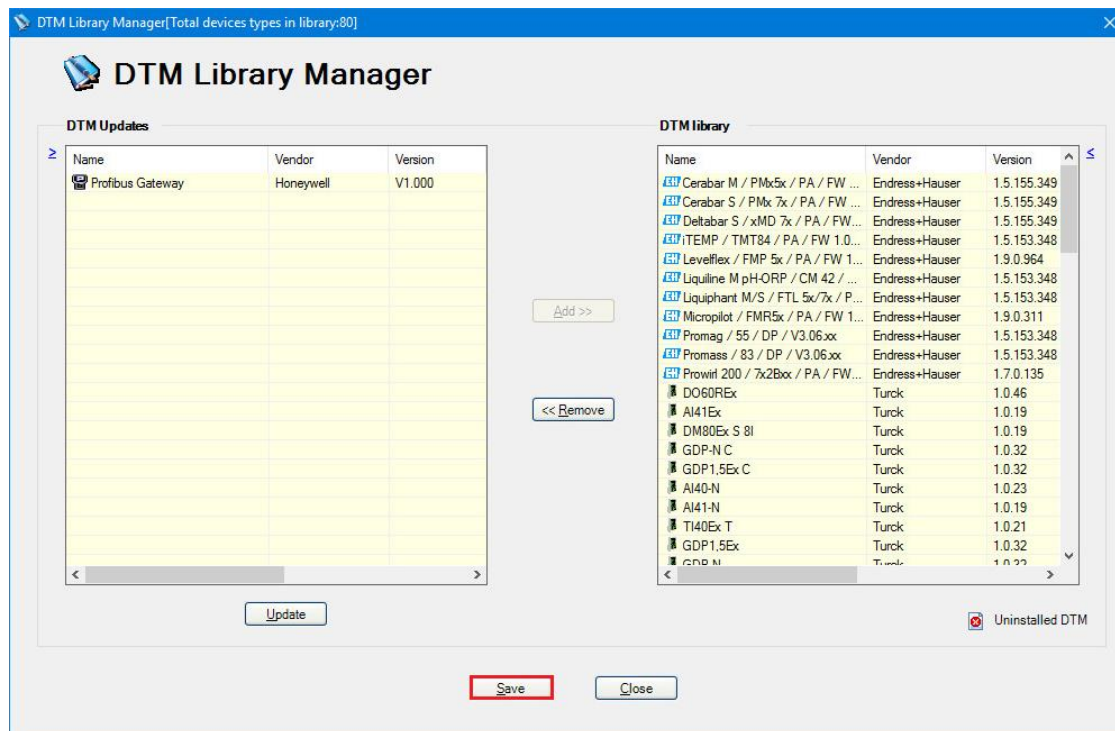
- FDM Flexstation is connected to FDM Server:



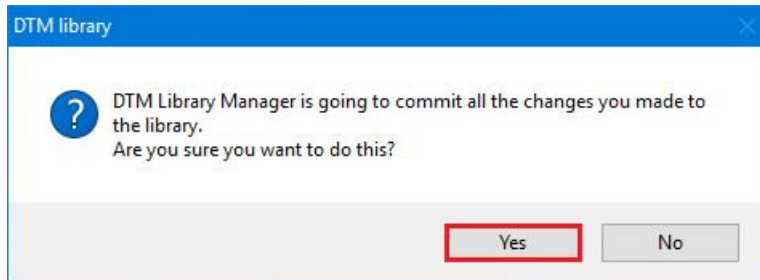
- Select all needed deviceDTMs and click on the button "Add":



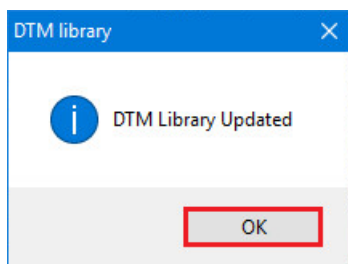
- Click on the button "Save":



- Click on the button "Yes" to confirm the modifications:

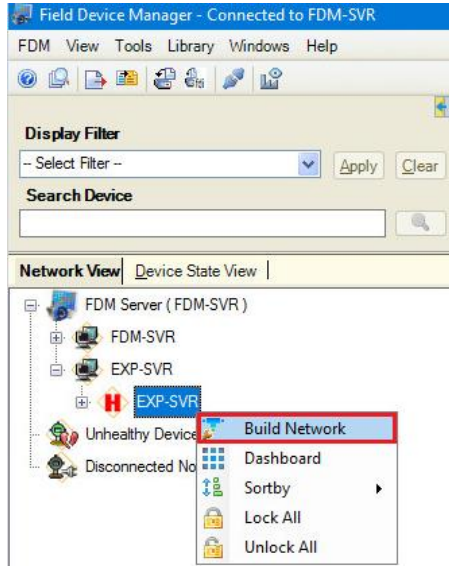


- Click on the button "OK". This closes the window:

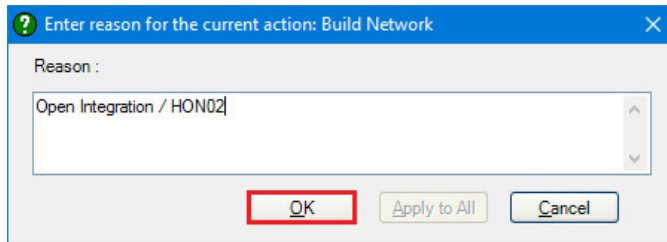


4.2 DeviceDTM Assignment

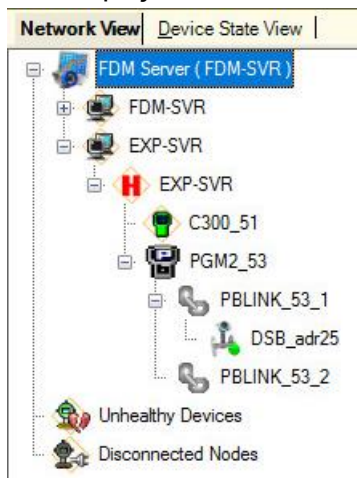
- Right-click on the field "430ESV1" and select the menu "Build Network".



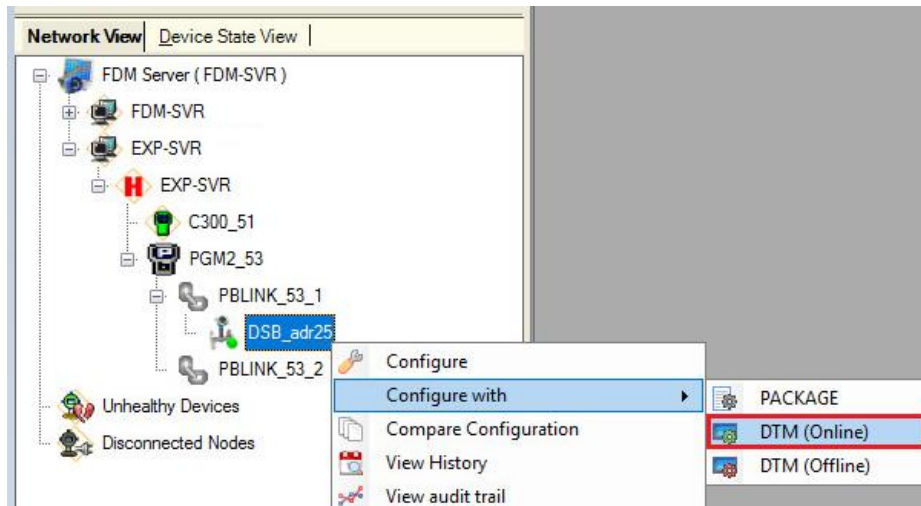
- Indicate a comment and click on the button "OK":



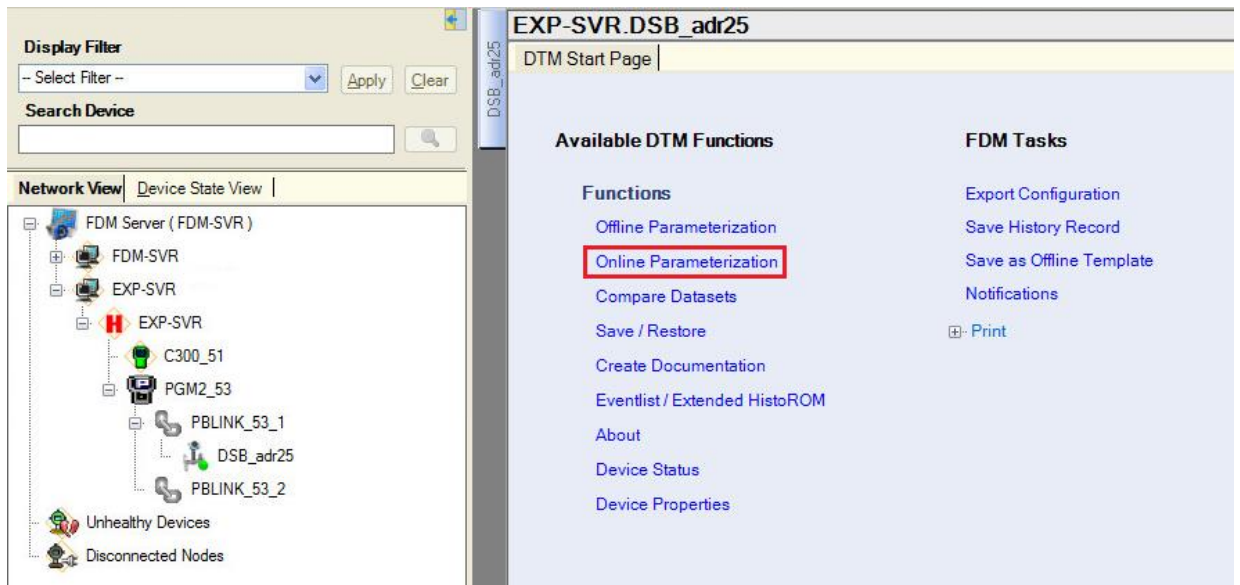
- This displays all connected devices:



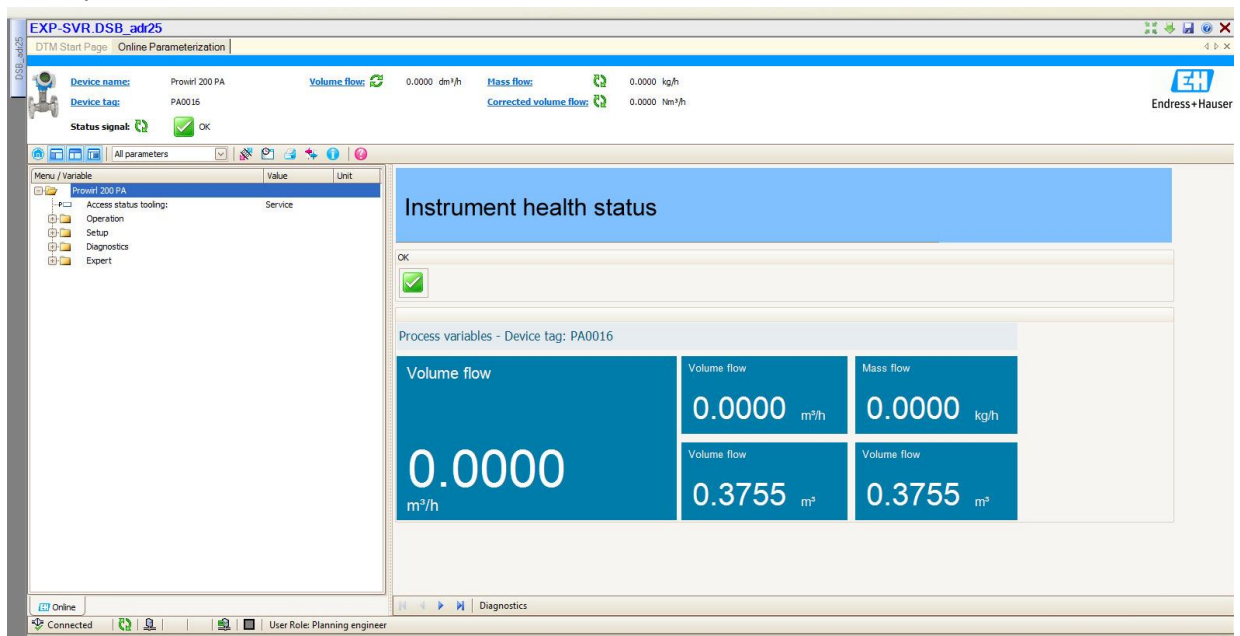
- Right-click on the Micropilot and select the option "Configure with → DTM(Online)".



- Click on the menu "Functions→Online Parameterization":



- This opens the DeviceDTM Online Parameterization window:



5 Bypassed Tool Integration

This chapter describes the alternative workflow for commissioning of the Endress+Hauser Plant Asset Management (PAM system) with independent access path via Fieldgate SFG500. As a result, the Endress+Hauser PAM system can access underlying PROFIBUS devices for device configuration and asset health monitoring.

5.1 Fieldgate SFG500 Browser


- Check that the SFG500 is connected to the engineering station network.
- Open the browser and enter the IP address of the SFG500, 10.126.104.253 (specific for this example):





- The Fieldgate SFG500 main window is displayed. In this view are displayed all detected devices (Masters and slaves):

Fieldgate SFG500 Asset Monitor
Device Tag: Open Integration - Rack PROFIBUS

☒ Fieldgate status: OK

Endress+Hauser 

Start Network **Assets** Process Events Settings Information

19. Jul 2017 9:52:36 AM   Login

Status
Asset Library

Asset Status

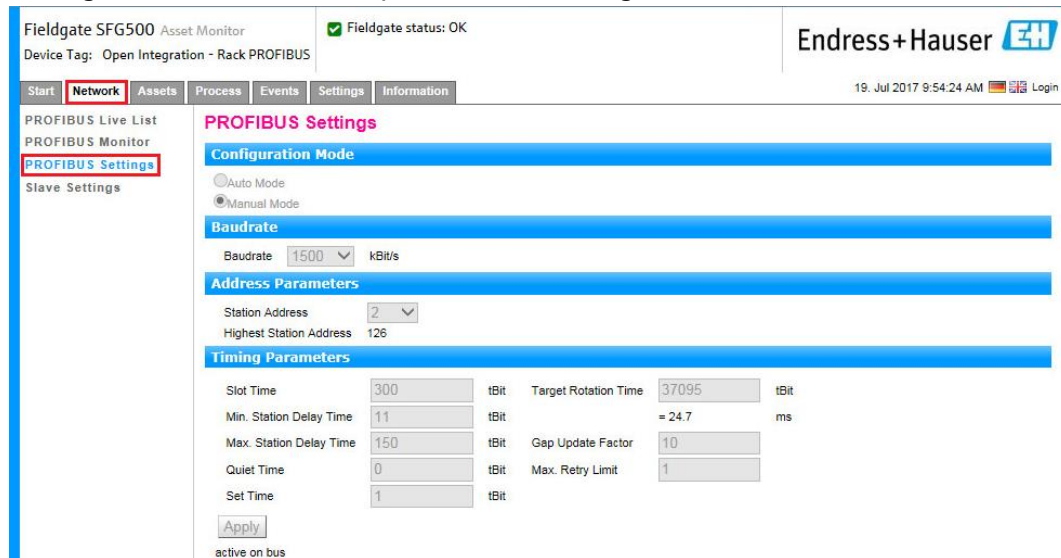
PROFIBUS

Devices: 24

☒ 18
☒ 1
☒ 3
☒ 2
☒ 0
☒ 0

M000	M001	M002	#003	#004	#005	#006	#007	#008	S009
S010 <input checked="" type="checkbox"/>	S011 <input checked="" type="checkbox"/>	S012 <input checked="" type="checkbox"/>	S013 <input checked="" type="checkbox"/>	S014 <input checked="" type="checkbox"/>	S015 <input checked="" type="checkbox"/>	S016 <input checked="" type="checkbox"/>	S017 <input checked="" type="checkbox"/>	S018 <input checked="" type="checkbox"/>	S019 <input checked="" type="checkbox"/>
S020 <input checked="" type="checkbox"/>	S021 <input checked="" type="checkbox"/>	S022 <input checked="" type="checkbox"/>	S023 <input checked="" type="checkbox"/>	S024 <input checked="" type="checkbox"/>	S025 <input checked="" type="checkbox"/>	#026	#027	#028	#029
#030	#031	#032	#033	#034	#035	#036	#037	#038	#039
S040 <input checked="" type="checkbox"/>	S041 <input checked="" type="checkbox"/>	S042 <input checked="" type="checkbox"/>	S043 <input checked="" type="checkbox"/>	S044 <input checked="" type="checkbox"/>	S045 <input checked="" type="checkbox"/>	S046 <input checked="" type="checkbox"/>	#047	#048	#049
#050	#051	#052	#053	#054	#055	#056	#057	#058	#059
#060	#061	#062	#063	#064	#065	#066	#067	#068	#069
#070	#071	#072	#073	#074	#075	#076	#077	#078	#079
#080	#081	#082	#083	#084	#085	#086	#087	#088	#089
#090	#091	#092	#093	#094	#095	#096	#097	#098	#099
#100	#101	#102	#103	#104	#105	#106	#107	#108	#109
#110	#111	#112	#113	#114	#115	#116	#117	#118	#119
#120	#121	#122	#123	#124	#125	#126			


- Click on the tab "Network" and then on the field "PROFIBUS Settings" to check the PROFIBUS Settings, which have to correspond to these configured on the PROFIBUS master side:




Fieldgate SFG500 Asset Monitor

Device Tag: Open Integration - Rack PROFIBUS

Fieldgate status: OK

Endress+Hauser 

19. Jul 2017 9:54:24 AM  Login

Start **Network** Assets Process Events Settings Information

PROFIBUS Live List
PROFIBUS Monitor
PROFIBUS Settings
Slave Settings

PROFIBUS Settings

Configuration Mode

☐ Auto Mode
☒ Manual Mode

Baudrate

Baudrate: 1500 kBit/s

Address Parameters

Station Address: 2
Highest Station Address: 126

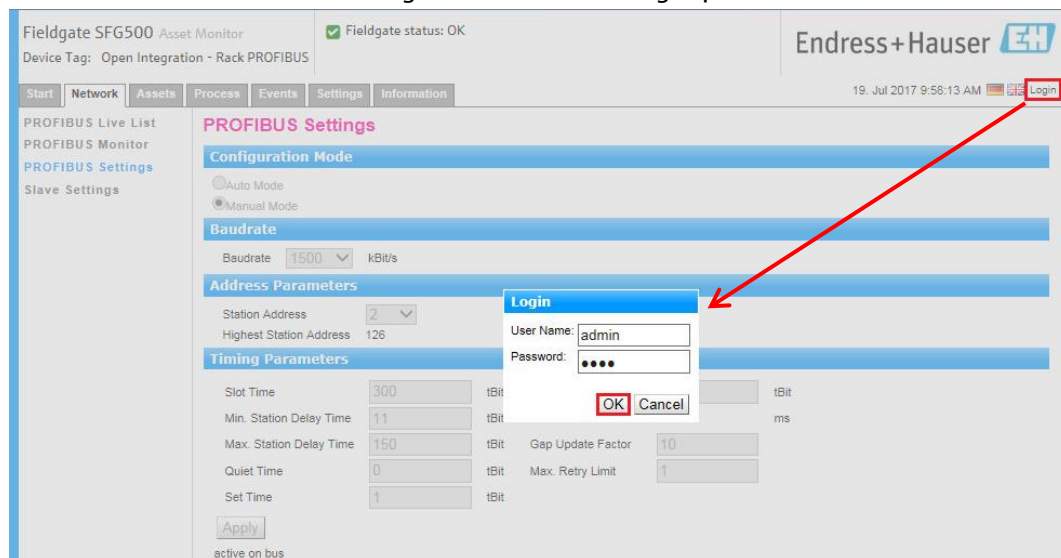
Timing Parameters

Slot Time	300	tBit	Target Rotation Time	37095	tBit
Min. Station Delay Time	11	tBit		= 24.7	ms
Max. Station Delay Time	150	tBit	Gap Update Factor	10	
Quiet Time	0	tBit	Max. Retry Limit	1	
Set Time	1	tBit			

Apply

active on bus


- If some Timing parameters need to be changed, the advanced user login needs at first to be entered. Click on the button "Login" and enter the login parameters. Then click on the button "OK":




Fieldgate SFG500 Asset Monitor

Device Tag: Open Integration - Rack PROFIBUS

Fieldgate status: OK

Endress+Hauser 

19. Jul 2017 9:58:13 AM  **Login**

Start **Network** Assets Process Events Settings Information

PROFIBUS Live List
PROFIBUS Monitor
PROFIBUS Settings
Slave Settings

PROFIBUS Settings

Configuration Mode

☐ Auto Mode
☒ Manual Mode

Baudrate

Baudrate: 1500 kBit/s

Address Parameters

Station Address: 2
Highest Station Address: 126

Timing Parameters

Slot Time	300	tBit	Target Rotation Time	37095	tBit
Min. Station Delay Time	11	tBit		= 24.7	ms
Max. Station Delay Time	150	tBit	Gap Update Factor	10	
Quiet Time	0	tBit	Max. Retry Limit	1	
Set Time	1	tBit			

Apply

active on bus

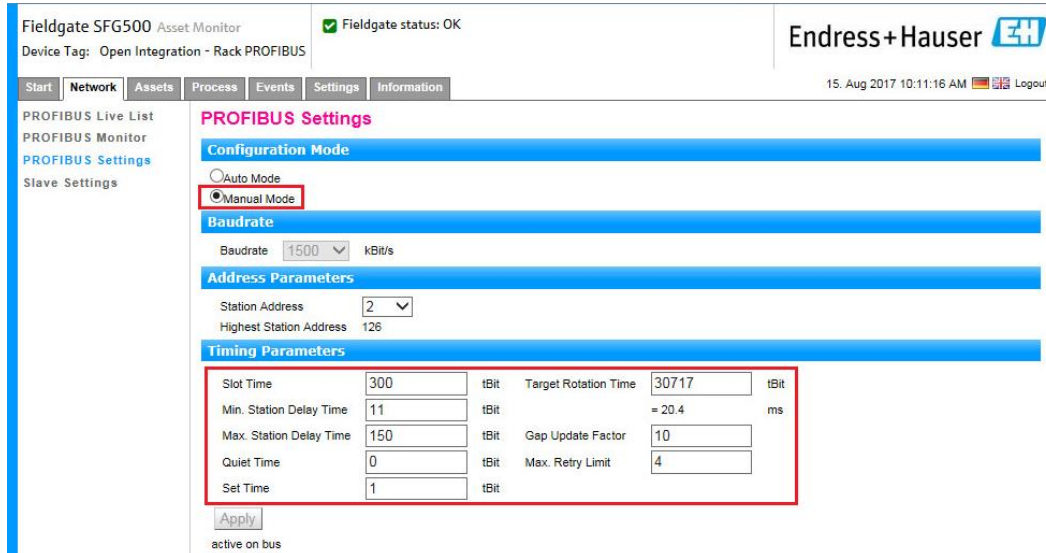
Login

User Name: admin

Password:

OK Cancel

- Select the "Manual Mode" in the "Configuration Mode" option and change the required Bus timing settings in the "Timing Parameters" option:



The screenshot shows the 'PROFIBUS Settings' page in the 'Configuration Mode'. The 'Manual Mode' radio button is selected and highlighted with a red box. Below it, the 'Timing Parameters' section is also highlighted with a red box, containing the following settings:

Parameter	Value	Unit
Slot Time	300	tBit
Min. Station Delay Time	11	tBit
Max. Station Delay Time	150	tBit
Quiet Time	0	tBit
Set Time	1	tBit
Target Rotation Time	30717	tBit
Gap Update Factor	10	
Max. Retry Limit	4	

The 'Apply' button is visible at the bottom of the 'Timing Parameters' section, and the status 'active on bus' is shown below it.

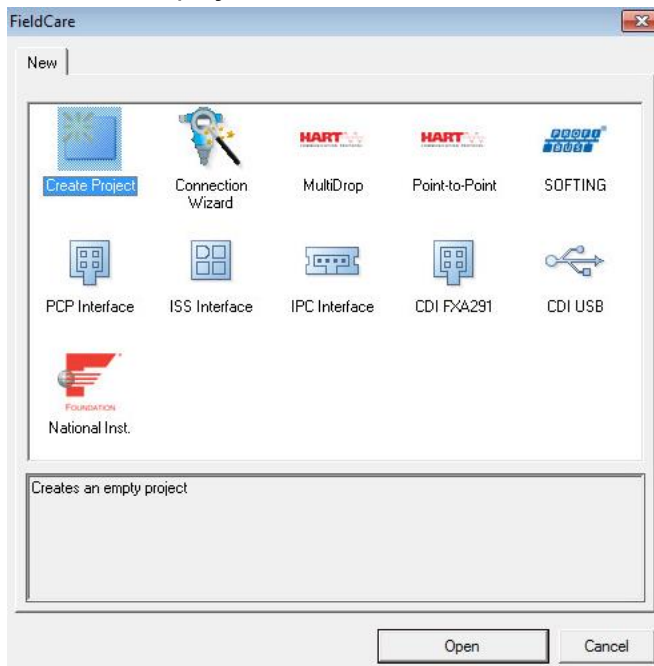
Changing any bus parameters will enable the button "Apply". Click on the button "Apply" to save the new configuration.

5.2 Endress+Hauser "SFG500" DTM Configuration

- Start the application FieldCare:







- Create a new project:



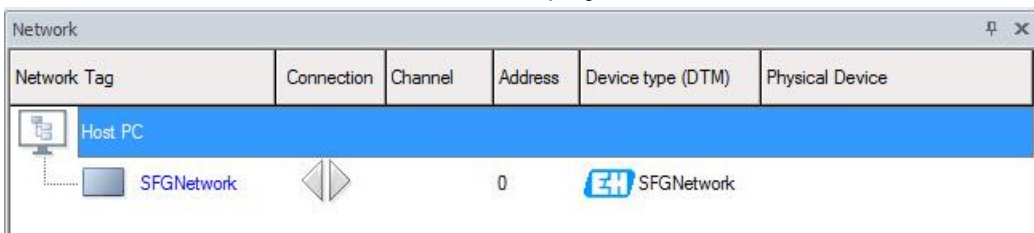
- Right-click on the Network Tag "Host PC" and select the menu "Add Device":



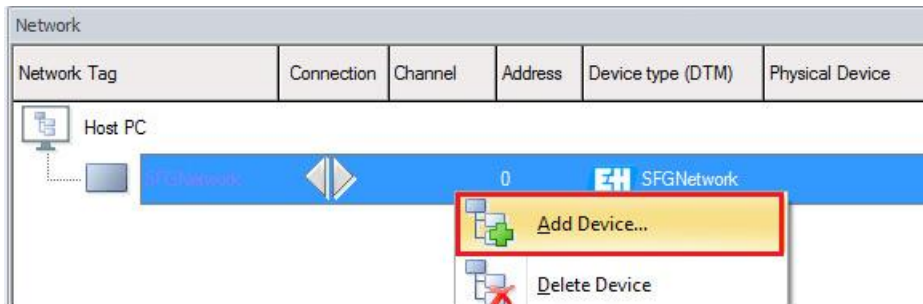
- Select the "SFGNetwork" CommDTM and click on the button "OK":

Device	Version	Class	Manufacturer	Protocol	
FieldConnex Diagnost...	V2.1.1.1971 (2008-04-09)		PEPPERL+FUCHS GmbH	FDS Communication	
PNIO Comm DTM	V1.0.1.1911 (2015-01-23)		PEPPERL+FUCHS GmbH	PROFINET IO	
PRM Comm	V1.x		Schneider Electric	Profibus DP/V1	
SFGNetwork	V1.10.00.343 (2016-08-12)		Endress+Hauser	SFG5xx	

- "SFGNetwork" CommDTM is inserted in the project:



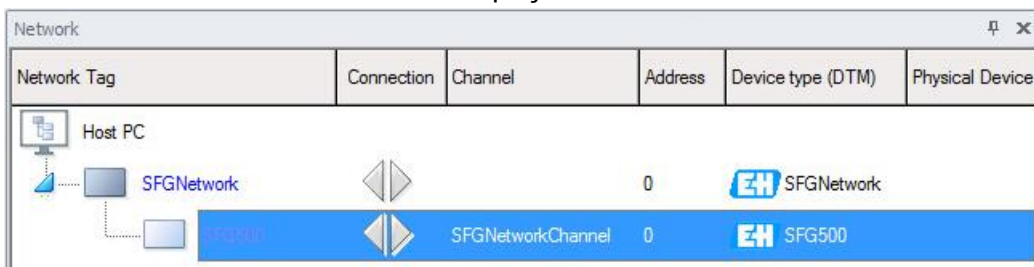
- Right-click on the "SFGNetwork" CommDTM and select the menu "Add Device...":



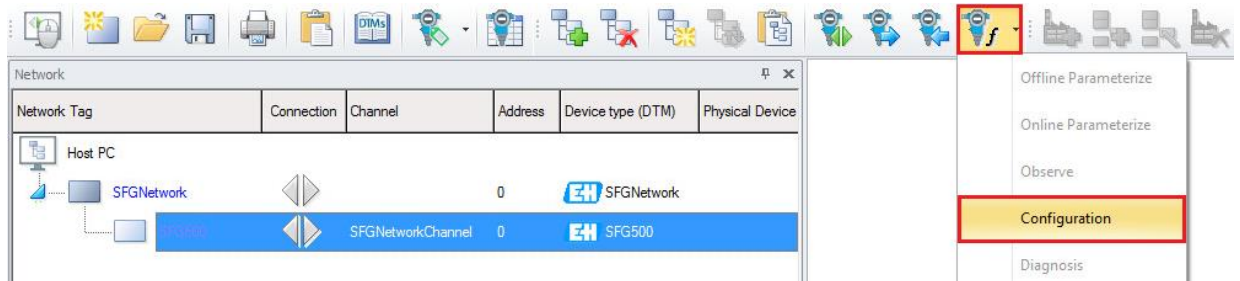
- Select the "SFG500" CommDTM and click on the button "OK":

Device	Version	Class	Manufacturer	Protocol	
SFG500	V1.10.00.343 (2016-08-12)		Endress+Hauser	SFG5xx	

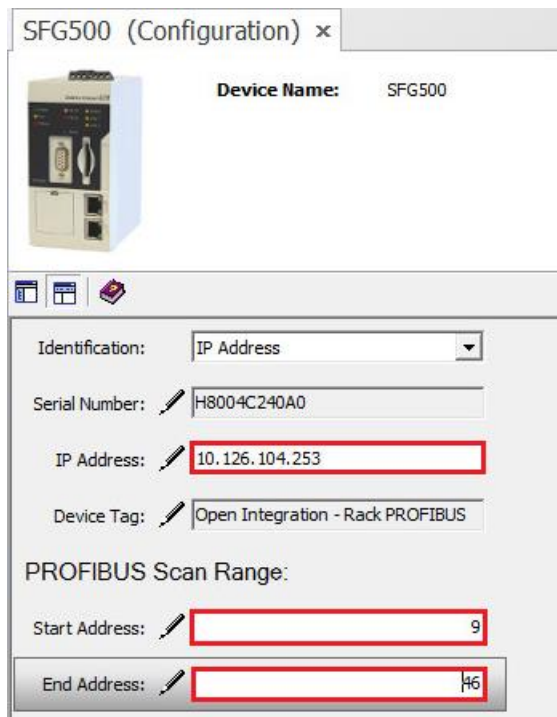
- "SFG500" CommDTM is inserted in the project:



- Select the "SFG500" CommDTM, then click on the shortcut button "Device Functions" and select the menu "Configuration":



- Configure the IP address of the SFG500 as well as the scanning range. In this example, the SFG500 IP address is 10.126.104.253 and the scanning range is set between PROFIBUS address 10 and 46:



- Close the SFG500 configuration window.

5.3 Adding Devices in the Network

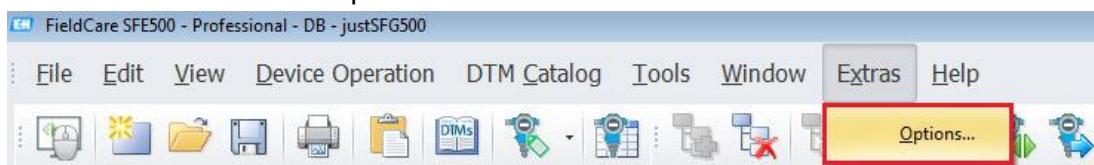
5.3.1 FieldCare Scanning Function Create Network

The function "Create Network" is used to scan the PROFIBUS network and to insert automatically the correct corresponding deviceDTMs in the project.

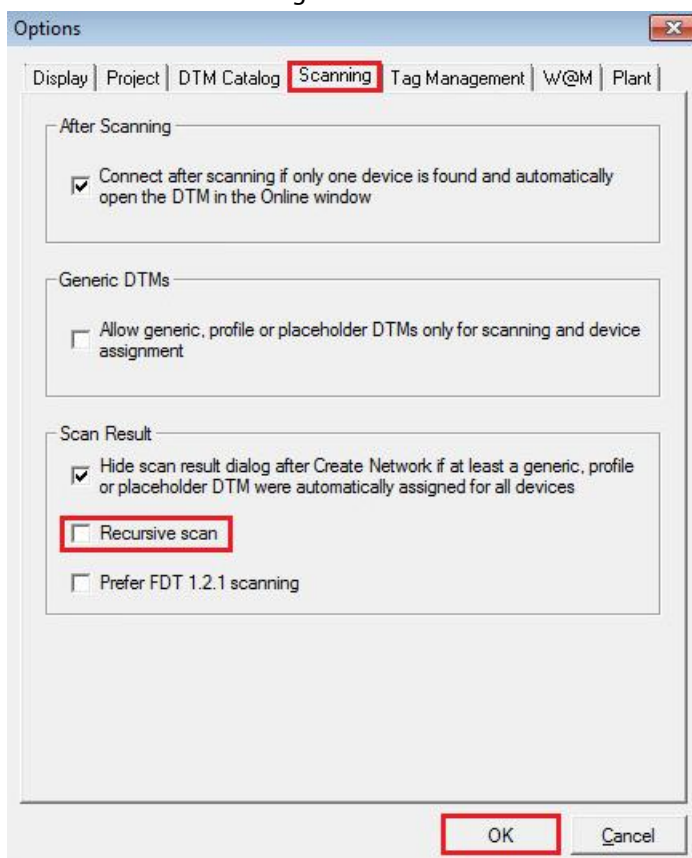
5.3.1.1 FieldCare Recursive Scan Option

The FieldCare Scanning option "Recursive scan" must be disabled in FieldCare 2.11 for successful scanning of the Pepperl+Fuchs CommDTM "HD2-GTR-4PA".

- Select the menu "Extras→Option":



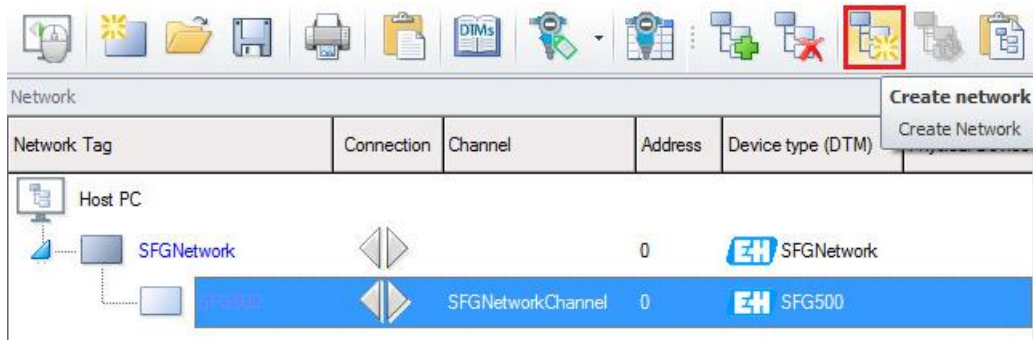
- Select the tab "Scanning" and disable the checkbox "Recursive scan":
























- Click on the button "OK" to close the window.

5.3.1.2 FieldCare Scanning Function Create Network

- Select the "SFG500" CommDTM and click on the shortcut button "Create Network":



- This example displays the scanning result of the Open Integration PROFIBUS rack, including the HON02 topology devices:

Network Tag	Co...	Channel	A...	Device type (DTM)	Physical Device
Host PC					
SFGNetwork			0	 SFGNetwork	
SFG500		SFGNetwo...	0	 SFG500	
HD2-GTR-4PA		SFG500Ch...	9	 HD2-GTR-4PA	
PA0001		SFG500Ch...	10	 Cerabar S / PMx 7x / PA / FW 4.01.zz / Dev.Rev. 3	Cerabar S
PA0002		SFG500Ch...	11	 Cerabar M / PMx5x / PA / FW 1.00.zz / Dev.Rev. 1	Cerabar M 5x
PA0003		SFG500Ch...	12	 Liquiphant M/S / FTL 5x/7x / PA / V1.3	Liquiphant
PA0004		SFG500Ch...	13	 Deltabar S / xMD 7x / PA / FW 4.01.zz / Dev.Rev. 3	Deltabar S
PA0005		SFG500Ch...	14	 Promag / 50 / PA / V3.06.xx	PROMAG 50 PBUS
PA0006		SFG500Ch...	15	 Levelflex / FMP 5x / PA / FW 1.01.zz / Dev.Rev. 2	Levelflex 5x
PA0007		SFG500Ch...	16	 Prosonic M / FMU4x / PA / V4.xx	PROSONIC M
PA0008		SFG500Ch...	17	 Deltapilot S / FMB 70 / PA / FW 4.01.zz / Dev.Rev. 3	DeltapilotS
PA0009		SFG500Ch...	18	 Deltapilot M / FMB5x / PA / FW 1.00.zz / Dev.Rev. 1	Deltapilot M 5x
PA0010		SFG500Ch...	19	 Micropilot / FMR5x / PA / FW 1.01.zz / Dev.Rev. 2	Micropilot 5x
PA0011		SFG500Ch...	20	 Deltabar M / PMD5x / PA / FW 1.00.zz / Dev.Rev. 1	Deltabar M 5x
PA0012		SFG500Ch...	21	 iTEMP / TMT84 / PA / FW 1.01.zz / Dev.Rev. 2	iTEMP TMT84
PA0013		SFG500Ch...	22	 Liquiline M pH-ORP / CM 42 / PA / FW 10.07.zz	Liquiline M CM42
PA0014		SFG500Ch...	23	 Promass / 80 / PA / V3.06.xx	PROMASS 80 PBUS
PA0015		SFG500Ch...	24	 Promass 200 / 8x2B / PA / FW 1.01.zz / Dev.Rev. 2	Promass 200
PA0016		SFG500Ch...	25	 Prowirl 200 / 7x2Bxx / PA / FW 1.01.zz / Dev.Rev. 2	Prowirl 200 PA
DP0001		SFG500Ch...	40	 Prosonic S / FMU 90 / DP / V2.01.xx	PROSONIC S FMU90
DP0002		SFG500Ch...	41	 Liquiline / CM44x / DP / FW 01.05.zz / Dev.Rev. 3	Liquiline CM44x

DTM messages	
Tag	Error/User message
SFG500	Finished scanning.

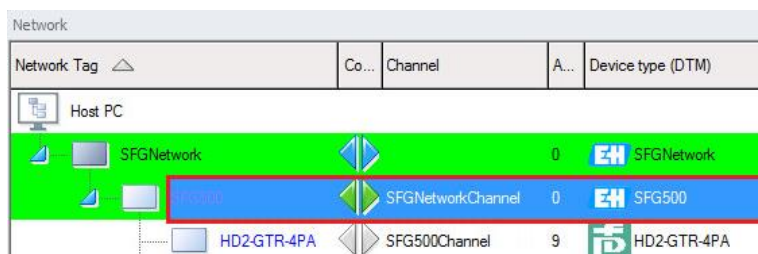
Remarks about the "Create Network" function

- Depending on the amount of connected devices on the PROFIBUS network, the function "Create Network" may not always be successfully performed and may lead to unexpected error messages. Please refer to chapter 5.3.1.3 for configuring the FieldCare scanning function in bigger PROFIBUS networks.
- After a successful network scanning, it is recommended to save the project and close FieldCare and then to re-open the project to prevent any memory overconsumption of the FieldCare FMPFrame.exe32 process. Errors may occur if the FMPFrame.exe*32 process exceeds the memory consumption of 1.2 GB.
- The Pepperl+Fuchs "H2-DMA" CommDTM is not scanned successfully. It must be added manually. Please refer to chapter 5.4.1.2.

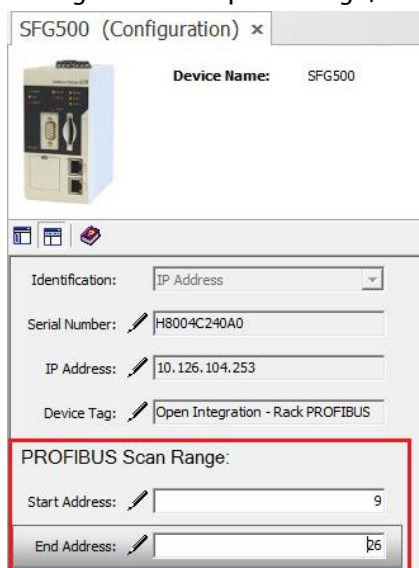
5.3.1.3 FieldCare Create Network Range Address

For scanning bigger PROFIBUS networks, it's recommended to split the SFG500 PROFIBUS Scan Range in parts in the SFG500 settings and to execute the FieldCare scanning function for each of this range.

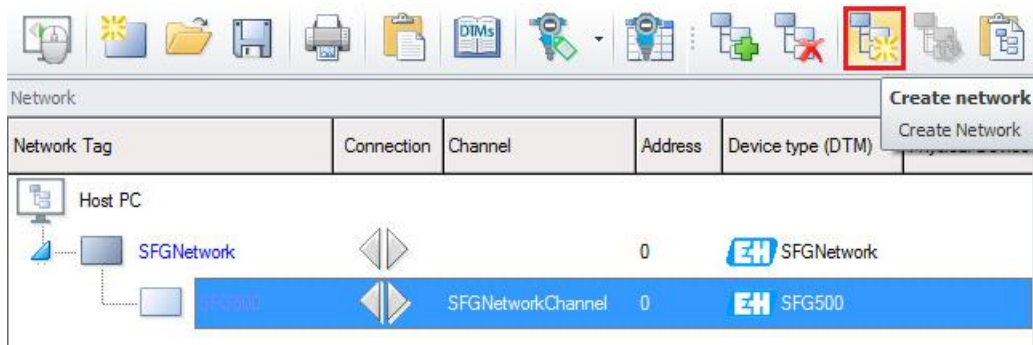
- Double-click on the SFG500:



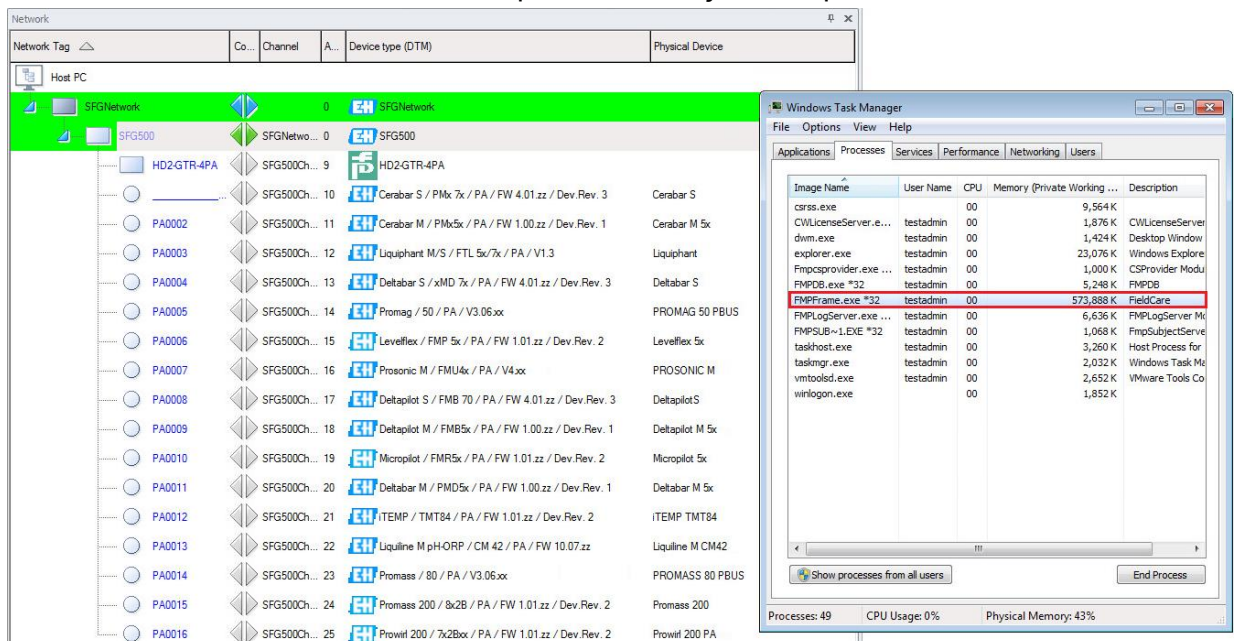
- Configure an adequate range, for example from address 9 to 26:



- Execute the function "Create Network":



- Scanned devices and FMPFrame.exe*32 process memory consumption:



FMPFrame.exe*32 consumes 573.8 MB memory.

- Save the project and close FieldCare.

- Start FieldCare and open the current project:

The screenshot shows the Honeywell FieldCare network configuration tool on the left and the Windows Task Manager on the right. The network tool displays a tree view of the network configuration, including a Host PC, SFGNetwork, and various SFG500 devices. The Windows Task Manager shows the list of running processes, with FMPFrame.exe*32 highlighted, indicating it is consuming 162,794 K of memory.

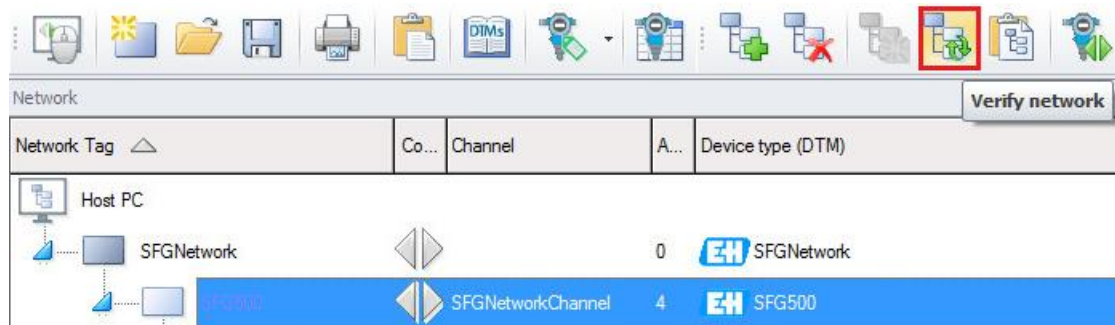
Image Name	User Name	CPU	Memory (Private Working ...)	Description
csrss.exe	testadmin	00	9,564 K	
CWLicenseServer.e...	testadmin	00	1,928 K	CWLicenseServer
dwm.exe	testadmin	00	1,424 K	Desktop Window
explorer.exe	testadmin	00	23,308 K	Windows Explore
Fmpcprovider.exe ...	testadmin	00	1,016 K	CSPProvider Modu
FMPDB.exe *32	testadmin	00	6,904 K	FMPDB
FMPFrame.exe *32	testadmin	00	162,794 K	FieldCare
FMPLogServer.exe ...	testadmin	00	5,884 K	FMPLogServer M
FMPSub~1.EXE *32	testadmin	00	1,116 K	FmpSubjectServe
taskmgr.exe	testadmin	00	3,300 K	Host Process for
taskmgr.exe	testadmin	00	2,080 K	Windows Task Me
vmtoolsd.exe	testadmin	00	2,652 K	VMware Tools Co
winlogon.exe	testadmin	00	1,852 K	

FMPFrame.exe*32 consumes 162.7 MB memory.

- Configure the next PROFIBUS Scan Range, for example from address 27 to 46:

The screenshot shows the SFG500 (Configuration) dialog box. The Device Name is SFG500. The Identification is set to IP Address. The Serial Number is H8004C240A0. The IP Address is 10.126.104.253. The Device Tag is Open Integration - Rack PROFIBUS. The PROFIBUS Scan Range is highlighted, showing a Start Address of 27 and an End Address of 46.

- Select the function "Verify Network" (The function "Create Network" is only executed the first time):



- Scanned devices and FMPFrame.exe*32 process memory consumption:

Device ID	Device Name	Channel	Device Type
PA0005	SFG500Channel	14	Promag / 50 / PA / V3.06.xx
PA0006	SFG500Channel	15	Levelflex / FMP 5x / PA / FW 1.01.zz / Dev. Rev. 2
PA0007	SFG500Channel	16	Prosonic M / FMU4x / PA / V4.xx
PA0008	SFG500Channel	17	Deltapilot S / FMB 70 / PA / FW 4.01.zz / Dev. Rev. 3
PA0009	SFG500Channel	18	Deltapilot M / FMB5x / PA / FW 1.00.zz / Dev. Rev. 1
PA0010	SFG500Channel	19	Microplot / FMR5x / PA / FW 1.01.zz / Dev. Rev. 2
PA0011	SFG500Channel	20	Deltabar M / PMD5x / PA / FW 1.00.zz / Dev. Rev. 1
PA0012	SFG500Channel	21	TEMP / TMT84 / PA / FW 1.01.zz / Dev. Rev. 2
PA0013	SFG500Channel	22	Liquiline M pH-ORP / CM 42 / PA / FW 10.07.zz
PA0014	SFG500Channel	23	Promass / 80 / PA / V3.06.xx
PA0015	SFG500Channel	24	Promass 200 / 8x2B / PA / FW 1.01.zz / Dev. Rev. 2
PA0016	SFG500Channel	25	Proxit 200 / 7x2Box / PA / FW 1.01.zz / Dev. Rev. 2
DP0001	SFG500Channel	40	Prosonic S / FMU 90 / DP / V2.01.xx
DP0002	SFG500Channel	41	Liquiline / CM44x / DP / FW 01.05.zz / Dev. Rev. 3
DP0003	SFG500Channel	42	Promag / 53 / DP / V3.06.xx
DP0004	SFG500Channel	43	Promass / 83 / DP / V3.06.xx
Promag 100 DP	SFG500Channel	44	Promag 100 / 5x1B / DP / FW 1.01.zz / Dev. Rev. 2
Promag 400 DP	SFG500Channel	45	Promag 400 / 5x4C / DP / FW 1.01.zz / Dev. Rev. 2
DP0007	SFG500Channel	46	Promass 100 / 8x1B / DP / FW 1.01.zz / Dev. Rev. 2

The screenshot shows the Windows Task Manager window with the 'Processes' tab selected. The 'FMPFrame.exe*32' process is highlighted in red, showing it is running under the 'testadmin' user and consuming 765,652 K of memory. The 'Description' column for this process is 'FieldCare'.

FMPFrame.exe*32 consumes 765.6 MB memory.

- Save the project and close FieldCare.

- Start FieldCare and open the current project:

Network Tag	Co...	Channel	Device type (DTM)
SFG500	SFGNetworkChannel	4	SFG500
HD2-GTR-4PA	SFG500Channel	9	HD2-GTR-4PA
PA0002	SFG500Channel	10	Cerabar S / PMx 7x / PA / FW 4.01.zz / Dev. Rev. 3
PA0003	SFG500Channel	11	Cerabar M / PMx5x / PA / FW 1.00.zz / Dev. Rev. 1
PA0004	SFG500Channel	12	Liquiphant M/S / FTL 5x/7x / PA / V1.3
PA0005	SFG500Channel	13	Deltabar S / xMD 7x / PA / FW 4.01.zz / Dev. Rev. 3
PA0006	SFG500Channel	14	Promag / 50 / PA / V3.06.xx
PA0007	SFG500Channel	15	Levelflex / FMP 5x / PA / FW 1.01.zz / Dev. Rev. 2
PA0008	SFG500Channel	16	Prosonic M / FMU4x / PA / V4.xx
PA0009	SFG500Channel	17	Deltapilot S / FMB 70 / PA / FW 4.01.zz / Dev. Rev. 3
PA0010	SFG500Channel	18	Deltapilot M / FMB5x / PA / FW 1.00.zz / Dev. Rev. 1
PA0011	SFG500Channel	19	Micropilot / FMR5x / PA / FW 1.01.zz / Dev. Rev. 2
PA0012	SFG500Channel	20	Deltabar M / PMD5x / PA / FW 1.00.zz / Dev. Rev. 1
PA0013	SFG500Channel	21	ITEMP / TMT84 / PA / FW 1.01.zz / Dev. Rev. 2
PA0014	SFG500Channel	22	Liquiline M pH-ORP / CM 42 / PA / FW 10.07.zz
PA0015	SFG500Channel	23	Promass / 80 / PA / V3.06.xx
PA0016	SFG500Channel	24	Promass 200 / 8x2B / PA / FW 1.01.zz / Dev. Rev. 2
DP0001	SFG500Channel	25	Proiwil 200 / 7x2Bxx / PA / FW 1.01.zz / Dev. Rev. 2
DP0002	SFG500Channel	40	Prosonic S / FMU 90 / DP / V2.01.xx
DP0003	SFG500Channel	41	Liquiline / CM44x / DP / FW 01.05.zz / Dev. Rev. 3
DP0004	SFG500Channel	42	Promag / 53 / DP / V3.06.xx
Promag 100 DP	SFG500Channel	43	Promag / 83 / DP / V3.06.xx
Promag 400 DP	SFG500Channel	44	Promag 100 / 5x1B / DP / FW 1.01.zz / Dev. Rev. 2
DP0007	SFG500Channel	45	Promag 400 / 5x4C / DP / FW 1.01.zz / Dev. Rev. 2
	SFG500Channel	46	Promag 100 / 8x1B / DP / FW 1.01.zz / Dev. Rev. 2

FMPFrame.exe*32 consumes 163.4 MB memory.

- The project is now ready for use.

5.3.2 Adding Manually a Device

5.3.2.1 Adding a PROFIBUS Device




- Right-click on the "SFG500" CommDTM and select the menu "Add Device..."

Network Tag	Connection	Channel	Address	Device type (DTM)	Physical Device
SFGNetwork			0	SFGNetwork	
SFG500	SFGNetworkChannel	4		SFG500	

- Select the required deviceDTM, for example the TMT84 and click on the button "OK":

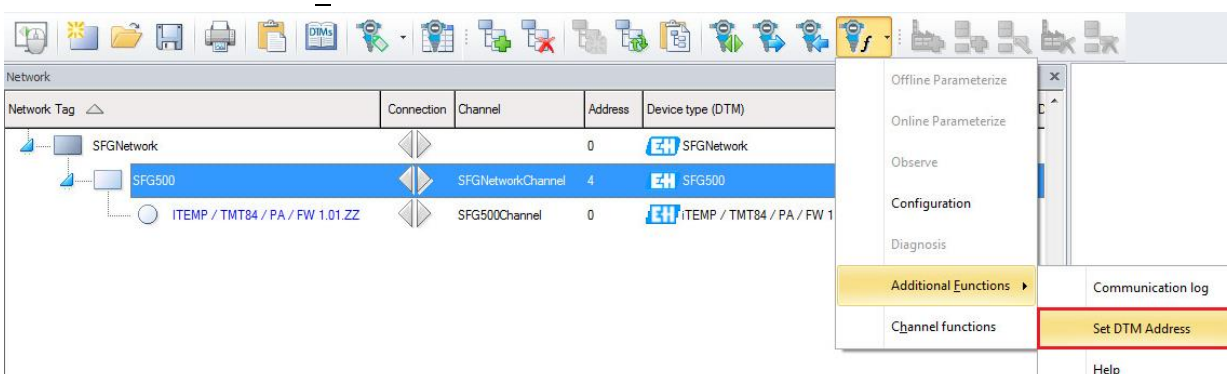
Device	Version	Class	Manufacturer	Protocol
ITEMP / TMT84 / PA / FW 1.01.zz / Dev.Rev. 2	V1.5.153.348 (2015-10-21)	temperature	Endress+Hauser	PROFIBUS DP/V1
ITEMP / TMT84 / PA / V1.0	V1.5.155.349 (2016-05-11)	temperature	Endress+Hauser	PROFIBUS DP/V1
Levelflex / FMP 5x / PA / FW 1.00.zz / Dev.Rev. 1	V1.10.0.1015 (2017-06-08)	level	Endress+Hauser	CDI, Profibus DP/V1

- This inserts the deviceDTM in the project:

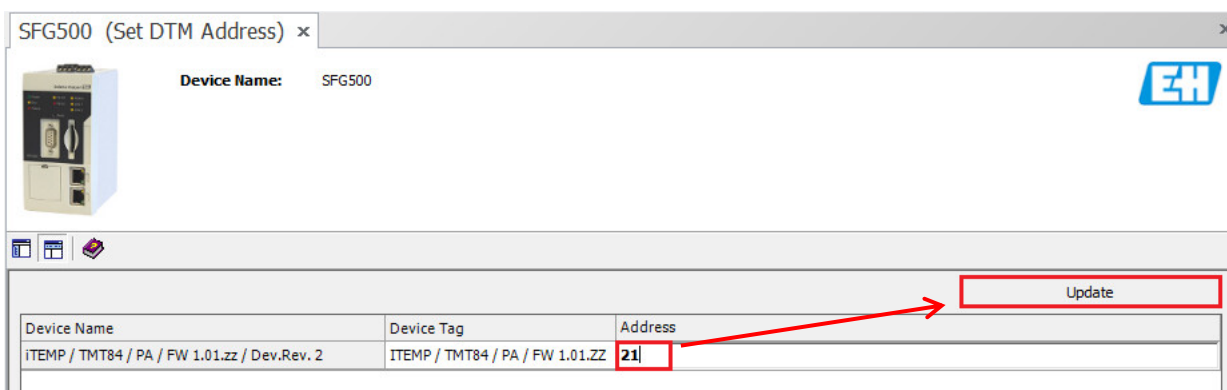
Network Tag	Connection	Channel	Address	Device type (DTM)
SFGNetwork			0	 SFGNetwork
SFG500		SFGNetworkChannel	4	 SFG500
ITEMP / TMT84 / PA / FW 1.01.ZZ		SFG500Channel	0	 ITEMP / TMT84 / PA / FW 1.01.zz / Dev.Rev. 2

5.3.2.2 DeviceDTM PROFIBUS Address Configuration




- Right-click on the "SFG500" CommDTM and click on the shortcut button "Device Functions" then on the menu "Additional Functions→Set DTM Address":



- Update the PROFIBUS address and click on the button "Update". In this example, the PROFIBUS address is set to "21":



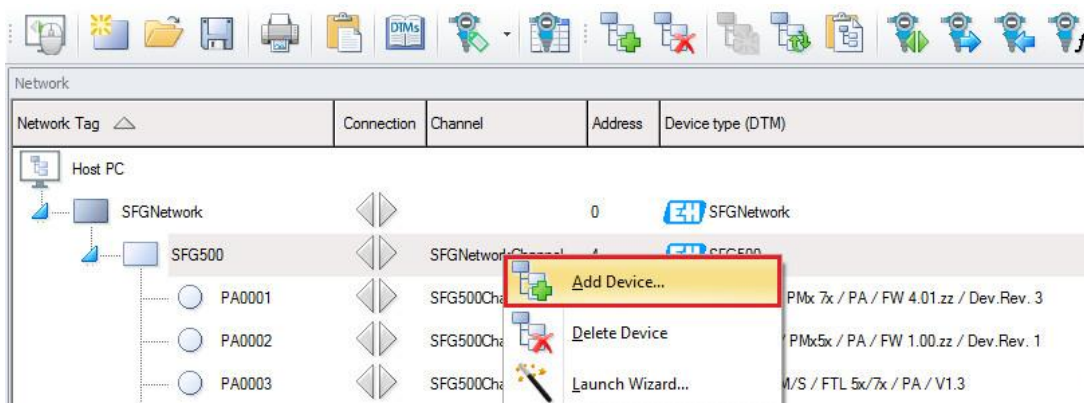
- This updates the PROFIBUS address in the project view:

Network				
Network Tag	Connection	Channel	Address	Device type (DTM)
SFGNetwork			0	 SFGNetwork
SFG500		SFGNetworkChannel	4	 SFG500
ITEMP / TMT84 / PA / FW 1.01.ZZ		SFG500Channel	21	 ITEMP / TMT84 / PA / FW 1.01.zz / Dev.Rev. 2

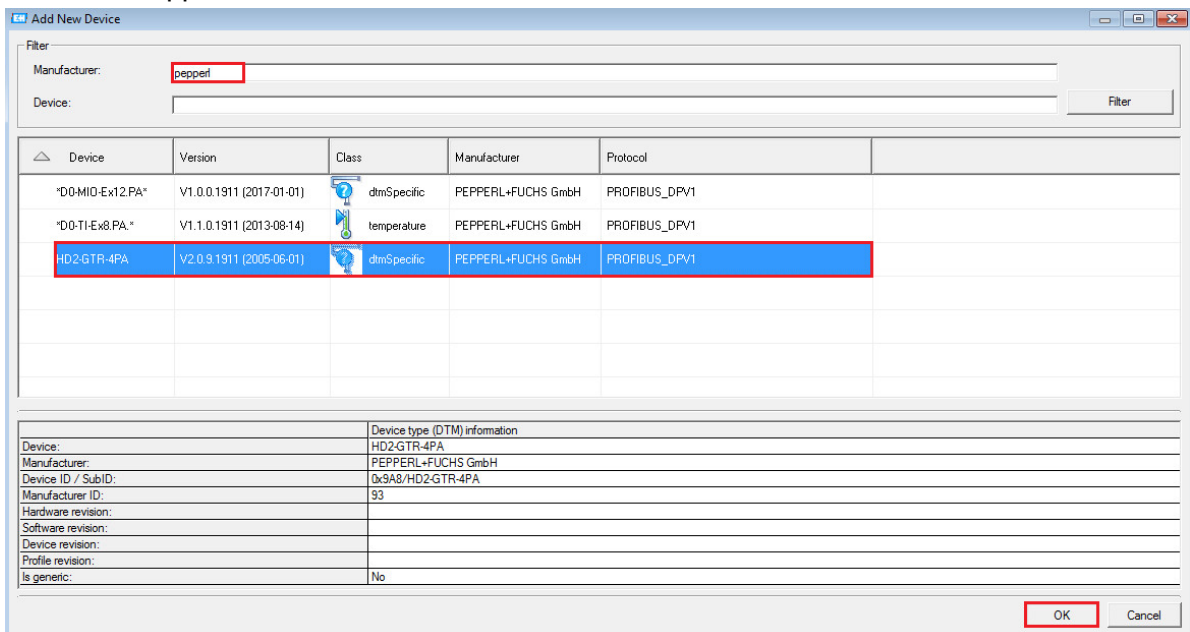
5.4 Pepperl+Fuchs Gateway Module

5.4.1.1 Adding the Pepperl+Fuchs CommDTM "HD2-GTR-4PA"

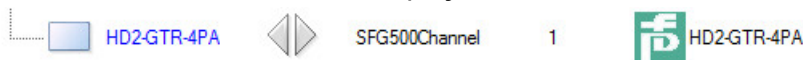
- Right-click on the "SFG500" CommDTM and select the menu "Add Device..."



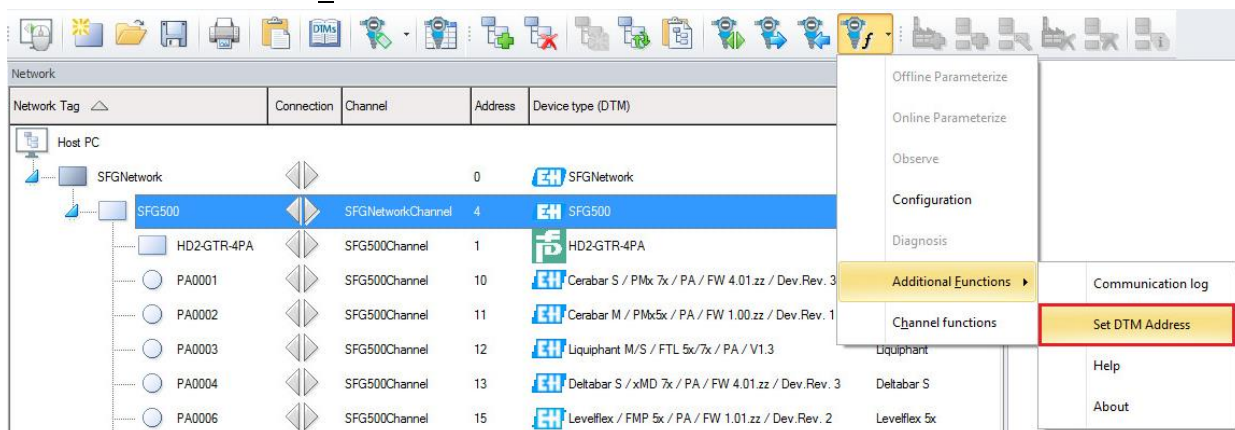
- Select the Pepperl+Fuchs "HD2-GTR-4PA" CommDTM and click on the button "ok".



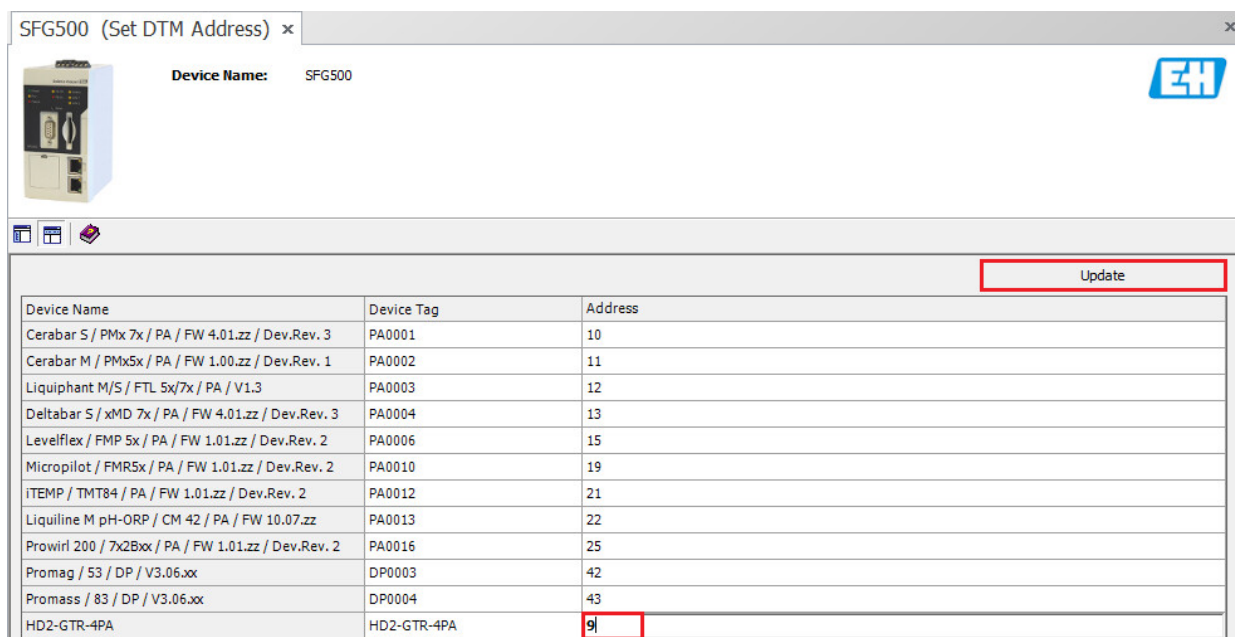
- This inserts the CommDTM in the project with Bus address 1:



- Right-click on the "SFG500" CommDTM and click on the shortcut button "Device Functions" then on the menu "Additional Functions→Set DTM Address":



- Update the PROFIBUS address and click on the button "Update". In this example, the PROFIBUS address is set to "9":



- The "HD2-GTR-4PA" address has to correspond to this one configured on the SK3 DIP switch, address 9 (0x1001) in this example:

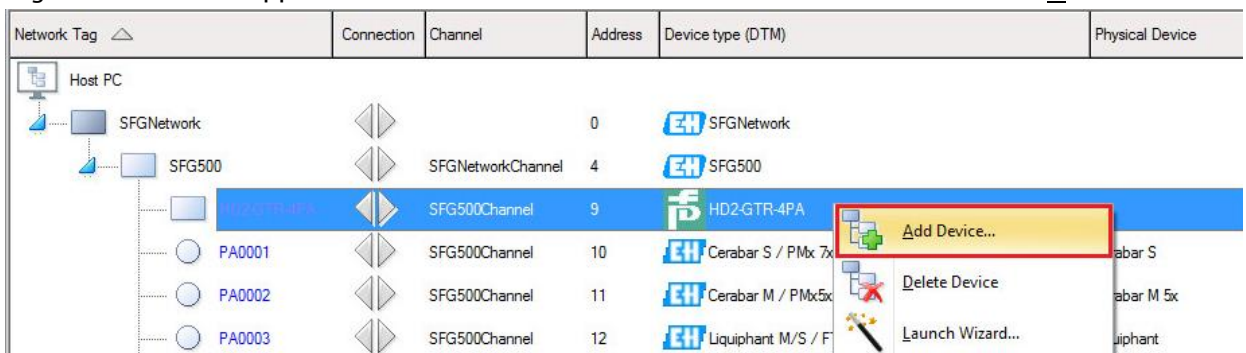


- Updated SK3 bus address:

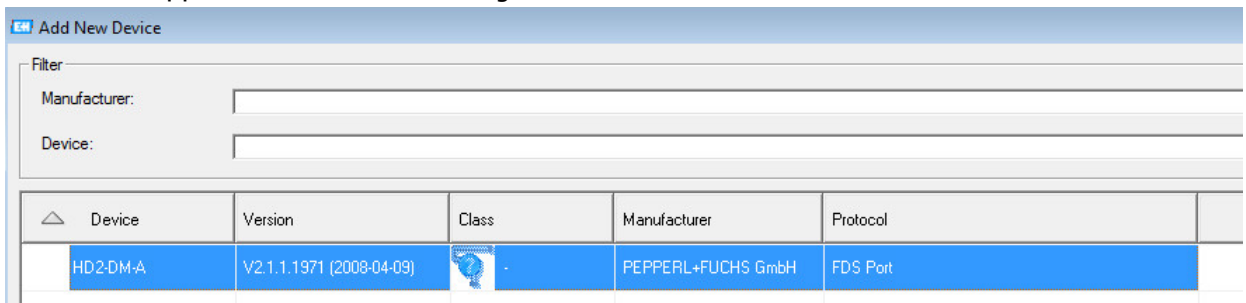


5.4.1.2 Adding the Pepperl+Fuchs Advanced Diagnostic Module "HD2-DM-A"

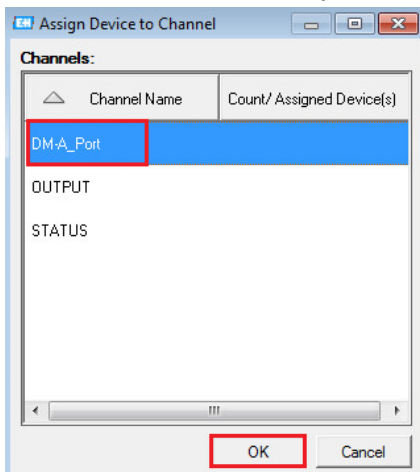
- Right-click on the Pepperl+Fuchs "HD2-GTR-4PA" CommDTM and select the menu "Add Device...":



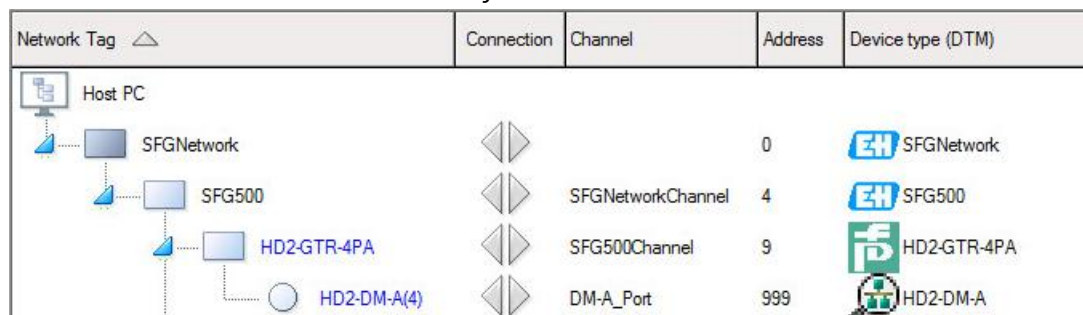
- Select the Pepperl+Fuchs Advanced Diagnostic Module "HD2-DM-A" CommDTM:



- Select the "DM-A_Port" option and click on the button "OK":



- “HD2-DM-A” CommDTM is successfully inserted:



Bus Address “999” is assigned automatically to the “HD2-DM-A” CommDTM. This address doesn’t need to be configured.

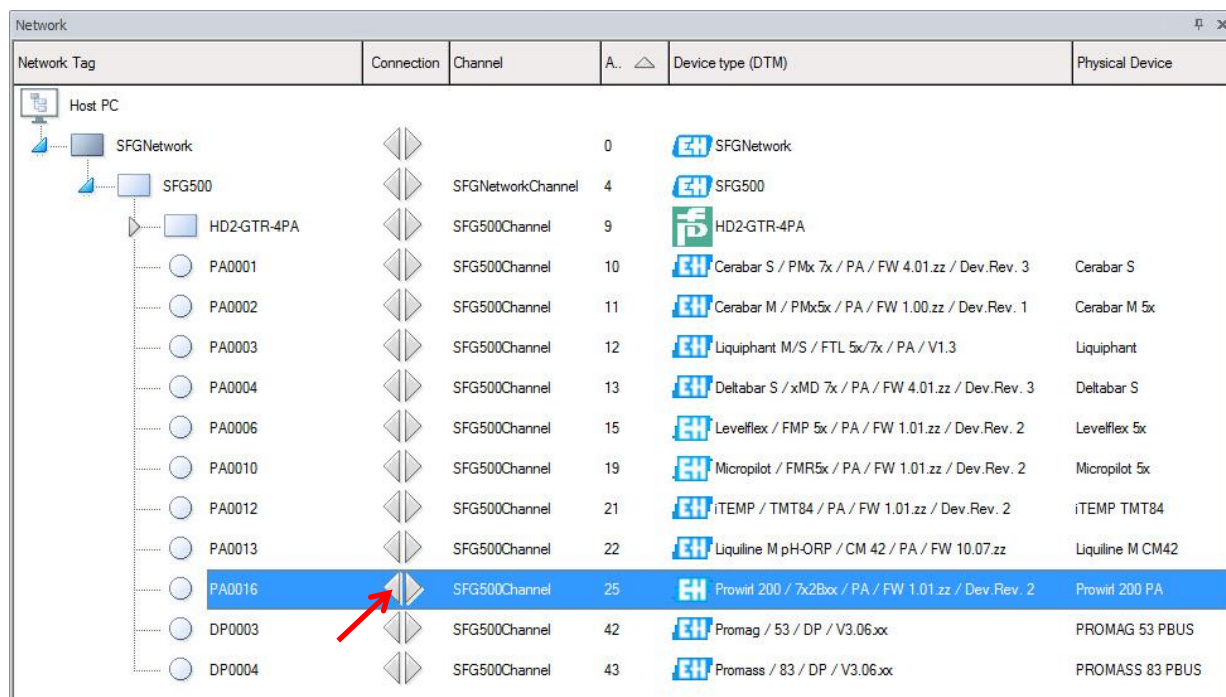
5.5 Online Device Connection

5.5.1 Endress+Hauser Prowirl200 PA

5.5.1.1 Device Connection

This example shows how to connect the Prowirl200 PA.

- Click on the left arrow of the Prowirl200:




- This connects the device:

Network Tag	Connection	Channel	A..	Device type (DTM)	Physical Device
Host PC					
SFGNetwork			0	SFGNetwork	
SFG500		SFGNetworkChannel	4	SFG500	
HD2-GTR-4PA		SFG500Channel	9	HD2-GTR-4PA	
PA0001		SFG500Channel	10	Cerabar S / PMx 7x / PA / FW 4.01.zz / Dev.Rev. 3	Cerabar S
PA0002		SFG500Channel	11	Cerabar M / PMx5x / PA / FW 1.00.zz / Dev.Rev. 1	Cerabar M 5x
PA0003		SFG500Channel	12	Liquiphant M/S / FTL 5x/7x / PA / V1.3	Liquiphant
PA0004		SFG500Channel	13	Deltabar S / xMD 7x / PA / FW 4.01.zz / Dev.Rev. 3	Deltabar S
PA0006		SFG500Channel	15	Leveflex / FMP 5x / PA / FW 1.01.zz / Dev.Rev. 2	Leveflex 5x
PA0010		SFG500Channel	19	Microplot / FMR5x / PA / FW 1.01.zz / Dev.Rev. 2	Microplot 5x
PA0012		SFG500Channel	21	iTEMP / TMT84 / PA / FW 1.01.zz / Dev.Rev. 2	iTEMP TMT84
PA0013		SFG500Channel	22	Liquiline M pH-ORP / CM 42 / PA / FW 10.07.zz	Liquiline M CM42
PA0016		SFG500Channel	25	Prowirl 200 / 7x2Box / PA / FW 1.01.zz / Dev.Rev. 2	Prowirl 200 PA
DP0003		SFG500Channel	42	Promag / 53 / DP / V3.06.xx	PROMAG 53 PBUS
DP0004		SFG500Channel	43	Promass / 83 / DP / V3.06.xx	PROMASS 83 PBUS

- Double-click on the TAG "PA0016" for opening the Online window:

PA0016 (Online Parameterize) x




Device name:

Prowirl 200 PA

Device tag:

PA0016

Status signal:

 OK

Volume flow:

0.0000 dm³/h

Mass flow:

0.0000 kg/h

Corrected volume flow:

0.0000 Nm³/h

Endress+Hauser

Menu / Variable

Prowirl 200 PA

Access status tooling:

Operation

Setup

Diagnostics

Expert

Instrument health status

OK

Process variables - Device tag: PA0016

Volume flow

0.0000 m³/h

Volume flow

0.0000 m³/h

Mass flow

0.0000 kg/h

Volume flow

0.3755 m³

Volume flow

0.3755 m³

Online

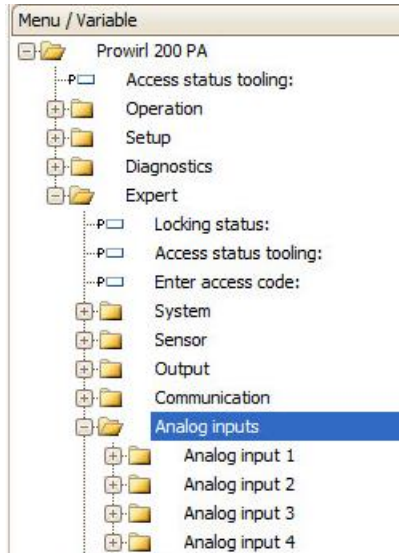
Connected

Diagnosics

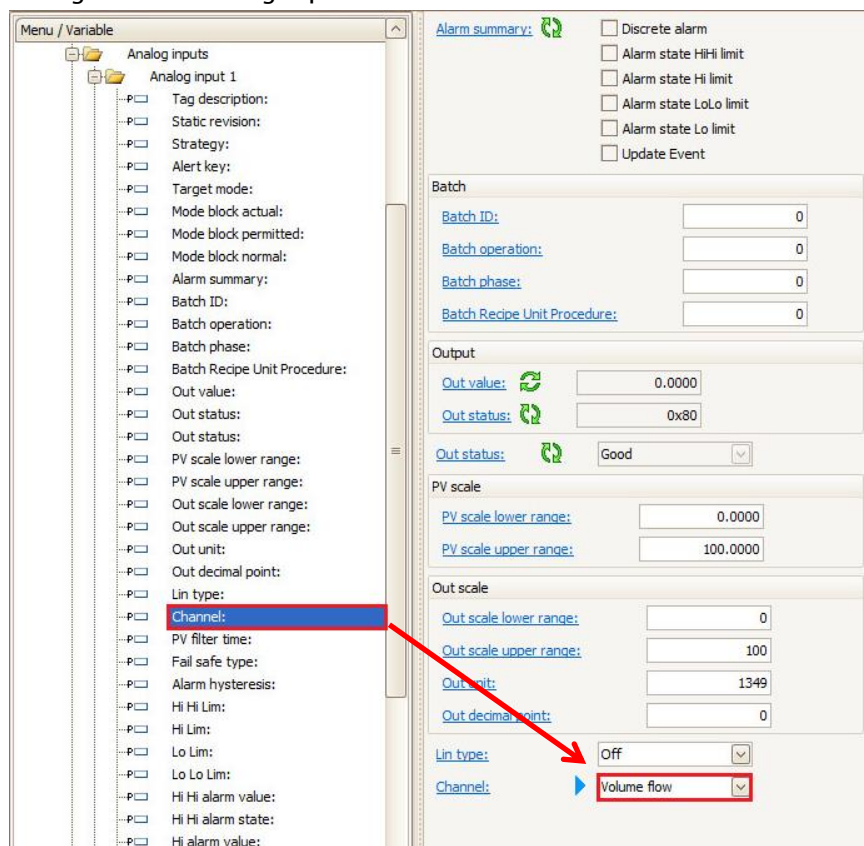
User Role: Planning engineer

5.5.1.2 Analog Inputs Configuration

- In the menu "Expert→Analog inputs" are categorized all analog inputs:



- Select the menu "Channel" to display the configured data on the channel. The Volume flow is configured on Analog Input 1:



- The Mass flow is configured on Analog Input 2:

Menu / Variable

Analog inputs

- Analog input 1
- Analog input 2
 - Tag description:
 - Static revision:
 - Strategy:
 - Alert key:
 - Target mode:
 - Mode block actual:
 - Mode block permitted:
 - Mode block normal:
 - Alarm summary:
 - Batch ID:
 - Batch operation:
 - Batch phase:
 - Batch Recipe Unit Procedure:
 - Out value:
 - Out status:
 - Out status:
 - PV scale lower range:
 - PV scale upper range:
 - Out scale lower range:
 - Out scale upper range:
 - Out unit:
 - Out decimal point:
 - Lin type:
 - Channel:
 - PV filter time:
 - Fail safe type:
 - Alarm hysteresis:
 - Hi Hi Lim:
 - Hi Lim:
 - Lo Lim:
 - Lo Lo Lim:

Alarm summary:

- ☐ Discrete alarm
- ☐ Alarm state Hi-Hi limit
- ☐ Alarm state Hi limit
- ☐ Alarm state LoLo limit
- ☐ Alarm state Lo limit
- ☐ Update Event

Batch

Batch ID: 0

Batch operation: 0

Batch phase: 0

Batch Recipe Unit Procedure: 0

Output

Out value: 0.0000

Out status: 0x80

Out status: Good

PV scale

PV scale lower range: 0.0000

PV scale upper range: 100.0000

Out scale

Out scale lower range: 0

Out scale upper range: 100

Out unit: 1324

Out decimal point: 0

Lin type: Off

Channel: Mass flow

- The Corrected volume flow is configured on Analog Input 3:

Menu / Variable

Analog inputs

- Analog input 1
- Analog input 2
- Analog input 3
 - Tag description:
 - Static revision:
 - Strategy:
 - Alert key:
 - Target mode:
 - Mode block actual:
 - Mode block permitted:
 - Mode block normal:
 - Alarm summary:
 - Batch ID:
 - Batch operation:
 - Batch phase:
 - Batch Recipe Unit Procedure:
 - Out value:
 - Out status:
 - Out status:
 - PV scale lower range:
 - PV scale upper range:
 - Out scale lower range:
 - Out scale upper range:
 - Out unit:
 - Out decimal point:
 - Lin type:
 - Channel:
 - PV filter time:
 - Fail safe type:
 - Alarm hysteresis:
 - Hi Hi Lim:
 - Hi Lim:
 - Lo Lim:
 - Lo Lo Lim:

Alarm summary:

- ☐ Discrete alarm
- ☐ Alarm state Hi-Hi limit
- ☐ Alarm state Hi limit
- ☐ Alarm state LoLo limit
- ☐ Alarm state Lo limit
- ☐ Update Event

Batch

Batch ID: 0

Batch operation: 0

Batch phase: 0

Batch Recipe Unit Procedure: 0

Output

Out value: 0.0000

Out status: 0x80

Out status: Good

PV scale

PV scale lower range: 0.0000

PV scale upper range: 100.0000

Out scale

Out scale lower range: 0

Out scale upper range: 100

Out unit: 1590

Out decimal point: 0

Lin type: Off

Channel: Corrected volume flow

- The Temperature is configured on Analog Input 4:

Menu / Variable

- Analog inputs
 - Analog input 1
 - Analog input 2
 - Analog input 3
 - Analog input 4

Tag description:
Static revision:
Strategy:
Alert key:
Target mode:
Mode block actual:
Mode block permitted:
Mode block normal:
Alarm summary:
Batch ID:
Batch operation:
Batch phase:
Batch Recipe Unit Procedure:
Out value:
Out status:
Out status:
PV scale lower range:
PV scale upper range:
Out scale lower range:
Out scale upper range:
Out unit:
Out decimal point:
Lin type:
Channel:
PV filter time:
Fail safe type:
Alarm hysteresis:
Hi Hi Lim:
Hi Lim:

Alarm summary: ☐ Discrete alarm
☐ Alarm state Hi-Hi limit
☐ Alarm state Hi limit
☐ Alarm state LoLo limit
☐ Alarm state Lo limit
☐ Update Event

Batch

Batch ID:
Batch operation:
Batch phase:
Batch Recipe Unit Procedure:

Output

Out value:
Out status:
Out status:

PV scale

PV scale lower range:
PV scale upper range:

Out scale

Out scale lower range:
Out scale upper range:
Out unit:
Out decimal point:

Lin type:
Channel:

5.5.1.3 Online Values

- Click on the menu "Expert→Sensor→Measured values→Process variables" for displaying all analog inputs measurement values:

PA0016 (Online Parameterize) x

Device name: Prowirl 200 PA
Device tag: PA0016
Status signal: ☒ OK

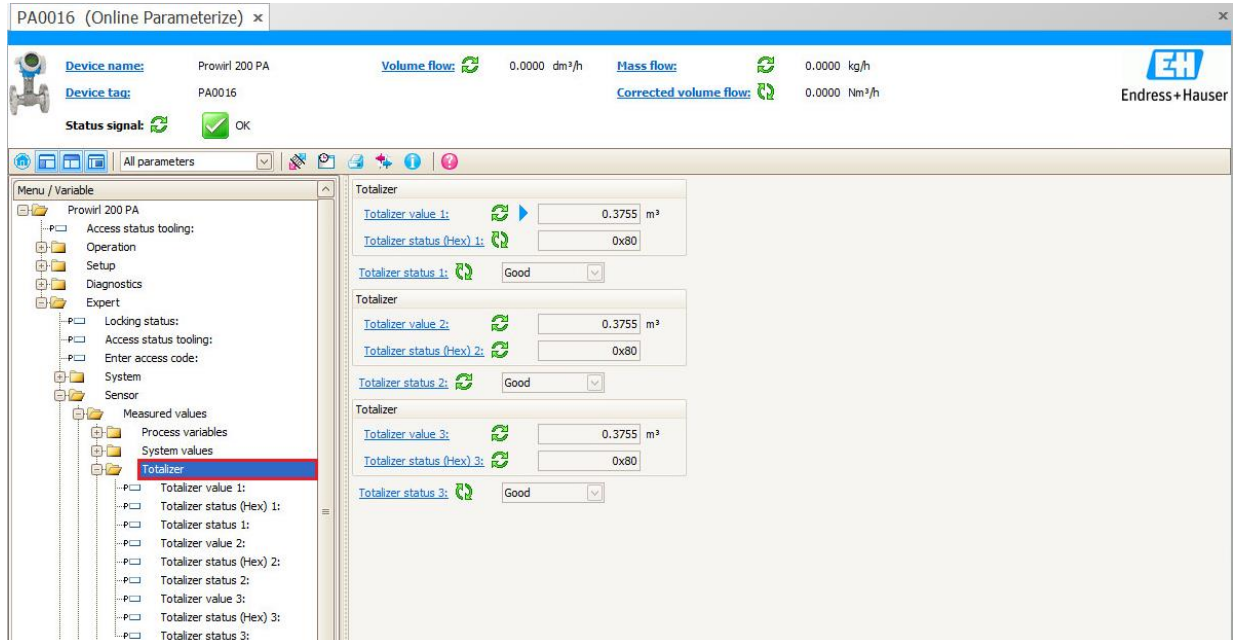
Volume flow: dm³/h
Mass flow: kg/h
Corrected volume flow: Nm³/h

Menu / Variable

- Expert
 - Loading status:
 - Access status tooling:
 - Enter access code:
 - System
 - Sensor
 - Measured values
 - Process variables
 - Volume flow:
 - Corrected volume flow:
 - Mass flow:
 - Flow velocity:
 - Temperature:
 - Vortex frequency:
 - System values
 - Totalizer
 - Output values

Volume flow: dm³/h
Corrected volume flow: Nm³/h
Mass flow: kg/h
Flow velocity: m/s
Temperature: °C
Vortex frequency: Hz

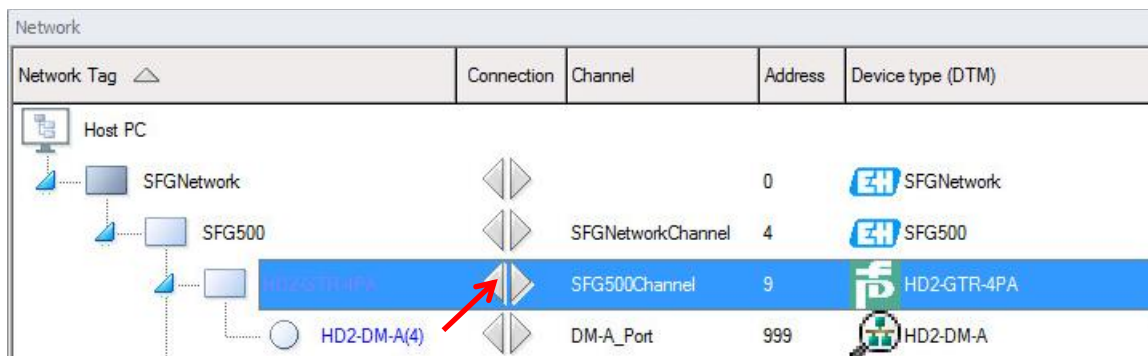
- Click on the menu "Expert→Sensor→Measured values→Totalizer" for displaying all totalizer values:



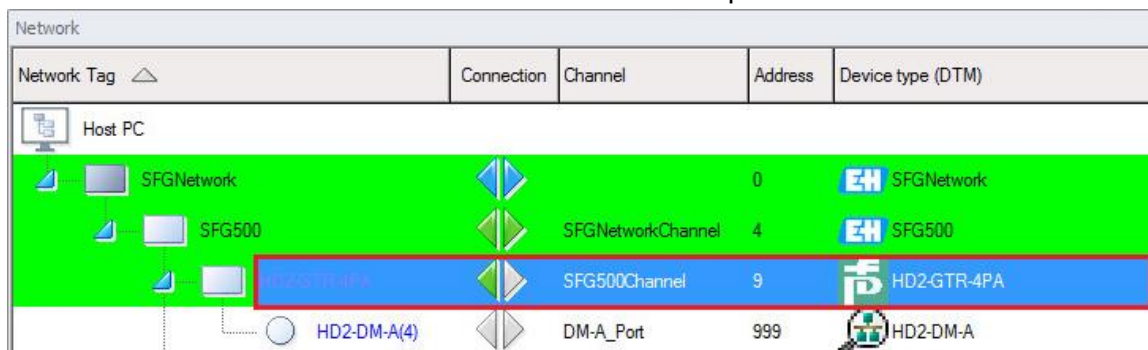
5.5.2 Pepperl+Fuchs Gateway Module "HD2-GTR-4PA"

This example shows how to connect the "HD2-GTR-4PA" Gateway module.

- Click on the left arrow of the "HD2-GTR-4PA" CommDTM:



- Then double-click on the "HD2-GTR-4PA" CommDTM to open the Online Parameterize window:

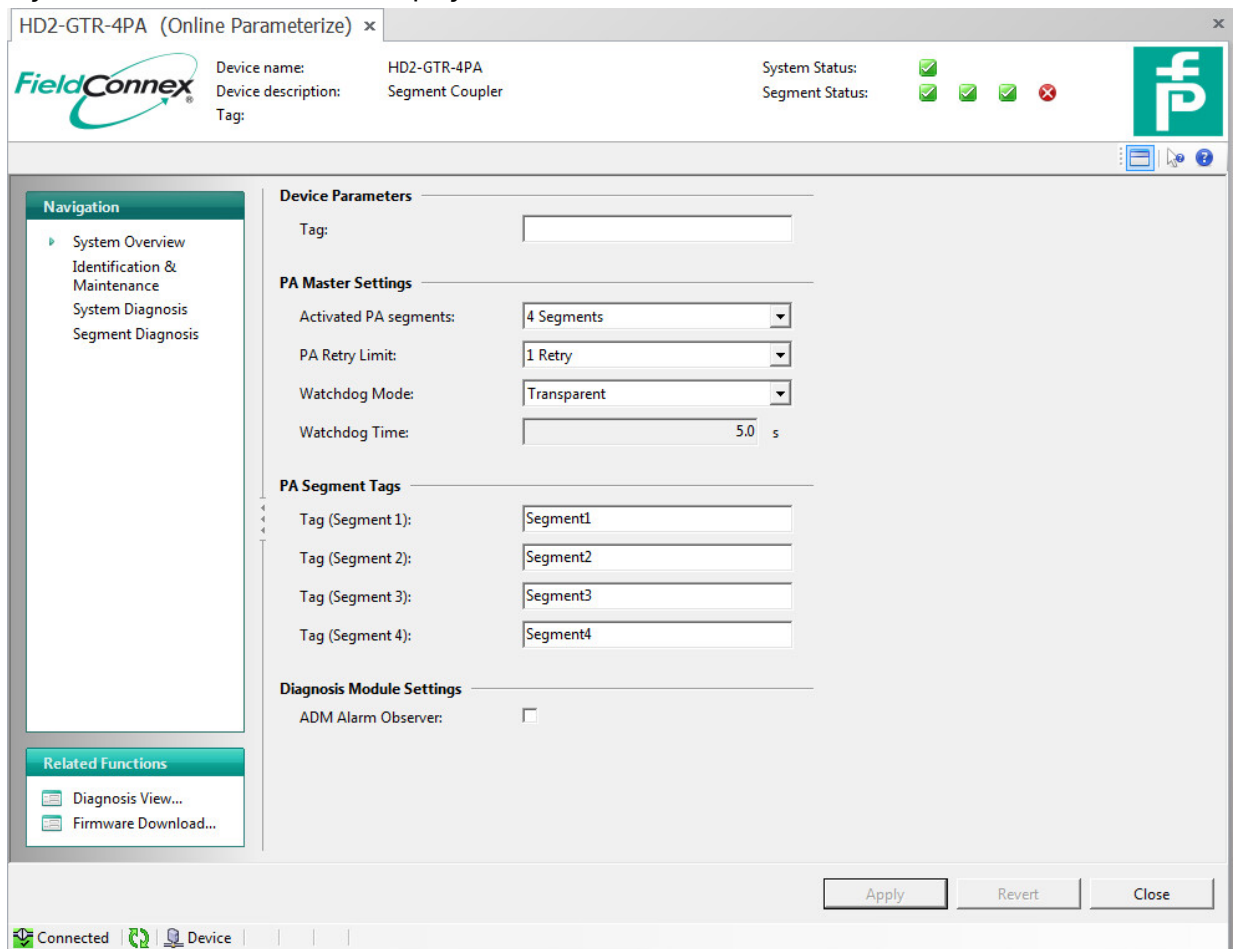


- Following window is displayed:



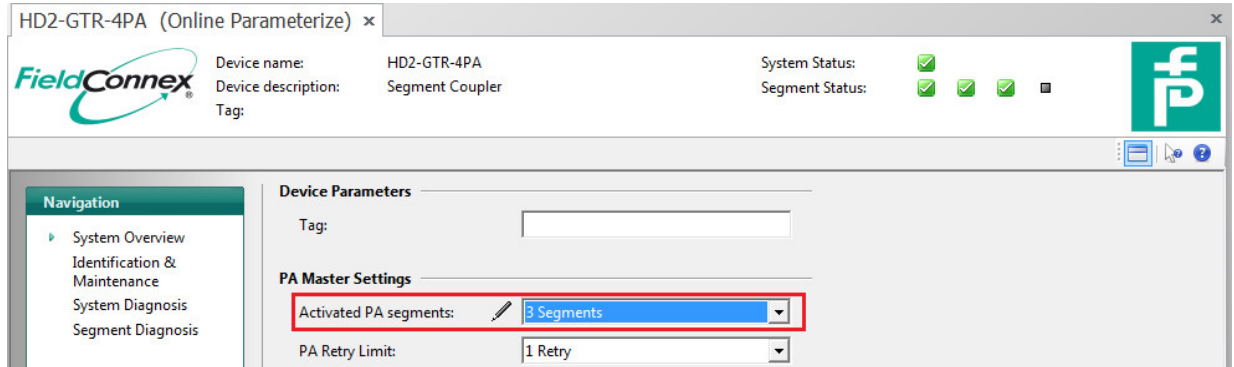
In this example, click on the button "No".

- "System Overview" window is displayed:



The PA segments statuses are displayed in the header part of the "System Overview" window. In this example, three PA segments are marked in green and one in red. This is normal because only three segments are connected.












- The Segment 4 can be disabled by configuring the number of segments in the PA Master Settings. Select the option "3 Segments" in this example:



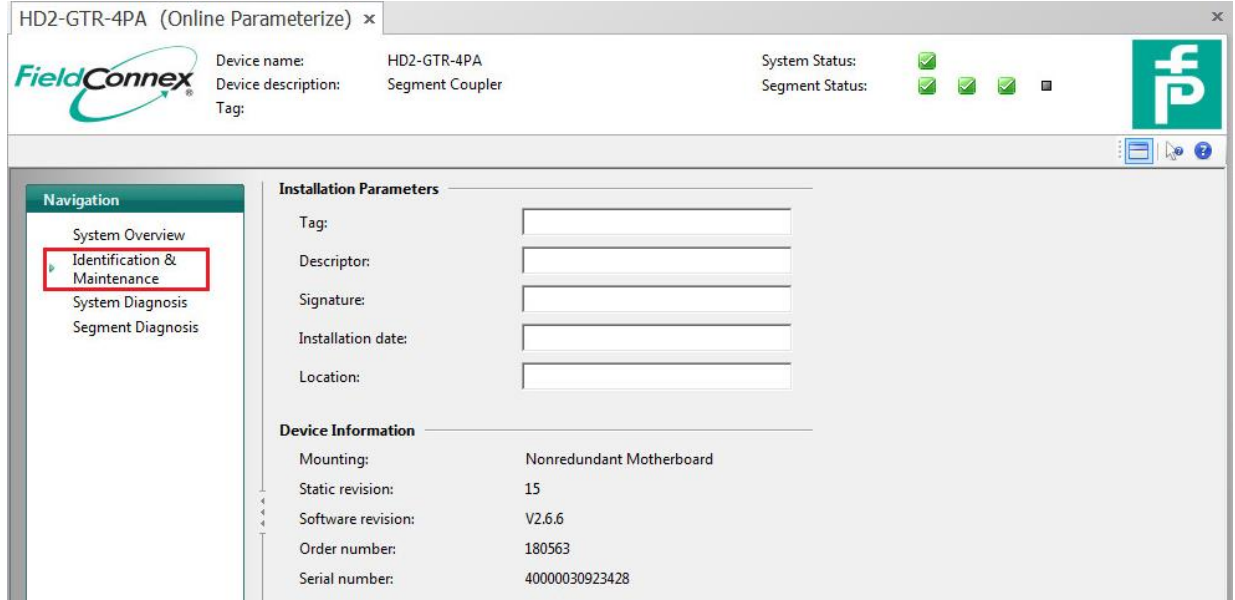
HD2-GTR-4PA (Online Parameterize) x

FieldConnex






Device name: HD2-GTR-4PA
Device description: Segment Coupler
Tag:

System Status:           

- Click on the menu "Identification & Maintenance" for displaying device information as Software revision, Order number or Serial number. Additional Installation Parameters can be edited:



HD2-GTR-4PA (Online Parameterize) x

FieldConnex Device name: HD2-GTR-4PA System Status: 
 Device description: Segment Coupler Segment Status: 
 Tag:

Navigation

- System Overview
- Identification & Maintenance
- System Diagnosis
- Segment Diagnosis

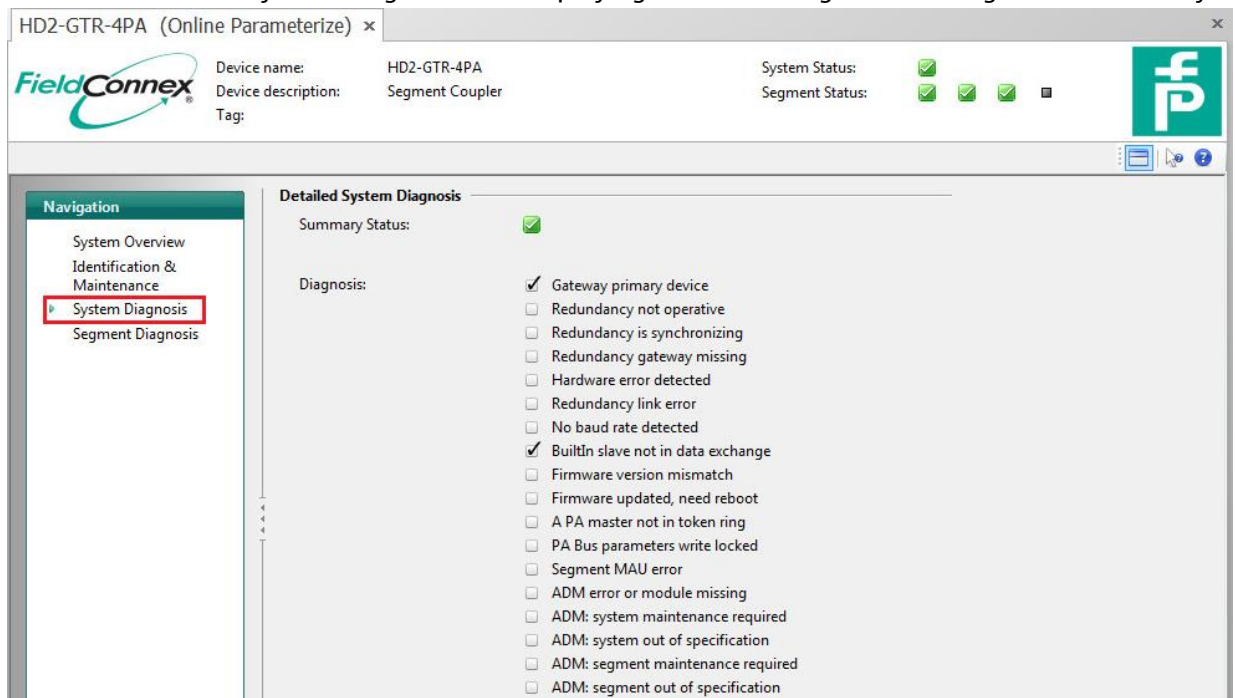
Installation Parameters

Tag:
 Descriptor:
 Signature:
 Installation date:
 Location:






Device Information

Mounting: Nonredundant Motherboard
 Static revision: 15
 Software revision: V2.6.6
 Order number: 180563
 Serial number: 4000030923428

- Click on the menu "System Diagnosis" for displaying advanced diagnosis message of the Gateway:




HD2-GTR-4PA (Online Parameterize) x

FieldConnex Device name: HD2-GTR-4PA System Status: 
 Device description: Segment Coupler Segment Status: 
 Tag:

Navigation

- System Overview
- Identification & Maintenance
- System Diagnosis
- Segment Diagnosis

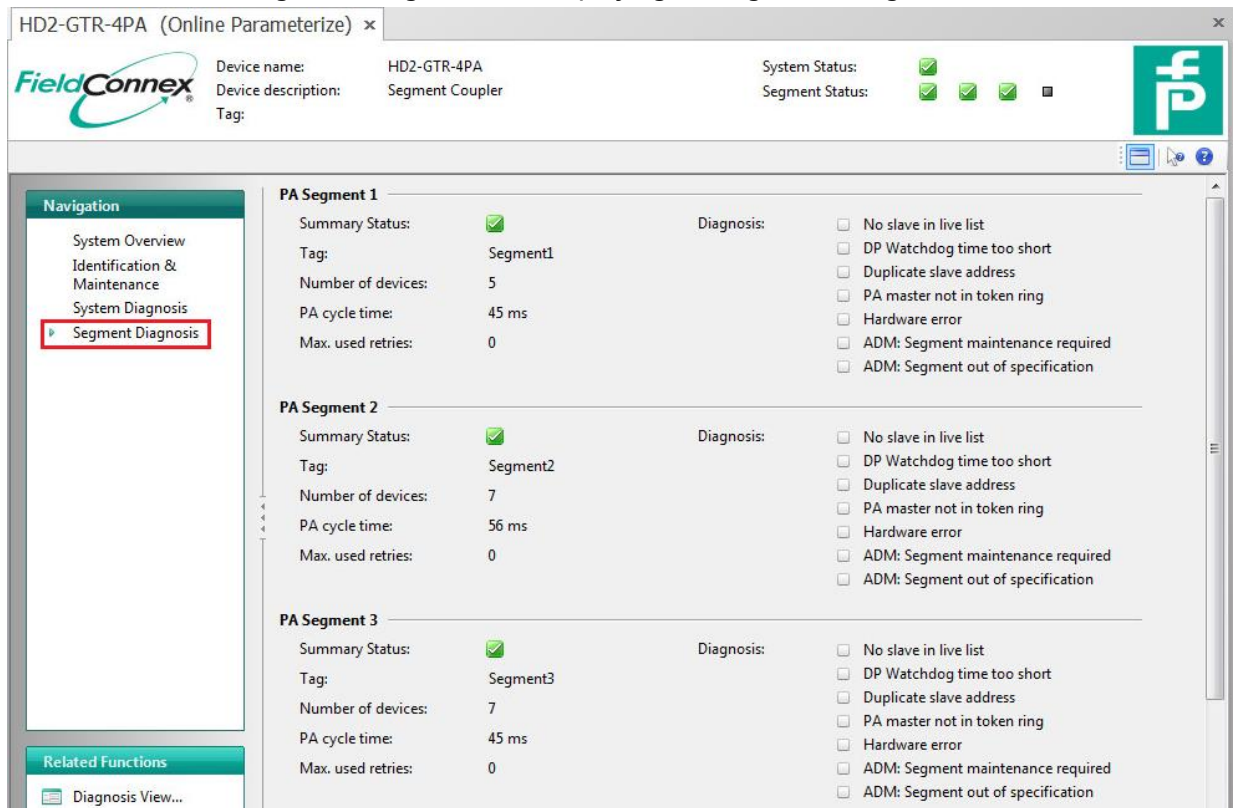
Detailed System Diagnosis

Summary Status: 

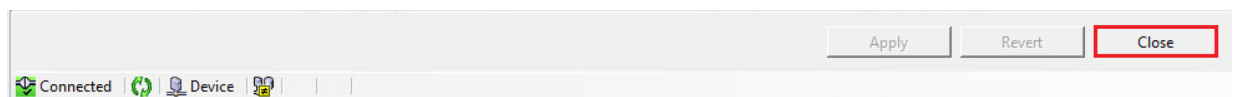
Diagnosis:

- ☒ Gateway primary device
- ☐ Redundancy not operative
- ☐ Redundancy is synchronizing
- ☐ Redundancy gateway missing
- ☐ Hardware error detected
- ☐ Redundancy link error
- ☐ No baud rate detected
- ☒ BuiltIn slave not in data exchange
- ☐ Firmware version mismatch
- ☐ Firmware updated, need reboot
- ☐ A PA master not in token ring
- ☐ PA Bus parameters write locked
- ☐ Segment MAU error
- ☐ ADM error or module missing
- ☐ ADM: system maintenance required
- ☐ ADM: system out of specification
- ☐ ADM: segment maintenance required
- ☐ ADM: segment out of specification

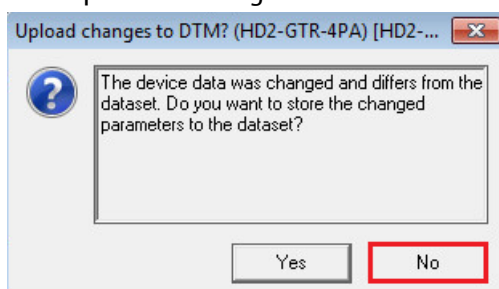
- Click on the menu "Segment Diagnosis" for displaying PA Segments diagnosis:



- Click on the button "Close" to close the window:



- This opens following window:



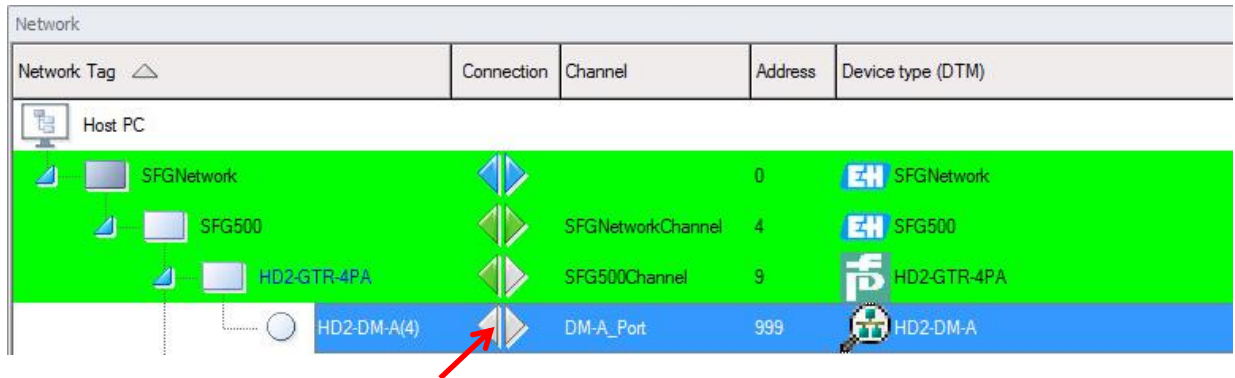
In this example, click on the button "No" to keep the changes.

Please refer to the Pepperl+Fuchs POWERHUB Segment Coupler Manual for further details.

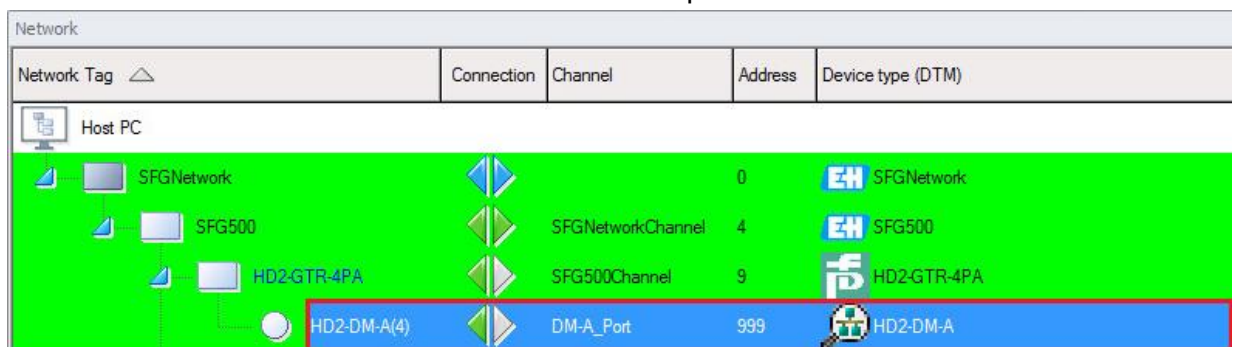
5.5.3 Pepperl+Fuchs Advances Diagnostic Module "HD2-DM-A"

This example shows how to connect the "HD2-DM-A" Advanced Diagnostic Module.

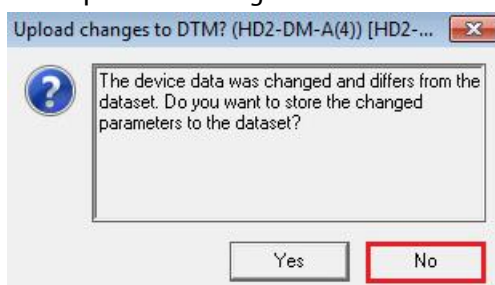
- Click on the left arrow of the "HD2-DM-A" CommDTM:



- Then double-click on the "HD2-DM-A" CommDTM to open the Online Parameterize window:

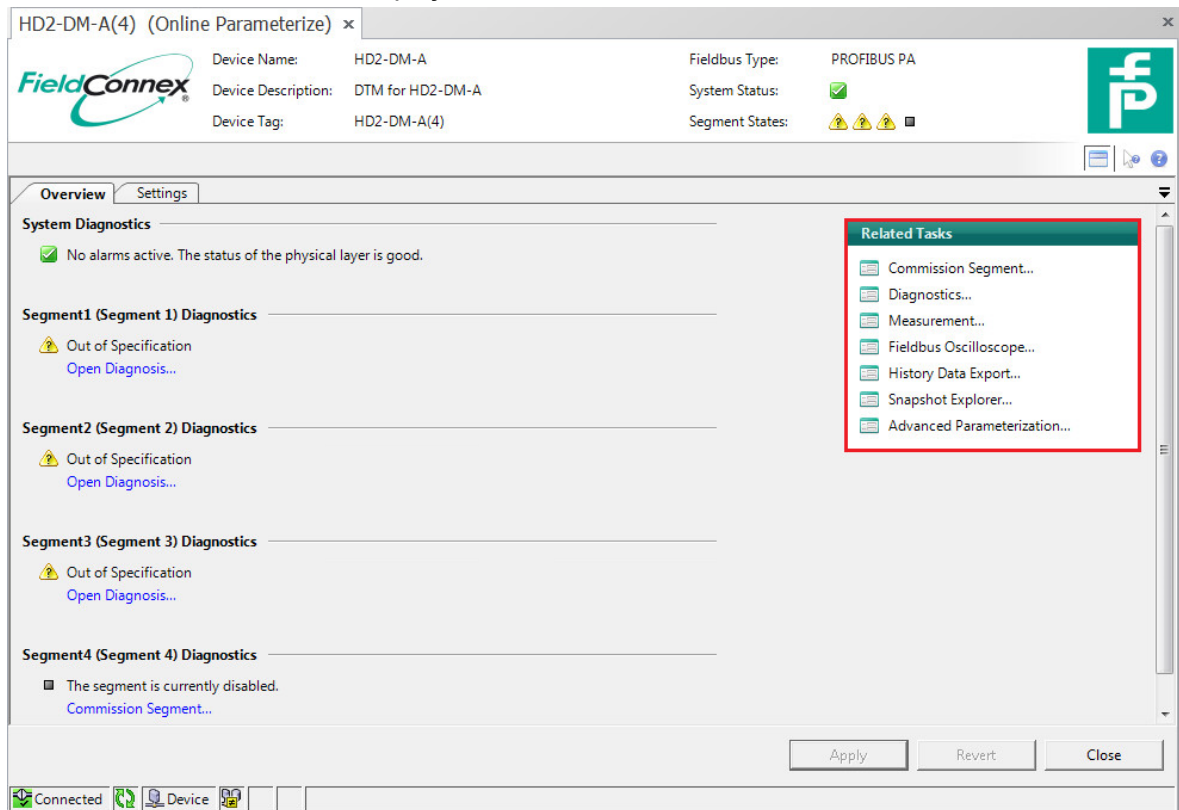


- This opens following window:



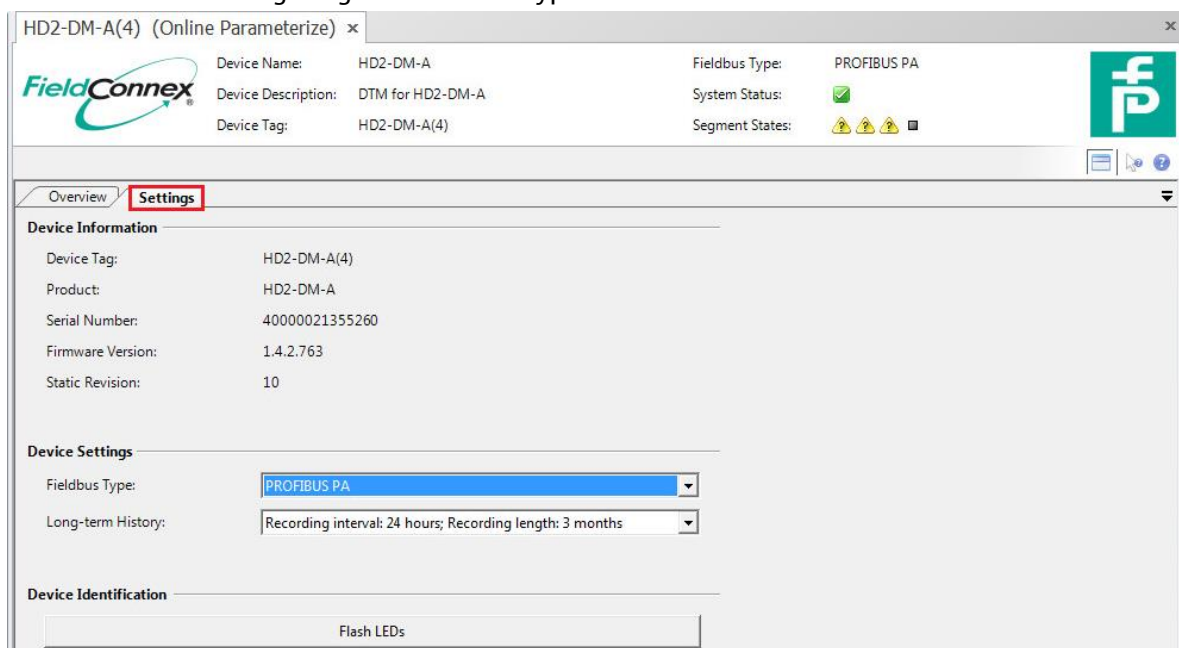
In this example, click on the button "No".

- HD2-DM-A main window is displayed:



Menus are available on the right part of the main window but require a Pepperl+Fuchs DTM license.

- Click on the tab "Settings" for displaying device information as Tag, Serial Number, Firmware Version and for configuring the Fieldbus Type:



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