

Integration Tutorial SYT01

Softing smartLink and HART over PROFIBUS for
Siemens ET200M and ET200SP

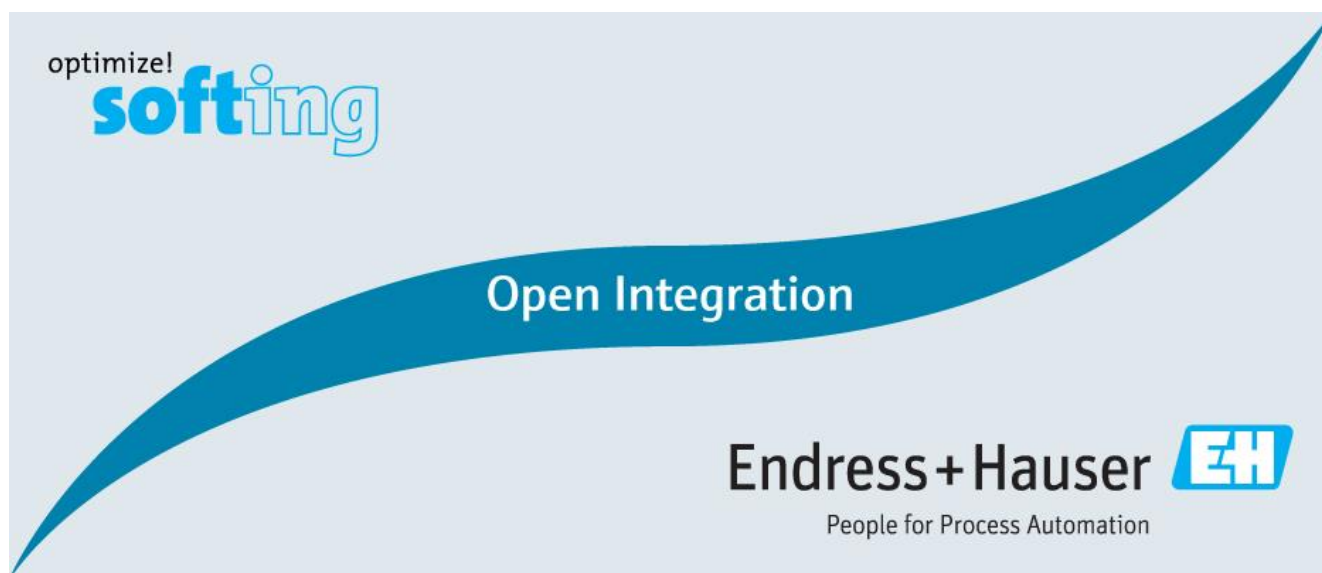


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1 Document Information

1.1 Purpose and Scope

This document provides a step-by-step description on establishing a second channel connection to HART devices for Asset Management or IoT applications. The concept may be applied in process plants which are automated with Siemens ET200M or ET200SP Remote I/Os connected to PROFIBUS DP. All content of this document is jointly developed, reviewed and approved by Softing 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	2022-06	Initial version

1.3 Related Documents

Please refer to related documents as listed below:

Document	Description
SD02925S/04/EN/01.22	Reference Topology SYT01
SD02927S/04/EN/01.22	Integration Test Summary SYT01
SD02928S/04/EN/01.22	List of Tested Devices and Versions SYT01

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 Softing smartLink HW-DP Gateway as well as PROFIBUS and HART in general. Please refer to recommended literature as listed in chapter 2.1.

2.1 Recommended Literature

2.1.1 Softing

Document	Description
EN-092021-1.10-1	User Guide smartLink HW-DP

2.1.2 Endress+Hauser

Document	Description
BA00065S/04/EN/11.20	Operating Instructions FieldCare SFE500
BA02035S/04/EN/03.21	Operating Instructions FieldEdge SGC500
TI01525S/04/EN/02.20	Technical Information FieldEdge SGC500

2.2 Operable Control System

This document assumes an operable Siemens S7-300 Control System as defined by Reference Topology SYT01.

2.3 Operable Field Network Infrastructure

This document assumes operable Siemens ET200M and ET200SP HART over PROFIBUS DP Remote I/Os Systems as defined by Reference Topology SYT01.

2.4 Operable Asset Management System

This document assumes an operable Endress+Hauser FieldCare System as defined by Reference Topology SYT01. Please refer to manuals listed in chapter 0 for installing of software provided by Endress+Hauser.

2.5 Operable Field Devices

This document assumes an operable selection of Endress+Hauser HART field devices, as defined by Reference Topology SYT01. Each field device is powered if needed and adequately connected to the Remote I/Os. If required, please refer to individual device manuals for further advice.

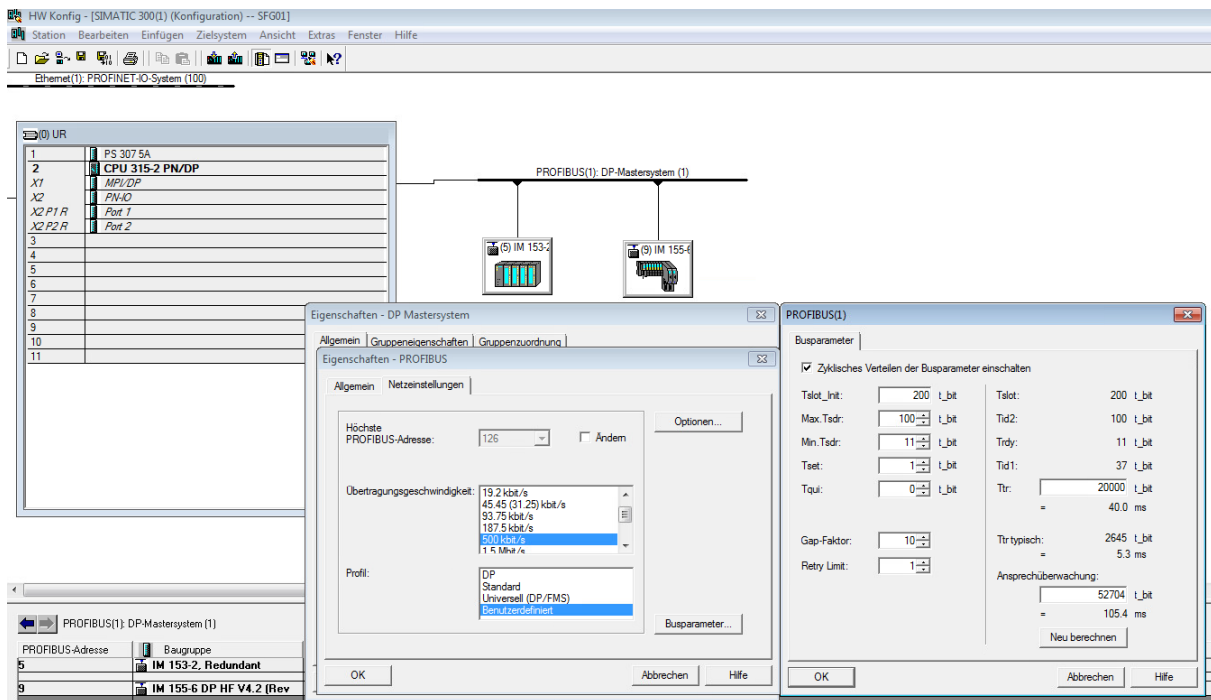
3 Basic Setup

As mentioned in previous chapter, the PROFIBUS cyclic communication is established between a Siemens S7-300 Controller and both Siemens ET200M and ET200SP HART over PROFIBUS Remote I/Os.

3.1 PROFIBUS DP Network and Remote I/Os

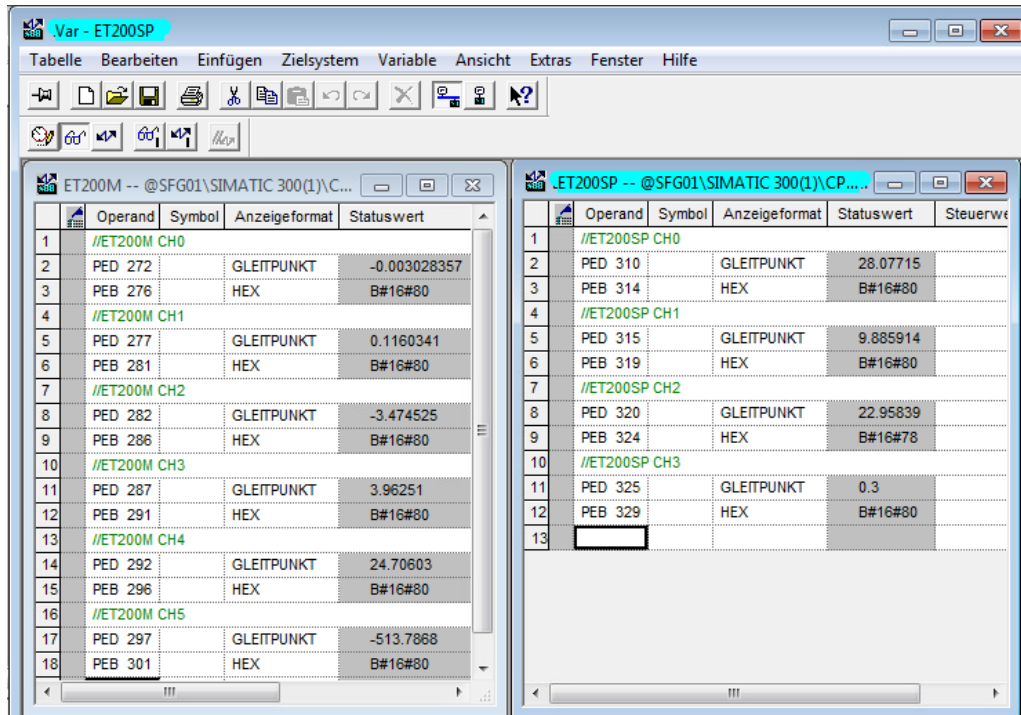
3.1.1 PROFIBUS DP Settings

This topology assumes a working PROFIBUS DP network and Remote I/O setup for process control. The necessary PROFIBUS Master configuration within the Siemens environment is not described in this tutorial. For reference, following PROFIBUS DP settings have been configured in the project:



3.1.2 Cyclic Data Exchange

- Following variables table correspond to the configured process values of the ET200M/ET200SP Remote I/O in the Simatic Step7 environment:



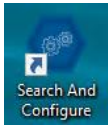
Operand	Symbol	Anzeigeformat	Statuswert
1	//ET200M CH0		
2	PED 272	GLEITPUNKT	-0.003028357
3	PEB 276	HEX	B#16#80
4	//ET200M CH1		
5	PED 277	GLEITPUNKT	0.1160341
6	PEB 281	HEX	B#16#80
7	//ET200M CH2		
8	PED 282	GLEITPUNKT	-3.474525
9	PEB 286	HEX	B#16#80
10	//ET200M CH3		
11	PED 287	GLEITPUNKT	3.96251
12	PEB 291	HEX	B#16#80
13	//ET200M CH4		
14	PED 292	GLEITPUNKT	24.70603
15	PEB 296	HEX	B#16#80
16	//ET200M CH5		
17	PED 297	GLEITPUNKT	-513.7868
18	PEB 301	HEX	B#16#80

Operand	Symbol	Anzeigeformat	Statuswert	Steuerwert
1	//ET200SP CH0			
2	PED 310	GLEITPUNKT	28.07715	
3	PEB 314	HEX	B#16#80	
4	//ET200SP CH1			
5	PED 315	GLEITPUNKT	9.885914	
6	PEB 319	HEX	B#16#80	
7	//ET200SP CH2			
8	PED 320	GLEITPUNKT	22.95839	
9	PEB 324	HEX	B#16#78	
10	//ET200SP CH3			
11	PED 325	GLEITPUNKT	0.3	
12	PEB 329	HEX	B#16#80	
13				

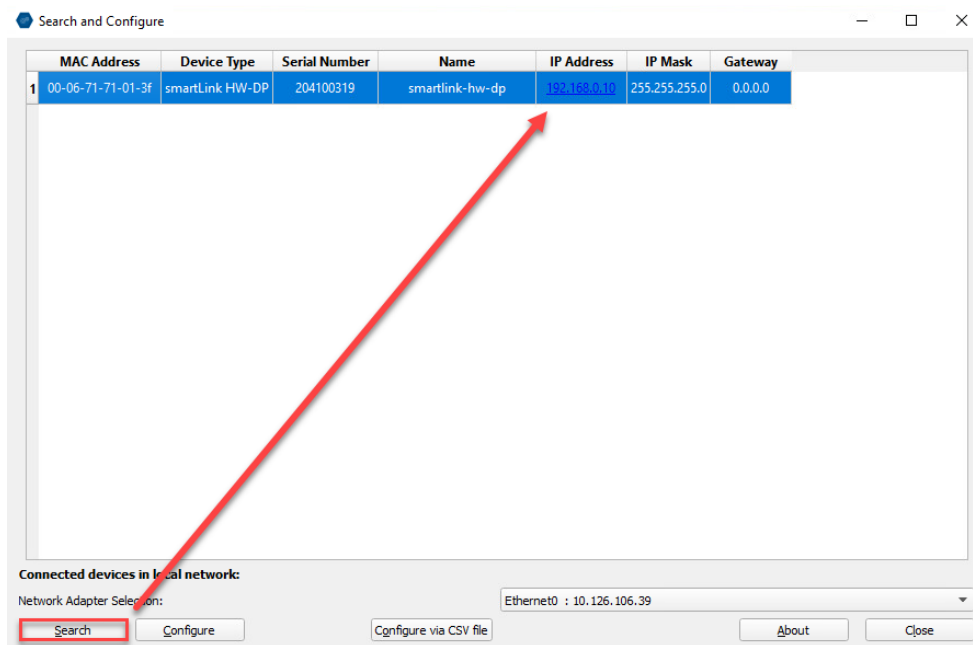
3.2 smartLink HW DP Configuration

3.2.1 IP address

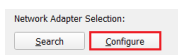
- Connect the smartLink HW DP gateway to a laptop with a Ethernet cable and start the Softing tool "Search and Configure:"



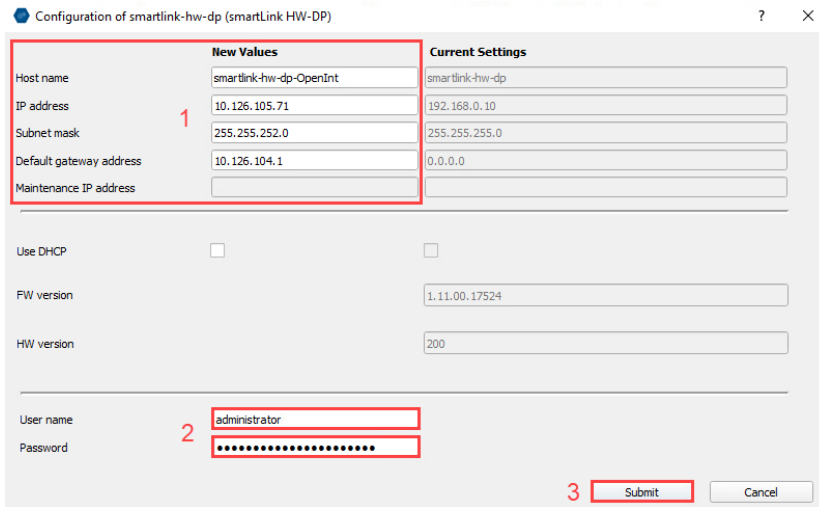
- Click on the button search to scan the network:



- The smartLink HW DP gateway is found with default Web server IP settings.
- Click on the button "Configure":

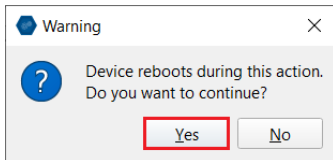


- Configure the new IP settings according to the network:

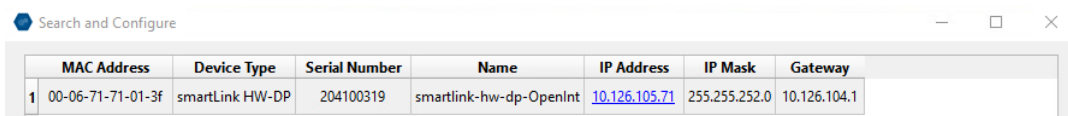


Then enter the default logins, Username "Administrator" and the Password and click on the button "Submit".

- Click on the button "Yes":

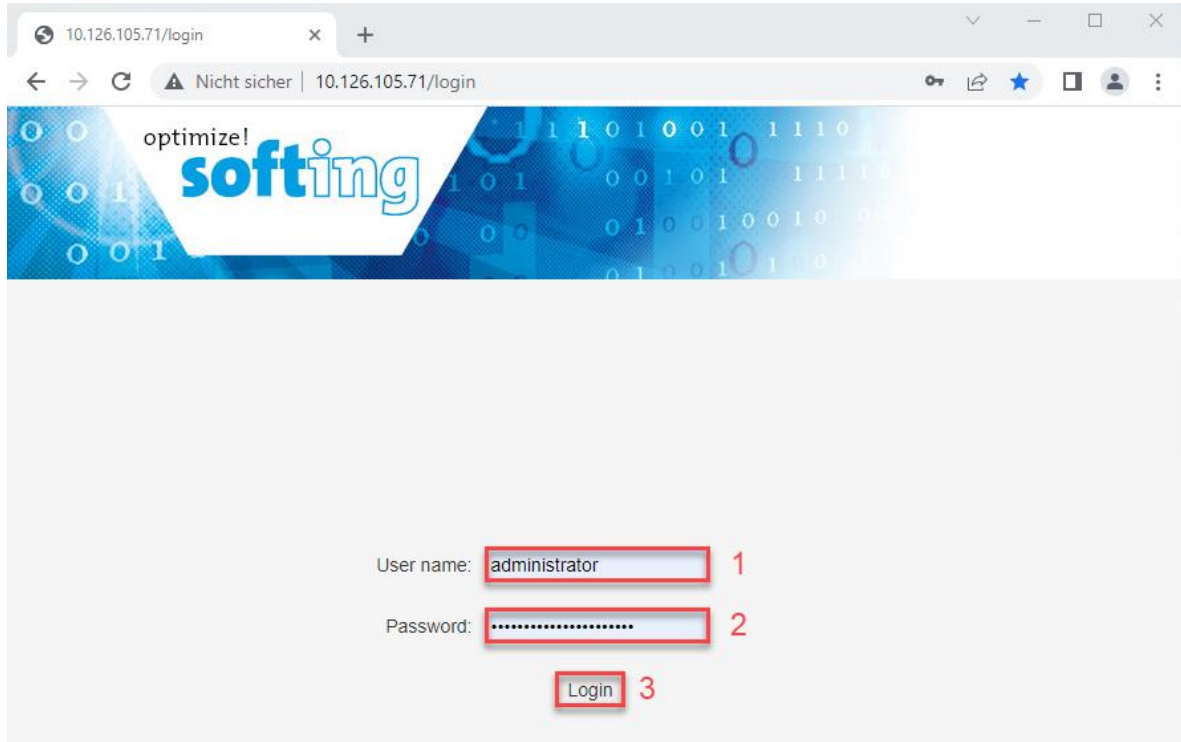


- smartLink HW DP server IP address is now configured

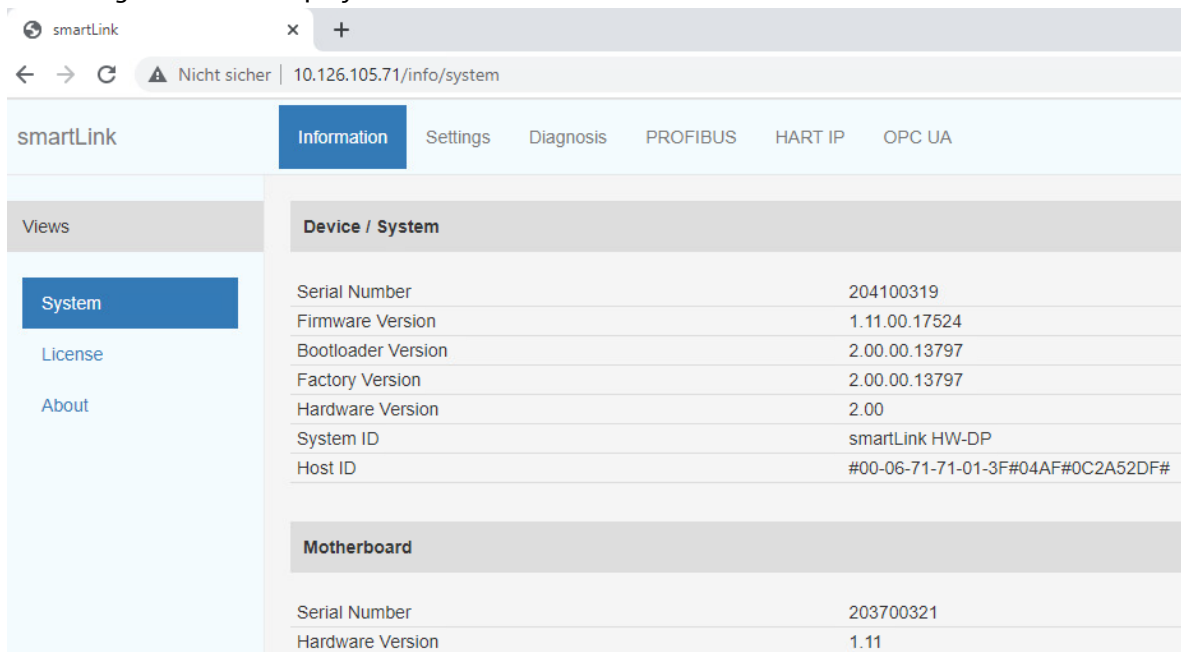


	MAC Address	Device Type	Serial Number	Name	IP Address	IP Mask	Gateway
1	00-06-71-71-01-3f	smartLink HW-DP	204100319	smartlink-hw-dp-OpenInt	10.126.105.71	255.255.252.0	10.126.104.1

- Open a browser and enter the configured Web server IP address, enter the User name/Password and click on the button "Login":

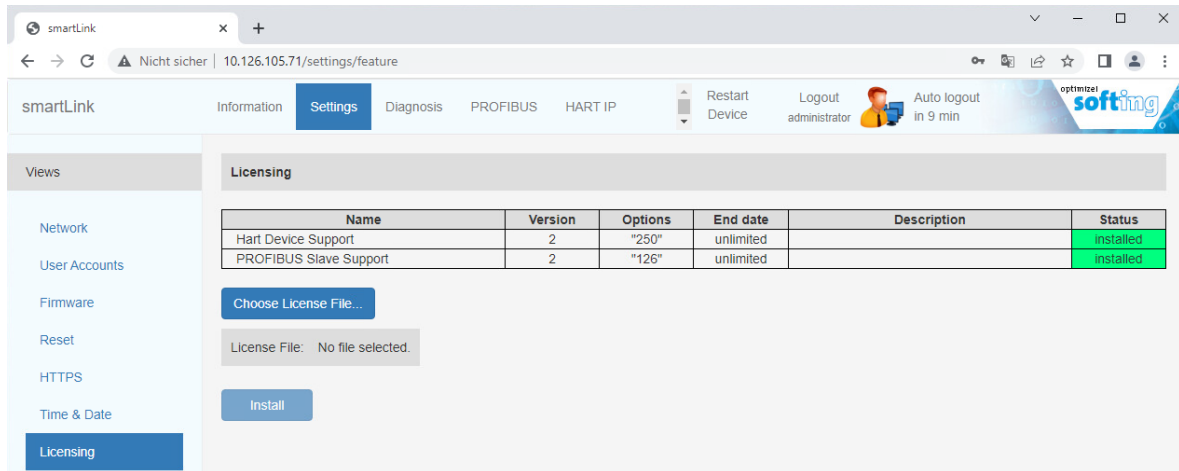


- Following window is displayed:



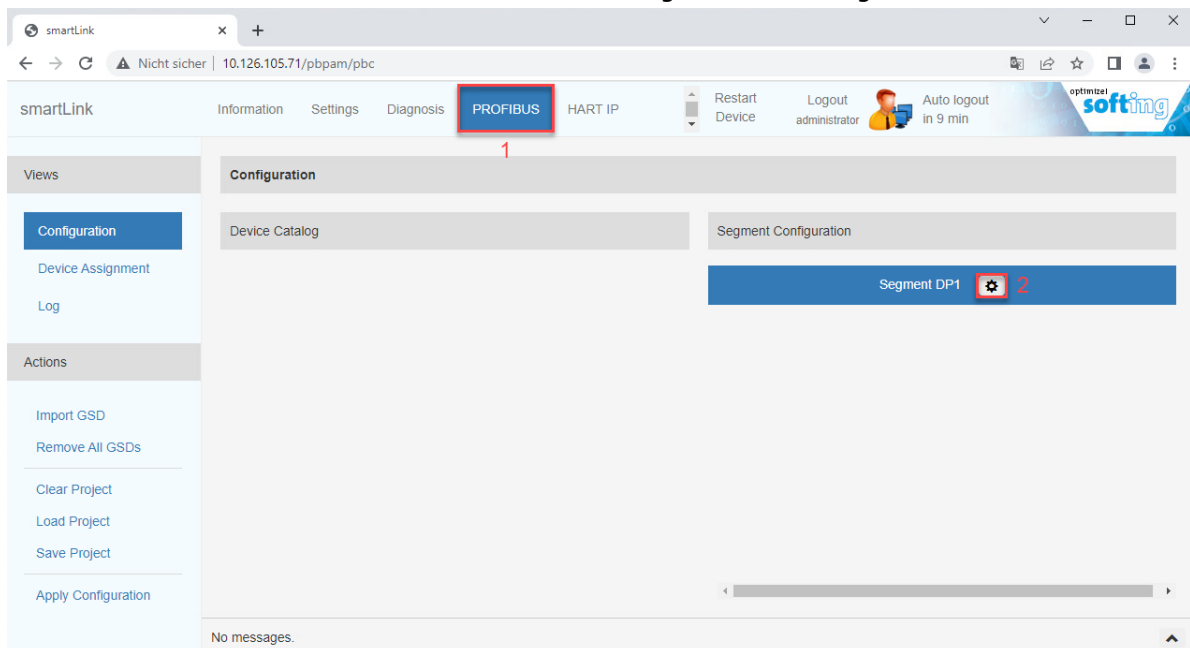
3.2.2 Licensing

- Click on the menu "Settings→Licensing" and verify that licenses for "HART Device Support" and "PROFIBUS Slave Support" are registered. This is mandatory for next steps:

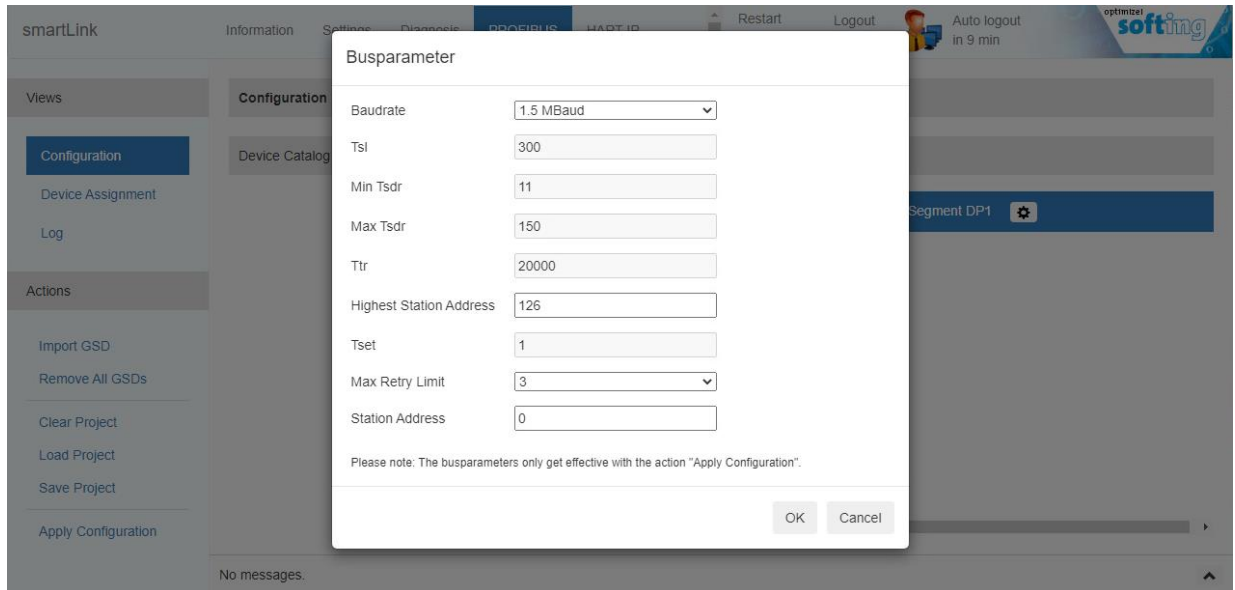


3.2.3 PROFIBUS Bus Settings

- Click on the menu PROFIBUS and then on the "Settings" button of Segment P1:



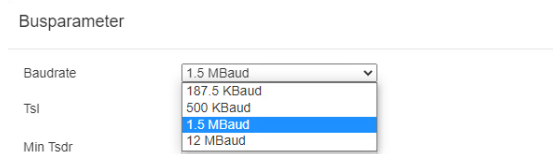
- Click on the menu PROFIBUS and then on the “Settings” button of Segment P1:



- The user may configure following options: Baud rate, Highest Station Address, Max Retry Limit or Station Address.

- **Baud rate**

Four Baud rates can be set in the smartLink HW DP gateway:



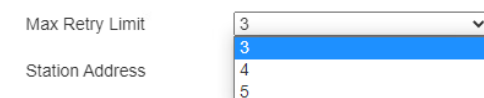
Baud rate must be selected according to the Baud rate of the control system.

- **Highest Station Address**

This is the highest PROFIBUS address in the PROFIBUS network. This parameter may be used to optimize the network scanning.

- **Max Try Limit**

In case of no slave answer, the telegram will be repeated 3, 4 or 5 times:

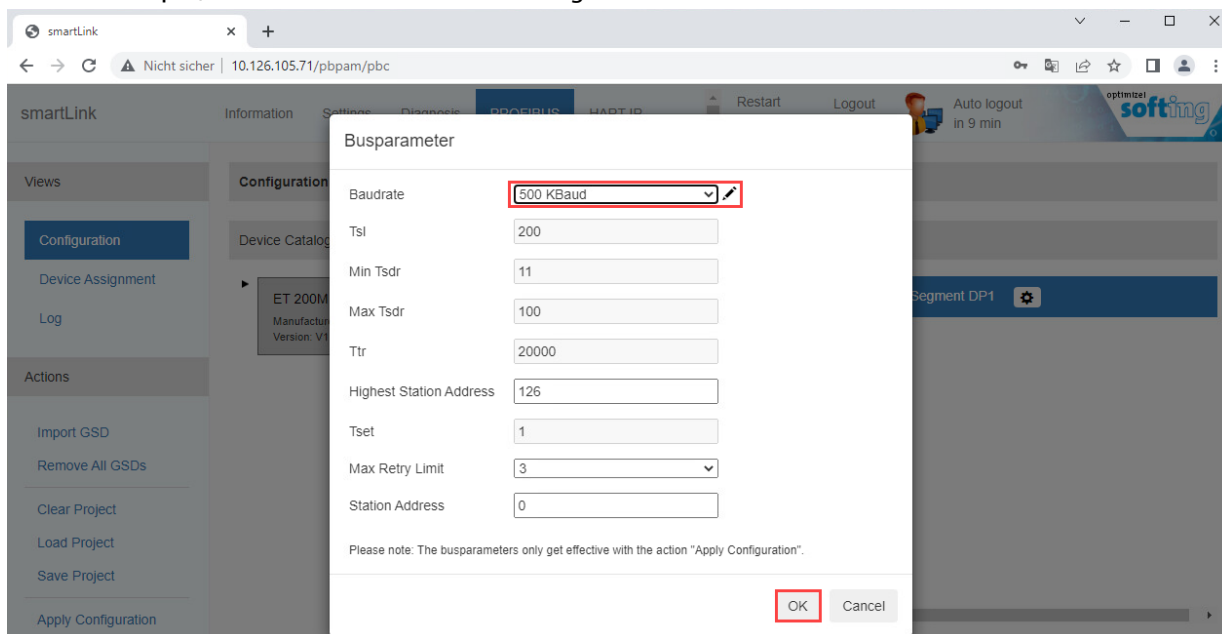


Max Try Limit must be selected according to the Max Try Limit of the control system.

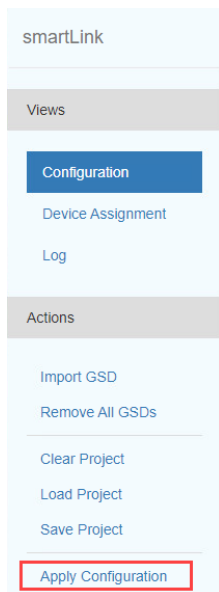
- **Station Address**

This is the PROFIBUS address of the smartLink HW DP gateway.

- In this example, the Baud rate has been configured to 500 kBaud:

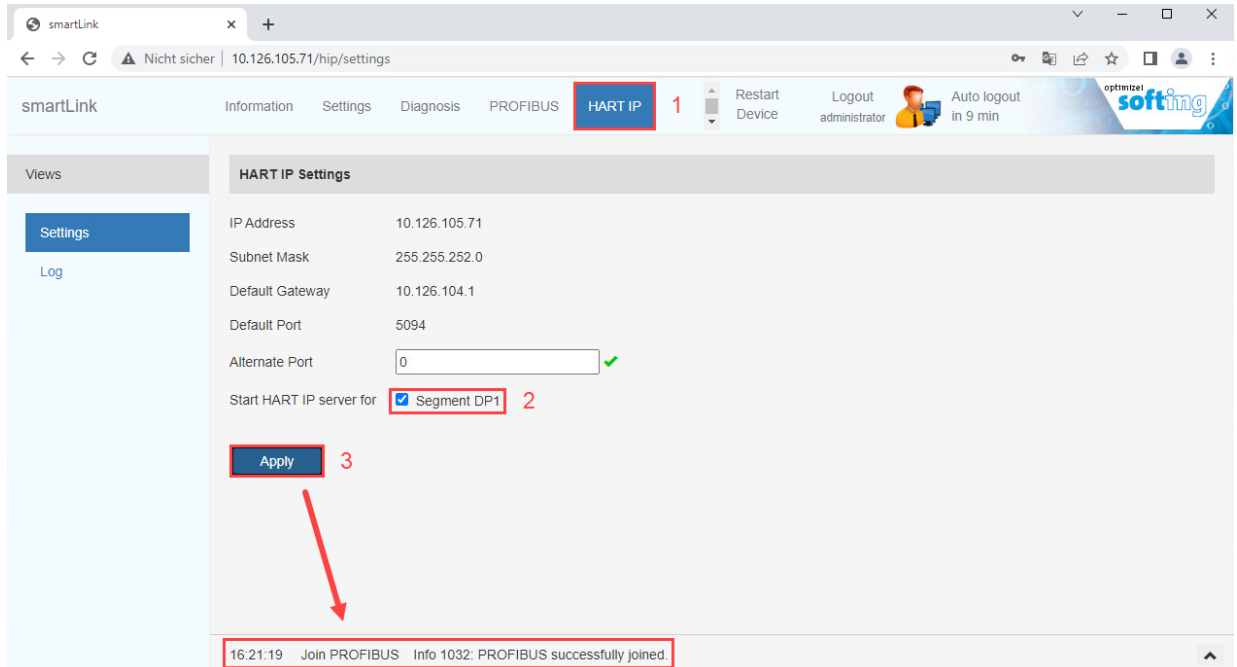


- In the menu "Actions", click on "Apply Configuration":



3.2.4 HART IP Server Activation

- Select the menu "HART IP", enable the option "Segment DP1" and click on the button "Apply".

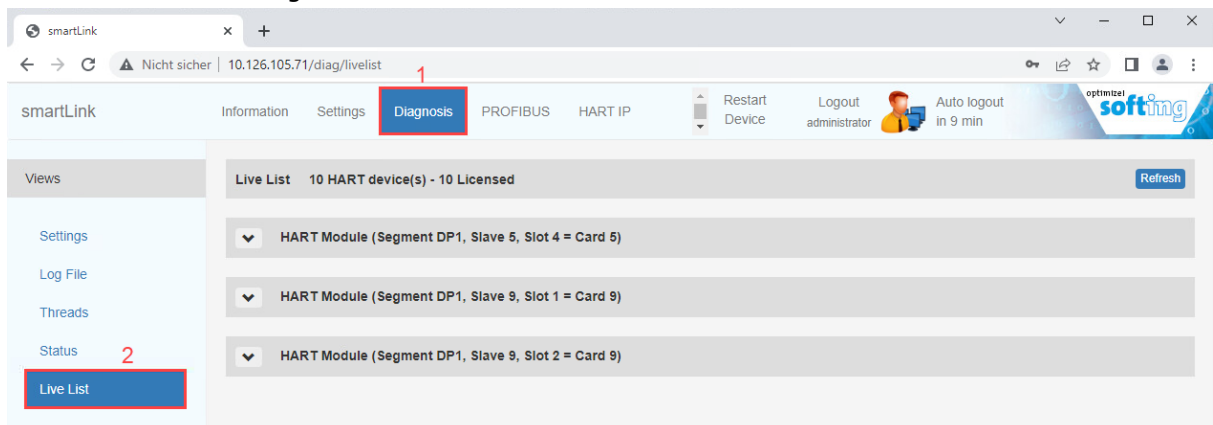


3.3 smartLink HW-DP Online Diagnosis

3.3.1 smartLink Live List

The Live List displays all PROFIBUS DP Remote I/Os Analog Input modules.

- Click on the menu "Diagnosis", then on "Live List":

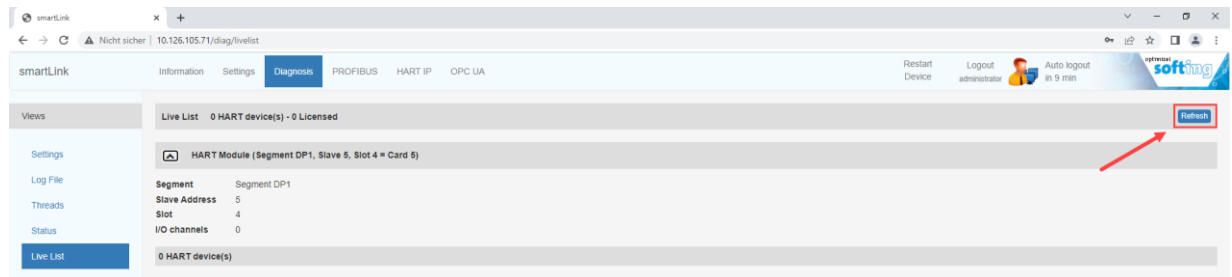


In this example, one ET200M Analog Input and two ET200SP analog input modules have been scanned.

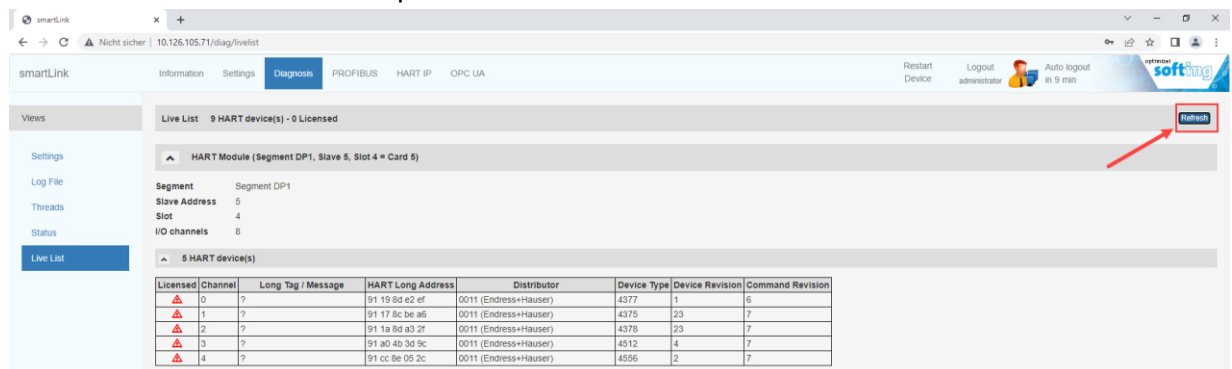
3.3.2 ET200M Live List

- Once the HART IP server enabled (in the menu "HART IP)", some time is needed to get all the data. Use the "Refresh" button on the top right for updating the browser page:

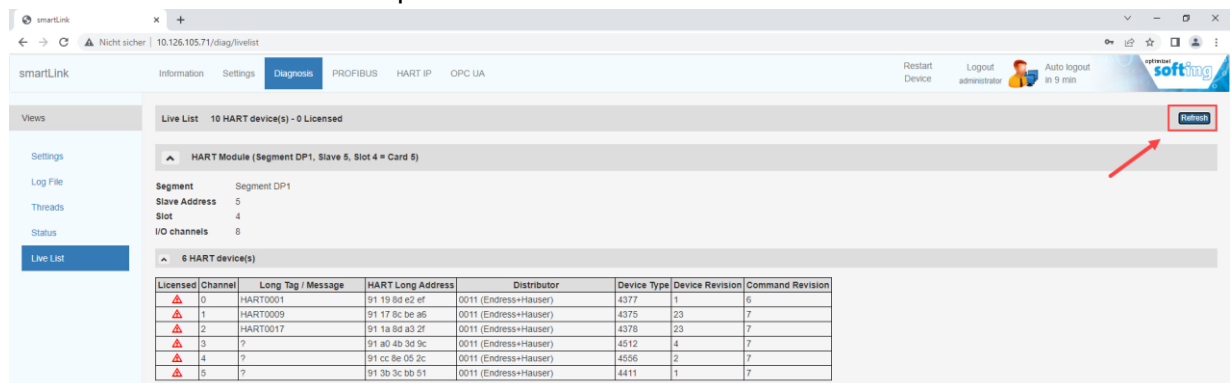
Intermediate State 1:



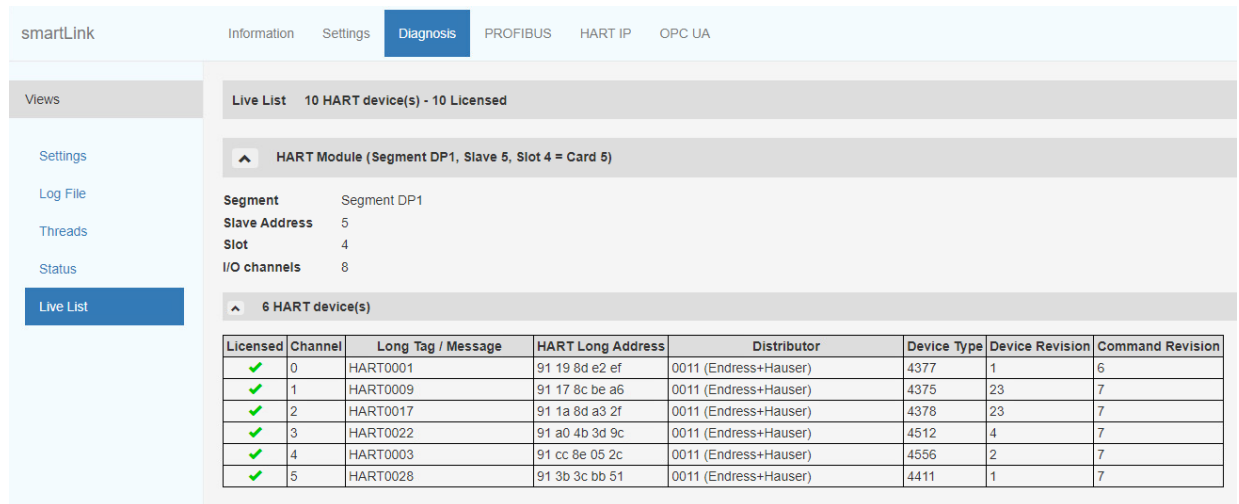
Intermediate State 2 after an Update via button "Refresh":



Intermediate State 3 after an Update via button "Refresh":



Final State after an Update via button "Refresh":

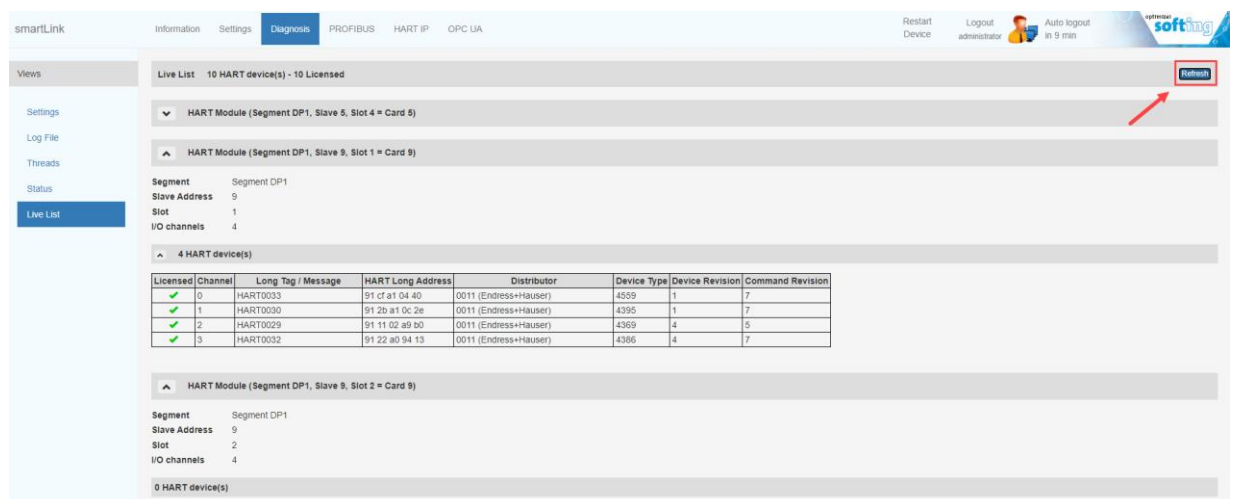


The screenshot shows the smartLink interface with the 'Diagnosis' tab selected. It displays details for a HART Module (Segment DP1, Slave 5, Slot 4 = Card 5) and a table of 6 HART devices. The table columns are: Licensed, Channel, Long Tag / Message, HART Long Address, Distributor, Device Type, Device Revision, and Command Revision.

Licensed	Channel	Long Tag / Message	HART Long Address	Distributor	Device Type	Device Revision	Command Revision
✓	0	HART0001	91 19 8d e2 ef	0011 (Endress+Hauser)	4377	1	6
✓	1	HART0009	91 17 8c be a6	0011 (Endress+Hauser)	4375	23	7
✓	2	HART0017	91 1a 8d a3 2f	0011 (Endress+Hauser)	4378	23	7
✓	3	HART0022	91 a0 4b 3d 9c	0011 (Endress+Hauser)	4512	4	7
✓	4	HART0003	91 cc 8e 05 2c	0011 (Endress+Hauser)	4556	2	7
✓	5	HART0028	91 3b 3c bb 51	0011 (Endress+Hauser)	4411	1	7

3.3.3 ET200SP Live List

- The "Refresh" button has to be used as well as done for ET200M:



The screenshot shows the smartLink interface with the 'Diagnosis' tab selected. It displays details for a HART Module (Segment DP1, Slave 9, Slot 1 = Card 5) and a table of 4 HART devices. A red arrow points to a 'Refresh' button in the top right corner of the device list area.

Licensed	Channel	Long Tag / Message	HART Long Address	Distributor	Device Type	Device Revision	Command Revision
✓	0	HART0033	91 cf a1 04 40	0011 (Endress+Hauser)	4559	1	7
✓	1	HART0030	91 2b a1 0c 2e	0011 (Endress+Hauser)	4395	1	7
✓	2	HART0029	91 11 02 a9 b0	0011 (Endress+Hauser)	4369	4	5
✓	3	HART0032	91 22 a0 94 13	0011 (Endress+Hauser)	4386	4	7

4 Bypassed Tool Integration

4.1 FieldCare On-Premises Device Configuration Management

This chapter describes the main workflow for integration of the HART field devices to the Endress+Hauser Device Configuration Management Software by using the Softing smartLink Communication DTM.

Prerequisites for these tests are a successful PROFIBUS cyclic communication as well as the activation of the smartLink HW DP gateway HART IP server. Parallel connection with SGC500 Edge Device gateway is not recommended.

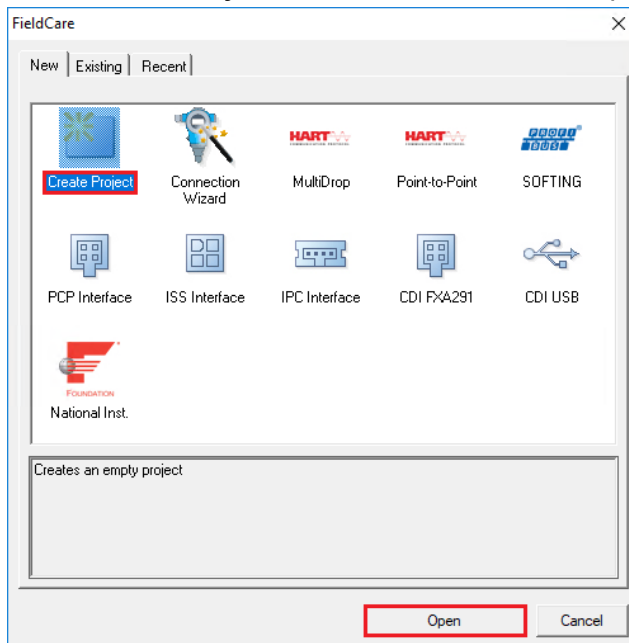
4.1.1 FieldCare Project

4.1.1.1 New Project

- Start the application FieldCare:



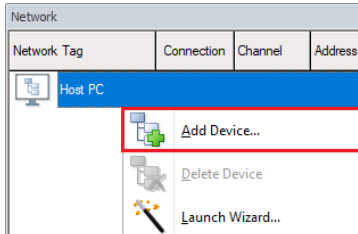
- Select "Create Project" and click on the button "Open":



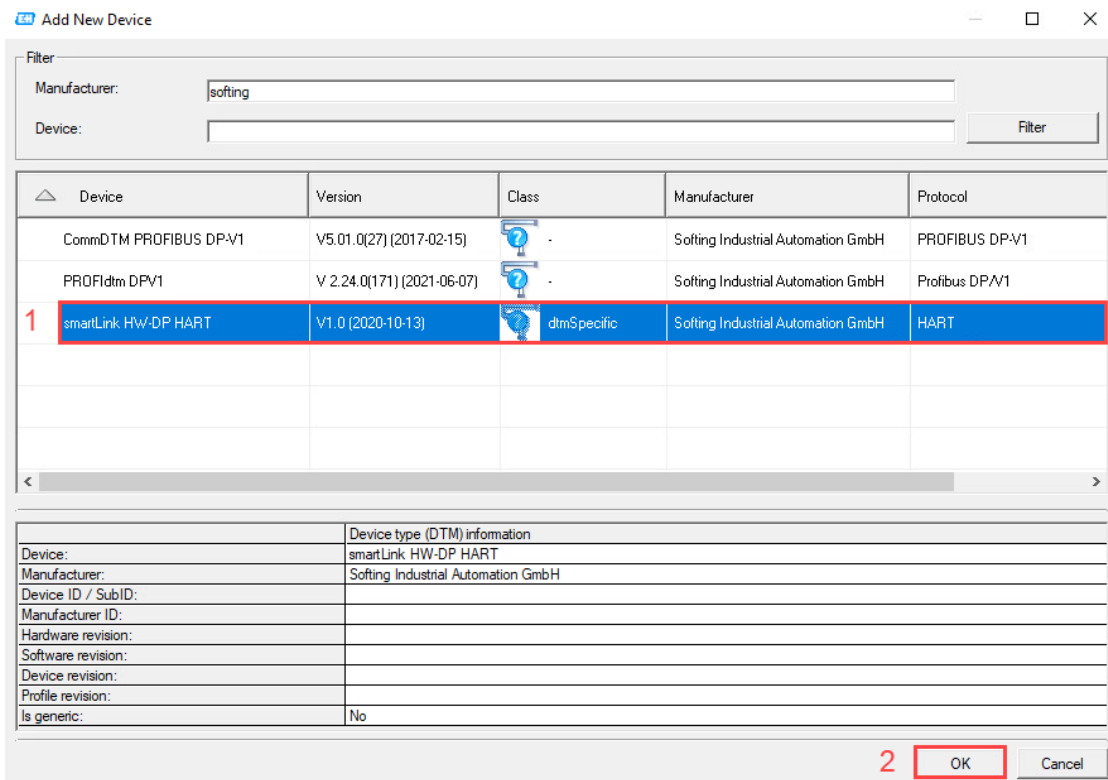
4.1.2 Softing CommDTM Configuration

4.1.2.1 General Settings

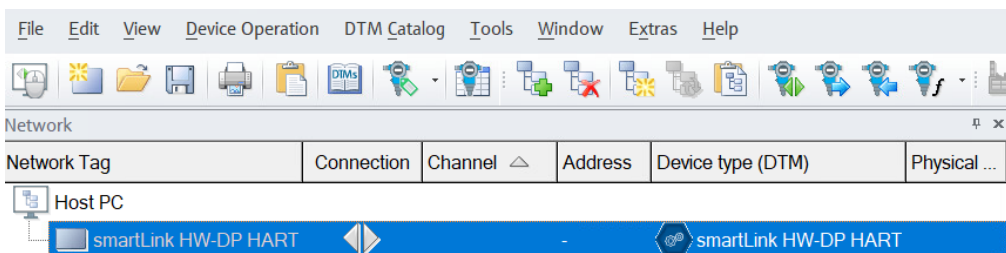
- Right-click on the Network Tag "Host PC" and select the menu "Add Device...":



- Select the CommDTM "smartLink HW-DP HART" from Softing and click on the button "OK":

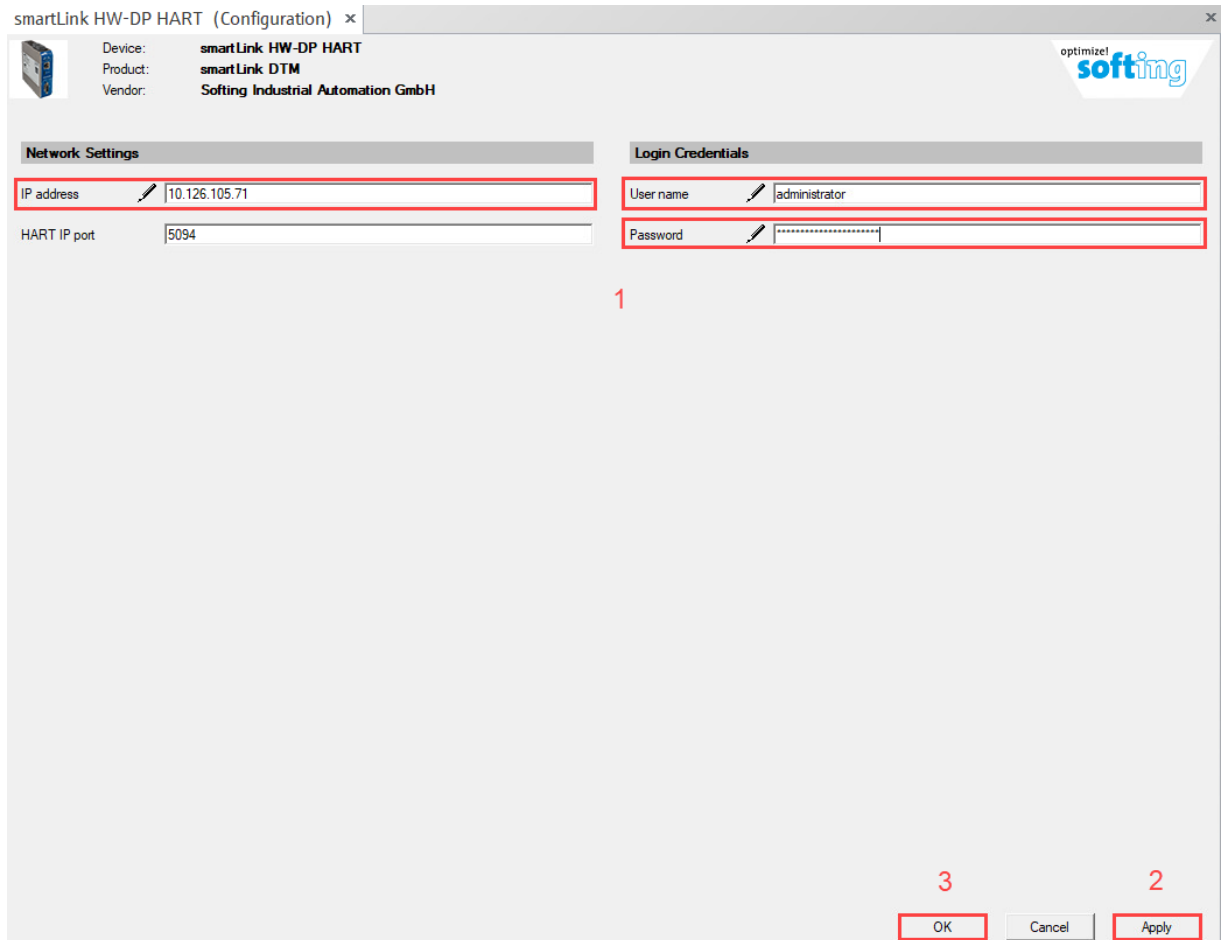


- This inserts the CommDTM in the network:



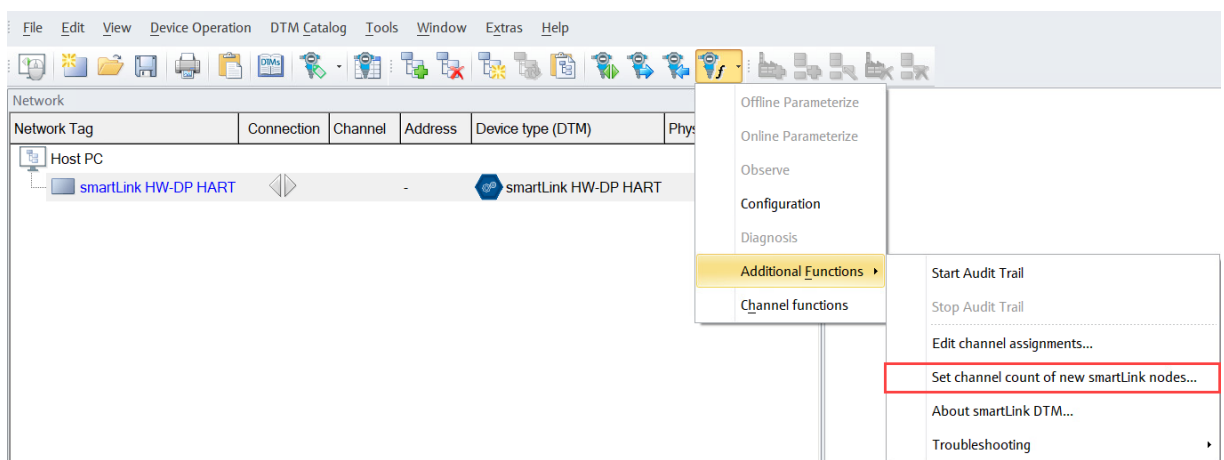
Double-click on it to open the configuration menu.

- Configure the smartLink HW DP IP address as well the Login Credentials fields:

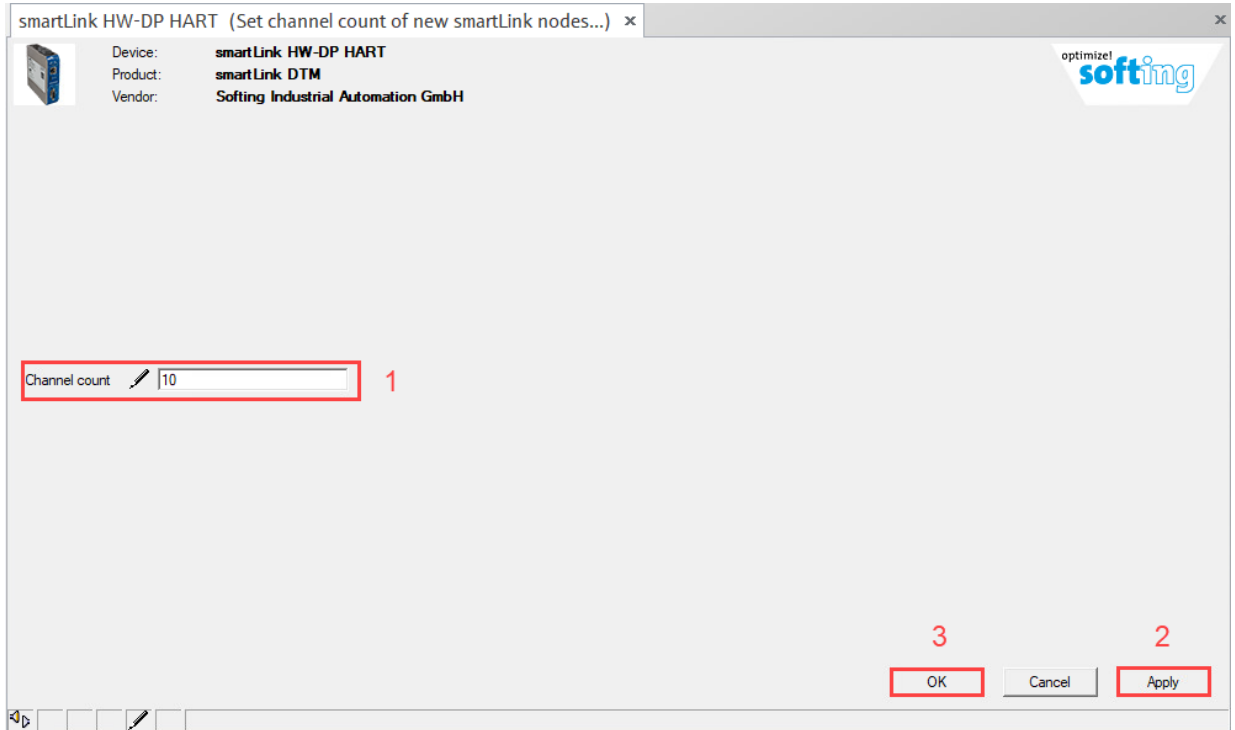


4.1.2.2 smartLink Nodes

- Select the menu Device Functions → Additional Functions → Set channel count of new smartLink nodes...”:



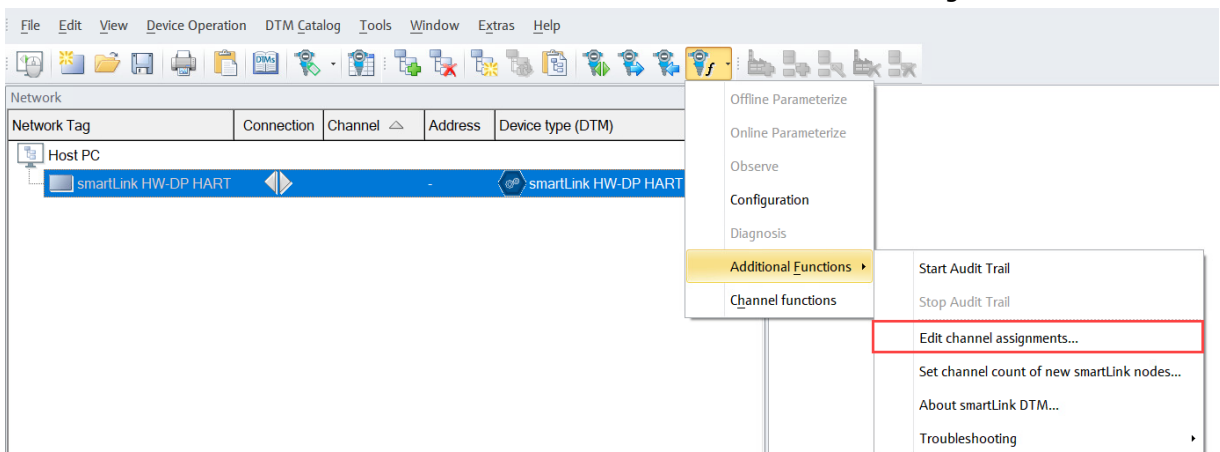
- The parameter “Channel count” corresponds to the amount of connected HART field devices. Updating this parameter to the correct value will decrease the scanning time:



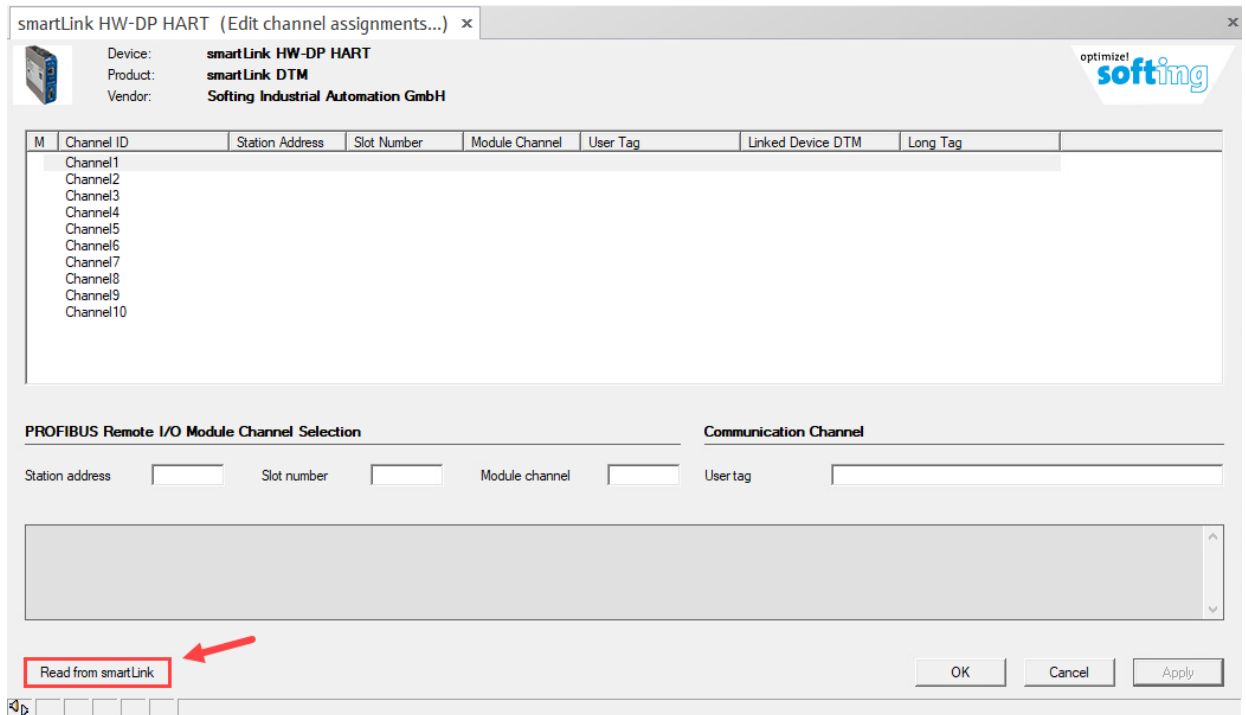
In this example, the parameter “Channel count” is set to “10” (10 HART field devices).

4.1.2.3 Channel Assignment

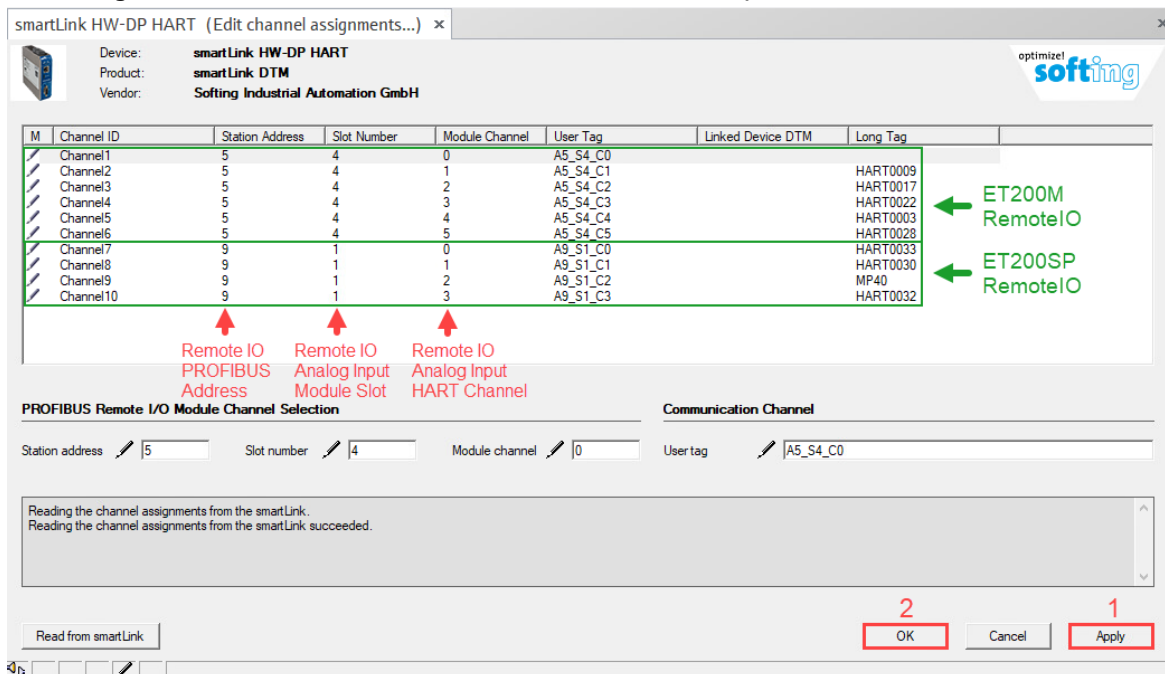
- Select the menu Device Functions→Additional Functions→Edit channel assignments...”:



- Click on the button "Read from smartLink":



- Following HART field devices have been found in this example:

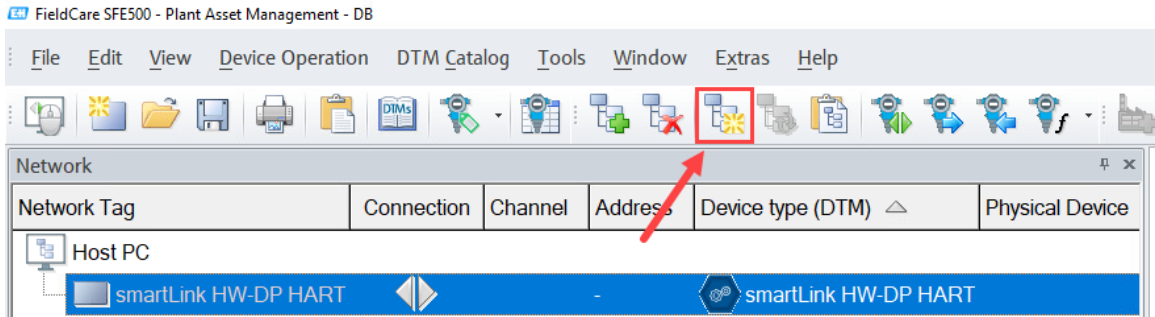


This window displays relevant information about PROFIBUS Remote I/O station address, Analog input module slot number and HART Channel on which is connected the HART field device.

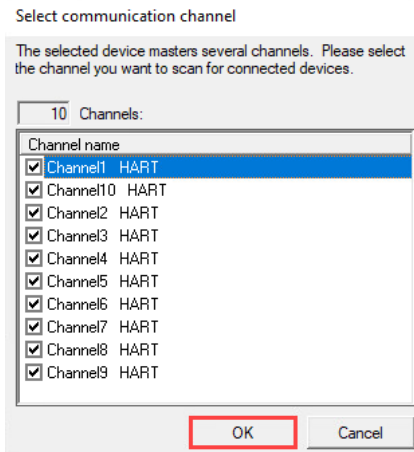
Click on the buttons "Apply" and on "OK".

4.1.3 Network Scanning

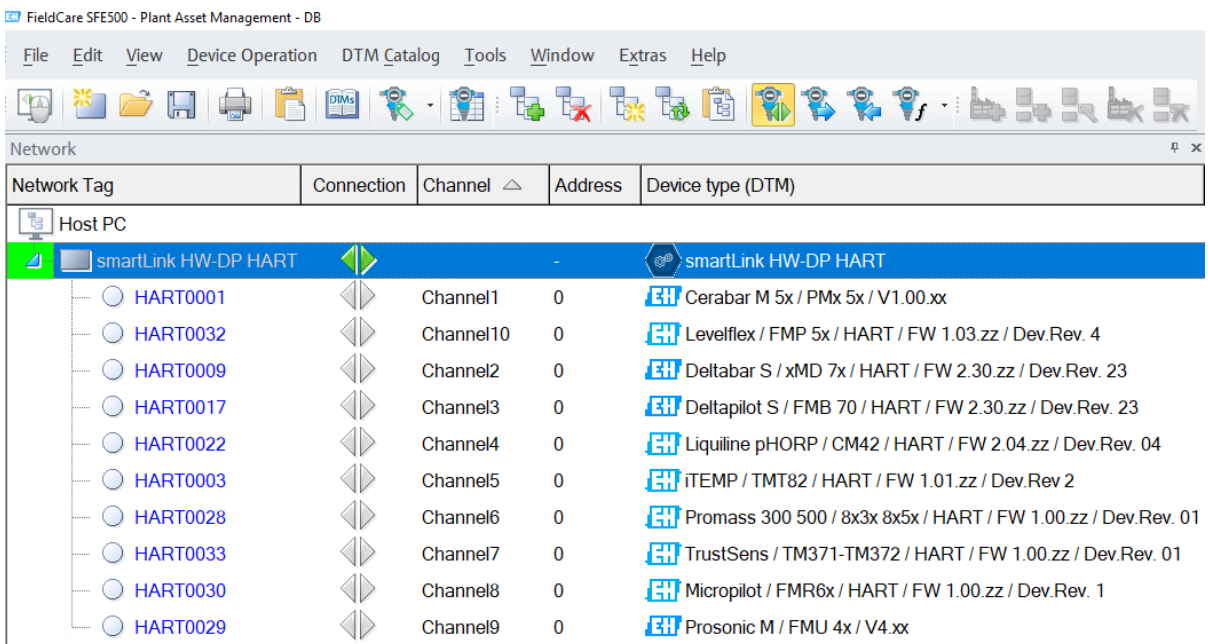
- Select the "smartLink HW-DP HART" CommDTM and click on the toolbar button "Create Network":



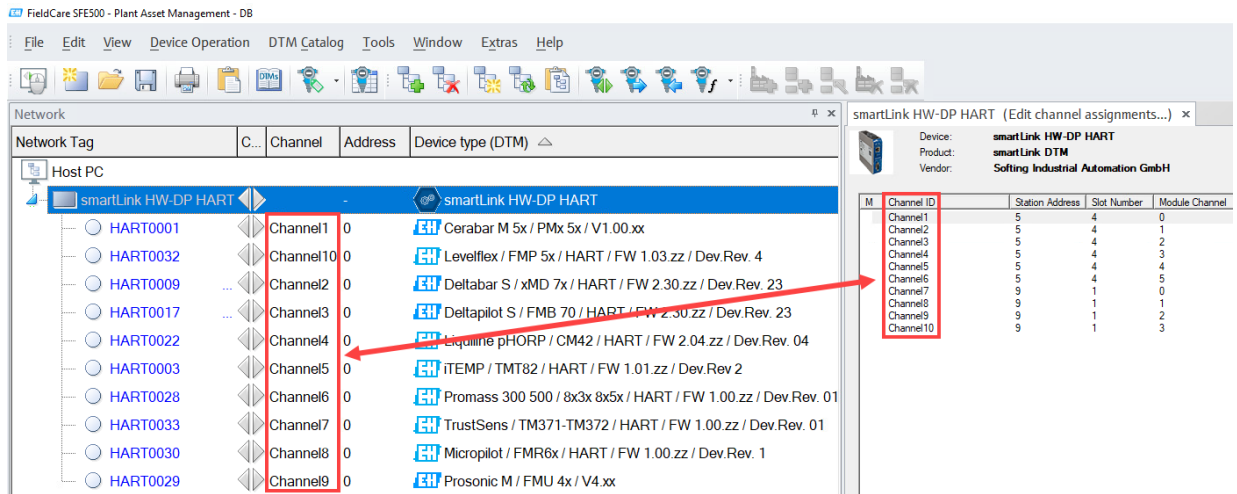
- All 10 channels are selected in this example:



- All HART field devices are found and inserted in the project:

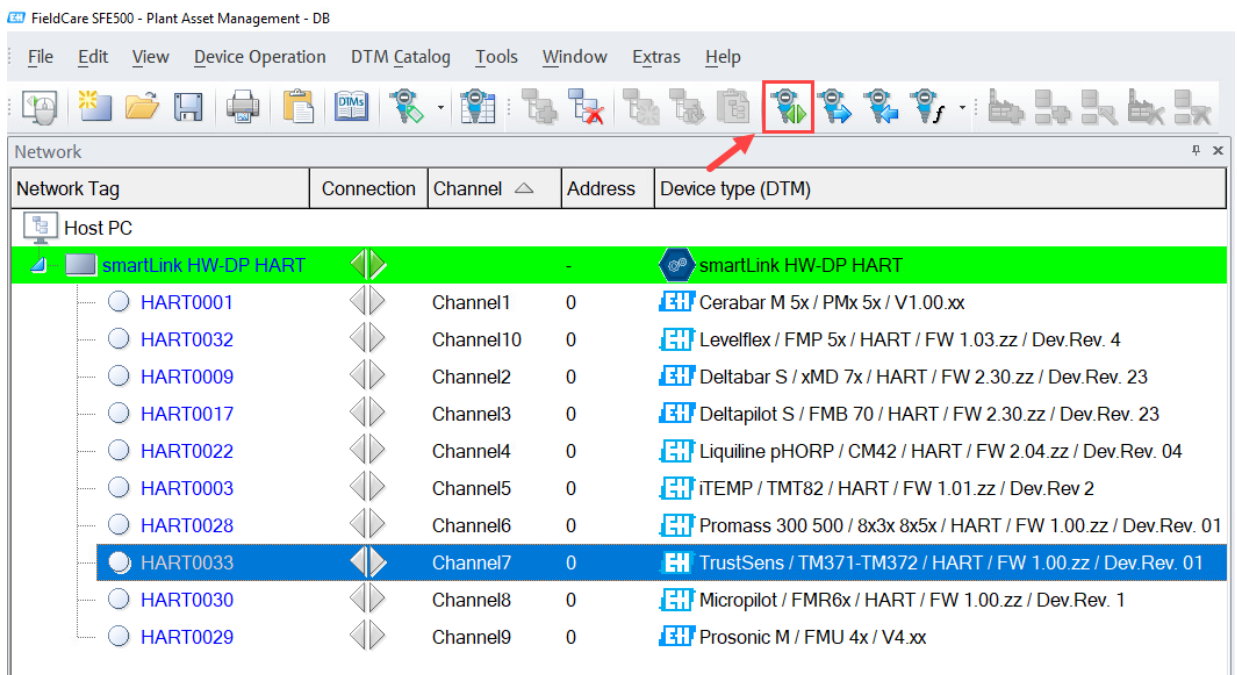


- Device are sorted according to their smartLink HW-DP HART Channel ID:

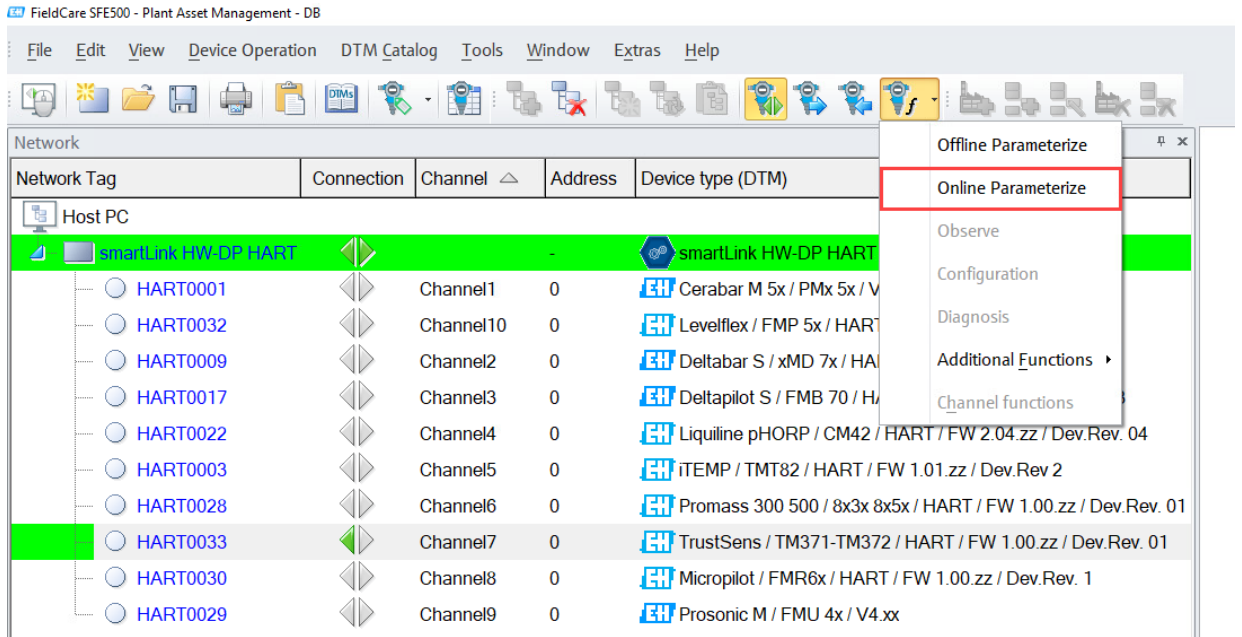


4.1.4 Field Device Online Connection

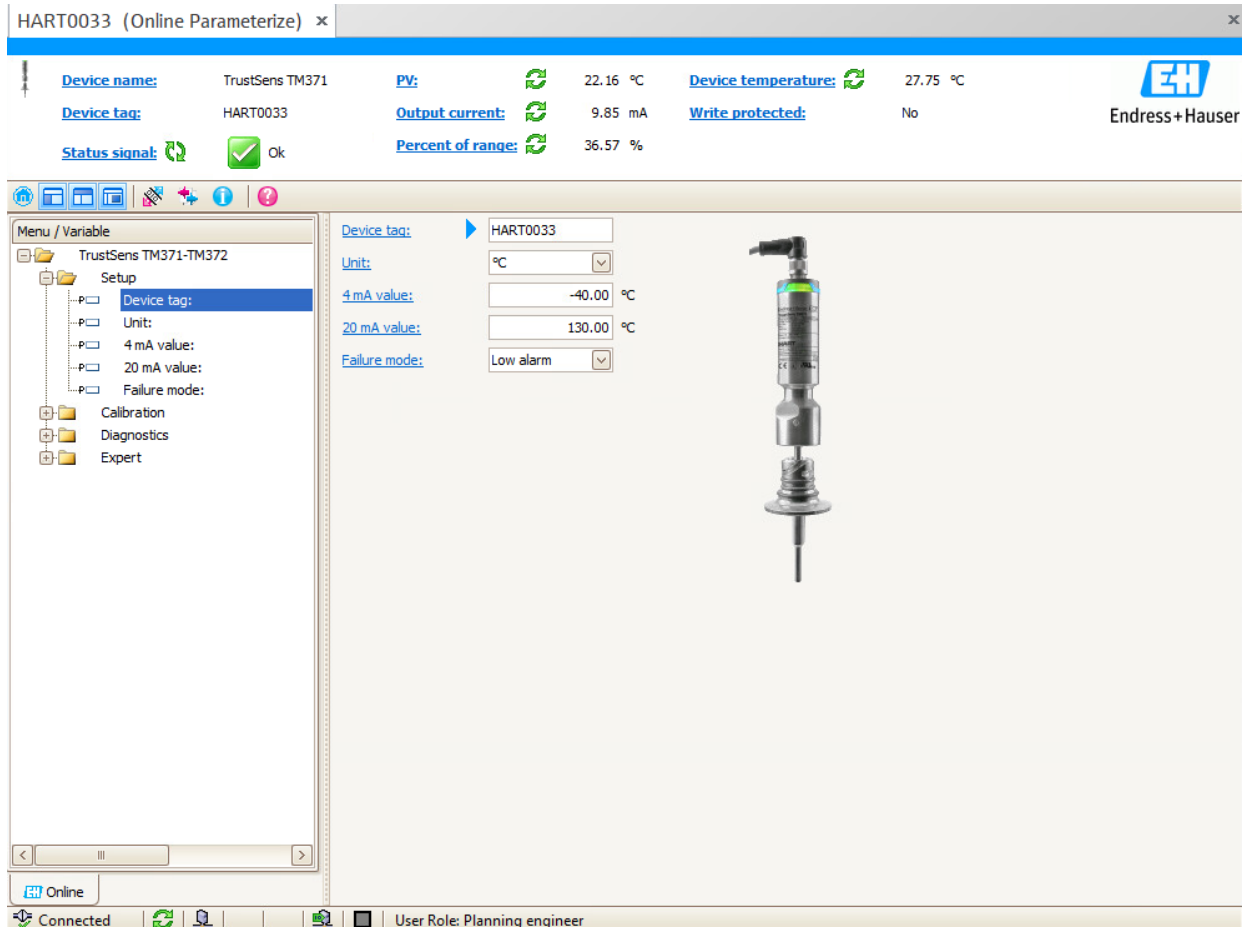
- Select the deviceDTM and click on the toolbar button "Connect":



- Click on the toolbar button "Device Functions→Online Parameterize":



- Field device parameters are now available:



4.2 Netilion Cloud-based Digital Services

This chapter describes the main workflow for integration of the HART field devices in the Netilion Cloud by using the smartLink HW DP gateway in combination with the SGC500 Edge Device.

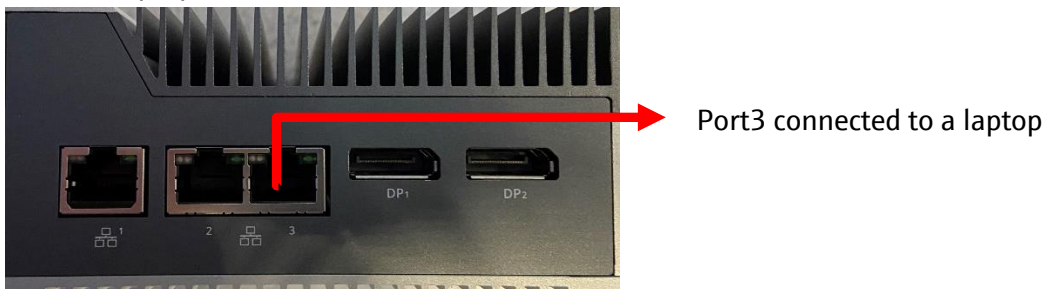
Prerequisites for these tests are a successful PROFIBUS cyclic communication as well as the activation of the smartLink HW DP gateway HART IP server. Parallel connection with FieldCare is not recommended.

4.2.1 FieldEdge SGC500

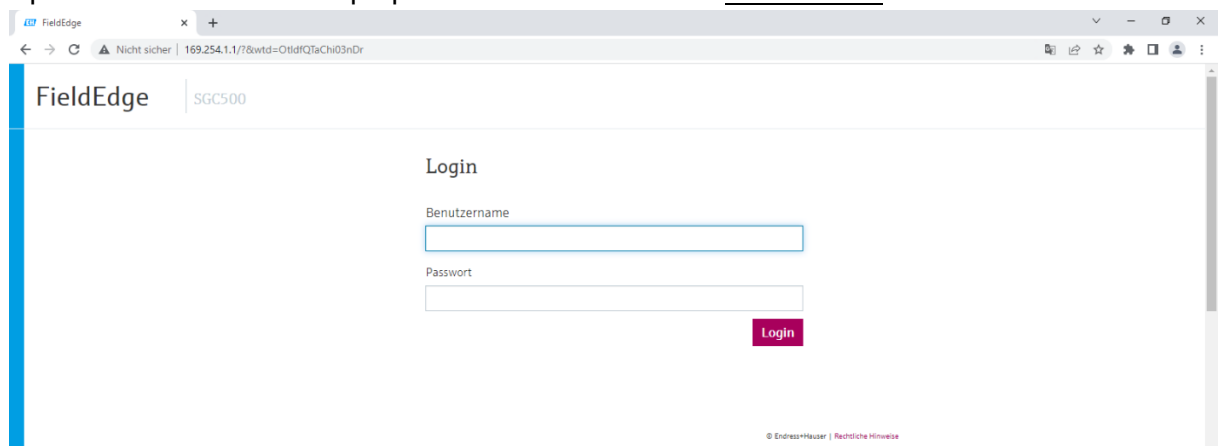
The FieldEdge SGC500 enables the connection to the Netilion Cloud.

4.2.1.1 IP Address Configuration

- In this example, the FieldEdge SGC500 IP address has been configured by using Port3 and an external laptop:

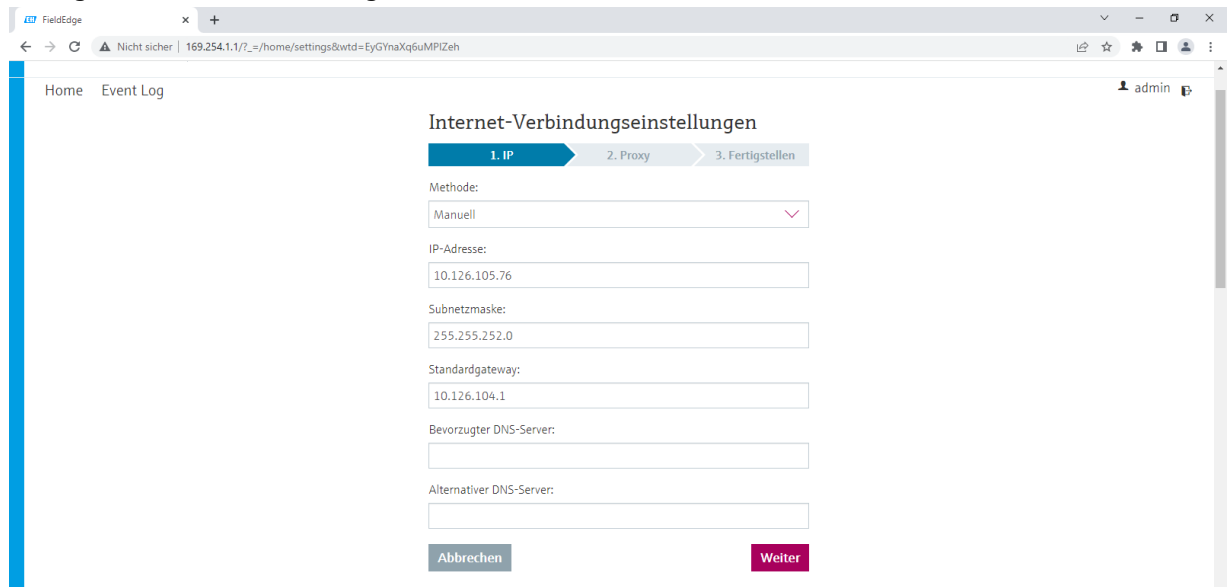


- Open a browser from the laptop and enter the IP address 169.254.1.1:



Enter the logins (Username is "admin" and password is the serial number of the SGC500) and click on the button "Login",

- Configure the network settings and click on the button "Next":



FieldEdge x +

Nicht sicher | 169.254.1.1/?_=/home/settings&wtd=EyGfnaXq6uMPIZeh

Home Event Log admin

Internet-Verbindungseinstellungen

1. IP 2. Proxy 3. Fertigstellen

Methode:
Manuell

IP-Adresse:
10.126.105.76

Subnetzmaske:
255.255.252.0

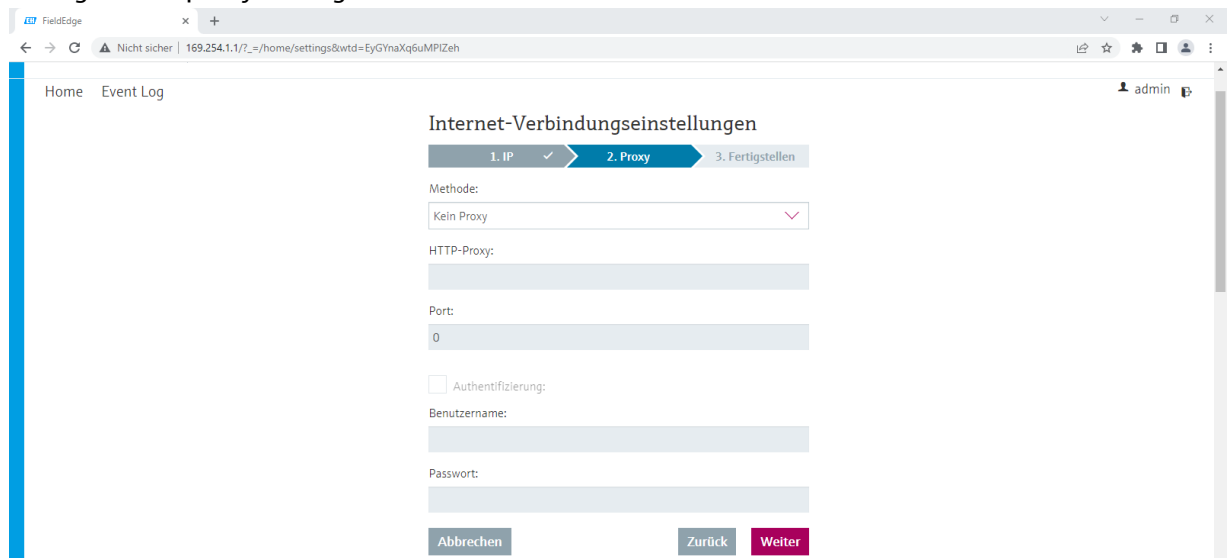
Standardgateway:
10.126.104.1

Bevorzugter DNS-Server:

Alternativer DNS-Server:

Abbrechen Weiter

- Configure the proxy settings and click on the button "Next":



FieldEdge x +

Nicht sicher | 169.254.1.1/?_=/home/settings&wtd=EyGfnaXq6uMPIZeh

Home Event Log admin

Internet-Verbindungseinstellungen

1. IP 2. Proxy 3. Fertigstellen

Methode:
Kein Proxy

HTTP-Proxy:

Port:
0

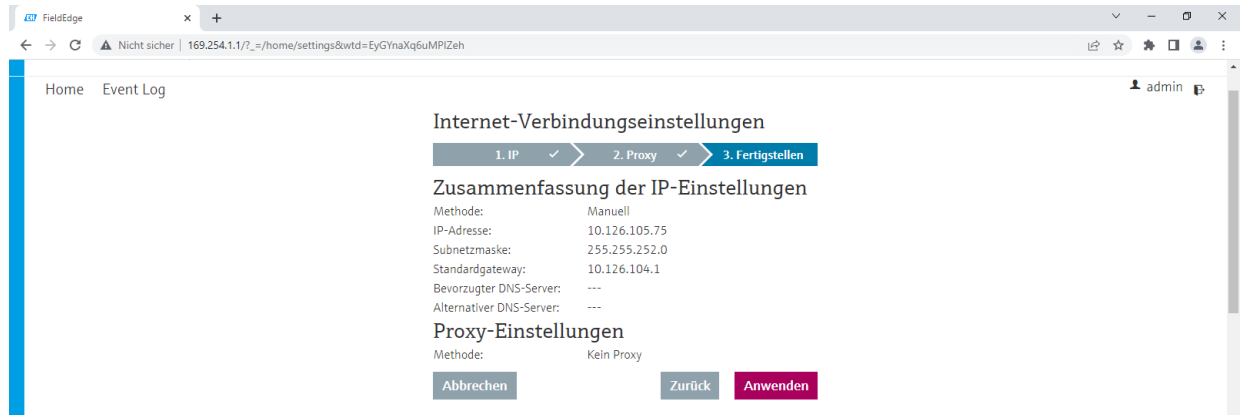
Authentifizierung:

Benutzername:

Passwort:

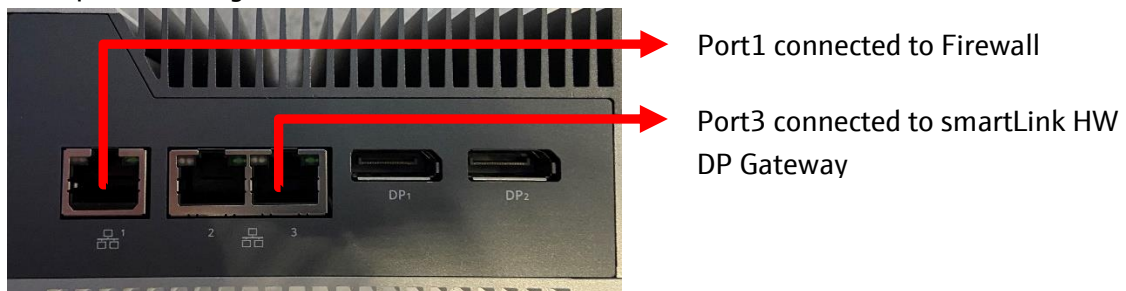
Abbrechen Zurück Weiter

- Click on the button “Finish”:



4.2.1.2 Connection to Field Network

- Once the IP address successfully configured, connect the FieldEdge SGC500 to the network. In this example, following connections have been done:



Remarks

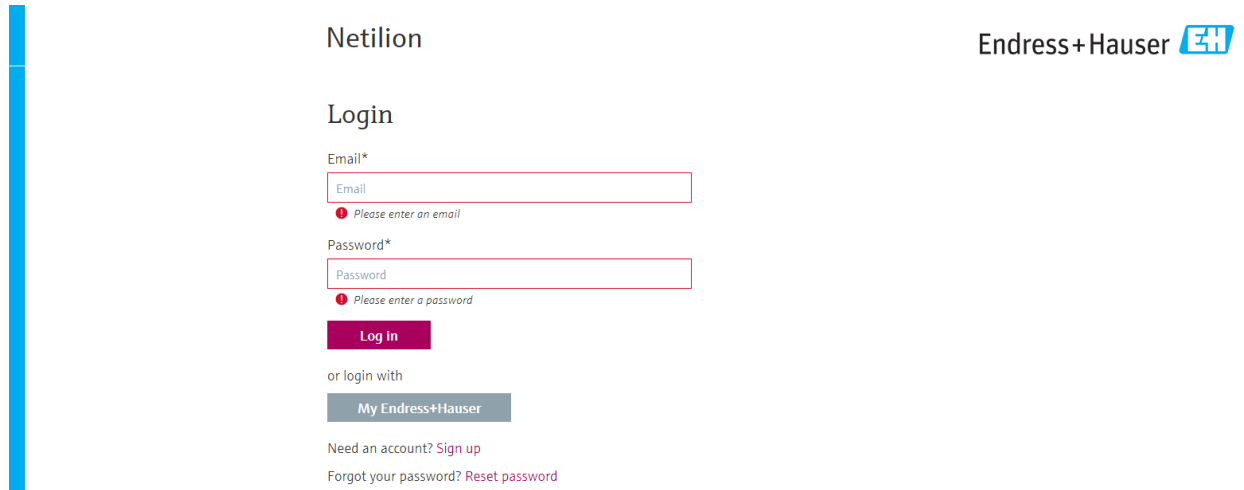
For further details regarding commissioning and operating of FieldEdge SGC500, please refer to the “Operating Instructions FieldEdge SGC500” manual.

4.2.2 smartLink HW DP Gateway Configuration

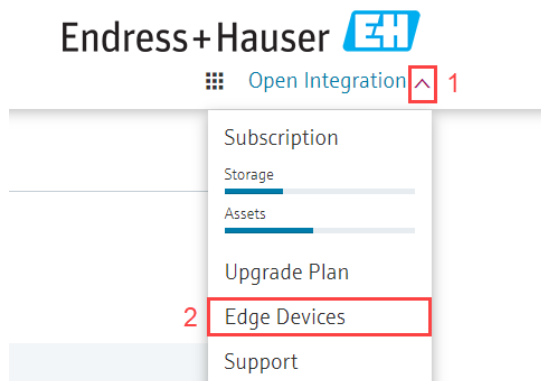
The Softing smartLink HW DP gateway collects the data from the PROFIBUS network and forward them to the FieldEdge SGC500.

4.2.2.1 Connected FieldEdge SGC500

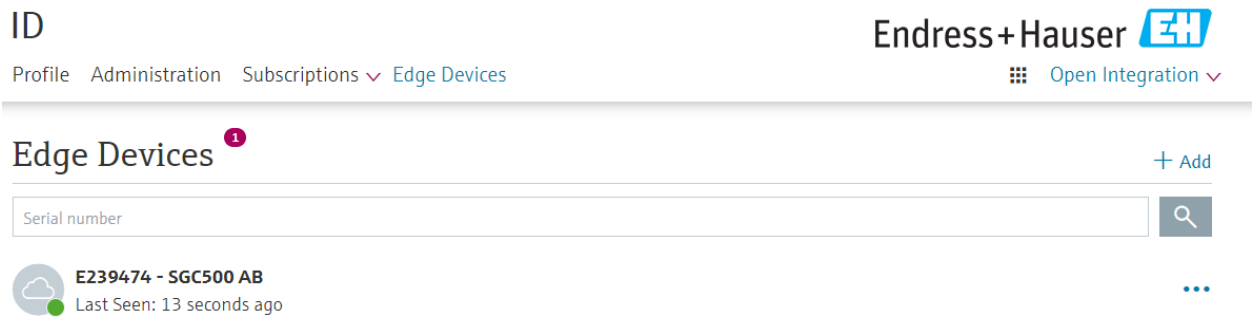
- Open a browser on the engineering station and log in the Netilion Account:



- On the top right part of the browser, click on the small arrow and select the menu "Edge Devices":



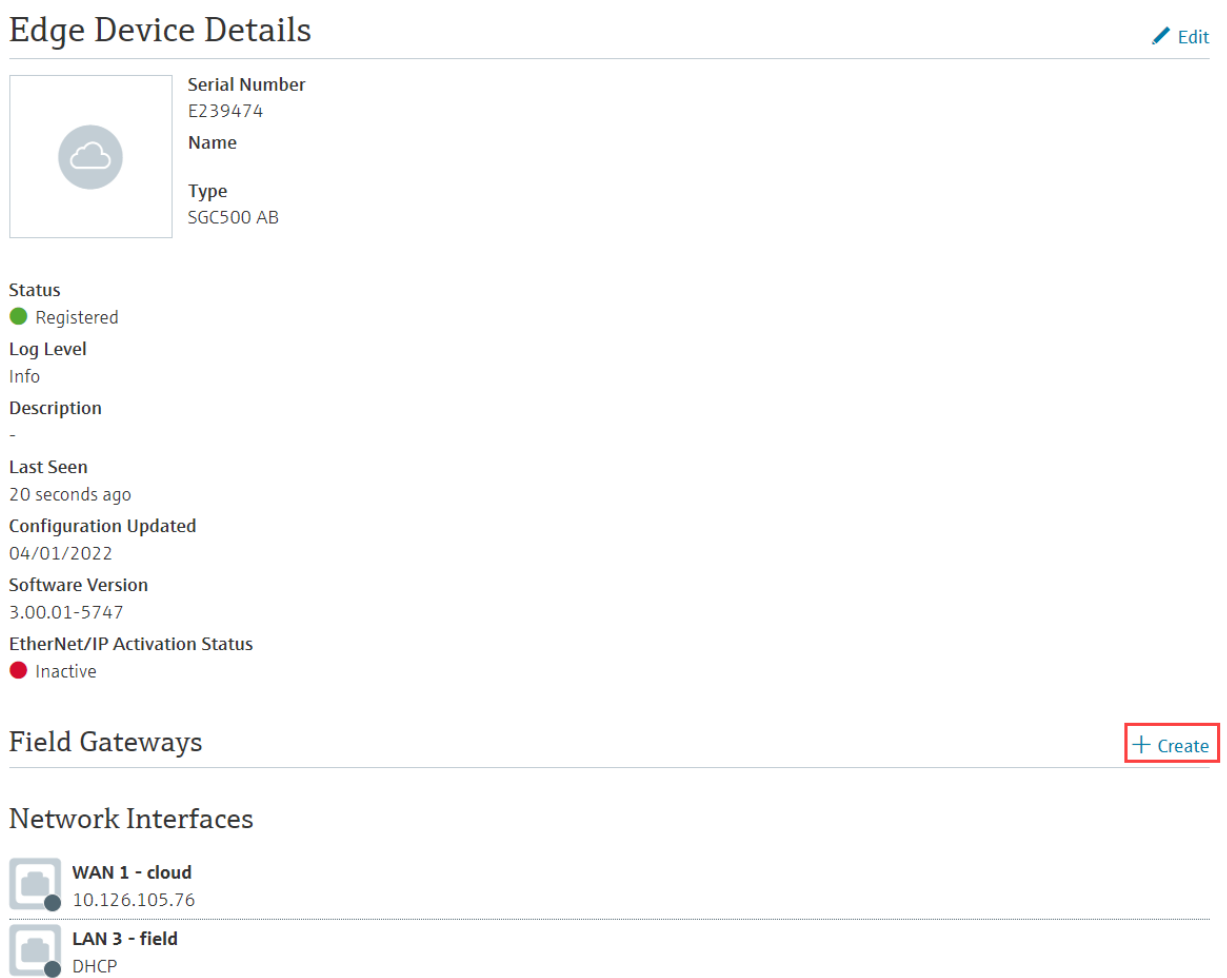
- Connected FieldEdge SGC500 is displayed:




- Click on the displayed Edge device.

4.2.2.2 New smartLink HW DP Gateway

- Click on the button "Create":



Edge Device Details Edit

 Serial Number
E239474

Name

Type
SGC500 AB

Status
● Registered

Log Level
Info

Description
-

Last Seen
20 seconds ago


Configuration Updated
04/01/2022


Software Version
3.00.01-5747

EtherNet/IP Activation Status
● Inactive

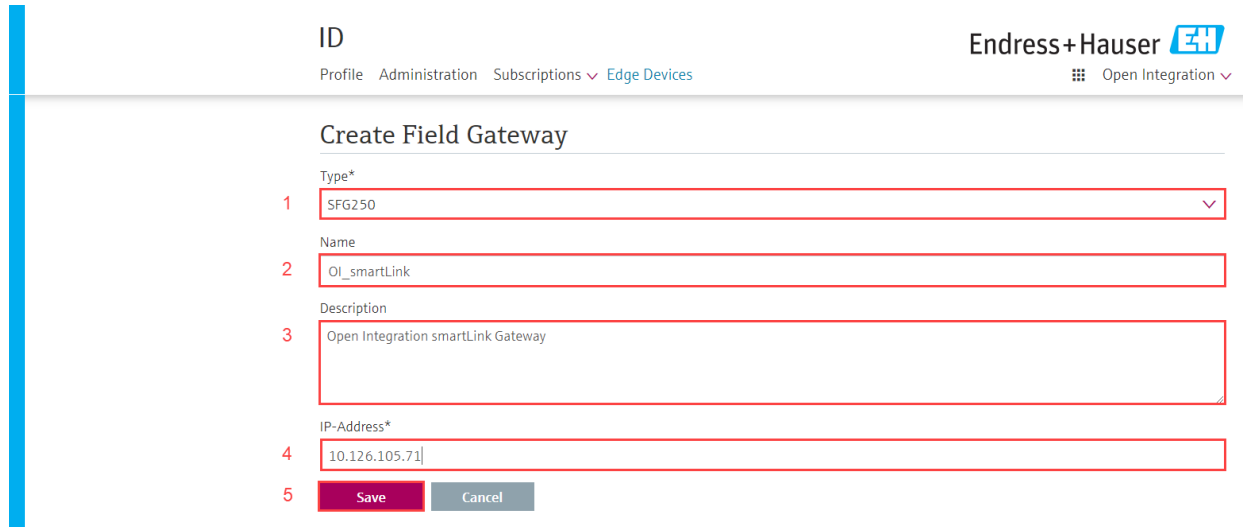
Field Gateways + Create

Network Interfaces

 **WAN 1 - cloud**
10.126.105.76

 **LAN 3 - field**
DHCP

- Configure following parameters and click on the button "Save":



The screenshot shows the 'Create Field Gateway' form in the Endress+Hauser web interface. The form is titled 'Create Field Gateway' and is located under the 'Edge Devices' section. The form contains the following fields:

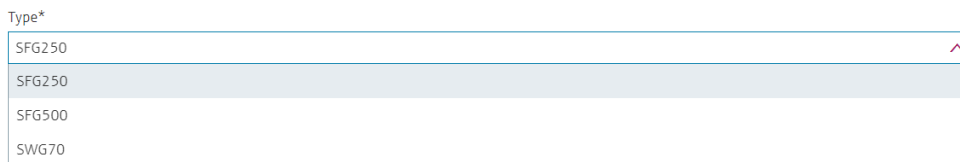
- Type***: A dropdown menu with 'SFG250' selected.
- Name**: A text input field containing 'OI_smartLink'.
- Description**: A text area containing 'Open Integration smartLink Gateway'.
- IP-Address***: A text input field containing '10.126.105.71'.

At the bottom of the form, there are two buttons: 'Save' (highlighted in red) and 'Cancel'.

Remarks

In current Netilion version, the object type "smartLink HW DP" is not implemented. Meanwhile, the type "SFG250" may be used for this application as well:

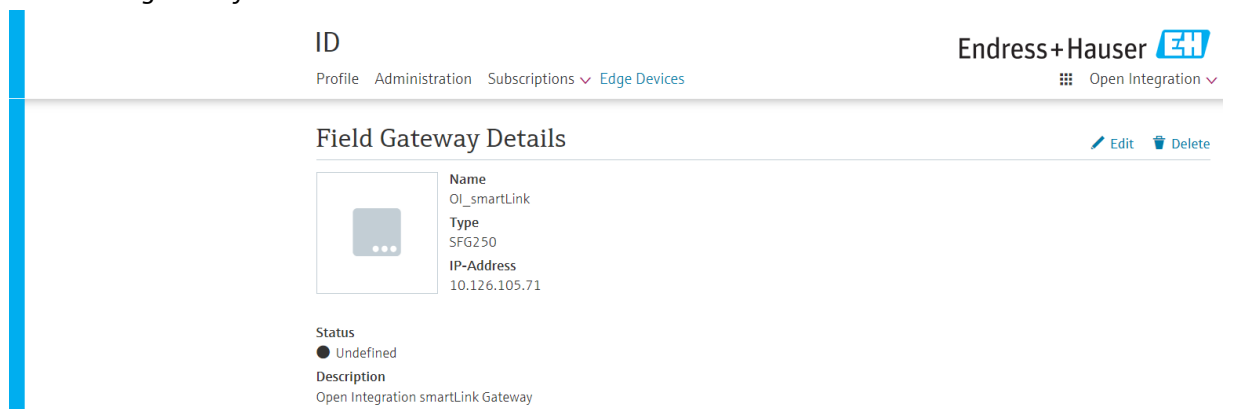
Create Field Gateway



The screenshot shows the 'Type*' dropdown menu in the 'Create Field Gateway' form. The dropdown is open, showing a list of options: SFG250, SFG500, and SWG70. The top option, SFG250, is highlighted.

The configured IP address is the same as this used in chapter 3.2.1.

- smartLink gateway is created with status "Undefined":

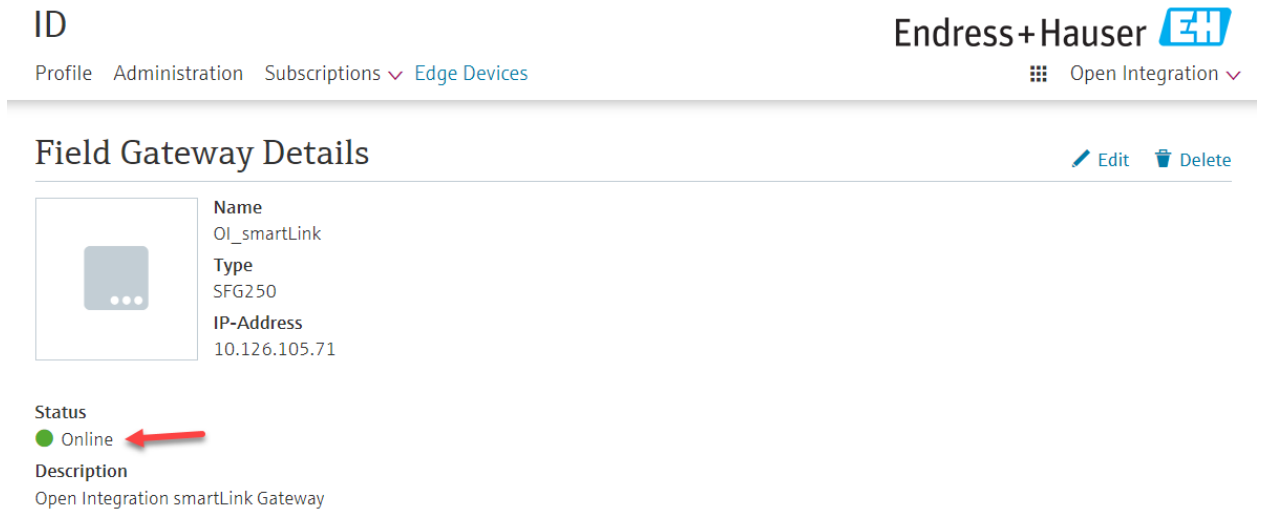



The screenshot shows the 'Field Gateway Details' page in the Endress+Hauser web interface. The page is titled 'Field Gateway Details' and is located under the 'Edge Devices' section. The page contains the following information:

- Name**: OI_smartLink
- Type**: SFG250
- IP-Address**: 10.126.105.71
- Status**: Undefined (indicated by a black dot)
- Description**: Open Integration smartLink Gateway

At the top right of the page, there are two buttons: 'Edit' and 'Delete'.


- Status will change after few minutes:



ID **Endress+Hauser** 

Profile Administration Subscriptions ▼ Edge Devices ☰ Open Integration ▼

Field Gateway Details [Edit](#) [Delete](#)



Name
OI_smartLink

Type
SFG250

IP-Address
10.126.105.71

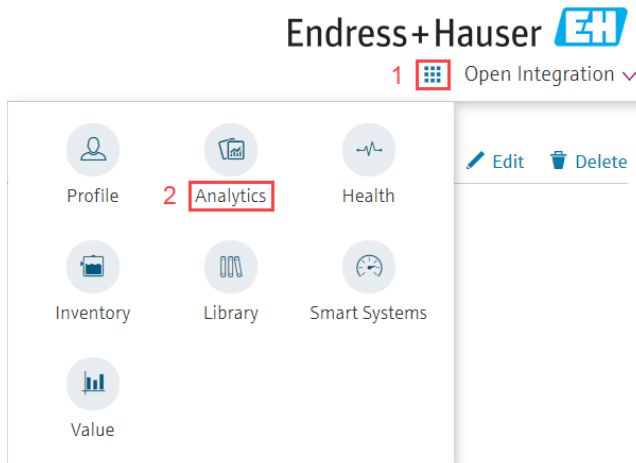
Status
● Online ←


Description
Open Integration smartLink Gateway

- The smartLink HW DP gateway is now configured in the SGC500.


4.2.3 Scanned Field Devices Tags


- Click for example on the menu “Analytics”:





Endress+Hauser 


1 ☰ Open Integration ▼



Profile



2 Analytics


Health


Inventory


Library


Smart Systems


Value

[Edit](#) [Delete](#)

- Then click on the menu “All Objects”:

















Analytics **Endress+Hauser** 

Insights All Objects ☰ Open Integration ▼

- After few minutes all field devices are displayed with their corresponding Tag:

All Objects + Create

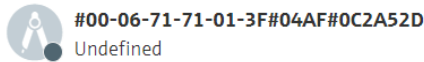
Q

	Built-in Device Location Infrastructure	...
	Manufacturer Component List Manufacturer	...
	Reference Topologies Projects	...
	#00-06-71-71-01-3F#04AF#0C2A52D Undefined	...
	HART0001 Undefined	...
	HART0003 Undefined	...
	HART0009 Undefined	...
	HART0017 Undefined	...
	HART0022 Undefined	...
	HART0028 Undefined	...
	HART0029 Undefined	...
	HART0030 Undefined	...
	HART0032 Undefined	...
	HART0033 Undefined	...

Found Tags

4.2.3.1 smartLink DP HW Tag

- Click for example on the first tag of the list, which corresponds to the Softing smartLink HW DP gateway (the first part of the tag corresponds to the gateway MAC address):



- This displays the tag details:

- If needed, update the information by clicking on the menu "Edit":

In this example, a picture of the used Softing gateway has been imported and the Tag and Description fields have been updated.




- Scroll down to see the Asset. Click on it:


Assets

Assign Asset


Serial Number


Assign



 **6041E4AA000001**  


 ?, Softing

- This displays the current Asset details:

Analytics Endress+Hauser 

Insights All Objects Open Integration 

Asset Details  **Edit**  **Delete**



Serial Number
6041E4AA000001

Product Name
-

Manufacturer
Softing

Asset Status
... Undefined

Last Seen
-

Description
-

Product Code
?

Production Date
-

Product Status
● Undefined


Successors
No information about successors available.


If needed, the configuration may be completed with additional information.

- In this example, additional Asset information have been added (Picture, Product Name, Description and Product Code):



Analytics


Insights All Objects

Endress+Hauser 

Open Integration 

Asset Details

 Edit  Delete



Serial Number
6041E4AA000001

Product Name
smartLink HW-DP

Manufacturer
Softing

Asset Status

... Undefined

Last Seen

-

Description

IIoT Gateway connecting to legacy networks, enabling Industry 4.0 connectivity Connection of PROFIBUS and HART devices to HART IP, OPC UA, MQTT and FDT/DTM.

Product Code
GEA-YN-026000

Production Date

-

Product Status

● Undefined

Successors

No information about successors available.

- Go back to the Netilion menu “Analytics→All Objects”:

	HART0001 Undefined	...
	HART0003 Undefined	...
	HART0009 Undefined	...
	HART0017 Undefined	...
	HART0022 Undefined	...
	HART0028 Undefined	...
	HART0029 Undefined	...
	HART0030 Undefined	...
	HART0032 Undefined	...
	HART0033 Undefined	...
	OI_smartLink Undefined, Open Integration smartLink Gateway	... 

The smartLink DP HW appears now with updated tag.



Remark

In current SGC500 version, there is an issue regarding the tags definition. The default scanned tag name can be updated but the default tag will be created again above 20minutes later:

Tags

Assign Tag















Assign

 #00-06-71-71-01-3F#04AF#0C2A52D	⋮
 OI_smartLink Open Integration smartLink Gateway	⋮

4.2.3.2 Endress+Hauser Field Devices

- Click for example on the Endress+Hauser field device HART0003:

All Objects + Create

 Built-in Device Location Infrastructure	⋮
 Manufacturer Component List Manufacturer	⋮
 Reference Topologies Projects	⋮
 HART0001 Undefined	⋮
 HART0003 ← Undefined	⋮
 HART0009 Undefined	⋮
 HART0017 Undefined	⋮
 HART0022 Undefined	⋮
 HART0028 Undefined	⋮
 HART0029 Undefined	⋮
 HART0030 Undefined	⋮
 HART0032 Undefined	⋮
 HART0033 Undefined	⋮
 OI_smartLink Undefined, Open Integration smartLink Gateway	⋮


- By scrolling down on the HART0003 Tag Detail, the corresponding Asset is displayed:

Assets

Assign Asset

Serial Number ▼


Assign

 **KC052C1426C** ⋮

♦ TMT82 - ITEMP TMT82, Transmitter HART, Endress+Hauser


Click on it.

- This displays the Asset Details:

Analytics **Endress+Hauser** 

Insights All Objects ☰ Open Integration ▼

Asset Details [Edit](#) [Delete](#)



Serial Number
KC052C1426C

Product Name
ITEMP TMT82, Transmitter HART

Manufacturer
Endress+Hauser

Asset Status
♦ Maintenance Required

Last Seen
3 minutes ago

Firmware Version
01.01.08

Description
-

Product Code
TMT82-5RV5/160 (TMT82-AAA2AB1A1AAA1+LALU)

Production Date
12/2015

Product Status
● Available

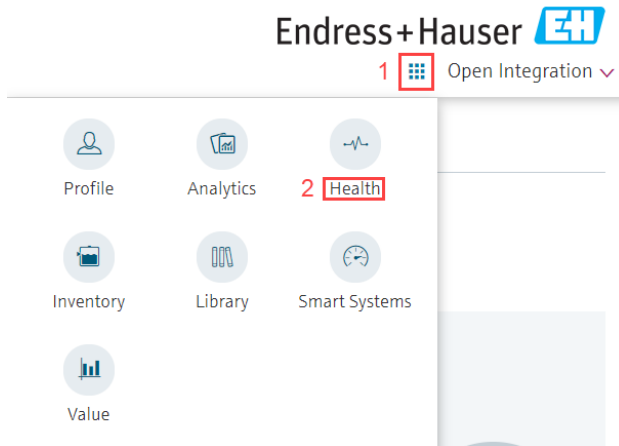
Remarks

All Endress+Hauser details are prefilled.

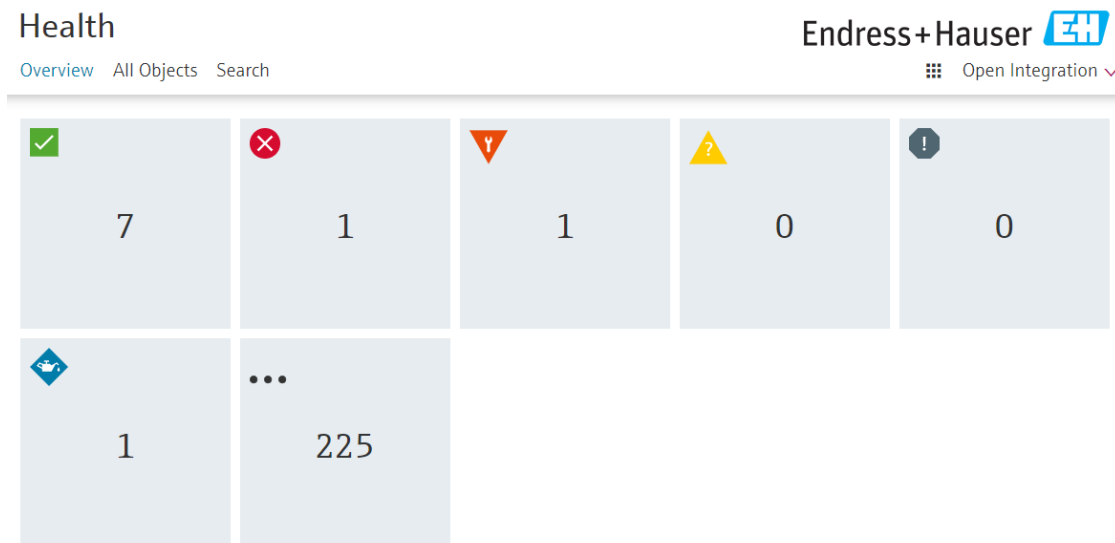
4.2.4 Netilion Health

4.2.4.1 Status Overview

- Click on the menu "Health"








- Connected field devices are sorted according to their Namur status:





Legend

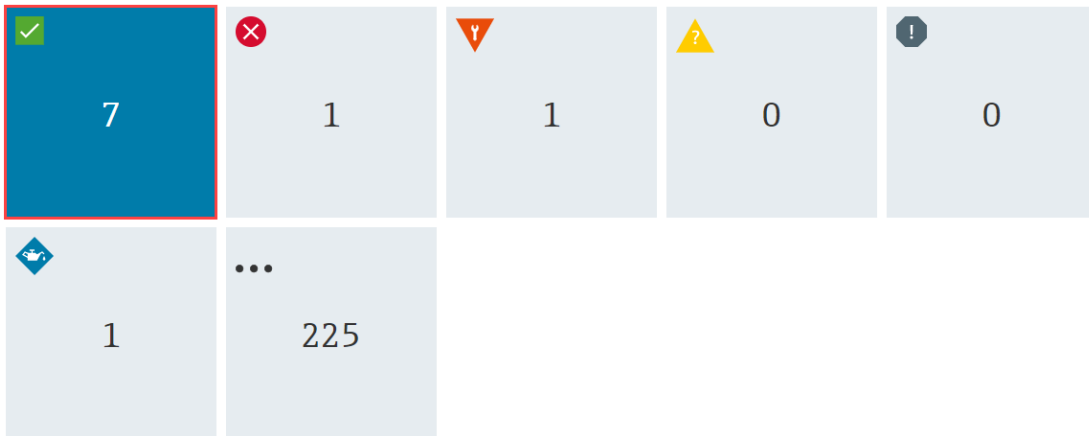
Namur status:

-  OK
-  Failure
-  Function Check
-  Out Of Specification
-  Maintenance








Other status:

-  Undefined
-  Unknown

- Click for example on the status "OK" to display all Tags without any errors:

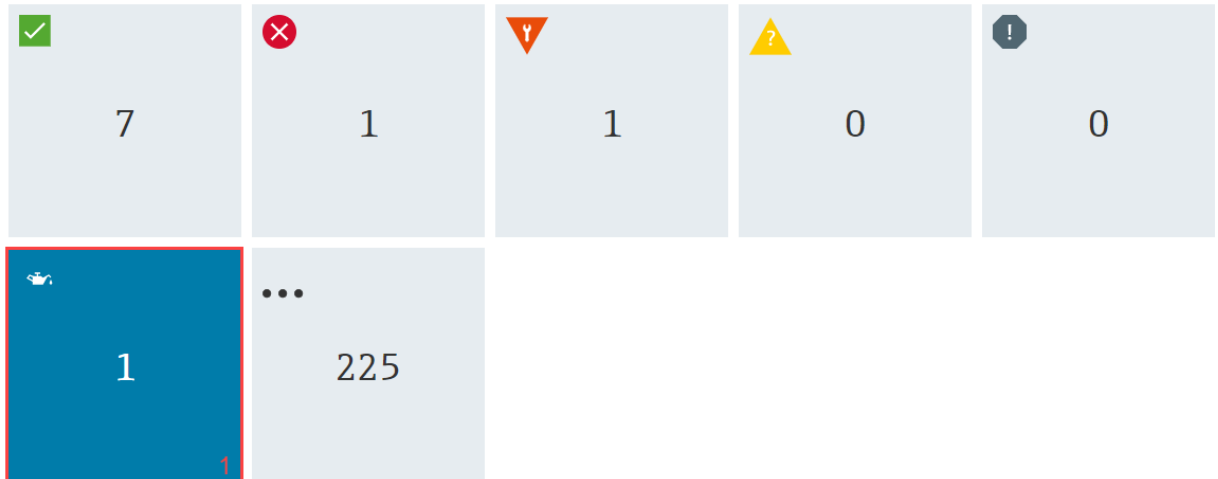


Assets with status: OK ⁷

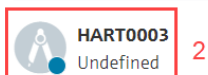
 HART0001 Undefined
 HART0009 Undefined
 HART0017 Undefined
 HART0022 Undefined
 HART0028 Undefined
 HART0032 Undefined
 HART0033 Undefined

4.2.4.2 Asset Details

- Additional status information can be found by selecting the tag.



Assets with status: Maintenance Required ¹





- In the Asset Details page, scroll down to "Assets" part:

Assets

Assign Asset

Serial Number

 **KC052C1426C** ...

 TMT82 - ITEMP TMT82, Transmitter HART, Endress+Hauser

The "Maintenance" Namur status appears closed to the device.

- Click on the Asset "KC052C1426C" to display the Asset Details:

Asset Details

 Edit  Delete




Serial Number
KC052C1426C

Product Name
iTEMP TMT82, Transmitter HART

Manufacturer
Endress+Hauser

Asset Status


 Maintenance Required

[More information](#)

Health Conditions




XGEN_9c55741021b11a58c8997a2835d9b551 - Maintenance Required

Maintenance Required. This bit is set to indicate that, while the device has not malfunctioned, the Field Device requires maintenance. 



M842 - Maintenance Required

Process limit-Current output 

History

May 2022						
<						>
Sun	Mon	Tue	Wed	Thu	Fri	Sat
01	02	03	04	05	06	07
08	09	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	01	02	03	04

- Click for example on the Diagnostics "M842-Maintenance Required" to open a new page with the Diagnosis Code, Cause and Remedy information:

Health Condition Details



Health Status
Maintenance Required

Diagnosis Code
M842

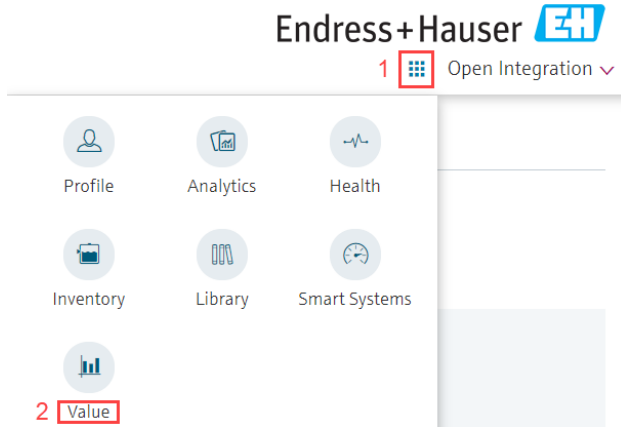
Cause
Process limit-Current output

Remedy
Check the adjusted range of the analog output

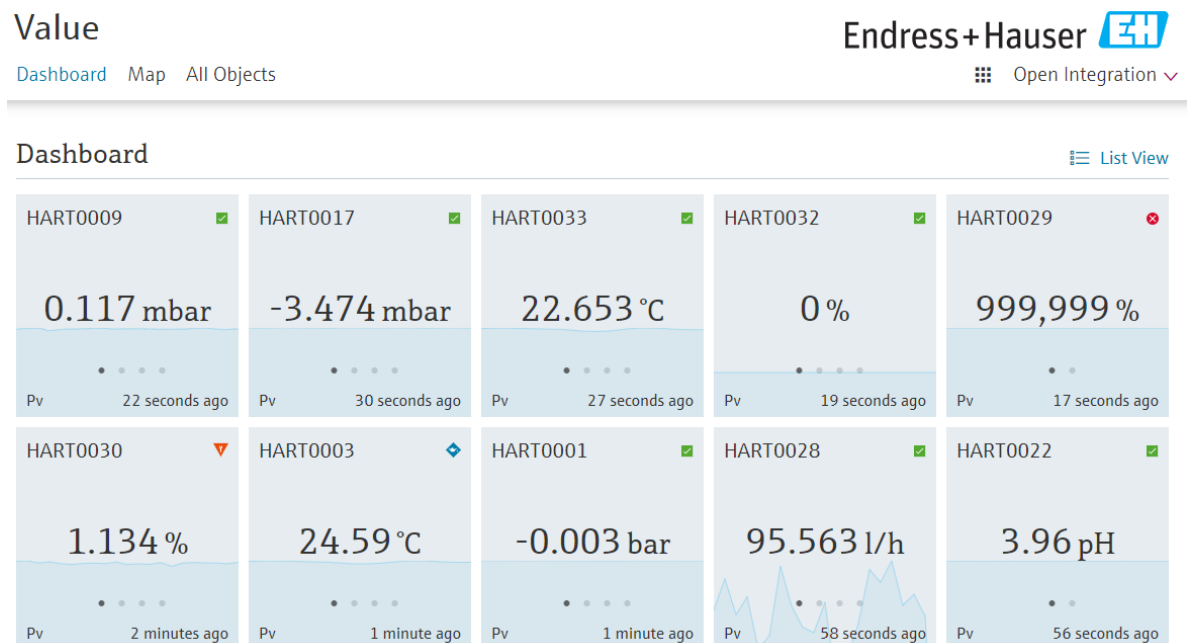
4.2.5 Netilion Value

4.2.5.1 Dashboard Overview

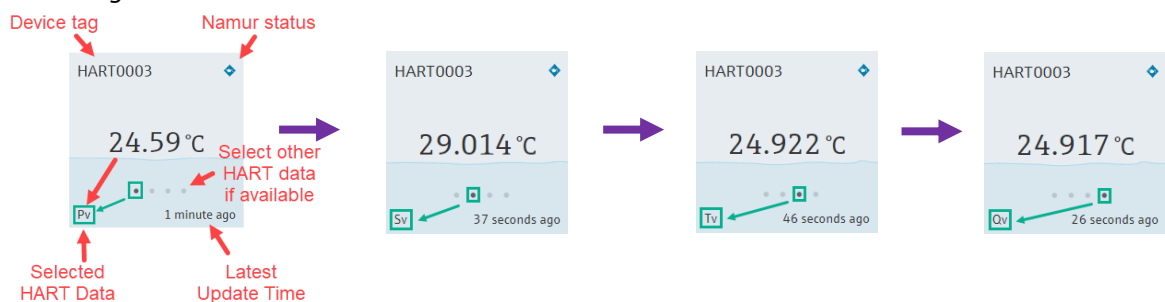
- Select the menu "Value":



- The Dashboard for Values displays the field devices measurement:



- Following information are available for each asset:

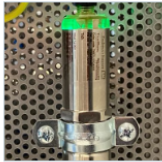


4.2.5.2 Asset Details

- In this example, tag HART0033 is selected, which corresponds to a TrustSens device:

Tag Details

[Edit](#) [Delete](#)



Tag
HART0033
Type
Temperature

Operation Mode

Active

Status

● OK

[More information](#)

Latest Values

[Thresholds](#)

Pv	Sv	Tv	Qv
23.021 °C	28.353 °C	1 ?	-0.04 °C
51 seconds ago	51 seconds ago	51 seconds ago	51 seconds ago

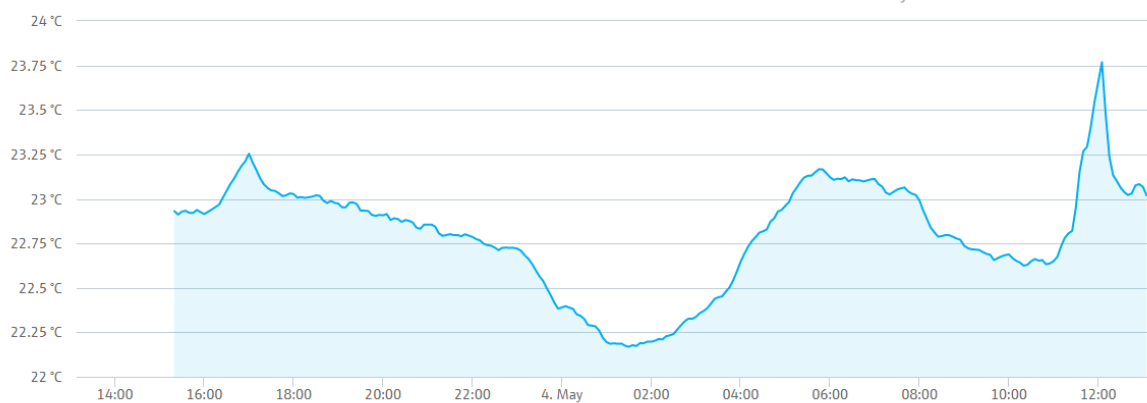
- Latest HART data process values are displayed. Scroll down to visualize the online monitoring record of process value PV:

History

[Export](#)

Pv

1 Hour 1 Day 1 Week 1 Month 1 Year All




- Further online monitoring graphics for SV, TV and QV are also available by clicking on the asset directly:

Assets

Assign Asset

Serial Number ▼

Assign

 **N3044004487** ←

TM371 - TrustSens TM371, Endress+Hauser ⋮

- Asset Details

Asset Details

[Edit](#) [Delete](#)



Serial Number
N3044004487

Product Name
TrustSens TM371

Manufacturer
Endress+Hauser

Asset Status

OK

[More information](#)

Latest Values

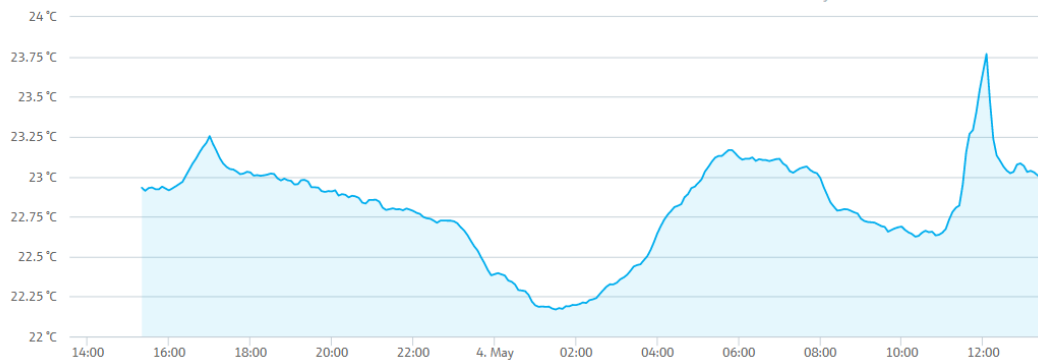
[Units](#)

Pv	Sv	Tv	Qv
23.007 °C	28.294 °C	1 ?	-0.04 °C
1 minute ago	1 minute ago	1 minute ago	1 minute ago

History

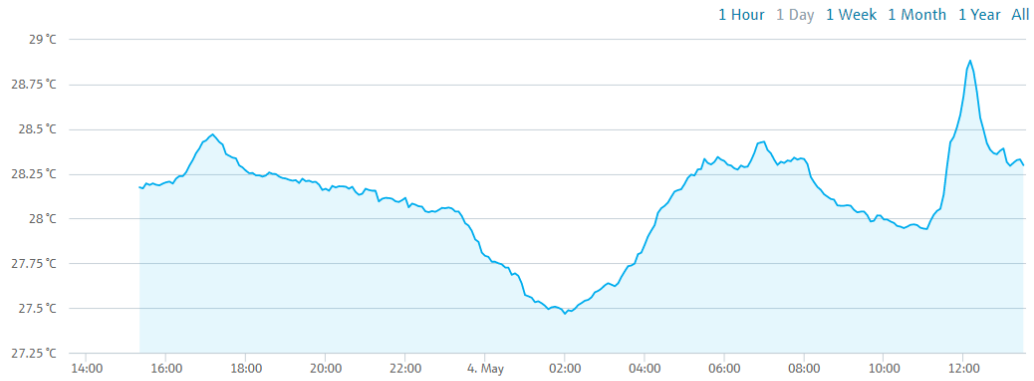
Pv

[1 Hour](#) [1 Day](#) [1 Week](#) [1 Month](#) [1 Year](#) [All](#)

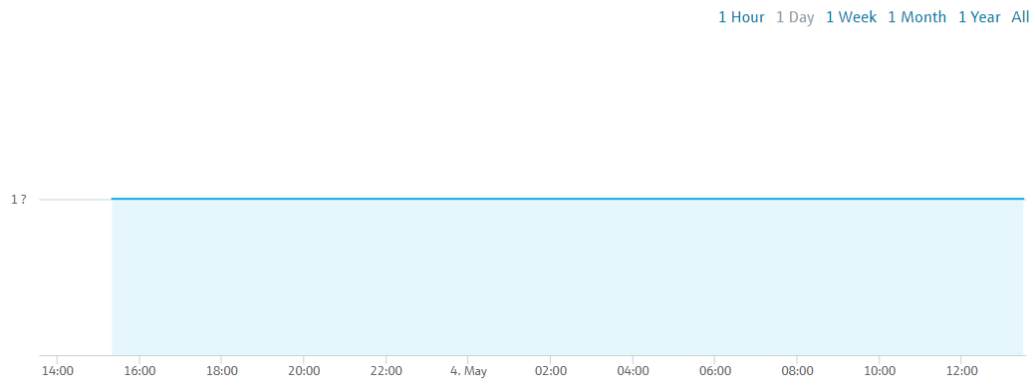


- History values for SV, TV and QV:

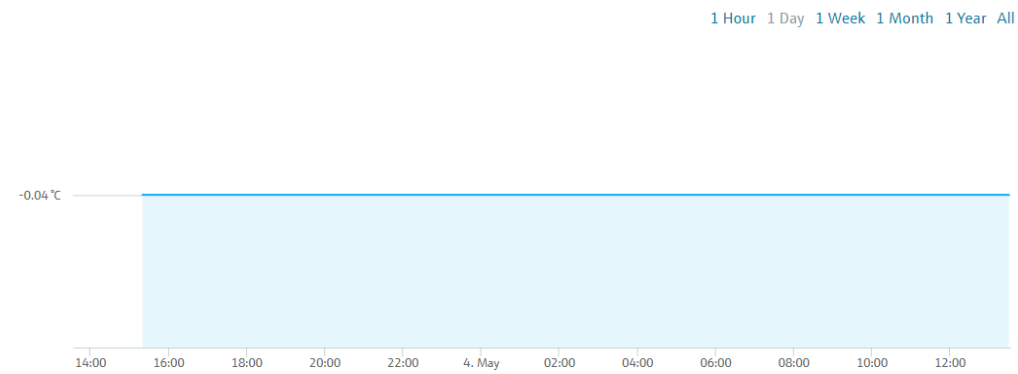
Sv



Tv



Qv



www.endress.com/open-integration
