

# Operating Manual

## Asset Health Monitoring Solution

### SRP700

The screenshot displays the SRP700 Asset Health Monitor interface. At the top, the title "SRP700 Asset Health Monitor" is visible on the left, and "EN" with a dropdown arrow and the "Endress+Hauser" logo are on the right. Below the title bar, there is a section titled "PAM Gateways" with a right-pointing arrow. Underneath, a "Plant Filter" section contains a funnel icon and the text "Active PAM Gateways". The main content area shows a 2x4 grid of summary cards for different gateway statuses:

4	3	0	1
1	3	0	0

BA01682S/04/EN/02.20  
71495105  
2020-08-25

## Version History

Date	Version	Change	Who
28.11.2019	01.00	Initial version	JT
31.03.2020	01.01	New screenshots, AHM language switching	Peter Berrie
25.08.2020	01.02	Editorial adjustments	PSO

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# 1 General

## 1.1 Purpose

This Operating Manual describes how to operate the Asset Health Monitoring Solution (SRP700). It describes the overall concept and does not replace the operating manuals of the individual applications, e.g. FieldCare or Field Xpert, but rather is seen as an addition.

## 1.2 Intended audience

- Customer personnel responsible for site preparation
- Knowledgeable end users who are already familiar with the basics and who use the system on a daily basis.

## 1.3 Preconditions

This Operating Manual assumes that the Asset Health Monitoring Solution (SRP700) installed and already configured. In the event that the servers need to be set up first, see the separate Setup Guides.

This Operating Manual covers the following topics:

- General overview of system components
- How to add, delete or replace a device
- How to configure a device
- How to add a new SRP700 Client
- How to install additional CommDTMs or Device DTMs

## 1.4 Documents reference

FieldCare: BA00065S/04/EN
FieldCare Getting Started: BA00027S/04/A2
FieldCare Tutorial: SD01928S/04/EN
Field Xpert SMT70: BA01709S/04/EN
Field Xpert SMT77: BA01923S/04/EN
W@M Enterprise: BA01273S_0518
W@M Portal: BA01282SEN_0419

## 2 System Overview

### 2.1 Example of Rockwell system

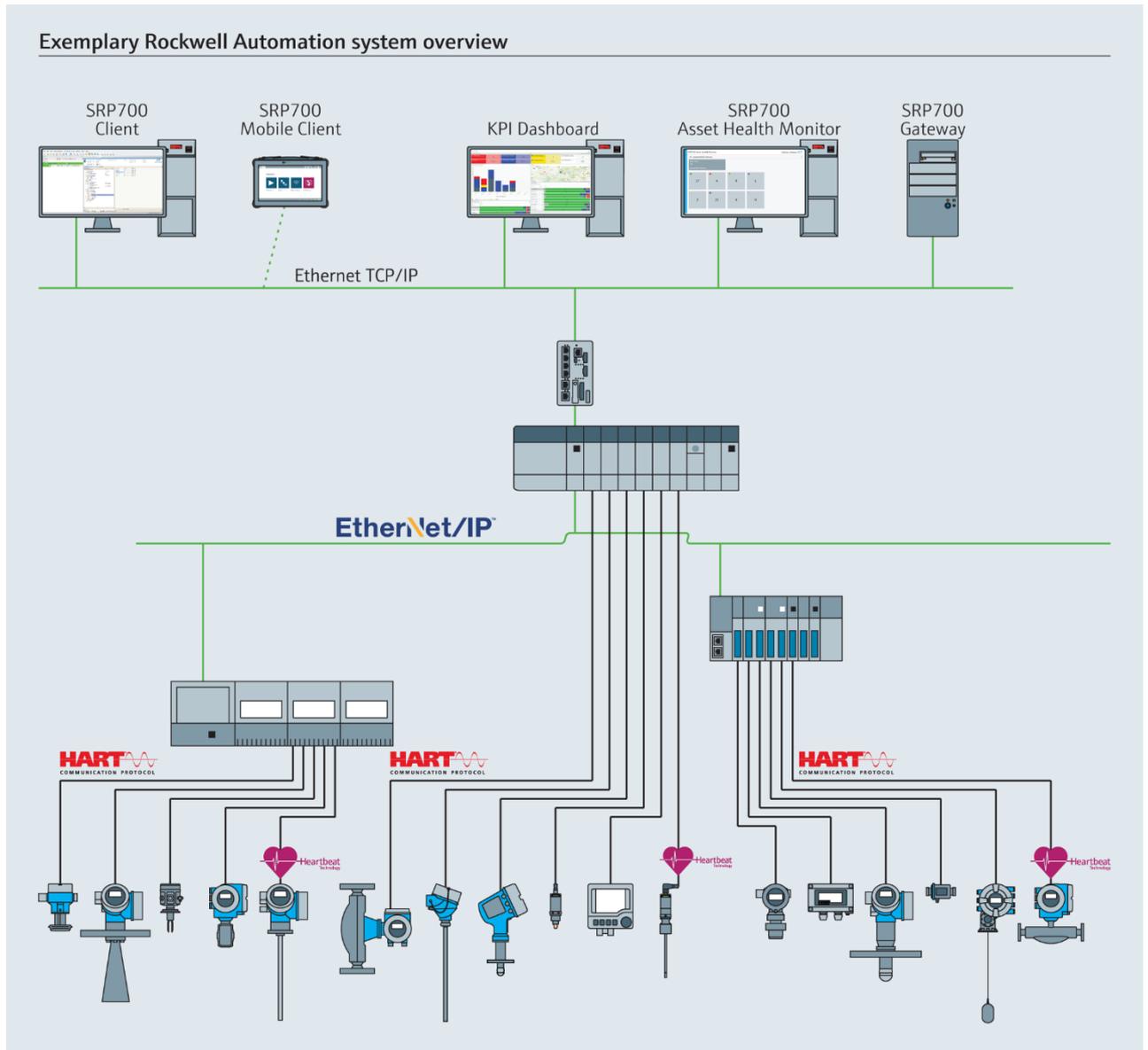


Figure 2.1: Example of EtherNet/IP system architecture

## 2.2 Example of Siemens system

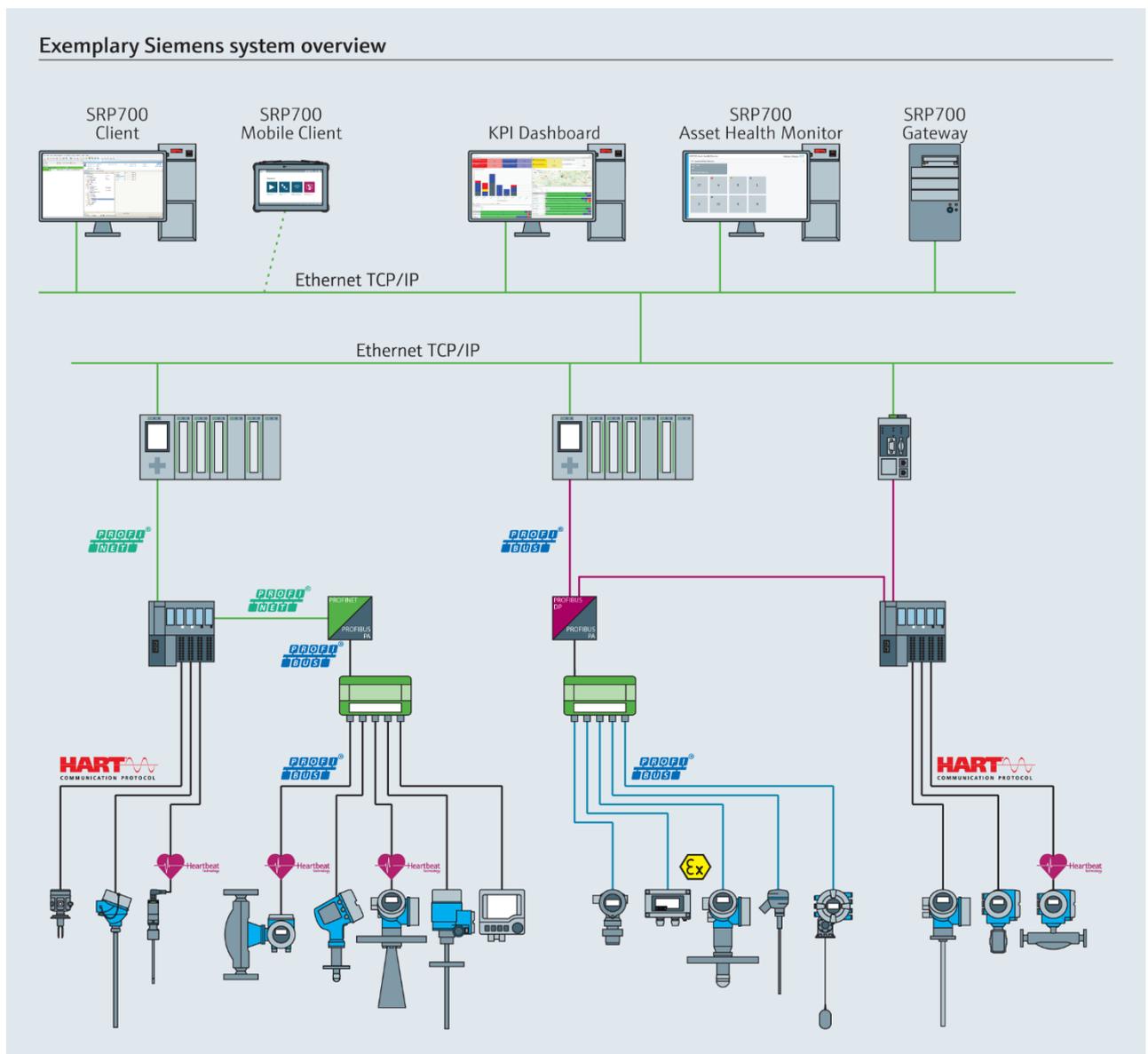


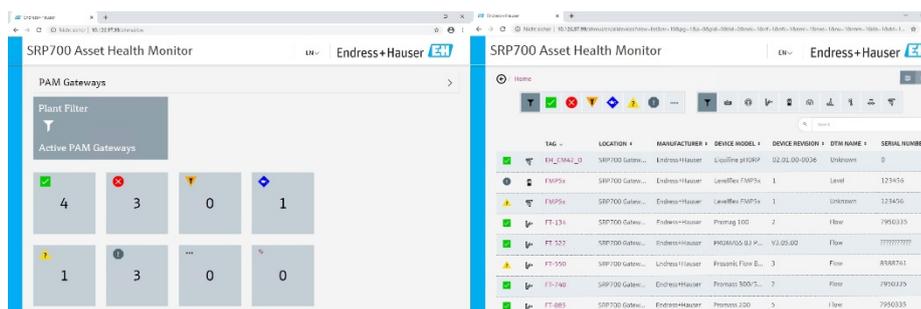
Figure 2.2: Example of PROFINET system architecture

## 2.3 System Components

### 2.3.1 SRP700 Gateway

SRP700 Gateway hides network complexity by automatically scanning for connected devices out of the box. Diagnostic information from up to 1024 devices is available 24/7. Devices can be configured independently from any client without interrupting the Asset Health Monitoring. The Gateway may be implemented as either hardware or as a virtual machine.

### 2.3.2 SRP700 Asset Health Monitor

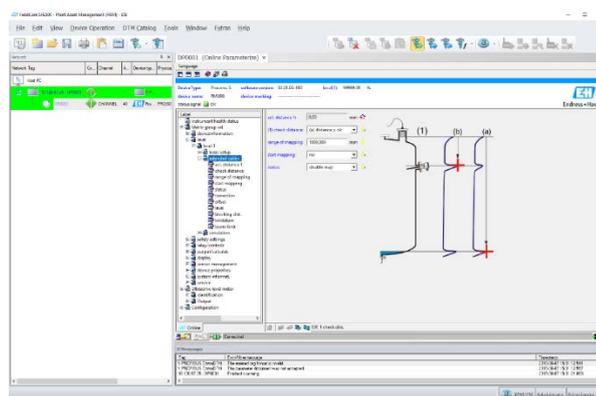


**Figure 2.2: Examples of SRP700 Asset Health Monitor pages**

SRP700 Asset Health Monitor, together with the SRP700 Gateway, forms the central component of Asset Health Monitoring. It runs either on traditional hardware or in a Virtual Machine environment. It collects and stores diagnostic information from up to 10 SRP700 Gateways in one database. The information displayed can be filtered by e.g. status, topology, device type or searched by tag etc. The server allows remote access to device diagnostics, configurations and documentation from any location within the plant or office.

SRP700 Asset Health Monitor is linked to the SRP700 Client.

### 2.3.3 SRP700 Client (e.g. desktop workstation)



**Figure 2.3: Example of device configuration via the stationary client**

SRP700 Client is the standard client for Device Configuration management and runs either on traditional hardware or in a Virtual Machine environment.

- Instrument Engineers get a device configuration management platform.
- Plant Operators get a simple summary of diagnosis information, with the diagnostics of all devices connected to various field networks or remote I/Os being displayed.
- Reliability Engineers get data on the installed base, device obsolescence and replacement delivery times, access to certificates etc.
- Maintenance Engineers get condition monitoring, showing the status of devices categorized according to severity, with cause and remedy information, so that they can quickly fix potential problems.

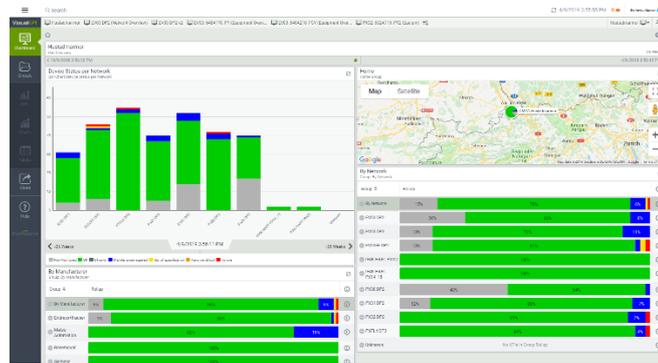
### 2.3.4 SRP700 Mobile Client



**Figure 2.4: Field Xpert SMT70 industrial tablet**

SRP700 Mobile Client is the well-proven Field Xpert SMT70, IP65/Class 1 Div 2 or Field Xpert SMT77, Zone 1, industrial tablet for Device Configuration. It provides access in the field via Wireless (WiFi & Bluetooth), Ethernet or a 1-to-1 connection with devices from all vendors.

### 2.3.5 KPI Dashboard



**Figure 2.5: Customized KPI Dashboard**

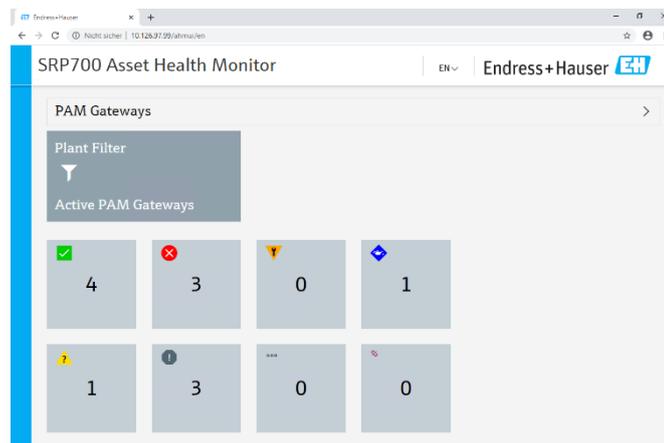
KPI Dashboard is an optional extra, providing a customized KPI dashboard that aggregates device information such as NE107 status over a period of time, helping to identify contiguous, recurrent or one-time events. This enables quicker decisions and the initiation of corrective actions. It also provides cause and remedy information for device failures, and different views of the plant – per site, manufacturer and network.

## 3 Using the SRP700

### 3.1 SRP700 Asset Health Monitor

#### 3.1.1 Home

1. Open Asset Health Monitor in your standard browser.
2. On the main screen you get an overview of all the SRP700 Gateways connected to the server.



**Figure 3.1: Home page of Asset Health Monitor SRP700**

The home page of the Asset Health Monitor provides an overview of all the connected devices sorted according to their NAMUR 107 diagnostic status. For instance, in the application shown in Figure 3.1, 4 devices are operating correctly, 3 devices have failed, none require functional checks, one requires maintenance, one is out of specification, three have an undetermined status, none are not monitored and none are inactive.

#### 3. From the home page you can:

- Change the language
  - Click the arrow <sup>EN</sup> and select the language you require



- Get an overview of the connected gateways by clicking on the arrow > to
  - filter according to gateway
  - find out what devices are connected to each gateway
  - open a plant view
- With a click on Plant Filter, open the plant filter to sort the devices according to type or NAMUR 107 status, see Chapter 4.1.3 for more details
- With a click on a Status tile, view the all the devices with a particular diagnostic status

The meaning of the various icons used in Asset Health Monitor are explained in Chapter 4.2

### 3.1.2 Connected SRP700 Gateways

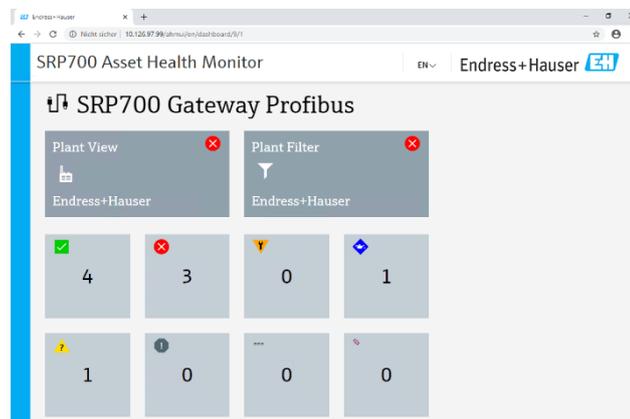
1. Click on the arrow at the end of the bar

- The connected gateways are displayed
- The symbol in the top corner indicates the status of the devices connected to the gateway, see Chapter 4.2



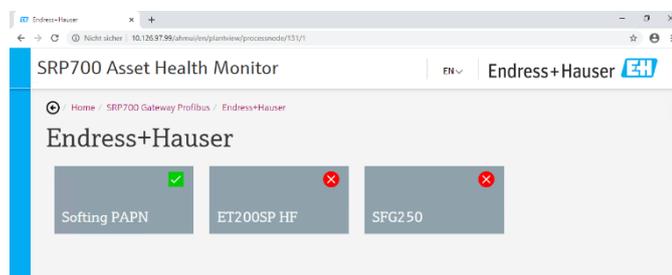
2. Click on the gateway you wish to connect to

- The home page of the gateway appears
- The Plant Filter tile has the same function as on the home page and is explained in Chapter 3.1.3

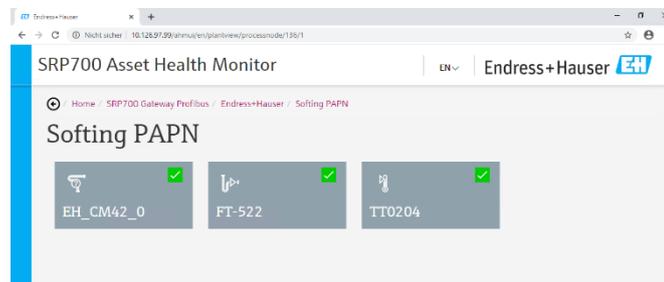


3. Click on the Plant View tile

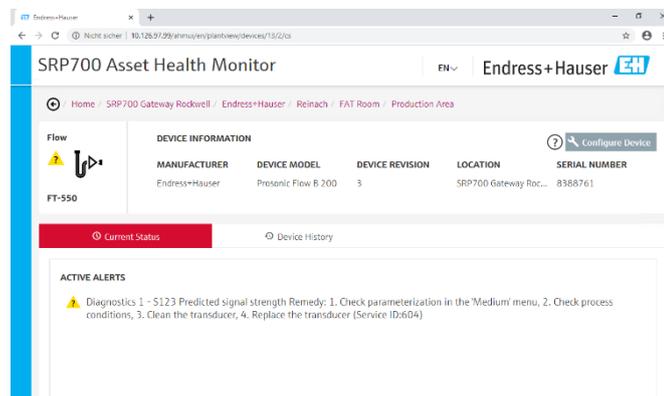
- Tiles appear according to the way in which you have created your plant view
- The symbol in the top corner indicates the most critical device status to be found in that area of the plant



4. Click on the area tile you wish to view
  - Tiles appear for the devices in the selected area

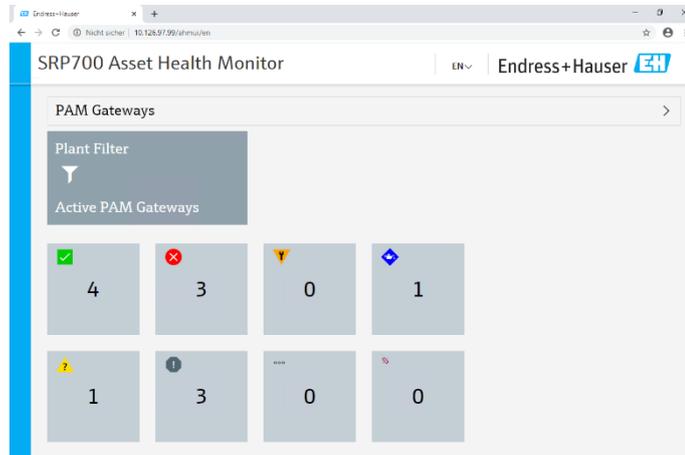


5. Click on the device you wish to see
  - The device page for the selected device appears
  - More information on the device pages are to be found in Chapter 3.1.4.

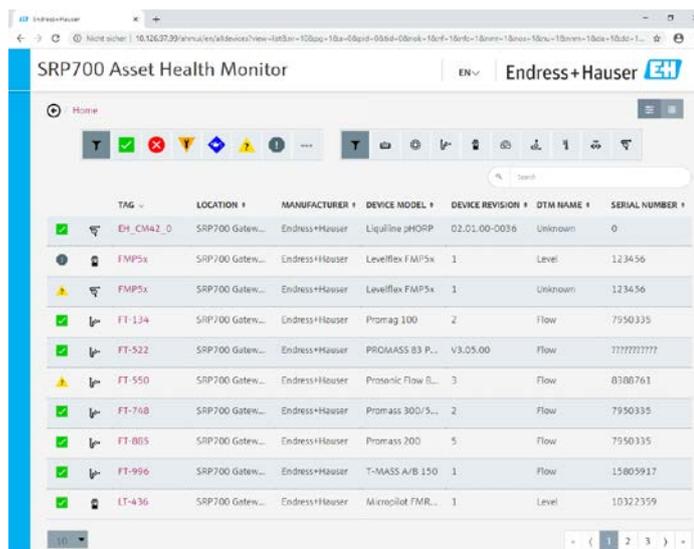


### 3.1.3 Plant Filter

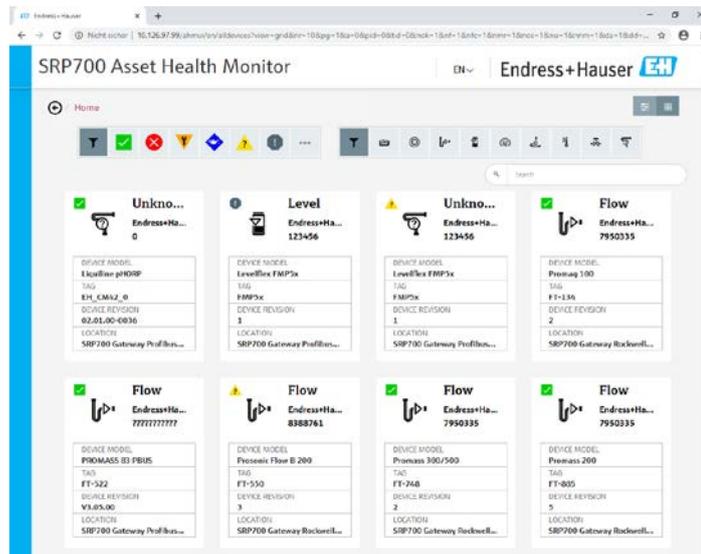
1. On the Home page or one of the gateway Home pages, click on the Plant Filter tile
  - A click on a Status tile will automatically open the Plant Filter page with the devices already sorted according to the selection, see screenshot in Step 4



2. The associated Plant Filter page with a list of devices with their status opens
  - Click on  to return to the Home page
  - Click on  to scroll to the next page or
  - use the page navigator  to select the page you require (first page, previous page, current page, next page, last page)
  - Click on a device tag to open the corresponding device page, see Chapter 4.1.4
  - Enter a device tag, serial number or any other characteristic property to be found in the data base and click on  to search for it.

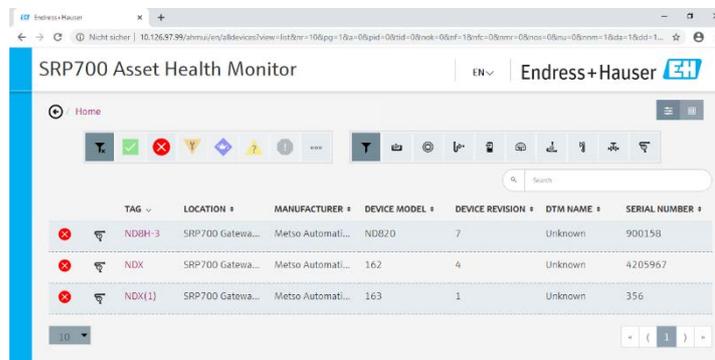


3. Clicking on  changes the display from a list to tiles



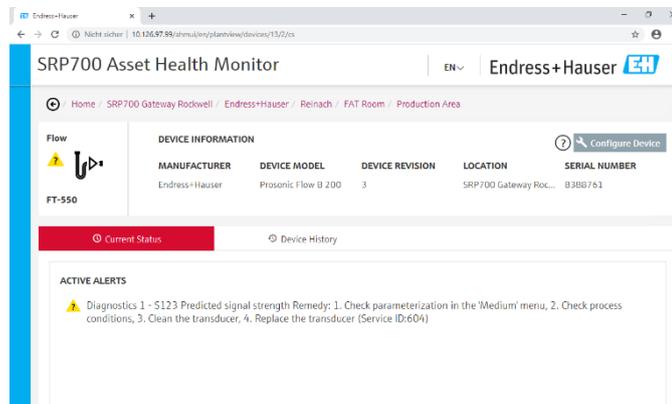
4. The list or tiles can be filtered according to

- Device status  or
- Device type  or
- A search term entered in the search field (press Enter)
- The symbols are explained in Chapter 4.3

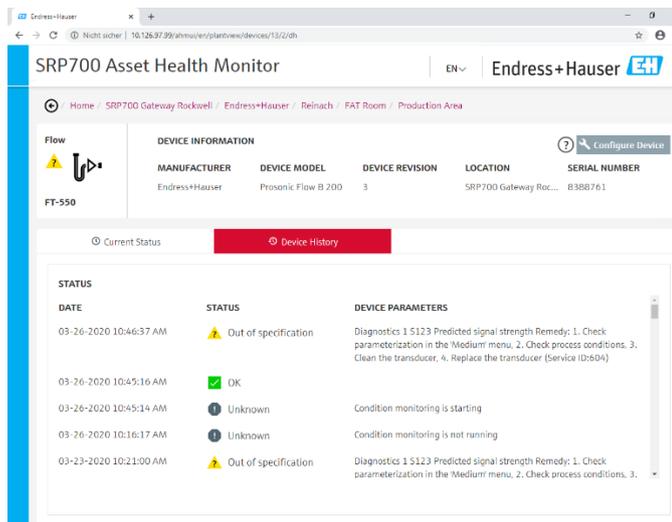


### 3.1.4 Device Pages

1. The Device page contains information on the device and shows the current device status, where appropriate with cause and remedy information

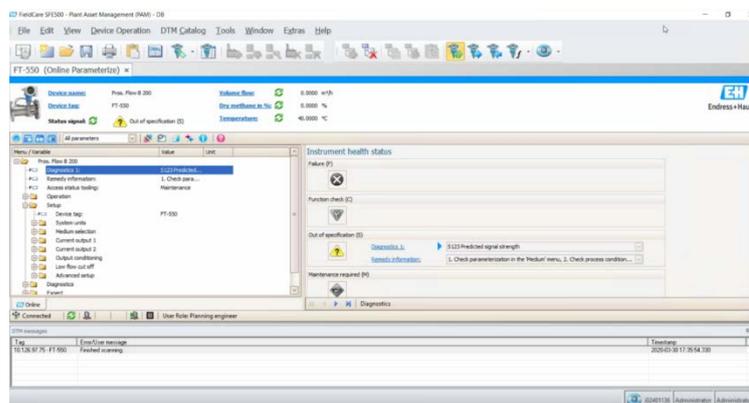


2. Click on Device History to obtain a list of status changes



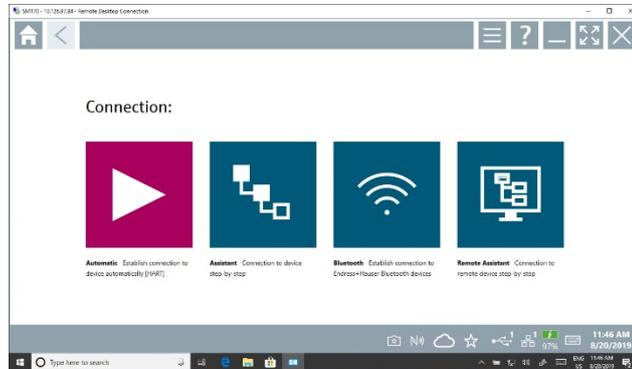
3. To reconfigure a device, click on [Configure Device](#)

- FieldCare opens

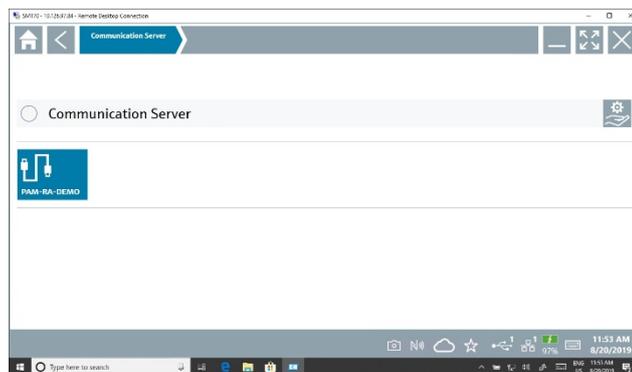


### 3.2 SRP700 Mobile Client

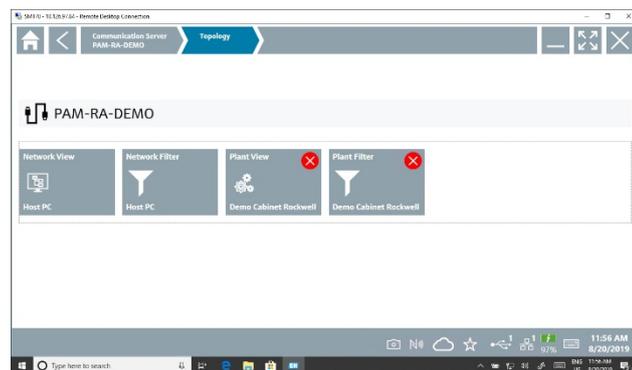
1. Open Field Xpert SMT70/SMT77 Software for Device Configuration
  - Click on “Remote Assistant”



2. Select Communication Server SRP700 Gateway (or the name it has been given)

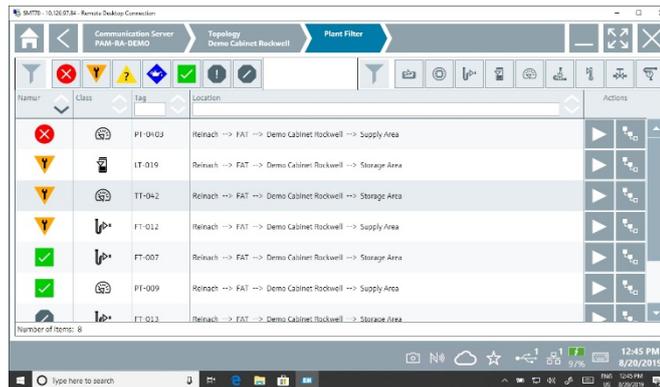


3. Navigate to the device you want to configure either by using the Plant Filter (Step 4) or the Plant View (Step 5)

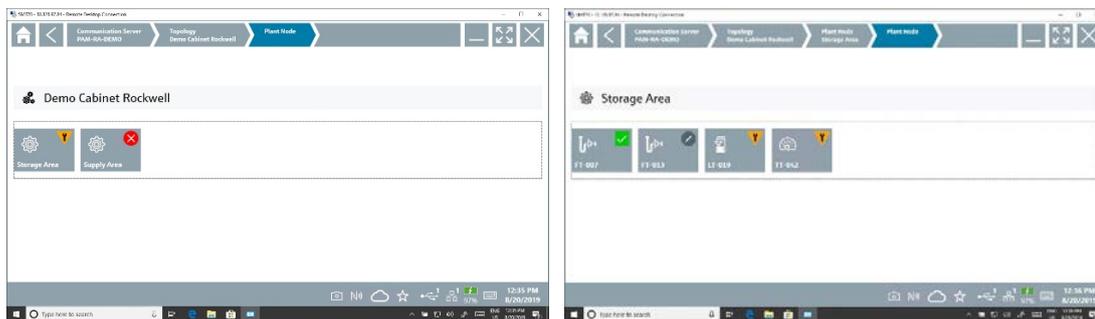


4. In Plant Filter the list can be filtered according to

- Device status  or
- Device type  or
- By entering a Tag or location
- A click on the icon  establishes a connection to the selected device, see Step 6.
- A click on the icon  opens the DTM information page
- The symbols are explained in Chapter 3.3

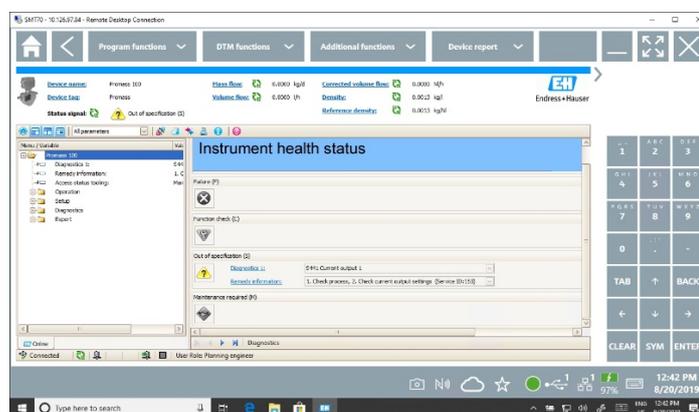


5. In Plant View navigate to the area where the device is installed



6. Click on the device to view its details

- See Field Xpert manual BA01709S/04/EN or Field Xpert SMT77 for further information on the options available on this page



### 3.3 SRP700 Asset Health Monitor symbols

The following symbols appear both in the plant filter pages as well as the listings of the devices.

Symbol	Meaning	Symbol	Meaning
	Analysis device		Device OK
	Digital device		Failure
	Flow device		Check function
	Level device		Maintenance required
	Pressure device		Out of specification.
	Special device		Undetermined status
	Temperature device		Not monitored
	Valve		Inactive
	Unknown device		Provides a list of devices
			Provides a series of device tiles

## 4 Using a KPI Dashboard – Example with Visual KPI from Transpara

### 4.1 Home KPIs

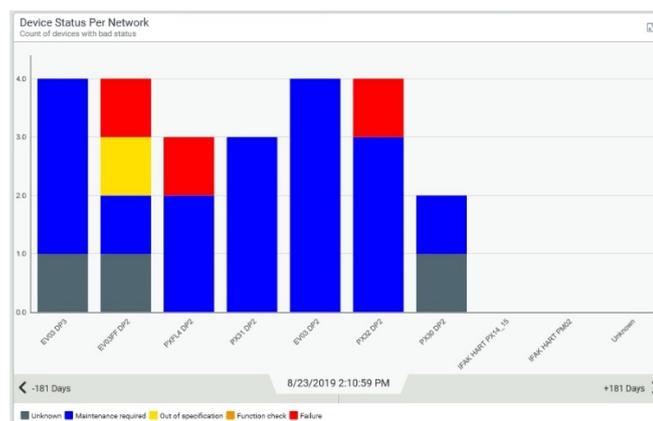
- Open KPI Dashboard in your standard browser.
  - On the main screen you get an overview of various KPIs for the entire network.
  - The KPIs refresh automatically at an interval set by the user.



- The site overview shows current percentage of devices requiring attention.



- The main KPI shows the where the devices requiring attention are to be found, together with the number of events that have occurred at each location (in this case network).



4. The map shows the location of the various sites:
  - The map can be zoomed, moved etc. using the usual map tools



5. The KPI by manufacturer shows the performance of each manufacturer's devices
  - **NOTICE** This is not real application: many devices have been set up to show faults



6. The KPI by location (here network) shows the status of all the devices at each location

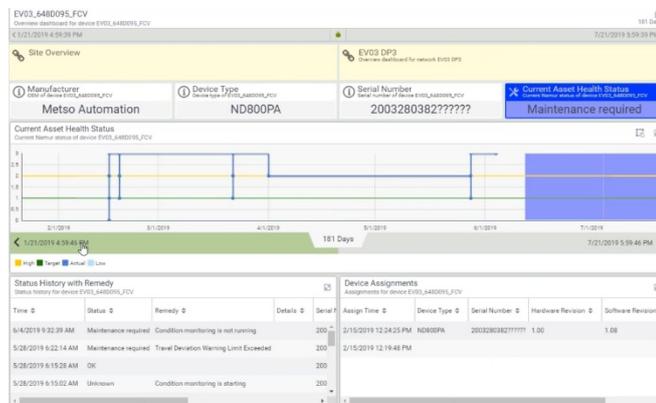


7. Clicking on View will open a KPI showing the location in detail:
  - The actual form of the KPI depends on how it has been set up



8. A click on a device tile will open the associated device KPI

- The KPI includes name, type, serial number, current status, health history, etc.
- Scroll down to see all information



## 4.2 Dashboard Tools and Icons

The **navigation sidebar** is on the left of the page. From here you can:

- access your groups, with their KPIs, charts and tables available in your KPI site.
- share a particular KPI with a colleague by sending an e-mail
- get help on the application from your system administrator
- for cell phones, tablets etc. hide/show the sidebar by clicking on 

The **search bar** allows you to search any KPI by entering a word or phrase:

- the search may return groups, KPIs, charts or tables
- click on a returned item to open it

The KPI dashboard shows data in real time:

- the timestamp in the top bar shows the exact time when the current data was acquired.
- clicking on  will refresh the KPIs.

The orange eye  in the top bar connects to the **watchlist**. This:

- keeps an eye on the critical KPIs you have added to it
- alerts you if any of them require your attention.
- indicates how many are in alert condition by the number next to the eye
- a click will take you to the offending device.

The dashboard supports **user profiles**, whereby each profile may access different KPIs.

- The profiles are selected by clicking on .
- Click on  to change to any other dashboard associated with the profile
  - A pull-down member allows you to select the dashboard you require.
- **NOTICE** In the standard offering all users will have the same profile.

Click on the **home** icon  to display the top-level of the group you are currently viewing.

- Clicking on the KPI icon at the top of the navigation bar will have the same effect, but will also cancel any filters you have set for your group
- Clicking on the **dashboard** icon  on the navigation sidebar will take you back to the previously viewed dashboard.

Click on options  to set up the way in which you interact with the KPI Dashboard Server.

- The options change depending on what you are viewing, e.g.
  - from the dashboard you can customize or create a new dashboard
  - from groups, KPI or another tag you can add to the dashboard.
- Some options are not available if the profile is locked.

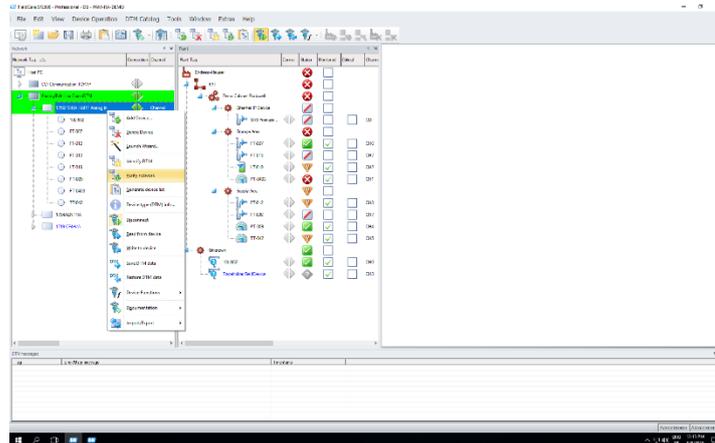
The status legend  Unknown  Maintenance required  Out of specification  Function check  Failure

- tells you what the colours used in the presentation of the data mean.
- the legend may change according to the data you are viewing.

## 5 Maintaining the Project

### 5.1 Add a device to the project

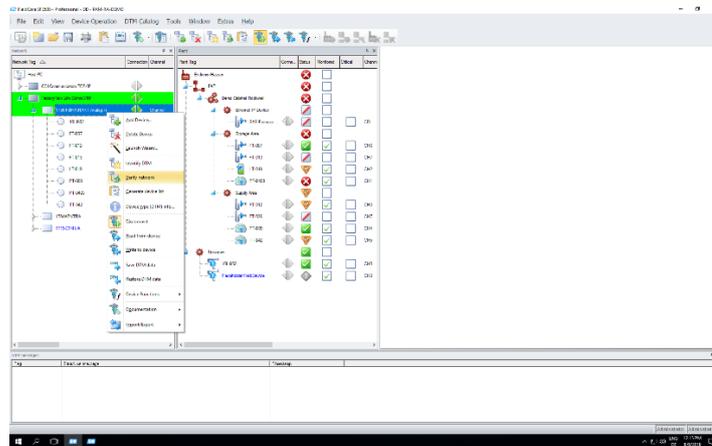
1. Connect to SRP700 Gateway either via Remote Desktop or local access.
2. Navigate to the module where the new device is connected to and click “Verify network” in the context menu.



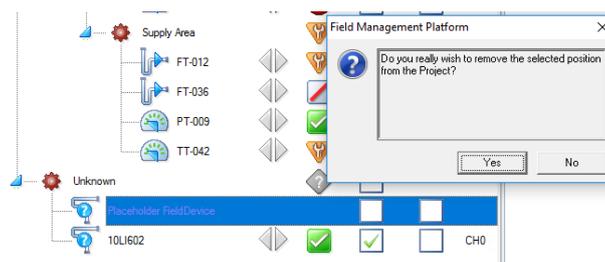
3. Assign any newly found device(s) to the Plant Topology by drag & drop
4. Save the project
5. Stop Condition Monitoring
  - Open the FieldCare Guardian from the tray, select Condition Monitoring and press the Stop button.
6. Restart Condition Monitoring
  - ↳ The new device(s) is/are added to the project

## 5.2 Delete a device from the project

1. Connect to SRP700 Gateway either via Remote Desktop or local access.
2. Navigate to the module where the device is connected to and click delete the placeholder.



3. Delete the position in the Plant Topology.
  - Confirm the deletion with Yes



4. Save the project
5. Stop Condition Monitoring
  - Open the FieldCare Guardian from the tray, select Condition Monitoring and press the **Stop** button.
6. Restart Condition Monitoring
  - ↳ The device selected has been deleted from the project

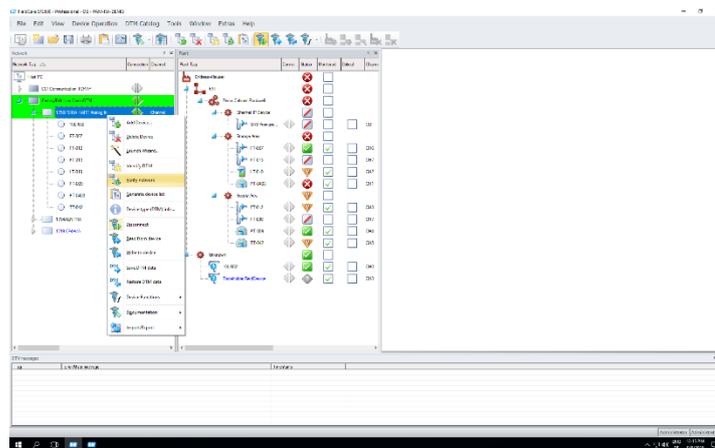
### 5.3 Replace a device in the project

It can happen that a device fails and must be replaced by a new one. Even if the Tag is exactly the same, the replacement will be recognized as new because it has a different serial number.

#### NOTICE

- It is not necessary to delete the old device from the project

1. Connect to SRP700 Gateway either via Remote Desktop or local access.
2. Navigate to the module where the new device is connected to and click “Verify network” in the context menu.



3. Assign the newly found device to the Plant Topology by drag & drop
4. Save the project
5. Stop Condition Monitoring
  - Open the FieldCare Guardian from the tray, select Condition Monitoring and press the Stop button.
6. Restart Condition Monitoring
  - ↳ The replacement device is added to the project

## 5.4 Configure a device

### 5.4.1 On SRP700 Client

#### NOTICE

- FieldCare including the Device DTMs must be installed on the client.
- All necessary CommDTMs must be installed on the SRP700 Gateway
- See also Chapter 4.1 etc.

1. Open SRP700 Asset Health Monitor in your standard browser.
2. Navigate to the device you want to configure either by using the topology view or by searching in the “Filter”.
3. Click on “Configure Device” 
  -  The configuration dialogue opens.



See FieldCare Manual BA00065/04/EN for further information

### 5.4.2 On SRP700 Mobile Client

#### NOTICE

- The Device DTMs must be installed on the client.
- All necessary CommDTMs must be installed on the SRP700 Gateway
- See also Chapter 3.2

1. Open Field Xpert SMT70/SMT77 Software for Device Configuration.
2. Navigate to the device you want to configure either by using the topology view or by searching in the “Filter”.
3. Click on the “Play” Button to start device configuration.
  -  The configuration dialogue opens.



See Field Xpert SMT70 manual BA01709S/04/EN or Field Xpert SMT77 manual BA01923S/04/EN for further information.

## 5.5 Add a new SRP700 Mobile Client

### 5.5.1 Requirements



See Field Xpert SMT70 Manual BA01709/04/EN or Field Xpert SMT77 Manual BA01923S/04/EN and Technical Information TI01345S/04/EN

Before an additional SRP700 Mobile Client can work with the system the following procedure must be followed

1. Open the Device Specifications page and, if necessary, rename the computer by clicking on **Rename this PC**

Device specifications

Device name	WINDOWS-QOV6U8F
Processor	Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz 2.20 GHz
Installed RAM	8.00 GB
Device ID	625F1702-5985-402A-9147-17E5A557071C
Product ID	00330-50000-00000-AAOEM
System type	64-bit operating system, x64-based processor
Pen and touch	Touch support with 10 touch points

[Rename this PC](#)

Windows specifications

Edition	Windows 10 Pro
Version	1803
Installed on	2018-10-03
OS build	17134.81

2. Check that the following software/drivers are installed (and licensed)
  - FieldCare SFE300  
Y-CommDTM (Version: 1.04.00.620 or later)  
Latest DTM library

Software License Management

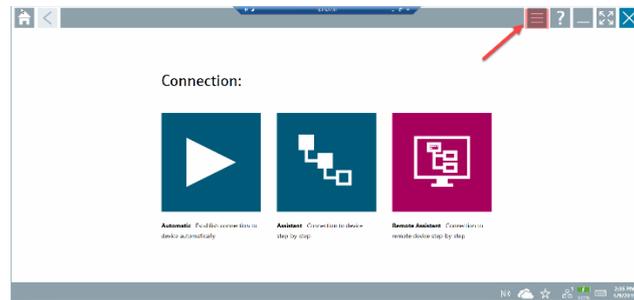
Product	FieldCare SFE300	
Version	1.01.00	
Serial number	n.a. (please activate the software)	
Software ID	9KXRA-FDS47-QKJB6-JQHHS-Z445M	<a href="#">Edit</a>
Licensee	n.a. (please activate the software)	
License usage	Trial (grace period - please activate the software)	
Usage period	Grace period license - expires in 55 days!	

3. Set up the users/login

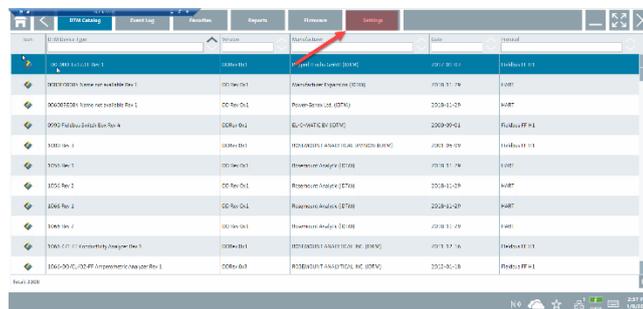
- User name
- Password

### 5.5.2 Assign the PAM Client (SMT70) to the SRP700 Gateway

1. In the start screen select the Menu icon



2. In the Menu page, select **Settings**

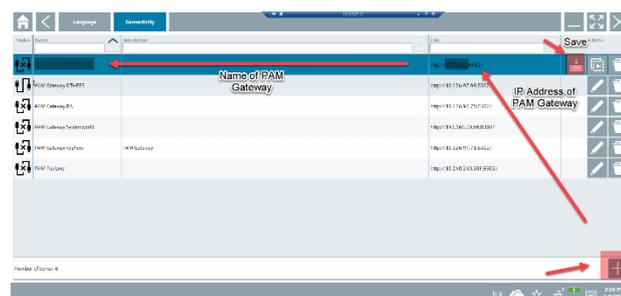


3. After selecting the language you want, click on **Connectivity**



4. In the connectivity menu click on “+”

- Enter the IP address of the SRP700 Gateway
- Check the name of the SRP700 Gateway
- Press Save to save the changes



## 5.6 Add a new SRP700 Client

### 5.6.1 Requirements

The hardware and OS are usually provided by the customer.

1. Check that the following minimum hardware and OS configuration are met:

- RAM: 8GB RAM or better
- CPU: Intel CPU i5/i7 with min. 1.8GHz or better
- Disk space: 100GB or more (SSD recommended)
- OS: Windows 10 Professional or Enterprise, 64 Bit  
(English/German, with dotNet 3.5 installed)

2. Install the following on the new Client:

- FieldCare SFE500 SFE500-NBCZ101 (64 DCMTags, 0 CM-Tags)
- latest DTM Library
- Y-CommDTM

SRP700 Asset Health Monitor and SRP700 Gateway must be located within the same subnet.

### 5.6.2 Getting Started



See FieldCare Manuals BA00065/04/EN, BA00027S/04/A2 and SD01928S/04/EN

1. Set up the users/login (default)

- User name (Administrator)
- Password (Admin)

2. Follow the procedures for licensing FieldCare in the Getting Started manual BA00027S/04/A2

3. In your preferred Web Browser open the SRP700 Asset Health Monitor by entering the IP-Address.

- -- Create a bookmark for later access.

## 5.7 Installing Additional CommDTMs



See FieldCare Manuals BA00065/04/EN and SD01928S/04/EN

The CommDTMs are already installed on the SRP700 Gateway. Normally it is not necessary for the user to install additional CommDTMs.

## 5.8 Installing additional DeviceDTMs/Updating libraries



See FieldCare Manual BA00065/04/EN and Field Xpert Manual BA01709/04/EN

The DeviceDTMs are already installed on the clients. Both FieldCare and Field Xpert have simple procedures for adding individual DTMs or updating DTM libraries that are described in the respective manual.