

# Technical Information

## 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, along with a language dropdown set to "EN" and the Endress+Hauser logo. Below the title bar, there is a section for "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 grid of eight summary cards, each with an icon and a count:

|   |   |   |   |
|---|---|---|---|
| 4 | 3 | 0 | 1 |
| 1 | 3 | 0 | 0 |

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## Version History

| Date       | Version | Change                                                      | Who |
|------------|---------|-------------------------------------------------------------|-----|
| 05.09.2019 | 01.00   | Initial release                                             | DFE |
| 03.12.2019 | 01.01   | Updated port information for FieldCare, AHM                 | DFE |
| 19.12.2019 | 01.02   | Updated Rockwell specific requirements, system architecture | DFE |
| 28.02.2020 | 01.03   | Added information regarding virtual machine templates       | DFE |
| 10.03.2020 | 01.04   | Added information for PROFINET edition                      | DFE |
| 19.03.2020 | 01.05   | Minor changes                                               | DFE |

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# 1 General

## 1.1 Purpose

This document has been created to provide a guideline about the specific technical requirements and prerequisites for installing a new Asset Health Monitoring Solution SRP700. It should help sales engineers from Endress+Hauser and technically responsible persons of the customer to understand the requirements for hardware, software, the operating system and networking.

## 1.2 Definitions, acronyms and abbreviations

|        |                                                      |
|--------|------------------------------------------------------|
| AHM    | Asset Health Monitor                                 |
| DCM    | Device Configuration Management                      |
| sa     | SQL Server system administrator default user account |
| SRP700 | Solution Ready Package (this product)                |

## 1.3 Intended audience

- Business Developers and Sales Engineers from Endress+Hauser
- Persons responsible for projects at the customer, such as IT and automation engineers

## 1.4 Registered trademarks

### Rockwell Automation®

Registered trademark of Rockwell Automation Inc., Milwaukee, Wisconsin, U. S.

### PROFINET®

Registered trademark of the PROFIBUS User Organization, Karlsruhe, Germany

### PROFIBUS®

Registered trademark of the PROFIBUS User Organization, Karlsruhe, Germany

### EtherNet/IP™

Trademark of ODVA, Inc

### HART®

Registered trademark of the FieldComm Group, Austin, Texas, USA

### Windows®

Registered trademark of Microsoft Corporation, Redmond, Washington, U. S.

## 2 Preconditions

### 2.1 System Architecture

#### SRP700 Gateway

- Min. **1** SRP700 Gateway mandatory, max. number of SRP700 Gateways is **10**.

#### SRP700 Client / SRP700 Mobile Client

- Min. **1** SRP700 Client mandatory, max. number of SRP700 Clients is **10**.
- SRP700 Mobile Client is optional, max. number of SRP700 Mobile Clients is **10**.

#### SRP700 Asset Health Monitor

- **1** SRP700 Asset Health Monitor mandatory. SRP700 Asset Health Monitor can also be installed on the server where SRP700 Gateway is running, provided only 1 SRP700 Gateway is used.

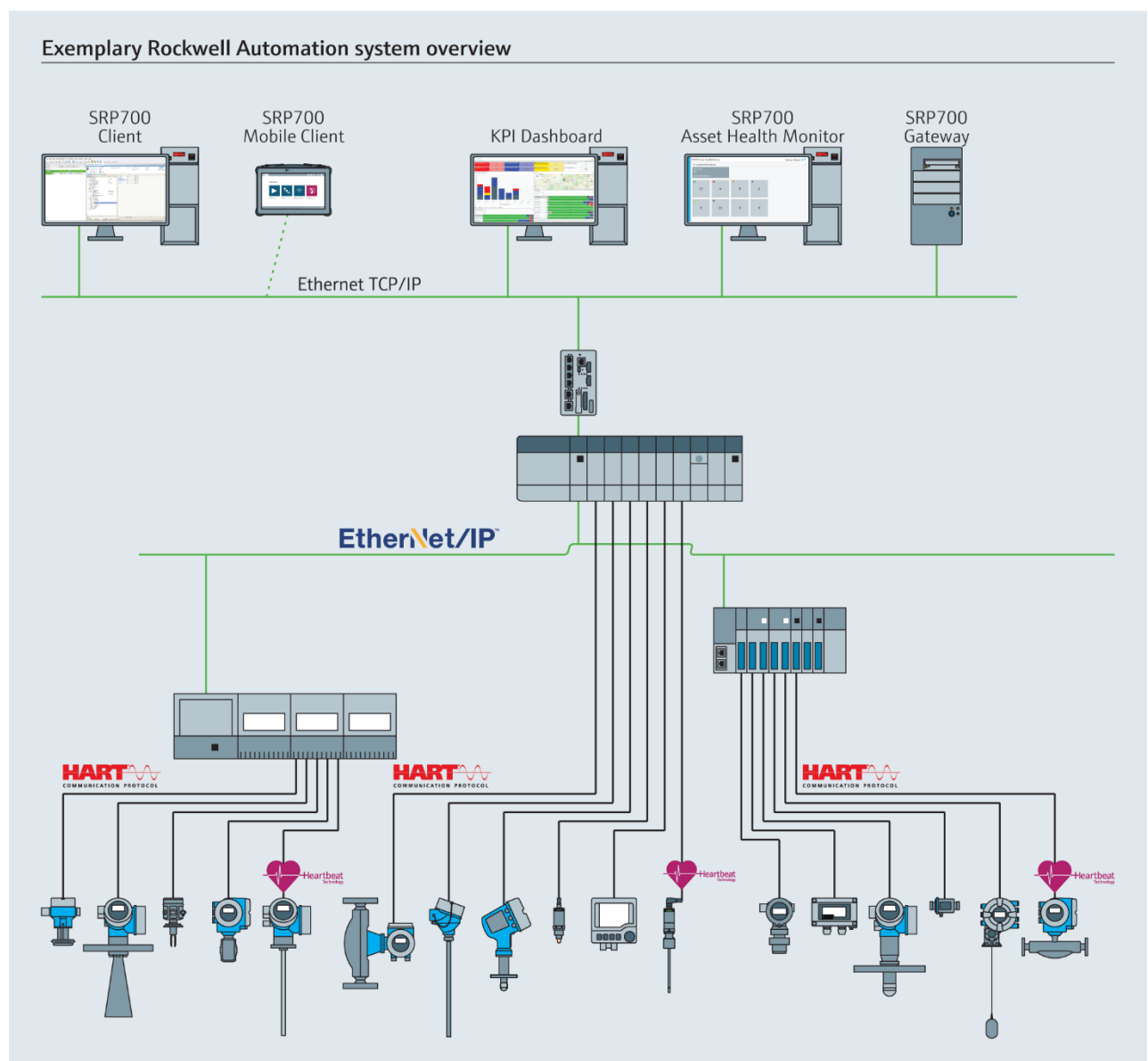


Figure 1: Example of EtherNet/IP system architecture

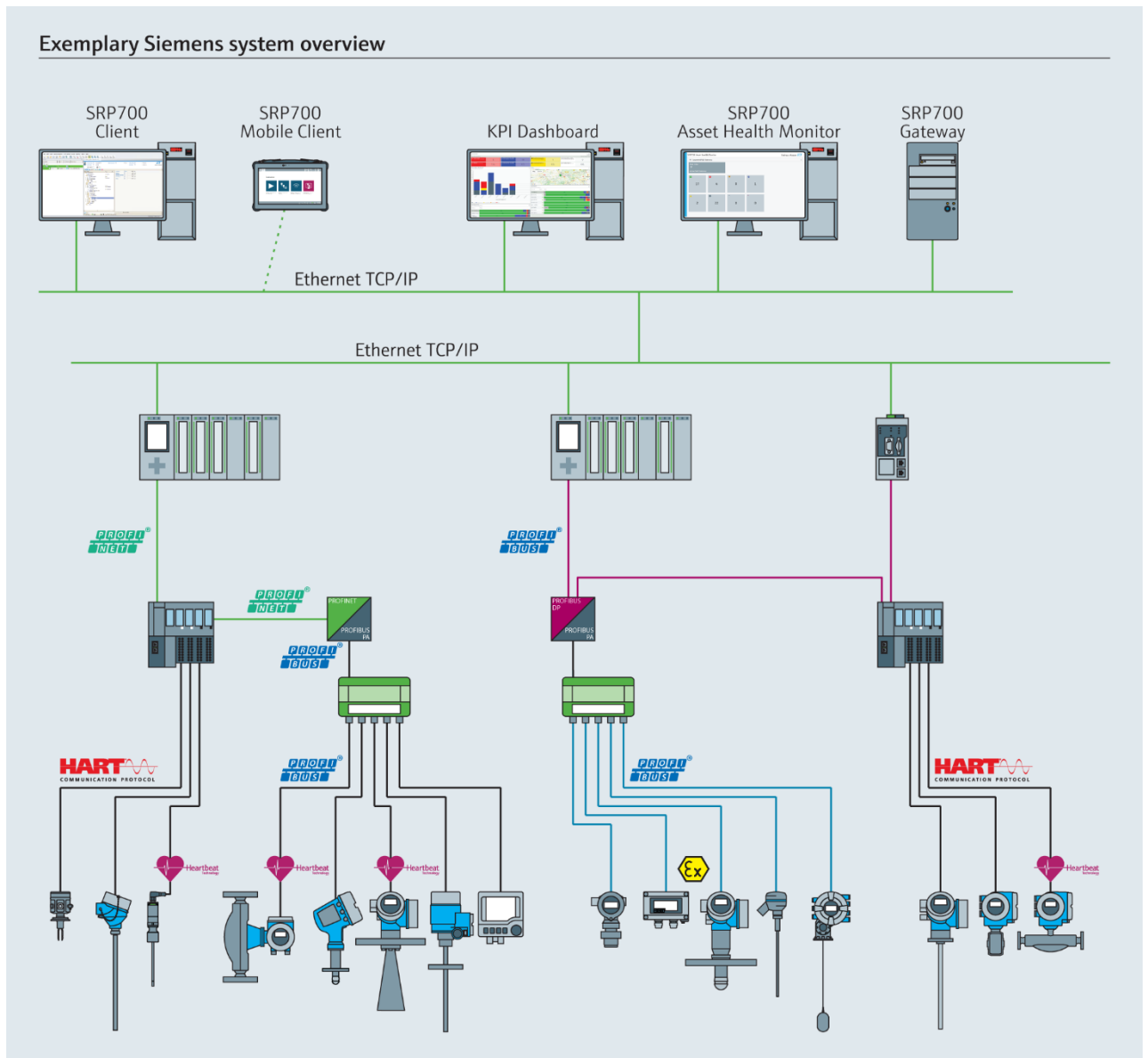


Figure 2: Example of PROFINET system architecture

## 2.2 Limitations

Asset Health Monitoring Solution SRP700 works with HART and PROFIBUS field devices. Limited support is available for EtherNet/IP and PROFINET devices (point-to-point connections for device configuration only).

| Field device protocol | DCM (point-to-point) | DCM (client/gateway) | AHM (client/gateway) |
|-----------------------|----------------------|----------------------|----------------------|
| HART                  | Yes                  | Yes                  | Yes                  |
| PROFIBUS DP/PA        | Yes                  | Yes                  | Yes                  |
| EtherNet/IP           | Yes                  | No                   | No                   |
| PROFINET              | Yes                  | No                   | No                   |

## 3 Deployment Options

Depending on the customer's requirements, the following deployment options are available for SRP700 Gateway, SRP700 Client and SRP700 Asset Health Monitor.

### 3.1 Pre-configured virtual machine templates (preferred)

We provide pre-configured virtual machines as an OVA template. Customers can download and import the OVA templates using their existing vSphere ESXi environment.

Please see separate SRP700 Virtualization Manual for more details, including specific requirements for the virtualization environment.

The FieldCare Network and Plant View will be set up after the server has been installed at the customer's site.

### 3.2 Pre-installed on a physical server

Asset Health Monitoring Solution can be shipped on a physical server, pre-installed with all required software and licenses (if included in the quotation).

The FieldCare Network and Plant View will be set up after the server has been installed at the customer's site.

### 3.3 Remote installation

The solution can be installed remotely using a remote connection. The customer needs to provide the server (physical or virtual machines) with pre-installed operating system. The customer is further responsible for providing a reliable remote connection of reasonable bandwidth. Endress+Hauser Digital Solutions recommends using GoToAssist.

### 3.4 On-site installation services

Endress+Hauser Digital Solutions can provide on-site installation services. The customer needs to provide the server (physical or virtual machines) with pre-installed operating system.



## 4 General Requirements

### 4.1 Operating System

Asset Health Monitoring Solution runs on Windows. The following Windows versions are supported:

|                              |
|------------------------------|
| Windows 10 (64-bit)          |
| Windows Server 2016 (64-bit) |

Full Administrator privileges are required during installation and setup of Asset Health Monitoring Solution.

- New software will be installed
- Windows system settings will be changed

### 4.2 FieldCare SFE500

#### 4.2.1 Version

Asset Health Monitoring Solution requires FieldCare version 2.14 or higher.

#### 4.2.2 Installation Prerequisites

FieldCare requires .NET Framework 3.5.

#### 4.2.3 SQL Database

FieldCare requires an SQL database. By default, a MS SQL Server 2014 Express instance is automatically installed during FieldCare setup.

##### 4.2.3.1 Using MS SQL Server 2016

If required, FieldCare can also run with MS SQL Server 2016. A corresponding SQL instance needs to be installed **before** FieldCare is installed. During installation of FieldCare, the installer will automatically recognize if a MS SQL Server 2016 is available, provided it has been configured as per the settings shown below. The SQL database needs to be located on the server where FieldCare is installed (remote SQL database instances are not supported).

Changing to a MS SQL Server 2016 instance **after** FieldCare is installed is **not possible**.

1. Install a new instance of MS SQL Server 2016 with name **SQLFIELD CARE** (any other instance name will **not** work)
2. Set **Authentication Mode** to **Mixed Mode** and set a password for the sa database user
3. Install FieldCare. The installer will automatically recognize the SQLFIELD CARE instance. The installer will ask for the sa database password

## 5 SRP700 Gateway

SRP700 Gateway connects to field gateways and provides a centralized access point for the SRP700 Client.

### 5.1 Software Requirements

The following list shows only the main software components. Additional software not listed here will be installed during system setup/commissioning.

|                                                                         |                                                                                                                                            |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| FieldCare SFE500                                                        | Professional (Condition Monitoring) activation required with associated number of tags                                                     |
| DTM Library                                                             | Only required CommDTMs to be installed, no device DTMs                                                                                     |
| <b>SRP700 Rockwell Edition only:</b> RSLinx Classic or FactoryTalk Linx | Connectivity to the backplanes containing the HART input cards is required for RSLinx/FactoryTalk Linx. For more information, see Annex A. |

### 5.2 Hardware Requirements

|              |                                                                           |
|--------------|---------------------------------------------------------------------------|
| Processor    | Intel CPU i5/i7 with min. 1.8GHz or better                                |
| Memory       | 16GB RAM or better                                                        |
| Storage      | 100GB or more                                                             |
| Connectivity | Ethernet 100MBit                                                          |
| USB port     | <b>SRP700 PROFINET Edition only:</b> USB port for license dongle required |

The use of virtual machines is possible.

### 5.3 Network Requirements

#### 5.3.1 Ports

|      |     |         |                                                                                                                                        |
|------|-----|---------|----------------------------------------------------------------------------------------------------------------------------------------|
| 8302 | TCP | Inbound | DTM communication between PAM Gateway and PAM clients                                                                                  |
| 1433 | TCP | Inbound | SQL database access for AHM Server. Does not apply if SRP700 Gateway and SRP700 Asset Health Monitor are installed on the same server. |
| 1434 | UDP | Inbound | SQL database access for AHM Server. Does not apply if SRP700 Gateway and SRP700 Asset Health Monitor are installed on the same server. |

#### 5.3.2 IP Configuration

|                                 |
|---------------------------------|
| Fixed IP configuration required |
|---------------------------------|

## 6 SRP700 Client

### 6.1 Software Requirements

The following list shows only the main software components. Additional software not listed here will be installed during system setup/commissioning.

|                                                 |                                                               |
|-------------------------------------------------|---------------------------------------------------------------|
| FieldCare SFE500                                | Min. license (32 tags)                                        |
| DTM Library                                     | DeviceDTMs to be installed as needed                          |
| SRP700 Rockwell Edition<br>Only: RSLinx Classic | Lite Edition (for point-to-point DCM for Ethernet/IP devices) |

### 6.2 Hardware Requirements

|              |                                            |
|--------------|--------------------------------------------|
| Processor    | Intel CPU i5/i7 with min. 1.8GHz or better |
| Memory       | 8GB RAM or better                          |
| Storage      | 100GB or more                              |
| Connectivity | Ethernet 100MBit                           |

The use of virtual machines is possible.

### 6.3 Network Requirements

#### 6.3.1 Ports

|      |     |         |                                                       |
|------|-----|---------|-------------------------------------------------------|
| 8303 | TCP | Inbound | DTM communication between PAM Gateway and PAM clients |
|------|-----|---------|-------------------------------------------------------|

#### 6.3.2 IP Configuration

|                                                                  |
|------------------------------------------------------------------|
| Network access to SRP700 Asset Health Monitor and SRP700 Gateway |
|------------------------------------------------------------------|

## 7 SRP700 Mobile Client

A Field Xpert SMT70 can be used for mobile device configuration and monitoring. The SRP700 Mobile Client can easily be connected to an SRP700 Gateway.

See <http://www.endress.com/smt70> for more information.

### 7.1 Network Requirements

#### 7.1.1 Ports

|      |     |         |                                                       |
|------|-----|---------|-------------------------------------------------------|
| 8303 | TCP | Inbound | DTM communication between PAM Gateway and PAM clients |
|------|-----|---------|-------------------------------------------------------|

#### 7.1.2 IP Configuration

|                                  |
|----------------------------------|
| Network access to SRP700 Gateway |
|----------------------------------|

## 8 SRP700 Asset Health Monitor

SRP700 Asset Health Monitor (AHM) is a web-based application collecting asset health information from the SRP700 Gateway and presenting asset health information via a website.

### 8.1 Software Requirements

The following list shows only the main software components. Additional software not listed here will be installed during system setup/commissioning.

|                                                           |
|-----------------------------------------------------------|
| IIS (Internet Information Services) including ASP.NET 4.x |
| PostgreSQL Database (will be installed during setup)      |

### 8.2 Hardware Requirements

|              |                                            |
|--------------|--------------------------------------------|
| Processor    | Intel CPU i5/i7 with min. 1.8GHz or better |
| Memory       | 8GB RAM or better                          |
| Storage      | 100GB or more                              |
| Connectivity | Ethernet 100MBit                           |

The use of virtual machines is possible. SRP700 Asset Health Monitor can be installed on the server where SRP700 Gateway is running, provided only 1 SRP700 Gateway is used in the project.

### 8.3 Network Requirements

SRP700 Asset Health Monitor automatically scans for a SRP700 Gateway within the same subnet.

|                                                                            |
|----------------------------------------------------------------------------|
| SRP700 Asset Health Monitor and SRP700 Gateway located within same subnet. |
|----------------------------------------------------------------------------|

#### 8.3.1 Ports

|    |     |         |           |
|----|-----|---------|-----------|
| 80 | TCP | Inbound | Webserver |
|----|-----|---------|-----------|

#### 8.3.2 IP Configuration

|                                 |
|---------------------------------|
| Fixed IP configuration required |
|---------------------------------|