

Asset Health Monitoring Solution

Continuous health monitoring avoids unplanned stoppages and allows faster reaction times

Rockwell Edition



Asset Health Monitoring Solution Rockwell Edition

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Devices often report maintenance required months before they fail. In a lot of cases such information is not collected or lost in logfiles of the control system where maintenance technicians do not have access.

Endress+Hauser in cooperation with Rockwell Automation developed a system that enables you to get this information and make it available in an easy way.

Its advantages:

- Take actions on diagnostic data provided by devices
- Connect with a fingertip to the device for troubleshooting and configuration
- See current and past diagnostic data and prescription measures related with time stamps
- Analyze historical device diagnostic data

A major focus during development was on the design and the usability for maintenance and reliability groups. For example, you can structure your devices in your plant according to your process areas – not as your control system architecture is forcing you to.

The Rockwell Edition of Endress+Hauser's Asset Health Monitoring Solution adds device configuration, advanced diagnostic and preventive maintenance capabilities to existing or planned Rockwell Automation control systems. It supports all major I/O families with HART protocol.

The Asset Health Monitoring Solution is tailored to the needs of the industries, e.g. Food & Beverage or Chemical.

Benefits:

- **Plant operators** get the opportunity to integrate preventive maintenance into their plant upkeep procedures.
- **Reliability engineers** have easy access to the health status of instruments of their plant.
- **Maintenance engineers** are offered an overview of all devices with filtering by status or searching by tag; it takes one-click only to see what needs their attention in their part of the plant.
- **Instrument engineers** get a one-fits-all device configuration management platform.

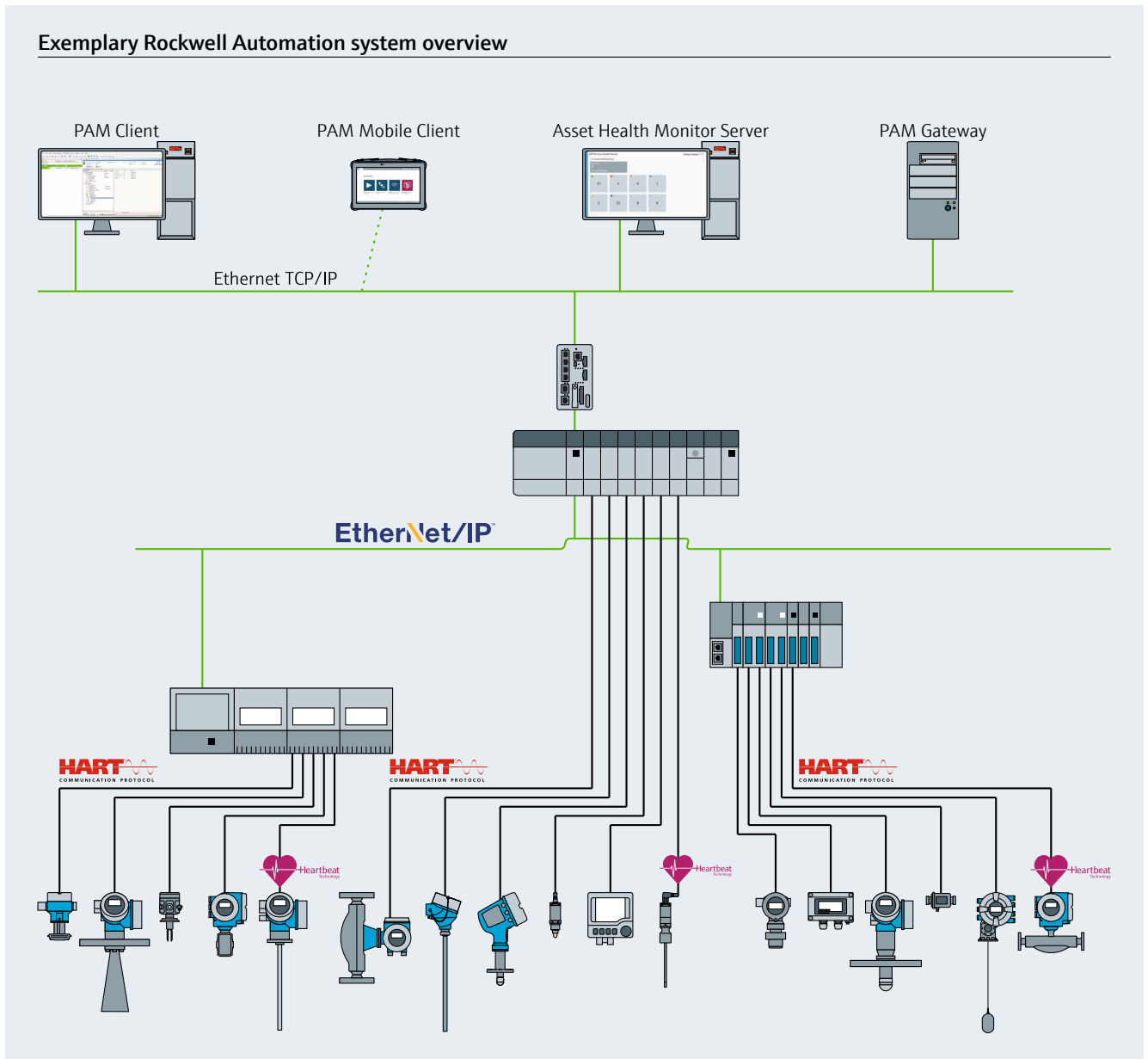


Tailored for the Chemical industry: Asset Health Monitoring Solution



The Asset Health Monitoring Solution is perfect for the Food & Beverage industry

Exemplary Rockwell Automation system overview



From the instruments in the field up to the Asset Health Monitoring Solution

All on-premises and ready for cloud services

The Asset Health Monitoring Solution works 100% on-premises and ensures reliable connectivity as a foundation for IIoT applications in the future, including the ability to connect to cloud solutions, e.g. Netilion Services.

At the same time, it strives to keep commissioning as simple as possible, this being done in a couple of clicks.

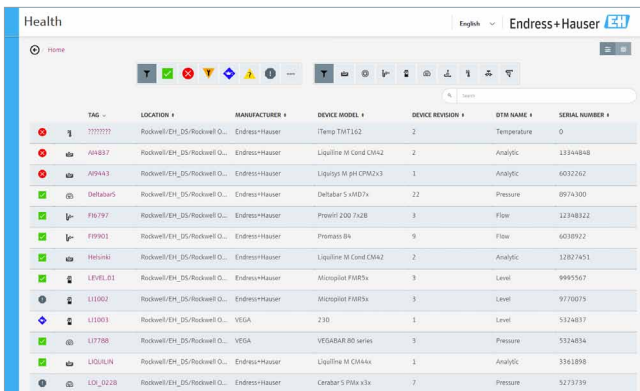
Asset Health Monitoring Solution

The Asset Health Monitoring Solution always consists of at least one PAM Gateway, the Asset Health Monitor Server and a PAM Client or PAM Mobile Client.

Asset Health Monitor Server

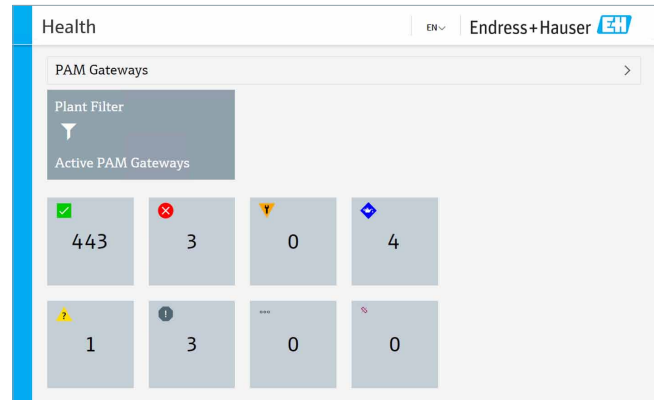
The Asset Health Monitor Server, together with the PAM Gateway, forms the central component of the Asset Health Monitoring Solution.

It runs either on traditional hardware or in a virtual machine environment. It collects and stores diagnostic information from up to 10 PAM Gateways in one database. The information displayed can be filtered by e.g. status, topology or searched by tag. The server allows easy access to the configurations, documentation and diagnostics via a PAM Client or PAM Mobile Client.



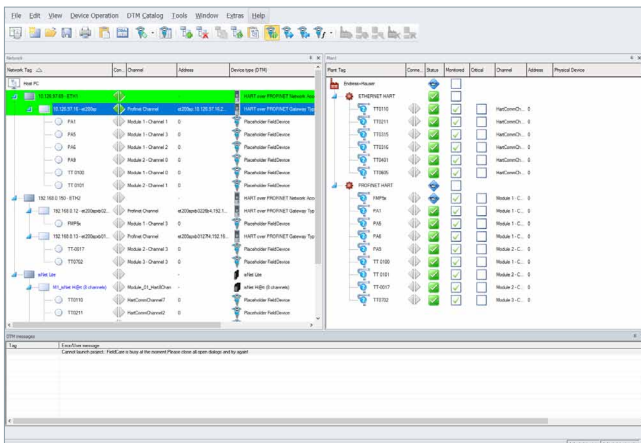
TAG	LOCATION	MANUFACTURER	DEVICE MODEL	DEVICE REVISION	DTM NAME	SERIAL NUMBER
71111111	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	ITemp TH1102	2	Temperature	0
AH4837	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Liquiline M Cond CM42	2	Analytic	13344848
A94443	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Liquiline M pH CPA2x3	1	Analytic	6032262
Deh4045	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Dehlabar S VMD7x	22	Pressure	8974300
FN797	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Prowin 200 7x2B	3	Flow	12348322
F9901	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Promass BA	9	Flow	6038922
H61041	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Liquiline M Cond CM42	2	Analytic	12827453
LFV6123	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Micropilot F40RSx	3	Level	9995567
L11002	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Micropilot F40RSx	3	Level	9770073
L11003	Rockwell/EK_DS/Rockwell O...	VEGA	230	1	Level	5324837
L17788	Rockwell/EK_DS/Rockwell O...	VEGA	VEGABAR 80 series	3	Pressure	5324834
LQULUN	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Liquiline M CMA4x	1	Analytic	3361898
LO_0228	Rockwell/EK_DS/Rockwell O...	Endress+Hauser	Cerabar S P3x v3x	7	Pressure	5273739

The Asset Health Monitor enables easy filtering by status, tag, device type, vendor or location



The Asset Health Monitor quickly gives an overview of the plant device status

PAM Gateway



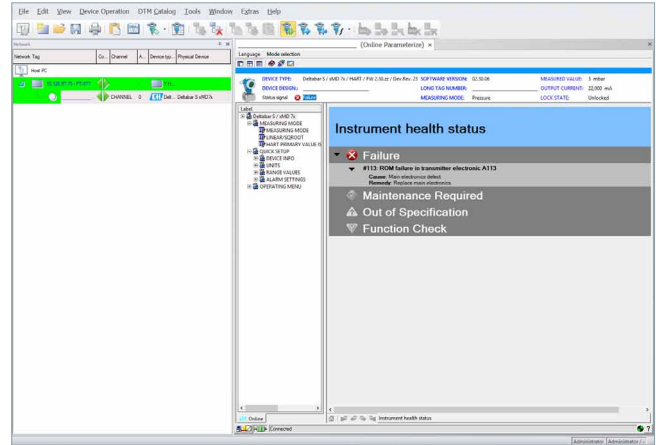
PAM Gateway provides a virtual representation of the physical network architecture.

A PAM Gateway hides network complexity by automatically scanning for connected devices out-of-the box. Diagnostic information from up to 500 devices is available 24/7. Devices can be configured independently from an PAM Client without interrupting the asset health monitoring. Several gateways can run in parallel to cover installations with several thousands of tags.

PAM Client, desktop workstation

PAM Client is the standard client for device configuration management and runs either on traditional hardware or in a virtual machine environment.

- **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.
- **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.



PAM Client for state-of-the-art Asset Health Management

PAM Mobile Client, mobile industrial tablet



Field Xpert SMT70 for mobile plant asset management

PAM Mobile Client is the field-proven Field Xpert SMT70 IP65, Class I, Division 2, Field Xpert SMT50 non-Ex or SMT77 IP65, Ex Class I, Division 1 industrial tablet for device configuration. It provides access in the field via a wireless (Wi-Fi and Bluetooth), Ethernet or 1-to-1 connection with devices, including those from 3rd-party vendors.

Additional services

Heartbeat Technology takes the pulse of your measurement and provides in-depth insights

To support you, as a plant operator, in reaching your goals, we at Endress+Hauser have implemented Heartbeat Technology into numerous measuring devices across our product portfolio. Its unique diagnostic, verification and monitoring functions all aim to support you in your daily striving to increase plant performance.



Enhanced measuring reliability and safety

Highest confidence in device performance due to outstanding diagnostic coverage and international standard-compliant development.

Higher efficiency in operations




Efficient operations are supported by timely, clear and standardized diagnostic messages, providing easy-to-follow recommendations on the actions needed.

Productivity gains while ensuring compliance

Optimized calibration/proof test cycles through traceable device verification without process interruption.

Fewer unpleasant surprises

Improved insights on device and process conditions to optimize the process and to keep operations stable.

Increase your plant performance and ...		
... boost reliability as well as safety levels	... reduce your verification efforts	... improve your process insights
Heartbeat Technology		
for diagnostics	for verification	for monitoring
		
Permanent process and device diagnostics	Documented device functionality without process interruption	Information for process optimization and predictive maintenance

 www.endress.com/heartbeat-technology

Training, commissioning and support services

As part of an overall solution, training and remote or onsite commissioning support are included in the Asset Health Monitoring Solution offering.

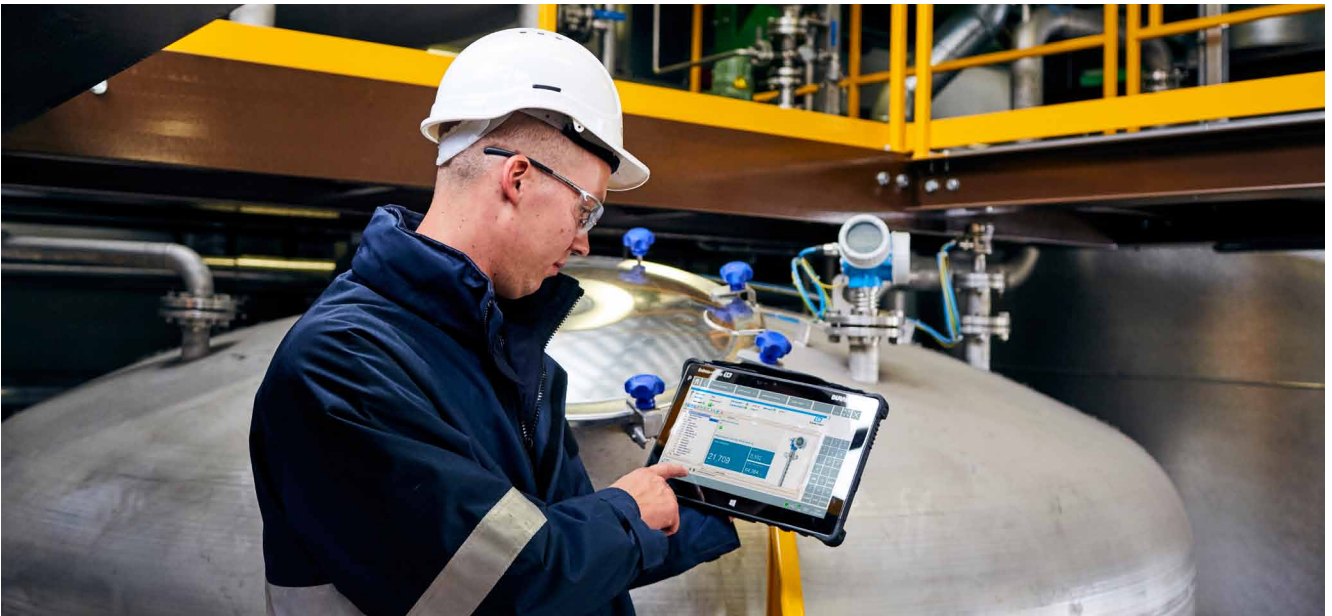
A support contract ensures that all software updates are implemented, either remotely or by the local Endress+Hauser service office or a partner.



User benefits

Asset Health Monitoring Solution

- Enable and improve the efficiency of preventive maintenance concepts by providing diagnostic data from the instruments such as calibration or cleaning required.
- Reduce time spent for troubleshooting instrumentation (e.g. cause & remedy information, ease of use).
- Enable quicker identification of critical devices and simplification of routine tasks such as reactive maintenance (e.g. mobile platform).
- Improve preventive maintenance utilizing device diagnostic data history (Asset Health Monitor).
- Deliver an ease-of-use solution made simple for maintenance technicians (e.g. touch screen, mobile, remote access) – one tool fits all HART instruments.
- Support centralized Heartbeat Technology routines for all measurement parameters.
- Visualize and analyze NAMUR NE 107 diagnostics in a standardized way.



Benefit from the Asset Health Monitoring Solution – wherever you are



Supplementary documentation

- FieldCare SFE500
Competence Brochure – CP00001S/04/EN
- Field Xpert SMT50
Innovation Brochure – IN01172S/04/EN
- Field Xpert SMT70
Competence Brochure – CP01372S/04/EN
- Field Xpert SMT77
Competence Brochure – CP01377S/04/EN

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