

# Emerson Plantweb™ Insight

## Heat Exchanger Monitoring Application



- Visualization and analytics software platform providing strategic interpretation and monitoring of plant assets
- Relevant-time actionable information and insights about abnormal situations, asset status, asset health, energy costs, emissions loss, etc.
- Seamless system integration, simple installation, and minimal configuration or set-up are not dependent on the host system or historian.
- Prepackaged analytics based on decades of process and industry experience
- Human-centered design and a user-tested interface for consistent and intuitive navigation

# Features and benefits

## Gain real-time insights into abnormal situations

- Suite of asset monitoring applications identifying abnormal situations and failures using data analytics and models.
- Learn about issues before they impact the bottom line with alerting and failure identification.
- The intuitive and easy-to-read views highlight high-priority, actionable information.



## Lightweight, secure, and reliable software package allows seamless integration into current infrastructure

- Easily deployed via a virtual machine.
- Access the interface anytime from a multitude of web browsers.
- Human-centered design considerations allow for quick and intuitive start-up and configuration.
- Integrate with existing wireless ecosystem to expand capabilities and leverage current investment.
- Not dependent on DCS, host system, or historian.



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## Monitor one asset or thousands with a fully scalable software package and numerous applications

- Applications are based on key assets such as steam traps, pumps, heat exchangers, pressure relief valves, and many more.
- Start small or monitor all your assets in one spot.
- Integration with other business systems such as data historians.
- Deploy in small, large, or enterprise-wide operations.

# User interface

Every application in the Plantweb Insight suite has a similar look and feel for a consistent user experience. The main views can be broken into three layers.

## Dashboard

The dashboard page is an umbrella overview of the asset class being monitored. This page will provide an aggregated view of the entire asset class and the most important insights. These insights will vary from application to application, with examples including asset status, asset health, energy costs, emissions loss, critical alerts, etc. A brief trending of these key insights is also provided for historical tracking and trending.



## Asset summary

The asset summary page is a tabular view of all assets being monitored. This view provides a similar perspective as the dashboard but on an asset-by-asset basis. This page is fully sortable, searchable, and filterable for quick prioritization and identification. The asset summary page can also be exported via CSV or Excel® for reporting.

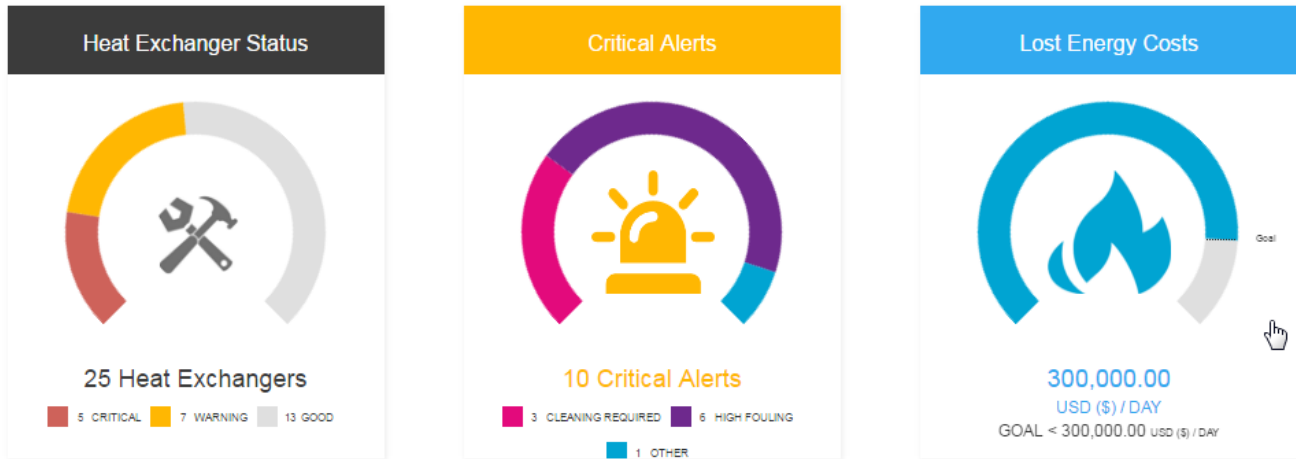
Asset #	Site	Location	Asset Status	Energy Loss (USD/01/Year)	Carbon Emissions (Metric Tons/Year)	Devices #
07100	Site 1	Unit 1	Good	---	---	10 Devices
07100	Site 1	Unit 1	Good	---	---	10 Devices
07100	Site 1	Unit 1	Blow Through	20000	60.00	1 Day
07100	Site 2	Unit 1	Blow Through	12000	40.00	20 Days
07100	Site 2	Unit 2	Good	---	---	10 Devices
07100	Site 2	Unit 1	Good	---	---	5 Devices
07100	Site 1	Unit 2	Good	---	---	10 Devices
07100	Site 1	Unit 2	Good	---	---	20 Devices
07100	Site 1	Unit 2	Plugged	---	---	2 Devices
07100	Site 2	Unit 2	Good	---	---	1 Day
07100	Site 2	Unit 2	Blow Through	10000	30.00	5 Hours
07100	Site 2	Unit 2	Plugged	---	---	20 Devices
07100	Site 1	Unit 2	Plugged	---	---	5 Devices
07100	Site 1	Unit 3	Inactive	---	---	1 Day
07100	Site 1	Unit 3	Good	---	---	5 Devices
07100	Site 2	Unit 3	Good	---	---	10 Devices
07100	Site 2	Unit 3	Good	---	---	4 Days
07100	Site 2	Unit 3	Good	---	---	10 Devices

## Asset details

The asset details page provides specific asset details. These details include location, process, application, asset, and device details for each individual asset. It also provides calculated insights such as relevant-time status, health, energy, emissions, additional information, and a brief asset history. A notes section allows users to add notes and flag assets for follow-up.

The configuration page is divided into several sections: 'Location Detail' with fields for Asset, Site, Location, and Location Detail; 'Steam Trap Detail' with fields for Manufacturer, Model, Type, Outdoor Size, and Installation Date; 'Process Detail' with fields for Application and Critical; and 'Asset History' with a line graph and a 'Notes' section.

# Heat Exchanger application

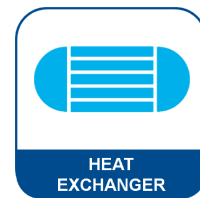


## Features

- In-depth monitoring of shell and tube heat exchangers
- Provides real-time heat exchanger status and alerts (e.g. fouling, heat duty)
- Pre-built algorithms based on decades of process experience and industry vetted analytics
- Predictive diagnostics and alert weights allow prioritization of heat exchanger maintenance

## Calculated insights

- Heat duty
- Fouling
- Process variable thresholds based on baseline capture
- Heat exchanger health index
- Abnormal situation awareness in the form of alerts



## Related products

- Emerson 1410S Wireless Gateway with 781S Smart Antenna
- Rosemount™ Wired and Wireless Temperature Transmitters
- Rosemount 3051SFC Wireless Flow Meter
- Rosemount 3051S Wireless Differential Pressure Transmitter

# Communication specifications

## Inputs

- HART-IP™ client** Plantweb Insight acts as a HART-IP client for polling information from HART-IP sources such as Emerson 1410S Gateways.
- OPC UA® client** Plantweb Insight contains an OPC UA client for accessing information from OPC UA servers. OPC UA data inputs are enabled in numerous applications.

## Outputs

- Modbus® TCP server** Plantweb Insight contains a Modbus TCP server. Functions, registers, and tags are clearly defined within Plantweb Insight. Calculations, statuses, etc., can be sent to Modbus TCP clients.
- OPC UA Server** Plantweb Insight contains an OPC UA server. Calculations, status, etc., can be sent to OPC UA clients.
- REST API** Plantweb Insight can provide asset details and alerts via REST API.

# Ordering information

## Ordering process

1. Build and order your subscription order code.
2. You will receive instruction on where to download your application and framework software if you have not already done so.
3. Upon installation of an application onto the framework, the software will instruct you on how to request a license key.
4. A license key will be generated upon request based on your subscription order code.

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### Note

The subscription duration starts at the time the license key is generated.

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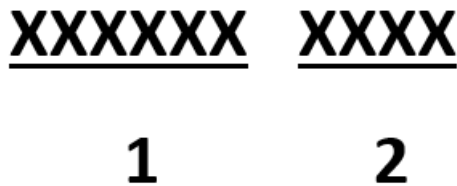
## License key

Plantweb Insight applications require a valid license key to be used. License keys are delivered upon placing an order for a subscription order code and submitting a locking ID from the software. Plantweb Insight license keys are provided as a file.

## Subscription order code

The subscription order code contains the details related to the software subscription used to generate a license key. This code is not your license key to activate your software. Exact subscription order codes will vary; an example of a typical subscription order code is shown in [Figure 1](#).

**Figure 1: Subscription code example**



1. Required subscription component (7002HE base code)
2. Subscription type (subscription duration and maximum number of assets to be monitored)
  - An asset is a single Heat Exchanger
  - Trial licenses are limited to the smallest asset capacity (requires new or existing infrastructure)

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**Sample subscription code**

**7002HE C100**

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## Emerson Plantweb Insight Heat Exchanger application subscription ordering information

### Subscription application

Code	Description
7002HE	Plantweb Insight Heat Exchanger Monitoring application

### Subscription duration and assets

Code	Description
T001	90-Day trial
A010	1-Year subscription for up to 10 assets
A050	1-Year subscription for up to 50 assets
A100	1-Year subscription for up to 100 assets
A999	1-Year subscription for unlimited assets per site
B010	2-Year subscription for up to 10 assets
B050	2-Year subscription for up to 50 assets
B100	2-Year subscription for up to 100 assets
B999	2-Year subscription for unlimited assets per site
C010	3-Year subscription for up to 10 assets
C050	3-Year subscription for up to 50 assets
C100	3-Year subscription for up to 100 assets
C999	3-Year subscription for unlimited assets per site



# Specifications

## System requirements

Plantweb Insight is delivered as a fully developed virtual machine (e.g. .ova file) and applications are installed once the virtual machine is deployed.

### On-Premise Host system

#### Virtualization software

- VMware Workstation Pro™ 15 or higher (requirements can be found [here](#))

OR

- VMware vSphere® 6.5 or higher (requirements can be found [here](#))

OR

- Microsoft® Hyper-V Configuration version 8.0 or higher (requirements can be found [here](#))

#### Hardware requirements (minimum)

- Processors = four dedicated cores<sup>(1)</sup>
- Memory = 8 GB RAM
- Hard drive = 250 GB of free space

#### Hardware requirements (recommended)

- Processors = eight dedicated cores
- Memory = 16 GB RAM

### Cloud environment capability

- Plantweb Insight has the ability to be installed in the cloud on an Emerson Microsoft Azure instance.

### Web client

#### Browsers (recent versions supported)

- Google Chrome™
- Microsoft Edge
- Mozilla Firefox

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(1) Most PC operating systems (i.e. Windows, Linux, Mac) will use one to two cores.





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