

# Emerson Plantweb™ Insight



- 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 not dependent on host system or historian
- Prepackaged analytics based on decades of process and industry experience
- Human-centered design and 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.



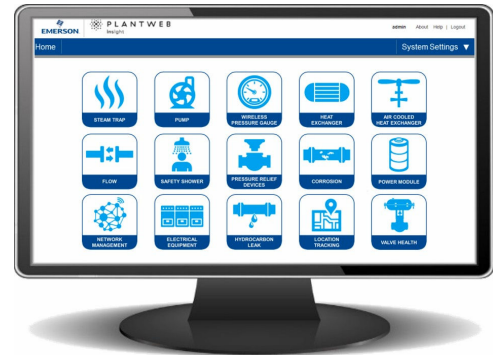

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## Lightweight, secure, and reliable software package allows seamless integration into current infrastructure

- 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.



## 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

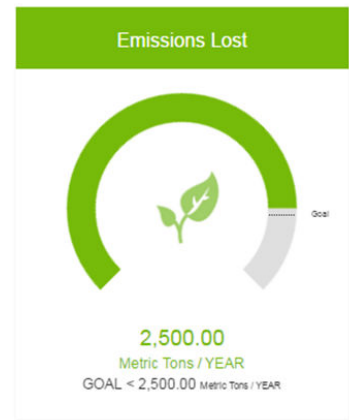
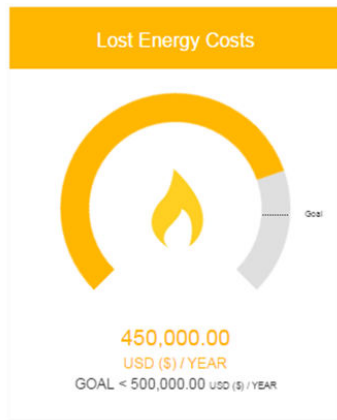
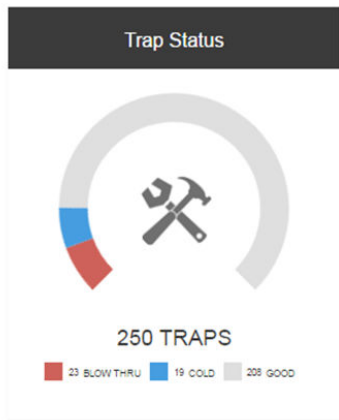
The asset summary page is a tabular view of all assets being monitored. This view provides a similar perspective as the dashboard but on an asset-by-asset basis. This page is fully sortable, searchable, and filterable for quick prioritization and identification. The asset summary page can also be exported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

| Asset # | SN   | Location | Asset Status | Energy Loss (USD) / Year | Carbon Emissions (Metric Tons) / Year | Outdate # | W # |
|---------|------|----------|--------------|--------------------------|---------------------------------------|-----------|-----|
| 07100   | SN 1 | Unit 1   | Good         | ---                      | ---                                   | 10 Days   | --- |
| 07100   | SN 1 | Unit 1   | Good         | ---                      | ---                                   | 15 Days   | --- |
| 07100   | SN 1 | Unit 1   | Blow Through | 20000                    | 10.00                                 | 1 Day     | --- |
| 07100   | SN 2 | Unit 1   | Blow Through | 10000                    | 5.00                                  | 20 Days   | --- |
| 07100   | SN 2 | Unit 1   | Good         | ---                      | ---                                   | 15 Days   | --- |
| 07100   | SN 2 | Unit 1   | Good         | ---                      | ---                                   | 6 Hours   | --- |
| 07100   | SN 1 | Unit 2   | Good         | ---                      | ---                                   | 10 Days   | --- |
| 07100   | SN 1 | Unit 2   | Good         | ---                      | ---                                   | 10 Days   | --- |
| 07100   | SN 1 | Unit 2   | Good         | ---                      | ---                                   | 20 Days   | --- |
| 07100   | SN 1 | Unit 2   | Failed       | ---                      | ---                                   | 20 Days   | --- |
| 07100   | SN 2 | Unit 2   | Good         | ---                      | ---                                   | 1 Day     | --- |
| 07100   | SN 2 | Unit 2   | Blow Through | ---                      | ---                                   | 10 Days   | --- |
| 07100   | SN 2 | Unit 2   | Plugged      | 10000                    | 5.00                                  | 20 Days   | --- |
| 07100   | SN 1 | Unit 3   | Failed       | ---                      | ---                                   | 20 Days   | --- |
| 07100   | SN 1 | Unit 3   | Plugged      | ---                      | ---                                   | 3 Days    | --- |
| 07100   | SN 1 | Unit 3   | Inactive     | ---                      | ---                                   | 1 Day     | --- |
| 07100   | SN 1 | Unit 3   | Good         | ---                      | ---                                   | 5 Days    | --- |
| 07100   | SN 2 | Unit 3   | Good         | ---                      | ---                                   | 10 Days   | --- |
| 07100   | SN 2 | Unit 3   | Good         | ---                      | ---                                   | 4 Days    | --- |
| 07100   | SN 2 | Unit 3   | Good         | ---                      | ---                                   | 10 Days   | --- |

## 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.

# Steam Trap application



## Features

- In-depth monitoring of steam traps
- Provides relevant time steam trap status including failure modes (blow through, plugged, flooded)
- Steam trap status algorithm based on thousands of real-customer data points and analytics
- Economic and environmental impact displayed in terms of excess energy costs and emissions loss
- Prioritize maintenance based on most problematic or highest impact failed traps

## Calculated insights

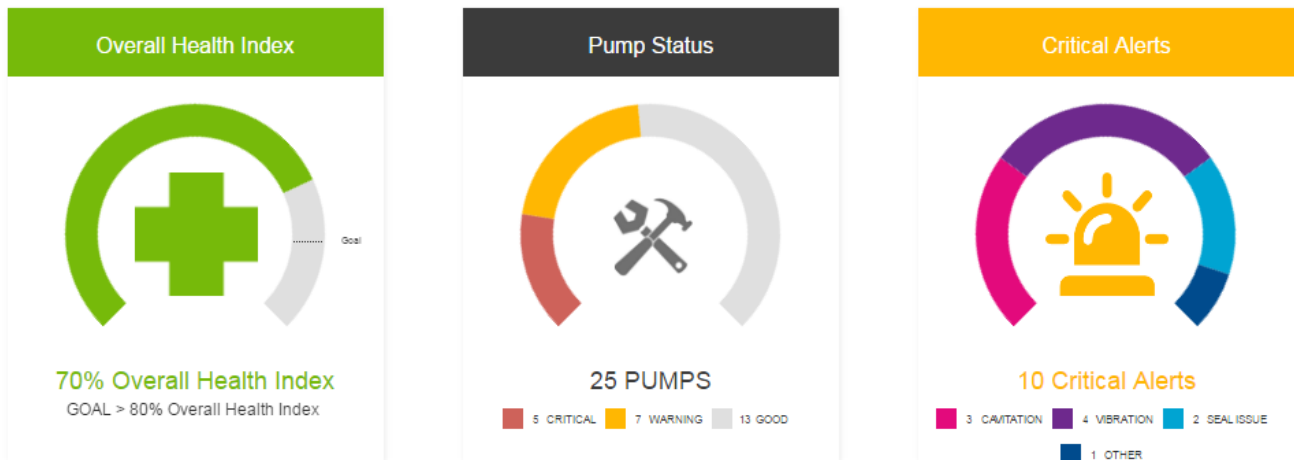
- Steam trap status
  - Good
  - Blow through
  - Plugged
  - Flooded
  - Inactive
- Energy costs
- Emissions loss



## Related products

- Emerson 1410/1420 Wireless Gateway
- Rosemount™ 708 Wireless Acoustic Transmitter

## Pump application

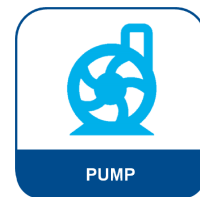


### Features

- In-depth monitoring of fixed-speed pumps
- Provides relevant time pump status and alerts (high vibration, cavitation, seal health, etc.)
- Prebuilt algorithms based on decades of process experience and industry vetted analytics
- Predictive diagnostics and alert weights allow prioritization of pump maintenance

### Calculated insights

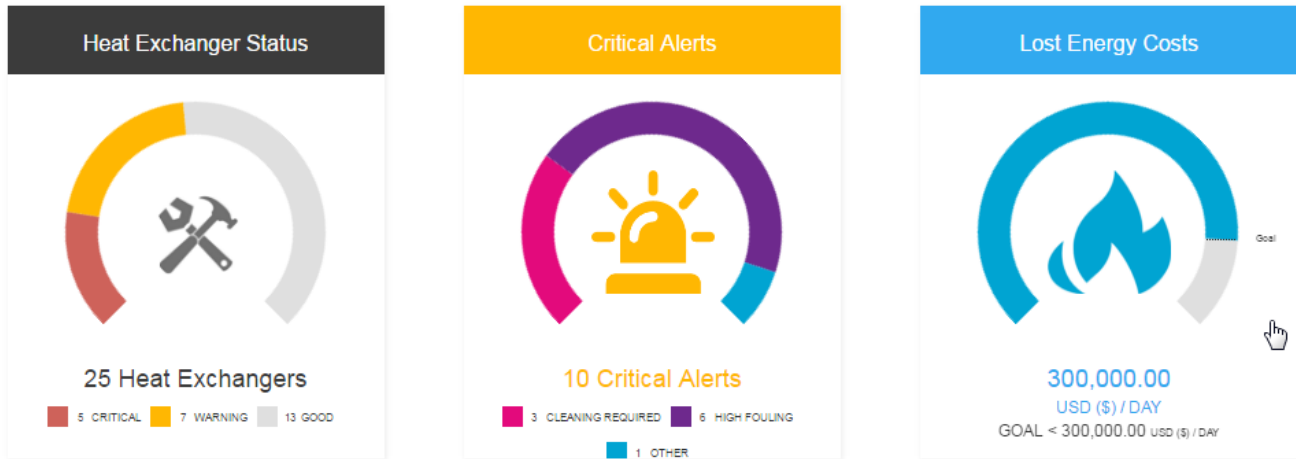
- Vibration monitoring
- Cavitation
- Strainer pressure differential
- Process variable thresholds based on baseline capture
- Pump health index
- Abnormal situation awareness in the form of alerts



### Related products

- Emerson 1410/1420 Wireless Gateway
- AMS 9420 Wireless Vibration Transmitters
- Rosemount 3051S Wireless Pressure Transmitters
- Rosemount 3308 Wireless Level Transmitters

# Heat Exchanger application

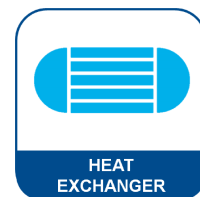


## Features

- In-depth monitoring of shell and tube heat exchangers
- Provides relevant 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

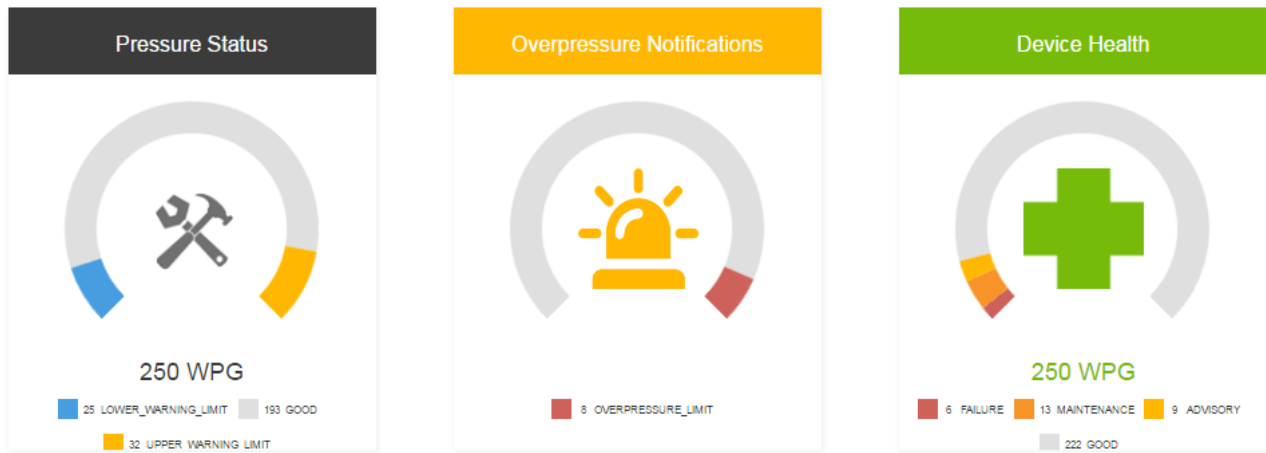
- Heat duty
- Fouling
- Process variable thresholds based on baseline capture
- Heat exchanger health index
- Abnormal situation awareness in the form of alerts



## Related products

- Emerson 1410/1420 Wireless Gateway
- Rosemount wireless temperature transmitters
- Rosemount temperature sensors
- Rosemount 3051SFC Wireless Flow Meter
- Rosemount 3051S Wireless Differential Pressure Transmitter

## Wireless Pressure Gauge application



### Features

- “Know before you go” insights into the Rosemount Wireless Pressure Gauge
- Provides relevant time pressure status of all wireless pressure gauges
- Manually configure thresholds for alerts
- Manage maintenance with device health indicators

### Calculated insights

- Pressure status
  - High pressure warning
  - Low pressure warning
- Overpressure notifications
- Device health

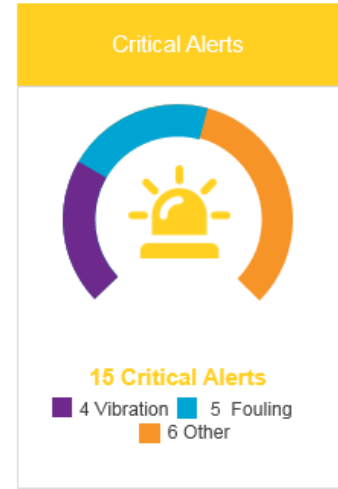
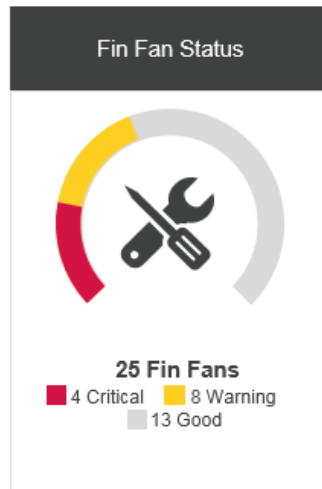


### Related products

- Emerson 1410/1420 Wireless Gateway
- Rosemount Wireless Pressure Gauge



# Air Cooled Heat Exchanger application

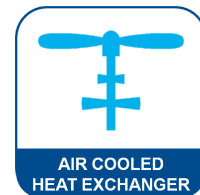


## Features

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

## Calculated insights

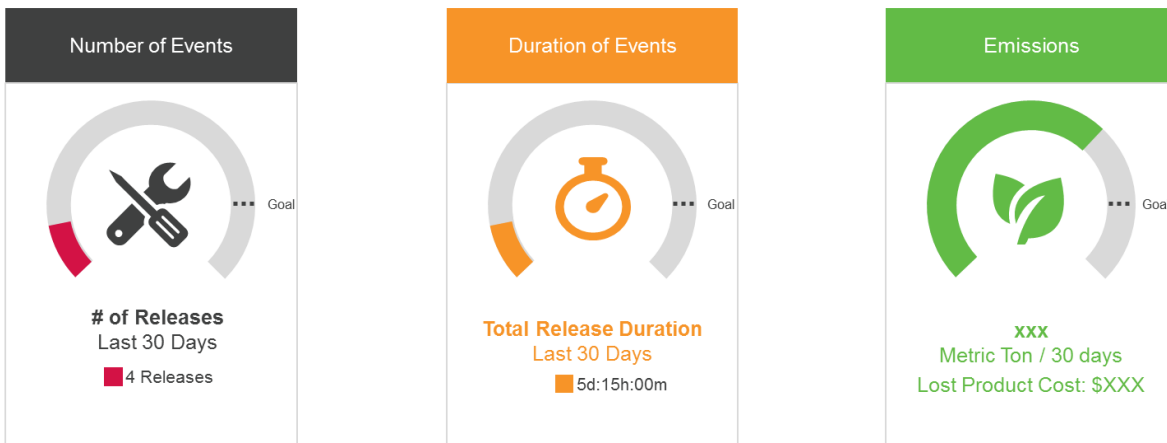
- Vibration monitoring
- Fouling
- Louver/pitch defect
- Process variable thresholds based on baseline capture
- Air cooled heat exchanger health index
- Abnormal situation awareness in the form of alerts



## Related products

- Emerson 1410/1420 Wireless Gateway
- Rosemount wireless temperature transmitters
- Rosemount temperature sensors
- AMS 9420 Wireless Vibration Transmitters
- Fisher™ 4320 Wireless Position Monitor

## Pressure Relief Device application



### Features

- In-depth monitoring of pressure relief devices (PRD) and pressure relief valves
- Provides real-time indication of PRD releases leaks
- Event log records all PRD releases for one year for EPA reporting
  - Start time
  - Duration
  - Production loss
  - Inspection ID, date, and justification
- Release and leak algorithm release algorithm based on real-customer data points and analytics
- Economic and environmental impact displayed in terms of emissions and production loss
- Prioritize maintenance based on most problematic or highest impact PRDs

### Calculated insights

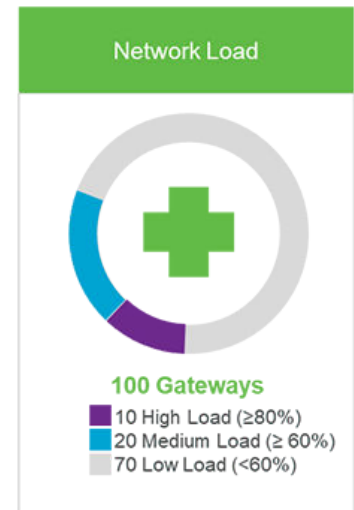
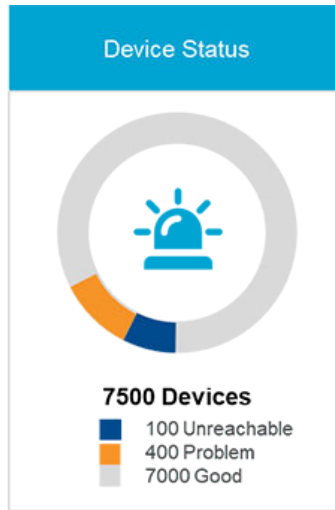
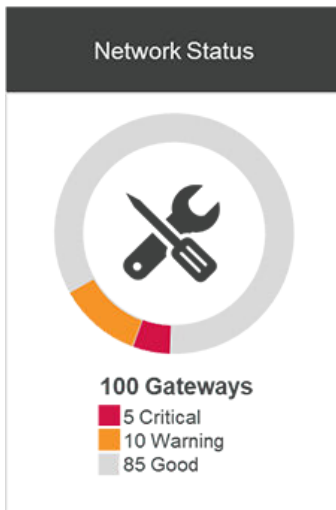
- PRD status
  - Releasing
  - Leaking
  - Healthy
- Production loss
- Emissions loss



### Related products

- Emerson 1410/1420 Wireless Gateway
- Rosemount 708 Wireless Acoustic Transmitter

# Network Management application



## Features

- Provides real-time indication of Gateway health and diagnostics based on Emerson Wireless expertise
- Create drag and drop network diagrams identifying connection paths
- Consolidate syslog of multiple Gateways
- Recognize network load for future planning and expansion

## Calculated insights

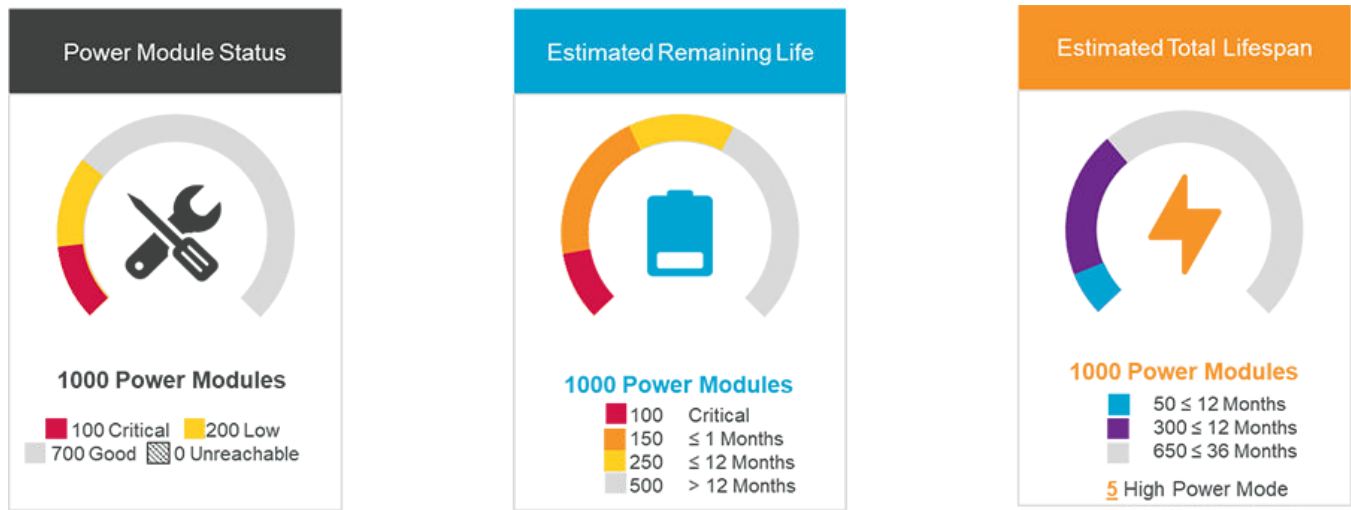
- Network status
- Network troubleshooting
- Network load



## Related products

- Emerson Wireless 1410/1420 Gateways
- Emerson Wireless 781 Field Link
- Cisco® 1552WU

# Power Module application

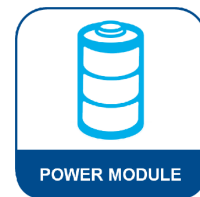


## Features

- In-depth monitoring of Emerson power modules
- Provides real-time indication of power module health and diagnostics
- Power module estimated remaining life and total estimated life based on Emerson Wireless expertise
- Plan power module maintenance on estimated remaining life

## Calculated insights

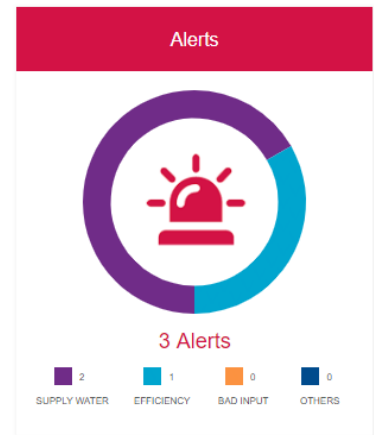
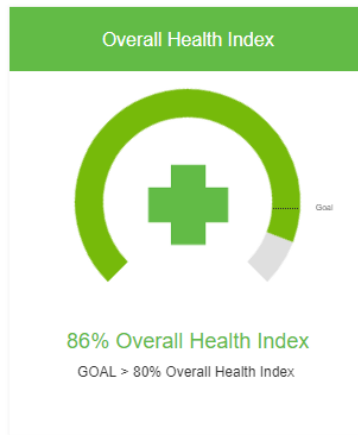
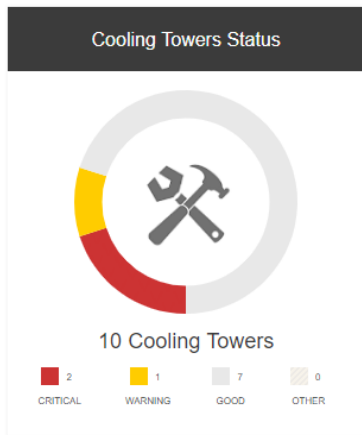
- Power module status
  - Good
  - Low
  - Critical
- Power module estimated remaining life
- Power module total estimated life



## Related products

- Emerson Black Power Modules
- Emerson Green Power Modules
- Emerson Blue Power Modules

# Cooling Tower application



## Features

- In-depth monitoring of cooling tower components (e.g. pumps, fin fans, water basins)
- Provides real-time cooling tower status, efficiency and alerts
- Pre-built analytics based on decades of process experience and industry vetted analytics
- Predictive diagnostics and alert weights allow prioritization of cooling tow

## Calculated insights

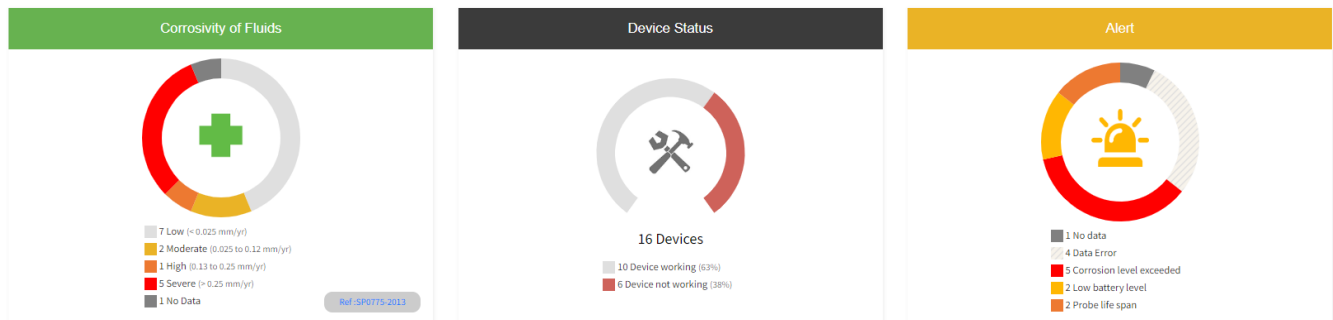
- Cooling tower health index
- Cooling tower efficiency
- Link to pump and air cooled heat exchanger applications for associated asset monitoring
- Process variable thresholds based on baseline capture
- Abnormal situation awareness in the form of alerts



## Related products

- Emerson 1410/1420 Wireless Gateway
- Rosemount 3051SFC Wireless Flow Meter
- Rosemount 3051S Wireless Pressure Transmitters
- Rosemount wireless temperature transmitters
- Rosemount temperature sensors

## Inline Corrosion application



### Features

- Continuous corrosion rate monitoring of pipelines and assets
- Provides corrosion rate trends.
- Provides relevant corrosion probe status and alerts (i.e. probe life-span, severe corrosivity, low battery level and no data)
- Manual configuration of thresholds for alerts
- Predictive diagnostics and alerts allow prioritization of device maintenance

### Calculated insights

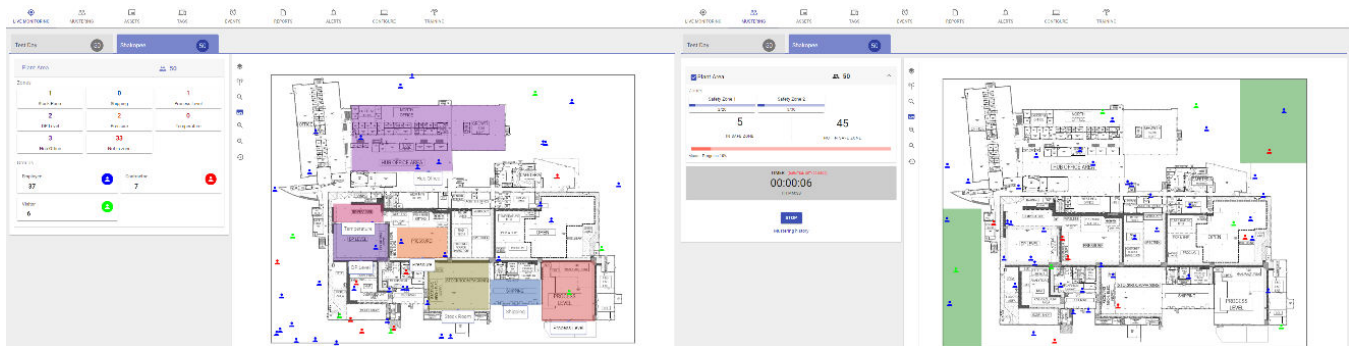
- Corrosion rate trends
- Corrosivity of fluids
  - Severe corrosion
  - High corrosion
  - Moderate corrosion
  - Low corrosion
- Electric Resistance (ER) probe expected life
- Device status



### Related products

- Emerson 1410/1420 Wireless Gateway
- Roxar™ CorrLog Wireless
- Roxar Retractable Electrical Resistance (ER) Probes
- Roxar Retractable Linear Polarization Resistance (LPR) Probes
- Roxar Retrievable Electrical Resistance (ER) Probes
- Roxar Retrievable Linear Polarization Resistance (LPR) Probes

# Location application



## Features

- Geofence zones for known hazardous locations or designated work areas
- Safety mustering for accountability in an emergency or drill
- Groups for all personnel in a facility (e.g. facility, employees, contractors, visitors)
- Configurable events and alerts help provide a safe environment
- Reports and charts for time spent in areas or zones

## Related products

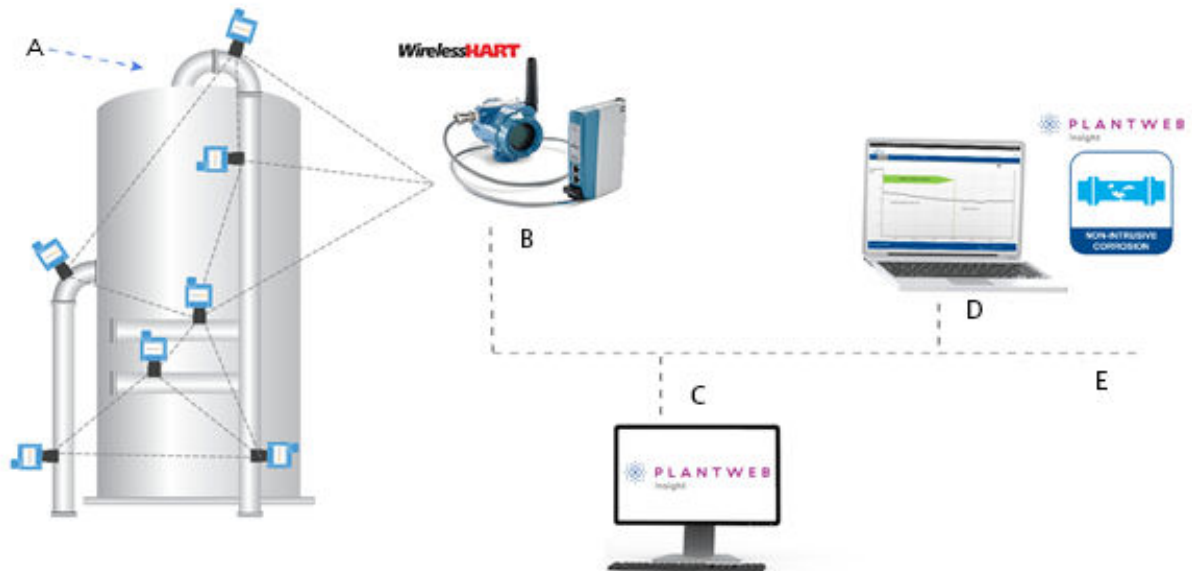
- Emerson Wireless 1410/1240 Gateways
- Emerson Wireless 781 Field Link
- Emerson Location Anchor
- Emerson Location Tag



# Plantweb Insight for Non-Intrusive Corrosion Monitoring

The Plantweb Insight for Non-Intrusive Corrosion application gives customers superior understanding of the condition of their assets, allowing better predictive maintenance, and optimization of the plant. Rosemount Wireless Permasense corrosion data is delivered securely to the end users' desk through the Plantweb Insight platform, offering real time advanced analytics to assess the impact of profitability-driven process changes. This allows informed decision making to counter the ever changing demands of the modern process industry.

**Figure 1: Non-Intrusive Corrosion Monitoring**



- A. Sensors
- B. Example location: Control room
- C. Server
- D. User's office
- E. Network

## Dashboard

- Select your monitoring period from one month to one year
- Monitor the overall wall loss rate of your sensors at a glance
- Understand the risk to your assets with an analysis of the remaining wall thickness to planned retirement
- Identify system maintenance tasks from the data quality overview

## Measurement points

- Organise your Rosemount Wireless Permasense sensors into a logical address structure for quick group analysis.
- Discover detailed visualisations which enable large data sets to be analysed quickly and effectively.
- Metal loss heatmaps, created through combined rolling rates, highlight sudden rapid metal loss and slower sustained metal loss.
- Multi-graph view provides a quick and easy overview of multiple sensors on your assets.
- Table view of all corrosion devices installed, the current status of the sensors, short and long-term corrosion rates, remaining wall thickness to retirement



**Intuitive graph tools**

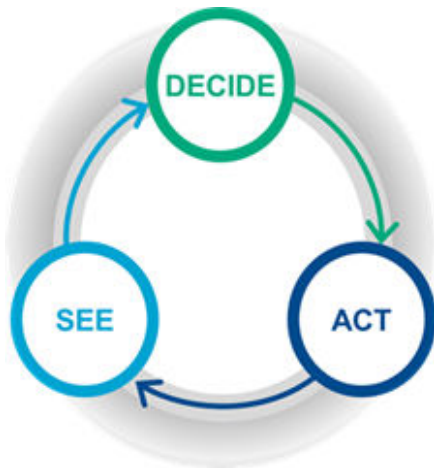
- View detailed temperature and material compensated wall thickness and time plots.
- Draw a box corrosion rate tool allows event driven analysis of custom data periods.
- Utilise the retirement planning feature to maximise fixed asset lifespans and avoid unplanned downtime as well as improve your replacement part planning.
- Patented Adaptive Cross Correlation (AXC) and Selective Backwall Correlation (SBC) signal processing enables increased confidence in short term corrosion periods and best-in-class tens of microns corrosion rate accuracy.

**Integration**

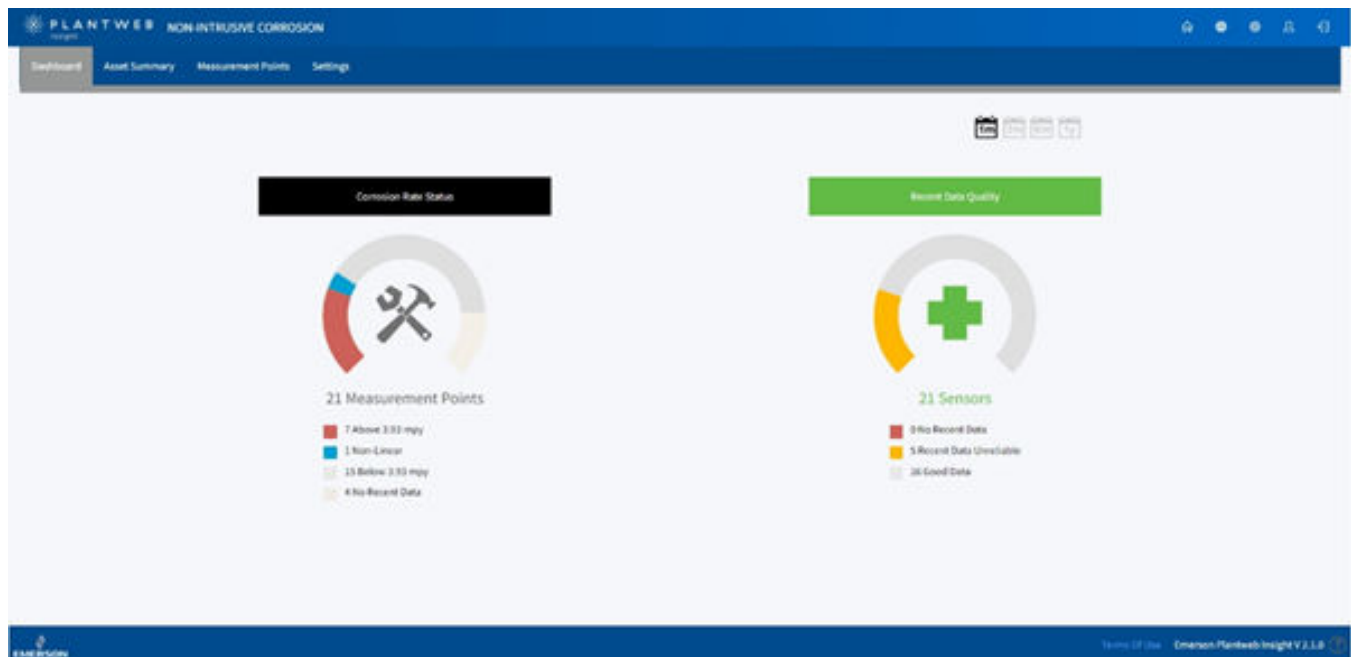
- Seamlessly integrate with the entire Plantweb Ecosystem, enabling measurable performance improvements in the areas of production, reliability, safety and energy management.
- Utilise embedded OPC UA and Modbus data export to correlate your corrosion data with other plant data and maximise revenue from process optimisation.
- Gain a better understanding into the health of your Rosemount Wireless Permasense system through the network and power module management apps to facilitate easier diagnostics and maintenance of equipment.

**Plantweb Insight Benefits**

- Augments existing Interface Systems by providing flexible and immediate data access for Corrosion and Integrity Engineers and management outside of control room environment
- Provides actionable data in the form of an informative dashboard
- Access to real time data anytime, from anywhere
- Helps increase safety at your facility by reducing time spent in hazardous areas and eliminates need for site work (e.g. scaffolding)
- OPEX savings by reducing costly manual operations
- Seamlessly integrates with your existing wireless infrastructure, allowing you to expand the capabilities of your current system



**See** real time data regarding your asset health  
**Decide** what is the necessary course of action  
**Act** to perform this change



## Features

- Continuous corrosion rate monitoring of pipelines and assets
- Provides corrosion rate trends using patented Adaptive Cross Correlation (AXC) processing
- Provides relevant corrosion transmitter status
- Pre-built analytics based on industry vetted feedback
- Custom dataset grouping, and easy filtering to a range of views:
  - Table, Metal Loss Heatmap, Multiple Graph, Graph, Waveform

## Calculated insights

- Corrosion rate trends
  - 1, 3, 6, and 12 month trends
- Metal change indicator (PSI)
- Metal loss heatmap
- Thickness to retirement
- Data quality

## Related products

- Emerson 1410/1420 Wireless Gateway
- Rosemount Wireless Permasense WT210 Transmitter
- Rosemount Wireless Permasense ET210 Transmitter
- Rosemount Wireless Permasense ET310 Transmitter
- Rosemount Wireless Permasense ET410 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 1410/1420 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. Endpoints can be configured for both secure and insecure connections. Calculations, status, etc, can be sent to OPC UA clients.

# Ordering information

## Model code

Model codes contain the details related to each product. Exact model codes will vary; an example of a typical model code is shown in [Figure 2](#).

**Figure 2: Model Code Example**

|                  |            |
|------------------|------------|
| XXX X XXX X X XX | XXX XXX XX |
| 1                | 2          |

1. Required model components (7001X model, Installation Type, Number of Networks)
2. Additional options (applications that may be added to the Plantweb Insight platform)
  - If existing network installation type is chosen, number of networks option is not required.

**Sample model code**

7001X V 002 ST WR3

## Optimizing lead time

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

## Emerson Plantweb Insight Ordering Information

### Model

| Code  | Description      | ★ |
|-------|------------------|---|
| 7001X | Plantweb Insight | ★ |

### Installation type

| Code             | Description                                      | ★ |
|------------------|--|---|
| V <sup>(1)</sup> | Virtual machine                                  | ★ |
| E                | Existing platform (used for adding applications) | ★ |

(1) Number of networks must be selected.

## Number of networks

This option is only applicable to virtual machine installation type.

| Code | Description  |   |
|------|--------------|---|
| 002  | 20 Gateways  | ★ |
| 010  | 100 Gateways | ★ |

## Applications

| Code | Description               |   |
|------|---------------------------|---|
| ST   | Steam trap                | ★ |
| PU   | Pump                      | ★ |
| HE   | Heat exchanger            | ★ |
| WP   | Wireless pressure gauge   | ★ |
| AC   | Air cooled heat exchanger | ★ |
| PR   | Pressure relief device    | ★ |
| NM   | Network management        | ★ |
| PM   | Power module              | ★ |
| CT   | Cooling tower             | ★ |
| A11  | Inline corrosion          | ★ |
| A12  | Non-intrusive corrosion   | ★ |

## Subscription support

Subscription support includes basic feature and phone support, platform and application upgrades, and patches. The first year of subscription support is included with software purchase starting from date of purchase. Optional subscription support may be purchased for an additional one, three, or five years.

| Code | Description                 |   |
|------|-----------------------------|---|
| WR1  | 1-year subscription support | ★ |
| WR3  | 3-year subscription support | ★ |
| WR5  | 5-year subscription support | ★ |

## Emerson Plantweb Insight Location Ordering Information

### Model

| Code  | Description      |   |
|-------|------------------|---|
| 7001X | Plantweb Insight | ★ |

## Installation type

| Code             | Description                                     |   |
|------------------|---|---|
| V <sup>(1)</sup> | Virtual machine                                 | ★ |
| E                | Existing platform (used for adding application) | ★ |

(1) Number of networks must be selected.

## Number of networks

This option is only applicable to virtual machine installation type.

| Code | Description  |   |
|------|--------------|---|
| 002  | 20 Gateways  | ★ |
| 010  | 100 Gateways | ★ |

## Location awareness

| Code | Description                                    |   |
|------|--|---|
| LA   | Location application                           | ★ |
| LU   | Existing application – additional tags upgrade | ★ |

## Number of tags

| Code | Description    |   |
|------|----------------|---|
| L1   | Tags 1-250     | ★ |
| L2   | Tags 251-500   | ★ |
| L3   | Tags 501-1000  | ★ |
| L4   | Tags 1001-2500 | ★ |
| L5   | Tags 2501-5000 | ★ |

# Specifications

## System requirements

Plantweb Insight is delivered as a fully developed virtual machine (e.g. .ova file)

### Host operating system

#### Virtualization software

- VMware Workstation Pro™ 10 or higher (requirements can be found [here](#))

OR

- VMware vSphere® 5.5 or higher (requirements can be found [here](#))

OR

- Microsoft® Hyper-V 2012 or higher (requirements can be found [here](#))

### Guest operating system

- Processors = 4
- Memory = 16 GB RAM minimum
- Hard drive = 100 GB of free space

### Web client

#### Browsers (recent versions supported)

- Chrome™ browser
- Microsoft Internet Explorer®

For more information: [www.emerson.com](http://www.emerson.com)

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