



# Sensor Health V1.0

## User Guide

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# Introduction

Analog sensors are critical in modern manufacturing as they provide the 'Heartbeat' signals for equipment and processes. Sensor data quality plays a vital role in Industrial Internet of Things (IIoT) applications, as equipment is useless if the data quality from the sensors is bad.

Due to their electromagnetic, electrochemical and/or mechanical nature, over time, sensors can start to show various defects. It is essential that sensor data gets validated to avoid defects, and that reactions are triggered when defects can potentially impact the equipment as well as the product outcome.

Sensor Health is the solution by which each of the individual sensors can be monitored for anomalies. Thus, essentially, it's a univariate analytical solution which internally leverages multiple analytic models to identify various anomalies/faults such as drift, rate of change, outliers, and so on. The models get trained on each sensor's historical data to record the learning and then deploy the learnt model to monitor the sensors.

Sensor Health continuously monitors the configured sensors and provides the ability to generate alerts based on configured thresholds for various Sensor Health Index values, in a near to real-time fashion. Alerts get listed in a separate view. You can use the alert grid in Sensor Health to get additional information about the alert, navigate to a trend view, and provide feedback in case if you find many false positive or inaccurate alerts. In the trend view for the Sensor Health solution, the rendering of the trend can be overlaid with color codes to visually represent the probabilities of anomaly detection in the sensor data.

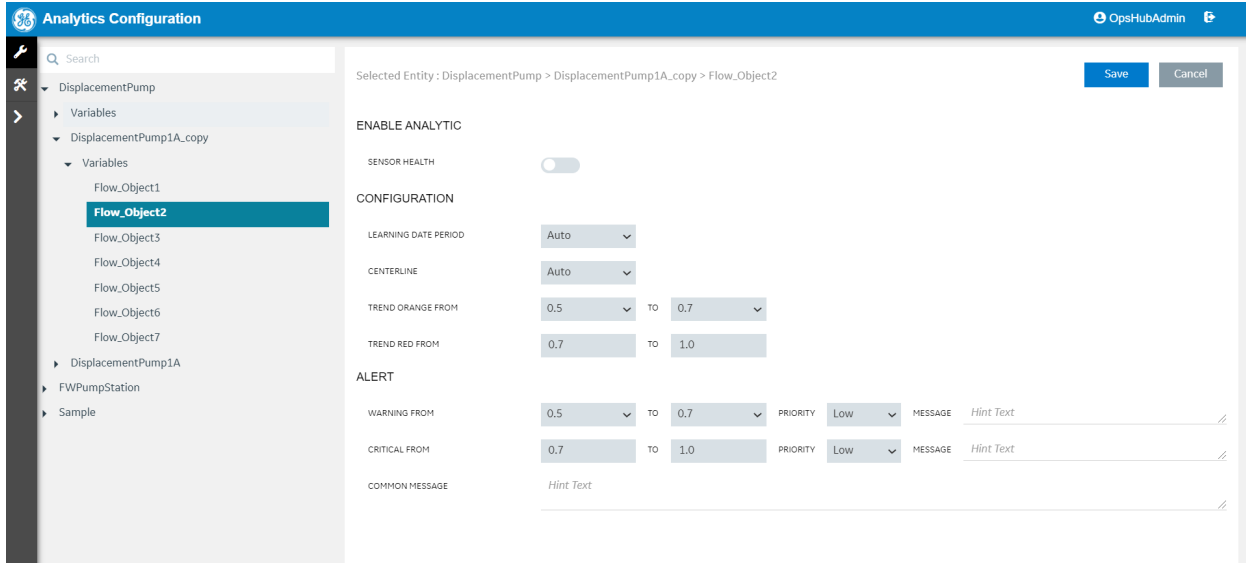
## Config Sensor Health Applications

Sensor Health Product comes with two End Applications.

- Analytics Configuration Application
- Sensor Health Application

### Analytics Configuration Application

Analytics Configuration application is a page to configure analytics and alerts for different sensors, objects and object-types at different levels. This application is used by administrative group to configure a set of values. This is the starting activity that you must perform to get sensors enabled for monitoring. This application can be restricted to an administrative group on the Operations Hub install itself.



Analytics Configuration application contains two pages (administrator can manage who can access this application).

- Configuration Page – This page allows user to configure the system in order to get sensors enabled for monitoring. It allows enabling Sensor Health analytics and create new configurations, edit existing configurations, and disable Sensor Health analytics for any given level.
- Deployment Report Page – This page is a central location where all the Sensor Health analytics configured on the Analytic Configuration page gets listed in a grid with the status of their deployment.


## Sensor Health Application

The Sensor Health application launches the alerts page that is a central page to view all the alerts that are generated and includes navigation to Trend Analysis for each of the alerts that are generated.

<div> <div>All</div> <div>Active</div> <div>Inactive</div> </div>			View By 1 Month					
SEVERITY	ALERT ID	TIMESTAMP	PRIORITY	CLASSIFICATION	TAG	OBJECT	MESSAGE	ACTIONS
critical	15	7/24/2020, 8:10 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	<a href="#">View</a> <a href="#">Details</a>
critical	30	7/24/2020, 9:04 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	<a href="#">View</a> <a href="#">Details</a>
critical	45	7/24/2020, 9:06 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	<a href="#">View</a> <a href="#">Details</a>

Sensor Health application contains two pages (administrator can manage who can access this application).

- Alerts Page - The Alert Page is a central location where all the alerts generated by Sensor Health analytics get listed in a grid view and have some interaction with it.
- Visualization Page - The Trend view (Visualization) page comes with a feature of displaying the trend line color based on the Sensor Health Index values.

 **Note:** If at all user is not able to view any of the End Application, contact the administrator to get access to that Application. Refer to Sensor Health and Operations Hub Documentation to manage users and roles for different applications.

## Configuration

The Configuration page is where you begin. You must configure your system in order to get sensors enabled for monitoring. A configuration activity can be overwhelming and require expertise with data analytics. However, at GE Digital we are aiming to give the power back to the non-data scientist in order to work with the data, get insights, and make quick decisions at an operational level.

The Sensor Health Analytics Configuration page requires minimal inputs to quickly enable the monitoring of a sensor. The configuration can be done in bulk by configuring at the object type level, or at the individual piece of equipment and/or sensor level.

This activity requires minimal knowledge to start; all settings except the Alert message text have default values associated with their fields. You can enable Sensor Health analytics and create new configurations, edit existing configurations, and disable Sensor Health analytics for any given level.

From this page, analytics can be configured at four different levels – Object-type, Object, and Variable level:

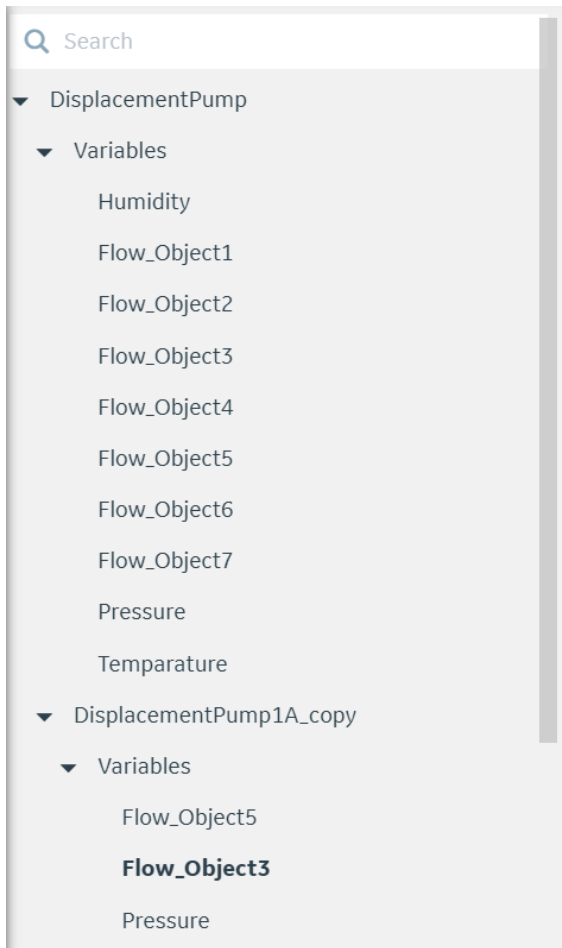
- Object type Level (Equipment Class) – This is the top level of configuration, enabling configuration at the highest level of the Object model that cascades through the entire configuration down to each of the Objects and Variables within it.
- Object type-Variable level (Sensor type at Equipment Class) - This is to setup analytics and alerts configuration of a given variables defined in an object type. the configuration set up at this level cascades down to the specific variable on all objects instantiated from the object type
- Object Level (Equipment Instance) – This is to set up analytics and alerts configuration at the equipment instance. The configuration set up at this level cascades down to all the variables within the selected Object.
- Object-Variable Level (Sensor in Equipment Instance) – This is to set up analytics at any of the variable at either Object-Type level or Object level.

Precedence logic:

1. Object-Variable (i.e. Sensor) has highest precedence. Once configured at this level the configuration is not going to be overwritten by any up-level changes at the Object, Object type-variable, or Object Type. The user must select that Sensor to edit the configuration.
2. Object (i.e. Equipment) level configuration has the next precedence where user can configure at an equipment level, the settings then percolate to each sensor. Any up-level changes at Object Type-variable or Object Type level cannot impact this configuration.
3. Object Type-Variable (i.e. sensors at the class level) configuration cannot impact the any configuration done separately either at Object level or Variable level. However, any configuration done at Object Type-Variable cannot be overwritten by object type configuration changes.
4. Object Type (i.e. Equipment Class) configuration has lowest precedence. It can be overwritten at below level i.e. any of the levels – Object Type-Variable, Object or Variable level.

The Analytics Configuration page is divided into two sections. The left panel is the Object model browser and right panel is the Configuration form with the provision to save the configuration. The Object model browser was built to traverse through the entire hierarchy of the Operations Hub's object model and select the required entity (i.e. any of following Object-Type, Object or individual sensor). The browser visualizes the hierarchical object model in a tree structure as per the following graphic:





As illustrated in the previous image, the Object Model shows the entire hierarchy with *DisplacementPump* Object-Type at the top level and the entire tree with the underlying Objects and the Variables within it.

#### **Notes:**

1. The Object model browser shows variables at Object level where there is a Historian sensor already configured against the variable in Operations Hub's Object model.
2. You can select only one entity at a time.

The configuration analytics page also consists of the Configuration panel, where you can either create a new configuration if it is not in place already, or edit the existing configuration. The configuration panel is as shown in the following image:



# Enabling Sensor Health Steps


The typical steps to be performed while configuring Sensor Health analytics are described in the following sections.


## New Configuration

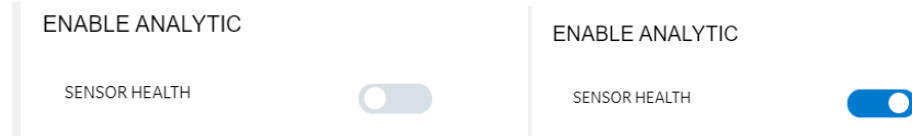
1. Open the Analytics Configuration app. The Analytics Configuration screen gets loaded. Here you can see the object browser capable of visualizing entire object model toward left side of the screen and configuration form towards right side of the screen


The screenshot shows the 'Analytics Configuration' application interface. On the left, there is an 'Object Browser' with a search bar and a tree view containing 'DisplacementPump', 'FWPumpStation', and 'Sample'. The main area on the right is the 'Configuration Form'. It features a toggle switch for 'ENABLE ANALYTIC'. Below this, the 'CONFIGURATION' section includes dropdowns for 'LEARNING DATE PERIOD' (set to 'Auto') and 'CENTERLINE' (set to 'Auto'). It also has range selectors for 'TREND ORANGE FROM' (0.5 to 0.7) and 'TREND RED FROM' (0.7 to 1.0). The 'ALERT' section contains 'WARNING FROM' (0.5 to 0.7) and 'CRITICAL FROM' (0.7 to 1.0), each with a 'PRIORITY' dropdown (set to 'Low') and a 'MESSAGE' field with a 'Hint Text' placeholder. A 'COMMON MESSAGE' field with a 'Hint Text' placeholder is at the bottom. A 'Save' button is located in the top right corner, and a 'Cancel' button is next to it.

2. Select the required entity from the object model for which the user has requirement to configure Sensor Health analytics. There are three levels, which you can proceed with the configuration:
  - a. Select the Object type to do a bulk configuration so that all the Objects and associated sensors get configured.
  - b. Select the Object to perform the configuration at equipment level and its associated sensors.
  - c. Select a Variable to perform the configuration at individual sensor level.

 **Note:** The configuration can be created only when the selected entity is shown on the configuration panel. An individual sensor can be configured differently compared the its parent object or object-type
3. For the first time configuration for a given entity, only default values get populated and visualized.

 **Note:** The Save button remains disabled for first time configuration for the given entity until the Analytic Sensor Health slider check box is enabled.
4. To start the new configuration for the entity, select the Enable Analytic Sensor Health slider check box.



 **Note:** After the above slider is enabled, the Save button gets activated to create a new configuration.

## Analytics Configuration

CONFIGURATION			
LEARNING DATE PERIOD	<div>Auto</div>		
CENTERLINE	<div>Auto</div>		
TREND ORANGE FROM	<div>0.5</div>	TO	<div>0.7</div>
TREND RED FROM	<div>0.7</div>	TO	<div>1.0</div>

1. Select a value for the Learning Date Period field from following options:
  - a. **Auto** – Learning model determines how much data volume require to learn. It depends on the data frequency like per second data, per minute data, and so on
  - b. **1 quarter** – Last one quarter data, that is 3 months of data from the date of configuration
  - c. **2 quarters** – Last two quarters data, that is 6 months of data from the date of configuration
  - d. **3 quarters** – Last three quarters data, that is 9 months of data from the date of configuration
  - e. **4 quarters** – Last four quarters data, that is 12 months of data from the date of configuration
  - f. **Custom** data period – To provide the exact from and to date. In this case, the user selects the 'Custom' value in the Learning Date period, the From and To Date fields appear where user can record the custom dates.


CONFIGURATION

LEARNING DATE PERIOD	Custom	FROM	dd-mm-yyyy		TO	dd-mm-yyyy	
CENTERLINE	Auto						
TREND ORANGE FROM	0.5	TO	0.7				
TREND RED FROM	0.7	TO	1.0				

2. Select value for Centerline – With this our analytical model try to learn what is the set point for the sensor based on the past data.
  - a. **Mean (Average)** – Arithmetic average. If used as a centerline to evaluate the performance of the sensors, then please select this value.
  - b. **Median** – If your organization, based on the data analysis, found that the average is not good enough to classify the centerline for sensors, then the next simple recommendation is to use median.
  - c. **Auto** – Learning model determines from underlying past data on what can be the centerline for the given sensor. In the case that you are not sure, it is recommended to leave this setting at Auto. Setting it to Auto takes Mean calculation at the backend.
3. Select a value for the Trend Orange field from following options:
  - a. The Warning color is fixed to Orange.
  - b. You can select “From” values from a range of 0.1 to 0.8.
  - c. The “To” values range must at least 0.1 more than the “From” value and it max out at 0.9.

 **Note:** Logic for the “To” value is ‘less than’ the selected value.

For example, if the “From” value is selected as 0.6 and the “To” value is selected as 0.8, then for any value equal and greater than 0.6 and the value less than 0.8, the trend line color will be rendered as orange, when showing an anomaly enabled on Trend view.

 **Note:** These values are the Sensor Health Index. The Sensor Health analytics create a composite index values to determine the anomalies in the sensor signal. The higher the Sensor Health Index values, it is the most likely to have found anomalies with higher degree of accuracy.

The Trend Orange color setting is the value that gets leveraged by the Trend view; you can see the value of the trend getting changed if the Sensor Health is enabled and there are Sensor Health Index values matching the configuration saved by user for given sensor.

4. Select a value for the Trend Red field from following options:
  - a. The Critical color is fixed to Red.

- b. You cannot select values. These values are dependent on values selected for Trend Warning Color.
- c. The “From” value is the same as “To” value from Trend Warning Color, however the logic is making use of those values as the Equal to or Greater Than.
- d. To value is fixed to 1.0. The logic is to use it for ‘equal to or less than’

For example, if a value is 0.8 and the “To” value is 1, then for any value equal and greater than 0.8 and a value equal or less than 1, the trend line color rendered as red, when showing an anomaly enabled on Trend view.

The Trend Red color is the setting where the higher degree of the Sensor Index values is used to render the trend view with the Red color showing higher anomaly detection

## Alert Configuration

After the Configuration block for analytics is configured, you can configure the Alerts section.

The Alerts section is as shown in the following snapshot:

ALERT							
WARNING FROM	0.5	TO	0.7	PRIORITY	Low	MESSAGE	Hint Text
CRITICAL FROM	0.7	TO	1.0	PRIORITY	Low	MESSAGE	Hint Text
COMMON MESSAGE	Hint Text						

In the Alert setting, the Warning and Critical alert configuration is the trend color configuration, where:

Warning – “FROM” and “TO” value logic:

- Select the “From” value for the Warning between 0.1 to 0.8.
- Select the “To” value for the Warning between 0.2 to 0.9. The value must at least be greater by factor of 0.1 compared to the “From” value.

For example, if the “From” value is selected as 0.6 and the “To” value is selected as 0.8, then for any value equal and greater than 0.6 and a value less than 0.8, the warning alert gets logged.

Critical – “FROM” and “TO” value logic:

- Select a “From” value that is same as the “To” value of Warning alert with logic of Equal to or Greater Than applied.
- “To” value is fixed to 1.0. The logic is to use it for Equal to or Less Than.

For example, if the “From” value is 0.8 and the “To” value is 1.0, then the for any value equal to or greater than 0.8 and the value is equal or less than 1.0, the critical alert gets logged.

You can select the priority if the alert in both Warning and Critical type of alerts:

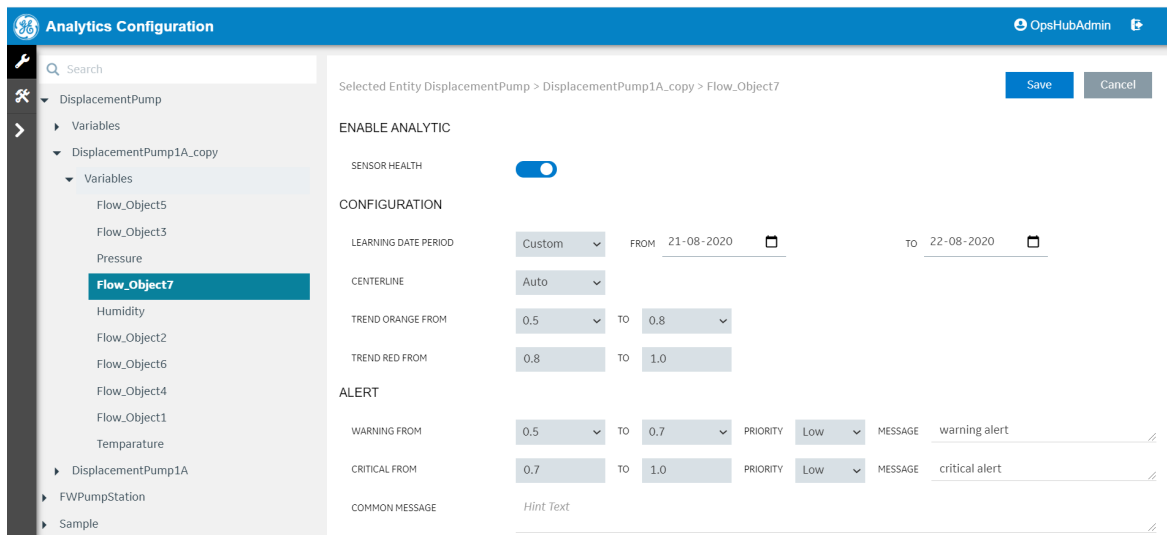
- Low
- Medium
- High

 **Note:** For the current release, these values are based on user inputs:

1. You can associate an individual message for each Warning and Critical alert, however it remains a non-mandatory text field for both type of alerts.
2. You can also use a common message that can be associated with both type of alerts. This is a non-mandatory free-text field.
3. If you click on the Save button, the record gets saved and an informational message appears.
4. If you don't want to save the changes, click Cancel and all the field values revert to default/last saved values.

## Edit/Update Configuration

For the selected entities from the object model that the analytics are already configured on, the config panel loads with the existing values. A sample existing configuration can look like the following figure:



The screenshot displays the 'Analytics Configuration' interface for a selected entity 'Flow\_Object7'. The left sidebar shows a tree view of the object model, with 'Flow\_Object7' selected under 'DisplacementPump1A\_copy'. The main panel shows the configuration for 'Flow\_Object7' with the following settings:

- ENABLE ANALYTIC:** A toggle switch is turned on.
- SENSOR HEALTH:** A toggle switch is turned on.
- CONFIGURATION:**
  - LEARNING DATE PERIOD:** Custom, FROM 21-08-2020, TO 22-08-2020.
  - CENTERLINE:** Auto.
  - TREND ORANGE FROM:** 0.5 TO 0.8.
  - TREND RED FROM:** 0.8 TO 1.0.
- ALERT:**
  - WARNING FROM:** 0.5 TO 0.7, PRIORITY Low, MESSAGE warning alert.
  - CRITICAL FROM:** 0.7 TO 1.0, PRIORITY Low, MESSAGE critical alert.
  - COMMON MESSAGE:** Hint Text.

You can update the value as required. After you click Save, the changes are stored.

Background actions:

You change either the Learning Date Period or Centerline parameter, re-learning is triggered. The post analytics gets deployed again.

 **Note:** In case user disables the Sensor Health by toggling controller for an existing configuration, in background it disables the Sensor Health analytic for that selected entity.

## Bulk deactivation

1. **Object Type Level** - If you select an entity at Object Type level and choose to deactivate the Sensor Health, then Sensor Health analytics at all the objects and its variable below the selected Object Type, are going to be disabled. An Exception – as per the precedence logic, the only those variables or objects not having any impact of such change are where the user has done custom configuration already.
2. **Object Level** - If you select an entity at Object level and choose to deactivate the Sensor Health, then Sensor Health analytics at all the variables below the selected Object are going to be disabled. An Exception – as per the precedence logic, only those variables not having any impact of such change are where the user has done custom configuration already.

## Cancel

When the Cancel button is clicked, any unsaved changes made on the configuration form is reverted back to its last known values.

- If Cancel is clicked while trying to add a fresh configuration for a selected entity, all the input fields are reverted to their default values.
- If the Cancel button is clicked for a variable with previous configuration and if anything is altered on that page, then all the values on that page get reverted to the last Saved valued.

## Deployment Status View

When many sensors are configured and anomalies are detected, you may be unsure of the configuration as well as deployment of the analytic. To overcome such scenarios, we have the Deployment Report grid. This grid can provide necessary operational information about the various sensors configured for Sensor Health analytics.

The Deployment Report page is a central location where all the Sensor Health analytics configured on the Analytic Configuration page gets listed in a grid. The Deployment grid provides details of the Object-Type, Object, Variable, Deployment Status, and Error Message if any of the analytics that has configured with a provision to search for analytics. The Deployment Status report page is as shown in the following image:



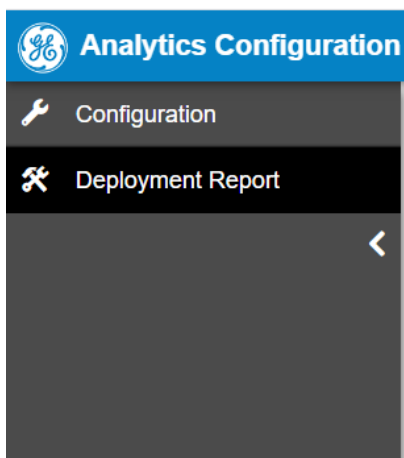
Analytics Configuration

Object Type Name	Object Name	Variable	Deployment Status	Error message	Deployment Time
Pump	Pump_1	Motor_Vibration_2	Running		
Slitter	SampleSlitter	B3_Width	Running		
Slitter	SampleSlitter	A1_Width	Running		
Slitter	SampleSlitter	Tension	Error	Exception: Sensor data is binary. This sensor tag is not suitable for Sensor Health.	
DisplacementPump	DisplacementPump1A	Flow_Object5	Running		
Slitter	SampleSlitter	A5_Width	Running		
Slitter	SampleSlitter	B4_Current	Running		
Slitter	SampleSlitter	B2_Current	Error	Exception: Sensor has a constant value. This sensor tag is not suitable for Sensor Health.	
Slitter	SampleSlitter	B5_Width	Running		
Slitter	SampleSlitter	B5_Current	Running		

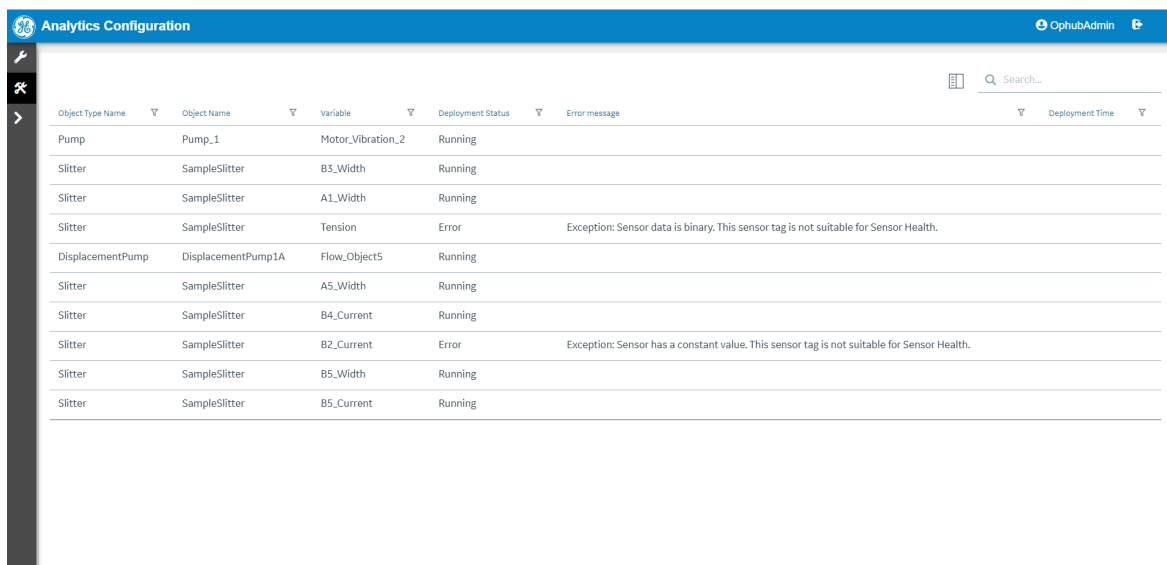
## Steps to Use Deployment Status View

After the configuration is saved or updated, the deployment status of any configured entity can be seen on the deployment report page. To navigate to deployment report page, click on the deployment page icon on the navigation menu. The different Status of Deployment are

- **Learning** – The Sensor Health analytic is in learning mode
- **ReadyToRun** – The Sensor Health analytic is ready to get deployed
- **Running** – The Sensor Health analytic has deployed and running
- **Error** - Any error in any of the above-mentioned steps as well as any basic discrepancies in sensor configuration



A Sample deployment status page is as shown in the following figure:



The screenshot shows the 'Analytics Configuration' interface. It features a table with columns: Object Type Name, Object Name, Variable, Deployment Status, Error message, and Deployment Time. The table lists several objects, including a Pump and multiple Slitters, with their respective variables and deployment statuses. Two rows show 'Error' statuses with specific messages about sensor data suitability.

Object Type Name	Object Name	Variable	Deployment Status	Error message	Deployment Time
Pump	Pump_1	Motor_Vibration_2	Running		
Slitter	SampleSlitter	B3_Width	Running		
Slitter	SampleSlitter	A1_Width	Running		
Slitter	SampleSlitter	Tension	Error	Exception: Sensor data is binary. This sensor tag is not suitable for Sensor Health.	
DisplacementPump	DisplacementPump1A	Flow_Object5	Running		
Slitter	SampleSlitter	A5_Width	Running		
Slitter	SampleSlitter	B4_Current	Running		
Slitter	SampleSlitter	B2_Current	Error	Exception: Sensor has a constant value. This sensor tag is not suitable for Sensor Health.	
Slitter	SampleSlitter	B5_Width	Running		
Slitter	SampleSlitter	B5_Current	Running		

## Sensor Health Alert View

Sensor Health analytics can monitor the sensor in near real time. When anomalies get detected, you may not be looking into the trend view of that sensor. To address this issue, Sensor Health analytics incorporated an Alert View, in the Configuration Analytics. The Sensor Health user can also configure alerts as Warning and Critical. Per the configuration, the near real-time analytics generate index values if found in range of the alert configuration, record an alert. The Alert view is the screen where you can view those alerts and have some interaction with it.

The Alert screen is a central location where all the alerts generated by Sensor Health analytics get listed in a grid view. You can see all the alerts for last one month as a default condition.

### Steps to Configure the Alert View

After opening the Sensor Health app, you can see the Alert page. All the Sensor Health alerts get listed in a grid, sorted in descending order on the time of the recorded alert. The latest alert appears on top. By default, alerts are recorded in the past, one month from current date, and time get visualized.

You can filter the alerts based on the user feedback and the generation timestamp of the alert:

- **All** alerts – displays all the alerts irrespective of their user feedback.
- **Active** alerts – This filter option is configured to show only alerts where the user has not taken any actions yet.

- **Inactive** alerts – This filter option is configured to show all the alerts where the user has either recorded feedback by clicking Reject or marked the record as deleted by clicking Ignore.

An example of the All Alerts display is illustrated in the following figure:

SEVERITY	ALERT ID	TIMESTAMP	PRIORITY	CLASSIFICATION	TAG	OBJECT	MESSAGE	ACTIONS
critical	15	7/24/2020, 8:10 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	
critical	30	7/24/2020, 9:04 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	
critical	45	7/24/2020, 9:06 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	

More Actions

SEVERITY	ALERT ID	TIMESTAMP	PRIORITY	CLASSIFICATION	TAG	OBJECT	MESSAGE	ACTIONS
critical	15	7/24/2020, 8:10 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	
critical	30	7/24/2020, 9:04 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	<div> <div> Ignore Reject </div> </div>
critical	45	7/24/2020, 9:06 AM	High	alertDetails	Flow_Object4	DisplacementPump1A	message	

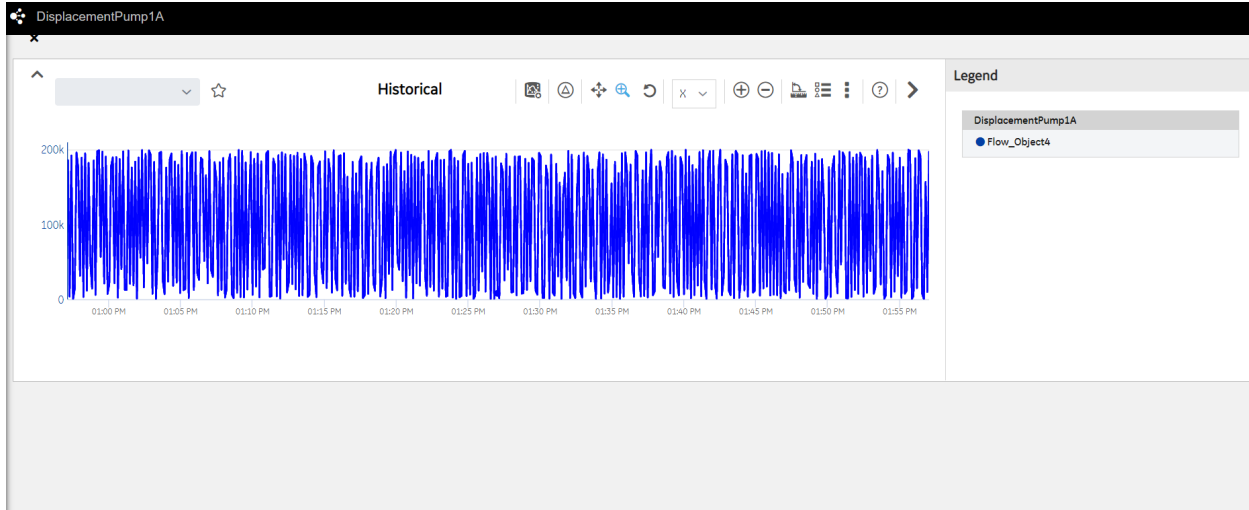
You can perform the following actions on the displayed alerts:

- **Ignore** –Click Ignore to mark the alert for delete. It is equivalent to deleting the alert however record doesn't get physically deleted. It becomes inactive alert.
- **Reject** – Click Reject to record the feedback about an incorrect alert or excessive alerts. This feedback is leveraged to fine tune the analytical model. The record becomes an inactive alert.

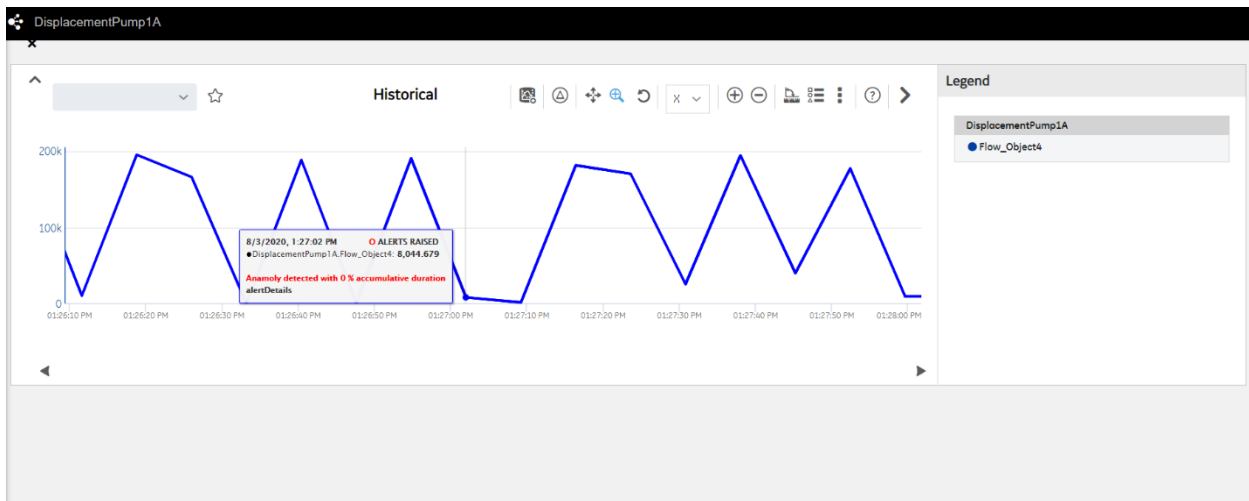
**Note:** Inactive alerts only have details as their user actions, while active alerts have all user actions visible.

- **Details** – Click Details to navigate to the Trend View chart. On the Trend card, you can view the alert as a marker on the trend line in the center of the graph, along with some data prior and post alert generation, with a timestamp when applicable.

An example of the Details display is illustrated in the following figure:



The alert is represented as a marker point on the trend. A Zoomed in trend card with marker looks like the example in the following figure:



Hovering over the alert marker displays information about the alert as shown in the above pop-over.

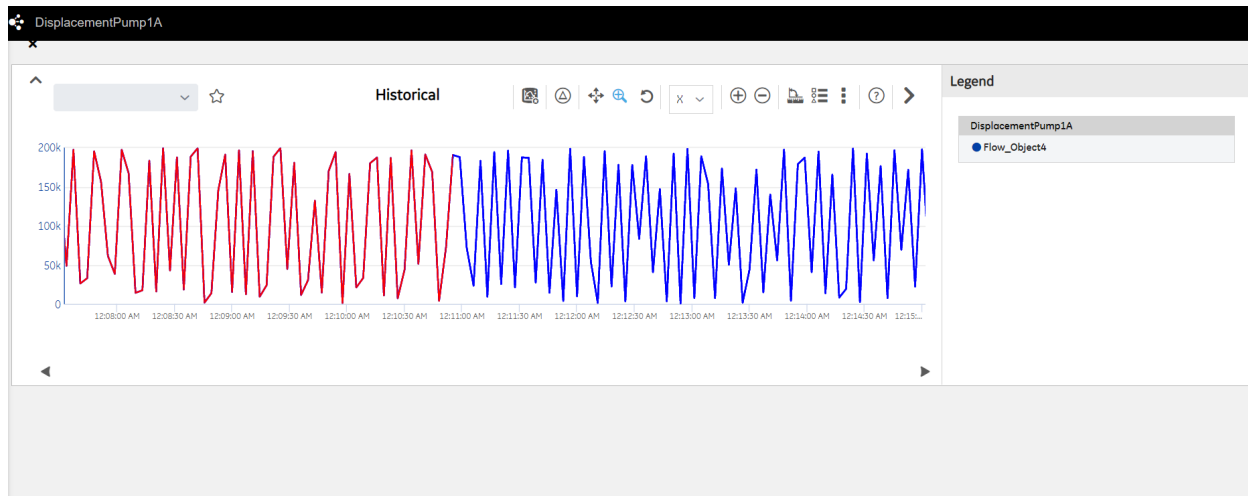
## Sensor Health Trend View

The trend card Sensor Health plugin is a modification to the existing Historian plugin. The trend card has a Sensor Health mode, which enables the user to view the tag data color coded based on the calculated Sensor Health Index values. The color range is decided by the user during the time of configuration. The trend card also displays markers for alert raised when viewed in the Sensor Health mode. This mode can be disabled by the user.

 **Note:** The trend chart is configured to show only one sensor at a time.

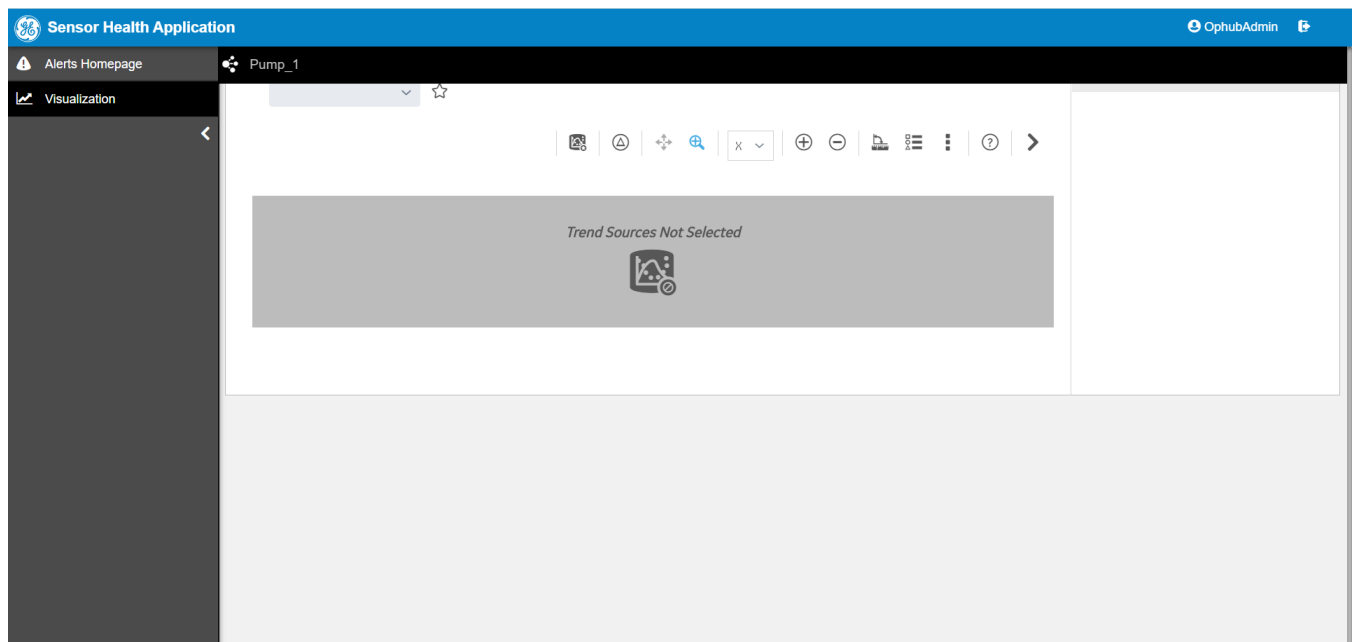
More detail about the trend card can be found here:

[https://www.ge.com/digital/documentation/opshub/windows/windows/c\\_about\\_trend\\_widget.html](https://www.ge.com/digital/documentation/opshub/windows/windows/c_about_trend_widget.html)



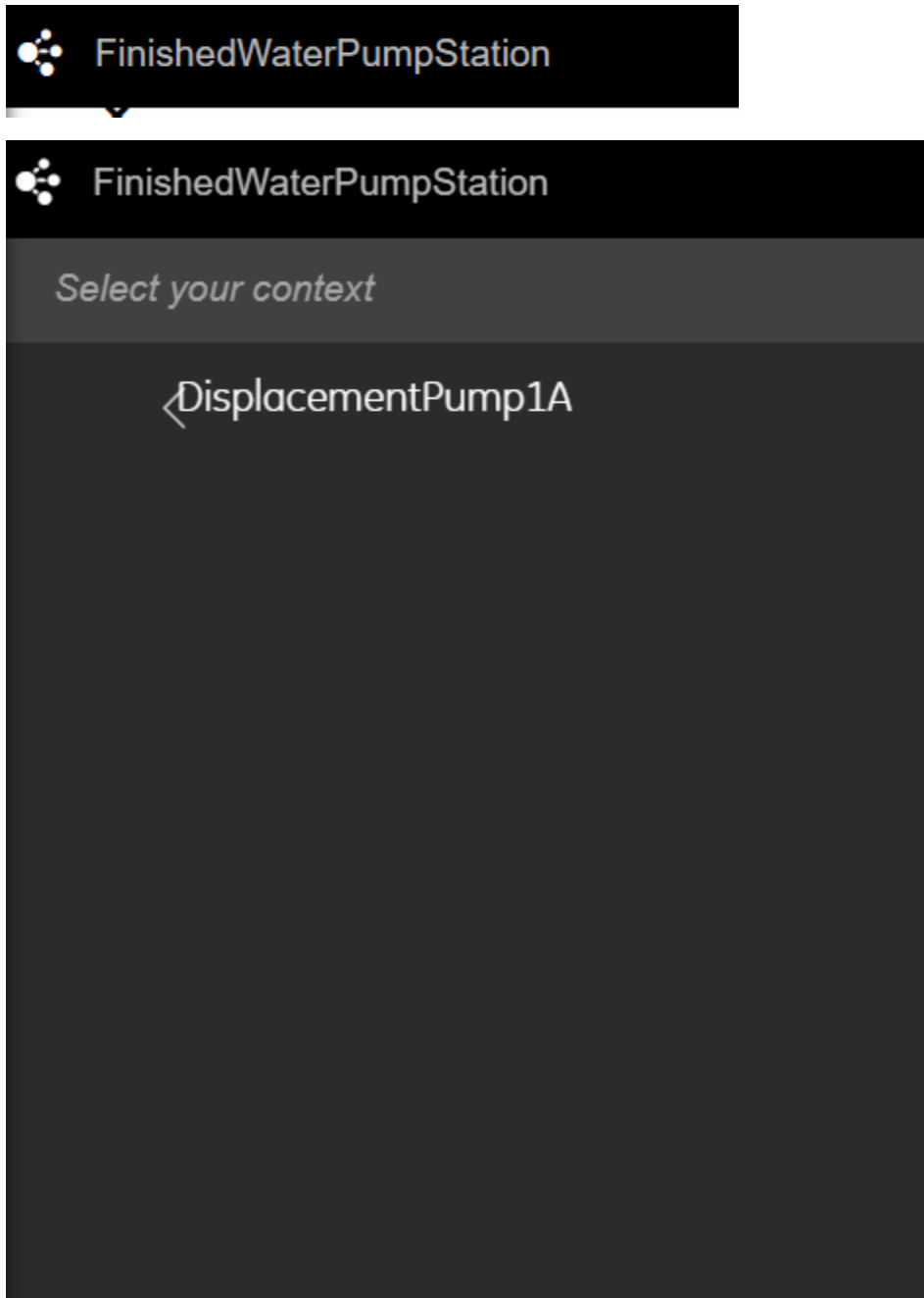
Navigating to the visualization page directly –

Click on the Visualization menu on the left pane to get navigated to page where Trend Chart get visualized.




The visualization page has two components, the breadcrumb and the trend card.

You can use the breadcrumb to set the context of the trend card. After the context is selected, the list of trendable properties under that variable is fetched and the data for the first tag is plotted by default.



More information about the trend card can be found in the below link:  
[https://www.ge.com/digital/documentation/opshub/windows/windows/c\\_about\\_trend\\_widget.html](https://www.ge.com/digital/documentation/opshub/windows/windows/c_about_trend_widget.html)

# Steps to Configure the Trend View

Clicking the  trend configuration will enable the user to configure the trend card for time duration, sample duration and other properties. The details on how the trend card can be configured can be found in the link provided below:[https://www.ge.com/digital/documentation/opshub/windows/windows/t\\_configure\\_trend\\_chart\\_settings.html](https://www.ge.com/digital/documentation/opshub/windows/windows/t_configure_trend_chart_settings.html)

 **Note:** The trend card for the sensor health does not support live mode.

See the following picture for an example:

Trend Configuration

Mode

Historical

Duration

30M1H2H4H8H24HCustom

0 : 1 : 0 : 0

Start

2020-10-22 17:58:55

Sampling Mode

Trend To Raw

Sampling Increment

By Time1Second

Notes


Items

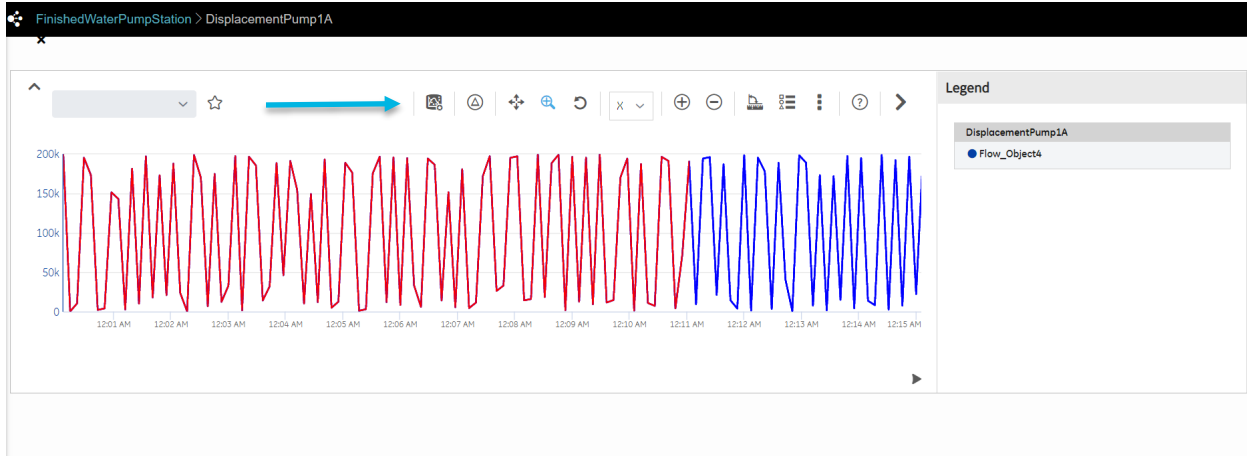
AssetsFinishedWaterPumpStation

Source Type

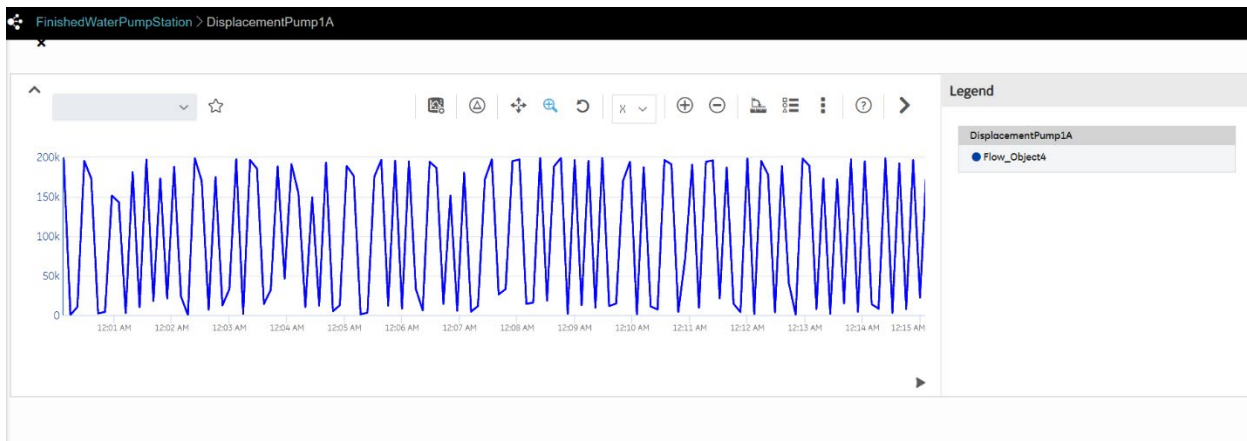
DischargePressureH

HPH

Clicking the sensor button  will enable or disable the sensor anomaly view on the trend chart. An example of the enabled anomaly view is shown in the following figure:



An example of the disabled anomaly view is shown in the following figure:







## About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.