



Sensor Health V1.0

Release Notes



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What's New / Key Features

Sensor Health is a new offering from GE Digital. Sensor Health is the solution by which individual sensors can be monitored for anomalies. It's a univariate analytical solution which internally leverages multiple analytic models to identify various anomalies/fault 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. It also provides two visualization methods: 1) the trend view with capability to super impose the color coding to visually verify possible anomalies and 2) an alerts view to list out various alerts based on the configuration.

Sensor Health is developed as a plugin to Operations Hub that can be downloaded and installed on top of Operations Hub. Sensor Health come with two applications. These two apps get listed in application menu within Operations Hub when you install the Sensor Health package. There is no action required from user to configure these apps as the installation routine takes care of those.

Detecting and Visualizing the Sensor Data Faults and Errors in Operations Hub

Sensor Health Configuration View

Sensor Health is a solution by which each of the individual sensors can be monitored for anomalies. It's a univariate analytical solution which internally leverages multiple analytic models to identify various anomalies/fault 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.

The Configuration page is the starting activity you must perform to get sensors enabled for monitoring. The configuration activity can be overwhelming and require expertise with data for analytical configuration. However, at GE Digital, we are aiming to give the power back to the non-data scientist to work with data and get insights from that data to take some quick decisions on operational level.

The Sensor Health Analytics Configuration page requires minimal inputs to quickly enable the monitoring for the sensor. The configuration can be done in bulk by configuration at object type level. There is also the capability to configure each critical equipment and/or sensors individually.

This activity is developed in such a way that configuration requires minimal knowledge to start; all settings except the Alert messages text have default value associated with those fields.

Sensor Health Trend View

Update trend views is where you can visualize the sensors when Sensor Health is activated. Colored overlays indicate possible anomalies analytics found in the background for a given sensor.

In the Configuration page, you can specify the limits on the Sensor Health Index (SHI) and configure Orange and Red color settings. When the chart gets rendered for a configured sensor, the color of the trendline changes whenever there is match with the Sensor Health Index and set threshold.

Alerting the User on Deviation and Anomaly Detection

Sensor Health analytics can monitor the sensors in near real-time. If there are any anomalies detected, you may not be looking into the trend view of that sensor. To address this, Sensor Health analytics incorporate an alerts view. A Sensor Health user can also configure alerts as Warning and Critical, per the configuration and get near to real-time analytics generated and alerts generated if index values are in range of alert configuration. The Alert view is the place where you can view those alerts and have some interaction with them.

System Requirements

The Sensor Health is a plugin for Operations Hub. It can be downloaded installed after installing Operations Hub.

Supported Operating Systems

You can install Sensor Health on the same operating systems supported by Operations Hub:

- Microsoft Windows Server 2016
- Microsoft Windows Server 2019

Software Requirements

- Operations Hub 1.7 or later. Operations Hub should already be installed and configured before you install Sensor Health.
- Historian 8.0 or later. Historian should already be installed, configured, and added as the data source in Operations Hub before you install Sensor Health.
- Historian Client Tools must be installed on the machine that Operations Hub is installed.
- Microsoft SQL Express 2019 is a prerequisite for installation.

Hardware Requirements

Sensor Health with a 1000 sensors limit has similar requirements as Operations Hub:

- Minimum specification of 4 Core 2 GHz Processor with 16 GB RAM 2333 MHz
- Recommended 32G 2600MHz and an 8-core CPU 2Ghz –4GHz for better performance

Compatibility with other GE Products

Product	Required Version
Historian	8.0 and higher
Operations Hub	1.7
CSense	7.0 and higher



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