PRODUCT INCREMENT 21

ABB Ability™ Smart Sensor

What’s new?

Change organization – new design in the web portal

Users can now change the organization in the web portal by clicking on the name of the current organization in the main ribbon. After changing the organization, the user will be logged out both from the web portal and the mobile app. After log in, the organization has been changed.

Date selection range – new design in the web portal

There are now three different options to select date range in the portal as shown in the picture below. In addition, users can select the date range simply by clicking on the desired start and end dates in the calendar. The date selector is accessible from the Event log and Operational parameters tabs in the Asset details page in the web portal.
New feature – auto-detect alert/alarm levels

Users may now let the portal calculate the alert/alarm levels automatically. The calculation is based on historical data. Users can select the time interval for which the historical data will be retrieved.

**Alert/Alarm Level Configuration**

**Overall Vibration**

| ! Alert from | 4.5 | Alert notifications | OFF |
| ! Alarm from | 11.2 | Alarm notifications | OFF |

Select a time interval for which historical data will be retrieved and used in the automatic calculation of alert and alarm levels. If historical data for the past 24 hours or more is not available, then auto calculation will not be possible.

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**Event log changes in the mobile application**

The reason for closing an event is now visible in the event log while the respective event is in a closed state. This helps the user to get a better overview of all closed events.
Event log changes in the portal

A comment can now always be added when closing an event, irrespective of the closing reason.

Unmonitored assets

Unmonitored assets, i.e. assets without a Smart Sensor, can now be registered in the Smart Sensor web portal and mobile app.

The moderators of an organization can create an unmonitored asset in the organization management menu by first choosing an asset group and then selecting “Add un-monitored asset.”

A sensor can be commissioned to monitor an unmonitored asset by selecting the unmonitored asset in the Smart Sensor mobile application.

Application sensor menu items reorganized

In the Smart Sensor mobile application, the sensor menu items have been reorganized for better readability.

On demand load measurement can be triggered from portal

User can trigger on demand load measurement operation from the web portal. When the “Load measurement” button is visible in the assets Sensor Properties tab, the feature can be used. Executing the load measurement can take up to 30 minutes. The sensor page needs to be refreshed to see the load operation results. Please note that the feature works directly from the web portal if the gateway has been the last device downloading measurements from the sensor. Users are also able to trigger load measurements with the mobile application. “On demand measurement” is the last operation of the load measurement process and the results are transferred to the web portal along with other measurements recorded by the sensor.

Raw data collection button

The raw data collection button allows organization moderators to collect the raw data of an asset. The collection happens automatically if there is a gateway on site that is actively reading the sensors. In case there is no gateway, the raw data can be collected manually using the Smart Sensor mobile application.
Once the raw data has been collected, it is automatically used by the back end to calculate the discrete Fourier transform (commonly referred to as the frequency spectrum or the FFT) of the vibration. The frequency spectrum is displayed in the Vibration FFT tab in the web portal.

In addition to calculating the frequency spectrum, the back end also generates an instant asset report from the collected raw data. The instant asset report aids the user in interpreting information made available in the portal and provides a more detailed insight of the asset’s condition. This report is available in the Reports tab in the web portal. The instant asset report contains the plots available in the portal. Moreover, the instant asset report provides an overall equipment view, which reflects the asset’s performance, frequency domain signals, time domain signals, statistical values, envelope analysis, and anomaly detection.

The raw data retrieval and calculation processes are not instant. Please allow some time after requesting the raw data for the system to collect the data and generate the frequency spectrum and instant asset report. **Attention!** Using the raw data collection feature impacts the battery life of the sensor and should, therefore, only be used rarely.

**Smart Sensor for Motors firmware 9.1 available**

**Improvements:**

- Support for synchronous motors
- Introduction of running direction reversal KPI. To know the exact running direction, the sensor needs to be calibrated to detect actual running speed with mobile application.
- Running speed measurement improvement

**Bug fixes:**

- Bluetooth operation stabilization
- Sensor activation procedure correction
- Power saving feature works also in GMT 0 time zone
- Correction to Number of starts KPI functionality

**Subscriptions harmonized under ABB Ability™ Smart Sensor subscription**

There will no longer be asset-specific subscriptions. ABB Ability™ Condition Monitoring for Motors and ABB Ability™ Condition Monitoring for Pumps subscriptions are renamed to be ABB Ability™ Smart Sensor subscription. Functionality, features availability and subscription expiry dates will remain as they are.

**Minor fixes for the texts and pop-ups and improvements for the usability**

A few small changes that make the user experience smoother.