Jumpstart Your Condition Monitoring Program with the Fluke 3563 Analysis Vibration Sensor

The piezoelectric sensor technology with software analytics, easy 3563 sensor setup process, and expert professional support enable you to build a robust condition monitoring program quickly.

The benefits of high-level customer support are often undervalued. Fluke Reliability 3563 Analysis Vibration Sensor customers will receive guidance, support, and training from our experts throughout the configuration, commissioning, and installation process.

Vibration analysis eliminates common operational pitfalls and better ensures a successful sensor and condition monitoring program — resulting in immediate value and growth of your vibration analysis program.
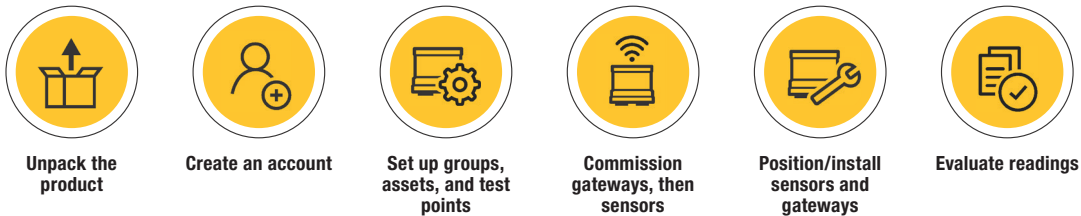

Unpack the product — Create an account — Set up groups, assets, and test points — Commission gateways, then sensors — Position/install sensors and gateways — Evaluate readings

Figure 1. The 3563 Analysis Vibration Sensor configuration, commissioning, and installation sequence.

Simple sensor setup plus expert support equals a quick start

The software used to display the data from the 3563 sensor is called eMaint condition monitoring, and it's where users enter critical and semi-critical equipment information and configure the corresponding sensor. It takes just minutes to enter your data and get things up and running.

Once the information is entered, users can see an overall view of equipment health via dashboards and vibration trending graphs. These insights enable experts to easily identify trends and quickly determine next steps depending on what the sensor data is telling them.

- Monitor and track machine health at fixed intervals

- Identify a particular fault and pinpoint the machine causing it

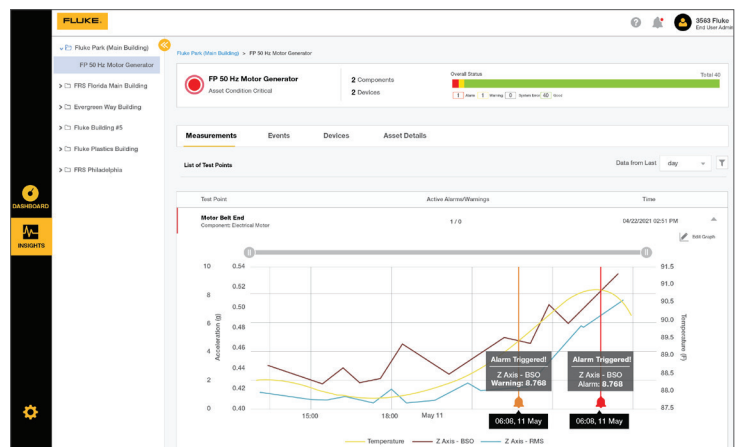- Determine the fault severity based on measurement readings

Figure 2. Configure the eMaint condition monitoring software graph to show data from all three axes (X, Y, Z) and show the Bearing Severity Overall trend — an exclusive 3563 sensor feature.

The software has three primary tools:
Dashboard, Insights, and Configuration. Each one has a unique purpose.

DASHBOARD INSIGHTS ⚙

DASHBOARD:

What it does

When you click the dashboard icon, it reveals an at-a-glance display of the overall condition of your assets based on the wireless vibration sensor readings. The graphic below shows the condition of six assets monitored by sensors.

- 2 assets are in Good condition – Green
- 2 assets are in Critical condition – Red
- 1 asset has a Warning – Orange
- 1 asset has a System Error – Black

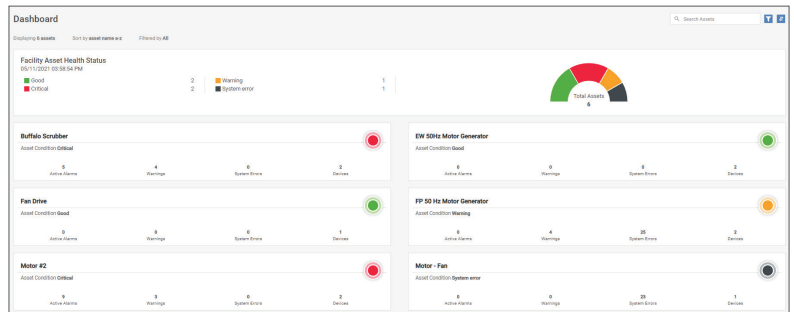Click any of the colored buttons, such as the Red Motor #2 button, and you'll go to INSIGHTS.

Figure 3. The dashboard provides a snapshot of each asset's condition based on the 3563 sensor data

INSIGHTS:

What it does

This section provides comprehensive information about sensor events/active alarms and warnings, monitored devices, and details about each asset's current state. Users can apply the data to decide next steps.

In this instance, Motor #2 shows a change in condition beyond a threshold, triggering email notifications to be sent to designated reliability team members.

Early warnings of a potential asset malfunction ensure you have enough time to take corrective action before a catastrophic failure.
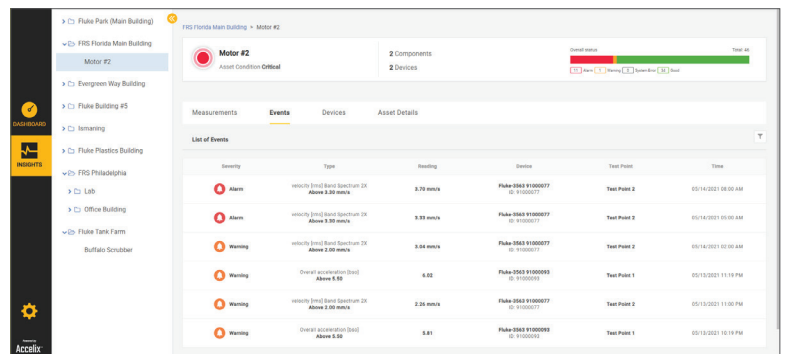

Figure 4. The events tab shows the details of the Motor #2 notifications
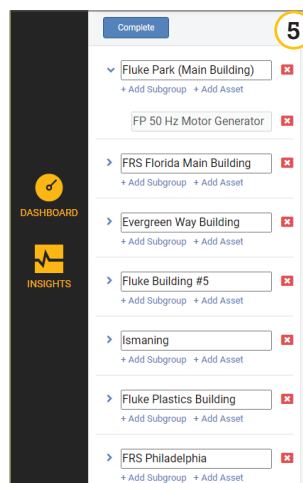
CONFIGURATION:

What it does

You start the configuration process by creating equipment groups and subgroups.

Next, you'll add equipment details, test points, set tasks and alarms, and device setting preferences.

Figure 5. Configuration first steps include adding groups, subgroups, and assets

Figure 6. Accurate asset detail inputs such as motor speed are critical to enabling reliable, quality data.

Figure 7. Add device setting details to the component, including sensor placement.

Figure 8. Choose "skip" to input custom thresholds

Figure 9. Threshold values appear based on initial sensor configurations

Figure 10. Being strategic about how often you receive data can elongate sensor battery lifetime

Asset Details

Add the asset name, machinery ID, description, and RPM. If you don't want to complete all entries at once, you can still move forward and return to this section later.

With the primary asset data entered, the user moves to the "next" task, adding component details, followed by test points.

Components and Test Points

During the configuration process, you created equipment groups and subgroups and entered asset details. As a result, you'll see your components displayed.

In the dropdown menu, you'll enter additional component information. Once completed, you can add the test points indicating where you want to place the sensor on the machine.

Tasks, alarms, and preferences

After you save the test point information, you'll have the opportunity to select whether to apply the 3563 Analysis Vibration Sensor's auto-generated thresholds or to enter custom alarm limits.

If you decide to apply the recommended alarm limits, you'll see that the data auto-generates based on the asset details you entered during configuration and ISO 10813 specifications.

Device Settings

This section is where users determine how often they want the system to collect measurements and send measurement reports. You can adjust the intervals to reflect changing needs at any time.

Optional analysis software

LIVE–Asset™ IQ Cobalt is an optional software you can add to your system. Cobalt recognizes potential failures and provides proactive maintenance recommendations thanks to a library containing decades of vibration data patterns. Contact sales to learn more or to obtain licenses for Cobalt software.

How the Fluke 3563 Sensor data flows

The Fluke 3563 Analysis Vibration Sensor data is transmitted by a short–wave wireless technology standard to the Fluke gateway and then to the Accelix Data Platform via Wi–Fi or an Ethernet connection. A reliability professional analyzes the data, event, and machine condition via the eMaint condition monitoring web application.

As you start receiving data, you'll understand which data matters most and what it's telling you. You might decide to fine–tune your data intervals. If you're receiving too much information and/or having trouble comprehending the data, Fluke Reliability experts can help.
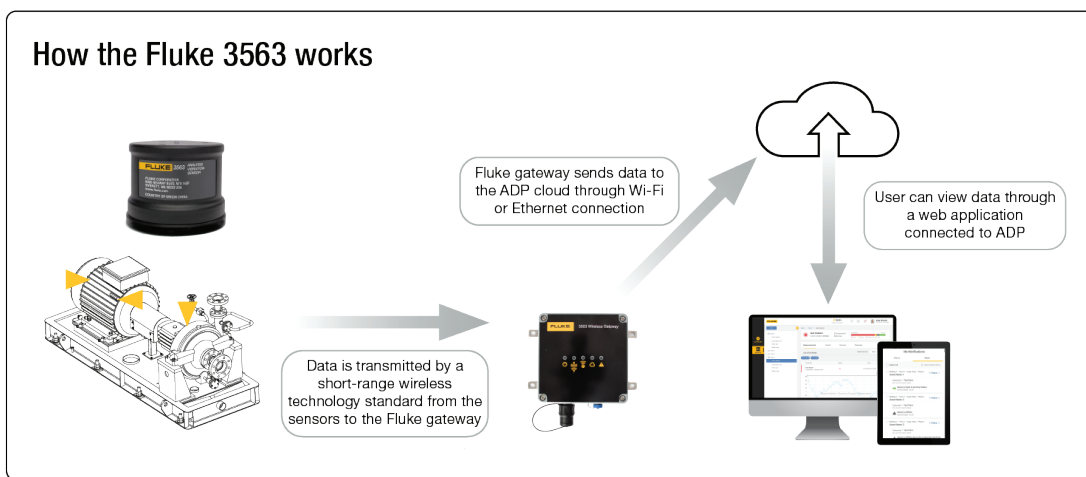

How the Fluke 3563 works

Fluke gateway sends data to the ADP cloud through Wi-Fi or Ethernet connection

User can view data through a web application connected to ADP

Data is transmitted by a short-range wireless technology standard from the sensors to the Fluke gateway

Figure 11. A single gateway communicates with up to 20 sensors

Glossary of important terms

- **eMaint Condition Monitoring** –The software where users configure the machinery to be monitored, including critical asset details such as motor speed, components, and sensor test point locations.
  - Delivers rich data insights rapidly
  - Provides detailed information across a wide range of frequencies
  - Enables experienced users to pinpoint where action is required
- **LIVE-Asset™ IQ Cobalt** is an optional (sold separately) automated software system that leverages predefined failure patterns to make maintenance recommendations when it recognizes familiar vibration response patterns.
- **Gateway:** The system gateway is the central data bridge between your 3563 Analysis Vibration Sensors and the Accelix Data Platform.
- **Accelix Data Platform (ADP):** Accelix is an open cloud platform that connects maintenance software, equipment, and critical plant systems. It is the underlying backbone/architecture of the eMaint condition monitoring software and where functionality updates take place.