

Fluke 3563 Analysis Vibration Sensor

Wireless vibration sensor for machine fault analysis



BEST PRACTICE SENSOR FOR CONNECTED RELIABILITY

The Fluke 3563 Analysis Vibration Sensor delivers a range of features, from performance tracking to fault analysis.

Leverage auto-generated or customizable thresholds based on machine type to allow your technicians, regardless of experience, to immediately gather insights and take the time-sensitive steps necessary to avoid unplanned downtime.

The 3563 wireless sensors help ensure four essential components of a reliability program:

1. Improved uptime with lower costs
2. Data collected from the most critical machines
3. Integration of answers on a common platform shared with everyone on the team
4. Support from condition-based maintenance experts to help you start, implement, and maintain your new program.

The Fluke 3563 Analysis Vibration Sensor combines high-frequency piezoelectric sensor and MEMs sensors with data analysis software to improve failure detection and enable maintenance teams to track and analyze asset vibration readings continuously. It enables the monitoring of an extensive portfolio of production-critical and semi-critical assets.

Vibration data is transmitted via Bluetooth Low Energy to the gateway and wirelessly to the cloud. The information is viewable in eMaint condition monitoring software. With a single view, you can assess a facility's overall asset health or do a deep dive into the health of a specific asset.

A unique floating architecture, auto-generated thresholds based on asset details and alarm notifications combine with insightful software to help you identify faults that spur quick action. Early warnings of potential asset malfunction ensure enough time for corrective action before a catastrophic failure. As a result, users are assured 24/7 whether machines are running at high performance, extending their life and reducing operating and maintenance costs.

Using a condition monitoring system in conjunction with this powerful sensor, maintenance teams can build a holistic approach—one that enables them to make decisions and schedule work based on the criticality of the machine and what the data is saying, not just on the calendar.

Rather than dedicating equal time to each asset, condition monitoring systems allow teams to focus on the machines most important to a facility's operations. A maintenance technician or engineer can catch a potential catastrophic failure by continuously monitoring those machines before it occurs.





Use the Fluke 3563 with Our Remote Condition Monitoring Service

Fluke Reliability eases the adoption journey for customers and helps maximize the success of their condition monitoring program. Our Remote Condition Monitoring Service offers direct access to service experts with decades of industry knowledge to help guide them on their reliability journey. You can also use the Fluke 3563 with our condition monitoring service.

It gives clients access to data analytics, insights on asset status, guided recommendations for corrective actions, and a host of other benefits – all performed remotely by Fluke Reliability experts, as an extension of your own team.

Detect faults early, improve your maintenance planning, reduce costs and ultimately increase the lifespan of your machinery and avoid unplanned downtime with our Remote Condition Monitoring service.

Types of Remote Condition Monitoring services include Continuous Event Monitoring, Periodic Condition Assessments and Remote Expert On-demand, all customizable depending on the frequency and depth of insights you require.

Additionally, there are options to add other expert services such as training, implementation, corrective actions, etc. – depending on your reliability needs.

Key benefits at a glance:

- **Connected reliability**

Improved plant efficiency, productivity, and performance. Connected workflows and data accessibility between reliability and maintenance teams improves collaboration across the teams. This helps minimize the time between fault detection and machine repair.

- **eMaint condition monitoring software**

Empower experienced vibration technicians, engineers, or SMEs to explore historical data, discover trends, and deep dive into FFT spectrum for comprehensive insights. Customers can visualize data, set pre-defined thresholds based on asset type, and perform diagnostics such as performance monitoring and root-cause analysis.

- **Remote Condition Monitoring Services**

Maximize uptime and resources by picking up issues quickly. Our team of global experts serve as an extension of our customer's internal teams to deliver machine health insights remotely. This lets decision makers spend time driving decisions through their business instead of spending time analyzing data in real time.

- **Scheduled Measurements**

This new feature enables maintenance managers and reliability engineers to schedule when vibration data is collected based on the types of processes that are being monitored, operation conditions, or planned down times. It provides customers with (1) better data accuracy which improves fault detection, (2) cost savings due to better energy efficiency and battery optimization – batteries can last for 5 years without replacement, (3) synchronous data from all sensors on an asset to improve analysis, and (4) data storage improvements on the sensor.

- **Optimized sensor**

Provides high-precision, high-frequency measurements. The Piezoelectric sensor's accuracy enables reliability engineers to analyze data to determine potential risks and faults quickly.

- **Powerful capabilities to get machine condition answers**

eMaint Condition Monitoring software enables users to quickly setup and review both banded overall values and narrowband values. With support from experts, they can determine the fault causing a problem as well as the root cause of that fault. Users can then evaluate critical next-step actions.

- **User-friendly experience**

Users can configure the monitoring based on machine type for precise readings without manually entering severity thresholds.

- **Insightful analysis capabilities**

The eMaint condition monitoring software enables users to analyze both banded overall values and narrowband values. With this capability, they can determine the fault causing a problem as well as the root cause of that fault. Users can then evaluate critical next-step actions.

- **Wireless and scalable**

The wireless gateway possesses dual network connection capabilities—Wi-Fi and Ethernet—so your system can fit your facility.

Simple steps for program success

1. Survey your plant and order initial system components

A little planning and preparation will help you smoothly install the Fluke 3563 Analysis Vibration Sensor. By following the steps in our Deployment Planning Guide, and with remote support from our experts, you'll learn how to select your machines, sensor, gateway locations and learn about your network connectivity options.

2. Follow this simple process for a successful setup



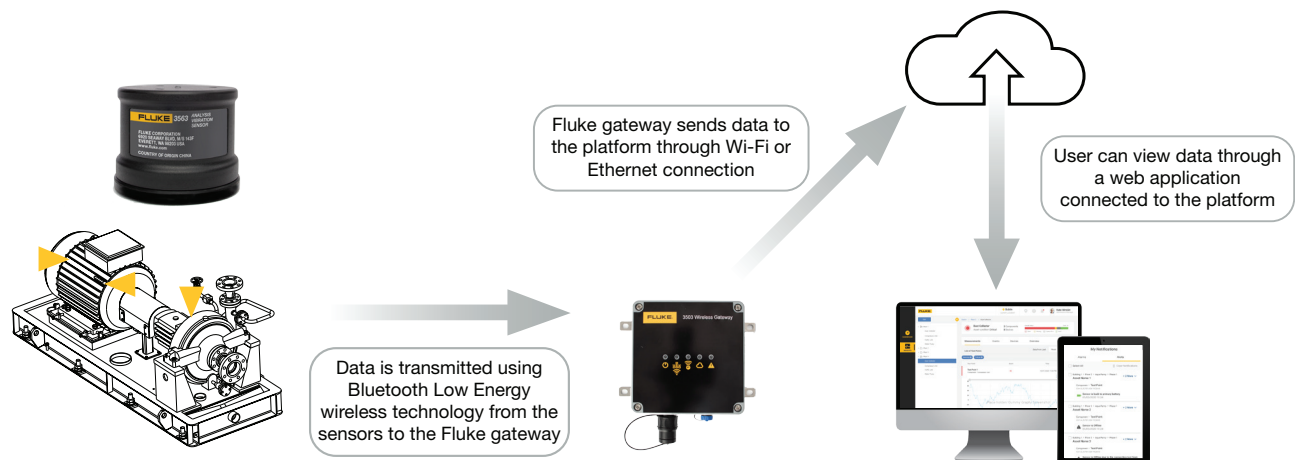
3. Monitor your success and grow the program to cover more assets

Document your savings to get buy-in and support from managers to purchase components for the next implementation phase. Ask our support team if you are looking for the best ways to scale.

4. Sustain the reliability program over the years to come

Reliability is a journey, not a destination. Ensure that you continue to document savings and accomplishments and report to upper management so that they will not forget the reason for your success. We need to remind everyone that reliability is a mindset, an investment in our future, not a cost of doing business.

How the Fluke 3563 works



Fluke 3563 Analysis Vibration Sensors

Data Measurement and Transmission	
Measurement interval (Overalls)	Configurable, default is every 30 minutes, minimum is every 10 minutes, and maximum is every 2 hours
Measurement interval (Time waveform)	Configurable for every 3, 6, or 12 hours
Range	
Frequency range	2 Hz – 10,000 Hz Z (2 Hz – 1,000 Hz X, Y)
Amplitude range	z-axis: +/- 50g; x- and y-axis: +/- 16g
Sampling frequency	218.5 – 62.5 kHz: +/- 3dB
Temperature	
Measurement range	-20°C to 85°C (-4°F to 185°F)
Storage range	-20°C to 85°C (-4°F to 185°F)
Mechanical	
Size	(D x H) 68mm x 53.4mm
Weight	199.5g (145g without batteries)
Ingress protection class	IP67
Shock Limit	5000 g peak
Power	6 x 3.6V 1/2 AA Li-SOCl2 battery Battery lifetime: Up to 5 years based on cadence of scheduled measurements
AD Conversion	24 bit
Wireless communication (sensor to gateway)	
Radio Frequency	2.4 GHz ISM band according to IEEE 802.15.1
Range (line of sight)	Up to 100 meters, depending on environment

Fluke 3503 Wireless Gateway

Power supply options	
AC main power	AC input 85-264 VAC, 0.35A/115V, 0.25A / 230V, 47-63 Hz
Power-Over-Ethernet	Compliant with IEEE 802.3af
Wireless communication	
WiFi:	IEEE 802.11 ac/a/b/g/n
WiFi Security:	WPA/WPA2
Ethernet:	10/100/1000 Mbits/s
Mechanical	
Ingress protection class	IP67
Temperature	Operation: -20°C to 60°C (-4°F to 140°F) Storage: -40°C to 80°C (-40°F to 176°F)
Size	(L x W x H) 160mm x 160mm x 90mm
Weight	948.5 g

Fluke 3720 and 3721 Mounting Adapters

Screw mount	
Size	(D x H) 68mm x 21mm
Weight	187.9 g
Epoxy mount	
Size	(D x H) 68mm x 21mm
Weight	187.9 g

Additional technical information white paper can be provided upon request.