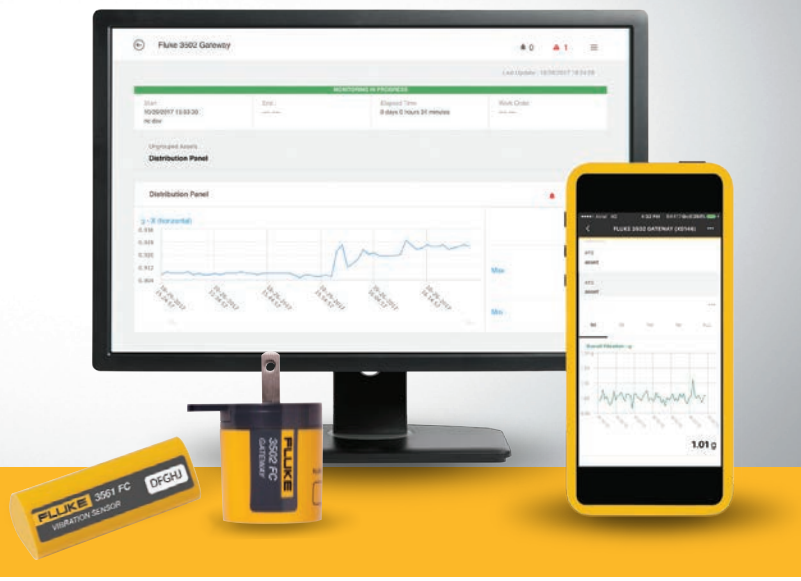
Fluke 3561 FC Vibration Sensor

Frequently asked questions



General

Q1: Why should I use a vibration sensor?	**A:** Vibration anomalies are some of the first indications of misalignment, looseness, bearing wear or imbalance faults within mechanical rotating equipment. By continuously monitoring assets, maintenance and reliability teams can gain a better understanding of when maintenance repairs and replacement should be completed.
Q2: What faults can this sensor find?	**A:** The sensor detects vibration abnormalities caused by misalignment, imbalance, looseness and bearing faults. Monitoring assets for vibration reduces the number of reactive maintenance emergencies a facilities encounters.
Q3: What does the sensor measure?	**A:** • Vibration: Frequency Range 10 Hz to 1,000 Hz • Temperature: Displays temperature trends between -20° F and +176° F (-30° C and +80° C)
Q4: How rugged is the sensor?	**A:** Vibration sensors are IP67 rated and UV resistant.
Q5: How long will my sensor's battery last?	**A:** The typical battery life of a 3561 FC is 3 years.
Q6: How do real-time alarms work?	**A:** Setting up alarms in the Fluke Connect Condition Monitoring is intuitive and easy. Users simply input the machine category and the software will select the vibration measurement thresholds for that particular asset. Users receive alarms as push notifications on smart devices, such as mobile phones or computers.

Installation

Q7: What will I need to install the sensors?

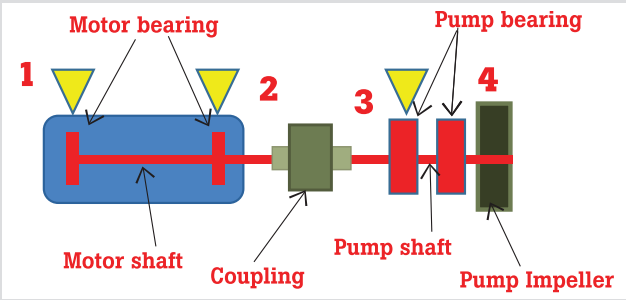
A:
- Wireless Connection (WiFi or mobile router/hotspot)
- Bluetooth–enabled smartphone
- Fluke Connect™ Condition Monitoring app installed on smart-phone
- 3561 FC Vibration Sensors
- 3502 FC Gateway(s)

Q8: How is the sensor mounted?

A: The sensors are mounted using epoxy. For optimal adhesion, clean the sensor mount location prior to installation. Surface preparation includes sanding away paint or rough spots, and cleaning with industrial-strength oil remover. Once area is cleaned, mount sensor using included epoxy.

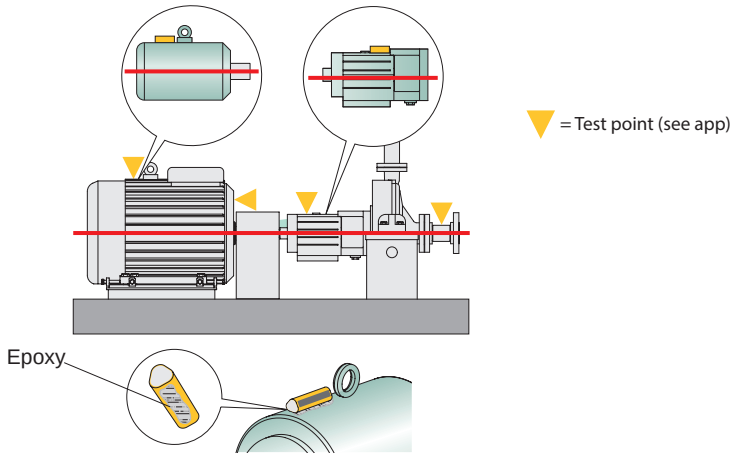
Q9: Do I need to monitor all bearings on a machine?

A:
- No, vibration can transmitted up to 30 inches, as such it is not necessary to use sensors on every bearing on small machines. Larger machines may need more than one set of sensors. It is advised that equipment with 75 horsepower or more is equipped with a sensor on each bearing. If using only one sensor, install it on the drive end of the motor.
- In the example below, one sensor is on the motor and one is on the pump – ensuring data from both critical assets. The second image shows the location of four sensors to gather data from all bearings at once.



Q10: How should I select the bearing location?

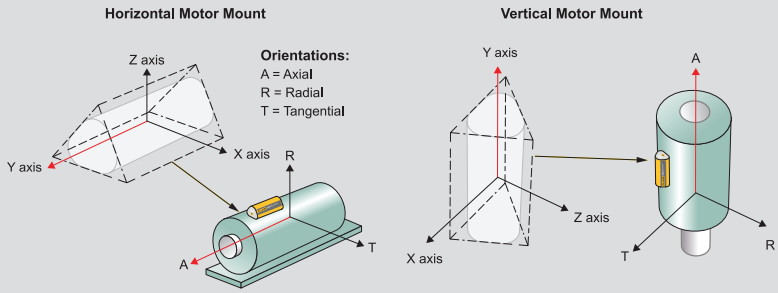
A: For vibration testing, simply locate the bearings on your rotating equipment. Mount the wireless sensor on each bearing location that needs monitoring.



Q11: Where do I mount the sensor on the bearing?

A: Sensors should be mounted to best detect triaxial vibration from rotating shafts in all three directions at the same time. Sensors should be mounted:

- As close to the bearing housings as possible
- Install on solid metal – not on covers, lead boxes or cooling fans
- On the top, side or end of the bearing housing
- **Note:** Measurements **should not** be taken from the pump casing or in the middle of the motor. Vibration from impellers, windings or other components will transmit down the shaft to the bearings.



Networking

Q12: Is wireless connection needed for the 3561 FC?

A: Yes.

Q13: How does the sensor send data to Fluke Connect Condition Monitoring software?

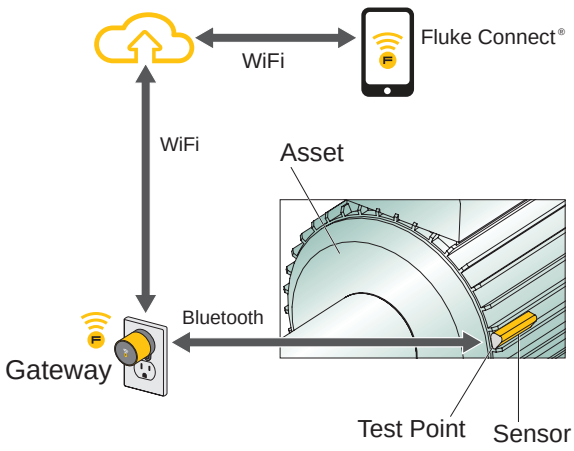
A: **Option 1: WiFi –** To send information from the sensor to FCCM software, you will need to have your IT department grant the sensors access to

- WLAN Standards: 802.11 g/n 2.4 GHz
- Upload Speed: 1 Mbps "Sustained"
- Internet HTTP Proxy: Disabled
- Supported Authentication Protocols: WPA2 Allow http protocol to Fluke.com
- MQTT Protocol over TCP Port 8883
- And access to FCCM software for measurements database

Option 2: Cellular Data – Sensors can also be connected to the cloud via a cellular WiFi hotspot or mobile router. (Ex. Verizon Jetpack MiFi, Cradlepoint)

Q14: How am I able to see vibration sensor data on my mobile phone?

A: The 3561 FC Vibration Sensor requires the 3502 FC Gateway and a current license to FCCM software. The gateway sends data from sensors to FCCM software using WiFi or cellular data. View real-time trends, receive alarms and alerts, and better discern asset health from your smart device or computer. Smart devices are required for setting up sensors within the Fluke Connect application.



Q15: Is the data transfer encrypted?

A:

- Data transferred between the sensor and the cloud is SSL encrypted. While data is not encrypted between the phone and the sensor, it is very difficult for unauthorized users to gain access to the information.
- Scanner apps, signal jammers or scrapers are often unable to target sensors due to the 65m range of sensor signal. Sensors may be visible to these technologies, but the data being sent is limited in scope.
- In order to see data from connected sensor(s), a person must have a Fluke Connect Condition Monitoring software login and password. The infrastructure of the Fluke Connect platform was designed to be one of the most secure cloud computing environments available today.

For more information, visit: www.fluke.com/conditionmonitoring
or call 1-844-427-2269