

TECHNICAL DATA

# Fluke 3561 FC Vibration Sensor and Fluke 3502 FC Gateway



**EASE OF USE**

Easy to install, operate, collect data, and take maintenance actions without specialized training

**INCREASE SAFETY**

Place in hard-to-reach or hazardous areas to continuously monitor key assets.

**INCREASE UPTIME**

Actionable data provides insights to increase the reliability of assets.

The Fluke 3561 FC Vibration Sensor makes predictive maintenance fast and scalable. Install this 10 - 1000 hertz (Hz) wireless sensor and begin gathering data immediately. Use this sensor to remotely monitor dangerous or hard-to-reach places for three years. Be alerted to conditional changes with alarming based on the Fluke Overall Vibration Severity (FOVS) scale. Monitor vibration measurements to detect imbalance, misalignment, looseness and bearing wear faults. The Fluke Connect™ system grades asset health from 37 machine categories, enabling you to decrease routes and improve uptime by giving you actionable insights.

**Rugged hardware for multiple year use**

The 3561 FC is compact and lightweight yet IP67 rated and rugged enough to last in industrial environment.

Battery life provide 3 years of use.

Continuous overall vibration measurement (10 - 1,000 Hz) for acceleration, velocity and displacement units of measurement for a wide variety of machines.

**Remote monitoring**

Use the Fluke Connect Condition Monitoring™ (FCCM) software from your computer or mobile device for remote monitoring.

**Alarms and alerts**

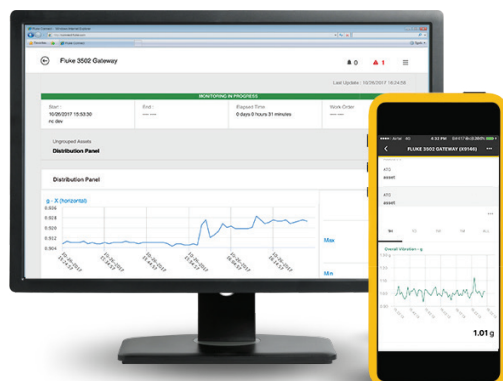
FCCM software uses the FOVS scale to grade the health of 37 machine categories and sends alarms to users' smart devices or computers within seconds of an abnormality.

**Data Trending**




View real-time and historical data in a graphs. Use triaxial vibration trends and temperature data, along with alarms, to take maintenance action.

**Connected reliability system**

Using the Fluke Connect app, compare your vibration data with data from other portable or fixed Fluke tools and create work orders against the measurement data. Build a reliable maintenance program with ore than 80 Fluke Connect tools now available.



**Prerequisite for Vibration Monitoring Program**

|   |   |  |
|---|---|--|
|  |  |  |
| <b>1</b>  | <b>2</b>  | <b>3</b>   |
| <b>Deployment Planning</b>  | <b>In-App Set-up</b>  | <b>Hardware Installation</b>   |
| Wireless Connection (Wi-Fi or mobile router)                                      | BLE-enabled smartphone<br><br>Fluke Connect app installed on smartphone           | 3561 FC Vibration Sensors<br><br>3502 FC Gateways                                  |

**Use the Fluke 3561 FC Vibration Sensor to check these machine categories:**

**Chiller**

- Reciprocating (open motor and compressor separate)
- Reciprocating (hermetic motor and compressor)
- Centrifugal (hermetic or open motor)

**Fans**

- Belt-driven fans 1800 -to 3600 RPM
- Belt driven fans 600 to 1799 RPM
- General direct drive fans (direct coupled)
- Vacuum blowers (belt or direct drive)
- Large forced draft fans (fluid film brgs.)
- Large induced draft fans (fluid film brgs.)
- Shaft-mounted integral fan (extended motor shaft)
- Axial flow fans (belt or direct drive)

**Cooling tower drives**

- Long, hollow drive shaft (motor)
- Belt drive (motor and fan - all arrangements)
- Direct drive (motor and fan - all arrangements)

**Centrifugal Pumps**

- Vertical pumps (12' to 20' height)
- Vertical pumps (8' to 12' height)
- Vertical pumps (5' to 8' height)
- Vertical pumps (0' to 5' height)
- Horizontal centrifugal end suction pumps - direct coupled
- Horizontal centrifugal double suction pumps - direct couple
- Boiler feed pumps (turbine or motor driven)

**Positive Displacement Pumps**

- Positive displacement horizontal piston pumps (under load)
- Positive displacement horizontal gear pumps

**Air compressors**

- Reciprocating
- Rotary screw
- Centrifugal with or without external gearbox
- Centrifugal - internal gear (axial meas.)
- Centrifugal - internal gear (radial meas.)

**Blowers**

- Lobe-type rotary blowers (belt or direct drive)
- Multi-stage centrifugal blowers (direct drive)

**Generic gearboxes**

- Single stage gearbox

**Machine Tools**

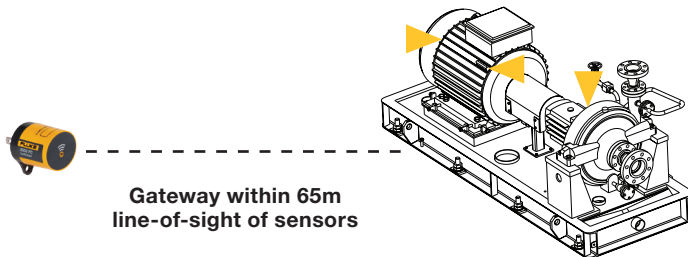
- Motor
- Gearbox input
- Gearbox outbox
- Spindles - roughing operations
- Spindles - machine finishing
- Spindles - critical finishing



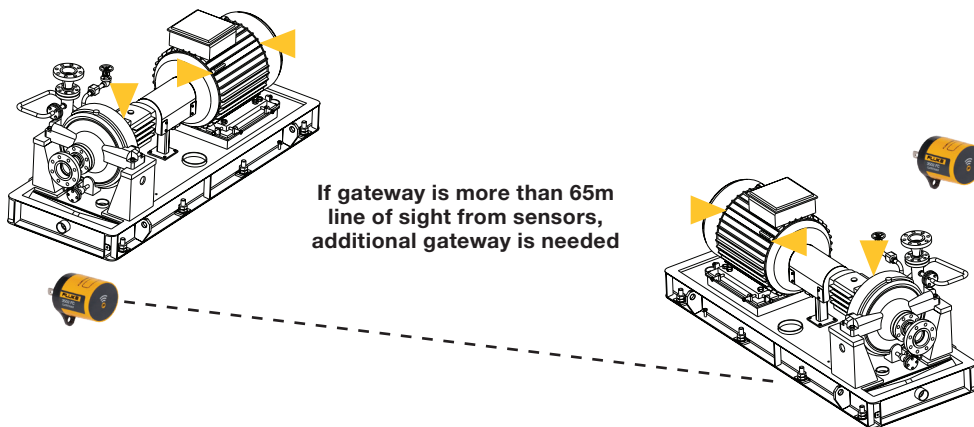
### Sensors and Gateway configuration

Multiple 3561 FC Vibration Sensors can connect to a single 3502 FC Gateway. The number of gateways needed for an install will be dependent on the location of the equipment being monitored.

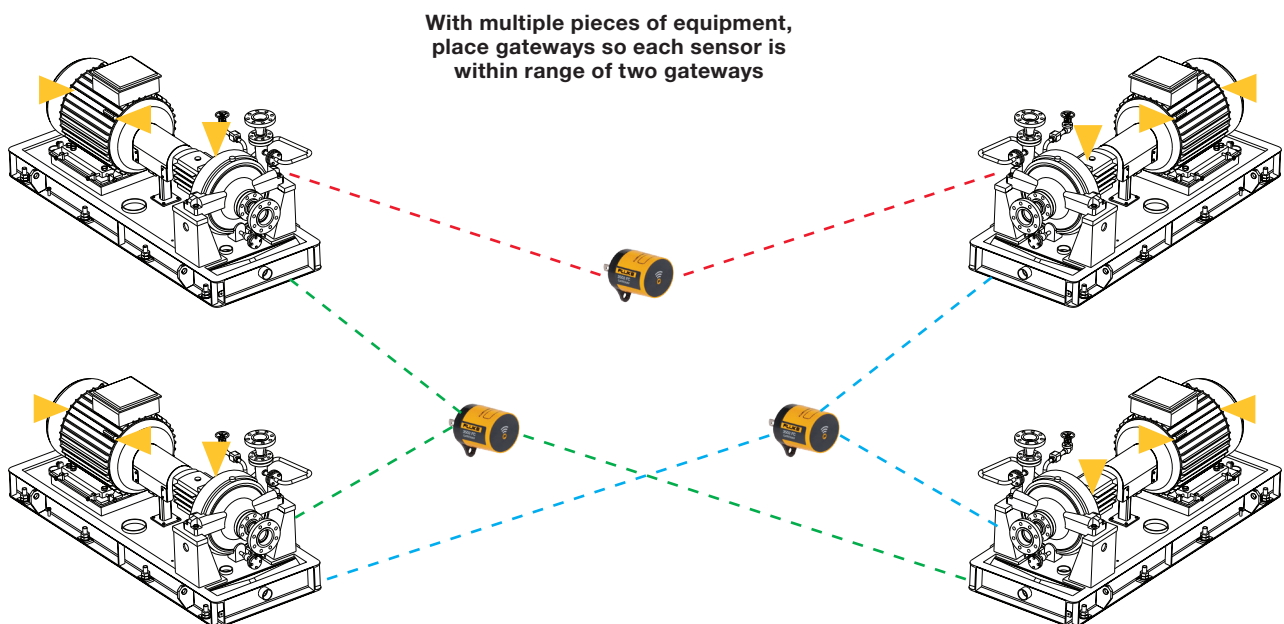
#### Example 1:



#### Example 2:



#### Example 3:



## 3561 FC Vibration Sensor

| General specifications |   |  |
|------------------------|---|--|
| Range                  | Sensitivity Range                           | ±32 g  |
|                        | Frequency Range                             | 10 Hz to 1000 Hz   |
|                        | Sampling Rate                               | 25600 Hz   |
| Temperature            | Operating Range                             | -30 °C to +80 °C (-20 °F to +176 °F)                                       |
|                        | Storage Range                               | -30 °C to +80 °C (-20 °F to +176 °F)                                       |
|                        | Trending Range                              | Displays temperature trends between -30 °C and +80 °C (-20 °F and +176 °F) |
| Relative Humidity      | 10 % to 95 % non-condensing                 |  |
| Altitude               | Operating                                   | 2000 m   |
|                        | Storage                                     | 12000 m  |
| Size                   | (H x W) 2.42 in x 0.95 in (61.5 mm x 24 mm) |  |
| Weight                 | 1.4 oz (40 g)                               |  |
| Power                  | Battery Type                                | 3.6 V, 2400 mAh Lithium  |
|                        | Battery Life                                | 3 years typical  |
| Bluetooth              | Type  | Low Energy 4.1   |
|                        | Range (during a session)                    | 65 m, line-of-sight  |
|                        | Frequency Range                             | 2405 MHz to 2480 MHz   |
|                        | Output Power                                | <10 mW   |
|                        | IP Rating                                   | IP67   |

## 3502 FC Gateway

| General specifications |   |   |
|------------------------|---|---|
| Temperature            | Operating Range   | -25 °C to +65 °C (-13 °F to +149 °F)    |
|                        | Storage Range   | -25 °C to +65 °C (-13 °F to +149 °F)    |
| Relative Humidity      | 10 % to 95 % non-condensing   |   |
| Altitude               | Operating   | 2000 m                                  |
|                        | Storage   | 12 000 m                                |
| Size                   | (H x W x L) 2.26 in x 1.55 in x 1.82 in (57.3 mm x 39.3 mm x 46.1 mm) |   |
| Weight                 | 1.2 oz (35 g)   |   |
| Power                  | AC Input  | 100 V ac to 240 V ac, 50/60 Hz          |
| Bluetooth              | Type  | Low Energy 4.1                          |
|                        | Frequency Range   | 2405 MHz to 2480 MHz                    |
|                        | Output Power  | <10 mW                                  |
|                        | Antenna   | -3 dBm Single Antenna, Omni Directional |
| WiFi                   | Type  | 802.11 b/g/n                            |
|                        | Frequency Band  | 2.4 GHz ISM Band                        |
|                        | Frequency Range   | 2412 MHz to 2462 MHz                    |
|                        | Output Power  | <100 mW                                 |
|                        | Security  | WEP/WPA/WPA2                            |
| Antenna                | 0 dBm Single Antenna, Omni Directional                                |   |

### Order Information

**FLK-3561/3502 FC**, Vibration Sensor Starter Kit w/SW, 5009268  
**FLK- 3561 FC KIT**, Vibration Sensor Expansion Kit w/SW, 4978160  
**FLK-3561/3502 FC 3YR**, Vibration Sensor 3YR Starter Kit w/SW, 5012640  
**FLK-3561 FC 3YR**, Vibration Sensor 3YR Expansion Kit w/SW, 5012657  
**FLUKE 3502 FC**, GATEWAY-EN,FR,DE, 4945034

#### Starter kit includes:

Four 3561 FC Vibration Sensors, One 3502 FC Gateway, FCCM subscription for each sensor, epoxy, epoxy application instructions, and Getting Started Manual.

#### Expansion kit includes:

Four 3561 FC Vibration Sensors, FCCM subscription for each sensor, epoxy, epoxy application instructions, and Getting Started Manual.

Visit [www.fluke.com](http://www.fluke.com) to get complete details on these products or ask your local Fluke sales representative.

**Accelix.** *Connected Reliability.*

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