

**FLUKE®**

# **3561 FC**

Vibration Sensor

## User Guide

July 2018, Rev. 1, 7/18

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## 1. Setting up vibration monitoring session

- 1.1 For help setting up your vibration monitoring session, please refer to the Fluke step-by-step tutorial for setting up the 3502 FC Gateway and the 3561 FC Vibration sensor.

## 2. Condition Monitoring

### 2.1 View your condition monitoring session

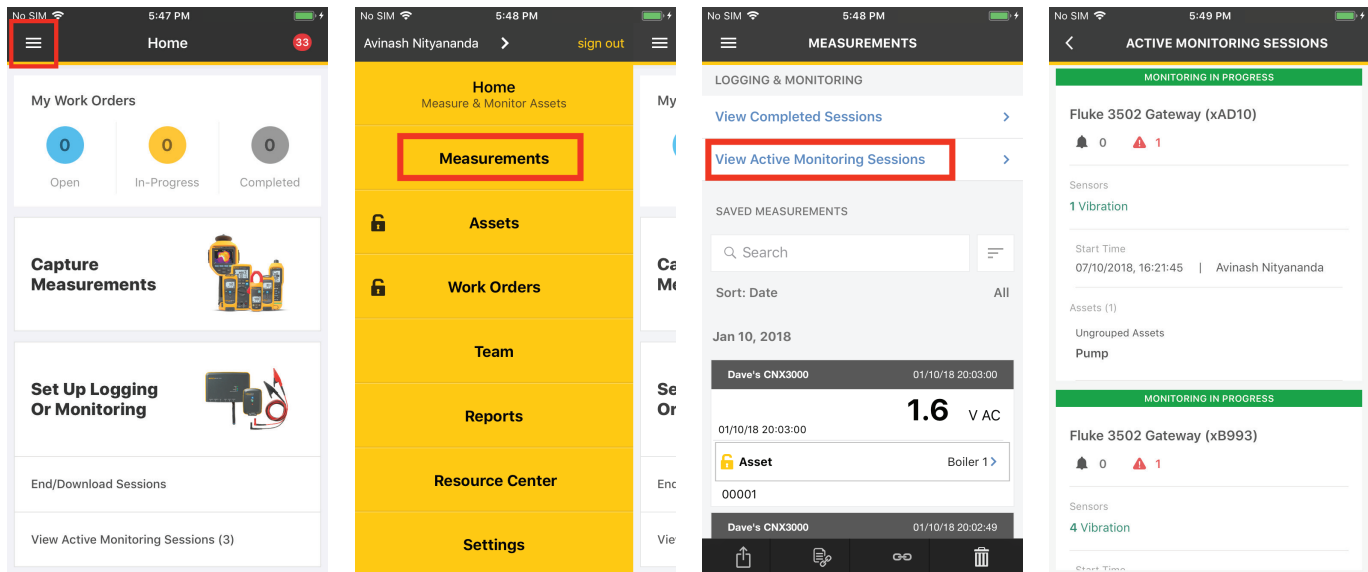
#### 2.1.1 Mobile app

2.1.1.1 Open Fluke Connect and log in using your username and password

2.1.1.2 Tap on the menu in the top left corner

2.1.1.3 Tap on “Measurements”

2.1.1.4 Tap on “View Active Monitoring Sessions”



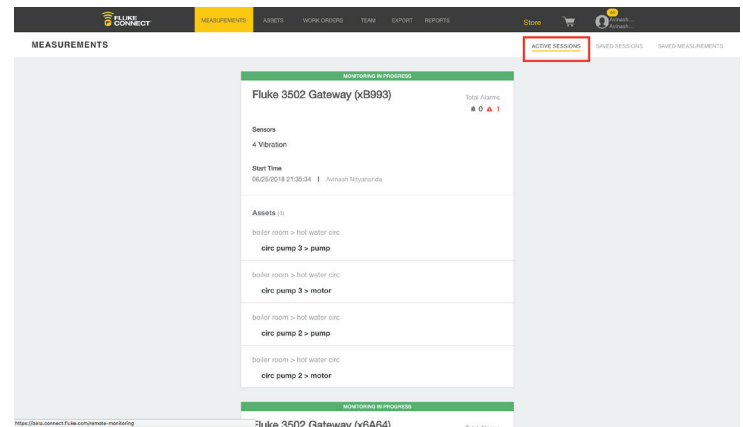
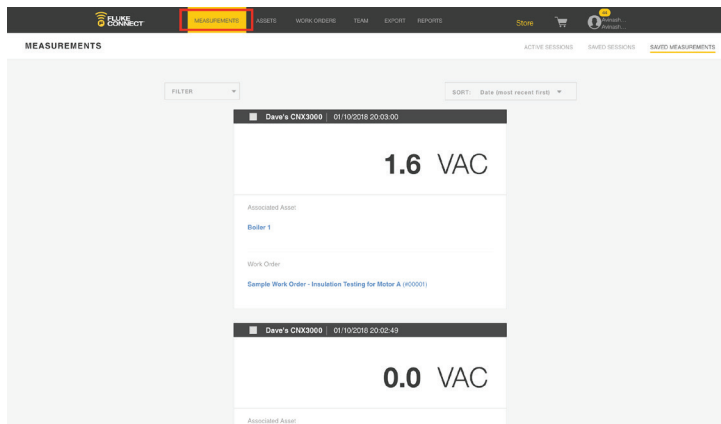
## 2.1.2 Web application

2.1.2.1 Go to connect.fluke.com

2.1.2.2 Log into Fluke Connect using your username and password

2.1.2.3 Click on “Measurements” at the top of the page

2.1.2.4 Click on “Active Sessions” at the top of the page



2.2 Understanding condition monitoring session

No SIM

5:49 PM

<

ACTIVE MONITORING SESSIONS

MONITORING IN PROGRESS

Fluke 3502 Gateway (xAD10)

0

1

Sensors

1 Vibration

Start Time

07/10/2018, 16:21:45 | Avinash Nityananda

Assets (1)

Ungrouped Assets

Pump

Session Status

Session Name

Alarms and Alerts

Sensors in the Session

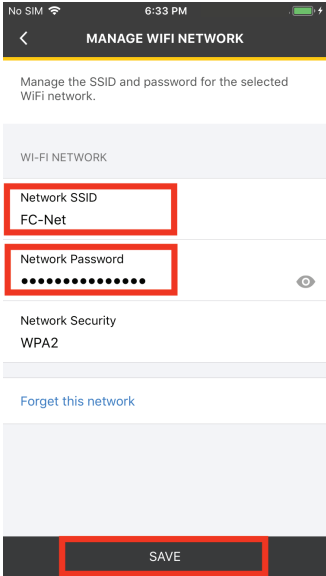
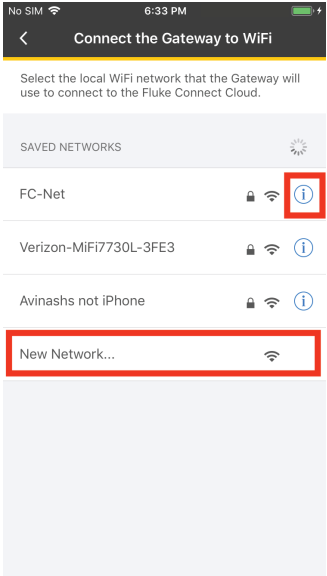
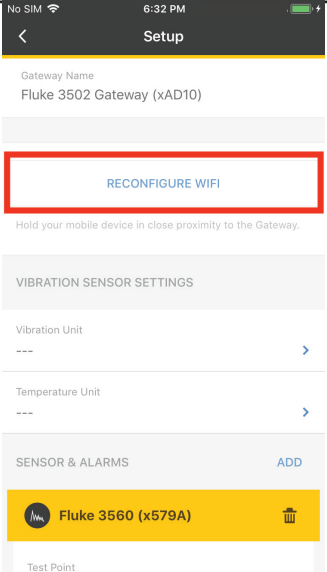
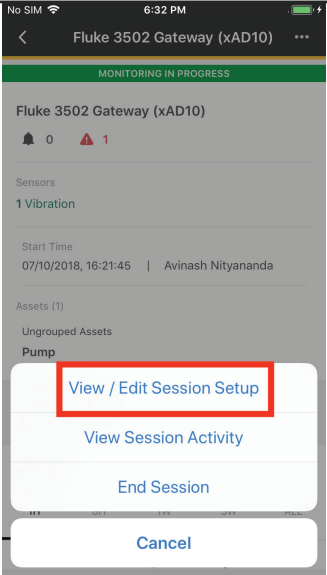
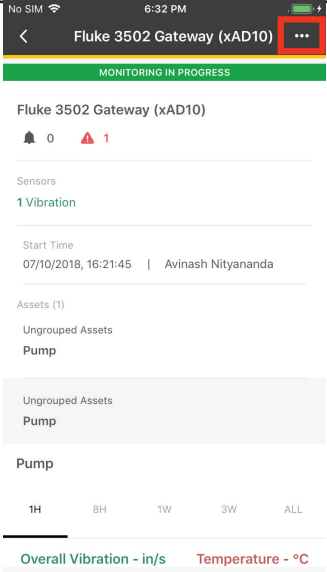
Team member who started the session

Session Start Time

### **3. Change your Wi-Fi network or Wi-Fi settings for an active condition monitoring session (mobile app only)**

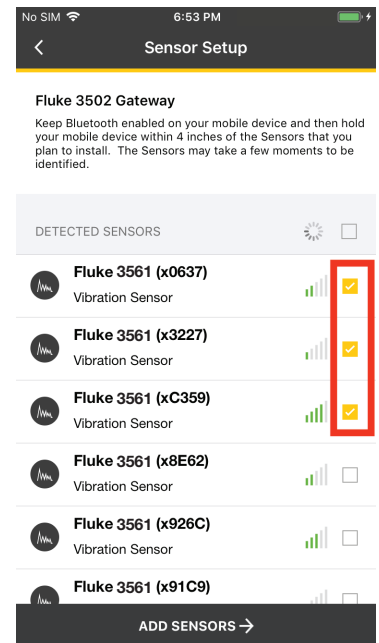
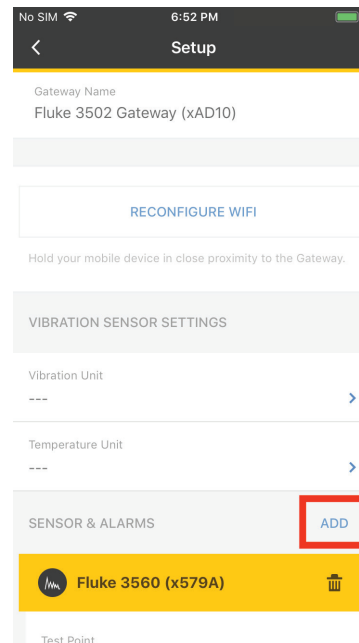
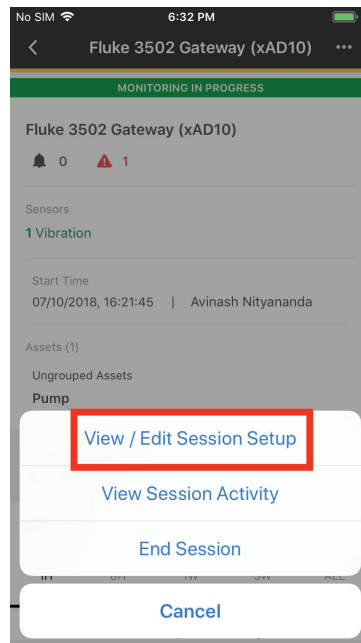
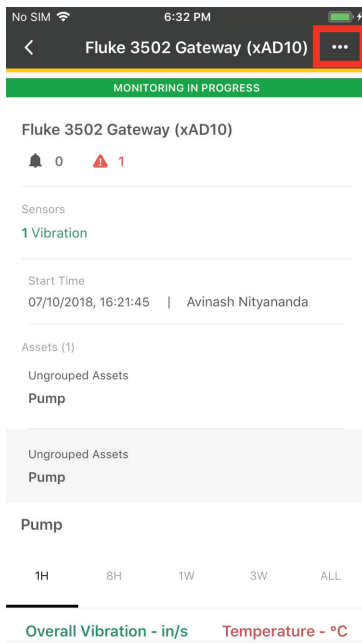
- 3.1 After session setup is complete, the Wi-Fi network or the Wi-Fi network configuration can be changed
  - 3.1.1 Identify the session for which you would like to change the Wi-Fi network or Wi-Fi configuration on Fluke Connect
  - 3.1.2 Identify the location of the 3502 FC Gateway associated with the session
  - 3.1.3 Tap on the “3 dot” menu on the top right of the screen
  - 3.1.4 Choose “View/Edit Session Setup”
  - 3.1.5 Tap on “Reconfigure Wi-Fi”
  - 3.1.6 Hold your phone 4 inches from the 3502 FC Gateway
  - 3.1.7 From the Wi-Fi list
    - 3.1.7.1 To add a new Wi-Fi network, tap on “New Network”
    - 3.1.7.2 To edit an existing Wi-Fi network, tap on the “i” icon next to the Wi-Fi network
  - 3.1.8 Update Wi-Fi configuration as necessary and tap “Save”

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## 4. Add another 3561 FC Sensor(s) to an active condition monitoring session (mobile app only)

- 4.1 When adding more sensor(s) to an active condition monitoring session
  - 4.1.1 Identify the session for which you would like to add another sensor(s)
  - 4.1.2 Tap on the “3 dot” menu on the top right of the screen
  - 4.1.3 Choose “View/Edit Session Setup”
  - 4.1.4 Tap on “Add”
  - 4.1.5 Choose the 3561 FC Sensors you would like to add to the Active Session
  - 4.1.6 Continue with the Session Setup process outlined in 4.1



## 5. Understanding vibration and temperature trends

5.1 The vibration and temperature trends are represented as graphs in the session screen

5.2 Graphs include

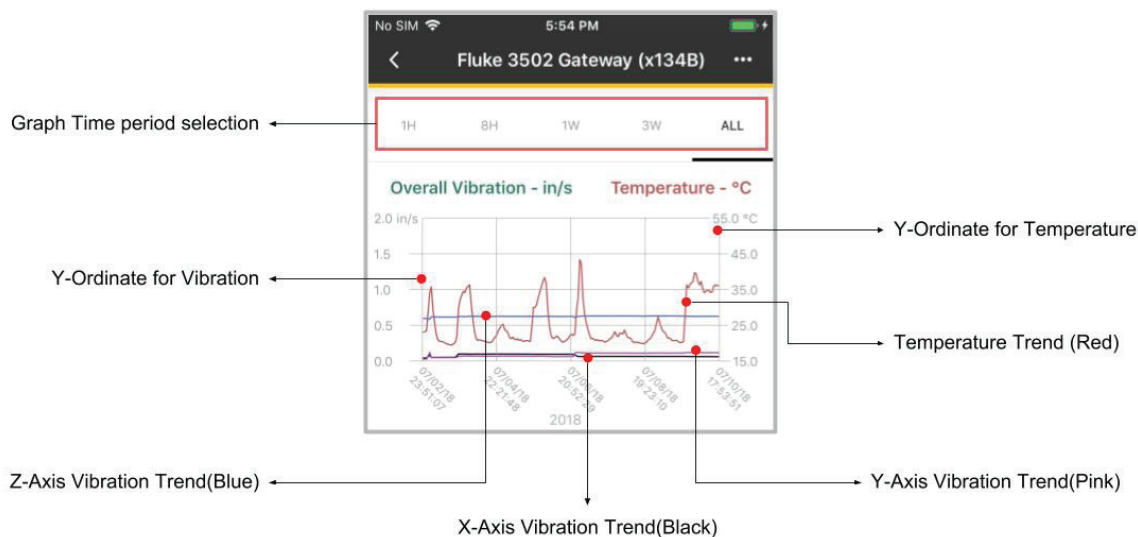
5.2.1 X-Axis, Y-Axis and Z-Axis vibration trend

5.2.2 Temperature trend

5.2.3 Trends can be viewed in 1 hour, 8 hour, 1 week, 3 week time periods

5.2.4 To view the complete trend use the “All” tab

5.2.5 The graph can be scrolled horizontally to go back/forward in time within the selected time period (Use the scroll buttons in the Web Application)





## 6. Understanding vibration alarms

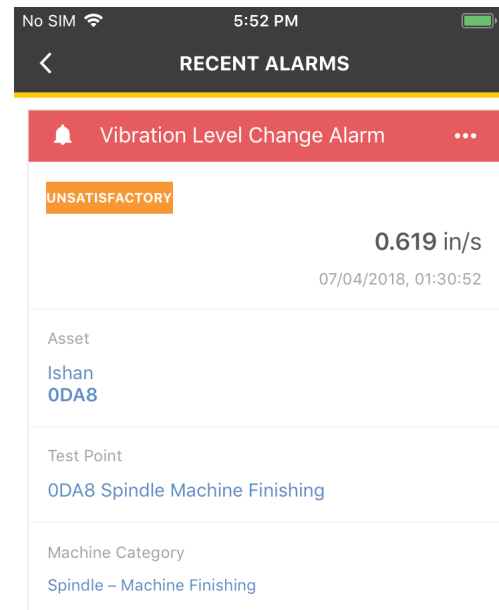
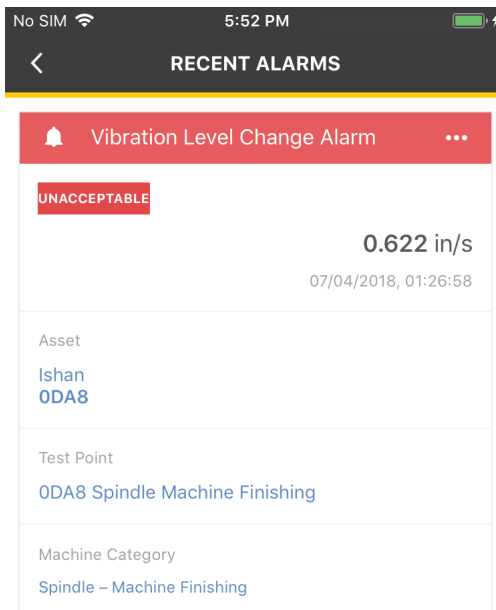
3561 FC Vibration Sensor uses overall vibration to indicate the health of the machine. Alarms generated are based on Fluke Overall Vibration Severity (FOVS) scale for 37 machine categories, which indicates when the asset requires maintenance action. When adding more sensor(s) to an active condition monitoring session

6.1 The 3561 FC Vibration Sensor can provide 2 types of Alarms

6.1.1 Vibration Level Change Alarm: **Unsatisfactory**

6.1.2 Vibration Level Change Alarm: **Unacceptable**

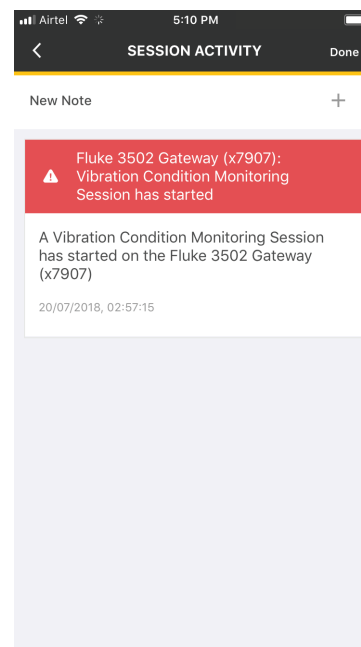
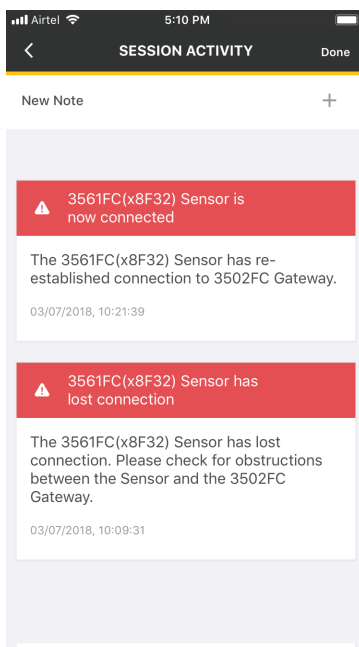
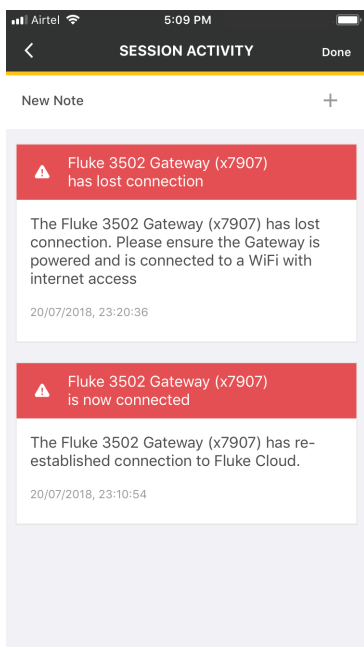
6.1.3 Have a knowledgeable vibration technician conduct more advanced tests as soon as possible when you receive the alarms



## 7. Alerts are notifications that you would receive indicating the status of the 3561 FC condition monitoring system

7.1 The vibration and temperature trends are represented as graphs in the session screen

- 7.1.1 Condition Monitoring Session Start
- 7.1.2 Condition Monitoring Session End
- 7.1.3 Gateway disconnected from the Internet
- 7.1.4 Gateway reconnected to the Internet
- 7.1.5 Sensor(s) Disconnected
- 7.1.6 Sensor(s) Reconnected



## 8. FAQ/Troubleshooting

8.1 Can I physically install the sensors before setting them up?

A: No. Please follow all the steps specified in the Getting Started Manual in the exact order. Also, follow all the instructions in the Fluke Connect app during in-app setup.

8.2 How do I use the Epoxy supplied with the product?

A: Look for the epoxy instruction card within the box.

8.3 How many 3561 FC Sensors can I use with one 3502 FC Gateway?

A: You can reliably connect up to 20 3561 FC sensors per 3502 FC Gateway.

8.4 I just purchased more 3561 FC Sensors. How can I add them to my Condition Monitoring Session?

A: You can add them quite easily by referring to section 4.

8.5 The Wi-Fi I configured during session setup is not available at the location where I am installing my 3502 FC Gateway and 3561 FC Sensors. What do I do?

A: You can reconfigure your Wi-Fi settings. Refer to section 4.

8.6 Can I export all the vibration data collected from Fluke Connect?

A: We are working on this feature. Please contact Fluke Technical Support for more details.

8.7 Will there be more features added to 3561 FC Vibration Product?

A: Yes, we are continually improving this product and will keep customers updated on the latest and greatest from Fluke Condition Monitoring Products.

8.8 I am getting a “Cannot start a new session because the Gateway already has an active session” error message. What do I do?

A: You cannot use the same gateway to start multiple sessions. We recommend that you procure a new 3502 FC Gateway or add sensors to existing session for the gateway.

**8.9 Can I end a Condition Monitoring session?**

**A:** Yes you can. However, be prepared to uninstall all your sensors if you would like to reuse them. The End Session option can be found in the Session Screen.

**8.10 When starting a session, I am unable to detect any 3502 FC Gateway or 3561 FC Sensors in Fluke Connect. What do I do?**

**A:** Please ensure that Bluetooth on your phone is enabled.

**8.11 While a session is running, I got an alert “Sensor not detected”. What should I do?**

**A:** Verify that your gateway is plugged into an electrical outlet and connected to network. Check for obstructions between sensor and gateway

**8.12 I am getting a “3502 FC Gateway unable to connect to Fluke Cloud” error. What do I do?**

**A:** Please verify the following:

- > Your Wi-Fi Network Name and Password is correct.
- > Your Wi-Fi Router is set to 2.4 Ghz frequency band.
- > Distance between gateway and mobile device must be within 4 inches.

**8.13 I just received an alert which says that my “Gateway has disconnected” from the Internet. What do I do?**

**A:** There may be multiple reasons for this issue. To help diagnose the problem, please go to the location where the 3502 FC gateway is installed and try the following:

- > Connect to the configured Wi-Fi using your phone. If you are unable to do so, the Wi-Fi is unavailable at that location. Talk to your IT department on how you can solve this issue. Once the IT department is able to provide Wi-Fi at the location, reconfigure your 3502 FC Gateway with the new Wi-Fi network. Refer to Section 3.
- > Connect to the configured Wi-Fi using your phone. If you are able to do so, try browsing the internet with your phone. If you are unable to open up any web pages, your Wi-Fi might not

have access to the Internet. Talk to your IT department on how you can solve this issue. Once the Wi-Fi does have Internet access, your 3502 FC Gateway will automatically start to work. Look for the “Gateway reconnected to the Internet” notification.

- > Connect to the configured Wi-Fi using your phone. If you are able to do so, try browsing the internet with your phone. If you are able to do so, it may indicate that the Wi-Fi signal strength is low at that location or the Wi-Fi has a patchy Internet connection. Talk to your IT department on how you can solve this issue. Once the issue is resolved, your 3502 FC Gateway will automatically start to work. Look for the “Gateway reconnected to the Internet” notification.
- > Another way to work around this Wi-Fi connectivity issue is to procure a Wi-Fi Hotspot. Once the Hotspot is up and running, reconfigure your 3502 FC Gateway to use the Hotspot.

**8.14** I just received a “Sensor Disconnected” notification. What do I do?

**A:** The Sensor Disconnection notification indicates that your 3561 FC Sensor is unable to communicate with the 3502 FC Gateway. A 3561 FC Sensor can be placed 65m away from the 3502 FC Gateway provided there is line of sight. The presence of obstacles (concrete, metal) between the Gateway and Sensors reduces their communication range. Move the 3502 FC Gateway closer to the 3561 FC sensor. Look for the “Sensor reconnected” notification.

**8.15** I setup a Condition Monitoring Session, but I am unable to see any data in the graphs on Fluke Connect. What is the problem?

- A:** Once the session setup is complete, the data will typically arrive within 10 minutes. If you do not see the data in 10 minutes, the following could be possible:
- > The Wi-Fi network being used might not be available or may not be connected to the internet. Please read FAQ 8.13 to troubleshoot Wi-Fi issues.
  - > The 3502 FC Gateway may be too far away from the sensors. Please read FAQ 8.14 to troubleshoot connectivity issues.
  - > The sensors might be updating to their latest firmware. Please wait for 24 hours and check again.
  - > If all the above fails, please contact Fluke Technical Support 425-200-0800

**8.16** Can I set up Condition Monitoring away from the 3561 FC Sensors or 3502 FC Gateway?

**A:** Always provision the gateway with the mobile device as close as possible to the gateway, generally 4 inches or less. This is to mitigate the impact of noise on the BLE communication between the mobile device and gateway during provisioning.

**8.17** Why is the app is taking a long time to setup the 3502 FC Gateway?

**A:** If provisioning the 3502 FC Gateway is taking a long time, attempt a power cycle by unplugging it from power and plugging it back in. This can boost radio strength for a short time.

**8.18** Can I setup a 3561 FC Sensor or a 3502 FC Gateway if they are already part of a Condition Monitoring session?

**A:** No, you cannot. You will receive an error. Instead, please delete the sensors/gateways from the existing account (end their sessions) and reprovision them in a different account.

**8.19** I see the same Wi-Fi network multiple times while setting up a Condition Monitoring Session?

**A:** It is possible you have saved the same Wi-Fi Network multiple time. Delete the ones you do not need.

## Troubleshooting error messages

Error message	Troubleshooting steps
This gateway is already provisioned by another team. Please contact Fluke Connect Support.	The 3502 FC Gateway is already being used by another team. If you think this is incorrect, please contact Fluke Support.
Fluke Connect could not establish a connection with the 3502 FC Gateway. Please try the following: <ol style="list-style-type: none"><li>1. Move the phone closer to the Gateway and try again</li><li>2. Restart the Bluetooth on the phone and try again</li><li>3. Restart the phone and try again</li></ol>	Try the suggested Troubleshooting steps. If still unsuccessful, contact Fluke Support.
The 3502 FC Gateway could not establish a connection with the Fluke Cloud via Wi-Fi. Please try the following: <ol style="list-style-type: none"><li>1. Verify if your Wi-Fi supports 2.4 Ghz frequency band</li><li>2. Ensure that your Wi-Fi router is set to the 2.4 Ghz frequency band</li><li>3. Check your Wi-Fi SSID and Password settings</li></ol>	Check your Wi-Fi Name/Network and Network Password/Security Key to verify they are correct. Also check if your Wi-Fi supports and/or is set to the 2.4 Ghz frequency band.

## Troubleshooting error messages

Error message	Troubleshooting tips
The Gateway was unable to connect to the selected Wi-Fi network.	Power cycle the 3502 FC Gateway as follows: <ol style="list-style-type: none"><li>1. Unplug the 3502 FC Gateway from the power outlet, wait for 10 seconds</li><li>2. Plug the 3502 FC Gateway in the power outlet, continue with the setup process</li></ol>
One or more sensors selected have already been provisioned with a different team. Please contact Fluke Connect Support.	Contact Fluke Connect Support.
You do not have the Vibration Condition Monitoring license setup. Please contact your team Administrator. For more information, please refer to our Team, Subscription and Licensing article.	You do not have the Vibration Condition Monitoring license. Please ask your team administrator to provide you with a license.
You do not have the Vibration Condition Monitoring license setup. Sensor(s) you are trying to setup have already been activated. Please contact Fluke Support.	You are not authorized to use the Sensor(s). Contact Fluke Connect Support.