

OPSWATCH Ethernet PRODUCT MANUAL



CONTENTS

| 1. Introduction | 3 |
|---|----|
| 1.1. Description and Features | 3 |
| 1.2. Technical Specifications | 4 |
| 2. Getting Started | 5 |
| 2.1. Hardware Setup | 5 |
| Mounting | 5 |
| 2.2. OpsWatch Software | 5 |
| 2.3. User Management | 5 |
| 2.4 Setup Guide for OpsWatch Ethernet | 7 |
| 2.5. Configuring the Hardware | 8 |
| 3. Navigating the OpsWatch Software | 11 |
| 3.1. Logging In | 11 |
| 3.2. Adding OpsWatch Units | 11 |
| 3.3. Disabling or Deleting OpsWatch Units | 13 |
| 3.4. OpsWatch Homepage | 13 |
| 3.5. Vibration and Shock | 14 |
| Impact Values - Peak | 14 |
| Impact Values - Alarm | 16 |
| Vibration Values - RMS | 15 |
| Acknowleding RMS Alarms | 20 |
| Email Notifications | 21 |
| Streaming Data | 22 |
| Exporting Data Files | 23 |
| 4. Contact Information | 24 |



1. Introduction

During operation, some level of vibration in motor, pumps, conveyor systems or any mechanical system is a natural occurrence. There are normal vibration patterns when equipment is in a start-up mode, when it is in operation or during shut-down processes, however changes in a vibration pattern can be an early warning signal that should trigger preventive maintenance before equipment failure occurs.

Until now, vibration analysis has been complex and required highly trained individuals to interpret the data. The OpsWatch impact and vibration monitoring system simplifies the process of identifying vibration related issues and provides real-time notifications that vibration has reached unacceptable levels or than an impact has occurred to your equipment.

The OpsWatch system monitors and records low-frequency, seismic vibration and shock and identifies changes in equipment operating conditions. Monitor for over-the-threshold impact events or stream vibration measurements over a an ethernet connection for characterizing vibration over time. When conditions are outside of normal range, user alerts allow for quick decisions to be made and actions to be taken. Information from the OpsWatch system combined with the right preventive maintenance program reduces the costs associated with unplanned downtime.

1.1. Description and Features

The OpsWatch system combines advanced tri-axial piezoelectric accelerometer technology and software with a world-class vibration and shock monitoring solution. The OpsWatch unit records vibrations and impacts and the data is sent via an ethernet connection, connected at access points, the router or the computer to the OpsWatch web-hosted software. Data can be reviewed, post processed and exported into .csv files if desired.

User defined vibration and impact alarm levels, frequency of data collection, and cut-off frequency filters are set for each specific application. When an alarm level is exceeded, a visual alarm in the software will alert the user and store the data for future analysis. Email notifications can be sent to the person or team that needs to know when something unexpected is happening to the equipment being monitored.

The OpsWatch system is a cloud-based software solution.

Features:

- \cdot Real-time monitoring for vibration and shock
- \cdot Adjustable alarm thresholds for vibration and shock
- · Live streaming of accelerometer data
- · Ethernet enabled hardware and cloud-hosted software
- · Tamperproof hardware design



1.2. Technical Specifications

| OpsWatch Unit | |
|---|--|
| Amplitude Scale (Programmable) | 1g, 3g, 10g, 30g, 100g, 200g |
| Velocity Range | 1 cm/s, 3 cm/s, 10 cm/s, 30 cm/s, 100 cm/s, 200 cm/s |
| Scale Factor | +/- 2% |
| Additional Error Other Ranges | +/- 2% |
| Operating Temperature Range (Standard Unit) | -40°C to 85°C |
| Enclosure Rating | IP67 |
| Case Material | Aluminum |
| Drop Test Survival | 1 m |
| Flash Memory | 8192 Kbytes |
| Power | Power-over-ethernet |

Accelerometers

| Sampling Rate | 5000 samples/second (max) |
|--|--|
| Low Frequency Cut-off (-3dB) | 1. 0.5 Hz |
| High Frequency Cut-off @ Maximum Filter Setting (-3dB 10 g range and above) | 900 - 1100 Hz |
| High Frequency Cut-off @ Maximum Filter Setting (-3dB 3 g range and above) | 480 - 530 Hz |
| High Frequency Cut-off @ Maximum Filter Setting (-3dB 1 g range and above) | 180 - 220 Hz |
| High Frequency Cut-off @ Minimum Filter Setting (-3dB) | 20 - 25 Hz |
| High Frequency Roll-off | -9 dB/Octave |
| Resolution (% of Full Scale) | 0.1% 1% for Peaks |
| Scale Factor Accuracy at 5g (event record) | ±2% |
| Additional Error Other Ranges | ±2% |
| Additional Error Peak Capture | ±5% |
| Change of Scale Factor Over Time | ±4% |
| Acceleration Ranges | ±1g, ±3g, ±10g, ±30g, ±100g, ±200g |
| Velocity Ranges | ±1 cm/s, ±3 cm/s, ±10 cm/s, ±30 cm/s, ±100 cm/s, ±200 cm/s |
| Alarm Threshold (% of Range) | 5 - 95% |



PRODUCT MANUAL

OPSWATCH

2. Getting Started

2.1. Hardware Setup

Mounting

The OpsWatch unit should be mounted directly to the product being monitored in a structurally sound location. The OpsWatch can be secured with mounting screws or magnetic mounts. If holes cannot be drilled into the equipment being monitored, the magnetic mount is the recommended method.



When mounting the OpsWatch unit, the x-y-z orientation of the unit is as follows: X is perpendicular to the silver plate on the

OpsWatch case; Y is parallel to the silver plate on the case; and Z is vertical through the unit.

2.2. OpsWatch Software

The OpsWatch Cloud software allows you to reach your data from any device that can access the internet. The OpsWatch cloud receives data from each reporting device.

NOTE: Data is archived for 30 days on global.opswatch.net. Customers should export any data that they wish to save for longer periods of time.

2.3. User Management



When an OpsWatch system is ordered, the customer will provide the name and email address for the person acting as the company administrator. This person will be responsible for adding and editing system users.

With the admin access, log into the cloud software at global.opswatch.net. Click on the user icon and then select Users Admin.



A screen will open and allow the admin to create new system users.

| Sp o t See | | | | |
|--------------------------|----------------------------------|---|--------------|---------------------|
| Home | Users Admin | × | | |
| Settings | UserName akerr@shockwatch.com | | Role User | Edit Details Delete |
| | akerr@spotsee.io | | User | Edit Details Delete |

Click CREATE and complete the form to set up the new user.

| Sp o t See | |
|--------------------------|---|
| Home Settings | Create X Create a new account. |
| | Email |
| | Password |
| | Confirm password |
| | Select User Role O Admin O User Viewer |

User roles in the system are as follows:

- Admin Company specific user administrator has the ability to add users, devices, etc. (they only have visibility within their company). Able to edit device thresholds and acknowledge alarms.
- User Customer who has the same rights as an admin with the exception of creating/deleting/editing users for their company.
- Viewer This user can view OpsWatch screens but cannot access the Settings menu. The Viewer cannot acknowledge alarms.



2.4 Setup Guide for OpsWatch Ethernet

POE Injector Setup

To setup the OpsWatch Ethernet, follow these steps if network does not support Power over Ethernet (POE):

- Connect the ethernet cable from the Opswatch Ethernet device into the POE marked port on the POE injector.
- Connect the LAN marked port of the POE injector to your router via an ethernet cable.
- Connect the POE injector to the mains, the device will power up.
- Make sure you can access the router/gateway to get the IP address of the OpsWatch device.
- Alternatively, you can use IP scanning software (e.g. Angry IP Scanner) to check for newly connected devices to your network.





2.5. Configuring the Hardware

To configure device thresholds (X, Y, Z and Modulus Peak Alarm Levels), sample rate and range settings, the cover on the device will need to be removed to begin the process. Unscrew the cover ONLY WHEN IN A NON-HAZARDOUS AREA. WIth the cover removed on the OpsWatch Ethernet, press on the "Set" button on the device. The display will show the current parameter to be set. To change parameter to be set, press the "Set" button until you reach desired parameter. Then, press "Up" / "Down" buttons to change the selected parameter. Edit each parameter separately until you have all the setting changes complete that you require.



The user will set the range, filter, impact alarm level, sample period (slot duration) and sampling rate. The settings are explained below:

Range - The range setting determines the scale that the unit will use when recording impacts, range can be can be set for impact (g) or velocity (cm/s). In general, the larger and heavier the equipment being monitored, the lower the impact level that will damage the equipment.





PRODUCT MANUAL

The user will set the range, filter, impact alarm level, sample period (slot duration) and sampling rate. The settings are explained below:

Range - The range setting determines the scale that the unit will use when recording impacts, range can be can be set for impact (g) or velocity (cm/s). In general, the larger and heavier the equipment being monitored, the



lower the impact level that will damage the equipment.

Hardware Filter – OpsWatch contains a configurable hardware filter that eliminates higher frequency impacts which may simply be noise and not relevant to the application. If vibration is a concern, the filter should not be set lower than 250 Hz. Filter options higher than 250 Hz are included for specific applications. It is recommended that you discuss your specific application with SpotSee Technical Support before setting above 250 Hz.



PRODUCT MANUAL

Z Threshold (%) – This setting defines the level of impact on the Z-axis that is considered an alarm event. It is set as a percentage of the overall scale range.

Modulus Threshold (%) – The modulus is the vector sum of the x, y, and z axes. It is calculated as $\sqrt{(x^2 + y^2 + z^2)}$ This setting defines the level of impact for the modulus that is considered an alarm event. It is set as a percentage of the overall scale range.



Sample Rate – The sampling rate determines how fast the OpsWatch will collect data.













3. Navigating the OpsWatch Software global.opswatch.net

3.1. Logging In

Once you have your unit(s) configured go to <u>global.opswatch.net</u> and enter your username and password. If you forget your password, click on "Forgot your password?" to reset it.

Note: An account administrator will be set up by SpotSee when your first OpsWatch unit is ordered. The account administrator will set up new users in the system. If you do not have an account, please contact your company's administrator.



3.2. Adding OpsWatch Units

After logging in, hardware units should be added to the account. Click on the Settings tab. Home Settings

The software will open a page that allows you to add a new device. *Note: On this page you will see any devices that are currently associated with your account.* To add a new device, click on Add Device.



PRODUCT MANUAL

A window will open that allows you to enter the unit serial number (found on the aluminium case of the OpsWatch) and display name.

| Serial Number | Home | Device | Peak Thresholds | RMS Thresholds | Streaming | Streaming Fold | |
|---------------|---------------------|---------------|-----------------|----------------|-----------|----------------|--|
| | Devices | Serial Number | | | | | |
| | E-Mail Notification | 000203 | | | | | |
| | | Display N | lame | | | | |
| Display Name | System | ETHERN | NET TEST UNIT | | | | |
| | Connections Trace | IP Addres | s | | _ | | |
| | | 24.32.2 | 1.128:50475 | | | | |
| | | Display U | Init | | - | | |
| Ok Cancel | | Velocity | y (cm/s) | | ~ | | |
| on ouncer | | Promp | t for Downloads | | | | |

The display name should be something

meaningful to the user. It can describe the equipment being monitored.

After adding the device, select the Configure tab. In the Device tab, there is a checkbox Prompt for Downloads. Check the Prompt for Downloads box.

3.3. Disabling or Deleting OpsWatch Units

From the settings screen, it is possible to disable or delete OpsWatch units from the OpsWatch cloud.

Click Disable if you wish to suspend a unit in the system. When the units are disabled, they remain in cloud database but do not record any information. An example of a possible reason to disable a unit would be if the unit has been returned to SpotSee for calibration or repair.

Click Delete if you no longer wish to have the unit associated with your cloud account. An example of a possible reason is that the unit is not being used to monitor a system and you wish to return it to your general inventory for redeployment. Note: If you delete a unit, you will also delete all information associated with it in the OpsWatch Cloud.

3.4. OpsWatch Homepage

On the homepage, you can view the details for each of your OpsWatch units. The screen provides an overview of the devices connected (name, status and serial number); vibration (RMS) and impact (peak) data; and has links that allow you to expand your view of the vibration and impact data. Each of these aspects are detailed below. Scale ranges can be viewed as either acceleration (g) or velocity (cm/s)





The OpsWatch software provides "at a glance" reporting of each unit associated with your OpsWatch account. Each unit's reporting status can be viewed on the homepage. The units may be in the following state:

- Unit connected and reporting with no alarms all fields associated with the unit will be green. Status line will report **NORMAL**.
- Unit not currently connected but was connected at some point all fields will be yellow. Status line will report LOST CONNECTION.
- Unit connected and reporting with alarms all fields will be red. Status line will report **ALARM**.
- Unit connected and reporting with warnings relevant fields will be yellow. Status line will report WARNING.





3.5. Vibration and Shock

The OpsWatch recording device measures both vibration and impact and reports those conditions to the OpsWatch software. These values are reported as RMS Modulus for vibration and Peak Modulus for impact.

Impact Values - Peak

The impact values are recorded for all three axes (x, y, and z) and the modulus is calculated from those values.

Note: The modulus is the vector sum of the x, y, and z axes. It is calculated as $\sqrt{(x^2 + y^2 + z^2)}$.

In the example below, the impact peak modulus being reported over the specified time period (slot) is 2.1g. To view the time slot history, click on the 3-bar graph.



The Peak Data page will open and display the impact values over time. With a live refresh rate, the page will update at the end of every slot as defined by the user.

The page shows the values for modulus, x-axis, y-axis and z-axis peaks. The four graphs can be viewed using the scroll bar on the right side of the page to navigate the screen. The red line across each graph illustrates the alarm threshold level set by the user.

The graph displays the last 30 minutes of data. To look for a specific date and time or to look over a longer time period, use the Date Range feature.



| | 00 Demo Test Peak: 2.10g RMS: 2.10g Status: Normal Device Serial: 099999 | |
|-----------------------|---|--------------------|
| Data Range / Controls | From: 06/03/2020 12:31 PM To: 06/03/2020 1:01 PM Edit Date Range Pause Reset Zoom In/Out Export.csv | |
| | Scroll Bar Modulus Peak(g) | |
| | 30 25 20 Alarm Level 10 10 | |
| | 5 0 12:35 pm 12:40 pm 12:45 pm 12:50 pm 12:55 pm 1:00 p | IIIII pm |



To search for a specific time, click Pause to stop the live refresh. *Note: Pausing the live refresh rate does not result in data loss.*

The scroll and zoom in / out buttons can be used to move through the data or you can select Edit Date Range and a calendar will open.

| | | • | | | | | | | - | | | | | | | Procession of the local distance of the loca |
|--------|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|--|
| | Sun | Mon | Tue | Wed | Thu | Fri | Sat | 12:00 AM | Sun | Mon | Tue | Wed | Thu | Fri | Sat | 12:00 AM |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1:00 AM | 29 | 30 | 31 | 1 | | 3 | 4 | 1:00 AM |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 2:00 AM | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 2:00 AM |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 3:00 AM | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 3:00 AM |
| 1 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 4.00 AM | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 4:00 AM |
| | 29 | | 31 | 1 | | 3 | 4 | 5:00 AM | 26 | 27 | 28 | 29 | 30 | 1 | 2 | 5:00 AM |
| | | | | | | | | - | | | | | | | | - |
| and as | | | | | | | | | | | | | | | | |
| endar | | | | | | | | * | | | | | | | | • |

Enter the date and time of interest then click Ok.

The OpsWatch software will display the data stored for that date and time. *Note: It will take a few minutes to build the graph. The further back in time you go, the longer it will take to render the data.* This feature allows you to compare conditions over a period of time and spot potential trends.

Reset allows you to reset the graph to the current time period but does not turn the live refresh on. Resume turns the data refresh back on. *Note: It will take a couple minutes for the graphs to rebuild themselves depending on how long the data feed was paused.*



PRODUCT MANUAL

Impact Values - Alarm

When an impact occurs that is above the user defined threshold, the OpsWatch software will generate an alarm. When an alarm is generated, the Status will display that the unit has experienced an out of tolerance condition and the Peak Modulus will display in RED. A unit with an Alarm Event will show Alarm status and Peak Modulus in RED. To view the alarm events for the unit, click on the Alarm icon. See example below:



The Events screen will open and display impacts that exceeded the user defined threshold. From this screen, you may examine each specific impact event. The top graph represents each impact event peak. Click on an Event (Peak g) and the acceleration vs time curve for the selected event will be displayed below.

Note: The event selected in the Event Peak g graph will become slightly less transparent in color (red or green). The time of occurrence is the same in both graphs. These methods ensure that you are examining the impact of interest.

Alarms will appear in RED until the user selects the Acknowledge Event(s) button. This feature ensures that an unacceptable impact does not go unnoticed. Once the alarm has been acknowledged, it will appear GREEN. Even after it has been acknowledged, the data is available for review and analysis.

Select the x, y, z graph to expand the graph. Once expanded, it is possible to change the Graph Type. This feature allows users to perform post-processing analysis of the data.

Navigation cursors in the Selected Event screen allow you to move the event curve.

Left or Right





Up or Down



Zoom In or Out



Recenter



PRODUCT MANUAL

It is also possible to export the event data to a .csv file for additional post processing.

Note: Data is stored in the OpsWatch Cloud for 30 days, therefore, critical data should be exported to .csv files for archiving.

01 Demo Test Peak: 16.72cm/s RMS: 0.21cm/s

Status: V Alarm Device Serial: 052060





Vibration Values - RMS

Everything has a natural frequency which creates a vibration pattern that is considered "normal" for an object, however, when the vibration pattern changes this change can signal the need for preventative maintenance.

The OpsWatch unit measures underlying min peaks and calculates the Root Mean Square (RMS) value of the vibration. RMS is calculated as the square root of the average of the squared values of the vibration waveform. *Note: Calculating RMS vs storing the entire waveform is done to better manage the data.*

The RMS thresholds are set in the OpsWatch software. From the homepage, click on Settings, locate the unit of interest and the click Configure.



In the RMS Thresholds tab, enter the critical and warning levels (x, y and z axes and modulus) for your application. The Critical threshold must be set higher than the Warning threshold in all instances.

If the vibration levels exceed the warning level, the RMS Modulus field will turn AMBER and will display the RMS value. If the critical threshold is exceeded, the RMS Modulus field will turn RED.

01 Demo Test Peak: 16.72cm/s RMS: 0.21cm/s Status: V Alarm Device Serial: 052060





PRODUCT MANUAL

To view the vibration data for a connected unit, click on the RMS graph icon.

This page shows the RMS over time. The page will refresh its data at the end of each time slot.

The page shows the values for modulus, x-axis, y-axis, and z-axis RMS values. Use the scroll bars on the right side of the page to navigate the data. The amber line across each graph illustrates the warning level set by the user and the red line illustrates the alarm level set by the user.





The graph will display the previous 30 minutes of data. To navigate to a specific time period, use the Date Range feature.

To search for a specific time, click Pause to stop the live refresh. *Note: Pausing the live refresh rate does not result in data loss.* The scroll and zoom in / out buttons can be used to move through the data or you can select Edit Date Range and a calendar will open. Enter the date and time of interest then click OK.



PRODUCT MANUAL

The OpsWatch software will display the data stored for that date and time. *Note: It will take a few minutes to build the graph. The further back in time you go, the longer it will take to render the data.* This feature allows you to compare conditions over a period of time and spot potential trends.

The Export .csv button in the upper right of the page allows you to export the data into an excel file. An example of why you might export this data would be to import the data into a vibration system for additional lab testing.

Note: Data is stored in the OpsWatch Cloud for 30 days, therefore, critical data should be exported to .csv files for archiving.

Acknowledging RMS Alarms

If the RMS levels have triggered a Warning (Amber) or Alarm (Red), the alarm must be acknowledged by the user in order to clear the alarm condition. There are two ways to acknowledge the alarm conditions.

To clear an RMS Warning, click the Acknowledge Alarm icon on the home screen.

To clear an RMS Critical Alarm, click on the Graph icon to open the RMS graph page and then click Reset to clear the critical alarms.







Email Notifications

In the event the OpsWatch unit records a critical vibration (RMS) value or impact alarm (Peak), it is possible to set up an email notification such that the relevant team members are alerted.

Click on Settings and then click the E-Mail Notification tab. Complete the form to set up the email notification process. There may be multiple recipients in the "To Address(s)" field.

The following list provides an explanation of each field:

Server – E-mail server's name or IP address.

Port – Port the e-mail server uses for outbound emails.

User – Account on the e-mail server that the emails will send from.

Password – Password for the User account.

From Address – Address the alerts will show they are coming from.

To Address(es) – Address or addresses that will receive the alerts. Multiple addresses must be separated by a semicolon.

Enable TSL/SSL – Enables TLS/SSL if the server uses these security protocols.

Mail Notification Enabled – When this box is checked, the e-mail notifications will be active.

| Sp o t See | | |
|--------------------------|---------------------------|---------------|
| Home | E-Mail Settings | |
| Devices | Server | |
| E-Mail Notification | Port | |
| System | User | |
| Connections Trace | knunn@spotsee.io | |
| | Password | Show Password |
| | From Address | |
| | To Address(es) | |
| | Use Default Credentials | |
| | Enable TSL/SSL | |
| | Mail Notification Enabled | |
| | Save | |



Streaming Data

In some applications, it is desirable to capture raw data from the OpsWatch accelerometers for additional analysis. The OpsWatch system allows you to gather this information in two ways: Stream Now or Scheduled Stream.

Stream Now

To take a quick snapshot of the accelerometer date, click on the Settings tab from the OpsWatch homepage.



Click Configure on the device of interest.

01 Demo Test Peak: 16.72cm/s RMS: 0.39cm/s Status: V Alarm Device Serial: 052060

| evice | Peak Infesholds | KMS Inresholds | Streaming | Streaming Folder |
|----------|-----------------|----------------|-----------|------------------|
| Schedu | iled Stream | | | |
| ration | (seconds) | | | |
| Indeform | (acconda) | | | |
| | | | | |
| | | | | |
| Save S | Stream Settings | Stream Now | | |
| Save S | Stream Settings | Stream Now | | |
| Save (| Stream Settings | Stream Now | | |
| Save \$ | Stream Settings | Stream Now | | |
| Save S | Stream Settings | Stream Now | | |
| Save ! | Stream Settings | Stream Now | | |

Select the Streaming tab.

Enter the duration in seconds. The duration determines how long the data from the accelerometer will be sent to the cloud.

Click Save Stream Settings and then Stream Now.



Scheduled Stream

The second option for capturing accelerometer data is to use the Schedule Stream feature. This feature allows you to schedule routine accelerometer data capture sessions automatically.

Select the Settings tab on the OpsWatch homepage.

Select the Streaming tab and check the Scheduled Stream box.

Set the Start Time, the Interval (how often the data will be collected) and the Duration (how much data will be included in each stream).

Click Schedule Streaming and Save Stream Settings.

Streaming Folder

In both streaming options (Stream Now and Scheduled Streaming) the data from the accelerometers is sent to the Streaming Folder. In this folder, you may view, graph, or export the data set.

01 Demo Test Peak: 16.72cm/s RMS: 0.39cm/s Status: V Alarm Device Serial: 052060

| Device | Peak Thresholds | RMS Thresholds | Streaming | Streaming Folder |
|-----------|-----------------|----------------|-----------|------------------|
| Data Stre | am Files | | | |
| 6/3/2020 | 0 6:36:31 PM | View | raph Exp | port |
| 6/3/2020 | 0 6:23:54 PM | View | raph Exp | oort |
| 6/3/2020 | 0 6:23:53 PM | View | raph Exp | oort |

Sample View File

| Time | x | Y | Z | Mod |
|----------------|------|-------|-------|-------------------|
| 0 | 0.51 | -1.83 | -0.18 | -1.90824526725471 |
| 0.000244140625 | 0.51 | -1.83 | -0.18 | -1.90824526725471 |
| 0.00048828125 | 0.51 | -1.83 | -0.18 | -1.90824526725471 |
| 0.000732421875 | 0.51 | -1.8 | -0.18 | -1.87949461292125 |
| 0.0009765625 | 0.51 | -1.8 | -0.18 | -1.87949461292125 |
| 0.001220703125 | 0.51 | -1.8 | -0.18 | -1.87949461292125 |
| 0.00146484375 | 0.51 | -1.8 | -0.18 | -1.87949461292125 |
| 0.001708984375 | 0.51 | -1.8 | -0.18 | -1.87949461292125 |
| 0.001953125 | 0.51 | -1.8 | -0.18 | -1.87949461292125 |
| 0.002197265625 | 0.48 | -1.8 | -0.18 | -1.87157687525787 |
| 0.00244140625 | 0.48 | -1.8 | -0.18 | -1.87157687525787 |

Exporting Data Files

OpsWatch Cloud stores data for only 30 days. It is recommended that you export any critical data. Exporting can be done for both vibration and impact data.



4. Contact Information

Please visit us at <u>https://spotsee.io/support</u> to contact customer service or technical support.

