
# CTC connect WS300 Series Wireless Triaxial Accelerometer User Guide



Contents



## CTC connect WS300 Series Wireless Triaxial Accelerometer


## Product Information

**Specifications:**

- **Product Name:** WS300 Series Wireless Triaxial Accelerometer
- **Wireless Connectivity:** Bluetooth
- **Dimensions:** 3.5 x 2.0 x 1.5 inches
- **Weight:** 100 grams
- **Battery Type:** CR2032
- **Operating Temperature:** -10°C to 50°C

## Product Usage Instructions

1. **Battery Installation:**

   To install the battery, follow these steps:

   1. Remove the battery cover located on the back of the accelerometer.
   2. Insert a CR2032 battery into the compartment, ensuring the correct polarity.
   3. Replace the battery cover securely.
2. **Operation:**

   To use the WS300 Series Wireless Triaxial Accelerometer:

   1. Ensure the device is charged and turned on.
   2. Pair the accelerometer with your smartphone or computer via Bluetooth.
   3. Follow the manufacturer's instructions to start recording and analyzing data.
3. **FCC Compliance Statement:**

   This device complies with FCC regulations. To ensure proper operation:

   - Avoid causing harmful interference to other devices.

- Maintain a distance of at least 20cm between the device and your body.

4. **Canadian Compliance Statement:**
   This device meets Canadian regulatory requirements. Follow these guidelines:
   - Avoid causing interference with other devices.
   - Accept any interference that may affect the device's operation.

**Frequently Asked Questions (FAQ):**

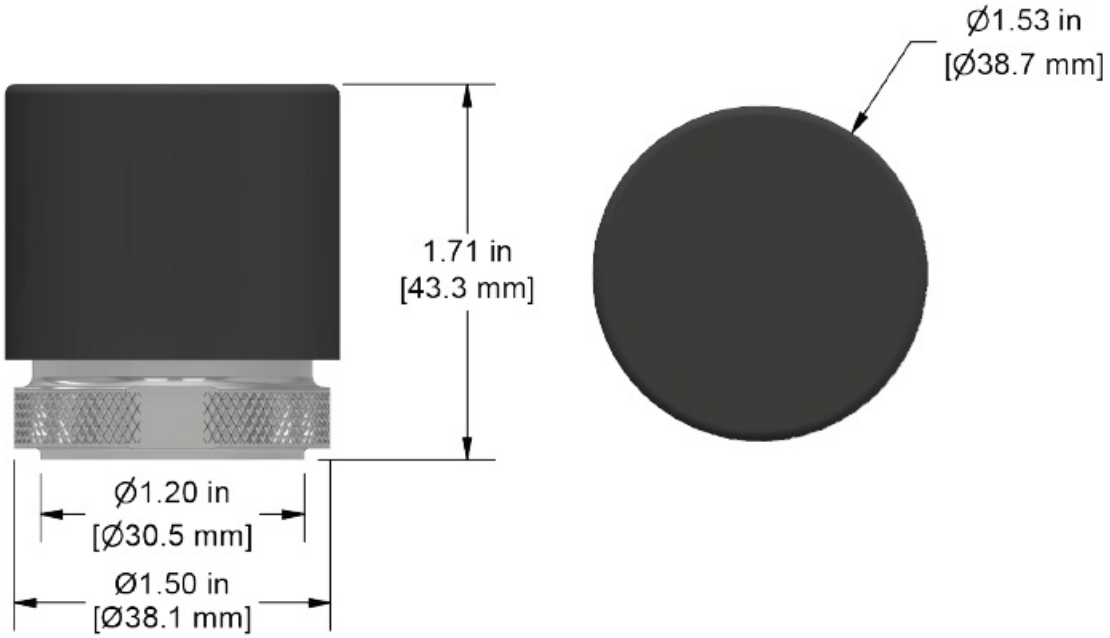
- **Q: How do I check the battery level on the accelerometer?**
  A: The battery level can typically be checked through the accompanying mobile app or software. Refer to the user manual for specific instructions.
- **Q: Can the accelerometer be used for underwater activities?**
  A: No, the WS300 Series Wireless Triaxial Accelerometer is not designed for underwater use and should be kept dry to prevent damage.

## Introduction

This document contains information on the installation, operation, and maintenance of the WS300 Series of wireless triaxial sensors.

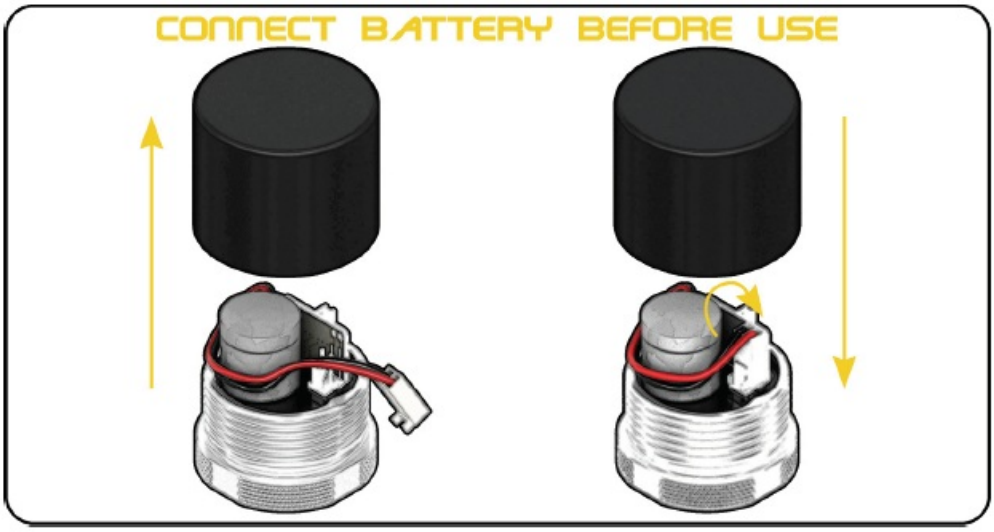
**WS300 Series Product Overview**

- CTC Connect WS300 Series Wireless Sensors capture and transmit three axes of dynamic vibration signals over a Bluetooth® Low Energy 5.2 connection, as well as temperature measurements. Within a clear line of sight, they can transmit data as far as 1200 ft/365 m.
- Data can be accessed via the CTC ConnectView Web App running on a CTC Gateway, or through custom software integration with the CTC Connect API and CTC Gateway.
- WS300 Series sensors are designed for permanent mounting on the machine's surface. To prepare the machine surface for installation, spot the face, drill, and tap the mounting location. CTC suggests using MH117 Series Installation Tool Kits.
- To view in-depth mounting instructions, please view our Mounting Guide.




### Battery Installation

To avoid premature battery usage, CTC Wireless sensors ship with the battery disconnected. To install, remove the cap and connect the battery's connector to the receptacle on the back of the exposed circuit board. Tighten down the sensor cap and your sensor will now begin sending out Bluetooth® advertisements for discovery. CTC Gateways and the preloaded Web App will automatically be scanned for these advertisements when running, making all detected sensors visible and autonomously establishing connections to newly discovered sensors.




### Operation

- WS300 Sensors have five configurable options – MEMS dynamic range, sampling frequency, reading length, automatic reading interval, and output samples coupling. The sensor will arrive pre-programmed with the following settings: ±32g dynamic range, 12800Hz sampling rate, 6400 samples per reading (per axis), a 12-hour automatic reading interval, and AC output coupling. If any of these parameters need to be changed, it is possible to do so from the sensor page on the CTC ConnectView web app.
- Readings will occur following the reading rate schedule programmed on the sensor. By default, this is a 12-hour interval, but may be changed using the app. Reading data is obtained from the sensor via a direct, active Bluetooth® connection between the sensor and gateway.

- The ACCESS360 Gateway and ConnectView web app automatically handles this acquisition of reading data. When viewing the data with the CTC app, the raw reading data samples will be displayed in a time waveform plot. An FFT will also be performed and displayed on a separate plot, and overall vibration amplitude measurements will be performed and displayed. Further processing operations, such as integration to velocity, can also be selected to be performed.
- Automatic readings can also be disabled in the ConnectView app. In this case, readings must be manually triggered while connected to the sensor. Note that whatever reading interval is configured, whether none or some other pre-defined interval, a manual reading can always be taken through the app during an active connection. When using an ACCESS360 Gateway and the CTC ConnectView web app, this can easily be achieved on the sensor page. If the gateway and the sensor in question do not have an active connection, it will automatically establish one for the acquisition.

## FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:**
The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

**NOTE:**
This equipment has been tested and found to comply with the limits for a Class B digital device, according to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used under the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**RF exposure statement**
This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

**Canadian Compliance Statement**
This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science, and Economic Development Canada license-exempt RSS(s).

**Operation is subject to the following two conditions:**

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the

device.

**RF exposure statement**
This equipment meets the exemption from the routine evaluation limits in section 2.5 of RSS-102. It should be installed and operated with a minimum distance of 20 cm between the radiator and any part of your body.

## Documents / Resources

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|  | CTC connect WS300 Series Wireless Triaxial Accelerometer [pdf] User Guide<br>2BKLG-WSCONNECT, 2BKLGWSCONNECT, wsconnect, WS300 Series Wireless Triaxial Accelerometer, WS300 Series, Wireless Triaxial Accelerometer, Triaxial Accelerometer, Accelerometer |

## References

- User Manual