WS100 Series
ConnectSens™ Wireless Sensor
Operational Guide

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Introduction

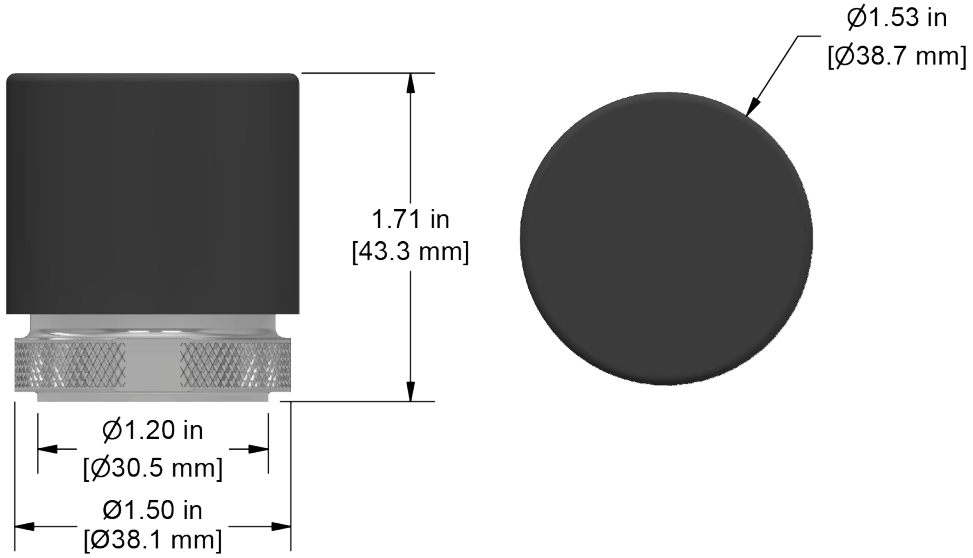
This document contains information on the operation of the WS100 Series of wireless triaxial sensors.

WS100 Series Product Overview

CTC Connect WS100 Series Wireless Sensors periodically collect triaxial vibration data within a selected frequency band, as well as temperature measurements. From this vibration data, overall vibration amplitudes are calculated in RMS, peak, and peak-to-peak formats. This data is then transmitted through non-connectable **Bluetooth®** advertisements. Within a clear line of sight, they can transmit data as far as 2100 ft/640 m.

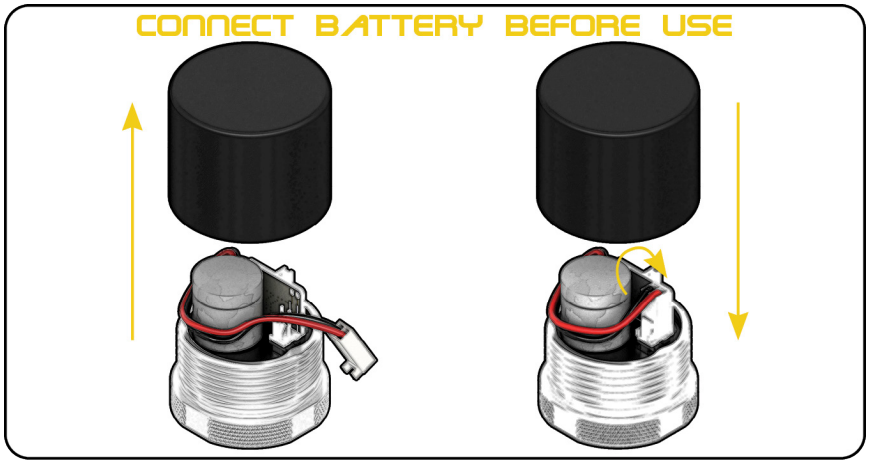
Data can be accessed via CTC ConnectView™ Web App running on a CTC Gateway, or through custom software integration with the CTC Connect API and CTC Gateway.

WS100 Series sensors are designed for permanent mounting on the machine surface. To prepare the machine surface for installation, spot 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 scanning for these advertisements when running, making all detected sensors visible.



Operation

WS100 sensors have 4 configurable options – output unit, MEMS dynamic range, frequency band, and reading period. It is important to realize that these options are factory configurable only, and cannot be changed in the field. Unless configured differently during ordering, the default settings for WS100 sensors are velocity output, ±32g dynamic range, 10Hz - 1kHz band, and a 12 hour reading period. This configuration covers the general 10Hz - 1kHz ISO band consistent with other process control style CTC products such as the SC310.

Although WS100 sensors continuously transmit Bluetooth® advertisements while powered, the underlying vibration and temperature data within the advertising packets is only updated when a new reading takes place. This occurs on the reading period configured during ordering. If the reading period is 1 hour for example, then the vibration and temperature data inside the advertising packets will change once every hour, with data from the new reading.

Connect Wireless Gateways running ConnectView™ web app are always scanning for these WS100 advertising packets and will automatically recognize new data. Note that since the WS100 only reports overall vibration levels, there are no time waveform or FFT plots available for view. When accessing data within CTC software, you will see the overall vibration and temperature values reported by the sensor, as well as a trend of the most recent reading values.

Note: CTC does not support direct Bluetooth communication between CTC ConnectSens Wireless Sensors and Bluetooth devices such as phones, tablets, or third-party hardware without a CTC Wireless Gateway. CTC will not provide documentation, support materials, or remote technical support for direct Bluetooth integrations.

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, pursuant 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 in accordance with 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 receiver.
- Connect the equipment into 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.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radio électrique subi, même si le brouillage est susceptible d'encompromettre le fonctionnement.

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.

Cet équipement est conforme à l'exemption des limites d'évaluation habituelle de la section 2.5 de la norme RSS-102. Il doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et toute partie de votre corps.

Need Additional Technical Support?

Need additional technical support for issues or questions about the Connect Wireless ecosystem?

Scan the QR code or use the hyperlink to access our convenient web form to submit your request online at any time.

CTC's experienced support team will review your inquiry and work quickly to resolve your issues.

scan QR code or

CLICK HERE FOR SUPPORT REQUEST FORM