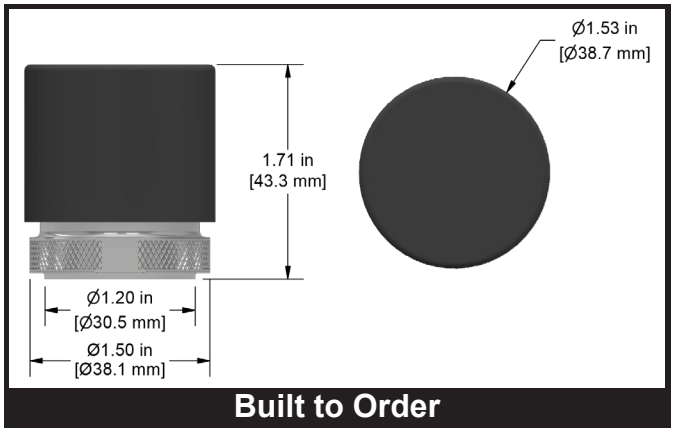
WS100 Series

ConnectSens™ Wireless Overall Triaxial Vibration Sensor with Temperature Output

Product Features

- **2100 ft (640 m) line of sight range**
- **Up to four years of autonomous operation**
- **RMS, Peak, Peak-to-Peak in acceleration or velocity**



Built to Order

Component Specifications

Specifications below reflect sensor use in conjunction with a CTC Connect Wireless Gateway. If a Connect Wireless Gateway is not used, specifications may vary. CTC does not provide technical support for direct integration of the sensor without a Connect Wireless Gateway.

Frequency Range	Factory configurable frequency bands
Resonant Frequency	5.5 kHz
Reading Duration (All Axes)	500 ms
Automatic Reading Interval	Factory configurable in hours from 1-24
Dynamic Range	Factory configurable: ±8 g, ±16 g, ±32 g, ±64 g
Data Output Format	Overall vibration in Peak, RMS, & Peak-to-Peak
Output Unit	Factory Configurable: acceleration (g's) or velocity (IPS)
Sample Resolution	16 bits
Temperature Measurement Range	-40 to 80 °C
Temperature Output Measurement Unit	°C
Power Source	Field replaceable 3.6V 1 Ah lithium battery pack (.35 gram lithium)
Battery Life	4 years based on 2 readings taken per day at 20 °C

Operating Temperature Range	-40 °F to 176 °F (-40 °C to 80 °C)
Maximum Shock Protection (Powered)	5,000 g, peak for 0.5 ms
Maximum Shock Protection (Unpowered)	10,000 g, peak for 0.2 ms
Sealing	Compressed Silicone O-ring
Ingress Protection	IP67
Operating Distance	Line of sight (2100 ft/640 m)
Wireless Protocol	**Bluetooth®** Low Energy 5.2
Sensing Structure	MEMS - triaxial
Weight	4.6 oz (130 grams)
Case Material	Stainless steel base with nylon cap
Mounting Thread	1/4-28 blind tapped hole
Mounting Torque	Base: 2 - 5 ft/lbs Cap: 4 - 5 ft/lbs
Mounting Hardware Supplied	1/4-28, M6x1, or M8x1.25 stud
EMC Compliance	FCC ID: 2BKLG-WSCONNECT ISED: 21201-WSCONNECT CE
Calibration Certificate	CW10
SIL Rating	SIL 2

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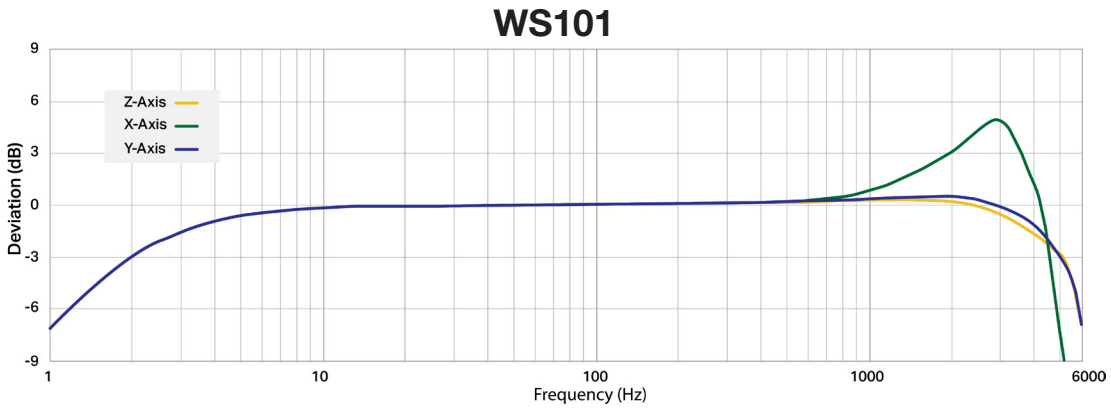
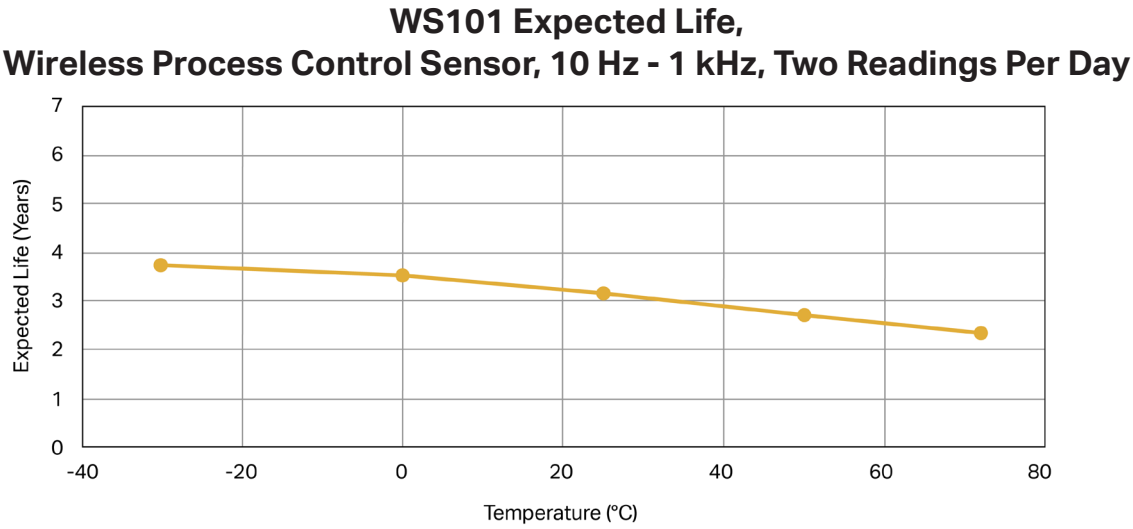
Example Frequency Response at 2 Hz - 5 kHz Frequency Range



Battery Information



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Ordering Information

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Stud Type

Blank = ¼-28
M = M6x1
M8 = M8x1.25

Output Unit

0 = Acceleration
1 = Velocity*

Dynamic Range

1 = ±8 g
2 = ±16 g
3 = ±32 g
4 = ±64 g

Frequency Range

01 = 2 Hz - 1 kHz
02 = 2 Hz - 2.5 kHz
03 = 2 Hz - 5 kHz
04 = 10 Hz - 1 kHz
05 = 1 kHz - 5 kHz

Auto Read Rate†

01 = 1 Hour
02 = 2 Hours
03 = 3 Hours
04 = 4 Hours
05 = 5 Hours
06 = 6 Hours
07 = 7 Hours
08 = 8 Hours
09 = 9 Hours
10 = 10 Hours
11 = 11 Hours
12 = 12 Hours
13 = 13 Hours
14 = 14 Hours
15 = 15 Hours
16 = 16 Hours
17 = 17 Hours
18 = 18 Hours
19 = 19 Hours
20 = 20 Hours
21 = 21 Hours
22 = 22 Hours
23 = 23 Hours
24 = 24 Hours

Ordering Number	Frequency Range	Sampling Rate (Hz)	Reading Duration (s)
01	2 Hz - 1 kHz	6400	0.5
02	2 Hz - 2.5 kHz	12800	0.5
03	2 Hz - 5 kHz	25600	0.5
04	10 Hz - 1 kHz	6400	0.5
05	1 kHz - 5 kHz	25600	0.5

* Compatible with 2 Hz - 1 kHz and 10 Hz - 1 kHz frequency ranges only.
† Achievable battery life depends on environmental conditions, configuration options, and sensor use. CTC recommends replacing the battery every 4 years, regardless of remaining battery life reported by software, due to effects of battery degradation over time. If operating above 50 °C, replace the battery in half that time.

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Connectivity

Connectivity

CTC WS100 sensors broadcast readings over **Bluetooth®** Low Energy 5.2, which can be picked up by CTC Connect Wireless Gateways. Complete your data collection route from your desk when utilizing a WS100 with a gateway. Each gateway can be used with an unlimited number of CTC wireless sensors within range, and allow for 20 simultaneous connections. Connect Wireless Gateways connect to your plant's network via an ethernet connection to request a reading on demand.

ConnectView™ Web App

CTC offers an easy to use web app that is included with the purchase of any Connect Wireless Gateway. Key features include:

- Nickname sensors & assign sensors to machine groups
- Easily view and export data:
  - Historical data & overall values for trending over time
- Set early warning and critical alert levels
- View battery life
- Web interface runs off of your local network - you own your data and control your security. This means no recurring data fees when utilizing your local network.

Our API also allows OEM customers to utilize their own software to communicate with CTC ConnectSens™ Wireless Sensors via a CTC ConnectBridge™ gateway.