

## Wireless Predictive Vibration Amplitude Sensor - 203

**Part Number: SS3-203**

### Overview

Swift Sensors Wireless Predictive Vibration Amplitude Sensor performs burst mode sampling at up to 1600Hz in short intervals and returns Peak-to-Peak, RMS, and Crest Factor measurements along the X, Y, Z axes. This sensor is ideal for monitoring rotating equipment and machines and is water resistant with a rating of IP66. This sensor can substantially enhance a Predictive Maintenance program by deploying low-cost wireless sensors on all equipment assets in need of monitoring and maintenance. Users can set the sample rate of the burst, the length of the burst, and the inspection rate, as well as thresholds for notifications via SMS text, email, and phone call.

### Simple, Plug-and-Play Deployment

Place the small battery-powered sensor in the location or on the equipment you need to monitor. The Swift Sensors Gateway instantly identifies the sensor and establishes-secure communication. No wires to connect. No software to install. Sensors are powered with 2 AAA lithium polymer batteries with an average lifespan of 6 - 8 years. Sensors can be powered on or put into sleep mode by pressing the center of the sensor. A green LED in the sensor blinks when the sensor powers on, turns solid when transitioning to sleep mode, and will blink when the "Find my Sensor" command is sent from the Console. All sensors send encrypted data to the gateway.

### Secure, Scalable, Cloud Architecture

The system is 100% cloud-managed. The gateway securely transmits sensor data to the Swift Sensors Cloud using 256-bit AES encryption. The system is scalable from a single sensor, one site application to multi-site enterprises with thousands of sensors.





### Real-time Monitoring and Analytics with Actionable Data

Swift Sensors Console allows real-time asset monitoring and sophisticated analysis from anywhere – on a computer, tablet, or smartphone. Data analytics provide operational insights and deep visibility. SMS text, email, and phone call notifications can be set based on customizable threshold values and complex rules by individual sensors or sensor groups.

### Applications

- ✓ Manufacturing and Production
- ✓ Facility Monitoring
- ✓ Museums
- ✓ Datacenters
- ✓ Warehouses
- ✓ Greenhouses
- ✓ Restaurants and Food Service
- ✓ Cold Chain Monitoring
- ✓ Transportation
- ✓ Building Management

## Operational Specifications:

<b>Power</b>	1.8 - 3.6VDC, 0.08mW Average
<b>Battery Type</b>	AAA x2 Replaceable "L92" Lithium Polymer
<b>Operating Voltage</b>	1.8VDC - 3.6VDC
<b>Avg. Current Consumption</b>	25 - 30uA (Active), 500uA (Command ACK), <5uA(Sleep)
<b>Operating Temperature</b>	-40°C to +60°C (-40°F to +140°F) Defined by Batteries
<b>Operating Environment</b>	Indoor/Outdoor, 0-95%+ RH
<b>Battery Life (Average)</b>	6 - 8 Years
<b>Communication Protocol</b>	BLE/BT5 2.4Ghz
<b>BLE Chipset</b>	nRF52840
<b>TX Strength</b>	Default +8dBm
<b>Range</b>	70m - 90m (250ft - 300ft) Line-of-Sight 30m - 45m (100ft - 150ft) Non Line-of-Sight
<b>Encryption</b>	128-Bit AES Encryption
<b>Button Press</b>	Click to turn on. Press and Hold 2 sec to put in sleep mode
<b>LED</b>	Green LED: 2 sec. blinking when turning on Green LED: 2 sec. solid when entering sleep mode
<b>Find My Sensor</b>	Command from Console to blink sensor LED
<b>Weight</b>	56g (2 oz)
<b>Dimensions</b>	77.5mm x 57.5mm x 44mm (2.26in. x 1.73in. x 0.73in.)
<b>Enclosure Material</b>	ABS PA-765+
<b>IP Rating</b>	IP66
<b>Certifications</b>    	FCC ID: X8WBT840F IC ID: 4100A-BT840F CE Compliance: 2014/35/EU, 2014/53/EU, 2014/30/EU
<b>EMC Compliance</b>	FCC Part 15 Class B
<b>Flammability Rating</b>	UL94-0V
<b>Warranty</b>	2-years



Measurements Specs:	
<b>Sensitivity Range (g)</b>	2, 4, 8 16g configurable, 4g Default
<b>Burst Sample Period</b>	0.1 - 1s configurable, 0.5 Default
<b>Config. Burst Sample Rate</b>	100Hz, 200Hz, 400Hz, 800Hz, 1600Hz: 1600Hz Default
<b>Measurements</b>	Peak-to-Peak X, Y, X RMS X, Y, X Crest Factor (Peak/RMS) X, Y, Z
<b>Inspection Rate</b>	10 - 30 Minutes, 30 Minute Default

## Swift Sensors Gateway

The Swift Sensors Gateway collects encrypted data from sensors located within the specified communication range (< 90m/300ft) and then transmits the sensor data to the Swift Sensors Cloud through either Ethernet, Wi-Fi, or cellular. The gateway auto-detects all sensors within range and will immediately establish secure communication without any user configuration or setup. Each gateway can support up to 150 Series 3 sensors.

## Swift Sensors Console

All sensor data is logged and stored in the Swift Sensors Cloud. The Swift Sensors Console is configured to monitor and track all sensor data in the cloud. Multiple thresholds and alerts can be set separately for each sensor to supply notification via SMS text, email, or phone call. The console can be viewed in a web browser on a computer, tablet, or smartphone.

No programming is required to configure the console. An API to the Swift Sensors Platform allows integration with other data sources and 3rd-party data analytics tools.