



BLUETOOTH WIRELESS VIBRATION SENSOR FOR HAZARDOUS LOCATIONS





PART NUMBER: **SW-BT-A SENSOR**

The GTI Predictive wireless vibration sensor, certified for use in hazardous locations, is an ultra-low power, battery operated, wireless sensor that measures vibration and temperature. It uses the latest Bluetooth 5 low power wireless communications standard and can operate stand alone, or in a network of multiple sensor devices. Operation is user programmable, from waking up at pre-determined intervals to take vibration and temperature measurements, through near continuous operation, constantly monitoring data and signalling pre-set events. Raw data is then available for transmission to a host device for processing, trending and archiving.

The main components of the wireless sensor are a piezo-electric accelerometer, signal conditioning electronics, anti-aliasing low pass filter, analog-to-digital conversion, power/wake-up control and a low power radio module. The field replaceable battery is contained in a sealed compartment and the device mounts, via a screw thread, directly onto the machine which it is monitoring.

The wireless vibration sensor provides a solution for condition monitoring of rotating machinery. It is used primarily in process industries where common applications are monitoring of motors, fans, pumps, gearboxes etc. The device provides data from which overall values of vibration, bearing condition and temperature (often referred to as process variables) as well as high resolution spectra of vibration and bearing envelope, can be determined.

When compared with wired alternatives, the wireless vibration sensor offers the advantages of extreme ease of installation and battery life up to 5 years.

- **Monitors vibration and temperature**
Measuring Range +/- 20g
- **Certified for use in Hazardous Locations**
- **High resolution spectra can be calculated from measured data**
- **Fully compatible with Bluetooth 5 standard**
- **Self-contained device that mounts directly onto the machine**
- **Rugged and corrosion resistant**
- **Field replaceable battery, up to 5 years life**

HIGH PERFORMANCE

Outstanding measurement capability. User selectable operating modes.

SIMPLE INSTALLATION

Simply fix the sensor to your machine, set it running and it measures, unattended for up to 5 years.

RUGGED

Suitable for harsh industrial conditions. Corrosion resistant.

WIRELESS OPERATION

Low power radio, with power management, ensuring long battery life.

FLEXIBLE

Available in OEM versions, programmed to suit your requirements. Can also be programmed by you. Contact GTI Predictive for details.

AW-BT-A SENSOR

MEASUREMENTS	Number of Channels: Accelerometer Input Sensor Type: Sensitivity: Measurement Range: Frequency Range (+/-3dB): Resonant Frequency: Amplitude Linearity: Dynamic Range: Temperature Input Temp Measurement Range: Accuracy:	2 (1 x vibration and 1 x temperature) Piezoelectric accelerometer, ultra low power 50mV/g +/-20g at 50mV/g 0.3 to 10000 Hz 25kHz ±1% typical in passband >70dB -30°C to +85°C +/-2.0°C, (0.5°C from 0°C to +65°C)
DATA ACQUISITION	ADC: Sample Rate: Anti-Aliasing Filter: Data Block Lengths: Spectral Line Equivalent: Modes:	16-bit SAR Programmable from 256Hz to 25.6kHz Compound analog/digital 256 to 16384 samples Spectral Line 100 to 6400 lines Continuous, Wake-Up, Triggered ('g' level) Manual wake-up via magnetic switch
PROCESSING	Processor: Configuration: Programming:	Ultra Low Power, 32 bit Over Radio Network Firmware upgrades over radio network
COMMUNICATIONS	Network: Certifications:	Bluetooth 5 Europe: R&TTE USA, Canada, International: FCC/IC
MECHANICAL	Enclosure: Dimensions: Mounting:	Base: Stainless Steel, Cover: Plastic Weight 200g 6mm diameter x 102mm high Internal ¼-28 UNF thread
ENVIRONMENTAL	Operating Temperature: Sealing: Compliance: Hazardous Locations:	-30°C to +85°C IP66 CE, RoHS ATEX II 1G Ex ia IIC T4 Ga -20°C to +75°C
POWER	Battery Type: Battery Monitor: Battery Life: Replacement:	Lithium Thionyl Chloride, 3.6V, Size AA, SAFT LS1400EX Internal battery monitor Up to 3 years (dependent upon measurement intervals) Field Replaceable



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