

Oceana Sensor

Wireless Vibration Sensor

“Stop Sending a Man to Do a Sensor’s Work”

Oceana Sensor's *Wireless Vibration Sensor* is a stand-alone, single point wireless vibration node. In a completely wire-free package, it incorporates features for ultra low power consumption with power management technology, appropriate bandwidth and resolution, internal signal processing and battery. It addresses the market for small, self-sufficient, affordable devices to monitor machinery autonomously for condition-based maintenance and operations.



The *Wireless Vibration Sensor* is based on 802.11 wireless communications, thus allowing the user to deploy it with existing network infrastructures. This device is IP addressable and uses Simple Network Management Protocol (SNMP) providing for easy device monitoring and network management. Expected battery life is 5 years which will be *extended* or *reduced* based on the user's specific duty cycles. Device management software included.

Applications:

- Eliminate or Complement Walk-Around Vibration Collection
- Go Where No Human Dares
 - Inaccessible
 - Hot
 - Dangerous

The Wireless Vibration Sensor offers:

- Stand-alone single-point sensing capability
- High bandwidth and resolution
- IP addressable 802.11b/g communication
- User-configurable data acquisition parameters
- Long battery life

Wireless Vibration Sensor - Short Specification

Hardware

Item	Value
Sensor	100 mV/g accelerometer (OST PB3AXN)
Battery	1 AA Lithium-thionyl chloride
Battery life	5 years*
Electronics	WSeM™
Sensor housing	Stainless Steel base Aluminum body with plastic top
Size	~4" long x 1 ½" diameter
Temperature range	-40 – 85°C (-40 – 185°F)

*Based on acquiring one time series with 1024 block size and transmission once per week.

Software Functionality (User Configurable)

Item	Value	Comments
Measurement Bandwidth	0.5 – 2000Hz	
Acceleration Range	15 g peak	
Block sizes	512, 1024, 2048 and 4096	This is used to determine the acquisition of the time series
Signal processing	RMS, Average, Conversion to Engineering units, i.e. g	Any one of these can be selected and transmitted. The simplest form is transmitting the time series.
Filtering		Programmable in the converter

The Wireless Sensor Configuration Software Tool serves as a dual purpose utility by enabling its users to view or set their sensor configurations as well as view the data associated with each of these nodes, stored in either CSV (comma separated variables) files or in a JDBC-compatible database.

When accuracy matters, always verify information in this document with Oceana Sensor as it may have changed without notice.