

*Delivers Dynamic  
Machine Vibration Data*



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# SENTRYRE®

*Wireless, Self-Powered Accelerometer*



*Compact Sensor Module*

## Sentyre® Node

- One accelerometer
- Self-forming, self-healing wireless mesh network
- 1/4"-28 standard thread mounting
- Rapid, simple install and setup
- Dynamic waveform acquisition

## Typical Use Case

- 4 - 2048 sample waveforms per day
- 96 second data report interval
- 800 Line FFT
- Up to a 3 year battery life

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Impact Technologies is dedicated to providing commercial and military customers with a truly wireless, self powered, sensing system capable of *delivering full spectrum vibration data* within minutes of opening the box.

The Sentryre® is a low cost, compact, self-contained, low power, mesh network enabled, wireless sensing node. Utilizing an embedded accelerometer together with a processing/radio platform the Sentryre delivers *dynamic machine vibration data* to the operator without the constraint of wires or cables.

The Sentryre can give you the flexibility to view dynamic waveform data not just a peak-to-peak view. This gives you a full view of your machine's

vibration data rather than just a snapshot. You can choose to have vibration samples according to your prescribed schedule or by choosing waveforms on demand at any given critical moment.

The Sentryre has been designed to operate at extremely low power levels. This enables the Sentryre to provide vibration data for up to 3 years without maintenance.

The Sentryre system is scalable to 250 nodes or points of measurement in one network. Each node can be easily programmed by the user to specific intervals of waveform acquisition. To expand upon this flexibility, the user can set the parameters to control the amount of time it takes to receive a waveform.

## Software Integration

The Sentryre Wireless Network Adapter and host computer interface software seamlessly integrate a network of Sentryre devices with your application. The user configuration and data management are simple and standard. The data acquisition rate and block size are readily configured using a simple XML file. Data is logged on any standard PC running Windows XP. The data is readable and can be edited with any text editor, or can be interfaced readily with other data management tools.

## Physical Characteristics

- Size: 2.5" x 3.0" (6.4 x 7.6 cm)
- Volume: 5.5 in<sup>3</sup> (90.1 cm<sup>3</sup>)
- Weight: < 6 ounces/ 160 grams
- Mounting Thread: 1/4"-28 female or magnet
- Power: Battery - 1/6 D-cell (0.5 in<sup>3</sup>)
- Operating Temperature (designed to): -40°C to +85°C
- No External Electrical Connections; Self-contained sensor, radio, processor and battery

## Sensor Integration

- Completely self-contained sensor, radio, processing and power. No external cables.
- Provides over-the-air programming, data requests and firmware updates. A completely 'no touch sensor'.

## Dynamic Measurements

### User Configurable:

- Sample Rates
- Sample Lengths
- Scheduled and On Demand Waveform Collection
- FFT processing



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## Detailed Description

- Robust 2.4 GHz Wireless Mesh Network
- Sensor, radio, processor, and battery self-contained
- Sampling rates (sps): 1875, 3750, 7500, 15k, 30k
- Waveform sample length: up to 2048 samples
- A/D resolution: 16 bits effective
- A/D SNR: 96 dB
- Frequency response: 20 Hz to 8,000 Hz (+/- 3 dB)
- Dynamic Range: 46dB (0.01-4 g)