



Vibration Sensor Node

The SmartDiagnostics® family of innovative wireless sensor products enables the cost effective implementation of advanced predictive maintenance processes for any company. The system provides continuous remote monitoring of vibration and temperature to track the operating health of the monitored equipment.

Optimized for low-power usage, SmartDiagnostics® Vibration Sensor Nodes use KCF Technologies' proprietary wireless protocol that transmits the full dynamic vibration spectrum over the air on a nearly continuous basis. Primary Receiver Nodes collect the information from the sensors and relay them to the Collection Server and to VMS software to provide you with reliable and accurate data.



Give Your Machines **a Voice**

RELIABLE MONITORING

Vibration Sensor Nodes provide vibration monitoring in the most hard-to-reach, rugged locations. Each node communicates directly with a receiver, which stores the data on a collection server. The data is transmitted wirelessly and imported into the Vibration Monitoring Software system, where machine health can be quickly and accurately monitored.

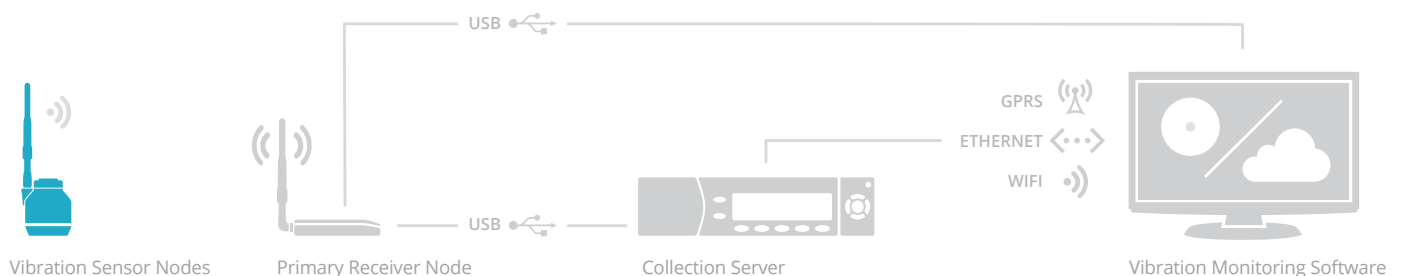
FLEXIBLE CONFIGURATION

The system is highly configurable. Up to 100 sensor nodes can send vibration to each receiver. The sensors can be configured to transmit data on a user-selected frequency, and different monitoring bands can be implemented to caution or warn users when a frequency of interest reaches a specified level.

COST EFFECTIVE

SmartDiagnostics® can predict failure before it occurs, saving money spent on unnecessary replacements and extending machine life. At the same time, energy costs are reduced, as cleaner running machines are more efficient. Skip the downtime, expense, and labor costs of old-fashioned, hard-wired sensors. Simply place the sensors where you need them and within minutes they'll transmit data.

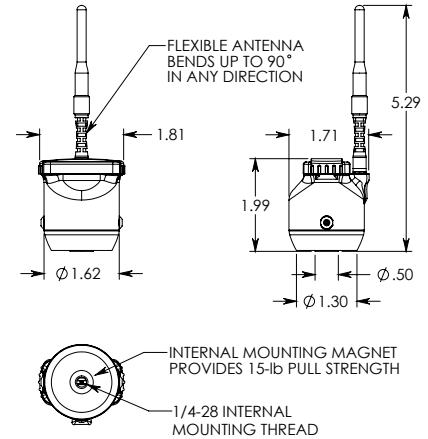
The SmartDiagnostics® System





Vibration Sensor Node Specifications

Dimensions	1.62in diameter x 1.99in height (41.1mm x 50.5mm) Excluding antenna
Weight	4.1oz (115g)
Wireless	<ul style="list-style-type: none"> • 2.4GHz ISM band radio (FCC ID # Z51SD2) • 2Mbps over the air data rate • Frequency agility interference mitigation • Dynamic packet error recovery
Antenna	<ul style="list-style-type: none"> • Flexible antenna, 90° in any direction • Optional SMA antenna adapter • Impact resistant • Steerable
Power Source	<ul style="list-style-type: none"> • 3 Volt lithium (CR123A or equivalent), or • One of KCF's line of energy harvesters
Battery Life	Full spectrum acquisition every: <ul style="list-style-type: none"> • 60 minutes (24 per day) -- 10 years • 15 minutes (~100 per day) -- 5 years • 2.5 minutes (~500 per day) -- 2 years
Enclosure Material	Aluminum and polycarbonate enclosure
Measurement Range	+/- 16 g
Measurement Resolution	0.013 g
Frequency Range	0-4096 Hz (Max sampling frequency 8192 Hz)
Spectral Resolution	800 spectral lines
Temperature Measurement Range	-40 to 70°C
Temperature Resolution	+/- 0.5°C
Mounting Options	<ul style="list-style-type: none"> • Internal 15 lb pull strength magnet • Screw mount 1/4in-28 internal threaded hole in base. • Any standard adapter that fits into the threaded hole
Environmental Testing	-40 to 70°C storage & operating, IP65 enclosure, 5ft drop on concrete surface



Industry Applications

- Industrial HVAC/R
- Oil & Gas
- Power Generation
- Pulp & Paper
- Food & Beverage

Features & Benefits

- Accurately monitors vibration and temperature in a variety of locations.
- Wireless communication allows for instant results and efficient operation.
- Robust industrial strength design allows vibration sensor nodes to be reliably used in harsh industrial environments.
- Very easy installation – no wires, no tools – locate, place, and go.
- Extremely low power operation enables very long battery life or use with energy harvesters.



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