SMART VIBRATION SENSOR GEN4 (TYPE 114)

Sensor & Gateway

Features

- Scheduled and interrupt-driven monitoring
- RPM measurement for variable frequency drives
- Always-on motion detection vibration sensor
- Frequency range from 6 Hz to 25.6 kHz
- Full-scale range of ±16 g or ±64 g
- Hybrid capacitor and D-cell battery for extended battery life
- Industrial-grade triaxial vibration and temperature sensor
- FFT analysis
- Multiple readings per day
- Magnetic or ¼"-28 UNF thread mounting options
- Temperature-compensated readings
- Noise filtering with low- and high-pass filters
- Communication range up to two miles

Sensor Environmental and Regulatory Qualifications

- Operating temperature: -40°C to 70°C (-40°F to 158°F)
- Enclosure rating: UL94 HB
- Compliance: FCC (U.S.), IC (Canada), C-Tick (Australia), Anatel (Brazil), IDA (Singapore)

Sensor Data

- Monitoring type: Triaxial accelerometer
- 4,096 samples per axis
- Mounting options: ¼"-28 UNF thread or magnetic
- Power: 3.6V size D lithium battery with supercapacitor

Gateway
Actual Size: 11.5"H (with antennae) x 4.1"W x 4.25"D

Sensor
Actual Size: 3 ¼"H x 1 ⅞"D

Specifications

- XBee modem frequency: 868 MHz or 900 MHz
- Encryption: 128-bit AES
- Sensor height: 85 mm (3 ¼")
- Sensor diameter: 48 mm (1 ⅞")
- Sensor weight: 225 g
- Gateway: 11.5"H (with antennae) x 4.1"W x 4.25"D
- Gateway weight: 3 lbs

APPLICATIONS

Equipment Monitoring
- Motors
- Pumps
- Compressors
- Turbines
- Industrial Pumps
- Fans and Blowers
- Conveyor Belts

Structural Health Monitoring
- Metal Fatigue
- Loose Joints
- Foundation Shifts

Quality Control
- Tool Wear
- Imbalance

Software

Dashboard

- Intuitive charts for temperature, acceleration, velocity, and RPM
- Peak overall velocity graphs for easy analysis
- Axis-specific isolation (X, Y, Z) for targeted review
- Graphs include acceleration, velocity, displacement, FFT, and RPM
- Designed alerts to minimize fatigue and prioritize action

Customization

- Time-domain waveform access
- Equipment mapping with custom naming
- Spectral waveform (FFT) visibility
- Notification and escalation groups via SMS and email