1-CHANNEL VIBRATION PLUS SENSOR CLASS 1 DIVISION 2 FOR HAZARDOUS ENVIRONMENTS

Sensor & Gateway

Features

- C1D2 certified for hazardous environments: Groups A, B, C, D (acetylene, hydrogen, ethylene, propane)
- Explosion-proof, non-incendive design to prevent ignition
- Full spectral vibration and temperature sensing
- 3-axis vibration sensor with ± 16g range
- Calculates RMS, Max, and Min g vibration, RMS velocity, RMS displacement, and peak vibration frequency
- Built-in FFT analysis
- Sample rate up to 25.6 kHz
- Frequency range: 1.56Hz to 6.4kHz; up to 8 kHz in Time Domain mode
- Multiple sensor readings per day with manual reading capability
- Noise reduction via low-pass and high-pass filtering
- Magnetic, epoxy, ¼ NPT, or ¼-28 UNF mounting options
- Internal antenna with up to 2-mile line-of-sight range

Sensor Environmental and Regulatory Qualifications

- Operating temperature: -40°C to +125°C (-40°F to +257°F)
- Humidity: 0 to 95% non-condensing
- Pollution tolerance: AQI 0 to 300
- Sensor enclosure: IP65; probe: IP68
- NEMA Type 3R enclosure
- Flammability: UL94 HB
- RoHS compliant
- Certified: UL 121201 / CSA C22.2 No. 213
- Maintenance must be performed safely; housing must remain uncompromised for certification

Sensor Data

- Triaxial accelerometer
- Probe temp range: -40°C to +105°C (-40°F to +221°F)
- 2-meter shielded probe cable
- Power: 6 AA Energizer L91 batteries (optional 5–12V DC external)
- ±16g measurements; 16-bit resolution @100Hz to 25.6kHz

Sensor
Actual Size: 3.6"L x 5.75"W x 2.1"H

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

Specifications

- Wireless frequency: 900 MHz
- Encryption: 128-bit AES
- Sensor dimensions: 3.6"L x 5.75"W x 2.1"H
- Sensor weight: 0.93 lb
- Clearance requirement: 3"
- Gateway dimensions: 13.75"H x 5.5"W x 2.5"D
- Gateway weight: 1.15 lb

APPLICATIONS

Wireless Vibration Monitoring
- Factory-floor machines
- Motors
- Pumps
- Compressors

Hazardous Environment Monitoring
- Oil and gas facilities
- Chemical and paint processing plants
- Mining and milling operations
- Pipelines, silos and flammable material handling sites

Predictive Maintenance & Diagnostics
- Early fault detection
- Remote condition monitoring
- Control system integration

Industrial IoT & Connectivity
- Wireless data collection
- Mesh-networked sensor integration
- Gateway-based infrastructure
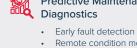
Software

Dashboard

- Real-time vibration and temperature charting
- Peak overall velocity graphs
- FFT spectrum analysis
- Display of acceleration, velocity, and displacement metrics
- Axis isolation (X, Y, Z)
- Toggle between Celsius and Fahrenheit
- Visual notification features designed to reduce alert fatigue
- High-speed vibration sampling rates of 50Hz, 100Hz, 200Hz, 400Hz, 800Hz, 1600Hz, 3200Hz, 6400Hz, 12800Hz, and 25600Hz

Customization

- Equipment mapping with facility-specific naming
- Time domain waveform access
- Spectral waveform (FFT) access
- Configurable notification and escalation groups (SMS/email)