

TRUE PREDICTIVE MAINTENANCE

Replace vacuum pumps based on monitored health rather than at failure or by hours in service

FREQUENCY-BASED VIBRATION MONITORING

Fast Fourier Transforms (FFT) convert time-based vibrations into the frequency domain

FAULT PREDICTION

Effluent build up
Bearing wear/failure
Mechanical wear/damage
Oil contamination/loss
Exhaust line obstructions
Pump rebuild quality control

MODELING

Empirical model builder allows users to create custom pump vibration models

DATA ANALYTICS AND ALERT LIMITS

Specialized health metrics with independent user defined alarm and abort limits

ALERT NOTIFICATION

Easily integrate alerts directly to the equipment control system and automatically send e-mail or SMS messages

INSTANT DATA STORAGE AND VISUALIZATION

Collect, store, and visualize up to a year of health metric data directly on the smart sensor

EXTERNAL DATA ANALYSIS

Export data from the user interface into Microsoft Excel

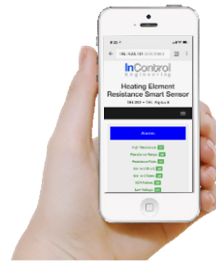
SOFTWARE API

Easily integrate smart sensor data with any factory system for external collection and analysis



BENEFITS

- Reduces wafer scrap
- Eliminates unscheduled maintenance downtime
- Lowers equipment cost of ownership
- Prevents equipment contamination and damage
- Monitors while the process equipment is idle
- Pump matching and benchmarking
- Data resides safely behind your firewall
- Fast same-day integration



SPECIFICATIONS

Vibration Smart Sensor Module

- Up to 8 accelerometers (one per motor)
- 10kHz frequency range (Nyquist) with a 20kHz measurement sampling frequency
- Two dry contact alert relays
- 1.2GHz Broadcom BCM2837 CPU 1GB RAM
- 32GB MicroSD SSD (standard) or 120GB SATA SSD with no removable MicroSD cards (optional)
- 100 Base-T Ethernet LAN
- 2.4Ghz 802.11n Wireless LAN
- Power input 100-240VAC 50/60Hz 0.5-0.2A
- Operating temperature -10 to +70°C
- NGINIX web server
- NTP time synchronization
- SMTP e-mail interface
- User upgradable software
- DIN rail mount

Dimensions

- 2-channel 16.0L x 11.7W x 6.9H cm
- 4-channel 23.6L x 11.7W x 6.9H cm
- 6-channel 31.2L x 11.7W x 6.9H cm
- 8-channel 38.9L x 11.7W x 6.9H cm

One-year hardware warranty

Accelerometer (Standard Model)

- Single-axis ceramic piezo 10.2 mV/(m/s²)
- Operating temperature -54 to +121°C
- Magnetic, bracket, and thread adapter mounts
- Integral cable 3m
- Dimensions 14Ø x 64L mm
- Other accelerometer options available

Embrace the power of Industry 5.0 to connect your equipment, manufacturing process and personnel closer than ever before. InControl Engineering's smart sensor technology employs high speed measurements in conjunction with edge processing to enhance your predictive maintenance capabilities beyond what is achievable with the existing data collection and analysis on your equipment.



Quickly add new sensors to your existing equipment to provide better visibility into your manufacturing process and equipment health. Utilize our smart sensor platform to easily access this new sensor data through your phone, tablet, or personal computer.