

Wilcoxon Advanced Sensing Technologies

Advanced sensing capabilities for extreme environments

- Seismic detection
- Underwater sensing
- Helicopter monitoring

Solution capabilities

Wilcoxon advanced sensing technologies excel in high performance sensing and monitoring systems for military, energy and industrial applications. Our diverse research and development staff has decades of experience in creating products for complex monitoring systems.

Our advanced design and testing experience delivers short prototype cycles and minimum redesigns for complex sensing systems.

Engineering excellence

- Finite Element Analysis (FEA) design and modeling
- Low-power analog electronics
- Digital interfaces
- High shock survivability
- Design to military specifications

Testing capabilities

- Noise measurements
- Shock survivability
- Underwater sensitivity, phase and directionality
- Magnetic heading and inertial pitch/roll calibrations
- Pressure and temperature
- Military standards
MIL-STD-461, MIL-STD-810, RTCA/DO-160



Turning ideas into advanced monitoring solutions and products

Typical maritime sensing applications

- Towed and stationary arrays
- Sonobuoys
- Listening stations
- Shipboard machinery and hull monitoring

Underwater sensing

Advanced underwater products are available for military intelligence, surveillance and reconnaissance applications. Other applications include sensor solutions for structural integrity monitoring, oil and gas exploration and mammal detection.

Advanced Sensing Technologies

Seismic detection

Advanced sensing technologies provides seismic sensors for military intelligence, surveillance and reconnaissance applications. Other applications include sensor solutions for structural integrity, earthquake monitoring, nuclear nonproliferation monitoring and oil and gas exploration.

Typical seismic and infrastructure monitoring applications

- Perimeter and road surveillance
- Border intruder detection
- Underground intruder detection
- Deep sea acoustic surveillance
- Vibration monitoring of bridges, building and towers



Helicopter monitoring

Advanced sensing technologies provides a variety of flight safety sensors for commercial and military helicopter applications. Our sensors are at work in CH-53, MH-53, H92, UH60M and HH60M helicopters providing superior monitoring capabilities in extreme environments. Every helicopter sensor is built with intricate cable protection mechanisms providing long-lasting reliability.

Typical helicopter monitoring applications

- Rotor, track and balance (RTB)
- Engine monitoring
- Transmission monitoring
- Ride quality
- Structural vibration
- Landing impacts
- Bearing monitoring
- Temperature monitoring



Wilcoxon product options

Vector sensors

Vector sensors measure the acoustic pressure and particle acceleration in three orthogonal axes. When combined, the four channels of the vector sensor produce a cardioid directivity pattern which provides approximately 4.8 dB improvement in the signal to noise ratio over a traditional omnidirectional pressure sensor. In addition, engineering sensors are embedded within the housing and when combined with acoustic sensors, can provide a bearing to the target.



Helicopter sensors

Accelerometers for helicopter Health and Usage Monitoring System (HUMS) applications. Our sensors are at work in CH-53, MH-53, H92, UH60M and HH60M helicopters providing superior monitoring capabilities in extreme environments. Sensors are used in the rotor track for bearing monitoring and are fitted to the swashplate for vibration monitoring at the rotor. Additional sensors are mounted at critical points throughout the drive path to the tail rotor for monitoring vibration and temperature.



Seismic sensors

Seismic sensors combine a super-sensitive piezoelectric accelerometer with an ultra-low noise amplifier and excellent electrical/mechanical isolation to deliver unmatched performance in measuring low-level vibration. Industrial sensors are primarily designed to measure low amplitude, low frequency signals in applications such as structural monitoring and vibration isolation verification. High shock versions are designed for military applications requiring air dropped payloads or rugged deployments.



Contact us for more information on advanced sensor products

Additional product lines

- Hydrophones
- Power supplied
- Underwater accelerometers
- Mounting accessories