RESENSYS

Application Note

Wireless Machinery Monitoring

With Wireless SenSpot™ Sensors

Keywords: wireless machine condition monitoring, remote industrial machine monitoring system, wireless machine monitoring system, machine monitoring solutions, wireless machine monitoring sensors, wireless machine health monitoring system

Wireless Machinery Monitoring provides an advanced and comprehensive solution for assessing the structural integrity and operational performance of industrial machinery. Utilizing Resensys Wireless SenSpot™ Sensors, this system ensures real-time data collection and long-term monitoring, enabling enhanced operational efficiency and safety. Key monitoring capabilities include:

- **Strain/stress and load monitoring**
- **Crack detection and monitoring.**
- **Rotation monitoring for moving components**
- **Tilt and inclination monitoring**
- **Vibration monitoring for machinery health and seismic events**
- **Deflection and displacement monitoring.**
- **Crane monitoring for safety and reliability**
- **Utility towers monitoring to ensure structural stability**

Monitoring system at utility tower

Monitoring system at Hydroelectric Plant (Power Plant Generator)

Monitoring system at a crane

Monitoring system at a crane beam

Applications of Machinery Monitoring

Industrial machine monitoring systems are invaluable across a wide range of sectors, including manufacturing, energy, mining, and transportation. Whether you need to monitor motors, pumps, turbines, or compressors, machine health monitoring systems help detect early signs of wear and tear. This ensures that issues such as machine vibration and temperature anomalies are addressed before they escalate into costly repairs or equipment failures.

How Wireless Machine Monitoring Systems Work?

Resensys offers cutting-edge wireless sensors that capture critical data such as vibration levels, temperature fluctuations, and pressure variations. These sensors provide real-time insights into the health of your machinery, allowing for prompt interventions. By remotely monitoring key performance indicators (KPIs), wireless machine monitoring solutions ensure that you always have a clear understanding of the condition of your machinery, no matter where it is located.

Benefits of Wireless Machinery Monitoring Solutions

- **Reduced Maintenance Costs:** With continuous monitoring, you can move from reactive to proactive maintenance, minimizing unexpected breakdowns and repairs.
- **Real-Time Data:** Remote access to real-time data helps operators make informed decisions swiftly, optimizing machinery performance.
- **Easy Installation and Scalability:** Resensys' machine monitoring sensors are wireless, making installation straightforward without complex wiring or additional infrastructure.

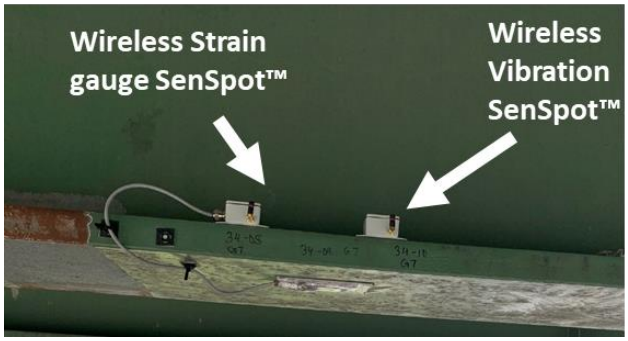
Resensys Machine Monitoring Sensors

Resensys offers a comprehensive range of machine monitoring solutions that are designed to be both reliable and energy-efficient. Our wireless sensors, including vibration and temperature monitors, offer:

- Wireless Strain gauge SenSpot™
- Wireless High/Medium Resolution Tilt SenSpot™
- Wireless Displacement gauge (Crack meter) SenSpot™

- Wireless Accelerometer (3D Vibration) SenSpot™

Installed Wireless Strain Gauge SenSpot™ sensors to detect cracks at a structure of a Hydroelectric Plant



Wireless Strain Gauge SenSpot™ and Wireless Accelerometer SenSpot™ at a machinery equipment

Installed Wireless Strain Gauge SenSpot™ sensors inside a Plywood Factory

Wireless Accelerometer SenSpot™s on utility tower limbs for vibration monitoring

Wireless Displacement gauge (deflection sensor) SenSpot™ at a machinery equipment

Wireless medium resolution tiltmeter (inclinometer) SenSpot™ at a machinery equipment

What Sets Resensys Apart for Machinery Monitoring?

Our wireless machine monitoring systems stand out for their ultra-low power consumption and ease of use. Designed to be deployed in the most challenging environments, Resensys sensors ensure robust, reliable performance while requiring minimal upkeep. With a proven track record in structural health and industrial monitoring, we provide machine health monitoring systems that offer unmatched precision and durability. In addition, Resensys offers:

- **High-Precision Sensors:** Resensys sensors deliver accurate and reliable data for actionable insights.
- **Easy Installation:** Wireless technology do not require complex wiring, simplifies setup, and reduces installation costs.
- **User-Friendly Software:** SenScope™ software provides intuitive data visualization, analysis tools, and remote access.
- **Scalable Solutions:** Our modular systems can be easily expanded to accommodate growing monitoring needs.
- **Long Battery Life:** Up to 10+ years of operation, minimizing the need for replacements.
- **Rugged, Weather-Proof Design:** Built for durability in harsh industrial environments.

- **Maintenance-Free Operation:** Reliable performance with minimal upkeep required.
- **Immediate Alert Services:** Alerts are conducted quickly through text messages or email notifications when measurements exceed the set and customizable thresholds

Applications of Wireless Machine Monitoring in Machinery

- Predictive maintenance for rotating equipment (pumps, fans, turbines)
- Condition monitoring of production lines and industrial machinery
- Monitoring of critical components in power plants and refineries
- Structural health monitoring of machine housings and foundations

Looking for a customized machine monitoring system that fits your industrial needs? Resensys wireless sensors can help gain valuable insights into the health of machinery, enabling proactive maintenance strategies and optimized operations.

Contact Resensys today to learn more about our reliable, wireless monitoring solutions and how they can help you achieve operational excellence of machinery.
