Wind applications – wind turbine

Vibration sensors help improve wind turbine reliability and efficiency, so you can minimize unplanned downtime, reduce operating costs and protect critical components from damage or failure.

**Vibration monitoring for wind turbines**

Using accelerometers for condition monitoring of wind turbines is proven to maximize operational uptime and minimize maintenance costs. Detecting and preventing unexpected component problems is a priority. Vibration monitoring establishes machine baselines, allowing trend histories of key components. This provides a cost-efficient, reliable choice for maintaining components, extending equipment life and maximizing operational efficiency.

**Vibration monitoring benefits**

- Accelerometers can reveal machine’s health
- Low cost implementation
- Increased safety and asset management
- Better alarm handling and reporting
- Programmable alarm functions for automatic work order generation
- Optimized maintenance scheduling

ISO standard 10816-21 for wind turbines recommends these components are monitored and evaluated for vibration in order to detect faults:

- Bearings
- Gearbox
- Shaft
- Tower
- Generator

**Quickly identify machinery faults**

- Bearing damage*
- Gear mesh faults*
- Lubrication issues*
- Imbalance*
- Misalignment
- Bent shaft

* primary causes of equipment failure
Reliable vibration monitoring helps you understand asset condition

Sensors for data driven decision-making | Critical vibration measurement points | 7 sensors per wind turbine

Key considerations, recommended solutions and products for wind turbine applications

<table>
<thead>
<tr>
<th>Consideration</th>
<th>Solution</th>
<th>Product</th>
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<tr>
<td>A - main bearing, low speed shaft (&lt; 20 RPM)</td>
<td>High output sensor, optimized for low RPM (6 RPM) measurements</td>
<td>786LF-500/787-500</td>
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<tr>
<td>B - gear box input, low speed shaft with roller bearing consideration</td>
<td>High output sensor capable of detecting low speed shaft input and high frequency impacts from faulty roller bearings</td>
<td>786LF-500/787-500</td>
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<td>C - gear box (gear mesh faults)</td>
<td>Compact/tight tolerance sensor, standard accelerometer</td>
<td>780A, 786A</td>
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<tr>
<td>D - axial measurement</td>
<td>Compact/tight tolerance sensor, standard accelerometer</td>
<td>780A, 786A</td>
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<tr>
<td>E - generator input and output</td>
<td>Isolated sensor with high EMI resistance designed to withstand arcing between sensor base and internal electronics up to 6000V, standard accelerometer, isolator mounting base (isolation protection up to 1600 volts)</td>
<td>HV200 (786A + SF21)</td>
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Why choose Wilcoxon?

- Customer support
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