

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



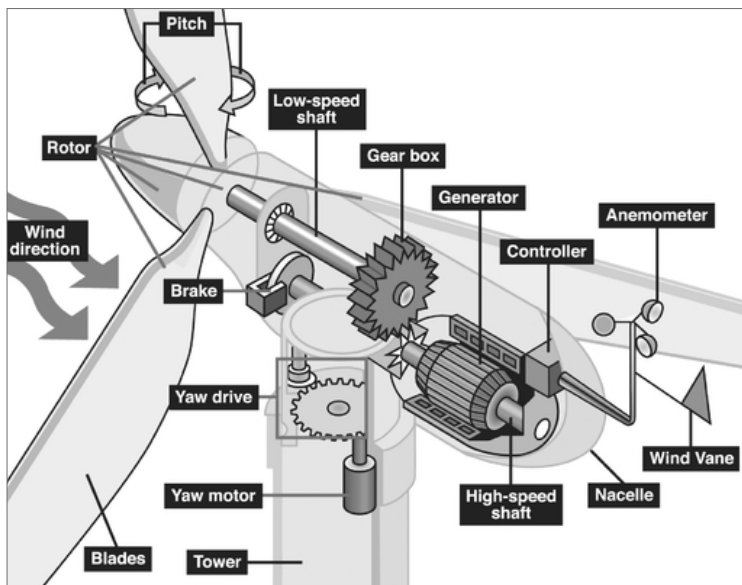
ISO standard 10816-21 for wind turbines recommends these components are monitored and evaluated for vibration in order to detect faults:

- Bearings
- Gearbox
- Shaft
- Tower
- Generator

Quickly identify machinery faults

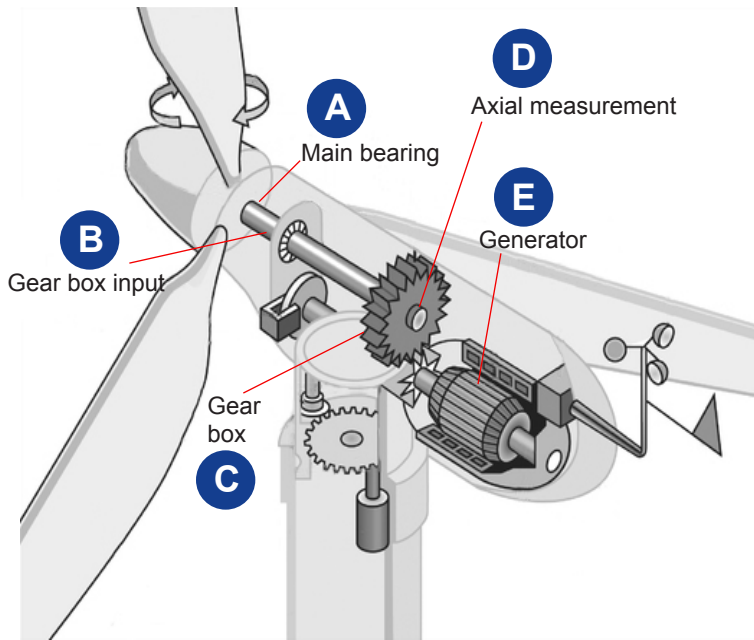
- Bearing damage*
- Gear mesh faults*
- Lubrication issues*
- Imbalance*
- Misalignment
- Bent shaft

* 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



A = 786LF-500/787-500

B = 786LF-500/787-500

C = 780A/786A

D = 780A/786A

E = HV200
(786A + SF21)



Key considerations, recommended solutions and products for wind turbine applications

Consideration	Solution	Product
A - main bearing, low speed shaft (< 20 RPM)	High output sensor, optimized for low RPM (6 RPM) measurements	786LF-500 787-500
B - gear box input, low speed shaft with roller bearing consideration	High output sensor capable of detecting low speed shaft input and high frequency impacts from faulty roller bearings	786LF-500 787-500
C - gear box (gear mesh faults)	Compact/tight tolerance sensor, standard accelerometer	780A, 786A
D - axial measurement	Compact/tight tolerance sensor, standard accelerometer	780A, 786A
E - generator input and output	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)	HV200 (786A + SF21)

Authorised distributor

In Australia:

For customer service, call 1300-735-292
To email an order, ordersau@thermofisher.com
To order online: thermofisher.com

In New Zealand:

For customer service, call 0800-933-966
To email an order, ordersnz@thermofisher.com
To order online: thermofisher.com