
OIL, GAS AND CHEMICALS

ABB WiMon

Enable wireless condition-based
monitoring of rotating machines



Turn any machine into a connected and intelligent asset with the ABB WiMon wireless condition monitoring system

For oil, gas and chemical companies, manual retrieval of temperature and vibration data from equipment in hard-to-reach and dangerous areas can be costly and jeopardize the safety of operators.

01



01 ABB WiMon 100 Sensor

02 ABB WiMon wireless monitoring system with a WirelessHART™ network of WiMon 100 sensors can be easily integrated with an ABB Ability System 800xA.

One complete system for condition monitoring

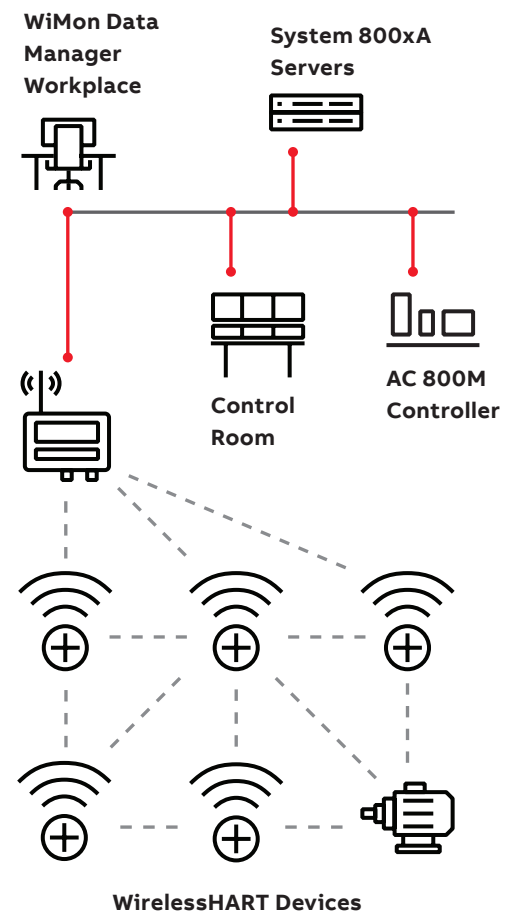
The ABB WiMon wireless condition monitoring system helps enable condition-based maintenance for rotating equipment.

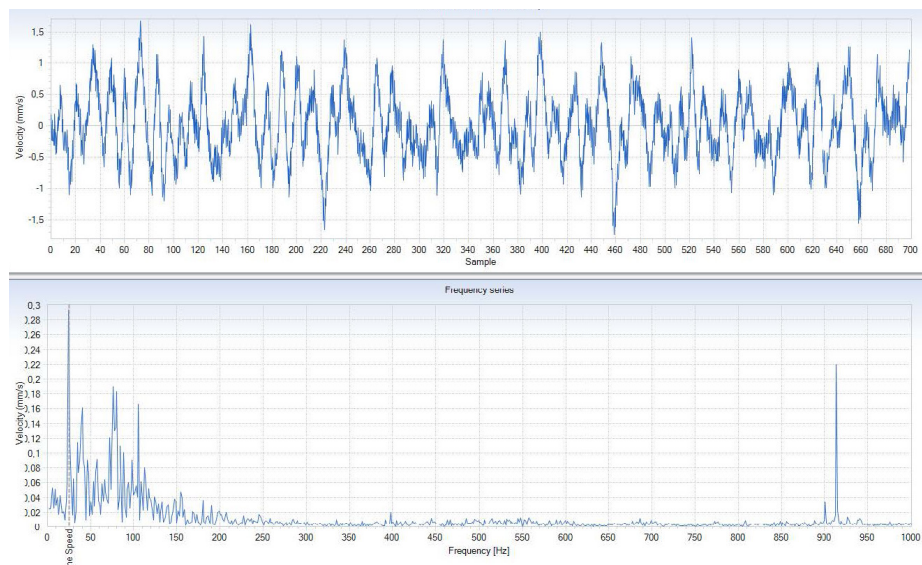
It works by securely attaching ABB WiMon sensors to equipment so vibration and temperature data can be tracked. System installation and configuration are quick and easy to allow data collection and monitoring to begin almost immediately. One sensor is enough to turn any rotating machine into an intelligent asset connected to the ABB Ability™ infrastructure.

Benefits

- Reduces opex costs by eliminating the need for manual retrieval of data
- Enables monitoring of equipment in difficult-to-reach or dangerous areas
- Reduces maintenance of sensors with extended battery life and protection against water, temperature fluctuations and explosive gases
- Helps determine the right time for maintenance or proactive equipment replacement
- Ensures compliance with ISO 10816 guidelines
- Optimizes user experience with easy-to-use system for data collection, storage and analysis

02





03

03 Vibration waveform
measurement example

System components

The ABB WiMon wireless condition monitoring system comprises an ABB WiMon 100 sensor, WirelessHART infrastructure gateway and WiMon Data Manager.

WiMon 100 sensor

The ABB WiMon 100 is a small wireless sensor that can be easily mounted on rotating equipment to capture vibration, temperature and acceleration envelope data. It's durable and versatile, offering an extended battery life of at least five years and protection against water, temperature fluctuations and explosive gases. When multiple WiMon 100 sensors are installed, they form a mesh communication network to ensure secure and reliable transmission of condition data to a gateway and monitoring and analysis tools.

WirelessHART gateway

The WirelessHART gateway enables WiMon 100 sensors to communicate and manages the network security and connectivity. It provides a mesh grid capability that ensures pervasive network coverage for every type of industrial floor, including the busiest of chemical sites.

WiMon Data Manager

WiMon Data Manager is a software solution that provides operators an easy-to-use interface. With it, users can schedule automatic or manual data collections, view condition trends, review network and sensor diagnostics for system maintenance and integrate data with external analysis tools, such as ABB Analyst.

System features

Sensor features

- Certified for operation in ATEX Zone 0
- Comprehensive sensing technology collects all relevant signals to verify the mechanical health of the machine:
 - Vibration speed from 10 Hz to 1 kHz
 - Acceleration envelope of 500 Hz to 10 kHz
 - Temperature from -40 °C to 85 °C
- Interoperability with ABB and third-party machines
- Four mounting types to accommodate a range of rotating machines

Software features

- Machine view enables users to build an inventory hardware tree and attach WiMon 100 sensors to machines and/or processes being monitored
- Ability to configure warning and alarm levels for overall values of vibration velocity, acceleration envelope and temperature
- Timestamped list of alarms, warnings and events
- Group trend view for machines or processes, which enables easy detection of changed behavior of one or more measurement points
- Visual indication with colors on sensors if warning or alarm limits are passed on one or more measurements
- Waterfall diagram of velocity and acceleration envelope FFT to allow for problem root cause analyses



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ABB AS

Ole Deviks vei 10
N-0666 Oslo
Norway
Phone: +47 22 87 20 00

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