ABB WiMon
Enable wireless condition monitoring of rotating machines

Overview
The ABB WiMon wireless condition monitoring system tracks vibration and temperature data to enable condition-based maintenance of motors, fans, pumps and other rotating machines. It eliminates the need for manual data collection and enables equipment located in difficult-to-reach or dangerous areas to be monitored.

Operators can quickly install and easily configure the system, allowing for 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.

The WiMon sensor offers a battery life of at least five years and can reduce the maintenance costs as well as extend the operation time of rotating equipment.

WiMon includes a robust and redundant meshed wireless network to prevent signal interruption. It will automatically switch to alternate pathways if data transmission is disrupted.

Benefits
- Reduces opex costs by eliminating the need for manual retrieval of temperature and vibration data
- Reduces capex costs compared to traditional wired solutions
- 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
- Determines the right time for maintenance or pro-active equipment replacement
- Ensures compliance with ISO 10816 guidelines
- Optimizes user experience with easy-to-use system for data collection, storage and analysis
### Specifications

**Temperature measurement**
- **Measurement range**: -40°C to 85°C
- **Resolution**: 0.1°C
- **Accuracy**: +/- 2°C
- **Repeatability**: +/- 0.2°C

**Vibration measurements (overall values)**
- **Velocity**
  - **Amplitude range**: 0.2 to 350mm/s (10hz)
  - **Frequency range**: 10Hz to 1kHz
  - **Detection type**: RMS
- **SKF Acceleration Enveloping Filter 3**
  - **Amplitude range**: 0.25 to 245 m/s²
  - **Frequency range**: 500Hz to 10kHz
  - **Detection type**: Peak to peak

**Data processing**
- **A/D conversion**: 16 bit
- **Sampling frequency**: 5.859kS/s
- **Sampling interval**: 0.7s
- **Uploaded waveform resolution**: 2048 samples / 0.7s

**Wireless communication**
- **Network standard**: WirelessHART (HART 7.4)
- **Radio standard**: IEEE 802.15.4
- **Frequency**: 2.4 GHz, License Free ISM Band
- **Range (nominal)**: >50m @ line of sight

**Power**
- **Battery type**:
  - **Estimated battery lifetime**: Up to five-year battery life, depending on temperature, settings and usage; see below:

<table>
<thead>
<tr>
<th>Operating temperature °C</th>
<th>-40° to 20°</th>
<th>-20° to 0°</th>
<th>0° to 40°</th>
<th>40° to 70°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated battery life in years</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

**Environmental**
- **Temperature**
  - **Operation**: -40°C to 85°C
  - **Storage**: 30°C maximum
- **IP class**: IP66 (dust-tight and resistant to powerful water jetting)

**Certifications**
- **EX (Hazardous areas)**
  - ATEX Zone 0
  - Ex ia IIC T4 -40°C/85°C
- **Radio**
  - ETSI
  - EN 300 328 v.1.8.1
  - EN 301 489-1 v.1.9.2
  - EN 301 489-17 v.2.2.1

**Physical**
- **Weight**: 0.2 kg
- **Case material**: Stainless steel / thermoplastic
- **Mounting**: 1/4 28 UNF tapped hole
- **Dimensions**: 100 x 36 mm

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### Why choose ABB

- **WiMon sensors** can be easily installed on both ABB motors and third-party rotating machines
- **We offer one of the few sensors certified for operation in ATEX Zone 0**
- **Our solution** offers a mesh grid capability that ensures pervasive coverage on every type of industrial floor, including the busiest of chemical sites
- **We offer four different mounting types** to accommodate a range of rotating machines
- **Our expertise**, combined with more than 100 years of experience in the field of rotating machines, has been incorporated into WiMon technology to deliver an industry-leading solution
- **We offer a full range of services** to support your plant, including:
  - Product commissioning
  - Maintenance and field services
  - Repairs
  - Spare parts services
  - Training
  - Analysis services

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