

OneWireless Equipment Health Monitoring



Honeywell's OneWireless Equipment Health Monitoring (EHM) R110 is a compact wireless vibration monitoring solution for rotating assets that provides full dynamic data and timely monitoring measurements to improve monitoring at a more attractive price point than traditional wired or portable monitoring systems. OneWireless EHM helps improve plant safety and reliability, increase uptime and reduce maintenance costs.

Industrial plants have thousands of rotating assets such as pumps, compressors, fans, agitators, motors and turbines that are infrequently manually condition-monitored to determine their mechanical health. There can be 2 to 10 weeks between manual asset measurements which can leave rapidly developing mechanical problems such as bearing deterioration, gear failure or motor failure undetected, causing them to fail without warning. Sudden catastrophic asset failure is the most common reason for unscheduled downtime in industrial plants. Due to the prohibitive installation costs of a wired online monitoring system, only a small percentage of these critical assets are monitored online. OneWireless EHM provides a cost-effective means to regularly monitor the remaining essential or critical assets.

A typical OneWireless EHM solution includes sensors, the compact wireless vibration monitoring unit (Wireless interface Module or WIM) which the accelerometers are wired into, Honeywell's OneWireless network and EHM analysis software from SKF. Each EHM WIM can accept inputs from 4 standard accelerometers, 4 additional inputs such as direct voltage or standard 4-20 ma sensors and 2 tachometers for monitoring variable speed assets. The EHM WIM is unique in being able to use standard sensors while running on battery power. The unit can also use local power where it is available. The EHM WIM's 24 bit data acquisition resolution, coupled with simultaneous sampling rates up to 100 KHz for the accelerometers, provide all the needed measurement capability to ensure early detection of typical failure modes. The provided software has a rich set of features for root cause analysis including detailed historical data of each monitored defect and includes a robust set of reporting tools to summarize the significant monitored events.



Key Features

- Certified to ATEX Zone 2, IP67 North America
- Four ICP/Accelerometer channels
- Four direct or 4-20ma channels
- Two digital inputs for speed/triggering/gating
- Simultaneous measurements on all channels
- IEEE 802.11b/g standard (WiFi), supports WEP, WPA, or WPA2/PSK security
- External wake-up
- Up to 40 kHz bandwidth (102.4 sampling) with up to 12,800 lines resolution/ 1 minute update rates.
- Battery or optional 10 to 30 V DC power
- Acceleration enveloping filters 2, 3 and 4

OneWireless EHM Solves Problems for all Verticals

Application	Refining and Chemicals	O&G	MMM	Power	PPP	Pharma
Gearboxes	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓
Bearings	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓
Pump impellers	✓✓	✓✓	✓✓✓	✓	✓✓	✓
Cooling Tower fans	✓✓✓	✓	✓✓✓	✓	✓✓	✓✓
Compressors	✓✓✓	✓✓	✓✓	✓✓✓	✓✓	✓
Motors	✓✓	✓✓	✓✓	✓✓✓	✓✓✓	✓
Conveyor bearings	✓	✓	✓✓✓	✓	✓	✓
Process Monitoring	✓	✓	✓	✓	✓✓✓	✓

MMM = Metals, Minerals and Mining; O&G = Oil and Gas; PPP = Pulp and Paper

Benefits

- **Increase uptime:** Improve equipment availability by preventing unplanned shutdowns and equipment failure with more frequent monitoring.
- **Reduce maintenance costs:** Spot damages early, schedule maintenance and prevent minor damage from progressing into complex and costly major damages.
- **Better planning:** With ample warning time for repairs, maintenance can be scheduled more efficiently and spare parts can be available when needed to simplify parts inventory management.
- **Manage offsite assets:** Monitor difficult to reach and distant assets such as tank farm pumps, cooling tower fans or pumps and compressors that are widely dispersed across the plant. Use wireless technology to quickly set up a solution anywhere in the facility.
- **Perform root cause analysis:** The system maintains detailed historical archives to assist with root cause analysis.
- **Monitor assets during startup, after repairs and other milestones:** Reduce the commissioning risk for newly deployed or repaired assets by closely monitoring their start up.

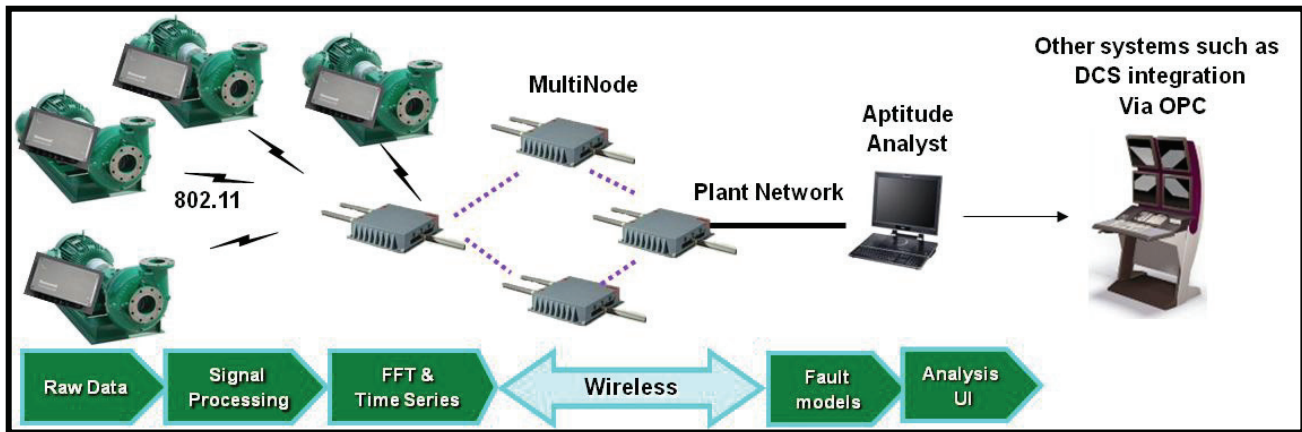
Honeywell's Reliability Solutions

The Honeywell Wireless EHM solution is part of a broader family of reliability solutions. The broader Honeywell solution includes the capability to provide overall asset condition assessment looking at the overall health of all key assets, equipment performance monitoring to detect asset performance degradations, corrosion monitoring and modeling solutions.

EHM is part of an effective electronic operator rounds program using IntelaTrac PKS to ensure that other asset problems such as leaky seals, oil levels and other visibly observed conditions are detected and handled pro-actively.

Summary

The Honeywell Wireless EHM solution is designed to extend the benefits of a wired condition monitoring system to the remainder of your plant where it is cost prohibitive to use a wired solution. This will increase overall plant reliability, safety and reduce maintenance cost spending.



More Information

For more information about OneWireless system, visit our website www.honeywell.com/ps/wireless, or contact your Honeywell account manager.

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PN-09-10-ENG
 April 2009
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