CBMvision™

Enterprise Condition Monitoring

Online Diagnostic System

Product Data Sheet

EASY INSTALLATION

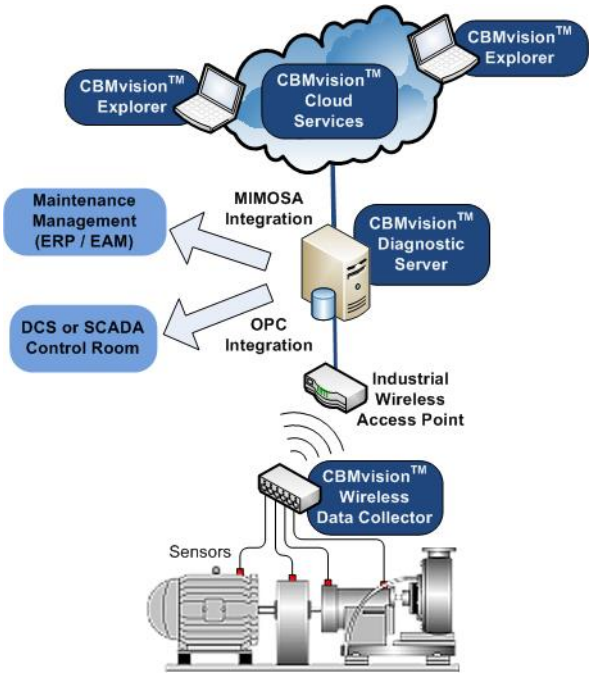
Short cables connect the permanently mounted machine sensors to a data acquisition device that is mounted in close proximity to the machine. Wireless communications eliminate the need for cable conduit back to the Data Center. Device batteries eliminate the need for connecting to plant power.

RAPID CONFIGURATION

Asset master data configuration can be imported from existing maintenance systems. The user can choose from a library of diagnostic templates to drive the entire configuration process. No manual point or user interface configuration is required.

CLEAR DIAGNOSTICS

At the completion of a data collection and processing interval the Diagnostics Engine generates easy to understand recommendations for action. The recommendations and all supporting data are delivered via a standard OPC DA and AE interface for consumption by other plant systems.



- **Diagnostic Data Archiving and Visualization** is via a secure Cloud Computing Infrastructure and the CBMvision™ Explorer Software.
- **Diagnostic Processing and Distribution** is via the CBMvision™ Server Software running on a dedicated plant computer.
- **Sample Data Upload** is via an industrial and secure 802.11 Wireless Network Infrastructure.
- **Periodic Data Sampling** is via a small multi-channel, hazardous area certified, wireless data collector that is installed close to the machine and wired to sensors.

Manufacturing and industrial facilities rely on rotating assets, such as pumps, compressors, fans, motors, and turbines. Maintaining these critical assets is crucial to uptime and performance. It is estimated that only 20% of these critical assets are proactively monitored via online systems to detect problems and determine their mechanical health. Other semi-critical assets, otherwise known as balance-of-plant assets, may have sensors installed, but are infrequently and manually sampled via scheduled route based handheld data collectors.

CBMvision™ is an innovative machine condition monitoring solution that offers compelling benefits to complement traditional enterprise asset management programs.

This cost-effective online, wireless, condition based monitoring system can be easily installed to monitor and diagnose assets periodically. It includes the unique ability to archive and deliver near real-time diagnostics and detailed machine condition data globally through the use of cloud computing and our CBMvision™ Explorer Software.

Near real-time online actionable diagnostics allow your maintenance staff to effectively focus on balance-of-plant assets that require the highest level of attention thereby reducing the mean time to repair (MTTR) and minimizing exposure to hazardous areas.

CBM
Enterprise Solutions, LLC

CBMvision™

TECHNICAL SUPPORT

Our flexible support agreements can cover hardware, software, and configuration change management so you can focus on asset management.

REMOTE MONITORING

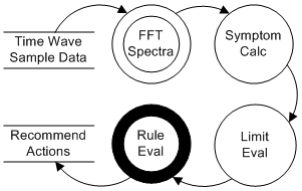
Through our highly skilled certified instrumentation partners we can offer monitoring, audit, and inspection services for common balance-of-plant equipment.

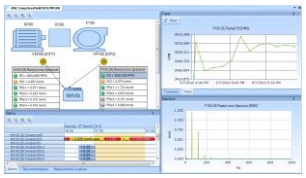
TURNKEY SOLUTIONS

Through our certified partners we deliver the solution that fits your needs from small standalone systems to enterprise systems that integrate seamlessly with your existing plant and corporate IT systems.

For more information on any of our products or services please visit us on the Web at: www.cbmenterprise.com

Product Features





CBMvision™ RQ 4420 WIRELESS DATA ACQUISITION DEVICE

Measurement	**Dynamic Channels** – 4 (for Acceleration, Displacement, etc.) Interface: ICP or AC (jumper selectable) Range: +/-5V with Amplitude Accuracy of +/-2% Processing: 24bit ADC, 64Hz to 102.4kHz, 256 to 32768 Samples **Process Channels** – 4 (for Temperature, etc.) Interface: 4-20mA (100ohm load jumper selectable) Range: 0V to +3V or 0V to +10V (jumper selectable) Processing: 16bit ADC, 64Hz to 25.6kHz, 256 to 32768 Samples
Communications	Network: Wireless 802.11b/g Security: WEP, WPA, WPA2 (TKIP, AES) Addressing: Static IP or DHCP
Mechanical	Enclosure: Glass Reinforced Polyester, NEMA 4, IP67 Dimensions: 22cm (8.5in) x 12cm(4.6in) x 9cm(3.5in) – 1.4kg(3lb) Cable Entries: 12 glands (IP68 rated), 3mm to 6.5mm
Environmental	Operating Temperature: -10°C to +60°C (+14°F to +140°F) Compliance: CE, RoHS Hazardous Area: ATEX Ex II 3G nAnL IIC, CSA Class 1 Div 2
Power	2 x 3.6V Lithium C type batteries (LSH14) or DC (10V to 30V)

CBMvision™ DIAGNOSTIC SERVER

Symptoms	**Velocity** – RS(Estimated Speed), ISO(RMS), RSx1 to RSx6 **Bearing (Bandpass Filtered)** – Carpet, NSE, IRDx1, IRDx2 **High Frequency** – gHF
Diagnostics	Balance, Coupling, Looseness, Bearing, Other(Analyze)
Machine Components	Agitator, Blower, Compressor, Fan, Flex Coupling, Gearbox, Motor, Pulley, Pump, Worm Drive, Refiner, Roll

CBMvision™ ARCHIVING AND VISUALIZATION

Data Storage Capacity	**Internet Cloud** – 500GB included (additional charges apply for storage from 501GB to 5000TB) **Virtual Private Cloud** – From 100GB to 5000TB **Private Cloud** – Based on SAN Allocation
Engineering Units	System Of Units Switching (Metric, English, etc.) FFT Scaling (RMS, Peak, PeaktoPeak)
Data Plot Types	Machine View with Status Indicators Multi-Trend for Symptoms with Status Indicators Multi-Trend for FFTs and Time-waves Gantt Charts for Alarms & Recommendations

System Requirements

- Operating System: Microsoft Windows XP Pro
  Microsoft Windows 7 Pro
  Microsoft Windows Server 2003
- CPU: 300MHz Pentium or better
- Memory: 4GB RAM
  300GB HD
- OS Extensions: Microsoft Message Queue
  .NET Framework 3.5

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