Artesis



e-MCM

Motor Condition Monitoring Without Sensors

A New Approach in Predictive Maintenance
e-MCM

The Artesis e-MCM is a powerful online condition monitoring, predictive maintenance and power meter tool intended for critical AC rotating equipment. The patented machine learning algorithm of e-MCM enables comprehensive fault detection up to 6 months in advance. With around the clock monitoring and real-time model-based voltage and current analysis, e-MCM can detect electrical, mechanical as well as process faults of fixed, variable speed motors and generators while providing all the benefits without the high complication and cost of traditional systems.

Artesis e-MCM monitors the condition of equipment driven by an electric motor, effectively using the motor itself as a sophisticated transducer. It requires only connection into the motor's electrical supply, avoiding the need or specialised sensors. Because Artesis e-MCM is permanently installed, it provides continuous fault monitoring and does not depend on expensive manual data collection.



Fault Coverage

- Loose foundation/ components
- Mechanical unbalance/missalignment
- Transmission faults
- Driven equipment faults
- Gearbox, belt, coupling
- Bearing
- Stator and rotor faults
- Internal electrical faults
- External electrical faults

Process Faults

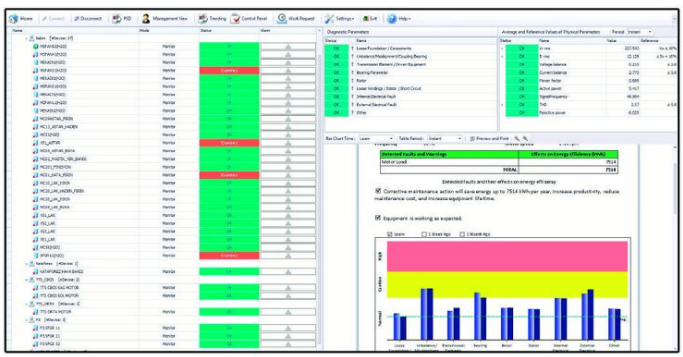
- High energy consumption
- Low efficiency
- Cavitation in pumps
- Flow turbulence in fans, blowers
- Filter and heat exchanger fouling
- Lubrication
- Oversize/undersize motors
- Air flow disturbance

Power Monitoring

- Vr, Vs and Vt
- Ir, Is and It
- Frequency
- Voltage Unbalance
- Current Unbalance
- Motor Load
- Power Factor
- Active Power
- Reactive Power
- Total and odd harmonics

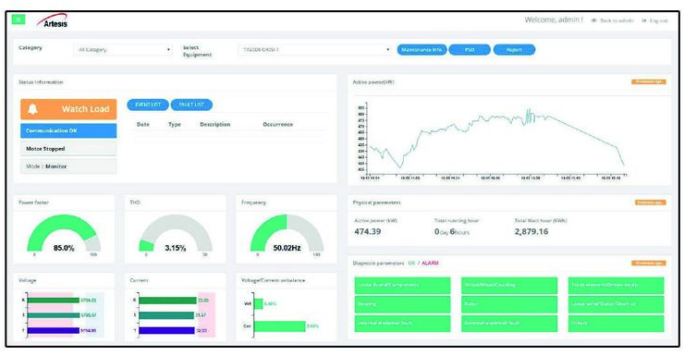
It Simply Works

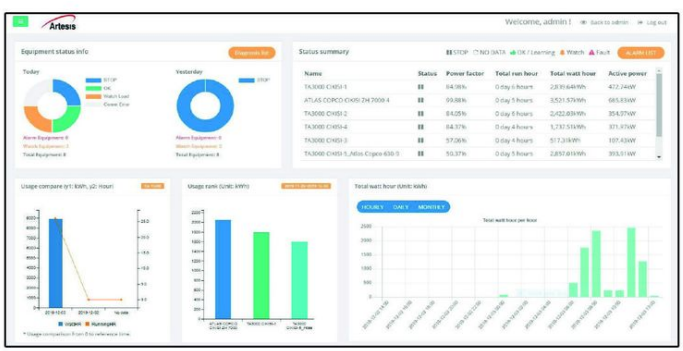
e-MCM provides clear information for fault detection, diagnostics, time to failure and corrective actions. It only demands your attention when it detects a problem. This makes it very attractive in comparison with walkaround systems which require considerable effort and cost just to find out whether you have a problem or not. It automatically assesses the severity of any variations from normal operation and presents the results of its sophisticated analysis to the user in a simple, compelling traffic light display. As a fault starts to progress, the traffic light changes from green to orange, indicating that maintenance action will be required in the future. A red traffic light indicates that the high severity of the problem requires immediate attention.





Artesis Enterprise Software





Artesis IoT Software

Permanently installed Software provides processed data results in an actionable form which greatly reduces the specialist diagnostic skills required of the user, making the benefits of condition monitoring available to many groups who have considered it too difficult in the past.

Artesis Condition Monitoring System
e-MCM

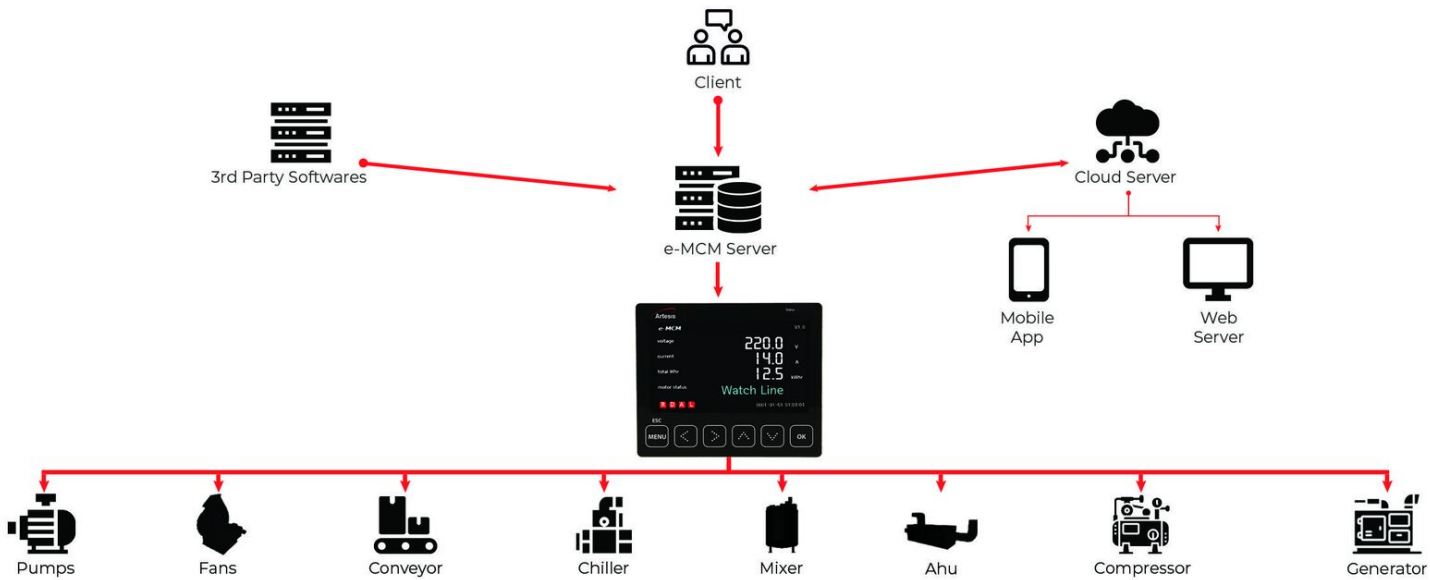
The patented NASA-developed technology provides machine learning capability in a compact, affordable, panel-mounted instrument. e-MCM can detect wide variety of faults by automatically teaching itself about the normal operation environment of your equipment so that it can accurately identify and diagnose faults long before they become a threat.



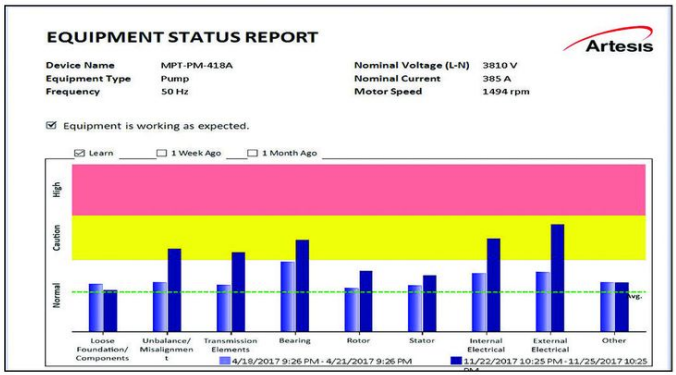
Online Condition Monitoring | Automated Fault Diagnosis | Remote Monitoring | Only Viable Solution For Hard To Reach Motors | Award Winning Technology | Online Power Monitoring | Energy Efficiency Effects Of Faults | Comprehensive Fault Coverage | Early Fault Detection

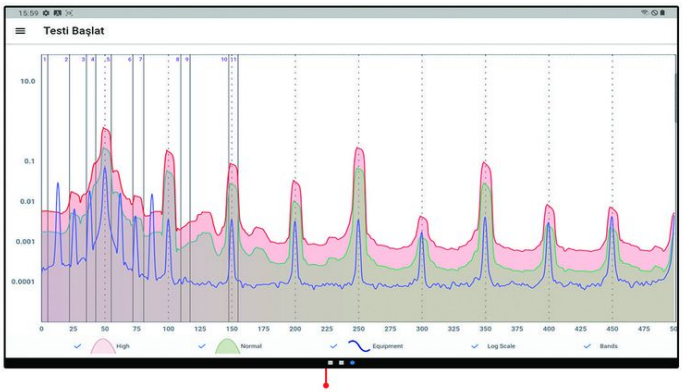
e-MCM system offers various remote monitoring options ranging from local to cloud based IoT monitoring.

- AES Software (Windows based) running on local server
- Artesis Web IoT Platform on cloud server
- 3rd party monitoring software integration via OPC

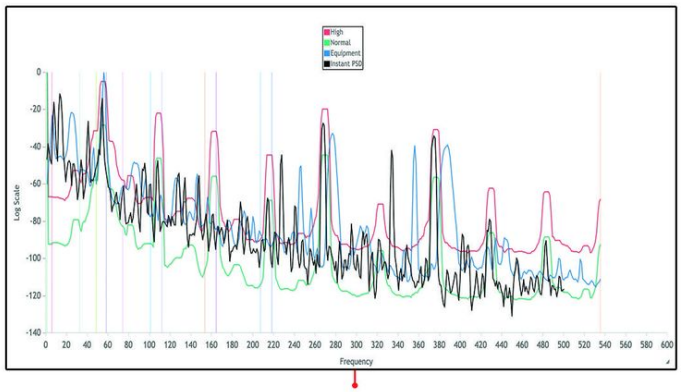


The Artesis e-MCM software allows users detailed analysis with Power Spectral Density and Trend Analysis tools for root causes of the faults. e-MCM is specifically designed to be self-sufficient, only requiring your intervention when it detects a problem. It can also act as an intelligent component of a complete, plant-wide monitoring and diagnosis system. You can connect it into your own systems using its standard interfaces, allowing results to be presented to your staff through existing display systems. Artesis can supply MCMScada software to collect and manage information from all your Artesis MCM units, provide enhanced diagnostic capability, and to allow remote operation of the complete system. This can also allow Artesis to help out with your condition monitoring program by providing remote advanced interpretation services.





PSD Analysis Screen



Trend Screen

Key Benefits

- Decrease on maintenance cost
- Productivity increase
- Equipment life extension
- Energy saving
- Improved process safety

Sectors

- Oil & Gas
- Energy
- Cement
- Metal
- Pharmaceutical
- Automotive
- Water
- Transportation
- Food & Beverages
- Buildings

Applications

- Compressors
- Fans
- Pumps
- Conveyors
- Generators
- Motor Driven Equipment
- AHU
- Mixer

Watch e-MCM video

Artesis Technology Systems

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