

Machine Health Monitoring

Real-time monitoring for Variable Frequency Drives

Summary

Variable Frequency Drives (VFDs) have gained in popularity due to increased efficiency in electrical consumption during production processes.

However, two key challenges exist for VFD based machines:

- 1) Variance in motor drive levels can cause unnoticed issues within expensive drive components of a machine.
- 2) Harmonic distortion from VFDs can cause electronic malfunctions or premature failure from excess heat in surrounding motors and inductive devices.

VFD monitoring allows companies to maintain optimal predictive maintenance schedules and avoid unplanned downtime.

Improve predictive maintenance with real time and historical operational dashboards

This solution use case, provided by MachineSense on the MindSphere platform, enables VFD power analysis including voltage sags and swells, helping diagnose issues that can damage drive or cause drive to reset during use.

With the high cost of drive motors and equipment downtime, accurate monitoring and preventing damage from common electrical fluctuations and changes are essential to maintain healthy margins on production activity. With KPIs for productivity data and decay data for capacitors, motor bearings, and stator winding, your teams can be more efficient and effective in their approach to predictive maintenance. Plant managers can gain better insight into optimal production levels and conditions over time.

Benefits

- Visualize and track the real flow of power to your critical VFD based machines.
- Improve the accuracy and effectiveness of your maintenance schedules.
- Allow your staff to quickly respond to changing conditions and potential warnings with advanced fault detection.
- Improve the timeliness and accuracy of data, helping to reduce manual inspection time.

Features

- Power analysis and performance data for VFD based machines.
- Alert data is actionable and easy to understand. Maintenance can quickly take action as necessary.
- Integrated machine data dashboard helps improve production operations over time, while reducing downtime.
- Integration with cloud platforms, power analysis, and related machine data.



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