

ABB MACHsense-R

Remote condition monitoring service for high voltage induction motors



ABB MACHsense-R continuously monitors key electrical and mechanical parameters in high voltage (HV) induction motors. It uses advanced algorithms to process the collected data and provides recommendations, early warnings and alarms. Customers can easily access real-time information on the status of their equipment through an ABB web portal.

The focus of ABB MACHsense-R is now shifting from hardware to information sharing and presentation of real-time data via a web portal. Customers will be able to access data on their HV induction motors, and they will receive notifications and tailored maintenance recommendations.

Moving to the ABB Ability™ platform

ABB MACHsense-R is being integrated into the ABB Ability™ platform, a unified, company-wide digital capability that extends across products and industries. This work is expected to be completed by late 2018. Until then, ABB MACHsense-R has an improved server solution and there will be continuous enhancements to the user experience. In the future, ABB MACHsense-R will focus more on providing users with easy access to data through their computers, tablets or phones.

New hardware

A new, improved hardware platform, the Data Acquisition Unit (DAU), will collect data on the motor. This unit features more data acquisition channels and higher reliability. It also enables future development of ABB MACHsense-R and extended functionality, such as the use of current, voltage, temperature and even new types of sensors.

The parameters are computed and presented on the web portal. Authorized users can log on to the server to view trend graphs, overall values and other data, including:

- Overall vibration – displacement, velocity, acceleration
- Overall vibration trend
- Temperature trend – bearing and winding
- Spectrum graphs
- Time waveform
- Speed, load trends
- Number of starts and stops

SIU support team

The values for each parameter will be trended. When a value exceeds its preset alarm level, the system will send a notification email to the customer's registered users. It will also notify the Service Intelligence Unit (SIU), a team at ABB available to help customers resolve the issues behind notifications. The customer will also receive a detailed, customized report with recommended maintenance actions.

The SIU team will play a key customer support role, helping with tasks such as adding registered users or adjusting alarm levels. If an alarm is triggered, the SIU team will support the ABB Local Service Center in each country to ensure the customer receives the best possible service and spare parts.

Recommended for critical applications

ABB MACHsense-R provides continuous remote monitoring and is therefore recommended for induction motors that play a critical role in the plant,

for example the kiln motor in a cement works or an ID fan motor at a power plant. It is also ideal for motors that are difficult to access, such as those used in offshore, mining or wind power applications.

Key benefits:

- Safety - Improve safety at work with maintenance inspections from a distance
- Reliability – Reduce downtime by transitioning from reactive to proactive maintenance
- Maintenance Savings - Save maintenance time and effort with early warning systems
- Net Working Capital – Ensure your equipment lasts longer, with less redundant plant and inventory
- Risk Mitigation – Minimize your liabilities, such as warranties, uptime guarantees, etc.

Status reports

Status reports are created every three months and can be downloaded by customers from the web portal. The reports cover historical trends and provide information about the performance of the system.



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