Press release

ABB’s new condition monitoring solution is a quantum leap for millions of motors

Smart sensors will pave the way for new business models in the maintenance of LV motors. The sensors enable the motors themselves to ask for maintenance.

Heidelberg, Germany, 21 January 2016 - At this year’s Hanover Fair ABB will present an innovative solution which will apply the Internet of Things, Services and People in a highly effective way to millions of motors. A smart sensor enables detailed, comprehensive and cost-efficient condition monitoring for LV motors. Benefits for plant operators include all the advantages of predictive maintenance, with the potential to reduce or even prevent downtime, optimize energy consumption and cut maintenance costs.

Up to now, monitoring and predictive maintenance for LV motors have been cost-prohibitive in most cases. Moreover, poor matching between motors and their loads causes increased energy consumption, and faults can lead to costly downtime. The smart sensor will enable plant operators to check the status of their motors at any time using their smartphone or PC. With accurate information on the condition of all their motors at their fingertips, they will be able to plan maintenance based on actual needs rather than on time intervals or operating hours alone. Unscheduled downtime can be prevented and process uptime extended. This is a major benefit, as downtime may cause serious disruption.

The key element is a smart sensor tag with a wireless communication interface. The small tags are attached to motors, and they can be either factory fitted or retrofitted on installed motors. The smart sensors provide information on operating parameters such as vibrations, temperature or overload, and determine energy consumption with an accuracy of +/- 10 percent. The sensor tags transmit data wirelessly to secure, cloud-based ABB servers using standard protocols. Special software analyzes the data and converts them into useful information, and the data are time-stamped for trend analysis. Information about the motor status is sent to a smartphone or dedicated customer portal. The application is intuitive and user-friendly. If the system detects a problem, it will send a warning to the operator to signal the need for maintenance.

Analyzing the stored data can create new opportunities to optimize plant operation and maintenance. For instance, information on the energy consumption of motors could be used to create efficient load profiles. Together with the Internet of Things, Services and People, this innovative condition monitoring system will create new business models that utilize web-based data.

“There’s been a lot of interest in this new solution,” says Jonas Spoorendonk, Local Business Unit Manager Motors & Generators at ABB in Germany. “As part of the Internet of Things, Services and People, it’s going to play its own role in transforming the maintenance business and creating new business models and service opportunities. Early testers have given very positive feedback, especially about getting more insight into their equipment. From a plant overview, they can drill down to specific areas and right down to single motors. Knowing potential motor issues, they can do proper maintenance planning for their fleet of LV motors – which will make big savings possible.”
The solution is presently under active development by ABB, with the service planned for launch during 2016. ABB has been advancing technologies for the Internet of Things, Services and People for more than a decade via its control systems, communication solutions, sensors and software. Its technologies allow industry, utility and infrastructure customers to make more intelligent use of data to optimize their operations, increase productivity and achieve greater flexibility. The product featured in this release extends the offering of ABB in this field. Further information about this topic can be found here: http://new.abb.com/about/technology/iosp

In 2014, ABB in Germany generated sales of 3.22 billion euros and employed about 10,800 people. ABB (www.abb.com) is a leader in power and automation technologies that enable utility, industry, transportation and infrastructure customers to improve performance while lowering environmental impact. ABB Group operates in around 100 countries and employs about 140,000 people worldwide.

Note: All data are based on US GAAP.

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