PRESS RELEASE

New servos put the AI in mAIntenance

Ratingen, 11 April 2022 - Artificial intelligence offers important opportunities for optimising the maintenance of drive systems. Using large data sets from the manufacturing process, it is possible to recognise patterns which are then used to make precise predictions about the condition of the systems. As a result, maintenance work can be carried out at exactly the right time.

Artificial intelligence (AI) enables companies to make targeted maintenance decisions for their servo drives. It uses accurate forecasting models, real-time data and operating trends to schedule maintenance at exactly the right time - before failures occur, but only when it is necessary.

AI-based maintenance of servo drives

Since the release of its first digital servo amplifiers in 1987, Mitsubishi Electric has been collecting operational data on its products and their ancillary equipment. This extensive experience has now been incorporated into the development of the MELSERVO MR-J5 series.

The new servos use the company’s proprietary deep-learning AI Maisart® (Mitsubishi Electric's AI creates the State-of-the-ART in Technology) to schedule maintenance work at the best possible point in time. For this purpose, integrated sensors within the devices provide an accurate, real-time overview of the condition of internal components as well as mechanical devices linked to the drives, such as ball screws, belts and gears.

These capabilities are complemented by CC-Link IE TSN network technology which features gigabit bandwidth and Time-Sensitive Networking (TSN) functionalities. This

allows large amounts of data for time-critical control tasks as well as less transient AI analytics information to be transmitted promptly and without delays.

Powerful servo technology

In addition to simplifying maintenance decisions, the MELSERVO MR-J5 servos are also designed to maximise the productivity of drive applications. For example, they comprise a portfolio of extremely powerful motors with a minimised footprint that can reach a maximum speed of 6,700 r/min.

In addition, the range includes compact amplifiers with a speed frequency response rate of 3.5 kHz and communication cycles of 31.25 µs. To conserve energy, the MR-J5D servo amplifier is also equipped with a regenerative unit.

By combining innovative maintenance, performance and efficiency, Mitsubishi Electric's latest servo systems optimise key production processes. To achieve this, equipment availability is enhanced as condition based monitoring and predictive maintenance opportunities are realised.

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Artificial intelligence (AI) enables companies to make targeted maintenance decisions for their servo drives.

[Source: Mitsubishi Electric Europe B.V.]

Mitsubishi Electric's new MELSERVO MR-J5 servos simplify maintenance decisions and maximise the productivity of drive applications.

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About Mitsubishi Electric

With over 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Mitsubishi Electric enriches society with technology in the spirit of its "Changes for the Better." The company recorded a revenue of 4,191.4 billion yen (U.S.$ 37.8 billion*) in the fiscal year ended March 31, 2021. For more information, please visit www.mitsubishielectric.com.

** U.S. dollar amounts are translated from yen at the rate of ¥111=U.S.$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2021.*

About Mitsubishi Electric Factory Automation Business Group

Offering a vast range of automation and processing technologies, including controllers, drive products, power distribution and control products, electrical discharge machines, electron beam machines, laser processing machines, computerized numerical controllers, and industrial robots, Mitsubishi Electric helps bring higher productivity – and quality – to the factory floor. In addition, our extensive service networks around the globe provide direct communication and comprehensive support to customers.

Factory Automation EMEA

Mitsubishi Electric Europe B.V., Factory Automation EMEA has its European headquarters in Ratingen near Dusseldorf, Germany. It is a part of Mitsubishi Electric Europe B.V. that has been represented in Germany since 1978, a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of Factory Automation EMEA is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.
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