

Mitsubishi Electric Introduces Industry-First Salient-Pole Motor

Hatfield, July 2024

Mitsubishi Electric is celebrating an industry first after launching its new EM-A series of salient-pole motors that provide high-quality speed and position control without encoders.

Offering a competitively priced alternative to servo motors, the EM-A series is designed for use in various applications that require positioning and/or accurate speed control. Smaller than most induction motors by one or two frame sizes, the range meets efficiency class IE5, reducing energy losses by almost 50% versus equivalent IE2 motors with a smaller overall footprint.

The EM-A range is compatible with Mitsubishi Electric's FR-A800 and FR-E800 inverters and can carry out point-to-point position control and or accurate speed control without the need for motor mounted encoders. As a result, the EM-A is more compact and requires less wiring while still delivering a positioning accuracy of 200p/rev and command resolution of 4096p/rev.

Each unit's sensor-less vector control avoids significant speed variation during load changes, with a servo lock function that generates holding torque when the motor stops to prevent movement via external force. With a speed variation rate of $\pm 0.05\%$ and a speed control range of 1:1300, the control provides users with precise speed and positioning control comparable to servo motors up to 7.5kW.

All major communication protocols can also be used by switching parameters by equipping the motor with a variable frequency drive. The EM-A series is available 0.1Kw up to 7.5Kw, and unlike induction motors can operate at low speed without the need of a force fan vent fan.

For more information on Mitsubishi Electric's range of salient-pole motors, please visit: <https://gb.mitsubishielectric.com/fa/products/drv/inv/options/brake-resistors-filters-chokes-etc/motors-em-a-series>.

ENDS

About Mitsubishi Electric Corporation

With more than 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 5,257.9 billion yen (U.S.\$ 34.8 billion*) in the fiscal year ended March 31, 2024.

For more information, please visit www.MitsubishiElectric.com

**U.S. dollar amounts are translated from yen at the rate of ¥151=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2024.*

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, its extensive service networks around the globe provide direct communication and comprehensive support to customers. The global slogan “Automating the World” shows the company’s approach to leverage automation for the betterment of society, through the application of advanced technology, sharing know how and supporting customers as a trusted partner.

For more about the story behind “Automating the World” please visit:
www.MitsubishiElectric.com/fa/about-us/automating-the-world

Factory Automation - UK

Mitsubishi Electric Europe, Industrial Automation – UK branch is located in Hatfield, United Kingdom. It is a part of the European Factory Automation Business Group based in Ratingen near Dusseldorf, Germany which in turn is 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 Industrial Automation – UK Branch is to manage sales, service and support across its network of local branches and distributors throughout the United Kingdom.

For more information, please visit automation@meuk.mee.com

About e-F@ctory

e-F@ctory is Mitsubishi Electric’s integrated concept to build reliable and flexible manufacturing systems that enable users to achieve many of their high speed, information driven manufacturing

aspirations. Through its partner solution activity, the e-F@ctory Alliance, and its work with open network associations such as the CC-Link Partners Association (CLPA), users can build comprehensive solutions based on a wide ranging “best in class” principle.

In summary, e-F@ctory and the e-F@ctory Alliance enable customers to achieve integrated manufacturing but still retain the ability to choose the most optimal suppliers and solutions.

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