

READY FOR THE FUTURE OF THE EU ECODESIGN DIRECTIVE

Frequency inverter + synchronous reluctance technology = IE5

Germany, Ratingen, 12.11.2024

The jungle of EU regulations and directives is dense and confusing! EU Regulation 2019/2021/341, which has its origins in the European Ecodesign Directive 2009/125/EC, continues to regulate the minimum efficiency levels for electric motors and frequency converters in new systems. The European Ecodesign Regulation 2024/1781 (ESPR), adopted in 2024, looks at the big picture, including supply chains and materials. And that's where we come in. Because we rely on reluctance motors that are manufactured without the use of rare earths, making a significant contribution to sustainability. The combination of frequency inverters from Mitsubishi Electric and manufacturer-independent synchronous reluctance motors already meets the requirements of efficiency classes IE1-5 today, so you are ready for the requirements of the future.

The FR-F800 and FR-A800 series frequency inverters optimize the performance of synchronous reluctance motors, which work on the same principle as permanent magnet synchronous motors, but without expensive rare earth magnets. This results in higher efficiency, especially in the partial load range. This eliminates the need for costly retrofits in the years to come, as companies that automate now are ideally positioned for the future.

Cost-effective and sustainable

The savings potential of this innovative drive technology is particularly evident in variable-speed fan and pump applications. Synchronous reluctance motors operate without permanent magnets, which makes them not only cheaper to manufacture, but also more environmentally friendly because they do not require rare earths. This is in line with the trend towards more sustainable production methods.

The advantages of synchronous reluctance motors are obvious: high efficiency due to low heat losses, low-cost production and low maintenance requirements. They also offer excellent speed control characteristics, which are optimized by modern control technologies.

It is foreseeable that the directives will become even stricter and that the requirements for efficiency classes will be raised to IE5. The good news. We can do it today because we are setting new standards with our solution.

Further information on the topic

https://de.mitsubishielectric.com/fa/de_en/lp/frequenzumrichter-synchron-reluktanzmotor

Further information on the EU Ecodesign Directive 2024/1781 (ESPR)

<https://www.umweltbundesamt.de/themen/neue-oekodesign-verordnung-fuer-nachhaltige>

Further information on EU Regulation 2021/341

<https://eur-lex.europa.eu/legal->

<content/DE/TXT/PDF/?uri=CELEX:32021R0341&from=NL>

The image(s) distributed with this press release is/are intended for editorial use only and is/are subject to copyright. The image(s) may only be used for the press release mentioned here, no other use is permitted.

Pictures



Caption: With frequency inverters and synchronous reluctance motors already fit for IE5 and the Ecodesign Directive 2009/125/EC.

[Source: Mitsubishi Electric]

About Mitsubishi Electric Corporation

Mitsubishi Electric Corporation (TOKYO: 6503) has more than 100 years of experience in manufacturing reliable, high-quality products and is a recognized world leader in the manufacturing, 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 sales of 5,257.9 billion yen (34.8 billion US dollars*) in the fiscal year ending March 31, 2024.

Further information can be found at www.MitsubishiElectric.com.

**Amounts in US dollars are converted from yen at the rate of ¥151=US\$1, the approximate rate on the Tokyo foreign exchange market on March 31, 2024.*

About the Mitsubishi Electric Factory Automation Business Group

Mitsubishi Electric offers a wide range of automation and processing technologies, including controls, drive products, power distribution and control products, electrical discharge machines, electron beam machines, laser processing machines, computer numerical controls and industrial robots, contributing to higher productivity - and quality - in manufacturing. In addition, the extensive service networks around the globe provide direct communication and comprehensive support for customers. The global slogan "Automating the World" illustrates the company's approach of using automation for the benefit of society by using advanced technologies, sharing know-how and supporting customers as a trusted partner.

You can find more information about the history of "Automating the World" here:

www.MitsubishiElectric.com/fa/about-us/automating-the-world

Factory Automation EMEA

Mitsubishi Electric Europe B.V., Factory Automation EMEA has its European headquarters in Ratingen near Düsseldorf, Germany. It is part of Mitsubishi Electric Europe B.V., which has been represented in Germany since 1978 and is a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan. The task of Factory Automation EMEA is to manage sales, service and support via the network of local subsidiaries and distributors throughout the EMEA region.

Further information can be found at emea.mitsubishielectric.com/fa

Further information:

en.mitsubishielectric.com

Follow us further:



youtube.com/user/MitsubishiFAEU



twitter.com/MitsubishiFAEU



[https://www.linkedin.com/showcase/mitsubis
hi-electric-europe-industrial-automation](https://www.linkedin.com/showcase/mitsubis
hi-electric-europe-industrial-automation)



[https://www.instagram.com/mitsubishi_electr
ic_fa_emea/](https://www.instagram.com/mitsubishi_electr
ic_fa_emea/)

Press contact:

**Mitsubishi Electric Europe
B.V.**

Industrial Automation

Silvia von Dahlen

Manager Marketing

Communications

Mitsubishi Electric Square 1

40882 Ratingen, Germany

Phone: +49 (0)2102 486-5160

Fax: +49 (0)2102 486-7170

silvia.von.dahlen@meg.mee.com

[en.linkedin.com/in/silvia-von-
dahlen](https://en.linkedin.com/in/silvia-von-
dahlen)



PR agency:

DMA Europe Ltd.

Kiki Anderson

Progress House, Great Western

Avenue, Worcester, UK, WR5

1AQ

Tel: +44 (0)1905 917477

kiki.anderson@dmaeuropa.com

www.dmaeuropa.com