

## **Safety modules extend Mitsubishi Electric's compact PLC**

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**Mitsubishi Electric has enhanced the capability of its MELSEC iQ-F series PLCs with two new modules forming the basis of a compact, integrated safety system. The modules simply connect to an FX5U or FX5UC PLC CPU and reduce wiring requirements. Machine builders and systems integrators can easily and quickly implement a safety control system as no programming is necessary.**

A key focus in the development of the new modules was to provide simplicity of set-up for the safety application. A rotary switch on the front of the module enables the user to select from nine types of built-in programs, eliminating the need to load or develop the required sequence programs for safety control. This significantly reduces set-up time compared with a conventional architecture. The principle of simplicity also extends to visualization. The PLC's built-in web server make it easy to monitor the status of both the standard control and safety control system.

As well as simplifying the set-up of the safety application, the new modules also reduce the man-hours required during the engineering phase of a project. The FS5-SF-MU4T5 safety module and FX5-SF-8D14 safety input expansion module connect directly to the PLC. This eliminates the additional wiring that would be required for a traditional safety controller or when constructing a system with safety relays. Connection of the safety I/O has been simplified through the use of spring clamp terminals on the new modules.

The new modules enable safety to be integrated directly within the compact PLC – no additional communication options are required. They enable an FX5 PLC to be used to perform both general-purpose and safety control. A single main safety module can be connected to an FX5 CPU to provide 4 safety inputs and 4 safety outputs. An additional two safety input expansion modules can be connected to provide up to 20 safety inputs and 4 safety outputs.

The addition of the new safety modules to an FX5 PLC enables users to build a compact safety system that is certified to Category 4, PLe and SIL3 international safety standards.

**Image captions:**



**Image 1:** Two new safety modules for Mitsubishi Electric's compact PLCs form the basis of an integrated safety system. [Source: Mitsubishi Electric Europe B.V.]

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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 4,476.7 billion yen (U.S.\$ 36.7 billion\*) in the fiscal year ended March 31, 2022.

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, Germany which in turn is part of Mitsubishi Electric Europe B.V., 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.

\*U.S. dollar amounts are translated from yen at the rate of ¥221=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2022.

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