

Web server functionality and 100Mbit Ethernet interface available with Mitsubishi Electric Inverter FR-A800-E

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Mitsubishi Electric is set to launch the latest addition to its FR-A800 inverter drives in Europe this year. It is based on its FR-A800 series variable speed drives with an integrated web server and 100Mbit Ethernet TCP/IP connectivity as standard. The new features are in addition to the FR-A800 series' already extensive network connectivity options, providing machine builders and systems integrators with increased functionality for remote system monitoring and parameter adjustment, as well as easier integration into existing network environments. The drive will also be launched with a new App that provides engineers and end users with a range of control and monitoring options from a mobile device.

The new inverter FR-A800-E was on show for the first time in Europe on the Mitsubishi Electric Stand at the SPS IPC Drives Expo 2016. It is significant within the automation industry because it contains a wide range of connectivity and control features that are often additional extras or simply not available on other inverter drive products.

Expanded connectivity

Ethernet connectivity as standard considerably lowers the cost of connecting this variable speed drive into an Ethernet TCP/IP environment. Engineers can use the Mitsubishi Electric [FR-Configurator2](#) software to search the network from a single location

and easily identify connected [FR-A800-E](#) models. Direct Ethernet connection not only eliminates the cost of option cards, but also makes the set-up, monitoring and adjustment of parameters on an FR-A800-E more convenient.

The integrated web server provides users with additional cost benefits by allowing them to fine-tune production settings and reduce downtime by connecting directly to the drive. A standard web browser can be used to connect to the drive, either with an Ethernet cable, or remotely from anywhere in the world via a VPN. This connection enables convenient status monitoring and adjustment of the drive, as well as simplified diagnosis and improved response times for maintenance.

In addition, a direct network connection can be established to a Mitsubishi Electric [GOT series HMI](#) for parameter back-up and restore functions, with users able to perform the task either manually or automatically. An operator could also use the network connection to link to the drive via the USB port on a Mitsubishi Electric PLC.

Extending the FR-A800 inverter series networking capability with on-board Ethernet as standard greatly increases the flexibility of the drive, as well as making connection to parallel networks simple. For example, users could select a dedicated industrial network protocol card to connect the drive into a wider automation network, and use the additional on-board Ethernet port for remote access or to link the drive to another device, such as a PC for quality control functions. Completing the almost universal connectivity options, compatibility with the latest 100Mb [CC-Link IE Field](#) option is standard as well, in addition to the higher level Gigabit variants.

Mobile support solution

The drive will also be launched with a dedicated App suitable for use with mobile devices including iPhones and iPads. The App will provide a wide range of control and monitoring options, from simple incremental forwards and backwards motor control - through to managing alarms and operating parameters remotely. The convenience this provides will be attractive for system builders, maintenance providers and end users while they are on the move, either on or off site.

Supporting [predictive maintenance](#), a FAG SmartCheck vibration sensor mounted on a motor, pump, gearbox or other rotating machine can also be connected to the drive over Ethernet. The FR-A800-E then provides speed information to the sensor so that it can combine speed data with vibration data to create a more accurate picture of the machine's health.

Enhancing production performance

The full range of Mitsubishi Electric FR-A800 series inverter drives from 0.4kW to 630kW are all designed for high-end applications where best performance, reliability and efficiency are required. As such, standard features of the FR-A800-E also include intelligent auto tune functions and powerful built-in PLC functionality based on the Mitsubishi Electric [MELSEC-L series](#) that ensures users have a wide scope for application-specific programming. A powerful built-in positioning function further enhances application versatility. FR-A800 drives also come with sophisticated function modules for applications such as dancer arms and cranes.

Real sensorless and full vector control enables speed and torque accuracy, while an overload capability of 250 per cent during start-up ensures trouble-free operation, even for arduous applications; in total there are four overload options. Terminal scan times of less than 3ms

guarantee a fast response while speed rise times of less than 80ms help to ensure performance and improved productivity.

From a safety aspect, functional safety up to PLe/SIL3 guarantees operation in situations ranging from simple emergency stops to complex press actuation. Safe Torque Off (STO) comes as standard.

“Adding an Ethernet port, web server and the App to an already high performance product with extensive networking facilities, safety, predictive maintenance, PLC functionality and more makes this product a great solution in a huge range of applications.” comments Oliver Endres, Product Manager Inverter, Mitsubishi Electric Europe B.V., Factory Automation European Business Group. “You can control and monitor an entire machine or process with just one drive, and because of that it can save a massive amount of time and money for system integrators and machine builders during the design, build and commissioning phase. Not only that but it will also be hugely beneficial to end users by providing easier, lower cost operation and maintenance.”

The official launch of the FR-A800-E and the StartApp is planned for April 2017.

Note:

Learn more about the new FR-A800-E:

ie3a.mitsubishielectric.com/fa/en/products/drv/inv/local/a800-e

See how Mitsubishi Electric is able to respond to today's automation demands:

ie3a.mitsubishielectric.com/fa/en/solutions

Image captions:



Picture 1: The new Mitsubishi Electric inverter FR-A800-E is based on the FR-A800 series variable speed drives with an integrated web server and 100Mbit Ethernet TCP/IP connectivity as standard.

[Source: Mitsubishi Electric Europe B.V.]



Picture 2: The drive will also be launched with a dedicated App suitable for use with mobile devices including iPhones and iPads.

[Source: Mitsubishi Electric Europe B.V.]

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With over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognised 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, as well as in products for the energy sector, water and waste water, transportation and building equipment.

With around 135,000 employees the company recorded consolidated group sales of 38.8 billion US Dollars* in the fiscal year ended March 31, 2016.

Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Mitsubishi Electric Europe, Industrial Automation – Irish Branch is located in Dublin, Ireland. 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 – Irish Branch is to manage sales, service and support across its network of local distributors throughout Ireland

**Exchange rate 113 Yen = 1 US Dollars, last updated 31.3.2016 (Source: Tokyo Foreign Exchange Market)*

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