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Mitsubishi Electric Launches the New FR-D800 Series Inverters

Mitsubishi Electric has introduced its new FR-D800 series inverters, designed to deliver enhanced performance, simplified operation, and improved energy efficiency for a wide range of industrial applications. Featuring a compact and user-friendly design, the new series combines powerful performance with features that streamline selection, installation, and operation.

The FR-D800 series supports a wide range of voltage requirements with single-phase 100V and 200V models, as well as a three-phase 400V option, enabling flexible deployment across diverse industrial environments. Its cover-type surface design and integrated wiring system allow for faster and more efficient installation. Compared with previous equivalent models, the new series[1] is up to 37% more compact, helping save valuable panel space, increase installation flexibility, and reduce installation costs.

The FR-D800 series provides energy savings thanks to its advanced synchronous motor control. While reducing power consumption, this feature helps lower operating costs. With its highly efficient motor drive system and low standby power consumption, the series contributes to reducing the carbon footprint while supporting sustainable production goals. Shotaro Marumoto, Inverter Development Section Leader at Mitsubishi Electric commented: “With the FR-D800 series, we aimed to develop an inverter that both new and experienced users can rely on with confidence. By prioritizing ease of use while delivering advanced performance features, the series helps businesses improve operational efficiency, achieve energy savings, and support their sustainability goals.”

Seamless Integration Across Industrial Applications

The FR-D800 series is suitable for a broad range of applications, including conveyors, pumps, food processing equipment, and textile machinery. Selected models (versions with the “-60” suffix)[2] feature circuit board protection compliant with IEC 60721-3-3:1994 3C2/3S2, allowing reliable operation even in demanding and corrosive environments.

The inverters are compatible with both asynchronous motors and permanent magnet (PM) motors, eliminating the need for separate inverter models for different motor types. Built-in connectivity supporting widely used Ethernet protocols such as CC-Link IE TSN, Modbus/TCP, and EtherNet/IP also enables seamless integration into existing industrial networks, helping accelerate digital manufacturing and smart factory initiatives.

Advanced Maintenance and Diagnostics

The FR-D800 series simplifies maintenance processes. Preventive maintenance functions that provide lifetime diagnostics for critical components such as capacitors and fans help detect potential failures at an early stage. When used with FR Configurator2 software, these features become even more effective. In addition, abnormal condition detection based on current patterns reduces the risk of unexpected downtime,

while advanced fault analysis functions enable quick resolution of potential issues. Emphasizing the contribution of the new series to the company's sustainability approach, Shotaro Marumoto added:

"Energy efficiency, ease of use, and reliability have become essential requirements in today's automation applications and across the broader industry. The FR-D800 series clearly demonstrates Mitsubishi Electric's commitment to meeting these needs while contributing to a greener and more sustainable future."

[1]Example model: FR-D820-3.7K-165. Dimensions may vary depending on the model.
[2]Models with the "-60" suffix are versions with protective features.