

Festo simplifies decentralised I/O design

With configurable digital I/O module

As automated machines become more capable, the amount of decentralised I/O required increases. Conventional approaches often rely on multiple dedicated input and output modules, increasing hardware, commissioning and the number of additional components that machine builders and system integrators must engineer, stock and support.

Festo addresses this challenge with a new configurable digital I/O module for the CPX-AP-I decentralised I/O platform. Designated CPX-AP-I-16DIO M12 (or M12 for short), the new module enables more efficient use of decentralised I/O across a machine.

The new M12 configurable digital I/O module provides 16 channels that can each be configured as a digital input or digital output to match application requirements. Users can configure the module channel by channel, divide it into eight inputs and eight outputs, or configure all 16 channels as outputs. Selected output channels provide up to 500 mA for high-current devices.

The module comes with a default 16-input configuration for immediate installation and commissioning, while output functions are enabled through software parameterisation. Individual LED indicators on each channel simplify commissioning and troubleshooting by providing clear operating and diagnostic status.

Available now, the M12 module gives machine builders greater freedom to design around the needs of the application instead of the limitations of fixed I/O modules. A single M12 module can support a wider range of machine configurations, reducing the number of module variants that must be specified, stocked, and maintained over the life of a machine.

The new module is part of Festo's CPX-AP-I decentralised I/O platform, a high-performance system that distributes I/O, valve terminals, and IO-Link devices throughout a machine. Supporting up to 80 modules over distances of up to 50 m between modules, the platform reduces wiring, simplifies modular machine architectures, and allows machine builders to expand or reconfigure systems without redesigning the entire control architecture.

Expanding connectivity with CC-Link IE Field Basic

Festo has also introduced a new CPX-AP-I bus node supporting CC-Link IE Field Basic, expanding the platform's connectivity for Mitsubishi Electric Automation environments. Widely used throughout Asia, the industrial Ethernet protocol enables machine builders to integrate CPX-AP-I decentralised I/O into Mitsubishi PLC architectures without additional gateways or custom engineering.

The new bus node allows machine builders to retain the same CPX-AP-I decentralised I/O architecture while changing only the network interface for Mitsubishi Electric systems. The result is less engineering effort, faster machine adaptation for regional markets, and a common automation platform that supports multiple industrial Ethernet protocols, including EtherNet/IP, PROFINET, EtherCAT, Modbus TCP, and now CC-Link IE Field Basic.

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