

IEC Machine Controllers

Product information for five Yaskawa machine controllers

The MPiec series combines motion control and logic in one controller, programmed in MotionWorks IEC to the IEC 61131-3 and PLCopen standards. The **MP3300iec** and **MP3200iec** use MECHATROLINK-III for large systems of up to 62 axes. The **MP2310iec** and **MP2300Siec** are compact MECHATROLINK-II controllers, and the **MP2600iec** mounts directly on a Sigma-7 servo amplifier.

At a glance

Model	Class	Axes	Motion network	Option slots
MP3300iec	High performance	4, 8, 20, 32 or 62 (by CPU model)	MECHATROLINK-III	1, 3 or 8-slot base
MP3200iec	Modular, high performance	4, 8, 16, 32 or 62 (by CPU)	MECHATROLINK-III	3, 5 or 8-slot base
MP2600iec	Servo-integrated	1 axis + 1 external position input	Direct to SERVOPACK	None (on-board)
MP2310iec	Compact	Up to 16	MECHATROLINK-II	1 or 3 slots
MP2300Siec	Compact	Up to 16***	MECHATROLINK-II	1 option slot

Common features

- Programming in MotionWorks IEC to IEC 61131-3 with PLCopen motion function blocks, consistent across the whole range
- Ethernet connectivity with EtherNet/IP, Modbus TCP and OPC support
- Scales from a single servo axis (MP2600iec) up to 62 axes (MP3200iec and MP3300iec)
- Typical applications include woodworking, food packaging, handling, digital printing, beverage filling and textiles

Product profiles

MP3300iec

High-performance IEC machine controller

Newest-generation Yaskawa controller hardware, with faster performance and added capabilities. Axis count depends on the CPU model chosen.

- Axes: 4, 8, 20, 32 or 62 depending on CPU model
- Processor: 400 MHz, 800 MHz or 1.2 GHz; 40 MB flash (32 MB user), 256 MB SDRAM, 4 or 8 MB battery-backed SRAM
- Motion network: MECHATROLINK-III, 1 circuit with 2 ports, 100 Mbps, up to 62 stations
- Scan cycles from 250 us up to 4 ms; Ethernet 10/100 and USB 2.0 host; EtherNet/IP, Modbus TCP and OPC
- Power: 24 V DC or 110/220 V AC; operating temperature 0 to 60 C (forced cooling above 55 C)
- Base units: 1-slot, 3-slot and two 8-slot versions (DC and AC)*

MP3200iec

Modular IEC machine controller

Modular controller built around a 1 GHz CPU and a separate power supply and base unit, so the system can be sized to the machine. Axis count depends on the CPU module.

- Five CPU variants: 4, 8, 16, 32 or 62 axes
- Memory: 40 MB flash (32 MB user), 128 MB SDRAM, 8 MB battery-backed SRAM
- MECHATROLINK-III: 1 circuit, 2 ports, up to 62 stations; scan cycles from 125 us to 4 ms
- 2 x Ethernet (10/100, hub), USB 2.0 host; EtherNet/IP, Modbus TCP and OPC; built-in web server for diagnostics
- Power supplies: PSA-12 (100/200 V AC) or PSD-12 (24 V DC); 3, 5 or 8-slot base units
- Option modules: analog in/out, digital I/O, multi-function I/O and MECHATROLINK-III devices

MP2600iec

Servo-integrated machine controller (Sigma-7 SGD7S)

Single-axis controller that is factory assembled onto a Sigma-7 SGD7S servo amplifier, giving a compact all-in-one servo and controller package programmed in the same IEC 61131-3 environment as the larger models.

- Controls 1 axis plus one external position input, 1 kHz trajectory update rate
- Processor: 200 MHz ARM9; 32 MB SDRAM, 512 kB battery-backed SRAM, 4 MB flash
- 2 x 100BaseTX Ethernet with auto-crossover; EtherNet/IP and Modbus TCP
- Pulse counter input (quadrature, pulse and direction, up/down counter)
- Programmed with MotionWorks IEC (IEC 61131-3 and PLCopen)

MP2310iec

Compact IEC motion controller

Compact all-in-one controller with built-in analog I/O and expansion slots, using the MECHATROLINK-II motion bus.

- Up to 16 axes over MECHATROLINK-II (10 Mbps)
- Processor: 240 MHz; 1.75 MB user variable memory
- 2 x 100Base-TX Ethernet; EtherNet/IP, Modbus TCP and OPC
- Scan cycle from 0.5 ms; built-in analog I/O
- Option card slots: 1 or 3 depending on version**

MP2300Siec

IEC machine controller, compact

Compact controller with built-in digital and analog I/O and an option slot to extend I/O or connectivity (Ethernet, DeviceNet, PROFIBUS).

- Up to 16 axes over MECHATROLINK-II; communication cycles 0.5 to 4.0 ms
- Processor: 240 MHz; 1.75 MB user variable memory
- 2 x 100Base-TX Ethernet; EtherNet/IP, Modbus TCP and OPC
- 8 programmable digital inputs/outputs plus analog I/O built in
- Option slot for I/O and network modules**; 24 V DC supply, 1 A max.

Notes and sources

* An older Yaskawa brochure lists the MP3300iec at 4, 8, 20 or 32 axes with 400/800 MHz CPUs; the figures here follow the MP3300iec hardware manual, which adds the 62-axis option and the 1.2 GHz CPU.

** Sources disagree on slot counts: Yaskawa's site describes the MP2300Siec with three open slots, while the hardware manual and brochure give 1 slot for the MP2300Siec and 1 or 3 for the MP2310iec. Confirm with Yaskawa.

*** Your source list shows the MP2300Siec at up to 20 axes. Yaskawa's brochure and manual list a maximum of 16, which is what this sheet uses.

Compiled from the Yaskawa MP3300iec, MP3200iec and MP2600iec hardware manuals, the Yaskawa MPiec series brochure, and the Yaskawa America product pages. Yaskawa's own specification pages did not load, so confirm figures against the current Yaskawa manual before quoting or ordering.