

# Complete Motion Control on a PC



## Machine Controller MP3100

Models : JAPMC-MC3100-1-E (16 axes)  
 JAPMC-MC3100-2-E (32 axes)  
 JAPMC-EX310□-E (Rack Expansion I/F Board)

### Better Performance Super-High-Speed Application Processing

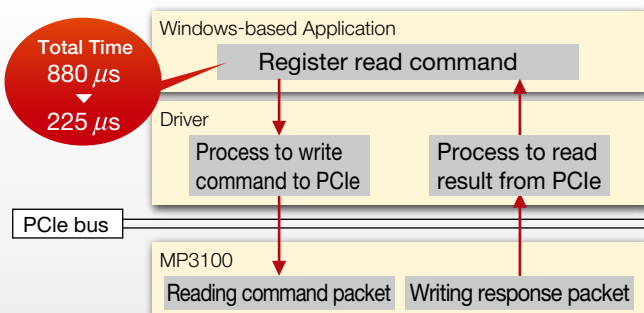
#### 1 Greater CPU Performance

The processing speed is four times faster than the MP2100. The high-speed scan time can be set to as low as 125  $\mu$ s.

#### 2 PCI Express

Faster data communications between the Machine Controller and PC reduces takt time.

For example, 500 words of register data can be read with only about a third of the register access time (in comparison to the MP2100).



#### 3 MECHATROLINK-III

A 125- $\mu$ s communications cycle enables detailed commands to be sent at high speeds and improves processing precision and tracking accuracy.

#### 4 High-speed I/O (5 inputs and 4 outputs)

A High-speed I/O Module is built in to provide I/O service with a high-speed scan of 125  $\mu$ s.

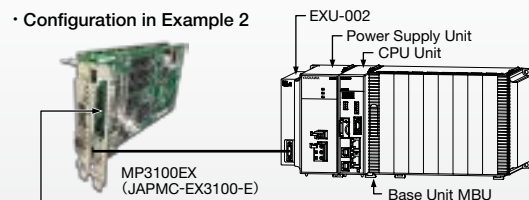
#### 5 Sub-CPU configuration provides high-speed processing

The sub-CPU configuration based on the MP3100EX boards speeds up the entire system through load balancing. The MP3100 can also be used as a sub-CPU.

#### Configurable combinations

Example	Main CPU	Sub CPU
1		MP3100+MP3100EX
2	MP3100+MP3100EX	MP3200+EXU002
3	MP3200+EXU-001	MP3100+MP3100EX

#### Configuration in Example 2



This connector is used to connect the MP2200 base units (max. 3) with the EXIOIF module.

Easier to Use

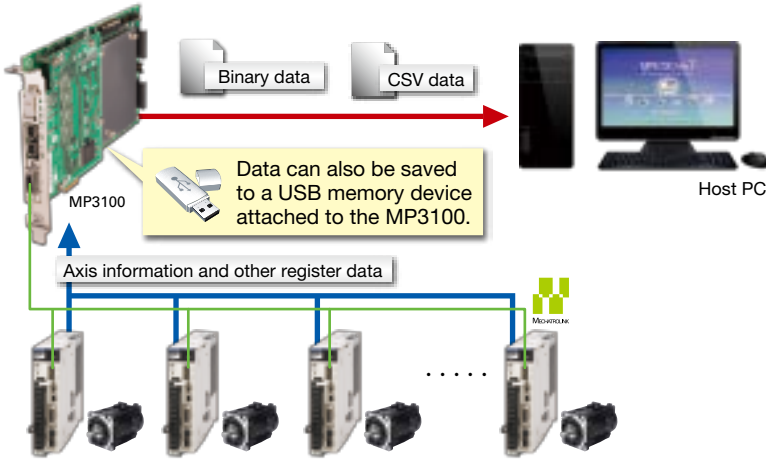
# Improved Traceability for Large-Scale Systems

## 1 Easily Collect Large Quantities of Data

Save logs of the equipment operation conditions in the computer's HDD or USB memory device. The large quantities of data that have been collected can be used effectively for production management and preventive maintenance.

## 2 High-precision Troubleshooting

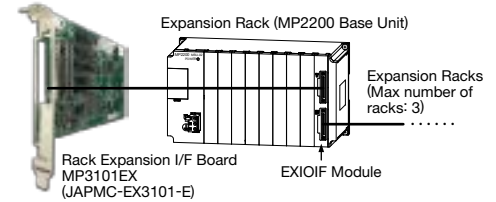
Find problems that may have been missed with high-speed logging that is synchronized with the scan.



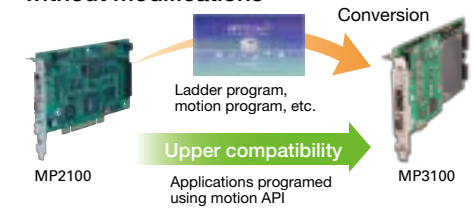
## Easy system configuration

### • Easy rack expansion

The MP3100 can be connected to a maximum of three MP2200 base units by adding the Rack Expansion I/F Board MP3101EX. (A maximum of 27 option modules can be used in this system.)



### • MP2100 applications that can be used without modifications



## Comparison to the MP2100

The MP3100 provides high-speed processing performance, greater precision, increased program capacity, and more application drawings.

Items		MP3100		Existing Products	
		16 axes	32 axes	MP2100	MP2100M
Performance	Rate of Improved Operation	4.0		4 times faster	1.0
	Minimum Scan Time	125 $\mu$ s			1.0 ms
Memory Capacity	DRAM	256 MB (DDR3)			16 MB (SDRAM)
	M Registers	1024 K words	batteryless backup	Extended to 16 times	64 K words
	G Registers	2048 K words (no battery backup)		Newly Added	—
	Program Capacity	15 MB	31 MB	Expanded capacity	5.5 MB
Number of Drawings	High-speed Drawing	1000			200
	Low-speed Drawing	2000			500
	User Function Drawing	2000			500
MECHATROLINK I/F	One circuit for MECHATROLINK-III (2 ports) Minimum communication cycle: 125 $\mu$ s		One circuit for MECHATROLINK-I/II (1 port) Minimum communication cycle: 1 ms	Two circuits for MECHATROLINK-I/II (2 ports) Minimum communication cycle: 500 $\mu$ s	
USB I/F	One USB 2.0 port (for storage device)		—		
Board Size	111.15 (W) $\times$ 167.65 (D) mm (PCIe half size)		106.68 (W) $\times$ 174.63 (D) mm (PCI half size)		
Approx. Mass	250 g		140 g	210 g	

## Compliance with Standards and Directives



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### Product Information Site

<http://www.e-mechatronics.com/en/>

In the event that the end user of this product is to be the military and said product is to be employed in any weapons systems or the manufacture thereof, the export will fall under the relevant regulations as stipulated in the Foreign Exchange and Foreign Trade Regulations. Therefore, be sure to follow all procedures and submit all relevant documentation according to any and all rules, regulations and laws that may apply. Specifications are subject to change without notice for ongoing product modifications and improvements.

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