

C200HW-MC402-E

# Motion control unit

## Advanced multi-axes motion control made perfectly intuitive

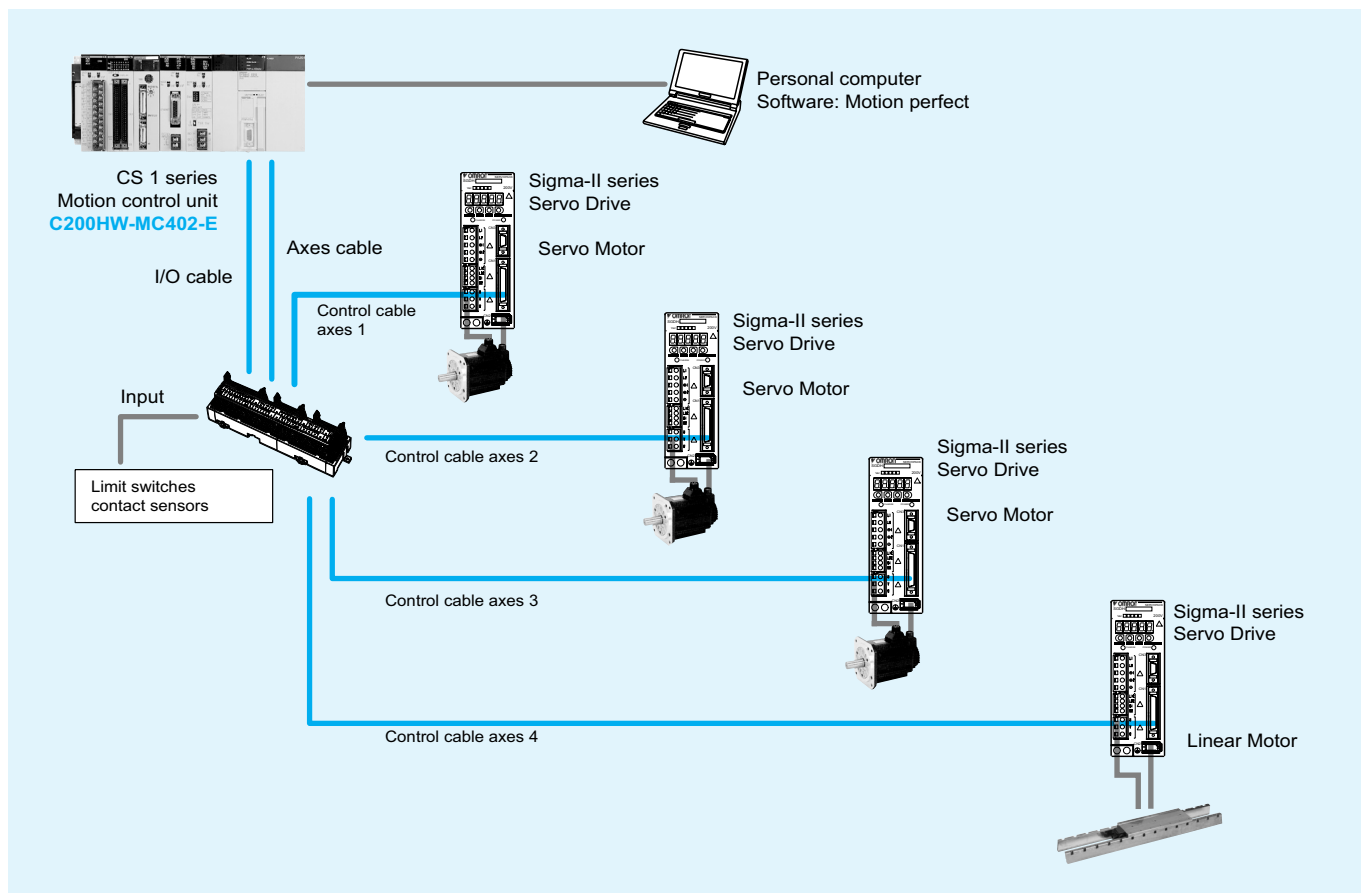
- Advanced motion control of 4 real axes and 4 virtual axes per unit. Up to 16 modules can be installed in one PLC
- Analogue outputs for close loop position and speed control
- Simple to develop and modify using BASIC
- Multi-tasking programming
- Hardware registration input for every axis
- Electronic CAM profiles and axes synchronization
- Friendly motion perfect Windows-based programming and debugging software. Provides versatile test and monitoring functions including a 4-channel software oscilloscope.



## Function

The advanced motion control unit provides closed-loop control of up to 4 axes, it is programmed in a multi-task BASIC type language and supported by the powerful software tool. The unit provides a complete command set, allowing applications such as flying saws, rotating knives, any synchronization and electronic CAM profile to be easily programmed.

## System configuration



Specifications

<b>Model</b>		<b>C200HW-MC402-E</b>
<b>Classification</b>		C200H special I/O unit
<b>Control output signals</b>		Analogue
<b>Programming language</b>		BASIC type motion control language
<b>Basic specifications</b>	<b>Power supply voltage</b>	5 VDC (supplied from backplane). 24 VDC (supplied from external power supply)
	<b>Approx. mass</b>	500 g
	<b>External dimensions</b>	130x34.5x100.5 mm (HxWxD)
<b>Functional specifications</b>	<b>Controlled axes</b>	4 real axes 4 virtual axes
	<b>Control method</b>	Closed loop with incremental encoder and with PID and speed command outputs
	<b>Servo loop cycle</b>	1.0 ms
	<b>Speed control</b>	Speed control of up to 4 axes. Up to 1 MHz pulse input frequency after quadrature
	<b>Measurement units</b>	User definable
<b>Motion control</b>	<b>Linear interpolation</b>	4 axes
	<b>Circular interpolation</b>	For any 2 axes
	<b>Helical interpolation</b>	For any 3 axes
	<b>Axes synchronization</b>	For any 2 axes
	<b>Axes linked CAM profile</b>	For any 2 axes
	<b>Hardware registration interrupt</b>	4 axes
	<b>Acceleration/deceleration curves</b>	Trapezoidal or S-curve
<b>Task programming capacity</b>	<b>Number of tasks</b>	Up to 5 tasks simultaneous plus interface task
	<b>Number of programs</b>	14
	<b>Data storage capacity</b>	251 (VR) + 16000 (table) max.
<b>External I/O</b>	<b>Encoder input</b>	Line driver receiver inputs for 4 axes (1 MHz after quadrature)
	<b>Servo drive relationships</b>	The following signals are provided per axis Inputs: Drive alarm signal Outputs: Drive enable (RUN or SERVO ON) Drive alarm reset SPEED command
	<b>Digital inputs</b>	Up to 16 digital inputs can be wired to control MC unit functions. These include limit switches, rapid stop switches and proximity inputs.
	<b>Digital outputs</b>	Total of 8 digital outputs can be wired and used for position dependent switching or other general purposes.
	<b>Registration inputs</b>	Each axis has a registration input that can be used to record the current position of the encoder feedback signals in hardware for use within the software environment
<b>Serial communications</b>	<b>RS-232C</b>	Connection to PC (motion perfect software)

Motion perfect software

<b>Model</b>	<b>Motion perfect</b>
<b>Supported MC units</b>	C200HW-MC402-E, R88A-MCW151-E, R88A-MCW151-DRT-E
<b>Applicable computer</b>	Windows 95/98/2000/NT4.0
<b>Functions</b>	Programming and debugging software tool. Test and monitoring functions including a 4-channel software oscilloscope.

Ordering information

Motion controller unit

Name	Model
4 axes advanced motion controller	C200HW-MC402-E

Serial cable

Name	Model
Programming cable	2 m R88A-CCM002P4-E

Terminal block and cables to motion controller unit

Description	Model
Terminal block for MC402 unit	- R88A-TC04-E
PLC unit control cable (I/O signals)	1 m R88A-CMX001S-E
PLC unit control cable (axes control)	1 m R88A-CMX001J1-E

Sigma-II series servo drive cables

Description	Model
Servo drive connecting cable, 1 axis. (It is required 1 cable for each servo drive)	1 m R88A-CMUK001J3-E2

Computer software

Specifications	Model
Motion perfect software	MOTION TOOLS CD

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.  
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.