

CS1W-MC421/-MC221

Motion control units

High-precision, motion controller with multi-tasking G-language programming

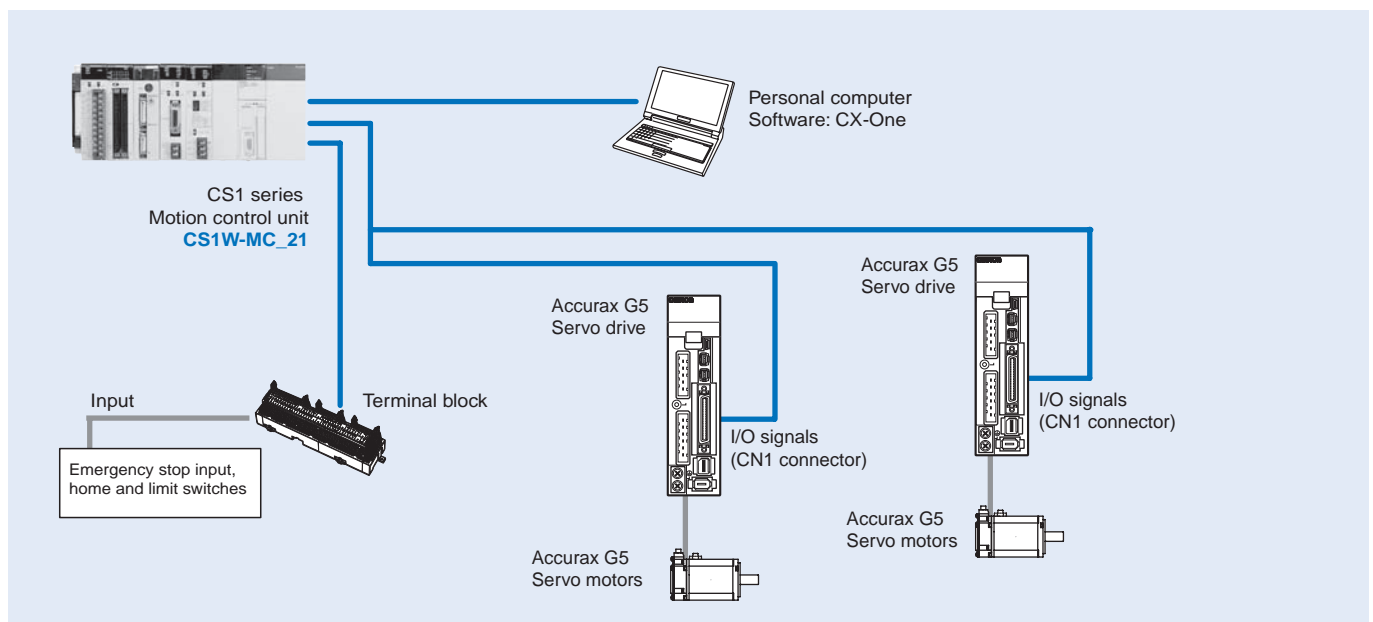
- High-speed control of up to 4 axes with one unit and up to 76 axes with one PLC (19 units x 4 axes) (assumes that power supply unit capacity is not exceeded).
- Winding operations easily controlled at high-speed using traverse positioning control.
- High-speed response to commands from CPU unit (8 ms for 2 axes, 13 ms for 4 axes).
- Encoder response of 2 Mpps possible with 4x frequency multiplication for applications with high-speed, high-precision servo motors.
- D interrupt code outputs to CPU unit at end of positioning or at specified positions (D code output time: 3.3 ms max.).
- CX-motion Windows-based support software define user mnemonics to use in place of G codes to simplify MC program development and analysis.
- Servo trace function from CX-motion to trace error counter changes or motor speeds.
- Automatic loading function
 MC programs and positioning data can be automatically downloaded from computer memory when required by the MC unit.



Function

The motion controller provides closed-loop motion control via analog outputs for up to 4 axes, and supports the G language for advanced, high-speed, high-precision position control. Multi-tasking allows you to run the axes independently for a wider range of application.

System configuration



Specifications

General

Model	CS1W-MC421-V1	CS1W-MC221-V1	
Classification	CS1 Special I/O unit		
Control method	Closed loop with automatic trapezoid or S-curve acceleration/deceleration		
Control output signals	Analog		
Internal programming language	G language (program started by command sent from CPU unit's ladder program.)		
Controlled axes	4 axes max.	2 axes max.	
Maximum position value	-39,999,999 to 39,999,999 (for minimum setting unit of 1)		
Synchronous axis control	4 axes max.	2 axes max.	
Positioning	Linear interpolation	4 axes max.	2 axes max.
	Arc interpolation	2 axes max. in a plane	
	Helical interpolation	2-axis arc interpolation in a plane + feed axis	---
	Traverse	2-axis traverse feeding	
	Infinite feed	Infinite feeding of one or more axes	
	Interrupt feed	Interrupt feeding for specified axes (positioning can be specified for when there is no interrupt.)	
Task programming capacity	Number of tasks	4 tasks max.	2 tasks max.
	Number of programs	25 programs when using 4 tasks	50 programs when using 2 tasks
	Program capacity	500 blocks per task when using 4 tasks	1,000 blocks per task when using 2 tasks

CX-Motion: Windows-based support software

Model	WS02-MCTC1-EV□
Supported MC units	CS1W-MC221/421, C200H-MC221, and CV500-MC221/421
Applicable computer	DOS, OS: Windows 95/98 or Windows NT Version 4.0
Functions	Functions required for MC unit control: creating/editing/saving/printing system parameters, positioning data, and MC programs; monitoring MC unit operation

Ordering information

Motion control unit

Name	Model
2 axes motion control unit.	CS1W-MC221-V1
4 axes motion control unit.	CS1W-MC421-V1

Accurax G5 servo drive cables

Description	Connect to		Model
Axis control cable (1 axis)	Motion control units CS1W-MC221 (1 cable needed) CS1W-MC421 (2 cables needed)	1 m	R88A-CPG001M1
		2 m	R88A-CPG002M1
		3 m	R88A-CPG003M1
		5 m	R88A-CPG005M1
Axes control cable (2 axis)	Motion control units CS1W-MC221 (1 cable needed) CS1W-MC421 (2 cables needed)	1 m	R88A-CPG001M2
		2 m	R88A-CPG002M2
		3 m	R88A-CPG003M2
		5 m	R88A-CPG005M2

I/O terminal block and cables

Description	Connect to motion control unit		Model
Terminal block	CS1W-MC221	-	XW2B-20J6-6
	CS1W-MC421	-	XW2B-40J6-7
Cable form PLC unit to terminal block.	CS1W-MC221 CS1W-MC421	1 m	XW2Z-100J-F1

Computer software

Specifications	Model
CX-One	CX-One

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