

CS1W-NC□□3, C200HW-NC□□

# Position control units

## Point-to-point positioning controller with pulse train output

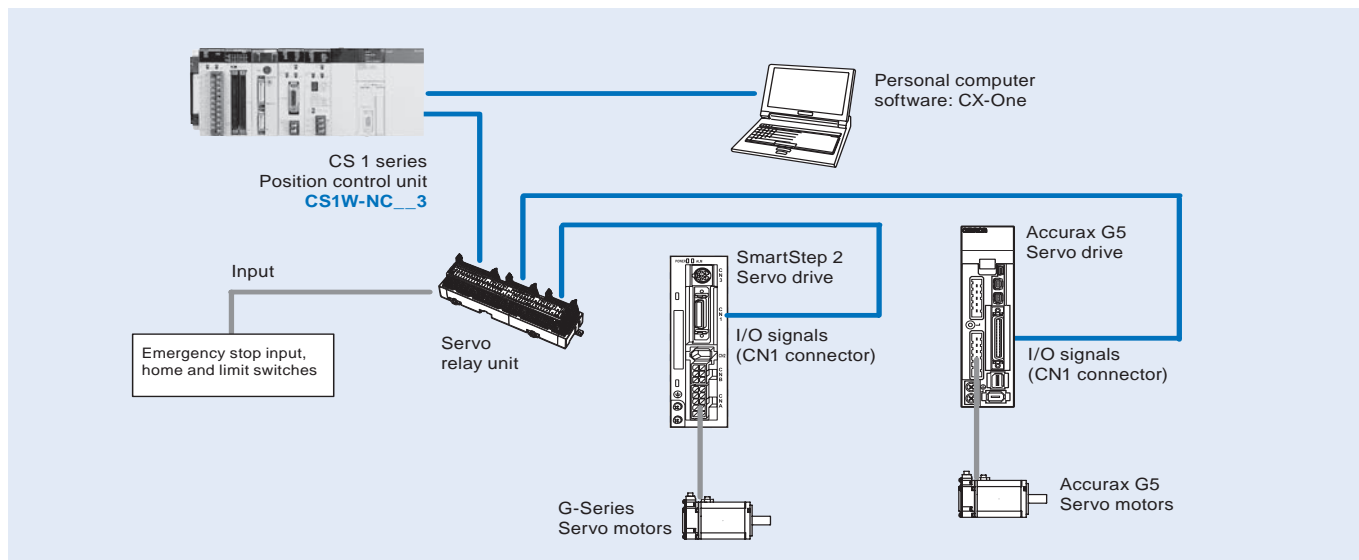
- Position control unit with 1, 2 or 4 axes
- Positioning can done by direct ladder commands
- Position and speed control
- Linear interpolation
- Interrupt feeding function
- Positioning of 100 points done from memory
- S-curve acceleration/deceleration, origin search, backlash compensation, and other features are also supported.
- Positioning data is saved in internal flash memory, eliminating the need to maintain a backup battery.
- Use Windows-based support software to easily create positioning data and store data and parameters in files.



## Function

These position control units support positioning control via pulse-train outputs. Positioning is performed using trapezoidal or S-curve acceleration and deceleration. Models are available with 1, 2, or 4 axes control, and can be used in combination with servo drives or stepping motors what accept pulse-train control.

## System configuration



## Specifications

<b>Model</b>	CS1W-NC113 CS1W-NC133	CS1W-NC213 CS1W-NC233	CS1W-NC413 CS1W-NC433	C200HW-NC113	C200HW-NC213	C200HW-NC413
<b>Unit name</b>	Position control unit					
<b>Classification</b>	CS1 special I/O units			C200H special I/O units		
<b>Unit numbers</b>	0 to 95			0 to 15 (0 to F)		
<b>Control method</b>	Open-loop, automatic trapezoid acceleration/deceleration					
<b>Control output signals</b>	CS1W-NC□13: Open-collector outputs CS1W-NC□33: Line-driver outputs			Open-collector		
<b>Controlled axes</b>	1	2	4	1	2	4
<b>Operating modes</b>	Direct operation or memory operation					
<b>Data format</b>	Binary (hexadecimal)			BCD		
<b>Affect on scan time for end refresh</b>	0.29 to 0.41 ms max./unit			2.6 to 4.5 ms max./unit		
<b>Affect on scan time for IOWR/IORD</b>	0.6 to 0.7 ms max./instructions			2.6 to 5.5 ms max./instructions		
<b>Startup time</b>	2 ms min. (Refer to operation manual for conditions.)			7.51 ms min. (Refer to operation manual for conditions.)		
<b>Position data</b>	-1,073,741,823 to +1,073,741,823 pulses			-9,999,999 to +9,999,999 pulses		
<b>No. of positions</b>	100 per axis					
<b>Speed data</b>	1 to 500 kpps (in 1 pps units)			1 to 500 kpps (specified as factor)		
<b>No. of speeds</b>	100 per axis					
<b>Acceleration/deceleration times</b>	0 to 250 s (time to max. speed)					
<b>Acceleration/deceleration curves</b>	Trapezoidal or S-curve					
<b>Saving data in CPU</b>	Flash memory					
<b>Windows-based support software</b>	CX-position			SYSMAC-NCT (WS01-NCTF1-E)		

## Ordering information

### Position control unit

Name	Model
1 axis position control unit. Open-collector output.	CS1W-NC113
2 axes position control unit. Open-collector output.	CS1W-NC213
4 axes position control unit. Open-collector output.	CS1W-NC413
1 axis position control unit. Line-driver output.	CS1W-NC133
2 axes position control unit. Line-driver output.	CS1W-NC233
4 axes position control unit. Line-driver output.	CS1W-NC433
1 axis position control unit. Open-collector output.	C200HW-NC113
2 axes position control unit. Open-collector output.	C200HW-NC213
4 axes position control unit. Open-collector output.	C200HW-NC413

### Servo drive cables

**Note:** Refer to selected servo systems section for cable and servo relay units information.

### 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.