CJ1W-NC□□4

Position control unit

Point-to-point positioning controller with pulse train output and motion control unit functionality
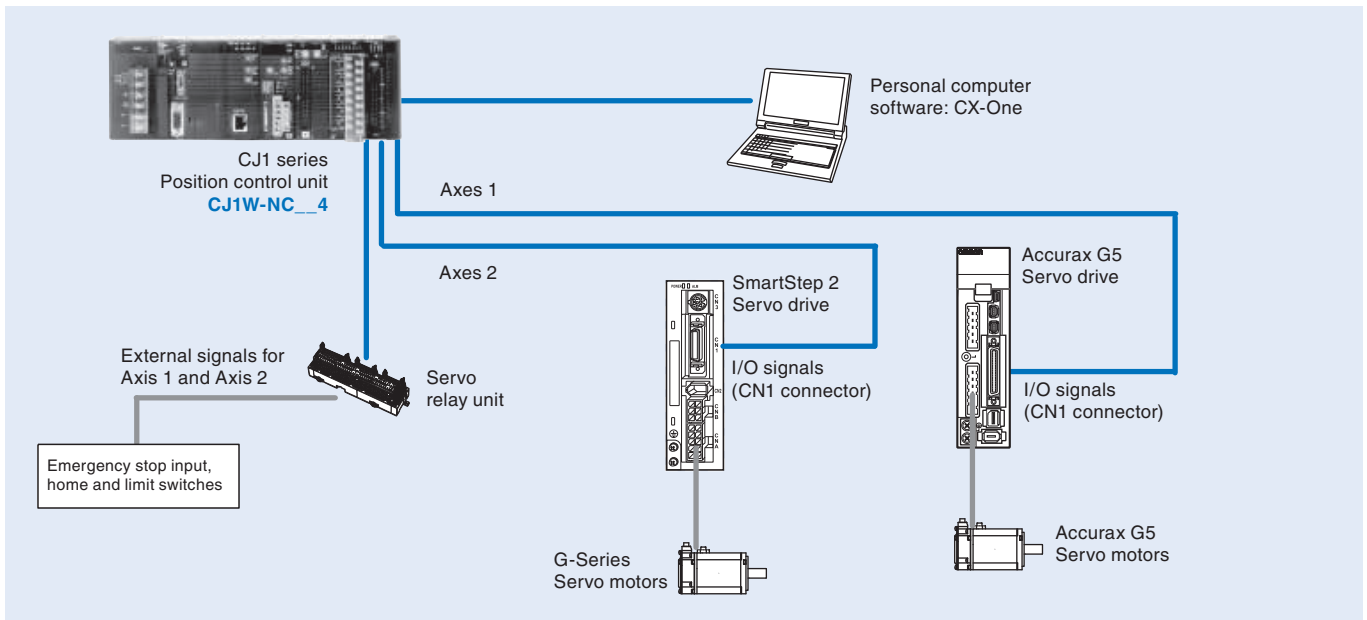
- Position control units with 2 or 4 axes
- Position and speed control
- Linear interpolation and feeder control function
- Electronic CAM profiles and axes synchronization
- Positioning of 500 points per axis done from memory
- S-curve acceleration/deceleration, origin search, backlash compensation, and other features are also supported.
- Programming languages: ladder, function blocks.
- 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 2 or 4 axes control, and can be used in combination with servo drives or stepping motors what accept pulse-train control. When these units are used in a CJ2 PLC CPU can perform also synchronous operation by use of electronic CAMs and other function blocks.

System configuration

CJ1 series
Position control unit
CJ1W-NC__4

Axes 1

Axes 2

Personal computer
software: CX-One

External signals for
Axis 1 and Axis 2

Servo
relay unit

Emergency stop input,
home and limit switches

SmartStep 2
Servo drive

I/O signals
(CN1 connector)

G-Series
Servo motors

Accurax G5
Servo drive

I/O signals
(CN1 connector)

Accurax G5
Servo motors

OMRON

Specifications

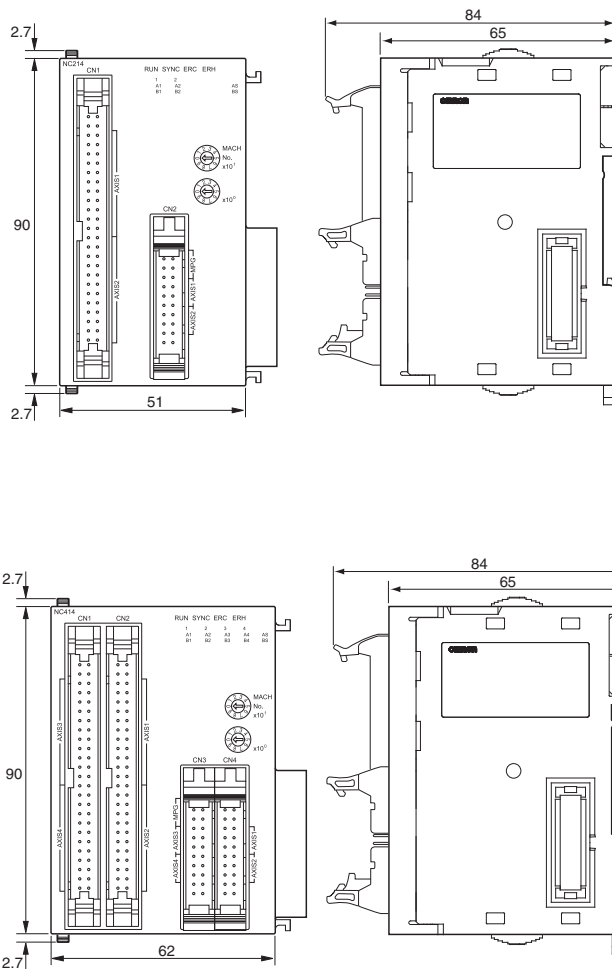| Model	CJ1W-NC214 CJ1W-NC234	CJ1W-NC414 CJ1W-NC434
Unit name	Position control unit	
Classification	CJ series special I/O units	
Applicable PLCs	CJ series	
Unit numbers	0 to 94	
Maximum number of units per rack	5 units	
Maximum number of units per CJ system	20 units (3 expansion racks maximum)	
Occupied unit	2	
Control method	Open-loop control by pulse train output	
Control output signals	CJ1W-NC☐14: Open-collector output CJ1W-NC☐34: Line-driver output	
Controlled axes	2	4
I/O allocations	Axis operating memory area	Allocated in one of the following areas(user-specified): CIO, WR, HR, DM or EM area.	
Control function	Operating modes	Direct operation or memory operation	
	Linear interpolation	2 axes maximum	4 axes maximum
	Circular interpolation	2 axes maximum	
	Interrupr feeding	Independent, 2 axes	Independent, 4 axes
	Position data	-2147483648 to +2147483647	
	No. of positions	500 per axis	
	Speed data	4 Mpps maximum speed (NC234/434) or 500 kpps (NC214/414)	
	No. of speeds	500 per axis	
	Acceleration/deceleration times	0 to 250 s (time to max. speed)	
	Acceleration/deceleration curves	Trapezoidal or S-curve	
Auxiliary functions	Override	Multiplies the axis command speed by a specified ratio. Value: 0.01% to 500.00%	
	Sofware limits	Limits software operation for controlling positioning	
	Backlash compensation	Compensates for the amount of play in the mechanical system according to a set value	
	Torque limit	Restrics the torque upper limit during position control	
Saving data in PCU	Flash memory	
Ambient operating temperature	0 to 55°C	
External power supply	24 VDC	
Internal current consumption	270 mA or less at 5 VDC	310 mA or less at 5 VDC
Weight	170 g	220 g

Nomenclature

CJ1W-NC214/234/414/434 - position control unit
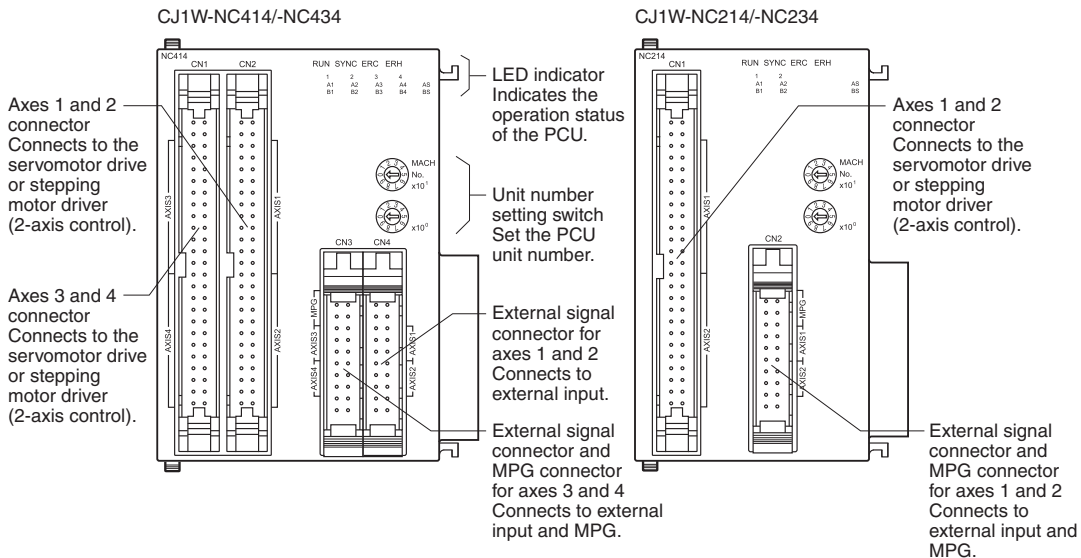
Dimensions

CJ1W-NC214/234/414/434 - position control unit

Ordering information

Position control unit

Name	Model
2 axes position control unit. Open-collector output.	CJ1W-NC214
4 axes position control unit. Open-collector output.	CJ1W-NC414
2 axes position control unit. Line-driver output.	CJ1W-NC234
4 axes position control unit. Line-driver output.	CJ1W-NC434

Servo drive cables

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

Computer software

Specifications	Model
CX-One version 4.0 or higher	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.