GENERAL CATALOGUE 2004

Motion & Drives





- Motion Controllers
- Servo Systems
- Frequency Inverters
- Software

Advanced Industrial Automation

Cat. No. Y203-EN2-01 DRIVES

OMRON

Motion Control

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CJ1W-NC□□

Position Control Units

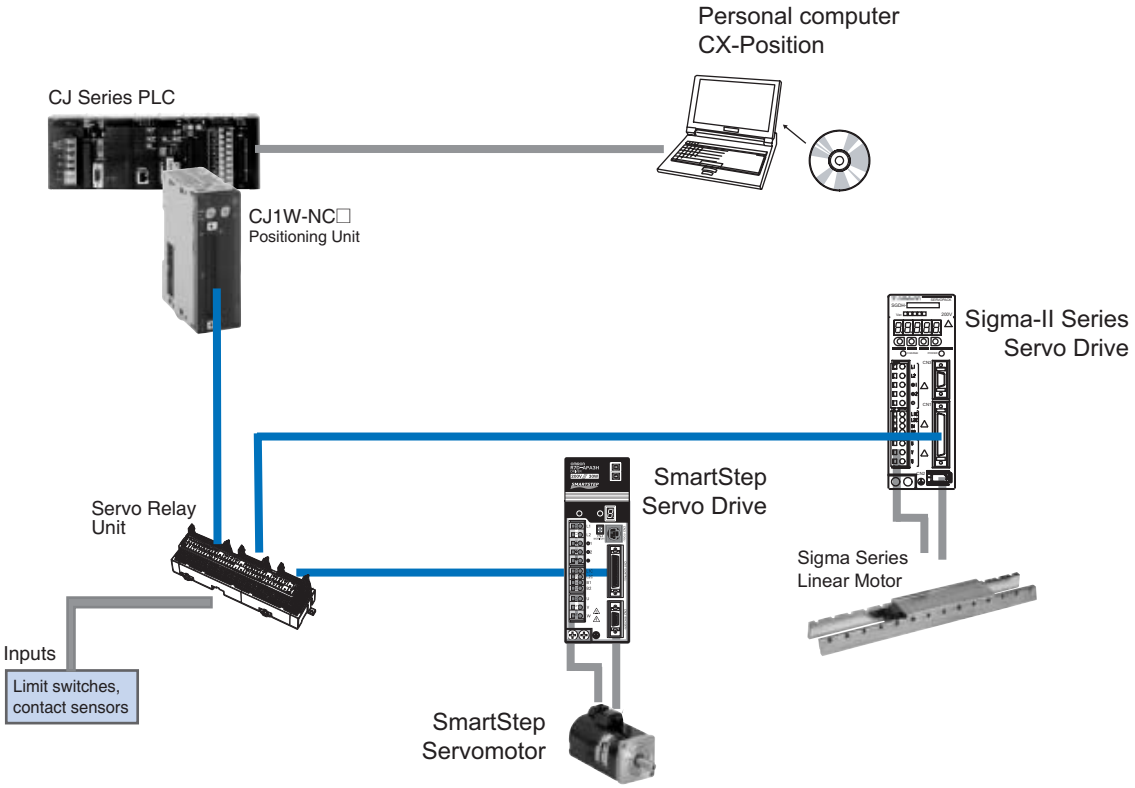
High-speed, High-precision Positioning with 1, 2, or 4 Axes

- 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 (CX-Position) 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 trapezoid al 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

Model	CJ1W-NC113 CJ1W-NC133	CJ1W-NC213 CJ1W-NC233	CJ1W-NC413 CJ1W-NC433
Unit name	Position Control Unit		
Classification	Special I/O Unit		
Unit numbers	0 to 95		0 to 94
Control method	Open-loop control by pulse train output		
Control output interface	CJ1W-NC□13: Open-collector output CJ1W-NC□33: Line-driver output		
Controlled axes	1	2	4
Operating modes	Direct operation or memory operation		
Data format	Binary (hexadecimal)		
Affect on scan time for end refresh	0.29 to 0.41 ms max./unit		
Affect on scan time for IOWR/IORD	0.6 to 0.7 ms max./instructions		
Startup time	2 ms max. (Refer to operation manual for conditions.)		
Position data	–1,073,741,823 to +1,073,741,823 pulses		
No. of positions	100 per axis		
Speed data	1 to 500 kpps (in 1-pps units)		
No. of speeds	100 per axis		
Acceleration/ deceleration times	0 t 250 s (time to max. speed)		
Acceleration/ deceleration curves	Trapezoidal or S-curve		
Saving data in CPU	Flash memory		
Windows-based Support Software	CX-Position (WS02-NCTC1-E)		
Ambient operating temperature	0 to 55 °C		0 to 50 °C
External power supply	24 V DC ±10%, 5 V DC ±5% (line driver only)		24 V DC ±5%, 5 V DC ±5% (line driver only)

Ordering Information

Position Control Unit

Name	Model
1 Axis Position Control Unit. Open-collector output.	CJ1W-NC113
2 Axes Position Control Unit. Open-collector output.	CJ1W-NC213
4 Axes Position Control Unit. Open-collector output.	CJ1W-NC413
1 Axis Position Control Unit. Line-driver output.	CJ1W-NC133
2 Axes Position Control Unit. Line-driver output.	CJ1W-NC233
4 Axes Position Control Unit. Line-driver output.	CJ1W-NC433

Servo Drive Cables

Note: Refer the sellected Servo Systems section for cable and servo relay units information.

Computer Software

Specifications	Model
CX-Position, Windows-based Support Software	WS02-NCTC1-E

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

Cat. No. I04E-EN-01

In the interest of product improvement, specifications are subject to change without notice.

CS1W-NC□□□, C200HW-NC□□□

Position Control Units

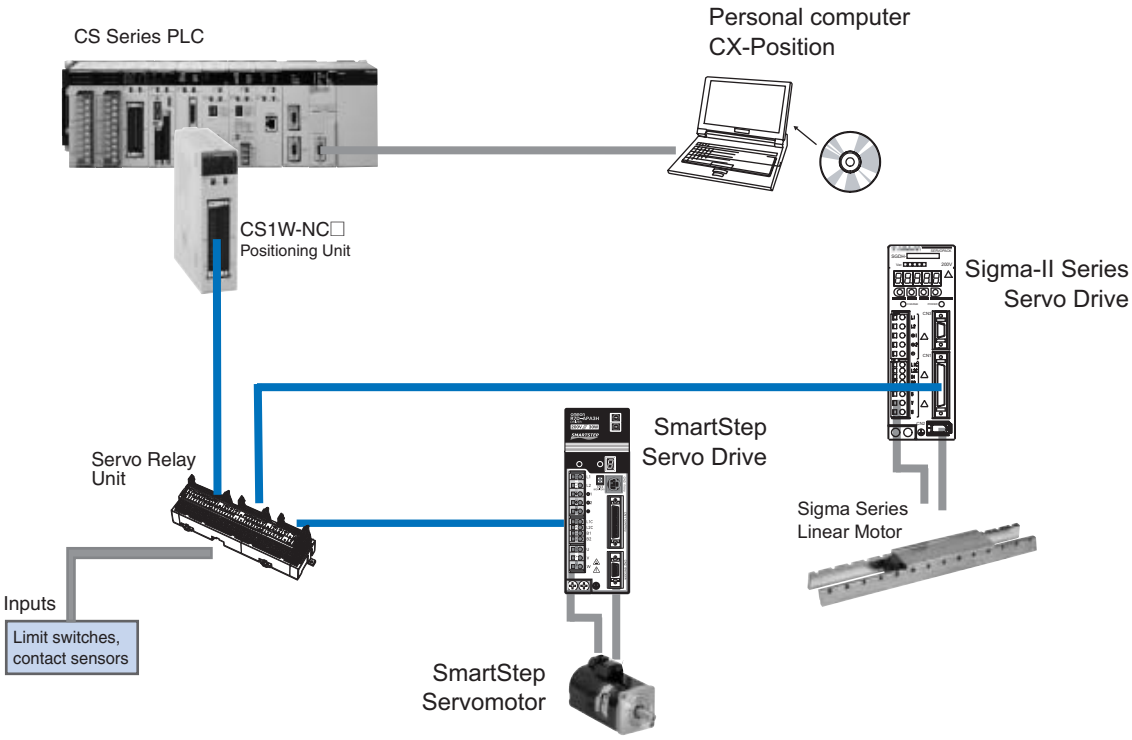
High-speed, High-precision Positioning with 1, 2, or 4 Axes

- 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 trapezoid al 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

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

Computer Software

Specifications	Model
CX-Position, Windows-based Support Software	WS02-NCTC1-E
SYSMAC-NCT	WS01-NCTF1-E

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Cat. No. I05E-EN-01

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CS1W-MC421/-MC221

Motion Control Units

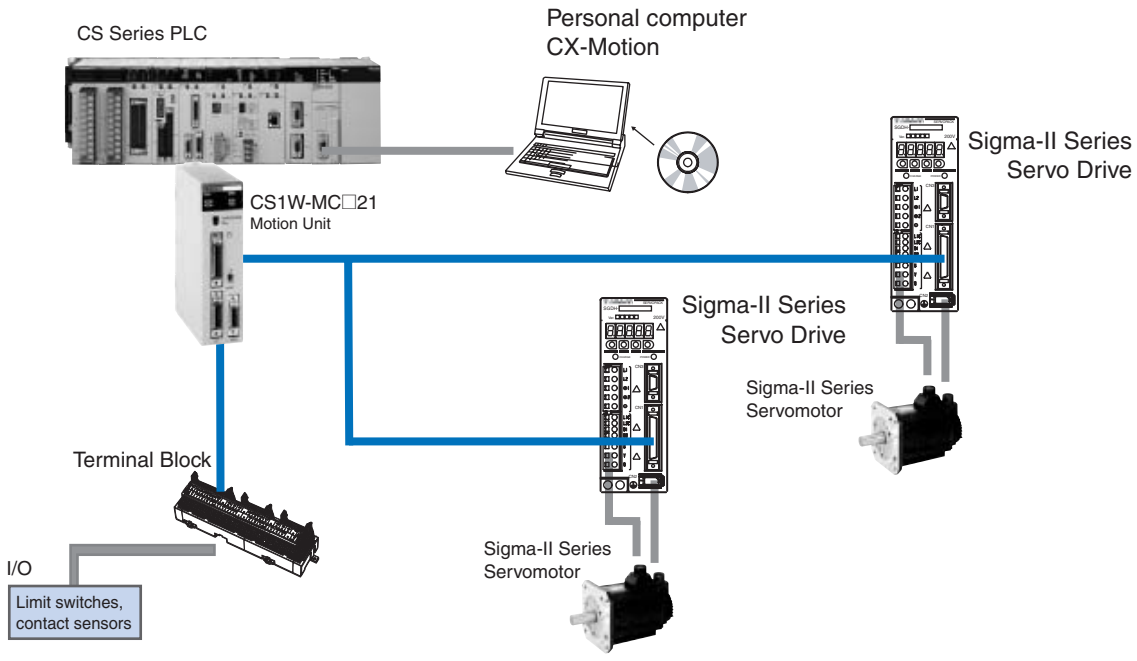
High-precision, Motion Controller with Multi-tasking G-language Programming

- 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 servomotors.
- 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

Sigma-II Series 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-CPW001M1
		2 m	R88A-CPW002M1
		3 m	R88A-CPW003M1
		5 m	R88A-CPW005M1
Axes Control Cable (2 Axis)	Motion Control Units CS1W-MC221 (1 cable needed) CS1W-MC421 (2 cables needed)	1 m	R88A-CPW001M2
		2 m	R88A-CPW002M2
		3 m	R88A-CPW003M2
		5 m	R88A-CPW005M2

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-Motion, Windows-based Support Software	WS02-MCTC1-EV□

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Cat. No. I06E-EN-01

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C200HW-MC402-E

Motion Control Unit

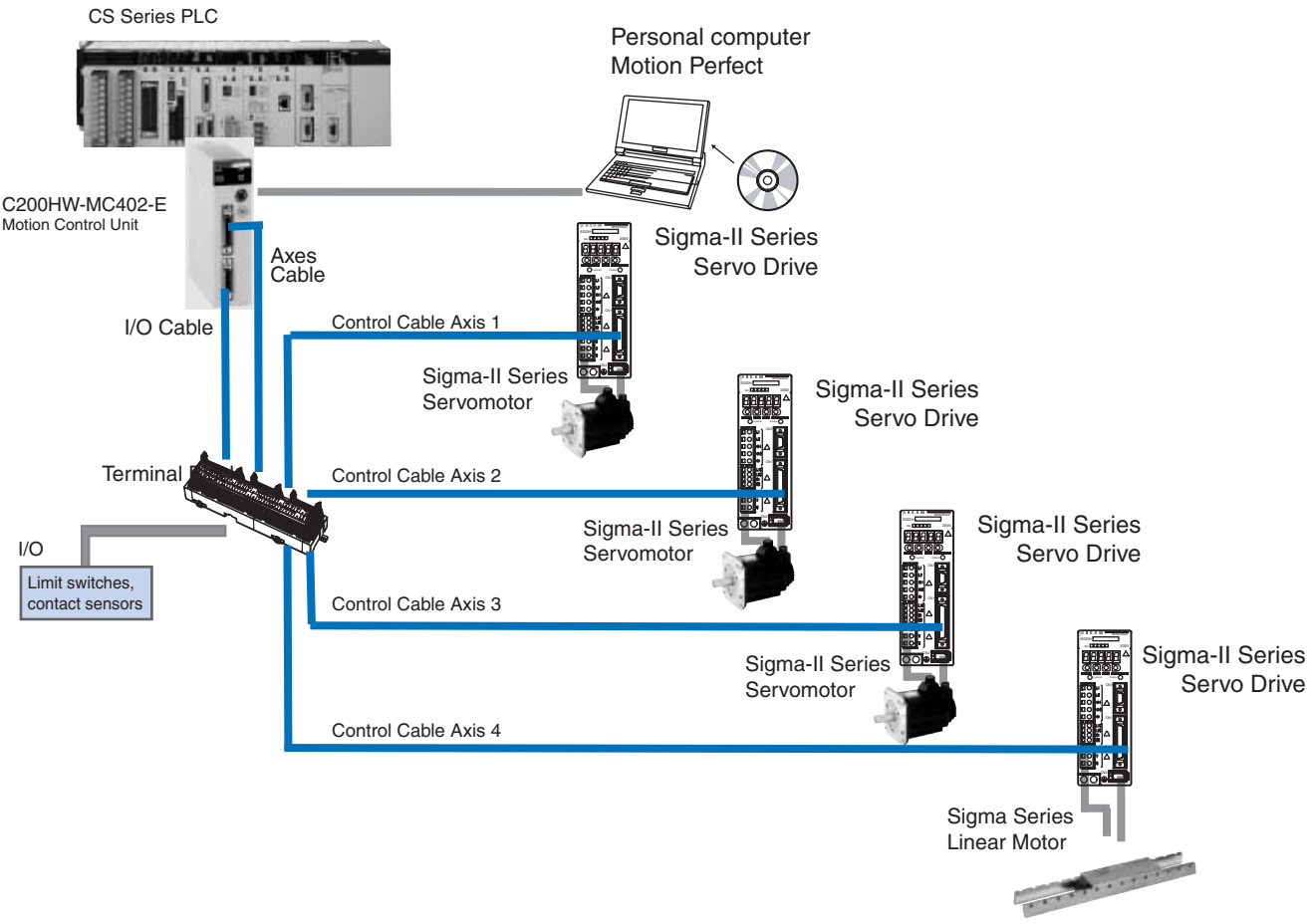
Advanced multi-axes Motion Control made perfectly intuitive

- 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 Position, Speed and Torque control
- Simple to develop and modify using BASIC
- Multi-tasking programing
- 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, rotaring knives, any synchronization and electronic CAM profile to be easily programmed.

System Configuration



Specifications

Model		C200HW-MC402-E
Classification		C200H Special I/O Unit
Control Output signals		Analogue
Programming language		BASIC type motion control language
Basic Specifications	Power Supply Voltage	5 VDC (Supplied from Backplane).
		24 VDC (Supplied from external power supply)
	Approx. Mass	500 g
	External Dimensions	130 x 34.5 x 100.5 mm (H x W x D)
Functional Specifications	Controlled axes	4 real axes 4 virtual axes
	Control method	Closed loop with incremental encoder and with PID and speed command outputs
	Servo Loop Cycle	1.0 ms
	Speed Control	Speed control of up to 4 axes. Up to 1 MHz pulse input frequency after quadrature
	Measurement units	User definable
Motion Control	Linear interpolation	4 axes
	Arc interpolation	For any 2 axes
	Helical interpolation	For any 3 axes
	Axes Synchronization	For any 2 axes
	Axes Linked CAM profile	For any 2 axes
	Hardware Registration Interrupt	4 axes
	Acceleration/deceleration curves	Trapezoidal or S-curve
Task programming capacity	Number of tasks	Up 5 tasks simultaneous plus interface task
	Number of programs	14
	Data storage capacity	251 (VR) + 16000 (Table) max.
External I/O	Encoder Input	Line receiver inputs for 4 axes (1 MHz after quadrature)
	Servo Drive relationships	The following signals are provided per axis Inputs: Drive Alarm Signal Outputs: Drive Enable (RUN or SERVO ON) Drive Alarm Reset SPEED command
	Digital Inputs	Up to 16 digital inputs can be wired to control MC Unit funtions. These include limit switches, rapid stop switches and proximity inputs.
	Digital Outputs	Total of 8 digital outputs can be wired and used for position dependent switching or other general purposes.
	Registration inputs	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 enviroment
Serial Communications	RS-232C	Connection to PC (Motion Perfect Software)

Motion Perfect Software

Model	Motion Perfect
Supported MC Units	C200HW-MC402-E, R88A-MCW151-E, R88A-MCW151-DRT-E
Applicable computer	Windows 95/98/2000/NT4.0
Functions	Programming and debugging software tool. Test and moitoring 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
Programing 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
Servodrive 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.

Cat. No. I07E-EN-01

In the interest of product improvement, specifications are subject to change without notice.

CS1W-MCH71 - MECHATROLINK-II

Motion Control Unit

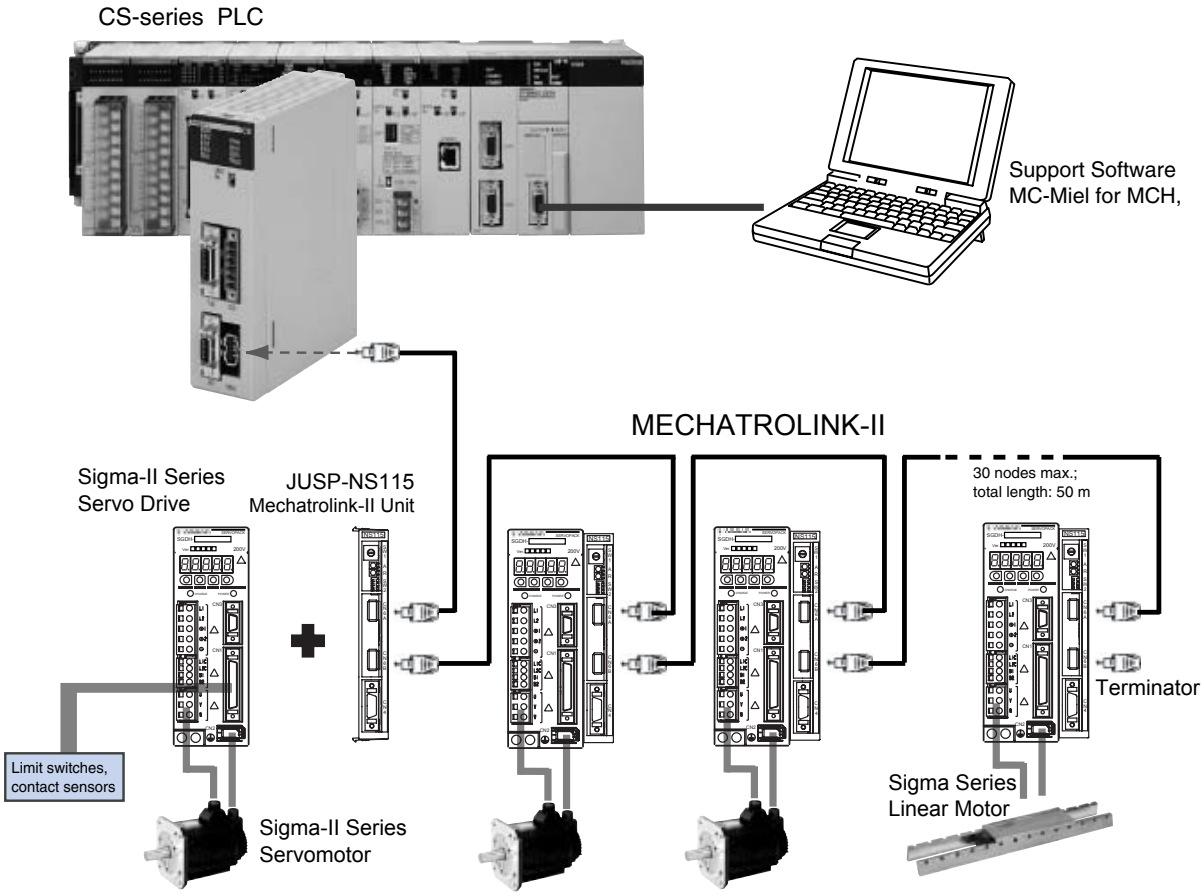
Multi-axes Motion Control over high-speed MECHATROLINK-II

- Up to 30 axes controlled with minimum wiring
- High-speed bus MECHATROLINK-II is specially designed for Motion Control
- Supports Position, speed and Torque control
- Electronic CAM profiles and axes synchronization
- Hardware registration input for every axis
- Program control commands, like Multi-task programming and branching commands, and various arithmetic operations for maximum program efficiency
- Access to the complete system from one point

Function

Multi-axes control is made easy by freely combining control axes. Up to 32 axes can be used, including 30 physical axes and two virtual axes, and each axis can be set individually. Position Control, synchronized control (electronic gear, electronic Cam, follow-up), speed control, and torque control are all supported, enabling a wide range of applications. By using the high-speed servo communications MECHATROLINK-II, motion programs, system parameters, system data, and servo drive parameters can be set and read from the software tool.

System Configuration



Specifications

Motion Control Unit

Model		CS1W-MCH71
Classification		CS-series CPU Bus unit
Applicable PLCs		CS-series, new version (CS1□-CPU□□H)
Backplanes on which MC Unit can be mounted		CPU Backplane or CS-series Expansion I/O Backplane
Control Method		MECHATROLINK-II (Position, Speed and Torque control)
Controlled devices		Sigma-II series Servo Drives (ver. 38 or later) with MECHATROLINK-II Interface and various I/O Units.
Programming language		BASIC type motion control language
Controlled axes		32 max, including 30 physical or virtual axes and 2 virtual axes
Operating modes		RUN Mode, CPU Mode, Tool Mode/System (depending on Tool)
Automatic/Manual Mode		Automatic Mode: Mode for executing programs in the Unit Manual Mode: Mode for executing commands from the CPU Unit (via allocated words)
Minimum setting unit		1, 0.1, 0.01, 0.001, 0.0001 (Unit: mm, inch, degree, pulse)
Maximum command value		–2,147,483,648 to 2,147,483,647 pulses (32 bits with sign); infinite axis feed mode supported. Example: 16,384 pulses/rev after multiplication, a minimum setting unit of 0.001 mm and 1 mm/rev would result in –1,310,720,000 to 1,310,719,999 command units.
Control functions by command from CPU Unit	Servo lock/unlock	Locks and unlocks the servo driver.
	Jogging	Executes continuous feeding for each axis independently at the speed system parameter times the override.
	Origin search	Determines the machine origin in the direction set in the system parameters. Can be executed with an absolute encoder.
	Absolute origin setting	Sets the origin for when an absolute encoder is used. (Offset value: 32 bits [pulses] with sign)
	Machine lock	Stops the output of move commands to axes.
	Single block	Executes motion programs one block at a time.
Control functions by motion program	Positioning (PTP)	Executes positioning independently for each axis at a specified speed or the speed system parameter. (Simultaneous specification: Up to eight axes/block, Simultaneous execution: Up to 32 blocks/Unit)
	Linear interpolation	Executes linear interpolation for up to eight axes at a time at the specified interpolation feed speed. (Simultaneous specification: Up to eight axes/block, Simultaneous execution: Up to 32 blocks/system)
	Circular interpolation	Executes circular interpolation for two axes in either clockwise or counterclockwise at the specified interpolation feed speed. Helical circular interpolation is also possible with single-axis linear interpolation added. (Simultaneous specification: Two or three axes/block, Simultaneous execution: Up to 16 blocks/system)
	Other functions	Origin searches, interrupt feeding, timed positioning, traverse positioning, independent electronic CAM, synchronized electronic CAM, link operation, electronic gear, follow-up synchronization, speed reference, torque reference
Acceleration/deceleration curve, acceleration/deceleration time		Trapezoidal or S-curve, 60,000 ms max. (S-curve: Constant 30,000 ms max.)
External I/O		One port for MECHATROLINK-II Servo communications, one deceleration stop input, two general inputs, two general outputs
Feed rate		Rapid, interpolation feed rate: 1 to 2,147,483,647 (command units/min)
Override		0.00% to 327.67% (setting unit: 0.01%; Can be set for each axis or task.)
Motion programs	Number of tasks, number of programs	Up to 8 tasks and 256 programs/Unit (8 parallel branches per task max.)
	Program numbers	0000 to 0499 for main program; 0500 to 0999 for subroutine
	Program capacity	In motion program conversion, 8,000 blocks/Unit max. (2 Mbytes); number of blocks: 800
	Data capacity	Position data: 10,240 points/Unit; Cam data: 32 max.; 16,000 points/Unit
	Subroutine nesting	Five levels max.
	Start	Programs in other tasks can be started from a program.
	Deceleration stop	Decelerates to a stop regardless of the block.
	Block stop	Decelerates to a stop after the block being executed is ended.
	Single block	Executes the program one block at a time.
Data exchange with CPU Unit	Words allocated to Unit in CIO Area	Uses one unit number (25 words). Used for Unit and tasks: 11 to 25 words (depending on the number of tasks)
	Words allocated to Unit in DM Area	Uses one unit number (100 words). Used for Unit and tasks: 32 to 74 words (depending on the number of tasks)
	Any area (bits)	Axes: 0 to 64 words (depending on the maximum axis number used)
	Any area (data)	Axes: 0 to 128 words (depending on the maximum axis number used)
	Any area (data)	General I/O: 0 to 1,280 words (depending on the settings)
Saving programs and data		Memory Card backup (in CPU Unit, 100,000 times max.)
Self-diagnostic functions		Watchdog, RAM check, etc.
Error detection functions		Deceleration stop inputs, unit number errors, CPU errors, software limit errors, etc.
Error log function		Read by IORD instruction from CPU Unit.
Support Software		Microsoft Windows 2000 or NT 4.0 (Processor: Pentium, 100 MHz min., with at least 64 MB of memory)
External power supply voltage		24 V DC (21.6 to 26.4 V DC)
Internal current consumption		0.8 A or less for 5 V DC; 0.3 A or less for 24 V DC
Weight (not including connectors)		300 g max.

Note: 1. Take the following factors into account when mounting Motion Control Units under a single CPU Unit:
- The maximum number of CPU Bus Units that can be allocated words in the CPU Unit
- The capacity of the Power Supply Unit on each CPU Rack or Expansion I/O Rack and the current consumption of the Units mounted on the Rack (For details, refer to the Operation Manual for the CPU Unit.)

2. The required power supply must be provided by the user.

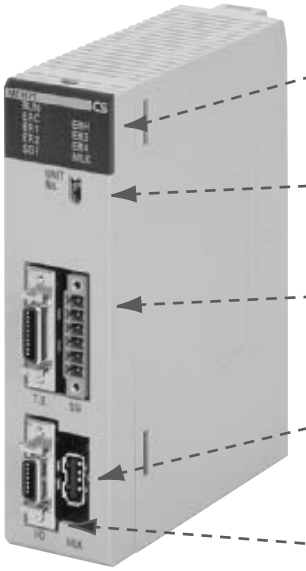
3. A Memory Card must be used to add system software functions to the CPU Unit in order to use IOWR and IORD.

JUSP-NS115 - Mechatrolink-II Interface Unit

Item		Details
Type		JUSP-NS115
Applicable Servo Drive		SGDH-□□□E models (Version 38 or later)
Installation Method		Mounted on the SGDH Servo Drive side: CN10.
Basic Specifications	Power Supply Method	Supplied from the Servo Drive control power supply.
	Power Consumption	2 W
MECHATROLINK -II Communications	Baud Rate / Transmission Cycle	10 MHz / 500 ms or more. MECHATROLINK-II communications (4 MHz / 2 ms for MECHATROLINK-I communications)
Command Format	Operation Specification	Positioning using MECHATROLINK-I/II communications.
	Reference Input	MECHATROLINK-I/II communications Commands: Motion commands (position, speed), Interpolation commands, Parameter read/write, Monitor output
Position Control Functions	Acceleration/Deceleration Method	Linear first/second-step, asymmetric, exponential, S-curve
	Fully Closed Control	Position control with fully closed feedback is possible.
Fully Closed System Specifications	Fully Closed Encoder Pulse Output Form	5 V differential line-driver output (complies with EIA Standard RS-422A)
	Fully Closed Encoder Pulse Signal Form	90° Phase difference 2-phase differential pulse (phase A, phase B)
	Maximum Receivable Frequency for Servo Drive	1 Mpps
	Power Supply for Fully Closed Encoder	To be prepared by customer.
Input Signals	Signal Allocation Changes Possible	Forward/reverse run prohibited, Zero point return deceleration LS External latch signals 1, 2, 3 Forward/reverse torque control
Internal Functions	Position Data Latch Function	Position data latching is possible using phase C, and external signals 1, 2, 3
	Protection	Parameters damage, Parameter setting errors, Communications errors, WDT errors, Fully closed encoder detecting disconnection
	LED Indicators	A: Alarm R: MECHATROLINK-I/II Communicating

Nomenclature

CS1W-MCH71 - Motion Control Unit



LED Indicators

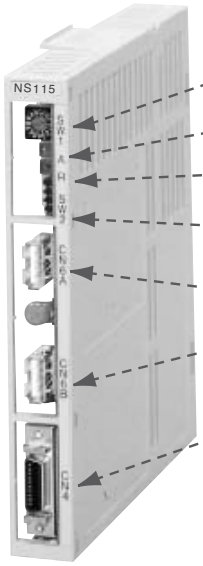
UNIT No. Setting switch

For future use

MECHATROLINK-II Communications Connectors:
Connects to the MECHATROLINK-II nodes

I/O Connector

JUSP-NS115 - Mechatrolink-II Interface Unit



Rotary Switch (SW1)
Used to set the Mechatrolink-II station address

LED(A)
Alarm status

LED(R)
MECHATROLINK-II communication status

DIP Switch (SW2)
Used to for MECHATROLINK-II communications setting

MECHATROLINK-II Communications CN6A and CN6B Connectors:
Connects to the MECHATROLINK-II system

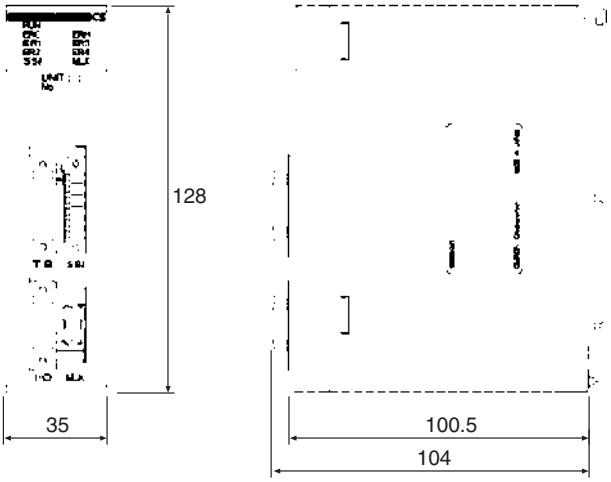
CN4 Fully Closed Encoder Signal Connector
Used for fully closed signal connection

Ground Wire
Connected to groung mark on the Servo Drive

Dimensions

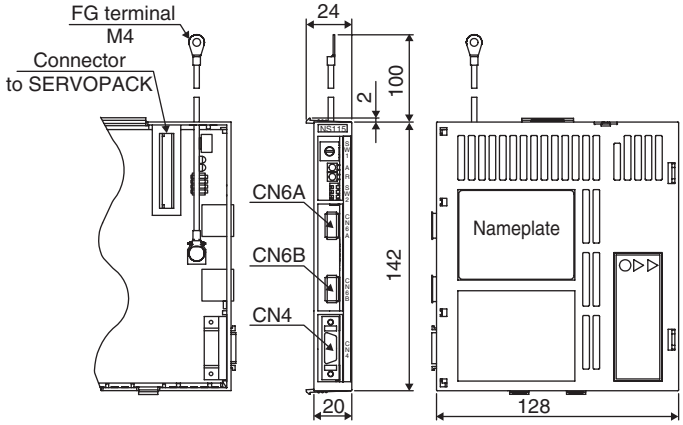
CS1W-MCH71 - Motion Control Unit

Units: mm Approx. mass: 0.3 kg



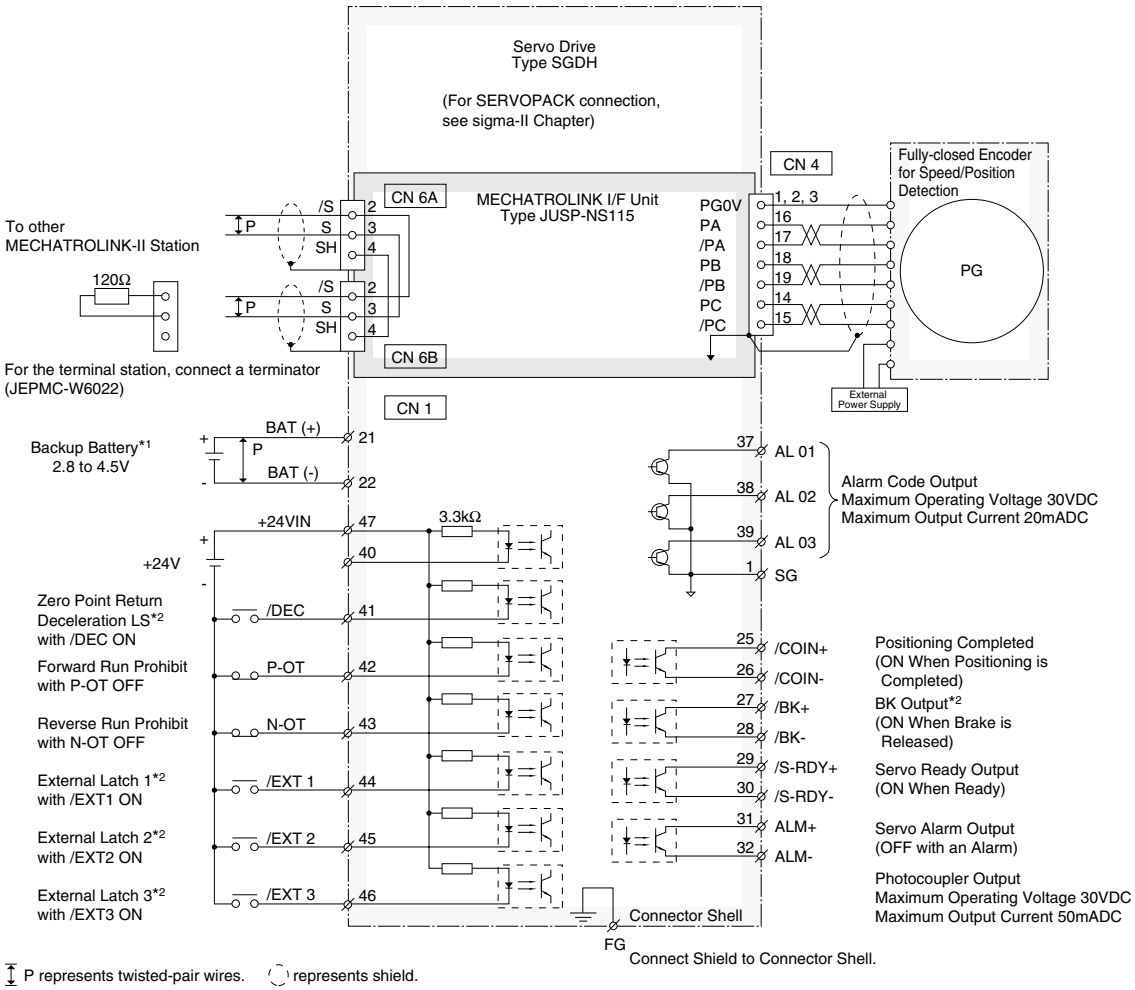
JUSP-NS115 - Mechatrolink-II Interface Unit

Units: mm Approx. mass: 0.2 kg



Installation

Mechatrolink-II Interface connections



P represents twisted-pair wires. ( ) represents shield.

*1 Connect when using an absolute encoder and when the battery is not connected to CN8.

*2 Set the signal assignment with the user constants.

Ordering Information

Motion Controller

Name	Model
Mechatrolink-II Motion Control Unit	CS1W-MCH71

Mechatrolink-II related devices

Name	Remarks	Model
Mechatrolink-II Interface Unit	For Sigma-II series Servo drives. (Firmware version 38 or later)	JUSP-NS115
Mechatrolink-II Terminator	Terminating resistor	JEPMC-W6022
Mechatrolink-II Cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30
24V DC I/O Module	64 Inputs, 64 Outputs	JEPMC-IO2310
Counter Module	Reversible counters, 2 channels	JEPMC-PL2900
Pulse Output Module	Pulse train positioning, 2 channels	JEPMC-PL2910
Mechatrolink-II Repeater	When 17 or more axes are connected to the Mechatrolink-II the repeater is required	JEPMC-REP2000

Computer Software

Specifications	Model
MC-Miel for MCH	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.

Cat. No. I08E-EN-01

In the interest of product improvement, specifications are subject to change without notice.

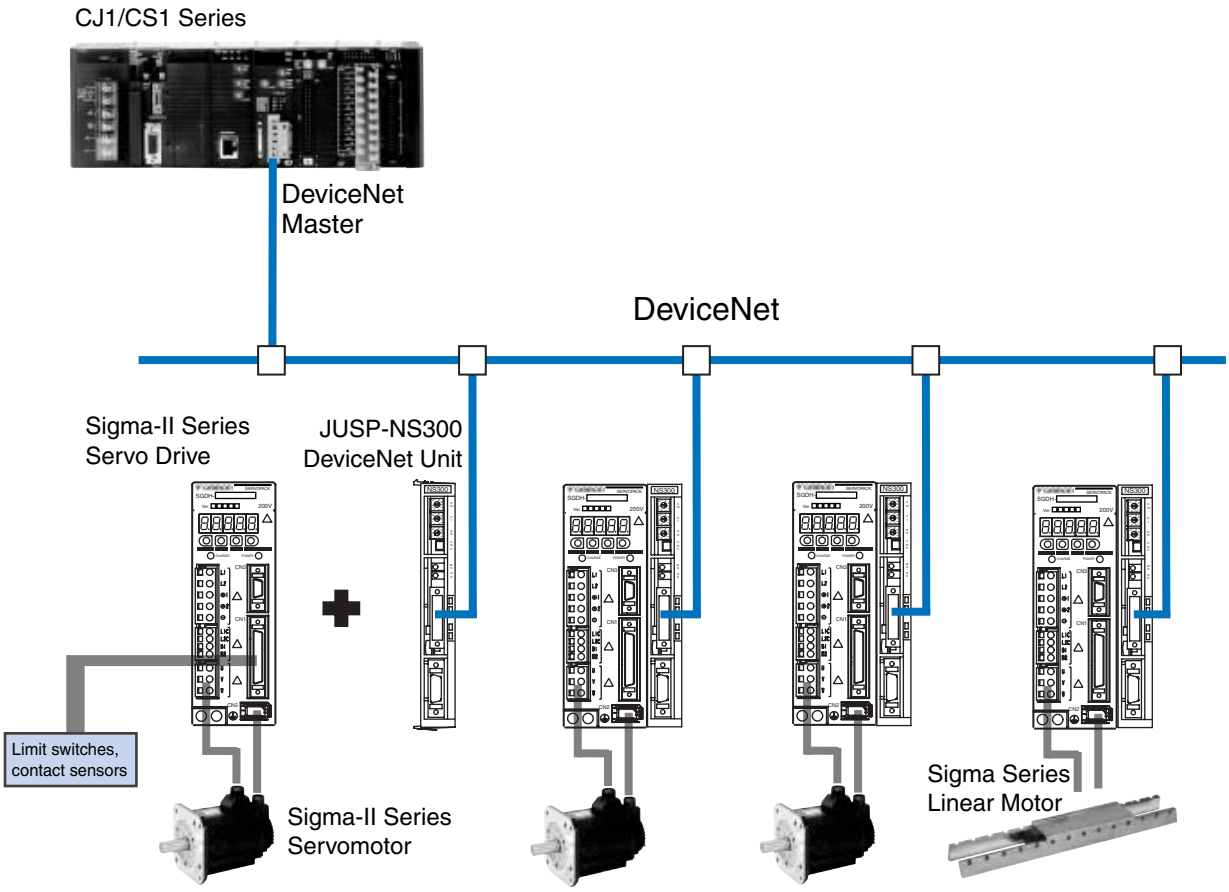
JUSP-NS300

DeviceNet Unit

DeviceNet connectivity with positioning functionality.

- Connects directly to the Sigma-II Series Drive
- Simplifies distributed control and information management
- No programming languages are required.
- Various positioning functions including Point-to-point mode (with multi-step speed positioning available) and Station number mode (indexing function)
- All parameters are set and maintained by a PLC or PC.
- Up to 63 Servos can be connected to the DeviceNet Network
- Supports Polling I/O and Explicit Messages

System Configuration



Specifications

JUSP-NS300 - DeviceNet Interface Unit

Item		Details
Type		JUSP-NS300
Applicable Servo Drive		All SGDH-□□□E models
Installation Method		Mounted on the SGDH Servo Drive side: CN10.
Basic Specifications	Power Supply Method	Supplied from the Servo Drive control power supply.
	Power Consumption	1.3 W
DeviceNet Communications	Baud Rate Setting	Select from 125 kbps, 250 kbps, or 500 kbps using a rotary switch.
	Node Address Setting	Select the address from 0 to 63 using the rotary switches.
Command Format	Operation Specifications	Positioning using DeviceNet communications.
	Reference Input	DeviceNet communications Commands: Motion commands (position, speed), and Parameter read/write
Position Control Functions	Acceleration/ Deceleration Method	Linear first/second-step, asymmetric, exponential, S-curve
	Fully-closed Control	Possible
Input Signals	Fixed Allocation to Servo Drive CN1 Connector	Forward/reverse run prohibited, Zero point return deceleration LS, Zero point signal, External positioning signal
	NS300 Unit	Emergency stop signal
Output Signals	Servo Drive CN1 Connector*	Servo alarm, Brake interlock, Servo ready, Positioning completion
	NS300 Unit	P1, P2 (area signals)
Internal Functions	Position Data Latch Function	Position data latching is possible using phase C, zero point signals, and external signals.
	Protection	Parameters damage, Parameter setting errors, Communications errors, etc.
	LED Indicators	MS: Module Status NS: Network Status

Note: *The allocation of the output signals for brake interlock, servo ready, or positioning completion can be changed using parameter settings.

Transmission Specifications

Item	Specifications			
Communication Format	Multi-drop, T-branch (1:N)			
Transmission Speed (kbps)	500, 250, 125kbps			
Transmission Media	5-wire cables			
Transmission Distance	**Speed**	**Max. network length**	**Branch length**	**Total branch length**
	500 kbps	100m or less	6m or less	39m or less
	250 kbps	250m or less		78m or less
	125 kbps	500m or less		156m or less
Number of Nodes	Up to 64 units			
Error Control	SRS error, node address double checking			

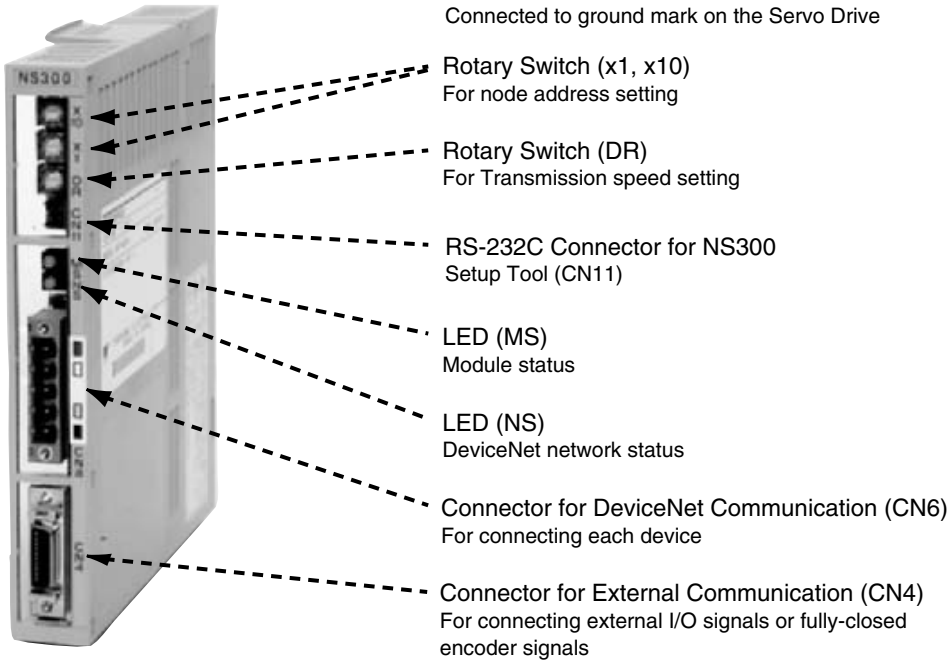
Cable

Item	Cable	
	Thick	**Thin**
Loss of Signal	Little	Much
Transmission Distance	Long	Short
Advantage/Disadvantage	Hard (not easy to bend)	oft (easy to bend)

The maximum network lengths differ in accordance with the cable type as shown below.

Transmission Speed ikbpsj	Max. Network Length (m)	
	Thick Cable	**Thin Cable**
500	100	100
250	250	100
125	500	100

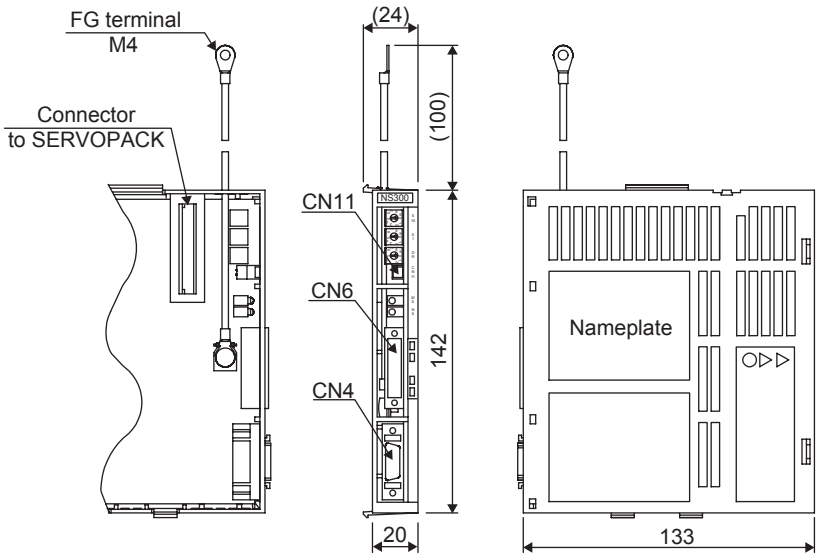
Nomenclature



Dimensions

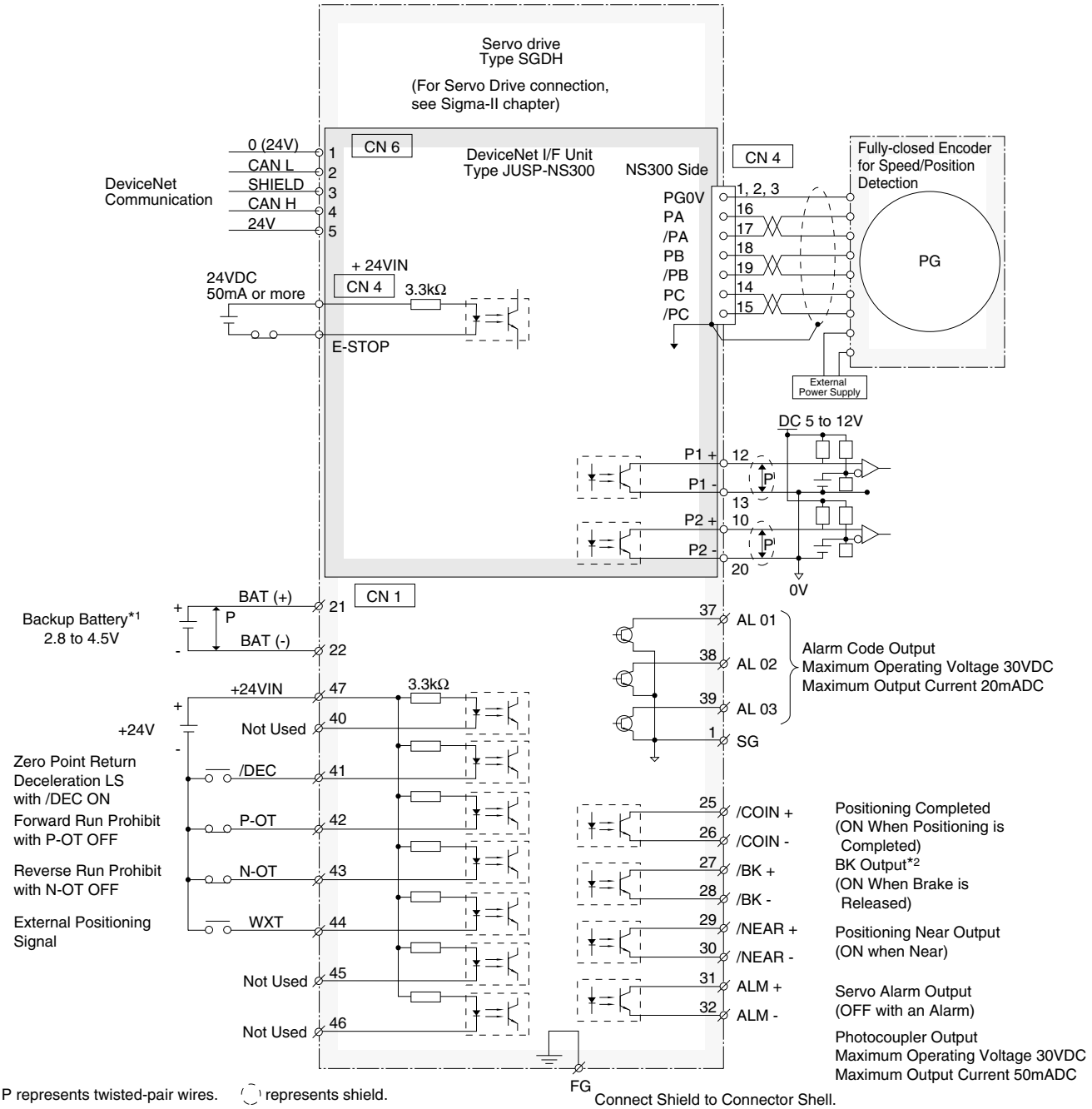
JUSP-NS300 - DeviceNet Interface Unit

Units: mm Approx. mass: 0.2 kg



Installation

Standard Connections

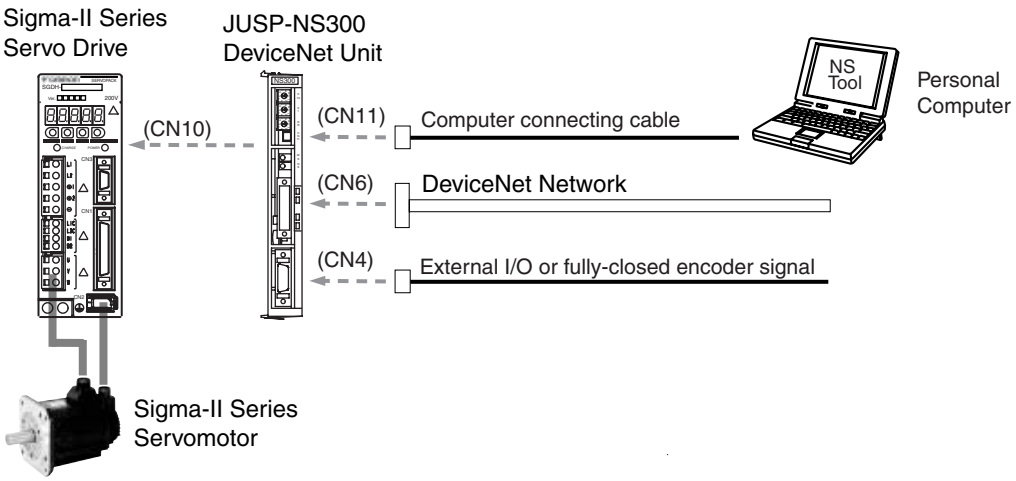


*1 Connect when using an absolute encoder and when the battery is not connected to CN8.
*2 Set the signal assignment with the user constants.

Note: Connect the ground cable of the field bus I/F unit to the ground connector of the Servo Drive.

Ordering Information

System Configuration



DeviceNet Interface Unit

Name	Model
DeviceNet Interface unit with point to point positioning functionality	JUSP-NS300

Serial Cable (for CN11)

Name		Model
Computer Connecting Cable	2m	R88A-CCW002P4

Connectors

Name	Model
Conector for CN4. For connecting external I/O signals or fully-closed encoder signals	R88A-CNU01R or DE9406973
Conector for CN6. DeviceNet Connector with retaining screws	XW4B-05C1-H1-D
Conector for CN6. DeviceNet Multi-Branching Connector with retaining screws	XW4B-05C4-TF-D
Conector for CN6. DeviceNet Multi-Branching Connector (without retaining screws)	XW4B-05C4-T-D

Note: For a complete view of DeviceNet network accesories, refer to Automation Systems catalogue or contact your Omron representative.

Computer Software

Name	Model
NS Tool	MOTION TOOLS CD
ESD file	

Servo System

Note: Refer to the Servo Systems section for more information

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

Cat. No. I11E-EN-01

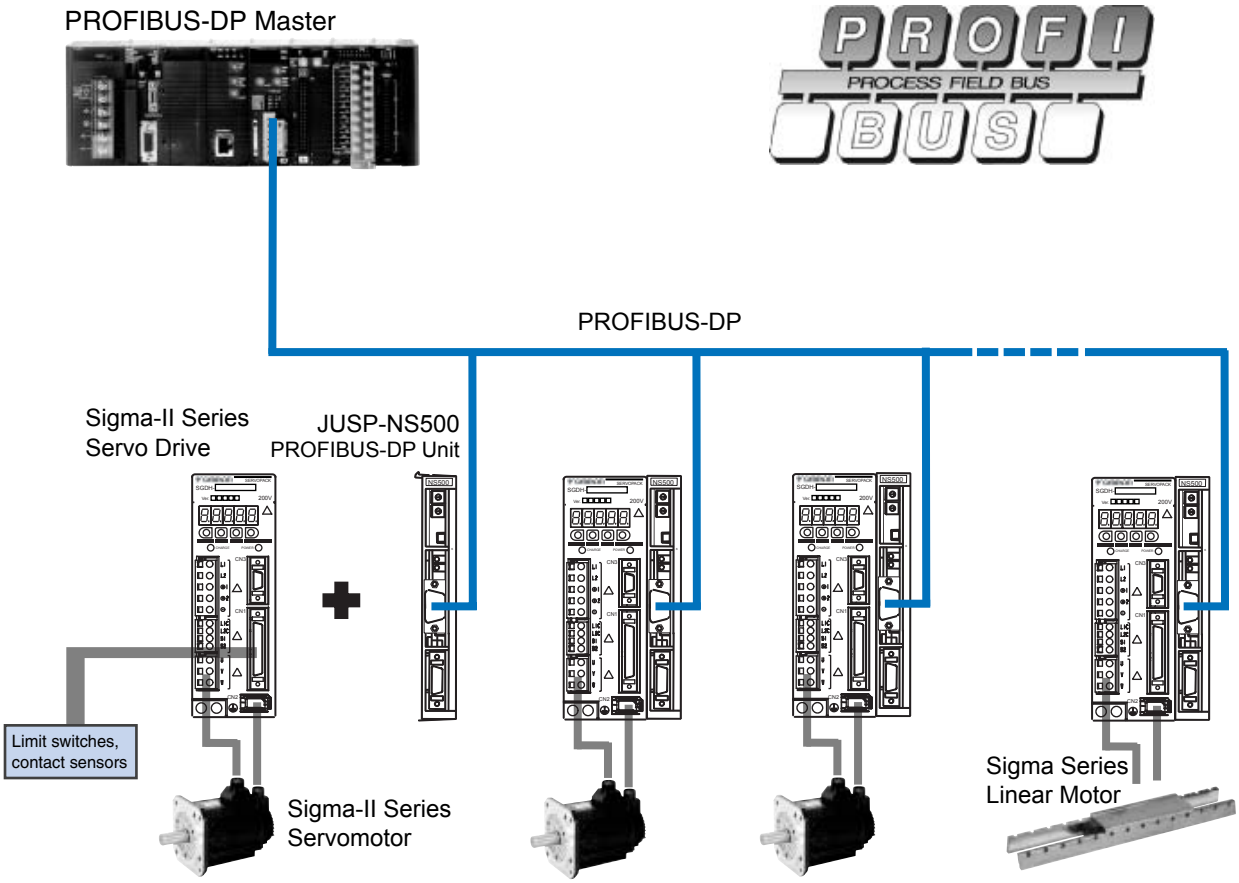
JUSP-NS500

PROFIBUS-DP Unit

PROFIBUS-DP connectivity with positioning functionality.

- Connects directly to the Sigma-II Series Drive
- Simplifies distributed control and information management
- No programming languages are required.
- Various positioning functions including Point-to-point mode (with multi-step speed positioning available) and Station number mode (indexing function)
- All parameters are set and maintained by a PLC or PC.
- Up to 126 Servos can be connected to the PROFIBUS-DP Network

System Configuration



Specifications

JUSP-NS500 - PROFIBUS-DP Interface Unit

Item		Details
Type		JUSP-NS500
Applicable Servo Drive		All SGDH-□□□E models
Installation Method		Mounted on the SGDH Servo Drive side: CN10.
Basic Specifications	Power Supply Method	Supplied from the Servo Drive control power supply.
	Power Consumption	1.3 W
PROFIBUS-DP Communications	Baud Rate Setting	The baud rate is automatically set by the Master between 9.6 kbps and 12 Mbps.
	Station Address Setting	Select the address from 0 to 7D (0 to 125) using the rotary switches.
Command Format	Operation Specifications	Positioning using PROFIBUS-DP communications
	Reference Input	PROFIBUS-DP communications Commands: Motion commands (position, speed), Parameter read/write
Position Control Functions	Acceleration/ Deceleration Method	Linear first/second-step, asymmetric, exponential, S-curve
	Fully-closed Control	Possible
Input Signals	Fixed Allocation to SERVOPACK CN1 Connector	Forward/reverse run prohibited, Zero point return deceleration LS, Zero point signal, External positioning signal
	NS500 Unit	Emergency stop signal
Output Signals	Servo Drive CN1 Connector*	Servo alarm, Brake interlock, Servo ready, Positioning completion
	NS500 Unit	P1, P2 (area signals)
Internal Functions	Position Data Latch Function	Position data latching is possible using phase C, zero point signals, and external signals.
	Protection	Parameters damage, Parameter setting errors, Communications errors, etc.
	LED Indicators	ERR: Module Error COMM: Communications Status

Note: *The allocation of the output signals for brake interlock, servo ready, or positioning completion can be changed using parameter settings.

Transmission Specifications

Item	Specifications						
Communication Format	Conforms to PROFIBUS-DP						
Transmission Speed (kbps)	9.6	19.2	93.75	187.5	500	1500	12000
Transmission Distance (m)	1200			1000	400	200	100
Transmission Media	STP Cable						
Number of Stations	32 stations (Can be extended to 126 stations using repeater.)						

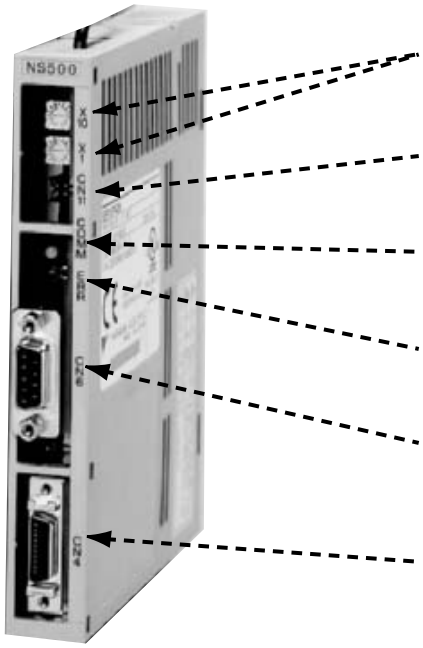
Cable

Item	Specifications
Cable Type Impedance	Shielded twisted-pair wire Type A 135 to 165 Ω
Capacity	< 30 pf/m
Loop Resistance	110Ω/km
Wire Gage	0.64 mm
Conductor Area	> 0.34 mm^2

Connector

9-pin D-sub connectors are used.

Nomenclature



Ground Wire
Connected to ground on the Servo Drive

Rotary Switch (x1, x10)
For node address setting

RS-232C Connector for NS500
Setup Tool (CN11)

LED (COMM)
Communication Status LED for PROFIBUS-DP

LED (ERR)
Module Error Status LED

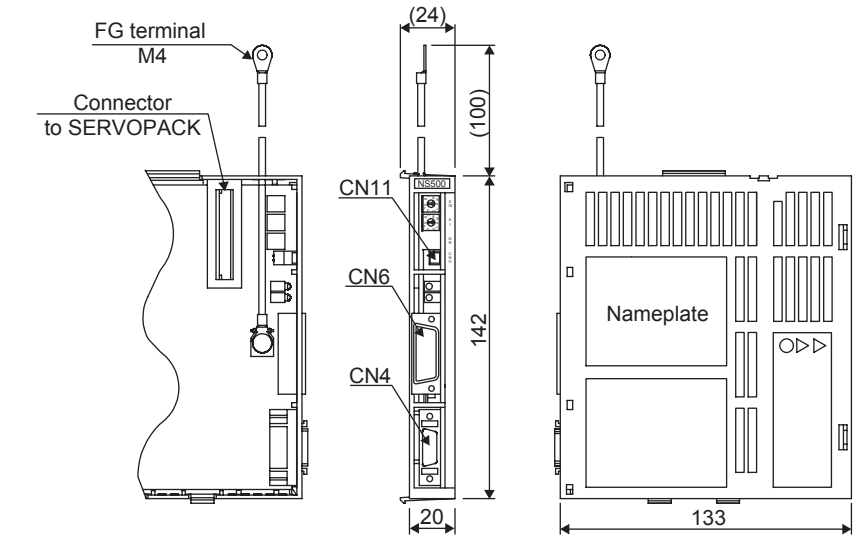
Connector for PROFIBUS-DP
Communication (CN6)
For connecting each device

Connector for External Communication (CN4)
For connecting external I/O signals or fully-closed encoder signals

Dimensions

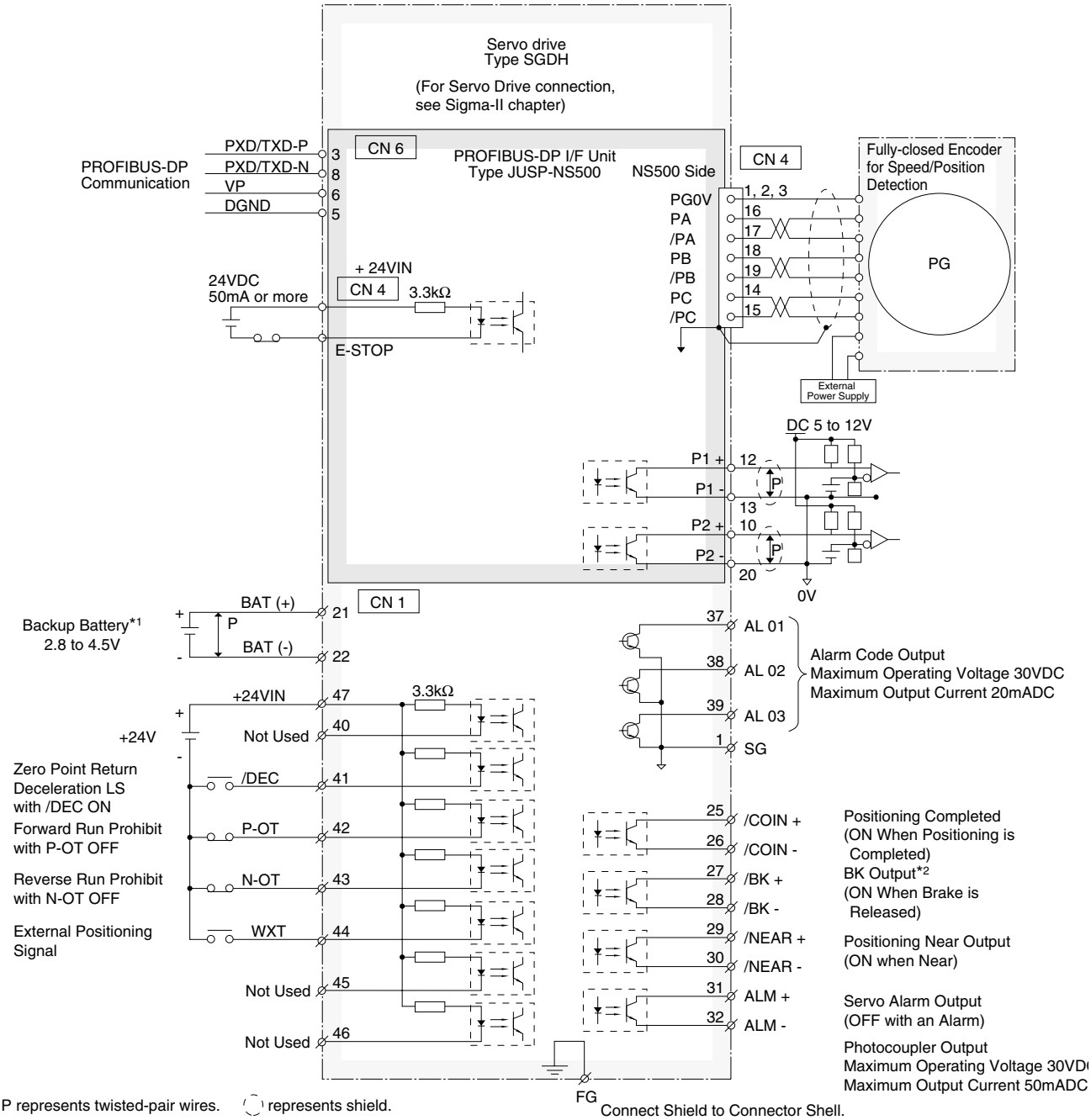
JUSP-NS500 - PROFIBUS-DP Interface Unit

Units: mm Approx. mass: 0.2 kg



Installation

Standard Connections



P represents twisted-pair wires. represents shield.

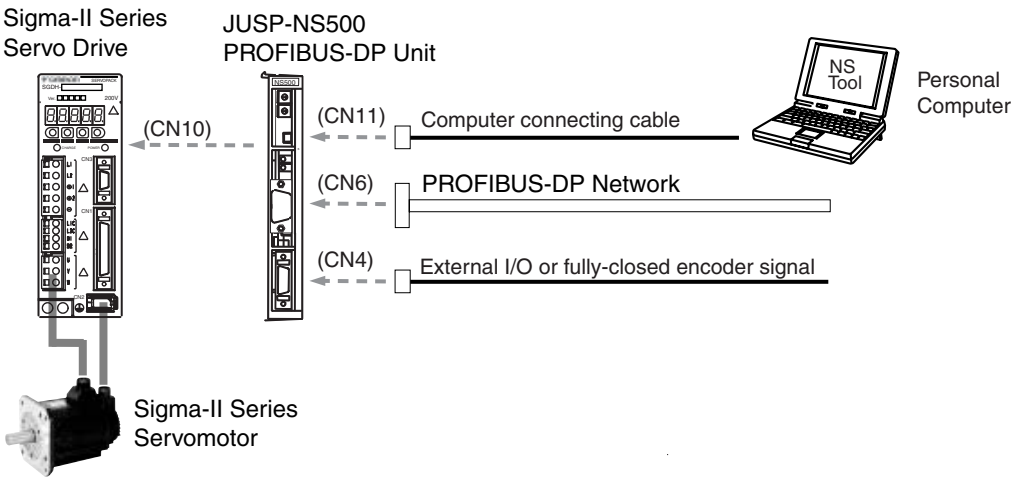
*1 Connect when using an absolute encoder and when the battery is not connected to CN8.

*2 Set the signal assignment with the user constants.

Note: Connect the ground cable of the field bus I/F unit to the ground connector of the Servo Drive.

Ordering Information

System Configuration



Profibus-DP Interface Unit

Name	Model
PROFIBUS_DP Interface unit with point to point positioning functionality	JUSP-NS500

Serial Cable (for CN11)

Name		Model
Computer Connecting Cable	2m	R88A-CCW002P4

Connectors

Name	Model
Conector for CN4. For connecting external I/O signals or fully-closed encoder signals	R88A-CNU01R or DE9406973

Computer Software

Name	Model
NS Tool	MOTION TOOLS CD
GSD file	

Servo System

Note: Refer to the Servo Systems section for more information

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

Cat. No. I12E-EN-01

In the interest of product improvement, specifications are subject to change without notice.

JUSP-NS600

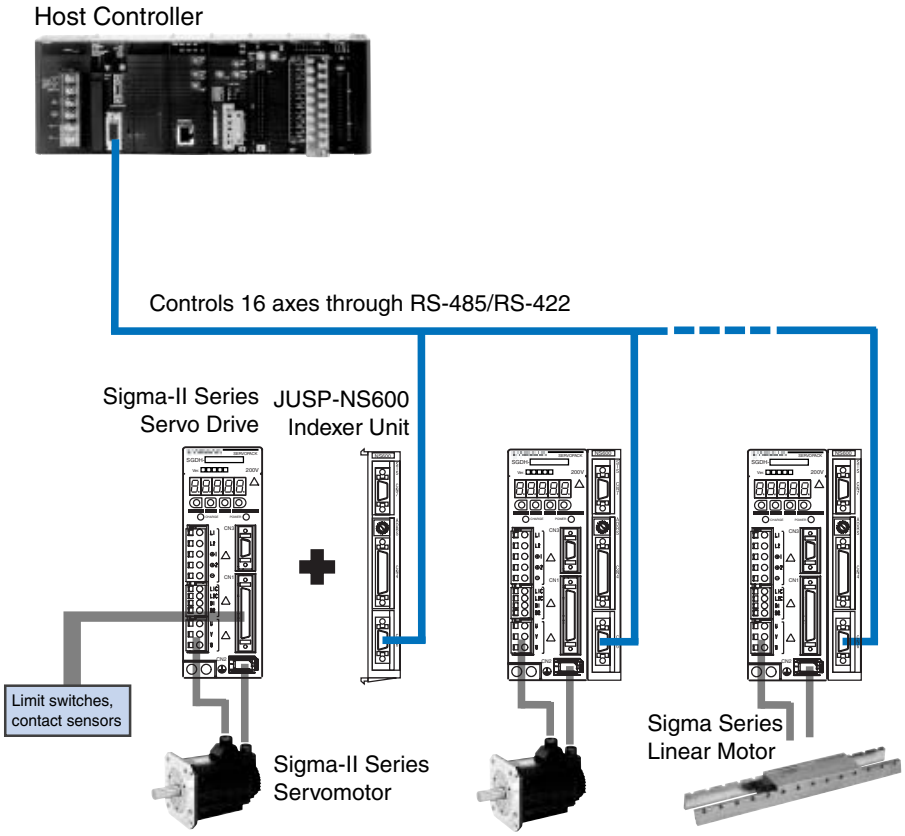
Indexer Unit

Smart and Simple positioning solution.

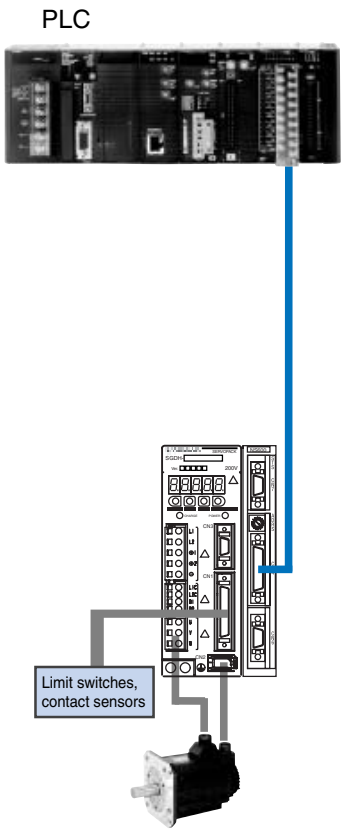
- No programming languages are required. Connects directly to the Sigma-II Series Drive
- Allows serial network control and Discrete I/O control
- Servo Axis set-up, actuation and monitoring
- 128 indexing programmed moves
- Refined methods and functions for smart control like, Program tables or Position and speed tables
- Up to 16 Servos can be connected via serial Network
- With SigmaWin+ the system can be easily configured

System Configuration

Using Serial Communications



Using Digital I/Os

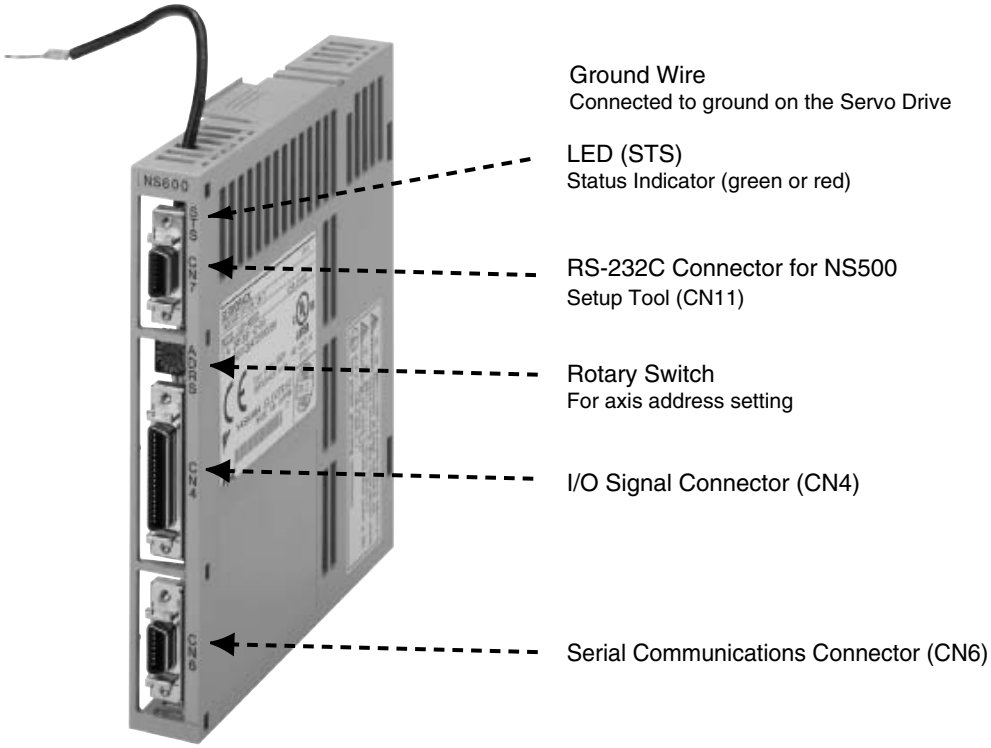


Specifications

JUSP-NS600 - Indexer Unit

Item			Details
Type			JUSP-NS600
Applicable Servo Drive			All SGDH-□□□E SERVOPACKs
Installation Method			Mounted on the SGDH Servo Drive side: CN10.
Basic Specifications	Power Supply Method		Supplied from the Servo Drive control power supply
	Power Consumption		2.6 W
Control Specifications	Program Table		Program table positioning by designating the starting step by the contact input (Maximum 128 steps)
	Serial Communications		Serial commands in ASCII codes Communications specifications: RS422 / RS485 (Maximum 50 m (164.0 ft)) RS232C (Maximum 3 m (9.84 ft)) Connection: Multi-drop method (Maximum 16 axes) Baud rate: 9600, 19200, 38400bps
	Command Table		Positioning by designating the command table by the contact input (Maximum 128 points)
	Zero-Point Return		3 types
Other Functions			External positioning, JOG speed table operation (Maximum 16 speeds)
I/O Signals	Input	Servo Drive	S-ON (Servo ON) P-OT (Forward Run Prohibited), N-OT (Reverse Run Prohibited) DEC (Zero-Point Return Deceleration LS) RTRG (External Positioning Signal)
		INDEXER Module	MODE0/1 (Mode signal) START/HOME (Start Signal / Zero-point Return Execution) PGMRES/JOGP (Program Reset / Motor Forward Rotation) SEL0/JOGN (Program Starting Step Designation / Motor Reverse Rotation) SEL1 to SEL4 / JOG0 to JOG3 Program Starting Step Designation / JOG Speed Table Selection)
	Output	Servo Drive	ALM (Servo Alarm) WARN (Warning) BK (Brake Interlock) S-RDY (Servo Ready) ALO1, ALO2, ALO3 (Alarm Codes)
		INDEXER Module	INPOSITION (Positioning Completed) POUT0 to POUT4 (Programable Outputs)

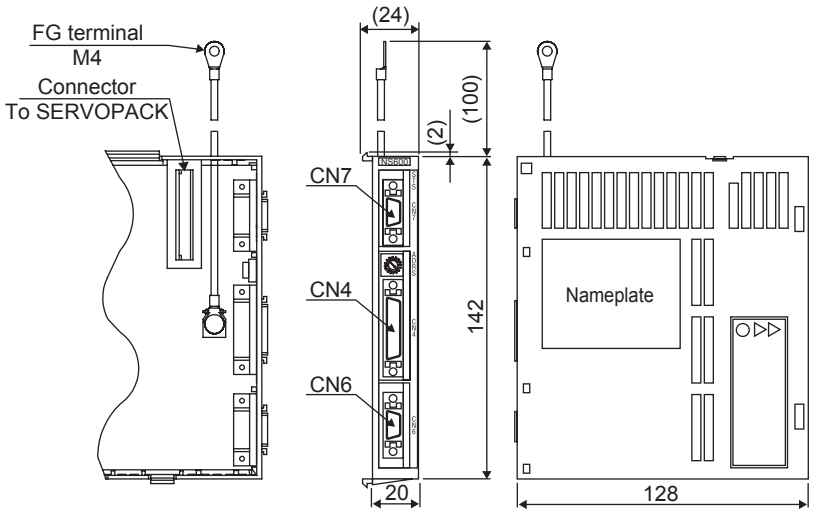
Nomenclature



Dimensions

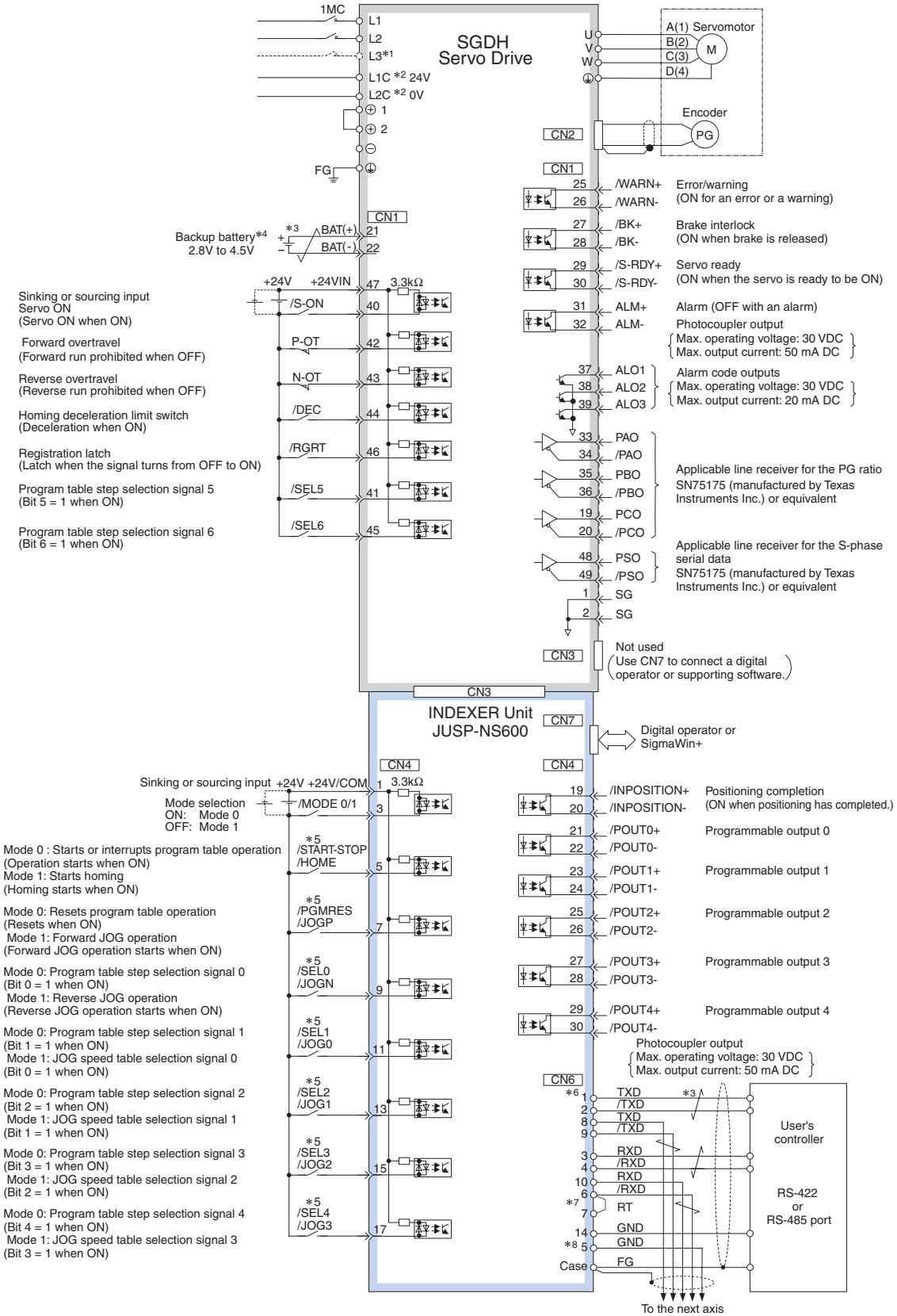
JUSP-NS600 - Indexer Unit

Units: mm Approx. mass: 0.2 kg



Installation

Standard Connections

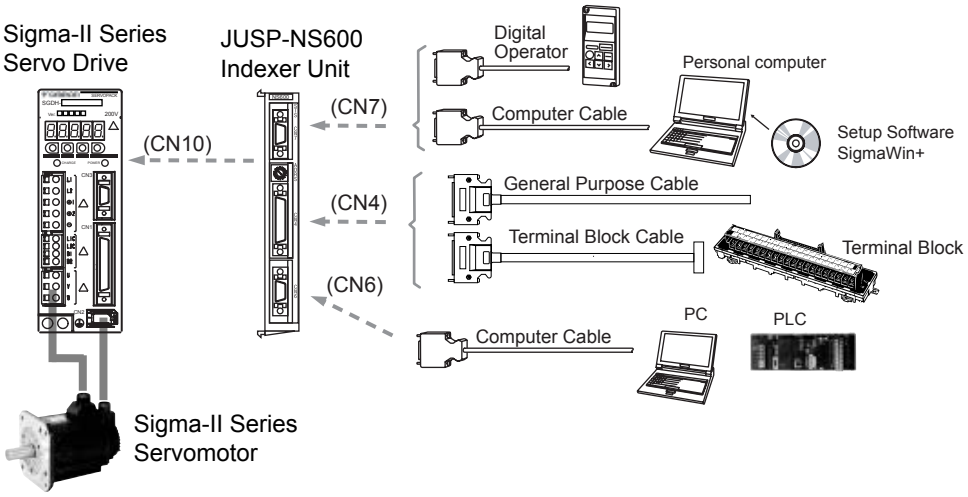


*1: The L3 terminal is for specifications requiring a three-phase power supply.
*2: The control power supply for 400V-class Servo Drive is 24 VDC.
*3: ⏦ represents a twisted-pair cable.
*4: Connect a backup battery when an absolute encoder is used and no battery is connected to CN8.
*5: The signal on the first line is in Mode 0, and the signal on the second line is in Mode 1.
*6: The wiring for CN6 shown here is full-duplex wiring for RS-422 or RS-485 communications.
*7: Short-circuit RT and /RXD at the last axis.
*8: Grounding for pin No.5 is available for hardware version 04 or later.The grounding for pin No.14 is shared with the other pins for hardware version 03 or earlier.The hardware version is shown in the VER. column of the nameplate located on the side of the device (VER.□□□□□).

Note: Connect the ground cable of Indexer unit to the ground connector of the Servo Drive.

Ordering Information

System Configuration



Indexer Option Unit

Name	Model
Indexer unit. Versatile Poit to point Positioning	JUSP-NS600

Serial Options (for CN7)

Name		Model
Computer Connecting Cable	2m	R88A-CCW002P2 or JZSP-CMS02
Parameter Unit with 1m Cable	2m	JUSP-OP02A-2 or R88A-PR02W

Control Cables (for CN4)

Name		Model
Relay Terminal Block		XW2B-40F5-P
Relay Terminal Block Cables	1 m	R88A-CTU001N
	2 m	R88A-CTU002N
General purpose I/O cable (with open end)	1 m	FND-CCX001S
	2 m	FND-CCX002S

Serial Cables (for CN6)

Name		Model
Computer Connecting Cable	2m	R88A-CCW002P2 or JZSP-CMS02

Connectors

Specification	Model
Conector for CN4	R88A-CNU01C
Conector for CN6 and CN7	R7A-CNA01R

Computer Software

Specifications	Model
SigmaWin+	MOTION TOOLS CD

Servo System

Note: Refer to the Servo Systems section for more information

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

Cat. No. I13E-EN-01

In the interest of product improvement, specifications are subject to change without notice.

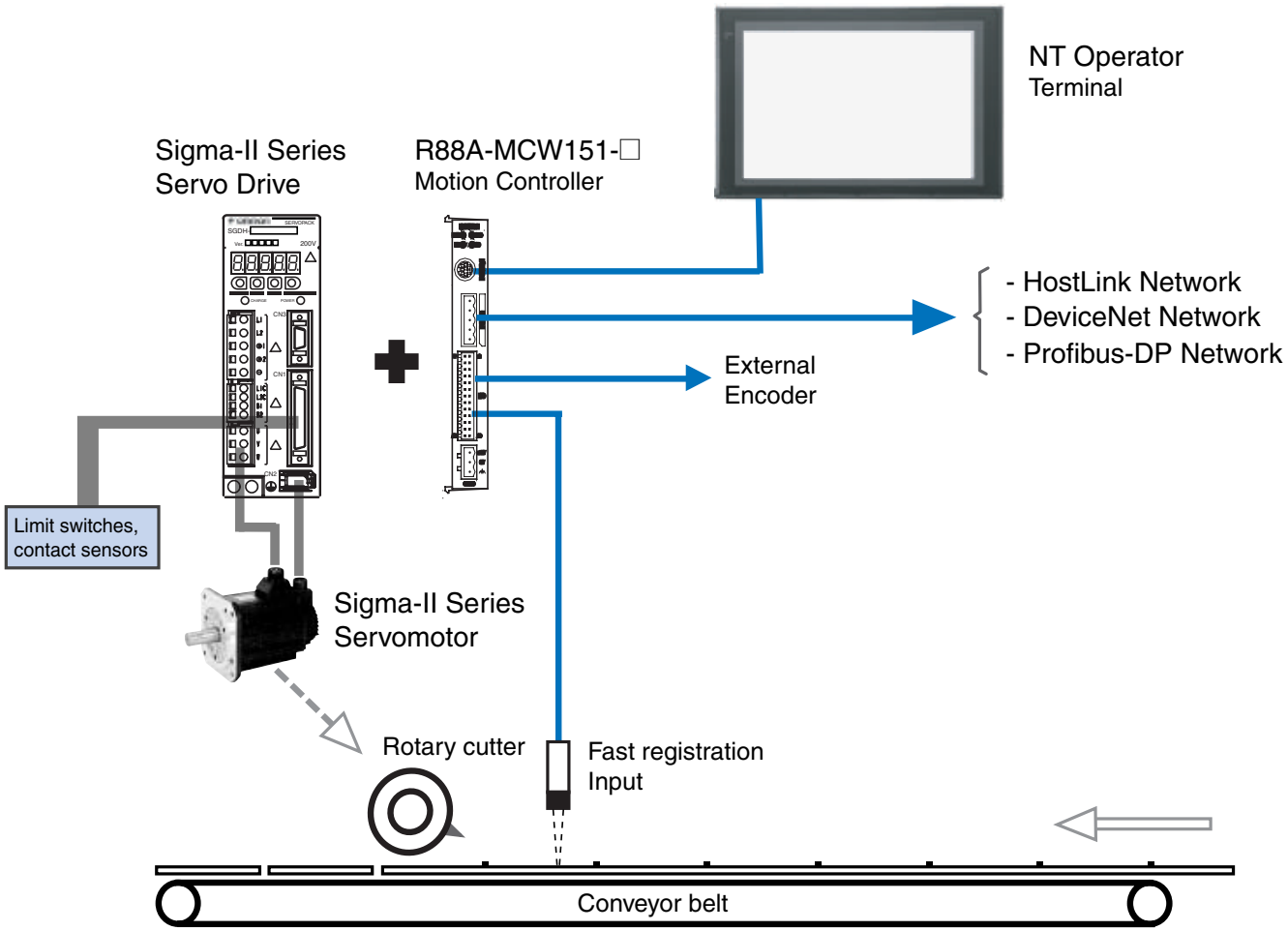
R88A-MCW151-□

1.5 Axis Motion Controller

Advanced Motion made perfectly intuitive.

- Connects directly to the Sigma-II Series Drive
- Controls 1 real axis, 1 virtual axis and a configurable third axis
- Provides an additional encoder input/output to the servo drive
- Simple to develop and modify using BASIC
- Built-in local I/O for easy operation
- Provides two additional hardware registration inputs to the Drive
- Electronic CAM profiles and axes synchronization
- Multi-tasking functionality
- Friendly and Powerful Windows-based Software
- Network connectivity via HostLink or DeviceNet
- Supports HMI connection without the need of a PLC

System Configuration



Specifications

General Specifications

Item		Details
Type		R88A-MCW151-E, R88A-MCW151-DRT-E
Applicable Servo Drive		SGDH-□□□E models (software version 14 or later)
Installation Method		Mounted on the SGDH Servo Drive side: CN10.
Basic Specifications	Power Supply Method	24 VDC (Supplied from external power supply.
		5 VDC (Supplied from the Servo Drive control power supply)
	Power Consumption	4.0 W
	External Dimensions	20 x 142 x 128 mm (H x W x D)
	Approx. Mass	200 g
	Current Consumption	170 mA for 24 VDC
	Output Power Supply	5 VDC,maximum 160 mA (to external encoder)
Environment	Operating Temperature	0 … +55°C
	Storage Temperature	-20 … +75°C
	Operating and Storage Humidity	90% RH max. (No condensation)
	Vibration Resistance	0.5G (4.9 m/s^2)
	Shock Resistance	2G (19.6 m/s^2)
Functional Specifications	Number of axes	- 1 Controlled Servo Drive axis - 1 Master axis, encoder output axis or virtual axis - 1 Virtual axis
	Servo Loop Cycle	Selectable to 0.5 ms or 1.0 ms.
	Registration inputs	2x MCW151 Unit for Encoder input Axis 1x Sigma-II Servo Drive Axis
	Measurement Units	User definable
Programming	Programming Language	BASIC
	Number of tasks	Up to 3 tasks running simultaneously plus the Command Line task
	Max. number of programs	14
	Available memory for user programs	128KB
	Data storage capacity	251 (VR) + 8000 (Table)
	Saving Program Data, Motion Controller	Random Access Memory (RAM) and Flash memory backup.
	Saving Program Data, Personal Computer	Motion Perfect software manages a backup on the hard disk of the personal computer.
Motion Control	Speed Control	Inferred closed loop with PID, output speed and speed feed forward gains Speed reference (open loop) Possible torque limit operation
	Torque Control	Torque reference (open loop) Possible speed limit operation
	Control Switch	Speed / Torque control switching during operation
	Positioning Operations	Linear interpolation Circular interpolation CAM profile movement Electronic gearbox link Linked CAM profile movement Linked move for any two axes Adding axes
	Acceleration/deceleration curves	Trapezoidal or S-curve
Servo Drive Access	Motion Control	Speed Control Torque Control Position feedback Driver Enable Driver Print Registration
	Monitoring	Driver Alarm and Warning Status General Driver Status Driver Digital Input Driver Analogue Input Driver Limit Switches
	General Control	Driver Alarm Reset Driver Reset
	Parameter Access	Read and Write Pn parameters Read Un parameters
External I/O	Encoder Input	Line receiver input; maximum response frequency: 1500 kHz pulses (before multiplication) Pulse multiplication: x4
	Encoder Output	Line receive output; maximum frequency: 500 kHz pulses Internal counts to output pulse ratio: 64 : 1
	Digital Inputs	Total of 8 digital inputs can be wired and used for instance for limit switches, emergency stop and proximity inputs. Two inputs can be used for registration of the encoder input/output axis.
	Digital Outputs	Total of 6 digital outputs can be wired and used for position dependent switching or other general purposes.
	Registration inputs	Two registration inputs can be used (simultaneously) to capture the position in hardware.
Serial Communications	RS-232C	Port 0: Connection to PC (Motion Perfect Software) Port 1: Host Link Master protocol Host Link Slave protocol General-purpose

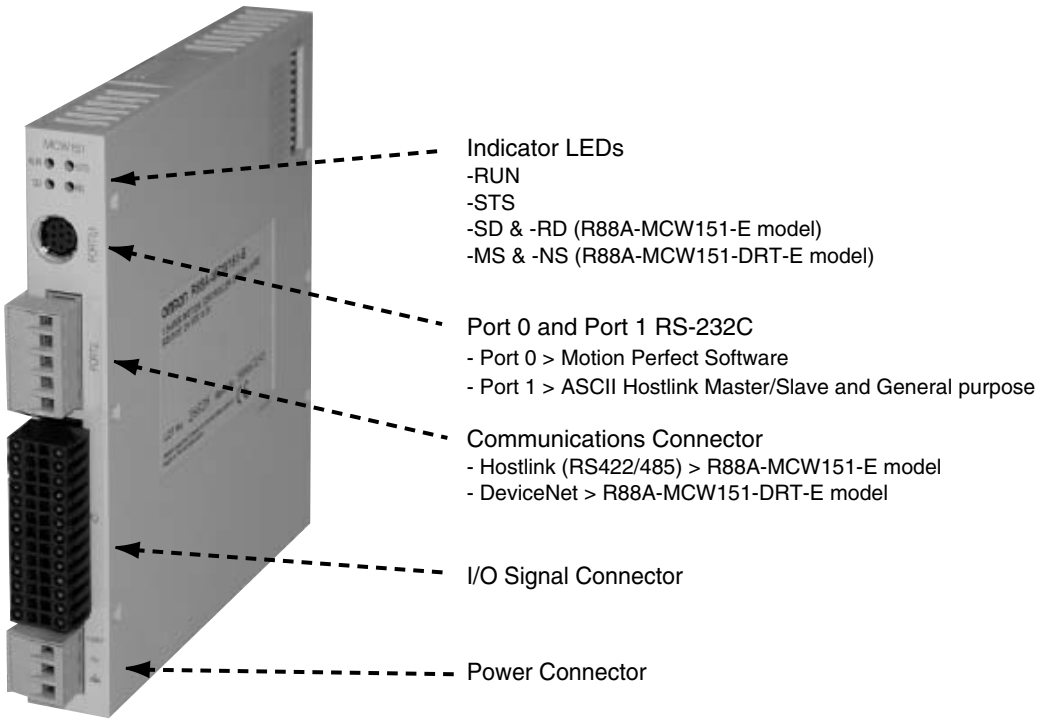
RS-422A/485 Interface Specifications (R88A-MCW151-E only)

Item	Details	
Electrical characteristics	Conform to EIA RS-422A/485	
Synchronization	Start-stop synchronization (asynchronous)	
Baud rate	1200 / 2400 / 4800 / 9600 / 19200 / 38400 bps	
Transmission Format	Databit Length	7 or 8 bit
	Stop Bit	1 or 2 bit
	Parity Bit	Even/Odd/None
Transmission Mode	Point-to-multipoint (1:N)	
Transmission Protocol	RS-422A	Host Link Master Protocol, Host Link Slave Protocol, ASCII General-purpose
	RS-485	ASCII General-purpose
Galvanic Isolation	Yes	
Connector type	Phoenix MSTB 2.5/5-ST-5.08 (included in package).	
Communication buffers	254 bytes	
Flow control	None	
Terminator	Yes, internal 220 Ω selectable by DIP-switch SW2	
Cable length	500 m max.	

DeviceNet Specifications (R88A-MCW151-DRT-E only)

Item	Details
Communications Protocol	DeviceNet
Supported connections (communications)	Remote I/O Polling Messages Explicit Messages Both conform to DeviceNet specifications
Baud rate	500 kbps, 250 kbps, 125 kbps (switchable)
Communications media	Special 5-wire cables (2 signal lines, 2 power lines, 1 shield line)
Communications Distances	
500 kbps	Network length: 100 m max. (Thin Cable:100 m max.) Drop line length: 6 m max. Total drop line length: 39 m max.
250 kbps	Network length: 250 m max. (Thin Cable:100 m max.) Drop line length: 6 m max. Total drop line length: 78 m max.
125 kbps	Network length: 500 m max. (Thin Cable:100 m max.) Drop line length: 6 m max. Total drop line length: 156 m max.

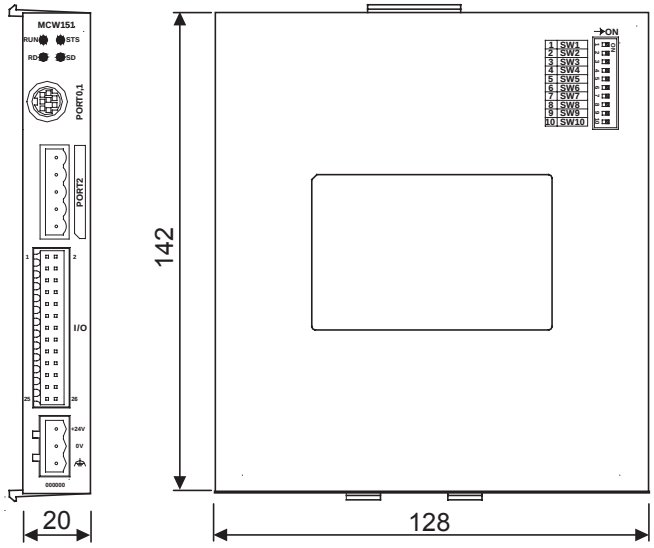
Nomenclature



Dimensions

R88A-MCW151-(DRT)-E - 1.5 Axes Motion Controller Unit

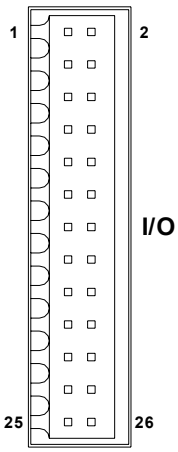
Units: mm Approx. mass: 0.2 kg



Installation

I/O Connector

Connector pin arrangement



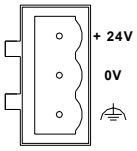
A+	1	2	A-
B+	3	4	B-
Z+	5	6	Z-
0V_ENC	7	8	5V_ENC
I0 / R0	9	10	FG
I2	11	12	I1 / R1
I4	13	14	I3
I6	15	16	I5
0V_IN	17	18	I7
O8	19	20	O9
O10	21	22	O11
O12	23	24	O13
0V_OP	25	26	24V_OP

I/O Connector Pin Functions

Pin	Signal	
	Name	Function
1	A+	Encoder phase A+ (Input / Output)
2	A-	Encoder phase A- (Input / Output)
3	B+	Encoder phase B+ (Input / Output)
4	B-	Encoder phase B- (Input / Output)
5	Z+	Encoder phase Z+ (Input / Output)
6	Z-	Encoder phase Z- (Input / Output)
7	0V_ENC	Encoder 0V common
8	5V_ENC	Encoder 5V power supply output
9	I0 / R0	(Registration) Input 0
10	FG	Frame Ground
11	I2	Input 2
12	I1 / R1	(Registration) Input 1
13	I4	Input 4
14	I3	Input 3
15	I6	Input 6
16	I5	Input 5
17	0V_IN	Inputs 0V common
18	I7	Input 7
19	O8	Output 8
20	O9	Output 9
21	O10	Output 10
22	O11	Output 11
23	O12	Output 12
24	O13	Output 13
25	0V_OP	Outputs 0V common
26	24V_OP	Outputs 24V power supply input

Power Connector

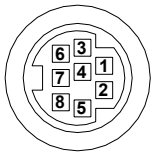
The Power Connector is used to connect the 24V power supply to the Controller Unit



Pin	Name	Function
1	+24 V	Power Supply 24V
2	0 V	Power Supply 0V
3	FG	Frame Ground

RS-232C Connections (port 0 and port 1)

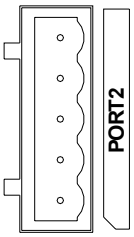
The Controller Unit has two serial RS-232C ports for communication with external devices.



PORT0, 1

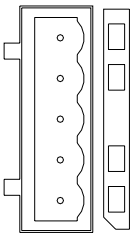
Pin	Symbol	Name	Port	Direction
1	-	Not used	-	
2	RS-1	Request to send	1	Output
3	SD-0	Send data	0	Output
4	SG-0	Signal ground	0	-
5	RD-0	Receive data	0	Input
6	SD-1	Send data	1	Output
7	SG-1	Signal ground	1	-
8	RD-1	Receive data	1	Input

RS-422A/485 Connections (R88A-MCW151-E only)



Pin	Symbol	Name	Port	Direction
1	RD-	Receive data (-)	2	Input
2	RD+	Receive data (+)	2	Input
3	FG	Frame Ground	2	-
4	SD-	Send data (-)	2	Output
5	SD+	Send data (+)	2	Output

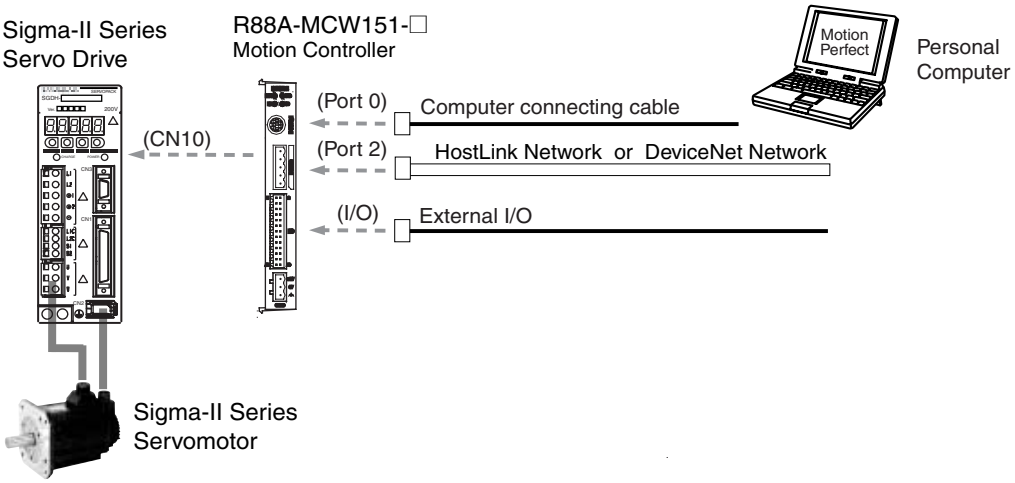
DeviceNet Connections (R88A-MCW151-DRT-E only)



Pin	Symbol	Signal	Color of Cable
1	V+	Power line, positive voltage	Red
2	CAN-H	Communications line, high	White
3	Shield	Shield	-
4	CAN-L	Communications line, low	Blue
5	V-	Power line, negative voltage	Black

Ordering Information

System Configuration



Motion Controller Unit

Name	Model
1.5 axis Advanced Motion Controller with Host Link Interface	R88A-MCW151-E
1.5 axis Advanced Motion Controller with DeviceNet Interface	R88A-MCW151-DRT-E

Profibus Connectivity

Name	Model
Profibus-DP Module interface for R88A-MCW151-E motion controllers	PRT1-SCU11

Serial cables (for Port 0, 1)

Name	Model
Programing cable, 2 m. (Port 0)	R88A-CCM002P4-E
Spliter cable, 1 m (Port 0 & 1). Combined with R88A-CCM002P4-E cable allows using Motion Perfect and a general purpose application.(e.g. terminal)	R88A-CCM001P5-E

Connectors

Specification	Model
I/O Connector (Included in Package)	B2L 3.5/26 SN SW (Weidmüler)
Power Connector (Included in Package)	MSTB 2.5/3-ST-5.08 (Phoenix)
Port 2 Connector (Included in Package)	MSTB 2.5/5-ST-5.08 (Phoenix)

Note: For a complete view of DeviceNet network accesories, refer to Automation Systems catalogue or contact your Omron representative.

Computer Software

Specifications	Model
Motion Perfect	MOTION TOOLS CD
EDS File	

Servo System

Note: Refer to the Servo Systems section for more information

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

Cat. No. I14E-EN-01

In the interest of product improvement, specifications are subject to change without notice.