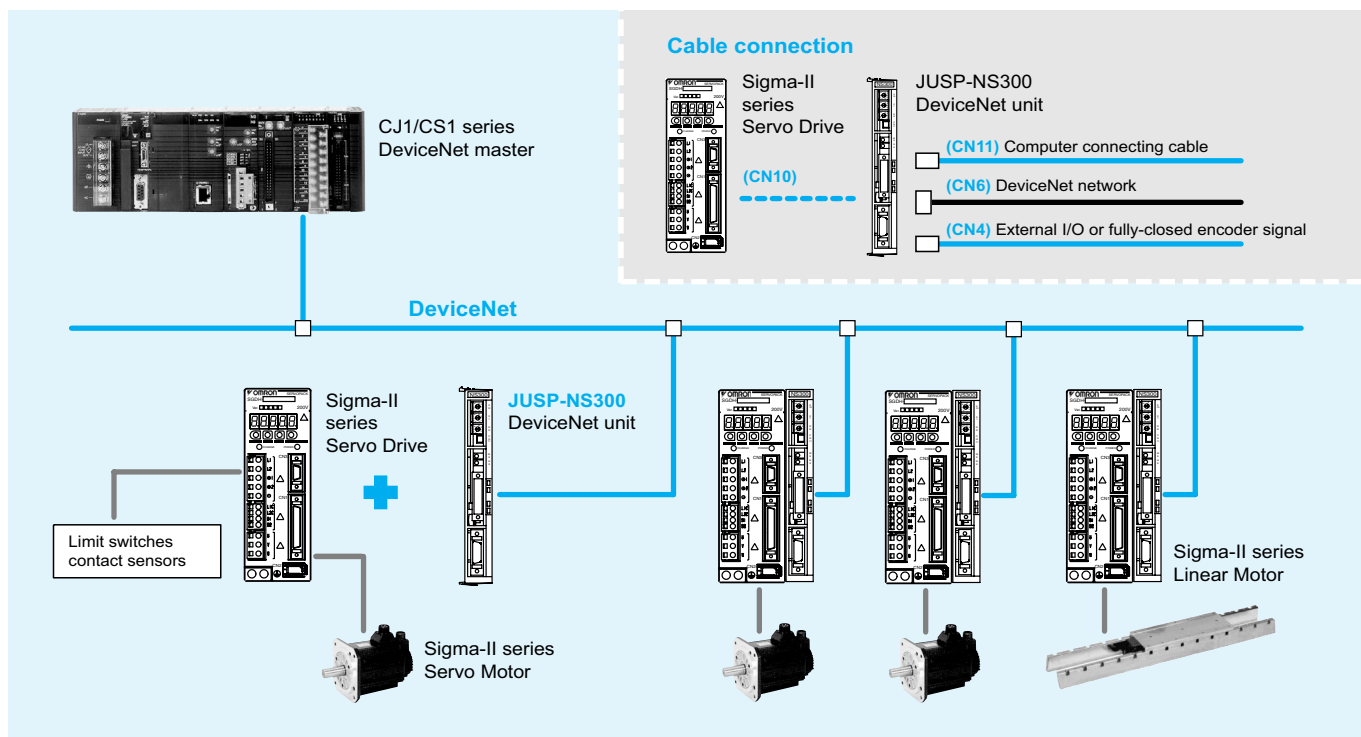**JUSP-NS300**

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

CJ1/CS1 series
DeviceNet master

Cable connection

Sigma-II series Servo Drive

JUSP-NS300 DeviceNet unit

(CN10)

(CN11) Computer connecting cable

(CN6) DeviceNet network

(CN4) External I/O or fully-closed encoder signal

DeviceNet

Sigma-II series Servo Drive

JUSP-NS300 DeviceNet unit

Limit switches contact sensors

Sigma-II series Servo Motor

Sigma-II series Linear Motor

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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, 125 kbps			
Transmission media	5-wire cables			
Transmission distance	Speed	Max. network length	Branch length	Total branch length
	500 kbps	100 m or less		39 m or less
	250 kbps	250 m or less	6 m or less	78 m or less
	125 kbps	500 m or less		156 m 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)	Soft (easy to bend)

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

Transmission speed (kbps)	Max. network length (m)	
	Thick cable	**Thin cable**
500	100	100
250	250	100
125	500	100

Nomenclature

Ground wire
Connected to ground mark on the servo drive

Rotary switch (x1, x10)
For node address setting

Rotary switch (DR)
For transmission speed setting

RS-232C connector (CN11)
For setup tool

LED (MS)
Module status

LED (NS)
DeviceNet network status

Connector for DeviceNet communication (CN6)

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

Dimensions

JUSP-NS300 - DeviceNet interface unit

Units: mm   Approx. weight: 0.2 kg

FG terminal
M4

Connector
to SERVOPACK

(24)

(100)

CN11

CN6

142

CN4

20

Name plate

133
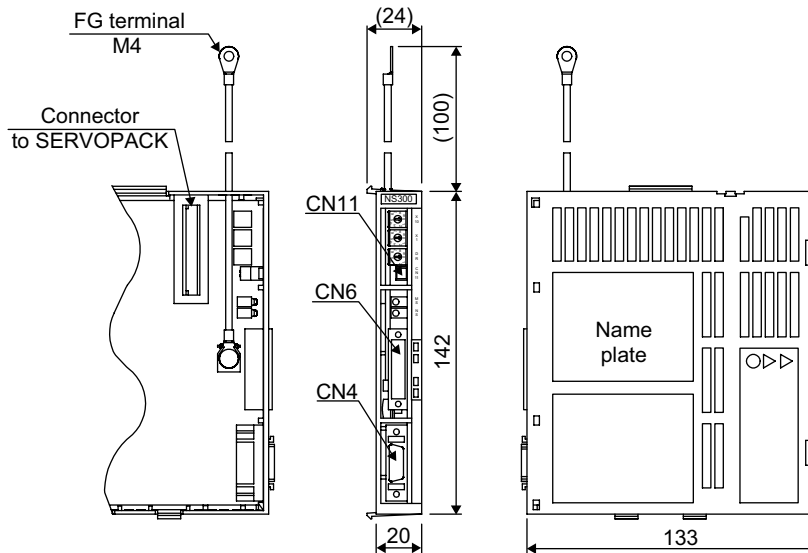
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Standard connections

↕ 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.
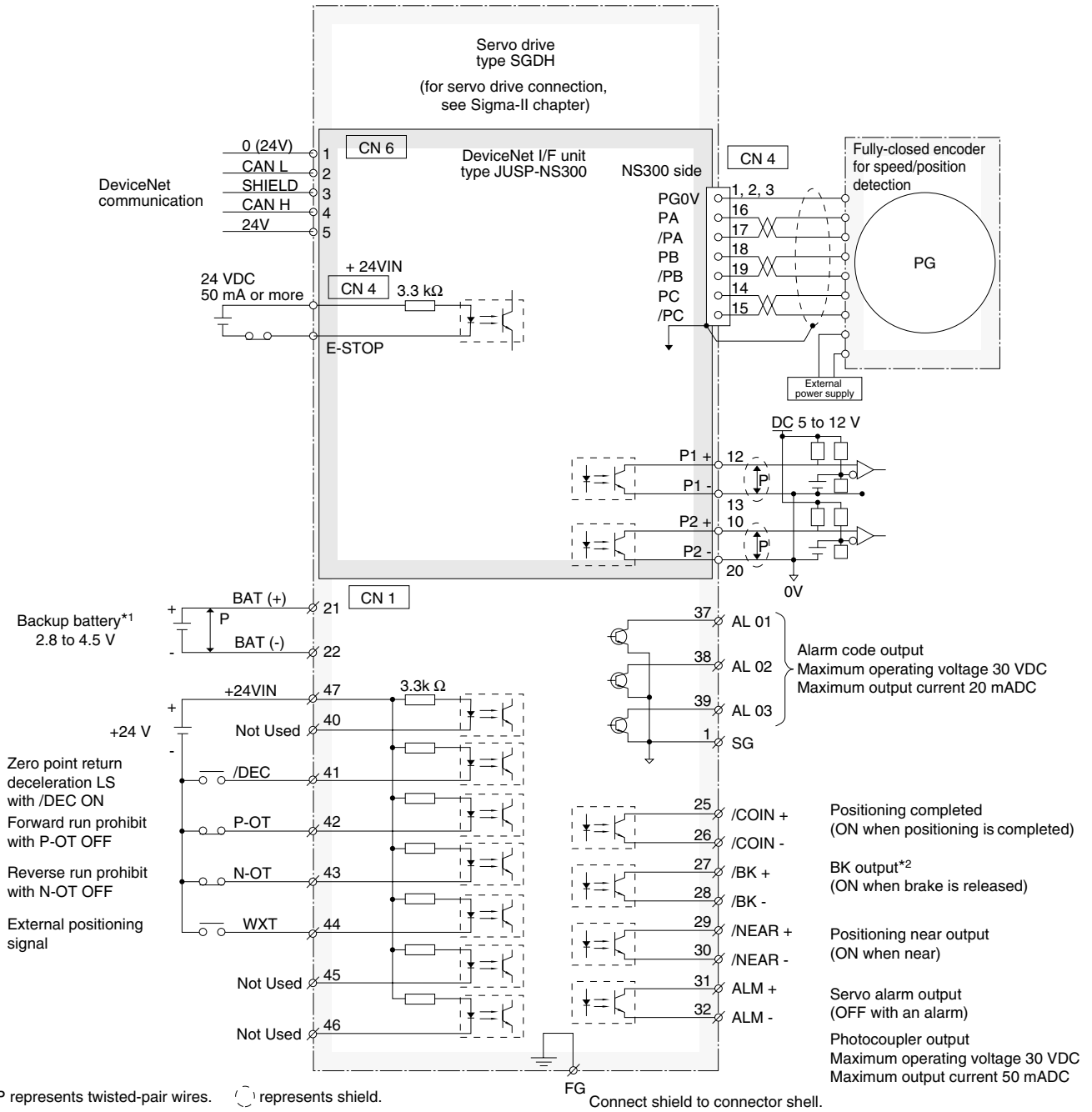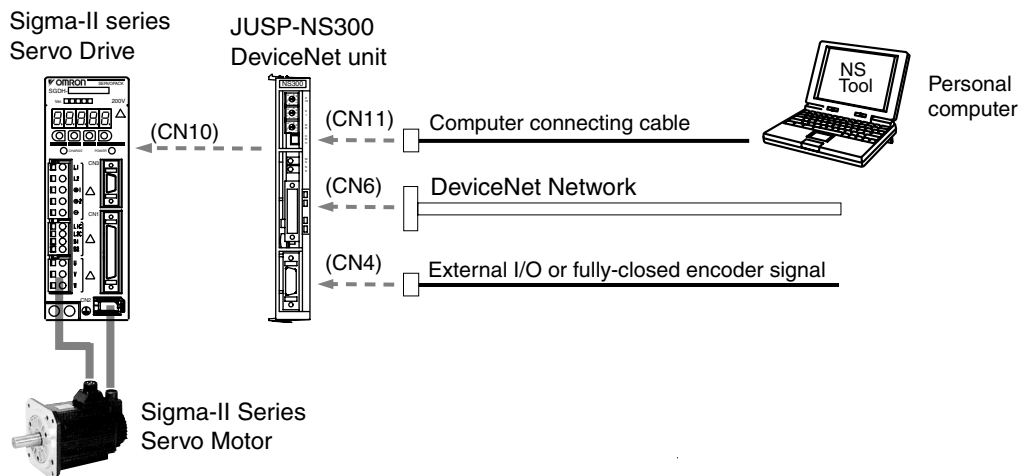
Note: Connect the ground cable of the field bus I/F unit to the ground connector of the servo drive.

Ordering information

System configuration

Sigma-II series Servo Drive
JUSP-NS300 DeviceNet unit

(CN10)

(CN11) — Computer connecting cable — Personal computer (NS Tool)

(CN6) — DeviceNet Network

(CN4) — External I/O or fully-closed encoder signal

Sigma-II Series Servo Motor

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

Note: For a complete view of DeviceNet network accessories, 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

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ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.