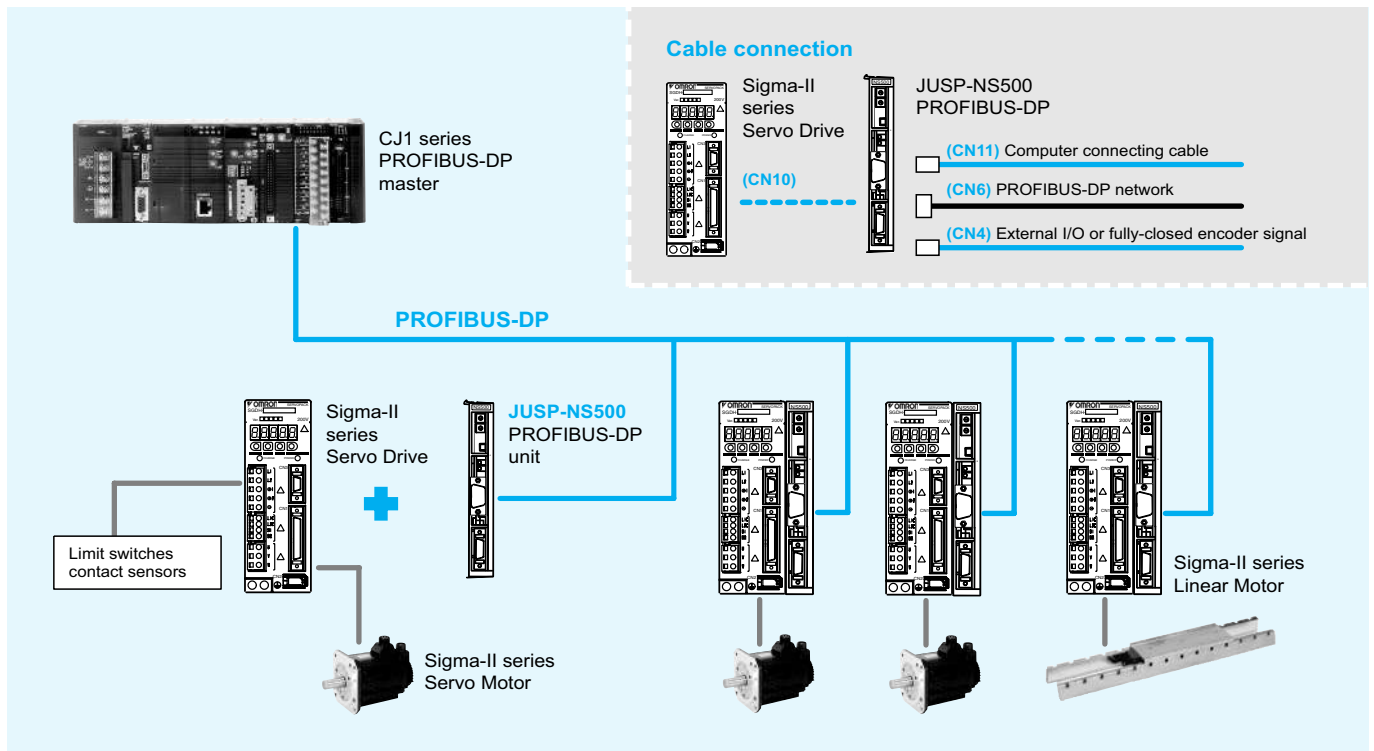**JUSP-NS500**

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

Cable connection

Sigma-II series Servo Drive

JUSP-NS500 PROFIBUS-DP

(CN10)

(CN11) Computer connecting cable

(CN6) PROFIBUS-DP network

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

CJ1 series PROFIBUS-DP master

PROFIBUS-DP

Sigma-II series Servo Drive

JUSP-NS500 PROFIBUS-DP unit

Limit switches contact sensors

Sigma-II series Servo Motor

Sigma-II series Linear Motor

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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	110 Ω/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 (CN11)
For setup tool

LED (COMM)
Communication status LED for PROFIBUS-DP

LED (ERR)
Module error status LED

Connector for PROFIBUS-DP communication (CN6)

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

Dimensions

JUSP-NS500 - PROFIBUS-DP interface unit

Units: mm   Approx. weight: 0.2 kg

FG terminal
M4

Connector
to SERVOPACK

(24)

(100)

CN11

CN6

CN4

142

20

Name
plate

133

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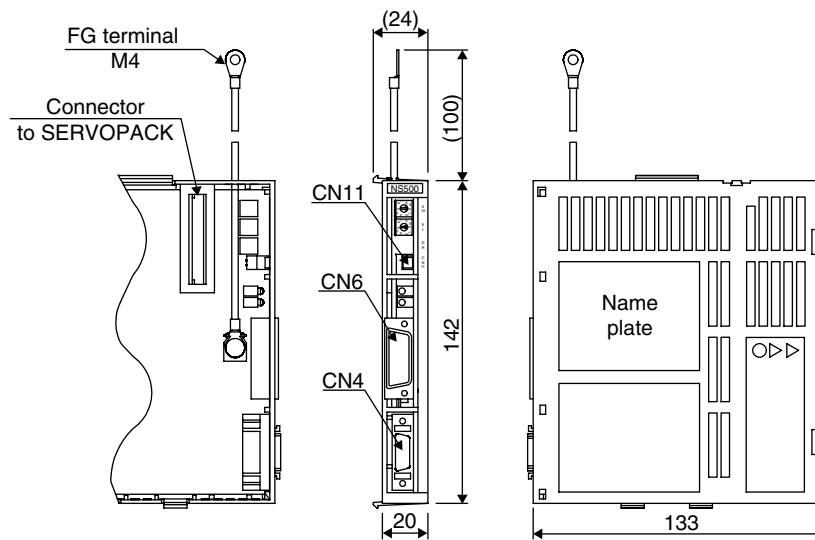
Installation

Standard connections

$\updownarrow$ P represents twisted-pair wires.　$\frown$ represents shield.
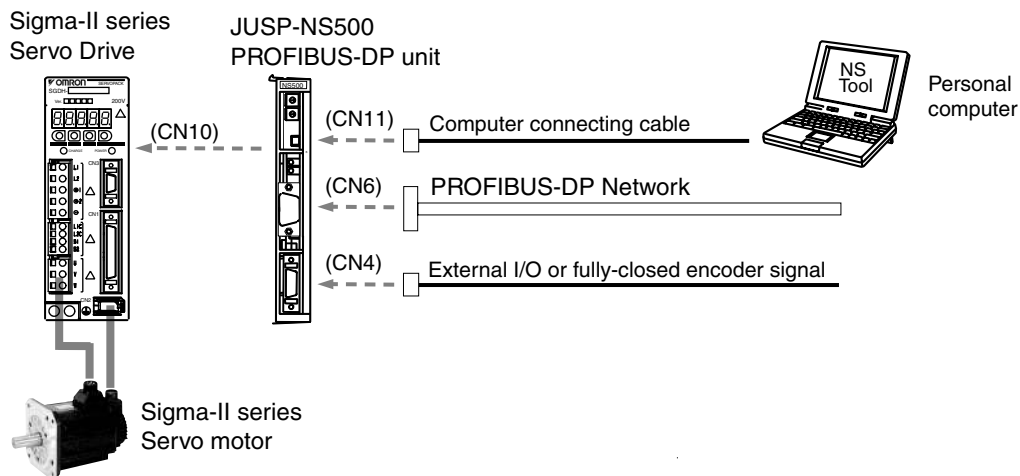
FG Connect shield to connector shell.
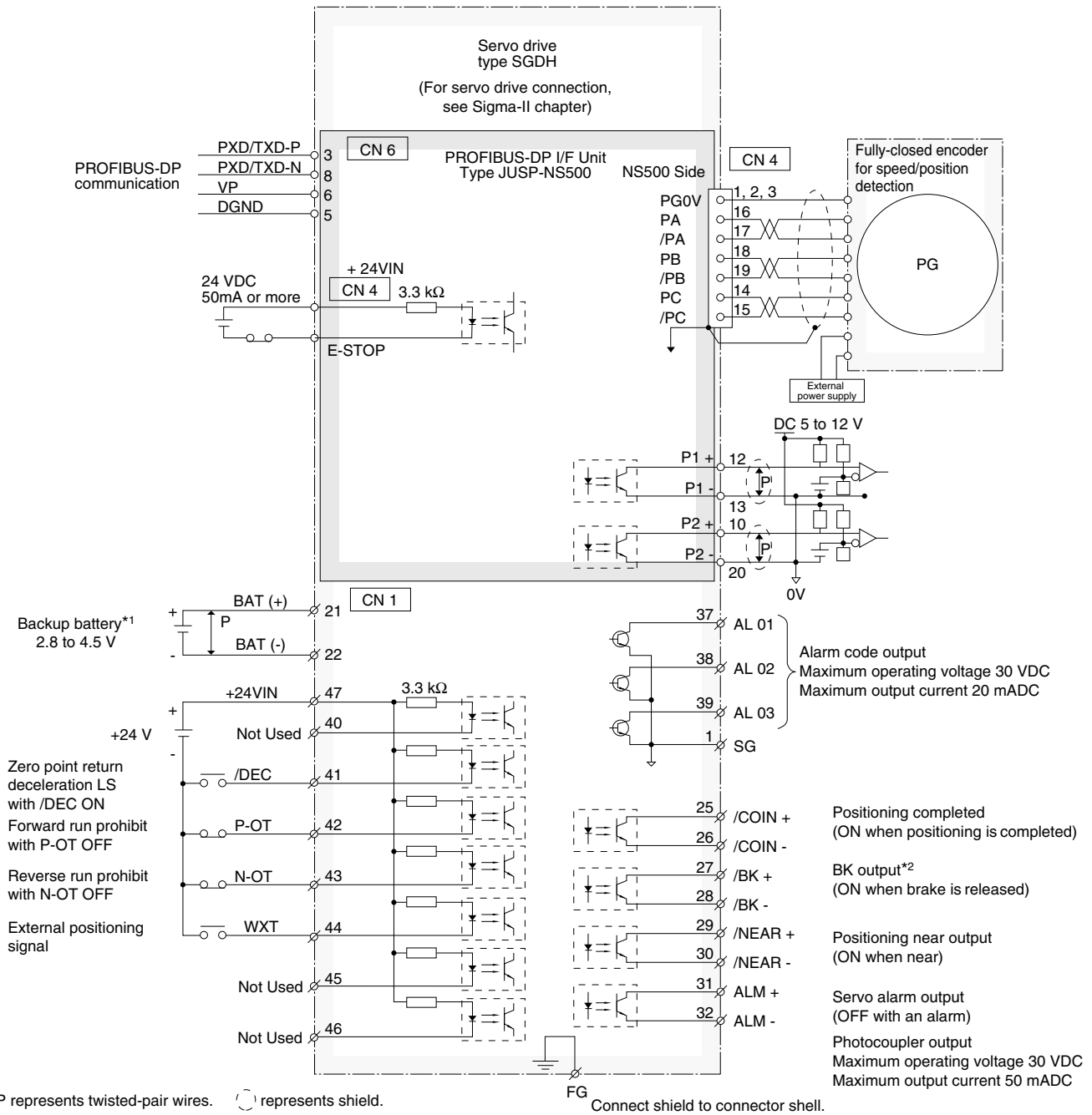
*1 Connect when using an absolute encoder and when the battery is not connected to CN8.
*2 Set the signal assignment with the user constants.

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	2 m	R88A-CCW002P4

Connectors

Name	Model
Connector 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

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