

# Slave Terminals NX Series


## Ordering Information

### International Standards

- The standards are abbreviated as follows: U: UL, U1: UL (Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, CE: EU Directives, EAC: EAC mark, RCM: Regulatory Compliance Mark, and KC: KC Registration.
- Contact your OMRON representative for further details and applicable conditions for these standards.

## Communications Coupler Units


### • EtherCAT Coupler Units

Unit type	Product name	Communications cycle in DC Mode	Current consumption	Maximum I/O power supply current	Model	Standards
NX-series Communications Coupler Unit *1		250 to 4000 $\mu$ s *2	1.45 W or lower	4 A	NX-ECC201	UC1, N, L, CE, RCM, KC
		250 to 4000 $\mu$ s *2		10 A	NX-ECC202	
		125 to 10000 $\mu$ s *2	1.25 W or lower		NX-ECC203	

\*1. One End Cover NX-END01 is provided with the EtherCAT Coupler Unit.

\*2. This depends on the specifications of the EtherCAT master. For example, the values are as follows when the EtherCAT Coupler Unit is connected to the built-in EtherCAT port on an NJ5-series CPU Unit: 500  $\mu$ s, 1,000  $\mu$ s, 2,000  $\mu$ s, and 4,000  $\mu$ s. For the specifications of the built-in EtherCAT port, refer to the user's manual for the built-in EtherCAT port on the connected CPU Unit or the Industrial PC. This depends on the Unit configuration.


### • EtherNet/IP Coupler Unit

Unit type	Product name	Current consumption	Maximum I/O power supply current	Model	Standards
NX-series Communications Coupler Unit *		1.60 W or lower	10 A	NX-EIC202	UC1, CE, RCM, KC

\* One End Cover NX-END01 is provided with the EtherCAT Coupler Unit.


## Digital Input Units

### • DC Input Units (Screwless Clamping Terminal Block, 12 mm Width)


Unit type	Product name	Specification				Model	Standards			
		Number of points	Internal I/O common	Rated input voltage	I/O refreshing method			ON/OFF response time		
NX-series Digital Input Unit		4 points	NPN	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 $\mu$ s max./ 400 $\mu$ s max.	NX-ID3317	UC1, N, L, CE, RCM, KC		
				24 VDC	Input refreshing with input changed time only *	100 ns max./ 100 ns max.	NX-ID3343			
				12 to 24 VDC			Switching Synchronous I/O refreshing and Free-Run refreshing		20 $\mu$ s max./ 400 $\mu$ s max.	NX-ID3417
			8 points	PNP	24 VDC	Input refreshing with input changed time only *	100 ns max./ 100 ns max.		NX-ID3443	
									NX-ID3444	
									NX-ID4342	
		16 points	PNP	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 $\mu$ s max./ 400 $\mu$ s max.	NX-ID4442			
							NX-ID5342			
									NX-ID5442	

\* To use input refreshing with input changed time, the NJ-series CPU Unit with unit version 1.06 or later, EtherCAT Coupler Unit with unit version 1.1 or later, and Sysmac Studio version 1.07 or higher are required.


### • DC Input Unit (M3 Screw Terminal Block, 30 mm Width)

Unit type	Product name	Specification				Model	Standards	
		Number of points	Internal I/O common	Rated input voltage	I/O refreshing method			ON/OFF response time
NX-series Digital Input Unit		16 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 $\mu$ s max./ 400 $\mu$ s max.	NX-ID5142-1	UC1, N, L, CE, RCM, KC


• DC Input Units (MIL Connector, 30 mm Width)

Unit type	Product name	Specification					Model	Standards
		Number of points	Internal I/O common	Rated input voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Input Unit		16 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 μs max./ 400 μs max.	NX-ID5142-5	UC1, N, L, CE, RCM, KC
		32 points					NX-ID6142-5	

• DC Input Unit (Fujitsu Connector, 30 mm Width)


Unit type	Product name	Specification					Model	Standards
		Number of points	Internal I/O common	Rated input voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Input Unit		32 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 μs max./ 400 μs max.	NX-ID6142-6	UC1, N, L, CE, RCM, KC

• AC Input Unit (Screwless Clamping Terminal Block, 12 mm Width)

Unit type	Product name	Specification				Model	Standards
		Number of points	Rated input voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Input Unit		4 points	200 to 240 VAC, 50/60 Hz (170 to 264 VAC, ±3 Hz)	Free-Run refreshing	10 ms max./ 40 ms max.	NX-IA3117	UC1, N, CE, RCM, KC


## Digital Output Units

### • Transistor Output Units (Screwless Clamping Terminal Block, 12 mm Width)


Unit type	Product name	Specification						Model	Standards
		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		2 points	NPN	0.5 A/point, 1 A/Unit	24 VDC	Output refreshing with specified time stamp only *	300 ns max./ 300 ns max.	NX-OD2154	UC1, N, L, CE, RCM, KC
			PNP				NX-OD2258		
		4 points	NPN	0.5 A/point, 2 A/Unit	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD3121	
							300 ns max./ 300 ns max.	NX-OD3153	
			PNP				0.5 ms max./ 1.0 ms max.	NX-OD3256	
							300 ns max./ 300 ns max.	NX-OD3257	
		8 points	NPN	0.5 A/point, 4 A/Unit	12 to 24 VDC	0.1 ms max./ 0.8 ms max.	NX-OD4121		
			PNP		24 VDC	0.5 ms max./ 1.0 ms max.	NX-OD4256		
		16 points	NPN	0.5 A/point, 4 A/Unit	12 to 24 VDC	0.1 ms max./ 0.8 ms max.	NX-OD5121		
			PNP		24 VDC	0.5 ms max./ 1.0 ms max.	NX-OD5256		

\* To use output refreshing with specified time stamp, the NJ-series CPU Unit with unit version 1.06 or later, EtherCAT Coupler Unit with unit version 1.1 or later, and Sysmac Studio version 1.07 or higher are required.


### • Transistor Output Units (M3 Screw Terminal Block, 30 mm Width)

Unit type	Product name	Specification						Model	Standards
		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		16 points	NPN	0.5 A/point, 5 A/Unit	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-1	UC1, N, L, CE, RCM, KC
			PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-1	


### • Transistor Output Units (MIL Connector, 30 mm Width)

Unit type	Product name	Specification						Model	Standards
		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		16 points	NPN	0.5 A/point, 2 A/Unit	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-5	UC1, N, L, CE, RCM, KC
			PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-5	
		32 points	NPN	0.5 A/point, 2 A/common, 4 A/Unit	12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD6121-5	
			PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD6256-5	


### • Transistor Output Unit (Fujitsu Connector, 30 mm Width)

Unit type	Product name	Specification						Model	Standards
		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		32 points	NPN	0.5 A/point, 2 A/common, 4 A/Unit	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD6121-6	UC1, N, L, CE, RCM, KC

● Relay Output Units (Screwless Clamping Terminal Block, 12 mm Width)


Unit type	Product name	Specification					Model	Standards
		Number of points	Relay type	Maximum switching capacity	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		2 points	N.O.	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit	Free-Run refreshing	15 ms max./ 15 ms max.	NX-OC2633	UC1, N, L, CE, RCM, KC
			N.O.+N.C.				NX-OC2733	UC1, N, CE, RCM, KC

● Relay Output Unit (Screwless Clamping Terminal Block, 24 mm Width)


Unit type	Product name	Specification					Model	Standards
		Number of points	Relay type	Maximum switching capacity	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		8 points	N.O.	250 VAC/2 A (cosφ=1) 250 VAC/2 A (cosφ=0.4) 24 VDC/2 A 8 A/Unit	Free-Run refreshing	15 ms max./ 15 ms max.	NX-OC4633	UC1, N, L, CE, EAC, RCM, KC

Digital Mixed I/O Units

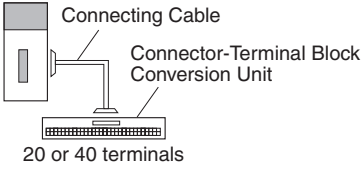
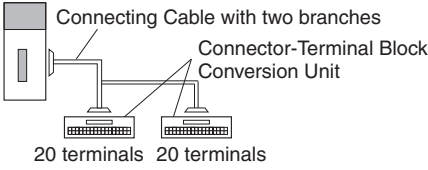
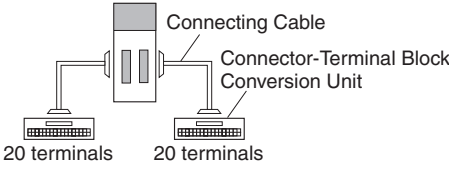
● DC Input/Transistor Output Units (MIL Connector, 30 mm Width)

Unit type	Product name	Specification					Model	Standards
		Number of points	Internal I/O common	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Mixed I/O Unit		Outputs: 16 points Inputs: 16 points	Outputs: NPN Inputs: For both NPN/PNP	Outputs: 12 to 24 VDC Inputs: 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	Outputs: 0.1 ms max./ 0.8 ms max. Inputs: 20 μs max./ 400 μs max.	NX-MD6121-5	UC1, N, L, CE, RCM, KC
			Outputs: PNP Inputs: For both NPN/PNP	Outputs: 24 VDC Inputs: 24 VDC		Outputs: 0.5 ms max./ 1.0 ms max. Inputs: 20 μs max./ 400 μs max.	NX-MD6256-5	

● DC Input/Transistor Output Unit (Fujitsu Connector, 30 mm Width)

Unit type	Product name	Specification					Model	Standards
		Number of points	Internal I/O common	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		Outputs: 16 points Inputs: 16 points	Outputs: NPN Inputs: For both NPN/PNP	Outputs: 12 to 24 VDC Inputs: 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	Outputs: 0.1 ms max./ 0.8 ms max. Inputs: 20 μs max./ 400 μs max.	NX-MD6121-6	UC1, N, L, CE, RCM, KC

## Connection Patterns for Connector-Terminal Block Conversion Units

Pattern	Configuration	Number of connectors	Branching
A	 <p>Connecting Cable</p> <p>Connector-Terminal Block Conversion Unit</p> <p>20 or 40 terminals</p>	1	None
B	 <p>Connecting Cable with two branches</p> <p>Connector-Terminal Block Conversion Unit</p> <p>20 terminals 20 terminals</p>		2 branches
C	 <p>Connecting Cable</p> <p>Connector-Terminal Block Conversion Unit</p> <p>20 terminals 20 terminals</p>	2	None

## Connections to Connector-Terminal Block Conversion Units

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Connecting Cable *1	Connector-Terminal Block Conversion Unit	Wiring method	Common terminal
NX-ID5142-5	16 inputs	1 MIL connector	NPN/ PNP	A	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
					XW2Z-□□□X	XW2D-20G6	Phillips screw	None
NX-ID6142-5	32 inputs	1 MIL connector	NPN/ PNP	A	XW2Z-□□□PM	XW2R-□34GD-C2	Depends on model *3	None
				A	XW2Z-□□□K	XW2D-40G6	Phillips screw	None
				B	XW2Z-□□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				B	XW2Z-□□□N	XW2C-20G5-IN16 (2 Units) *2	Phillips screw	Yes
				B	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None
				B	XW2Z-□□□N	XW2E-20G5-IN16 (2 Units) *2	Phillips screw	Yes
NX-ID6142-6	32 inputs	1 Fujitsu connector	NPN/ PNP	A	XW2Z-□□□PF	XW2R-□34GD-C1	Depends on model *3	None
				A	XW2Z-□□□B	XW2D-40G6	Phillips screw	None
				B	XW2Z-□□□D	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				B	XW2Z-□□□D	XW2C-20G5-IN16 (2 Units) *2	Phillips screw	Yes
				B	XW2Z-□□□D	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□D	XW2D-20G6 (2 Units)	Phillips screw	None
				B	XW2Z-□□□D	XW2E-20G5-IN16 (2 Units) *2	Phillips screw	Yes
NX-OD5121-5	16 outputs	1 MIL connector	NPN	A	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
				A	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
NX-OD5256-5	16 outputs	1 MIL connector	PNP	A	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
				A	XW2Z-□□□X	XW2D-20G6	Phillips screw	None

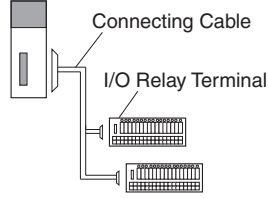
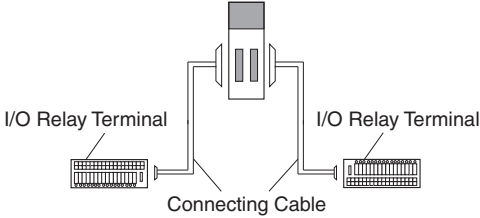
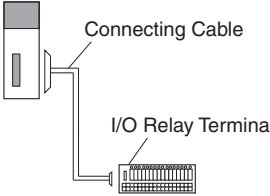
Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Connecting Cable *1	Connector-Terminal Block Conversion Unit	Wiring method	Common terminal
NX-OD6121-5	32 inputs	1 MIL connector	NPN	A	XW2Z-□□□PM	XW2R-□34GD-C4	Depends on model *3	None
				A	XW2Z-□□□K	XW2D-40G6	Phillips screw	None
				B	XW2Z-□□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				B	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None
NX-OD6121-6	32 inputs	1 Fujitsu connector	NPN	A	XW2Z-□□□PF	XW2R-□34GD-C3	Depends on model *3	None
				A	XW2Z-□□□B	XW2D-40G6	Phillips screw	None
				B	XW2Z-□□□L	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				B	XW2Z-□□□L	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□L	XW2D-20G6 (2 Units)	Phillips screw	None
NX-OD6256-5	32 inputs	1 MIL connector	PNP	A	XW2Z-□□□PM	XW2R-□34GD-C4	Depends on model *3	None
				A	XW2Z-□□□K	XW2D-40G6	Phillips screw	None
				B	XW2Z-□□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				B	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None
NX-MD6121-5	16 outputs	1 MIL connector	NPN/ PNP	C	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
	16 outputs	1 MIL connector		C	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
	16 outputs	1 MIL connector	NPN	C	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
NX-MD6121-6	16 outputs	1 Fujitsu connector	NPN/ PNP	C	XW2Z-□□□A	XW2R-□20GD-T	Depends on model *3	None
				C	XW2Z-□□□A	XW2C-20G5-IN16 *2	Phillips screw	Yes
				C	XW2Z-□□□A	XW2C-20G6-IO16	Phillips screw	Yes
				C	XW2Z-□□□A	XW2D-20G6	Phillips screw	None
				C	XW2Z-□□□A	XW2E-20G5-IN16 *2	Phillips screw	Yes
	16 outputs	1 Fujitsu connector	NPN	C	XW2Z-□□□A	XW2R-□20GD-T	Depends on model *3	None
				C	XW2Z-□□□A	XW2C-20G6-IO16	Phillips screw	Yes
				C	XW2Z-□□□A	XW2D-20G6	Phillips screw	None
	NX-MD6256-5	16 outputs	1 MIL connector	NPN/ PNP	C	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3
C					XW2Z-□□□X	XW2D-20G6	Phillips screw	None
16 outputs		1 MIL connector	PNP	C	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
				C	XW2Z-□□□X	XW2D-20G6	Phillips screw	None

\*1. □□□ in the model number indicates the cable length.

\*2. The inputs are NPN. For PNP inputs, reverse the polarity of the external power supply connections to the power supply terminals on the Connector-Terminal Block Conversion Unit.

\*3. The wiring methods vary depending on the Connector-Terminal Block Conversion Unit. □ in the model number indicates the wiring method.  
 J = Phillips screw  
 E = Slotted screw (rise up)  
 P = Push-in spring

## Connection Patterns for I/O Relay Terminals

Pattern	Configuration	Number of connectors	Branching
A		1	2 branches
E		2	None
F		1	

## Connections to I/O Relay Terminals


Unit	I/O capacity	Number of connectors	Polarity	Connecti on pattern	Connecting Cable *	Connector-Terminal Block Conversion Unit	Wiring method
NX-ID5142-5	16 inputs	1 MIL connector	NPN/PNP	F	XW2Z-RO□C	G70V-SID16P(-1)	Push-in spring
				F	XW2Z-RO□C	G7TC-ID16	Phillips screw
				F	XW2Z-RO□C	G7TC-IA16	Phillips screw
NX-ID6142-5	32 inputs	1 MIL connector	NPN/PNP	A	XW2Z-RO□□-D1	G70V-SID16P(-1) (2 Units)	Push-in spring
				A	XW2Z-RO□□-D1	G7TC-ID16 (2 Units)	Phillips screw
				A	XW2Z-RO□□-D1	G7TC-IA16 (2 Units)	Phillips screw
NX-ID6142-6	32 inputs	1 Fujitsu connector	NPN/PNP	A	XW2Z-RI□C-□	G70V-SID16P(-1) (2 Units)	Push-in spring
				A	XW2Z-RI□C-□	G7TC-ID16 (2 Units)	Phillips screw
				A	XW2Z-RI□C-□	G7TC-IA16 (2 Units)	Phillips screw
NX-OD5121-5	16 outputs	1 MIL connector	NPN	F	XW2Z-RO□C	G70V-SOC16P	Push-in spring
				F	XW2Z-RO□C	G7TC-OC16	Phillips screw
				F	XW2Z-RO□C	G70D-SOC16	Phillips screw
				F	XW2Z-RO□C	G70D-VSOC16	Phillips screw
				F	XW2Z-RO□C	G70D-FOM16	Phillips screw
				F	XW2Z-RO□C	G70D-VFOM16	Phillips screw
				F	XW2Z-RO□C	G70A-ZOC16-3 and Relay	Phillips screw
NX-OD5256-5	16 outputs	1 MIL connector	PNP	F	XW2Z-RO□C	G70V-SOC16P-1	Push-in spring
				F	XW2Z-RI□C	G7TC-OC16-1	Phillips screw
				F	XW2Z-RO□C	G70D-SOC16-1	Phillips screw
				F	XW2Z-RO□C	G70D-FOM16-1	Phillips screw
				F	XW2Z-RO□C	G70A-ZOC16-4 and Relay	Phillips screw

Unit	I/O capacity	Number of connectors	Polarity	Connecti on pattern	Connecting Cable *	Connector-Terminal Block Conversion Unit	Wiring method
NX-OD6121-5	32 inputs	1 MIL connector	NPN	A	XW2Z-RO□-□-D1	G70V-SOC16P (2 Units)	Push-in spring
				A	XW2Z-RO□-□-D1	G7TC-OC16 (2 Units)	Phillips screw
				A	XW2Z-RO□-□-D1	G70D-SOC16 (2 Units)	Phillips screw
				A	XW2Z-RO□-□-D1	G70D-FOM16 (2 Units)	Phillips screw
				A	XW2Z-RO□-□-D1	G70D-VSOC16 (2 Units)	Phillips screw
				A	XW2Z-RO□-□-D1	G70D-VFOM16 (2 Units)	Phillips screw
				A	XW2Z-RO□-□-D1	G70A-ZOC16-3 and Relay (2 Units)	Phillips screw
NX-OD6121-6	32 inputs	1 Fujitsu connector	NPN	A	XW2Z-RO□C-□	G70V-SOC16P (2 Units)	Push-in spring
				A	XW2Z-RO□C-□	G7TC-OC16 (2 Units)	Phillips screw
				A	XW2Z-RO□C-□	G70D-SOC16 (2 Units)	Phillips screw
				A	XW2Z-RO□C-□	G70D-FOM16 (2 Units)	Phillips screw
				A	XW2Z-RO□C-□	G70D-VSOC16 (2 Units)	Phillips screw
				A	XW2Z-RO□C-□	G70D-VFOM16 (2 Units)	Phillips screw
				A	XW2Z-RO□C-□	G70A-ZOC16-3 and Relay (2 Units)	Phillips screw
NX-OD6256-5	32 inputs	1 MIL connector	PNP	A	XW2Z-RO□-□D1	G70V-SOC16P-1 (2 Units)	Push-in spring
				A	XW2Z-RI□-□-D1	G7TC-OC16-1 (2 Units)	Phillips screw
				A	XW2Z-RO□-□-D1	G70D-SOC16-1 (2 Units)	Phillips screw
				A	XW2Z-RO□-□-D1	G70D-FOM16-1 (2 Units)	Phillips screw
				A	XW2Z-RO□-□-D1	G70A-ZOC16-4 and Relay (2 Units)	Phillips screw
NX-MD6121-5	16 inputs	1 MIL connector	NPN/PNP	E	XW2Z-RO□C	G70V-SID16P(-1)	Push-in spring
				E	XW2Z-RO□C	G7TC-ID16	Phillips screw
				E	XW2Z-RO□C	G7TC-IA16	Phillips screw
	16 outputs	1 MIL connector	NPN	E	XW2Z-RO□C	G70V-SOC16P	Push-in spring
				E	XW2Z-RO□C	G7TC-OC16	Phillips screw
				E	XW2Z-RO□C	G70D-SOC16	Phillips screw
				E	XW2Z-RO□C	G70D-FOM16	Phillips screw
				E	XW2Z-RO□C	G70D-VSOC16	Phillips screw
				E	XW2Z-RO□C	G70D-VFOM16	Phillips screw
				E	XW2Z-RO□C	G70A-ZOC16-3 and Relay	Phillips screw
NX-MD6121-6	16 inputs	1 Fujitsu connector	NPN/PNP	E	XW2Z-R□C	G70V-SID16P(-1)	Push-in spring
				E	XW2Z-R□C	G7TC-ID16	Phillips screw
				E	XW2Z-R□C	G7TC-IA16	Phillips screw
	16 outputs	1 Fujitsu connector	NPN	E	XW2Z-R□C	G70V-SOC16P	Push-in spring
				E	XW2Z-R□C	G7TC-OC16	Phillips screw
				E	XW2Z-R□C	G70D-SOC16	Phillips screw
				E	XW2Z-R□C	G70D-FOM16	Phillips screw
				E	XW2Z-R□C	G70D-VSOC16	Phillips screw
				E	XW2Z-R□C	G70D-VFOM16	Phillips screw
				E	XW2Z-R□C	G70A-ZOC16-3 and Relay	Phillips screw
NX-MD6256-5	16 inputs	1 MIL connector	NPN/PNP	E	XW2Z-RO□C	G70V-SID16P(-1)	Push-in spring
				E	XW2Z-RO□C	G7TC-IA16	Phillips screw
				E	XW2Z-RO□C	G7TC-ID16	Phillips screw
	16 outputs	1 MIL connector	PNP	E	XW2Z-RI□C	G70V-SOC16P-1	Push-in spring
				E	XW2Z-RO□C	G7TC-OC16-1	Phillips screw
				E	XW2Z-RI□C	G70D-SOC16-1	Phillips screw
				E	XW2Z-RI□C	G70D-FOM16-1	Phillips screw
E	XW2Z-RI□C	G70A-ZOC16-4 and Relay	Phillips screw				

**Note:** 1. For other models and specifications that are not listed above, refer to the datasheets.  
 2. The G70V Series includes models that provide internal connections.  
 3. The G70A is a socket only. Mountable relays and timers are sold separately.  
 \* □ in the model number indicates the cable length.





### High-speed Analog Input Units

Unit type	Product name	Specification								Model	Standards
		Number of points	Input range	Resolution	Input method	Conversion time	Trigger input section		I/O refreshing method		
							Number of points	Internal I/O common			
NX Series High-speed Analog Input Units		4 points	-10 to +10V -5 to +5V 0 to 10V 0 to 5V 1 to 5V 0 to 20mA 4 to 20mA	<ul style="list-style-type: none"> <li>Input range of -10 to 10 V or -5 to 5 V: 1/64,000 (full scale)</li> <li>Other input range: 1/32,000 (full scale)</li> </ul>	Differential input	5 μs per channel	4	NPN	Synchronous I/O refreshing	NX-HAD401	UC1, CE, RCM, KC, EAC
								PNP		NX-HAD402	

### Analog Input Units



Unit type	Product name	Specification									Model	Standards
		Number of points	Input range	Resolution	Conversion value, decimal number (0 to 100%)	Over all accuracy (25°C)	Input method	Conversion time	Input impedance	I/O refreshing method		
NX-series Analog Input Unit	Voltage Input type	2 points	-10 to +10 V	1/8000	-4000 to 4000	±0.2% (full scale)	Single-ended input	250 μs/point	1 MΩ min.	Free-Run refreshing	NX-AD2603	UC1, N, L, CE, RCM, KC
				Differential input	NX-AD2604							
		4 points		1/30000	-15000 to 15000	±0.1% (full scale)	Differential input	10 μs/point		Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD2608	
				8 points	1/8000	-4000 to 4000	±0.2% (full scale)	Single-ended input		250 μs/point	Free-Run refreshing	
		Differential input			NX-AD3604							
		4 points		1/30000	-15000 to 15000	±0.1% (full scale)	Differential input	10 μs/point		Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD3608	
				8 points	1/8000	-4000 to 4000	±0.2% (full scale)	Single-ended input		250 μs/point	Free-Run refreshing	
	Differential input	NX-AD4604										
	4 points	4 to 20 mA	1/30000	-15000 to 15000	±0.1% (full scale)	Differential input	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD4608			
			8 points	1/8000	-4000 to 4000	±0.2% (full scale)	Single-ended input	250 μs/point	Free-Run refreshing	NX-AD2203		
	Differential input	NX-AD2204										
	4 points	4 to 20 mA	1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD2208			
			8 points	1/8000	0 to 8000	±0.2% (full scale)	Single-ended input	250 μs/point	Free-Run refreshing	NX-AD3203		
	Differential input	NX-AD3204										
4 points	4 to 20 mA	1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD3208				
		8 points	1/8000	0 to 8000	±0.2% (full scale)	Single-ended input	250 μs/point	Free-Run refreshing	NX-AD4203			
Differential input	NX-AD4204											
4 points	4 to 20 mA	1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD4208				
		8 points	1/8000	0 to 8000	±0.2% (full scale)	Single-ended input	250 μs/point	Free-Run refreshing	NX-AD4203			
Differential input	NX-AD4204											
4 points	4 to 20 mA	1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD4208				
		8 points	1/8000	0 to 8000	±0.2% (full scale)	Single-ended input	250 μs/point	Free-Run refreshing	NX-AD4203			
Differential input	NX-AD4204											
4 points	4 to 20 mA	1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD4208				
		8 points	1/8000	0 to 8000	±0.2% (full scale)	Single-ended input	250 μs/point	Free-Run refreshing	NX-AD4203			
Differential input	NX-AD4204											
4 points	4 to 20 mA	1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD4208				
		8 points	1/8000	0 to 8000	±0.2% (full scale)	Single-ended input	250 μs/point	Free-Run refreshing	NX-AD4203			
Differential input	NX-AD4204											
4 points	4 to 20 mA	1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD4208				
		8 points	1/8000	0 to 8000	±0.2% (full scale)	Single-ended input	250 μs/point	Free-Run refreshing	NX-AD4203			
Differential input	NX-AD4204											

### Analog Output Units



Unit type	Product name	Specification							Model	Standards
		Number of points	Input range	Resolution	Output setting value, decimal number (0 to 100%)	Over all accuracy (25°C)	Conversion time	I/O refreshing method		
NX-series Analog Output Unit	Voltage Output type 	2 points	-10 to +10 V	1/8000	-4000 to 4000	±0.3% (full scale)	250 μs/point	Free-Run refreshing	NX-DA2603	UC1,N, L, CE, RCM, KC
				1/30000	-15000 to 15000	±0.1% (full scale)	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-DA2605	
		4 points		1/8000	-4000 to 4000	±0.3% (full scale)	250 μs/point	Free-Run refreshing	NX-DA3603	
				1/30000	-15000 to 15000	±0.1% (full scale)	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-DA3605	
	Current Output type 	2 points	4 to 20 mA	1/8000	0 to 8000	±0.3% (full scale)	250 μs/point	Free-Run refreshing	NX-DA2203	
				1/30000	0 to 30000	±0.1% (full scale)	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-DA2205	
		4 points		1/8000	0 to 8000	±0.3% (full scale)	250 μs/point	Free-Run refreshing	NX-DA3203	
				1/30000	0 to 30000	±0.1% (full scale)	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-DA3205	

### Temperature Control Units/Temperature Input Units/Heater Burnout Detection Units

#### • Temperature Control Units


Unit type	Product name	Specification							Model	Standards	
		Number of channels	Input type	Output	Output capacity	CT Input capacity	Control type	Conversion time			I/O refreshing method
NX Series Temperature Control Unit	Temperature Control Unit 2Ch type 	2 Ch	Multi-input (Thermocouple and Resistance thermometer)	Voltage output (for driving SSR)	2 points	2 points	Standard Control	50 m sec	Free-Run refreshing	NX-TC2405	UC1, CE, RCM, KC, EAC
						None	Standard Control			NX-TC2406	
				Voltage output (for driving SSR)	4 points	None	Heating and Cooling Control			NX-TC2407	
						Linear current output	2 points			None	
	Temperature Control Unit 4Ch type 	4 Ch		Voltage output (for driving SSR)	4 points	4 points	Standard Control			NX-TC3405	
						None	Standard Control			NX-TC3406	
				Voltage output (for driving SSR)	8 points	None	Heating and Cooling Control			NX-TC3407	
						Linear current output	4 points			None	

• Temperature Input Units

Unit type	Product name	Specification							Model	Standards
		Number of points	Input type	Resolution (25°C)	Over all accuracy (25°C)	Conversion time	I/O refreshing method	Terminals		
NX-series Temperature Input Unit	Thermocouple Input type 	2 points	Thermocouple	0.1°C max. *1	Refer to your OMRON website for details.	250 ms/Unit	Free-Run refreshing	16 Terminals	NX-TS2101	UC1, N, L, CE, RCM, KC
		4 points						16 Terminals x 2	NX-TS3101	
		2 points		0.01°C max.		10 ms/Unit		16 Terminals	NX-TS2102	
		4 points				16 Terminals x 2		NX-TS3102		
		2 points		0.001°C max.		60 ms/Unit		16 Terminals	NX-TS2104	
		4 points						16 Terminals x 2	NX-TS3104	
	Resistance Thermometer Input type 	2 points	Resistance Thermometer (Pt100/Pt1000, three-wire) *2	0.1°C max.	Refer to your OMRON website for details.	250 ms/Unit	Free-Run refreshing	16 Terminals	NX-TS2201	
		4 points		16 Terminals x 2				NX-TS3201		
		2 points		0.01°C max.		10 ms/Unit		16 Terminals	NX-TS2202	
		4 points						16 Terminals x 2	NX-TS3202	
		2 points		0.001°C max.		60 ms/Unit		16 Terminals	NX-TS2204	
		4 points						16 Terminals x 2	NX-TS3204	

\*1. The resolution is 0.2°C max. when the input type is R, S, or W.  
 \*2. The NX-TS2202 and NX-TS3202 only support Pt100 three-wire sensor.

• Heater Burnout Detection Units


Unit type	Product name	Specification							Model	Standards
		CT input section		Control output section						
		Number of inputs	Maximum heater current	Number of outputs	Internal I/O common	Maximum load current	Rated voltage	I/O refreshing method		
NX-series Heater Burnout Detection Unit	Heater Burnout Detection Unit 	4	50 A AC	4	NPN	0.1 A/point, 0.4 A/Unit	12 to 24 VDC	Free-Run refreshing	NX-HB3101	UC1, N, L, CE, RCM, KC
					PNP		24 VDC		NX-HB3201	

• Optional Products

Product name	Specification	Model	Standards
Unit/Terminal Block Coding Pins	Pins for 10 Units (30 terminal block pins and 30 Unit pins)	NX-AUX02	---
Product name	Specification	Model	Standards
Current Transformer (CT)	Hole diameter: 5.8 mm	E54-CT1	---
	Hole diameter: 5.8 mm	E54-CT1L *	---
	Hole diameter: 12.0 mm	E54-CT3	---
	Hole diameter: 12.0 mm	E54-CT3L *	---

\* Lead wires are included with these CTs. If UL certification is required, use these CTs.


## Load Cell Input Unit

Unit type	Product name	Specification					Model	Standards
		Number of points	Conversion cycle	I/O refreshing method *	Load cell excitation voltage	Input range		
NX-series Load Cell Input Unit		1	125 μs	<ul style="list-style-type: none"> <li>Free-Run refreshing</li> <li>Synchronous I/O refreshing</li> <li>Task period prioritized refreshing</li> </ul>	5 VDC ± 10%	-5.0 to 5.0 mV/V	<b>NX-RS1201</b>	UC1, N, L, CE, RCM, KC


**Note:** The NX-RS1201-K Load Cell Input Unit with the test and calibration certificate is also available. Ask your OMRON representative for details.

## Position Interface Units


### • Incremental Encoder Input Units

Unit type	Product name	Specification						Model	Standards
		Number of channels	External inputs	Maximum response frequency	I/O refreshing method	Number of I/O entry mappings	Remarks		
NX-series Position Interface Unit		1 (NPN)	3 (NPN)	500 kHz	<ul style="list-style-type: none"> <li>Free-Run refreshing</li> <li>Synchronous I/O refreshing</li> </ul>	1/1	24-V voltage input	<b>NX-EC0112</b>	UC1, N, CE, RCM, KC
		1 (PNP)	3 (PNP)					<b>NX-EC0122</b>	UC1, N, L, CE, RCM, KC
		1	3 (NPN)	4 MHz			Line receiver input	<b>NX-EC0132</b>	UC1, N, CE, RCM, KC
			3 (PNP)					<b>NX-EC0142</b>	UC1, N, L, CE, RCM, KC
		2 (NPN)	None	500 kHz			24-V voltage input	<b>NX-EC0212</b>	UC1, N, CE, RCM, KC
		2 (PNP)						<b>NX-EC0222</b>	UC1, N, L, CE, RCM, KC

### • SSI Input Units

Unit type	Product name	Specification					Model	Standards
		Number of channels	Input/Output form	Maximum data length	Encoder power supply	Type of external connections		
NX-series Position Interface Unit		1	EIA standard RS-422-A	32 bits	24 VDC, 0.3 A/CH	Screwless push-in terminal block (12 terminals)	<b>NX-ECS112</b>	UC1, N, L, CE, RCM, KC
		2	EIA standard RS-422-A	32 bits	24 VDC, 0.3 A/CH	Screwless push-in terminal block (12 terminals)	<b>NX-ECS212</b>	UC1, N, L, CE, RCM, KC

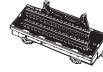
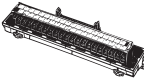





## ● Pulse Output Units

Unit type	Product name	Specification							Model	Standards
		Number of channels *1	External inputs	External outputs	Maximum pulse output speed	I/O refreshing method	Number of I/O entry mappings	Control output interface		
NX-series Position Interface Unit		1 (NPN)	2 (NPN)	1 (NPN)	500 kpps	<ul style="list-style-type: none"> <li>Synchronous I/O refreshing</li> <li>Task period prioritized refreshing *2</li> </ul>	1/1	Open collector output	NX-PG0112	UC1, N, CE, RCM, KC
		1 (PNP)	2 (PNP)	1 (PNP)					NX-PG0122	
		2	5 inputs/CH (NPN)	3 outputs/CH (NPN)	4 Mpps		2/2	Line driver output	NX-PG0232-5	UC1, CE, RCM, KC
			5 inputs/CH (PNP)	3 outputs/CH (PNP)					NX-PG0242-5	
		4	5 inputs/CH (NPN)	3 outputs/CH (NPN)			NX-PG0332-5			
			5 inputs/CH (PNP)	3 outputs/CH (PNP)			NX-PG0342-5			

\*1. This is the number of pulse output channels.


\*2. Unit version 1.2 or later and an NX-ECC203 EtherCAT Coupler Unit are required.

## Cables and Connectors for Line Driver Output Units with MIL Connectors


Product name	Specifications	Model	Standards		
Connector-Terminal Block Conversion Unit	Flat Cable Connectors type (Terminal block with M3 screws) 34 terminals		XW2B-34G4	---	
	Flat Cable Connectors type (Terminal block with M3.5 screws) 34 terminals		XW2B-34G5	---	
	MIL Connectors type (Slim Connector) 34 terminals		XW2D-34G6	---	
	MIL Connectors type (Phillips screw) 34 terminals		XW2R-J34GD-T	---	
	MIL Connectors type (Slotted screw (rise up)) 34 terminals		XW2R-E34GD-T	---	
	MIL Connectors type (Push-in spring) 34 terminals		XW2R-P34GD-T	---	
Cable for Connector-Terminal Block Conversion Unit	34-terminal MIL Connector to 34-terminal MIL Connector		Cable length: 0.5 m	XW2Z-050EE	---
			Cable length: 1 m	XW2Z-100EE	
			Cable length: 1.5 m	XW2Z-150EE	
			Cable length: 2 m	XW2Z-200EE	
			Cable length: 3 m	XW2Z-300EE	
			Cable length: 5 m	XW2Z-500EE	

**Note:** Each of NX-PG0232-5 and NX-PG0242-5 has one MIL connector. Therefore, one Connector-Terminal Block Conversion Unit is required.  
Each of NX-PG0332-5 and NX-PG0342-5 has two MIL connectors. Therefore, two Connector-Terminal Block Conversion Units are required.

## Communications Interface Units


Unit type	Product name	Serial interface	External connection terminals	Number of serial ports	Communications function	Model	Standards
NX-series Communications Interface Unit		RS-232C	Screwless clamping terminal block	1 port	<ul style="list-style-type: none"> <li>No-protocol serial communications</li> <li>Serial line monitor</li> </ul>	NX-CIF101	UL, N, L, CE, RCM, KC
		RS-422A/485				NX-CIF105	
		RS-232C	D-Sub connector	2 ports		NX-CIF210	

## IO-Link Master Unit


Unit type	Product name	Specification			Model	Standards
		Number of IO-Link ports	I/O refreshing method	I/O connection terminals		
NX-series IO-Link Master Unit		4	Free-Run refreshing	Screwless clamping terminal block	NX-ILM400	UC1, N, L, CE, RCM, KC

## System Units

### • Additional NX Unit Power Supply Unit


Unit type	Product name	Power supply voltage	NX bus power supply capacity	Model	Standards
NX-series System Unit		24 VDC (20.4 to 28.8 VDC)	10 W max.	NX-PD1000	UC1, N, L, CE, RCM, KC

### • Additional I/O Power Supply Units


Unit type	Product name	Power supply voltage	I/O power feed maximum current	Model	Standards
NX-series System Unit		5 to 24 VDC (4.5 to 28.8 VDC)	4 A	NX-PF0630	UC1, N, L, CE, RCM, KC
			10 A *	NX-PF0730	

\* Use the NX-PF0730 at 4 A or less on the CPU Rack where the NX1P2 CPU Unit is mounted.

### • I/O Power Supply Connection Units

Unit type	Product name	Number of I/O power terminals	Current capacity of I/O power terminal	Model	Standards
NX-series System Unit		IOG: 16 terminals	4 A/terminal max.	NX-PC0010	UC1, N, L, CE, RCM, KC
		IOV: 16 terminals	4 A/terminal max.	NX-PC0020	UC1, N, L, CE, RCM, KC
		IOV: 8 terminals IOG: 8 terminals	4 A/terminal max.	NX-PC0030	UC1, N, L, CE, RCM, KC

### • Shield Connection Unit

Unit type	Product name	Number of shield terminals	Model	Standards
NX-series System Unit		14 terminals (The two lower terminals are functional ground terminals.)	NX-TBX01	UC1, N, L, CE, RCM, KC

**Optional Products and Maintenance Products**

Product name	Specification	Model	Standards
<b>Unit/Terminal Block Coding Pins</b>	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)	<b>NX-AUX02</b>	---
<b>End Cover</b>	One End Cover is provided as a standard accessory with the Communication Coupler Unit.	<b>NX-END01</b>	---
<b>DIN Track Insulation Spacer</b>	A Spacer to insulate the control panel from the DIN Track. To insulate the Slave Terminal from the control panel, use Din Track Insulation Spacers.	<b>NX-AUX01</b>	---

Product name	Specification				Model	Standards
	No. of terminals	Terminal number indications	Ground terminal mark	Terminal current capacity		
<b>Terminal Block</b>	8	A/B	None	10 A	<b>NX-TBA082</b>	---
	12	A/B			<b>NX-TBA122</b>	
	16	A/B			<b>NX-TBA162</b>	
	12	C/D			<b>NX-TBB122</b>	
	16	C/D	<b>NX-TBB162</b>			
	8	A/B	Provided		<b>NX-TBC082</b>	
	16	A/B			<b>NX-TBC162</b>	

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