

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 μ s *2	1.45 W or lower	4 A	NX-ECC201	UC1, N, L, CE, RCM, KC
		250 to 4000 μ s *2		10 A	NX-ECC202	
		125 to 10000 μ 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 μ s, 1,000 μ s, 2,000 μ s, and 4,000 μ 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 μs max./400 μs max.	NX-ID3317	UC1, N, L, CE, RCM, KC
				24 VDC		Input refreshing with input changed time only *	100 ns max./100 ns max.	
			PNP	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID3417	
					Input refreshing with input changed time only *	100 ns max./100 ns max.	NX-ID3443	
		8 points	NPN	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID3444	
			PNP				NX-ID4342	
			NPN				NX-ID4442	
			PNP				NX-ID5342	
		16 points	PNP				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 μ s max./400 μ 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 μ s max./ 400 μ s 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 μ s max./ 400 μ s 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, $\pm$ 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				300 ns max./ 300 ns max.	NX-OD2258	
		4 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-OD3121	
							300 ns max./ 300 ns max.	NX-OD3153	
			PNP		24 VDC		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		0.5ms max./ 1.0ms max.	NX-OD3268	
							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	12 to 24 VDC	
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 ($\cos\phi = 1$), 250 VAC/2 A ($\cos\phi = 0.4$), 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 ($\cos\phi=1$) 250 VAC/2 A ($\cos\phi=0.4$) 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

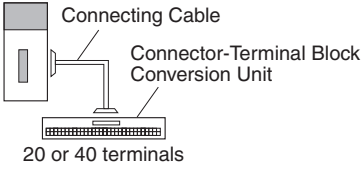
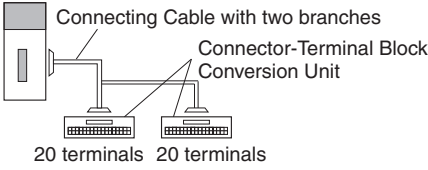
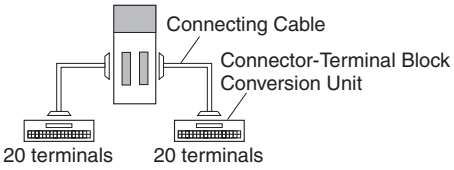
• DC Input/Transistor Output Units (MIL Connector, 30 mm Width)

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 μ s max./ 400 μ s 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 μ s max./ 400 μ s 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 μ s max./ 400 μ s 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	 Connecting Cable Connector-Terminal Block Conversion Unit 20 or 40 terminals	1	None
B	 Connecting Cable with two branches Connector-Terminal Block Conversion Unit 20 terminals 20 terminals		2 branches
C	 Connecting Cable Connector-Terminal Block Conversion Unit 20 terminals 20 terminals	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
				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
				C	XW2Z-□□□X	XW2D-20G6	Phillips screw	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	None
				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.

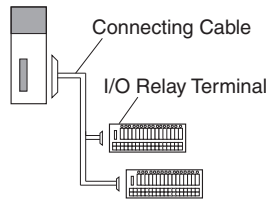
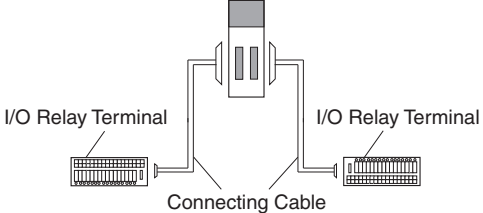
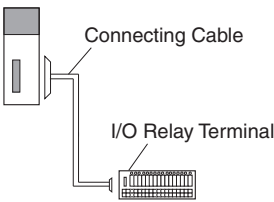
*3. The wiring methods vary depending on the Connector-Terminal Block Conversion Unit. □ in the model number indicates the wiring method.

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		
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	- Input range of -10 to 10 V or -5 to 5 V: 1/64,000 (full scale) - Other input range: 1/32,000 (full scale)	Differential input	5 μ s 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				
				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				
				4 points	1/8000	-4000 to 4000	±0.2% (full scale)	Single-ended input		250 μs/point	Free-Run refreshing		NX-AD3603		
							Differential input				NX-AD3604				
				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		NX-AD4603		
							Differential input				NX-AD4604				
				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				
		Current Input type 			2 points	4 to 20 mA	1/8000	0 to 8000		±0.2% (full scale)	Single-ended input		250 μs/point	250 Ω	Free-Run refreshing
										Differential input					NX-AD2204
			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					
			4 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					
			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	85 Ω	Free-Run refreshing		NX-AD4203		
							Differential input				NX-AD4204				
			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				

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	
	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	

• 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		0.1°C max. *1		250 ms/Unit		16 Terminals x 2	NX-TS3101	
		2 points		0.01°C max.		10 ms/Unit		16 Terminals	NX-TS2102	
		4 points		0.01°C max.		10 ms/Unit		16 Terminals x 2	NX-TS3102	
		2 points		0.001°C max.		60 ms/Unit		16 Terminals	NX-TS2104	
		4 points		0.001°C max.		60 ms/Unit		16 Terminals x 2	NX-TS3104	
	Resistance Thermometer Input type 	2 points	Resistance Thermometer (Pt100/Pt1000, three-wire) *2	0.1°C max.		250 ms/Unit		16 Terminals	NX-TS2201	
		4 points		0.1°C max.		250 ms/Unit		16 Terminals x 2	NX-TS3201	
		2 points		0.01°C max.		10 ms/Unit		16 Terminals	NX-TS2202	
		4 points		0.01°C max.		10 ms/Unit		16 Terminals x 2	NX-TS3202	
		2 points		0.001°C max.		60 ms/Unit		16 Terminals	NX-TS2204	
		4 points		0.001°C max.		60 ms/Unit		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	Load Cell Input Unit 	1	125 μ s	- Free-Run refreshing - Synchronous I/O refreshing - Task period prioritized refreshing	5 VDC $\pm$ 10%	-5.0 to 5.0 mV/V	NX-RS1201	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	Incremental Encoder Input Unit 	1 (NPN)	3 (NPN)	500 kHz	• Free-Run refreshing • Synchronous I/O refreshing	1/1	24-V voltage input	NX-EC0112	UC1, N, CE, RCM, KC
		1 (PNP)	3 (PNP)					NX-EC0122	UC1, N, L, CE, RCM, KC
		1	3 (NPN)	4 MHz			Line receiver input	NX-EC0132	UC1, N, CE, RCM, KC
			3 (PNP)					NX-EC0142	UC1, N, L, CE, RCM, KC
		2 (NPN)	None	500 kHz		2/2	24-V voltage input	NX-EC0212	UC1, N, CE, RCM, KC
		2 (PNP)						NX-EC0222	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	SSI Input Unit 	1	EIA standard RS-422-A	32 bits	24 VDC, 0.3 A/CH	Screwless push-in terminal block (12 terminals)	NX-ECS112	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)	NX-ECS212	UC1, N, L, CE, RCM, KC

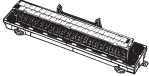
• Pulse Output Units

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	• Synchronous I/O refreshing • Task period prioritized refreshing *2	1/1	Open collector output	NX-PG0112	UC1, N, CE, RCM, KC	
		1 (PNP)	2 (PNP)	1 (PNP)					NX-PG0122	UC1, N, L, CE, RCM, KC	
		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)					4/4		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	- No-protocol serial communications - Serial line monitor	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	 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	 Additional NX Unit Power Supply 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	 Additional I/O Power Supply 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	 I/O Power Supply Connection 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	 Shield Connection 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
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)	NX-AUX02	---
End Cover	One End Cover is provided as a standard accessory with the Communication Coupler Unit.	NX-END01	---
DIN Track Insulation Spacer	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.	NX-AUX01	---

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

OMRON AUTOMATION AMERICAS HEADQUARTERS • Chicago, IL USA • 847.843.7900 • 800.556.6766 • www.omron247.com

OMRON CANADA, INC. • HEAD OFFICE

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • www.omron247.com

OMRON ELECTRONICS DE MEXICO • HEAD OFFICE

México DF • 52.55.59.01.43.00 • 01-800-226-6766 • mela@omron.com

OMRON ELECTRONICS DE MEXICO • SALES OFFICE

Apodaca, N.L. • 52.81.11.56.99.20 • 01-800-226-6766 • mela@omron.com

OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE

São Paulo, SP, Brasil • 55.11.2101.6300 • www.omron.com.br

OMRON ARGENTINA • SALES OFFICE

Cono Sur • 54.11.4783.5300

OTHER OMRON LATIN AMERICA SALES

54.11.4783.5300

Authorized Distributor:

Controllers & I/O

- Machine Automation Controllers (MAC) • Motion Controllers
- Programmable Logic Controllers (PLC) • Temperature Controllers • Remote I/O

Robotics

- Industrial Robots • Mobile Robots

Operator Interfaces

- Human Machine Interface (HMI)

Motion & Drives

- Machine Automation Controllers (MAC) • Motion Controllers • Servo Systems
- Frequency Inverters

Vision, Measurement & Identification

- Vision Sensors & Systems • Measurement Sensors • Auto Identification Systems

Sensing

- Photoelectric Sensors • Fiber-Optic Sensors • Proximity Sensors
- Rotary Encoders • Ultrasonic Sensors

Safety

- Safety Light Curtains • Safety Laser Scanners • Programmable Safety Systems
- Safety Mats and Edges • Safety Door Switches • Emergency Stop Devices
- Safety Switches & Operator Controls • Safety Monitoring/Force-guided Relays

Control Components

- Power Supplies • Timers • Counters • Programmable Relays
- Digital Panel Meters • Monitoring Products

Switches & Relays

- Limit Switches • Pushbutton Switches • Electromechanical Relays
- Solid State Relays

Software

- Programming & Configuration • Runtime

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Omron:

[NX-ECC202](#) [NX-ECC201](#) [NX-ECC203](#)