NX-ID/IA/OD/OC/MD

CSM_NX-ID_IA_OD_OC_MD_DS_E_2_1

A wide range of digital I/O units from general purpose use to high-speed synchronous control

- I/O modules on the NX CPU Unit or EtherCAT® Coupler Unit
- Connect to the NJ/NX/NY Controller via EtherCAT





Features

- High-speed I/O refreshing using the EtherCAT coupler
- I/O refreshing synchronized with the control cycle of the controller (synchronous refreshing)
- Time-stamp inputs and outputs anywhere in the EtherCAT network can be independently controlled with sub-microsecond accuracy
- Detachable terminals for easy maintenance
- Screwless Push-In Plus terminal block or MIL/Fujitsu connector speeds up installation
- Compact with a width of 12 mm per unit (connector type: 30 mm)
- 4, 8, 16 or 32 inputs for flexible I/O configuration (NX-ID/IA)
- 2, 4, 8, 16 or 32 outputs for flexible I/O configuration (NX-OD/OC)
- Connect to the CJ PLC using the EtherNet/IP[™] bus coupler

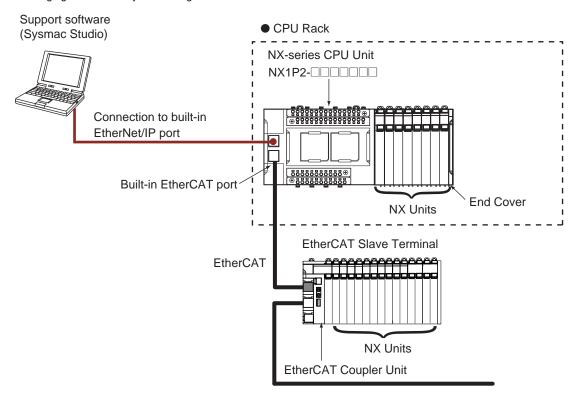
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System Configurations

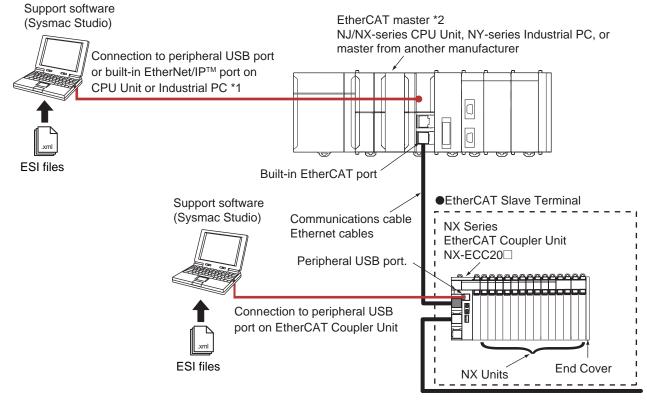
Connected to a CPU Unit

The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



Connected to an EtherCAT Coupler Unit

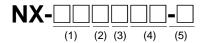
The following figure shows an example of the system configuration when an EtherCAT Coupler Unit is used as a Communications Coupler Unit.



- *1. The connection method for the Sysmac Studio depends on the model of the CPU Unit or Industrial PC.
- *2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81/□82 Position Control Units even though they can operate as EtherCAT masters.

Note: To check whether NX Units can be connected to your CPU Unit or Communications Coupler Unit, refer to the user's manual for the CPU Unit or Communications Coupler Unit.

Model Number Structure



(1) Unit type

No.	Specification
ID	DC input
IA	AC input
OD	Transistor output
ОС	Relay output
MD	DC input/Transistor output

(2) Number of points

No.	Specification
2	2 points
3	4 points
4	8 points
5	16 points
6	32 points, or 16 points each for inputs and outputs

(3) I/O type

1 For both NPN/PNP NPN For both NPN/PNP, N 2 PNP For both NPN/PNP, P 3 NPN 4 PNP	tput)
3 NPN	NPN
	PNP
4 PNP	
6 N.O	
7 N.O.+N.C	

(5) External connection terminals

No.	Specification
None	Screwless clamping terminal block
-1	M3 screw terminal block
-5	MIL connector
-6	Fujitsu connector

(4) Other specifications Digital Input Units

		ON/OFF res	ponse time	I/O refreshing method		
No.	Input voltage	Exceeds 1 μs	1 μs max.	Free-Run refreshing *1 only or Switching Synchronous I/O refreshing *2 and Free-Run refreshing	Input refreshing with input changed time only	
17	12 to 24 VDC or 240 VAC	Yes		Yes		
42		Yes		Yes		
43	24 VDC		Yes	Yes		
44			Yes		Yes	

Digital Output Units

		Load current	ON/OFF res	ponse time	I/O refreshing	method	Other functions										
No.	Rated voltage		Exceeds 1 μs	1 μs max.	Free-Run refreshing *1 only or Switching Synchronous I/O refreshing *2 and Free-Run refreshing	Output refreshing with specified time stamp only	Load short-circuit protection										
21	12 to 24 VDC	0.5 A	Yes		Yes												
33	or 240 VAC	2 A	Yes		Yes												
53														Yes	Yes		
54				Yes		Yes											
56	24 VDC	0.5 A	Yes		Yes		Yes										
57	24 VDC	24 VDC		Yes	Yes		Yes										
58				Yes		Yes	Yes										
68		2 A	Yes		Yes		Yes										

Digital Mixed I/O Units

9										
	Input section	Output section								
No.	Poted input		Load	ON/OFF response time			Other functions			
140.	Rated input voltage	Rated voltage current		Exceeds 1 μs	1 μs max.	I/O refreshing method	Load short-circuit protection			
21	24 V/DC	12 to24 VDC	0.5 A	Yes		Switching Synchronous I/O refreshing and	Yes			
56	24 VDC	24 VDC	U.5 A	Yes		Free-Run refreshing				

^{*1} Free-Run refreshing
*2 Synchronous I/O refreshing

^{*1} Free-Run refreshing
*2 Synchronous I/O refreshing

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.

Digital Input Units

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

	Product			Specif	fication			
Unit type	name	Number of points	Internal I/O common	Rated input voltage	I/O refreshing method	ON/OFF response time	Model	Standards
				12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run	20 μs max./400 μs max.	NX-ID3317	
			NPN		refreshing	100 ns max./	NX-ID3343	
NX-series Digital	DC Input Unit			24 VDC	Input refreshing with input changed time only*	100 ns max.	NX-ID3344	
			PNP	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID3417	UC1, N, L, CE, RCM,
Input Unit					Input refreshing with input changed	100 ns max./ 100 ns max.	NX-ID3443	KC
					time only*		NX-ID3444	
			NPN	24.VDC		20 μs max./400 μs max.	NX-ID4342	
		8 points	PNP	24 VDC	Switching Synchronous I/O		NX-ID4442	
			NPN		refreshing and Free-Run refreshing		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		Specification					
	name	Number of points	Internal I/O common	Rated input voltage	I/O refreshing method	ON/OFF response time	Model	Standards
	DC Input Unit							
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-ID5142-1	UC1, N, L, CE, RCM, KC

DC Input Units (MIL Connector, 30 mm Width)

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

DC Input Unit (Fujitsu Connector, 30 mm Width)

Unit type	Product	Specification						
	name	Number of points	Internal I/O common	Rated input voltage	I/O refreshing method	ON/OFF response time	Model	Standards
NX-series Digital Input Unit	DC 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)

	Product name Number of points		Specif				
Unit type		Number of points	Rated input voltage	I/O refreshing method	ON/OFF response time	Model	Standards
	AC Input Unit						
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)

					Spec	ification			
Unit type	Product name	Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
		2 nainta	NPN	0.5 A/point,	24 VDC	Output refreshing with specified time	300 ns max./	NX-OD2154	
		2 points	PNP	1 A/Unit	24 VDC	stamp only*	300 ns max.	NX-OD2258	
		NPN 12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD3121				
	Transistor Output			0.5 A/point,			300 ns max./ 300 ns max.	NX-OD3153	
NX-series	Unit			2 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD3256	
Digital Output			PNP		24 VDC	24 VDC 200 ns may /	NX-OD3257	UC1, N, L, CE, RCM, KC	
Unit				2 A/point, 8 A/Unit		Switching Synchronous I/O refreshing and Free-Run refreshing	0.5 ms max./ 1.0 ms max.	NX-OD3268	, KC
		9 points	NPN		12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD4121	
		8 points	PNP	0.5 A/point,	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD4256	
		16 points	NPN	4 A/Unit	12 to 24 VDC 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD5121	
			PNP				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)

					Spec	ification			
Unit type	Product name	Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
	Transistor Output Unit		NPN	0.5 A/point,	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	5 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-1	

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

					Spec	ification			
Unit type	Product name	Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
	Transistor	16 points	NPN	0.5 A/point,	12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD5121-5	
NX-series Digital		PNP	2 A/Unit	24 VDC	Switching Synchronous I/O refreshing	0.5 ms max./ 1.0 ms max.	NX-OD5121-5	UC1, N, L,	
Output Unit	1	22 nointe	NPN	0.5 Apoliti,	12 to 24 VDC	and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD6121-5	CE, RCM, KC
		32 points F	PNP	2 A/common, 4 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD6256-5	

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

					Spec	ification			
Unit typ	e Product name	Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
NX-serid Digital Outpu 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)

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

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

				Spec	ification			Standards
Unit typ	e Product name	Number of points	Relay type	Maximum switching capacity	I/O refreshing method	ON/OFF response time	Model	
NX-serie Digital Output Unit		8 points	N.O.	250 VAC/2A (cosφ=1) 250 VAC/2A (cosφ=0.4) 24 VDC/2A 8 A/Unit	Free-Run refreshing	15ms max./ 15ms 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)

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

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

	Product			Specif	ication			Standards
Unit type	name	Number of points	Internal I/O common	Rated voltage	I/O refreshing method	ON/OFF response time	Model	
NX-series Digital Output Unit	DC Input/ Transistor 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

Optional Products

Product name		Specif	ication		Model	Standards
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block:	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)				
		Specif				
Product name	No. of terminals	Terminal number indications	Ground terminal mark	Terminal current capacity	Model	Standards
	8				NX-TBA082	
Terminal Block	12	A/B	None	10 A	NX-TBA122	
	16				NX-TBA162	

Accessories

Not included.

Connection Patterns for Connector-Terminal Block Conversion Units

Pattern	Configuration	Number of connectors	Branching
Α	Connecting Cable Connector-Terminal Block Conversion Unit 20 or 40 terminals	1	None
В	Connecting Cable with two branches Connector-Terminal Block Conversion Unit 20 terminals 20 terminals		2 branches
С	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
		COMMECTOR	FINE		XW2Z-□□□X	XW2D-20G6	Phillips screw	None
				A XW2Z-□□PM XW2R-□34GD-C2		XW2R-□34GD-C2	Depends on model *3	None
				Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	None
	32 inputs			В	XW2Z-□□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None
NX-ID6142-5		1 MIL connector	NPN/ PNP	В	XW2Z-□□□N	XW2C-20G5-IN16 (2 Units) *2	Phillips screw	Yes
				В	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				В	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None
				В	XW2Z-□□□N	XW2E-20G5-IN16 (2 Units) *2	Phillips screw	Yes
				А	XW2Z-□□□PF	XW2R-□34GD-C1	Depends on model *3	None
			NPN/ PNP	Α	XW2Z-□□□B	XW2D-40G6	Phillips screw	None
				В	XW2Z-□□□D	XW2R-□20GD-T (2 Units)	Depends on model *3	None
NX-ID6142-6	32 inputs	1 Fujitsu connector		В	XW2Z-□□□D	XW2C-20G5-IN16 (2 Units) *2	Phillips screw	Yes
				В	XW2Z-□□□D	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				В	XW2Z-□□□D	XW2D-20G6 (2 Units)	Phillips screw	None
				В	XW2Z-□□□D	XW2E-20G5-IN16 (2 Units) *2	Phillips screw	Yes
NX-OD5121-5	16 outputs	1 MIL connector	NPN	А	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
		COMPCIO		Α	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
NX-OD5256-5	16 outputs	1 MIL	PNP	А	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
NA-UD3230-5 1	10 outputs	connector		Α	XW2Z-□□□X	XW2D-20G6	Phillips screw	None

NX-ID/IA/OD/OC/MD

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Connecting Cable *1	Connector-Terminal Block Conversion Unit	Wiring method	Common terminal								
				А	XW2Z-□□□PM	XW2R-□34GD-C4	Depends on model *3	None								
				Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	None								
NX-OD6121-5	32 inputs	1 MIL connector	NPN	В	XW2Z-□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None								
				В	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes								
				В	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None								
				А	XW2Z-□□□PF	XW2R-□34GD-C3	Depends on model *3	None								
		4 [Α	XW2Z-□□□B	XW2D-40G6	Phillips screw	None								
NX-OD6121-6	32 inputs	1 Fujitsu connector	NPN	В	XW2Z-□□□L	XW2R-□20GD-T (2 Units)	Depends on model *3	None								
				В	XW2Z-□□□L	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes								
				В	XW2Z-□□□L	XW2D-20G6 (2 Units)	Phillips screw	None								
				А	XW2Z-□□□PM	XW2R-□34GD-C4	Depends on model *3	None								
		1 MIL connector		Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	None								
NX-OD6256-5	32 inputs		PNP	В	XW2Z-□□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None								
				В	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes								
				В	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None								
	16 outputs	1 MIL connector	NPN/ PNP	С	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None								
NX-MD6121-5		connector	Connector	COTTIECTO	connector	connector	connector	COTTTECTO	connector	connector	1 INI	С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
14X-1010121-3	16 outputs	1 MIL connector	NPN	С	XW2Z-□□X	XW2R-□20GD-T	Depends on model *3	None								
		COTTTECTO		С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None								
				С	XW2Z-□□□A	XW2R-□20GD-T	Depends on model *3	None								
	40	1 Fujitsu	NPN/	С	XW2Z-□□□A	XW2C-20G5-IN16 *2	Phillips screw	Yes								
	16 outputs	connector	PNP	С	XW2Z-□□□A	XW2C-20G6-IO16	Phillips screw	Yes								
NX-MD6121-6				С	XW2Z-□□□A	XW2D-20G6	Phillips screw	None								
NATION TO TELL				С	XW2Z-□□□A	XW2E-20G5-IN16 *2	Phillips screw	Yes								
	40	1 Fujitsu	NIDNI	С	XW2Z-□□□A	XW2R-□20GD-T	Depends on model *3	None								
	16 outputs	connector	NPN	С	XW2Z-□□□A	XW2C-20G6-IO16	Phillips screw	Yes								
				С	XW2Z-□□□A	XW2D-20G6	Phillips screw	None								
NX-MD6256-5	16 outputs	1 MIL connector	NPN/ PNP	С	XW2Z-□□X	XW2R-□20GD-T	Depends on model *3	None								
		30111100101		С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None								
	16 outputs	1 MIL	PNP	С	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None								
		connector	or PINP	С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None								

Note: For other models and specifications that are not listed above, refer to the XW2R Series Connector-Terminal Block Conversion Units Catalog (Cat. No. G077) and XW2R Datasheets.

^{*1} $\square\square\square$ in the model number indicates the cable length. Refer to the XW2Z Datasheet for details.

^{*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
Α	Connecting Cable I/O Relay Terminal	1	2 branches
E	I/O Relay Terminal Connecting Cable	2	None
F	Connecting Cable I/O Relay Terminal	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
				F	XW2Z-RO□C	G70V-SID16P(-1)	Push-in spring
NX-ID5142-5	16 inputs	1 MIL connector	NPN/PNP	F	XW2Z-RO□C	G7TC-ID16	Phillips screw
				F	XW2Z-RO□C	G7TC-IA16	Phillips screw
				Α	XW2Z-RO□-□-D1	G70V-SID16P(-1) (2 Units)	Push-in spring
NX-ID6142-5	32 inputs	1 MIL connector	NPN/PNP	Α	XW2Z-RO□-□-D1	G7TC-ID16 (2 Units)	Phillips screw
				Α	XW2Z-RO□-□-D1	G7TC-IA16 (2 Units)	Phillips screw
				Α	XW2Z-RI□C-□	G70V-SID16P(-1) (2 Units)	Push-in spring
NX-ID6142-6	32 inputs	1 Fujitsu connector	NPN/PNP	Α	XW2Z-RI□C-□	G7TC-ID16 (2 Units)	Phillips screw
		Connector		Α	XW2Z-RI□C-□	G7TC-IA16 (2 Units)	Phillips screw
		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
NX-OD5121-5	16 outputs			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
				F	XW2Z-RO□C	G70V-SOC16P-1	Push-in spring
		1 MIL connector		F	XW2Z-RI□C	G7TC-OC16-1	Phillips screw
NX-OD5256-5	16 outputs		PNP	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

NX-ID/IA/OD/OC/MD

Unit	I/O capacity	Number of connectors	Polarity	Connecti on pattern	Connecting Cable *	Connector-Terminal Block Conversion Unit	Wiring method
				А	XW2Z-RO□-□-D1	G70V-SOC16P (2 Units)	Push-in spring
				Α	XW2Z-RO□-□-D1	G7TC-OC16 (2 Units)	Phillips screw
				Α	XW2Z-RO□-□-D1	G70D-SOC16 (2 Units)	Phillips screw
NX-OD6121-5	32 inputs	1 MIL connector	NPN	Α	XW2Z-RO□-□-D1	G70D-FOM16 (2 Units)	Phillips screw
	32 Iliputs	1 WIL CONNECTOR	INFIN	Α	XW2Z-RO□-□-D1	G70D-VSOC16 (2 Units)	Phillips screw
				Α	XW2Z-RO□-□-D1	G70D-VFOM16 (2 Units)	Phillips screw
				А	XW2Z-RO□-□-D1	G70A-ZOC16-3 and Relay (2 Units)	Phillips screw
				Α	XW2Z-RO□C-□	G70V-SOC16P (2 Units)	Push-in spring
				Α	XW2Z-RO□C-□	G7TC-OC16 (2 Units)	Phillips screw
				Α	XW2Z-RO□C-□	G70D-SOC16 (2 Units)	Phillips screw
NX-OD6121-6	32 inputs	1 Fujitsu	NPN	Α	XW2Z-RO□C-□	G70D-FOM16 (2 Units)	Phillips screw
NA-OD0121-0	32 Iliputs	connector	INFIN	Α	XW2Z-RO□C-□	G70D-VSOC16 (2 Units)	Phillips screw
				Α	XW2Z-RO□C-□	G70D-VFOM16 (2 Units)	Phillips screw
				Α	XW2Z-RO□C-□	G70A-ZOC16-3 and Relay (2 Units)	Phillips screw
				Α	XW2Z-RO□-□D1	G70V-SOC16P-1 (2 Units)	Push-in spring
				Α	XW2Z-RI□-□-D1	G7TC-OC16-1 (2 Units)	Phillips screw
NX-OD6256-5	32 inputs	1 MIL connector	PNP	Α	XW2Z-RO□-□-D1	G70D-SOC16-1 (2 Units)	Phillips screw
NA-OD0230-3	32 iliputs	1 MIL Connector		Α	XW2Z-RO□-□-D1	G70D-FOM16-1 (2 Units)	Phillips screw
				Α	XW2Z-RO□-□-D1	G70A-ZOC16-4 and Relay (2 Units)	Phillips screw
			or NPN/PNP	E	XW2Z-RO□C	G70V-SID16P(-1)	Push-in spring
	16 inputs	1 MIL connector		Е	XW2Z-RO□C	G7TC-ID16	Phillips screw
				E	XW2Z-RO□C	G7TC-IA16	Phillips screw
				Е	XW2Z-RO□C	G70V-SOC16P	Push-in spring
				Е	XW2Z-RO□C	G7TC-OC16	Phillips screw
NX-MD6121-5				E	XW2Z-RO□C	G70D-SOC16	Phillips screw
	16 outputs	1 MIL connector	NPN	Е	XW2Z-RO□C	G70D-FOM16	Phillips screw
				Е	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
				E	XW2Z-R□C	G70V-SID16P(-1)	Push-in spring
	16 inputs	1 Fujitsu	NPN/PNP	E	XW2Z-R□C	G7TC-ID16	Phillips screw
		connector		Е	XW2Z-R□C	G7TC-IA16	Phillips screw
				Е	XW2Z-R□C	G70V-SOC16P	Push-in spring
				Е	XW2Z-R□C	G7TC-OC16	Phillips screw
NX-MD6121-6				Е	XW2Z-R□C	G70D-SOC16	Phillips screw
	16 outputs	1 Fujitsu	NPN	Е	XW2Z-R□C	G70D-FOM16	Phillips screw
		connector		Е	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
				E	XW2Z-RO□C	G70V-SID16P(-1)	Push-in spring
	16 inputs	1 MIL connector	NPN/PNP	E	XW2Z-RO□C	G7TC-IA16	Phillips screw
				E	XW2Z-RO□C	G7TC-ID16	Phillips screw
				E	XW2Z-RI□C	G70V-SOC16P-1	Push-in spring
NX-MD6256-5				E	XW2Z-RO□C	G7TC-OC16-1	Phillips screw
	16 outputs	1 MIL connector	PNP	E	XW2Z-RI□C	G70D-SOC16-1	Phillips screw
	16 outputs	1 MIL connector	PNP	i —	U	3.3D 33310-1	po oorow
	•			E	XW2Z-RI□C	G70D-FOM16-1	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. Refer to the *G70V Datasheet* (Cat. No. J215) for details.

3. The G70A is a socket only. Mountable relays and timers are sold separately.

 $^{^*}$ \square in the model number indicates the cable length. Refer to the XW2Z-R Datasheet (Cat. No. G126) for details.

General Specifications

	Item	Specification	
Enclosure		Mounted in a panel	
Grounding n	nethod	Ground to 100 Ω or less	
	Ambient operating temperature	0 to 55°C	
	Ambient operating humidity	10% to 95% (with no condensation or icing)	
	Atmosphere	Must be free from corrosive gases.	
	Ambient storage temperature	-25 to 70°C (with no condensation or icing)	
	Altitude	2,000 m max.	
	Pollution degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.	
Operating environment	Noise immunity	2 kV on power supply line (Conforms to IEC61000-4-4.)	
CITALIOURIE	Overvoltage category	Category II: Conforms to JIS B3502 and IEC 61131-2.	
	EMC immunity level	Zone B	
Vibration resistance *1		Conforms to IEC 60068-2-6. 5 to 8.4 Hz with 3.5-mm amplitude, 8.4 to 150 Hz, acceleration of 9.8 m/s², 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	
	Shock resistance *1	Conforms to IEC 60068-2-27. 147 m/s², 3 times each in X, Y, and Z directions	
Applicable standards *2		cULus: Listed (UL508) or Listed (UL 61010-2-201), ANSI/ISA 12.12.01, EU: EN 61131-2 or EN 61010-2-201, C-Tick or RCM, KC: KC Registration, NK, LR	

^{*1.} For the Relay Output Unit, refer to the Digital Input Unit Specifications.
*2. Refer to the OMRON website (http://www.ia.omron.com/) or consult your OMRON representative for the most recent applicable standards for

Digital Input Unit Specifications

● DC Input Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-ID3317

Unit name	DC Input Unit	Model	NX-ID3317
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		
	TS indicator, input indicator	Internal I/O common	NPN
	ID3317 ■TS	Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
	= 0 = 1	Input current	6 mA typical (at 24 VDC), rated current 9 VDC min./3 mA min. (between IOV and
Indicators	■2 ■3	ON voltage/ON current	each signal)
maiotto o		OFF voltage/OFF current	2 VDC max./1 mA max. (between IOV and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		nt control reuling and con	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		iions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOU IOV IOV IOV IOG IOG A8 B8	1	Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID3343	
Number of points	4 points	External connection	Screwless clamping terminal block (12	
I/O refreshing method	Selectable Synchronous I/O refreshing or F	terminals	terminals)	
70 refreshing method	TS indicator, input indicator	Internal I/O common	NPN	
	ID3343	Rated input voltage	24 VDC (15 to 28.8 VDC)	
	■TS ■0 ■1	Input current	3.5 mA typical (at 24 VDC), rated current	
Indicators	=0 =1 ■2 ■3	ON voltage/ON current	15 VDC min./3 mA min. (between IOV and each signal)	
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOV and each signal)	
		ON/OFF response time	100 ns max./100 ns max.	
		Input filter time	Without filter, 1 μs, 2 μs, 4 μs, 8 μs (factory setting), 16 μs, 32 μs, 64 μs, 128 μs, 256 μs	
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation	
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.	
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	30 mA max.	
Weight	65 g max.			
Circuit layout		ent control circuit tinguis un proper supply	I/O power supply + NX bus connector (right)	
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions			
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOV IOV IOG IOG A8 B8	1	Three-wire sensor	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.	

Unit name	DC Input Unit	Model	NX-ID3344
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Input refreshing with input changed time		
	TS indicator, input indicators	Internal I/O common	NPN
	ID3344	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS	Input current	3.5 mA typical (at 24 VDC), rated current
Indicators	■ 0 ■ 1 ■ 2 ■ 3	ON voltage/ON current	15 VDC min./3 mA min. (between IOV and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOV and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	No filter
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout	NX bus connector (left) I/O power supply +	Power supply arrent control circuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		tions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 FIOV IOV IOV IOV IOG IOG A8 B8		Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID3417
	'	External connection	Screwless clamping terminal block (12
Number of points I/O refreshing method	4 points Selectable Synchronous I/O refreshing or F	terminals	terminals)
70 refreshing method	TS indicator, input indicator	Internal I/O common	PNP
	ID3417	Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
	■TS	Input current	6 mA typical (at 24 VDC), rated current
	■0 ■1 ■2 ■3	ON voltage/ON current	9 VDC min./3 mA min. (between IOG and each signal)
Indicators		OFF voltage/OFF current	2 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		ultermal circuits	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 Old IOV IOV IOV IOV IOG IOG A8 B8	DC Input Unit	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID3443
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, input indicator	Internal I/O common	PNP
	ID3443 ■TS	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■ 0 ■ 1 ■ 2 ■ 3	Input current	3.5 mA typical (at 24 VDC), rated current 15 VDC min./3 mA min. (between IOG and
Indicators	-2 -3	ON voltage/ON current	each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	Without filter, 1 μs, 2 μs, 4 μs, 8 μs (factory setting),16 μs, 32 μs, 64 μs, 128 μs, 256 μs
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout		Current control circuit tinguis	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions	oright installation. er Unit: Possible in 6 orientat	ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOV IOV IOG IOG A8 B8	DC Input Unit NX-ID3443 A1	-wire Isor Three-wire sensor
Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID3444
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Input refreshing with input changed time		
	TS indicator, input indicators	Internal I/O common	PNP
	ID3444	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS ■0 ■1	Input current	3.5 mA typical (at 24 VDC), rated current
Indicators	=2 =3	ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	No filter
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout	Terminal block IN0 to IN3 IOG0 to 3 NX bus connector (left) I/O power supply +	Power supply Current control circuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions	O .	ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOG IOG A8 B8	DC Input Unit	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID4342
Number of points	8 points	External connection	Screwless clamping terminal block (16
I/O refreshing method	Selectable Synchronous I/O refreshing or F	terminals	terminals)
1/O refreshing method	TS indicator, input indicator	Internal I/O common	NPN
	ID4342	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS ■0 ■1	Input current	3.5 mA typical (at 24 VDC), rated current
	■2 ■3 ■4 ■5	ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
Indicators	■6 ■7	OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		nt control linemal circuits	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Power Supply Unit A1 B1 A1 ICO ICO ICO IOV IOV IOV IOV IOV	10G0 10V 10V 10G0 10V 10V 10V 10V 10V 10G4 10V 10G4 10V 10G4 10V 10G4 10V 10V	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID4442
Number of points	8 points	External connection	Screwless clamping terminal block (16
I/O refreshing method	Selectable Synchronous I/O refreshing or F	terminals	terminals)
1/O refreshing method	TS indicator, input indicator	Internal I/O common	PNP
	ID4442	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS ■0 ■1	Input current	3.5 mA typical (at 24 VDC), rated current
	■2 ■3 ■4 ■5	ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
Indicators	■6 ■7	OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		at control reuit string of control string of con	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Power Supply Unit A1 B1 A1 ICC ICC ICC ICC ICC ICC ICC	100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID5342
Number of points	16 points	External connection	Screwless clamping terminal block (16
•	· ·	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F TS indicator, input indicator	Internal I/O common	NPN
	ID5342	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS	Input current	2.5 mA typical (at 24 VDC), rated current
	=0 =1 =2 =3 =4 =5 =6 =7 =8 =9 =10 =11	ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
Indicators	■12 ■13 ■14 ■15	OFF voltage/OFF current	5 VDC max./0.5 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 $M\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		ent control sircuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	IOV IOV		DC Input Unit NX-ID5342 B1
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID5442
	·	External connection	Screwless clamping terminal block (16
Number of points I/O refreshing method	16 points Selectable Synchronous I/O refreshing or F	terminals	terminals)
/O refreshing method	TS indicator, input indicator	Internal I/O common	PNP
	ID5442	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS	Input current	2.5 mA typical (at 24 VDC), rated current
	=0 =1 =2 =3 =4 =5 =6 =7 =8 =9 =10 =11	ON voltage/ON current	15 VDC min./2 mA min. (between IOG an each signal)
Indicators	■12 ■13 ■14 ■15	OFF voltage/OFF current	5 VDC max./0.5 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		a control suit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	IOV IOV	Dinit Connection Unit	DC Input Unit NX-ID5442 B1 Two-wire sensor IN0 IN1
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

● DC Input Unit (M3 Screw Terminal Block, 30 mm Width) NX-ID5142-1

Unit name	DC Input Unit	Model	NX-ID5142-1
Number of points	16 points	External connection terminals	M3 screw terminal block (18 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	Run refreshing	
	TS indicator, input indicators	Internal I/O common	For both NPN/PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
	ID5142−1	Input current	7 mA typical (at 24 VDC)
Indicators	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7 ■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
maioator o	- 0 - 9 - 10 - 11 - 12 - 13 - 14 - 10	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	125 g max.		
Circuit layout	Terminal block NX bus connector (left) NX bus connector (right)		

Installation orientation: Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. • For upright installation Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 45°C 16 12 points at 55°C 12 8 I/O power supply voltage 4 28.8 V 0 Installation orientation and 0 40 45 50 55 60 10 30 20 restrictions Ambient temperature (°C) • For any installation other than upright Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic -16 points at 40°C -16 points at 45°C 16 12 12 points at 55°C I/O power supply voltage 8 ---24 V 7 points at 55°C 4 28.8 V 0 0 10 20 30 40 45 50 55 60 Ambient temperature (°C) Terminal Signal Name Signal Name INO A0 60 B0 ● IN1 IN2 A1 B1 . IN3 • A2 IN4 IN5 B2 • IN6 • A3 IN7 В3 🕳 **Terminal connection** IN8 A4 √o-B4 <u>●</u> IN9 diagram IN10 • A5 IN11 B5 🌲 60 • A6 IN12 √° IN13 B6 **●** IN14 _A7 24 VDC 60 IN15 B7 **●** COM A8 B8 COM • The polarity of the input power supply can be connected in either direction. Disconnection/ Not supported. **Protective function** Not supported.

Short-circuit detection

● DC Input Unit (MIL Connector, 30 mm Width) NX-ID5142-5

Unit name	DC Input Unit	Model	NX-ID5142-5
Number of points	16 points	External connection terminals	MIL connector (20 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	Run refreshing	
	TS indicator, input indicators	Internal I/O common	For both NPN/PNP
	ID5142-5	Rated input voltage	24 VDC (15 to 28.8 VDC)
	TS	Input current	7 mA typical (at 24 VDC)
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7 ■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
Indicators		OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/ O power supply	No consumption
Weight	85 g max.		
Circuit layout	Connector IN0 IN15 COM COM COM COM COM COM COM CO		

Installation orientation: Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. • For upright installation Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 45°C 16 12 points at 55°C 12 8 I/O power supply voltage 4 28.8 V 0 Installation orientation and 0 10 40 45 50 55 60 20 30 restrictions Ambient temperature (°C) • For any installation other than upright Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 40°C 16 points at 45°C 12 12 points at 45°C I/O power supply voltage 8 ----24 V 7 points at 55°C 4 28.8 V 0 0 20 30 40 45 50 55 60 Ambient temperature (°C) Signal Connector name pin Signal name 24 VDC NC NC 2 COM 3 4 COM 6 IN07 IN15 **IN14** 7 8 **IN06 Terminal connection** IN13 9 10 IN05 diagram 11 12 IN12 IN04 IN11 13 14 IN03 IN10 15 16 IN02 17 18 IN01 IN09 **IN08** 19 20 IN00 • The polarity of the input power supply can be connected in either direction. • Be sure to wire both pins 3 and 4 (COM), and set the same polarity for both pins. Disconnection/ **Protective function** Not supported. Not supported. Short-circuit detection

NX-ID/IA/OD/OC/MD

NX-ID6142-5

Unit name	DC Input Unit	Model	NX-ID6142-5
Number of points	32 points	External connection terminals	MIL connector (40 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-R	Run refreshing	
	TS indicator, input indicators	Internal I/O common	For both NPN/PNP
	ID6142-5	Rated input voltage	24 VDC (19 to 28.8 VDC)
	■TS	Input current	4.1 mA typical (24 VDC)
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7 ■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	ON voltage/ON current	19 VDC min./3 mA min. (between COM and each signal)
Indicators	■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23 ■24 ■25 ■26 ■27 ■28 ■29 ■30 ■31	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.60 W max.	Current consumption from I/O power supply	No consumption
Weight	90 g max.		
Circuit layout	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	I/O power supply + I/O power supply - Supply - I/O power supply - I/O	

Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. · For upright installation Number of simultaneously ON input points vs. points Ambient temperature characteristic 35 32 points at 45°C simultaneously ON input 30 32 points at 40°C 13 points/common at 55°C 25 20 10 points/common at 55°C 15 I/O power supply voltage 10 þ ---24 V Number 5 28.8 V 0 Installation orientation and 0 20 30 40 45 50 55 60 10 restrictions Ambient temperature (°C) • For any installation other than upright Number of simultaneously ON input points vs. Ambient temperature characteristic points 32 points at 35°C 35 32 points at 50°C simultaneously ON input 30 13 points/common at 55°C 32 points at 30°C 25 20 8 points/common at 55°C 15 I/O power supply voltage 10 ----19 V 5 points/common at 55°C Number of 5 ---24 V 28.8 V 0 0 10 40 45 50 55 60 30 Ambient temperature (°C) Signal Connector Signal 24 VDC pin NC NC COM1 COM1 4 IN31 6 IN23 **IN30** 8 IN22 IN29 9 10 IN21 IN28 11 12 IN20 IN27 13 14 IN19 **IN26** 15 | 16 | IN18 IN25 IN17 18 19 20 24 VDC **Terminal connection** NC СОМО COM₀ diagram IN15 IN07 26 IN14 28 IN06 IN13 IN05 30 29 IN12 IN₀4 IN11 IN03 IN10 35 36 IN02 38 IN01 IN09 37 IN08 39 40 IN00 The polarity of the input power supply can be connected in either direction.
Be sure to wire both pins 23 and 24 (COM0), and set the same polarity for both pins.
Be sure to wire both pins 3 and 4 (COM1), and set the same polarity for both pins. Disconnection/ Short-circuit detection Protective function Not supported. Not supported.

● DC Input Unit (Fujitsu Connector, 30 mm Width) NX-ID6142-6

Unit name	DC Input Unit	Model	NX-ID6142-6
Number of points	32 points	External connection terminals	Fujitsu connector (40 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	Run refreshing	
	TS indicator, input indicators	Internal I/O common	For both NPN/PNP
	ID6142-6	Rated input voltage	24 VDC (19 to 28.8 VDC)
	■TS	Input current	4.1 mA typical (24 VDC)
Indicators	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7 ■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	ON voltage/ON current	19 VDC min./3 mA min. (between COM and each signal)
	■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23 ■24 ■25 ■26 ■27 ■28 ■29 ■30 ■31	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 0.95 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	90 g max.		
Circuit layout	Connector NX bus connector (left) NX bus connector (left) IN0 IN15 COM0 COM0 IN16 IN31 COM1 COM1	I/O power supply + I/O power supply - NX bus connector (right)	

Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. • For upright installation Number of simultaneously ON input points vs. Number of simultaneously ON input points Ambient temperature characteristic 32 points at 45°C 35 30 32 points at 40°C 13 points/common at 55°C 25 20 10 points/common at 55°C 15 I/O power supply voltage 10 5 28.8 V 0 Installation orientation and 0 10 20 30 40 45 50 55 60 restrictions Ambient temperature (°C) • For any installation other than upright Number of simultaneously ON input points vs. Ambient temperature characteristic 32 points at 35°C Number of simultaneously ON input points 32 points at 50°C 30 13 points/common at 55°C 32 points at 30°C 20 8 points/common at 55°C 15 10 I/O power supply voltage ----19 V 5 points/common at 55°C 5 ---24 V -28.8 V 0 0 40 45 50 55 60 10 20 30 Ambient temperature (°C) Connector Signal name Signal name INO A1 B1 IN1 A2 B2 IN17 IN2 A3 B3 IN18 IN3 A4 B4 IN19 A5 B5 IN20 IN5 A6 B6 IN21 A7 B7 IN22 IN7 A8 B8 IN23 СОМО A9 В9 COM1 IN8 A10 B10 1N24 Terminal connection IN9 A11 B11 IN25 diagram IN10 A12 B12 IN26 IN11 A13 B13 IN27 IN12 A14 B14 IN28 A15 B15 IN29 IN13 A16 B16 IN30 IN15 A17 B17 IN31 COM0 A18 B18 COM1 A19 B19 NC NC NC A20 B20 NC The polarity of the input power supply can be connected in either direction.
Be sure to wire both pins A9 and A18 (COM0), and set the same polarity for both pins.
Be sure to wire both pins B9 and B18 (COM1), and set the same polarity for both pins. Disconnection/ Not supported. **Protective function** Not supported. Short-circuit detection

● AC Input Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-IA3117

Unit name	AC Input Unit	Model	NX-IA3117
Number of points	4 points, independent contacts	External connection	Screwless clamping terminal block
Capacity	Free-Run refreshing	terminals	(8 terminals)
Oupdoily	TS indicator, input indicator	Internal I/O common	No polarity
	IA3117	Rated input voltage	200 to 240 VAC, 50/60 Hz (170 to 264 VAC, ±3 Hz)
	■TS ■0 ■1 =3 =3	Input current	9 mA typical (at 200 VAC, 50 Hz) 11 mA typical (at 200 VAC, 60 Hz)
Indicators	■ 2 ■ 3	ON voltage/ON current	120 VAC min./4 mA min.
		OFF voltage/OFF current	40 VAC max./2 mA max.
		ON/OFF response time	10 ms max./40 ms max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	Between each AC input circuit: $20~M\Omega$ min. (at 500 VDC) Between the external terminals and the functional ground terminal: $20~M\Omega$ min. (at 500 VDC) Between the external terminals and internal circuits: $20~M\Omega$ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: $20~M\Omega$ min. (at 100 VDC)	Dielectric strength	Between each AC input circuit: AC3700V VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
I/O power supply method	Supplied from external source.	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 0.80 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption	No consumption
Weight	60 g max.		1
Circuit layout	Terminal block C0 to C3 NX bus connector (left) I/O power supply -		I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright ir Connected to a Communications Coupler Unit: Restrictions: No restrictions		
Terminal connection diagram	AC Input Unit NX-IA3117 A1 IN0 C0 IN1 C1 IN2 C2 IN3 C3 200 to 240 VAC A8	31	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Digital Output Unit Specifications

● Transistor Output Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-OD2154

Unit name	Transistor Output Unit	Model	NX-OD2154
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Output refreshing with specified time stamp)	
	TS indicator, output indicator	Internal I/O common	NPN
	OD2154	Rated voltage	24 VDC
	■TS ■0 ■1	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 1 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.45 W max.	I/O current consumption	30 mA max.
Weight	70 g max.		
Circuit layout		push-pull output circuit.	OUT0 to OUT1 Terminal block I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 IOV IOV IOG IOG IOG IOG A8 B8	Transistor Output Unit NX-OD2154 A1 OUT0 OUT1 IOV IOV IOG IOG NC NC NC A8 B8	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD2258
Number of points	2 points	External connection	Screwless clamping terminal block
I/O refreshing method	Output refreshing with specified time stamp	terminals	(8 terminals)
70 Terresting method	TS indicator, output indicator	Internal I/O common	PNP
	OD2258	Rated voltage	24 VDC
	■TS ■0 ■1	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 1 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
Dimensions	12 (W) x 100 (H) x 71 (D)	ON/OFF response time Isolation method	300 ns max./300 ns max. Digital isolator isolation
	20 MΩ min. between isolated circuits (at		510 VAC between isolated circuits for 1
Insulation resistance	100 VDC)	Dielectric strength	minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.50 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply + O This unit uses a	push-pull output circuit.	OUT0 to OUT1 Terminal block IOG0 to 1 I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 I OIOV IOV IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD2258 A OUT0 OUT1 IOV IOV IOG IOG NC NC A8 B8	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD3121
Number of points	4 points	External connection	Screwless clamping terminal block (12
	'	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		NIDNI
	TS indicator, output indicator	Internal I/O common	NPN 12 to 24 VDC
	OD3121 ■TS	Rated voltage	12 to 24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	10.2 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	I/O current consumption	10 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply + I/O power supply -		IOV0 to 3 OUT0 to OUT3 Terminal block I/O power supply + I/O power supply - I/O power supply - I/O power supply -
Installation orientation and restrictions	Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions	oright installation. er Unit: Possible in 6 orientat	ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOV IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD3121 A1	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistar Outnut Unit	Madal	NV 0D2452
Unit name	Transistor Output Unit	Model External connection	NX-OD3153
Number of points	4 points	terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		
	TS indicator, output indicator	Internal I/O common	NPN
	OD3153 ■TS	Rated voltage	24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
<u> </u>	10 (11) 100 (11) 71 (7)	ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	I/O current consumption	30 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply + This unit uses a push-	pull output circuit.	OUT0 to OUT3 Terminal block I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD3153 A1 B1 Two-wi IOV0 IOV1 IOV0 IOV1 IOV1 IOV2 IOV3 IOV2 IOV3 IOG2 IOG3 IOG3 IOG4 IOG5 IOG5 IOG5 IOG5 IOG5 IOG5 IOG5 IOG5	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD3256
	·	External connection	Screwless clamping terminal block (12
Number of points	4 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F TS indicator, output indicator	Internal I/O common	PNP
	OD3256	Rated voltage	24 VDC
	UD3230 ■TS		24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	I/O current consumption	20 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) NX bus to power supply + 1/O power supply - 1	Short-dical polection	OUT0 to OUT3 IOG0 to 3 I/O power supply + I/O power supply - I/O power supply -
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD3256 A1	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD3257
	·	External connection	Screwless clamping terminal block (12
Number of points	4 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		
	TS indicator, output indicator	Internal I/O common	PNP
	OD3257 ■TS	Rated voltage Operating load voltage	24 VDC
	■ 0 ■ 1	range	15 to 28.8 VDC
Indicators	■2 ■ 3	Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage ON/OFF response time	1.5 V max. 300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
	20 MΩ min. between isolated circuits (at		510 VAC between isolated circuits for 1
Insulation resistance	100 VDC)	Dielectric strength	minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.50 W max.	I/O current consumption	
Weight	70 g max.		
Circuit layout	NX bus connector (left) NX bus connector (left) I/O power supply - This unit uses a push Installation orientation:	pull output circuit.	IOV0 to 3 Terminal block OUT0 to OUT3 I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions	oright installation. er Unit: Possible in 6 orientat	ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOV IOV IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD3257 A1	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD3268
Number of points	4 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and		
	TS indicator, output indicator	Internal I/O common	PNP
	OD3268	Rated voltage Operating load voltage	24 VDC
	■TS ■0 ■1	range	15 to 28.8 VDC
Indicators		Maximum value of load current	2 A/point, 8 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
Dimanaiana	40 (/4) :: 400 (//) :: 74 (D)	ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D) 20 MΩ min. between isolated circuits (at	Isolation method	Photocoupler isolation 510 VAC between isolated circuits for 1
Insulation resistance	100 VDC)	Dielectric strength	minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	IOV: 2 A/terminal max., IOG: 2 A/terminal max., COM (+V): 4 A/terminal max., 0V: 4 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	20 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) NX bus connector supply + I/O power supply -	OCC Sulphare Control of the Control	V 0 to IOV 3 DM (+V) Terminal block JT 0 to OUT 3 G 0 to IOG 3 D power pply + D power pply - D power pply - D power pply -
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	Transistor Output Unit NX-OD3268 A1 OUT0 OUT1 IOV0 IOV1 IOG0 IOG1 OUT2 OUT3 IOV2 IOV3 IOG2 IOG3 OV OV A8 B8 B8 C OV has 2 terminals, so be sure to wire both ter • COM (+V) has 2 terminals, so be sure to wire large.		
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD4121
Number of points	8 points	External connection	Screwless clamping terminal block (16
<u> </u>	·	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F TS indicator, output indicator	Internal I/O common	NPN
	OD4121	Rated voltage	12 to 24 VDC
	■TS ■0 ■1	Operating load voltage	10.2 to 28.8 VDC
	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	range Maximum value of load	10.2 to 20.0 VDO
Indicators	■ 6 ■ 7	current	0.5 A/point, 4 A/Unit
		Maximum inrush current	' '
		Leakage current	0.1 mA
		Residual voltage	1.5 V max. 0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	ON/OFF response time Isolation method	Photocoupler isolation
	20 MΩ min. between isolated circuits (at		510 VAC between isolated circuits for 1
Insulation resistance	100 VDC)	Dielectric strength	minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max.
	Connected to a CPU Unit On Williams		
NX Unit power	0.90 W max. Connected to a Communications	I/O current consumption	10 mA max.
consumption	Coupler Unit 0.55 W max.		
Weight	70 g max.		
	**		
			IOV0 to 7
	Cuits		OUT0 to OUT7
	Internal circuits	7	0010100017]
Circuit layout			
Circuit layout			
			
	NV has F I/O power supply 1		
	NX bus connector		I/O power supply + NX bus connector
	(left) L I/O power supply –		I/O power supply – _ (right)
Installation orientation	Installation orientation: • Connected to a CPU Unit: Possible in up	oright installation.	
and restrictions	Connected to a Communications Couple Restrictions: No restrictions	er Unit: Possible in 6 orientat	ions.
	Restrictions. No restrictions		
	Additional I/O Power Supply Unit	Connection Unit	stor Output Unit
	A1 B1 4	NX-	OD4121 B1 Two-wire type
	•IOV IOV	IOG IOG OUT	
		IOG IOG IOVO	O IOV1
Terminal connection diagram	12 to 24 VDC	IOG IOG OUT:	
a.ag. a.ii	12 to 24 VDC	IOG IOG IOV2	
		IOG IOG IOV4	
	IOG IOG	IOG IOG OUT	OUT7
		IOG IOG IOVE	B8
	A8 B8 /	A8 B8 A8	DO
Disconnection/ Short-circuit	Not supported.	Protective function	Not supported.
detection			11.

Unit name	Transistor Output Unit	Model	NX-OD4256
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, output indicator	Internal I/O common	PNP
	OD4256 ■TS	Rated voltage	24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	15 to 28.8 VDC
Indicators	■4 ■ 5 ■6 ■ 7	Maximum value of load current	0.5 A/point, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA
		Residual voltage	1.5 V max. 0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	ON/OFF response time Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at	Dielectric strength	510 VAC between isolated circuits for 1
	100 VDC)		minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Unit 0.65 W max.	I/O current consumption	30 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) NX bus connector (left) NX bus connector (left)	Stort-circuit protection	OUT0 to OUT7 Terminal block I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Power Supply Unit A1 B1 A1 ICC ICC ICC ICC ICC ICC ICC	OV	Two-wire type JT1 G1 UT3 JG3 UT5 Three-wire type G5
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD5121
Number of points	16 points	External connection	Screwless clamping terminal block (16
/O refreshing method	Selectable Synchronous I/O refreshing or F	terminals	terminals)
70 Terresting metriod	TS indicator, output indicator	Internal I/O common	NPN
	OD5121	Rated voltage	12 to 24 VDC
	■TS	Operating load voltage	10.2 to 28.8 VDC
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	range	10.2 to 28.8 VDC
ndicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
nsulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA ma
O power supply nethod	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power	Connected to a CPU Unit 1.00 W max.		
consumption	Connected to a Communications Coupler Unit 0.65 W max.	I/O current consumption	20 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply +		I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram			Transistor Output Unit NX-OD5121 A1 OUT0 OUT1 OUT2 OUT3 OUT4 OUT5 OUT6 OUT7 OUT8 OUT9 OUT10 OUT11 OUT12 OUT13 OUT14 OUT15 A8 B8
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD5256
	16 points	External connection	Screwless clamping terminal block (16
Number of points	<u>'</u>	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		Lovo
	TS indicator, output indicator	Internal I/O common	PNP
	OD5256 ■TS	Rated voltage	24 VDC
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	15 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 1.10 W max. Connected to a Communications Coupler Unit 0.70 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply + I/O power supply -	Short-circuit protection	OUT0 to OUT15 Terminal block I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	10V IOV IOV IOV IOV IOV IOV IOV IOV IOV IO	Note	Two-wire type OUT0 OUT1 OUT2 OUT3 OUT6 OUT7 OUT8 OUT9 OUT10 OUT11 OUT12 OUT13 OUT14 OUT15 OUT14 OUT15
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

● Transistor Output Unit (M3 Screw Terminal Block, 30 mm Width) NX-OD5121-1

Unit name	Transistor Output Unit	Model	NX-OD5121-1	
Number of points	16 points	External connection terminals	M3 screw terminal block (18 terminals)	
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing			
	TS indicator, output indicator	Internal I/O common	NPN	
	OD5121-1	Rated voltage	12 to 24 VDC	
	= TS = 0 = 1 = 2 = 3 = 4 = 5 = 6 = 7	Operating load voltage range	10.2 to 28.8 VDC	
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 5 A/Unit	
		Maximum inrush current	4.0 A/point, 10 ms max.	
		Leakage current	0.1 mA max.	
		Residual voltage	1.5 V max.	
		ON/OFF response time	0.1 ms max./0.8 ms max.	
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation	
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
I/O power supply method	Supply from the external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals	
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.60 W max.	Current consumption from I/O power supply	30 mA max.	
Weight	125 g max.			
Circuit layout	NX bus connector (left) I/O power supply + I/O power supply -	COM I/O powe supply + I/O powe supply -	Terminal block It NX bus connector (right)	
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions	oright installation. er Unit: Possible in 6 orientat	ions.	
Terminal connection diagram	Terminal Signal name A B Signal name A Signal name A B Signal name A Signal name A B Signal name A Signal name Signal name A Signal name Signal name			
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.	

NX-OD5256-1

Unit name	Transistor Output Unit	Model	NX-OD5256-1	
		External connection		
Number of points	16 points	terminals	M3 screw terminal block (18 terminals)	
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing			
	TS indicator, output indicator	Internal I/O common	PNP	
	OD5256-1 ■ TS	Rated voltage	24 VDC	
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	20.4 to 28.8 VDC	
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 5 A/Unit	
		Maximum inrush current	4.0 A/point, 10 ms max.	
		Leakage current	0.1 mA max.	
		Residual voltage	1.5 V max.	
		ON/OFF response time	0.5 ms max./1.0 ms max.	
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation	
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals	
NX Unit power consumption	Connected to a CPU Unit 0.95 W max. Connected to a Communications Coupler Unit 0.65 W max.	Current consumption from I/O power supply	30 mA max.	
Weight	125 g max.			
Circuit layout	NX bus connector (left) NX bus supply + I/O power supply - I/O power	Short-circuit (No No N	Terminal block To to OUT15 Power oply + connector (right)	
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions			
Terminal connection diagram	Terminal Signal name A B Signal name A Signal name A B Signal name A Signal name			
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.	

● Transistor Output Unit (MIL Connector, 30 mm Width) NX-OD5121-5

Unit name	Transistor Output Unit	Model	NX-OD5121-5
Number of points	16 points	External connection terminals	MIL connector (20 terminals)
I/O refreshing method Indicators Dimensions	Switching Synchronous I/O refreshing and Free-FTS indicator, output indicator OD5121-5 TS TS TS TS TS TS TS TS TS T	Run refreshing Internal I/O common Rated voltage Operating load voltage range Maximum value of load current Maximum inrush current Leakage current Residual voltage ON/OFF response time	NPN 12 to 24 VDC 10.2 to 28.8 VDC 0.5 A/point, 2 A/Unit 4.0 A/point, 10 ms max. 0.1 mA max. 1.5 V max. 0.1 ms max./0.8 ms max. Photocoupler isolation
	20 MΩ min. between isolated circuits		510 VAC between isolated circuits for 1 minute at
Insulation resistance	(at 100 VDC)	Dielectric strength	a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 0.95 W max. Connected to a Communications Coupler Unit 0.60 W max.	Current consumption from I/O power supply	30 mA max.
Weight	80 g max.		
Circuit layout	NX bus connector (left) I/O power supply -		+V +V OUT0 to OUT15 Connector COM COM I/O power supply + I/O power supply - I/O power supply - I/O power supply -
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	Signal Connector pin	Signal name +V COM OUT07 L OUT06 L OUT05 L OUT04 L OUT03 L OUT02 L OUT01 L OUT01 L OUT01 L OUT00 L	
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-OD5256-5

Unit name	Transistor Output Unit	Model	NX-OD5256-5
Number of points	16 points	External connection terminals	MIL connector (20 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-	Run refreshing	
	TS indicator, output indicator	Internal I/O common	PNP
	OD5256-5	Rated voltage	24 VDC
	■TS ■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	20.4 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
Dimensions	30 (W) x 100 (H) x 71 (D)	ON/OFF response time Isolation method	0.5 ms max./1.0 ms max. Photocoupler isolation
	20 MΩ min. between isolated circuits (at 100		510 VAC between isolated circuits for 1 minute at
Insulation resistance	VDC)	Dielectric strength	a leakage current of 5 mA max.
I/O power supply method	Supplied from external source.	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Uni 0.70 W max.	Current consumption from I/O power supply	40 mA max.
Weight	85 g max.		
Circuit layout	NX bus connector (left) I/O power supply + I/O power supply -	Short-circuit	COM (+V) COM (+V) COM (+V) OUTO to OUT15 OV OV I/O power supply + I/O power supply - I/O power supply - I/O power supply -
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright Connected to a Communications Coupler Un Restrictions: No restrictions	installation. tt: Possible in 6 orientations.	
Terminal connection diagram	Signal name pin 24 VDC	Name COM (+V) OV OUT07 COUT06 COUT05 COUT04 COUT03 COUT03 COUT02 COUT04 COUT02 COUT04 COUT04 COUT05 COUT04 COUT04 COUT05 COUT04 COUT04 COUT05 COUT04 COUT06 COUT07 COU	
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

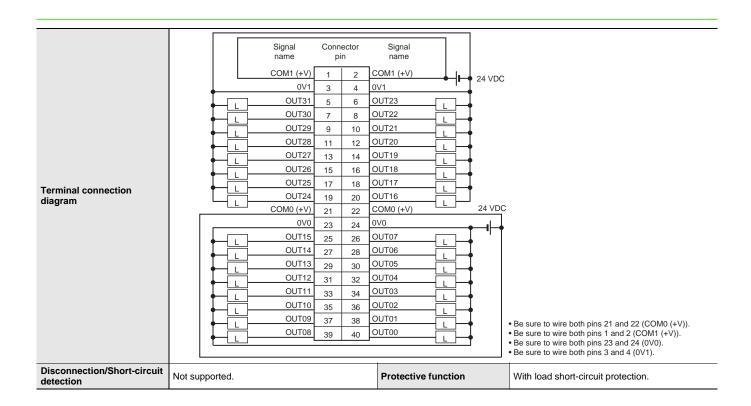
NX-OD6121-5

Unit name	Transistor Output Unit	Model	NX-OD6121-5
Number of points	32 points	External connection terminals	MIL connector (40 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	Run refreshing	
	TS indicator, output indicator	Internal I/O common	NPN
	OD6121-5	Rated voltage	12 to 24 VDC
	■TS ■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	10.2 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15 ■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23	Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit
	■24 ■25 ■26 ■27 ■28 ■29 ■30 ■31	Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Unit 0.80 W max.	Current consumption from I/O power supply	50 mA max.
Weight	90 g max.		
Circuit layout	NX bus [I/O power supply +	+V0 +V0 OUT0 to OUT18 COM0 COM0 COM0 to OUT31	Connector
	connector (left) I/O power supply -	I/O power	connector
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright in Connected to a Communications Coupler Unit Restrictions: No restrictions		

	T		
Terminal connection diagram	Signal name 24 VDC +V1 COM1 L OUT31 L OUT30 L OUT29 L OUT28 L OUT27 L OUT25 L OUT25 L OUT24 +V0 COM0 OUT15 L OUT14 L OUT14 L OUT14 L OUT14 L OUT14 L OUT15 L OUT15 L OUT15 L OUT16 L OUT18 L OUT18 L OUT19 L OUT19 L OUT10 L OUT10 L OUT10 L OUT10 L OUT10 L OUT108	Connector pin Signal name 1 2 +V1 3 4 COM1 5 6 OUT23 L 7 8 OUT22 L 9 10 OUT21 L 11 12 OUT20 L 13 14 OUT19 L 15 16 OUT18 L 17 18 OUT17 L 19 20 OUT16 L 21 22 +V0 L 23 24 COM0 COM0 25 26 OUT07 L 29 30 OUT06 L 29 30 OUT05 L 31 32 OUT04 L 33 34 OUT02 L 37 38 OUT01 L 39 40 OUT00 L	Be sure to wire both pins 21 and 22 (+V0). Be sure to wire both pins 23 and 24 (COM0). Be sure to wire both pins 1 and 2 (+V1). Be sure to wire both pins 3 and 4 (COM1).
detection	Not supported.	Protective function	Not supported.

NX-OD6256-5

Unit name	Transistor Output Unit	Model	NX-OD6256-5			
Number of points	32 points	External connection terminals	MIL connector (40 terminals)			
I/O refreshing method	witching Synchronous I/O refreshing and Free-Run refreshing					
	TS indicator, output indicator	Internal I/O common	PNP			
	OD6256-5	Rated voltage	24 VDC			
■TS ■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7		Operating load voltage range	20.4 to 28.8 VDC			
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15 ■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23	Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit			
	■24 ■25 ■26 ■27 ■28 ■29 ■30 ■31	Maximum inrush current	4.0 A/point, 10 ms max.			
		Leakage current	0.1 mA max.			
		Residual voltage	1.5 V max.			
		ON/OFF response time	0.5 ms max./1.0 ms max.			
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation			
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.			
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals			
NX Unit power consumption	Connected to a CPU Unit 1.30 W max. Connected to a Communications Coupler Unit 1.00 W max.	80 mA max.				
Weight	95 g max.					
Circuit layout	NX bus connector (left) I/O power supply + Olympia circuits (left)	Short-circuit protection protection	COM0 (+V) COM0 (+V) OUT0 to OUT15 OV0 COM1 (+V) COM1 (+V) COM1 (+V) OUT16 to OUT31 OV1 OV1 I/O power supply + I/O power supply - I/O p			
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright in Connected to a Communications Coupler Unit Restrictions: No restrictions	installation. : Possible in 6 orientations.				



● Transistor Output Unit (Fujitsu Connector, 30 mm Width) NX-OD6121-6

Unit name	Transistor Output Unit	Model	NX-OD6121-6		
		External connection			
Number of points	32 points	terminals	Fujitsu connector (40 terminals)		
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	Run refreshing			
	TS indicator, output indicator	Internal I/O common	NPN		
	OD6121-6	Rated voltage	12 to 24 VDC		
	■TS	Operating load voltage range	10.2 to 28.8 VDC		
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Maximum value of load			
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	current	0.5 A/point, 2 A/common, 4 A/Unit		
	■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23 ■24 ■25 ■26 ■27 ■28 ■29 ■30 ■31	Maximum inrush current	4.0 A/point, 10 ms max.		
	-E1 -E0 -E0 -E7 -E0 -E0 -00 -01	Leakage current	0.1 mA max.		
		Residual voltage	1.5 V max.		
D'	00 (14) 400 (11) 74 (12)	ON/OFF response time	0.1 ms max./0.8 ms max.		
Dimensions	30 (W) x 100 (H) x 71 (D) 20 MΩ min. between isolated circuits (at 100	Isolation method	Photocoupler isolation 510 VAC between isolated circuits for 1 minute at		
Insulation resistance	VDC)	Dielectric strength	a leakage current of 5 mA max.		
I/O power supply method	Supply from external source	Current capacity of I/O	Without I/O power supply terminals		
To power supply memou		power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	Connected to a CPU Unit 1.10 W max.	Current consumption from	50 mA max.		
NA Offic power consumption	Connected to a Communications Coupler Unit 0.80 W max.	I/O power supply	30 IIIA IIIax.		
Weight	90 g max.		1		
	75	+V0			
		+V0 OUT0			
		to OUT15			
		-			
		COMO			
		COM0 +V1 Connec	ctor		
Circuit layout					
		OUT16			
		*			
		┘ ¦			
	<u> </u>	- COM1			
	「I/O power	COM1 J			
	NX bus supply +	supply + NX bus			
	connector I/O power (left) supply –	I/O power (right)	,		
	Installation orientation:				
Installation orientation and	Connected to a CPU Unit: Possible in upright	installation.			
restrictions	Connected to a Communications Coupler Unit Restrictions: No restrictions	:: Possible in 6 orientations.			
	Signal Connector Signal	404.63370			
	12 to 24 VDC olgridi pin name name	.2.02.130			
	OUT0 A1 B1 OUT1	7 			
	OUT2 A3 B3 OUT1	8			
	OUT3 A4 B4 OUT19	9			
	OUT4 A5 B5 OUT20 L T				
	UT6 A7 B7 OUT2				
	OUT7 A8 B8 OUT2: COM0 A9 B9 COM1				
	+V0 A10 B10 +V1				
Terminal connection diagram	UT8 A11 B11 OUT2 OUT9 A12 B12 OUT2				
	UT10 A13 B13 OUT2				
	UT11 A14 B14 OUT2	<u>7</u>			
	UT12 A15 B15 OUT2 L OUT13 A16 B16 OUT2				
	OUT14 A17 B17 OUT3				
	OUT15 A18 B18 OUT3 COM0 A19 B19 COM1				
	+V0 A20 B20 +V1				
	Be sure to wire both pins A9 and A19 (COM0). Be any to wire both pins A9 and B10 (COM4). Base and B10 (COM4).				
	 Be sure to wire both pins B9 and B19 (COM1). Be sure to wire both pins A10 and A20 (+V0). 				
	Be sure to wire both pins B10 and B20 (+V1).				
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.		
Short-circuit detection	ļ				

● Relay Output Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-OC2633

Unit name	Relay Output Units	Model	NX-OC2633
Number of points	2 points, independent contacts	External connection	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing	terminals	
	TS indicator, output indicator	Relay type	N.O. contact
Indicators	OC2633 TS **********************************	Maximum switching capacity	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit
		Minimum switching capacity	5 VDC, 1 mA
Relay service life	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation
Insulation resistance	Between A1/B1 terminals and A3/B3 terminals: $20~\text{M}\Omega$ min. (500 VDC) Between the external terminals and internal circuits: $20~\text{M}\Omega$ min. (500 VDC) Between the internal circuit and GR terminal: $20~\text{M}\Omega$ min. (100 VDC) Between the external terminals and GR terminal: $20~\text{M}\Omega$ min. (500 VDC)	Dielectric strength	Between A1/B1 terminals and A3/B3 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and GR terminal: 230 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA ma Between the internal circuit and GR terminal: 510 VA for 1 min at a leakage current of 5 mA max.
Vibration resistance	Conforms to IEC60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 8.4 to 150 Hz, acceleration of 9.8 m/s² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s², 3 times each in X, Y, and Z directions
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 1.20 W max. Connected to a Communications Coupler Unit 0.80 W max.	I/O current consumption	No consumption
Weight	65 g max.		
Circuit layout	NX bus connector (left) I/O power supply + You cannot replace	pjy	O to 1 Terminal block C0 to C1 I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright i Connected to a Communications Coupler Unit: Restrictions: No restrictions		
Terminal connection diagram	Relay Output Unit NX-OC2633 B1		
Disconnection/ Short-circuit	Not supported.	Protective function	Not supported.

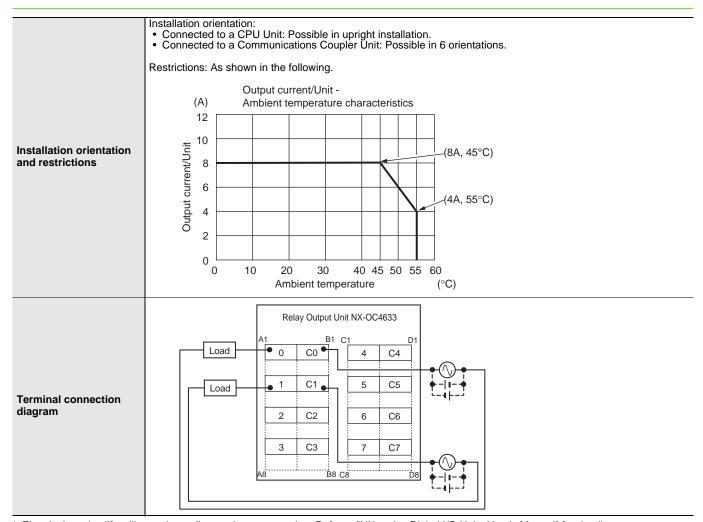
^{*} Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

NX-OC2733

14X-002733			
Unit name	Relay Output Unit	Model	NX-OC2733
Number of points	2 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing		
Indicators	TS indicator, output indicator OC2733 TS TS	Maximum switching capacity	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit
		Minimum switching capacity	5 VDC, 10 mA
Relay service life	Electrical: 100,000 operations Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation
Insulation resistance	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: $20~M\Omega$ min. (at $500~VDC$) Between the external terminals and functional ground terminal: $20~M\Omega$ min. (at $500~VDC$) Between the external terminals and internal circuits: $20~M\Omega$ min. (at $500~VDC$) Between the internal circuit and the functional ground terminal: $20~M\Omega$ min. (at $100~VDC$)	Dielectric strength	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and the functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit 1.30 W max. Connected to a Communications Coupler Unit 0.95 W max.	Current consumption from I/O power supply	No consumption
Weight	70 g max.		
Circuit layout			NO0 to NO1 C0 to C1 Terminal block NC0 to NC1 I/O power supply + connector (right) I/O power supply - (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions	oright installation. er Unit: Possible in 6 orientat	ions.
Terminal connection diagram	Relay Output Unit NX-OC2733 B1 Load NO0 NC0 C0 C0 NO1 NC1 C1 C1 A8 B8	Load	
Disconnection/Short- circuit detection	Not supported.	Protective function	Not supported.

● Relay Output Unit (Screwless Clamping Terminal Block, 24 mm Width) NX-OC4633

Unit name	Relay Output Unit	Model	NX-OC4633	
Number of points	8 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals x 2)	
I/O refreshing method	Free-Run refreshing			
Indicators	TS indicator, output indicator OC4633 TS TS TS TS TS TS TS TS TS		N.O. contact 250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 8 A/Unit	
	■4 ■5 ■6 ■7	Minimum switching capacity	5 VDC, 1 mA	
Relay service life	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.	
Dimensions	24 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation	
Insulation resistance	Between output bits: $20~\text{M}\Omega$ min. (at $500~\text{VDC}$) Between the external terminals and the functional ground terminal: $20~\text{M}\Omega$ min. (at $500~\text{VDC}$) Between the external terminals and internal circuits: $20~\text{M}\Omega$ min. (at $500~\text{VDC}$) Between the internal circuit and the functional ground terminal: $20~\text{M}\Omega$ min. (at $100~\text{VDC}$)	Dielectric strength	Between output bits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and the functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.	
Vibration resistance	Conforms to IEC 60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 8.4 to 150 Hz, acceleration of 9.8 m/s ² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s ² , 3 times each in X, Y, and Z directions	
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals	
NX Unit power consumption	Connected to a CPU Unit 2.00 W max. Connected to a Communications Coupler Unit 1.65 W max.	Current consumption from I/O power supply	No consumption	
Weight	140 g max.			
Circuit layout	NX bus connector (left) I/O power supply + You cannot rep		O to 7 Terminal block CO to C7 I/O power supply + NX bus connector (right)	



^{*} Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

● DC Input/Transistor Output Unit (MIL Connector, 30 mm Width) NX-MD6121-5

Unit name	9	DC Input/Transistor Output Unit	Model		NX-MD6121-5
Number o	f points	16 inputs/16 outputs	External c	onnection	2 MIL connectors (20 terminals)
I/O refresi	hing method	Switching Synchronous I/O refreshing and Free-	Run refresh	ing	
	Internal I/O common	NPN		Internal I/O common	For both NPN/PNP
	Rated voltage 12 to 24 VDC Operating load 10.2 to 28.8 VDC			Rated input voltage	24 VDC (15 to 28.8 VDC)
	Operating load voltage range	10.2 to 28.8 VDC		Input current	7 mA typical (at 24 VDC)
Output section	Maximum value of load current	0.5 A/point, 2 A/Unit	Input section	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
(CN1)	Maximum inrush current	4.0 A/point, 10 ms max.	(CN2)	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
	Leakage current	0.1 mA max.	-	ON/OFF response time	20 μs max./400 μs max.
	Residual voltage ON/OFF response	1.5 V max. 0.1 ms max./0.8 ms max.		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
	time	TS indicator, I/O indicators	Dimension	ns	30 (W) x 100 (H) x 71 (D)
			Isolation r	method	Photocoupler isolation
		MD6121-5 CN ■TS	Insulation	resistance	20 MΩ min. between isolated circuits (at 100 VDC)
		1 = 0 = 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15	Dielectric	strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
		2 = 0 = 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15	I/O power	supply method	Supply from external source
Indicators	5		Current capacity of I/O power supply terminal		Without I/O power supply terminals
			NX Unit power consumption		Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max.
			Current consumption from I/O power supply		30 mA max.
		We			105 g max.
Circuit lay	yout	CN1 (left) output circuit NX bus connector supply + I/O power supply - I/O power supply			

Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. • For upright installation Number of simultaneously ON input points vs. ON input poin Ambient temperature characteristic 16 points at 35°C 16 points at 45°C 16 Number of simultaneously 13 points at 55°C 12 9 points at 55°C 8 I/O power supply voltage ·---24 V 4 28.8 V 0 0 10 20 30 40 45 50 55 60 Installation orientation and restrictions Ambient temperature • For any installation other than upright Number of simultaneously ON input points vs. points Ambient temperature characteristic 16 points at 40°C Number of simultaneously ON input 16 points at 25°C 16 12 I/O power supply 5 points at 55°C 8 voltage ---24 V 4 28.8 V 0 0 3 points at 55°C 10 30 40 45 50 55 60 Ambient temperature (°C) CN1 (left) output terminal Signal Connector Signal name name 20 19 OUT8 OUT0 18 17 OUT9 OUT1 OUT2 16 15 OUT10 OUT3 14 13 OUT11 OUT4 12 11 OUT12 OUT5 10 9 OUT13 8 7 OUT14 OUT6 6 5 OUT15 OUT7 COM0 4 3 COM0 +V0 2 1 +V0 12 to 24 VDC • Be sure to wire both pins 3 and 4 (COM0) of CN1. **Terminal connection** • Be sure to wire both pins 1 and 2 (+V0) of CN1. diagram CN2 (right) input terminal Signal Connector Signal name name NC 2 NC COM1 3 4 COM₁ IN15 5 6 IN07 IN14 7 8 IN06 IN13 9 10 IN05 IN12 11 12 IN04 IN03 IN11 13 14 IN10 15 16 IN02 60 IN09 17 18 IN01 IN08 19 20 IN00 The polarity of the input power supply of CN2 can be connected in either direction. Be sure to wire both pins 3 and 4 (COM1) of CN2, and set the same polarity for both pins. Disconnection/Short-circuit

Protective function

Not supported.

detection

Not supported.

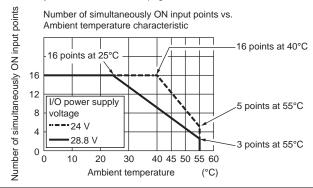
NX-MD6256-5

Init name DC Input/Transistor Output Unit Model		NX-MD6256-5		
Number of points	16 inputs/16 outputs	External of terminals	connection	2 MIL connectors (20 terminals)
/O refreshing method	Switching Synchronous I/O refreshing and Free	-Run refresh	ning	
Internal I/O common	PNP	In		For both NPN/PNP
Rated voltage	24 VDC		Rated input voltage	24 VDC (15 to 28.8 VDC)
Operating load voltage range	20.4 to 28.8 VDC		Input current	7 mA typical (at 24 VDC)
Output Maximum value of load current	0.5 A/point, 2 A/Unit	Input section	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
(CN1) Maximum inrush current	4.0 A/point, 10 ms max.	(CN2)	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
Leakage current	0.1 mA max.		ON/OFF response time	20 μs max./400 μs max.
Residual voltage	1.5 V max.			No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms,
ON/OFF response time	0.5 ms max./1.0 ms max.		Input filter time	4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
	TS indicator, I/O indicators	Dimensio	ns	30 (W) x 100 (H) x 71 (D)
	MD6256-5	Isolation	method	Photocoupler isolation
	CN ■TS	Insulation	n resistance	20 MΩ min. between isolated circuits (at 100 VDC)
	1	Dielectric	strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
	2 8 9 10 11 12 13 14 15	I/O power	supply method	Supply from external source
ndicators		Current capacity of I/O power supply terminal		Without I/O power supply terminals
		NX Unit power consumption Current consumption from I/ O power supply		Connected to a CPU Unit 1.10 W max. Connected to a Communications Coupler Unit 0.75 W max.
				40 mA max.
		Weight		110 g max.
Circuit layout		icator icator internal circuits	OUT0 to OUT15 OV0 I/O power supply + I/O power supply - Supply - I/O power (right)	ector

Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. • For upright installation ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 35°C 16 points at 45°C Number of simultaneously 16 13 points at 55°C 12 9 points at 55°C 8 I/O power supply voltage ---24 V 4 28.8 V Installation orientation and 0 40 45 50 55 60

restrictions

• For any installation other than upright



Ambient temperature

(°C)

CN1 (left) output terminal

Signal Connector Signal name pin name OUT0 20 19 OUT8 OUT1 18 17 OUT9 L OUT2 16 15 OUT10 OUT3 14 13 OUT11 OUT4 12 OUT12 11 OUT5 10 9 OUT13 OUT6 8 OUT14 5 OUT7 6 OUT15 COM0 (+V) 4 3 COM0 (+V) 0V0 2 1 0V0

Terminal connection diagram

- Be sure to wire both pins 3 and 4 (COM0 (+V)) of CN1.
- Be sure to wire both pins 1 and 2 (0V0) of CN1.

CN2 (right) input terminal

24	Signal C	conr	ecto	or Signal	
VDC	name	p	in	name	
	NC	1	2	NC	
	COM1	3	4	COM1	
1010	IN15	5	6	IN07	_(
	IN14	7	8	IN06	
	IN13	9	10	IN05	~
	IN12	11	12	IN04	_~~
	IN11	13	14	IN03	_~~
	IN10	15	16	IN02	~
	IN09	17	18	IN01	
	IN08	19	20	IN00	

- The polarity of the input power supply of CN2 can be connected in either direction.
 Be sure to wire both pins 3 and 4 (COM1) of CN2, and set the same polarity for both pins.

Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.
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● DC Input/Transistor Output Unit (Fujitsu Connector, 30 mm Width) NX-MD6121-6

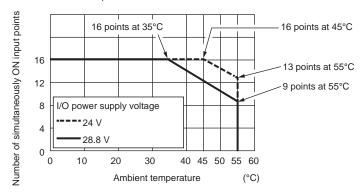
Unit name)	DC Input/Transistor Output Unit	Model		NX-MD6121-6	
Number o	f points	16 inputs/16 outputs	terminals	connection	2 Fujitsu connectors (24 terminals)	
I/O refresh	ning method	Switching Synchronous I/O refreshing and Free-	Run refreshir	ng		
	Internal I/O common	NPN		Internal I/O common	For both NPN/PNP	
	Rated voltage	12 to 24 VDC		Rated input voltage	24 VDC (15 to 28.8 VDC)	
	Operating load voltage range Maximum value	10.2 to 28.8 VDC		Input current	7 mA typical (at 24 VDC)	
Output section (CN1) Maximum value of load current Maximum inrush current		0.5 A/point, 2 A/Unit	Input section	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)	
		4.0 A/point, 10 ms max.	(CN2)	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)	
	Leakage current	0.1 mA max.		ON/OFF response time	20 μs max./400 μs max.	
	Residual voltage	1.5 V max.		•		
	ON/OFF response time	0.1 ms max./0.8 ms max.		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms	
	respense anno	TS indicator, I/O indicators	Dimension	l ne	30 (W) x 100 (H) x 71 (D)	
		,	Isolation r		Photocoupler isolation	
		MD6121-6 CN ■TS		resistance	20 MΩ min. between isolated circuits (at 100 VDC)	
		1 =0 =1 =2 =3 =4 =5 =6 =7 1 =8 =9 =10 =11 =12 =13 =14 =15	Dielectric	strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
		2 ■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	I/O nower	supply method	Supply from external source	
Indicators	•	² L■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Current ca	apacity of I/O	Without I/O power supply terminals	
			NX Unit power consumption		Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max.	
			Current co	onsumption from	30 mA max.	
			Weight		95 g max.	
Circuit lay	rout	CN1 (left) output circuit NX bus connector (left) CN2 (right) input circuit IN0 IN15 Connector	ndicator	COM0 COM0 I/O power supply + I/O power supply -	Connector NX bus connector (right)	
		NX bus connector (left) COM1		I/O power supply +	NX bus connector (right)	

- Installation orientation:

 Connected to a CPU Unit: Possible in upright installation.

 Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following.
 - For upright installation

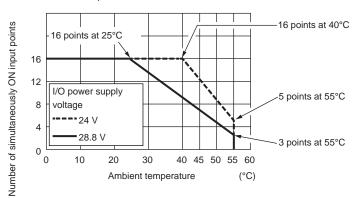
Number of simultaneously ON input points vs. Ambient temperature characteristic

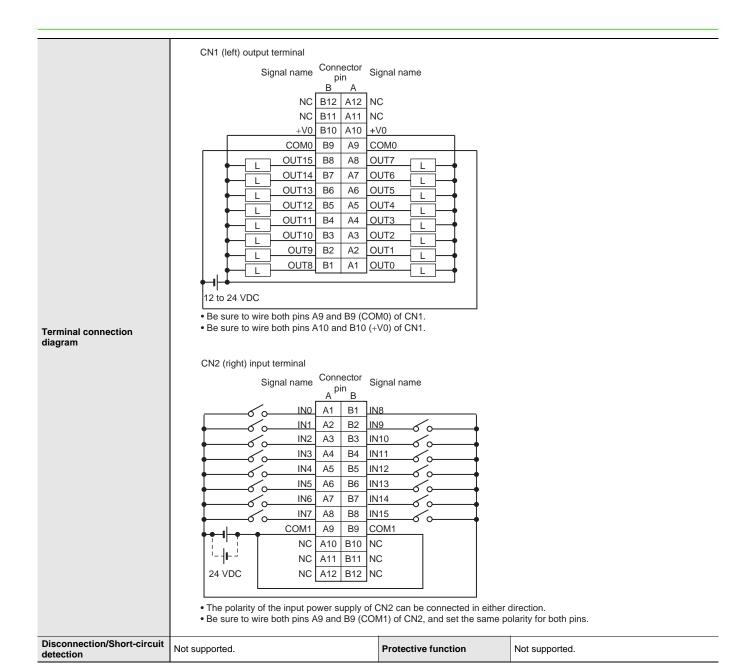


Installation orientation and restrictions

• For any installation other than upright

Number of simultaneously ON input points vs. Ambient temperature characteristic





Version Information

Connected to a CPU Unit

Refer to the user's manual for the CPU Unit for details on the CPU Units to which NX Units can be connected.

NX Unit		Corresponding versions *			
Model	Unit version	CPU Unit	Sysmac Studio		
NX-ID3317					
NX-ID3343					
NX-ID3344					
NX-ID3417					
NX-ID3443					
NX-ID3444					
NX-ID4342					
NX-ID4442					
NX-ID5142-1					
NX-ID5142-5					
NX-ID5342					
NX-ID5442					
NX-ID6142-5					
NX-ID6142-6					
NX-IA3117					
NX-OD2154					
NX-OD2258					
NX-OD3121					
NX-OD3153		Ver.1.13 or later			
NX-OD3256	Ver.1.0		Ver.1.17 or higher		
NX-OD3257					
NX-OD3268					
NX-OD4121					
NX-OD4256					
NX-OD5121					
NX-OD5121-1					
NX-OD5121-5					
NX-OD5256					
NX-OD5256-1					
NX-OD5256-5					
NX-OD6121-5					
NX-OD6121-6					
NX-OD6256-5					
NX-OC2633					
NX-OC2733					
NX-OC4633					
NX-MD6121-5					
NX-MD6121-6					
NX-MD6256-5					

^{*} Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

Connected to a Communications Coupler Unit

NX	Unit	Corresponding versions *1					
			EtherCAT	Ether	Net/IP		
Model	Unit version	Communications Coupler Unit	NJ/NX-series CPU Unit or NY-series Industrial PC	Sysmac Studio	Communications Coupler Unit	Sysmac Studio	
NX-ID3317		Ver.1.0 or later	Ver.1.05 or later	Ver.1.06 or higher	Ver.1.0 or later	Ver.1.10 or higher	
NX-ID3343				Ţ,		3 .	
NX-ID3344		Ver.1.1 or later	Ver.1.06 or later *2	Ver.1.07 or higher			
NX-ID3417		Ver.1.0 or later	Ver.1.05 or later	Ver.1.06 or higher	Ver.1.0 or later	Ver.1.10 or higher	
NX-ID3443				, and the second		3	
NX-ID3444		Ver.1.1 or later	Ver.1.06 or later *2	Ver.1.07 or higher			
NX-ID4342				Ver.1.06 or higher		Ver.1.10 or higher	
NX-ID4442	Ver.1.0						
NX-ID5142-1				Ver.1.13 or higher		Ver.1.13 or higher	
NX-ID5142-5				Ver.1.10 or higher	=		
NX-ID5342		Ver.1.0 or later	Ver.1.05 or later	Ver.1.06 or higher	Ver.1.0 or later	Ver.1.10 or higher	
NX-ID5442					_	3	
NX-ID6142-5			Ver.1.10 or higher				
NX-ID6142-6				Ver.1.13 or higher		Ver.1.13 or higher	
NX-IA3117				Ver.1.08 or higher		Ver.1.10 or higher	
NX-OD2154		Ver.1.1 or later	Ver.1.06 or later *2	Ver.1.07 or higher			
NX-OD2258	•						
NX-OD3121							
NX-OD3153				Ver.1.06 or higher		Ver.1.10 or higher	
NX-OD3256				vor. 1.00 or riighter		voi. ii. io oi iiigiioi	
NX-OD3257							
NX-OD3268				Ver.1.13 or higher		Ver.1.13 or higher	
NX-OD4121							
NX-OD4256				Ver.1.06 or higher		Ver.1.10 or higher	
NX-OD5121							
NX-OD5121-1	Ver.1.0			Ver.1.13 or higher		Ver.1.13 or higher	
NX-OD5121-5		Ver.1.0 or later	Ver.1.05 or later	Ver.1.10 or higher	Ver.1.0 or later	Ver.1.10 or higher	
NX-OD5256				Ver.1.06 or higher		ver. i. io or migner	
NX-OD5256-1				Ver.1.13 or higher		Ver.1.13 or higher	
NX-OD5256-5				Ver.1.10 or higher		Ver.1.10 or higher	
NX-OD6121-5				voi. i. io oi iligilei		voi. i. io oi iligilei	
NX-OD6121-6				Ver.1.13 or higher		Ver.1.13 or higher	
NX-OD6256-5				Ver.1.10 or higher			
NX-OC2633				Ver.1.06 or higher	- - -	Ver.1.10 or higher	
NX-OC2733				Ver.1.08 or higher			
NX-OC4633				Ver.1.17 or higher		Ver.1.17 or higher	
NX-MD6121-5				Ver.1.10 or higher		Ver.1.10 or higher	
NX-MD6121-6	Ver.1.0	Ver.1.0 or later	Ver.1.05 or later	Ver.1.13 or higher	Ver.1.0 or later	Ver.1.13 or higher	
NX-MD6256-5				Ver.1.10 or higher		Ver.1.10 or higher	

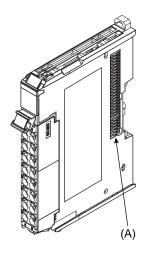
^{*1.}Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

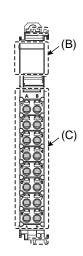
^{*2.} The instructions for time stamp refreshing are supported by CPU Units with unit version 1.06 or later. If you do not use instructions for time stamp refreshing, you can use version 1.05. Refer to the NJ/NX-series Instructions Reference Manual (Cat. No. W502) for details on the instructions for time stamp refreshing.

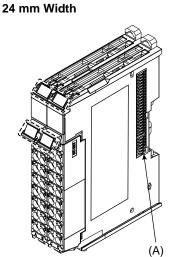
External Interface

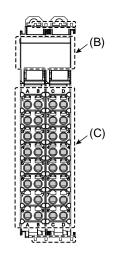
Screwless Clamping Terminal Block Type

12 mm Width



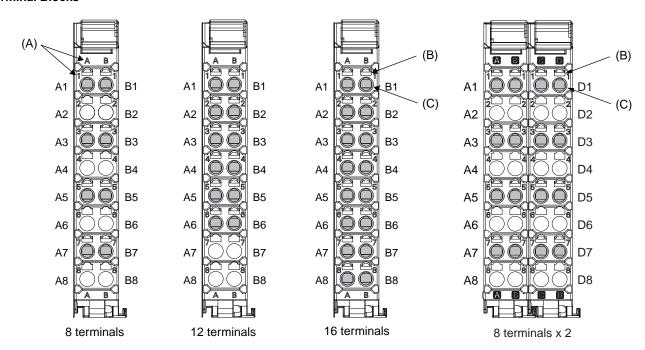






Letter	Item Specification		
(A)	NX bus connector	This connector is used to connect to another Unit.	
(B)	Indicators	The indicators show the current operating status of the Unit.	
(C) Terminal block The terminal block is used to connect to external devices. The number of terminals depends on the Unit.			

Terminal Blocks



Letter	Item	Specification		
(A)	Terminal number indication	The terminal number is identified by a column (A through D) and a row (1 through 8). Therefore, terminal numbers are written as a combination of columns and rows, A1 through A8 and through B8. The terminal number indication is the same regardless of the number of terminals on the terminal bl		
(B)	Release hole	A flat-blade screwdriver is inserted here to attach and remove the wiring.		
(C)	Terminal hole	The wires are inserted into these holes.		

NX-ID/IA/OD/OC/MD

Applicable Terminal Blocks for Each Unit Model

Unit model	Terminal Blocks					
Onit model	Model No. of terminals		Ground terminal mark	Terminal current capacity		
NX-ID3	NX-TBA122	12	None	10 A		
NX-ID4	NX-TBA162	16	None	10 A		
NX-ID5□□□	NX-TBA162	16	None	10 A		
NX-IA3117	NX-TBA082	8	None	10 A		
NX-OD2	NX-TBA082	8	None	10 A		
NX-OD3□□□ (any model other than NX-OD3268)	NX-TBA122	12	None	10 A		
NX-OD3268 NX-OD4□□□	NX-TBA162	16	None	10 A		
NX-OD5	NX-TBA162	16	None	10 A		
NX-OC2	NX-TBA082	8	None	10 A		
NX-OC4633	NX-TBA082	8	None	10 A		
NA-004033	NX-TBB082	8	None	10 A		

Applicable Wires

Using Ferrules

If you use ferrules, attach the twisted wires to them.

Observe the application instructions for your ferrules for the wire stripping length when attaching ferrules.

Always use plated one-pin ferrules. Do not use unplated ferrules or two-pin ferrules.

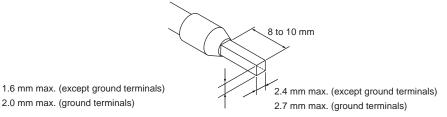
The applicable ferrules, wires, and crimping tools are listed in the following table.

Terminal type	Manufacturer	Ferrule model	Applicable wire (mm² (AWG))	Crimping tool
Terminals other	Phoenix Contact	AI0,34-8	0.34 (#22)	Phoenix Contact (The figure in parentheses is the applicable wire size.)
than ground terminals		AI0,5-8	0.5 (#20)	CRIMPFOX 6 (0.25 to 6 mm ² , AWG24 to 10)
terminais		AI0,5-10		
		AI0,75-8	0.75 (#18)	
		AI0,75-10		
		AI1,0-8	1.0 (#18)	
		AI1,0-10	†	
		AI1,5-8	1.5 (#16)	
		AI1,5-10		
Ground terminals		AI2,5-10	2.0 *	
Terminals other	Weidmuller	H0.14/12	0.14 (#26)	Weidmuller (The figure in parentheses is the applicable wire size.)
than ground terminals		H0.25/12	0.25 (#24)	PZ6 Roto (0.14 to 6 mm ² , AWG 26 to 10)
terminais		H0.34/12	0.34 (#22)	
		H0.5/14	0.5 (#20)	
		H0.5/16		
		H0.75/14	0.75 (#18)	
		H0.75/16	1	
		H1.0/14	1.0 (#18)	
		H1.0/16		
		H1.5/14	1.5 (#16)	
		H1.5/16		

^{*} Some AWG 14 wires exceed 2.0 mm² and cannot be used in the screwless clamping terminal block.

When you use any ferrules other than those in the above table, crimp them to the twisted wires so that the following processed dimensions are achieved.

Finished Dimensions of Ferrules



Using Twisted Wires/Solid Wires

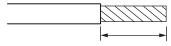
2.0 mm max. (ground terminals)

If you use the twisted wires or the solid wires, use the following table to determine the correct wire specifications.

Torn	Wire type					On a decession law with	
Terminals		Twisted wires		Solid wire		Wire size	Conductor length (stripping length)
Classification Current capacity		Plated	Unplated	Plated	Unplated		(ourlebring longur)
	2 A or less		Possible	Possible	Possible		
All terminals except ground terminals	Greater than 2 A and 4 A or less	Possible	Not Possible	Possible *1	Not	0.08 to 1.5 mm ² AWG28 to 16	8 to 10 mm
	Greater than 4 A	Possible *1		Not Possible	Possible		
Ground terminals		Possible	Possible	Possible *2	Possible *2	2.0 mm ²	9 to 10 mm

^{*1.} Secure wires to the screwless clamping terminal block. Refer to the Securing Wires in the USER'S MANUAL for how to secure wires.

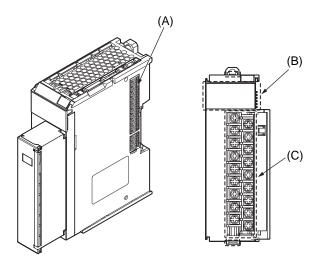
^{*2.} With the NX-TB□□□1 Terminal Block, use twisted wires to connect the ground terminal. Do not use a solid wire.



Conductor length (stripping length)

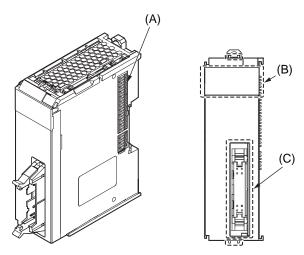
< Additional Information > If more than 2 A will flow on the wires, use plated wires or use ferrules.

M3 Screw Terminal Block Type 30 mm Width

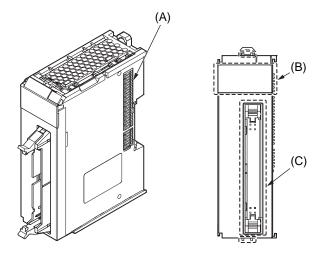


Letter	Item	Specification
(A)	NX bus connector	This connector is used to connect to another Unit.
(B) Indicators		The indicators show the current operating status of the Unit.
(C)	Screw terminals	These screw terminals are used to connect the wires.

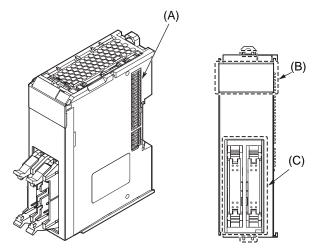
MIL Connector Type (1 Connector with 20 terminals) 30 mm Width



MIL Connector Type (1 Connector with 40 terminals) 30 mm Width

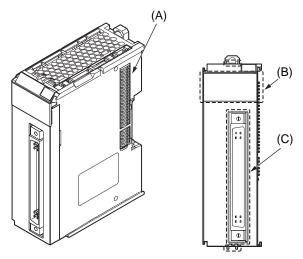


MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

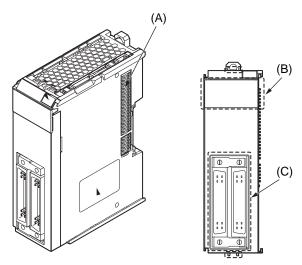


Letter	Item	Specification	
(A)	NX bus connector	This connector is used to connect to another Unit.	
(B)	Indicators	The indicators show the current operating status of the Unit.	
(C)	Connectors	The connectors are used to connect to external devices.	

Fujitsu Connector Type (1 Connector with 40 terminals) 30 mm Width



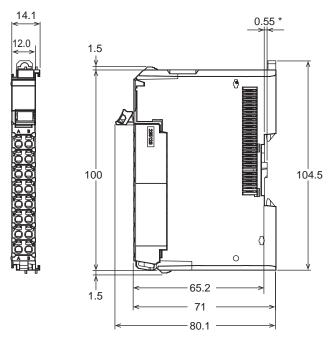
Fujitsu Connector Type (2 Connectors with 24 terminals) 30 mm Width



Letter	Item	Specification	
(A)	NX bus connector	This connector is used to connect to another Unit.	
(B)	Indicators	The indicators show the current operating status of the Unit.	
(C)	Connectors	The connectors are used to connect to external devices.	

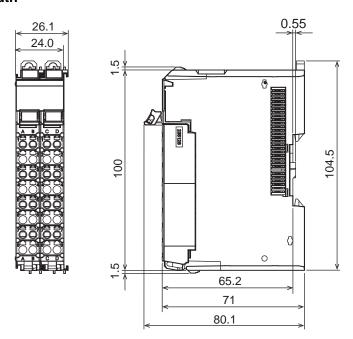
Dimensions (Unit/mm)

Screwless Clamping Terminal Block Type 12 mm Width

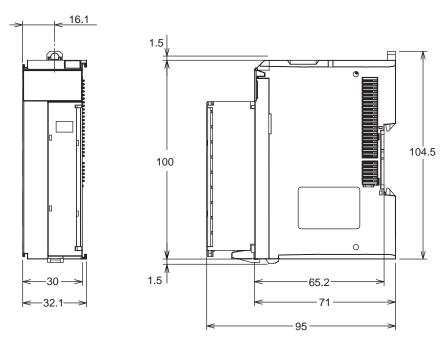


^{*} The dimension is 1.35 mm for Units with lot numbers through December 2014.

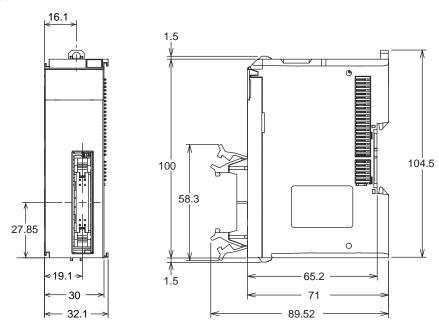
24 mm Width



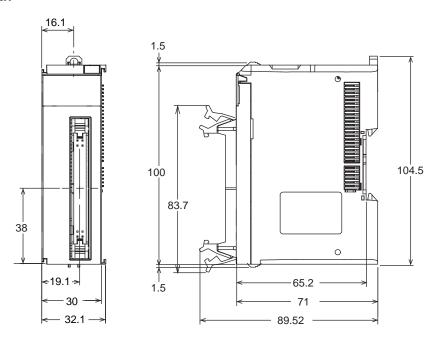
M3 Screw Terminal Block Type 30 mm Width



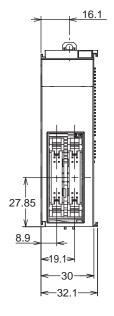
MIL Connector Type (1 Connector with 20 terminals) 30 mm Width

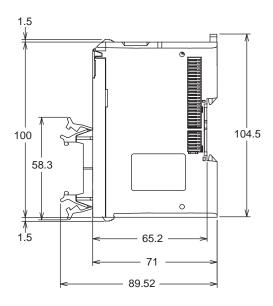


MIL Connector Type (1 Connector with 40 terminals) 30 mm Width

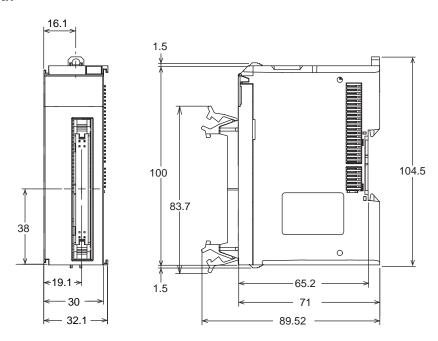


MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

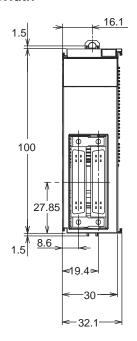


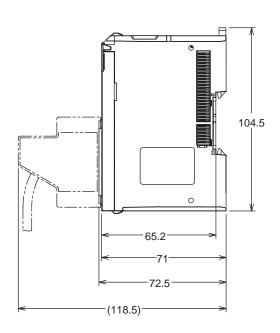


Fujitsu Connector Type (1 Connector with 40 terminals) 30 mm Width



Fujitsu Connector Type (2 Connectors with 24 terminals) 30 mm Width





Related Manual

Cat. No.	Model number	Manual name	Application	Description
W521	NX-ID	NX-series Digital I/O Units User's Manual	Learning how to use NX-series Digital I/O Units	The hardware, setup methods, and functions of the NX-series Digital I/O Units are described.

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