NX-ID/IA/OD/OC/MD

CSM NX-ID IA OD OC MD DS F 3 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

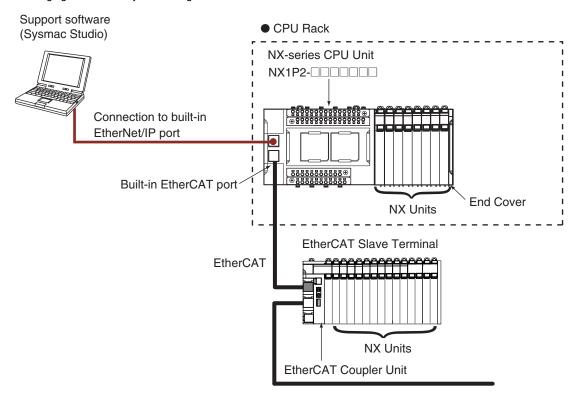
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System Configurations

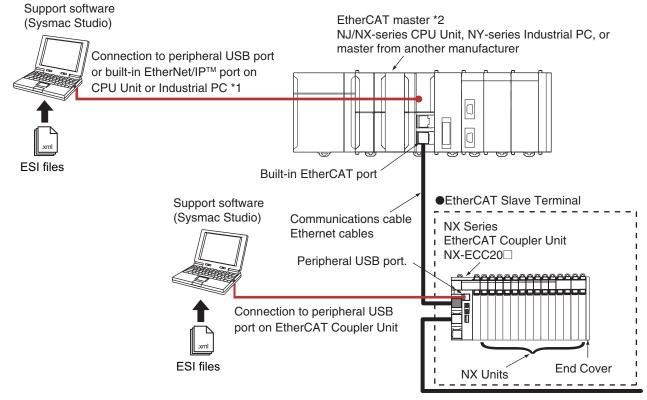
Connected to a CPU Unit

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

No.	Inputs	Outputs	Mixed I/O (Input, Output)	
1	For both NPN/PNP	NPN	For both NPN/PNP, NPN	
2	PNP		For both NPN/PNP, PNP	
3	NPN			
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

			ON/OFF res	ponse time	I/O refreshing	method	Other functions				
No.	Rated voltage	Load current	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	VDC		Yes	Yes		Yes				
58				Yes		Yes	Yes				
68		2 A	Yes		Yes		Yes				

Digital Mixed I/O Units

9		•					
	Input section			tion			
No.	Rated input		Load	ON/OFF res	ponse time		Other functions
	voltage	Rated voltage curren		Exceeds 1 μs	1 μs max.	I/O refreshing method	Load short-circuit protection
21	24 VDC	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)

	Duaduat			Specif	fication			
Unit type	Product 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	
	DC Input Unit			24 VDC	Input refreshing with input changed time only*	100 ns max.	NX-ID3344	
NX-series Digital			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 time only*	100 ns max./ 100 ns max.	NX-ID3443	KC
							NX-ID3444	
			NPN	04.V/DC		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	l 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)

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

DC Input Unit (Fujitsu Connector, 30 mm Width)

	Product	Specification						
Unit type	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		Specification					
Unit type	name	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)

		-	•			<u> </u>	· ·			
					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	
		O 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		
	Transistor Output Unit 4	utput	NI NI	NDN		12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD3121	
			INFIN	INFIN	0.5 A/point,			300 ns max./ 300 ns max.	NX-OD3153	
NX-series			4 points	2 A/Unit 24 VDC 2 A/point, 8 A/Unit	04.VDC		0.5 ms max./ 1.0 ms max.	NX-OD3256	UC1, N, L, CE, RCM,	
Digital Output			PNP		24 VDC		300 ns max./ 300 ns max.	NX-OD3257		
Unit						Switching Synchronous I/O refreshing and Free-Run refreshing	0.5 ms max./ 1.0 ms max.	NX-OD3268	iko	
		9 nointe	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		0.1 ms max./ 0.8 ms max.	NX-OD5121		
			16 points PNP		24 VDC			0.5 ms max./ 1.0 ms max.	NX-OD5256	

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

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

					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	
NX-series Digital	Transistor Output Unit	ut Unit N 16 points —	NPN	NPN	0.5 A/point,	12 to 24 VDC	Switching Synchronous I/O refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-1	UC1, N, L,
Output Unit			PNP	5 A/Unit	24 VDC	and Free-Run refreshing	0.5 ms max./ 1.0 ms max.	NX-OD5256-1	- CE, RCM, KC	

● 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 PNP	0.5 A/point,	12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD5121-5		
NX-series Digital			2 A/Unit	24 VDC	Switching Synchronous I/O refreshing	0.5 ms max./ 1.0 ms max.	NX-OD5256-5	UC1, N, L, CE, RCM,	
Output Unit	7	20 mainta	NPN	0.5 A/point,	12 to 24 VDC	and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD6121-5	KC KC
		32 points	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 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
NX-series Digital Output Unit	Transistor Output Unit	32 points	NPN	0.5 A/point, 2 A/common, 4 A/Unit	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD6121-6	UC1, N, L, CE, RCM, KC

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

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

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

				Spec	ification			
Unit type	Product	Number of points	Relay type	Maximum switching capacity	I/O refreshing method	ON/OFF response time	Model	Standards
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)

	Duadicat			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 Inputs: 16 points	Outputs: NPN Inputs: For both NPN/PNP	Outputs: 12 to 24 VDC Inputs: 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	Outputs: 0.1 ms max./0.8 ms max. Inputs: 20 µs max./400 µs max.	NX-MD6121-5	UC1, N, L,
			Outputs: PNP Inputs: For both NPN/PNP	Outputs: 24 VDC Inputs: 24 VDC		Outputs: 0.5 ms max./1.0 ms max. Inputs: 20 μs max./400 μs max.	NX-MD6256-5	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		Speci	fication		Model	Standards
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block:	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)				
		Speci				
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
A	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	А	XW2Z-□□X	XW2R-□20GD-T	Depends on model *3	None
		Connector	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
		1 Fujitsu connector	А	А	XW2Z-□□□PF	XW2R-□34GD-C1	Depends on model *3	None
				A XW2Z-□□B XW2D-40G6 B XW2Z-□□D XW2R-□20GD-T (2 Units)	XW2D-40G6	Phillips screw	None	
					XW2R-□20GD-T (2 Units)	Depends on model *3	None	
NX-ID6142-6	32 inputs		NPN/ PNP	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	NPN	А	XW2Z-□□X	XW2R-□20GD-T	Depends on model *3	None
		connector		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-OD3230-3 I		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
		4.8411		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 5		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		COTTICCTO	1 101	С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
TOX MIDOTET O	16 outputs	1 MIL connector	NPN	С	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
		COTTICCTO		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
100 11120121 0				С	XW2Z-□□□A	XW2E-20G5-IN16 *2	Phillips screw	Yes
	40 - 1- 1-	1 Fujitsu	NEN	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
1	16 outputs	1 MIL connector	NPN/ PNP	С	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
NX-MD6256-5		30111100101		С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
NX-MD6256-5 1	16 outputs	1 MIL	PNP	С	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
<u>'</u>	ro outputs	connector	רואר	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
		s 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
NX-OD5256-5		ts 1 MIL connector	PNP	F	XW2Z-RI□C	G7TC-OC16-1	Phillips screw
	16 outputs			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
				Α	XW2Z-RO□-□-D1	G70V-SOC16P (2 Units)	Push-in spring
				Α	XW2Z-RO□-□-D1	G7TC-OC16 (2 Units)	Phillips screw
NX-OD6121-5				Α	XW2Z-RO□-□-D1	G70D-SOC16 (2 Units)	Phillips screw
	20 inputo	1 MIL connector	NPN	Α	XW2Z-RO□-□-D1	G70D-FOM16 (2 Units)	Phillips screw
	32 inputs	1 WIL COTTIECTOR	INFIN	Α	XW2Z-RO□-□-D1	G70D-VSOC16 (2 Units)	Phillips screw
				Α	XW2Z-RO□-□-D1	G70D-VFOM16 (2 Units)	Phillips screw
				Α	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
NV ODe101 e	20 inputo	1 Fujitsu	NPN	Α	XW2Z-RO□C-□	G70D-FOM16 (2 Units)	Phillips screw
NX-OD6121-6	32 inputs	connector	INPIN	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
NV ODGOEG E	20 innuto	1 MIL compostor	DND	Α	XW2Z-RO□-□-D1	G70D-SOC16-1 (2 Units)	Phillips screw
NX-OD6256-5	32 inputs	1 MIL connector	PNP	Α	XW2Z-RO□-□-D1	G70D-FOM16-1 (2 Units)	Phillips screw
				Α	XW2Z-RO□-□-D1	G70A-ZOC16-4 and Relay (2 Units)	Phillips screw
				Е	XW2Z-RO□C	G70V-SID16P(-1)	Push-in spring
	16 inputs	1 MIL connector	NPN/PNP	E	XW2Z-RO□C	G7TC-ID16	Phillips screw
				E	XW2Z-RO□C	G7TC-IA16	Phillips screw
				E	XW2Z-RO□C	G70V-SOC16P	Push-in spring
				Е	XW2Z-RO□C	G7TC-OC16	Phillips screw
NX-MD6121-5				Е	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
				Е	XW2Z-RO□C	G70D-VFOM16	Phillips screw
				Е	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		E	XW2Z-R□C	G7TC-IA16	Phillips screw
				E	XW2Z-R□C	G70V-SOC16P	Push-in spring
				E	XW2Z-R□C	G7TC-OC16	Phillips screw
NX-MD6121-6				E	XW2Z-R□C	G70D-SOC16	Phillips screw
	16 outputs	1 Fujitsu	NPN	E	XW2Z-R□C	G70D-FOM16	Phillips screw
	10 outputs	connector		E	XW2Z-R□C	G70D-VSOC16	Phillips screw
				E	XW2Z-R□C	G70D-VFOM16	Phillips screw
				E	XW2Z-R□C	G70A-ZOC16-3 and Relay	Phillips screw
				E	XW2Z-R□C XW2Z-RO□C	G70V-SID16P(-1)	Push-in spring
	16 innerto	1 MIL connecte:	NPN/PNP	E	XW2Z-RO□C XW2Z-RO□C	G7TC-IA16	Phillips screw
	16 inputs	1 MIL connector	INCIN/PINP				·
				E	XW2Z-RO□C	G7TC-ID16	Phillips screw
NX-MD6256-5				E	XW2Z-RI□C	G70V-SOC16P-1	Push-in spring
	1.0	4.840	DAID	E	XW2Z-RO□C	G7TC-OC16-1	Phillips screw
	16 outputs	1 MIL connector	PNP	E _	XW2Z-RI□C	G70D-SOC16-1	Phillips screw
				E	XW2Z-RI□C	G70D-FOM16-1	Phillips screw
	er models and			E	XW2Z-RI□C	G70A-ZOC16-4 and Relay	Phillips screw

Note: 1. For other models and specifications that are not listed above, refer to the datasheets.

2. The G70V Series includes models that provide internal connections. 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.)	
CHVIIOIIIIEII	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	ree-Run refreshing	
	TS indicator, input indicator	Internal I/O common	NPN
	ID3317	Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
	■TS ■0 ■1	Input current	6 mA typical (at 24 VDC), rated current
Indicators	=2 =3	ON voltage/ON current	9 VDC min./3 mA min. (between IOV and each signal)
indicators		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	NX bus connector (left) I/O power supply +	nt control reuit	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 OIOV IOV IOG IOG IOG IOG A8 B8	DC Input Unit NX-ID3317 Two A1 IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3 B1 A8 B8	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 time to the control circuit time time to the control circuit time time time time time time time ti	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	-wire nsor 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 ■0 ■1	Input current	3.5 mA typical (at 24 VDC), rated current 15 VDC min./3 mA min. (between IOV and
Indicators	■2 ■3	ON voltage/ON current	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 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 sup	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 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	4 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F 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	Terminal block IN0 to IN3 Current circ IOG0 to 3 NX bus connector (left) I/O power supply +	control	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 NX-ID3417 Two- ser IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3 A8 B8	
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	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■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	Without filter, 1 μ s, 2 μ s, 4 μ s, 8 μ s (factory setting),16 μ s, 32 μ s, 64 μ s, 128 μ s, 256 μ s
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 induic outploys	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 IOV IOV IOG IOG A8 B8	DC Input Unit NX-ID3443 Two- ser IN0 IN1 • IOV0 IOV1 • IOG0 IOG1 IN2 IN3 • IOV2 IOV3 • IOG2 IOG3 • A8 B8	wire isor Three-wire sensor
Disconnection/ 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.
D	10 (10) 100 (10) 71 (7)	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		ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 Old IOV IOV IOV IOV IOG IOG A8 B8	DC Input Unit NX-ID3444 A1 B1 IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3 A8 B8	
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)
i/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 $M\Omega$ 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 iricuits	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		nt control recuit strenge of control recuit strenge of control recuit strenge of control recuits strenge of control recursion strenge of c	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	10V0	
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 FTS 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 circuit	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		DC Input Unit NX-ID5342 B1
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID5442	
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)	
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing			
	TS indicator, input indicator	Internal I/O common	PNP	
	ID5442	Rated input voltage	24 VDC (15 to 28.8 VDC)	
	■TS ■0 ■1 ■2 ■3	Input current	2.5 mA typical (at 24 VDC), rated current	
	■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	$20~\text{M}\Omega$ 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	NX bus connector (left) NX bus connector (left) 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	10V		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)
maioatoro	- 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 $\mbox{M}\Omega$ 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 (left)		

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 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 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 40 45 50 55 60 0 10 20 30 Ambient temperature (°C) Terminal Signal Name Signal Name IN0 A0 60 B0 ● IN1 IN2 A1 B1 . IN3 • A2 IN4 IN5 B2 • IN6 • A3 60 IN7 B3 • **Terminal connection** • A4 IN8 √o-B4 **●** IN9 diagram IN10 • A5 IN11 B5 🌲 60 • A6 IN12 √o IN13 B6 **●** IN14 A7 24 VDC 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)
	■ IS	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 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 20 40 45 50 55 60 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 10 20 30 40 45 50 55 60 Ambient temperature (°C) Signal Connector name pin Signal name 24 VDC NC NC COM 3 4 COM 6 IN07 IN15 **IN14** 8 **IN06 Terminal connection** IN13 9 10 IN05 diagram 11 12 IN12 IN04 IN11 13 14 IN03 IN10 15 16 IN02 IN09 17 18 IN01 20 **IN08** 19 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-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-F	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.	1	
Circuit layout	Connector (left) Input indicator INO 3.3 kΩ Input indicator	I/O power supply + I/O power supply - onnector (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. points Ambient temperature characteristic 35 32 points at 45°C of simultaneously ON input 30 32 points at 40°C 13 points/common at 55°C 25 20 10 points/common at 55°C 15 10 I/O power supply voltage ---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 Number of 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 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 IN31 6 IN23 IN30 8 IN22 IN29 9 10 IN21 IN28 11 12 IN20 IN27 13 14 IN19 **IN26** 15 | 16 | IN18 IN25 17 18 19 20 IN17 24 VDC Terminal connection NC COMO COM0 diagram **IN15** IN07 26 IN14 28 IN06 IN13 IN05 30 29 IN12 IN04 IN11 IN03 IN10 IN09 35 36 IN02 -60 38 IN01 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)
a.ioato.o	■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 IN0 IN15 COM0 COM0 IN16 IN31 COM1 COM1 COM1 COM1 COM1 COM1 COM1 COM	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 35 32 points at 45°C 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 25 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 pin INO A1 B1 IN1 A2 B2 IN17 IN2 A3 B3 IN18 IN3 IN19 В4 A4 IN4 A5 B5 IN20 IN5 A6 B6 IN21 IN22 A7 B7 IN7 A8 B8 IN23 СОМО A9 В9 СОМ1 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)
оприону	TS indicator, input indicator	Internal I/O common	No polarity
	IA3117 ■TS	Rated input voltage	200 to 240 VAC, 50/60 Hz (170 to 264 VAC, ±3 Hz)
	■0 ■1 ■2 ■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.		
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 in 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	38	
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 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 IOV IOV IOG IOG IOG IOG A8 B8	Transistor Output Unit NX-OD2154 A OUTO OUT1 IOV IOV IOG IOG NC 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 Telleshing 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 (M) × 100 (H) × 71 (D)	ON/OFF response time Isolation method	300 ns max./300 ns max.
	12 (W) x 100 (H) x 71 (D) 20 MΩ min. between isolated circuits (at		Digital isolator 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 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 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 IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD2258 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 terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, output indicator	Internal I/O common	NPN
	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. 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., IOG: 0.5 A/terminal max.
	Connected to a CPU Unit 0.90 W max.		
NX Unit power consumption	Connected to a Communications	I/O current consumption	10 mA max.
- Concumpation	Coupler Unit 0.55 W max.		
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply +		IOV0 to 3 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	oright installation. er Unit: Possible in 6 orientat	ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 Old IOV IOV IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD3121 A1 B1 OUT0 OUT1 IOV0 IOV1 IOG0 IOG1 OUT2 OUT3 IOV2 IOV3 IOG2 IOG3 A8 B8	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transister Outnut Unit	Model	NX-OD3153
Unit name	Transistor Output Unit	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	NPN
	OD3153	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.
		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 OUT0 OUT1● IOV0 IOV1● IOG0 IOG1 OUT2 OUT3● IOV2 IOV3● IOG2 IOG3● A8 B8	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		DND
	TS indicator, output indicator	Internal I/O common	PNP
	OD3256 ■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.
		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) I/O power supply + I/O power supply -	Short-circuit protection	OUT0 to OUT3 IOG0 to 3 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 IOO IOV IOV IOV IOO IOO IOO IOO 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	Transistar Outout Unit	Model	NX-OD3257
	Transistor Output Unit	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	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	Supply from the NX bus	Current capacity of I/O	IOV: 0.5 A/terminal max.,
method		power supply terminal	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 + 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 OV 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	24 VDC
	■TS ■0 ■1	Operating load voltage range	15 to 28.8 VDC
Indicators	■2 ■3	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.
	10 (10) 100 (10) 71 (7)	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) I/O power supply + I/O power supply -	ON O	V 0 to IOV 3 DM (+V) Terminal block UT 0 to OUT 3 G 0 to IOG 3 D power pply + 0 power pply - 0 power pply - 0 former power (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	Transistor Output Unit NX-OD3268 A1 B1 OUT0 OUT1 IOV0 IOV1 IOG0 IOG1 OUT2 OUT3 IOV2 IOV3 IOG2 IOG3 OV OV A8 B8 OV has 2 terminals, so be sure to wire both ten COM (+V) has 2 terminals, so be sure to wire both ten		
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
•	·	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	Operating load voltage	1-13-11-13
	■0 ■1 ■2 ■3	range	10.2 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.
Dimensions	12 (M) × 100 (H) × 71 (D)	ON/OFF response time Isolation method	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D) 20 MΩ min. between isolated circuits (at		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 the NX bus	Current capacity of I/O power supply terminal	IOV: 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) NX bus connector (left) I/O power supply -		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		ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 IOV IOV IOV IOV IOG IOG IOG A8 B8	Connection Unit	0 IOV1
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

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	1	
	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.
D	10 (11) 100 (11) 71 (7)	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	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) I/O power supply + I/O power supply -	Short-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 FIOV FIOS F	10G0 10 10G0 10 10U 10V 10G2 10 10U 10V 10G4 10 10U 10U 10G4 10 10U 10U 10U 10G4 10 10U 10U	Two-wire type UT3 G1 UT3 UT5 Three-wire type
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 terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	1	T.,,
	TS indicator, output indicator	Internal I/O common	NPN
	OD5121 ■TS	Rated voltage Operating load voltage	12 to 24 VDC
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	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, 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.
Dimensions	10 (M) 100 (I) 71 (D)	ON/OFF response time	0.1 ms max./0.8 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 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 1.00 W max. 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 -		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		/ IOV	Transistor Output Unit NX-OD5121 A1 B1 Two-wire type 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
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		terrimais
	TS indicator, output indicator	Internal I/O common	PNP
	OD5256	Rated voltage	24 VDC
	■TS ■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	$20~\text{M}\Omega$ 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 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 - I/O pow	Short-circuit protection	OUT0 to OUT15 Terminal block 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		ions.
Terminal connection diagram	10V	Normal Connection Unit	Tansistor Output Unit NX-OD5256 B1 Two-wire type OUT0 OUT1 OUT2 OUT3 OUT4 OUT5 OUT6 OUT7 OUT8 OUT9 DUT10 OUT11 DUT12 OUT13 DUT14 OUT15 DB8
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 power supply + I/O power supply -	Terminal block Pr 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	Terminal Signal name A B Signal name A Signal name A B Signal name A Signal name A Signal name A Signal name A B Signal name A Signal name Signal name A Signal name A			
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	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, 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.		<u> </u>	
Circuit layout	NX bus connector (left) NX bus connector supply + I/O power supply -	Short-circuit Short-circuit No No No No No No No No No No No No No	Terminal block To to OUT15 Power sply + power 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 B Signal name A B Signal name A B OUT1			
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	Switching Synchronous I/O refreshing and Free-F	Run refreshing	
	TS indicator, output indicator	Internal I/O common	NPN
	OD5121-5	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	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	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 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 + NX bus connector (right)
Installation orientation and restrictions	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 name	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-I		, ,
we remediately meaned	TS indicator, output indicator	Internal I/O common	PNP
	OD5256-5	Rated voltage	24 VDC
	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	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 Unit 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 protection	COM (+V) COM (+V) COM (+V) OUT0 to OUT15 OV OV I/O power supply + I/O power supply - I/O power supply - OUT0 to OUT15
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright Connected to a Communications Coupler Unirestrictions: No restrictions	installation. t: Possible in 6 orientations.	
Terminal connection diagram	Signal name pin 24 VDC COM (+V) 1 2 0V 3 4 L OUT15 5 6 L OUT14 7 8 L OUT12 11 12 L OUT10 15 16 L OUT10 15 16 L OUT09 17 18 L OUT08 19 20 • Be sure to wire both pins 1 and 2 (COM (+V)). • Be sure to wire both pins 3 and 4 (0V).	OUT04 L OUT03 L OUT02 L OUT01 L	
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

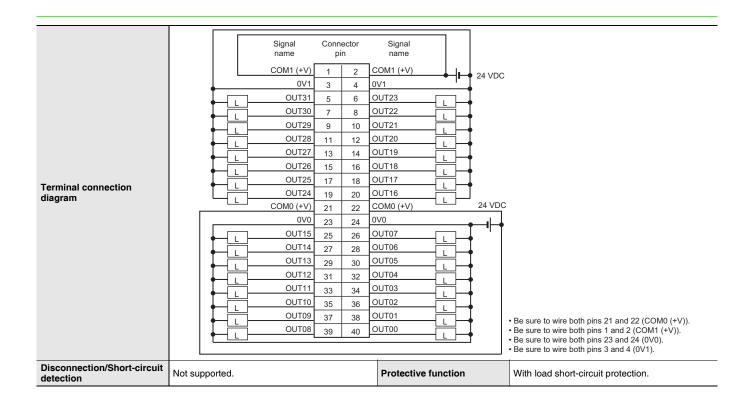
NX-OD6121-5

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 1/0 power supply +	+V0 +V0 OUT0 to OUT18 COM0 COM0 +V1 +V1 OUT16 to OUT31	Connector
	NX bus connector (left) I/O power supply +	I/O power	r supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright Connected to a Communications Coupler Unit Restrictions: No restrictions		

	ı		
Terminal connection diagram	12 to	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 21 22 +V0 23 24 COM0 25 26 OUT07 L 29 30 OUT06 L 29 30 OUT06 L 31 32 OUT04 L 33 34 OUT03 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	Switching Synchronous I/O refreshing and Free-F	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 $\text{M}\Omega$ 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 1.30 W max. Connected to a Communications Coupler Unit 1.00 W max.	Current consumption from I/O power supply	80 mA max.	
Weight	95 g max.			
Circuit layout	NX bus connector (left) I/O power supply + I/O power supply -	Short-circuit protection protection	COM0 (+V) COM0 (+V) OUT0 to OUT15 OV0 OV0 COM1 (+V) COM1 (+V) OUT16 to OUT31 OV1 OV1 I/O power supply + I/O power supply - I/O power s	
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	
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, 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	O.F. A/noint O.A/common 4.A/linit	
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15 ■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23	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. 1.5 V max.	
		Residual voltage 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	Dielectric strength	510 VAC between isolated circuits for 1 minute at	
insulation resistance	VDC)	-	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	
	Connected to a CPU Unit 1.10 W max.	Current consumption from		
NX Unit power consumption	Connected to a Communications Coupler Unit 0.80 W max.		50 mA max.	
Weight	90 g max.		<u> </u>	
	***	+V0		
		+V0		
		OUT0 to OUT15		
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
		-		
		COM0		
Circuit lovout	+V1 Connector			
Circuit layout	OUT16			
	to OUT31			
	COM1			
	""	COM1		
	NX bus Supply +	I/O power supply + NX bus		
	connector I/O power I/O power (right)			
	(left) supply -	supply –		
Installation orientation and	Installation orientation: • Connected to a CPU Unit: Possible in upright in	installation.		
restrictions	Connected to a Communications Coupler Unit Restrictions: No restrictions			
	Olimat Connector Olimat			
	12 to 24 VDC signal pin name name	12 to 24 VDC		
	OUT0 A1 B1 OUT10 OUT1 A2 B2 OUT11			
	UT2 A3 B3 OUT18			
	OUT3 A4 B4 OUT19			
	OUT4 A5 B5 OUT20 T T			
	L OUT6 A7 B7 OUT2			
	OUT7 A8 B8 OUT2: COM0 A9 B9 COM1			
Toursinal course!	+V0 A10 B10 +V1			
Terminal connection diagram	OUT8 A11 B11 OUT2			
	OUT10 A13 B13 OUT20			
	OUT11 A14 B14 OUT2 OUT12 A15 B15 OUT2	7		
	OUT13 A16 B16 OUT29	9		
	UT14 A17 B17 OUT30			
	OUT15 A18 B18 OUT3: COM0 A19 B19 COM1			
	+V0 A20 B20 +V1			
	 Be sure to wire both pins A9 and A19 (COM0). Be sure to wire both pins B9 and B19 (COM1). 			
	 Be sure to wire both pins A10 and A20 (+V0). 			
Disconnection/	Be sure to wire both pins B10 and B20 (+V1).			
Short-circuit detection	Not supported.	Protective function	Not supported.	
	!		 	

● 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 terminals	Screwless clamping terminal block (8 terminals)		
I/O refreshing method	Free-Run refreshing				
	TS indicator, output indicator	Relay type	N.O. contact		
	OC2633	Maximum switching	250 VAC/2 A ($\cos \phi = 1$), 250 VAC/2 A ($\cos \phi = 0.4$),		
Indicators	=0 =1	capacity	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: $20~M\Omega$ min. (500 VDC) Between the external terminals and internal circuits: $20~M\Omega$ min. (500 VDC) Between the internal circuit and GR terminal: $20~M\Omega$ min. (100 VDC) Between the external terminals and GR terminal: $20~M\Omega$ min. (500 VDC)	Dielectric strength	Between A1/B1 terminals and A3/B3 terminals: 230 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and GR terminal: 23 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 m Between the internal circuit and GR terminal: 510 V. 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/s ² 100 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 + Vou cannot replace t	oly	0 to 1 Terminal block C0 to C1 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	Relay Output Unit NX-OC2633 B1 O C0 O O O O O O O O O O O O O O O O O				
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.		

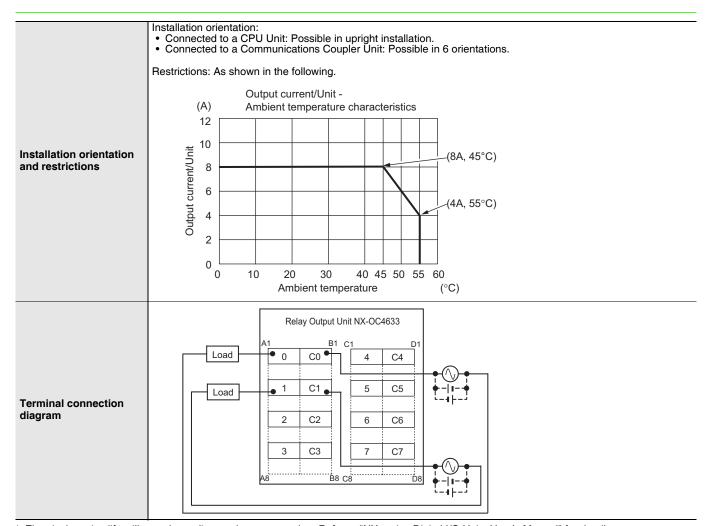
^{*} Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

NX-OC2733

IVX-002733	T		
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 - I/O
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		cions.
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

ing terminal block (8
$s\phi = 1),$ $s\phi = 0.4),$
s max.
its: 2300 VAC for 1 min at of 5 mA max. rnal terminals and the terminal: 2300 VAC for 1 current of 5 mA max. rnal terminals and shad to the terminal terminals and shad of 5 mA max. rnal circuit and the terminal: 510 VAC for 1 current of 5 mA max.
each in X, Y, and Z
r supply terminals
ply + NX bus connector (right)
ply +



^{*} 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	e	DC Input/Transistor Output Unit	Model		NX-MD6121-5	
Number o	of points	16 inputs/16 outputs	External c	onnection	2 MIL connectors (20 terminals)	
I/O refres	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 voltage range 10.2 to 28.8 VDC	12 to 24 VDC		Rated input voltage		24 VDC (15 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		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	0.1 ms max./0.8 ms max.		Input filter time	4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms	
		TS indicator, I/O indicators	Dimension	ns	30 (W) x 100 (H) x 71 (D)	
		MD6121-5	Isolation r	method	Photocoupler isolation	
		CN ■TS	Insulation	resistance	20 M Ω 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	
Indicators	S		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.	
			Weight		105 g max.	
Circuit la	yout	CN1 (left) output circuit NX bus connector (left) Connector NX bus connector (left) Connector NX bus connector (left) NX bus connector (left)				

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 points 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 6 3 points at 55°C 10 20 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 12 11 OUT12 OUT4 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** 7 8 IN14 IN₀₆ 9 10 IN13 IN05 IN12 11 12 IN04 13 14 IN03 IN11 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

Unit 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)	
I/O refreshing method	Switching Synchronous I/O refreshing and Free-	Run refresh	ing		
Internal I/O common	PNP		Internal I/O common	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		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)	
	MD62F6-F	Isolation	method	Photocoupler isolation	
	MD6256-5 CN_ ■TS	Insulation	resistance	20 M Ω min. between isolated circuits (at 100 VDC)	
Indicators	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	
		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 0.75 W max.	
		Current consumption from I/ O power supply		40 mA max.	
		Weight		110 g max.	
Circuit layout	NX bus connector (left) NX bus connector (left) Connector I/O power supply + I/O power supply - I/O power supply + I/O power		to OUT0 to OUT15 00V0 1/O power supply + 01/O power supply - 01/O supply - 01/O power supply -	us sector	

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 10 40 45 50 55 60 restrictions Ambient temperature (°C) · For any installation other than upright ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 40°C 16 points at 25°C 16 of simultaneously 12 I/O power supply 5 points at 55°C 8 voltage ----24 V 4 28.8 V 3 points at 55°C 0 Number 0 10 20 30 40 45 50 55 60 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 8 OUT14 OUT6 5 OUT7 6 OUT15 4 COM0 (+V) 3 COM0 (+V) 0V0 2 1 0V0 • 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. Terminal connection diagram CN2 (right) input terminal 24 VDC Signal Connector Signal name <u>pin</u> name ďЫ NC NC COM1 3 4 COM1 6 5 IN15 IN07 √o IN14 8 IN06 9 10 IN13 IN05 **√**0 60 IN12 IN04 11 12 -ი ი જ ૦ IN11 13 14 IN03 IN10 15 16 IN02 ⋖° **√**∘ 17 18 IN09 IN01 ⋖° -6°0 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.

Protective function

Disconnection/Short-circuit

detection

Not supported.

With load short-circuit protection.

● DC Input/Transistor Output Unit (Fujitsu Connector, 30 mm Width) NX-MD6121-6

Unit name	Unit name DC Input/Transistor Output Unit Model			NX-MD6121-6	
Number o	•	16 inputs/16 outputs	terminals		2 Fujitsu connectors (24 terminals)
I/O refres	hing method	Switching Synchronous I/O refreshing and Free-	Run refreshi	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	10.2 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.			
	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
	response time	TS indicator, I/O indicators	Dimensio	ns	30 (W) x 100 (H) x 71 (D)
		·	Isolation		Photocoupler isolation
		MD6121-6			20 MΩ min. between isolated circuits (at 100
		CN	Insulation	resistance	VDC) 510 VAC between isolated circuits for 1 minute at
		L=8 =9 =10 =11 =12 =13 =14 =15 2 F=0 =1 =2 =3 =4 =5 =6 =7	Dielectric		a leakage current of 5 mA max. Supply from external source
Indicators	•	² L■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	-	apacity of I/O	Supply from external source
mulcators				pply 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.
			Weight		95 g max.
Circuit la	/out		ndicator	COM0 COM0 I/O power supply + I/O power supply -	Connector NX bus connector (right)
		Connector Com1 NX bus connector (left) NX bus connector (left) NX bus connector (left) NX bus connector (left)	***	W I/O power supply + I/O power supply -	NX bus connector (right)

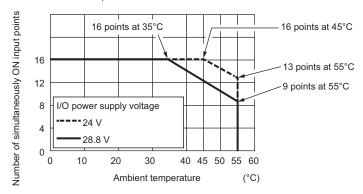
- Installation orientation:

 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

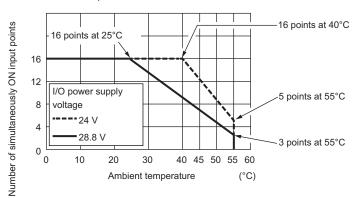
Number of simultaneously ON input points vs. Ambient temperature characteristic

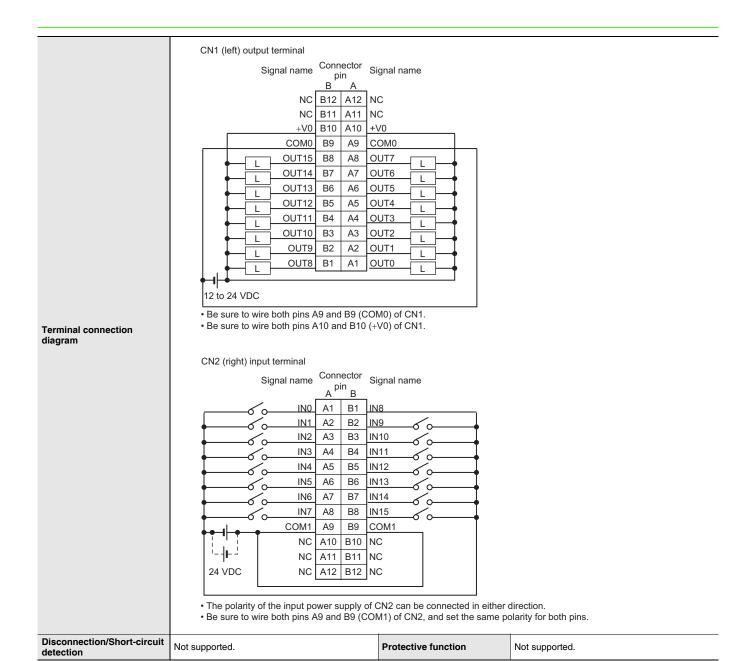


Installation orientation and restrictions

• 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	Correspondi	ng 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			
NX-OD3256	Ver.1.0	Ver.1.13 or later	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			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						J	
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				ŭ		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					volume or ingrior	
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				voi. 1.00 of migrior		voi. ii i o oi i iigiioi	
NX-ID6142-5				Ver.1.10 or higher	r		
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		vei.i.i oi latei	VOILTIOO OF IGIOT E	ver. 1.07 or migner			
NX-OD3121							
NX-OD3153				Ver.1.06 or higher		Ver.1.10 or higher	
NX-OD3256				ver. 1.06 or nigher		ver.1.10 or higher	
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 nigher	
NX-OD5256-1				Ver.1.13 or higher		Ver.1.13 or higher	
NX-OD5256-5				V 4 40 bisb		Va. 4.40 a. biaba.	
NX-OD6121-5				Ver.1.10 or higher		Ver.1.10 or higher	
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	VO1.1.0			Ver.1.10 or higher	1	Ver.1.10 or higher	

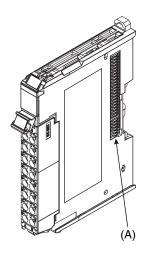
^{*1.}Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

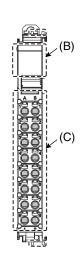
^{*2.} The instructions for time stamp refreshing are supported by CPU Units with unit version 1.06 or later. If you do not use instructions for time stamp refreshing, you can use version 1.05. Refer to the *NJ/NX-series Instructions Reference Manual* (Cat. No. W502) for details on the instructions for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

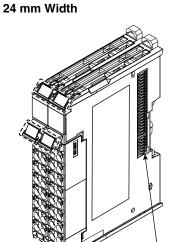
External Interface

Screwless Clamping Terminal Block Type

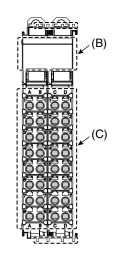
12 mm Width





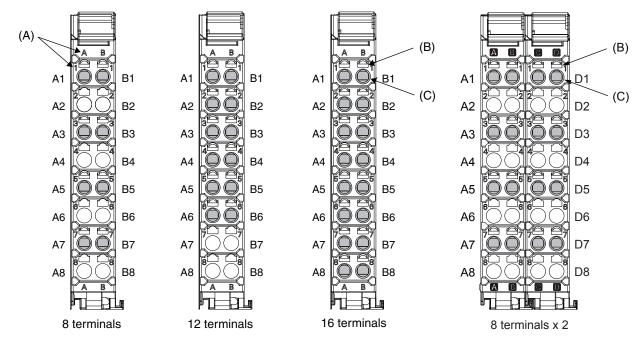


(A)



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 B1 through B8. The terminal number indication is the same regardless of the number of terminals on the terminal block.
(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					
Offic filoder	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		
NIV 00 1000	NX-TBA082	8	None	10 A		
NX-OC4633	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.

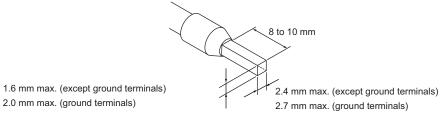
The applicable ferrules, wires, and crimping tools are listed in the following table.

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	Ī	
		AI1,0-8	1.0 (#18)	
		AI1,0-10	†	
		AI1,5-8	1.5 (#16)	
		AI1,5-10		
Ground terminals	=	Al2,5-10	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 mm², AWG 26 to 10)
terriiriais		H0.34/12	0.34 (#22)	
		H0.5/14	0.5 (#20)	
		H0.5/16		
		H0.75/14	0.75 (#18)	
		H0.75/16		
		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



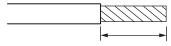
Using Twisted Wires/Solid Wires

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

Terminals		Wire type					0
		Twisted wires		Solid wire		Wire size	Conductor length (stripping length)
Classification	Current capacity	Plated	Unplated	Plated	Unplated		(oppg .og)
	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 Possible	0.08 to 1.5 mm ² AWG28 to 16	8 to 10 mm
	Greater than 4 A	Possible *1		Not 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.

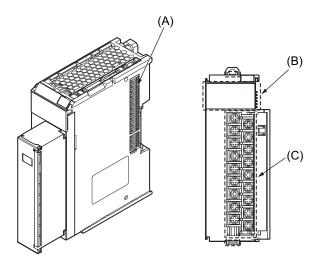
^{*2.} With the NX-TB□□□1 Terminal Block, use twisted wires to connect the ground terminal. Do not use a solid wire.



Conductor length (stripping length)

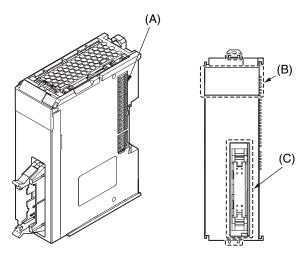
< Additional Information > If more than 2 A will flow on the wires, use plated wires or use ferrules.

M3 Screw Terminal Block Type 30 mm Width

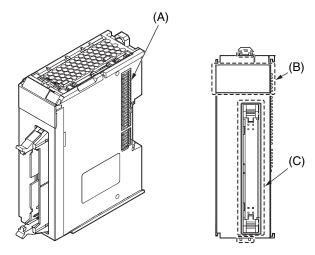


Letter Item		Specification	
(A)	NX bus connector	This connector is used to connect to another Unit.	
(B) Indicators The indicators show the current operating status of the Unit.		The indicators show the current operating status of the Unit.	
(C) Screw terminals These screw terminals are used to connect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

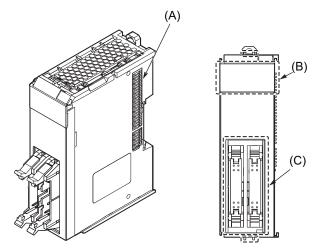
MIL Connector Type (1 Connector with 20 terminals) 30 mm Width



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

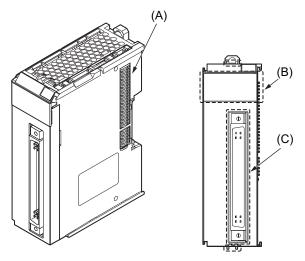


MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

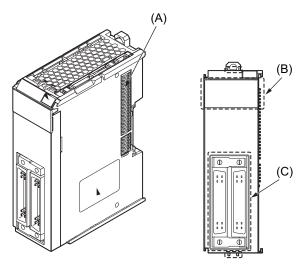


Letter	Item	Specification	
(A) NX bus connector This connector is used to connect to another Unit.		This connector is used to connect to another Unit.	
(B) Indicators The indicators show the current operating sta		The indicators show the current operating status of the Unit.	
(C)	(C) Connectors The connectors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

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



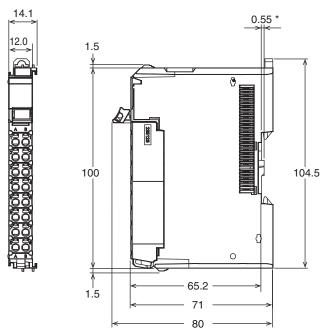
Fujitsu Connector Type (2 Connectors with 24 terminals) 30 mm Width



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

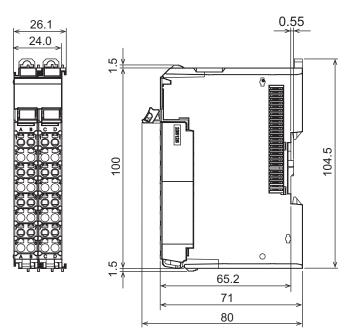
Dimensions (Unit/mm)

Screwless Clamping Terminal Block Type 12 mm Width

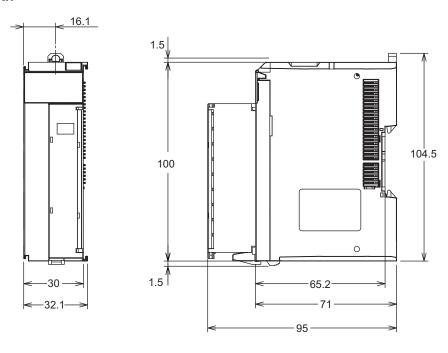


^{*} The dimension is 1.35 mm for Units with lot numbers through December 2014.

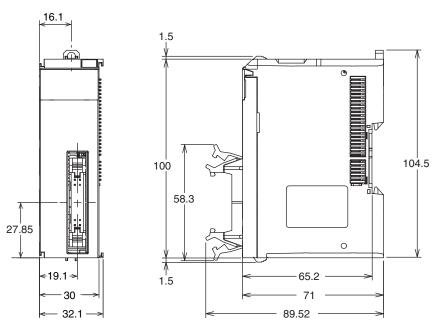
24 mm Width



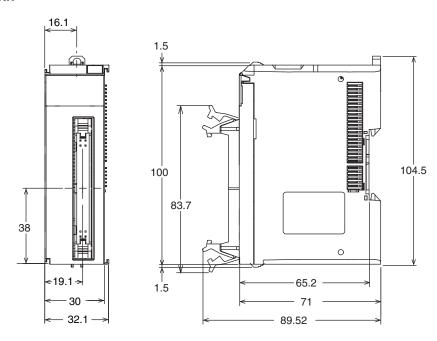
M3 Screw Terminal Block Type 30 mm Width



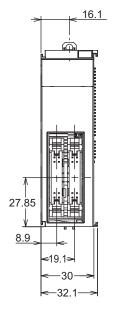
MIL Connector Type (1 Connector with 20 terminals) 30 mm Width

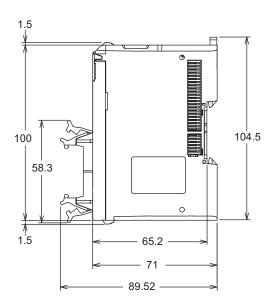


MIL Connector Type (1 Connector with 40 terminals) 30 mm Width

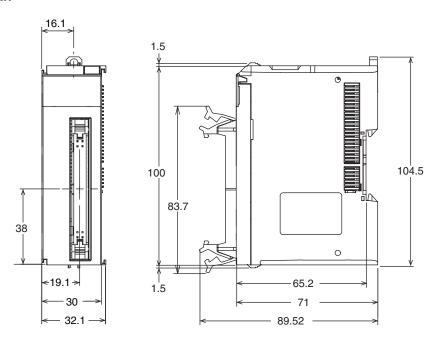


MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

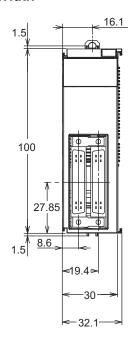


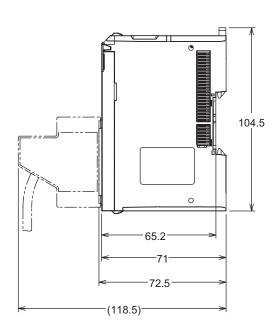


Fujitsu Connector Type (1 Connector with 40 terminals) 30 mm Width



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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