

NX-series Digital I/O Unit

NX-ID/IA/OD/OC/MD

CSM_NX-ID_IA_OD_OC_MD_DS_E_9_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/OTAX 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

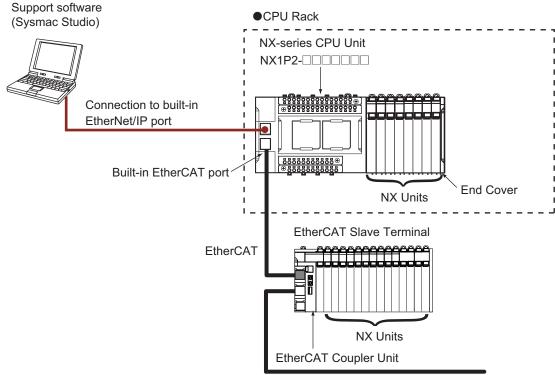
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System Configurations

Connected to a CPU Unit

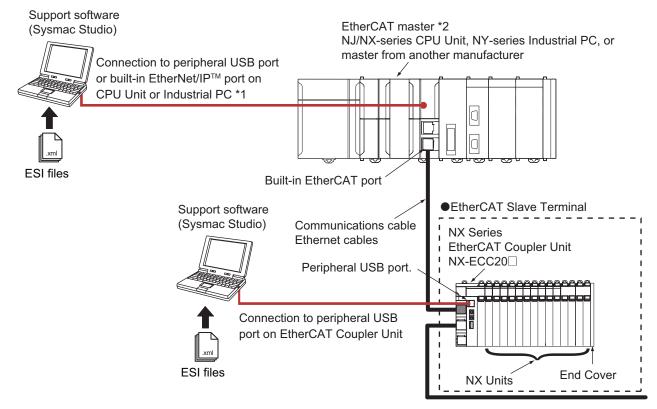
The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



Note: For whether an NX Unit can be connected to the CPU Unit, refer to the version information.

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.



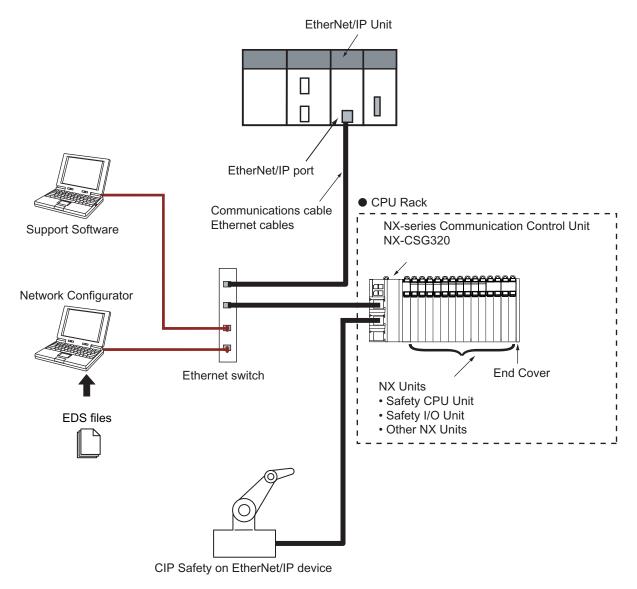
- *1. The connection method for the Sysmac Studio depends on the model of the CPU Unit or Industrial PC.
- *2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81/□82 Position Control Units even though they can operate as EtherCAT masters.

Note: For whether an NX Unit can be connected to the Communications Coupler Unit, refer to the version information.

System Configuration in the Case of a Communication Control Unit

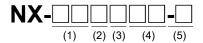
The following figure shows a system configuration when a group of NX Units is connected to an NX-series Communication Control Unit. To configure a Safety Network Controller, mount the Safety CPU Unit, which is one of the NX Units, to the CPU Rack of the Communication Control Unit

You cannot connect a Communication Control Unit with Digital I/O Units that support input refreshing with input changed time or output refreshing with specified time stamp.



Note: For whether an NX Unit can be connected to the Communication Control Unit, refer to the version information.

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/OTAX 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 I	I/O refreshing method						
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	04.1/00	0.5 A	Yes		Yes		Yes					
57	24 VDC			Yes	Yes		Yes					
58				Yes		Yes	Yes					
68		2 A	Yes		Yes		Yes					

Digital Mixed I/O Units

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

Applicable standards

Refer to the OMRON website (www.ia.omron.com) or ask your OMRON representative for the most recent applicable standards for each model.

Digital Input Units

				Specifications		
Product Name	Number of points	Internal I/O common	Rated input voltage	I/O refreshing method	ON/OFF response time	Model
			12 to 24 VDC	Switching Synchronous I/O re-	20 μs max./400 μs max.	NX-ID3317
		NPN		freshing and Free-Run refreshing		NX-ID3343
DC Input Unit		INPIN	24 VDC	Input refreshing with input changed time only *1	100 ns max./100 ns max.	NX-ID3344
	4 points		12 to 24 VDC	Switching Synchronous I/O re-	20 μs max./400 μs max.	NX-ID3417
		PNP		freshing and Free-Run refreshing		NX-ID3443
		1141		Input refreshing with input changed time only *1	100 ns max./100 ns max.	NX-ID3444
	0	NPN				NX-ID4342
	8 points	PNP				NX-ID4442
Screwless Clamping	40	NPN	24 VDC			NX-ID5342
erminal Block, 12 mm /idth/24 mm Width)	16 points	PNP		Switching Synchronous I/O re-	20 μs max./400 μs max.	NX-ID5442
nutil/24 mm Width,				freshing and Free-Run refreshing	20 με παχ./400 με παχ.	NX-ID6342
	20	NPN				<u>NE</u>
	32 points	DND				NX-ID6442
		PNP				<u>NE</u>
C Input Unit						
M3 Screw Terminal lock, 30 mm Width)	16 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O re- freshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID5142-1
OC Input Unit	16 points	For both	24 VDC	Switching Synchronous I/O re- freshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID5142-5
MIL Connector, 30 mm	32 points	NPN/PNP				NX-ID6142-5
C Input Unit						
Fujitsu/OTAX Connector, 30 mm Vidth)	32 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O re- freshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID6142-6
C Input Unit						
Screwless Clamping Terminal Block, 12 mm	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

^{*1.} To use input refreshing with input changed time, the EtherCAT Coupler Unit with unit version 1.1 or later and the Sysmac Studio version 1.07 or higher are required.

Digital Output Units

				Specifications			
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
	2 points	NPN	0.5 A/point, 1 A/Unit	24 VDC	Output refreshing with speci-	300 ns max./	NX-OD2154
	2 points	PNP	0.5 A/point, 1 A/onit	24 VDC	fied time stamp only *1	300 ns max.	NX-OD2258
		NIDNI		12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD3121
		NPN	0.5 A/point, 2 A/Unit			300 ns max./ 300 ns max.	NX-OD3153
	4 points		0.5 A/point, 2 A/onit			0.5 ms max./ 1.0 ms max.	NX-OD3256
ransistor Output Unit		PNP		24 VDC		300 ns max./ 300 ns max.	NX-OD3257
			2 A/point, 8 A/Unit	-		0.5 ms max./ 1.0 ms max.	NX-OD3268
	0 i t	NPN		12 to 24 VDC	Switching Synchronous I/O re- freshing and Free- Run refresh-	0.1 ms max./ 0.8 ms max.	NX-OD4121
Screwless Clamping Ferminal Block, 12 mm Vidth/24 mm Width)	8 points	PNP	0.5 A/point 4.A/Unit	24 VDC	ing	0.5 ms max./ 1.0 ms max.	NX-OD4256
viatii/24 iiiiii vviatii)	40	NPN	0.5 A/point, 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
		NPN	0.5 A/point,	12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD6121 <u>NEV</u>
	32 points	PNP	4 A/terminal block, 8 A/Unit	24 VDC	/DC		NX-OD6256 <u>NEV</u>
Transistor Output Unit		NPN		12 to 24 VDC	Switching Synchronous I/O re-	0.1 ms max./ 0.8 ms max.	NX-OD5121-1
	16 points		0.5 A/point, 5 A/Unit		freshing and Free- Run refreshing		
(M3 Screw Terminal Block, 30 mm Width)		PNP		24 VDC	9	0.5 ms max./ 1.0 ms max.	NX-OD5256-1
Fransistor Output Unit		NPN		12 to 24 VDC	Switching Synchronous I/O re- freshing and Free- Run refresh- ing	0.1 ms max./ 0.8 ms max.	NX-OD5121-5
	16 points	PNP	0.5 A/point, 2 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-5
1		NPN	0.5 A/point, 2 A/	12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD6121-5
MIL Connector, 30 mm Vidth)	32 points	PNP	common, 4 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD6256-5
Fransistor Output Unit							
	32 points	NPN	0.5 A/point, 2 A/ common, 4 A/Unit	12 to 24 VDC	Switching Synchronous I/O re- freshing and Free- Run refresh- ing	0.1 ms max./ 0.8 ms max.	NX-OD6121-6
(Fujitsu/OTAX Connector, 30 mm Width)							
Relay Output Unit		Relay type:					NX-OC2633
	2 points	N.O. Relay type: N.O.+N.C.	250 VAC/2 A (cosφ=1 2 A (cosφ=0.4), 24 VE		Free-Run refreshing	15 ms max./ 15 ms max.	NX-OC2733
Screwless Clamping Ferminal Block, 12 mm Vidth/24 mm Width)	8 points	Relay type: N.O.	250 VAC/2 A (cosφ=1), 250 VAC/ 2 A (cosφ=0.4), 24 VDC/2 A, 8 A/Unit		Free-Run refreshing	15 ms max./ 15 ms max.	NX-OC4633
<u> </u>	ing with innu	it changed ti	ma the EtherCAT C	Counter Unit wit	th unit version 1.1 or later and	the Syamos St	idia varaian 1

^{*1.} To use input refreshing with input changed time, the EtherCAT Coupler Unit with unit version 1.1 or later and the Sysmac Studio version 1.07 or higher are required.

Digital Mixed I/O Units

	Specifications						
Product Name	Number of points	Internal I/O common	Maximum value of load current	I/O refreshing method	ON/OFF response time	Model	
DC Input/Transistor Output Unit	Outputs: 16 points	Outputs: NPN Inputs: For both NPN/PNP	Outputs: 12 to 24 VDC Inputs: 24 VDC	Switching Synchronous I/	Outputs: 0.1 ms max./ 0.8 ms max. Inputs: 20 µs max./ 400 µs max.	NX-MD6121-5	
(MIL Connector, 30 mm Width)	Inputs: 16 points	Outputs: PNP Inputs: For both NPN/PNP	Outputs: 24 VDC Inputs: 24 VDC	Run refreshing	Outputs: 0.5 ms max./ 1.0 ms max. Inputs: 20 µs max./ 400 µs max.	NX-MD6256-5	
DC Input/Transistor Output Unit (Fujitsu/OTAX Connector, 30 mm Width)	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	

Optional Products

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

16

C/D

Accessories

Not included.

NX-TBA162

NX-TBB162

Connection Patterns for Connector-Terminal Block Conversion Units

Pattern	Configuration	Number of connectors	Branching
А	Connecting Cable Connector-Terminal Block Conversion Unit 20 or 40 terminals	1	None
В	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 *	Connector-Terminal Block Conversion Unit	Wiring method	Common terminal	
					XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No	
		1 MIL	NPN/		XW2Z-□□□X-R	XW2K-20G-O16A-IN	Push-In Plus	Yes	
NX-ID5142-5	16 inputs	connector	PNP	Α	XW2Z-□□□X	XW2D-20G6	Phillips screw	No	
					XW2Z-□□□X	XW2R-E20GD-T	Slotted screw (rise up)	No	
				Α	XW2Z-□□□K	XW2K-40G-O32C	Push-In Plus	No	
				Α	XW2Z-□□□K	XW2K-40G-O32C-IN	Push-In Plus	Yes	
NX-ID6142-5	32 inputs	1 MIL	NPN/	Α	XW2Z-□□□K	XW2R-J34GD-C2	Phillips screw	No	
10/(150142-0	oz inputo	connector	PNP	Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	No	
				А	XW2Z-□□□K	XW2R-E34GD-C2	Slotted screw (rise up)	No	
		1 Fujitsu/			Α	XW2Z-□□□B	XW2K-40G-O32A	Push-In Plus	No
			NPN/ PNP	Α	XW2Z-□□□B	XW2K-40G-O32A-IN	Push-In Plus	Yes	
NX-ID6142-6	32 inputs			Α	XW2Z-□□□B	XW2R-J34GD-C1	Phillips screw	No	
	02puto	connector		Α	XW2Z-□□□B	XW2D-40G6	Phillips screw	No	
				А	XW2Z-□□□B	XW2R-E34GD-C1	Slotted screw (rise up)	No	
				Α	XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No	
		1 MIL		Α	XW2Z-□□□X-R	XW2K-20G-O16B-OUT	Push-In Plus	Yes	
NX-OD5121-5	16 outputs	connector	NPN	Α	XW2Z-□□□X	XW2D-20G6	Phillips screw	No	
				А	XW2Z-□□□X	XW2R-E20GD-T	Slotted screw (rise up)	No	
				Α	XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No	
		1 MIL		Α	XW2Z-□□□X-R	XW2K-20G-O16B-OUT	Push-In Plus	Yes	
NX-OD5256-5	16 outputs	connector	PNP	Α	XW2Z-□□□X	XW2D-20G6	Phillips screw	No	
				A	XW2Z-□□X	XW2R-E20GD-T	Slotted screw (rise up)	No	

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Connecting Cable *	Connector-Terminal Block Conversion Unit	Wiring method	Common
				Α	XW2Z-□□□K	XW2K-40G-O32C	Push-In Plus	No
				Α	XW2Z-□□□K	XW2K-40G-O32C-OUT	Push-In Plus	Yes
NX-OD6121-5	32 outputs	1 MIL	NPN	Α	XW2Z-□□□K	XW2R-J34GD-C4	Phillips screw	No
11/1 050121 0	oz odipalo	connector		Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	No
				А	XW2Z-□□□K	XW2R-E34GD-C4	Slotted screw (rise up)	No
				Α	XW2Z-□□□B	XW2K-40G-O32B	Push-In Plus	No
				Α	XW2Z-□□□B	XW2K-40G-O32B-OUT	Push-In Plus	Yes
NX-OD6121-6	32 outputs	1 Fujitsu/ OTAX	NPN	Α	XW2Z-□□□B	XW2R-J34GD-C3	Phillips screw	No
020.2. 0	02 04.04.0	connector		Α	XW2Z-□□□B	XW2D-40G6	Phillips screw	No
				А	XW2Z-□□B	XW2R-E34GD-C3	Slotted screw (rise up)	No
				Α	XW2Z-□□□K	XW2K-40G-O32C	Push-In Plus	No
				Α	XW2Z-□□□K	XW2K-40G-O32C-OUT	Push-In Plus	Yes
NX-OD6256-5	32 outputs	1 MIL	PNP	Α	XW2Z-□□□K	XW2R-J34GD-C4	Phillips screw	No
107 020200 0	oz odipaio	connector		Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	No
				А	XW2Z-□□□K	XW2R-E34GD-C4	Slotted screw (rise up)	No
		uts 1 MIL connector		В	XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No
			NPN/ PNP	В	XW2Z-□□□X-R	XW2K-20G-O16A-IN	Push-In Plus	Yes
	16 inputs			В	XW2Z-□□□X	XW2D-20G6	Phillips screw	No
NV MDC404 F				В	XW2Z-□□X	XW2R-E20GD-T	Slotted screw (rise up)	No
NX-MD6121-5	16 outputs	1 MIL connector	NPN	В	XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No
				В	XW2Z-□□□X-R	XW2K-20G-O16B-OUT	Push-In Plus	Yes
				В	XW2Z-□□□X	XW2D-20G6	Phillips screw	No
				В	XW2Z-□□X	XW2R-E20GD-T	Slotted screw (rise up)	No
				В	XW2Z-□□□A	XW2K-20G-T	Push-In Plus	No
		1 Fujitsu/	NPN/	В	XW2Z-□□□A	XW2K-20G-O16A-IN	Push-In Plus	Yes
	16 inputs	OTAX connector	PNP	В	XW2Z-□□□A	XW2D-20G6	Phillips screw	No
NX-MD6121-6				В	XW2Z-□□□A	XW2R-E20GD-T	Slotted screw (rise up)	No
INX-IVIDO121-0				В	XW2Z-□□□A	XW2K-20G-T	Push-In Plus	No
		1 Fujitsu/		В	XW2Z-□□□A	XW2K-20G-O16B-OUT	Push-In Plus	Yes
	16 outputs	OTAX connector	NPN	В	XW2Z-□□□A	XW2D-20G6	Phillips screw	No
		connector		В	XW2Z-□□□A	XW2R-E20GD-T	Slotted screw (rise up)	No
				В	XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No
		1 MIL	NPN/	В	XW2Z-□□□X-R	XW2K-20G-O16A-IN	Push-In Plus	Yes
	16 inputs	connector	PNP	В	XW2Z-□□□X	XW2D-20G6	Phillips screw	No
NIV 145-5				В	XW2Z-□□□X	XW2R-E20GD-T	Slotted screw (rise up)	No
NX-MD6256-5				В	XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No
		1 MIL		В	XW2Z-□□□X-R	XW2K-20G-O16B-OUT	Push-In Plus	Yes
	16 outputs	connector	NPN	В	XW2Z-□□□X	XW2D-20G6	Phillips screw	No
				В	XW2Z-□□X	XW2R-E20GD-T	Slotted screw (rise up)	No

Note: For other models and specifications that are not listed above, refer to the XW2K Series Datasheet (Cat. No. G152), XW2R Datasheet and XW2D Series Datasheet for details.

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

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	Connectio n pattern	Number of branches	Connecting Cable *1	I/O Relay Terminal	Wiring method	
				F	None	XW2Z-RO□C	G7TC-ID16	Phillips screw	
			NPN	F	None	XW2Z-RO□C	G7TC-IA16	Phillips screw	
NIV IDEAAO E	40 :	1 MIL	INPIN	F	None	XW2Z-RO□C	G70V-SID16P	Push-in spring	
NX-ID5142-5	16 inputs	connector		F	None	XW2Z-RO□C	G70V-SID16P-C16	Push-in spring	
			PNP	F	None	XW2Z-RO□C	G70V-SID16P-1	Push-in spring	
			PINP	F	None	XW2Z-RO□C	G70V-SID16P-1-C16	Push-in spring	
				Α	2	XW2Z-RO□-□-D1	G7TC-ID16	Phillips screw	
			NPN	Α	2	XW2Z-RO□-□-D1	G7TC-IA16	Phillips screw	
NX-ID6142-5	20 :	1 MIL	INPIN	Α	2	XW2Z-RO□-□-D1	G70V-SID16P	Push-in spring	
NX-ID6142-5	32 inputs	connector		Α	2	XW2Z-RO□-□-D1	G70V-SID16P-C16	Push-in spring	
			PNP	Α	2	XW2Z-RO□-□-D1	G70V-SID16P-1	Push-in spring	
			PINP	Α	2	XW2Z-RO□-□-D1	G70V-SID16P-1-C16	Push-in spring	
					Α	2	XW2Z-RI□C-□	G7TC-ID16	Phillips screw
			NPN	Α	2	XW2Z-RI□C-□	G7TC-IA16	Phillips screw	
NX-ID6142-6	32 inputs	1 Fujitsu/	NPN	Α	2	XW2Z-RI□C-□	G70V-SID16P	Push-in spring	
NA-1D6 142-6	32 inputs	OTAX connector		Α	2	XW2Z-RI□C-□	G70V-SID16P-C16	Push-in spring	
			PNP	Α	2	XW2Z-RI□C-□	G70V-SID16P-1	Push-in spring	
			PINP	Α	2	XW2Z-RI□C-□	G70V-SID16P-1-C16	Push-in spring	
				F	None	XW2Z-RO□C	G7TC-OC08	Phillips screw	
				F	None	XW2Z-RO□C	G70D-SOC08	Phillips screw	
				F	None	XW2Z-RO□C	G70R-SOC08 *2	Phillips screw	
				F	None	XW2Z-RO□C	G7TC-OC16	Phillips screw	
				F	None	XW2Z-RO□C	G70D-SOC16	Phillips screw	
NX-OD5121-5	16 outputs	1 MIL connector	NPN	F	None	XW2Z-RO□C	G70D-VSOC16	Phillips screw	
		3311100101		F	None	XW2Z-RO□C	G70D-FOM16	Phillips screw	
				F	None	XW2Z-RO□C	G70D-VFOM16	Phillips screw	
				F	None	XW2Z-RO□C	G70A-ZOC16-3	Phillips screw	
				F	None	XW2Z-RO□C	G70V-SOC16P	Push-in spring	
				F	None	XW2Z-RO□C	G70V-SOC16P-C4	Push-in spring	

Unit	I/O capacity	Number of connectors	Polarity	Connectio n pattern	Number of branches	Connecting Cable *1	I/O Relay Terminal	Wiring method			
				F	None	XW2Z-RI□C	G7TC-OC16-1	Phillips screw			
				F	None	XW2Z-RO□C	G70D-SOC16-1	Phillips screw			
NX-OD5256-5	16 outputo	1 MIL	PNP	F	None	XW2Z-RO□C	G70D-FOM16-1 *2	Phillips screw			
NX-OD5256-5	16 outputs	connector	PINP	F	None	XW2Z-RO□C	G70A-ZOC16-4	Phillips screw			
				F	None	XW2Z-RO□C	G70V-SOC16P-1	Push-in spring			
				F	None	XW2Z-RO□C	G70V-SOC16P-1-C4	Push-in spring			
				Α	2	XW2Z-RO□-□-D1	G7TC-OC16	Phillips screw			
				Α	2	XW2Z-RO□-□-D1	G7TC-OC08	Phillips screw			
				Α	2	XW2Z-RO□-□-D1	G70D-SOC16	Phillips screw			
				Α	2	XW2Z-RO□-□-D1	G70D-FOM16	Phillips screw			
				Α	2	XW2Z-RO□-□-D1	G70D-VSOC16	Phillips screw			
NX-OD6121-5	32 outputs	1 MIL connector	NPN	Α	2	XW2Z-RO□-□-D1	G70D-VFOM16	Phillips screw			
		COMMODICA		Α	2	XW2Z-RO□-□-D1	G70A-ZOC16-3 and Relay	Phillips screw			
				Α	2	XW2Z-RO□-□-D1	G70R-SOC08 *2	Phillips screw			
				Α	2	XW2Z-RO□-□-D1	G70D-SOC08	Phillips screw			
				Α	2	XW2Z-RO□-□-D1	G70V-SOC16P	Push-in spring			
				Α	2	XW2Z-RO□-□-D1	G70V-SOC16P-C4	Push-in spring			
				Α	2	XW2Z-RO□C-□	G7TC-OC16	Phillips screw			
							Α	2	XW2Z-RO□C-□	G7TC-OC08	Phillips screw
			NPN	Α	2	XW2Z-RO□C-□	G70D-SOC16	Phillips screw			
				Α	2	XW2Z-RO□C-□	G70D-FOM16	Phillips screw			
		1 Fuiitsu/		Α	2	XW2Z-RO□C-□	G70D-VSOC16	Phillips screw			
NX-OD6121-6	32 outputs	OTAX connector		Α	2	XW2Z-RO□C-□	G70D-VFOM16	Phillips screw			
				Α	2	XW2Z-RO□C-□	G70A-ZOC16-3 and Relay	Phillips screw			
				Α	2	XW2Z-RO□C-□	G70R-SOC08 *2	Phillips screw			
				Α	2	XW2Z-RO□C-□	G70D-SOC08	Phillips screw			
				Α	2	XW2Z-RO□C-□	G70V-SOC16P	Push-in spring			
				Α	2	XW2Z-RO□C-□	G70V-SOC16P-C4	Push-in spring			
				Α	2	XW2Z-RI□-□-D1	G7TC-OC16-1	Phillips screw			
NV ODGOEG E	20 autouta	1 MIL	DND	Α	2	XW2Z-RO□-□-D1	G70D-SOC16-1	Phillips screw			
NX-OD6256-5	32 outputs	connector	PNP	Α	2	XW2Z-RO□-□-D1	G70D-FOM16-1 *2	Phillips screw			
				Α	2	XW2Z-RO□-□-D1	G70A-ZOC16-4 and Relay	Phillips screw			
				E	None	XW2Z-RO□C	G7TC-ID16	Phillips screw			
	16 innute	1 MIL	NDN	Е	None	XW2Z-RO□C	G7TC-IA16	Phillips screw			
	16 inputs	connector	NPN	E	None	XW2Z-RO□C	G70V-SID16P	Push-in spring			
				E	None	XW2Z-RO□C	G70V-SID16P-C16	Push-in spring			
				Е	None	XW2Z-RO□C	G7TC-OC16	Phillips screw			
				Е	None	XW2Z-RO□C	G7TC-OC08	Phillips screw			
				Е	None	XW2Z-RO□C	G70D-SOC16	Phillips screw			
NX-MD6121-5				Е	None	XW2Z-RO□C	G70D-FOM16	Phillips screw			
				Е	None	XW2Z-RO□C	G70D-VSOC16	Phillips screw			
	16 outputs	1 MIL connector	NPN	Е	None	XW2Z-RO□C	G70D-VFOM16	Phillips screw			
		30111100101		Е	None	XW2Z-RO□C	G70A-ZOC16-3 and Relay	Phillips screw			
				Е	None	XW2Z-RO□C	G70R-SOC08 *2	Phillips screw			
				Е	None	XW2Z-RO□C	G70D-SOC08	Phillips screw			
				Е	None	XW2Z-RO□C	G70V-SOC16P	Push-in spring			
				Е	None	XW2Z-RO□C	G70V-SOC16P-C4	Push-in spring			

Unit	I/O capacity	Number of connectors	Polarity	Connectio n pattern	Number of branches	Connecting Cable *1	I/O Relay Terminal	Wiring method
				E	None	XW2Z-R□C	G7TC-ID16	Phillips screw
	40: 1	1 Fujitsu/	NIDNI	Е	None	XW2Z-R□C	G7TC-IA16	Phillips screw
	16 inputs	OTAX connector	NPN	Е	None	XW2Z-R□C	G70V-SID16P	Push-in spring
				E	None	XW2Z-R□C	G70V-SID16P-C16	Push-in spring
				Е	None	XW2Z-R□C	G7TC-OC16	Phillips screw
				Е	None	XW2Z-R□C	G7TC-OC08	Phillips screw
				E	None	XW2Z-R□C	G70D-SOC16	Phillips screw
NX-MD6121-6				Е	None	XW2Z-R□C	G70D-FOM16	Phillips screw
		1 Fujitsu/ OTAX connector	NPN	Е	None	XW2Z-R□C	G70D-VSOC16	Phillips screw
	16 outputs			E	None	XW2Z-R□C	G70D-VFOM16	Phillips screw
				E	None	XW2Z-R□C	G70A-ZOC16-3 and Relay	Phillips screw
				E	None	XW2Z-R□C	G70R-SOC08 *2	Phillips screw
				E	None	XW2Z-R□C	G70D-SOC08	Phillips screw
				E	None	XW2Z-R□C	G70V-SOC16P	Push-in spring
				Е	None	XW2Z-R□C	G70V-SOC16P-C4	Push-in spring
	16 inputs	1 MIL	PNP	E	None	XW2Z-RO□C	G70V-SID16P-1	Push-in spring
	10 inputs	connector	FINE	E	None	XW2Z-RO□C	G70V-SID16P-1-C16	Push-in spring
				Е	None	XW2Z-RO□C	G7TC-OC16-1	Phillips screw
NX-MD6256-5				Е	None	XW2Z-RI□C	G70D-SOC16-1	Phillips screw
IAV-INID0520-2	16 outputs	1 MIL	PNP	E	None	XW2Z-RI□C	G70D-FOM16-1 *2	Phillips screw
	16 outputs	connector	FINE	E	None	XW2Z-RI□C	G70A-ZOC16-4 and Relay	Phillips screw
				Е	None	XW2Z-RI□C	G70V-SOC16P-1	Push-in spring
				E	None	XW2Z-RI□C	G70V-SOC16P-1-C4	Push-in spring

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.

*1. In the model number indicates the cable length. Refer to the *XW2Z-R Datasheet* (Cat. No. G126) for details.

^{*2.} Product no longer available to order.

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: Meets IEC 61010-2-201.		
Operating environment	Noise immunity	2 kV on power supply line (Conforms to IEC61000-4-4.)		
environinient	Overvoltage category	Category II: Meets IEC 61010-2-201.		
	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 or UL121201, 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		terminais)
	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
la dia ataua	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	$20~\text{M}\Omega$ 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 or Communication Control 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) NX bus connector (left) NX bus connector (left)	nt control reuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
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 Ser IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3 A8 B8	Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

14X-1D3343				
Unit name	DC Input Unit	Model	NX-ID3343	
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)	
I/O refreshing method	Selectable Synchronous I/O refreshing or F			
	TS indicator, input indicator	Internal I/O common	NPN	
	ID3343 • TS	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 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 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 or Communication Control 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	NX bus connector (left) I/O power supply -	rent control circuit tings of the state of t	I/O power supply + NX bus connector (right)	
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communications Couple Restrictions: No restrictions			
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOV IOV IOV IOV IOG IOG IOG IOG A8 B8		-wire Isor 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	terminais	Commens)
	TS indicator, input indicators	Internal I/O common	NPN
	ID3344	Rated input voltage	24 VDC (15 to 28.8 VDC)
	DTS	Input current	3.5 mA typical (at 24 VDC), rated current
Indicators	0 1 2 3	ON voltage/ON current	15 VDC min./3 mA min. (between IOV and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOV and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	No filter *
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 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 +	rrent 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	oright installation. er Unit: Possible in 6 orientat	ions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 IOV IOV IOV IOG IOG IOG A8 B8		-wire nsor Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

^{*} This model does not support the input filter. If the Unit is susceptible to noise, take countermeasures such as separating or shielding the Unit and signal lines from the noise source. Refer to NX-series Digital I/O Unit User's Manual (W521) for information on countermeasures.

Unit name	DC Input Unit	Model	NX-ID3417
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		
	TS indicator, input indicator	Internal I/O common	PNP
	ID3417	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
	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 or Communication Control 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		a control suit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communications Couple Restrictions: No restrictions	ation Control Unit: Possible i er Unit: Possible in 6 orientat	n upright installation. iions.
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOG IOG A8 B8		-wire Isor Three-wire sensor
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		I	
	TS indicator, input indicator	Internal I/O common PNP Rated input voltage 24 VDC (15 to 28.8 VDC)		
	ID3443 DTS	Rated input voltage 24 VDC (15 to 28.8 VDC) Input current 3.5 mA typical (at 24 VDC), rated current		
	0 1 2 3		15 VDC min./3 mA min. (between IOG and	
Indicators		ON voltage/ON current	each signal)	
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)	
		ON/OFF response time	100 ns max./100 ns max.	
		Input filter time	Without filter, 1 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 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: 0.1 A/terminal max., IOG: 0.1 A/terminal max.	
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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 ino.io uota elo	I/O power supply + NX bus connector (right)	
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions			
Terminal connection diagram	Additional I/O Power Supply Unit A1 IOV IOV IOV IOV IOV IOG 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		
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.	

Unit name	DC Input Unit	Model	NX-ID3444
	·	External connection	Screwless clamping terminal block (12
Number of points	4 points	terminals	terminals)
I/O refreshing method	Input refreshing with input changed time		
	TS indicator, input indicators	Internal I/O common	PNP
	ID3444	Rated input voltage	24 VDC (15 to 28.8 VDC)
	●TS 0 1	Input current	3.5 mA typical (at 24 VDC), rated current
Indicators	2 3	ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	No filter*
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout	Terminal block IN0 to IN3	Current control circuit	I/O power supply + NX bus connecto (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 IOV IOV IOG IOG A8 B8	DC Input Unit NX-ID3444 A1 B1 IN0 IN1 IOV0 IOV10 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3	
Disconnection/ Short-circuit detection	Not supported.	Protective function o noise, take countermeasure	Not supported.

^{*} This model does not support the input filter. If the Unit is susceptible to noise, take countermeasures such as separating or shielding the Unit and signal lines from the noise source. Refer to NX-series Digital I/O Unit User's Manual (W521) for information on countermeasures.

	T		I	
Unit name	DC Input Unit	Model	NX-ID4342	
Number of points	8 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 Rated input voltage	NPN 24 VDC (15 to 28.8 VDC)	
	DTS	Input current	3.5 mA typical (at 24 VDC), rated current	
	0 1 2 3 4 5	ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)	
Indicators	6 7	OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)	
		ON/OFF response time	20 μs max./400 μs max.	
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms	
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation	
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOG: 0.1 A/terminal max.	
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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 IOG0 to 7 NX bus connector (left) I/O power supply +	nt control irremal circuits	I/O power supply + NX bus connector (right)	
Installation orientation and restrictions	Installation orientation:			
Terminal connection diagram	Power Supply Unit A1 B1 A1 III IOV IOV IOV IOV IOV IOV IOV	10G0 10V 10V 10G0 10V 10V 10V 10G2 10V 10V 10G4 10G4 10G4 10G4 10G4 10G4 10G4 10G4 10G4 10G64 10G64		
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 terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		terrimas)
<u>_</u>	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
Indicators	2 3 4 5 6 7	ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
indicators	0 7	OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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 reuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	Power Supply Unit A1 B1 A1 IC IC IC IC IOV IOV IOV IOV IO	10V0 10 10G 10G 10V2 10 10G 10G 10V4 10 10G 10G 10V4 10	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Heit	Madel	NV IDE242
Unit name	DC Input Unit	Model External connection	NX-ID5342 Screwless clamping terminal block (16
Number of points	16 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		Lugu
	TS indicator, input indicator	Internal I/O common	NPN
	ID5342 ■TS	Rated input voltage	24 VDC (15 to 28.8 VDC)
	0 1 2 3 4 5 6 7 8 9 10 11	ON voltage/ON current	2.5 mA typical (at 24 VDC), rated 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 or Communication Control 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 circuits	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication Control 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 IN0
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)
/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, input indicator	Internal I/O common	PNP
	ID5442 • TS	Rated input voltage	24 VDC (15 to 28.8 VDC)
	0 1 2 3	Input current	2.5 mA typical (at 24 VDC), rated current
Indicators	4 5 6 7 8 9 10 11 12 13 14 15	ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
muicators		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 Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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		t control cuit stimus or control with the control of the control o	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communications Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	24 VDC		DC Input Unit NX-ID5442 B1 Two-wire sensor IN0 IN1 IN1 IN2 IN3 IN4 IN5 Three-wire sensor IN6 IN7 IN8 IN9 IN10 IN11 IN12 IN13 IN14 IN15 B8
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID6342
Number of points	32 points	External connection terminals	Screwless clamping terminal block (16 terminals x 2)
I/O refreshing method	Selectable Synchronous I/O refreshing or F TS indicator, input indicator ID6342 TS 0 1 2 3 16 17 18 19 4 5 6 7 20 21 22 23	Internal I/O common Rated input voltage Input current ON voltage/ON current	NPN 24 VDC (15 to 28.8 VDC) 2.5 mA typical (at 24 VDC), rated current 15 VDC min./2 mA min. (between IOG and each signal)
Indicators	8 9 10 11 24 25 26 27 12 13 14 15 28 29 30 31	OFF voltage/OFF current ON/OFF response time	5 VDC max./0.5 mA max. (between IOG and each signal) 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	24 (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 or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 0.70 W max.	Current consumption from I/O power supply	No consumption
Weight	130 g max.		
Circuit layout	Terminal block IN0 to IN31 NX Bus connector (left) I/O power supply + I/O power supply -	control	I/O power supply + I/O power supply - NX Bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	● IOV	Connection Unit B1 A1 B1 A1 IOG IOG IOG IN2 IOG IOG IN2 IOG IOG IN4	IN13 IN28 IN29
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID6442
Number of points	32 points	External connection	Screwless clamping terminal block (16
I/O refreshing method	Selectable Synchronous I/O refreshing or F	terminals	terminals x 2)
1/O refreshing method	TS indicator, input indicator	Internal I/O common	PNP
	ID6442	Rated input voltage	24 VDC (15 to 28.8 VDC)
	₽TS	Input current	2.5 mA typical (at 24 VDC), rated current
In diagram	0 1 2 3 16 17 18 19 4 5 6 7 20 21 22 23 8 9 10 11 24 25 26 27	ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
Indicators	12 13 14 15 28 29 30 31	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	24 (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 or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 0.70 W max.	Current consumption from I/O power supply	No consumption
Weight	130 g max.		
Circuit layout	Terminal block IN0 to IN31 Current contro circuit NX Bus connector (left) I/O power supply + I/O power supply -	Internal circuits	I/O power supply + I/O power supply – NX Bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	IOV IOV	Connection Unit B1A1 B1 A1 IN0 IOG IOG IN2 IOG IOG IN2 IOG IOG IN4	IN13 IN28 IN29
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	DTS 0 1 2 3 4 5 6 7	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
mulcutors	8 9 10 11 12 13 14 15	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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) NO power supply + I/O power supply - I/O power	supply +	X bus onnector ight)

Installation orientation: Connected to a CPU Unit or Communication Control 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 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 Α Signal Name IN0 A0 B0 IN1 €0-IN2 A1 B1 IN3 ဂ IN4 • A2 **√**∘ B2 IN5 6 IN6 A3 -60-B3 **■** IN7 **Terminal connection** √o IN8 A4 B4 • IN9 √odiagram A5 IN10 B5 IN11 60 • A6 IN12 B6 IN13 **√**∘ 60 IN14 ♠ A7 24 VDC B7 • IN15 COM A8 B8 € COM • The polarity of the input power supply can be connected in either direction. Disconnection/

Protective function

Not supported.

Not supported.

Short-circuit detection

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

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

Installation orientation: Connected to a CPU Unit or Communication Control 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 I/O power supply voltage 4 0 Installation orientation and 0 10 40 45 50 55 60 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 45°C I/O power supply voltage 8 ----24 V 7 points at 55°C 4 28.8 V 0 0 20 30 40 45 50 55 60 Ambient temperature (°C) Signal Connector name pin Signal name 24 VDC ₁−⊪ NC NC COM 3 4 COM 5 6 IN07 IN15 8 IN14 **IN06** ſо-**Terminal connection** IN13 9 10 IN05 diagram 11 12 IN12 IN04 IN11 13 14 IN03 IN10 15 16 IN02 IN01 IN09 18 **IN08** 19 20 **IN00** The polarity of the input power supply can be connected in either direction.
Be sure to wire both pins 3 and 4 (COM), and set the same polarity for both pins. Disconnection/ Not supported. **Protective function** 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)
	DTS	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 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 or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.60 W max.	Current consumption from I/O power supply	No consumption
Weight	90 g max.		
Circuit layout	Connector (left) IN0 3.3 kΩ Input indicator 3.4 kΩ Input indicator 3.4 kΩ Input indicator 3.4 kΩ Input indicator Input indicator 3.4 kΩ Input indicator Input input indicator Input indicator Input indicator Input indicator	I/O power supply + I/O power supply - NX bus connector (right)	

Installation orientation: • Connected to a CPU Unit or Communication Control 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 10 I/O power supply voltage ---24 V 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 ON input points 35 32 points at 50°C 30 13 points/common at 55°C 32 points at 30°C 25 Number of simultaneously 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 20 30 Ambient temperature (°C) Signal Connector Signal name NC pin INC OM1 СОМ1 IN3 6 IN23 IN22 IN2 9 10 IN21 IN28 11 12 IN20 IN27 13 14 IN19 16 IN18 IN26 15 17 IN2 18 IN17 19 20 IN16 24 VDC **Terminal connection** СОМО COMO diagram IN15 26 1N07 IN14 28 IN06 IN13 29 30 IN12 31 IN04 IN11 IN0 IN10 IN09 35 36 1IN02 37 38 IN01 39 40 IN00 **IN08** 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 Not supported. Protective function Not supported.

● DC Input Unit (Fujitsu/OTAX 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/OTAX 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)
	DTS	Input current	4.1 mA typical (24 VDC)
Indicators	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	ON voltage/ON current	19 VDC min./3 mA min. (between COM and each signal)
	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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 - I/O power sup	

Installation orientation: • Connected to a CPU Unit or Communication Control 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 ---24 V 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) Signal name Signal name INO A1 B1 IN16 IN1 A2 B2 IN17 IN2 IN18 A3 | B3 IN3 IN19 A4 B4 IN4 A5 B5 IN20 IN5 A6 B6 IN21 IN6 IN22 A7 B7 IN7 A8 B8 сомо A9 В9 COM1 IN8 A10 B10 IN24 Terminal connection IN9 A11 B11 1 IN 25 diagram IN10 A12 B12 IN26 IN11 A13 B13 IN27 IN12 A14 B14 IN28 IN13 A15 B15 IN29 IN14 A16 B16 IN30 IN15 A17 B17 IN31 COM0 A18 B18 COM1 NC A19 B19 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

Dimensions 12 (W) x 100 (H) x 71 (D) Isolation method Photocoupler isolation	Unit name	AC Input Unit	Model	NX-IA3117
Time Relation Time	Number of points	4 points, independent contacts		
Indicators Indicators	Capacity	Free-Run refreshing	terminais	(8 terminals)
Indicators Indicators		•	Internal I/O common	No polarity
Indicators Indica			Rated input voltage	
OFF voltage/OFF current 40 VAC max (2m max x 10 ms max 440 ms max 10 ms max 440 ms m		0 1	Input current	
Dimensions 12 (W) x 100 (H) x 71 (D) 13 Between each AC input circuit 20 MD min, (at 500 VPC) 14 Setween the external terminals and the functional ground terminal 20 MD min, (at 500 VPC) 15 Between the external terminals and internal circuits 20 MD min, (at 500 VPC) 16 Between the external terminals and internal circuits 20 MD min, (at 500 VPC) 17 Between the external terminals and internal circuits 20 MD min, (at 500 VPC) 18 Between the external terminals and internal circuits 20 MD min, (at 500 VPC) 18 Between the external terminals and internal circuits 20 MD min, (at 500 VPC) 18 Between the external terminals and internal circuits 20 MD min, (at 500 VPC) 18 Between the external terminals and internal circuits 20 MD min, (at 500 VPC) 18 Between the external terminals and internal circuits and the functional ground terminals 200 VPC (or 1 min at a leakage current of 5 mA max. 18 Between the internal circuit and the functional circuits and functional circuits and the functional circ	Indicators		-	
Input filter time No. filter, 0.25 ms, 0.5 ms, 1 ms (default)			<u> </u>	
Input filter time 2 ms, 4 ms, 8 ms, 10 ms, 32 ms, 94 ms, 128 ms, 256 ms			ON/OFF response time	
Between each AC input circuit: 20 MΩ min. (at 500 VDC) solvent control terminal: 20 MΩ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 MΩ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 MΩ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 30 MΩ for 1 min at sleakage current of 5 m max. I/O power supply method I/O power supply method I/O power supply method NX Unit power consumption NX Unit power consumption Circuit layout Circuit layout Circuit layout Circuit layout Disconnected to a CPU Unit or Communication Coupler Unit Circuit layout Circuit layout Circuit layout Disconnected to a CPU Unit or Communication Coupler Unit Circuit layout Circuit layout Circuit layout Disconnected to a CPU Unit or Communication Coupler Unit Circuit layout Circuit layout Disconnected to a CPU Unit or Communication Coupler Unit Circuit layout Disconnected to a CPU Unit or Communication Coupler Unit Disconnected to a CPU Unit or Communication Control Unit. Possible in upright installation. **Connected to a CPU Unit or Communication Control Unit. Possible in upright installation. **Connected to a CPU Unit Or Communication Control Unit. Possible in upright installation. **Connected to a CPU Unit Or Communication Control Unit. Possible in Gorentations. **Connected to a CPU Unit Or Communication Control Unit. Possible in Gorentations. **Connected to a CPU Unit Or Communication Control Unit. Possible in Gorentations. **Connected to a CPU Unit Or Communication Control Unit. Possible in Gorentations. **Connected to a CPU Unit Or Communication Control Unit. Possible in Gorentations. **Connected to a CPU Unit Or Communication Control Unit. Possible in Gorentations. **Connected to a CPU Unit Or Communication Control Unit. Possible in Gorentations. *			Input filter time	2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms,
Sol VDC Between the external terminals and the functional ground terminal: 20 MM min. (at 500 VDC) Between the external terminals and the functional ground terminal: 20 MM min. (at 500 VDC) Between the external terminals and internal crounds: 20 MM min. (at 500 VDC) Between the external terminals and internal crounds: 20 MM min. (at 500 VDC) Between the external terminals and internal crounds: 20 MM min. (at 500 VDC) Between the external terminals and internal crounds: 20 MM min. (at 500 VDC) Between the external terminals and internal crounds: 20 MM min. (at 500 VDC) Between the external terminals and internal crounds: 20 MM min. (at 500 VDC) Between the external terminals and internal crounds: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal crounds: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the internal circuits: 2300 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the external terminals and internal circuits: 2000 VMC for 1 min at a leakage current of 5 mM max. Between the min at a leakage current of 5 mM max. Between the min at a leakage current of 5 mM max. Between the mi	Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	•
NX Unit power consumption NX Unit power consumption On the Unit of Communication Control Unit of Communication Control Unit of Communication Control Unit of Communication Control Unit of Communication Coupler Unit Control Unit On IVO power supply Weight 60 g max. Circuit layout Circuit layout Installation orientation and restrictions Installation orientation and restrictions Installation orientation and restrictions Terminal connection Connected to a Communications Coupler Unit Possible in upright installation. Connected to a Communication Coupler Unit: Possible in 6 orientations. Promoted to a Communication Coupler Unit: Possible in 6 orientations. AC Input Unit NX-IA3117 Terminal connection Installation Coupler Unit Installation. Connected to a Communication Coupler Unit: Possible in 6 orientations. AC Input Unit NX-IA3117 AC Input Unit NX	Insulation resistance	500 VDC) Between the external terminals and the functional ground terminal: $20~\text{M}\Omega$ min. (at 500 VDC) Between the external terminals and internal circuits: $20~\text{M}\Omega$ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: $20~\text{M}\Omega$ min.	Dielectric strength	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
Connected to a CPU Unit or Communication Control Unit 0.80 W max. **Connected to a Communications Coupler Unit 0.80 W max. **O.50 W max. **Circuit layout** **Circuit layout** **Circuit layout** **Circuit layout** **Connected to a Communications Coupler Unit 0.50 W max.** **Control Unit 0.50 W max.** **Connected to a CPU Unit or Communication Control Unit Possible in upright installation.** **Connected to a CPU Unit or Communications Coupler Unit Possible in 6 orientations.** **Connected to a CPU Unit or Communications Coupler Unit Possible in 6 orientations.** **Terminal connection diagram** **Terminal connection** **Postertine function** **Not supported.** **Postertine function** **Not supported.** **Postertine function** **Not supported.** **Not supported.** **Postertine function** **Not supported.** **Not s	I/O power supply method	Supplied from external source.		Without I/O power supply terminals
Circuit layout NX bus NX	NX Unit power consumption	Control Unit 0.80 W max. Connected to a Communications Coupler Unit	Current consumption	No consumption
Circuit layout NX bus connector (left) I/O power supply + Connector (left) I/O power supply - Connector (right) I/O power supp	Weight	60 g max.		
Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions AC Input Unit NX-IA3117 AC Input Unit NX-IA3117 INIT C1 INI	Circuit layout	Terminal block C0 to C3 NX bus connector		I/O power supply + NX bus connector (right)
Terminal connection diagram 200 to 240 VAC IN1 C1 A 1 IN2 C2		Connected to a CPU Unit or Communication C Connected to a Communications Coupler Unit:		nstallation.
		NX-IA3117 A1	31	
	Disconnection/	Netering	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	
	·	External connection	Screwless clamping terminal block	
Number of points	2 points	terminals	(8 terminals)	
I/O refreshing method	Output refreshing with specified time stamp			
	TS indicator, output indicator	Internal I/O common	NPN	
Indicators	OD2154 DTS 0 1	Rated voltage	24 VDC	
		Operating load voltage range	15 to 28.8 VDC	
		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.	
	10 (11)	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	NX bus connector (left) I/O power supply + I/O power supply - This unit uses a	push-pull output circuit.	OUT0 to OUT1 Terminal block I/O power supply + NX bus connector (right)	
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions			
Terminal connection diagram	Additional I/O Power Supply Unit NX-OD2154 A1 B1 OUTO OUT1 Two-wire type OUTO OUT1 Three-wire type 100 IOG			
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.	

NX-OD2258

Unit name	Transistor Output Unit	Model	NX-OD2258
Number of points	2 points	External connection	Screwless clamping terminal block
•	·	terminals	(8 terminals)
I/O refreshing method	Output refreshing with specified time stamp TS indicator, output indicator	Internal I/O common	PNP
	OD2258	Rated voltage	24 VDC
	DTS	Operating load voltage	
	0 1	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 0.50 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply + O I/O power supply - This unit uses a	push-pull output circuit.	OUT0 to OUT1 Terminal block I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit NX-OD2258 Two-wire type OUTO OUT1 Three-wire type IOG IOG IOG NC		
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD3121
		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	_	Lugu
	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	• •
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	 Connected to a CPU Unit or Communication Control 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) N/O power supply + I/O power supply -		OUT0 to OUT3 Terminal block I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOV IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD3121 A1	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD3153
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)
1/O refreshing method	TS indicator, output indicator	Internal I/O common	NPN
	OD3153	Rated voltage	24 VDC
	DTS 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	' '
		Leakage current	0.1 mA max.
		Residual voltage ON/OFF response time	1.5 V max. 300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
	20 MΩ min. between isolated circuits (at		510 VAC between isolated circuits for 1
Insulation resistance	100 VDC)	Dielectric strength	minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	 Connected to a CPU Unit or Communication Control 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 + I/O power supply - This unit uses a push	-pull output circuit.	OUT0 to OUT3 Terminal block I/O power supply + I/O power supply - I/O power supply - I/O power supply -
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 IOV IOV IOG IOG IOG IOG A8 B8	Transistor Output Unit NX-OD3153 A1 B1 Two-wi IOV0 IOV1 IOW0 IOV1 IOW0 IOW1 IOW2 IOW3 IOW2 IOW3 IOW2 IOW3 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 Selectable Synchronous I/O refreshing or F	terminals	terminals)
I/O refreshing method	TS indicator, output indicator	Internal I/O common	PNP
	OD3256	Rated voltage	24 VDC
	DTS	Operating load voltage	
	0 1 2 3	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 or Communication Control 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 -	Short-direuit protection	OUT0 to OUT3 IOG0 to 3 I/O power supply + I/O power supply - I/O power supply -
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OIOV IOV IOV IOV IOV IOG IOG A8 B8	Transistor Output Unit NX-OD3256 A1	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

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Unit name	Transistor Output Unit	Model External connection	NX-OD3257 Screwless clamping terminal block (12
Number of points	4 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	·
	TS indicator, output indicator	Internal I/O common	PNP
	OD3257	Rated voltage	24 VDC
	0 1	Operating load voltage 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	40 (M) - 400 (H) - 74 (D)	ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D) 20 MΩ min. between isolated circuits (at	Isolation method	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 or Communication Control 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) NX bus connector (left) I/O power supply - This unit uses a push Installation orientation:	-pull output circuit.	OUT0 to OUT3 Terminal block IOG0 to 3 I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Connected to a CPU Unit or Communications Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 OV IOV IOV IOV IOG IOG A8 B8 B8	Transistor Output Unit NX-OD3257 A1	Three-wire type
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	Screwless clamping terminal block (16
•	'	terminals	terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and TS indicator, output indicator	Internal I/O common	PNP
		Rated voltage	24 VDC
	OD3268	Operating load voltage	-
	●TS 0 1	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.
		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 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 or Communication Control 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 -	Short-circuit Short-circuit No No No No No No No No No No No No No	Terminal block UT 0 to OUT 3 G 0 to IOG 3 D power pply + 0 power pply - O power pply - O power (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	Transistor Output Unit NX-OD3268 A1 OUT0 OUT1 IOV0 IOV1 IOG0 IOG1 OUT2 OUT3 IOV2 IOV3 IOG2 IOG3 COM (+V) COM (+V) OV A8 B8 B8 OV has 2 terminals, so be sure to wire both terminals.		
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.
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Unit name	Transistor Output Unit	Model	NX-OD4121
Number of points	8 points	External connection	Screwless clamping terminal block (16
<u> </u>	·	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F TS indicator, output indicator	Internal I/O common	NPN
	OD4121	Rated voltage	12 to 24 VDC
	●TS 0 1	Operating load voltage range	10.2 to 28.8 VDC
Indicators	2 3 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.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 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.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	I/O current consumption	10 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply -		I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOV IOV IOG IOG A8 B8	Connection Unit	2 OUT3 2 IOV3 4 OUT5 Three-wire type 1 IOV5 6 OUT7
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

MX-OD4230			
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 Free-Run refreshing		
	TS indicator, output indicator	Internal I/O common	PNP
	OD4256	Rated voltage	24 VDC
	●TS 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.
		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	IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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 + I/O power supply - I/O power supply -
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Power Supply Unit A1 FIOV IOV IC IC IC IC IC IC IC IC IC I	IOG0 IO IOG0 IO OUT2 O IOG2 IO IOG2 IO OUT4 O IOG4 IO OUT6 O	Two-wire type JT1 G1 G1 Three-wire type G5
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD5121
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		
	TS indicator, output indicator	Internal I/O common	NPN
	OD5121 ▶⊤S	Rated voltage	12 to 24 VDC
	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, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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 + 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 or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram		/ IOV IOG IOG	Transistor Output Unit NX-OD5121 A1
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD5256
		External connection	Screwless clamping terminal block (16
Number of points I/O refreshing method	16 points Selectable Synchronous I/O refreshing or F	terminals	terminals)
no refreshing method	TS indicator, output indicator	Internal I/O common	PNP
	OD5256	Rated voltage	24 VDC
	DTS	Operating load voltage	24 VDC
	0 1 2 3 4 5 6 7	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 or Communication Control Unit 1.10 W max. Connected to a Communications Coupler Unit 0.70 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply + I/O power supply -	Short-circuit protection	OUT0 to OUT15 Terminal block I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communications Couple Restrictions: No restrictions		
Terminal connection diagram	IOV IOV	Connection Unit	Transistor Output Unit NX-OD5256 B1 Two-wire type OUT2 OUT3 OUT4 OUT5 OUT6 OUT7 OUT8 OUT9 OUT10 OUT11 OUT12 OUT13 OUT14 OUT15 DUT14 OUT15 B8
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

	Unit name	Transistar Outsut Hait	Model	NV 0D6121
Corrected to a CPU Unit or Communication content layout Supply from the NX bus Commendation Supply from the NX bus Supply from the NX bu	Unit name	Transistor Output Unit		
TS indicator, output indicator D0612 18	Number of points	32 points		
Indicators The company of the com	/O refreshing method	,		
10 2 3 16 17 18 19 18 18 18 18 18 18				
Installation orientation Installation orien				12 to 24 VDC
Installation orientation Installation orientat		0 1 2 3 16 17 18 19	range	10.2 to 28.8 VDC
Dimensions 24 (W) x 100 (H) x 71 (D) 20 MC min. between isolated circuits (at 100 power supply (I/O power supply method 15 V Max. Connected to a CPU Unit or Communications Coupler Unit 1.45 W max. Connected to a Communication Control Unit 1.45 W max. Concected to a Communication Control Unit 1.45 W max. Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a CPU Unit or Communication Control Unit 1.45 W max. Concected to a Communication Control Unit 1.45 W max. Connected to a Communication Control Unit 1.45 W max. Connected to a CPU Unit or Communication Coupler Unit 1.45 W max. Connected to a CPU Unit or Communication Coupler Unit 1.45 W max. Connected to a Communications Coupler Unit 1.45 W max. Connected to a Communications Coupler Unit 1.45 W max. Connected to a Communication Control Unit 1.45 W max. Circuit layout Installation orientation Installation orientation: Connected to a CPU Unit or Communication Control Unit Possible in upright Installation. Connected to a Communications Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Restrictions Installation orientation: Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a Communication Coupler Unit Possible in Gorientations. Connected to a CPU Unit Organic Unit Possible in Gorientations. Connected to	Indicators	8 9 10 11 24 25 26 27		0.5 A/point, 4 A/terminal block *1, 8 A/Ur
Residual voltage 1.5 V max.		12 13 14 15 28 29 30 31	Maximum inrush current	4.0 A/point, 10 ms max.
Dimensions 24 (W) x 100 (H) x 71 (D) Insulation resistance 20 M2 min. between isolated circuits (at 100 VDC) 20 M2 min. between isolated circuits (at 100 VDC) 30 M2 min. between isolated circuits (at 100 VDC) 30 M2 min. between isolated circuits (at 100 VDC) 30 M2 min. between isolated circuits (at 100 VDC) 30 M2 min. between isolated circuits (at 100 VDC) 30 M2 min. between isolated circuits for 1 minute at a leakage current of 5 mA ma 2 minute at 3 leakage current of 5 mA ma 3 minute at 3 leakage current of 5 mA ma 3 minute at 3 leakage current of 5 mA ma 4 minute at 3 leakage current of 5 mA				***************************************
Dimensions 24 (W) x 100 (H) x 71 (D)				
Insulation resistance I/O power supply method Supply from the NX bus Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communication Control Unit 0.95 W max. Weight 130 g max. Circuit layout Installation orientation Connected to a CPU Unit or Communication Control Unit 0.95 W max. Installation orientation Connected to a CPU Unit or Communication Control Unit 0.95 W max. Installation orientation Connected to a CPU Unit or Communication Control Unit 0.95 W max. Installation orientation Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientation: Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientation: Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientation: Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientations. Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientations. Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientations. Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientations. Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientations. Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientations. Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientations. Connected to a CPU Unit or Communication Control Unit 1.50 power supply Installation orientations. Connected to a CPU Unit 1.50 power supply Installation Out 1.50		04.040, 400.00, 74.00	•	
Installation orientation and restrictions Installation orientation	Dimensions		Isolation method	·
Circuit layout Connected to a CPU Unit or Communication Control Unit 1.45 W max.	Insulation resistance			minute at a leakage current of 5 mA max
Communication Control Unit 1.45 W max. Connected to a Communications 0.95 W max. 130 g max. Circuit layout Circuit layout Installation orientation and restrictions Installation orientation an	I/O power supply method	,		Without I/O power supply terminals
Circuit layout NX Bus Supply + Supply	NX Unit power consumption	Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit	I/O current consumption	40 mA max.
Installation orientation and restrictions Installation orientation: • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions Terminal connection diagram Vo Power Supply Vi Power Supply	Weight	130 g max.		
* Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. * Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. * Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions * Additional I/O Power Supply Unit NX-OD6121 Additional I/O Power Supply Unit NX-OD6121 Additional I/O Power Supply Unit NX-OD6121 Additional I/O Power Supply Unit NX-OD6121 Additional I/O Power Supply Unit NX-OD6121 I/O Power Supply Unit NX-OD6121	Circuit layout	NX Bus connector (left) I/O power supply + I/O power supply - I/O		I/O power supply + NX Bus connector (right)
Power Supply Unit A1	Installation orientation and restrictions	Connected to a CPU Unit or Communications Connected to a Communications Couple		
I Not supported Protective function I Not supported	Terminal connection diagram	Power Supply Unit A1 B1 IOV IOV	Connection Unit S1 A1	NX-OD6121 B1C1 OUT1 OUT16 OUT17 OUT3 OUT20 OUT20 OUT20 OUT20 OUT20 OUT20 OUT21 OUT7 OUT22 OUT24 OUT25 OUT11 OUT26 OUT27 OUT13 OUT28 OUT29 OUT13 OUT18 OUT29 OUT113 OUT30 OUT30 OUT31
I Not supported Protective function I Not supported	Disconnection/		-	I
		Not supported.	Protective function	Not supported.

^{*1.} The total load currents of OUT 0 to 15 and the total load currents of OUT 16 to 31 must be 4 A or less respectively.

NX-OD6256			
Unit name	Transistor Output Unit	Model	NX-OD6256
Number of points	32 points	External connection terminals	Screwless clamping terminal block (16 terminals x 2)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, output indicator	Internal I/O common	PNP
	OD6256	Rated voltage	24 VDC
	DTS 0 1 2 3 16 17 18 19	Operating load voltage range	15 to 28.8 VDC
Indicators	4 5 6 7 20 21 22 23 8 9 10 11 24 25 26 27	Maximum value of load current	0.5 A/point, 4 A/terminal block *1, 8 A/Unit
	12 13 14 15 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	24 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
	20 M Ω 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	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 1.00 W max.	I/O current consumption	80 mA max.
Weight	130 g max.		
Circuit layout	NX Bus connector (left) I/O power supply + I/O power supply - I/O	Short-circuit protection	OUT0 to OUT31 Terminal block I/O power supply + I/O power supply - NX Bus connector (right)
Installation orientation and restrictions	Installation orientation:		
Terminal connection diagram	OV IOV	IOG IOG OUT12	Transistor Output Unit
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

^{*1.} The total load currents of OUT 0 to 15 and the total load currents of OUT 16 to 31 must be 4 A or less respectively.

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

Unit name	Transistor Output Unit	Model	NX-OD5121-1
Onit name		External connection	NA-0D5121-1
Number of points	16 points	terminals	M3 screw terminal block (18 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and		NON
	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	$20~\text{M}\Omega$ 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 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 or Communication Control 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 NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Terminal A B Signal name A Signal name A		
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

NX-OD5256-1

NX-0D5256-1							
Unit name	Transistor Output Unit	Model	NX-OD5256-1				
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	PNP				
	OD5256-1	Rated voltage	24 VDC				
	DTS 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 or Communication Control Unit 0.95 W max. Connected to a Communications Coupler Unit 0.65 W max.	Current consumption from I/O power supply	30 mA max.				
Weight	125 g max.						
Circuit layout	NX bus connector (left) I/O power supply + I/O power supply -	Short-circuit protection NO	power poly + power oply - In the state of th				
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions						
Terminal connection diagram	Signal name						
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.				

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

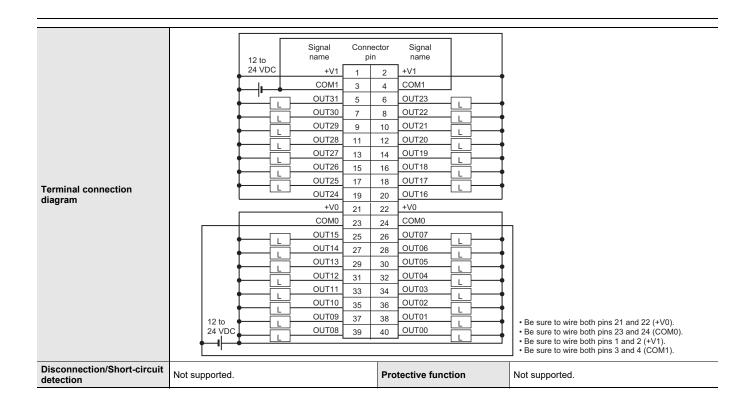
Unit name	Transistor Output Unit	Model	NX-OD5121-5		
Number of points	16 points	External connection terminals	MIL connector (20 terminals)		
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	Run refreshing			
	TS indicator, output indicator Internal I/O common NPN				
	OD5121-5	Rated voltage	12 to 24 VDC		
	DTS 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	$20~\text{M}\Omega$ 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 or Communication Control 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) NX bus connector (left)		+V OUT0 to OUT15 Connector COM COM I/O power supply + I/O power supply - I/O power supp		
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication Connected to a Communications Coupler Unit Restrictions: No restrictions	Control Unit: Possible in upright in Expressible in 6 orientations.	nstallation.		
Terminal connection diagram	Signal Connector pin	Signal name			
Disconnection/Short-circuit	Be sure to wire both pins 1 and 2 (+V). Not supported.	Protective function	Not supported.		
detection	<u> </u>		· ·		

NX-OD5256-5

Unit name	Transistor Output Unit	Model	NX-OD5256-5				
	·	External connection					
Number of points	16 points	terminals	MIL connector (20 terminals)				
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing						
	TS indicator, output indicator	Internal I/O common	PNP				
	OD5256-5	Rated voltage	24 VDC				
	●TS 0 1 2 3 4 5 6 7	Operating load voltage range	20.4 to 28.8 VDC				
Indicators	8 9 10 11 12 13 14 15	Maximum value of load current	0.5 A/point, 2 A/Unit				
		Maximum inrush current	4.0 A/point, 10 ms max.				
		Leakage current	0.1 mA max.				
		Residual voltage	1.5 V max.				
Dimensions	30 (W) x 100 (H) x 71 (D)	ON/OFF response time Isolation method	0.5 ms max./1.0 ms max. Photocoupler isolation				
	20 MΩ min. between isolated circuits (at 100		510 VAC between isolated circuits for 1 minute at				
Insulation resistance	VDC)	Dielectric strength	a leakage current of 5 mA max.				
I/O power supply method	Supplied from external source.	Current capacity of I/O power supply terminal	Without I/O power supply terminals				
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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 + VI/O power supply - VI	Short-circuit protection	COM (+V) COM (+V) OUT0 to OUT15 OV OV I/O power supply + I/O power supply - I/O power supply - I/O power supply - I/O power supply -				
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication CCONNECTED CONNECTED IN CONNE	Control Unit: Possible in upright i t: Possible in 6 orientations.	nstallation.				
Terminal connection diagram	Signal Connector name pin 24 VDC COM (+V) 1 2 0V 3 4 OUT15 5 6 L OUT14 7 8 L OUT13 9 10 L OUT12 11 12 L OUT11 13 14 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).	OV OUT07 L OUT06 L OUT05 L OUT04 L OUT03 L OUT02 L OUT01 L					
Disconnection/Short-circuit	Be sure to wire both pins 3 and 4 (0V). Not supported.	Protective function	With load short-circuit protection.				
detection	·		•				

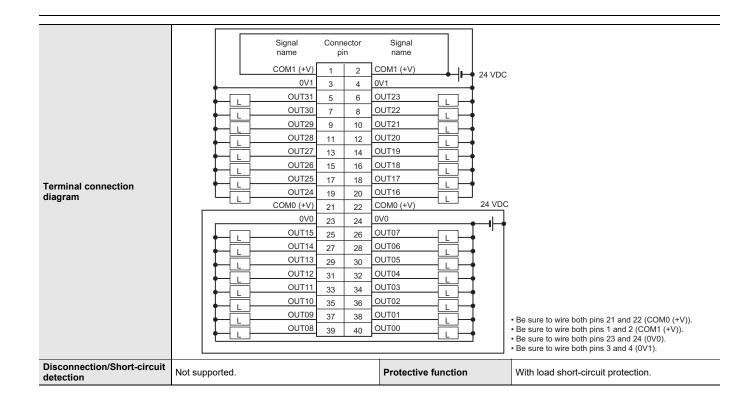
NX-OD6121-5

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	
	DTS 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 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 or Communication Control 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	Internal circuits	+V0 +V0 OUT0 to OUT18 COM0 +V1 +V1 +V1 OUT16 to OUT3*	Connector	
	NX bus connector I/O power supply +	l/O powe	or supply +	
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication C Connected to a Communications Coupler Unit Restrictions: No restrictions		nstallation.	



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-R	Run refreshing		
	TS indicator, output indicator	Internal I/O common	PNP	
	OD6256-5	Rated voltage	24 VDC	
	DTS 0 1 2 3 4 5 6 7	Operating load voltage range	20.4 to 28.8 VDC	
Indicators	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit	
	24 25 26 27 28 29 30 31	Maximum inrush current	4.0 A/point, 10 ms max.	
		Leakage current	0.1 mA max.	
		Residual voltage	1.5 V max.	
		ON/OFF response time	0.5 ms max./1.0 ms max.	
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation	
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals	
NX Unit power consumption	Connected to a CPU Unit or Communication Control 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 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 + NX bus connector	
Installation orientation and	Installation orientation: Connected to a CPU Unit or Communication C Connected to a Communications Coupler Unit		I/O power supply –] (right)	
restrictions	Restrictions: No restrictions	. FUSSIDIE III O UNENIALIONS.		



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

Unit name	Transistor Output Unit	Model	NX-OD6121-6		
Number of points	32 points	External connection	Fujitsu/OTAX connector (40 terminals)		
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	terminals	. spices on tree interests (10 terminals)		
no remeaning method	TS indicator, output indicator	NPN			
	OD6121-6	Internal I/O common Rated voltage	12 to 24 VDC		
	OD6121−6 • TS	Operating load voltage range	10.2 to 28.8 VDC		
Indicators	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit		
	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Maximum inrush current	4.0 A/point, 10 ms max.		
	24 20 20 27 20 20 00	Leakage current	0.1 mA max.		
		Residual voltage ON/OFF response time	1.5 V max. 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		
	VDC)	Current capacity of I/O	a leakage current of 5 mA max.		
I/O power supply method	Supply from external source	power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.10 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 connector (left) NX bus connector (left)				
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions				
Terminal connection diagram	12 to 24 VDC Signal name Connector pin name OUT10 A1 B1 OUT16	12 to 24 VDC L L L L L L L L L L L L L L L L L L			
Disconnection/	Not supported.	Protective function	Not supported.		
Short-circuit detection	''		11		

● 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 250 VAC/2 A (cos = 1),		
	OC2633 • TS	Maximum switching capacity	250 VAC/2 A (cosφ = 0.4),		
Indicators	0 1	сарасну	24 VDC/2 A, 4 A/Unit		
		Minimum switching capacity	5 VDC, 1 mA		
Relay service life	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.		
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation		
Insulation resistance	Between A1/B1 terminals and A3/B3 terminals: $20~\text{M}\Omega$ min. (500 VDC) Between the external terminals and internal circuits: $20~\text{M}\Omega$ min. (500 VDC) Between the internal circuit and GR terminal: $20~\text{M}\Omega$ min. (100 VDC) Between the external terminals and GR terminal: $20~\text{M}\Omega$ min. (500 VDC)	Dielectric strength	Between A1/B1 terminals and A3/B3 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and GR terminal: 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 GR terminal: 510 VAC for 1 min at a leakage current of 5 mA max.		
Vibration resistance	Conforms to IEC60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 8.4 to 150 Hz, acceleration of 9.8 m/s² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s², 3 times each in X, Y, and Z directions		
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.20 W max. Connected to a Communications Coupler Unit 0.80 W max.	I/O current consumption	No consumption		
Weight	65 g max.				
Circuit layout	NX bus connector (left) I/O power supply + You cannot replace t	oly	I/O power supply + NX bus connector (right)		
Installation orientation and restrictions	Installation orientation: Connected to a CPU Unit or Communication Control 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 Load 0 C0 NC NC NC NC NC NC BB				
Disconnection/					

^{*} 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 Unit name Relay Output Unit Model NX-OC2733 **External connection** Screwless clamping terminal block (8 **Number of points** 2 points, independent contacts terminals terminals) I/O refreshing method Free-Run refreshing TS indicator, output indicator 250 VAC/2 A $(\cos \phi = 1)$ 250 VAC/2 A ($\cos \phi = 0.4$), Maximum switching OC2733 24 VDC/2 A, capacity TS 4 A/Unit Indicators 0 1 Minimum switching 5 VDC, 10 mA capacity Electrical: 100,000 operations Relay service life ON/OFF response time 15 ms max./15 ms max. Mechanical: 20,000,000 operations Dimensions 12 (W) x 100 (H) x 71 (D) Isolation method Relay isolation Between A1/3, B1/3 terminals and A5/7, Between A1/3, B1/3 terminals and A5/7 B5/7 terminals: 2300 VAC for 1 min at a B5/7 terminals: 20 M Ω min. (at 500 VDC) leakage current of 5 mA max. Between the external terminals and Between the external terminals and the functional ground terminal: 20 $M\Omega$ min. (at functional ground terminal: 2300 VAC for 1 500 VDC) min at a leakage current of 5 mA max. Insulation resistance Dielectric strength Between the external terminals and Between the external terminals and internal circuits: 2300 VAC for 1 min at a internal circuits: 20 M Ω min. (at 500 VDC) Between the internal circuit and the leakage current of 5 mA max. functional ground terminal: 20 $\mbox{M}\Omega$ min. (at Between the internal circuit and the 100 VDC) functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max. I/O power supply Current capacity of I/O Supply from external source Without I/O power supply terminals method power supply terminal Connected to a CPU Unit or Communication Control Unit **NX** Unit power Current consumption 1.30 W max. No consumption Connected to a Communications consumption from I/O power supply Coupler Unit 0.95 W max. Weight 70 g max. NO0 to NO1 circuits C0 to C1 Terminal block NC0 to NC1 nternal Circuit layout Internal power supply NX bus NX bus I/O power supply + I/O power supply connector connecto (left) (right) I/O power supply I/O power supply NO0 and NO1 are normal open contacts, and NC0 and NC1 are normal close contacts. You cannot replace the relay. Installation orientation Installation orientation Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. and restrictions Restrictions: No restrictions Relay Output Únit NX-OC2733 Load •NO0 NC0 Load C0 C0 • **Terminal connection** diagram NO₁ NC1

C1

C1

Protective function

Not supported.

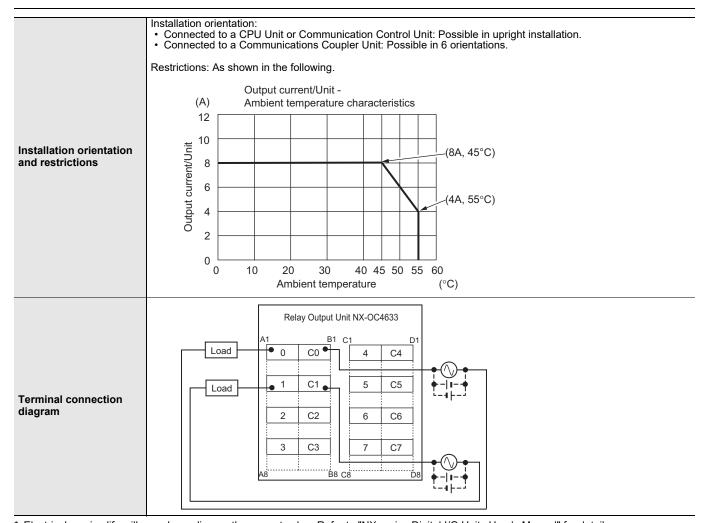
Not supported.

Disconnection/Short-

circuit detection

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

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



^{*} 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	DC Input/Transistor Output Unit	Model		NX-MD6121-5
Number of points	16 inputs/16 outputs	External c	connection	2 MIL connectors (20 terminals)
I/O refreshing 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		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.			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	Dimensio	ns	30 (W) x 100 (H) x 71 (D)
	MD6121-F	Isolation	method	Photocoupler isolation
	MD6121-5 CN	Insulation	resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)
	1 0 1 2 3 4 5 6 7 1 8 9 10 11 12 13 14 15 2 0 1 2 3 4 5 6 7	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 Current capacity of I/O power supply terminal NX Unit power consumption		Supply from external source
Indicators				Without I/O power supply terminals
				Connected to a CPU Unit or Communication Control 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 layout	NX bus connector (left) NX bus connector (left) Connector NX bus connector (left) NX bus connector (left) IND power supply – CN2 (right) input circuit Input indicated 3.3 kΩ IND	Internal circuits State St	Opower upply + Opower	

Installation orientation Connected to a CPU Unit or Communication Control 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 Number of simultaneously ON input 16 points at 35°C 16 points at 45°C 16 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 Ambient temperature · For any installation other than upright Number of simultaneously ON input points vs. Number of simultaneously ON input points Ambient temperature characteristic 16 points at 40°C 16 points at 25°C 12 I/O power supply 5 points at 55°C 8 voltage ---24 V 4 28.8 V 3 points at 55°C 0 10 30 40 45 50 55 60 Ambient temperature (°C) CN1 (left) output terminal Signal Connector Signal name pin name OUT0 20 19 OUT8 name OUT1 18 17 OUT9 OUT10 L OUT2 16 15 OUT3 14 13 OUT11 OUT4 12 11 OUT12 OUT5 10 9 OUT13 OUT6 8 7 OUT14 OUT7 6 5 OUT15 COM0 4 3 COM0 +V0 2 1 +V0 • 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 24 VDC name pin name 1 2 NC NC COM1 3 4 COM1 IN15 5 6 IN07 7 8 IN14 IN06 IN13 9 10 IN05 60 IN12 11 12 IN04 13 14 IN11 IN03 6 c IN10 15 16 IN02 60 17 18 IN01 IN09 IN08 19 20 IN00 **√**0 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 Not supported. **Protective function** Not supported. detection

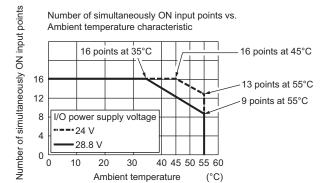
NX-MD6256-5

Unit name	DC Input/Transistor Output Unit	Model		NX-MD6256-5		
Number of points	16 inputs/16 outputs	External connection		2 MIL connectors (20 terminals)		
	<u> </u>	terminals		2 WIL Connectors (20 terminals)		
I/O refreshing method Internal I/O	Switching Synchronous I/O refreshing and Free-	Run retresn	Internal I/O			
common	PNP		common Rated input	For both NPN/PNP		
Rated voltage Operating load	24 VDC		- -		voltage	24 VDC (15 to 28.8 VDC)
voltage range	20.4 to 28.8 VDC			Input current ON voltage/ON	7 mA typical (at 24 VDC) 15 VDC min./3 mA min. (between COM and	
section of load current	0.5 A/point, 2 A/Unit	Input section (CN2)	current	each signal)		
(CN1) Maximum inrush current	4.0 A/point, 10 ms max.	(0.112)	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.		lumit filter time	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		30 (W) x 100 (H) x 71 (D)		
	MD6256-5	Isolation i	method	Photocoupler isolation		
	CN_ DTS	Insulation	resistance	20 M Ω min. between isolated circuits (at 100 VDC)		
	1 L8 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 8 9 10 11 12 13 14 15	•	supply method	Supply from external source		
Indicators		Current capacity of I/O power supply terminal		Without I/O power supply terminals		
		NX Unit power consumption Current consumption from I/ O power supply		Connected to a CPU Unit or Communication Control Unit 1.10 W max. Connected to a Communications Coupler Unit 0.75 W max.		
				40 mA max.		
		Weight		110 g max.		
Circuit layout	NX bus connector (left) NX bus connector (left)		OUT0 to OUT15 OV0 I/O power supply + I/O power supply - supply - I/O power supply - I/O power supply -	us actor		

- Installation orientation:

 Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.

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



Installation orientation and restrictions

· 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 25°C 16 12 I/O power supply 5 points at 55°C 8 voltage ----24 V 4 28.8 V 3 points at 55°C 0 0 10 20 30 40 45 50 55 60 Ambient temperature (°C)

CN1 (left) output terminal

	Signal C	OH	lecic	or Signai	
	name	p	in	name	
	OUT0	20	19	OUT8	$\neg \Box$
	OUT1	18	17	OUT9	╤▃
	OUT2	16	15	OUT10	╤Ш
	OUT3	14	13	OUT11	╤Ш
	OUT4	12	11	OUT12	≒ ∐
	OUT5	10	9	OUT13	╤┈
	OUT6	8	7	OUT14	╪┈╏
	OUT7	6	5	OUT15	╪
	COM0 (+V)	4	3	COM0 (+V)	<u>-</u> ' I
<u> </u>	0V0	2	1	0V0	
				•	
24 VDC					

Terminal connection diagram

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

CN2 (right) input terminal

24 VDC	Signal C	Conr	necto	or Signal	
VDC	name NC	p	in 2	name I NC	
	COM1	3	4	COM1	
	IN15	5	6	IN07	
	IN14	7	8	IN06	
	IN13	9	10	IN05	`
	IN12	11	12	IN04	`
	IN11	13	14	IN03	
	IN10	15	16	IN02	`
	IN09	17	18	IN01	
L.,	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.

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

Unit name		DC Input/Transistor Output Unit	Model		NX-MD6121-6
Number o	f points	16 inputs/16 outputs	External of terminals	connection	2 Fujitsu/OTAX connectors (24 terminals)
I/O refresi	hing method	Switching Synchronous I/O refreshing and Free-F	Run refreshii	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 section	Maximum value of load current	0.5 A/point, 2 A/Unit	Input section	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
(CN1)	Maximum inrush current	4.0 A/point, 10 ms max.	current ON/OFF	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.			N = 514 0.05 0.5 4 (d-514) 0
	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
	!	TS indicator, I/O indicators	Dimensio	ns	30 (W) x 100 (H) x 71 (D)
		1100101 0	Isolation	method	Photocoupler isolation
		MD6121-6 CN	Insulation	resistance	20 M Ω min. between isolated circuits (at 100 VDC)
		1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Dielectric	strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
		2 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	I/O power supply method		Supply from external source
Indicators	•	20 3 10 11 12 13 14 13		apacity of I/O	Without I/O power supply terminals
			NX Unit power consumption		Connected to a CPU Unit or Communication Control Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max.
			Current co	onsumption from supply	30 mA max.
			Weight		95 g max.
Circuit layout		NX bus connector (left) NX bus connector (left) I/O power supply + I/O power supply -		+V0 +V0 OUT0 to OUT15 COM0 COM0 I/O power supply + I/O power supply –	Connector NX bus connector (right)
		$\begin{array}{c c} & & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ &$	dicator	I/O power supply + I/O power supply - I/O power supply -	NX bus connector (right)

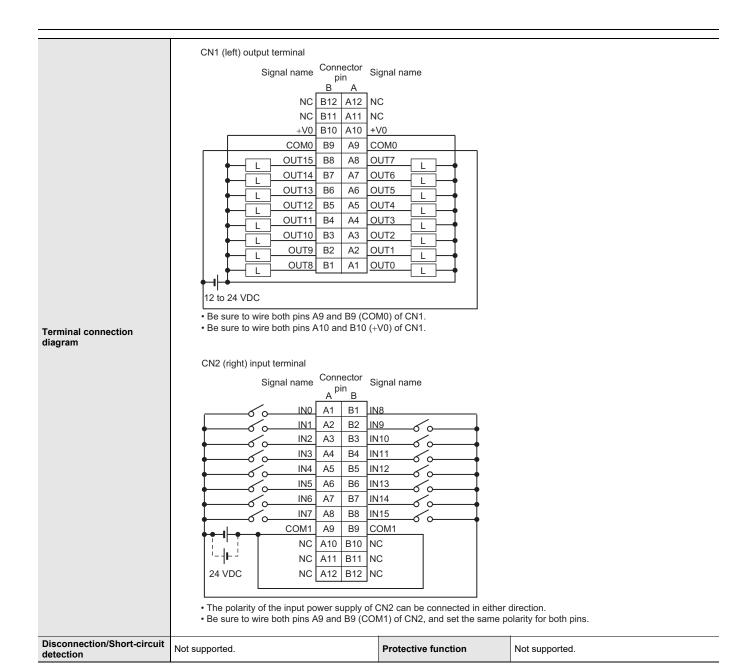
Installation orientation:

Connected to a CPU Unit or Communication Control 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 Number of simultaneously ON input points 16 points at 35°C 16 points at 45°C 16 -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 (°C) Ambient temperature • For any installation other than upright Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 40°C Number of simultaneously ON input points 16 points at 25°C 16 12 I/O power supply 5 points at 55°C voltage 8 ----24 V 4 28.8 V -3 points at 55°C 0 0 10 30 40 45 50 55 60

Ambient temperature

(°C)



Version Information

Connected to a CPU Unit

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

NX Unit		Corresponding unit versions/versions				
Model	Unit version	CPU Unit	Sysmac Studio			
NX-ID3317						
NX-ID3343						
NX-ID3344						
NX-ID3417						
NX-ID3443						
NX-ID3444						
NX-ID4342			Ver.1.17			
NX-ID4442			Vel.1.17			
NX-ID5142-1						
NX-ID5142-5						
NX-ID5342						
NX-ID5442						
NX-ID6142-5						
NX-ID6142-6						
NX-ID6342			Ver.1.54			
NX-ID6442			Vel.1.54			
NX-IA3117						
NX-OD2154						
NX-OD2258						
NX-OD3121						
NX-OD3153						
NX-OD3256	Ver.1.0	Ver.1.13				
NX-OD3257						
NX-OD3268			Ver.1.17			
NX-OD4121			Vel.1.17			
NX-OD4256						
NX-OD5121						
NX-OD5121-1						
NX-OD5121-5						
NX-OD5256						
NX-OD5256-1						
NX-OD5256-5						
NX-OD6121			Ver.1.54			
NX-OD6121-5			Ver.1.17			
NX-OD6121-6			V01.1.17			
NX-OD6256			Ver.1.54			
NX-OD6256-5						
NX-OC2633						
NX-OC2733						
NX-OC4633			Ver.1.17			
NX-MD6121-5						
NX-MD6121-6						
NX-MD6256-5			any the energified version augment is provided by the			

Note: 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 an EtherCAT Coupler Unit

NX Unit		Corresponding unit versions/versions				
Model	Unit version	EtherCAT Coupler Unit	CPU Unit or Industrial PC	Sysmac Studio		
NX-ID3317		Ver.1.0	Ver.1.05	Ver.1.06		
NX-ID3343		V C1.1.0	Ver. 1.05	Ver. 1.00		
NX-ID3344		Ver.1.1	Ver.1.06 *	Ver.1.07		
NX-ID3417		Ver.1.0	Ver.1.05	Ver.1.06		
NX-ID3443		V e1.1.0	Ver. 1.05	Ver. 1.00		
NX-ID3444		Ver.1.1	Ver.1.06 *	Ver.1.07		
NX-ID4342				Ver.1.06		
NX-ID4442				Vei. 1.00		
NX-ID5142-1	Ver.1.0			Ver.1.13		
NX-ID5142-5				Ver.1.10		
NX-ID5342				Var 1.06		
NX-ID5442		Ver.1.0	Ver.1.05	Ver.1.06		
NX-ID6142-5				Ver.1.10		
NX-ID6142-6				Ver.1.13		
NX-ID6342				\/a= 4 F4		
NX-ID6442				Ver.1.54		
NX-IA3117				Ver.1.08		
NX-OD2154		Van 4.4	Van 4.00 *	\/a= 4.07		
NX-OD2258		Ver.1.1	Ver.1.06 *	Ver.1.07		
NX-OD3121						
NX-OD3153				V = = 4.00		
NX-OD3256				Ver.1.06		
NX-OD3257						
NX-OD3268				Ver.1.13		
NX-OD4121						
NX-OD4256				Ver.1.06		
NX-OD5121						
NX-OD5121-1				Ver.1.13		
NX-OD5121-5	Ver.1.0			Ver.1.10		
NX-OD5256		Ver.1.0	Ver.1.05	Ver.1.06		
NX-OD5256-1				Ver.1.13		
IX-OD5256-5				Ver.1.10		
NX-OD6121				Ver.1.54		
NX-OD6121-5				Ver.1.10		
IX-OD6121-6				Ver.1.13		
IX-OD6256				Ver.1.54		
IX-OD6256-5				Ver.1.10		
IX-OC2633				Ver.1.06		
IX-OC2733				Ver.1.08		
NX-OC4633				Ver.1.17		
NX-MD6121-5				Ver.1.10		
IX-MD6121-6	Ver.1.0	Ver.1.0	Ver.1.05	Ver.1.13		
NX-MD6256-5				Ver.1.10		

Note: 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.

^{*} 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.

Connected to an EtherNet/IP Coupler Unit

NX Unit		Corresponding unit versions/versions								
		Application with	an NJ/NX/NY-ser *1	ries Controller	Application w	ith a CS/CJ/CF	P-series PLC *2			
Model	Unit version	EtherNet/IP Coupler Unit	CPU Unit or Industrial PC	Sysmac Studio	EtherNet/IP Coupler Unit	Sysmac Studio	NX-IO Configurator *3			
NX-ID3317		Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00			
NX-ID3343		VOI. 1.2	VOI. 1.14	VOI. 1.10	VOI. 1.0	VGI. 1.10	VOI. 1.00			
NX-ID3344										
NX-ID3417		Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00			
NX-ID3443			7 5		7 511 115	7 3.1 1.1 0	7 511 1100			
NX-ID3444										
NX-ID4342						Ver. 1.10				
NX-ID4442										
NX-ID5142-1						Ver. 1.13				
NX-ID5142-5				Ver. 1.19			Ver. 1.00			
NX-ID5342						Ver. 1.10				
NX-ID5442		Ver. 1.2	Ver. 1.14		Ver. 1.0					
NX-ID6142-5										
NX-ID6142-6						Ver. 1.13				
NX-ID6342				Ver.1.54		Ver.1.54	Ver.1.23			
NX-ID6442										
NX-IA3117				Ver. 1.19		Ver. 1.10	Ver. 1.00			
NX-OD2154										
NX-OD2258										
NX-OD3121							- - Ver. 1.00			
NX-OD3153						Ver. 1.10				
NX-OD3256	Ver. 1.0									
NX-OD3257						Van 4.42				
NX-OD3268 NX-OD4121						Ver. 1.13				
NX-OD4121 NX-OD4256				Ver. 1.19		Ver. 1.10				
NX-OD4230 NX-OD5121				vei. i.i9		vei. 1.10	Ver. 1.00			
NX-OD5121 NX-OD5121-1						Ver. 1.13	_			
NX-OD5121-1 NX-OD5121-5						Vel. 1.13	_			
NX-OD5121-5 NX-OD5256						Ver. 1.10	_			
NX-OD5256-1						Ver. 1.13				
NX-OD5256-5		Ver. 1.2	Ver. 1.14		Ver. 1.0	Ver. 1.10				
NX-OD5256-5 NX-OD6121				Ver.1.54		Ver. 1.10 Ver.1.54	Ver.1.23			
NX-OD6121-5				V 01.1.07		Ver. 1.10	V 01.1.20			
NX-OD6121-6				Ver. 1.19		Ver. 1.13	Ver. 1.00			
NX-OD6121-0				Ver.1.54		Ver. 1.13 Ver.1.54	Ver.1.23			
NX-OD6256-5				V 01.1.07		V 01.1.04	V 01.1.20			
NX-OC2633						Ver. 1.10				
NX-OC2733						751. 1.10				
NX-OC4633				Ver. 1.19		Ver. 1.17	Ver. 1.00			
NX-MD6121-5						Ver. 1.10	-			
NX-MD6121-6						Ver. 1.13	1			
NX-MD6256-5						Ver. 1.10	1			
		- f 41			not have the speci		4			

Note: 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.} Note: You cannot connect the relevant NX Unit to the target Communications Coupler Unit if "---" is shown in the corresponding unit versions/versions column.

^{*1} Refer to the user's manual for the EtherNet/IP Coupler Units for information on the unit versions of EtherNet/IP Units that are compatible with EtherNet/IP Coupler Units.

^{*2} Refer to the user's manual for the EtherNet/IP Coupler Units for information on the unit versions of CPU Units and EtherNet/IP Units that are compatible with EtherNet/IP Coupler Units.

^{*3} For connection to an EtherNet/IP Coupler Unit with unit version 1.0, connection is supported only for a connection to the peripheral USB port on the EtherNet/IP Coupler Unit. You cannot connect by any other path. If you need to connect by another path, use an EtherNet/IP Coupler Unit with unit version 1.2 or later.

Connected to Communication Control Units

N)	(Unit	Corresponding unit versions/versions				
Model	Unit version	Communication Control Unit	Sysmac Studio			
NX-ID3317		Ver. 1.00	Ver. 1.24			
NX-ID3343		Ver. 1.00	Vel. 1.24			
NX-ID3344	Ver. 1.0					
NX-ID3417		Ver. 1.00	Ver. 1.24			
NX-ID3443		Vel. 1.00	VGI. 1.24			
NX-ID3444						
NX-ID4342						
NX-ID4442						
NX-ID5142-1						
NX-ID5142-5			Ver. 1.24			
NX-ID5342			Vel. 1.24			
NX-ID5442		Ver. 1.00				
NX-ID6142-5						
NX-ID6142-6						
NX-ID6342			Ver. 1.54			
NX-ID6442			Ver. 1.54			
NX-IA3117			Ver. 1.24			
NX-OD2154						
NX-OD2258						
NX-OD3121						
NX-OD3153						
NX-OD3256						
NX-OD3257						
NX-OD3268	Ver. 1.0					
NX-OD4121	ver. 1.0					
NX-OD4256			Ver. 1.24			
NX-OD5121						
NX-OD5121-1						
NX-OD5121-5						
NX-OD5256						
NX-OD5256-1		Vor. 1.00				
NX-OD5256-5		Ver. 1.00				
NX-OD6121			Ver. 1.54			
NX-OD6121-5			Vor. 1.24			
NX-OD6121-6			Ver. 1.24			
NX-OD6256			Ver. 1.54			
NX-OD6256-5						
NX-OC2633						
NX-OC2733						
NX-OC4633			Ver. 1.24			
NX-MD6121-5						
NX-MD6121-6						
NX-MD6256-5						

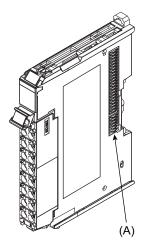
Note: 1. Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

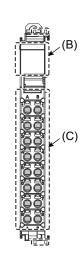
^{2.} Note: You cannot connect the relevant NX Unit to the Communication Control Unit if "---" is shown in the corresponding unit versions/ versions column.

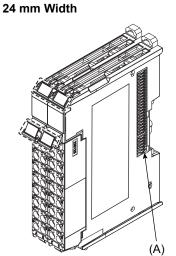
External Interface

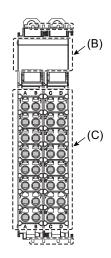
Screwless Clamping Terminal Block Type

12 mm Width



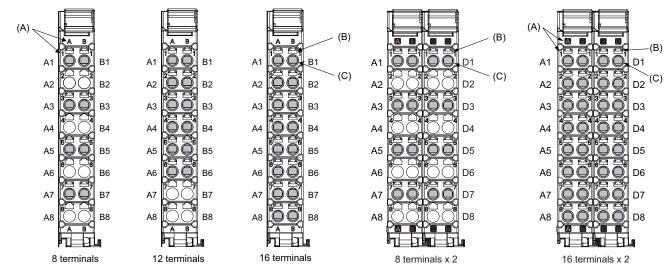






Letter	Item Specification			
(A)	NX bus connector	This connector is used to connect to another Unit.		
(B)	Indicators	The indicators show the current operating status of the Unit.		
(C)	Terminal block	The terminal block is used to connect to external devices. The number of terminals depends on the Unit.		

Terminal Blocks



Letter	Item	Specification
(A)	Terminal number indication	The terminal number is identified by a column (A through D) and a row (1 through 8). Therefore, terminal numbers are written as a combination of columns and rows, A1 through A8 and 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.

Applicable Terminal Blocks for Each Unit Model

Unit model	Terminal Blocks						
Unit model	Model	No. of terminals	Ground terminal mark	Terminal current capacity			
NX-ID3	NX-TBA122	12	None	10 A			
NX-ID4□□□	NX-TBA162	16	None	10 A			
NX-ID5□□□	NX-TBA162	16	None	10 A			
NX-ID6□□□	NX-TBA162	16	None	10 A			
NA-IDOLLL	NX-TBB162	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-OD6□□□	NX-TBA162	16	None	10 A			
NX-ODOLLL	NX-TBB162	16	None	10 A			
NX-OC2	NX-TBA082	8	None	10 A			
NX-OC4633 *1	NX-TBA082	8	None	10 A			

^{*1.} Use the NX-TBA082 in both the A/B and C/D columns for the NX-OC4633. In such situations, the column number display on the terminal block will be for the A/B columns even in the C/D columns.

Applicable Wires

Using Ferrules

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

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

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

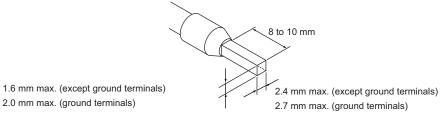
The applicable ferrules, wires, and crimping tools are listed in the following table.

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

^{*} 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



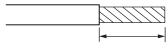
Using Twisted Wires/Solid Wires

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

Torn	Wire type					Conductor length (stripping length)	
Terminals		Twisted wires		Solid wire			Wire size
Classification	Current capacity	Plated	Unplated	Plated	Unplated		(ourphing longur)
	2 A or less		Possible	Possible	Possible		
All terminals except ground terminals	Greater than 2 A and 4 A or less	Possible	Not	Possible *1	Not	0.08 to 1.5 mm ² AWG28 to 16	8 to 10 mm
	Greater than 4 A	Possible *1	Possible	Not Possible	Possible	7,00201010	
Ground terminals		Possible	Possible	Possible *2	Possible *2	2.0 mm ²	9 to 10 mm

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

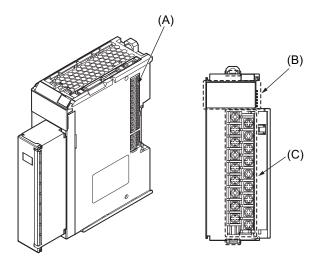
^{*2.} With the NX-TB□□□1 Terminal Block, use twisted wires to connect the ground terminal. Do not use a solid wire.



Conductor length (stripping length)

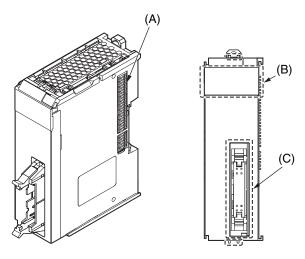
<Additional Information> If more than 2 A will flow on the wires, use plated wires or use ferrules.

M3 Screw Terminal Block Type 30 mm Width

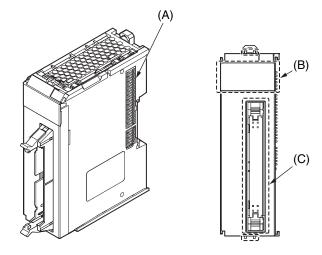


Letter	Item	Specification
(A)	NX bus connector	This connector is used to connect to another Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Screw terminals	These screw terminals are used to connect the wires.

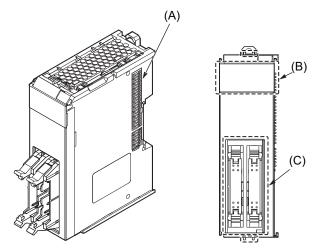
MIL Connector Type (1 Connector with 20 terminals) 30 mm Width



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

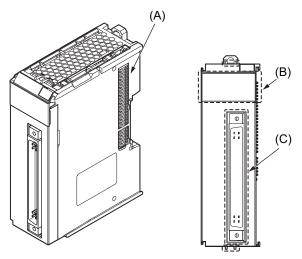


MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

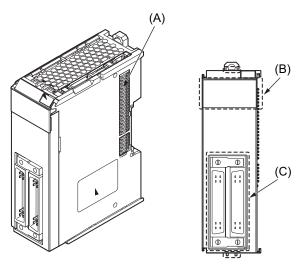


Letter	Item	Specification	
(A)	NX bus connector	This connector is used to connect to another Unit.	
(B)	Indicators	The indicators show the current operating status of the Unit.	
(C)	Connectors	The connectors are used to connect to external devices.	

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



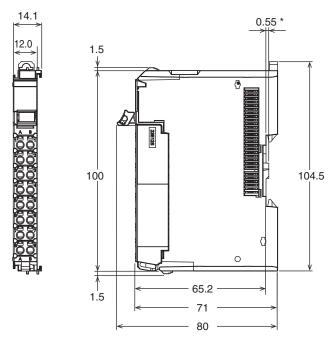
Fujitsu/OTAX Connector Type (2 Connectors with 24 terminals) 30 mm Width



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

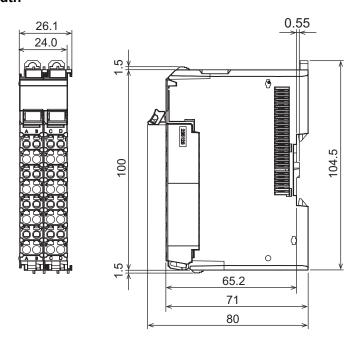
Dimensions (Unit/mm)

Screwless Clamping Terminal Block Type 12 mm Width

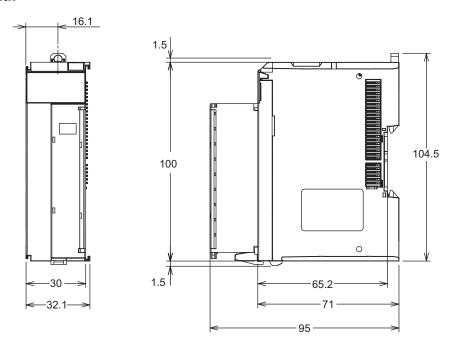


^{*} The dimension is 1.35 mm for Units with lot numbers through December 2014.

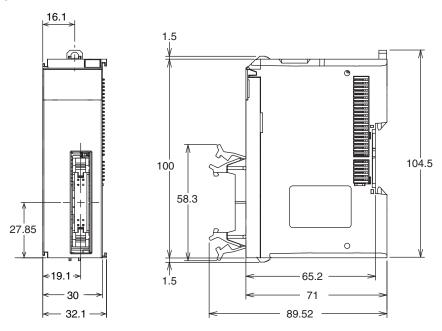
24 mm Width



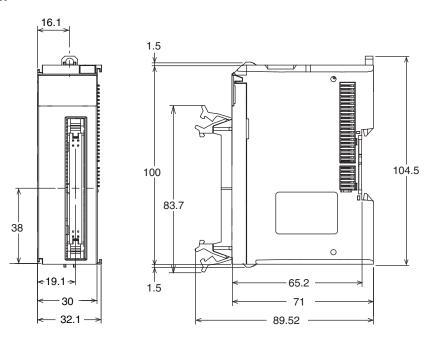
M3 Screw Terminal Block Type 30 mm Width



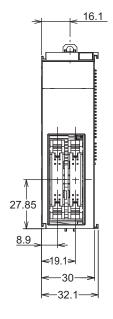
MIL Connector Type (1 Connector with 20 terminals) 30 mm Width

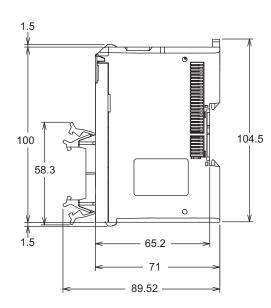


MIL Connector Type (1 Connector with 40 terminals) 30 mm Width

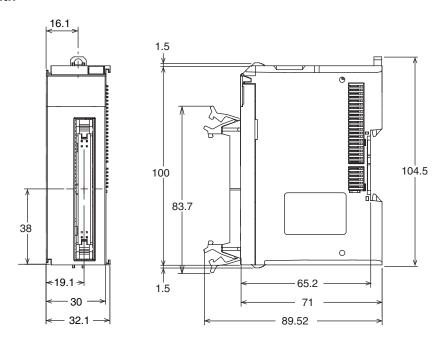


MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

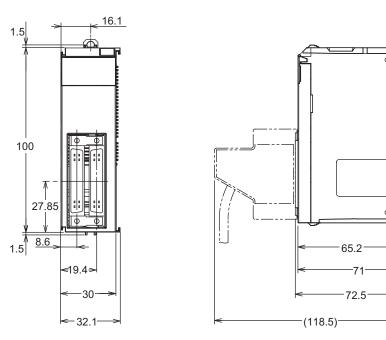




Fujitsu/OTAX Connector Type (1 Connector with 40 terminals) 30 mm Width



Fujitsu/OTAX 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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