

# **NX-series Digital I/O Unit**

# NX-ID/IA/OD/OC/MD

CSM\_NX-ID\_IA\_OD\_OC\_MD\_DS\_E\_7\_1

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

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





#### **Features**

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

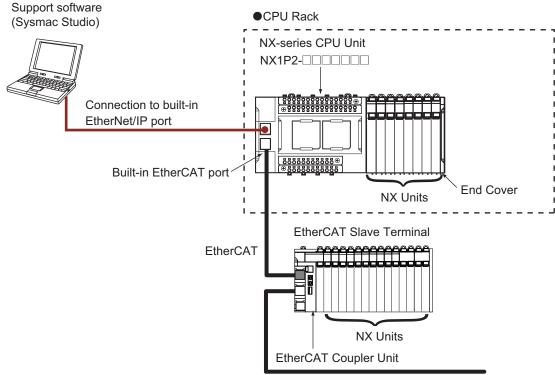
Sysmac is a trademark or registered trademark of OMRON Corporation in Japan and other countries for OMRON factory automation products. EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany. EtherNet/IP<sup>TM</sup> is a trademark of ODVA.

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### **System Configurations**

#### Connected to a CPU Unit

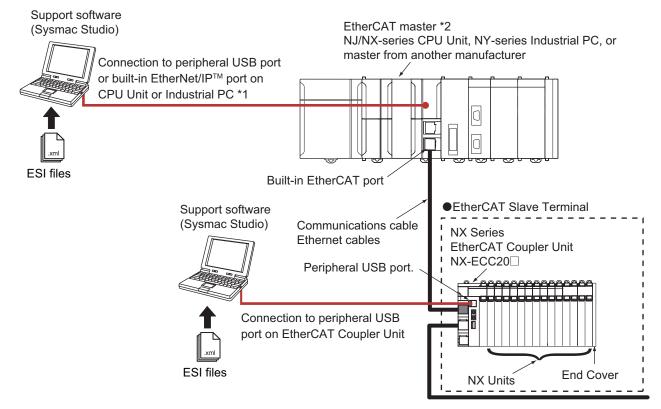
The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



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.



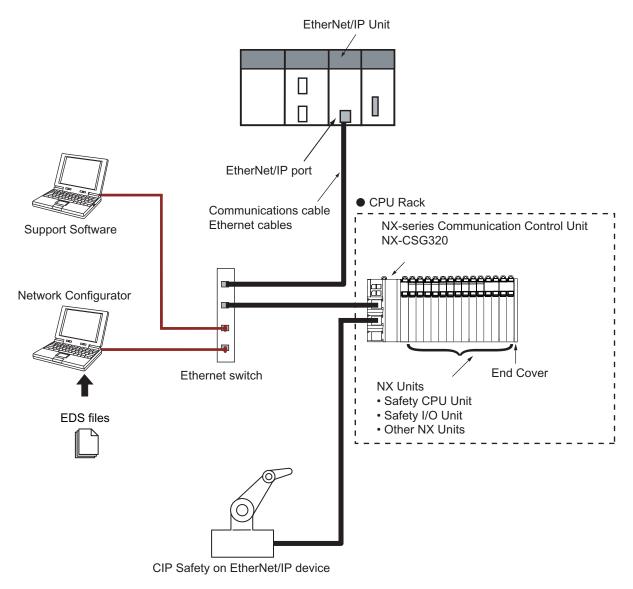
- \*1. The connection method for the Sysmac Studio depends on the model of the CPU Unit or Industrial PC.
- \*2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81/□82 Position Control Units even though they can operate as EtherCAT masters.

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

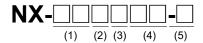
The following figure shows a system configuration when a group of NX Units is connected to an NX-series Communication Control Unit. To configure a Safety Network Controller, mount the Safety CPU Unit, which is one of the NX Units, to the CPU Rack of the Communication Control Unit

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.	o. 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
	Screwless clamping terminal block	
	-1	M3 screw terminal block
	-5	MIL connector
	-6	Fujitsu connector

#### (4) Other specifications **Digital Input Units**

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

#### **Digital Output Units**

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

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

<sup>\*1</sup> Free-Run refreshing
\*2 Synchronous I/O refreshing

<sup>\*1</sup> 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		
	4 points		24 VDC	Input refreshing with input changed time only *1	100 ns max./100 ns max.	NX-ID3344		
DC Input Unit	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		
-				Input refreshing with input changed time only *1	100 ns max./100 ns max.	NX-ID3444		
	0 nointo	NPN				NX-ID4342		
	8 points	PNP				NX-ID4442		
Screwless Clamping Ferminal Block, 12 mm	40	NPN	24 VDC			NX-ID5342		
Width/24 mm Width)	16 points	PNP		Switching Synchronous I/O re-	20 μs max./400 μs max.	NX-ID5442		
,	00 11	NPN		freshing and Free-Run refreshing	2ο μο παχ., του μο παχ.	NX-ID6342 <u>NE</u>		
	32 points	PNP				NX-ID6442		
DC Input Unit								
(M3 Screw Terminal Block, 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		
DC Input Unit	16 points	For both		Switching Synchronous I/O refreshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID5142-5		
(MIL Connector, 30 mm Width)	32 points	NPN/PNP				NX-ID6142-5		
(Fujitsu Connector, 30 mm Width)	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		
AC Input Unit  (Screwless Clamping Terminal Block, 12 mm Width)	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		

<sup>\*1.</sup> 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 Arpoint, 1 Aronit	24 VDC	fied time stamp only *1	300 ns max.	NX-OD2258
		NPN		12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD3121
			0.5 A/point, 2 A/Unit			300 ns max./ 300 ns max.	NX-OD3153
Fransistor Output Unit	4 points			24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD3256
		PNP		_		300 ns max./ 300 ns max.	NX-OD3257
			2 A/point, 8 A/Unit		Switching Synchronous I/O re-	0.5 ms max./ 1.0 ms max.	NX-OD3268
Screwless Clamping	8 points	NPN		12 to 24 VDC	freshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max./	NX-OD4121
Terminal Block, 12 mm Vidth/24 mm Width)		PNP	0.5 A/point, 4 A/Unit	24 VDC		1.0 ms max./ 0.1 ms max./	NX-OD4256
	16 points	NPN		12 to 24 VDC		0.8 ms max.	NX-OD5121
		PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256 NX-OD6121
	32 points	NPN	0.5 A/point, 4 A/terminal block,	12 to 24 VDC		0.8 ms max.	NX-OD6121 NEW
		PNP	8 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-0D6256 <u>NEV</u>
Fransistor Output Unit		NPN		12 to 24 VDC	Switching Symphropous I/O ro	0.1 ms max./ 0.8 ms max.	NX-OD5121-1
	16 points		0.5 A/point, 5 A/Unit		Switching Synchronous I/O re- freshing and Free- Run refresh- ing		
M3 Screw Terminal Block, 30 mm Width)		PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-1
Fransistor Output Unit		NPN		12 to 24 VDC		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
	32 points	NPN 0.5	0.5 A/point, 2 A/	12 to 24 VDC	Switching Synchronous I/O re- freshing and Free- Run refresh- ing	0.1 ms max./ 0.8 ms max.	NX-OD6121-5
MIL Connector, 30 mm Vidth)		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 Connector, 30 nm Width)							
Relay Output Unit		Relay type: N.O.	250 VAC/2 A (cosφ=1	), 250 VAC/	5 D ( );	15 ms max./	NX-OC2633
	2 points	Relay type: N.O.+N.C.	2 A (cosφ=0.4), 24 VE		Free-Run refreshing	15 ms max.	NX-OC2733
(Screwless Clamping Terminal Block, 12 mm	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
Vidth/24 mm Width)				No	h unit version 1.1 or later and	Lither Occurred Of	

<sup>\*1.</sup> 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**

			Specificati	ons		
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	O refreshing and Free- Run refreshing	Outputs: 0.5 ms max./ 1.0 ms max. Inputs: 20 μs max./ 400 μs max.	NX-MD6256-5
DC Input/Transistor Output Unit  (Fujitsu 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	Specification	Model	Standards
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)	NX-AUX02	

		Specif	fication			Standards
Product name	No. of terminals	Terminal number indications	Ground terminal mark	Terminal current capacity	Model	
	8				NX-TBA082	
Terminal Block	12 A/B	Name	40.4	NX-TBA122		
теппіпаї віоск	16		None	10 A	NX-TBA162	
	16	C/D	1		NX-TBB162	

#### **Accessories**

Not included.

#### **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
1001420	oz inputo	connector	PNP	Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	No
				A	XW2Z-□□□K	XW2R-E34GD-C2	Slotted screw (rise up)	No
		outs 1 Fujitsu connector		Α	XW2Z-□□□B	XW2K-40G-O32A	Push-In Plus	No
				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		PNP	Α	XW2Z-□□□B	XW2D-40G6	Phillips screw	No
				A	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 MII		Α	XW2Z-□□□X-R	XW2K-20G-O16B-OUT	Push-In Plus	Yes
NX-OD5256-5	16 outputs	utputs 1 MIL connector	PNP	Α	XW2Z-□□□X	XW2D-20G6	Phillips screw	No
				А	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 terminal	
				Α	XW2Z-□□□K	XW2K-40G-O32C	Push-In Plus	No	
			NPN	Α	XW2Z-□□□K	XW2K-40G-O32C-OUT	Push-In Plus	Yes	
NX-OD6121-5	32 outputs	1 MIL		Α	XW2Z-□□□K	XW2R-J34GD-C4	Phillips screw	No	
10/10/00/12/10	oz odipaio	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	NPN	Α	XW2Z-□□□B	XW2R-J34GD-C3	Phillips screw	No	
020.2. 0	0_ 0446410	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	
NX-0D0230-3	32 Outputs	connector	I INI	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	
NIV MB0404 5				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	
		4 5-116	NIDNI/	В	XW2Z-□□□A	XW2K-20G-O16A-IN	Push-In Plus	Yes	
	16 inputs	1 Fujitsu connector	NPN/ PNP	В	XW2Z-□□□A	XW2D-20G6	Phillips screw	No	
NV MDC404 C				В	XW2Z-□□□A	XW2R-E20GD-T	Slotted screw (rise up)	No	
NX-MD6121-6				В	XW2Z-□□□A	XW2K-20G-T	Push-In Plus	No	
		4 5		В	XW2Z-□□□A	XW2K-20G-O16B-OUT	Push-In Plus	Yes	
	16 outputs	1 Fujitsu connector	NPN	В	XW2Z-□□□A	XW2D-20G6	Phillips screw	No	
				В	XW2Z-□□□A	XW2R-E20GD-T	Slotted screw (rise up)	No	
				В	XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No	
		4.5411	NIDNI	В	XW2Z-□□□X-R	XW2K-20G-O16A-IN	Push-In Plus	Yes	
	16 inputs	1 MIL connector	NPN/ PNP	В	XW2Z-□□□X	XW2D-20G6	Phillips screw	No	
NV MDCOFC F		COMIGOTOL		В	XW2Z-□□X	XW2R-E20GD-T	Slotted screw (rise up)	No	
NX-MD6256-5				В	XW2Z-□□□X	XW2K-20G-T	Push-In Plus	No	
		4 14		В	XW2Z-□□□X-R	XW2K-20G-O16B-OUT	Push-In Plus	Yes	
	16 outputs	1 MIL connector	NPN	В	XW2Z-□□□X	XW2D-20G6	Phillips screw	No	
		3311100101		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 Series Catalog (Cat. No. G077) and XW2D Series Datasheet for details.

<sup>\* □□□</sup> 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
				F	None	XW2Z-RO□C	G7TC-IA16	Phillips screw
NX-ID5142-5	40 :	1 MIL	NPN	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 immusta	1 MIL	INPIN	Α	2	XW2Z-RO□-□-D1	G70V-SID16P	Push-in spring
NA-1D6 142-5	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
		ts 1 Fujitsu connector		Α	2	XW2Z-RI□C-□	G7TC-ID16	Phillips screw
			NPN	Α	2	XW2Z-RI□C-□	G7TC-IA16	Phillips screw
NX-ID6142-6	32 inputs		INPIN	Α	2	XW2Z-RI□C-□	G70V-SID16P	Push-in spring
NA-1D6 142-6	32 inputs			Α	2	XW2Z-RI□C-□	G70V-SID16P-C16	Push-in spring
			PNP	Α	2	XW2Z-RI□C-□	G70V-SID16P-1	Push-in spring
			FINE	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
		2311100101		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
NIV ODESES E	10	1 MIL	DND	F	None	XW2Z-RO□C	G70D-FOM16-1 *2	Phillips screw
NX-OD5256-5	16 outputs	connector	PNP	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
				А	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
		Connector		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
		32 outputs 1 Fujitsu connector NPN		Α	2	XW2Z-RO□C-□	G7TC-OC08	Phillips screw
				Α	2	XW2Z-RO□C-□	G70D-SOC16	Phillips screw
				Α	2	XW2Z-RO□C-□	G70D-FOM16	Phillips screw
				А	2	XW2Z-RO□C-□	G70D-VSOC16	Phillips screw
NX-OD6121-6	32 outputs		NPN	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
		1 MIL		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
				Е	None	XW2Z-RO□C	G7TC-ID16	Phillips screw
		1 MIL		Е	None	XW2Z-RO□C	G7TC-IA16	Phillips screw
	16 inputs	connector	NPN	Е	None	XW2Z-RO□C	G70V-SID16P	Push-in spring
				Е	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
				E	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	NPN	E	None	XW2Z-RO□C	G70D-VFOM16	Phillips screw
		connector		E	None	XW2Z-RO□C	G70A-ZOC16-3 and Relay	Phillips screw
				E	None	XW2Z-RO□C	G70R-SOC08 *2	Phillips screw
				E	None	XW2Z-RO□C	G70D-SOC08	Phillips screw
								•
				E	None	XW2Z-RO□C	G70V-SOC16P	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	NDN	Е	None	XW2Z-R□C	G7TC-IA16	Phillips screw
	16 inputs	connector	NPN	Е	None	XW2Z-R□C	G70V-SID16P	Push-in spring
				Е	None	XW2Z-R□C	G70V-SID16P-C16	Push-in spring
				Е	None	XW2Z-R□C	G7TC-OC16	Phillips screw
				E	None	XW2Z-R□C	G7TC-OC08	Phillips screw
				E	None	XW2Z-R□C	G70D-SOC16	Phillips screw
NX-MD6121-6				E	None	XW2Z-R□C	G70D-FOM16	Phillips screw
			NPN	E	None	XW2Z-R□C	G70D-VSOC16	Phillips screw
	16 outputs	1 Fujitsu connector		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
				Е	None	XW2Z-R□C	G70D-SOC08	Phillips screw
				E	None	XW2Z-R□C	G70V-SOC16P	Push-in spring
				E	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
C-0C707INI-VII	16 outputs	1 MIL	PNP	E	None	XW2Z-RI□C	G70D-FOM16-1 *2	Phillips screw
	16 outputs	connector	FINE	Е	None	XW2Z-RI□C	G70A-ZOC16-4 and Relay	Phillips screw
				E	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.

<sup>\*2.</sup> Product no longer available to order.

# **General Specifications**

	Item	Specification		
Enclosure		Mounted in a panel		
Grounding n	nethod	Ground to 100 $\Omega$ 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.)		
environment	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		

<sup>\*1.</sup> 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)
<b></b>	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
In dia ata wa	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  IOV IOV IOV IOV IOV IOG IOG IOG IOG IOG IOG	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		1	
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 $\mu$ s, 2 $\mu$ s, 4 $\mu$ s, 8 $\mu$ s (factory setting), 16 $\mu$ s, 32 $\mu$ s, 64 $\mu$ s, 128 $\mu$ s, 256 $\mu$ s
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 $\mbox{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from 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	<ul> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout	Terminal block IN0 to IN3 Cur IOG0 to 3  NX bus connector (left) I/O power supply +	rent control circuit in oite los	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communical Connected to a 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 nsor Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID3344
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Input refreshing with input changed time		
	TS indicator, input indicators	Internal I/O common	NPN
	ID3344	Rated input voltage	24 VDC (15 to 28.8 VDC)
	₽TS	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.
Dimensions	40 (A) : 400 (L) : 74 (D)	Input filter time	No filter *
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)	urrent control circuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit  A1 B1  IOV IOV  IOV IOV  IOG IOG  A8 B8		Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.  port the input filter. If the Unit is susceptible to	Protective function	Not supported.

<sup>\*</sup> 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.

	Tage	T.,	I
Unit name	DC Input Unit	Model External connection	NX-ID3417 Screwless clamping terminal block (12
Number of points  I/O refreshing method	4 points  Selectable Synchronous I/O refreshing or F	terminals	terminals)
70 refreshing method	TS indicator, input indicator	Internal I/O common	PNP
	ID3417	Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
	₽TS	Input current	6 mA typical (at 24 VDC), rated current
	0 1 2 3	ON voltage/ON current	9 VDC min./3 mA min. (between IOG and each signal)
Indicators		OFF voltage/OFF current	2 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 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 3  NX bus connector (left)  I/O power supply +	a control cuit with the major control in the major	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	DC Input Unit	-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		
	TS indicator, input indicator	Internal I/O common	PNP
	ID3443 • TS	Rated input voltage Input current	24 VDC (15 to 28.8 VDC) 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)  5 VDC max./1 mA max. (between IOG and
		OFF voltage/OFF current	each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	Without filter, 1 μs, 2 μs, 4 μs, 8 μs (factory setting),16 μs, 32 μs, 64 μs, 128 μs, 256 μs
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 M $\Omega$ 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 0.55 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout		Current control circuit ting in a specific property of the circuit t	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	DC Input Unit NX-ID3443  Two- sen  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 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  NX bus connector (left) I/O power supply +	Current control circuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit  A1 B1  Old IOV IOV  IOV IOV  IOG IOG  A8 B8	DC Input Unit NX-ID3444  A1 B1 IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3  A8 B8	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported. es such as separating or shielding the Unit

<sup>\*</sup> 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-ID4342
Number of points	8 points	External connection	Screwless clamping terminal block (16
I/O refreshing method	Selectable Synchronous I/O refreshing or F	terminals	terminals)
1/O refreshing metriod	TS indicator, input indicator	Internal I/O common	NPN
	ID4342	Rated input voltage	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 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 INO to IN7  NX bus connector (left)  I/O power supply + I/O power supply -		
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  ICO  ICO  ICO  IOV  IOV  IOV  IOV  IOV	10G0   10V   10G0   10V   10V   10G2   10V   10V   10G4   10G4	
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		terrinais)
<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
In dia atau	2 3 4 5 6 7	ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
Indicators	8 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 (fight)
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  IC  IC  IC  IC  IC  IC  IC  IC  IC  I	10V0   10   10G   10G   10V2   10   10G   10G   10V4   10   10G   10G   10V4   10	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

		1	
Unit name	DC Input Unit	Model	NX-ID5342
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		Luga
	TS indicator, input indicator	Internal I/O common Rated input voltage	NPN 24 VDC (15 to 28.8 VDC)
	ID9342 DTS	Input current	2.5 mA typical (at 24 VDC), rated current
	0 1 2 3 4 5 6 7 8 9 10 11	ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
Indicators	12 13 14 15	OFF voltage/OFF current	5 VDC max./0.5 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~\text{M}\Omega$ 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 circuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:		
Terminal connection diagram	10V		DC Input Unit NX-ID5342  B1 Two-wire sensor  IN0 IN1  IN2 IN3 IN4 IN5 IN6 IN7  IN8 IN9 IN10 IN11  IN12 IN13 IN14 IN15  B8
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

IIA-103772			
Unit name	DC Input Unit	Model	NX-ID5442
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		T
	TS indicator, input indicator	Internal I/O common	PNP
	ID5442 ■TS	Rated input voltage Input current	24 VDC (15 to 28.8 VDC) 2.5 mA typical (at 24 VDC), rated current
	0 1 2 3 4 5 6 7 8 9 10 11	ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
Indicators	12 13 14 15	OFF voltage/OFF current	5 VDC max./0.5 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~\text{M}\Omega$ 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		control cuit string of the str	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-ID5442  B1
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 Free-Run refreshing			
	TS indicator, input indicator	Internal I/O common	NPN	
	ID6342	Rated input voltage Input current	24 VDC (15 to 28.8 VDC) 2.5 mA typical (at 24 VDC), rated current	
	0 1 2 3 16 17 18 19 4 5 6 7 20 21 22 23	ON voltage/ON 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	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  NX Bus connector (left)  I/O power supply + I/O power supply -	control	I/O power supply + I/O power supply - I/O power sup	
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	Connection Unit  B1 A1	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 terminals	Screwless clamping terminal block (16
I/O refreshing method	Selectable Synchronous I/O refreshing or F		terminals x 2)
To rondoning mound	TS indicator, input indicator	Internal I/O common	PNP
	ID6442	Rated input voltage	24 VDC (15 to 28.8 VDC)
	<b>■</b> TS	Input current	2.5 mA typical (at 24 VDC), rated current
	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 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 controcircuit  NX Bus connector (left)  I/O power supply + I/O power supply -	Infermal 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 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	Connection Unit  B1A1 B1 A1  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)
maioatoro	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)  NIND  IND  IND  IND  IND  IND  IND  I	supply + co	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 <del>-</del>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 $\Omega$ 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.  Connected to a Communications Coupler Unit 0.55 W max.		No consumption
Weight	85 g max.		
Circuit layout	Connector  IN0  IN15  COM  COM  COM  COM  COM  COM  COM  CO		

Installation orientation: Connected to a CPU Unit 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** ſ0-**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	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	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 Connector, 30 mm Width) NX-ID6142-6

Unit name	DC Input Unit	Model	NX-ID6142-6
Number of points	32 points	External connection terminals	Fujitsu connector (40 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	Run refreshing	
	TS indicator, input indicators	Internal I/O common	For both NPN/PNP
	ID6142-6	Rated input voltage	24 VDC (19 to 28.8 VDC)
	■TS	Input current	4.1 mA typical (24 VDC)
Indicators	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	ON voltage/ON current	19 VDC min./3 mA min. (between COM and each signal)
	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M $\Omega$ 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 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	90 g max.		
Circuit layout	Connector  IN0 IN15 COM0 COM0 IN16 IN31 COM1 COM1 COM1 COM1 COM1 COM1 COM1 COM	I/O power supply + I/O power supply - NX bus connector (right)	

Installation orientation: • Connected to a CPU Unit 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 File Interesting   Time	Number of points	4 points, independent contacts		
Indicators    Indicators	Capacity	Free-Run refreshing	terminais	(o terrilliais)
Indicators    Imput current   On voltage(ON current		•	Internal I/O common	No polarity
Indicators    Indicators			Rated input voltage	
OFF voltage(OFF current   40 VAC max /2 mA max   And m			Input current	
Dimensions  12 (W) x 100 (H) x 71 (D)  Between each AC limput circuit: 20 M2 min., (at 500 VDC)  Between the AC limput circuit: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external terminals and internal circuits: 20 M2 min., (at 500 VDC)  Between the external circuit and the functional circuits: 20 M2 min., (at 500 VDC)  Between the external circuit and the functional circuits: 20 M2 min., (at 500 VDC)  Between the external circuit and the functional circuits: 20 M2 min., (at 500 VDC)  Between the external circuit and the functional circuits: 20 M2 min., (at 500 VDC)  Between the external circuit and the functional circuits: 20 M2 min., (at 500 VDC)  Between the external circuit and the functional circuits: 20 M2 min., (at 500 VDC)  Corrected to a Communications Coupler Unit 00 power supply terminal connector (left)  Both terminal block  Corrected to a Communications Coupler Unit 00 power supply  INX bus  Corrected to a Communications Coupler Unit 00 power supply  Installation orientation:  Circuit layout  Terminal connection  Installation orientation:  Corrected to a Communications Coupler Unit 01 power supply  INX bus connected to a Communications Coupler Unit 01 power supply  INX bus connected to a Communications Coupler Unit 01 power supply  Installation orientation:  Corrected to a Communications Coupler Unit 01 power supply  INX bus connected to a Communications Coupler Unit 01 powe	Indicators			
Input filter time   No. filter. Q.25 ms, 0.5 ms, 1 ms (default)   2 ms, 4 ms, 8 ms, 6 ms, 32 ms, 64 ms, 128 ms, 256 ms				
Injustifier time   2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms			ON/OFF response time	
Between each AC input circuit: 20 MΩ min. (at 500 VDC) SOU VDC) SOU VDC) Southwest terminals continued terminals: 20 MΩ min. (at 500 VDC) Southwest the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Southwest the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Southwest the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Southwest the internal circuit and the functional ground terminal: 20 MΩ min. (at 500 VDC) Southwest the internal circuit and the functional ground terminal: 310 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Provide the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 m A max.  **Pr				2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Sol VICC    Between the external terminals and the functional ground terminal: 20 MM min. (at 500 VICC)   Between the external terminals and the functional ground terminal: 20 MM min. (at 500 VICC)   Between the external terminals and functional ground terminal: 20 MM min. (at 500 VICC)   Between the external terminals and functional ground terminal: 20 MM min. (at 500 VICC)   Between the external terminals and internal circuits: 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 circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal c	Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	•
NX Unit power consumption  NX Unit power consumption  Only My max.  Connected to a CPU Unit or Communication Coupler Unit  Ferminal connection  Installation orientation and restrictions  Terminal connection  Installation orientation and restrictions  Terminal connection  Only My max.  IND to IN3  Installation orientation and restrictions  Terminal connection  Only My max.  IND power supply + NX bus connector (right)  Installation orientation and restrictions  Terminal connection  Only My max.  Installation orientation and restrictions  Terminal connection  Only My max.  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.  Terminal connection  Only My max.  Connection  Only My max.  Installation orientation and restrictions  Terminal connection  Only Dower supply + NX bus connector (right)  Installation orientation and restrictions  Only Dower supply + NX bus connector (right)  Installation orientation  Only Dower supply + NX bus connector (right)  Installation orientation and restrictions  Only Dower supply + NX bus connector (right)  Installation orientation and restrictions  Only Dower supply + NX bus connector (right)  Installation orientation and restrictions  Only Dower supply + NX bus connector (right)  Installation orientation and restrictions  Only Dower supply + NX bus connector (right)  Installation orientation and restrictions  Only Dower supply + NX bus connector (right)  Installation orientation and restrictions  Only Dower supply + NX bus connector (right)  No power supply + NX bus consumption from I/O power supply + NX bus connector (right)  NX bus connector (right)  NX bus consumption from I/O power supply + NX bus connector (right)  NX bus consumption from I/O power supply + NX bus connector (right)  NX bu	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. **Connected to a Communications Coupler Unit 0.80 W max. **Connected to a Communications Coupler Unit 0.80 W max. **Terminal block	I/O power supply method	Supplied from external source.		Without I/O power supply terminals
Circuit layout    NX bus   I/O power supply +	NX Unit power consumption	Control Unit 0.80 W max.  Connected to a Communications Coupler Unit	Current consumption	No consumption
Circuit layout  Terminal block  NX bus connector (left)  N/O power supply + Open supply - Open suppl	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 (sight)
Terminal connection diagram    NX-IA3117		Connected to a CPU Unit or Communication C     Connected to a Communications Coupler Unit:		nstallation.
		NX-IA3117  A1  IN0  C0  200 to 240 VAC  IN1  C1  IN2  C2  IN3  C3	31	

# **Digital Output Unit Specifications**

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

Unit name	Transistor Output Unit	Model	NX-OD2154
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Output refreshing with specified time stamp		
	TS indicator, output indicator	Internal I/O common	NPN
	OD2154	Rated voltage	24 VDC
	■TS 0 1	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 1 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit 0.85 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  IOG0 to 1  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit: Possible in upright installation.  Connected to a Communications Coupler Unit: Possible in 6 orientations.  Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit NX-OD2154 A1 B1 OUT0 OUT1 Two-wire type  24 VDC IOV IOV IOV  IOG IOG  NC NC  A8 B8 A8 B8		
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 $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit     0.85 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  OUTO OUT1  IOW IOW  IOW IOW  IOG IOG  NC NC  NC NC  A8 B8 B8 B8  A8 B8		
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	_	NDN
	TS indicator, output indicator  OD3121	Internal I/O common Rated voltage	NPN 12 to 24 VDC
	DTS	Operating load voltage	
	0 1 2 3	range	10.2 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~M\Omega$ 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	<ul> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	I/O current consumption	10 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  I/O power supply -		IOV0 to 3 OUT0 to OUT3  Terminal block  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communica  Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit  A1  IOO IOV IOV IOV IOO IOG IOG IOG A8  B8	Transistor Output	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

MX-OD3133			
Unit name	Transistor Output Unit	Model	NX-OD3153
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, output indicator	Internal I/O common	NPN
	OD3153 ■TS	Rated voltage	24 VDC
	0 1 2 3	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		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 $\Omega$ 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 0.50 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 -  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  IOG IOG  A8 B8	Transistor Output Unit NX-OD3153  A1 B1 Two-w IOV0 IOV1 IOV0 IOV1 IOG0 IOG1 OUT2 OUT3 IOV2 IOV3 IOG2 IOG3  A8 B8	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD3256
		External connection	Screwless clamping terminal block (12
Number of points	4 points  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 $\Omega$ 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	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	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD3257
Number of points	4 points	External connection	Screwless clamping terminal block (12
·	,	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	Internal I/O common	PNP
	TS indicator, output indicator  OD3257	Rated voltage	24 VDC
	●TS 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	·
		Leakage current	0.1 mA max.
		Residual voltage ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at		510 VAC between isolated circuits for 1
	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.	IOV0 to 3  Terminal block  OUT0 to OUT3  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Connected to a CPU Unit 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  IOG IOG  A8 B8	Transistor Output Unit NX-OD3257  A1 B1 Two-wi IOV0 IOV1 IOG0 IOG1 OUT2 OUT3 IOV2 IOV3 IOV2 IOG2 IOG3 A8 B8	Three-wire type
Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD3268	
	·	External connection	Screwless clamping terminal block (16	
Number of points	4 points	terminals	terminals)	
I/O refreshing method	Switching Synchronous I/O refreshing and	Internal I/O common	PNP	
	TS indicator, output indicator	Rated voltage	24 VDC	
	OD3268	Operating load voltage	-	
	DTS 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 $\mbox{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	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)  NX bus connector supply + I/O power supply -	ON O	V 0 to IOV 3 OM (+V)  JT 0 to OUT 3 G 0 to IOG 3  D power pply + power pply - I power pply - I power pply - I 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 B1  OUT0 OUT1  IOV0 IOV1  IOG0 IOG1  OUT2 OUT3  IOV2 IOV3  IOG2 IOG3  OV OV  A8 B8  B8  OV has 2 terminals, so be sure to wire both ter  COM (+V) has 2 terminals, so be sure to wire			
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.	

Unit name	Transistor Output Unit	Model	NX-OD4121
Number of points	8 points	External connection	Screwless clamping terminal block (16
<u> </u>	'	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or FTS 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 $\Omega$ 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.
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 -		IOV0 to 7  Terminal block  OUT0 to OUT7  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  IOV IOV  IOV IOV  IOV IOV  IOG IOG  A8 B8	Connection Unit	0 IOV1 2 OUT3 2 IOV3 4 OUT5 Three-wire type 4 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 F	ree-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 -	Short-circuit protection	OUT0 to OUT7  Terminal block  IOG0 to 7  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 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	10G0   10   10G0   10   10U   10U   10G2   10   10U   10U   10G4   10   10U   10U   10G4   10   10U   10U   10U   10G4   10   10U   10U	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 ■TS	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 $\Omega$ 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	<ul> <li>Connected to a CPU Unit or Communication Control Unit 1.00 W max.</li> <li>Connected to a Communications Coupler Unit 0.65 W max.</li> </ul>	I/O current consumption	20 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)		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	Transistor Output Unit NX-OD5121  A1
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD5256
Unit name		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)
70 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	<u>'</u>
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
<u> </u>	10 (11) 100 (11) 71 (15)	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 $\Omega$ 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 -	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 Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	IOV   IOV	Connection Unit	Transistor Output Unit NX-OD5256  B1  Two-wire type OUT0 OUT1  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.

NX-OD6121			
Unit name	Transistor Output Unit	Model	NX-OD6121
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	1	Lumi
	TS indicator, output indicator	Internal I/O common	NPN
	OD6121 ■TS	Rated voltage	12 to 24 VDC
	0 1 2 3 16 17 18 19	Operating load voltage range	10.2 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.
	24 (10) 400 (10) -74 (7)	ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	24 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 0.95 W max.	I/O current consumption	40 mA max.
Weight	130 g max.		
Circuit layout	NX Bus connector (left)    I/O power supply +   I/O power supply -   I/O		OUT0 to OUT31 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	IOV	IOG IOG OUT12	OUT3 OUT18 OUT19 OUT5 OUT20 OUT21 OUT7 OUT22 OUT23
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

<sup>\*1.</sup> 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.

	I	I	
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	_	
	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 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	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 -	Short-circuit protection	OUT0 to OUT31 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	IOV   IOV		Transistor Output Unit
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

<sup>\*1.</sup> 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	NX-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 Communication Control Unit: Possible in upright installation.  Connected to a Communications Coupler Unit: Possible in 6 orientations.  Restrictions: No restrictions		
Terminal connection diagram	Terminal   Signal name   A   B   Signal name   A   Signal name   A   B   Signal name   A   Signal name   Signal name   A   Sig		
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	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 - 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	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

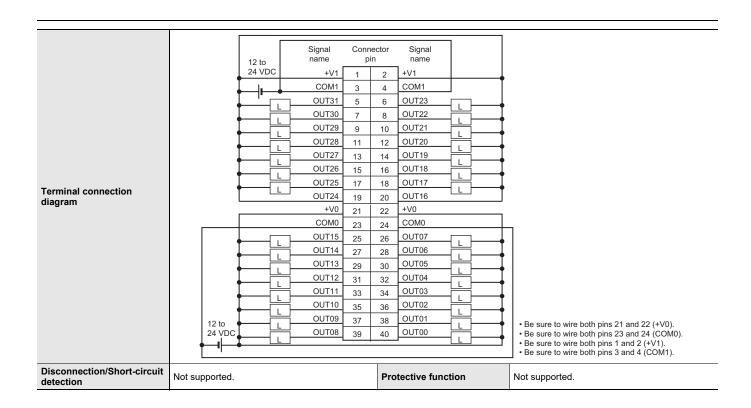
Unit name	Transistor Output Unit	Model	NX-OD5121-5			
Number of points	16 points	External connection terminals	MIL connector (20 terminals)			
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F	Run refreshing				
	TS indicator, output indicator	Internal I/O common NPN				
	OD5121-5	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 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 0.95 W max. Connected to a Communications Coupler Unit 0.60 W max.	Current consumption from I/O power supply	30 mA max.			
Weight	80 g max.					
Circuit layout	NX bus connector (left)    I/O power supply + O		+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 Control Unit: Possible in upright installation.  Connected to a Communications Coupler Unit: Possible in 6 orientations.  Restrictions: No restrictions					
Terminal connection diagram	Signal   Connector   pin					
Disconnection/Short-circuit	Be sure to wire both pins 1 and 2 (+V).  Not supported.	Protective function	Not supported.			
detection						

#### NX-OD5256-5

Unit name	Transistor Output Unit	Model	NX-OD5256-5		
Number of points	16 points	External connection	MIL connector (20 terminals)		
·		terminals	INIE SSIMOSCO (20 terminale)		
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing  TS indicator, output indicator Internal I/O common PNP				
	, ,	Rated voltage	24 VDC		
	OD5256-5 ■TS	Operating load voltage range	20.4 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/Unit		
		Maximum inrush current	4.0 A/point, 10 ms max.		
		Leakage current	0.1 mA max.		
		Residual voltage	1.5 V max.		
	00 (44) 400 (43) 74 (73)	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 $\Omega$ 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	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 + I/O power supply -	COM (+V) COM (+V)  COM (+V)  Connector  OV  OV  I/O power supply + I/O power supply - I/O			
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communication C  Connected to a Communications Coupler Unit Restrictions: No restrictions		nstallation.		
Terminal connection diagram	Signal name	OUT04 L OUT03 L OUT02 L OUT01 L			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.		

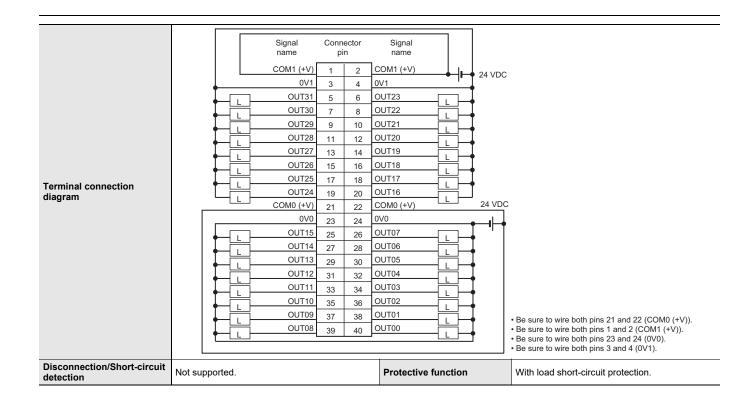
#### NX-OD6121-5

Unit name	Transistor Output Unit	Model	NX-OD6121-5		
Number of points	32 points	External connection terminals	MIL connector (40 terminals)		
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing				
	TS indicator, output indicator Internal I/O commo		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 $\Omega$ 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     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 OUT15 COM0 COM0 +V1 +V1 OUT16 to OUT31	Connector		
	NX bus connector (left) I/O power supply +	I/O power	connector		
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	Transister Output Unit	Model	NY ODESES 5	
Unit name	Transistor Output Unit	Model External connection	NX-OD6256-5	
Number of points	32 points	MIL connector (40 terminals)		
I/O refreshing method	Switching Synchronous I/O refreshing and Free-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 $\Omega$ 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 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 OV1  NX bus connector	
	connector (left) I/O power supply –		I/O power supply – connector (right)	
Installation orientation and restrictions	Connected to a CPU Unit or Communication C     Connected to a Communications Coupler Unit Restrictions: No restrictions	Control Unit: Possible in upright in Possible in 6 orientations.	installation.	



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

NX-OD6121-6 Unit name	Transistor Output Unit	Model	NX-OD6121-6	
	'	External connection		
Number of points	32 points	terminals	Fujitsu connector (40 terminals)	
I/O refreshing method	Switching Synchronous I/O refreshing and Free-F TS indicator, output indicator	NPN		
		Internal I/O common Rated voltage	12 to 24 VDC	
	OD6121−6 •TS	Operating load voltage	10.2 to 28.8 VDC	
	0 1 2 3 4 5 6 7	range Maximum value of load		
Indicators	8 9 10 11 12 13 14 15	current	0.5 A/point, 2 A/common, 4 A/Unit	
	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Maximum inrush current	4.0 A/point, 10 ms max.	
		Leakage current Residual voltage	0.1 mA 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 $\Omega$ 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	Without I/O power supply terminals	
1/O power supply metriou		power supply terminal	without 1/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 supply -	COM0 COM0 COM0 +V1 +V1 OUT16 to OUT31  COM1 I/O power supply + I/O power supply - I/O pow	S.	
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   OUT10   A1   B1   OUT14   A2   B2   OUT17   A3   B3   OUT18   A4   B4   OUT19   A5   B5   OUT20   A7   B7   OUT24   A5   B5   OUT20   A7   B7   OUT22   A7   B7   OUT24   A5   B5   OUT20   OUT6   A7   B7   OUT22   OUT6   A7   B7   OUT24   OUT9   A10   B10   V-V1   OUT9   A11   B11   OUT24   OUT9   A12   B12   OUT25   OUT10   A13   B13   OUT26   OUT11   A14   B14   OUT27   OUT14   A17   B17   OUT30   OUT26   OUT14   A17   B17   OUT30   OUT30   OUT26   OUT15   A18   B18   OUT31   OUT30   OUT3	12 to 24 VDC		
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.	
S. O. C. O. Cart detection	<u> </u>		1	

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

Unit name	Relay Output Units	Model External connection	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	
Indicators	OC2633 DTS 0 1	Maximum switching capacity	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit	
		Minimum switching capacity	5 VDC, 1 mA	
Relay service life	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.	
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation	
Insulation resistance	Between A1/B1 terminals and A3/B3 terminals: $20~\text{M}\Omega$ min. (500 VDC) Between the external terminals and internal circuits: $20~\text{M}\Omega$ min. (500 VDC) Between the internal circuit and GR terminal: $20~\text{M}\Omega$ min. (100 VDC) Between the external terminals and GR terminal: $20~\text{M}\Omega$ min. (500 VDC)	Dielectric strength	Between A1/B1 terminals and A3/B3 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and GR terminal: 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 +	oly	I/O power supply + NX bus connector (right)	
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communication Co Connected to a Communications Coupler Unit: Restrictions: No restrictions		nstallation.	
Terminal connection diagram	Relay Output Unit NX-OC2633 B1 O CO O-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I-			

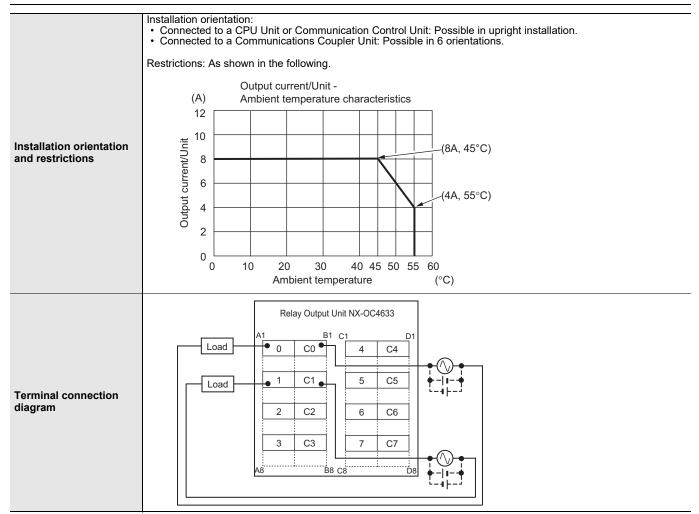
<sup>\*</sup> Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

### NX-OC2733

NA-002733		1	LNIV 0.00700		
Unit name	Relay Output Unit	Model External connection	NX-OC2733  Screwless clamping terminal block (8		
Number of points	2 points, independent contacts	terminals	terminals)		
I/O refreshing method	Free-Run refreshing				
Indicators	TS indicator, output indicator  OC2733  TS  O 1	Maximum switching capacity	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit		
		Minimum switching capacity	5 VDC, 10 mA		
Relay service life	Electrical: 100,000 operations Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.		
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation		
Insulation resistance	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: $20~M\Omega$ min. (at $500~VDC$ ) Between the external terminals and functional ground terminal: $20~M\Omega$ min. (at $500~VDC$ ) Between the external terminals and internal circuits: $20~M\Omega$ min. (at $500~VDC$ ) Between the internal circuit and the functional ground terminal: $20~M\Omega$ min. (at $100~VDC$ )	Dielectric strength	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max.  Between the external terminals and the functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max.  Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max.  Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.		
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.30 W max. Connected to a Communications Coupler Unit 0.95 W max.	Current consumption from I/O power supply	No consumption		
Weight	70 g max.				
Circuit layout	NX bus connector (left)  NO power supply + I/O power supply - I/O powe				
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communica  Connected to a Communications Couple Restrictions: No restrictions				
Terminal connection diagram	Relay Output Unit NX-OC2733 B1  Load  NO0 NC0  C0 C0  NO1 NC1  C1 C1  A8 B8	Load			
Disconnection/Short- circuit detection	Not supported.	Protective function	Not supported.		

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

Unit name	Relay Output Unit	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					
TS indicator, output indicator  OC4633  TS  O 1  2 3		Maximum switching capacity	N.O. contact 250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 8 A/Unit			
	4 5 6 7	Minimum switching capacity	5 VDC, 1 mA			
Relay service life	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.			
Dimensions	24 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation			
Insulation resistance	Between output bits: $20~M\Omega$ min. (at $500~VDC$ ) Between the external terminals and the functional ground terminal: $20~M\Omega$ min. (at $500~VDC$ ) Between the external terminals and internal circuits: $20~M\Omega$ min. (at $500~VDC$ ) Between the internal circuit and the functional ground terminal: $20~M\Omega$ min. (at $100~VDC$ )	Dielectric strength	Between 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 <sup>2</sup> 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s <sup>2</sup> , 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	NX bus / I/O power supply +					
	connector (left) I/O power supply – You cannot reg	ctor I/O power supply –				
	You cannot replace the relay.					



<sup>\*</sup> 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 o	of points	16 inputs/16 outputs	External of terminals	connection	2 MIL connectors (20 terminals)
I/O refreshing method		Switching Synchronous I/O refreshing and Free-	nchronous I/O refreshing and Free-Run refreshing		
	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.	(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)
		MD6121-5	Isolation	method	Photocoupler isolation
		CN_ DTS	Insulation	resistance	20 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		510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
		<sup>2</sup> L8 9 10 11 12 13 14 15	•	supply method	Supply from external source
Indicators	s		Current capacity of I/O power supply terminal		Without I/O power supply terminals
			NX Unit power consumption		Connected to a CPU Unit 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		CN1 (left) output circuit  NX bus connector (left)  Connector  NX bus connector (left)  NX bus connector (left)  NX bus connector (left)  I/O power supply + I/O pow	Internal circuits	Opower upply + 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

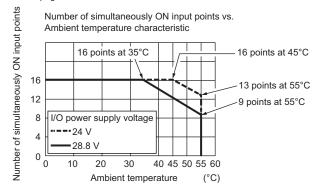
#### NX-MD6256-5

Unit name	-	DC Input/Transistor Output Unit	Model		NX-MD6256-5	
Number of		16 inputs/16 outputs	External of	connection	2 MIL connectors (20 terminals)	
	ning method	Switching Synchronous I/O refreshing and Free-Run refreshing				
I/O Tellesi	Internal I/O common	PNP	ivan renesii	Internal I/O common	For both NPN/PNP	
	Rated voltage	24 VDC	-	Rated input voltage	24 VDC (15 to 28.8 VDC)	
Output section (CN1)	Operating load voltage range	20.4 to 28.8 VDC	Input section	Input current	7 mA typical (at 24 VDC)	
	Maximum value of load current	0.5 A/point, 2 A/Unit		ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)	
	Maximum inrush current	4.0 A/point, 10 ms max.	(CN2)	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)	
	Leakage current	0.1 mA max.	_	ON/OFF response time	20 μs max./400 μs max.	
	Residual voltage ON/OFF response	1.5 V max. 0.5 ms max./1.0 ms max.		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms	
	time	TS indicator, I/O indicators	Dimensio		30 (W) x 100 (H) x 71 (D)	
		·	Isolation		Photocoupler isolation	
		MD6256-5 CN		resistance	20 MΩ min. between isolated circuits (at 100 VDC)	
		1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Dielectric	strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
		2 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	I/O power supply method		Supply from external source	
dicators			Current ca supply ter	apacity of I/O power rminal	Without I/O power supply terminals	
			NX Unit po	ower consumption	Connected to a CPU Unit or Communication Control Unit 1.10 W max. Connected to a Communications Coupler Unit 0.75 W max.	
			Current consumption from I/ O power supply		40 mA max.	
			Weight	supply	110 g max.	
		CN1 (left) output circuit				
Circuit layout		NX bus connector (left)  NX bus connector (left)				
		CN2 (right) input circuit				
		Connector IN0 3.3 kΩ  Input indicator IV				

- 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

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 (°C) Ambient temperature

CN1 (left) output terminal

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

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

#### CN2 (right) input terminal

24 VDC	Signal C	onr	ecto	or Signal	
VDC	name		in	name	
	NC	1	2	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	
	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.	Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.
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# ● DC Input/Transistor Output Unit (Fujitsu Connector, 30 mm Width) NX-MD6121-6

Unit name	1	DC Input/Transistor Output Unit	Model		NX-MD6121-6			
Number o		16 inputs/16 outputs	terminals		2 Fujitsu connectors (24 terminals)			
I/O refresh	ning method	Switching Synchronous I/O refreshing and Free	e-Run refreshi	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 section	Maximum value of load current	0.5 A/point, 2 A/Unit	Input section	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)			
(CN1)	Maximum inrush current	4.0 A/point, 10 ms max.	(CN2)	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)			
	Leakage current	0.1 mA max.		ON/OFF response time	20 μs max./400 μs max.			
	Residual voltage	1.5 V max.			N= 5 t== 0.05 === 0.5 === 4 === (d=f== t \ 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)			
		1400404	Isolation	method	Photocoupler isolation			
		MD6121-6 CN	Insulation	n resistance	20 M $\Omega$ 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	r 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 p	ower 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 c	onsumption from	30 mA max.			
			Weight	Зирріу	95 g max.			
Circuit lay	out	NX bus connector (left)  NX bus connector (left)  NX bus connector supply + I/O power sup		COM0 I/O power supply + I/O power	NX bus connector			
Circuit layout		(left) supply – supply – (right)						
		CN2 (right) input circuit						
		Connector  IND  IND  IND  IND  IND  IND  IND  IN						

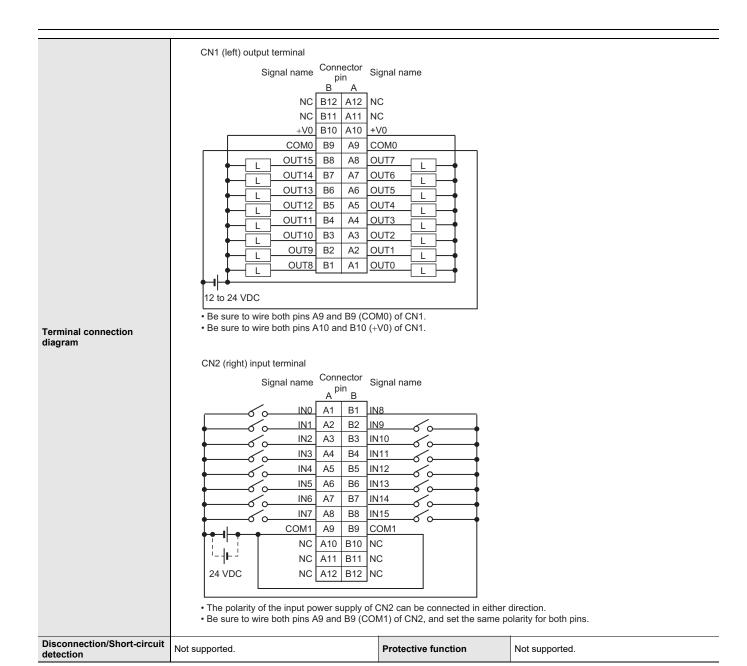
Installation orientation:

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 20 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			V 4.47			
NX-ID4442			Ver.1.17			
NX-ID5142-1						
NX-ID5142-5						
NX-ID5342						
NX-ID5442						
NX-ID6142-5						
NX-ID6142-6						
NX-ID6342			Van 4.54			
NX-ID6442			Ver.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			V G1.1.17			
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						

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.1.05	Ver.1.10			
NX-OD5256		Ver.1.0		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.

<sup>\*</sup> 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 11 11 1		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				Vor 1 10		Ver. 1.10			
NX-OD4230 NX-OD5121				Ver. 1.19		vei. 1.10			
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.1.23		
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		
		- <b>f</b> th			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.

<sup>2.</sup> Note: You cannot connect the relevant NX Unit to the target Communications Coupler Unit if "---" is shown in the corresponding unit versions/versions column.

<sup>\*1</sup> 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.

<sup>\*2</sup> 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.

<sup>\*3</sup> 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						

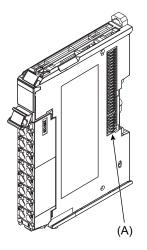
Note: 1. Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

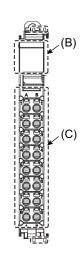
<sup>2.</sup> Note: You cannot connect the relevant NX Unit to the Communication Control Unit if "---" is shown in the corresponding unit versions/ versions column.

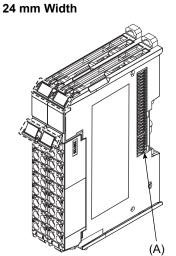
### **External Interface**

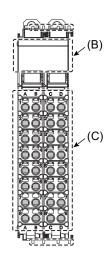
### **Screwless Clamping Terminal Block Type**

#### 12 mm Width



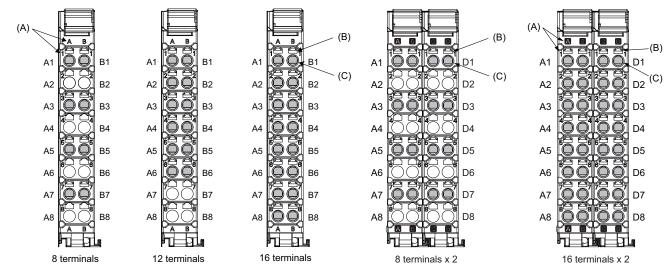






Letter	Item Specification					
(A)	NX bus connector	This connector is used to connect to another Unit.				
(B)	Indicators	The indicators show the current operating status of the Unit.				
(C)	Terminal block	The terminal block is used to connect to external devices. The number of terminals depends on 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				
NV OBODDD	NX-TBA162	16	None	10 A				
NX-OD6□□□	NX-TBB162	16	None	10 A				
NX-OC2	NX-TBA082	8	None	10 A				
NX-OC4633 *1	NX-TBA082	8	None	10 A				

<sup>\*1.</sup> 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.

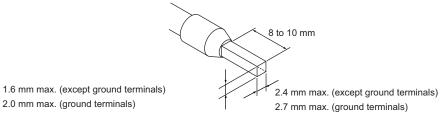
The applicable ferrules, wires, and crimping tools are listed in the following table.

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 <sup>2</sup> , 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	1	
Ground terminals		AI2,5-10	2.0 *	
Terminals other	Weidmuller	H0.14/12	0.14 (#26)	Weidmuller (The figure in parentheses is the applicable wire size.)
than ground terminals		H0.25/12	0.25 (#24)	PZ6 Roto (0.14 to 6 mm <sup>2</sup> , 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	]	
		H1.5/14	1.5 (#16)	
		H1.5/16		

<sup>\*</sup> Some AWG 14 wires exceed 2.0 mm² and cannot be used in the screwless clamping terminal block.

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

Finished Dimensions of Ferrules



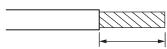
#### **Using Twisted Wires/Solid Wires**

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

Terminals		Wire type					0
Terminais		Twisted wires Solid		wire	Wire size	Conductor length (stripping length)	
Classification	Current capacity	Plated	Unplated	Plated	Unplated		(outphing longur)
	2 A or less		Possible	Possible	Possible		
All terminals except ground terminals	Greater than 2 A and 4 A or less	Possible	Not Possible	Possible *1	Not	0.08 to 1.5 mm <sup>2</sup> AWG28 to 16	8 to 10 mm
	Greater than 4 A	Possible *1		Not Possible	Possible		
Ground terminals		Possible	Possible	Possible *2	Possible *2	2.0 mm <sup>2</sup>	9 to 10 mm

<sup>\*1.</sup> Secure wires to the screwless clamping terminal block. Refer to the Securing Wires in the USER'S MANUAL for how to secure wires.

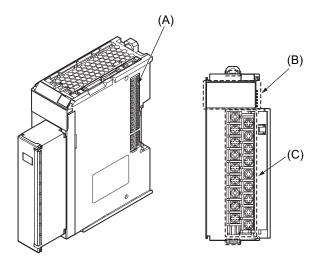
<sup>\*2.</sup> With the NX-TB \underset 1 Terminal Block, use twisted wires to connect the ground terminal. Do not use a solid wire.



Conductor length (stripping length)

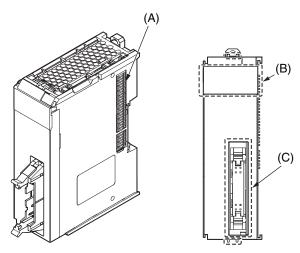
<sup>&</sup>lt;a href="#"><Additional Information></a> If more than 2 A will flow on the wires, use plated wires or use ferrules.

### M3 Screw Terminal Block Type 30 mm Width

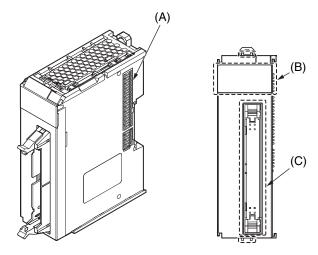


Letter	Item	Specification
(A)	NX bus connector	This connector is used to connect to another Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Screw terminals	These screw terminals are used to connect the wires.

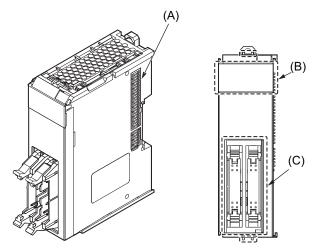
## MIL Connector Type (1 Connector with 20 terminals) 30 mm Width



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

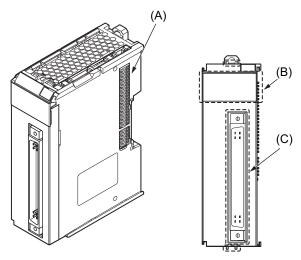


# MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

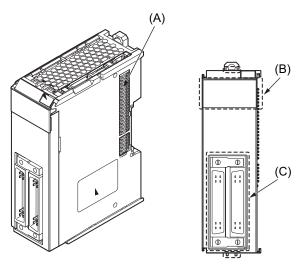


Letter	Item	Specification	
(A)	NX bus connector	This connector is used to connect to another Unit.	
(B)	Indicators	The indicators show the current operating status of the Unit.	
(C)	Connectors	The connectors are used to connect to external devices.	

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



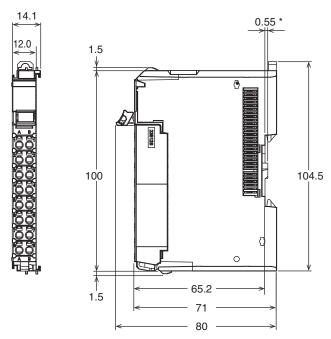
Fujitsu Connector Type (2 Connectors with 24 terminals) 30 mm Width



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

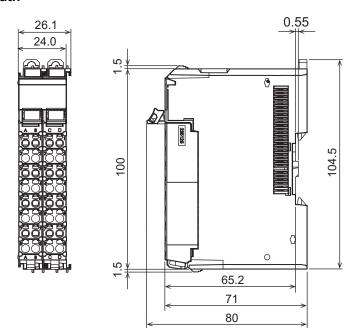
**Dimensions** (Unit/mm)

## Screwless Clamping Terminal Block Type 12 mm Width

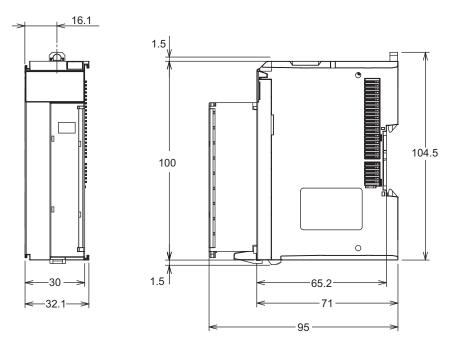


<sup>\*</sup> The dimension is 1.35 mm for Units with lot numbers through December 2014.

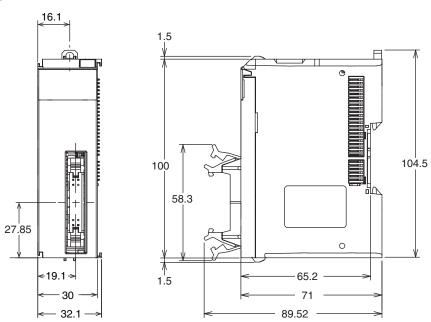
#### 24 mm Width



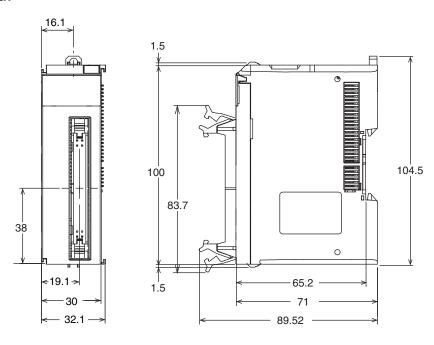
## M3 Screw Terminal Block Type 30 mm Width



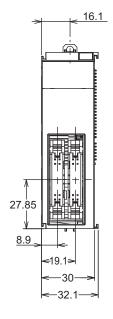
# MIL Connector Type (1 Connector with 20 terminals) 30 mm Width

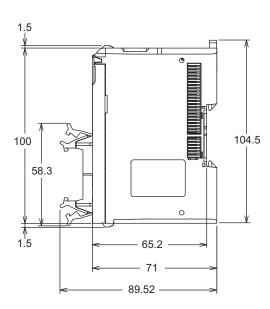


## MIL Connector Type (1 Connector with 40 terminals) 30 mm Width

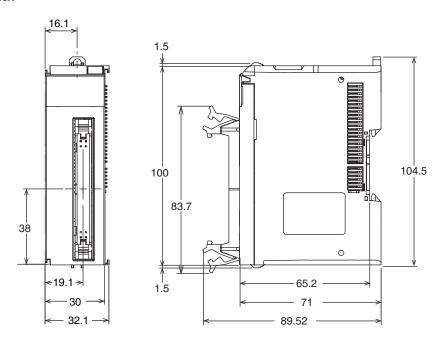


# MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

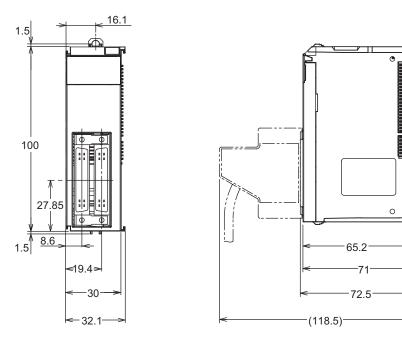




## Fujitsu Connector Type (1 Connector with 40 terminals) 30 mm Width



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



### **Related Manual**

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

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