

NX-ID/IA/OD/OC/MD

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

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



Features

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

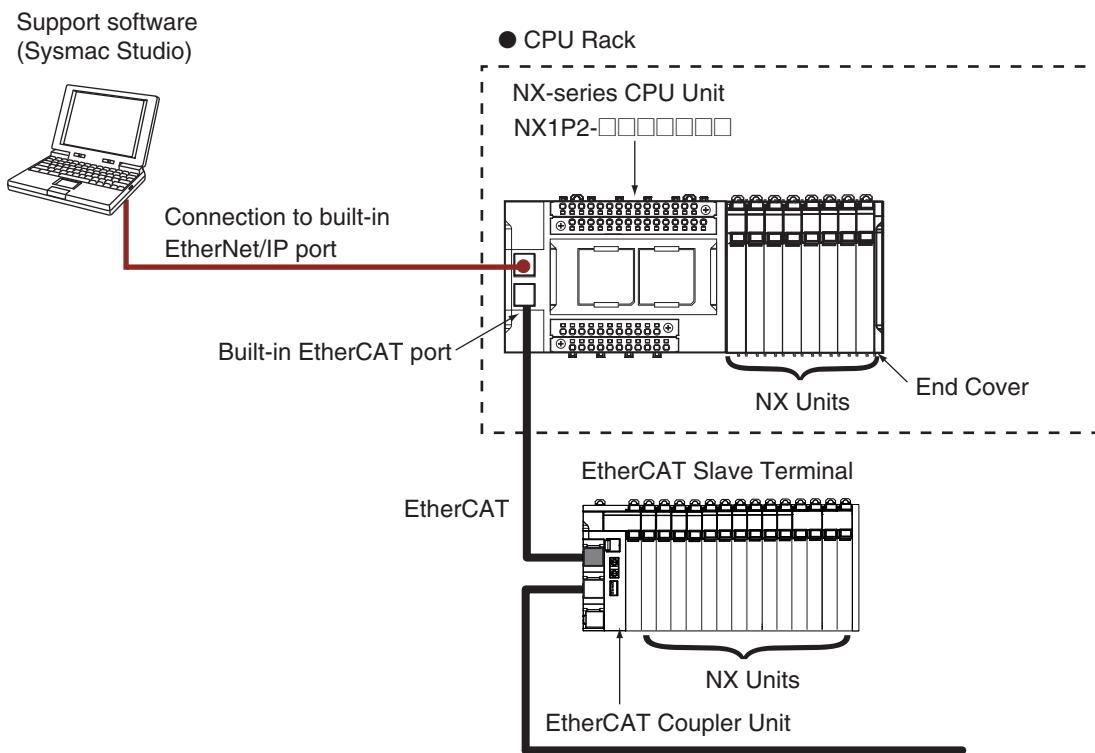
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System Configurations

Connected to a CPU Unit

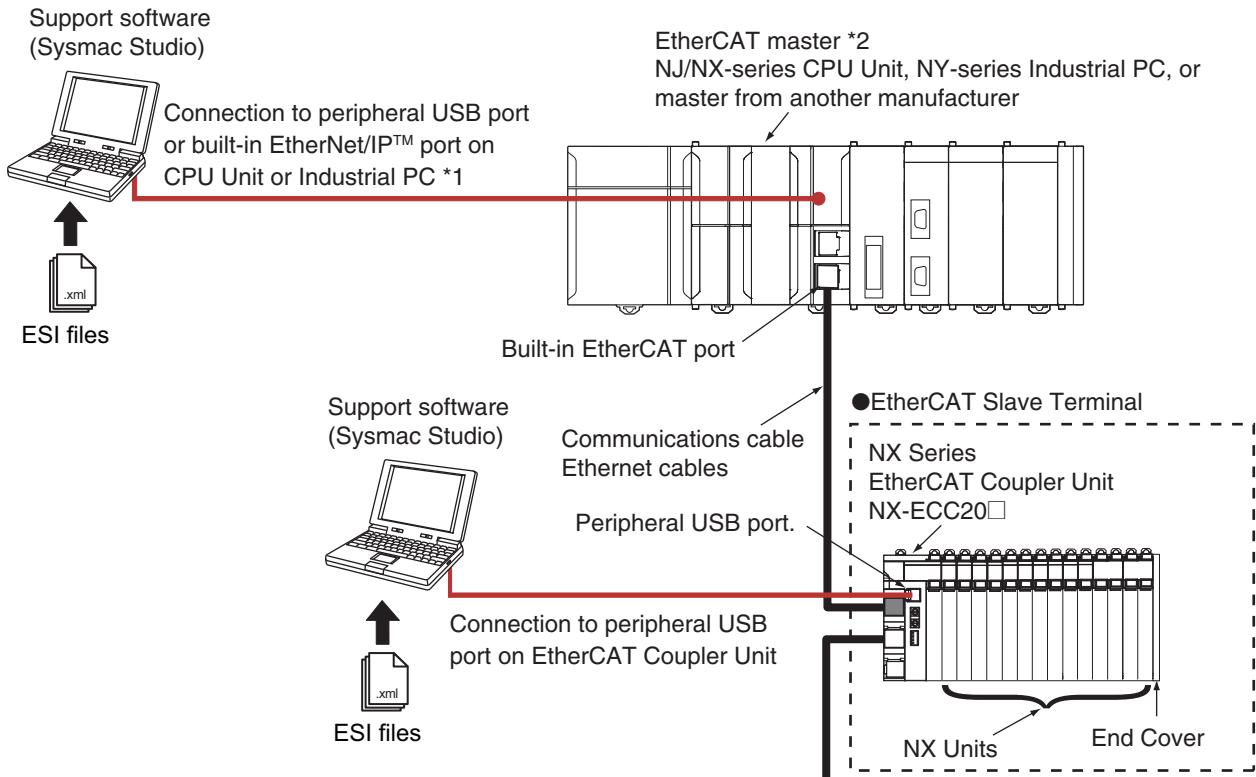
The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



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.

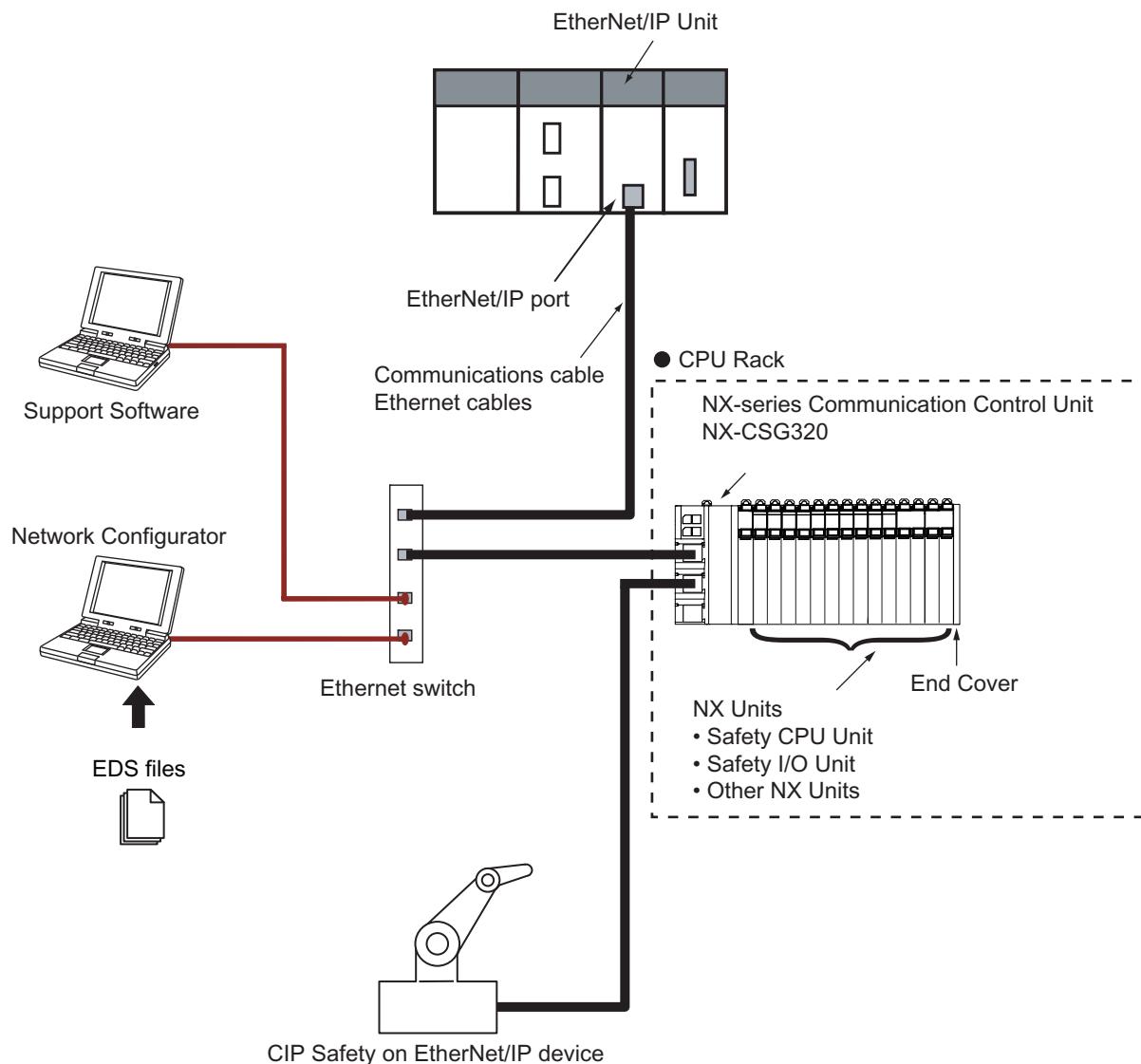
*2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81/□82 Position Control Units even though they can operate as EtherCAT masters.

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

NX-□□□□□-□

(1) (2) (3) (4) (5)

(1) Unit type

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

(2) Number of points

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

(3) I/O type

No.	Inputs	Outputs	Mixed I/O (Input, Output)
1	For both NPN/PNP	NPN	For both NPN/PNP, NPN
2	---	PNP	For both NPN/PNP, PNP
3	NPN	---	---
4	PNP	---	---
6	---	N.O.	---
7	---	N.O.+N.C.	---

(5) External connection terminals

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

(4) Other specifications

Digital Input Units

No.	Input voltage	ON/OFF response time		I/O refreshing method	
		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	24 VDC	Yes	---	Yes	---
43		---	Yes	Yes	---
44		---	Yes	---	Yes

*1 Free-Run refreshing

*2 Synchronous I/O refreshing

Digital Output Units

No.	Rated voltage	Load current	ON/OFF response time		I/O refreshing method		Other functions
			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	
21	12 to 24 VDC or 240 VAC	0.5 A	Yes	---	Yes	---	---
33	2 A	Yes	---	Yes	---	---	
53	24 VDC	0.5 A	---	Yes	Yes	---	---
54			---	Yes	---	Yes	---
55			Yes	---	Yes	---	Yes
57			---	Yes	Yes	---	Yes
58			---	Yes	---	Yes	Yes
68		2 A	Yes	---	Yes	---	Yes

*1 Free-Run refreshing

*2 Synchronous I/O refreshing

Digital Mixed I/O Units

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

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

Product Name	Specifications					Model
	Number of points	Internal I/O common	Rated input voltage	I/O refreshing method	ON/OFF response time	
DC Input Unit  (Screwless Clamping Terminal Block, 12 mm Width)	4 points	NPN	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 µs max./400 µs max.	NX-ID3317
			24 VDC	Input refreshing with input changed time only *1	100 ns max./100 ns max.	NX-ID3343
		PNP	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 µs max./400 µs max.	NX-ID3417
			24 VDC	Input refreshing with input changed time only *1	100 ns max./100 ns max.	NX-ID3443
	8 points	NPN				NX-ID3444
		PNP				NX-ID4342
	16 points	NPN				NX-ID4442
		PNP				NX-ID5342
						NX-ID5442
DC Input Unit  (M3 Screw Terminal Block, 30 mm Width)	16 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 µs max./400 µs max.	NX-ID5142-1
DC Input Unit  (MIL Connector, 30 mm Width)	16 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 µs max./400 µs max.	NX-ID5142-5
	32 points					NX-ID6142-5
DC Input Unit  (Fujitsu Connector, 30 mm Width)	32 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 µs max./400 µs max.	NX-ID6142-6
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

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

Digital Output Units

Product Name	Specifications						Model				
	Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time					
Transistor Output Unit  (Screwless Clamping Terminal Block, 12 mm Width)	2	NPN	0.5 A/point, 1 A/Unit	24 VDC	Output refreshing with specified time stamp only *1	300 ns max./ 300 ns max.	NX-OD2154				
		PNP				0.1 ms max./ 0.8 ms max.	NX-OD2258				
	4	NPN	0.5 A/point, 2 A/Unit	12 to 24 VDC 24 VDC	Switching Synchronous I/O refreshing and Free- Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD3121				
						300 ns max./ 300 ns max.	NX-OD3153				
		PNP				0.5 ms max./ 1.0 ms max.	NX-OD3256				
		2 A/point, 8 A/Unit	300 ns max./ 300 ns max.			NX-OD3257					
	8	NPN	0.5 A/point, 4 A/Unit	12 to 24 VDC 24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD3268				
						0.1 ms max./ 0.8 ms max.	NX-OD4121				
		PNP				0.5 ms max./ 1.0 ms max.	NX-OD4256				
						0.1 ms max./ 0.8 ms max.	NX-OD5121				
	16	NPN	0.5 A/point, 4 A/Unit	12 to 24 VDC 24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256				
						0.1 ms max./ 0.8 ms max.					
		PNP				0.5 ms max./ 1.0 ms max.					
						0.1 ms max./ 0.8 ms max.					
Transistor Output Unit  (M3 Screw Terminal Block, 30 mm Width)	16	NPN	0.5 A/point, 5 A/Unit	12 to 24 VDC 24 VDC	Switching Synchronous I/O refreshing and Free- Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-1				
0.5 ms max./ 1.0 ms max.						NX-OD5256-1					
Transistor Output Unit  (MIL Connector, 30 mm Width)	16	NPN	0.5 A/point, 2 A/Unit	12 to 24 VDC 24 VDC	Switching Synchronous I/O refreshing and Free- Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-5				
0.5 ms max./ 1.0 ms max.						NX-OD5256-5					
NPN		0.5 A/point, 2 A/ common, 4 A/Unit	12 to 24 VDC 24 VDC			0.1 ms max./ 0.8 ms max.	NX-OD6121-5				
						0.5 ms max./ 1.0 ms max.	NX-OD6256-5				
Transistor Output Unit  (Fujitsu Connector, 30 mm Width)	32	NPN	0.5 A/point, 2 A/ common, 4 A/Unit	12 to 24 VDC	Switching Synchronous I/O refreshing and Free- Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD6121-6				
0.1 ms max./ 0.8 ms max.											
Relay Output Unit  (Screwless Clamping Terminal Block, 12 mm Width/24 mm Width)	2	Relay type: N.O. Relay type: N.O.+N.C.	250 VAC/2 A ($\cos\phi=1$), 250 VAC/ 2 A ($\cos\phi=0.4$), 24 VDC/2 A, 4 A/Unit	Free-Run refreshing	15 ms max./ 15 ms max.	NX-OC2633					
15 ms max./ 15 ms max.						NX-OC2733					
8	Relay type: N.O.	250 VAC/2 A ($\cos\phi=1$), 250 VAC/ 2 A ($\cos\phi=0.4$), 24 VDC/2 A, 8 A/Unit	Free-Run refreshing	15 ms max./ 15 ms max.		NX-OC4633					

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

Digital Mixed I/O Units

Product Name	Specifications					Model
	Number of points	Internal I/O common	Maximum value of load current	I/O refreshing method	ON/OFF response time	
DC Input/Transistor Output Unit  (MIL 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-MD6121-5
		Outputs: PNP Inputs: For both NPN/PNP	Outputs: 24 VDC Inputs: 24 VDC		Outputs: 0.5 ms max./ 1.0 ms max. Inputs: 20 µs max./ 400 µs max.	
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

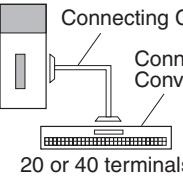
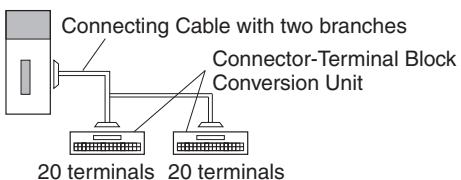
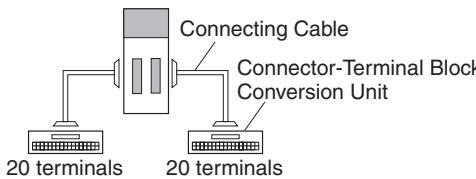
Optional Products

Product name	Specification				Model	Standards		
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)				NX-AUX02	---		
Product name	Specification				Model	Standards		
Terminal Block	No. of terminals	Terminal number indications	Ground terminal mark	Terminal current capacity	NX-TBA082 NX-TBA122 NX-TBA162	---		
	8	A/B	None	10 A				
	12							
	16							

Accessories

Not included.

Connection Patterns for Connector-Terminal Block Conversion Units

Pattern	Configuration	Number of connectors	Branching
A	 <p>Connecting Cable Connector-Terminal Block Conversion Unit 20 or 40 terminals</p>	1	None
B	 <p>Connecting Cable with two branches Connector-Terminal Block Conversion Unit 20 terminals 20 terminals</p>	1	2 branches
C	 <p>Connecting Cable Connector-Terminal Block Conversion Unit 20 terminals 20 terminals</p>	2	None

Connections to Connector-Terminal Block Conversion Units

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Connecting Cable *1	Connector-Terminal Block Conversion Unit	Wiring method	Common terminal
NX-ID5142-5	16 inputs	1 MIL connector	NPN/PNP	A	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
					XW2Z-□□□X	XW2D-20G6	Phillips screw	None
NX-ID6142-5	32 inputs	1 MIL connector	NPN/PNP	A	XW2Z-□□□PM	XW2R-□34GD-C2	Depends on model *3	None
				A	XW2Z-□□□K	XW2D-40G6	Phillips screw	None
				B	XW2Z-□□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				B	XW2Z-□□□N	XW2C-20G5-IN16 (2 Units) *2	Phillips screw	Yes
				B	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None
				B	XW2Z-□□□N	XW2E-20G5-IN16 (2 Units) *2	Phillips screw	Yes
NX-ID6142-6	32 inputs	1 Fujitsu connector	NPN/PNP	A	XW2Z-□□□PF	XW2R-□34GD-C1	Depends on model *3	None
				A	XW2Z-□□□B	XW2D-40G6	Phillips screw	None
				B	XW2Z-□□□D	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				B	XW2Z-□□□D	XW2C-20G5-IN16 (2 Units) *2	Phillips screw	Yes
				B	XW2Z-□□□D	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□D	XW2D-20G6 (2 Units)	Phillips screw	None
				B	XW2Z-□□□D	XW2E-20G5-IN16 (2 Units) *2	Phillips screw	Yes
NX-OD5121-5	16 outputs	1 MIL connector	NPN	A	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
				A	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
NX-OD5256-5	16 outputs	1 MIL connector	PNP	A	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
				A	XW2Z-□□□X	XW2D-20G6	Phillips screw	None

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

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

*1 □□□ in the model number indicates the cable length. Refer to the *XW2Z Datasheet* for details.

*2 The inputs are NPN. For PNP inputs, reverse the polarity of the external power supply connections to the power supply terminals on the Connector-Terminal Block Conversion Unit.

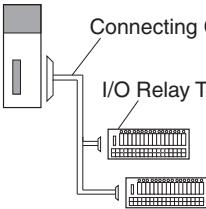
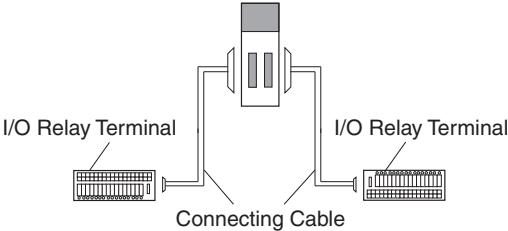
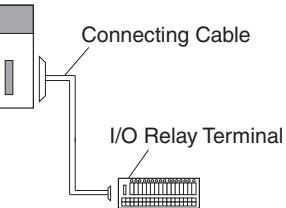
*3 The wiring methods vary depending on the Connector-Terminal Block Conversion Unit. □ in the model number indicates the wiring method.

J = Phillips screw

E = Slotted screw (rise up)

P= Push-in spring

Connection Patterns for I/O Relay Terminals

Pattern	Configuration	Number of connectors	Branching
A	 <p>Connecting Cable I/O Relay Terminal</p>	1	2 branches
E	 <p>I/O Relay Terminal Connecting Cable I/O Relay Terminal</p>	2	None
F	 <p>Connecting Cable I/O Relay Terminal</p>	1	

Connections to I/O Relay Terminals

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable *1	I/O Relay Terminal	Wiring method
NX-ID5142-5	16 inputs	1 MIL connector	NPN	F	None	XW2Z-RO□C	G7TC-ID16	Phillips screw
				F	None	XW2Z-RO□C	G7TC-IA16	Phillips screw
				F	None	XW2Z-RO□C	G70V-SID16P	Push-in spring
				F	None	XW2Z-RO□C	G70V-SID16P-C16	Push-in spring
			PNP	F	None	XW2Z-RO□C	G70V-SID16P-1	Push-in spring
				F	None	XW2Z-RO□C	G70V-SID16P-1-C16	Push-in spring
NX-ID6142-5	32 inputs	1 MIL connector	NPN	A	2	XW2Z-RO□-□-D1	G7TC-ID16	Phillips screw
				A	2	XW2Z-RO□-□-D1	G7TC-IA16	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70V-SID16P	Push-in spring
				A	2	XW2Z-RO□-□-D1	G70V-SID16P-C16	Push-in spring
			PNP	A	2	XW2Z-RO□-□-D1	G70V-SID16P-1	Push-in spring
				A	2	XW2Z-RO□-□-D1	G70V-SID16P-1-C16	Push-in spring
NX-ID6142-6	32 inputs	1 Fujitsu connector	NPN	A	2	XW2Z-RI□C-□	G7TC-ID16	Phillips screw
				A	2	XW2Z-RI□C-□	G7TC-IA16	Phillips screw
				A	2	XW2Z-RI□C-□	G70V-SID16P	Push-in spring
				A	2	XW2Z-RI□C-□	G70V-SID16P-C16	Push-in spring
			PNP	A	2	XW2Z-RI□C-□	G70V-SID16P-1	Push-in spring
				A	2	XW2Z-RI□C-□	G70V-SID16P-1-C16	Push-in spring
NX-OD5121-5	16 outputs	1 MIL connector	NPN	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
				F	None	XW2Z-RO□C	G70D-VSOC16	Phillips screw
				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

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable *1	I/O Relay Terminal	Wiring method
NX-OD5256-5	16 outputs	1 MIL connector	PNP	F	None	XW2Z-RI□C	G7TC-OC16-1	Phillips screw
				F	None	XW2Z-RO□C	G70D-SOC16-1	Phillips screw
				F	None	XW2Z-RO□C	G70D-FOM16-1	Phillips screw
				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
NX-OD6121-5	32 outputs	1 MIL connector	NPN	A	2	XW2Z-RO□-□-D1	G7TC-OC16	Phillips screw
				A	2	XW2Z-RO□-□-D1	G7TC-OC08	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70D-SOC16	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70D-FOM16	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70D-VSOC16	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70D-VFOM16	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70A-ZOC16-3 and Relay	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70R-SOC08 *2	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70D-SOC08	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70V-SOC16P	Push-in spring
				A	2	XW2Z-RO□-□-D1	G70V-SOC16P-C4	Push-in spring
NX-OD6121-6	32 outputs	1 Fujitsu connector	NPN	A	2	XW2Z-RO□C-□	G7TC-OC16	Phillips screw
				A	2	XW2Z-RO□C-□	G7TC-OC08	Phillips screw
				A	2	XW2Z-RO□C-□	G70D-SOC16	Phillips screw
				A	2	XW2Z-RO□C-□	G70D-FOM16	Phillips screw
				A	2	XW2Z-RO□C-□	G70D-VSOC16	Phillips screw
				A	2	XW2Z-RO□C-□	G70D-VFOM16	Phillips screw
				A	2	XW2Z-RO□C-□	G70A-ZOC16-3 and Relay	Phillips screw
				A	2	XW2Z-RO□C-□	G70R-SOC08 *2	Phillips screw
				A	2	XW2Z-RO□C-□	G70D-SOC08	Phillips screw
				A	2	XW2Z-RO□C-□	G70V-SOC16P	Push-in spring
				A	2	XW2Z-RO□C-□	G70V-SOC16P-C4	Push-in spring
NX-OD6256-5	32 outputs	1 MIL connector	PNP	A	2	XW2Z-RI□-□-D1	G7TC-OC16-1	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70D-SOC16-1	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70D-FOM16-1	Phillips screw
				A	2	XW2Z-RO□-□-D1	G70A-ZOC16-4 and Relay	Phillips screw
NX-MD6121-5	16 inputs	1 MIL connector	NPN	E	None	XW2Z-RO□C	G7TC-ID16	Phillips screw
				E	None	XW2Z-RO□C	G7TC-IA16	Phillips screw
				E	None	XW2Z-RO□C	G70V-SID16P	Push-in spring
				E	None	XW2Z-RO□C	G70V-SID16P-C16	Push-in spring
	16 outputs	1 MIL connector	NPN	E	None	XW2Z-RO□C	G7TC-OC16	Phillips screw
				E	None	XW2Z-RO□C	G7TC-OC08	Phillips screw
				E	None	XW2Z-RO□C	G70D-SOC16	Phillips screw
				E	None	XW2Z-RO□C	G70D-FOM16	Phillips screw
				E	None	XW2Z-RO□C	G70D-VSOC16	Phillips screw
				E	None	XW2Z-RO□C	G70D-VFOM16	Phillips screw
				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
				E	None	XW2Z-RO□C	G70V-SOC16P-C4	Push-in spring

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

*2. Product no longer available to order.

General Specifications

Item	Specification
Enclosure	Mounted in a panel
Grounding method	Ground to 100 Ω or less
Operating environment	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.
	Noise immunity 2 kV on power supply line (Conforms to IEC61000-4-4.)
	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/s ² , 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/s ² , 3 times each in X, Y, and Z directions
Applicable standards *2	cULus: Listed (UL508) or Listed (UL 61010-2-201), ANSI/ISA 12.12.01, EU: EN 61131-2 or EN 61010-2-201, C-Tick or RCM, KC: KC Registration, NK, LR

*1. For the Relay Output Unit, refer to the Digital Input Unit Specifications.

*2. Refer to the OMRON website (<http://www.ia.omron.com/>) or consult your OMRON representative for the most recent applicable standards for each model.

Digital Input Unit Specifications

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

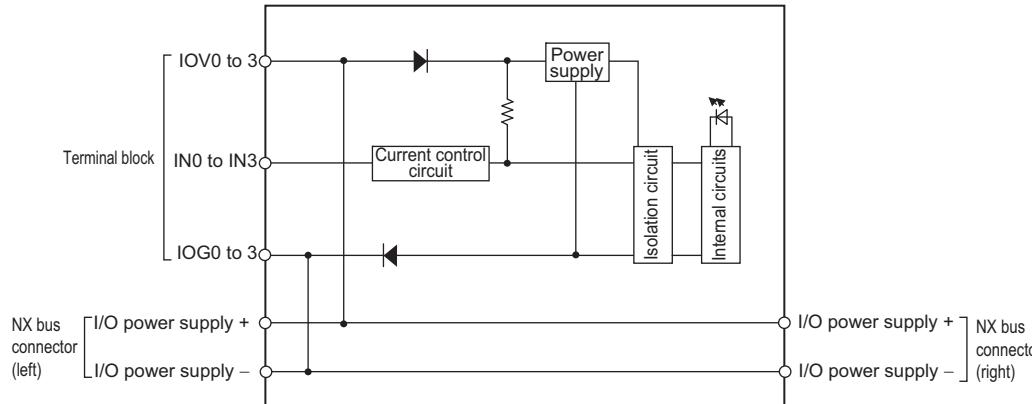
NX-ID3317

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 Free-Run refreshing		
Indicators	TS indicator, input indicator ID3317 ■ TS 0 1 2 3	Internal I/O common	NPN
		Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
		Input current	6 mA typical (at 24 VDC), rated current
		ON voltage/ON current	9 VDC min./3 mA min. (between IOV and each signal)
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-ID3343

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 Free-Run refreshing				
Indicators	TS indicator, input indicator 	Internal I/O common	NPN		
		Rated input voltage	24 VDC (15 to 28.8 VDC)		
		Input current	3.5 mA typical (at 24 VDC), rated current		
		ON voltage/ON current	15 VDC min./3 mA min. (between IOV and each signal)		
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOV and each signal)		
		ON/OFF response time	100 ns max./100 ns max.		
		Input filter time	Without filter, 1 µs, 2 µs, 4 µs, 8 µs (factory setting), 16 µs, 32 µs, 64 µs, 128 µs, 256 µs		
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation		
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.		
NX Unit power consumption	<ul style="list-style-type: none"> 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					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

NX-ID3344

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		
Indicators	TS indicator, input indicators 	Internal I/O common	NPN
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		ON voltage/ON current	15 VDC min./3 mA min. (between IOV and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOV and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	No filter *
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

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

NX-ID3417

Unit name	DC Input Unit	Model	NX-ID3417
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator 	Internal I/O common	PNP
		Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
		Input current	6 mA typical (at 24 VDC), rated current
		ON voltage/ON current	9 VDC min./3 mA min. (between IOG and each signal)
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-ID3443

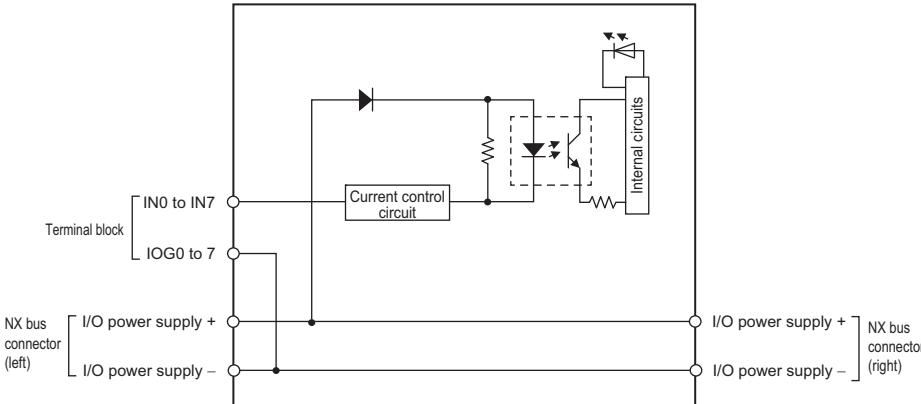
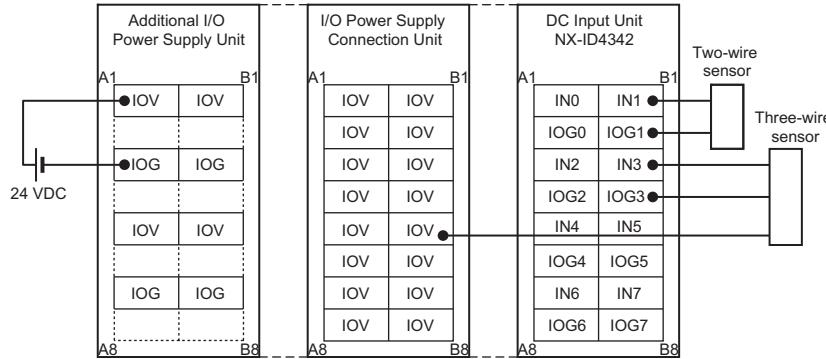
Unit name	DC Input Unit	Model	NX-ID3443		
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing				
Indicators	TS indicator, input indicator 	Internal I/O common	PNP		
		Rated input voltage	24 VDC (15 to 28.8 VDC)		
		Input current	3.5 mA typical (at 24 VDC), rated current		
		ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)		
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)		
		ON/OFF response time	100 ns max./100 ns max.		
		Input filter time	Without filter, 1 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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.		
NX Unit power consumption	<ul style="list-style-type: none"> 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					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

NX-ID3444

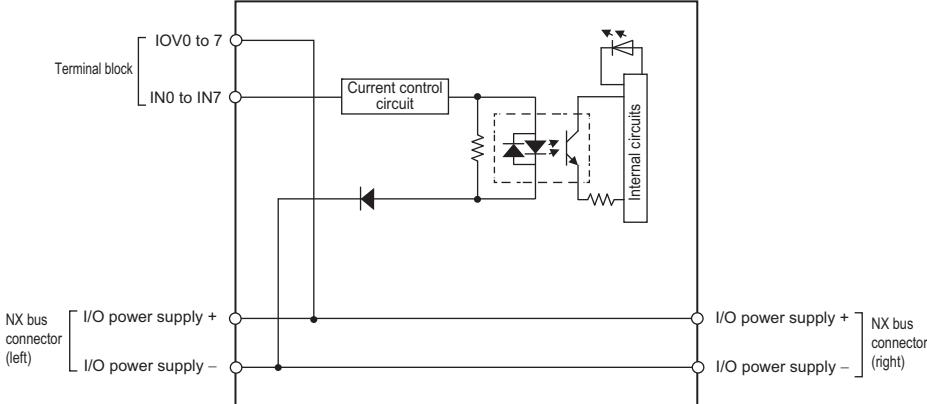
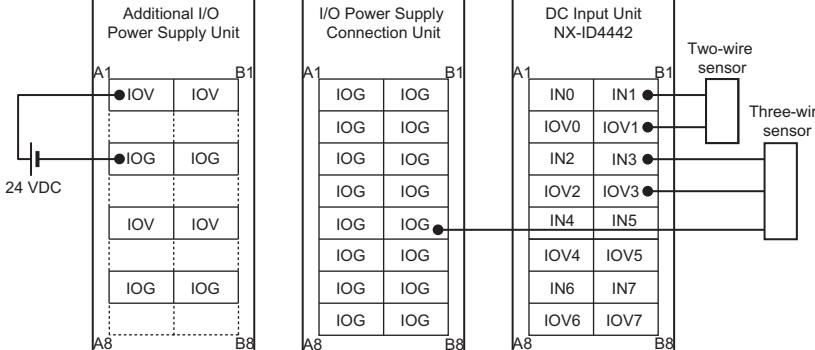
Unit name	DC Input Unit	Model	NX-ID3444
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Input refreshing with input changed time		
Indicators	TS indicator, input indicators 	Internal I/O common PNP	
		Rated input voltage 24 VDC (15 to 28.8 VDC)	
		Input current 3.5 mA typical (at 24 VDC), rated current	
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

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

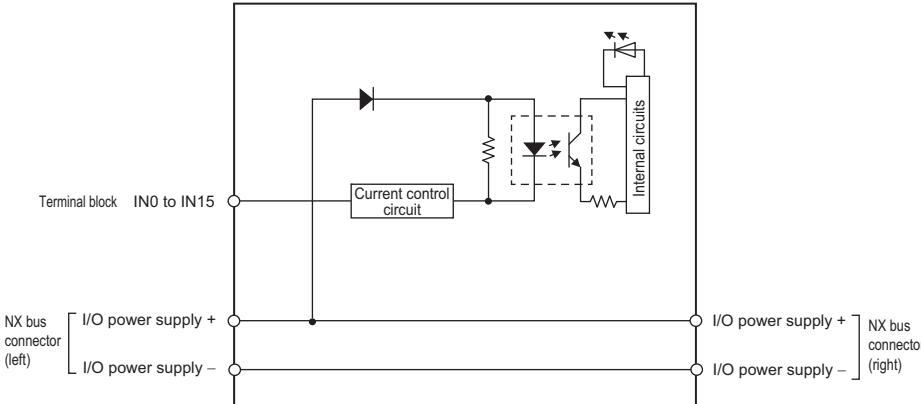
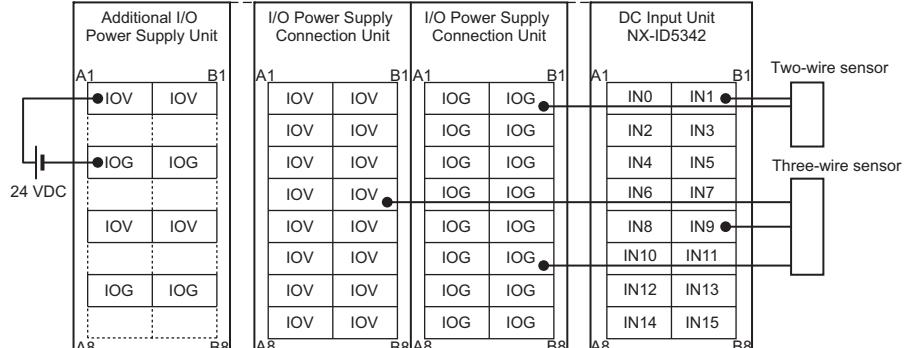
NX-ID4342

Unit name	DC Input Unit	Model	NX-ID4342
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator 	Internal I/O common	NPN
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		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	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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOG: 0.1 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	Installation orientation: <ul style="list-style-type: none"> 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			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

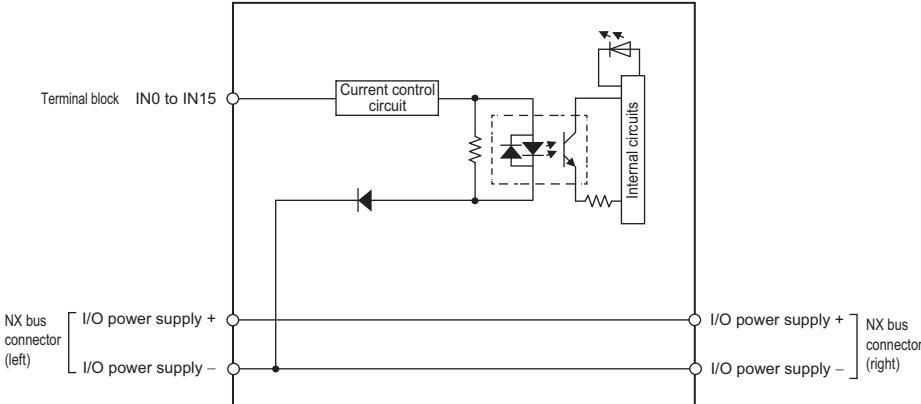
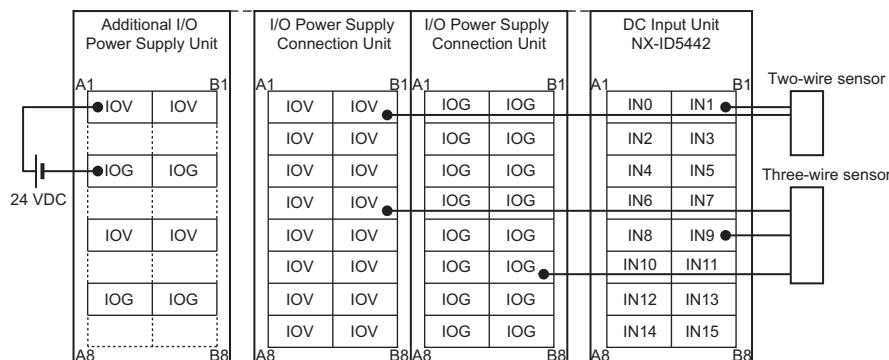
NX-ID4442

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 Free-Run refreshing		
Indicators	TS indicator, input indicator 	Internal I/O common	PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		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	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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-ID5342

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 Free-Run refreshing				
Indicators	TS indicator, input indicator 	Internal I/O common	NPN		
		Rated input voltage	24 VDC (15 to 28.8 VDC)		
		Input current	2.5 mA typical (at 24 VDC), rated current		
		ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)		
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	<ul style="list-style-type: none"> 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					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

NX-ID5442

Unit name	DC Input Unit	Model	NX-ID5442		
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing				
Indicators	TS indicator, input indicator 	Internal I/O common	PNP		
		Rated input voltage	24 VDC (15 to 28.8 VDC)		
		Input current	2.5 mA typical (at 24 VDC), rated current		
		ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)		
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	<ul style="list-style-type: none"> 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					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

● DC Input Unit (M3 Screw Terminal Block, 30 mm Width)

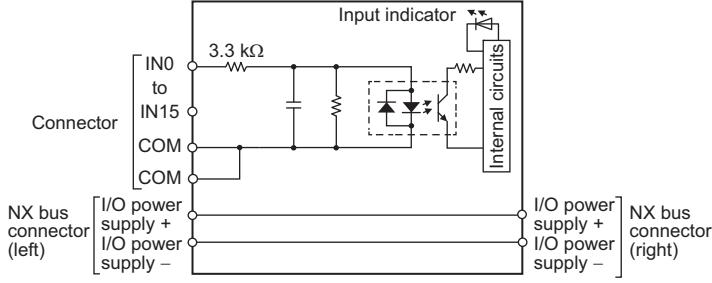
NX-ID5142-1

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-Run refreshing		
Indicators	TS indicator, input indicators ID5142-1 ■ TS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		Internal I/O common For both NPN/PNP Rated input voltage 24 VDC (15 to 28.8 VDC) Input current 7 mA typical (at 24 VDC) ON voltage/ON current 15 VDC min./3 mA min. (between COM and each signal) 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	<ul style="list-style-type: none"> 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	<p>The diagram illustrates the internal circuit layout of the NX-ID5142-1. It shows the connection from the terminal block (IN0 to IN15, COM, COM) to the internal logic. A 3.3 kΩ resistor is connected between the input and ground. The internal logic consists of a series of switches and diodes. An input indicator is also shown. The power supply section shows the connection from the NX bus connector (left) to the I/O power supply and then to the internal power supply. The right side shows the NX bus connector (right).</p>		

Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: As shown in the following.</p> <ul style="list-style-type: none"> For upright installation <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>Number of simultaneously ON input points (28.8 V)</th> </tr> </thead> <tbody> <tr><td>45</td><td>16</td></tr> <tr><td>55</td><td>12</td></tr> </tbody> </table> <ul style="list-style-type: none"> For any installation other than upright <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>Number of simultaneously ON input points (28.8 V)</th> <th>Number of simultaneously ON input points (24 V)</th> </tr> </thead> <tbody> <tr><td>40</td><td>16</td><td>16</td></tr> <tr><td>55</td><td>12</td><td>7</td></tr> </tbody> </table>	Ambient temperature (°C)	Number of simultaneously ON input points (28.8 V)	45	16	55	12	Ambient temperature (°C)	Number of simultaneously ON input points (28.8 V)	Number of simultaneously ON input points (24 V)	40	16	16	55	12	7																									
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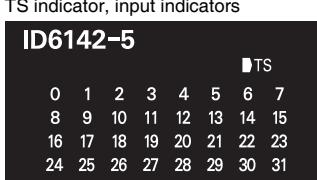
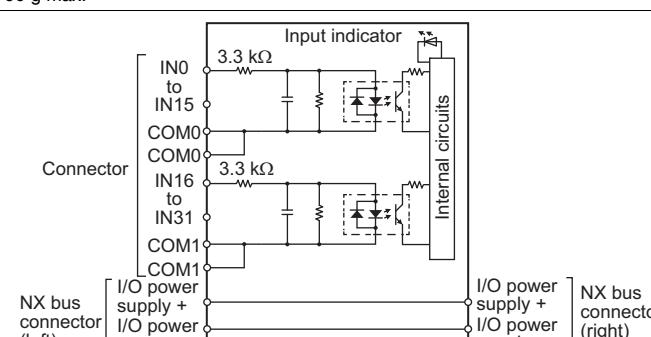
● DC Input Unit (MIL Connector, 30 mm Width)

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-Run refreshing																		
Indicators	<p>TS indicator, input indicators</p>  <p>ID5142-5</p> <p>TS</p> <table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> </table>	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Internal I/O common	For both NPN/PNP
0	1	2	3	4	5	6	7												
8	9	10	11	12	13	14	15												
Rated input voltage	24 VDC (15 to 28.8 VDC)																		
Input current	7 mA typical (at 24 VDC)																		
ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)																		
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	<ul style="list-style-type: none"> 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	85 g max.																		
Circuit layout																			

Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: As shown in the following.</p> <ul style="list-style-type: none"> For upright installation <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>Number of simultaneously ON input points</th> </tr> </thead> <tbody> <tr><td>45</td><td>16</td></tr> <tr><td>55</td><td>12</td></tr> </tbody> </table> <ul style="list-style-type: none"> For any installation other than upright <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>Number of simultaneously ON input points (28.8V)</th> <th>Number of simultaneously ON input points (24V)</th> </tr> </thead> <tbody> <tr><td>40</td><td>16</td><td>16</td></tr> <tr><td>45</td><td>16</td><td>16</td></tr> <tr><td>55</td><td>8</td><td>8</td></tr> </tbody> </table>	Ambient temperature (°C)	Number of simultaneously ON input points	45	16	55	12	Ambient temperature (°C)	Number of simultaneously ON input points (28.8V)	Number of simultaneously ON input points (24V)	40	16	16	45	16	16	55	8	8																																																																									
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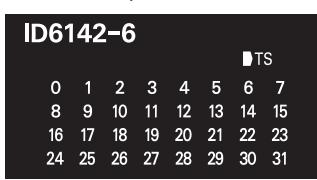
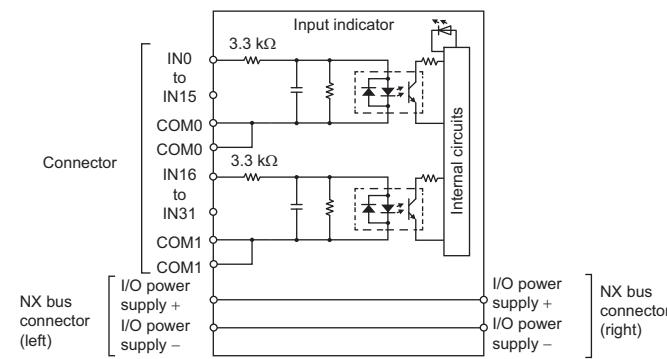
NX-ID6142-5

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-Run refreshing		
Indicators	TS indicator, input indicators 		Internal I/O common
			For both NPN/PNP
			Rated input voltage
			24 VDC (19 to 28.8 VDC)
			Input current
			4.1 mA typical (24 VDC)
			ON voltage/ON current
Dimensions		19 VDC min./3 mA min. (between COM and each signal)	
Insulation resistance		5 VDC max./1 mA max. (between COM and each signal)	
I/O power supply method		ON/OFF response time	
		20 µs max./400 µs max.	
NX Unit power consumption		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	
Weight	90 g max.		
Circuit layout			

Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: As shown in the following.</p> <ul style="list-style-type: none"> For upright installation <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <caption>Data for Upright Installation Graph</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>28.8 V (ON Points)</th> <th>24 V (ON Points)</th> </tr> </thead> <tbody> <tr><td>0</td><td>32</td><td>32</td></tr> <tr><td>10</td><td>32</td><td>32</td></tr> <tr><td>20</td><td>32</td><td>32</td></tr> <tr><td>30</td><td>32</td><td>32</td></tr> <tr><td>40</td><td>32</td><td>32</td></tr> <tr><td>45</td><td>32</td><td>32</td></tr> <tr><td>50</td><td>28</td><td>28</td></tr> <tr><td>55</td><td>13</td><td>10</td></tr> <tr><td>60</td><td>0</td><td>0</td></tr> </tbody> </table> <ul style="list-style-type: none"> For any installation other than upright <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <caption>Data for Non-Upright Installation Graph</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>28.8 V (ON Points)</th> <th>24 V (ON Points)</th> <th>19 V (ON Points)</th> </tr> </thead> <tbody> <tr><td>0</td><td>32</td><td>32</td><td>32</td></tr> <tr><td>10</td><td>32</td><td>32</td><td>32</td></tr> <tr><td>20</td><td>32</td><td>32</td><td>32</td></tr> <tr><td>30</td><td>32</td><td>32</td><td>32</td></tr> <tr><td>40</td><td>32</td><td>32</td><td>32</td></tr> <tr><td>45</td><td>32</td><td>32</td><td>32</td></tr> <tr><td>50</td><td>28</td><td>28</td><td>28</td></tr> <tr><td>55</td><td>13</td><td>10</td><td>8</td></tr> <tr><td>60</td><td>0</td><td>0</td><td>0</td></tr> </tbody> </table>	Ambient Temperature (°C)	28.8 V (ON Points)	24 V (ON Points)	0	32	32	10	32	32	20	32	32	30	32	32	40	32	32	45	32	32	50	28	28	55	13	10	60	0	0	Ambient Temperature (°C)	28.8 V (ON Points)	24 V (ON Points)	19 V (ON Points)	0	32	32	32	10	32	32	32	20	32	32	32	30	32	32	32	40	32	32	32	45	32	32	32	50	28	28	28	55	13	10	8	60	0	0	0
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Terminal connection diagram	<ul style="list-style-type: none"> 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)

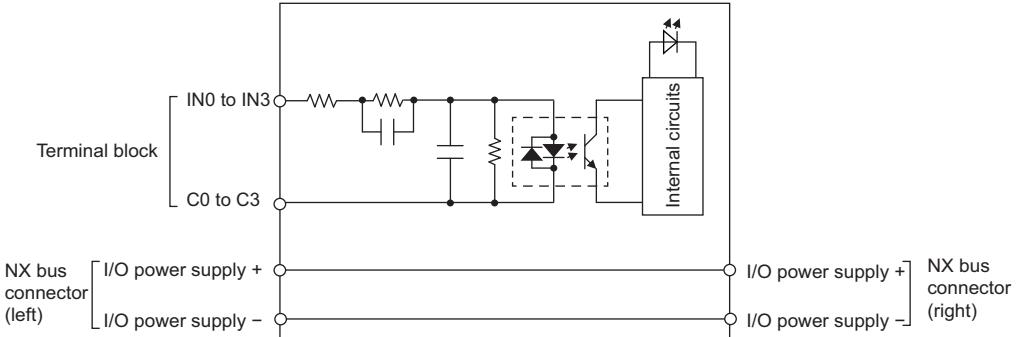
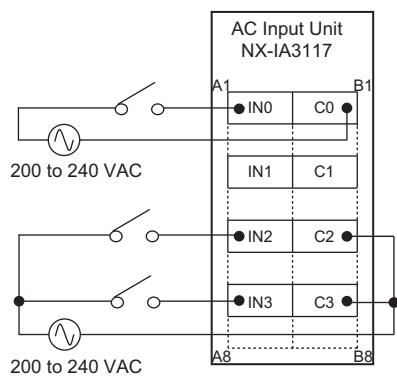
NX-ID6142-6

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-Run refreshing		
Indicators	TS indicator, input indicators 	Internal I/O common	For both NPN/PNP
		Rated input voltage	24 VDC (19 to 28.8 VDC)
		Input current	4.1 mA typical (24 VDC)
		ON voltage/ON current	19 VDC min./3 mA min. (between COM and each signal)
		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	<ul style="list-style-type: none"> 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			

Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: As shown in the following.</p> <ul style="list-style-type: none"> For upright installation <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <caption>Data for Upright Installation Graph</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>28.8 V (ON Points)</th> <th>24 V (ON Points)</th> </tr> </thead> <tbody> <tr><td>0-35</td><td>32</td><td>32</td></tr> <tr><td>35-40</td><td>32</td><td>32</td></tr> <tr><td>40-45</td><td>30</td><td>30</td></tr> <tr><td>45-55</td><td>13</td><td>10</td></tr> <tr><td>55-60</td><td>10</td><td>10</td></tr> </tbody> </table> <ul style="list-style-type: none"> For any installation other than upright <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <caption>Data for Non-Upright Installation Graph</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>28.8 V (ON Points)</th> <th>24 V (ON Points)</th> <th>19 V (ON Points)</th> </tr> </thead> <tbody> <tr><td>0-30</td><td>32</td><td>32</td><td>32</td></tr> <tr><td>30-35</td><td>32</td><td>32</td><td>32</td></tr> <tr><td>35-45</td><td>30</td><td>30</td><td>30</td></tr> <tr><td>45-55</td><td>13</td><td>8</td><td>5</td></tr> <tr><td>55-60</td><td>10</td><td>10</td><td>10</td></tr> </tbody> </table>	Ambient Temperature (°C)	28.8 V (ON Points)	24 V (ON Points)	0-35	32	32	35-40	32	32	40-45	30	30	45-55	13	10	55-60	10	10	Ambient Temperature (°C)	28.8 V (ON Points)	24 V (ON Points)	19 V (ON Points)	0-30	32	32	32	30-35	32	32	32	35-45	30	30	30	45-55	13	8	5	55-60	10	10	10																					
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Terminal connection diagram	<table border="1"> <caption>Pinout Diagram</caption> <thead> <tr> <th>Signal name</th> <th>Connector pin</th> <th>Signal name</th> </tr> </thead> <tbody> <tr><td>IN0</td><td>A1 B1</td><td>IN16</td></tr> <tr><td>IN1</td><td>A2 B2</td><td>IN17</td></tr> <tr><td>IN2</td><td>A3 B3</td><td>IN18</td></tr> <tr><td>IN3</td><td>A4 B4</td><td>IN19</td></tr> <tr><td>IN4</td><td>A5 B5</td><td>IN20</td></tr> <tr><td>IN5</td><td>A6 B6</td><td>IN21</td></tr> <tr><td>IN6</td><td>A7 B7</td><td>IN22</td></tr> <tr><td>IN7</td><td>A8 B8</td><td>IN23</td></tr> <tr><td>COM0</td><td>A9 B9</td><td>COM1</td></tr> <tr><td>IN8</td><td>A10 B10</td><td>IN24</td></tr> <tr><td>IN9</td><td>A11 B11</td><td>IN25</td></tr> <tr><td>IN10</td><td>A12 B12</td><td>IN26</td></tr> <tr><td>IN11</td><td>A13 B13</td><td>IN27</td></tr> <tr><td>IN12</td><td>A14 B14</td><td>IN28</td></tr> <tr><td>IN13</td><td>A15 B15</td><td>IN29</td></tr> <tr><td>IN14</td><td>A16 B16</td><td>IN30</td></tr> <tr><td>IN15</td><td>A17 B17</td><td>IN31</td></tr> <tr><td>COM0</td><td>A18 B18</td><td>COM1</td></tr> <tr><td>NC</td><td>A19 B19</td><td>NC</td></tr> <tr><td>NC</td><td>A20 B20</td><td>NC</td></tr> </tbody> </table> <ul style="list-style-type: none"> 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. 	Signal name	Connector pin	Signal name	IN0	A1 B1	IN16	IN1	A2 B2	IN17	IN2	A3 B3	IN18	IN3	A4 B4	IN19	IN4	A5 B5	IN20	IN5	A6 B6	IN21	IN6	A7 B7	IN22	IN7	A8 B8	IN23	COM0	A9 B9	COM1	IN8	A10 B10	IN24	IN9	A11 B11	IN25	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
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IN6	A7 B7	IN22																																																														
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Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.																																																													

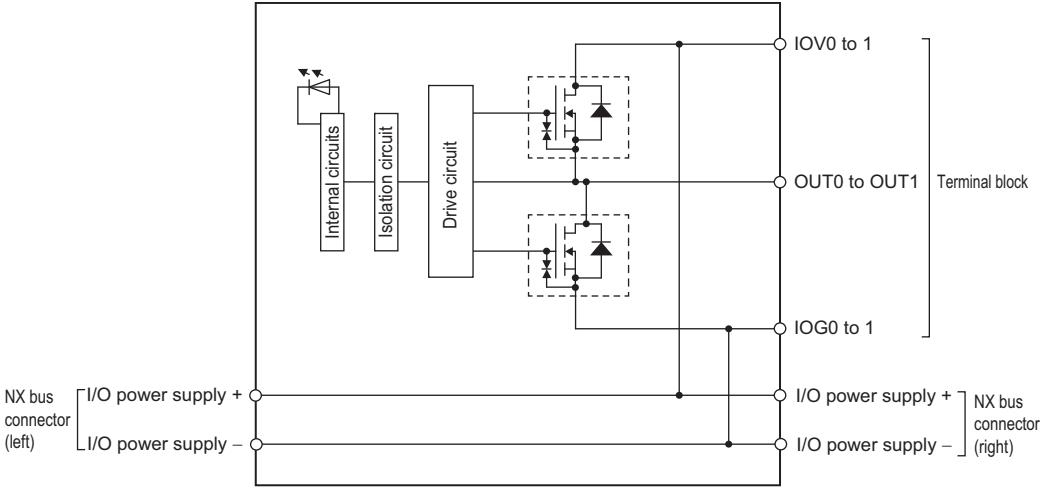
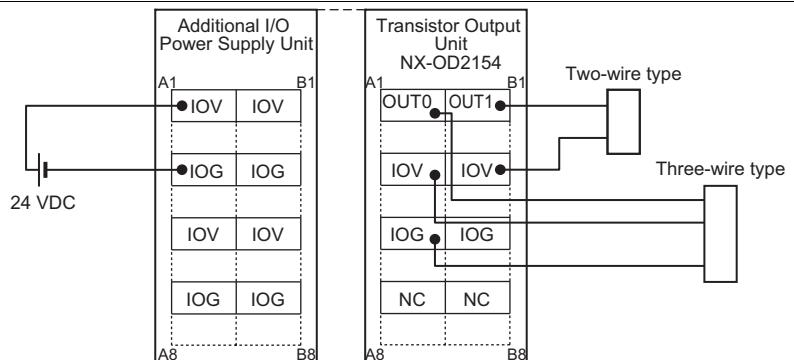
● AC Input Unit (Screwless Clamping Terminal Block, 12 mm Width)

NX-IA3117

Unit name	AC Input Unit	Model	NX-IA3117
Number of points	4 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)
Capacity	Free-Run refreshing		
Indicators	<p>TS indicator, input indicator </p>	Internal I/O common	No polarity
		Rated input voltage	200 to 240 VAC, 50/60 Hz (170 to 264 VAC, ±3 Hz)
		Input current	9 mA typical (at 200 VAC, 50 Hz) 11 mA typical (at 200 VAC, 60 Hz)
		ON voltage/ON current	120 VAC min./4 mA min.
		OFF voltage/OFF current	40 VAC max./2 mA max.
		ON/OFF response time	10 ms max./40 ms max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	Between each AC input circuit: 20 MΩ min. (at 500 VDC) Between the external terminals and the functional ground terminal: 20 MΩ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 MΩ min. (at 100 VDC)	Dielectric strength	Between each AC input circuit: AC3700V VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
I/O power supply method	Supplied from external source.	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: 0.80 W max. Connected to a Communications Coupler Unit: 0.50 W max. 	Current consumption from I/O power supply	No consumption
Weight	60 g max.		
Circuit layout			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

Digital Output Unit Specifications

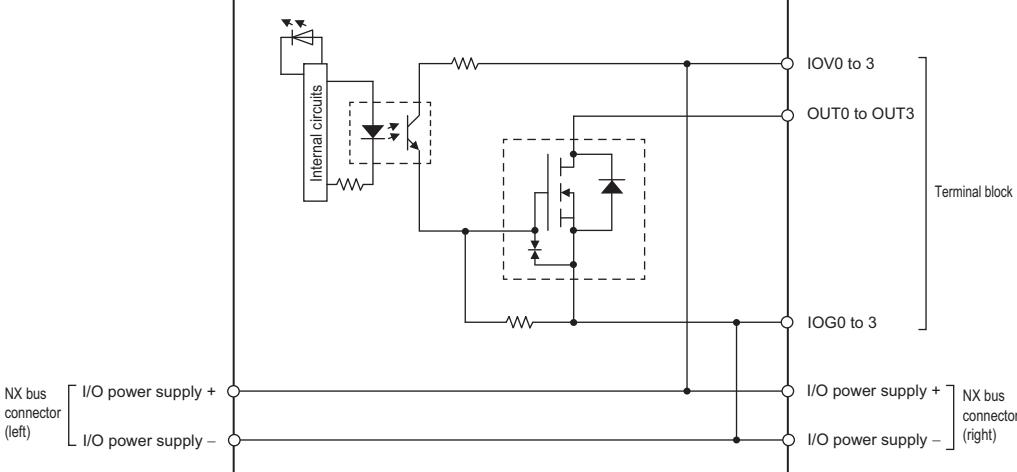
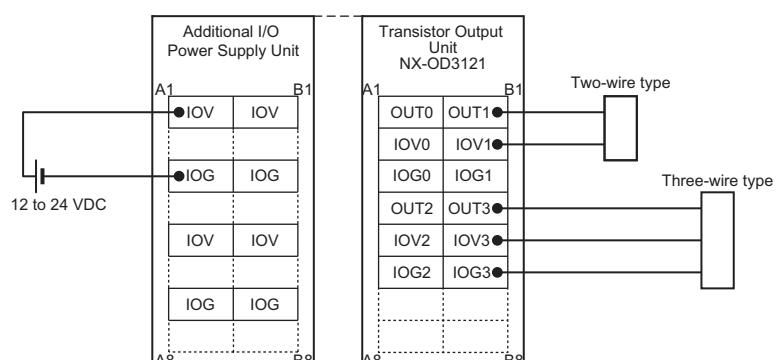
● Transistor Output Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-OD2154

Unit name	Transistor Output Unit	Model	NX-OD2154		
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)		
I/O refreshing method	Output refreshing with specified time stamp				
Indicators	<p>TS indicator, output indicator</p> 	Internal I/O common	NPN		
		Rated voltage	24 VDC		
		Operating load voltage range	15 to 28.8 VDC		
		Maximum value of load current	0.5 A/point, 1 A/Unit		
		Maximum inrush current	4.0 A/point, 10 ms max.		
		Leakage current	0.1 mA max.		
		Residual voltage	1.5 V max.		
		ON/OFF response time	300 ns max./300 ns max.		
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation		
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.		
NX Unit power consumption	<ul style="list-style-type: none"> 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	 <p>This unit uses a push-pull output circuit.</p>				
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

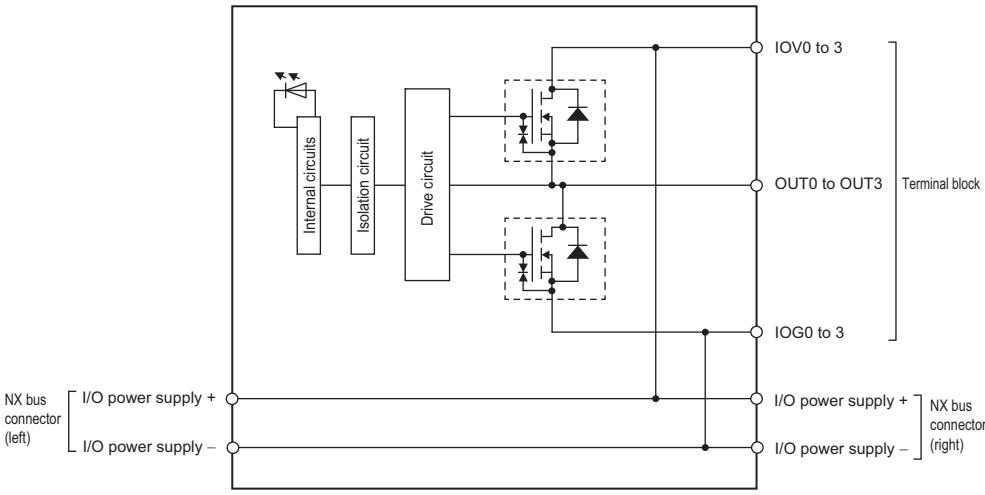
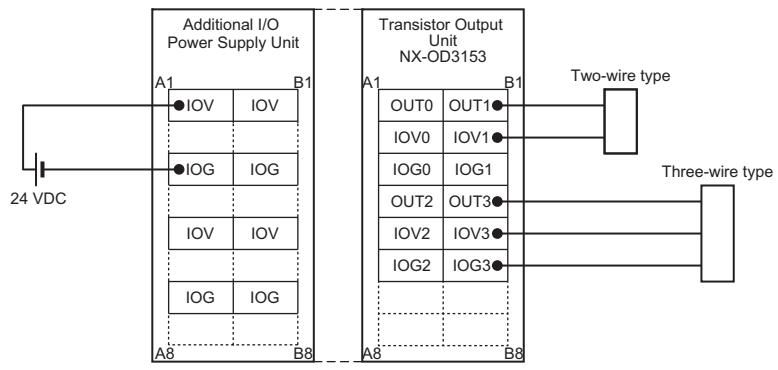
NX-OD2258

Unit name	Transistor Output Unit	Model	NX-OD2258		
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)		
I/O refreshing method	Output refreshing with specified time stamp				
Indicators	TS indicator, output indicator 	Internal I/O common	PNP		
		Rated voltage	24 VDC		
		Operating load voltage range	15 to 28.8 VDC		
		Maximum value of load current	0.5 A/point, 1 A/Unit		
		Maximum inrush current	4.0 A/point, 10 ms max.		
		Leakage current	0.1 mA max.		
		Residual voltage	1.5 V max.		
		ON/OFF response time	300 ns max./300 ns max.		
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation		
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.		
NX Unit power consumption	<ul style="list-style-type: none"> 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	<p>This unit uses a push-pull output circuit.</p>				
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.		

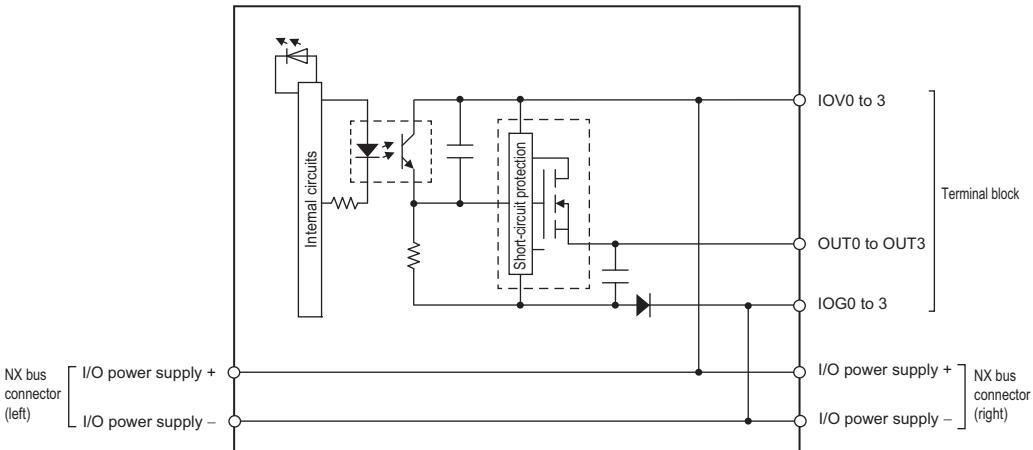
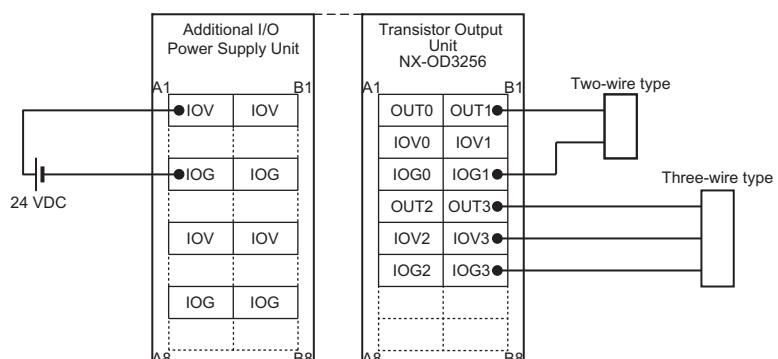
NX-OD3121

Unit name	Transistor Output Unit	Model	NX-OD3121		
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing				
Indicators	TS indicator, output indicator 	Internal I/O common	NPN		
		Rated voltage	12 to 24 VDC		
		Operating load voltage range	10.2 to 28.8 VDC		
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.		
NX Unit power consumption	<ul style="list-style-type: none"> 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					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

NX-OD3153

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 Free-Run refreshing				
Indicators	TS indicator, output indicator 	Internal I/O common	NPN		
		Rated voltage	24 VDC		
		Operating load voltage range	15 to 28.8 VDC		
		Maximum value of load current	0.5 A/point, 2 A/Unit		
		Maximum inrush current	4.0 A/point, 10 ms max.		
		Leakage current	0.1 mA max.		
		Residual voltage	1.5 V max.		
		ON/OFF response time	300 ns max./300 ns max.		
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation		
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.		
NX Unit power consumption	<ul style="list-style-type: none"> 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	 <p>This unit uses a push-pull output circuit.</p>				
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

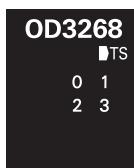
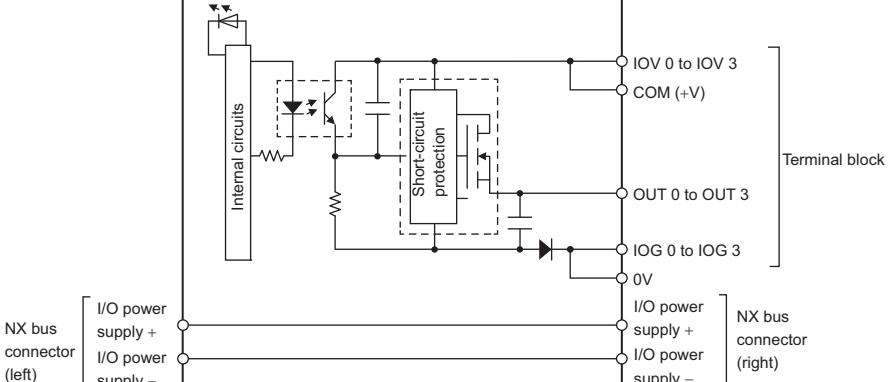
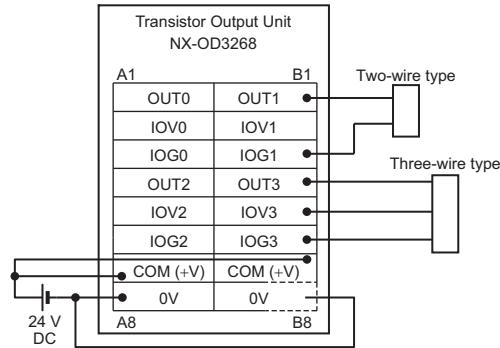
NX-OD3256

Unit name	Transistor Output Unit	Model	NX-OD3256		
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing				
Indicators	TS indicator, output indicator 	Internal I/O common	PNP		
		Rated voltage	24 VDC		
		Operating load voltage range	15 to 28.8 VDC		
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.		
NX Unit power consumption	<ul style="list-style-type: none"> 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					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.		

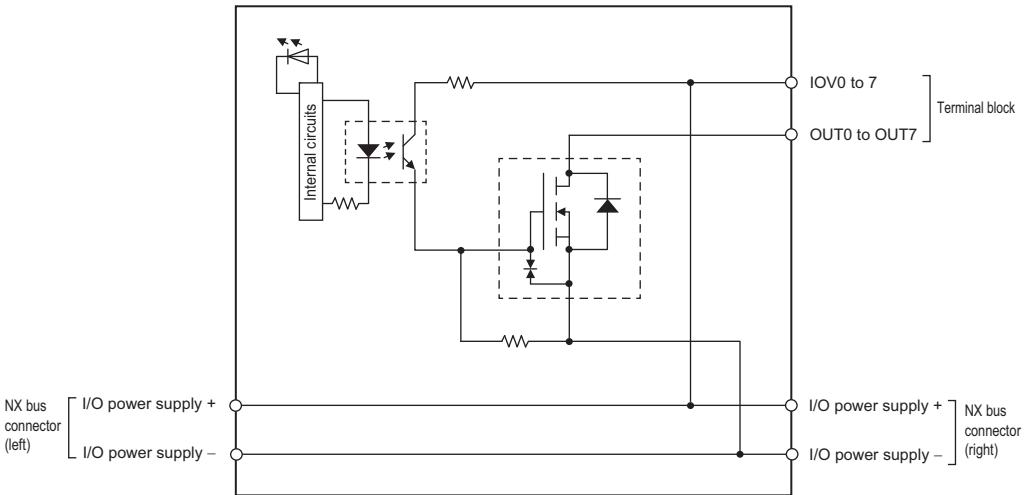
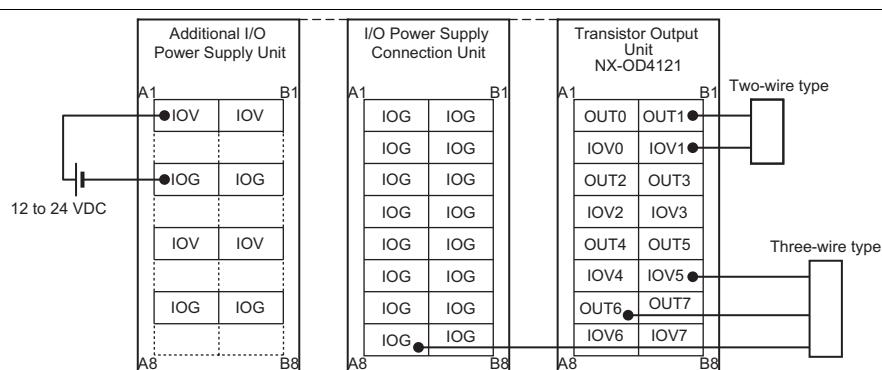
NX-OD3257

Unit name	Transistor Output Unit	Model	NX-OD3257
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator 	Internal I/O common Rated voltage Operating load voltage range Maximum value of load current Maximum inrush current Leakage current Residual voltage ON/OFF response time	PNP 24 VDC 15 to 28.8 VDC 0.5 A/point, 2 A/Unit 4.0 A/point, 10 ms max. 0.1 mA max. 1.5 V max. 300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> 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	<p>This unit uses a push-pull output circuit.</p>		
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

NX-OD3268

Unit name	Transistor Output Unit	Model	NX-OD3268
Number of points	4 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	 TS indicator, output indicator	Internal I/O common	PNP
		Rated voltage	24 VDC
		Operating load voltage range	15 to 28.8 VDC
		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.
Dimensions	12 (W) x 100 (H) x 71 (D)	ON/OFF response time	0.5 ms max./1.0 ms max.
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Isolation method	Photocoupler isolation
I/O power supply method	Supply from external source	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 0.85 W max. Connected to a Communications Coupler Unit 0.50 W max. 	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.
Weight	70 g max.	Current consumption from I/O power supply	20 mA max.
Circuit layout	 <p>The diagram illustrates the internal circuitry of the NX-OD3268. It shows four output channels (OUT0 to OUT3) and four input channels (IOV0 to IOV3, IOG0 to IOG3). Each output channel consists of a driver stage followed by a switch and a resistor. The inputs are connected to a central logic block. Short-circuit protection is provided for each output. The circuit is powered by an external I/O power supply and an NX bus power supply. The outputs are connected to a terminal block and an NX bus connector.</p>		
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram	 <p>The diagram shows the terminal block connections for the NX-OD3268. Pin A1 contains OUT0, OUT1, IOV0, IOV1, IOG0, IOG1, OUT2, OUT3, IOV2, IOV3, IOG2, and IOG3. Pin B1 contains COM (+V), 0V, and ground. Pin A8 contains 24 V DC. Pin B8 contains COM (+V), 0V, and ground. The connections are grouped into two types: Two-wire type (OUT0, OUT1, IOV0, IOV1, IOG0, IOG1, OUT2, OUT3, IOV2, IOV3, IOG2, IOG3) and Three-wire type (COM (+V), 0V).</p> <p>• 0V has 2 terminals, so be sure to wire both terminals. • COM (+V) has 2 terminals, so be sure to wire both terminals.</p>		
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

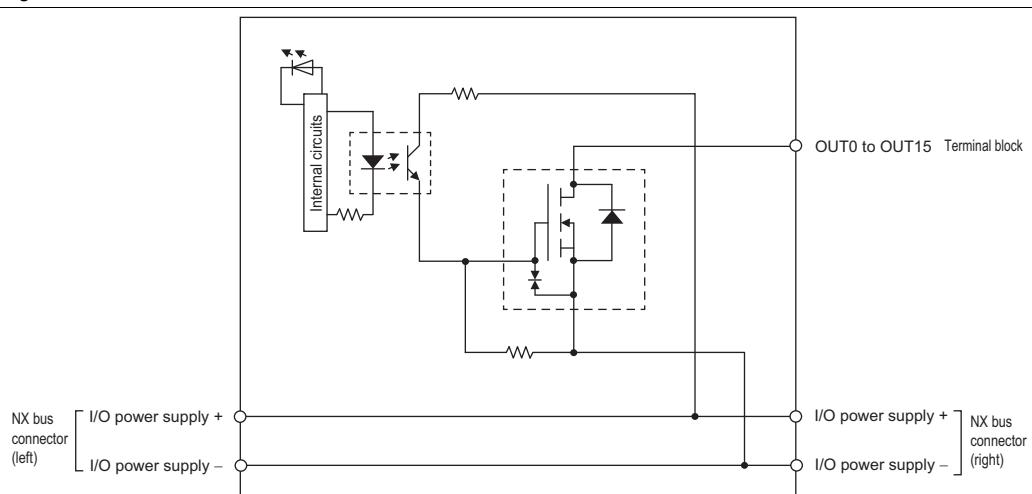
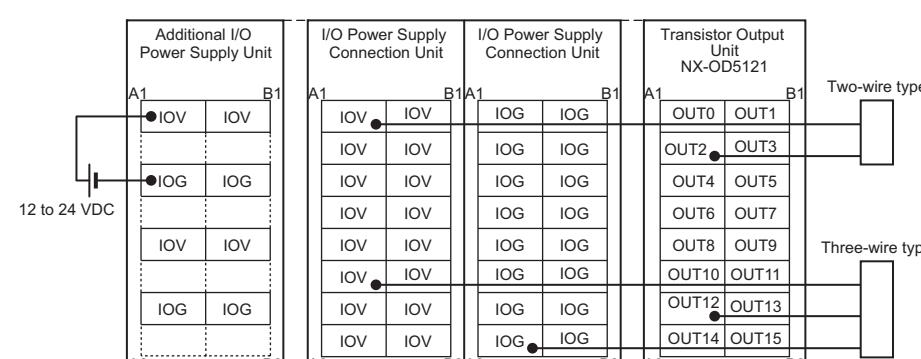
NX-OD4121

Unit name	Transistor Output Unit	Model	NX-OD4121		
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing				
Indicators	TS indicator, output indicator 	Internal I/O common	NPN		
		Rated voltage	12 to 24 VDC		
		Operating load voltage range	10.2 to 28.8 VDC		
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max.		
NX Unit power consumption	<ul style="list-style-type: none"> 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					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

NX-OD4256

Unit name	Transistor Output Unit	Model	NX-OD4256
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator OD4256 ■ TS 0 1 2 3 4 5 6 7	Internal I/O common PNP Rated voltage 24 VDC Operating load voltage range 15 to 28.8 VDC 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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOG: 0.5 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

NX-OD5121

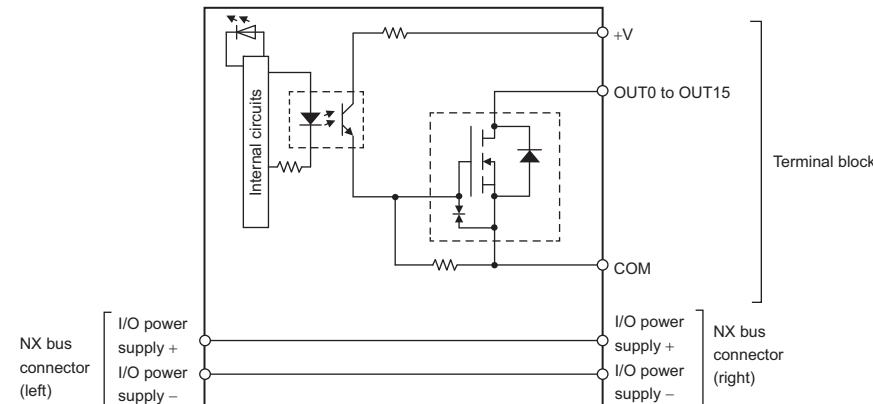
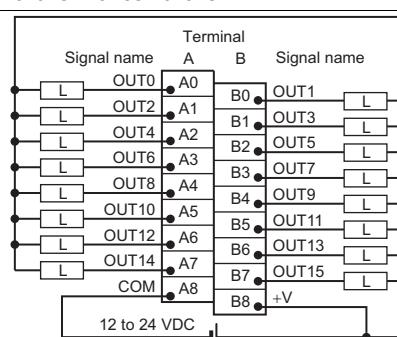
Unit name	Transistor Output Unit	Model	NX-OD5121		
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing				
Indicators	TS indicator, output indicator 	Internal I/O common	NPN		
		Rated voltage	12 to 24 VDC		
		Operating load voltage range	10.2 to 28.8 VDC		
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.00 W max. Connected to a Communications Coupler Unit 0.65 W max. 	I/O current consumption	20 mA max.		
Weight	70 g max.				
Circuit layout					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

NX-OD5256

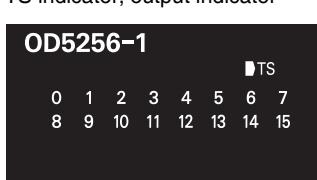
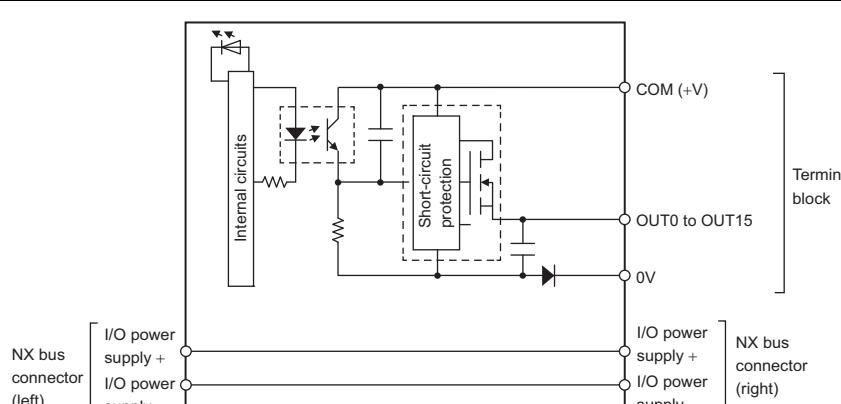
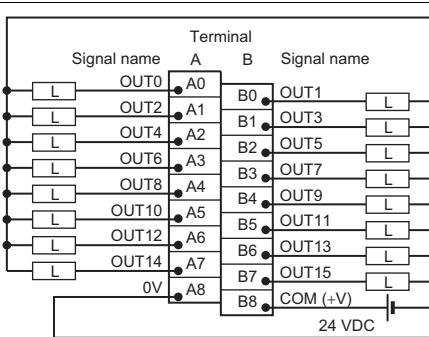
Unit name	Transistor Output Unit	Model	NX-OD5256		
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing				
Indicators	TS indicator, output indicator OD5256 ■ TS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Internal I/O common	PNP		
		Rated voltage	24 VDC		
		Operating load voltage range	15 to 28.8 VDC		
		Maximum value of load current	0.5 A/point, 4 A/Unit		
		Maximum inrush current	4.0 A/point, 10 ms max.		
		Leakage current	0.1 mA max.		
		Residual voltage	1.5 V max.		
		ON/OFF response time	0.5 ms max./1.0 ms max.		
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation		
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	<ul style="list-style-type: none"> 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	<p>The circuit diagram illustrates the internal logic of the NX-OD5256. It features a central logic section with various transistors and resistors. On the left, there's a vertical column labeled 'Internal circuits'. On the right, there's a section labeled 'Short-circuit protection' with a diode and a resistor. The logic is connected to an 'I/O power supply' section at the bottom, which is further connected to an 'I/O power supply connector' (left) and an 'NX bus connector (right)'. The output section on the right connects to 'OUT0 to OUT15 Terminal block'.</p>				
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram	<p>The terminal connection diagram details the wiring for the NX-OD5256. It shows how the unit is connected to an additional I/O power supply unit and two I/O power supply connection units. The connections are organized into four main sections: 'Additional I/O Power Supply Unit', 'I/O Power Supply Connection Unit', 'I/O Power Supply Connection Unit', and 'Transistor Output Unit NX-OD5256'. The 'Additional I/O Power Supply Unit' provides 24 VDC power and 8 IOV and IOG signals. The 'I/O Power Supply Connection Unit' and 'I/O Power Supply Connection Unit' provide 8 IOV and IOG signals. The 'Transistor Output Unit NX-OD5256' provides 16 output channels (OUT0 to OUT15). The diagram also indicates 'Two-wire type' and 'Three-wire type' connection options for the output terminals.</p>				
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.		

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

NX-OD5121-1

Unit name	Transistor Output Unit	Model	NX-OD5121-1
Number of points	16 points	External connection terminals	M3 screw terminal block (18 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator 	Internal I/O common	NPN
		Rated voltage	12 to 24 VDC
		Operating load voltage range	10.2 to 28.8 VDC
		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 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-OD5256-1

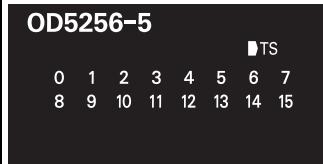
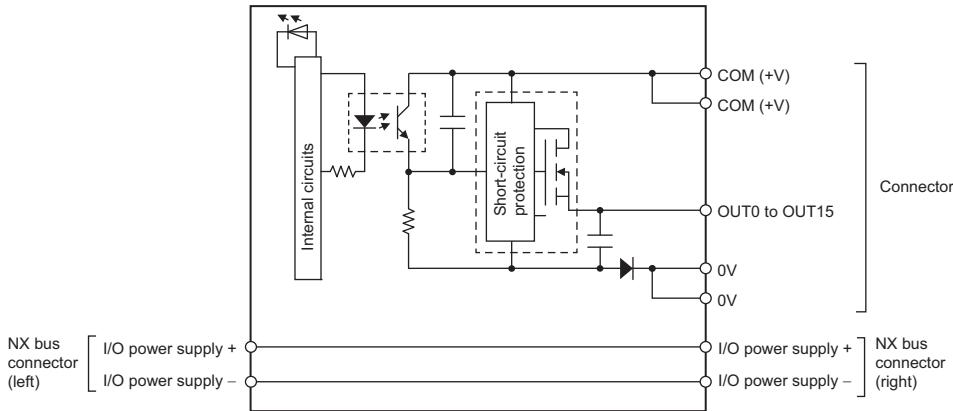
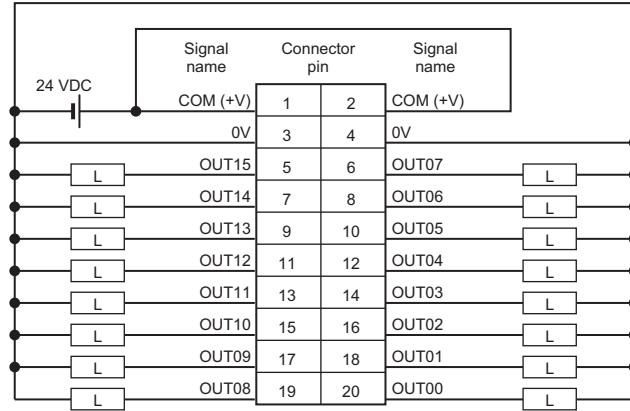
Unit name	Transistor Output Unit	Model	NX-OD5256-1		
Number of points	16 points	External connection terminals	M3 screw terminal block (18 terminals)		
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing				
Indicators		Internal I/O common	PNP		
		Rated voltage	24 VDC		
		Operating load voltage range	20.4 to 28.8 VDC		
		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 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	<ul style="list-style-type: none"> 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					
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram					
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.		

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

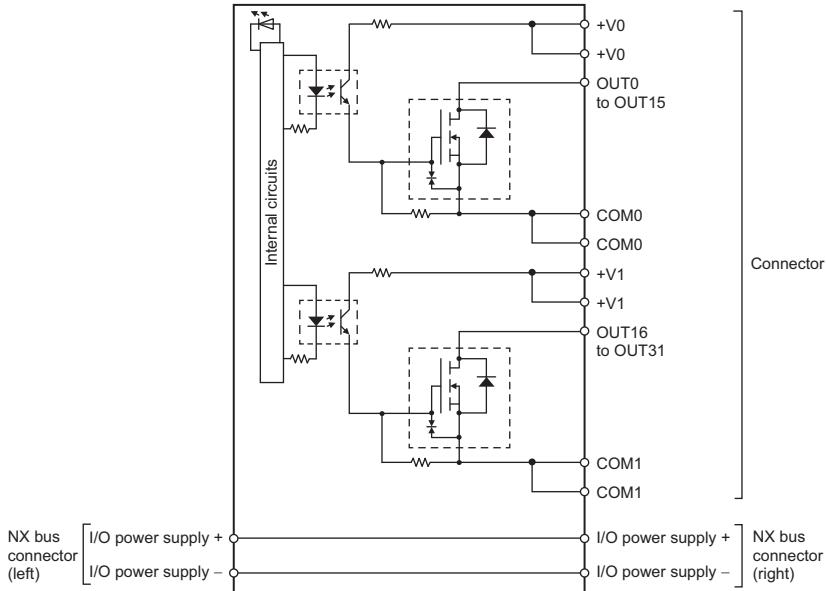
NX-OD5121-5

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-Run refreshing																																																																	
Indicators	TS indicator, output indicator OD5121-5 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Internal I/O common	NPN																																																															
		Rated voltage	12 to 24 VDC																																																															
		Operating load voltage range	10.2 to 28.8 VDC																																																															
		Maximum value of load current	0.5 A/point, 2 A/Unit																																																															
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		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	<ul style="list-style-type: none"> 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																																																																		
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>																																																																	
Terminal connection diagram	<table border="1"> <thead> <tr> <th>Signal name</th> <th>Connector pin</th> <th>Signal name</th> </tr> </thead> <tbody> <tr> <td>+V</td> <td>1</td> <td>+V</td> </tr> <tr> <td>COM</td> <td>2</td> <td>COM</td> </tr> <tr> <td>OUT15</td> <td>3</td> <td>COM</td> </tr> <tr> <td>L</td> <td>4</td> <td>OUT15</td> </tr> <tr> <td>OUT14</td> <td>5</td> <td>OUT07</td> </tr> <tr> <td>L</td> <td>6</td> <td>OUT07</td> </tr> <tr> <td>OUT13</td> <td>7</td> <td>OUT06</td> </tr> <tr> <td>L</td> <td>8</td> <td>OUT06</td> </tr> <tr> <td>OUT12</td> <td>9</td> <td>OUT05</td> </tr> <tr> <td>L</td> <td>10</td> <td>OUT05</td> </tr> <tr> <td>OUT11</td> <td>11</td> <td>OUT04</td> </tr> <tr> <td>L</td> <td>12</td> <td>OUT04</td> </tr> <tr> <td>OUT10</td> <td>13</td> <td>OUT03</td> </tr> <tr> <td>L</td> <td>14</td> <td>OUT03</td> </tr> <tr> <td>OUT09</td> <td>15</td> <td>OUT02</td> </tr> <tr> <td>L</td> <td>16</td> <td>OUT02</td> </tr> <tr> <td>OUT08</td> <td>17</td> <td>OUT01</td> </tr> <tr> <td>L</td> <td>18</td> <td>OUT01</td> </tr> <tr> <td>OUT00</td> <td>19</td> <td>OUT00</td> </tr> <tr> <td>L</td> <td>20</td> <td>OUT00</td> </tr> </tbody> </table> <p>• Be sure to wire both pins 3 and 4 (COM). • Be sure to wire both pins 1 and 2 (+V).</p>			Signal name	Connector pin	Signal name	+V	1	+V	COM	2	COM	OUT15	3	COM	L	4	OUT15	OUT14	5	OUT07	L	6	OUT07	OUT13	7	OUT06	L	8	OUT06	OUT12	9	OUT05	L	10	OUT05	OUT11	11	OUT04	L	12	OUT04	OUT10	13	OUT03	L	14	OUT03	OUT09	15	OUT02	L	16	OUT02	OUT08	17	OUT01	L	18	OUT01	OUT00	19	OUT00	L	20	OUT00
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Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.																																																															

NX-OD5256-5

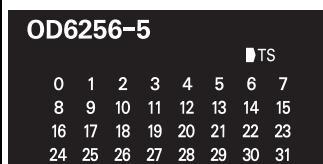
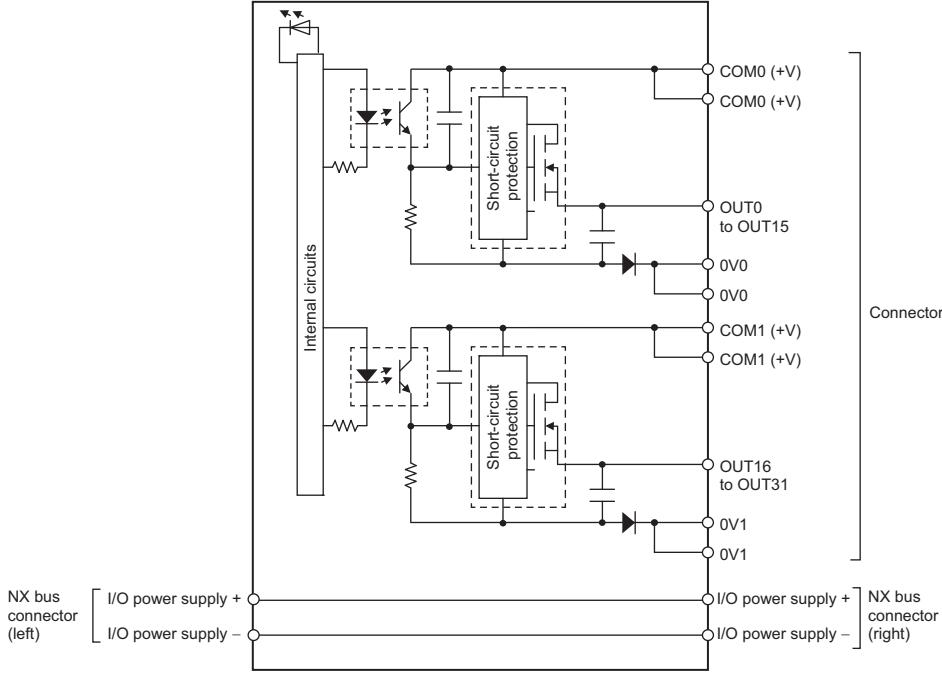
Unit name	Transistor Output Unit	Model	NX-OD5256-5
Number of points	16 points	External connection terminals	MIL connector (20 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator 	Internal I/O common	PNP
		Rated voltage	24 VDC
		Operating load voltage range	20.4 to 28.8 VDC
		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	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	Supplied from external source.	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> 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			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
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				
Indicators	TS indicator, output indicator 	Internal I/O common	NPN		
		Rated voltage	12 to 24 VDC		
		Operating load voltage range	10.2 to 28.8 VDC		
		Maximum value of load current	0.5 A/point, 2 A/common, 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	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	<ul style="list-style-type: none"> 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	 <p>Diagram illustrating the internal circuit layout of the NX-OD6121-5 Transistor Output Unit. The unit contains two sets of 16 outputs each, labeled OUT0 to OUT15 and OUT16 to OUT31. Each set is controlled by an internal circuit consisting of a diode and a switch. The outputs are connected to a common ground (COM0 or COM1). The power supply connections are labeled +V0, +V1, and I/O power supply + and -.</p>				
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				

Terminal connection diagram	<table border="1" data-bbox="516 213 1040 539"> <thead> <tr> <th>Signal name</th> <th>Connector pin</th> <th>Signal name</th> </tr> </thead> <tbody> <tr><td>+V1</td><td>1</td><td>+V1</td></tr> <tr><td>COM1</td><td>2</td><td></td></tr> <tr><td>OUT31</td><td>3</td><td>COM1</td></tr> <tr><td>OUT30</td><td>4</td><td></td></tr> <tr><td>OUT29</td><td>5</td><td>OUT23</td></tr> <tr><td>OUT28</td><td>6</td><td>OUT22</td></tr> <tr><td>OUT27</td><td>7</td><td>OUT21</td></tr> <tr><td>OUT26</td><td>8</td><td>OUT20</td></tr> <tr><td>OUT25</td><td>9</td><td>OUT19</td></tr> <tr><td>OUT24</td><td>10</td><td>OUT18</td></tr> <tr><td></td><td>11</td><td>OUT17</td></tr> <tr><td></td><td>12</td><td>OUT16</td></tr> <tr><td>+V0</td><td>13</td><td></td></tr> <tr><td>COM0</td><td>14</td><td></td></tr> <tr><td>OUT15</td><td>21</td><td>+V0</td></tr> <tr><td>OUT14</td><td>22</td><td></td></tr> <tr><td>OUT13</td><td>23</td><td>COM0</td></tr> <tr><td>OUT12</td><td>24</td><td></td></tr> <tr><td>OUT11</td><td>25</td><td>OUT07</td></tr> <tr><td>OUT10</td><td>26</td><td>OUT06</td></tr> <tr><td>OUT09</td><td>27</td><td>OUT05</td></tr> <tr><td>OUT08</td><td>28</td><td>OUT04</td></tr> <tr><td></td><td>29</td><td>OUT03</td></tr> <tr><td></td><td>30</td><td>OUT02</td></tr> <tr><td></td><td>31</td><td>OUT01</td></tr> <tr><td></td><td>32</td><td>OUT00</td></tr> <tr><td>12 to 24 VDC</td><td>35</td><td></td></tr> <tr><td></td><td>36</td><td></td></tr> <tr><td></td><td>37</td><td></td></tr> <tr><td></td><td>38</td><td></td></tr> <tr><td></td><td>39</td><td></td></tr> <tr><td></td><td>40</td><td></td></tr> </tbody> </table> <p>• Be sure to wire both pins 21 and 22 (+V0). • Be sure to wire both pins 23 and 24 (COM0). • Be sure to wire both pins 1 and 2 (+V1). • Be sure to wire both pins 3 and 4 (COM1).</p>	Signal name	Connector pin	Signal name	+V1	1	+V1	COM1	2		OUT31	3	COM1	OUT30	4		OUT29	5	OUT23	OUT28	6	OUT22	OUT27	7	OUT21	OUT26	8	OUT20	OUT25	9	OUT19	OUT24	10	OUT18		11	OUT17		12	OUT16	+V0	13		COM0	14		OUT15	21	+V0	OUT14	22		OUT13	23	COM0	OUT12	24		OUT11	25	OUT07	OUT10	26	OUT06	OUT09	27	OUT05	OUT08	28	OUT04		29	OUT03		30	OUT02		31	OUT01		32	OUT00	12 to 24 VDC	35			36			37			38			39			40		Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.
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NX-OD6256-5

Unit name	Transistor Output Unit	Model	NX-OD6256-5		
Number of points	32 points	External connection terminals	MIL connector (40 terminals)		
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing				
Indicators	TS indicator, output indicator 	Internal I/O common	PNP		
		Rated voltage	24 VDC		
		Operating load voltage range	20.4 to 28.8 VDC		
		Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit		
		Maximum inrush current	4.0 A/point, 10 ms max.		
		Leakage current	0.1 mA max.		
		Residual voltage	1.5 V max.		
		ON/OFF response time	0.5 ms max./1.0 ms max.		
Dimensions	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	<ul style="list-style-type: none"> 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	 <p>The diagram illustrates the internal circuitry of the NX-OD6256-5 module. It shows two sets of 16 outputs each, labeled OUT0 to OUT15 and OUT16 to OUT31. Each set is controlled by a pair of inputs: COM0 (+V) and COM1 (+V). Between these two sets, there are two ground connections labeled 0V0 and 0V1. The module also features two short-circuit protection circuits, one for each set of outputs. At the bottom, there are two power supply connectors: one on the left labeled 'I/O power supply +' and 'I/O power supply -', and one on the right labeled 'I/O power supply +' and 'I/O power supply -'. The entire assembly is labeled 'Internal circuits' and 'Connector'.</p>				
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				

Terminal connection diagram	<table border="1"> <thead> <tr> <th>Signal name</th><th colspan="2">Connector pin</th><th>Signal name</th></tr> <tr> <td>COM1 (+V)</td><td>1</td><td>2</td><td>COM1 (+V)</td></tr> </thead> <tbody> <tr><td>0V1</td><td>3</td><td>4</td><td>0V1</td></tr> <tr><td>OUT31</td><td>5</td><td>6</td><td>OUT23</td></tr> <tr><td>OUT30</td><td>7</td><td>8</td><td>OUT22</td></tr> <tr><td>OUT29</td><td>9</td><td>10</td><td>OUT21</td></tr> <tr><td>OUT28</td><td>11</td><td>12</td><td>OUT20</td></tr> <tr><td>OUT27</td><td>13</td><td>14</td><td>OUT19</td></tr> <tr><td>OUT26</td><td>15</td><td>16</td><td>OUT18</td></tr> <tr><td>OUT25</td><td>17</td><td>18</td><td>OUT17</td></tr> <tr><td>OUT24</td><td>19</td><td>20</td><td>OUT16</td></tr> <tr><td>COM0 (+V)</td><td>21</td><td>22</td><td>COM0 (+V)</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>0V0</th><th>23</th><th>24</th><th>0V0</th></tr> </thead> <tbody> <tr><td>OUT15</td><td>25</td><td>26</td><td>OUT07</td></tr> <tr><td>OUT14</td><td>27</td><td>28</td><td>OUT06</td></tr> <tr><td>OUT13</td><td>29</td><td>30</td><td>OUT05</td></tr> <tr><td>OUT12</td><td>31</td><td>32</td><td>OUT04</td></tr> <tr><td>OUT11</td><td>33</td><td>34</td><td>OUT03</td></tr> <tr><td>OUT10</td><td>35</td><td>36</td><td>OUT02</td></tr> <tr><td>OUT09</td><td>37</td><td>38</td><td>OUT01</td></tr> <tr><td>OUT08</td><td>39</td><td>40</td><td>OUT00</td></tr> </tbody> </table> <p> • Be sure to wire both pins 21 and 22 (COM0 (+V)). • Be sure to wire both pins 1 and 2 (COM1 (+V)). • Be sure to wire both pins 23 and 24 (0V0). • Be sure to wire both pins 3 and 4 (0V1). </p>	Signal name	Connector pin		Signal name	COM1 (+V)	1	2	COM1 (+V)	0V1	3	4	0V1	OUT31	5	6	OUT23	OUT30	7	8	OUT22	OUT29	9	10	OUT21	OUT28	11	12	OUT20	OUT27	13	14	OUT19	OUT26	15	16	OUT18	OUT25	17	18	OUT17	OUT24	19	20	OUT16	COM0 (+V)	21	22	COM0 (+V)	0V0	23	24	0V0	OUT15	25	26	OUT07	OUT14	27	28	OUT06	OUT13	29	30	OUT05	OUT12	31	32	OUT04	OUT11	33	34	OUT03	OUT10	35	36	OUT02	OUT09	37	38	OUT01	OUT08	39	40	OUT00			
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Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.																																																																																					

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

NX-OD6121-6

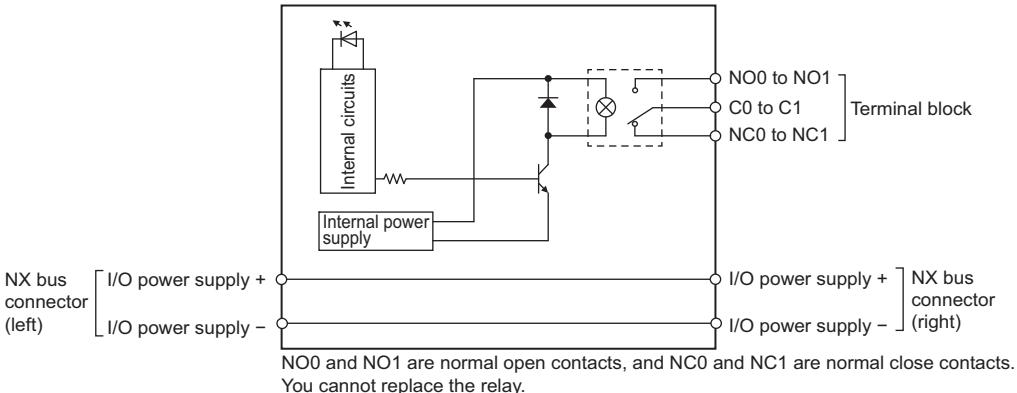
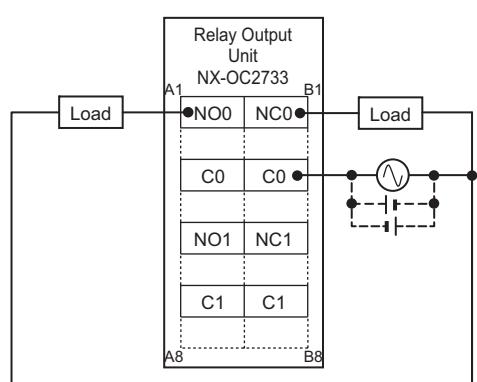
Unit name	Transistor Output Unit	Model	NX-OD6121-6																																																																																				
Number of points	32 points	External connection terminals	Fujitsu connector (40 terminals)																																																																																				
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing																																																																																						
Indicators	TS indicator, output indicator OD6121-6 ■ TS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Internal I/O common NPN Rated voltage 12 to 24 VDC Operating load voltage range 10.2 to 28.8 VDC Maximum value of load current 0.5 A/point, 2 A/common, 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	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	<ul style="list-style-type: none"> 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.																																																																																				
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Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.																																																																																				

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

Unit name	Relay Output Units	Model	NX-OC2633		
Number of points	2 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)		
I/O refreshing method	Free-Run refreshing	Relay type	N.O. contact		
Indicators	TS indicator, output indicator 	Maximum switching capacity	250 VAC/2 A ($\cos\phi = 1$), 250 VAC/2 A ($\cos\phi = 0.4$), 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 MΩ min. (500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (500 VDC) Between the internal circuit and GR terminal: 20 MΩ min. (100 VDC) Between the external terminals and GR terminal: 20 MΩ 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 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/s ² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s ² , 3 times each in X, Y, and Z directions		
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	<ul style="list-style-type: none"> 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	<p>The diagram illustrates the internal circuitry of the NX-OC2633. It features two sets of relay contacts (labeled 0 to 1 and C0 to C1) connected to an internal power supply. These contacts are also connected to external I/O power supplies (+ and -) via NX bus connectors (left and right). A warning note states: "You cannot replace the relay."</p>				
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>				
Terminal connection diagram	<p>The diagram shows the physical terminal connections for the NX-OC2633. Two loads are connected to terminals A1, B1, A3, and B3. The terminal block is labeled with 0, C0, 1, C1, NC, and NC. A note indicates: "You cannot replace the relay."</p>				
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

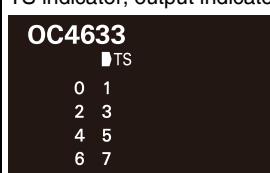
* Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

NX-OC2733

Unit name	Relay Output Unit	Model	NX-OC2733		
Number of points	2 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)		
I/O refreshing method	Free-Run refreshing				
Indicators	TS indicator, output indicator 	Maximum switching capacity	250 VAC/2 A ($\cos\phi = 1$), 250 VAC/2 A ($\cos\phi = 0.4$), 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 MΩ min. (at 500 VDC) Between the external terminals and functional ground terminal: 20 MΩ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 MΩ min. (at 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	<ul style="list-style-type: none"> 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	 <p>NO0 and NO1 are normal open contacts, and NC0 and NC1 are normal close contacts. You cannot replace the relay.</p>				
Installation orientation and restrictions	Installation orientation: <ul style="list-style-type: none"> 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					
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.		

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

NX-OC4633

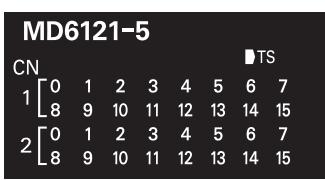
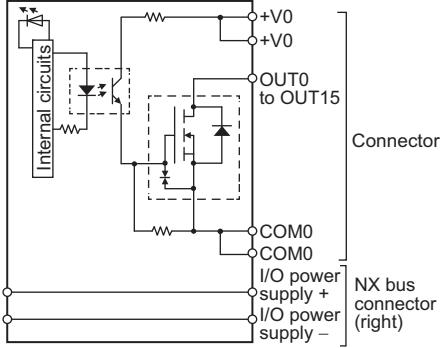
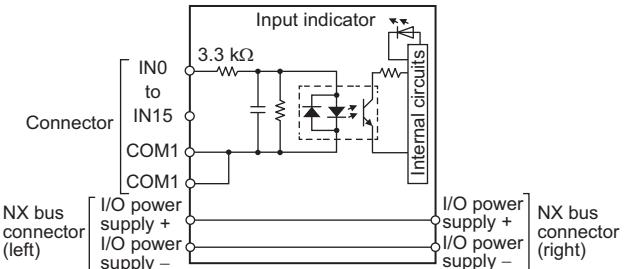
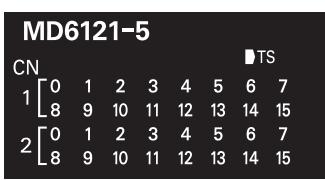
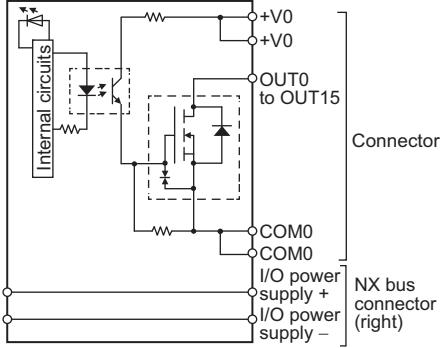
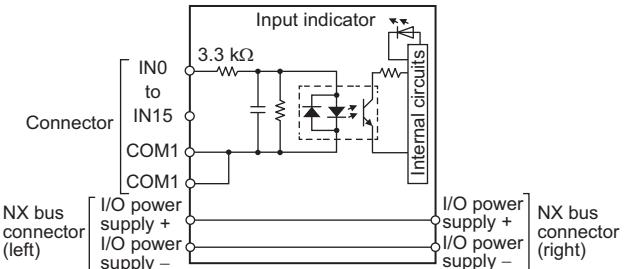
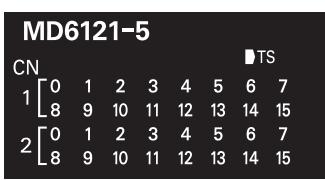
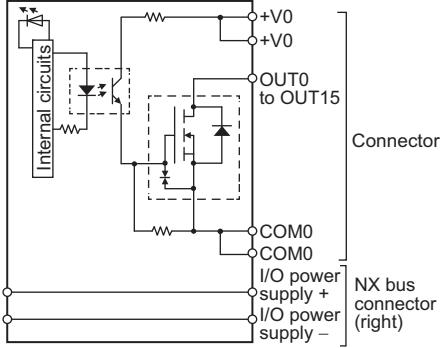
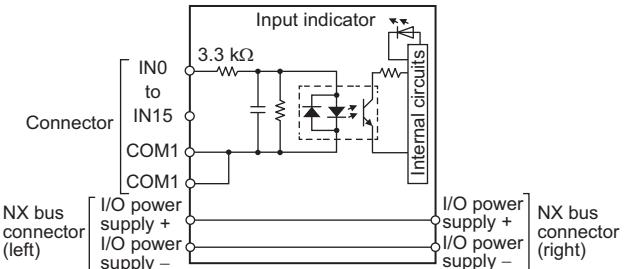
Unit name	Relay Output Unit	Model	NX-OC4633
Number of points	8 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals x 2)
I/O refreshing method	Free-Run refreshing		
Indicators	TS indicator, output indicator 	Relay type	N.O. contact
	Maximum switching capacity	250 VAC/2 A ($\cos\phi = 1$), 250 VAC/2 A ($\cos\phi = 0.4$), 24 VDC/2 A, 8 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	24 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation
Insulation resistance	Between output bits: 20 MΩ min. (at 500 VDC) Between the external terminals and the functional ground terminal: 20 MΩ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 MΩ min. (at 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 ² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s ² , 3 times each in X, Y, and Z directions
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> 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	<p>You cannot replace the relay.</p>		

Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: As shown in the following.</p> <p style="text-align: center;">Output current/Unit - (A) Ambient temperature characteristics</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>Output current (A)</th> </tr> </thead> <tbody> <tr><td>0</td><td>8</td></tr> <tr><td>45</td><td>8</td></tr> <tr><td>55</td><td>4</td></tr> <tr><td>60</td><td>0</td></tr> </tbody> </table>	Ambient temperature (°C)	Output current (A)	0	8	45	8	55	4	60	0
Ambient temperature (°C)	Output current (A)										
0	8										
45	8										
55	4										
60	0										
Terminal connection diagram											

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

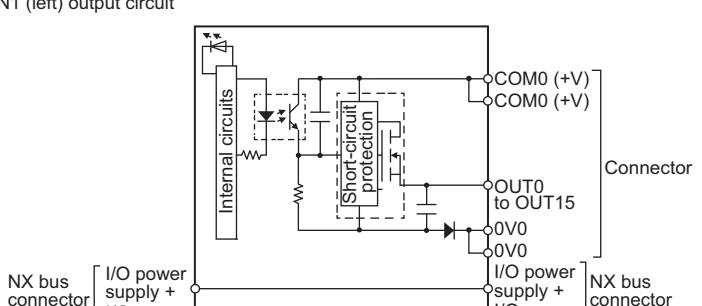
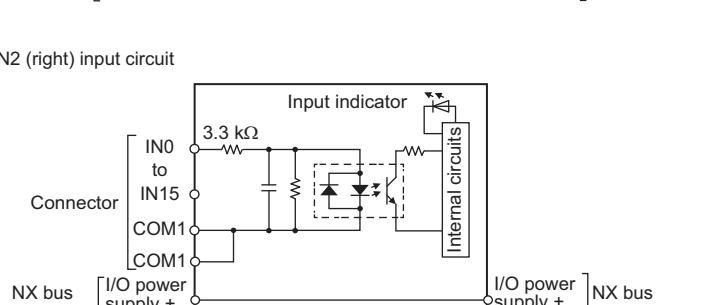
● DC Input/Transistor Output Unit (MIL Connector, 30 mm Width)

NX-MD6121-5

Unit name	DC Input/Transistor Output Unit	Model	NX-MD6121-5																																																						
Number of points	16 inputs/16 outputs	External connection terminals	2 MIL connectors (20 terminals)																																																						
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing																																																								
Output section (CN1)	Internal I/O common	NPN	Input section (CN2) <table border="1"> <tr> <td>Internal I/O common</td><td>For both NPN/PNP</td></tr> <tr> <td>Rated input voltage</td><td>24 VDC (15 to 28.8 VDC)</td></tr> <tr> <td>Input current</td><td>7 mA typical (at 24 VDC)</td></tr> <tr> <td>ON voltage/ON current</td><td>15 VDC min./3 mA min. (between COM and each signal)</td></tr> <tr> <td>OFF voltage/OFF current</td><td>5 VDC max./1 mA max. (between COM and each signal)</td></tr> <tr> <td>ON/OFF response time</td><td>20 µs max./400 µs max.</td></tr> <tr> <td>Input filter time</td><td>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</td></tr> <tr> <td colspan="2">TS indicator, I/O indicators</td></tr> <tr> <td colspan="2">  </td><td></td></tr> <tr> <td rowspan="9">Indicators</td><td>Dimensions</td><td colspan="2">30 (W) x 100 (H) x 71 (D)</td></tr> <tr> <td>Isolation method</td><td colspan="2">Photocoupler isolation</td></tr> <tr> <td>Insulation resistance</td><td colspan="2">20 MΩ min. between isolated circuits (at 100 VDC)</td></tr> <tr> <td>Dielectric strength</td><td colspan="2">510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.</td></tr> <tr> <td>I/O power supply method</td><td colspan="2">Supply from external source</td></tr> <tr> <td>Current capacity of I/O power supply terminal</td><td colspan="2">Without I/O power supply terminals</td></tr> <tr> <td colspan="2">NX Unit power consumption</td><td> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max. </td></tr> <tr> <td>Current consumption from I/O power supply</td><td colspan="2">30 mA max.</td></tr> <tr> <td>Weight</td><td colspan="2" rowspan="3">105 g max.</td></tr> <tr> <td rowspan="2">Circuit layout</td><td colspan="3"> CN1 (left) output circuit  </td></tr> <tr> <td colspan="3"> CN2 (right) input circuit  </td></tr> </table>	Internal I/O common	For both NPN/PNP	Rated input voltage	24 VDC (15 to 28.8 VDC)	Input current	7 mA typical (at 24 VDC)	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)	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	TS indicator, I/O indicators					Indicators	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		<ul style="list-style-type: none"> 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 			CN2 (right) input circuit 		
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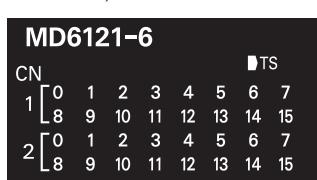
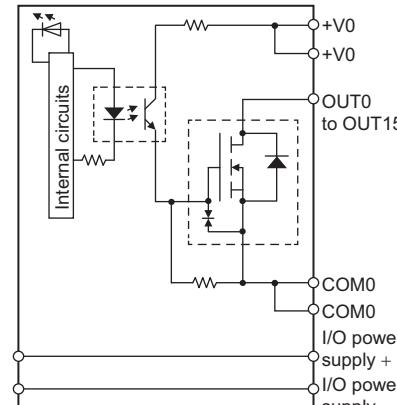
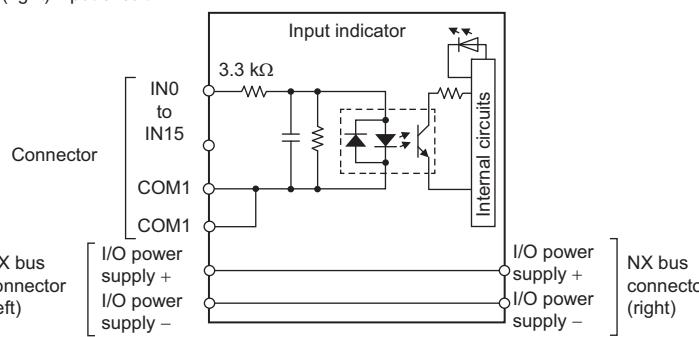
NX-MD6256-5

Unit name	DC Input/Transistor Output Unit	Model	NX-MD6256-5	
Number of points	16 inputs/16 outputs	External connection terminals	2 MIL connectors (20 terminals)	
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing			
Output section (CN1)	Internal I/O common	PNP	Internal I/O common	For both NPN/PNP
	Rated voltage	24 VDC	Rated input voltage	24 VDC (15 to 28.8 VDC)
	Operating load voltage range	20.4 to 28.8 VDC	Input current	7 mA typical (at 24 VDC)
	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.	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.	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
	ON/OFF response time	0.5 ms max./1.0 ms max.		
Indicators	TS indicator, I/O indicators			Dimensions 30 (W) x 100 (H) x 71 (D)
	 <p>MD6256-5 CN 1 [0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 2 [0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>			Isolation method Photocoupler isolation
				Insulation resistance 20 MΩ min. between isolated circuits (at 1000 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
				<ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.10 W max. Connected to a Communications Coupler Unit 0.75 W max.
				NX Unit power consumption
				Current consumption from I/O power supply 40 mA max.
				Weight 110 g max.
Circuit layout	CN1 (left) output circuit			 <p>The diagram shows the internal circuitry for the CN1 (left) output. It includes an 'Internal circuits' block, a 'Short-circuit protection' section with diodes, and connections to 'COM0 (+V)', 'COM0 (-V)', 'OUT0 to OUT15', '0V0', and 'I/O power supply +/I/O power supply -'. The circuit is powered by an 'NX bus connector (left)' and an 'I/O power supply +/I/O power supply -' connection.</p>
	CN2 (right) input circuit			 <p>The diagram shows the internal circuitry for the CN2 (right) input. It includes an 'Internal circuits' block, a 'Short-circuit protection' section with diodes, and connections to 'IN0 to IN15', 'COM1', 'I/O power supply +/I/O power supply -', and an 'Input indicator'. The circuit is powered by an 'NX bus connector (left)' and an 'I/O power supply +/I/O power supply -' connection.</p>

	<p>Installation orientation and restrictions</p> <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: As shown in the following.</p> <ul style="list-style-type: none"> For upright installation <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>28.8 V (ON points)</th> <th>24 V (ON points)</th> </tr> </thead> <tbody> <tr> <td>35</td> <td>16</td> <td>16</td> </tr> <tr> <td>45</td> <td>13</td> <td>13</td> </tr> <tr> <td>55</td> <td>9</td> <td>9</td> </tr> <tr> <td>40</td> <td>16</td> <td>16</td> </tr> </tbody> </table> <ul style="list-style-type: none"> For any installation other than upright <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>28.8 V (ON points)</th> <th>24 V (ON points)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>16</td> <td>16</td> </tr> <tr> <td>40</td> <td>16</td> <td>16</td> </tr> <tr> <td>55</td> <td>5</td> <td>5</td> </tr> <tr> <td>55</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Ambient temperature (°C)	28.8 V (ON points)	24 V (ON points)	35	16	16	45	13	13	55	9	9	40	16	16	Ambient temperature (°C)	28.8 V (ON points)	24 V (ON points)	25	16	16	40	16	16	55	5	5	55	3	3																																				
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45	13	13																																																																	
55	9	9																																																																	
40	16	16																																																																	
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Signal Connector name	pin	Signal name																																																																	
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OUT6	8 7	OUT14																																																																	
OUT7	6 5	OUT15																																																																	
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0V0	2 1	0V0																																																																	
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NC	1 2	NC																																																																	
COM1	3 4	COM1																																																																	
IN15	5 6	IN07																																																																	
IN14	7 8	IN06																																																																	
IN13	9 10	IN05																																																																	
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IN08	19 20	IN00																																																																	
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.																																																																

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

NX-MD6121-6

Unit name	DC Input/Transistor Output Unit	Model	NX-MD6121-6
Number of points	16 inputs/16 outputs	External connection terminals	2 Fujitsu connectors (24 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Output section (CN1)	Internal I/O common	NPN	Input section (CN2)
	Rated voltage	12 to 24 VDC	Internal I/O common For both NPN/PNP
	Operating load voltage range	10.2 to 28.8 VDC	Rated input voltage 24 VDC (15 to 28.8 VDC)
	Maximum value of load current	0.5 A/point, 2 A/Unit	Input current 7 mA typical (at 24 VDC)
	Maximum inrush current	4.0 A/point, 10 ms max.	ON voltage/ON current 15 VDC min./3 mA min. (between COM and each signal)
	Leakage current	0.1 mA max.	OFF voltage/OFF current 5 VDC max./1 mA max. (between COM and each signal)
	Residual voltage	1.5 V max.	ON/OFF response time 20 µs max./400 µs max.
	ON/OFF response time	0.1 ms max./0.8 ms max.	Input filter time No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Indicators	TS indicator, I/O indicators 		
	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 <ul style="list-style-type: none"> 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 95 g max.		
	CN1 (left) output circuit 		
	CN2 (right) input circuit 		

Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: As shown in the following.</p> <ul style="list-style-type: none"> For upright installation <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>16 points at 25°C</th> <th>16 points at 40°C</th> <th>16 points at 45°C</th> <th>13 points at 55°C</th> <th>9 points at 55°C</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> </tr> <tr> <td>40</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> </tr> <tr> <td>45</td> <td>16</td> <td>16</td> <td>16</td> <td>13</td> <td>13</td> </tr> <tr> <td>55</td> <td>9</td> <td>13</td> <td>16</td> <td>13</td> <td>9</td> </tr> <tr> <td>60</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table> <ul style="list-style-type: none"> For any installation other than upright <p>Number of simultaneously ON input points vs. Ambient temperature characteristic</p> <table border="1"> <thead> <tr> <th>Ambient temperature (°C)</th> <th>16 points at 25°C</th> <th>16 points at 40°C</th> <th>16 points at 45°C</th> <th>5 points at 55°C</th> <th>3 points at 55°C</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> </tr> <tr> <td>40</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> </tr> <tr> <td>45</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> <td>16</td> </tr> <tr> <td>55</td> <td>3</td> <td>5</td> <td>16</td> <td>5</td> <td>3</td> </tr> <tr> <td>60</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Ambient temperature (°C)	16 points at 25°C	16 points at 40°C	16 points at 45°C	13 points at 55°C	9 points at 55°C	25	16	16	16	16	16	40	16	16	16	16	16	45	16	16	16	13	13	55	9	13	16	13	9	60	0	0	0	0	0	Ambient temperature (°C)	16 points at 25°C	16 points at 40°C	16 points at 45°C	5 points at 55°C	3 points at 55°C	25	16	16	16	16	16	40	16	16	16	16	16	45	16	16	16	16	16	55	3	5	16	5	3	60	0	0	0	0	0
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Terminal connection diagram	<p>CN1 (left) output terminal</p> <table border="1"> <thead> <tr> <th>Signal name</th><th>Connector pin</th><th>Signal name</th></tr> <tr> <th>B</th><th>A</th><th></th></tr> </thead> <tbody> <tr> <td>NC</td><td>B12 A12</td><td>NC</td></tr> <tr> <td>NC</td><td>B11 A11</td><td>NC</td></tr> <tr> <td>+V0</td><td>B10 A10</td><td>+V0</td></tr> <tr> <td>COM0</td><td>B9 A9</td><td>COM0</td></tr> <tr> <td>OUT15</td><td>B8 A8</td><td>OUT7 L</td></tr> <tr> <td>OUT14</td><td>B7 A7</td><td>OUT6 L</td></tr> <tr> <td>OUT13</td><td>B6 A6</td><td>OUT5 L</td></tr> <tr> <td>OUT12</td><td>B5 A5</td><td>OUT4 L</td></tr> <tr> <td>OUT11</td><td>B4 A4</td><td>OUT3 L</td></tr> <tr> <td>OUT10</td><td>B3 A3</td><td>OUT2 L</td></tr> <tr> <td>OUT9</td><td>B2 A2</td><td>OUT1 L</td></tr> <tr> <td>OUT8</td><td>B1 A1</td><td>OUT0 L</td></tr> </tbody> </table> <p>12 to 24 VDC</p> <ul style="list-style-type: none"> • Be sure to wire both pins A9 and B9 (COM0) of CN1. • Be sure to wire both pins A10 and B10 (+V0) of CN1. 	Signal name	Connector pin	Signal name	B	A		NC	B12 A12	NC	NC	B11 A11	NC	+V0	B10 A10	+V0	COM0	B9 A9	COM0	OUT15	B8 A8	OUT7 L	OUT14	B7 A7	OUT6 L	OUT13	B6 A6	OUT5 L	OUT12	B5 A5	OUT4 L	OUT11	B4 A4	OUT3 L	OUT10	B3 A3	OUT2 L	OUT9	B2 A2	OUT1 L	OUT8	B1 A1	OUT0 L
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OUT10	B3 A3	OUT2 L																																									
OUT9	B2 A2	OUT1 L																																									
OUT8	B1 A1	OUT0 L																																									
<p>CN2 (right) input terminal</p> <table border="1"> <thead> <tr> <th>Signal name</th> <th>Connector pin</th> <th>Signal name</th> </tr> <tr> <th>A</th> <th>B</th> <th></th> </tr> </thead> <tbody> <tr> <td>IN0</td> <td>A1 B1</td> <td>IN8</td> </tr> <tr> <td>IN1</td> <td>A2 B2</td> <td>IN9</td> </tr> <tr> <td>IN2</td> <td>A3 B3</td> <td>IN10</td> </tr> <tr> <td>IN3</td> <td>A4 B4</td> <td>IN11</td> </tr> <tr> <td>IN4</td> <td>A5 B5</td> <td>IN12</td> </tr> <tr> <td>IN5</td> <td>A6 B6</td> <td>IN13</td> </tr> <tr> <td>IN6</td> <td>A7 B7</td> <td>IN14</td> </tr> <tr> <td>IN7</td> <td>A8 B8</td> <td>IN15</td> </tr> <tr> <td>COM1</td> <td>A9 B9</td> <td>COM1</td> </tr> <tr> <td>NC</td> <td>A10 B10</td> <td>NC</td> </tr> <tr> <td>NC</td> <td>A11 B11</td> <td>NC</td> </tr> <tr> <td>NC</td> <td>A12 B12</td> <td>NC</td> </tr> </tbody> </table> <p>24 VDC</p> <ul style="list-style-type: none"> • The polarity of the input power supply of CN2 can be connected in either direction. • Be sure to wire both pins A9 and B9 (COM1) of CN2, and set the same polarity for both pins. 	Signal name	Connector pin	Signal name	A	B		IN0	A1 B1	IN8	IN1	A2 B2	IN9	IN2	A3 B3	IN10	IN3	A4 B4	IN11	IN4	A5 B5	IN12	IN5	A6 B6	IN13	IN6	A7 B7	IN14	IN7	A8 B8	IN15	COM1	A9 B9	COM1	NC	A10 B10	NC	NC	A11 B11	NC	NC	A12 B12	NC	
Signal name	Connector pin	Signal name																																									
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COM1	A9 B9	COM1																																									
NC	A10 B10	NC																																									
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NC	A12 B12	NC																																									

Disconnection/Short-circuit detection

Not supported.

Protective function

Not supported.

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			
NX-ID4442			
NX-ID5142-1			
NX-ID5142-5			
NX-ID5342			
NX-ID5442			
NX-ID6142-5			
NX-ID6142-6			
NX-IA3117			
NX-OD2154			
NX-OD2258			
NX-OD3121			
NX-OD3153			
NX-OD3256	Ver.1.0	Ver.1.13	Ver.1.17
NX-OD3257			
NX-OD3268			
NX-OD4121			
NX-OD4256			
NX-OD5121			
NX-OD5121-1			
NX-OD5121-5			
NX-OD5256			
NX-OD5256-1			
NX-OD5256-5			
NX-OD6121-5			
NX-OD6121-6			
NX-OD6256-5			
NX-OC2633			
NX-OC2733			
NX-OC4633			
NX-MD6121-5			
NX-MD6121-6			
NX-MD6256-5			

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.1.0	Ver.1.05	Ver.1.06
NX-ID3343		Ver.1.1	Ver.1.06 *	Ver.1.07
NX-ID3344		Ver.1.0	Ver.1.05	Ver.1.06
NX-ID3417		Ver.1.1	Ver.1.06 *	Ver.1.07
NX-ID3443		Ver.1.0	Ver.1.05	Ver.1.06
NX-ID3444				Ver.1.13
NX-ID4342				Ver.1.10
NX-ID4442				Ver.1.06
NX-ID5142-1				Ver.1.10
NX-ID5142-5				Ver.1.13
NX-ID5342				Ver.1.06
NX-ID5442				Ver.1.08
NX-ID6142-5				Ver.1.10
NX-ID6142-6				Ver.1.13
NX-IA3117				Ver.1.07
NX-OD2154	Ver.1.0	Ver.1.1	Ver.1.06 *	Ver.1.07
NX-OD2258		Ver.1.0	Ver.1.05	Ver.1.06
NX-OD3121				Ver.1.13
NX-OD3153				Ver.1.06
NX-OD3256				Ver.1.10
NX-OD3257				Ver.1.06
NX-OD3268				Ver.1.13
NX-OD4121				Ver.1.06
NX-OD4256				Ver.1.13
NX-OD5121				Ver.1.10
NX-OD5121-1		Ver.1.0	Ver.1.05	Ver.1.10
NX-OD5121-5				Ver.1.06
NX-OD5256				Ver.1.06
NX-OD5256-1				Ver.1.13
NX-OD5256-5				Ver.1.10
NX-OD6121-5	Ver.1.0	Ver.1.0	Ver.1.05	Ver.1.13
NX-OD6121-6				Ver.1.10
NX-OD6256-5				Ver.1.10
NX-OC2633				Ver.1.06
NX-OC2733				Ver.1.08
NX-OC4633				Ver.1.17
NX-MD6121-5	Ver.1.0	Ver.1.0	Ver.1.05	Ver.1.10
NX-MD6121-6				Ver.1.13
NX-MD6256-5				Ver.1.10

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

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

Connected to an EtherNet/IP Coupler Unit

NX Unit		Corresponding unit versions/versions					
Model	Unit version	Application with an NJ/NX/NY-series Controller *1			Application with a CS/CJ/CP-series PLC *2		
		EtherNet/IP Coupler Unit	CPU Unit or Industrial PC	Sysmac Studio	EtherNet/IP Coupler Unit	Sysmac Studio	NX-IO Configurator *3
NX-ID3317	Ver. 1.0	Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00
NX-ID3343		---	---	---	---	---	---
NX-ID3344		Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00
NX-ID3417		---	---	---	---	---	---
NX-ID3443		Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00
NX-ID3444		---	---	---	---	---	---
NX-ID4342		Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00
NX-ID4442						Ver. 1.13	
NX-ID5142-1						Ver. 1.10	
NX-ID5142-5						Ver. 1.13	
NX-ID5342						Ver. 1.10	
NX-ID5442	Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.0	Ver. 1.10	Ver. 1.00
NX-ID6142-5						Ver. 1.13	
NX-ID6142-6						Ver. 1.10	
NX-IA3117						Ver. 1.10	
NX-OD2154						---	
NX-OD2258						---	
NX-OD3121						Ver. 1.10	
NX-OD3153						Ver. 1.13	
NX-OD3256						Ver. 1.10	
NX-OD3257						Ver. 1.13	
NX-OD3268						Ver. 1.10	
NX-OD4121						Ver. 1.13	
NX-OD4256						Ver. 1.10	
NX-OD5121						Ver. 1.13	
NX-OD5121-1						Ver. 1.10	
NX-OD5121-5						Ver. 1.13	
NX-OD5256						Ver. 1.10	
NX-OD5256-1						Ver. 1.13	
NX-OD5256-5						Ver. 1.10	
NX-OD6121-5						Ver. 1.13	
NX-OD6121-6						Ver. 1.10	
NX-OD6256-5						Ver. 1.13	
NX-OC2633						Ver. 1.10	
NX-OC2733						Ver. 1.17	
NX-OC4633						Ver. 1.10	
NX-MD6121-5						Ver. 1.13	
NX-MD6121-6						Ver. 1.10	
NX-MD6256-5						Ver. 1.10	

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

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

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

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

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

Connected to Communication Control Units

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

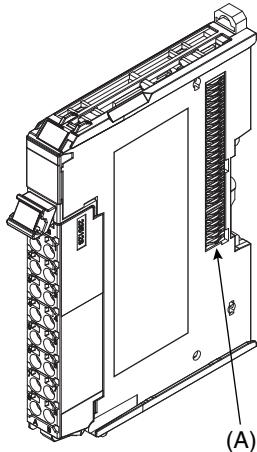
Note: 1. Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

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

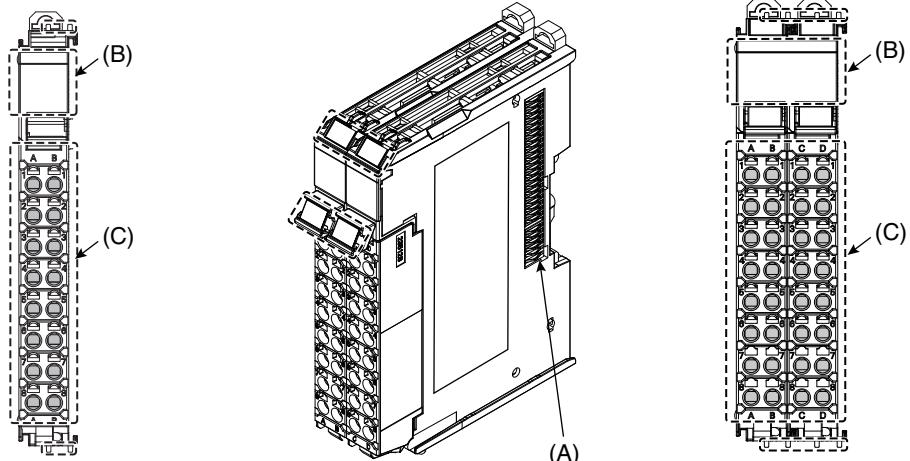
External Interface

Screwless Clamping Terminal Block Type

12 mm Width

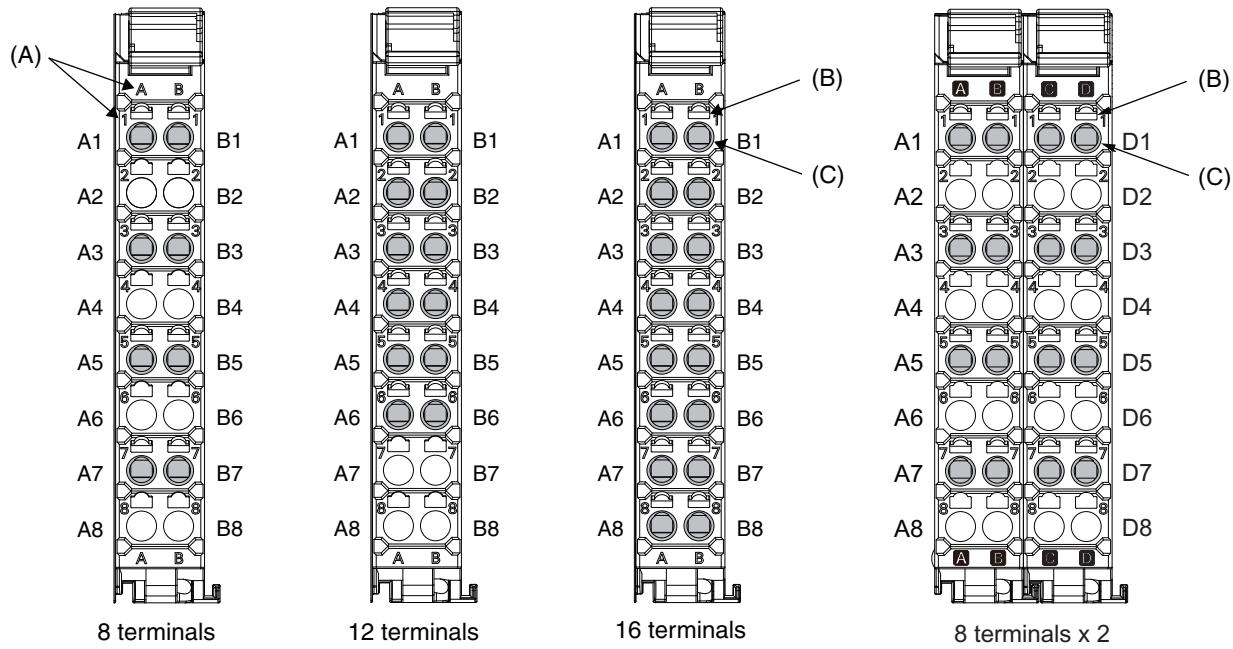


24 mm Width



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

Applicable Wires

Using Ferrules

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

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

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

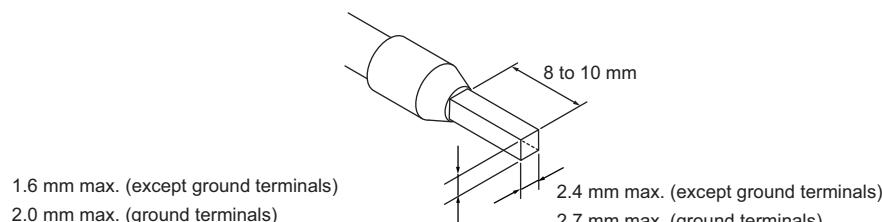
The applicable ferrules, wires, and crimping tools are listed in the following table.

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

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

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

Finished Dimensions of Ferrules



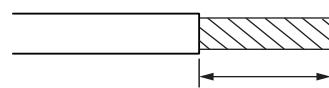
Using Twisted Wires/Solid Wires

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

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

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

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

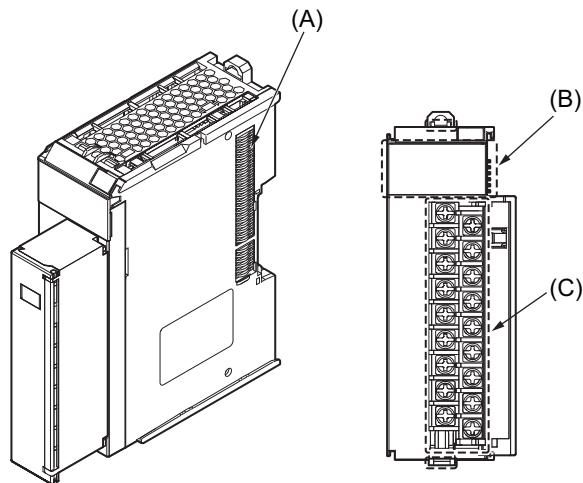


Conductor length (stripping length)

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

M3 Screw Terminal Block Type

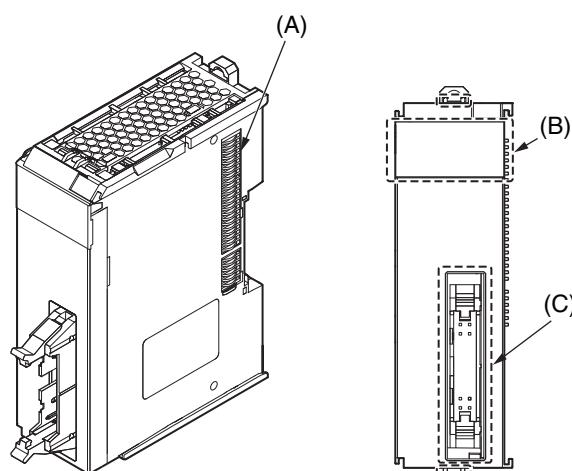
30 mm Width



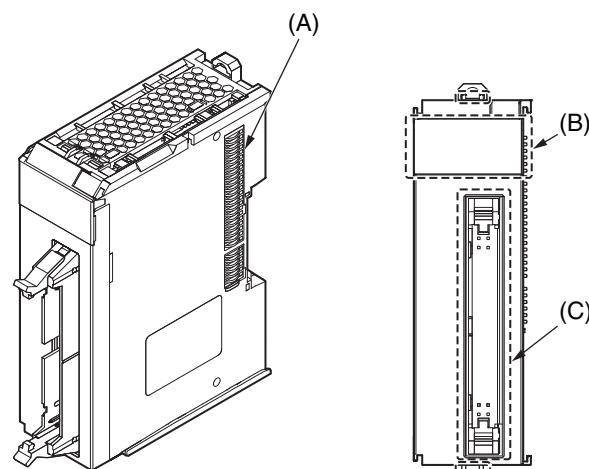
Letter	Item	Specification
(A)	NX bus connector	This connector is used to connect to another Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Screw terminals	These screw terminals are used to connect the wires.

MIL Connector Type (1 Connector with 20 terminals)

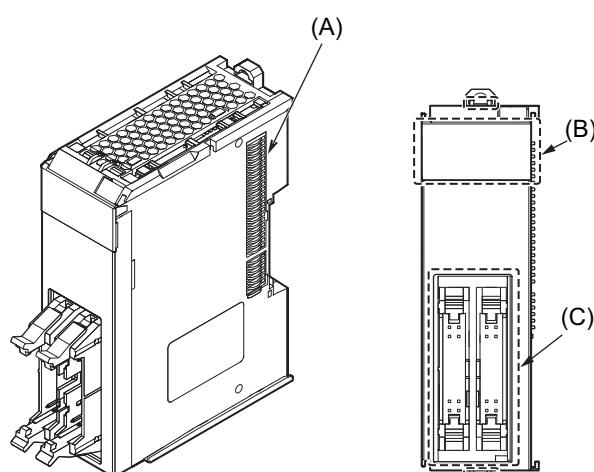
30 mm Width

**MIL Connector Type (1 Connector with 40 terminals)**

30 mm Width

**MIL Connector Type (2 Connectors with 20 terminals)**

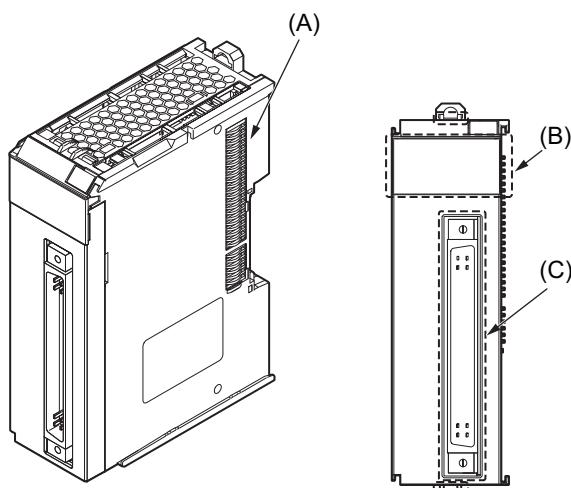
30 mm Width



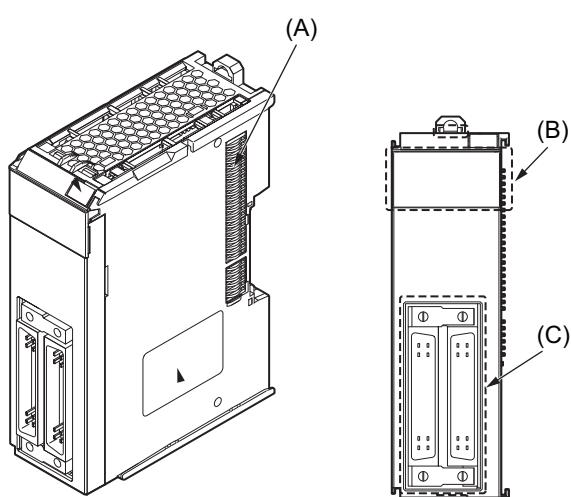
Letter	Item	Specification
(A)	NX bus connector	This connector is used to connect to another Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Connectors	The connectors are used to connect to external devices.

Fujitsu Connector Type (1 Connector with 40 terminals)

30 mm Width

**Fujitsu Connector Type (2 Connectors with 24 terminals)**

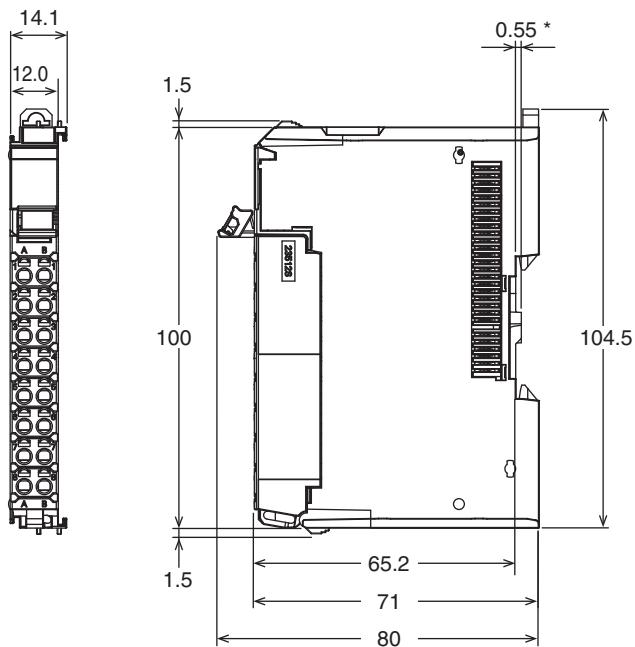
30 mm Width



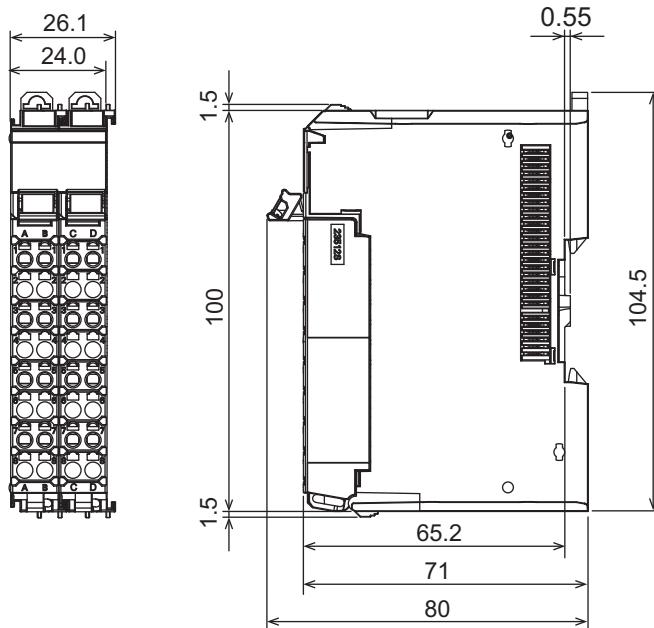
Letter	Item	Specification
(A)	NX bus connector	This connector is used to connect to another Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Connectors	The connectors are used to connect to external devices.

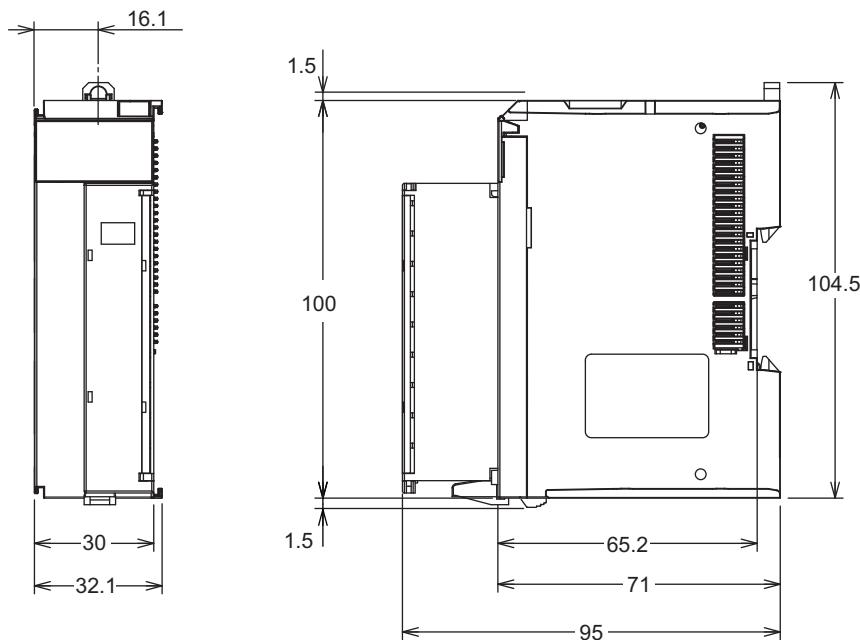
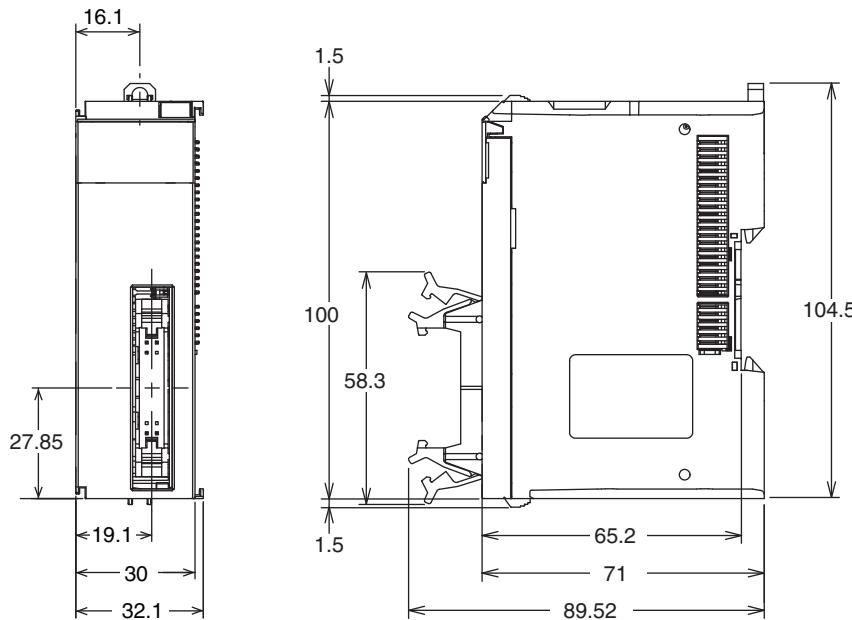
Dimensions

(Unit/mm)

Screwless Clamping Terminal Block Type**12 mm Width**

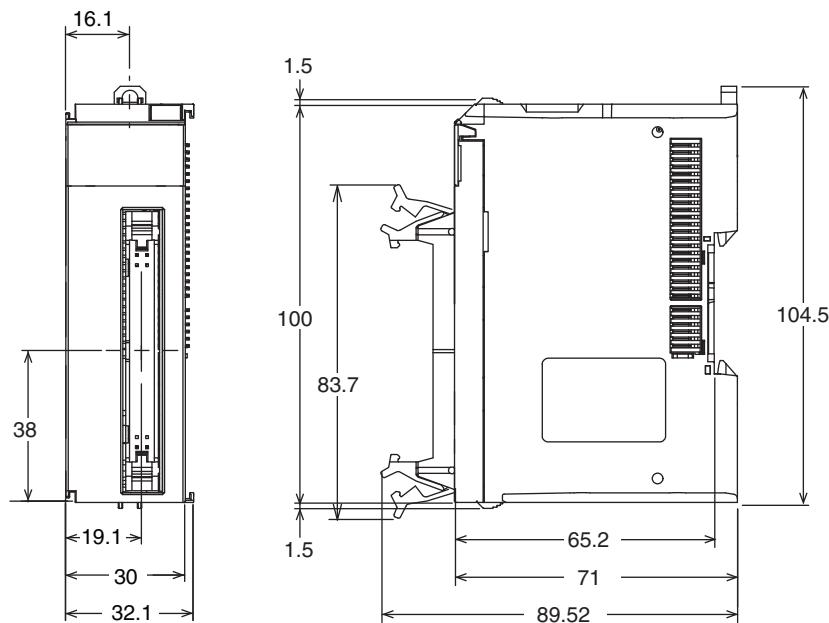
* The dimension is 1.35 mm for Units with lot numbers through December 2014.

24 mm Width

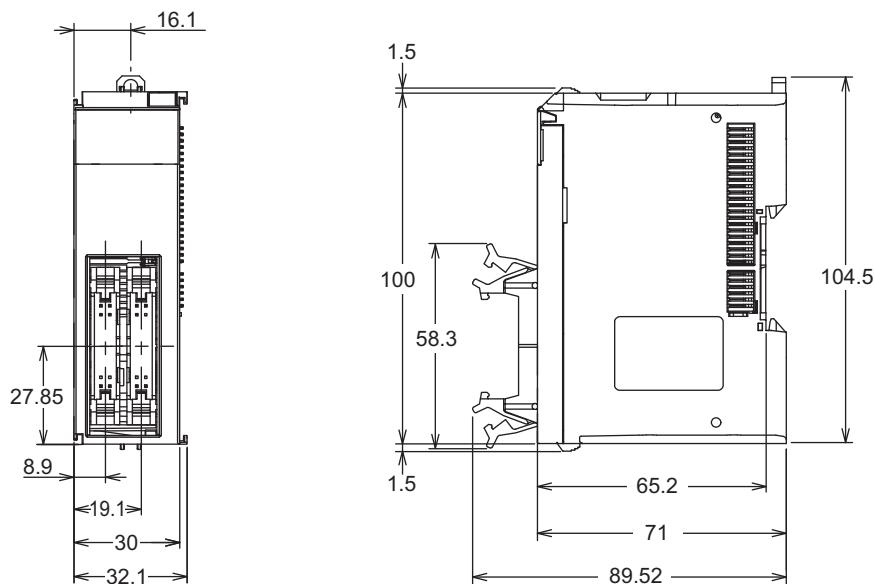
M3 Screw Terminal Block Type**30 mm Width****MIL Connector Type (1 Connector with 20 terminals)****30 mm Width**

MIL Connector Type (1 Connector with 40 terminals)

30 mm Width

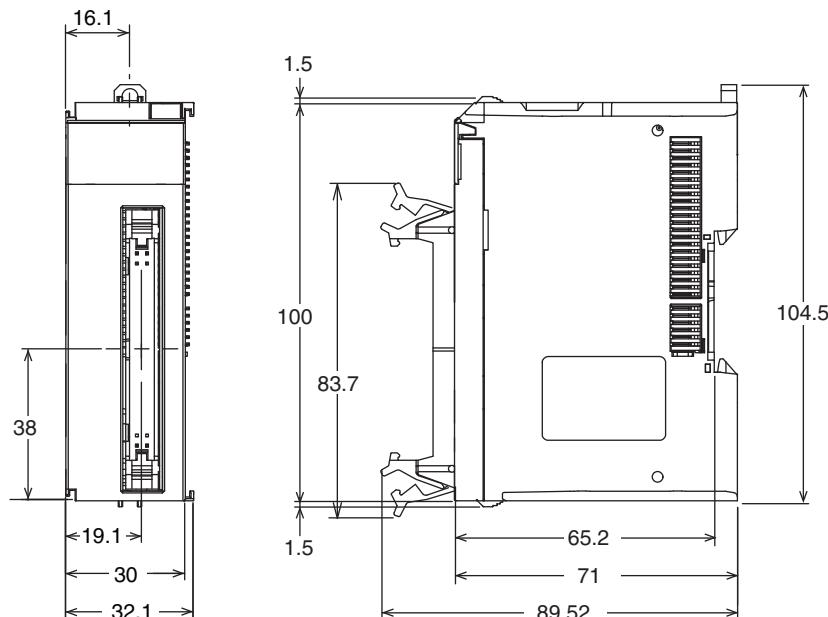
**MIL Connector Type (2 Connectors with 20 terminals)**

30 mm Width

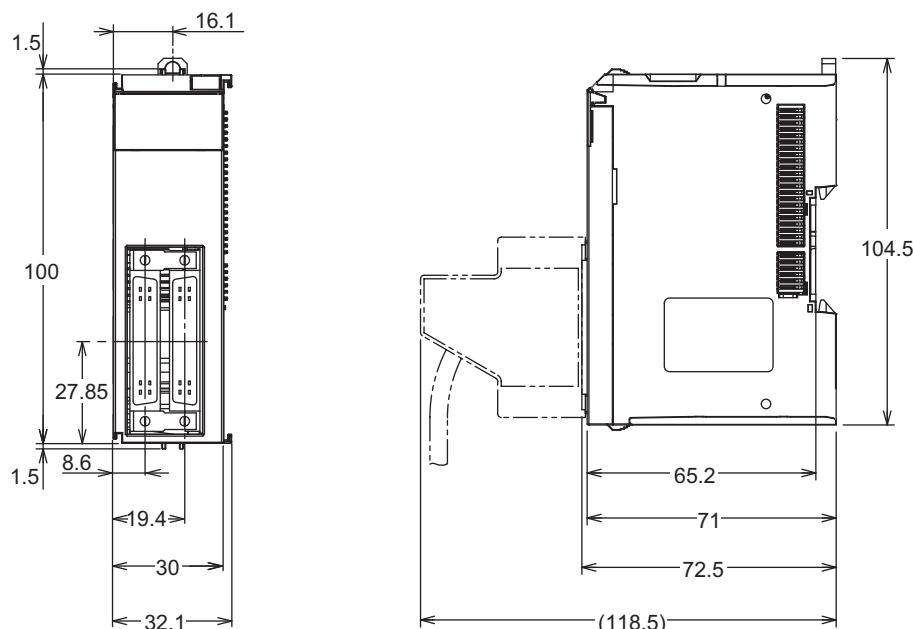


Fujitsu Connector Type (1 Connector with 40 terminals)

30 mm Width

**Fujitsu Connector Type (2 Connectors with 24 terminals)**

30 mm Width

**Related Manual**

Cat. No.	Model number	Manual name	Application	Description
W521	NX-ID□□□□ NX-IA□□□□ NX-OD□□□□ NX-OC□□□□ NX-MD□□□□	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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