

## 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

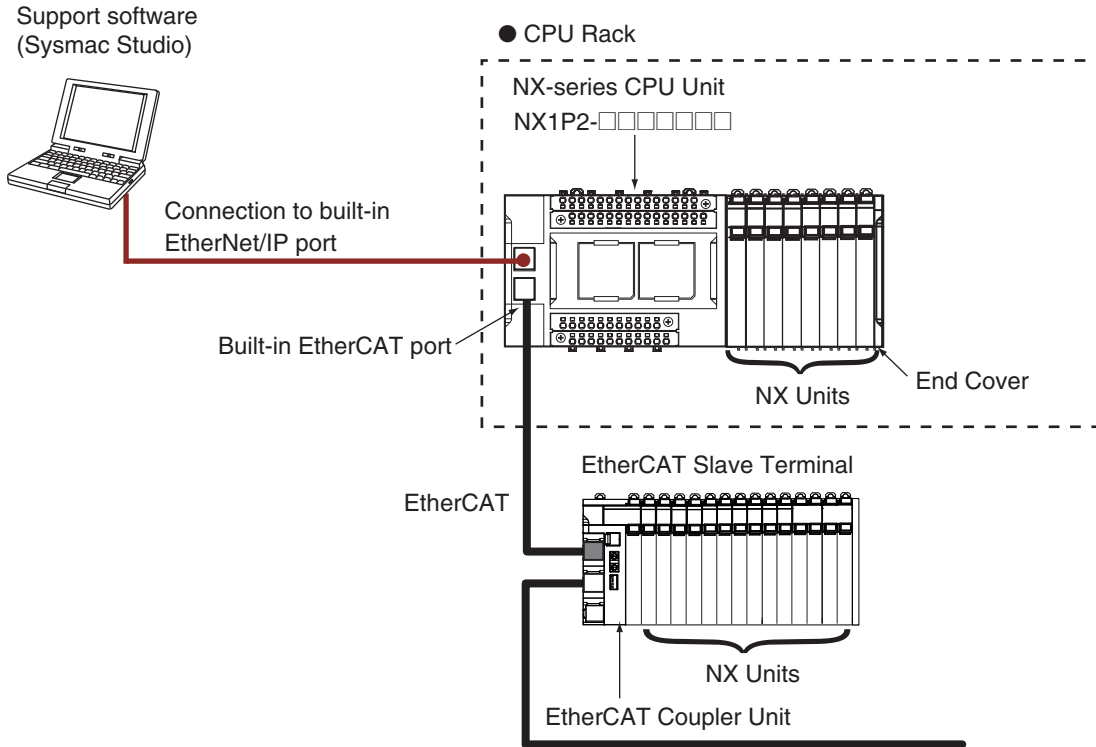
- High-speed I/O refreshing using the EtherCAT coupler
- I/O refreshing synchronized with the control cycle of the controller (synchronous refreshing)
- Time-stamp inputs and outputs anywhere in the EtherCAT network can be independently controlled with sub-microsecond accuracy
- Detachable terminals 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

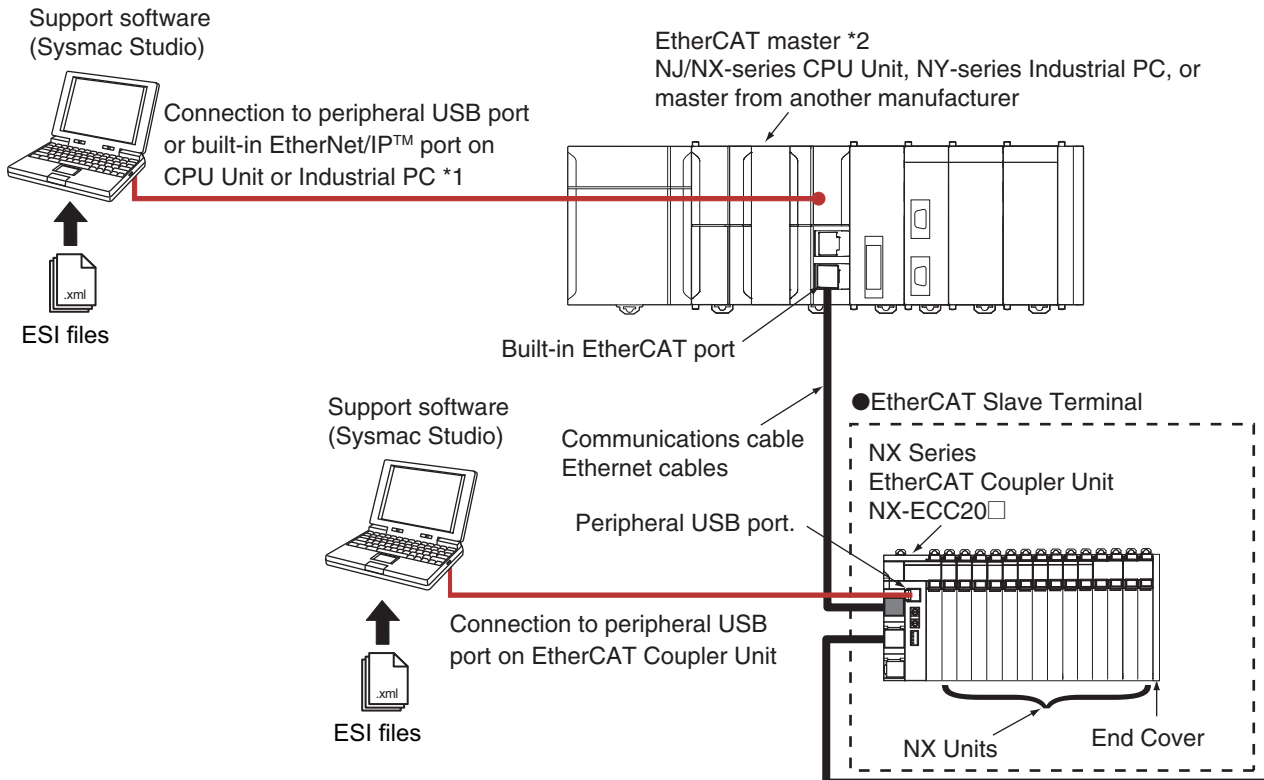
The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



**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.

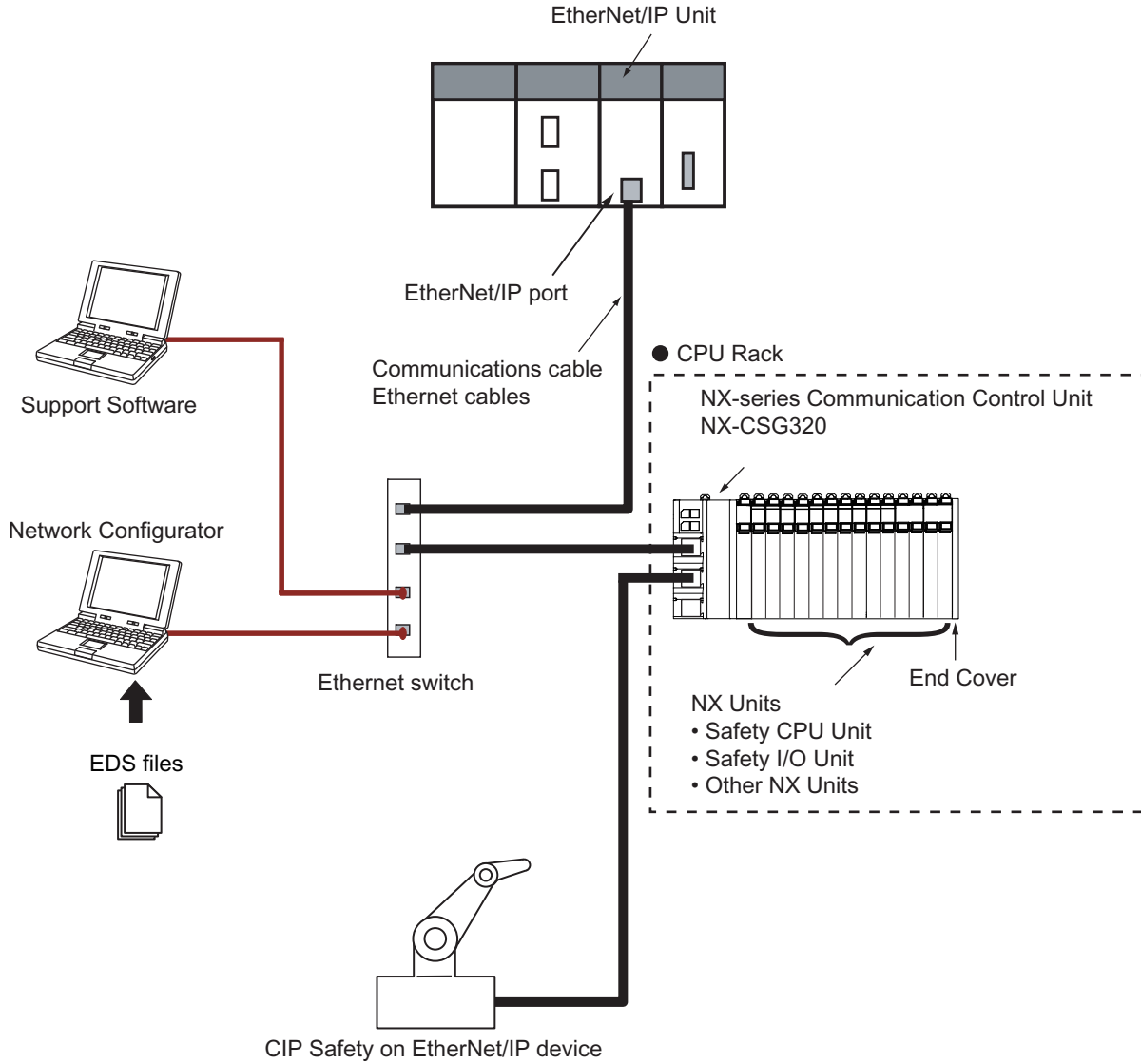
\*2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81/□82 Position Control Units even though they can operate as EtherCAT masters.

**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	Load short-circuit protection	
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	---	
56			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				
	Rated input voltage	Rated voltage	Load current	ON/OFF response time		I/O refreshing method	Other functions
				Exceeds 1 μs	1 μs max.		Load short-circuit protection
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](http://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	
 (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-ID3444
	8 points	NPN	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID4342
		PNP				NX-ID4442
	16 points	NPN	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID5342
		PNP				NX-ID5442
 (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
 (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
 (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
 (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	
<b>Transistor Output Unit</b>  (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					NX-OD2258
	4	NPN	0.5 A/point, 2 A/Unit	12 to 24 VDC	Switching Synchronous I/O refreshing and Free- Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD3121
							PNP
		PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD3256
						300 ns max./ 300 ns max.	NX-OD3257
	8	NPN	0.5 A/point, 4 A/Unit	12 to 24 VDC	0.1 ms max./ 0.8 ms max.	NX-OD4121	
		PNP		24 VDC	0.5 ms max./ 1.0 ms max.	NX-OD4256	
	16	NPN	0.5 A/point, 4 A/Unit	12 to 24 VDC	0.1 ms max./ 0.8 ms max.	NX-OD5121	
		PNP		24 VDC	0.5 ms max./ 1.0 ms max.	NX-OD5256	
<b>Transistor Output Unit</b>  (M3 Screw Terminal Block, 30 mm Width)	16	NPN	12 to 24 VDC	Switching Synchronous I/O refreshing and Free- Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-1	
		PNP	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-1	
<b>Transistor Output Unit</b>  (MIL Connector, 30 mm Width)	16	NPN	12 to 24 VDC	Switching Synchronous I/O refreshing and Free- Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-5	
		PNP	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-5	
	32	NPN	0.5 A/point, 2 A/common, 4 A/Unit		12 to 24 VDC	0.1 ms max./ 0.8 ms max.	NX-OD6121-5
		PNP			24 VDC	0.5 ms max./ 1.0 ms max.	NX-OD6256-5
<b>Transistor Output Unit</b>  (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
<b>Relay Output Unit</b>  (Screwless Clamping Terminal Block, 12 mm Width/24 mm Width)	2	Relay type: N.O.	250 VAC/2 A (cosφ=1), 250 VAC/2 A (cosφ=0.4), 24 VDC/2 A, 4 A/Unit	Free-Run refreshing	15 ms max./ 15 ms max.	NX-OC2633	
		Relay type: N.O.+N.C.				NX-OC2733	
	8	Relay type: N.O.	250 VAC/2 A (cosφ=1), 250 VAC/2 A (cosφ=0.4), 24 VDC/2 A, 8 A/Unit	Free-Run refreshing	15 ms max./ 15 ms max.	NX-OC4633	

\*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	
<b>DC Input/Transistor Output Unit</b>  (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.	<b>NX-MD6121-5</b>
		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.	<b>NX-MD6256-5</b>
<b>DC Input/Transistor Output Unit</b>  (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.	<b>NX-MD6121-6</b>

**Optional Products**

Product name	Specification	Model	Standards
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)	<b>NX-AUX02</b>	---

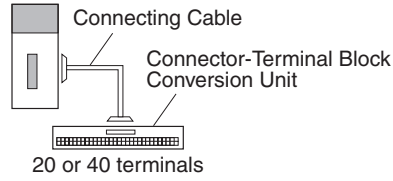
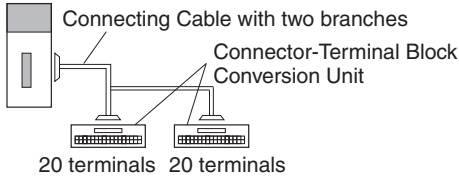
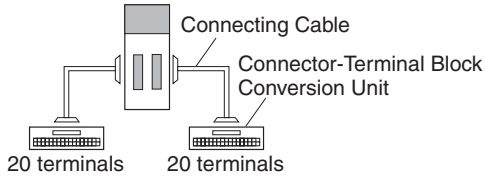
  

Product name	Specification				Model	Standards
	No. of terminals	Terminal number indications	Ground terminal mark	Terminal current capacity		
Terminal Block	8	A/B	None	10 A	<b>NX-TBA082</b>	---
	12				<b>NX-TBA122</b>	
	16				<b>NX-TBA162</b>	

**Accessories**

Not included.

**Connection Patterns for Connector-Terminal Block Conversion Units**

Pattern	Configuration	Number of connectors	Branching
A		1	None
B			2 branches
C		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)	Phillips screw	Yes
				B	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None
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)	Phillips screw	Yes
				B	XW2Z-□□□D	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				B	XW2Z-□□□D	XW2D-20G6 (2 Units)	Phillips screw	None
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
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*.

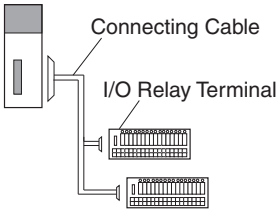
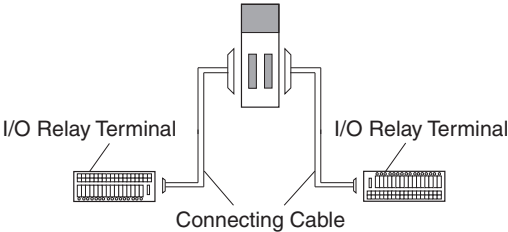
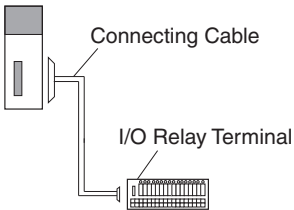
\*1 □□□ in the model number indicates the cable length. Refer to the *XW2Z Datasheet* for details.

\*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		1	2 branches
E		2	None
F		1	None

### 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
F	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-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
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
				A	2	XW2Z-RO□-□-D1	G70V-SOC16P-1	Push-in spring
				A	2	XW2Z-RO□-□-D1	G70V-SOC16P-1-C4	Push-in spring
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	
<b>Enclosure</b>	Mounted in a panel	
<b>Grounding method</b>	Ground to 100 Ω or less	
<b>Operating environment</b>	<b>Ambient operating temperature</b>	0 to 55°C
	<b>Ambient operating humidity</b>	10% to 95% (with no condensation or icing)
	<b>Atmosphere</b>	Must be free from corrosive gases.
	<b>Ambient storage temperature</b>	-25 to 70°C (with no condensation or icing)
	<b>Altitude</b>	2,000 m max.
	<b>Pollution degree</b>	2 or less: Conforms to JIS B3502 and IEC 61131-2.
	<b>Noise immunity</b>	2 kV on power supply line (Conforms to IEC61000-4-4.)
	<b>Overvoltage category</b>	Category II: Conforms to JIS B3502 and IEC 61131-2.
	<b>EMC immunity level</b>	Zone B
	<b>Vibration resistance *1</b>	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 <sup>2</sup> , 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)
<b>Shock resistance *1</b>	Conforms to IEC 60068-2-27. 147 m/s <sup>2</sup> , 3 times each in X, Y, and Z directions	
<b>Applicable standards *2</b>	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.

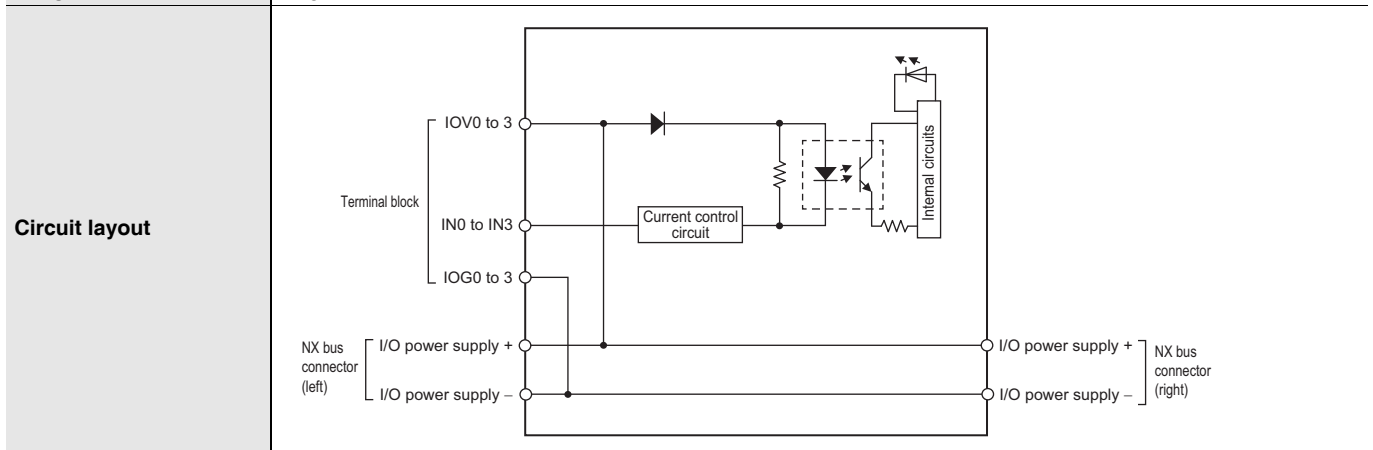
\*2. Refer to the OMRON website (<http://www.ia.omron.com/>) or consult your OMRON representative for the most recent applicable standards for each model.

# Digital Input Unit Specifications

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

### NX-ID3317

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID3317
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicator 	<b>Internal I/O common</b>	NPN
		<b>Rated input voltage</b>	12 to 24 VDC (9 to 28.8 VDC)
		<b>Input current</b>	6 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	9 VDC min./3 mA min. (between IOV and each signal)
		<b>OFF voltage/OFF current</b>	2 VDC max./1 mA max. (between IOV and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 0.90 W max.</li> <li>Connected to a Communications Coupler Unit: 0.50 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	65 g max.		

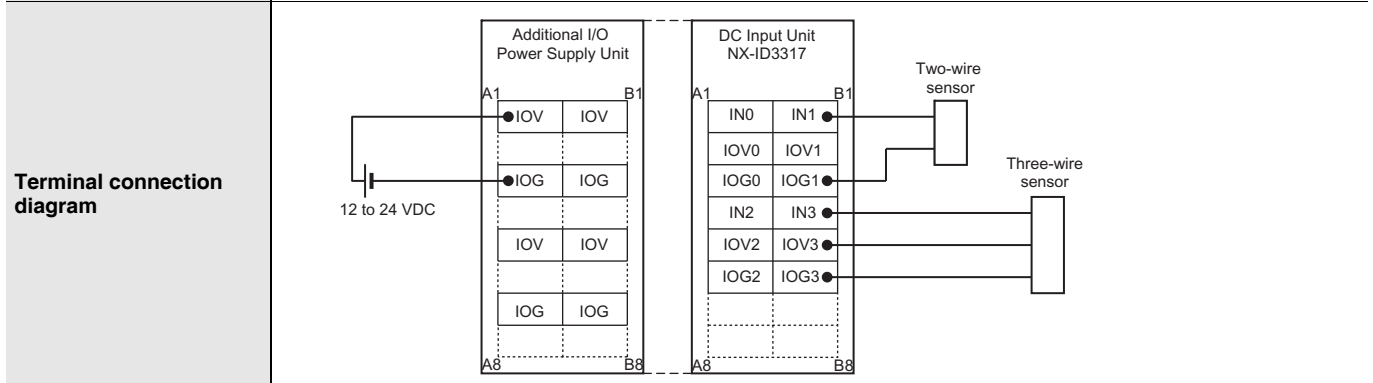


**Installation orientation and restrictions**

Installation orientation:


- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

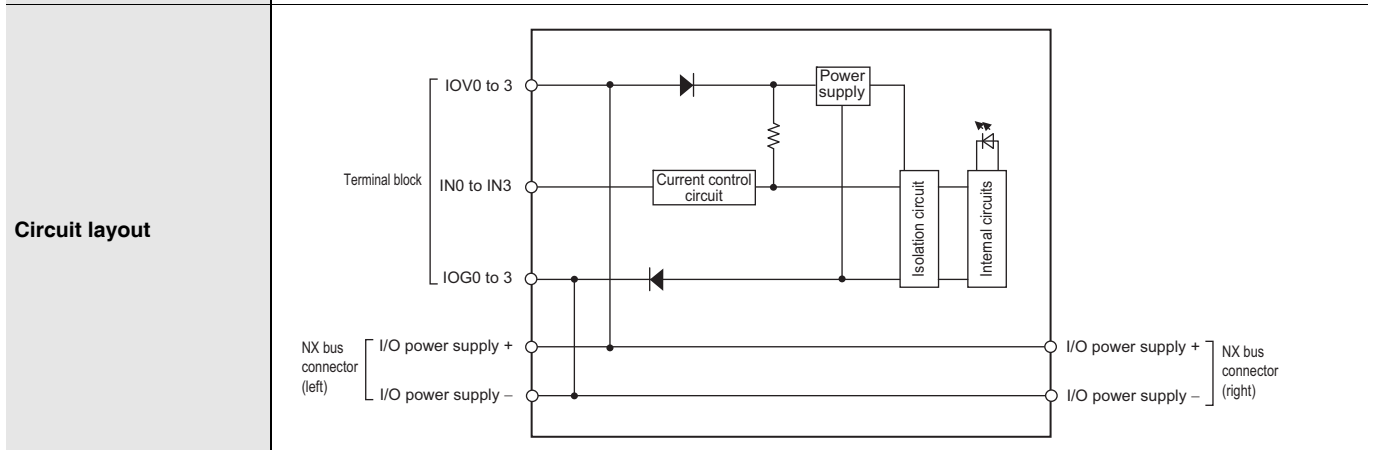
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-ID3343**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID3343
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicator 	<b>Internal I/O common</b>	NPN
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	3.5 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between IOV and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between IOV and each signal)
		<b>ON/OFF response time</b>	100 ns max./100 ns max.
		<b>Input filter time</b>	Without filter, 1 μs, 2 μs, 4 μs, 8 μs (factory setting), 16 μs, 32 μs, 64 μs, 128 μs, 256 μs
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Digital isolator isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	30 mA max.
<b>Weight</b>	65 g max.		

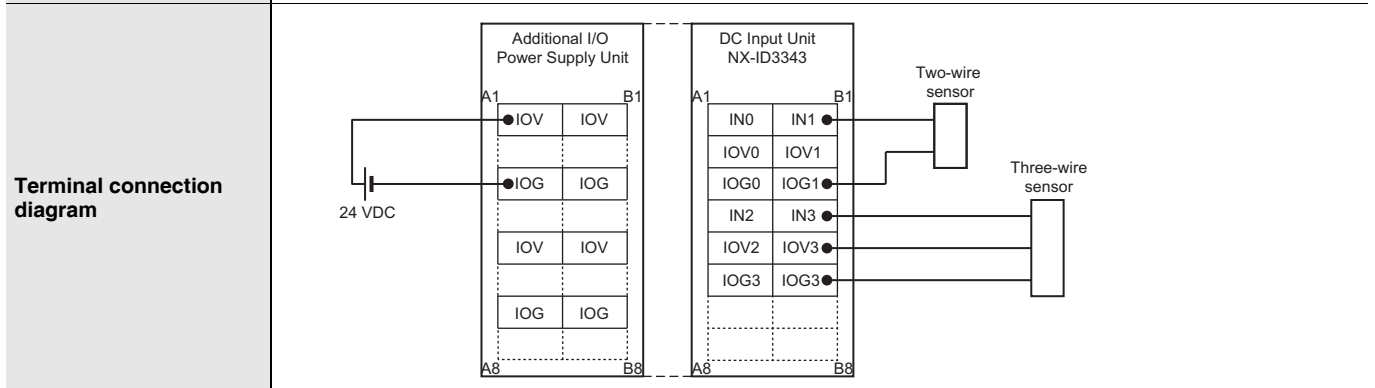


**Installation orientation and restrictions**

Installation orientation:


- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

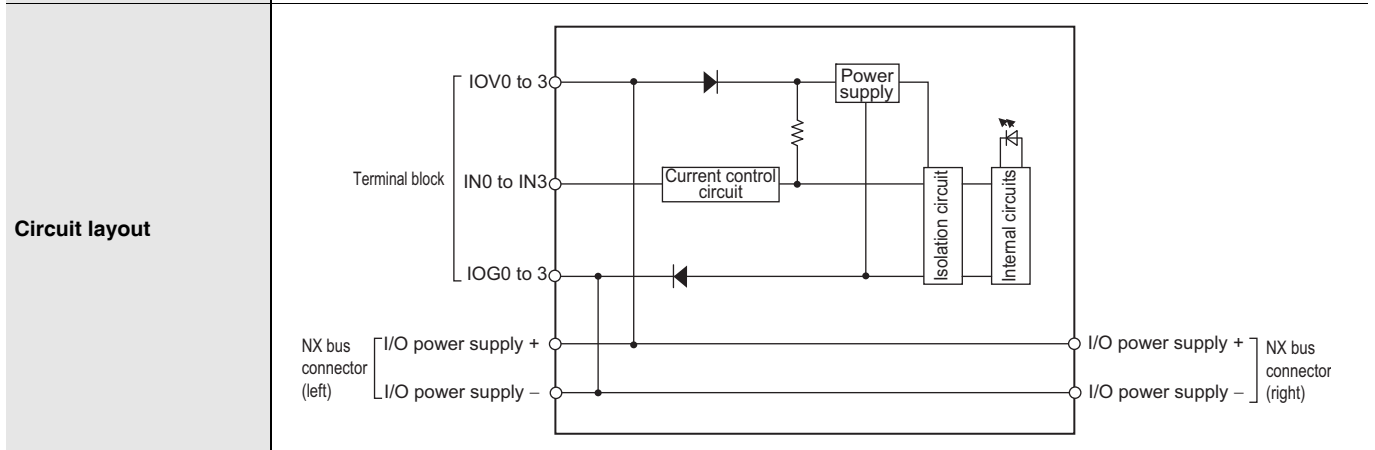
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-ID3344**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID3344
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Input refreshing with input changed time		
<b>Indicators</b>	TS indicator, input indicators 	<b>Internal I/O common</b>	NPN
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	3.5 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between IOV and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between IOV and each signal)
		<b>ON/OFF response time</b>	100 ns max./100 ns max.
		<b>Input filter time</b>	No filter *
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Digital isolator isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.50 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	30 mA max.
<b>Weight</b>	65 g max.		

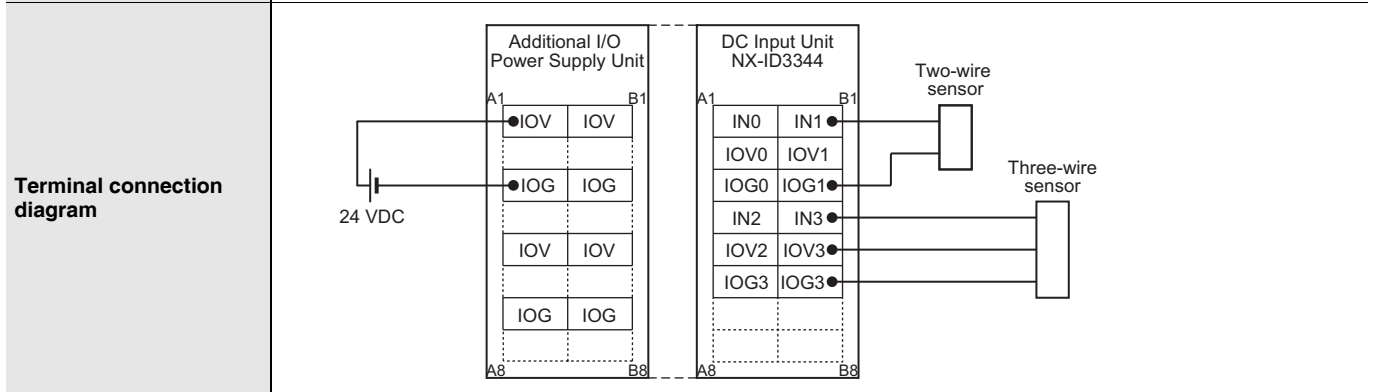


**Installation orientation and restrictions**

Installation orientation:

- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions


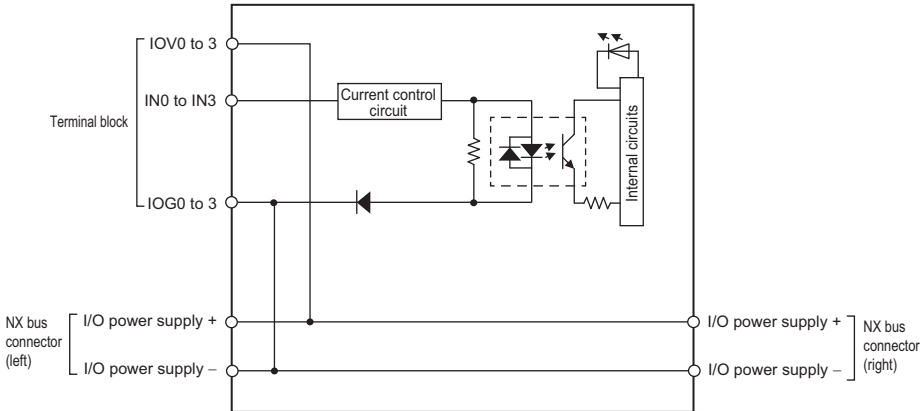
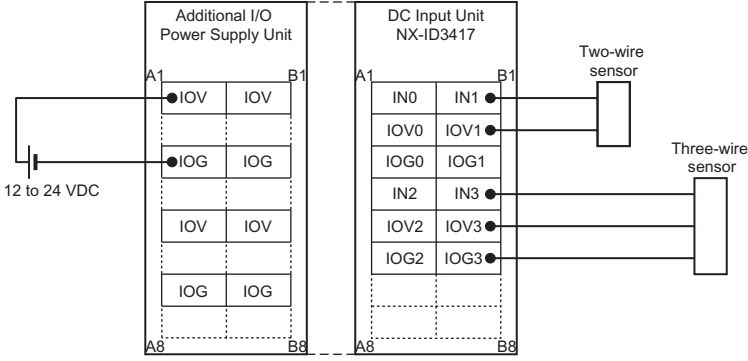


<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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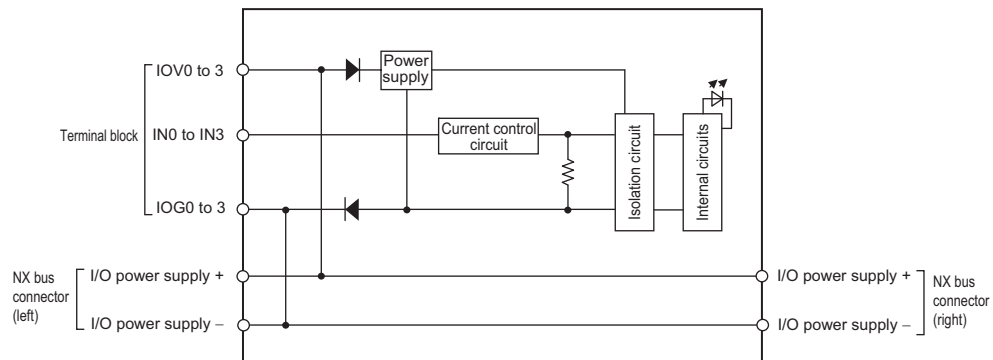
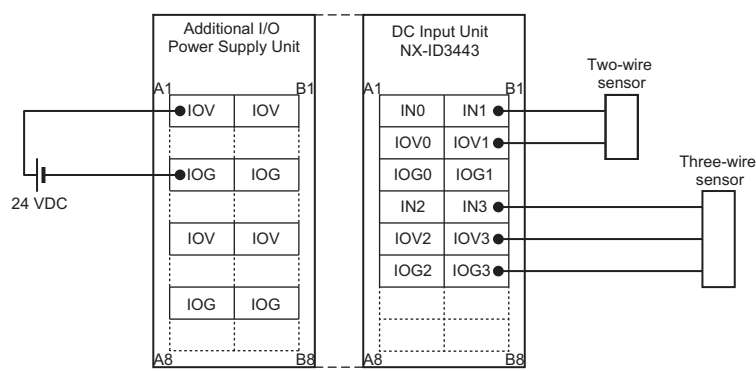
\* This model does not support the input filter. If the Unit is susceptible to noise, take countermeasures such as separating or shielding the Unit and signal lines from the noise source. Refer to NX-series Digital I/O Unit User's Manual (W521) for information on countermeasures.




**NX-ID3417**

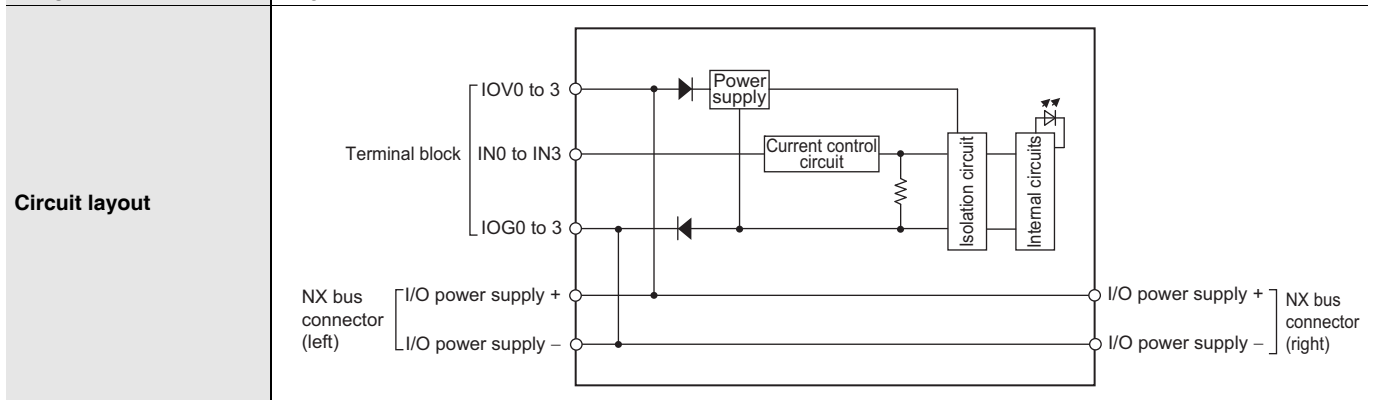
<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID3417
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicator	<b>Internal I/O common</b>	PNP
		<b>Rated input voltage</b>	12 to 24 VDC (9 to 28.8 VDC)
		<b>Input current</b>	6 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	9 VDC min./3 mA min. (between IOG and each signal)
		<b>OFF voltage/OFF current</b>	2 VDC max./1 mA max. (between IOG and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 0.90 W max.</li> <li>Connected to a Communications Coupler Unit: 0.50 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	65 g max.		
<b>Circuit layout</b>			
<b>Installation orientation and restrictions</b>	<p>Installation orientation:</p> <ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> </ul> <p>Restrictions: No restrictions</p>		
<b>Terminal connection diagram</b>			
<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.

**NX-ID3443**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID3443
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicator 	<b>Internal I/O common</b>	PNP
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	3.5 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between IOG and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between IOG and each signal)
		<b>ON/OFF response time</b>	100 ns max./100 ns max.
		<b>Input filter time</b>	Without filter, 1 μs, 2 μs, 4 μs, 8 μs (factory setting), 16 μs, 32 μs, 64 μs, 128 μs, 256 μs
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Digital isolator isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	30 mA max.
<b>Weight</b>	65 g max.		
<b>Circuit layout</b>			
<b>Installation orientation and restrictions</b>	Installation orientation: <ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> </ul> Restrictions: No restrictions		
<b>Terminal connection diagram</b>			
<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.

**NX-ID3444**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID3444
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Input refreshing with input changed time		
<b>Indicators</b>	TS indicator, input indicators 	<b>Internal I/O common</b>	PNP
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	3.5 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between IOG and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between IOG and each signal)
		<b>ON/OFF response time</b>	100 ns max./100 ns max.
		<b>Input filter time</b>	No filter*
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Digital isolator isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.50 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	30 mA max.
<b>Weight</b>	65 g max.		

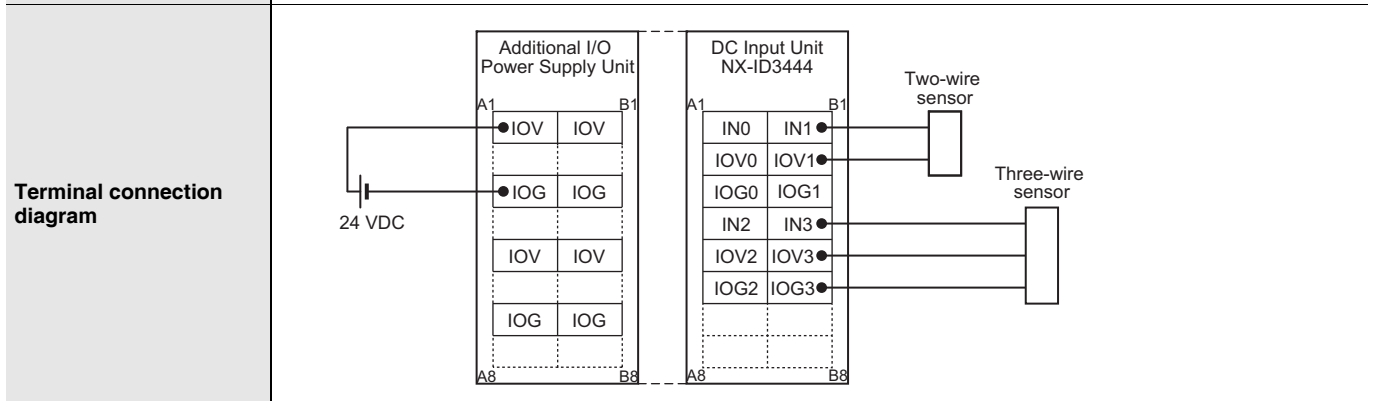


**Installation orientation and restrictions**

Installation orientation:

- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.


Restrictions: No restrictions

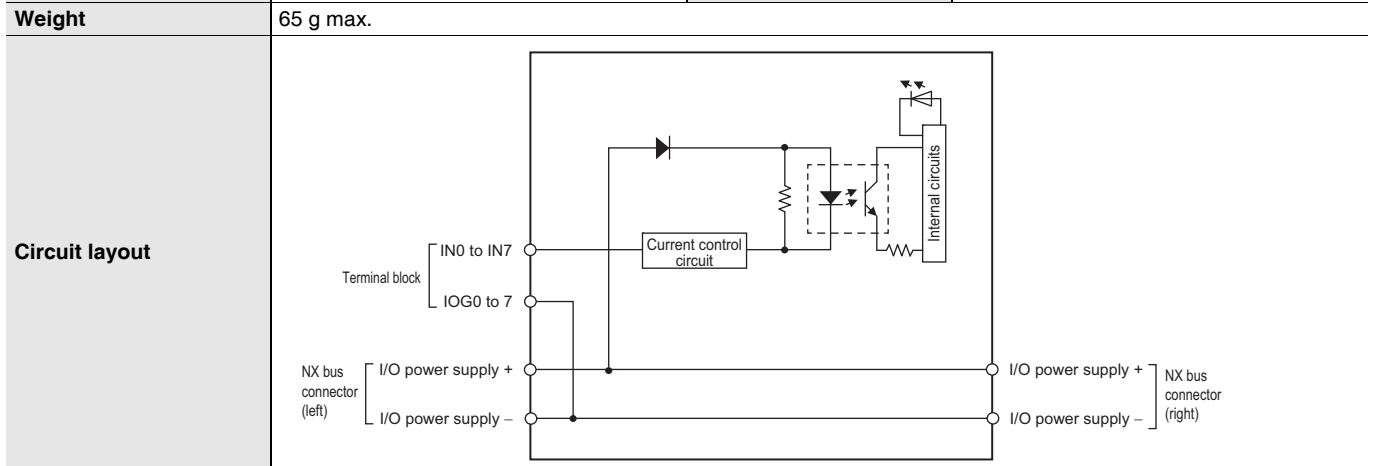


<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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\* This model does not support the input filter. If the Unit is susceptible to noise, take countermeasures such as separating or shielding the Unit 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**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID4342
<b>Number of points</b>	8 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicator	<b>Internal I/O common</b>	NPN
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	3.5 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between IOG and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between IOG and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOG: 0.1 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 0.90 W max.</li> <li>Connected to a Communications Coupler Unit: 0.50 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	65 g max.		

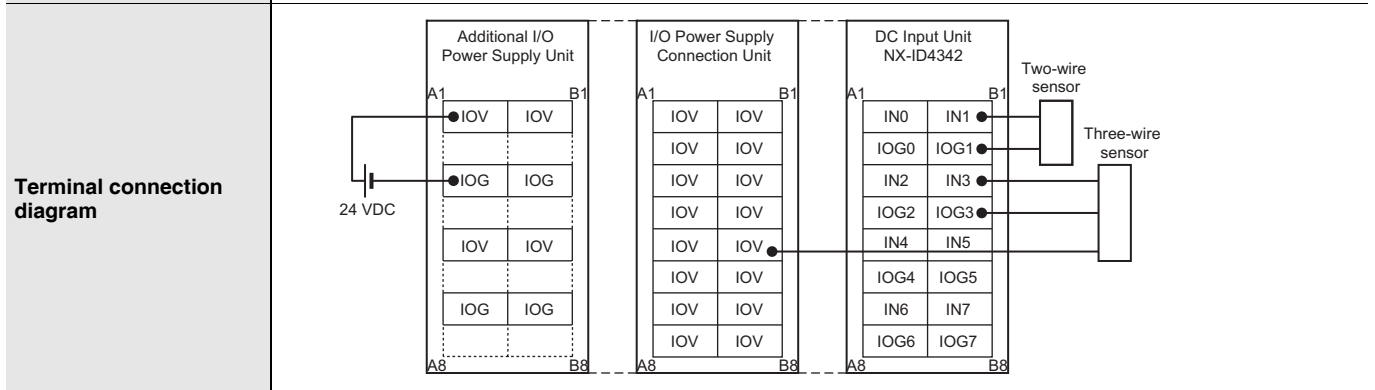


**Installation orientation and restrictions**

Installation orientation:


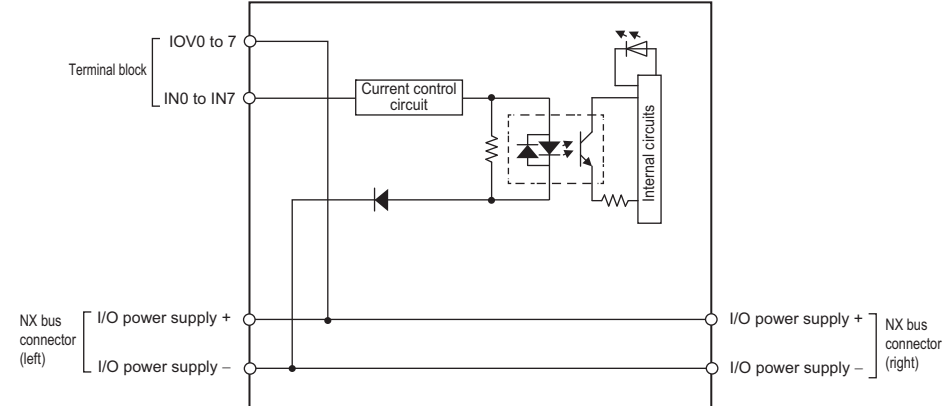
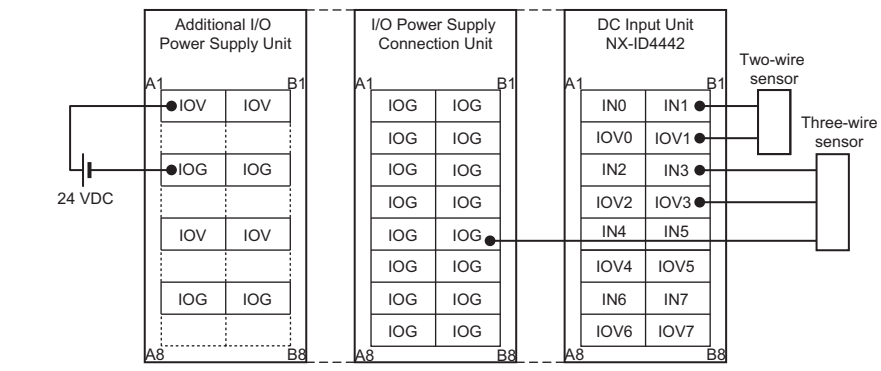
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions




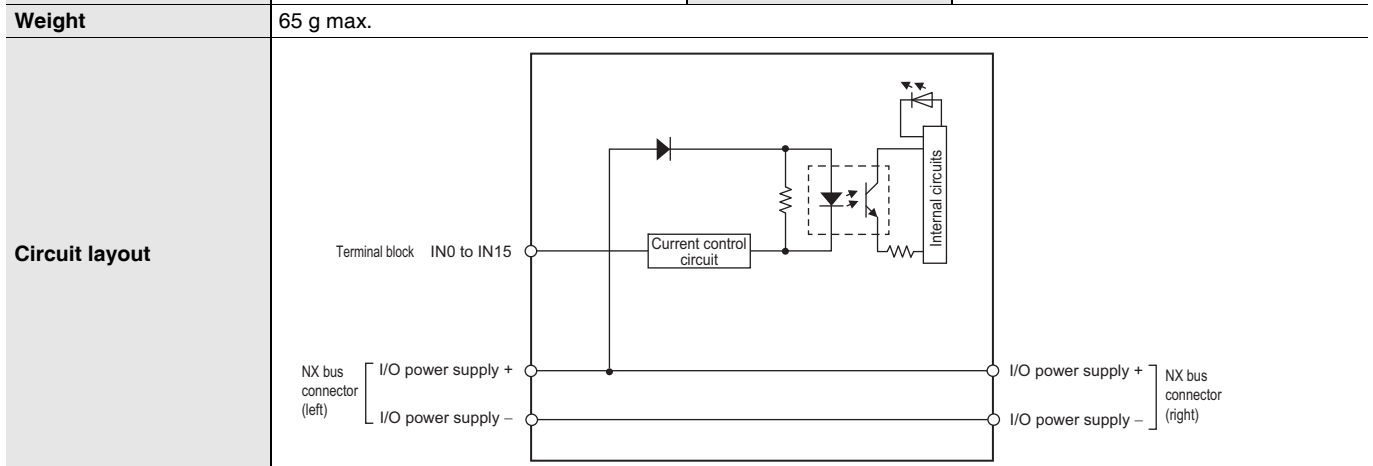
<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-ID4442**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID4442
<b>Number of points</b>	8 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicator	<b>Internal I/O common</b>	PNP
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	3.5 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between IOG and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between IOG and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.1 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 0.90 W max.</li> <li>Connected to a Communications Coupler Unit: 0.50 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	65 g max.		
<b>Circuit layout</b>			
<b>Installation orientation and restrictions</b>	<p>Installation orientation:</p> <ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> </ul> <p>Restrictions: No restrictions</p>		
<b>Terminal connection diagram</b>			
<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.

**NX-ID5342**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID5342
<b>Number of points</b>	16 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	<p>TS indicator, input indicator</p> 	<b>Internal I/O common</b>	NPN
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	2.5 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	15 VDC min./2 mA min. (between IOG and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./0.5 mA max. (between IOG and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 0.90 W max.</li> <li>Connected to a Communications Coupler Unit: 0.55 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	65 g max.		

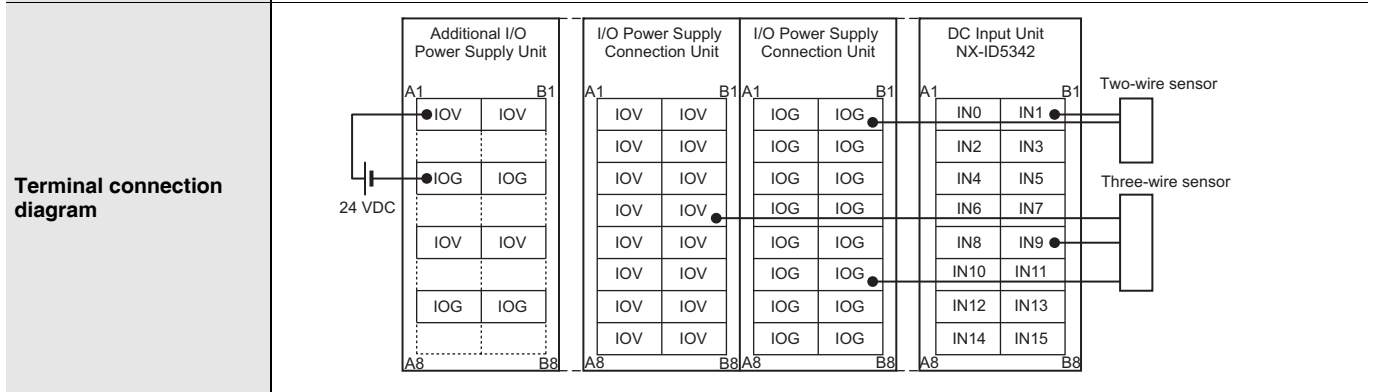


**Installation orientation and restrictions**

Installation orientation:


- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

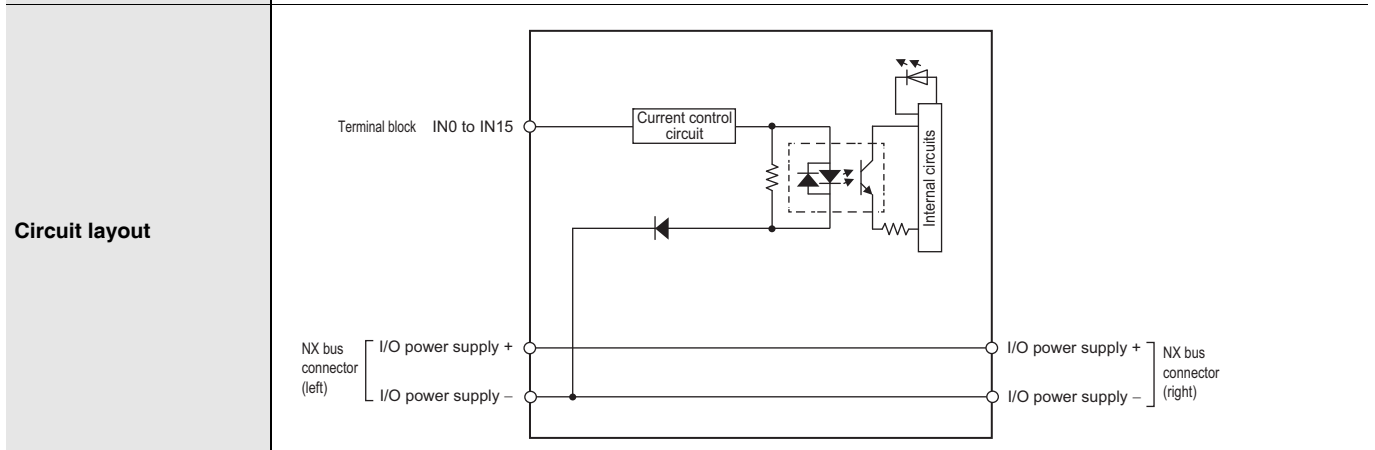
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-ID5442**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID5442
<b>Number of points</b>	16 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicator 	<b>Internal I/O common</b>	PNP
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	2.5 mA typical (at 24 VDC), rated current
		<b>ON voltage/ON current</b>	15 VDC min./2 mA min. (between IOG and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./0.5 mA max. (between IOG and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	65 g max.		

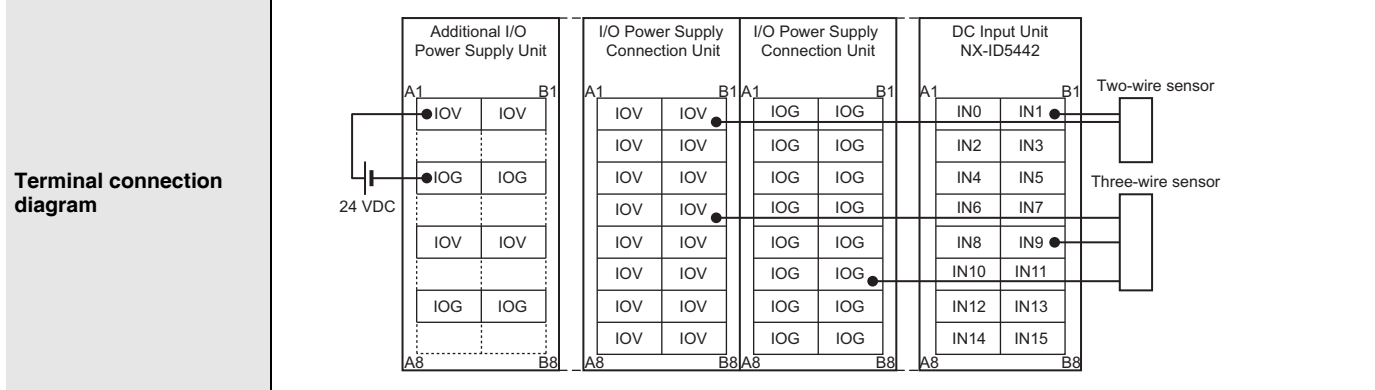


**Installation orientation and restrictions**

Installation orientation:

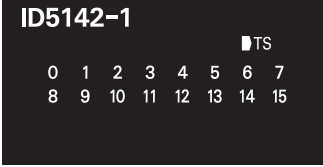
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

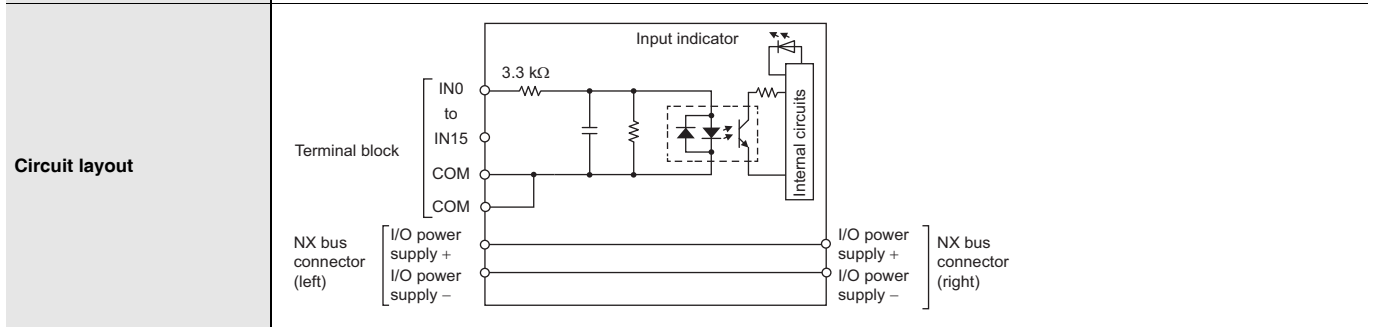
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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● DC Input Unit (M3 Screw Terminal Block, 30 mm Width)  
**NX-ID5142-1**

<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID5142-1
<b>Number of points</b>	16 points	<b>External connection terminals</b>	M3 screw terminal block (18 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>		<b>Internal I/O common</b>	For both NPN/PNP
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	7 mA typical (at 24 VDC)
		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between COM and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between COM and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.85 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	125 g max.		

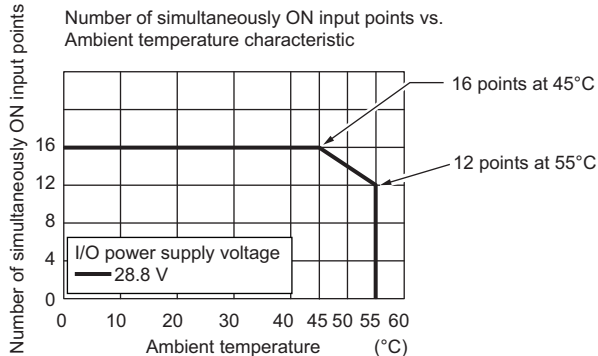




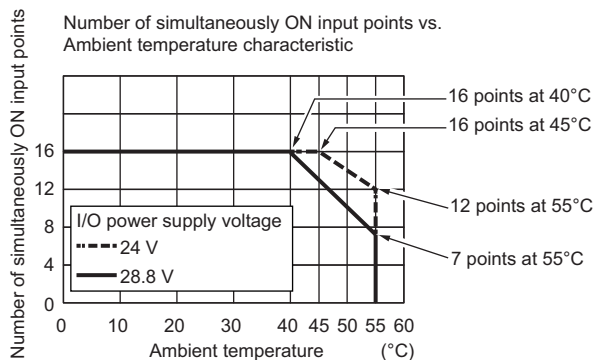
**Installation orientation and restrictions**

Installation orientation:  
 • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  
 • Connected to a Communications Coupler Unit: Possible in 6 orientations.  
 Restrictions: As shown in the following.

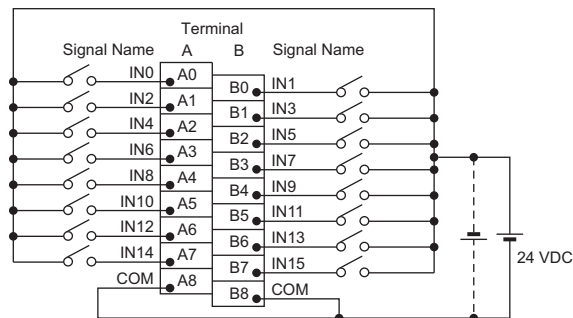
• For upright installation



• For any installation other than upright



**Terminal connection diagram**



• The polarity of the input power supply can be connected in either direction.

**Disconnection/ Short-circuit detection**

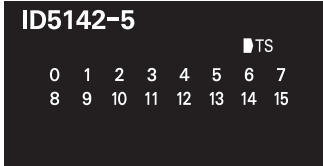
Not supported.

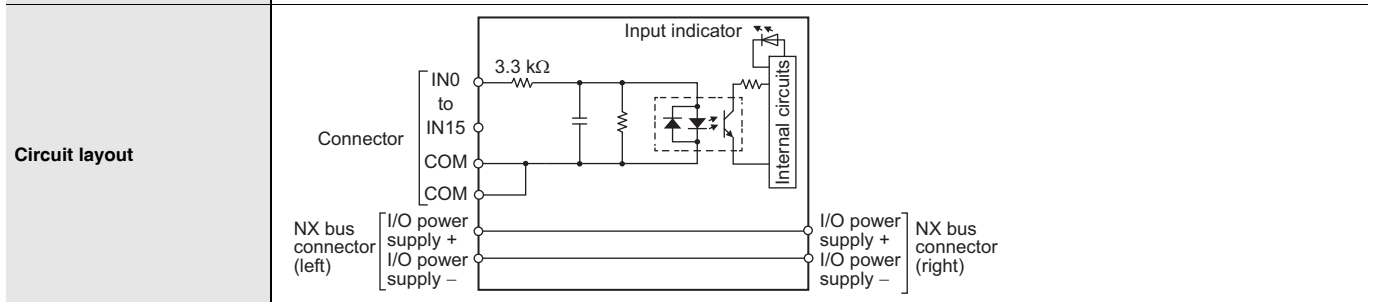
**Protective function**

Not supported.

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

NX-ID5142-5

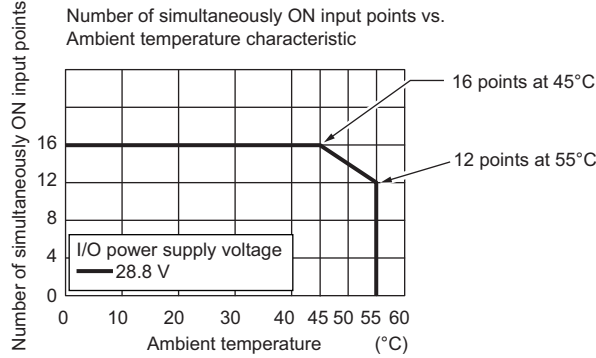
<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID5142-5
<b>Number of points</b>	16 points	<b>External connection terminals</b>	MIL connector (20 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicators	<b>Internal I/O common</b>	For both NPN/PNP
		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
		<b>Input current</b>	7 mA typical (at 24 VDC)
		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between COM and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between COM and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.85 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	85 g max.		



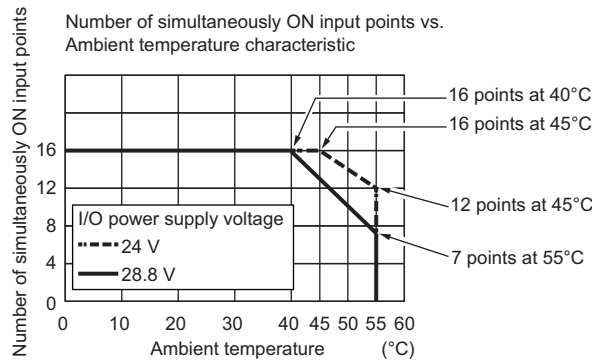
**Installation orientation and restrictions**

Installation orientation:  
 • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  
 • Connected to a Communications Coupler Unit: Possible in 6 orientations.  
 Restrictions: As shown in the following.

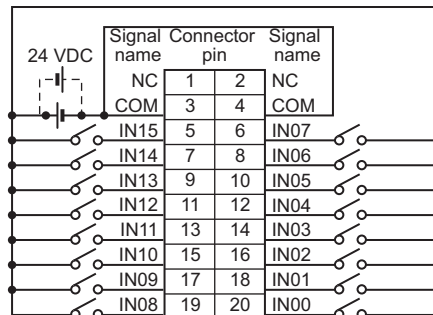
• For upright installation



• For any installation other than upright



**Terminal connection diagram**



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

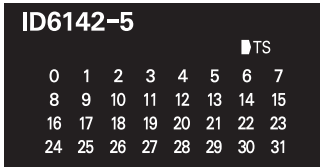
**Disconnection/ Short-circuit detection**

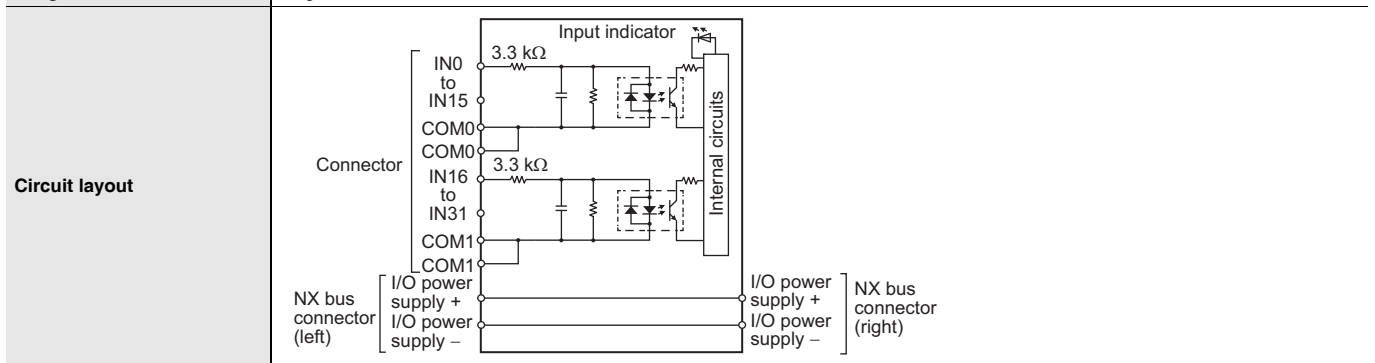
Not supported.

**Protective function**

Not supported.

**NX-ID6142-5**

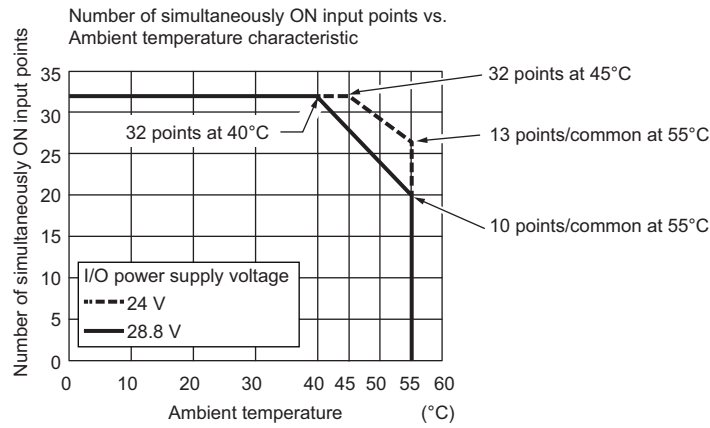
<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID6142-5
<b>Number of points</b>	32 points	<b>External connection terminals</b>	MIL connector (40 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicators	<b>Internal I/O common</b>	For both NPN/PNP
		<b>Rated input voltage</b>	24 VDC (19 to 28.8 VDC)
		<b>Input current</b>	4.1 mA typical (24 VDC)
		<b>ON voltage/ON current</b>	19 VDC min./3 mA min. (between COM and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between COM and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.60 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	90 g max.		



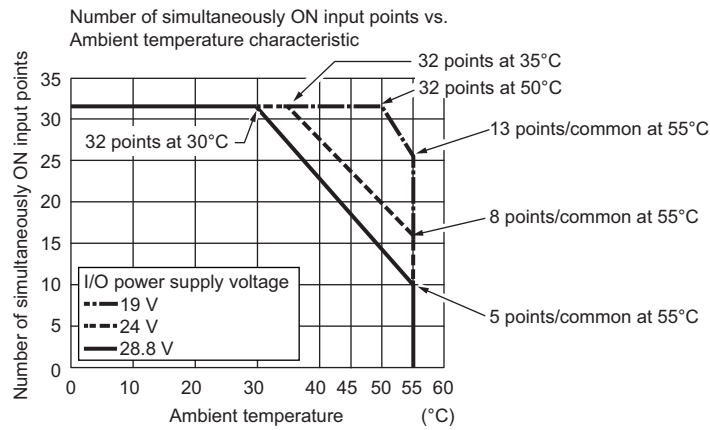
**Installation orientation and restrictions**

Installation orientation:  
 • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  
 • Connected to a Communications Coupler Unit: Possible in 6 orientations.  
 Restrictions: As shown in the following.

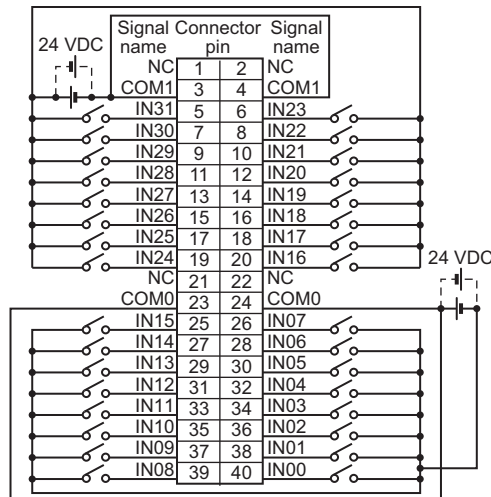
• For upright installation



• For any installation other than upright



**Terminal connection diagram**



- 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**

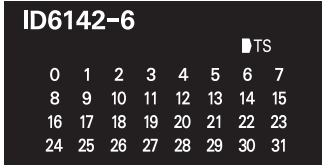
Not supported.

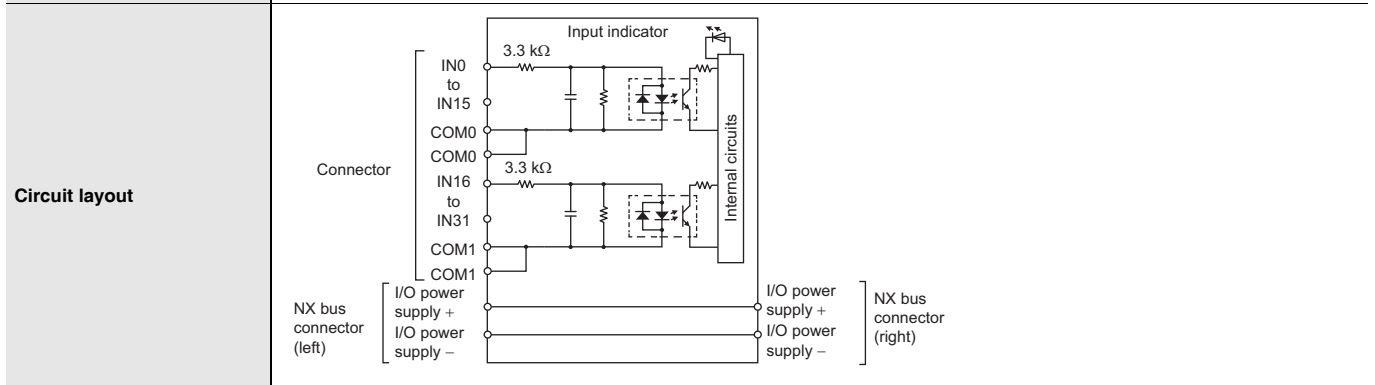
**Protective function**

Not supported.

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

NX-ID6142-6

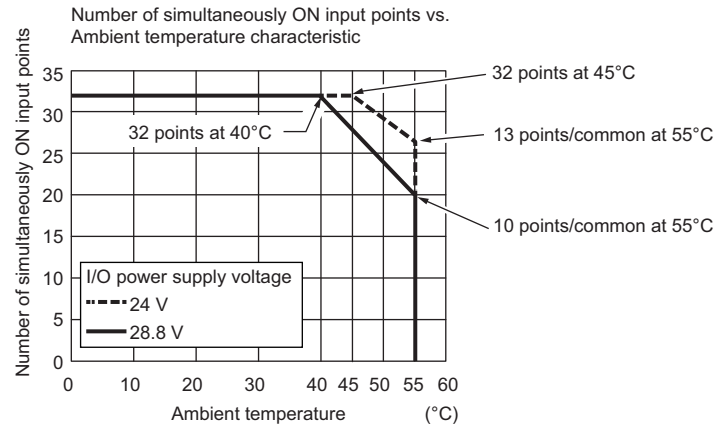
<b>Unit name</b>	DC Input Unit	<b>Model</b>	NX-ID6142-6
<b>Number of points</b>	32 points	<b>External connection terminals</b>	Fujitsu connector (40 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, input indicators	<b>Internal I/O common</b>	For both NPN/PNP
		<b>Rated input voltage</b>	24 VDC (19 to 28.8 VDC)
		<b>Input current</b>	4.1 mA typical (24 VDC)
		<b>ON voltage/ON current</b>	19 VDC min./3 mA min. (between COM and each signal)
		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between COM and each signal)
		<b>ON/OFF response time</b>	20 μs max./400 μs max.
		<b>Input filter time</b>	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
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.95 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	90 g max.		



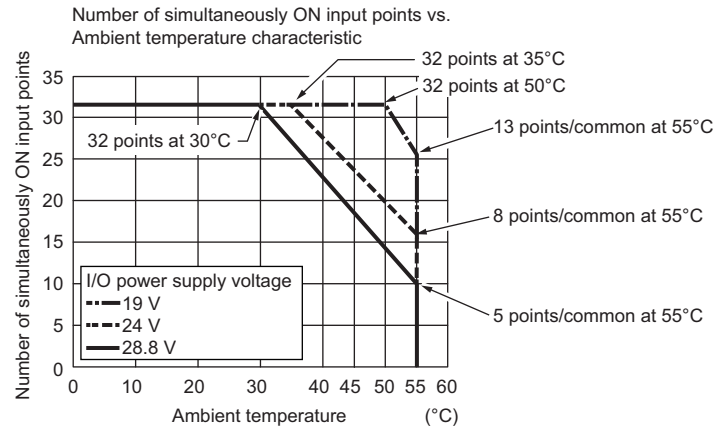
**Installation orientation and restrictions**

Installation orientation:  
 • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  
 • Connected to a Communications Coupler Unit: Possible in 6 orientations.  
 Restrictions: As shown in the following.

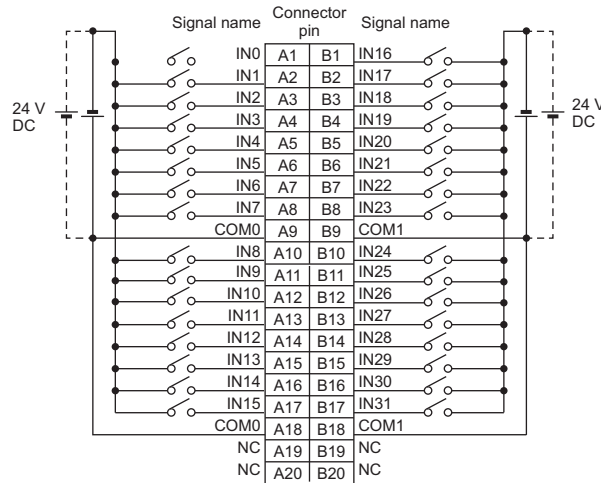
• For upright installation



• For any installation other than upright



**Terminal connection diagram**



- The polarity of the input power supply can be connected in either direction.
- Be sure to wire both pins A9 and A18 (COM0), and set the same polarity for both pins.
- Be sure to wire both pins B9 and B18 (COM1), and set the same polarity for both pins.

**Disconnection/ Short-circuit detection**


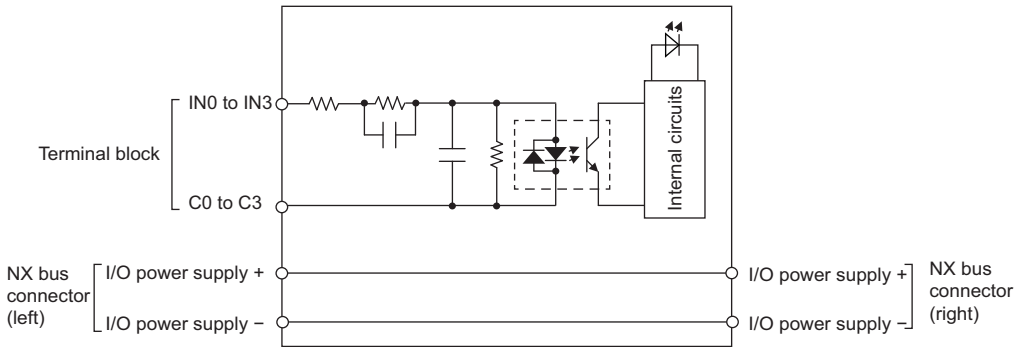
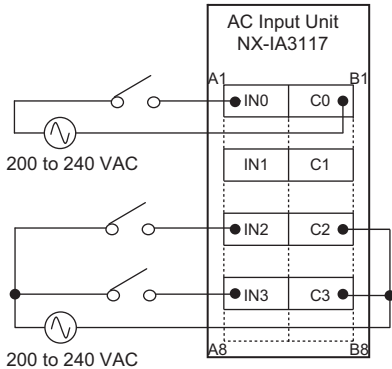
Not supported.

**Protective function**

Not supported.

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

NX-IA3117


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

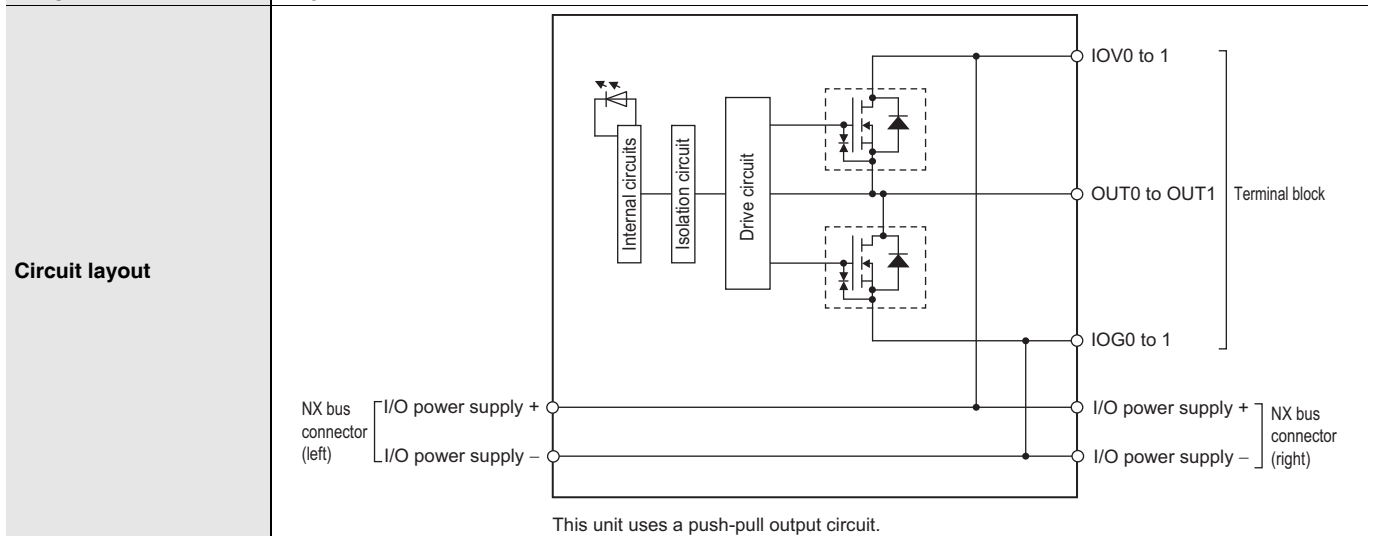


# Digital Output Unit Specifications

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

### NX-OD2154

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD2154
<b>Number of points</b>	2 points	<b>External connection terminals</b>	Screwless clamping terminal block (8 terminals)
<b>I/O refreshing method</b>	Output refreshing with specified time stamp		
<b>Indicators</b>	TS indicator, output indicator 	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	15 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 1 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	300 ns max./300 ns max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Digital isolator isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit 0.85 W max.</li> <li>Connected to a Communications Coupler Unit 0.45 W max.</li> </ul>	<b>I/O current consumption</b>	30 mA max.
<b>Weight</b>	70 g max.		

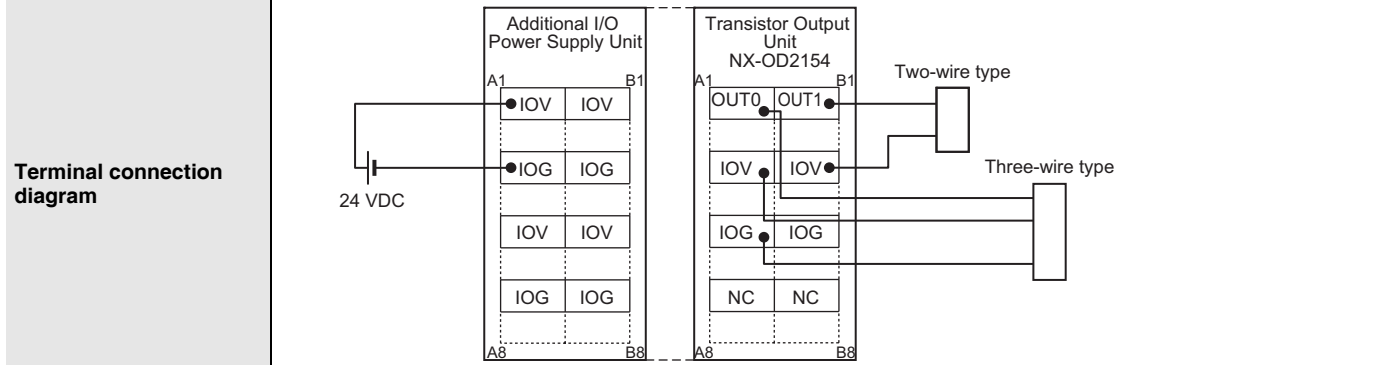


**Installation orientation and restrictions**

Installation orientation:


- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

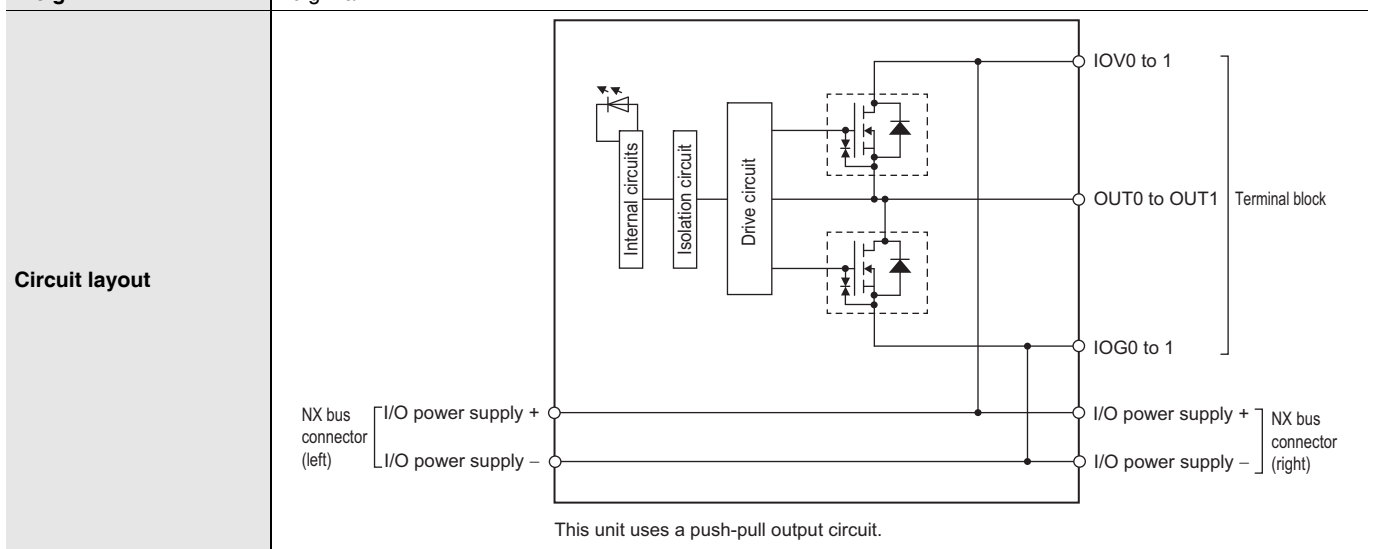
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-OD2258**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD2258
<b>Number of points</b>	2 points	<b>External connection terminals</b>	Screwless clamping terminal block (8 terminals)
<b>I/O refreshing method</b>	Output refreshing with specified time stamp		
<b>Indicators</b>	TS indicator, output indicator 	<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	15 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 1 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	300 ns max./300 ns max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Digital isolator isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit: 0.85 W max.</li> <li>Connected to a Communications Coupler Unit: 0.50 W max.</li> </ul>	<b>I/O current consumption</b>	40 mA max.
<b>Weight</b>	70 g max.		

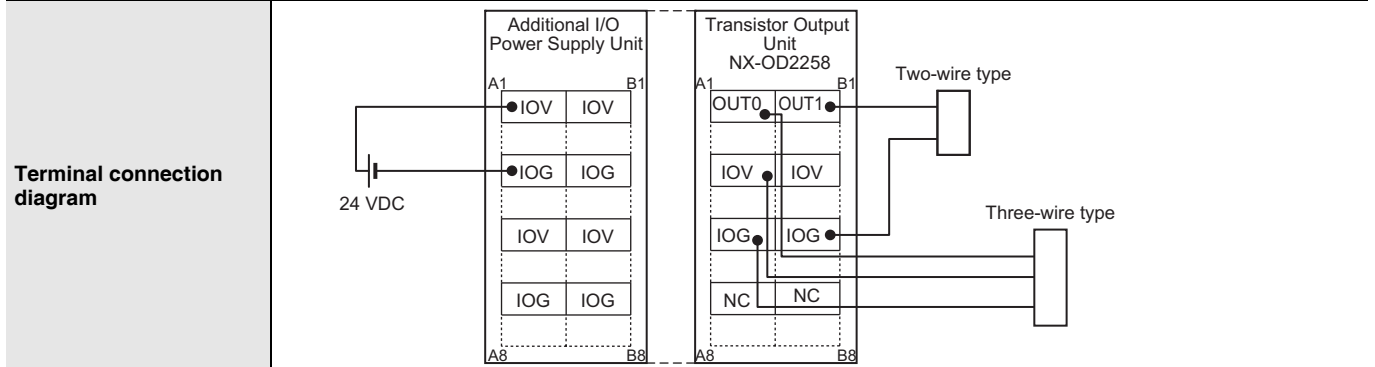


**Installation orientation and restrictions**

Installation orientation:


- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

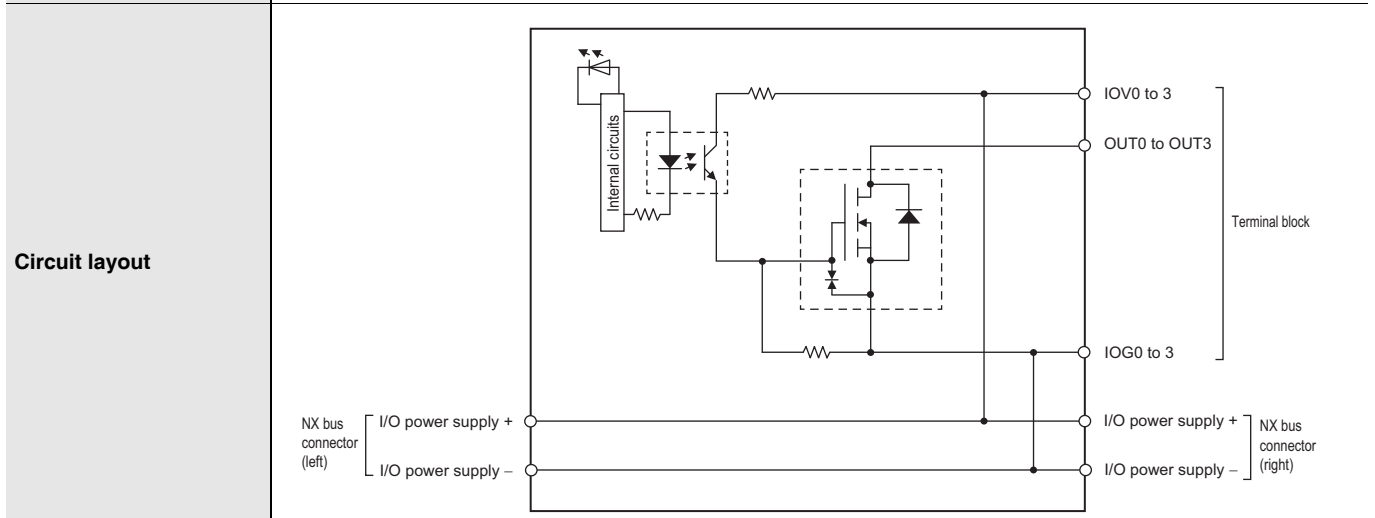
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	With load short-circuit protection.
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**NX-OD3121**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD3121
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator 	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	12 to 24 VDC
		<b>Operating load voltage range</b>	10.2 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>I/O current consumption</b>	10 mA max.
<b>Weight</b>	70 g max.		

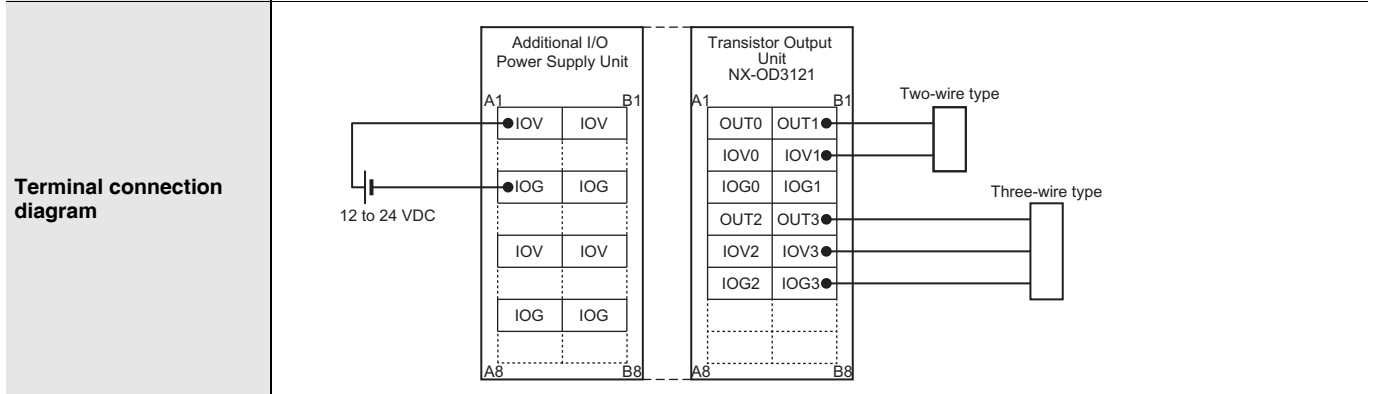


**Installation orientation and restrictions**

Installation orientation:

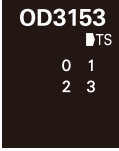
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

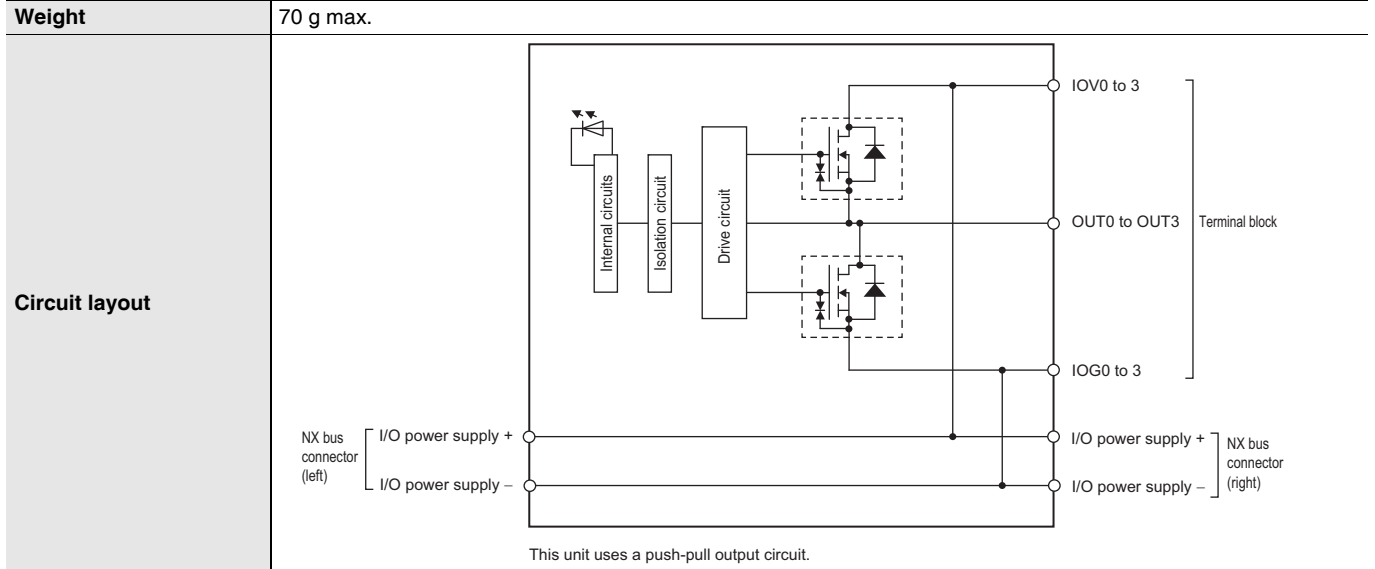
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-OD3153**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD3153
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	15 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	300 ns max./300 ns max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Digital isolator isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.50 W max.</li> </ul>	<b>I/O current consumption</b>	30 mA max.
<b>Weight</b>	70 g max.		

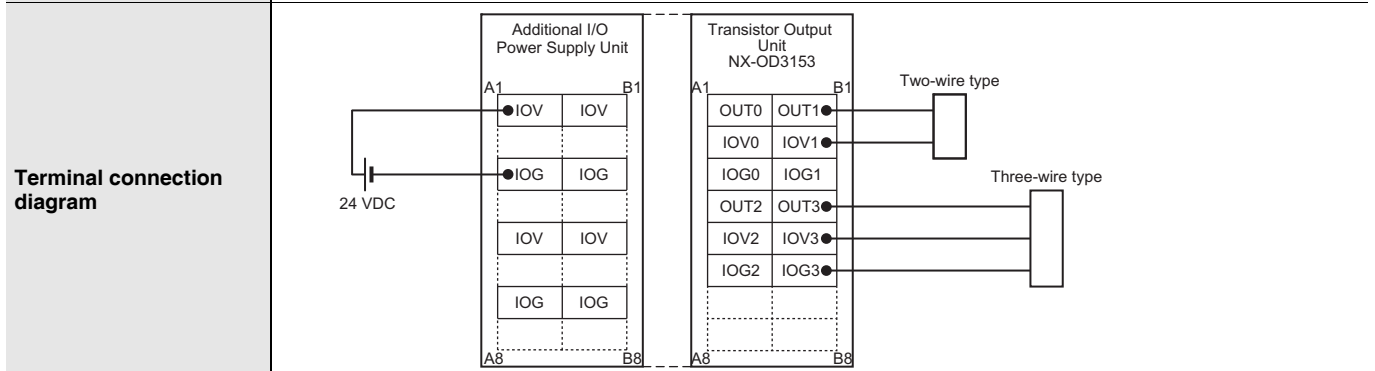


**Installation orientation and restrictions**

Installation orientation:

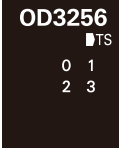
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

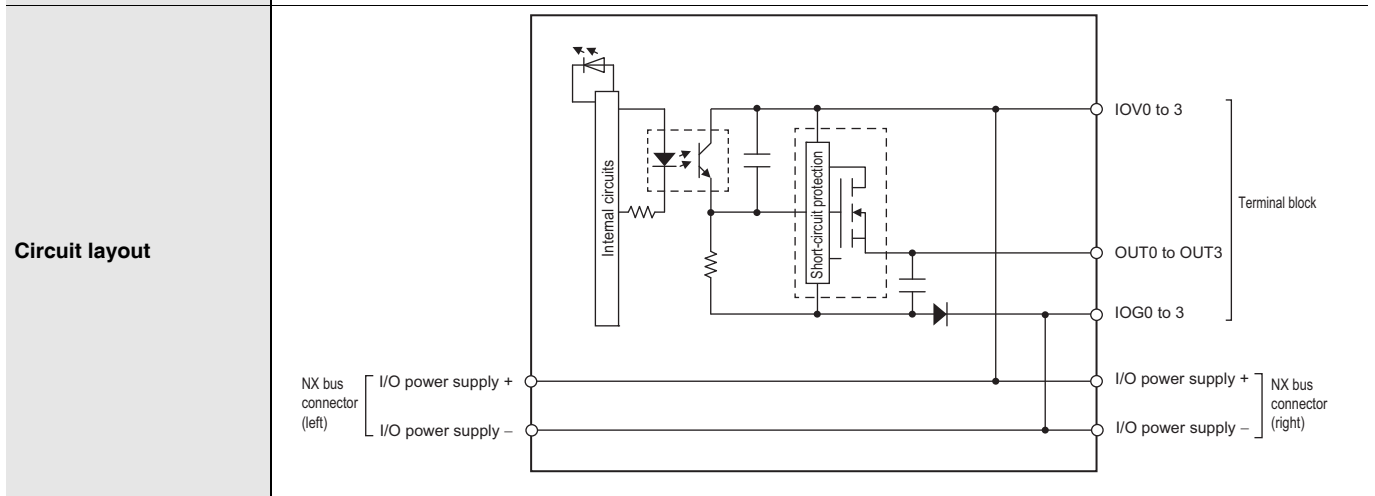
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-OD3256**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD3256
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator 	<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	15 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.5 ms max./1.0 ms max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>I/O current consumption</b>	20 mA max.
<b>Weight</b>	70 g max.		

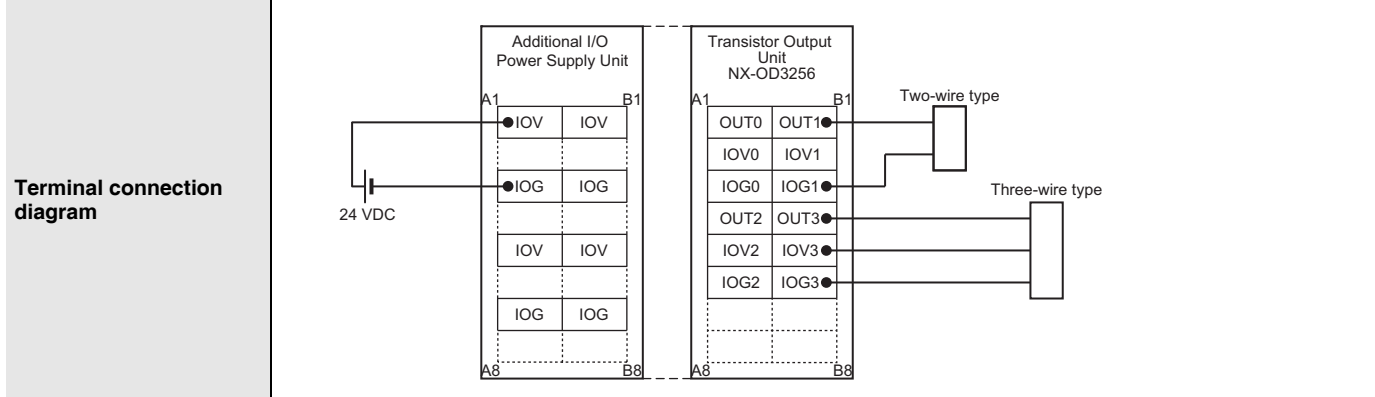


**Installation orientation and restrictions**

Installation orientation:

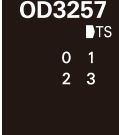
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

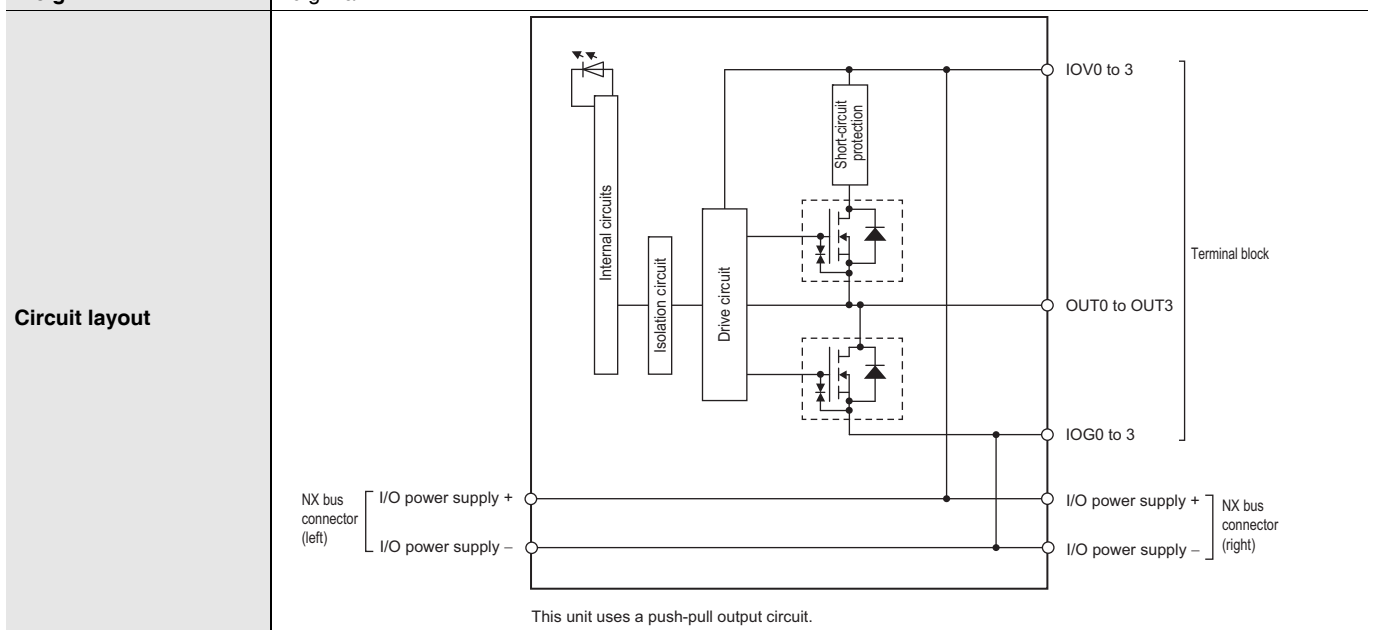
Restrictions: No restrictions



<b>Disconnection/ Short-circuit detection</b>	Not supported.	<b>Protective function</b>	With load short-circuit protection.
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**NX-OD3257**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD3257
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (12 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	15 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	300 ns max./300 ns max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Digital isolator isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 0.85 W max.</li> <li>Connected to a Communications Coupler Unit: 0.50 W max.</li> </ul>	<b>I/O current consumption</b>	40 mA max.
<b>Weight</b>	70 g max.		

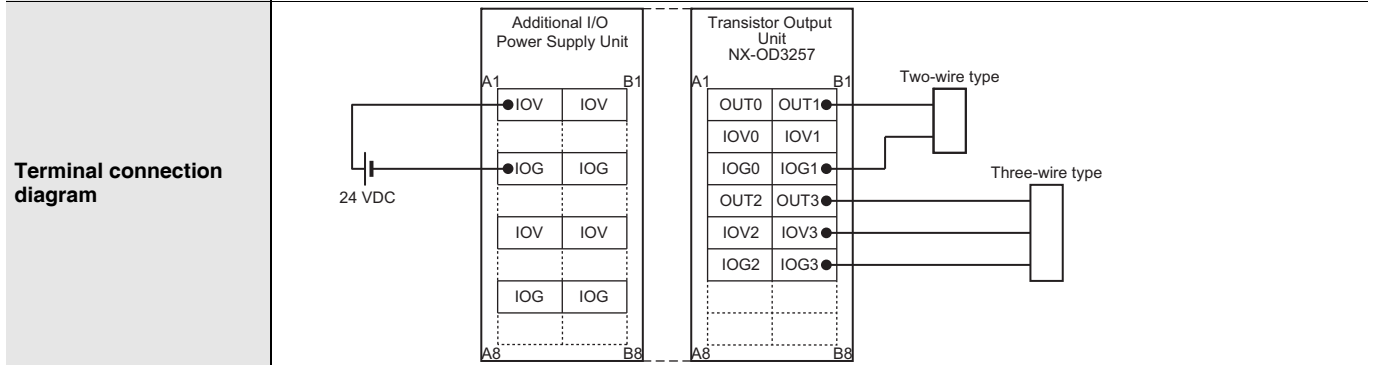


**Installation orientation and restrictions**

Installation orientation:


- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

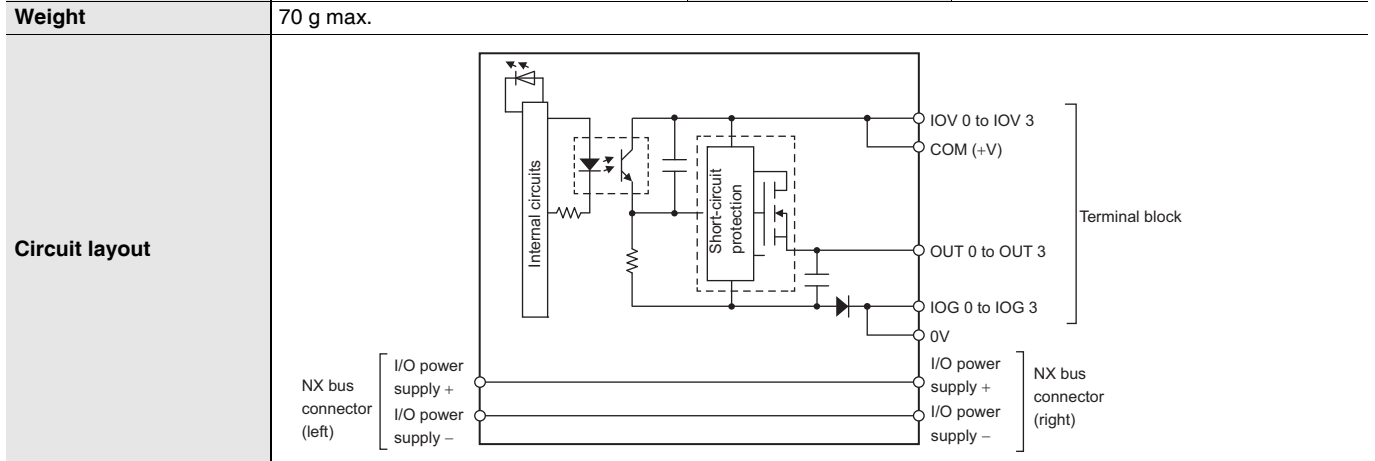
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	With load short-circuit protection.
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**NX-OD3268**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD3268
<b>Number of points</b>	4 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>		<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	15 to 28.8 VDC
		<b>Maximum value of load current</b>	2 A/point, 8 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.5 ms max./1.0 ms max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	IOV: 2 A/terminal max., IOG: 2 A/terminal max., COM (+V): 4 A/terminal max., 0V: 4 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.85 W max.</li> <li>Connected to a Communications Coupler Unit 0.50 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	20 mA max.
<b>Weight</b>	70 g max.		

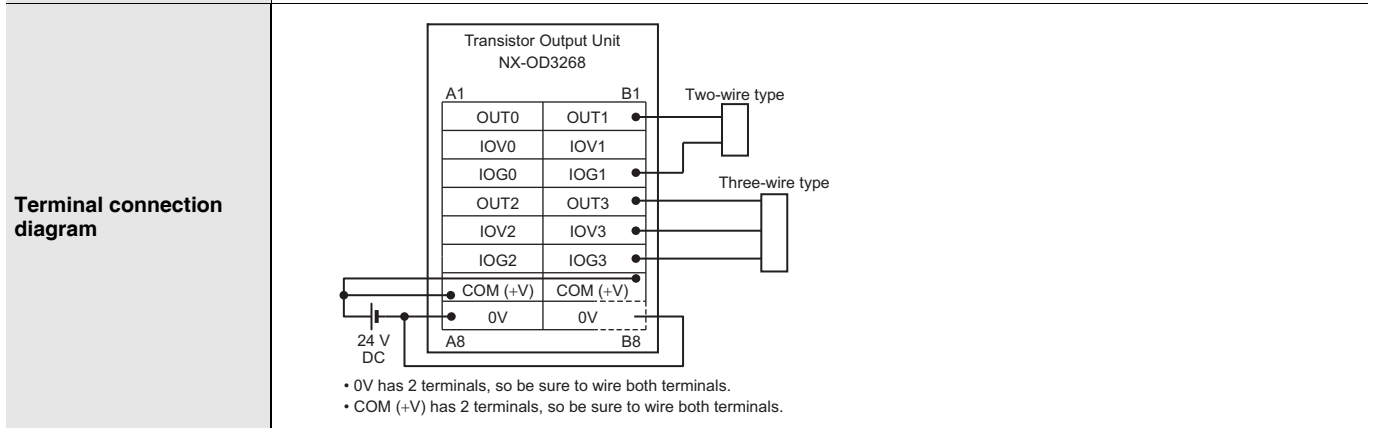


**Installation orientation and restrictions**

Installation orientation:

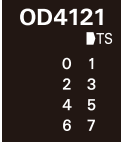
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

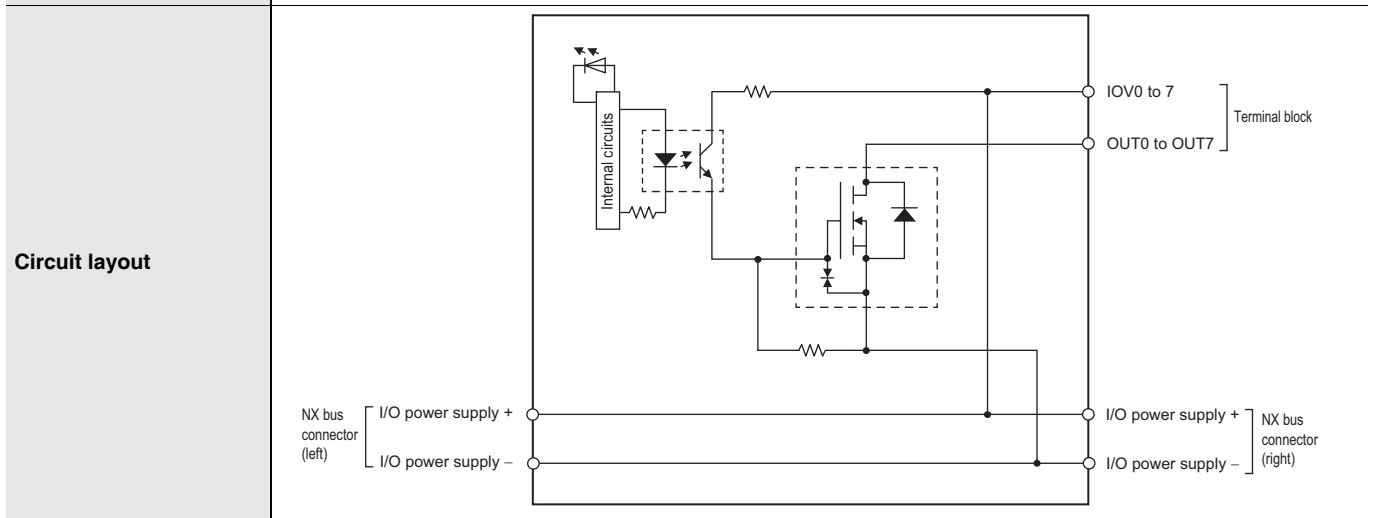
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	With load short-circuit protection.
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**NX-OD4121**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD4121
<b>Number of points</b>	8 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator 	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	12 to 24 VDC
		<b>Operating load voltage range</b>	10.2 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 4 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.
		<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOV: 0.5 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.55 W max.</li> </ul>	<b>I/O current consumption</b>	10 mA max.
<b>Weight</b>	70 g max.		

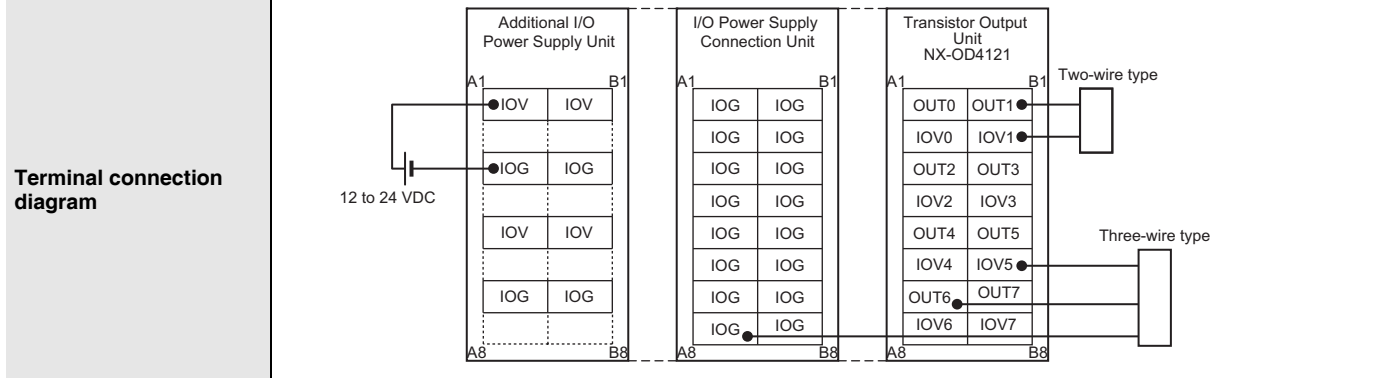


**Installation orientation and restrictions**

Installation orientation:

- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.


Restrictions: No restrictions

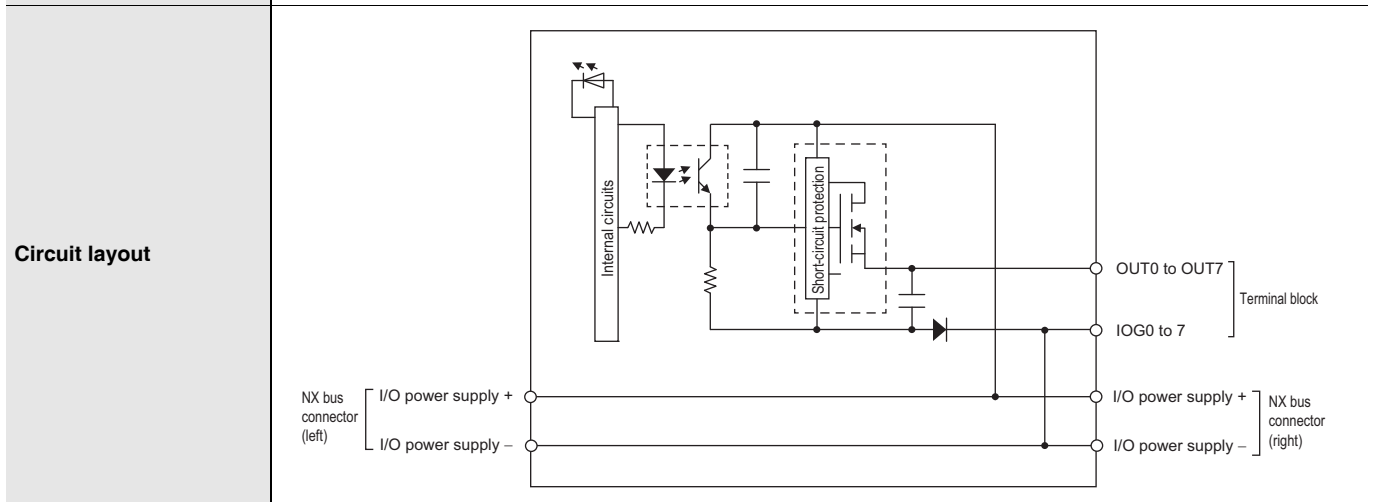


<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-OD4256**

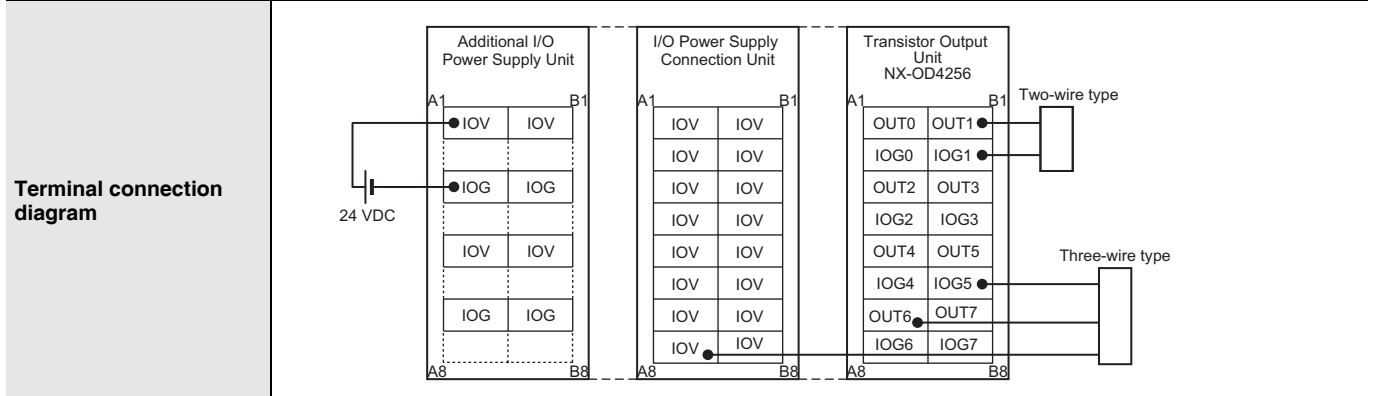
<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD4256
<b>Number of points</b>	8 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator 	<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	15 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 4 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.5 ms max./1.0 ms max.
		<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	IOG: 0.5 A/terminal max.
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 1.00 W max.</li> <li>Connected to a Communications Coupler Unit: 0.65 W max.</li> </ul>	<b>I/O current consumption</b>	30 mA max.
<b>Weight</b>	70 g max.		



**Installation orientation and restrictions**


- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

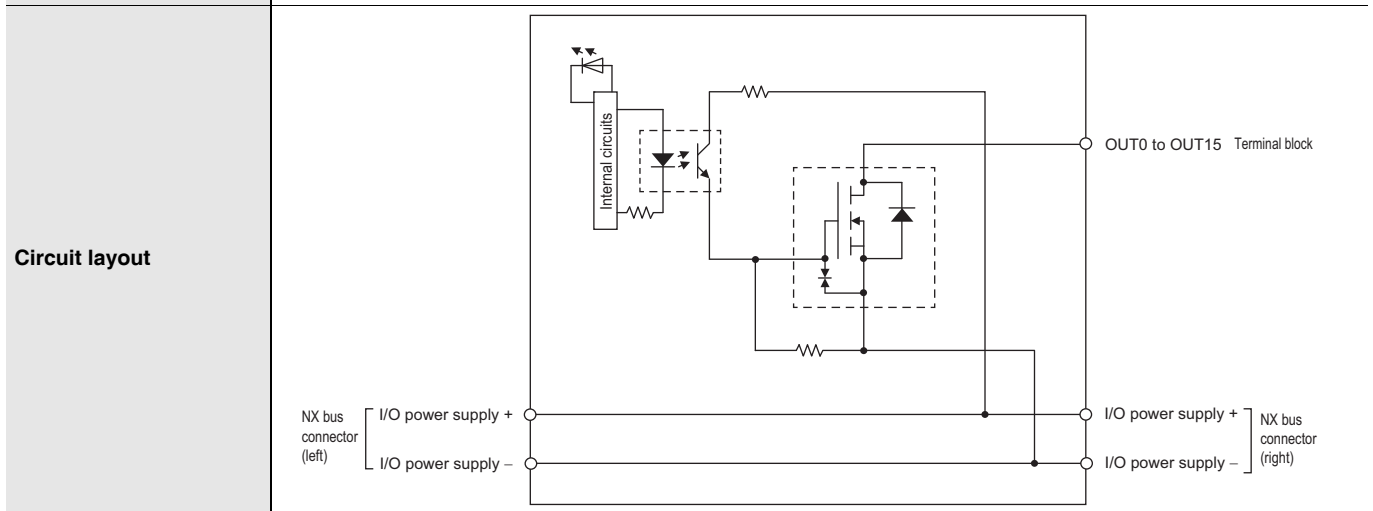
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	With load short-circuit protection.
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**NX-OD5121**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD5121
<b>Number of points</b>	16 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator 	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	12 to 24 VDC
		<b>Operating load voltage range</b>	10.2 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 4 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 1.00 W max.</li> <li>Connected to a Communications Coupler Unit 0.65 W max.</li> </ul>	<b>I/O current consumption</b>	20 mA max.
<b>Weight</b>	70 g max.		

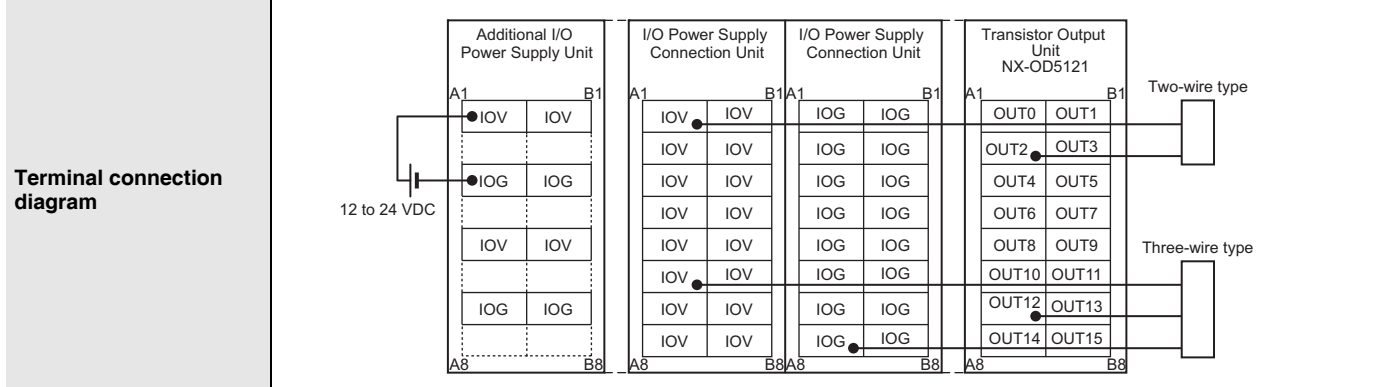


**Installation orientation and restrictions**

Installation orientation:


- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

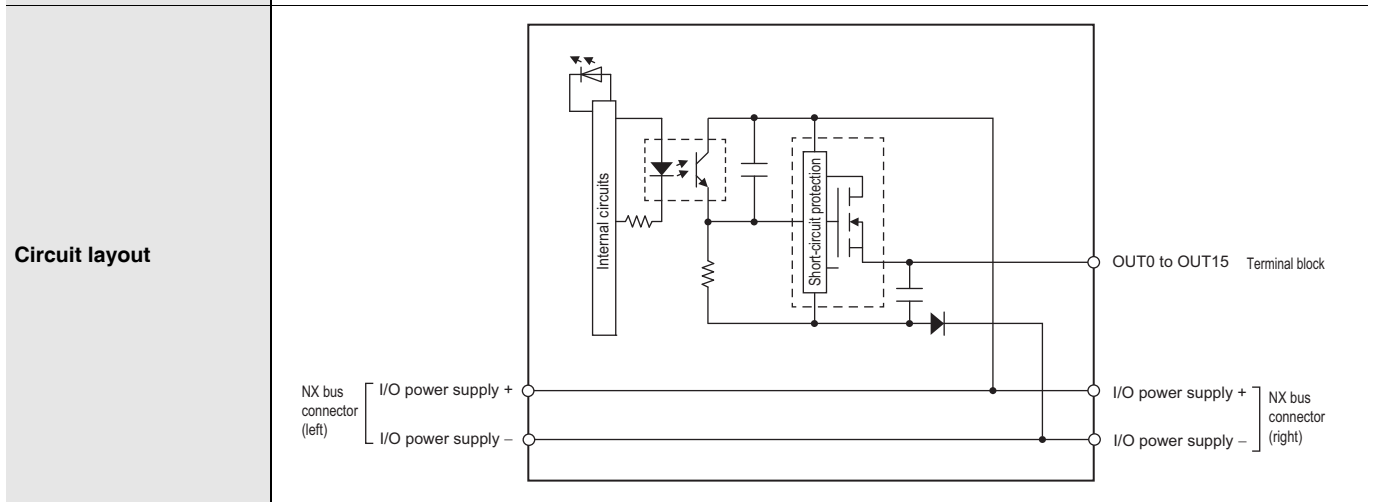
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-OD5256**

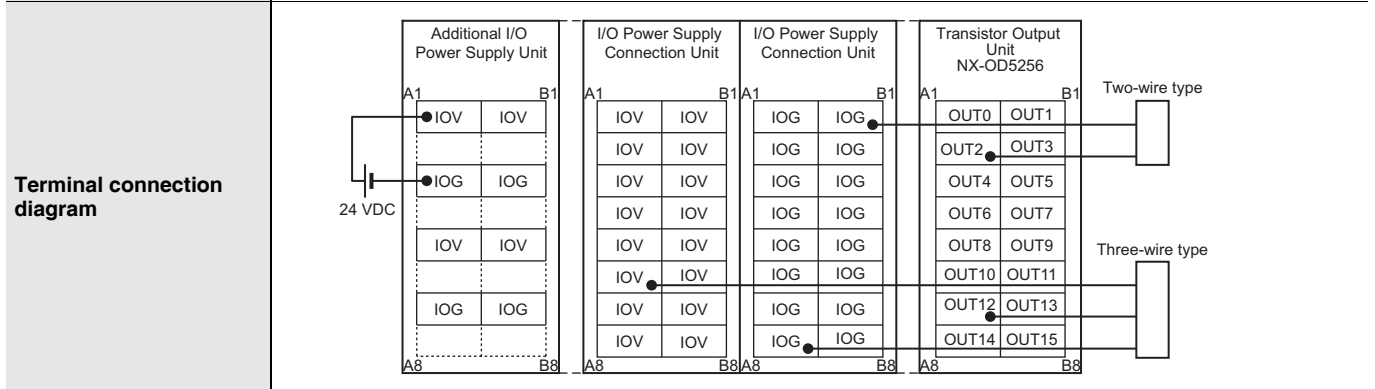
<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD5256
<b>Number of points</b>	16 points	<b>External connection terminals</b>	Screwless clamping terminal block (16 terminals)
<b>I/O refreshing method</b>	Selectable Synchronous I/O refreshing or Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator 	<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	15 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 4 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.5 ms max./1.0 ms max.
		<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the NX bus	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 1.10 W max.</li> <li>Connected to a Communications Coupler Unit: 0.70 W max.</li> </ul>	<b>I/O current consumption</b>	40 mA max.
<b>Weight</b>	70 g max.		



**Installation orientation and restrictions**

- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

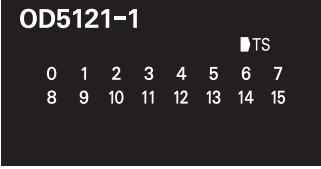
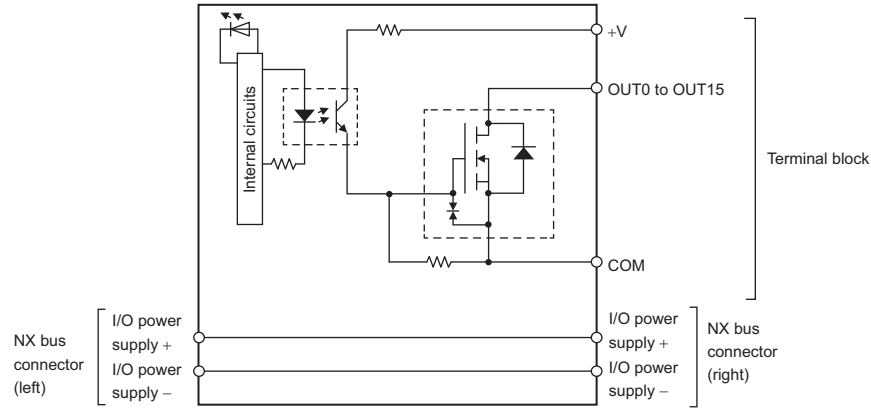
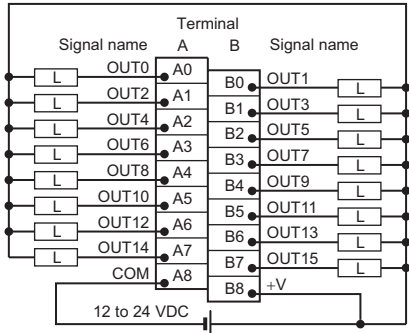
Restrictions: No restrictions



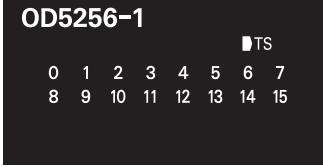
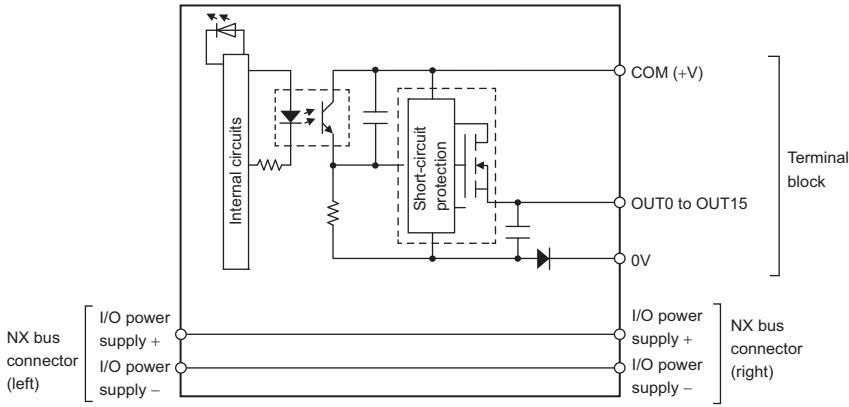
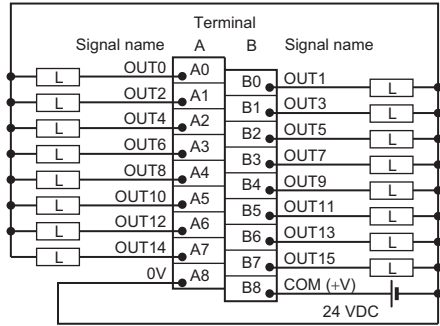
<b>Disconnection/ Short-circuit detection</b>	Not supported.	<b>Protective function</b>	With load short-circuit protection.
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● Transistor Output Unit (M3 Screw Terminal Block, 30 mm Width)

NX-OD5121-1

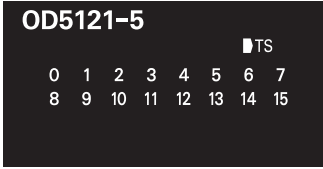
<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD5121-1
<b>Number of points</b>	16 points	<b>External connection terminals</b>	M3 screw terminal block (18 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	 <p>OD5121-1</p> <p>0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p> <p>■ TS</p>	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	12 to 24 VDC
		<b>Operating load voltage range</b>	10.2 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 5 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from the external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.90 W max.</li> <li>Connected to a Communications Coupler Unit 0.60 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	30 mA max.
<b>Weight</b>	125 g max.		
<b>Circuit layout</b>			
<b>Installation orientation and restrictions</b>	<p>Installation orientation:</p> <ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> </ul> <p>Restrictions: No restrictions</p>		
<b>Terminal connection diagram</b>			
<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.

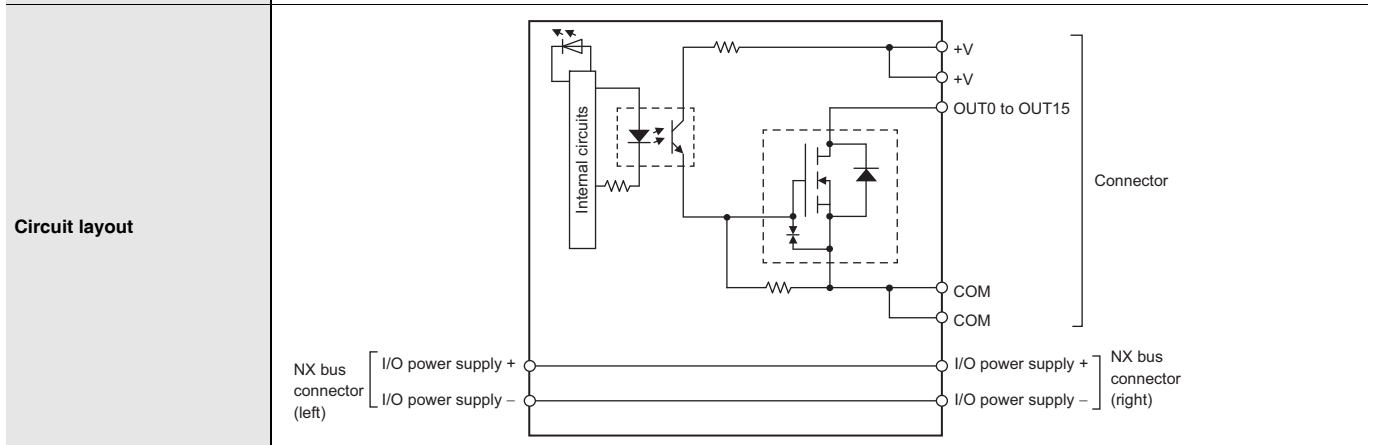
**NX-OD5256-1**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD5256-1
<b>Number of points</b>	16 points	<b>External connection terminals</b>	M3 screw terminal block (18 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	20.4 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 5 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.5 ms max./1.0 ms max.
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 0.95 W max.</li> <li>Connected to a Communications Coupler Unit: 0.65 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	30 mA max.
<b>Weight</b>	125 g max.		
<b>Circuit layout</b>			
<b>Installation orientation and restrictions</b>	<p>Installation orientation:</p> <ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> </ul> <p>Restrictions: No restrictions</p>		
<b>Terminal connection diagram</b>			
<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	With load short-circuit protection.

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

NX-OD5121-5

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD5121-5
<b>Number of points</b>	16 points	<b>External connection terminals</b>	MIL connector (20 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	12 to 24 VDC
		<b>Operating load voltage range</b>	10.2 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.
		<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 0.95 W max.</li> <li>Connected to a Communications Coupler Unit 0.60 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	30 mA max.
		<b>Weight</b>	80 g max.

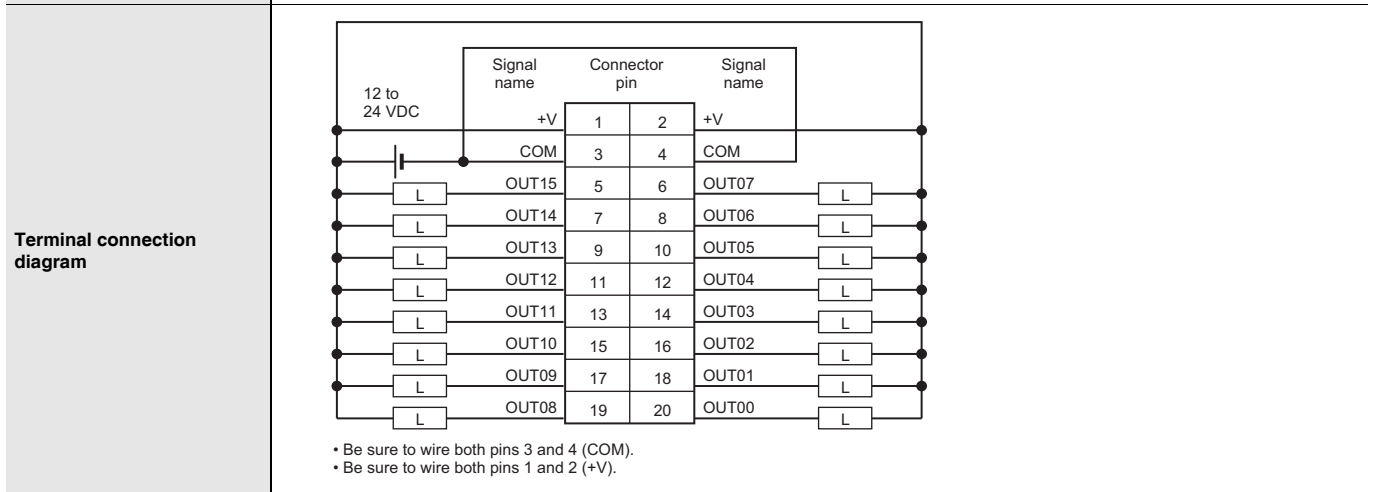


**Installation orientation and restrictions**

Installation orientation:

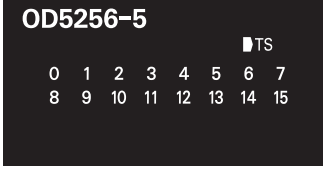
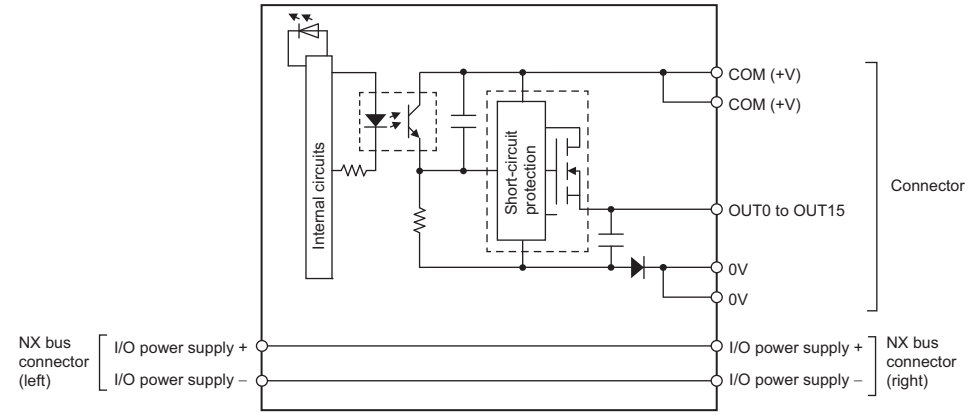
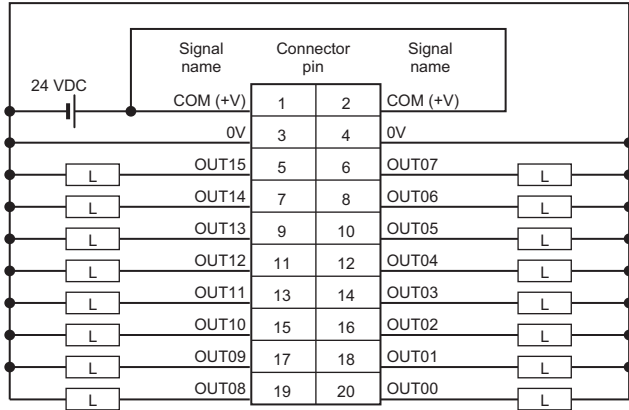
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions

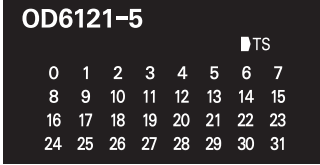
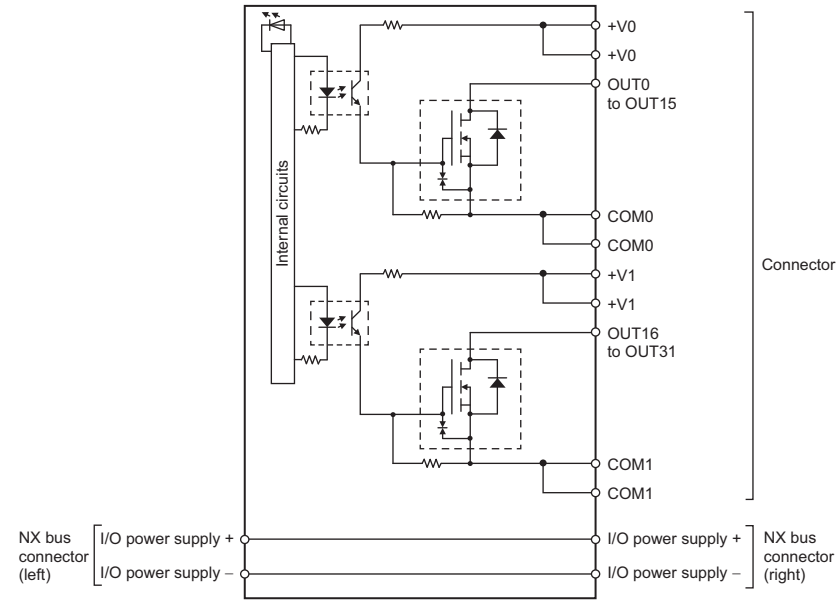


<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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**NX-OD5256-5**

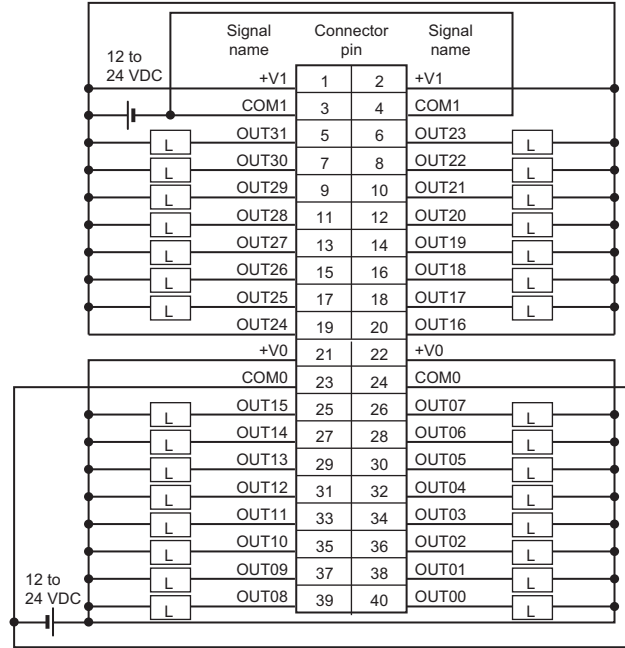
<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD5256-5
<b>Number of points</b>	16 points	<b>External connection terminals</b>	MIL connector (20 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	20.4 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.5 ms max./1.0 ms max.
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supplied from external source.	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 1.00 W max.</li> <li>Connected to a Communications Coupler Unit: 0.70 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	40 mA max.
<b>Weight</b>	85 g max.		
<b>Circuit layout</b>			
<b>Installation orientation and restrictions</b>	<p>Installation orientation:</p> <ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> </ul> <p>Restrictions: No restrictions</p>		
<b>Terminal connection diagram</b>	 <p>• Be sure to wire both pins 1 and 2 (COM (+V)). • Be sure to wire both pins 3 and 4 (0V).</p>		
<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	With load short-circuit protection.

**NX-OD6121-5**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD6121-5
<b>Number of points</b>	32 points	<b>External connection terminals</b>	MIL connector (40 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	12 to 24 VDC
		<b>Operating load voltage range</b>	10.2 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/common, 4 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 1.00 W max.</li> <li>Connected to a Communications Coupler Unit: 0.80 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	50 mA max.
<b>Weight</b>	90 g max.		
<b>Circuit layout</b>			
<b>Installation orientation and restrictions</b>	<p>Installation orientation:</p> <ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> </ul> <p>Restrictions: No restrictions</p>		



Terminal connection diagram



- 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).

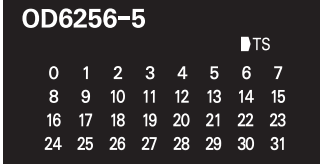
Disconnection/Short-circuit detection

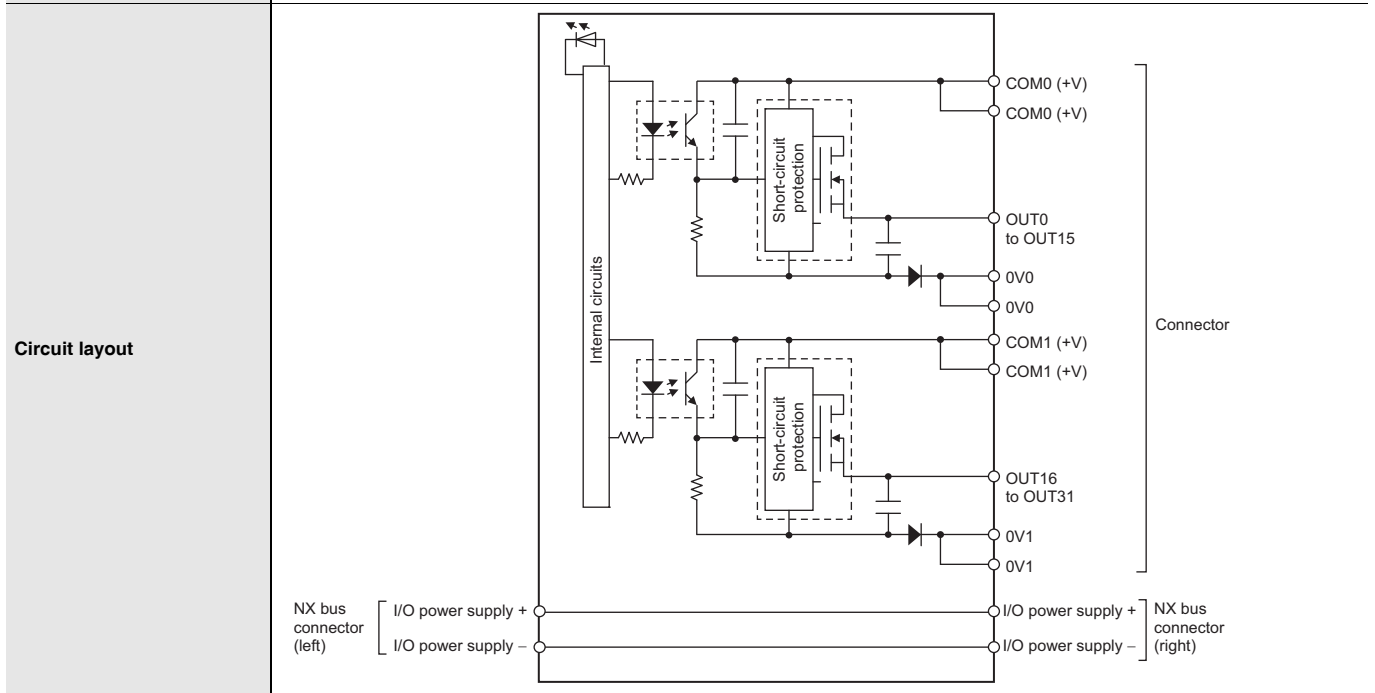
Not supported.

Protective function

Not supported.

**NX-OD6256-5**

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD6256-5
<b>Number of points</b>	32 points	<b>External connection terminals</b>	MIL connector (40 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Internal I/O common</b>	PNP
		<b>Rated voltage</b>	24 VDC
		<b>Operating load voltage range</b>	20.4 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/common, 4 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.5 ms max./1.0 ms max.
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 1.30 W max.</li> <li>Connected to a Communications Coupler Unit: 1.00 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	80 mA max.
<b>Weight</b>	95 g max.		



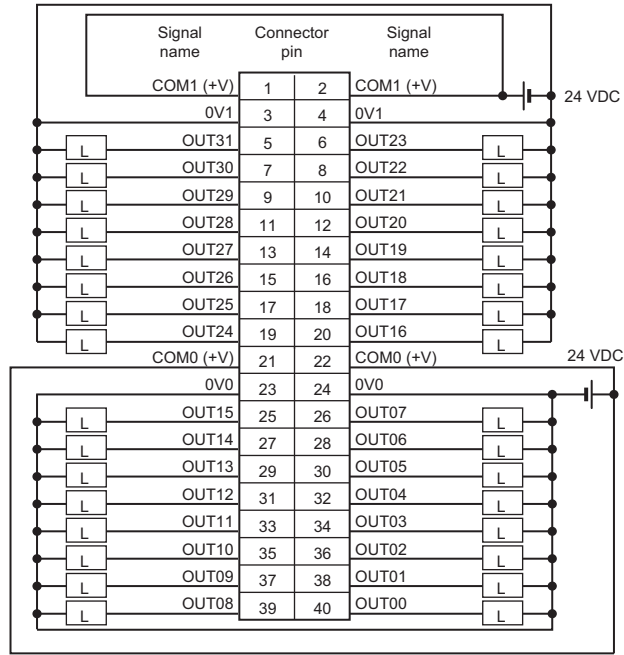
**Installation orientation and restrictions**

Installation orientation:

- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions

**Terminal connection diagram**



- 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).

**Disconnection/Short-circuit detection**

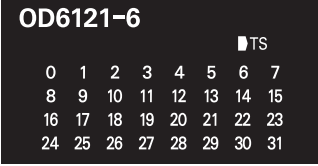
Not supported.

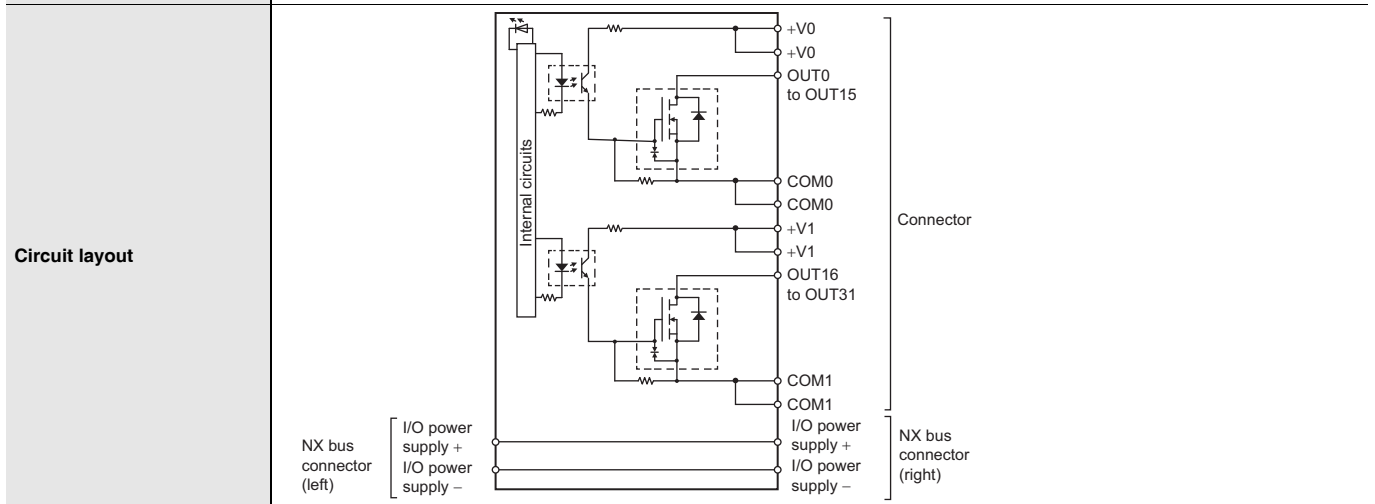
**Protective function**

With load short-circuit protection.

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

NX-OD6121-6

<b>Unit name</b>	Transistor Output Unit	<b>Model</b>	NX-OD6121-6
<b>Number of points</b>	32 points	<b>External connection terminals</b>	Fujitsu connector (40 terminals)
<b>I/O refreshing method</b>	Switching Synchronous I/O refreshing and Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Internal I/O common</b>	NPN
		<b>Rated voltage</b>	12 to 24 VDC
		<b>Operating load voltage range</b>	10.2 to 28.8 VDC
		<b>Maximum value of load current</b>	0.5 A/point, 2 A/common, 4 A/Unit
		<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.
		<b>Leakage current</b>	0.1 mA max.
		<b>Residual voltage</b>	1.5 V max.
		<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.
<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Photocoupler isolation
<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit: 1.10 W max.</li> <li>Connected to a Communications Coupler Unit: 0.80 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	50 mA max.
<b>Weight</b>	90 g max.		

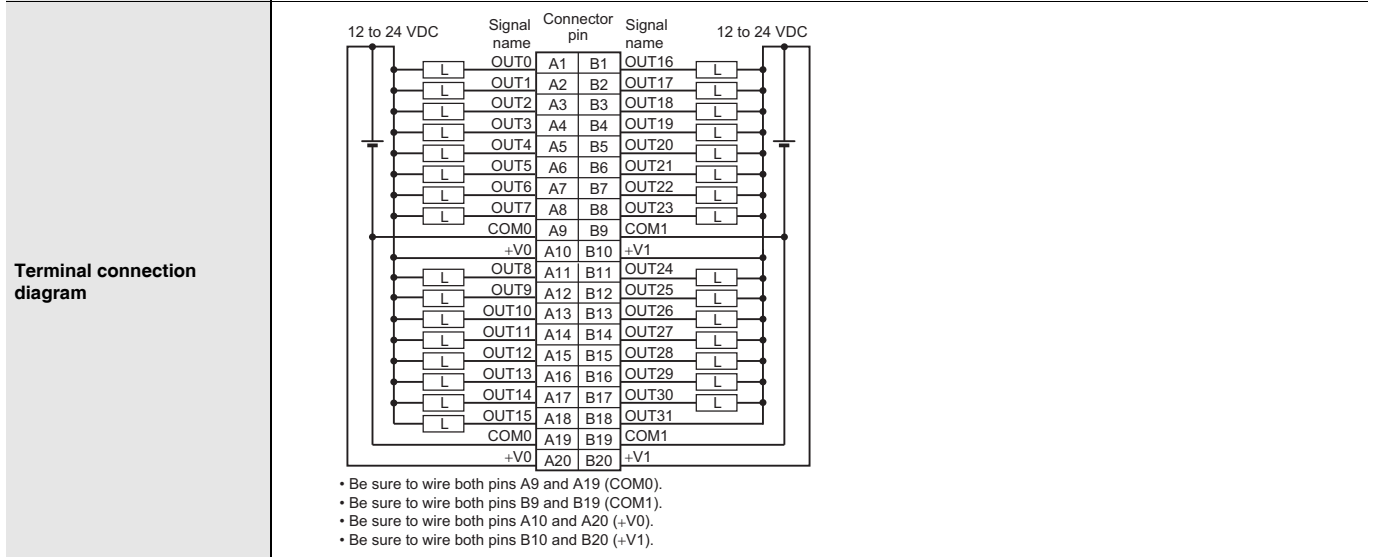


**Installation orientation and restrictions**

Installation orientation:


- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

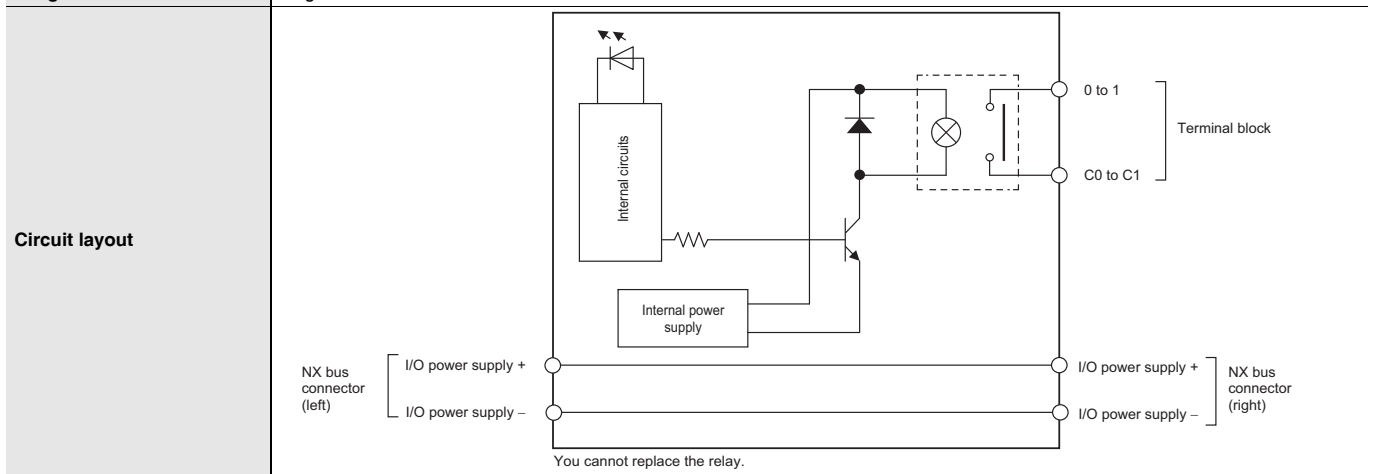
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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● Relay Output Unit (Screwless Clamping Terminal Block, 12 mm Width)  
NX-OC2633

<b>Unit name</b>	Relay Output Units	<b>Model</b>	NX-OC2633
<b>Number of points</b>	2 points, independent contacts	<b>External connection terminals</b>	Screwless clamping terminal block (8 terminals)
<b>I/O refreshing method</b>	Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator	<b>Relay type</b>	N.O. contact
		<b>Maximum switching capacity</b>	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit
		<b>Minimum switching capacity</b>	5 VDC, 1 mA
<b>Relay service life</b>	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	<b>ON/OFF response time</b>	15 ms max./15 ms max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Relay isolation
<b>Insulation resistance</b>	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)	<b>Dielectric strength</b>	Between A1/B1 terminals and A3/B3 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and GR terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and GR terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
<b>Vibration resistance</b>	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 <sup>2</sup> 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	<b>Shock resistance</b>	100 m/s <sup>2</sup> , 3 times each in X, Y, and Z directions
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 1.20 W max.</li> <li>Connected to a Communications Coupler Unit 0.80 W max.</li> </ul>	<b>I/O current consumption</b>	No consumption
<b>Weight</b>	65 g max.		

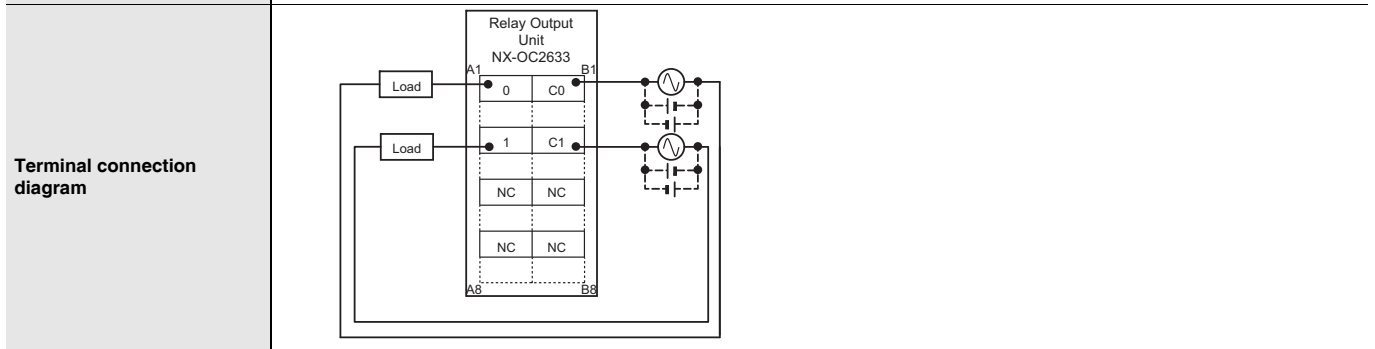


**Installation orientation and restrictions**

Installation orientation:

- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

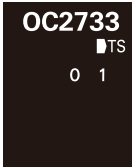
Restrictions: No restrictions

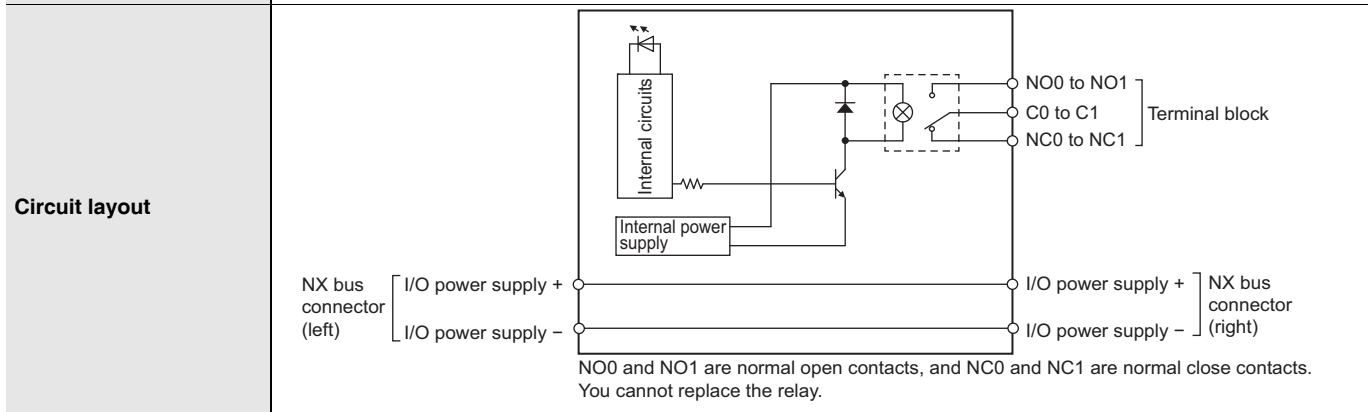


<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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\* Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

**NX-OC2733**

<b>Unit name</b>	Relay Output Unit	<b>Model</b>	NX-OC2733
<b>Number of points</b>	2 points, independent contacts	<b>External connection terminals</b>	Screwless clamping terminal block (8 terminals)
<b>I/O refreshing method</b>	Free-Run refreshing		
<b>Indicators</b>	TS indicator, output indicator 	<b>Maximum switching capacity</b>	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit
		<b>Minimum switching capacity</b>	5 VDC, 10 mA
<b>Relay service life</b>	Electrical: 100,000 operations Mechanical: 20,000,000 operations	<b>ON/OFF response time</b>	15 ms max./15 ms max.
<b>Dimensions</b>	12 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Relay isolation
<b>Insulation resistance</b>	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)	<b>Dielectric strength</b>	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.
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 1.30 W max.</li> <li>Connected to a Communications Coupler Unit 0.95 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	70 g max.		

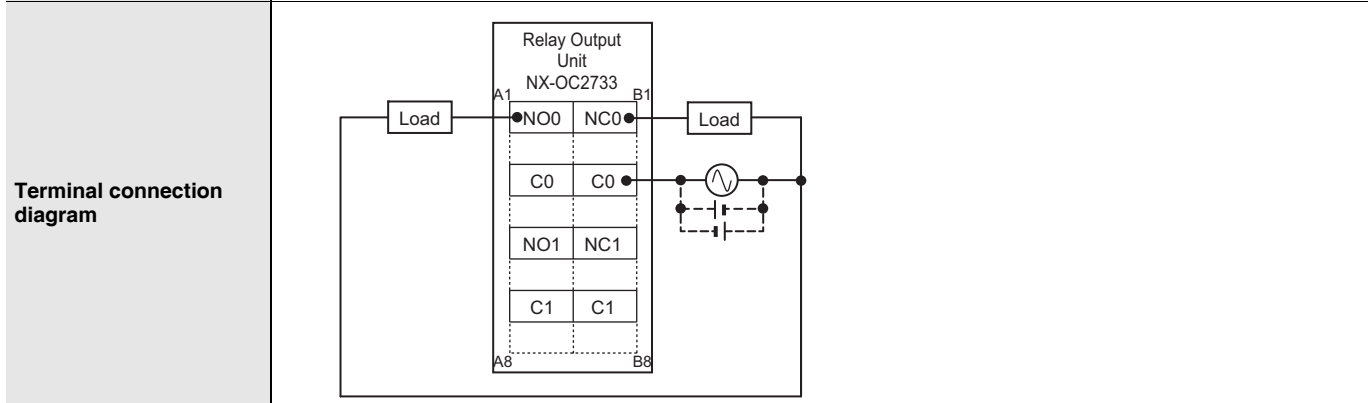


**Installation orientation and restrictions**

Installation orientation:

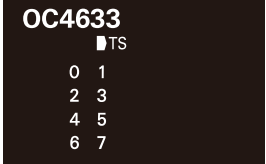
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

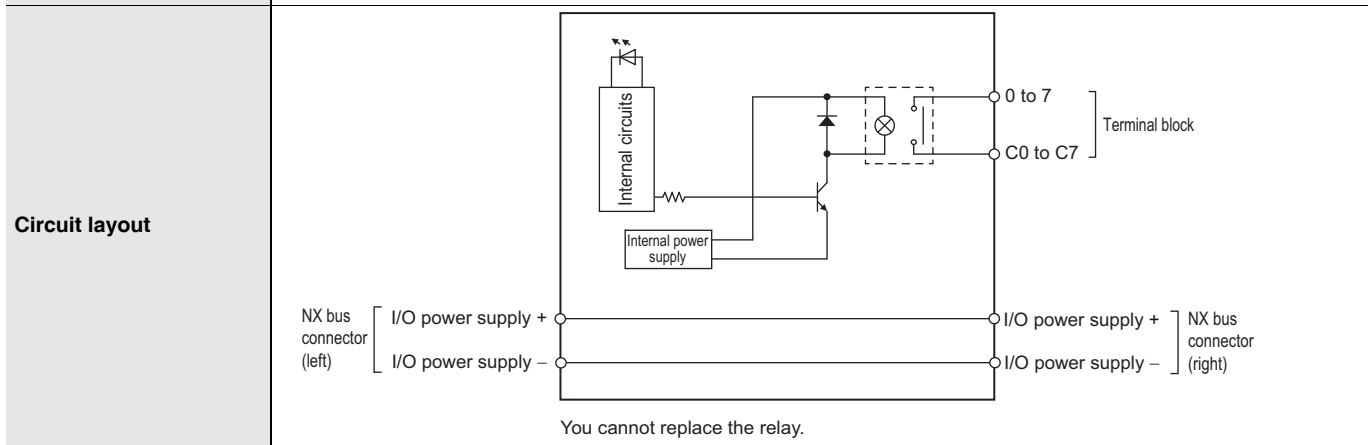
Restrictions: No restrictions



<b>Disconnection/Short-circuit detection</b>	Not supported.	<b>Protective function</b>	Not supported.
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● Relay Output Unit (Screwless Clamping Terminal Block, 24 mm Width)  
**NX-OC4633**

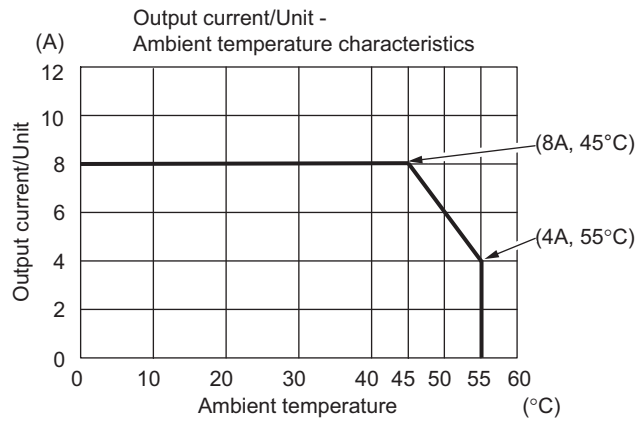
<b>Unit name</b>	Relay Output Unit	<b>Model</b>	NX-OC4633
<b>Number of points</b>	8 points, independent contacts	<b>External connection terminals</b>	Screwless clamping terminal block (8 terminals x 2)
<b>I/O refreshing method</b>	Free-Run refreshing		
<b>Indicators</b>		<b>Relay type</b>	N.O. contact
		<b>Maximum switching capacity</b>	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 8 A/Unit
		<b>Minimum switching capacity</b>	5 VDC, 1 mA
<b>Relay service life</b>	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	<b>ON/OFF response time</b>	15 ms max./15 ms max.
<b>Dimensions</b>	24 (W) x 100 (H) x 71 (D)	<b>Isolation method</b>	Relay isolation
<b>Insulation resistance</b>	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)	<b>Dielectric strength</b>	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.
<b>Vibration resistance</b>	Conforms to IEC 60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 8.4 to 150 Hz, acceleration of 9.8 m/s <sup>2</sup> 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	<b>Shock resistance</b>	100 m/s <sup>2</sup> , 3 times each in X, Y, and Z directions
<b>I/O power supply method</b>	Supply from external source	<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals
<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 2.00 W max.</li> <li>Connected to a Communications Coupler Unit 1.65 W max.</li> </ul>	<b>Current consumption from I/O power supply</b>	No consumption
<b>Weight</b>	140 g max.		



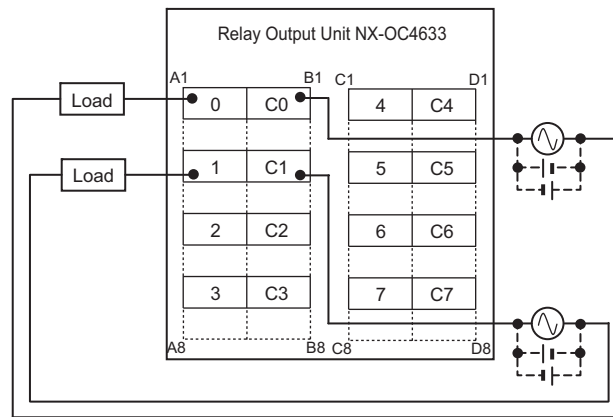
**Installation orientation and restrictions**

Installation orientation:  
 • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  
 • Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: As shown in the following.



**Terminal connection diagram**

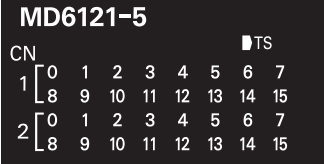
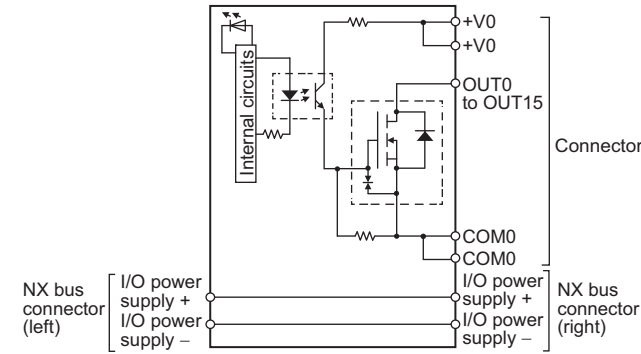
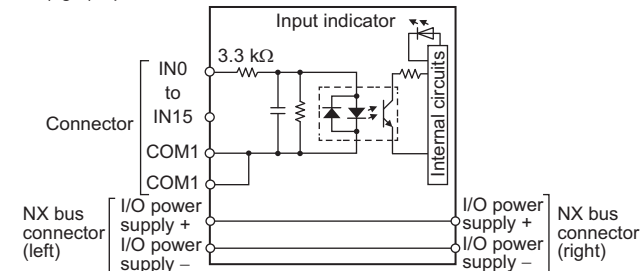


\* Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.



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

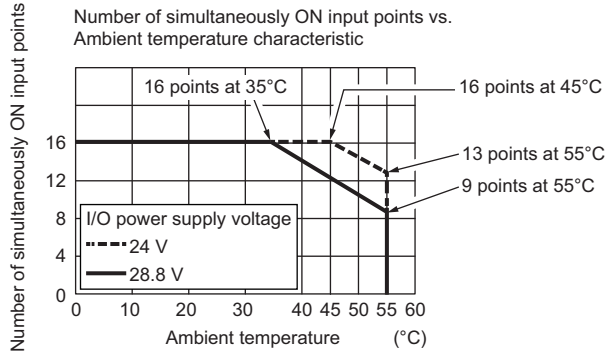
NX-MD6121-5

<b>Unit name</b>		DC Input/Transistor Output Unit	<b>Model</b>	NX-MD6121-5	
<b>Number of points</b>		16 inputs/16 outputs	<b>External connection terminals</b>	2 MIL connectors (20 terminals)	
<b>I/O refreshing method</b>		Switching Synchronous I/O refreshing and Free-Run refreshing			
<b>Output section (CN1)</b>	<b>Internal I/O common</b>	NPN	<b>Input section (CN2)</b>	<b>Internal I/O common</b>	For both NPN/PNP
	<b>Rated voltage</b>	12 to 24 VDC		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
	<b>Operating load voltage range</b>	10.2 to 28.8 VDC		<b>Input current</b>	7 mA typical (at 24 VDC)
	<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between COM and each signal)
	<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between COM and each signal)
	<b>Leakage current</b>	0.1 mA max.		<b>ON/OFF response time</b>	20 μs max./400 μs max.
	<b>Residual voltage</b>	1.5 V max.		<b>Input filter time</b>	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
	<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.			
<b>Indicators</b>	TS indicator, I/O indicators		<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	
			<b>Isolation method</b>	Photocoupler isolation	
			<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	
			<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
			<b>I/O power supply method</b>	Supply from external source	
			<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals	
			<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 1.00 W max.</li> <li>Connected to a Communications Coupler Unit 0.70 W max.</li> </ul>	
			<b>Current consumption from I/O power supply</b>	30 mA max.	
			<b>Weight</b>	105 g max.	
	<b>Circuit layout</b>	<p>CN1 (left) output circuit</p>  <p>CN2 (right) input circuit</p> 			

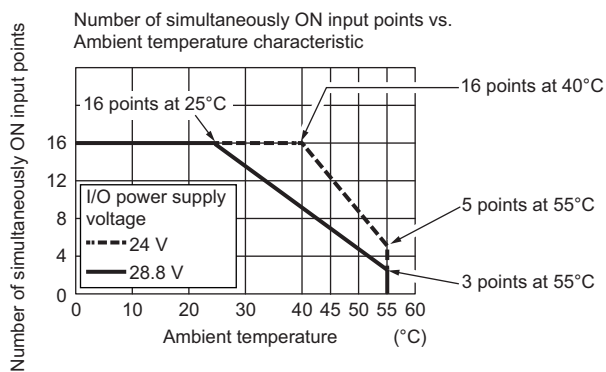
**Installation orientation and restrictions**

Installation orientation:  
 • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  
 • Connected to a Communications Coupler Unit: Possible in 6 orientations.  
 Restrictions: As shown in the following.

• For upright installation

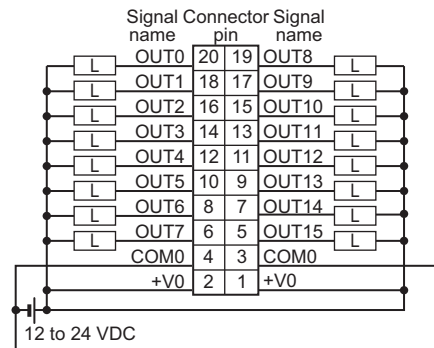


• For any installation other than upright



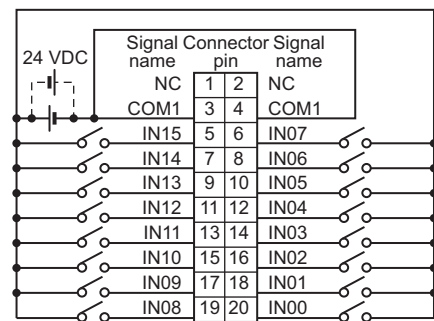
**Terminal connection diagram**

CN1 (left) output terminal



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

CN2 (right) input terminal



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

**Disconnection/Short-circuit detection**

Not supported.

**Protective function**

Not supported.

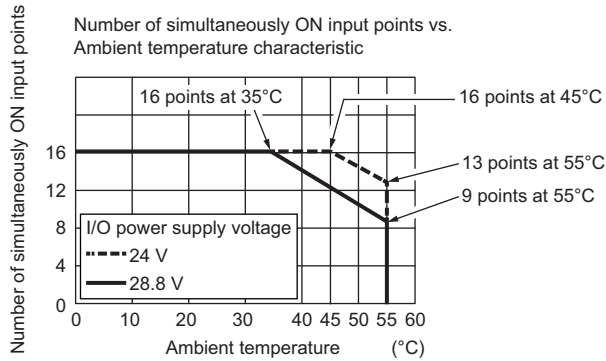
**NX-MD6256-5**

<b>Unit name</b>		DC Input/Transistor Output Unit		<b>Model</b>	NX-MD6256-5	
<b>Number of points</b>		16 inputs/16 outputs		<b>External connection terminals</b>	2 MIL connectors (20 terminals)	
<b>I/O refreshing method</b>		Switching Synchronous I/O refreshing and Free-Run refreshing				
<b>Output section (CN1)</b>	<b>Internal I/O common</b>	PNP		<b>Input section (CN2)</b>	<b>Internal I/O common</b>	For both NPN/PNP
	<b>Rated voltage</b>	24 VDC			<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
	<b>Operating load voltage range</b>	20.4 to 28.8 VDC			<b>Input current</b>	7 mA typical (at 24 VDC)
	<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit			<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between COM and each signal)
	<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.			<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between COM and each signal)
	<b>Leakage current</b>	0.1 mA max.			<b>ON/OFF response time</b>	20 μs max./400 μs max.
	<b>Residual voltage ON/OFF response time</b>	1.5 V max. 0.5 ms max./1.0 ms max.			<b>Input filter time</b>	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
<b>Indicators</b>	TS indicator, I/O indicators		<b>Dimensions</b>		30 (W) x 100 (H) x 71 (D)	
	<p><b>MD6256-5</b></p> <p>TS</p> <p>CN1</p> <p>1 [ 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p> <p>2 [ 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>		<b>Isolation method</b>		Photocoupler isolation	
			<b>Insulation resistance</b>		20 MΩ min. between isolated circuits (at 100 VDC)	
	<b>Dielectric strength</b>		510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.			
	<b>I/O power supply method</b>		Supply from external source			
	<b>Current capacity of I/O power supply terminal</b>		Without I/O power supply terminals			
	<b>NX Unit power consumption</b>		<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 1.10 W max.</li> <li>Connected to a Communications Coupler Unit 0.75 W max.</li> </ul>			
	<b>Current consumption from I/O power supply</b>		40 mA max.			
	<b>Weight</b>		110 g max.			
	<b>Circuit layout</b>	CN1 (left) output circuit				
<b>Circuit layout</b>	CN2 (right) input circuit					

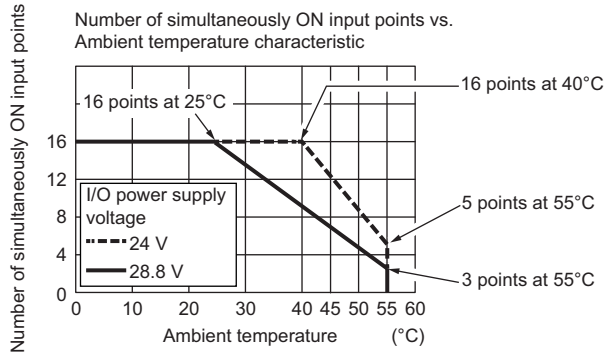
**Installation orientation and restrictions**

Installation orientation:  
 • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  
 • Connected to a Communications Coupler Unit: Possible in 6 orientations.  
 Restrictions: As shown in the following.

• For upright installation

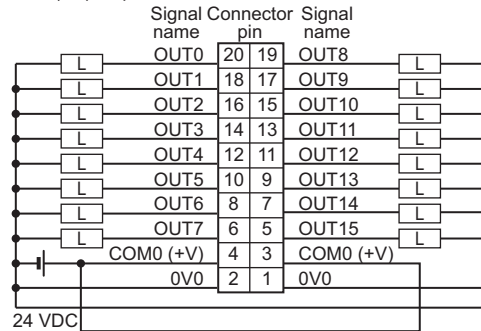


• For any installation other than upright



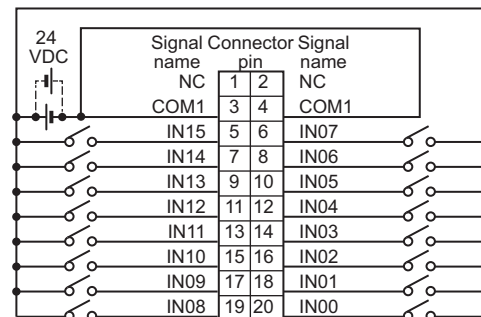
**Terminal connection diagram**

CN1 (left) output terminal



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

CN2 (right) input terminal



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

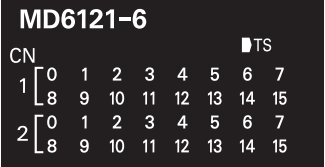
**Disconnection/Short-circuit detection**

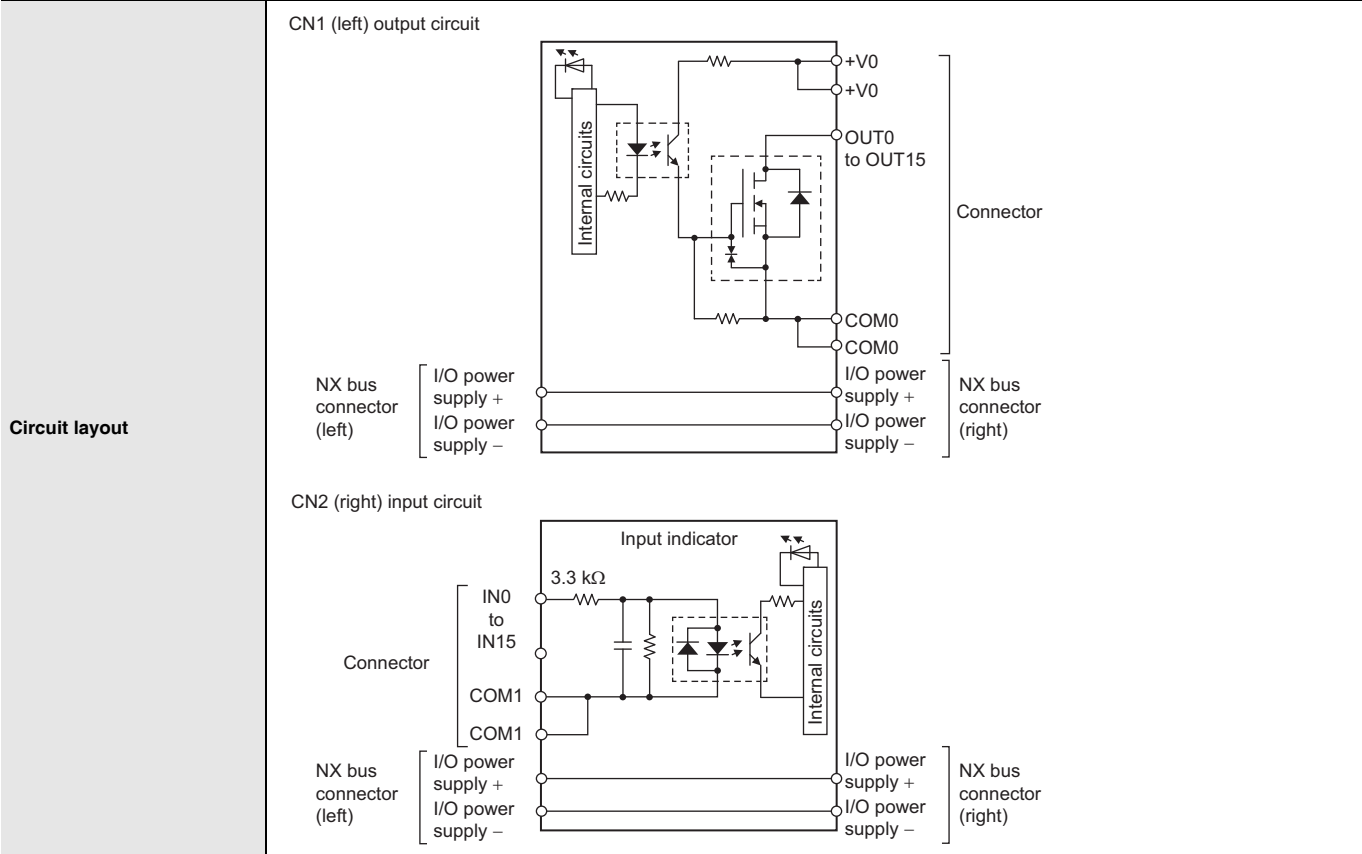
Not supported.

**Protective function**

With load short-circuit protection.

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

<b>Unit name</b>		DC Input/Transistor Output Unit	<b>Model</b>	NX-MD6121-6	
<b>Number of points</b>		16 inputs/16 outputs	<b>External connection terminals</b>	2 Fujitsu connectors (24 terminals)	
<b>I/O refreshing method</b>		Switching Synchronous I/O refreshing and Free-Run refreshing			
<b>Output section (CN1)</b>	<b>Internal I/O common</b>	NPN	<b>Input section (CN2)</b>	<b>Internal I/O common</b>	For both NPN/PNP
	<b>Rated voltage</b>	12 to 24 VDC		<b>Rated input voltage</b>	24 VDC (15 to 28.8 VDC)
	<b>Operating load voltage range</b>	10.2 to 28.8 VDC		<b>Input current</b>	7 mA typical (at 24 VDC)
	<b>Maximum value of load current</b>	0.5 A/point, 2 A/Unit		<b>ON voltage/ON current</b>	15 VDC min./3 mA min. (between COM and each signal)
	<b>Maximum inrush current</b>	4.0 A/point, 10 ms max.		<b>OFF voltage/OFF current</b>	5 VDC max./1 mA max. (between COM and each signal)
	<b>Leakage current</b>	0.1 mA max.		<b>ON/OFF response time</b>	20 μs max./400 μs max.
	<b>Residual voltage</b>	1.5 V max.		<b>Input filter time</b>	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
	<b>ON/OFF response time</b>	0.1 ms max./0.8 ms max.			
<b>Indicators</b>	TS indicator, I/O indicators		<b>Dimensions</b>	30 (W) x 100 (H) x 71 (D)	
			<b>Isolation method</b>	Photocoupler isolation	
			<b>Insulation resistance</b>	20 MΩ min. between isolated circuits (at 100 VDC)	
			<b>Dielectric strength</b>	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
			<b>I/O power supply method</b>	Supply from external source	
			<b>Current capacity of I/O power supply terminal</b>	Without I/O power supply terminals	
			<b>NX Unit power consumption</b>	<ul style="list-style-type: none"> <li>Connected to a CPU Unit or Communication Control Unit 1.00 W max.</li> <li>Connected to a Communications Coupler Unit 0.70 W max.</li> </ul>	
			<b>Current consumption from I/O power supply</b>	30 mA max.	
			<b>Weight</b>	95 g max.	

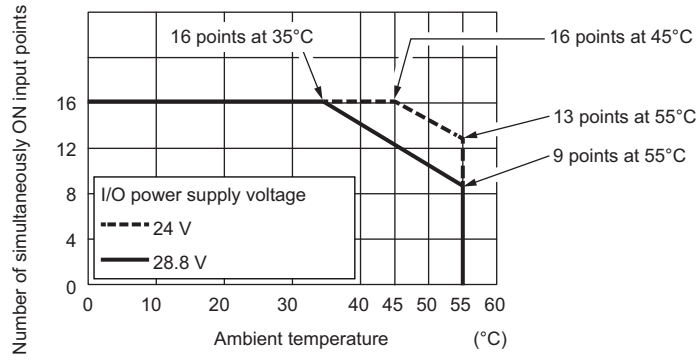


**Installation orientation and restrictions**

Installation orientation:  
 • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  
 • Connected to a Communications Coupler Unit: Possible in 6 orientations.  
 Restrictions: As shown in the following.

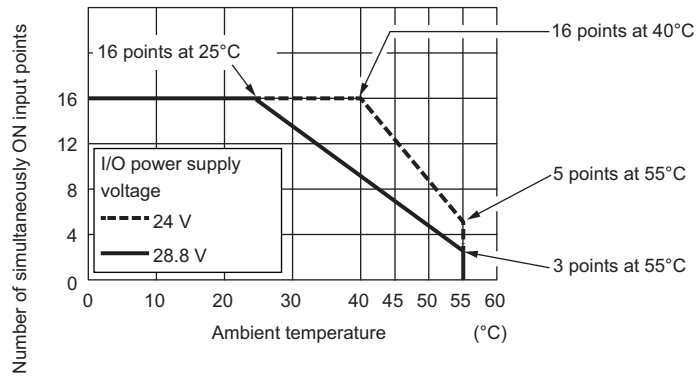
- For upright installation

Number of simultaneously ON input points vs. Ambient temperature characteristic

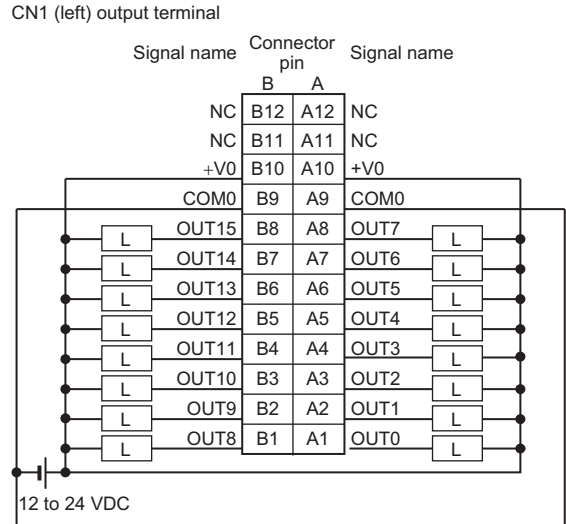


- For any installation other than upright

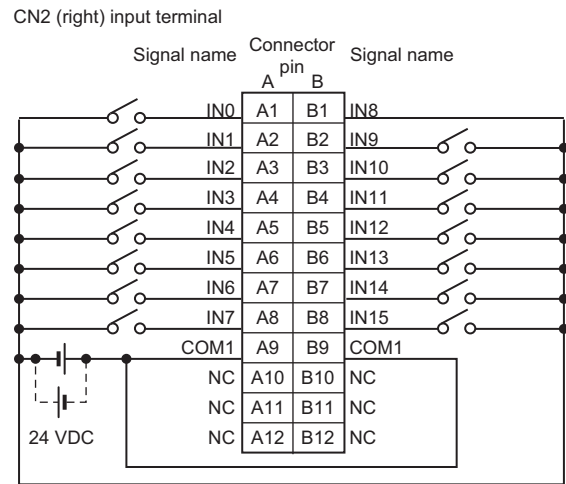
Number of simultaneously ON input points vs. Ambient temperature characteristic



**Terminal connection diagram**



- Be sure to wire both pins A9 and B9 (COM0) of CN1.
- Be sure to wire both pins A10 and B10 (+V0) of CN1.



- 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.

**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	Ver.1.0	Ver.1.13	Ver.1.17
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			
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					
NX-ID3344		Ver.1.1	Ver.1.06 *	Ver.1.07	
NX-ID3417					
NX-ID3443		Ver.1.0	Ver.1.05	Ver.1.06	
NX-ID3444					
NX-ID4342		Ver.1.1	Ver.1.06 *	Ver.1.07	
NX-ID4442					
NX-ID5142-1		Ver.1.0	Ver.1.0	Ver.1.05	Ver.1.06
NX-ID5142-5					Ver.1.13
NX-ID5342					Ver.1.10
NX-ID5442					Ver.1.06
NX-ID6142-5					Ver.1.10
NX-ID6142-6					Ver.1.13
NX-IA3117					Ver.1.08
NX-OD2154	Ver.1.1				Ver.1.06 *
NX-OD2258					
NX-OD3121	Ver.1.0	Ver.1.0	Ver.1.05	Ver.1.06	
NX-OD3153					
NX-OD3256					
NX-OD3257				Ver.1.13	
NX-OD3268					
NX-OD4121				Ver.1.06	
NX-OD4256					
NX-OD5121				Ver.1.13	
NX-OD5121-1					
NX-OD5121-5				Ver.1.10	
NX-OD5256					
NX-OD5256-1				Ver.1.06	
NX-OD5256-5					
NX-OD6121-5				Ver.1.10	
NX-OD6121-6					
NX-OD6256-5	Ver.1.13				
NX-OC2633					
NX-OC2733	Ver.1.06				
NX-OC4633					
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		---	---	---	---	---	---
NX-ID3417		Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00
NX-ID3443		---	---	---	---	---	---
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							
NX-ID5342						Ver. 1.10	
NX-ID5442						Ver. 1.13	
NX-ID6142-5							
NX-ID6142-6						Ver. 1.10	
NX-IA3117						Ver. 1.10	
NX-OD2154						---	
NX-OD2258		---	---	---	---	---	---
NX-OD3121		Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00
NX-OD3153						Ver. 1.13	
NX-OD3256							
NX-OD3257						Ver. 1.10	
NX-OD3268							
NX-OD4121						Ver. 1.13	
NX-OD4256							
NX-OD5121						Ver. 1.10	
NX-OD5121-1							
NX-OD5121-5						Ver. 1.13	
NX-OD5256							
NX-OD5256-1						Ver. 1.10	
NX-OD5256-5							
NX-OD6121-5						Ver. 1.13	
NX-OD6121-6							
NX-OD6256-5						Ver. 1.10	
NX-OC2633							
NX-OC2733						Ver. 1.17	
NX-OC4633							
NX-MD6121-5		Ver. 1.10					
NX-MD6121-6							
NX-MD6256-5		Ver. 1.13					
		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/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		---	---
NX-ID3417		Ver. 1.00	Ver. 1.24
NX-ID3443		---	---
NX-ID3444	Ver. 1.0	---	---
NX-ID4342		Ver. 1.00	Ver. 1.24
NX-ID4442			
NX-ID5142-1			
NX-ID5142-5			
NX-ID5342			
NX-ID5442			
NX-ID6142-5			
NX-ID6142-6			
NX-IA3117			
NX-OD2154			
NX-OD2258		Ver. 1.00	Ver. 1.24
NX-OD3121			
NX-OD3153			
NX-OD3256			
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	Ver. 1.00	Ver. 1.24	
NX-OC2733			
NX-OC4633			
NX-MD6121-5	Ver. 1.00	Ver. 1.24	
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.

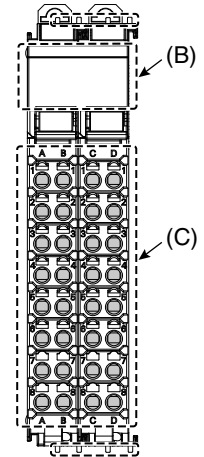
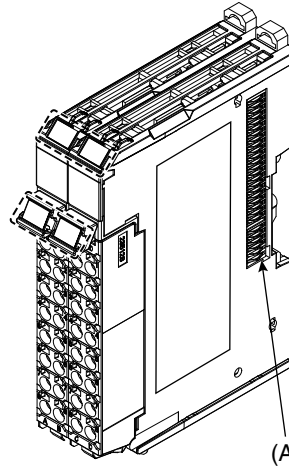
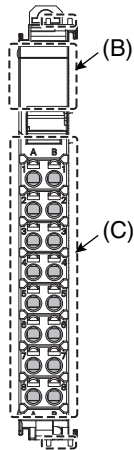
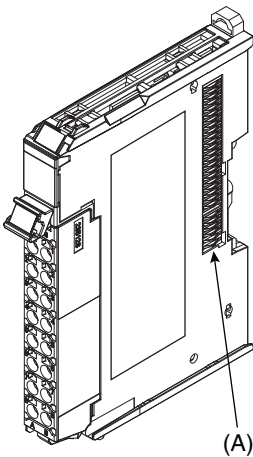
**2.** Note: You cannot connect the relevant NX Unit to the Communication Control Unit if “---” is shown in the corresponding unit versions/versions column.

## External Interface

### Screwless Clamping Terminal Block Type

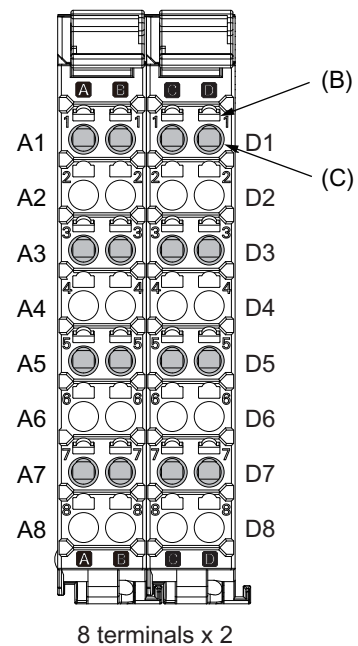
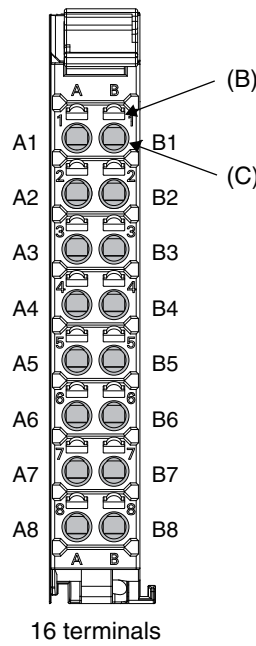
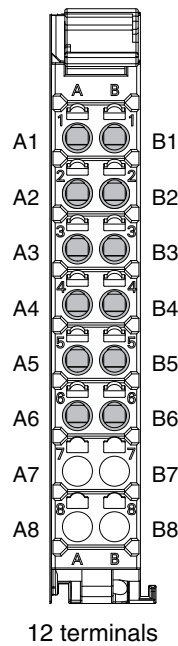
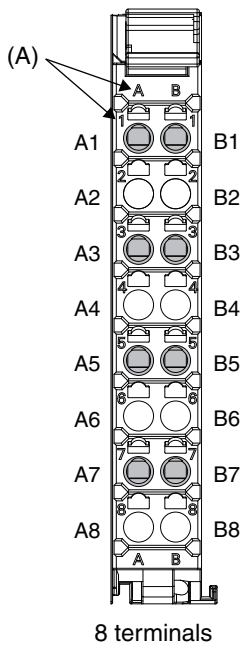
12 mm Width

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.

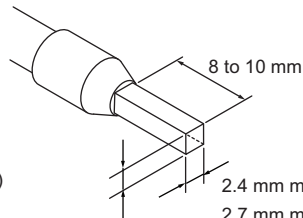
The applicable ferrules, wires, and crimping tools are listed in the following table.

Terminal type	Manufacturer	Ferrule model	Applicable wire (mm <sup>2</sup> (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 <sup>2</sup> , 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)	
Ground terminals	Phoenix Contact	AI1,5-10		
		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 <sup>2</sup> , 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)	
Ground terminals	Weidmuller	H1.5/16		

\* Some AWG 14 wires exceed 2.0 mm<sup>2</sup> 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



1.6 mm max. (except ground terminals)

2.0 mm max. (ground terminals)

2.4 mm max. (except ground terminals)

2.7 mm max. (ground terminals)

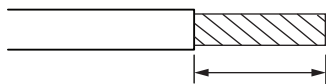
### Using Twisted Wires/Solid Wires

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 <sup>2</sup> 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	Not Possible		
Ground terminals	---	Possible	Possible	Possible *2	Possible *2	2.0 mm <sup>2</sup>	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.

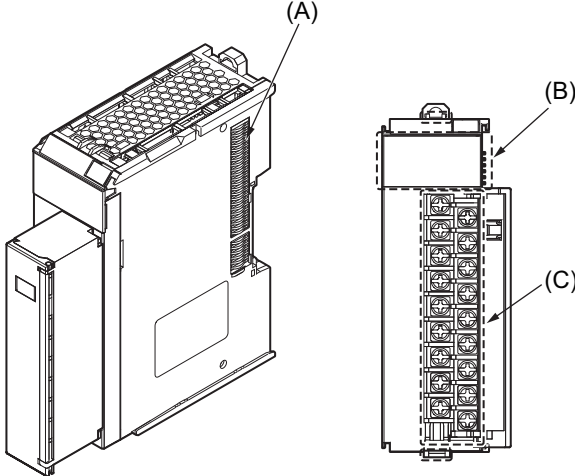
\*2. With the NX-TB□□□1 Terminal Block, use twisted wires to connect the ground terminal. Do not use a solid wire.



Conductor length (stripping length)

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

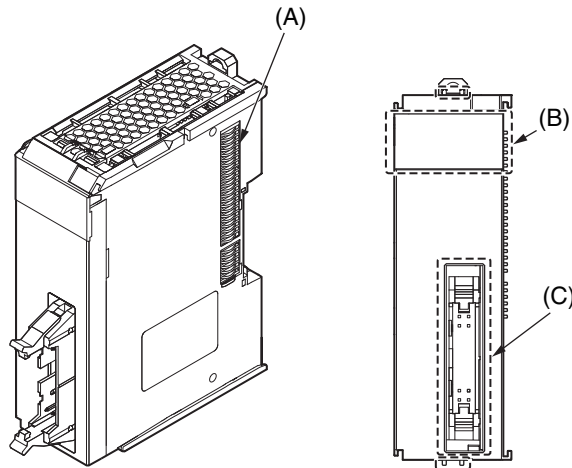
**M3 Screw Terminal Block Type**  
30 mm Width



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.

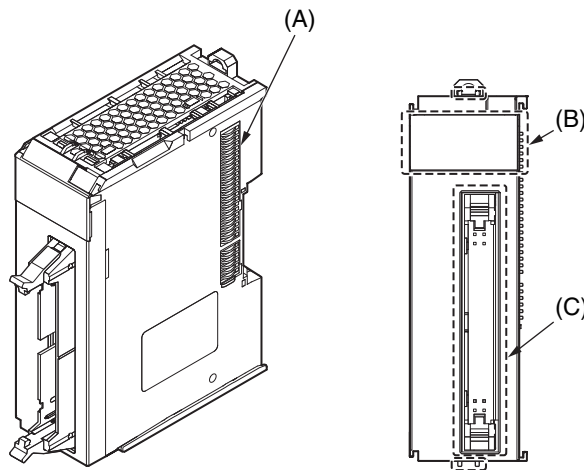
**MIL Connector Type (1 Connector with 20 terminals)**

30 mm Width



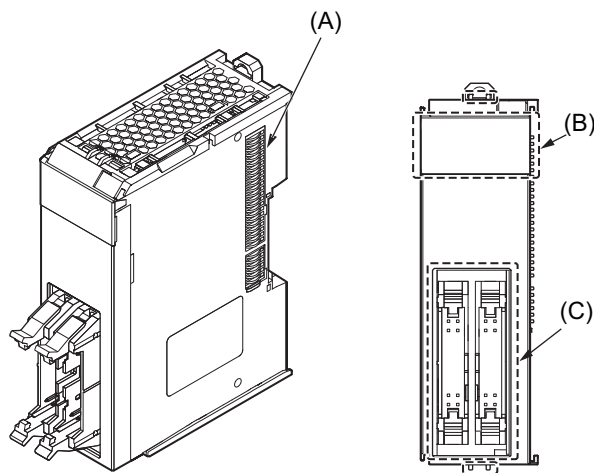
**MIL Connector Type (1 Connector with 40 terminals)**

30 mm Width



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

30 mm Width

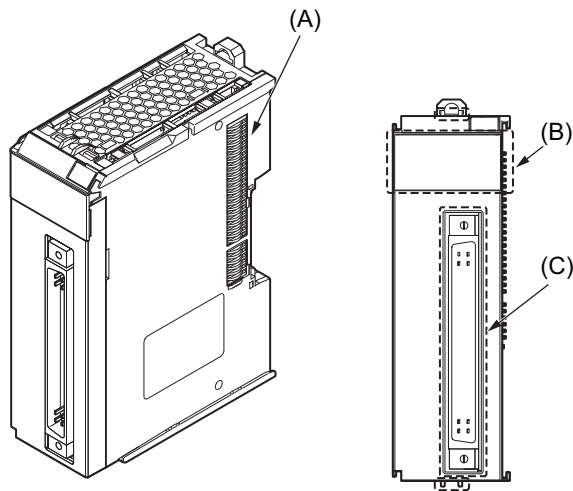


Letter	Item	Specification
(A)	NX bus connector	This connector is used to connect to another Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Connectors	The connectors are used to connect to external devices.



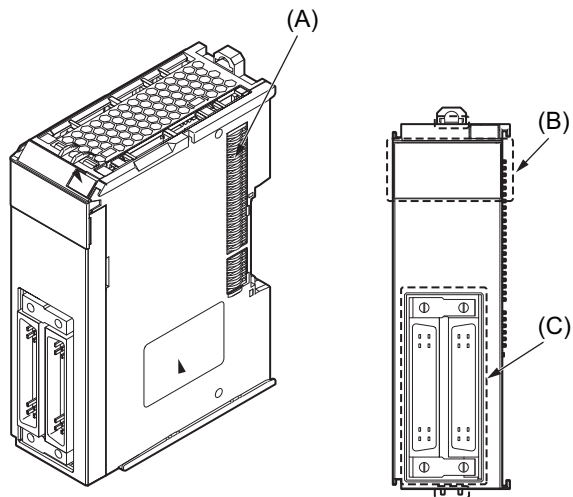
**Fujitsu Connector Type (1 Connector with 40 terminals)**

30 mm Width



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

30 mm Width

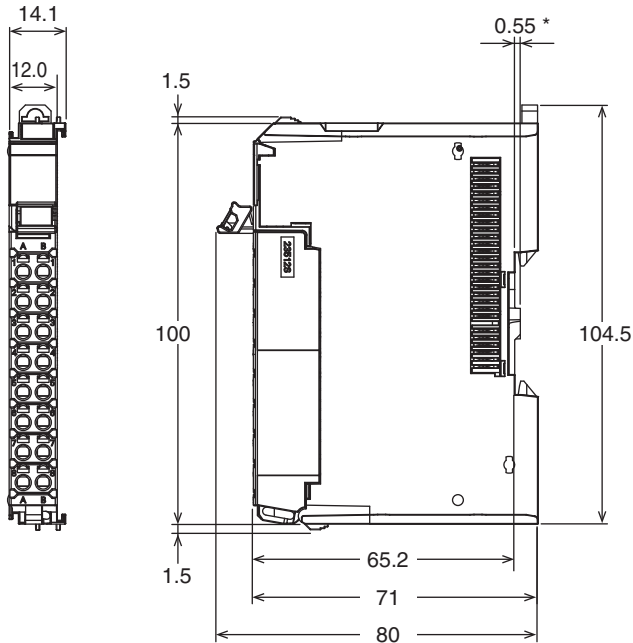


Letter	Item	Specification
(A)	NX bus connector	This connector is used to connect to another Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Connectors	The connectors are used to connect to external devices.

## Dimensions

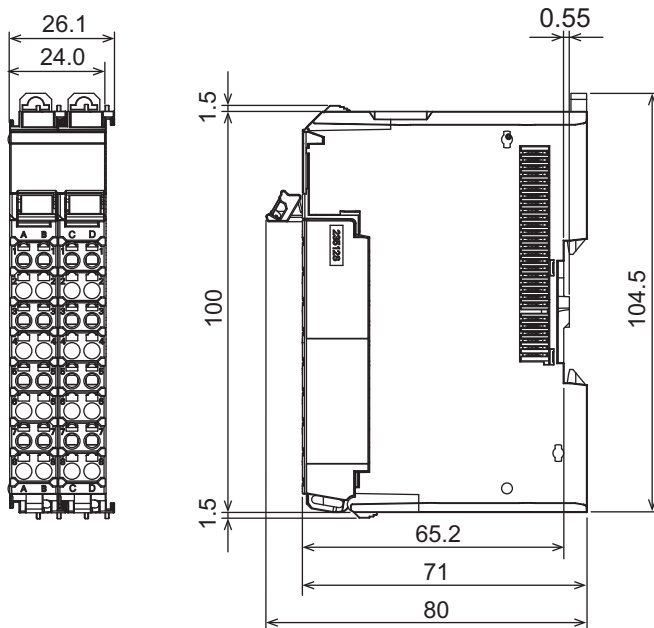
### Screwless Clamping Terminal Block Type

#### 12 mm Width

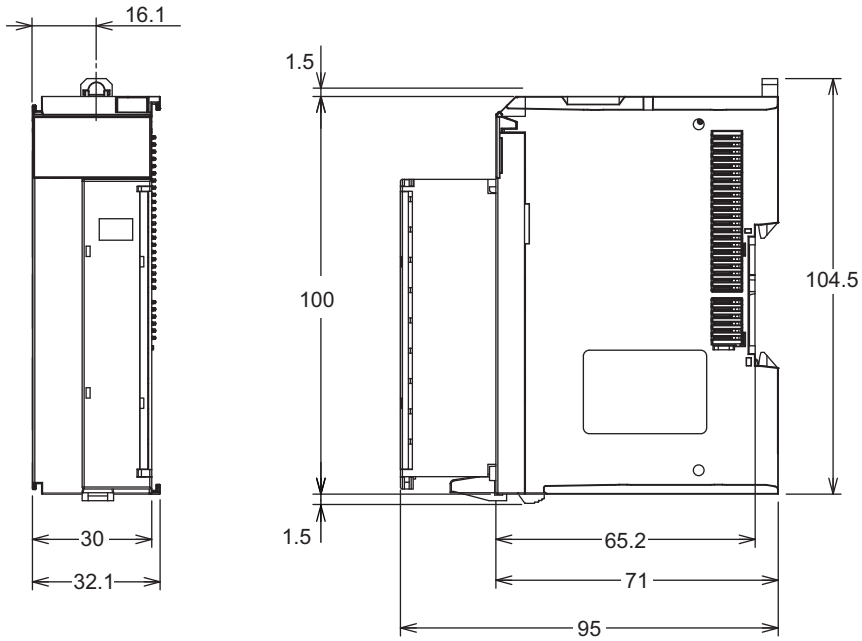


\* The dimension is 1.35 mm for Units with lot numbers through December 2014.

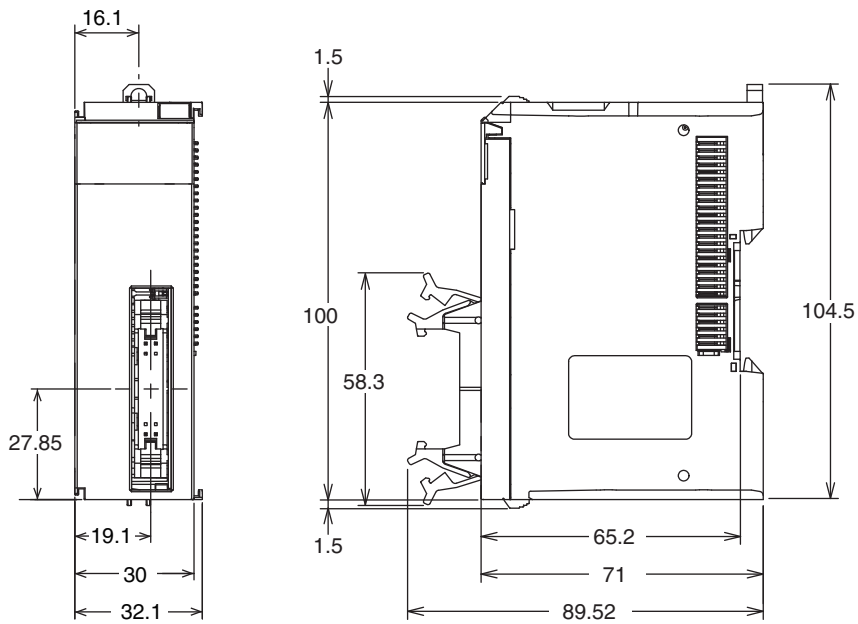
#### 24 mm Width



**M3 Screw Terminal Block Type**  
**30 mm Width**

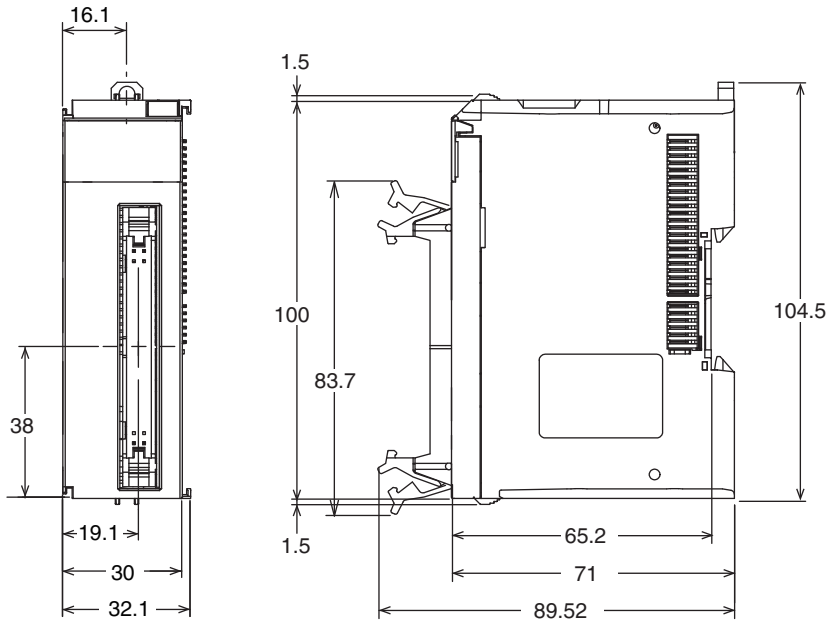


**MIL Connector Type (1 Connector with 20 terminals)**  
**30 mm Width**



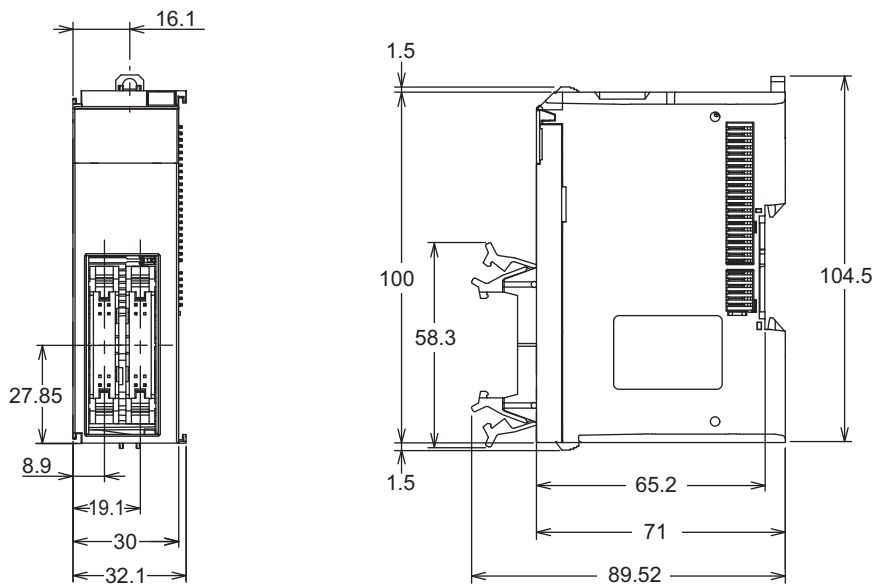
**MIL Connector Type (1 Connector with 40 terminals)**

30 mm Width

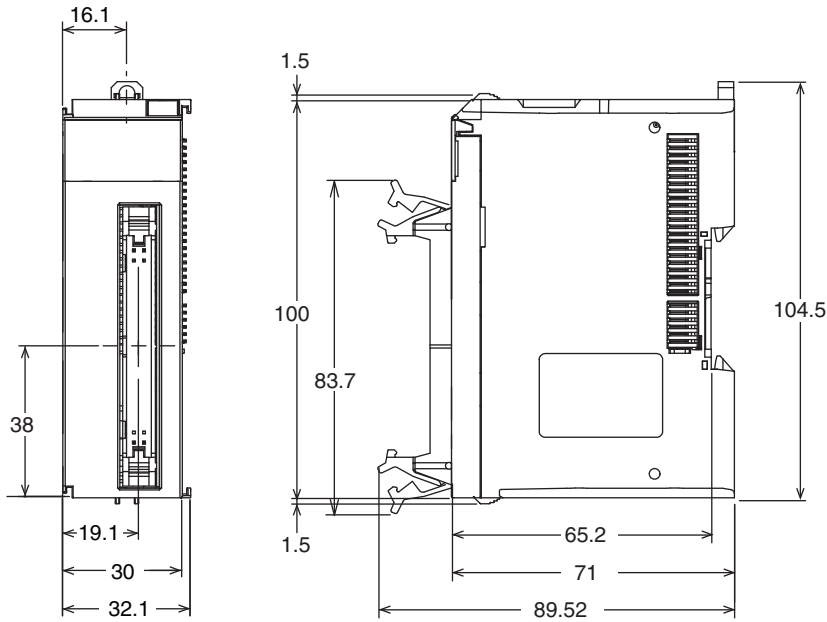


**MIL Connector Type (2 Connectors with 20 terminals)**

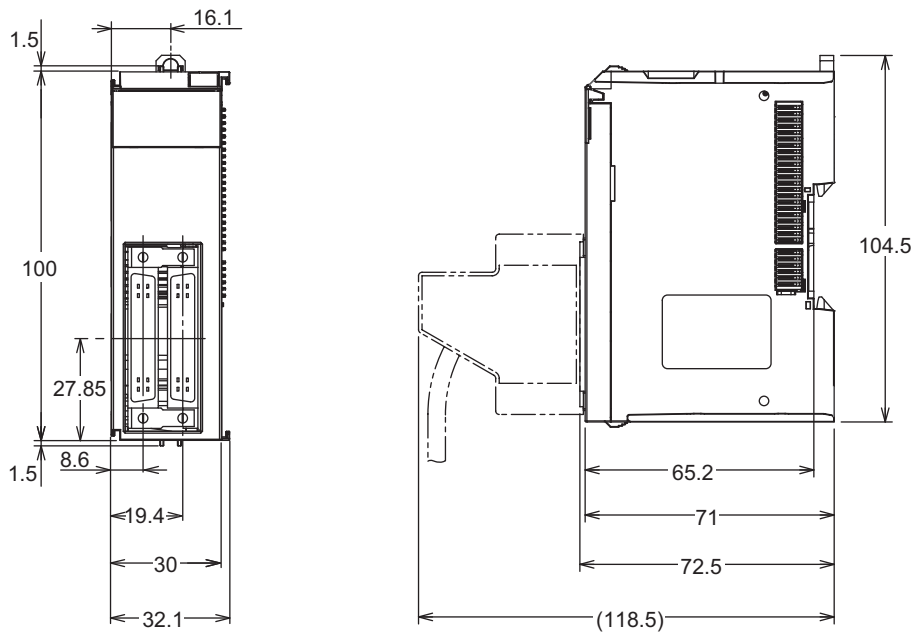
30 mm Width



**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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