

NX-series Digital Output Units

NX-OD/OC

CSM_NX-OD_OC_DS_E_7_1

A Wide Range of Digital Output Units from General Purpose use to High-Speed Synchronous Control

- Transistor and relay Output Units for the NX-series modular I/O system.
- Connect to other NX-series I/O Units and EtherCAT Coupler units using the high-speed NX-bus.
- Synchronous Units update their output status according to the controller's instructions every EtherCAT cycle.



Features

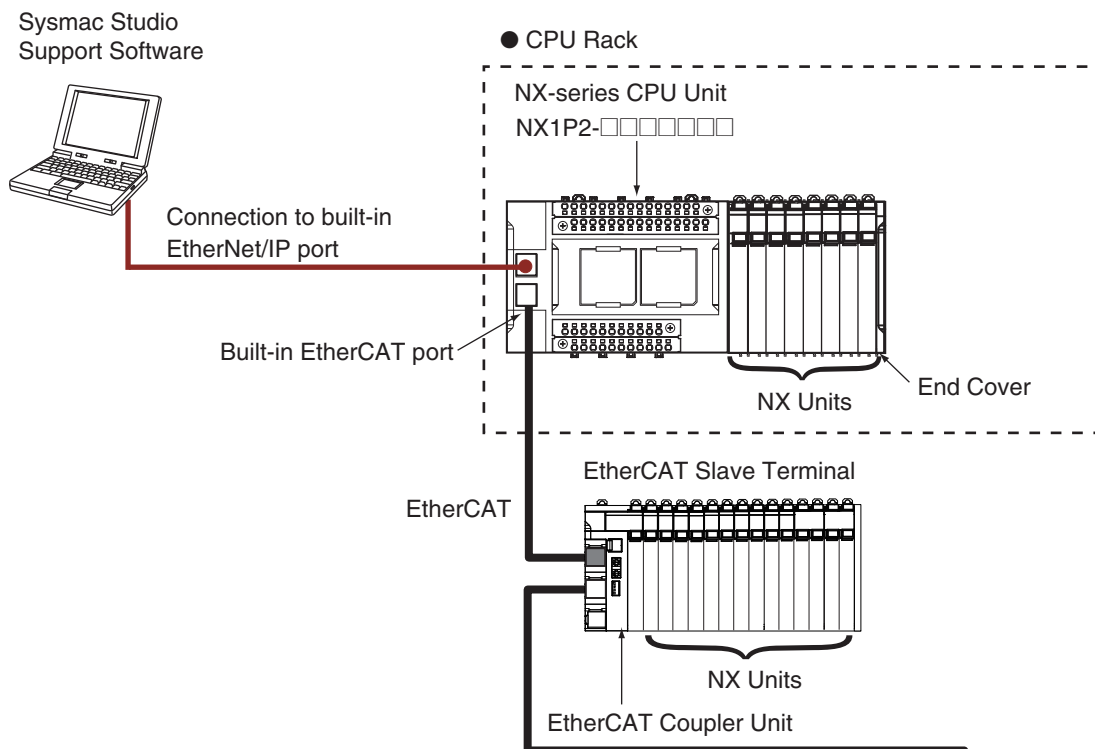
- High-speed I/O refreshing is possible by connecting with the NX-series EtherCAT Coupler.
- Output refreshing can be synchronized with the control cycle of the Controller. (Synchronous refreshing)
- ON/OFF response time of the high-speed model is 300 ns max, which enables high-speed, high-precision control.
- The screwless terminal block is detachable for easy commissioning and maintenance.
- Screwless clamp terminal block and Connector types (Units with MIL/Fujitsu Connectors) are significantly reduces wiring work.
- Up to 16 digital outputs in a space-saving 12 mm width. (Connector Types 30 mm width)
- The lineup includes 2-point, 4-point, 8-point, 16-point, and 32-point types with 3-wire, 2-wire and 1-wire connection methods.
- With output refreshing with specified time stamp, the Output Unit refreshes outputs at the time specified by the program. This enables high-precision output control independent of the control cycle of the Controller.
- Connection to the CJ-series is possible by connecting with the EtherNet/IP™ Coupler.

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System Configuration

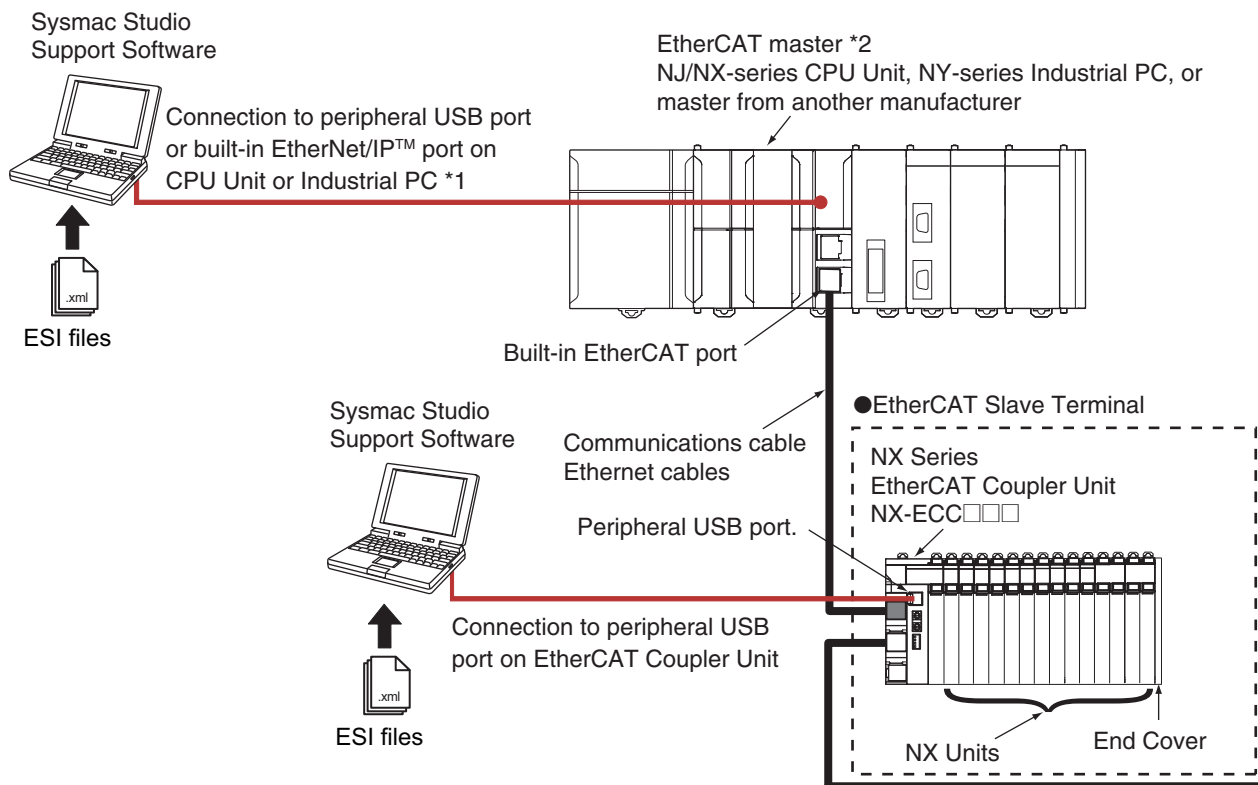
System Configuration in the Case of a CPU Unit

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



System Configuration of Slave Terminals

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 NX Units can be connected to the CPU Unit or Communications Coupler Unit to be used, refer to the user's manual for the CPU Unit or Communications Coupler Unit to be used.


Ordering Information

International Standards

- The standards are abbreviated as follows: U: UL, U1: UL (Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, CE: EU Directives, RCM: Regulatory Compliance Mark, and KC: KC Registration.
- Contact your OMRON representative for further details and applicable conditions for these standards.


Digital Output Units

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


Unit type	Product name	Specification						Model	Standards
		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		2 points	NPN	0.5 A/point, 1 A/Unit	24 VDC	Output refreshing with specified time stamp only*	300 ns max./ 300 ns max.	NX-OD2154	UC1, N, L, CE, RCM, KC
			PNP				NX-OD2258		
		4 points	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	
							300 ns max./ 300 ns max.	NX-OD3153	
			PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD3256	
							300 ns max./ 300 ns max.	NX-OD3257	
		8 points	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 points	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		

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


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

Unit type	Product name	Specification						Model	Standards
		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		16 points	NPN	0.5 A/point, 5 A/Unit	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-1	UC1, CE, RCM, KC
			PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-1	


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

Unit type	Product name	Specification						Model	Standards
		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit		16 points	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-OD5121-5	UC1, CE, RCM, KC
			PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-5	
		32 points	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	


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

Unit type	Product name	Specification					Model	Standards	
		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method			ON/OFF response time
NX-series Digital Output Unit	 Transistor Output Unit	32 points	NPN	0.5 A/point, 2 A/common, 4 A/Unit	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD6121-6	UC1, CE, RCM, KC

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

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

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

Unit type	Product name	Specification					Model	Standards
		Number of points	Relay type	Maximum switching capacity	I/O refreshing method	ON/OFF response time		
NX-series Digital Output Unit	 Relay Output Unit	8 points	N.O.	250 VAC/2A (cosφ=1) 250 VAC/2A (cosφ=0.4) 24 VDC/2A 8 A/Unit	Free-Run refreshing	15ms max./ 15ms max.	NX-OC4633	UC1, CE, RCM, KC

Optional Products

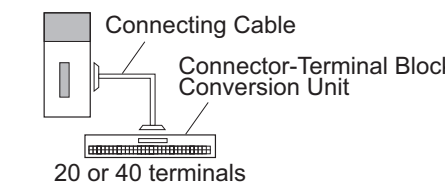
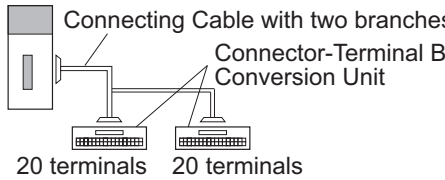
Product name	Specification	Model	Standards
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)	NX-AUX02	---

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

Accessories

Not included.

Connection Patterns for Connector-Terminal Block Conversion Units

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

Connections to Connector-Terminal Block Conversion Units

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable	Connector-Terminal Block Conversion Unit	Common terminal
NX-OD5121-5	16 outputs	1 MIL connector	NPN	A	None	XW2Z-□□□X	XW2B-20G4	None
				A	None	XW2Z-□□□X	XW2B-20G5	None
				A	None	XW2Z-□□□X	XW2D-20G6	None
				A	None	XW2Z-□□□X	XW2R-J20G-T	None
NX-OD5256-5	16 outputs	1 MIL connector	PNP	A	None	XW2Z-□□□X	XW2B-20G4	None
				A	None	XW2Z-□□□X	XW2B-20G5	None
				A	None	XW2Z-□□□X	XW2D-20G6	None
				A	None	XW2Z-□□□X	XW2R-J20G-T	None
NX-OD6121-5	32 outputs	1 MIL connector	NPN	A	None	XW2Z-□□□K	XW2B-40G4	None
				A	None	XW2Z-□□□K	XW2B-40G5	None
				A	None	XW2Z-□□□K	XW2D-40G6	None
				A	None	XW2Z-□□□K	XW2R-J40G-T	None
				B	2	XW2Z-□□□N	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-□□□N	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Yes
				B	2	XW2Z-□□□N	XW2D-20G6 (2 Units)	None
NX-OD6121-6	32 outputs	1 Fujitsu connector	NPN	A	None	XW2Z-□□□B	XW2B-40G4	None
				A	None	XW2Z-□□□B	XW2B-40G5	None
				A	None	XW2Z-□□□B	XW2D-40G6	None
				A	None	XW2Z-□□□BU	XW2R-J40G-T	None
				B	2	XW2Z-□□□L	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-□□□L	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-□□□L	XW2C-20G6-IO16 (2 Units)	Yes
				B	2	XW2Z-□□□L	XW2D-20G6 (2 Units)	None
NX-OD6256-5	32 outputs	1 MIL connector	PNP	A	None	XW2Z-□□□K	XW2B-40G4	None
				A	None	XW2Z-□□□K	XW2B-40G5	None
				A	None	XW2Z-□□□K	XW2D-40G6	None
				A	None	XW2Z-□□□K	XW2R-J40G-T	None
				B	2	XW2Z-□□□N	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-□□□N	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Yes
				B	2	XW2Z-□□□N	XW2D-20G6 (2 Units)	None
NX-OD6256-5	32 outputs	1 MIL connector	PNP	B	2	XW2Z-□□□N	XW2F-20G7-OUT16 (2 Units)	Yes
				B	2	XW2Z-□□□N	XW2R-J20G-T (2 Units)	None

General Specification

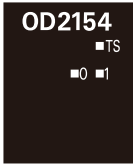
Item	Specification	
Enclosure	Mounted in a panel	
Grounding method	Ground to 100 Ω or less	
Operating environment	Ambient operating temperature	0 to 55°C
	Ambient operating humidity	10% to 95% (with no condensation or icing)
	Atmosphere	Must be free from corrosive gases.
	Ambient storage temperature	-25 to 70°C (with no condensation or icing)
	Altitude	2,000 m max.
	Pollution degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.
	Noise immunity	2 kV on power supply line (Conforms to IEC61000-4-4.)
	Overvoltage category	Category II: Conforms to JIS B3502 and IEC 61131-2.
	EMC immunity level	Zone B
	Vibration resistance *1	Conforms to IEC 60068-2-6. 5 to 8.4 Hz with 3.5-mm amplitude, 8.4 to 150 Hz, acceleration of 9.8 m/s ² , 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)
Shock resistance *1	Conforms to IEC 60068-2-27. 147 m/s ² , 3 times each in X, Y, and Z directions	
Applicable standards *2	cULus: Listed (UL508) or Listed (UL 61010-2-201), ANSI/ISA 12.12.01, EU: EN 61131-2 or EN 61010-2-201, C-Tick or RCM, KC: KC Registration, NK, LR	

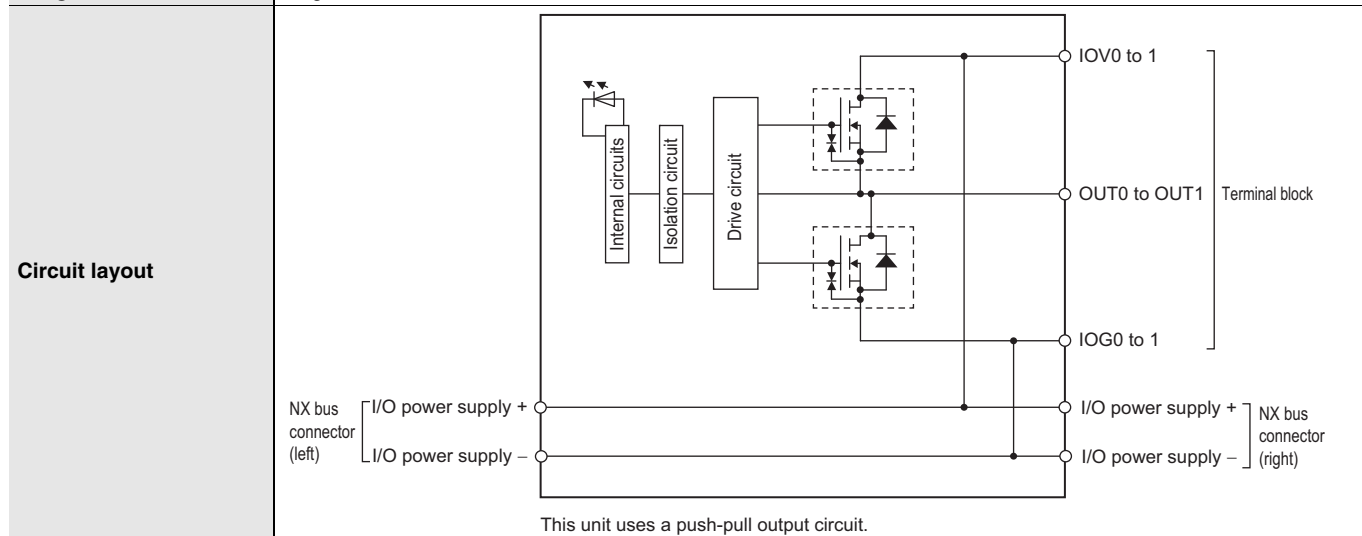
*1. For the Relay Output Unit, refer to the Digital Input Unit Specifications.

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

Digital Output Unit Specifications

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

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

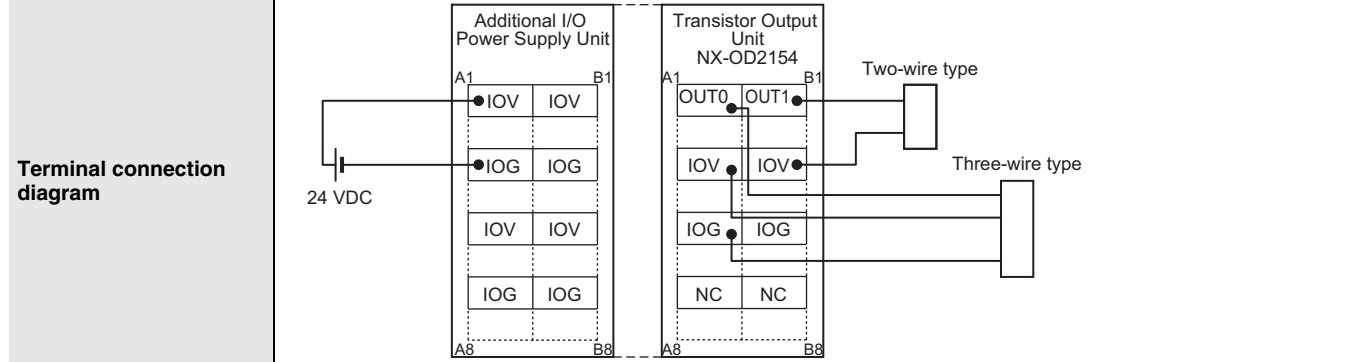


Installation orientation and restrictions

Installation orientation:


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

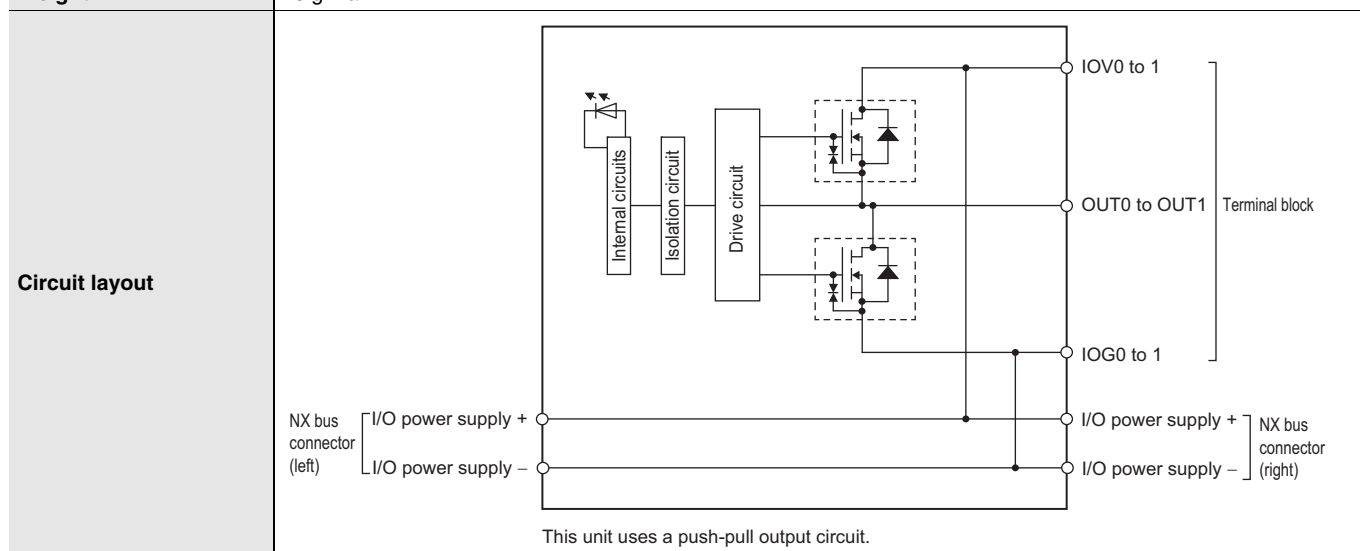
Restrictions: No restrictions



Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.
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NX-OD2258

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

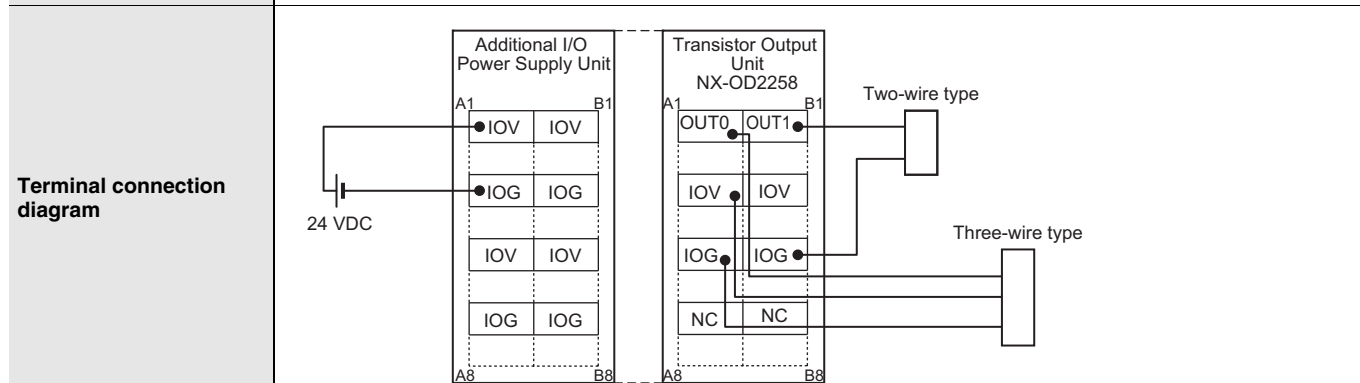


Installation orientation and restrictions

Installation orientation:


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

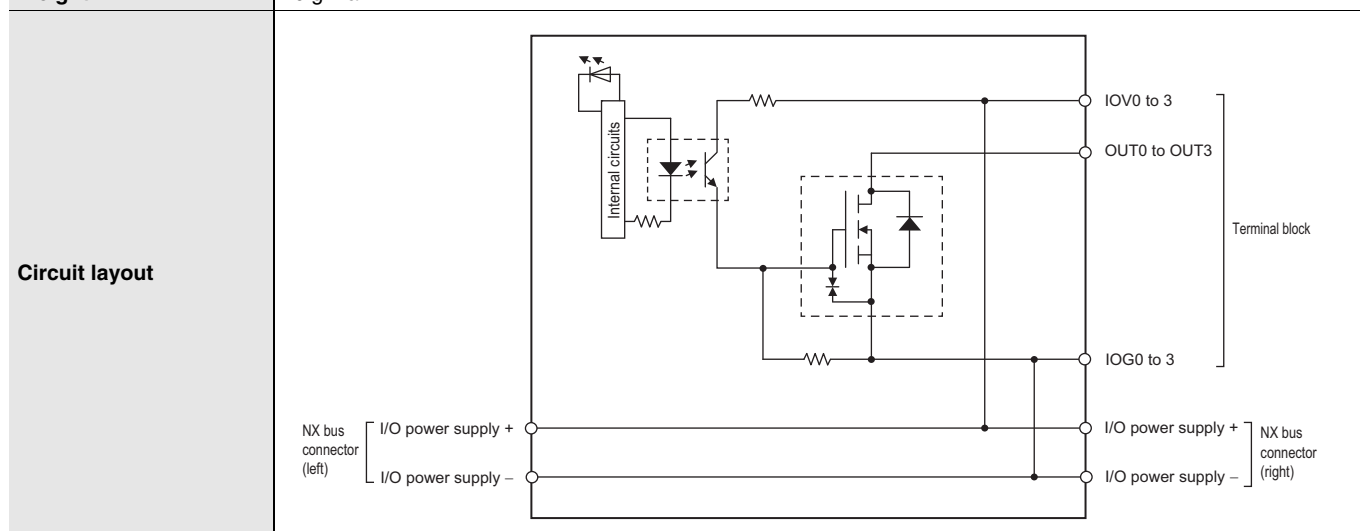
Restrictions: No restrictions



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

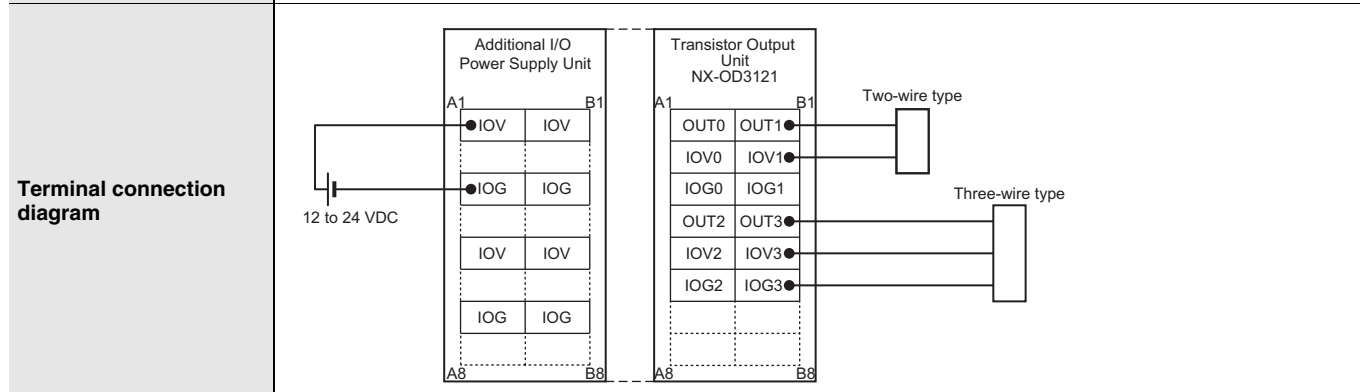
Unit name	Transistor Output Unit	Model	NX-OD3121
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators		Internal I/O common	NPN
		Rated voltage	12 to 24 VDC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



Installation orientation and restrictions


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

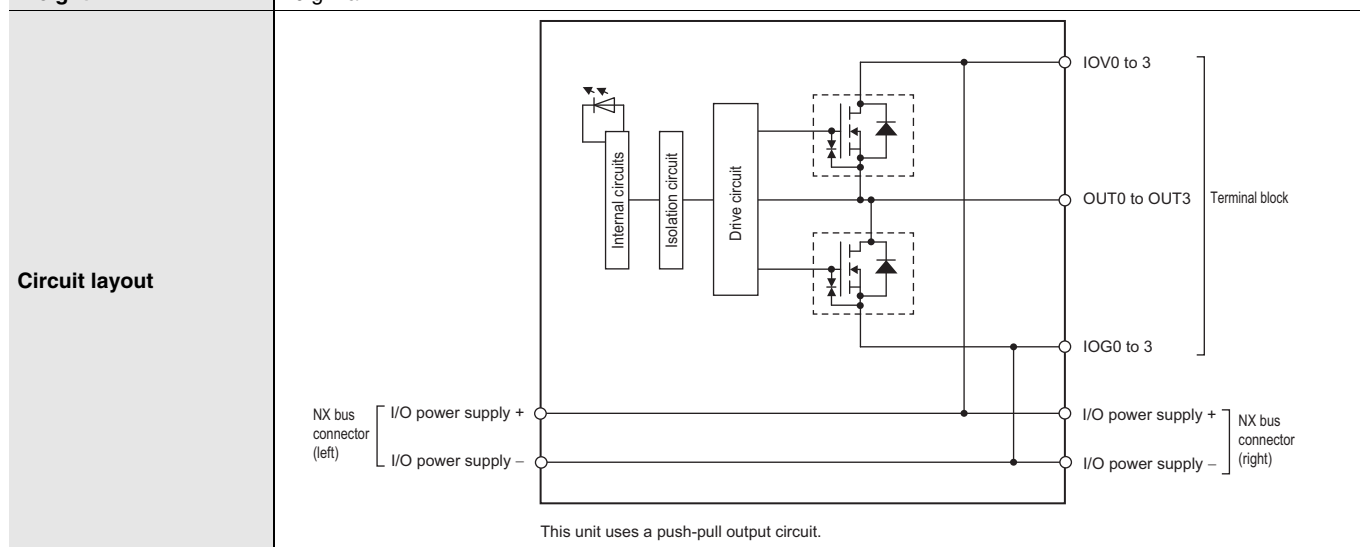
Restrictions: No restrictions



Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.
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NX-OD3153

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

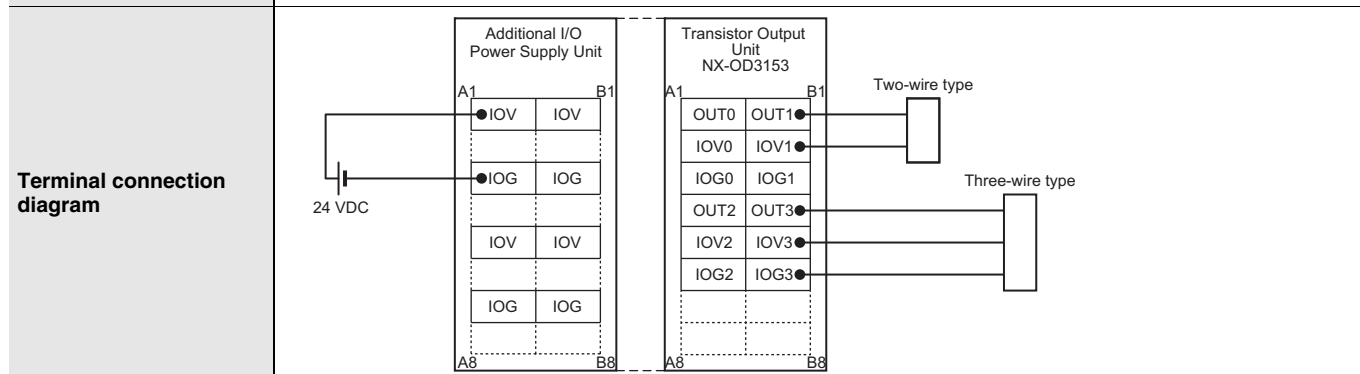


Installation orientation and restrictions

Installation orientation:


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

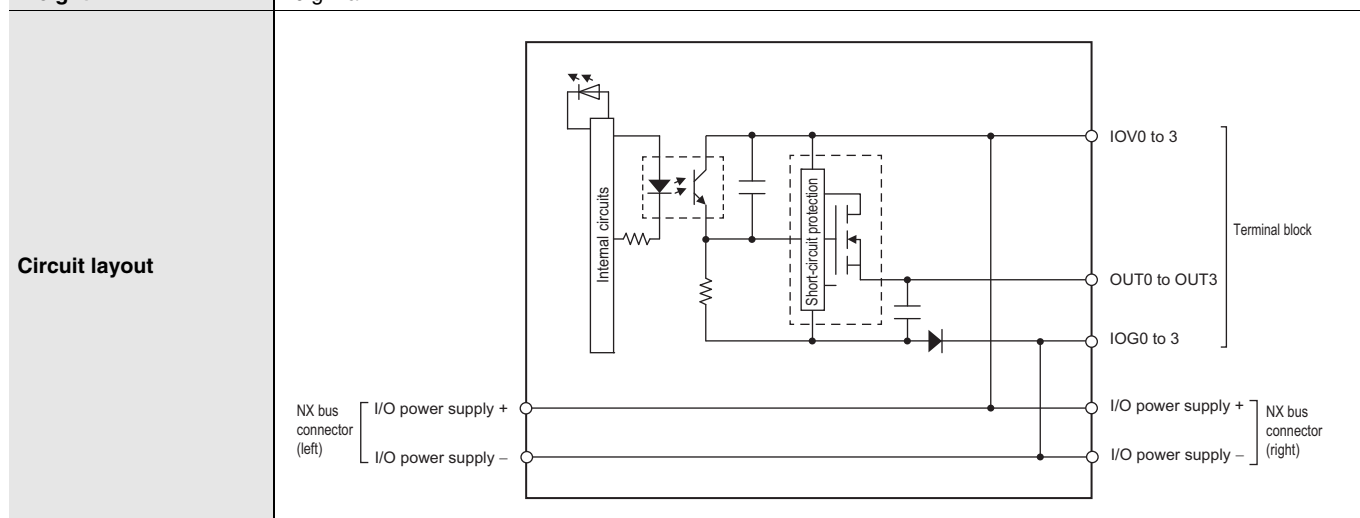
Restrictions: No restrictions



Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.
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NX-OD3256

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

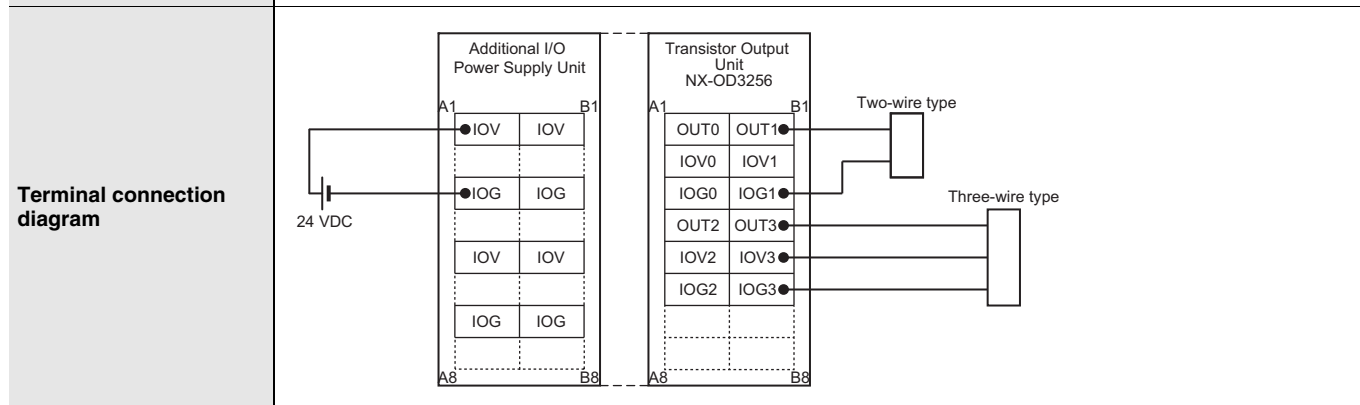


Installation orientation and restrictions

Installation orientation:

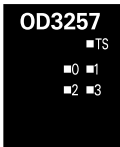
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

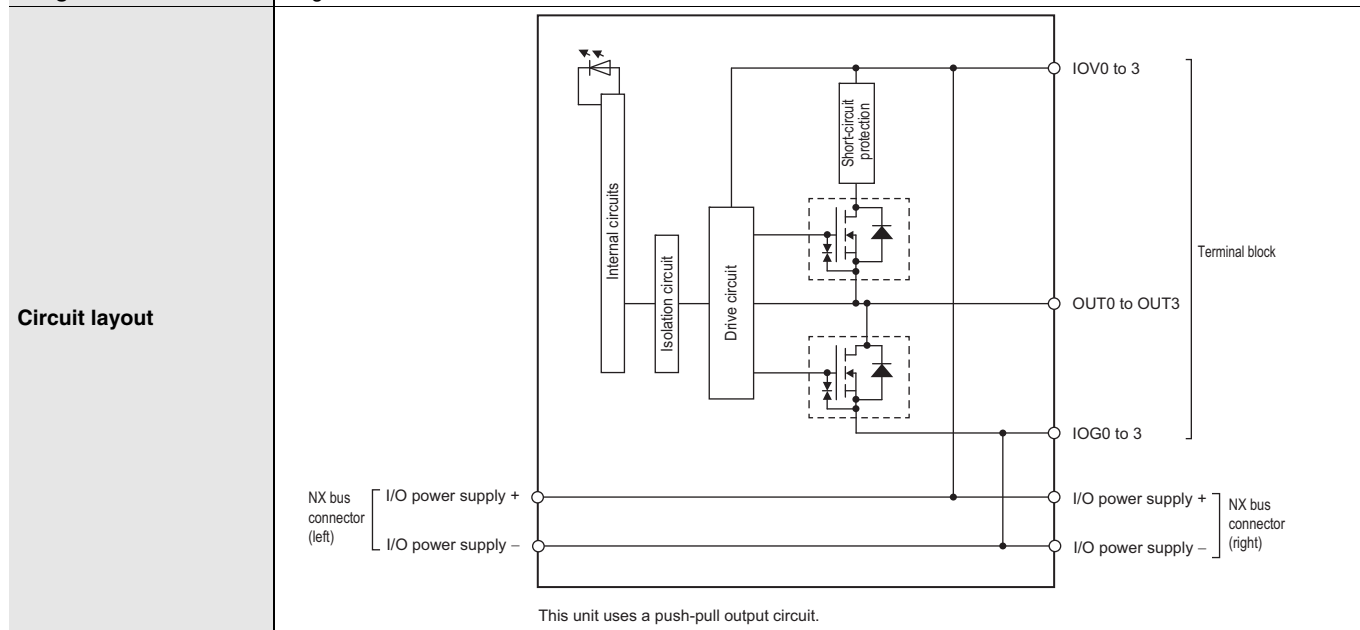
Restrictions: No restrictions



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

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

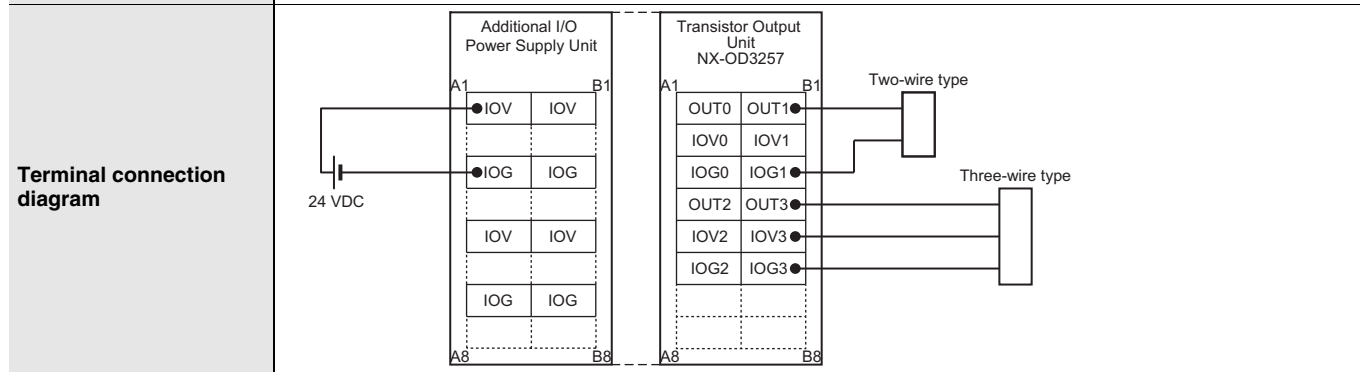


Installation orientation and restrictions

Installation orientation:


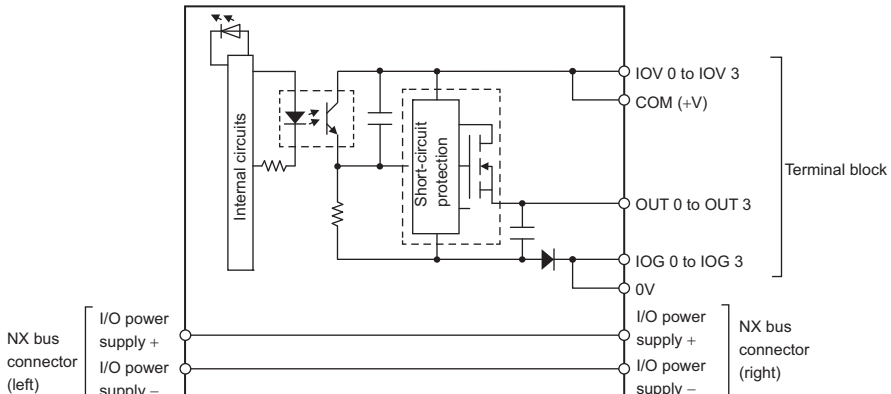
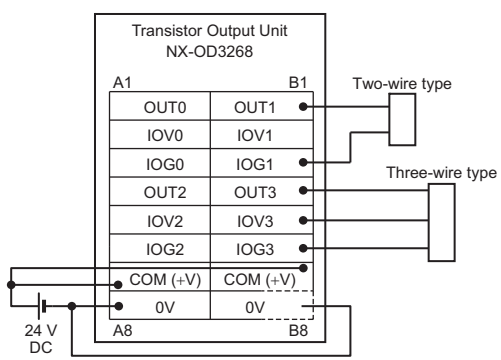
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions

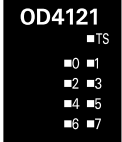


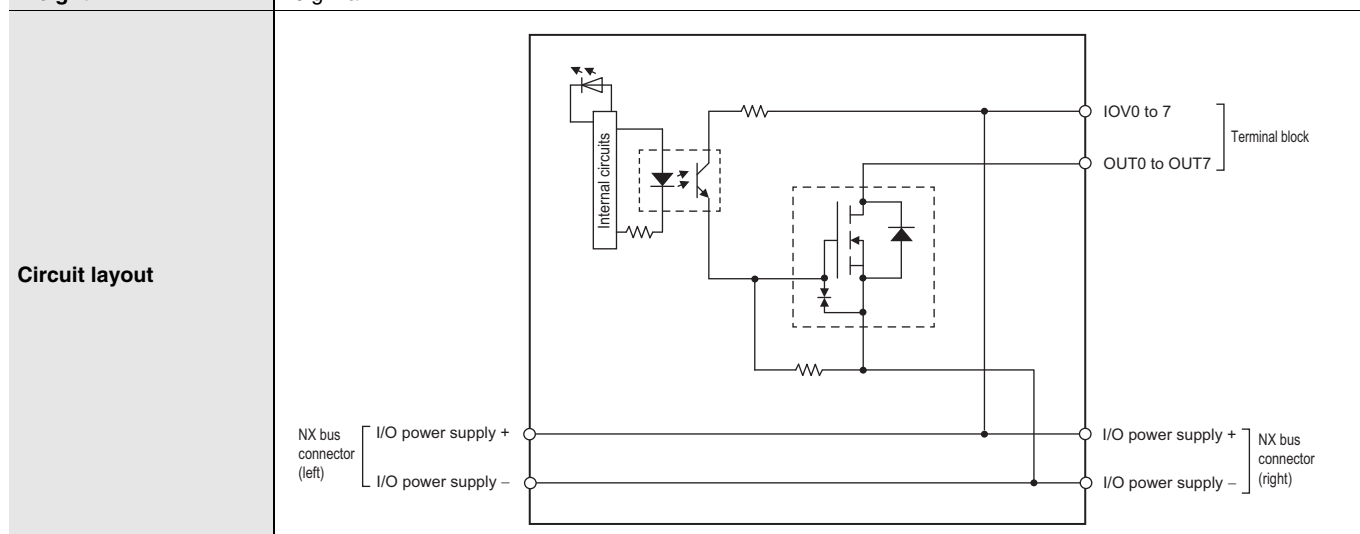
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.
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NX-OD3268

Unit name	Transistor Output Unit	Model	NX-OD3268
Number of points	4 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators		Internal I/O common	PNP
		Rated voltage	24 VDC
		Operating load voltage range	15 to 28.8 VDC
		Maximum value of load current	2 A/point, 8 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	IOV: 2 A/terminal max., IOG: 2 A/terminal max., COM (+V): 4 A/terminal max., 0V: 4 A/terminal max.
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.50 W max. 	Current consumption from I/O power supply	20 mA max.
Weight	70 g max.		
Circuit layout			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram	 <p>• 0V has 2 terminals, so be sure to wire both terminals. • COM (+V) has 2 terminals, so be sure to wire both terminals.</p>		
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

NX-OD4121

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

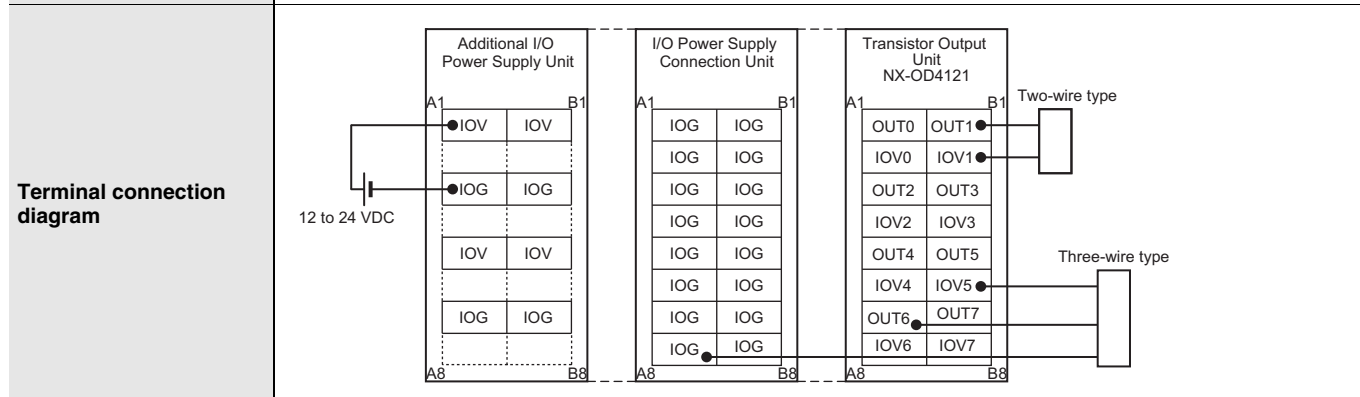


Installation orientation and restrictions

Installation orientation:

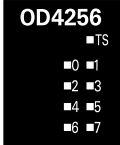
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

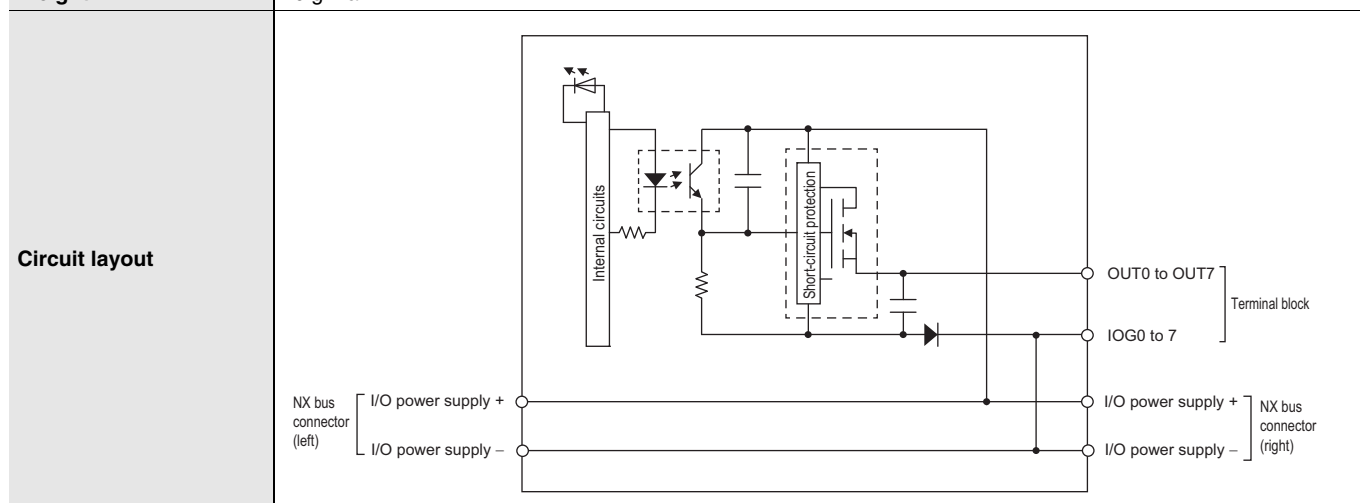
Restrictions: No restrictions



Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.
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NX-OD4256

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

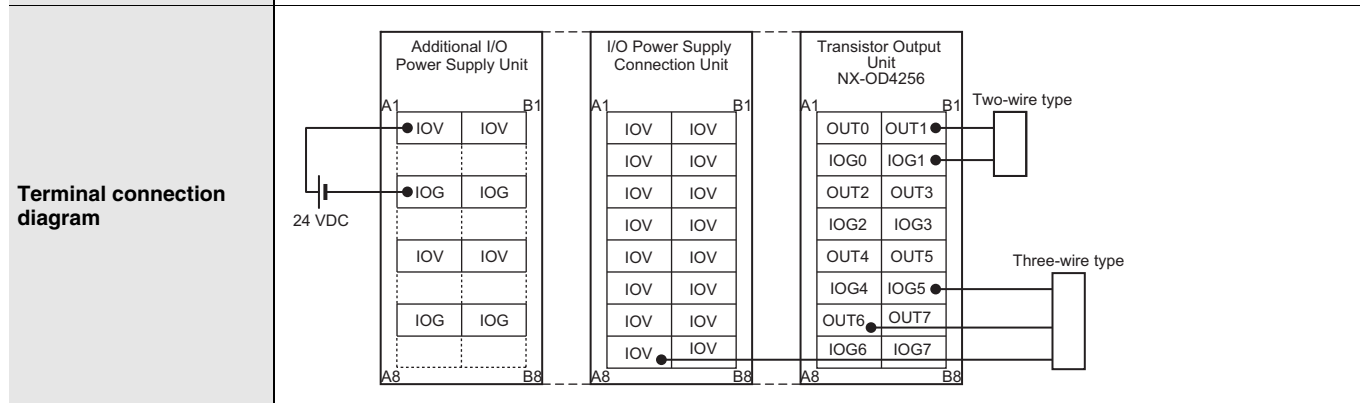


Installation orientation and restrictions

Installation orientation:

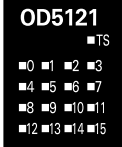
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

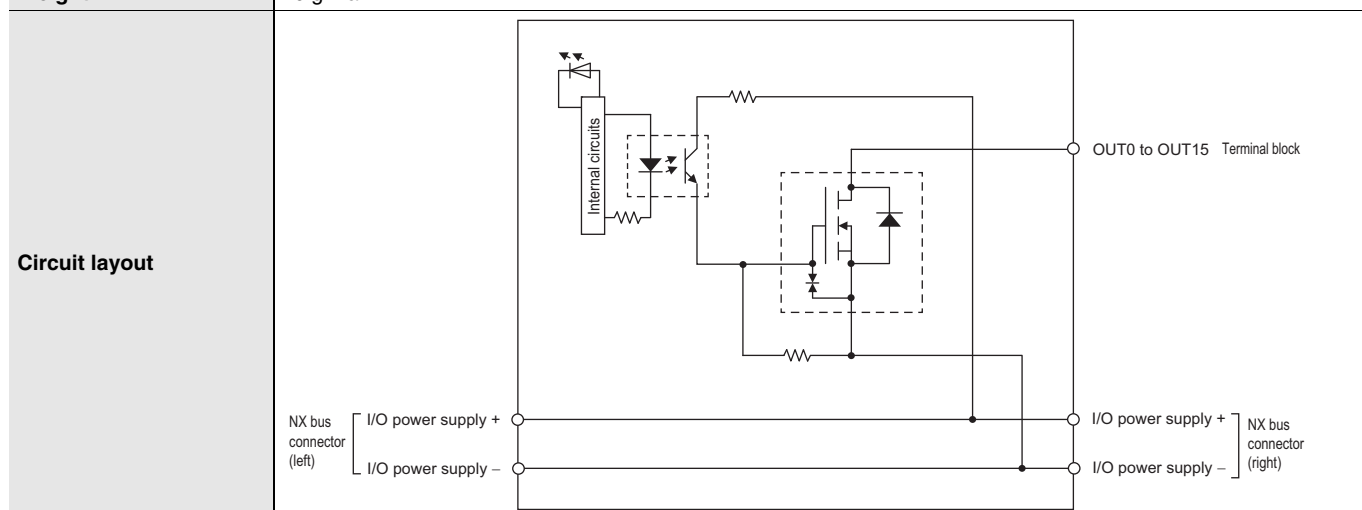
Restrictions: No restrictions



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

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

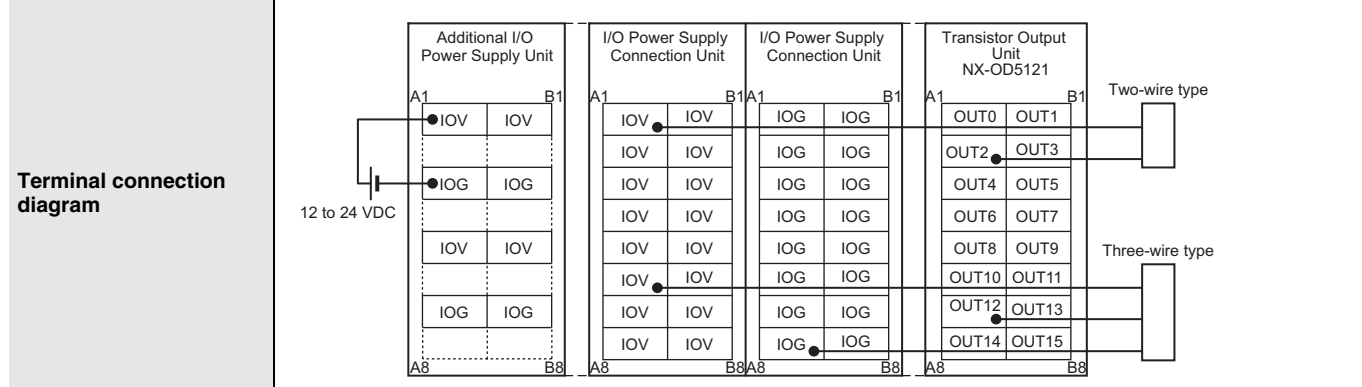


Installation orientation and restrictions

Installation orientation:

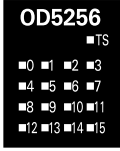
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

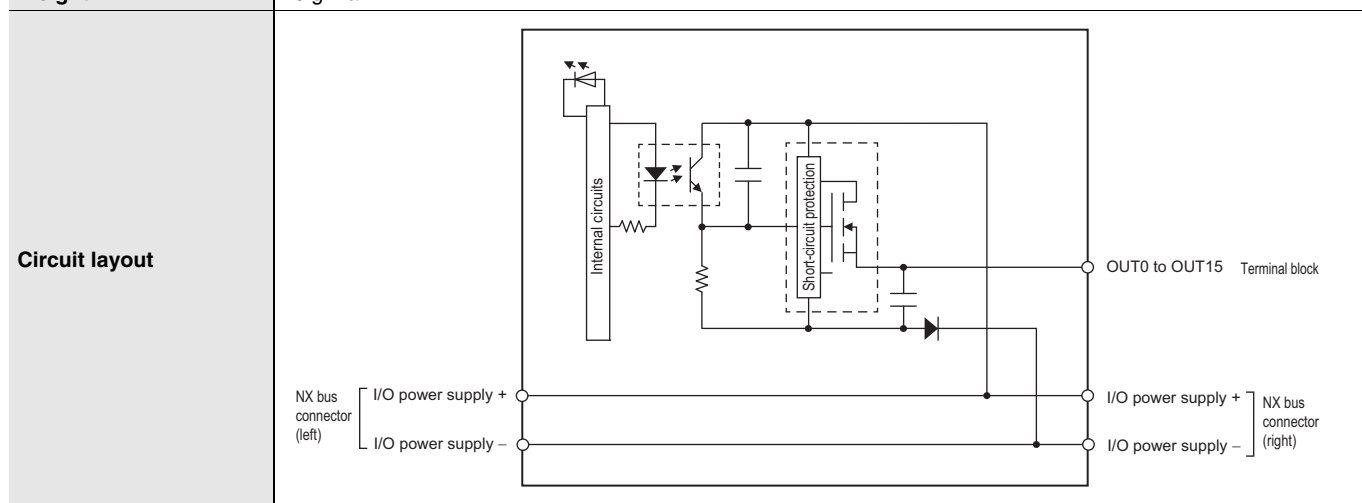
Restrictions: No restrictions



Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.
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NX-OD5256

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

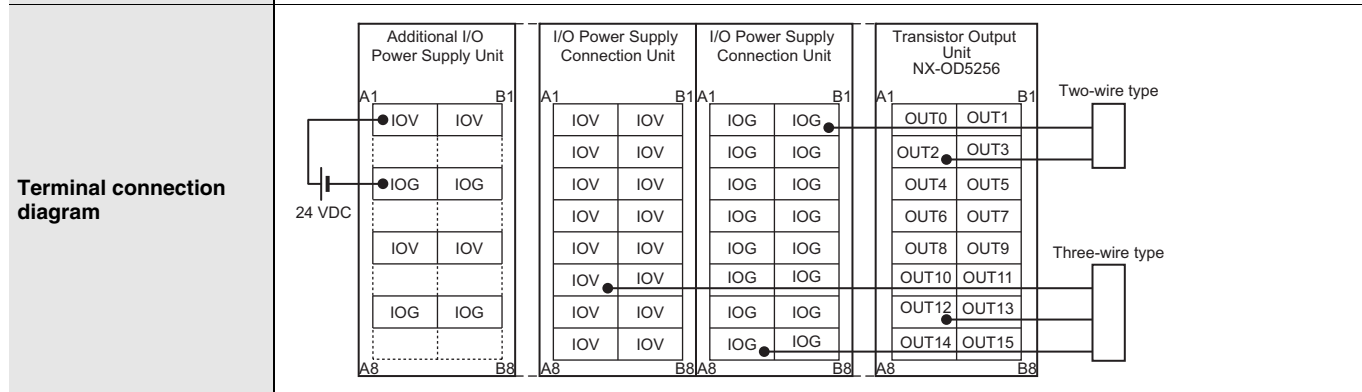


Installation orientation and restrictions

Installation orientation:

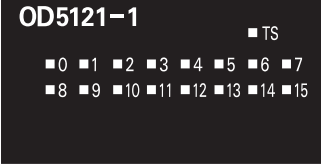
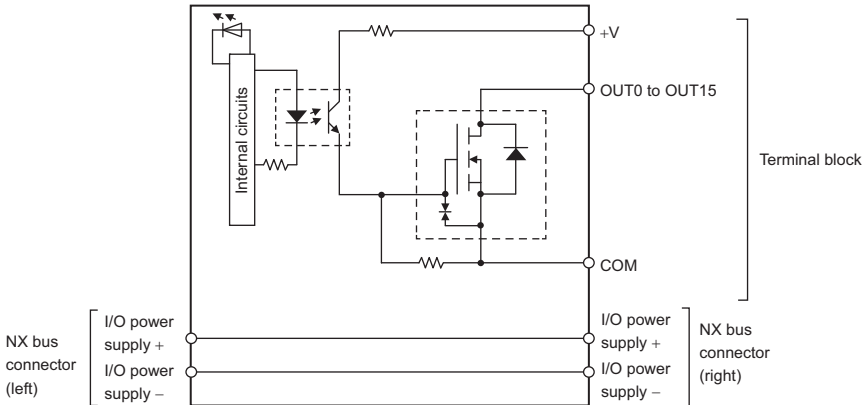
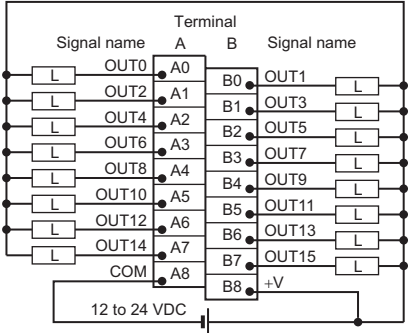
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions

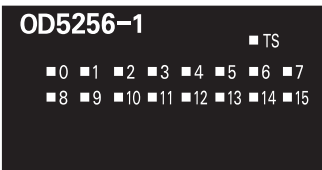


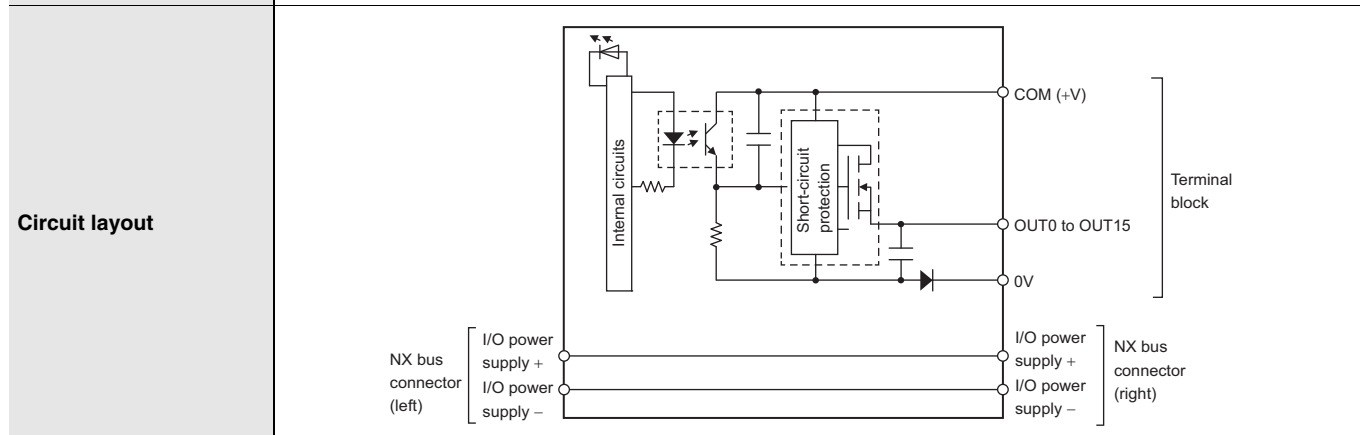
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.
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● Transistor Output Units (M3 Screw Terminal Block, 30 mm Width)
NX-OD5121-1

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

NX-OD5256-1

Unit name	Transistor Output Unit	Model	NX-OD5256-1
Number of points	16 points	External connection terminals	M3 screw terminal block (18 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	PNP
		Rated voltage	24 VDC
		Operating load voltage range	20.4 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 5 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 0.95 W max. Connected to a Communications Coupler Unit 0.65 W max. 	Current consumption from I/O power supply	30 mA max.
Weight	125 g max.		

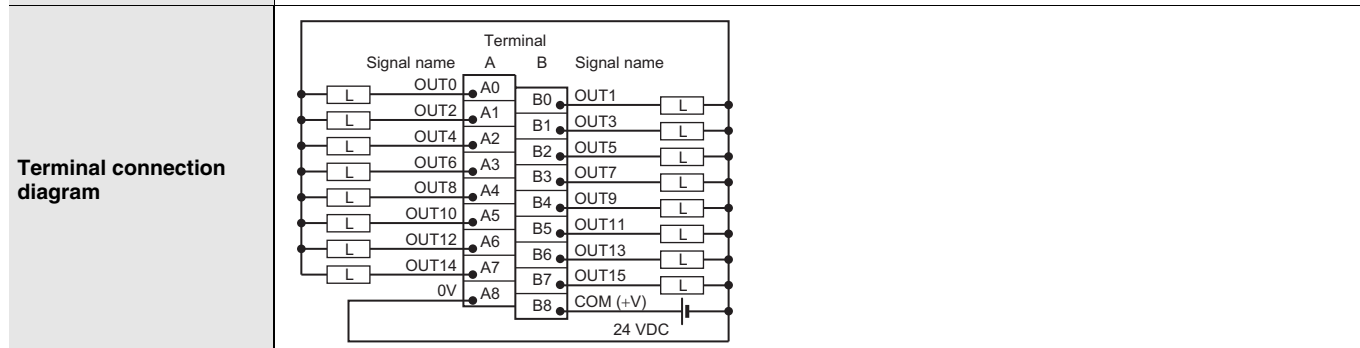


Installation orientation and restrictions

Installation orientation:

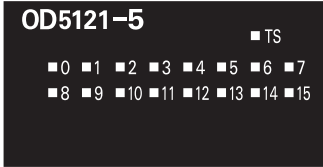
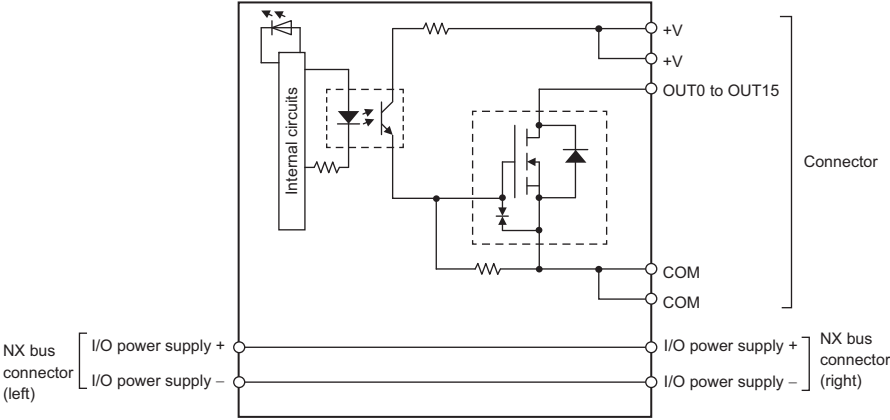
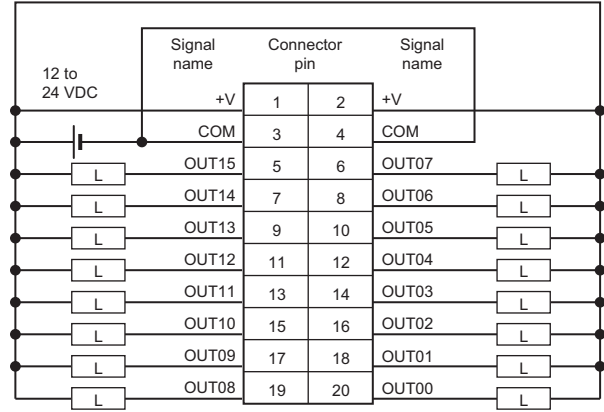
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions

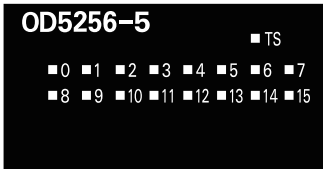


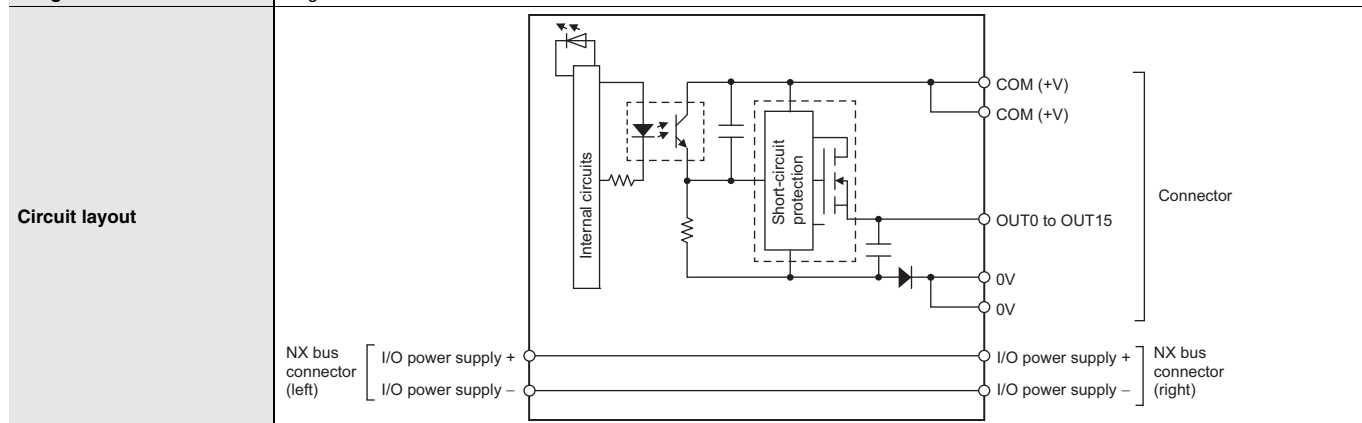
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.
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● Transistor Output Units (MIL Connector, 30 mm Width)
NX-OD5121-5

Unit name	Transistor Output Unit	Model	NX-OD5121-5
Number of points	16 points	External connection terminals	MIL connector (20 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	NPN
		Rated voltage	12 to 24 VDC
		Operating load voltage range	10.2 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 0.95 W max. Connected to a Communications Coupler Unit 0.60 W max. 	Current consumption from I/O power supply	30 mA max.
Weight	80 g max.		
Circuit layout			
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram	 <p>• Be sure to wire both pins 3 and 4 (COM). • Be sure to wire both pins 1 and 2 (+V).</p>		
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-OD5256-5

Unit name	Transistor Output Unit	Model	NX-OD5256-5
Number of points	16 points	External connection terminals	MIL connector (20 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	PNP
		Rated voltage	24 VDC
		Operating load voltage range	20.4 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supplied from external source.	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max. 	Current consumption from I/O power supply	40 mA max.
Weight	85 g max.		

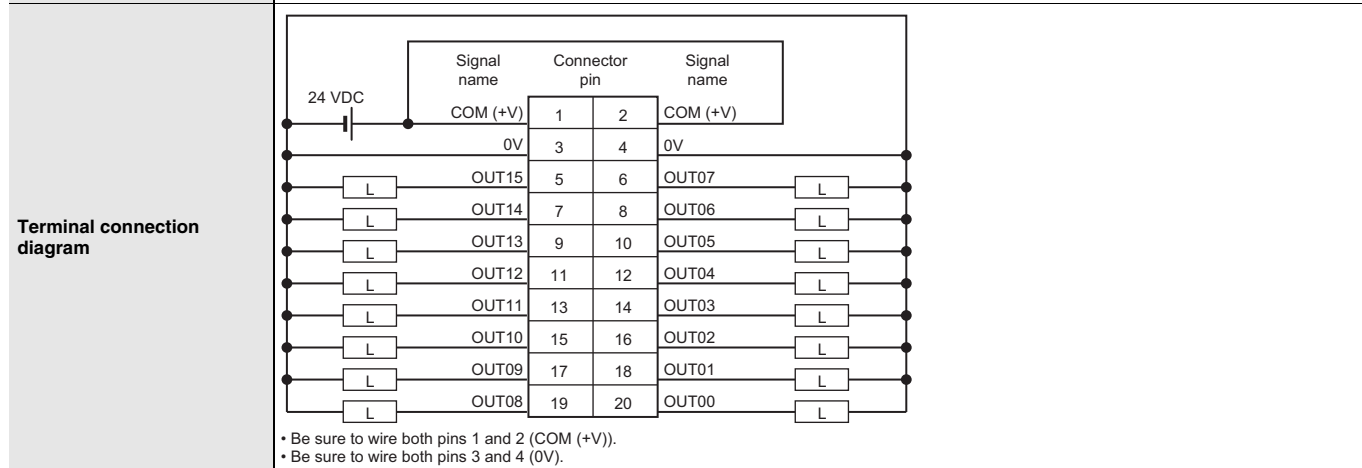


Installation orientation and restrictions

Installation orientation:

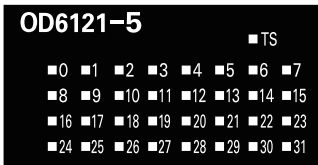
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

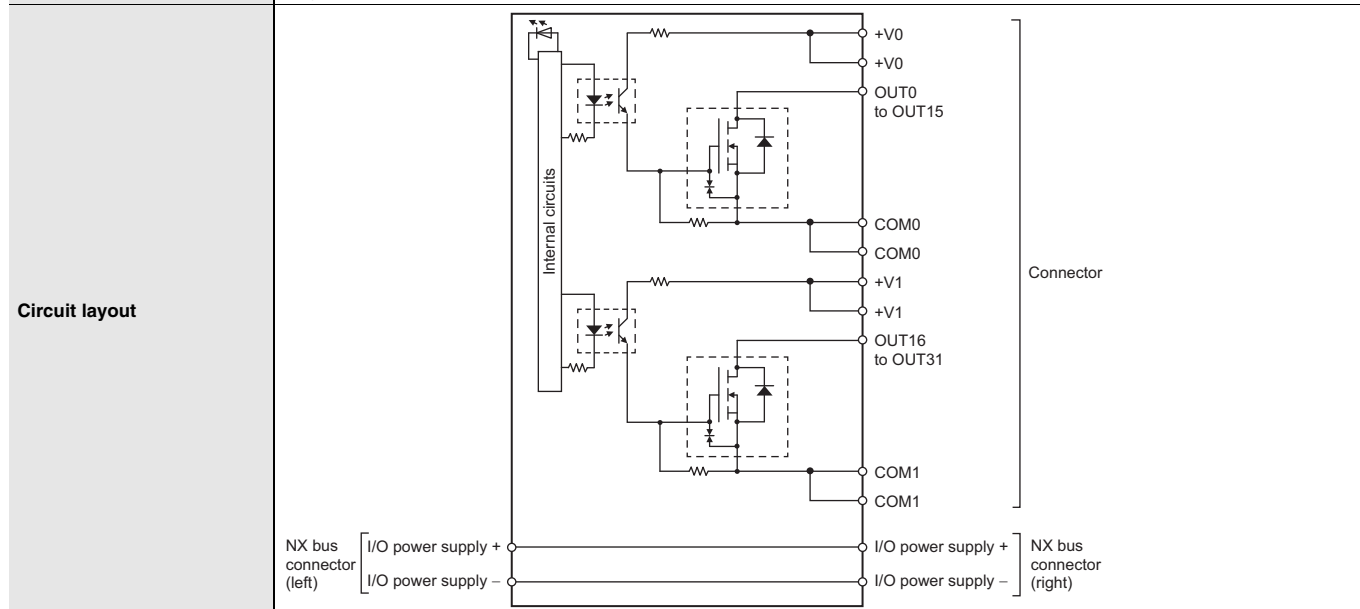
Restrictions: No restrictions



Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.
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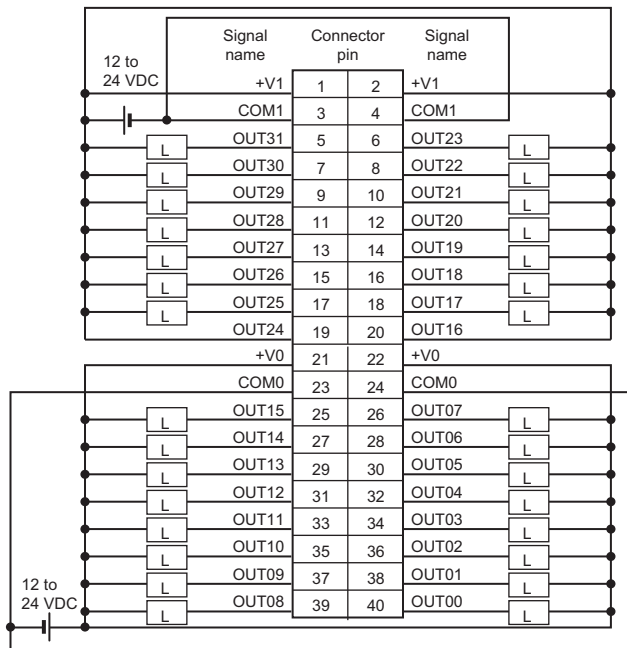
NX-OD6121-5

Unit name	Transistor Output Unit	Model	NX-OD6121-5
Number of points	32 points	External connection terminals	MIL connector (40 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	NPN
		Rated voltage	12 to 24 VDC
		Operating load voltage range	10.2 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Unit 0.80 W max. 	Current consumption from I/O power supply	50 mA max.
Weight	90 g max.		



Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>
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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).

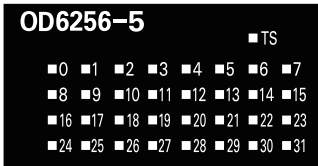
Disconnection/Short-circuit detection

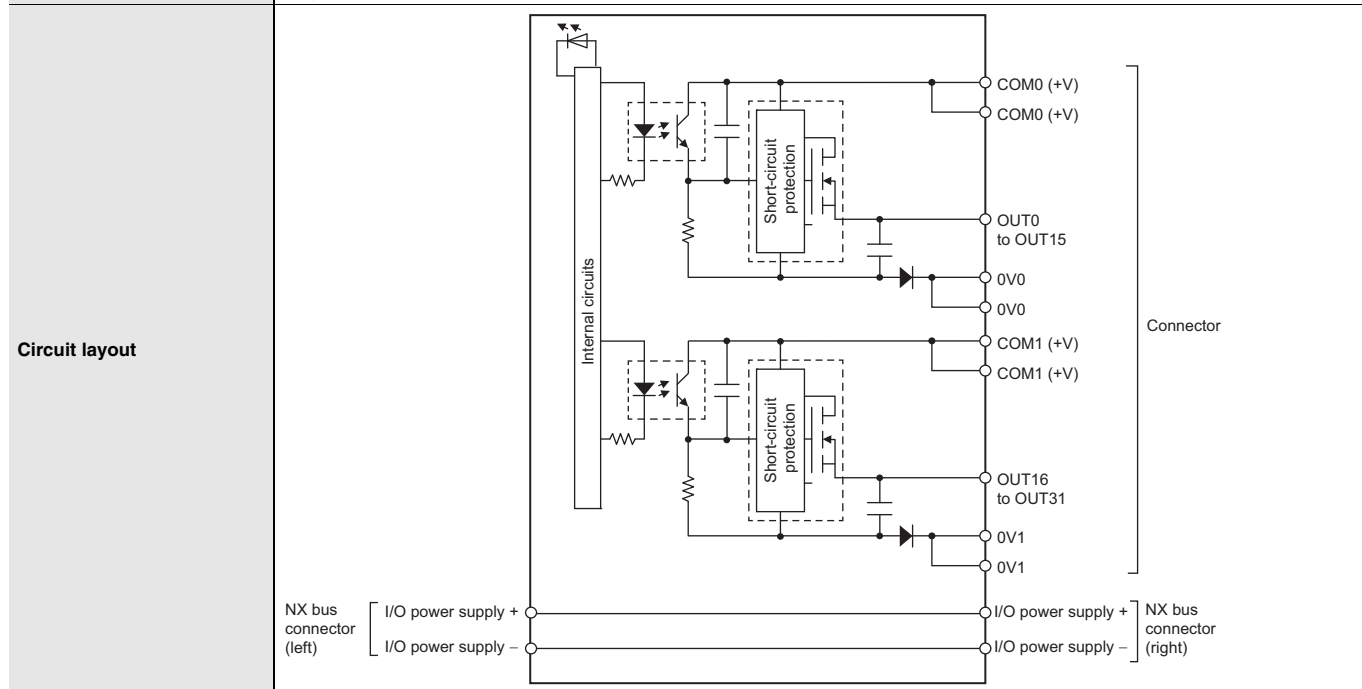
Not supported.

Protective function

Not supported.

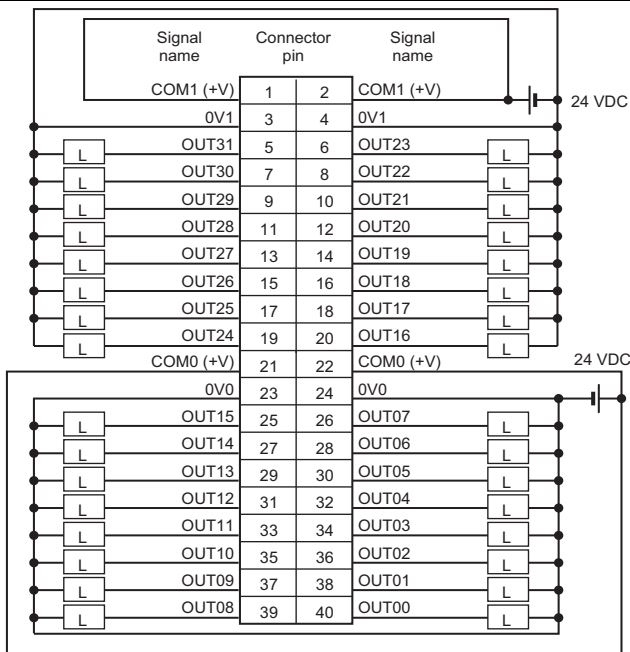
NX-OD6256-5

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



Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>
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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

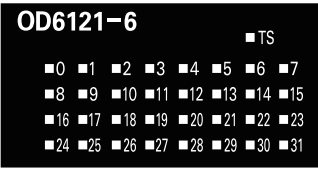
Not supported.

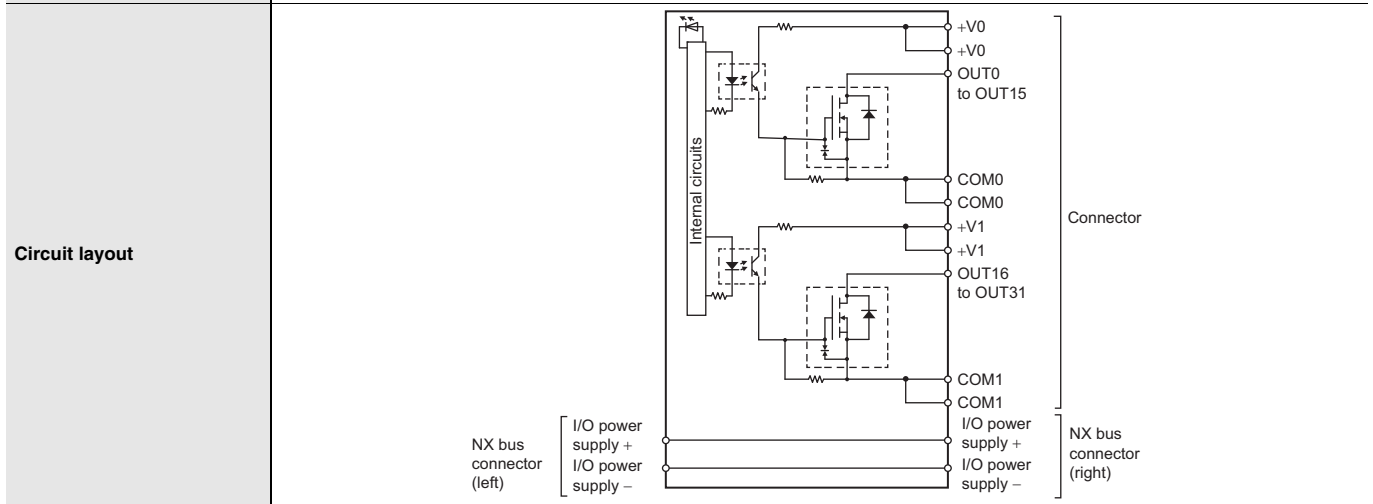
Protective function

With load short-circuit protection.

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

NX-OD6121-6

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

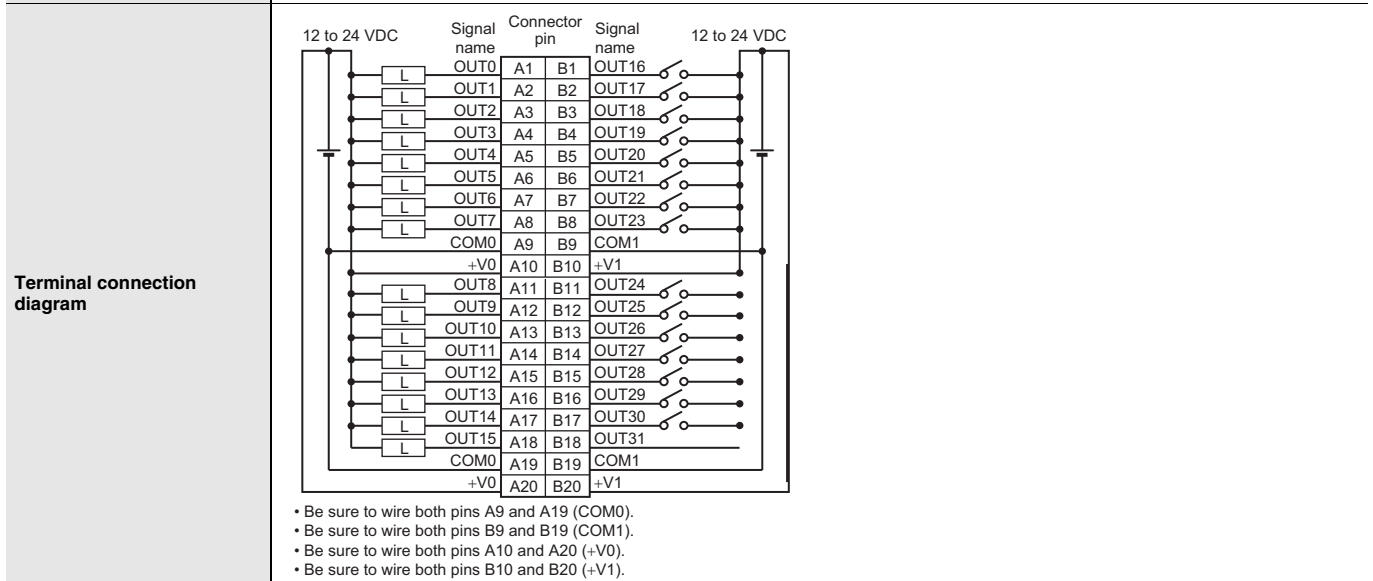


Installation orientation and restrictions

Installation orientation:


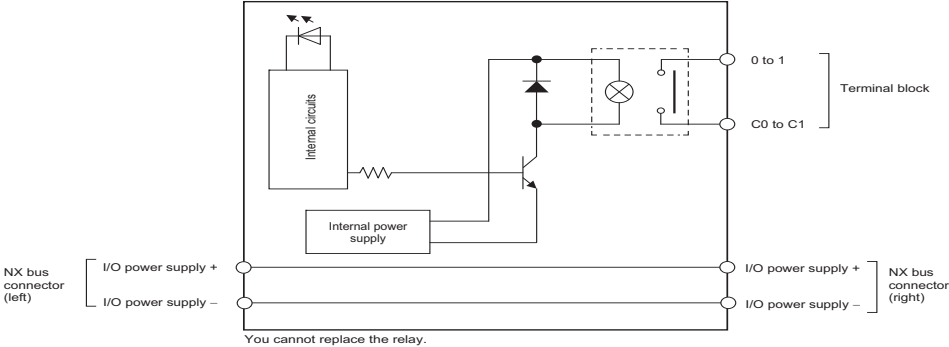
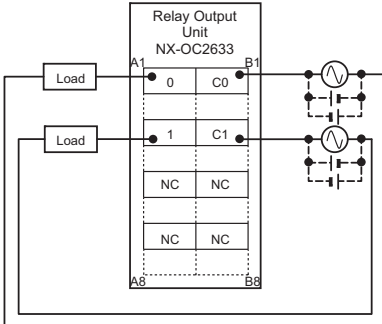
- Connected to a CPU Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions



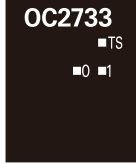
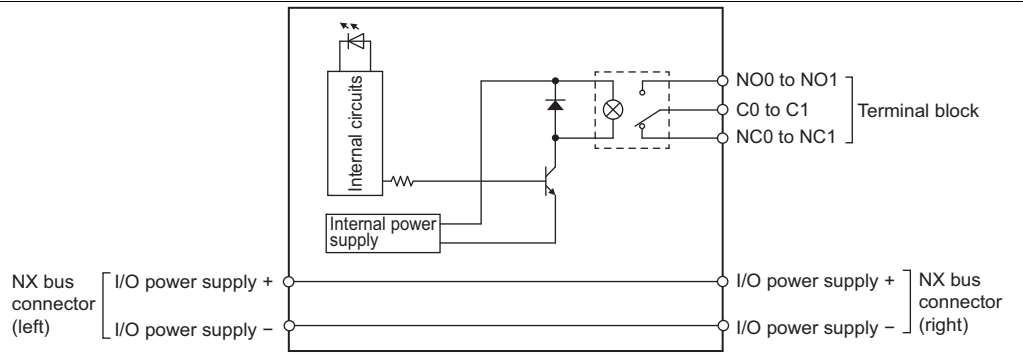
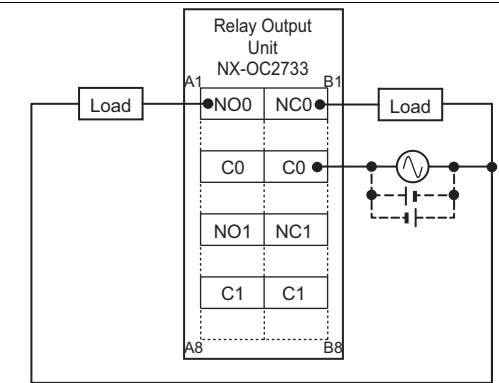
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.
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● Relay Output Unit (Screwless Clamping Terminal Block 12 mm, Width) NX-OC2633


Unit name	Relay Output Units	Model	NX-OC2633
Number of points	2 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing		
Indicators	TS indicator, output indicator 	Relay type	N.O. contact
		Maximum switching capacity	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit
		Minimum switching capacity	5 VDC, 1 mA
Relay service life	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation
Insulation resistance	Between A1/B1 terminals and A3/B3 terminals: 20 MΩ min. (500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (500 VDC) Between the internal circuit and GR terminal: 20 MΩ min. (100 VDC) Between the external terminals and GR terminal: 20 MΩ min. (500 VDC)	Dielectric strength	Between A1/B1 terminals and A3/B3 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and GR terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and GR terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
Vibration resistance	Conforms to IEC60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 8.4 to 150 Hz, acceleration of 9.8 m/s ² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s ² , 3 times each in X, Y, and Z directions
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 1.20 W max. Connected to a Communications Coupler Unit 0.80 W max. 	I/O current consumption	No consumption
Weight	65 g max.		
Circuit layout	 <p style="text-align: center;">You cannot replace the relay.</p>		
Installation orientation and restrictions	Installation orientation: <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

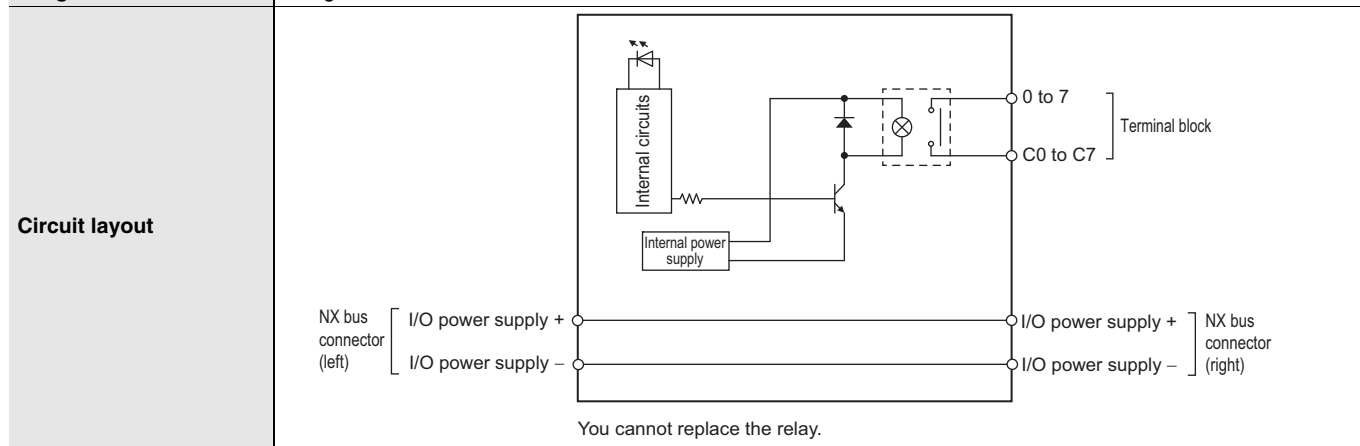
* Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

● Relay Output Unit
NX-OC2733

Unit name	Relay Output Unit	Model	NX-OC2733
Number of points	2 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing		
Indicators		Maximum switching capacity	250 VAC/2 A ($\cos\phi = 1$), 250 VAC/2 A ($\cos\phi = 0.4$), 24 VDC/2 A, 4 A/Unit
		Minimum switching capacity	5 VDC, 10 mA
Relay service life	Electrical: 100,000 operations Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation
Insulation resistance	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: 20 M Ω min. (at 500 VDC) Between the external terminals and functional ground terminal: 20 M Ω min. (at 500 VDC) Between the external terminals and internal circuits: 20 M Ω min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 M Ω min. (at 100 VDC)	Dielectric strength	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and the functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 1.30 W max. Connected to a Communications Coupler Unit 0.95 W max. 	Current consumption from I/O power supply	No consumption
Weight	70 g max.		
Circuit layout	 <p>NO0 and NO1 are normal open contacts, and NC0 and NC1 are normal close contacts. You cannot replace the relay.</p>		
Installation orientation and restrictions	<p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p>		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

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

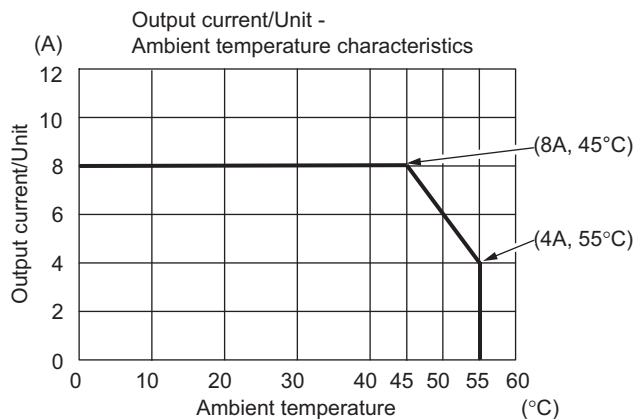
Unit name	Relay Output Unit	Model	NX-OC4633
Number of points	8 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals x 2)
I/O refreshing method	Free-Run refreshing		
Indicators	TS indicator, output indicator	Relay type	N.O. contact
		Maximum switching capacity	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 8 A/Unit
		Minimum switching capacity	5 VDC, 1 mA
Relay service life	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.
Dimensions	24 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation
Insulation resistance	Between output bits: 20 MΩ min. (at 500 VDC) Between the external terminals and the functional ground terminal: 20 MΩ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 MΩ min. (at 100 VDC)	Dielectric strength	Between output bits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and the functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
Vibration resistance	Conforms to IEC 60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 8.4 to 150 Hz, acceleration of 9.8 m/s ² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s ² , 3 times each in X, Y, and Z directions
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul style="list-style-type: none"> Connected to a CPU Unit 2.00 W max. Connected to a Communications Coupler Unit 1.65 W max. 	Current consumption from I/O power supply	No consumption
Weight	140 g max.		



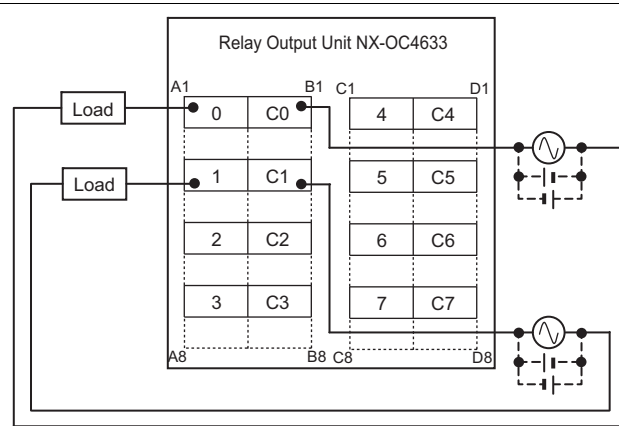
Installation orientation and restrictions

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

Restrictions: 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.

Version Information

Connecting with CPU Units

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

NX Unit		Corresponding versions *	
Model	Unit version	CPU Unit	Sysmac Studio
NX-OD2154	Ver.1.0	Ver.1.13 or later	Ver.1.17 or higher
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			

* 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.

Connecting with Coupler Units

NX Unit		Corresponding versions *1				
Model	Unit version	EtherCAT			EtherNet/IP	
		Communications Coupler Unit	NJ/NX-series CPU Units or NY-series Industrial PCs	Sysmac Studio	Communications Coupler Unit	Sysmac Studio
NX-OD2154	Ver.1.0	Ver.1.1 or later	Ver.1.06 or later *2	Ver.1.07 or higher	---	---
NX-OD2258						
NX-OD3121		Ver.1.0 or later	Ver.1.05 or later	Ver.1.10 or higher	Ver.1.0 or later	Ver.1.10 or higher
NX-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						

*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.

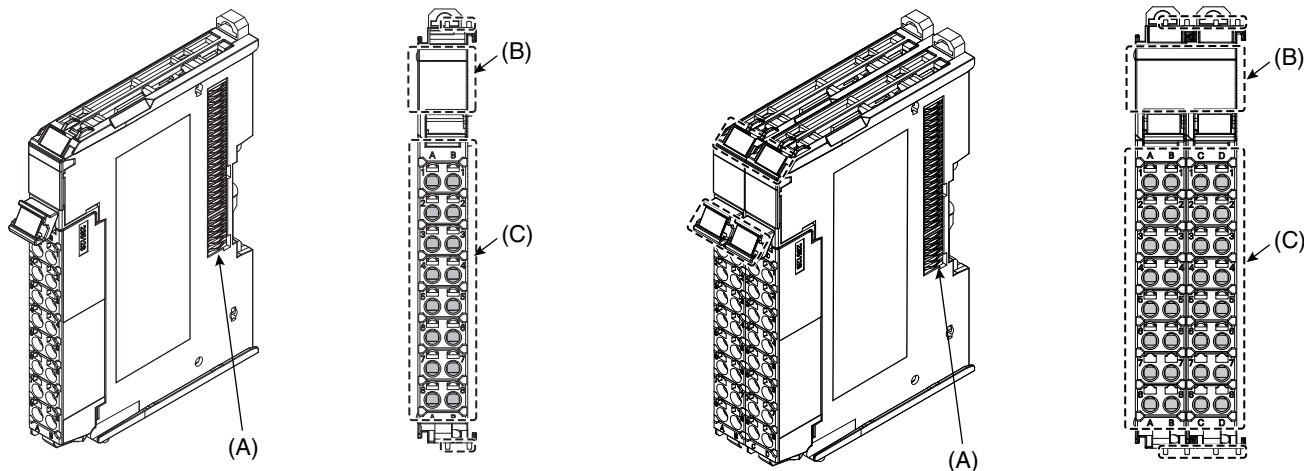
*2. If you use a CPU Unit, the instructions for time stamp refreshing are supported by CPU Units with unit version 1.06 or later. If you do not use instructions for time stamp refreshing, you can use version 1.05. Refer to the instructions reference manual for the connected CPU Unit or Industrial PC for details on the instructions for time stamp refreshing.

External Interface

Screwless Clamping Terminal Block Type

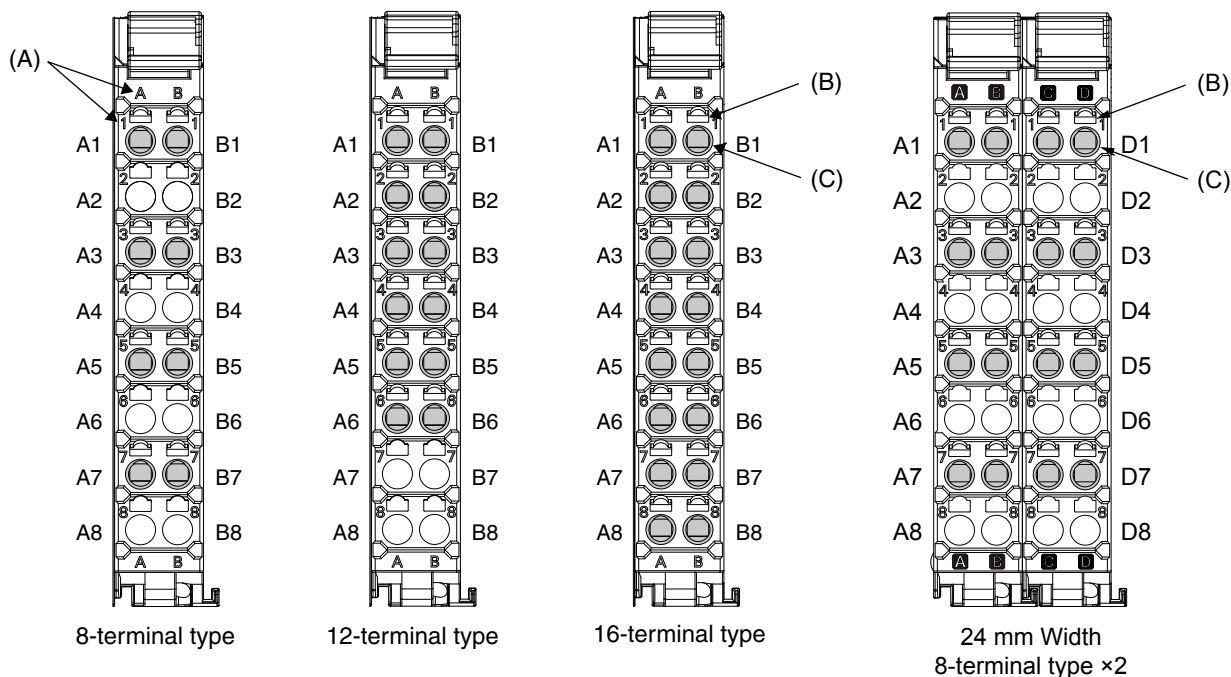
NX Units (12 mm Width)

NX Units (24 mm Width)



Symbol	Name	Function
(A)	NX bus connector	This connector is used to connect each Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Terminal block	The terminal block is used to connect external devices. The number of terminals depends on the type of Unit.

Terminal Blocks



Symbol	Name	Function
(A)	Terminal number indications	Terminal numbers for which A and B indicate the column, and 1 to 8 indicate the line are displayed. The terminal number is a combination of column and line, i.e. A1 to A8 and B1 to B8. The terminal number indications are the same regardless of the number of terminals on the terminal block.
(B)	Release holes	Insert a flat-blade screwdriver into these holes to connect and remove the wires.
(C)	Terminal holes	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-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.

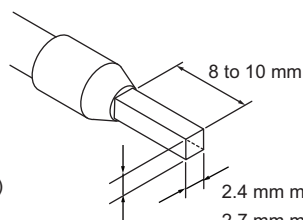
The applicable ferrules, wires, and crimping tool are given in the following table.

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

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

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

Finished Dimensions of Ferrules



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)

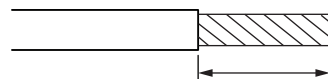
Using Twisted Wires/Solid Wires

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 max.	Possible	Possible	Possible	Possible	0.08 to 1.5 mm ² AWG28 to 16	8 to 10 mm
	Greater than 2 A and 4 A or less		Not Possible	Possible *1	Not Possible		
	Greater than 4 A	Possible *1	Possible	Not Possible	Possible		
Ground terminals	---	Possible	Possible	Possible *2	Possible *2	2.0 mm ²	9 to 10 mm

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

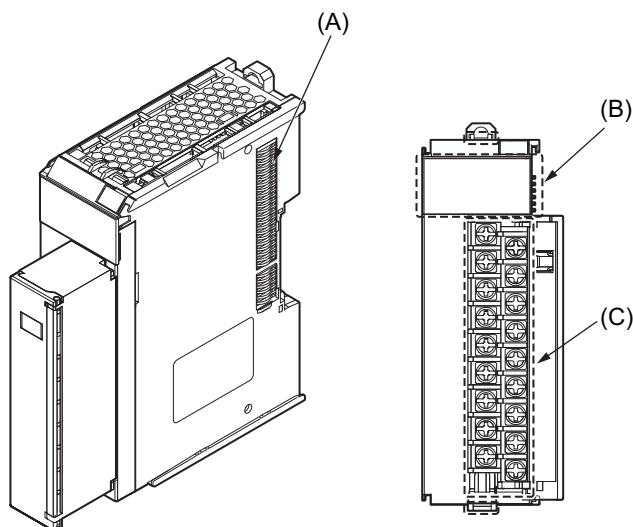
*2 With the NX-TB□□□1 Terminal Block, use twisted wires to connect the ground terminal. Do not use a solid wire.



Conductor length (stripping length)

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

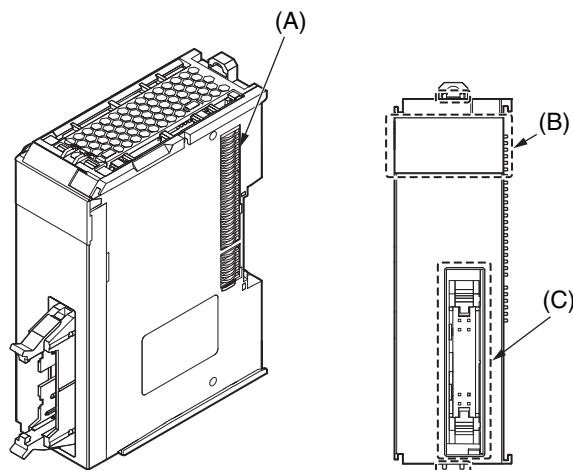
M3 Screw Terminal Block Type NX Units (30 mm Width)



Letter	Name	Function
(A)	NX bus connector	This connector is used to connect each 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.

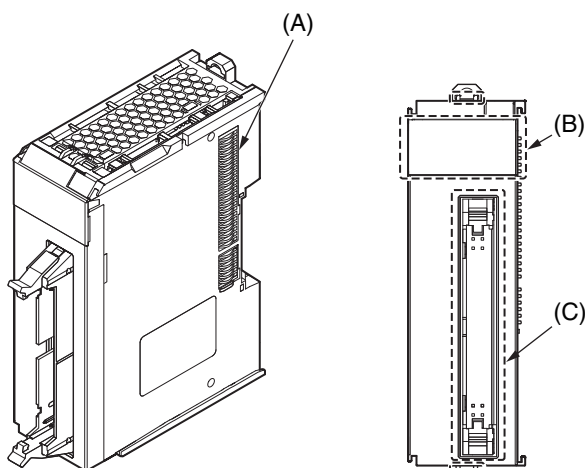
Connector Types NX Units (30 mm Width)

● Units with MIL Connectors (1 Connector with 20 Terminals)



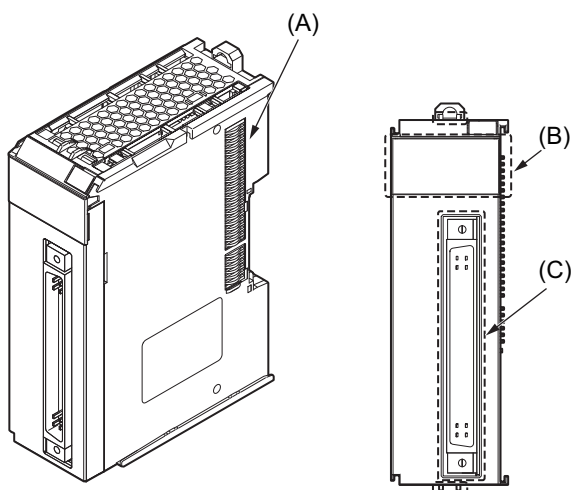
Letter	Name	Function
(A)	NX bus connector	This connector is used to connect each Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Connectors	The connectors are used to connect to external devices.

● Units with MIL Connectors (1 Connector with 40 Terminals)



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

● Units with Fujitsu Connectors (1 Connector with 40 Terminals)

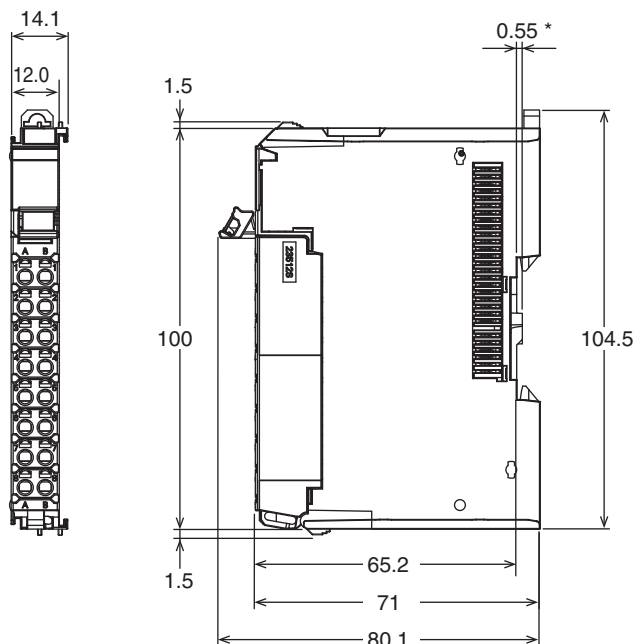


Letter	Name	Function
(A)	NX bus connector	This connector is used to connect each Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Connectors	The connectors are used to connect to external devices.

Dimensions

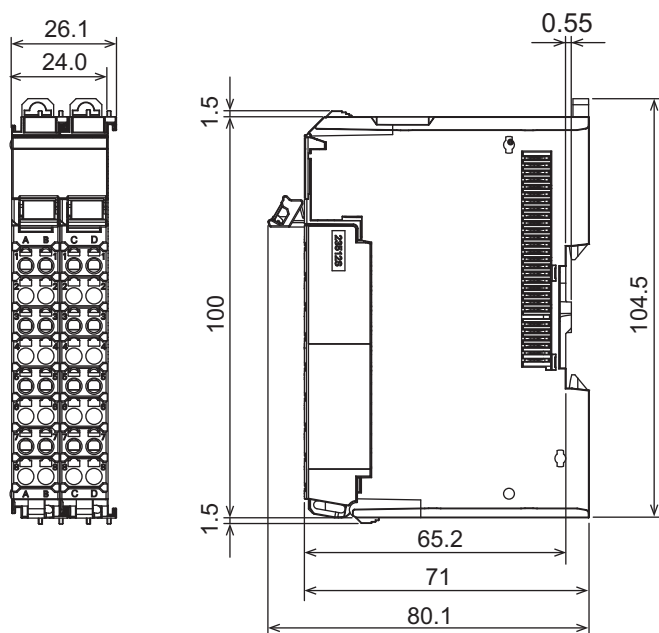
Screwless Clamping Terminal Block Type

12 mm Width

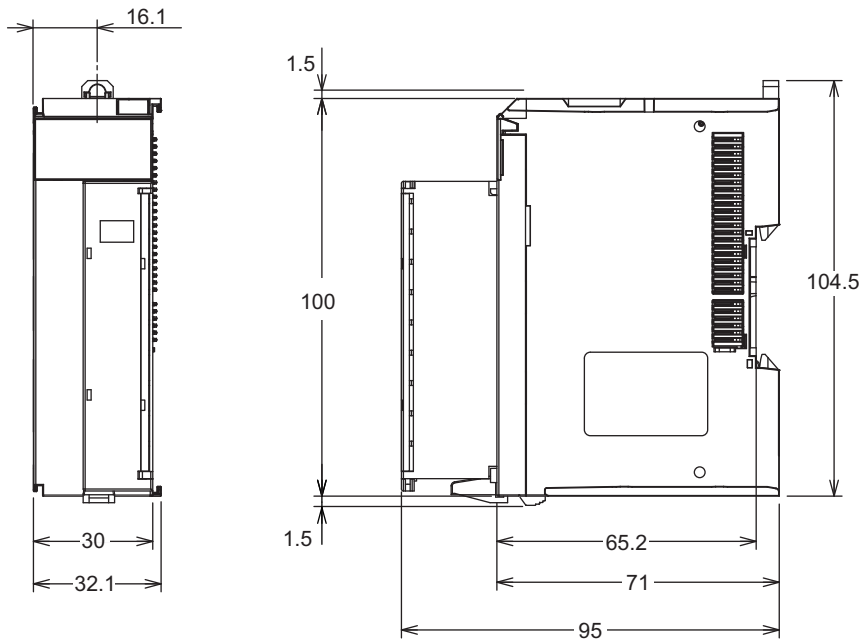


* The dimension is 1.35 mm for Units with lot numbers through December 2014.

24 mm Width



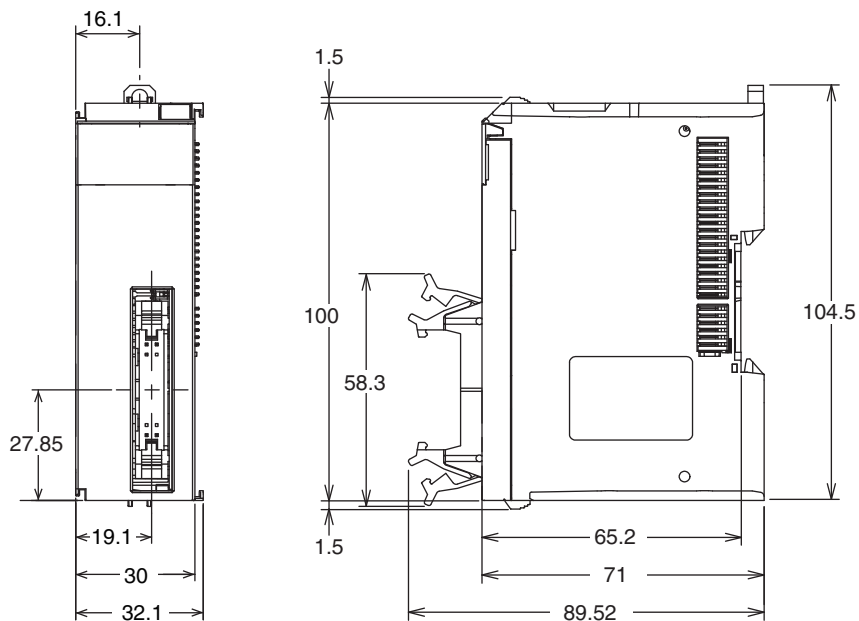
M3 Screw Terminal Block Type
30 mm Width



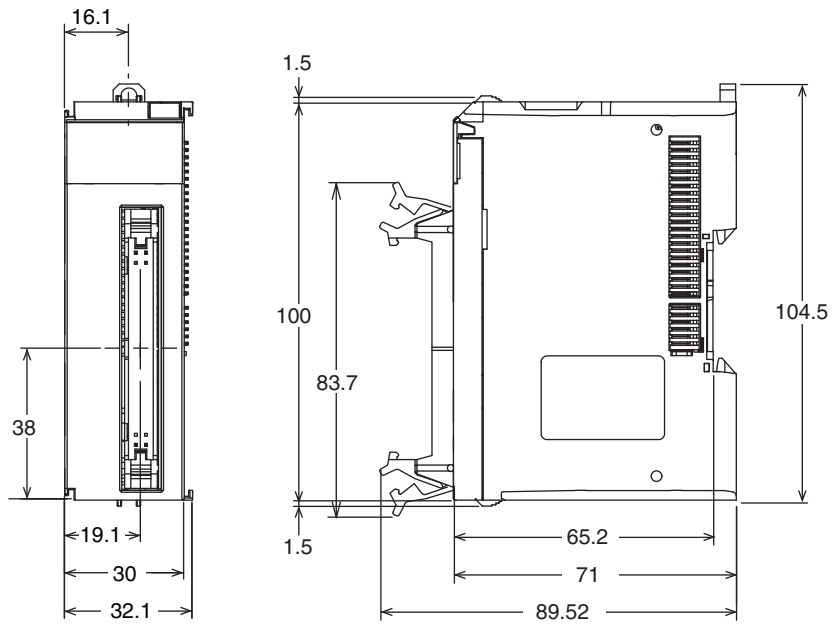
Connector Types

30 mm Width

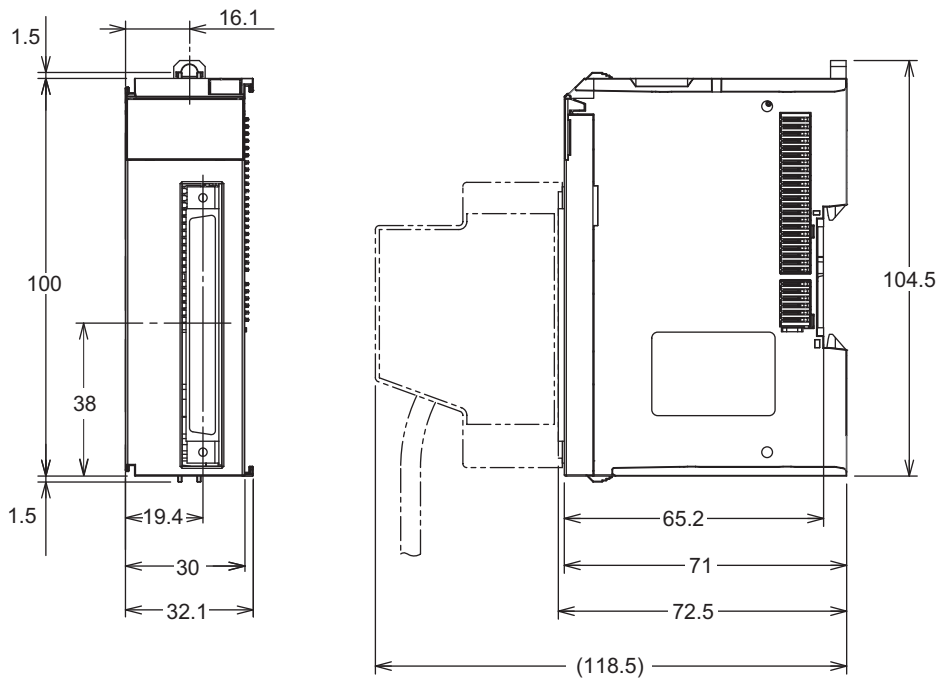
● Units with MIL Connectors (1 Connector with 20 Terminals)



● Units with MIL Connectors (1 Connector with 40 terminals)



● Units with Fujitsu Connectors (1 Connector with 40 Terminals)



Related Manuals

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