

Product Category

Automation Systems

Machine Automation
ControllersEtherCAT Slave Terminals
NX-Series

Digital Input / Output Unit

NX-ID / IA / OD / OC /
MD

Product Category

Cautions

Item A to Z Index

Applications

Correction Notice

NX-series Digital I/O Unit

NX-ID / IA / OD / OC / MD



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

[Item list of NX-ID / IA / OD / OC /
MD](#)

about this Product Family

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Automation Systems (1)

Machine Automation
Controllers (2)

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last update: May 8, 2017

General Specifications

Item		Specification
Enclosure		Mounted in a panel
Grounding method		Ground to 100 Ω or less
Operating environment	Ambient operating temperature	0 to 55°C
	Ambient operating humidity	10% to 95% (with no condensation or icing)
	Atmosphere	Must be free from corrosive gases.
	Ambient storage temperature	-25 to 70°C (with no condensation or icing)
	Altitude	2,000 m max.
	Pollution degree	2 or less: 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.

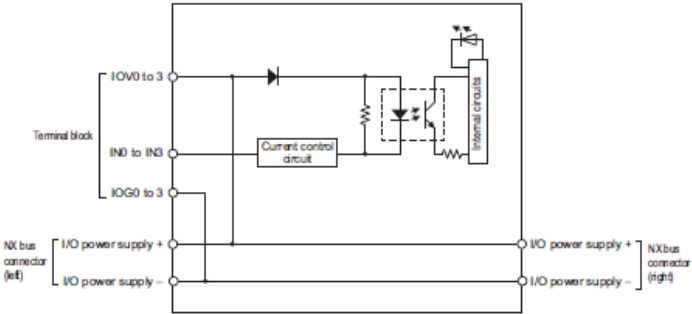
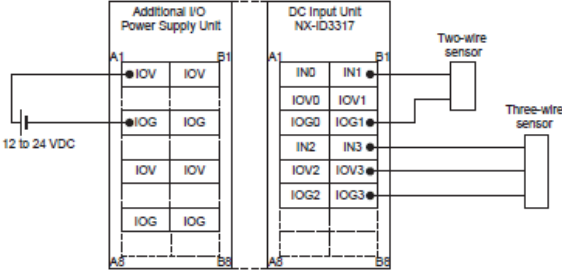
*2. Consult your OMRON representative for the most recent applicable standards for each model.

Digital Input Unit Specifications

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

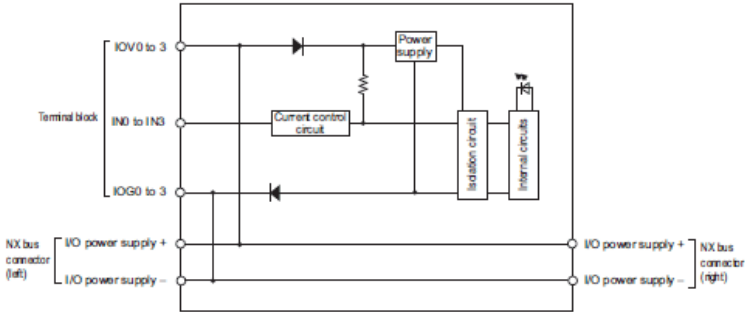
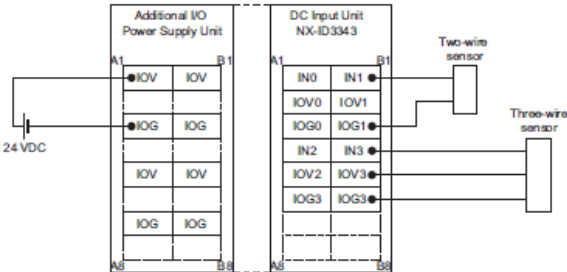
NX-ID3317

Unit name	DC Input Unit	Model	NX-ID3317
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Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator 	Internal I/O common	NPN
		Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
		Input current	6 mA typical (at 24 VDC), rated current
		ON voltage/ON current	9 VDC min./3 mA min. (between IOV and each signal)
		OFF voltage/OFF current	2 VDC max./1 mA max. (between IOV and each signal)
		ON/OFF response time	20 µs max./400 µs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	- Connected to a CPU Unit: 0.90 W max. - Connected to a Communications Coupler Unit: 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: - Connected to a CPU Unit: Possible in upright installation. - Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

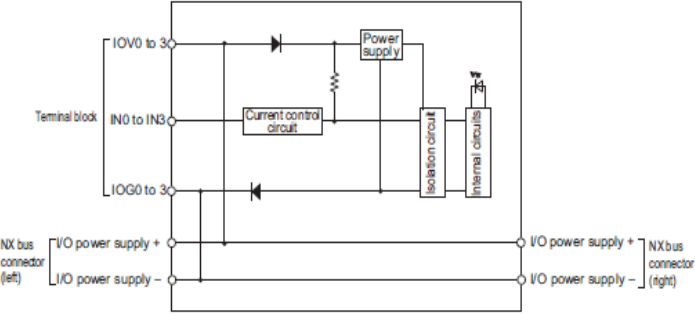
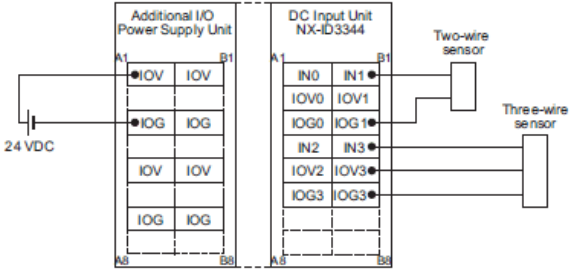
NX-ID3343

Unit name	DC Input Unit	Model	NX-ID3343
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator,	Internal I/O common	NPN

input indicator ID3343 ■TS ■0 ■1 ■2 ■3	Rated input voltage	24 VDC (15 to 28.8 VDC)	
	Input current	3.5 mA typical (at 24 VDC), rated current	
	ON voltage/ON current	15 VDC min./3 mA min. (between IOV and each signal)	
	OFF voltage/OFF current	5 VDC max./1 mA max. (between IOV and each signal)	
	ON/OFF response time	100 ns max./100 ns max.	
	Input filter time	Without filter, 1 μs, 2 μs, 4 μs, 8 μs (factory setting), 16 μs, 32 μs, 64 μs, 128 μs, 256 μs	
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	- Connected to a CPU Unit 0.90 W max. - Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: - Connected to a CPU Unit: Possible in upright installation. - Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-ID3344

Unit name	DC Input Unit	Model	NX-ID3344
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Input refreshing with input changed time		
Indicators TS indicator, input indicator ID3344 ■TS ■0 ■1 ■2 ■3	Internal I/O common		NPN
	Rated input voltage		24 VDC (15 to 28.8 VDC)
	Input current		3.5 mA typical (at 24 VDC), rated current
	ON voltage/ON current		15 VDC min./3 mA min. (between IOV

			and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOV and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	No filter
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	- Connected to a CPU Unit 0.90 W max. - Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: - Connected to a CPU Unit: Possible in upright installation. - Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

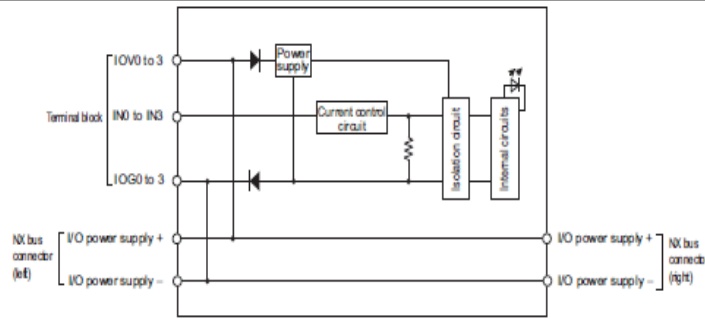
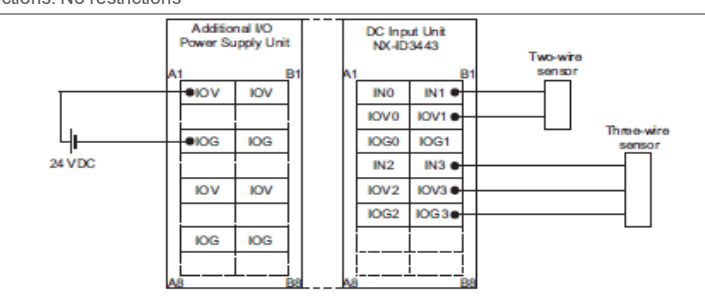
NX-ID3417

Unit name	DC Input Unit	Model	NX-ID3417
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator 	Internal I/O common	PNP
		Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
		Input current	6 mA typical (at 24 VDC), rated current
		ON voltage/ON current	9 VDC min./3 mA min. (between IOG and each signal)
		OFF voltage/OFF current	2 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16

			ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	- Connected to a CPU Unit 0.90 W max. - Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: - Connected to a CPU Unit: Possible in upright installation. - Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-ID3443

Unit name	DC Input Unit	Model	NX-ID3443
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator 	Internal I/O common	PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	Without filter, 1 μs, 2 μs, 4 μs, 8 μs (factory setting), 16 μs, 32 μs, 64 μs, 128 μs, 256 μs
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply	Supply from the NX bus	Current capacity of	IOV: 0.1 A/terminal max.,

method		I/O power supply terminal	I/OG: 0.1 A/terminal max.
NX Unit power consumption	• Connected to a CPU Unit 0.90 W max. • Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-ID3444

Unit name	DC Input Unit	Model	NX-ID3444
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Input refreshing with input changed time		
Indicators	TS indicator, input indicator 	Internal I/O common	PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	100 ns max./100 ns max.
		Input filter time	No filter
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	• Connected to a CPU Unit 0.90 W max. • Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	30 mA max.

Weight	65 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

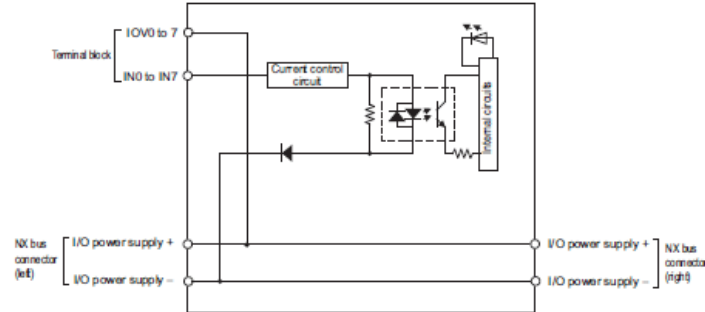
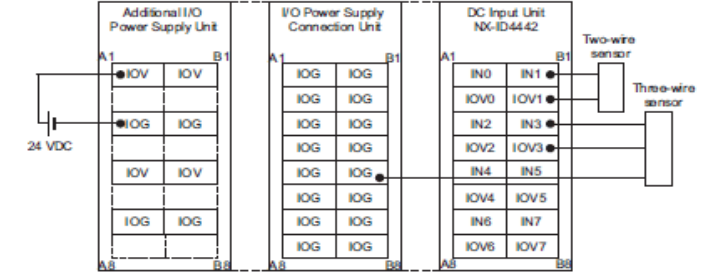
NX-ID4342

Unit name	DC Input Unit	Model	NX-ID4342
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator	Internal I/O common	NPN
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOG: 0.1 A/terminal max.
NX Unit power consumption	• Connected to a CPU Unit 0.90 W max. • Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout			

Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

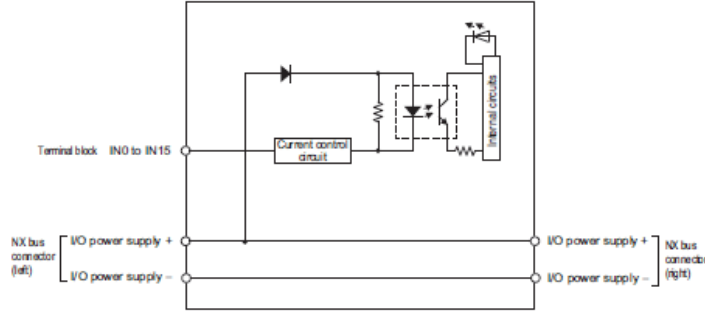
NX-ID4442

Unit name	DC Input Unit	Model	NX-ID4442
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator	Internal I/O common	PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Isolation method	Photocoupler isolation
Dielectric strength			510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOG: 0.1 A/terminal max.
NX Unit power consumption	• Connected to a CPU Unit 0.90 W max. • Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout			

			
Installation orientation and restrictions	Installation orientation: - 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.

NX-ID5342

Unit name	DC Input Unit	Model	NX-ID5342
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator 	Internal I/O common	NPN
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
		OFF voltage/OFF current	5 VDC max./0.5 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Isolation method	Photocoupler isolation
		Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	- Connected to a CPU Unit 0.90 W max. - Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout			

			
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-ID5442

Unit name	DC Input Unit	Model	NX-ID5442
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, input indicator 	Internal I/O common	PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	3.5 mA typical (at 24 VDC), rated current
		ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
		OFF voltage/OFF current	5 VDC max./0.5 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Isolation method	Photocoupler isolation
		Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• Connected to a CPU Unit 0.90 W max. • Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout			

Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

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

NX-ID5142-1

Unit name	DC Input Unit	Model	NX-ID5142-1
Number of points	16 points	External connection terminals	M3 screw terminal block (18 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, input indicator	Internal I/O common	For both NPN/PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	7 mA typical (at 24 VDC)
		ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• Connected to a CPU Unit 0.85 W max. • Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	125 g max.		
Circuit layout			

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	• 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

Unit name	DC Input Unit	Model	NX-ID5142-5
Number of points	16 points	External connection terminals	MIL connector (20 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, input indicators	Internal I/O common	For both NPN/PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
		Input current	7 mA typical (at 24 VDC)
		ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms

			(default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• Connected to a CPU Unit 0.85 W max. • Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	85 g max.		
Circuit layout			
Installation orientation and restrictions	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	• 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

Unit name	DC Input Unit	Model	NX-ID6142-5
Number of points	32 points	External connection terminals	MIL connector (40 terminals)

I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, input indicators	Internal I/O common	For both NPN/PNP
		Rated input voltage	24 VDC (19 to 28.8 VDC)
		Input current	4.1 mA typical (24 VDC)
		ON voltage/ON current	19 VDC min./3 mA min. (between COM and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 µs max./400 µs max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• Connected to a CPU Unit 0.90 W max. • Connected to a Communi- cations Coupler Unit 0.60 W max.	Current consumption from I/O power supply	No consumption
Weight	90 g max.		
Circuit layout			
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			

	• The polarity of the input power supply can be connected in either direction. • Be sure to wire both pins 23 and 24 (COM0), and set the same polarity for both pins. • Be sure to wire both pins 3 and 4 (COM1), and set the same polarity for both pins.		
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

DC Input Unit (Fujitsu Connector, 30 mm Width)

NX-ID6142-6

Unit name	DC Input Unit	Model	NX-ID6142-6
Number of points	32 points	External connection terminals	Fujitsu connector (40 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, input indicator	Internal I/O common	For both NPN/PNP
		Rated input voltage	24 VDC (19 to 28.8 VDC)
		Input current	4.1 mA typical (24 VDC)
		ON voltage/ON current	19 VDC min./3 mA min. (between COM and each signal)
		OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
		ON/OFF response time	20 μ s max./400 μ s max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M Ω min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• Connected to a CPU Unit 0.95 W max. • Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	90 g max.		
Circuit layout			
Installation orientation and restrictions	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	• 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

Unit name	AC Input Unit	Model	NX-IA3117
Number of points	4 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)
Capacity	Free-Run refreshing		
Indicators	TS indicator, input indicator	Internal I/O common	No polarity
		Rated input voltage	200 to 240 VAC, 50/60 Hz (170 to 264 VAC, ± 3 Hz)
		Input current	9 mA typical (at 200 VAC, 50 Hz) 11 mA typical (at 200 VAC, 60 Hz)
		ON voltage/ ON current	120 VAC min./4 mA min.
		OFF voltage/ OFF current	40 VAC max./2 mA max.
		ON/OFF response time	10 ms max./40 ms max.
		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms

Dimensions	12 (W) x 100 (H) x 71 (D)		Isolation method	Photocoupler isolation
Insulation resistance	Between each AC input circuit: 20 MΩ min. (at 500 VDC) Between the external terminals and the functional ground terminal: 20 MΩ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MΩ min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 MΩ min. (at 100 VDC)		Dielectric strength	Between each AC input circuit: AC3700V VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
I/O power supply method	Supplied from external source.		Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	- Connected to a CPU Unit 0.80 W max. - Connected to a Communications Coupler Unit 0.50 W max.		Current consumption from I/O power supply	No consumption
Weight	60 g max.			
Circuit layout				
Installation orientation and restrictions	Installation orientation: - Connected to a CPU Unit: Possible in upright installation. - Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions			
Terminal connection diagram				
Disconnection/Short-circuit detection	Not supported.		Protective function	Not supported.

Digital Output Unit Specifications

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

NX-OD2154

Unit name	Transistor Output Unit	Model	NX-OD2154
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Output refreshing with specified time stamp		
Indicators	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	- Connected to a CPU Unit 0.85 W max. - Connected to a Communications Coupler Unit 0.45 W max.	I/O current consumption	30 mA max.
Weight	70 g max.		
Circuit layout	This unit uses a push-pull output circuit.		
Installation orientation and restrictions	Installation orientation: - Connected to a CPU Unit: Possible in upright installation. - Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-OD2258

Unit name	Transistor Output Unit	Model	NX-OD2258
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Output refreshing with specified time stamp		
Indicators	TS indicator, output indicator	Internal I/O common	PNP
		Rated voltage	24 VDC
		Operating load voltage range	15 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 1 A/Unit

		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	• Connected to a CPU Unit 0.85 W max. • Connected to a Communications Coupler Unit 0.50 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout	This unit uses a push-pull output circuit.		
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

NX-OD3121

Unit name	Transistor Output Unit	Model	NX-OD3121
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	NPN
		Rated voltage	12 to 24 VDC
		Operating load voltage range	10.2 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.

		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	• 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.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-OD3153

Unit name	Transistor Output Unit	Model	NX-OD3153
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	NPN
		Rated voltage	24 VDC
		Operating load voltage range	15 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response	300 ns max./300 ns max.

		time	
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	• 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.		
Circuit layout	This unit uses a push-pull output circuit.		
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-OD3256

Unit name	Transistor Output Unit	Model	NX-OD3256
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	PNP
		Rated voltage	24 VDC
		Operating load voltage range	15 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation

Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	- 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.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: - Connected to a CPU Unit: Possible in upright installation. - Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

NX-OD3257

Unit name	Transistor Output Unit	Model	NX-OD3257
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	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	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.

		terminal	
NX Unit power consumption	• Connected to a CPU Unit 0.85 W max. • Connected to a Communications Coupler Unit 0.50 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout	This unit uses a push-pull output circuit.		
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

NX-OD3268

Unit name	Transistor Output Unit	Model	NX-OD3268
Number of points	4 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	PNP
		Rated voltage	24 VDC
		Operating load voltage range	15 to 28.8 VDC
		Maximum value of load current	2 A/point, 8 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		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	IOV: 2 A/terminal max., IOG: 2 A/terminal max.,

		terminal	COM (+V): 4 A/terminal max., 0V: 4 A/terminal max.
NX Unit power consumption	• Connected to a CPU Unit 0.85 W max. • Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	20 mA max.
Weight	70 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	• 0V has 2 terminals, so be sure to wire both terminals. • COM (+V) has 2 terminals, so be sure to wire both terminals.		
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

NX-OD4121

Unit name	Transistor Output Unit	Model	NX-OD4121
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	NPN
		Rated voltage	12 to 24 VDC
		Operating load voltage range	10.2 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max.
NX Unit power consumption	• Connected to a CPU Unit 0.90 W max.	I/O current consumption	10 mA max.

	• Connected to a Communications Coupler Unit 0.55 W max.		
Weight	70 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

NX-OD4256

Unit name	Transistor Output Unit	Model	NX-OD4256
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator	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	• 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.		

Circuit layout			
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

NX-OD5121

Unit name	Transistor Output Unit	Model	NX-OD5121
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	NPN
		Rated voltage	12 to 24 VDC
		Operating load voltage range	10.2 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• 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.		
Circuit layout			

Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported. <table> <tr> <td>Protective function</td><td>Not supported.</td></tr> </table>	Protective function	Not supported.
Protective function	Not supported.		

NX-OD5256

Unit name	Transistor Output Unit	Model	NX-OD5256
Number of points	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
Indicators	TS indicator, output indicator	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	• 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.		
Circuit layout			

Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

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

NX-OD5121-1

Unit name	Transistor Output Unit	Model	NX-OD5121-1
Number of points	16 points	External connection terminals	M3 screw terminal block (18 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	NPN
		Rated voltage	12 to 24 VDC
		Operating load voltage range	10.2 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 5 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• 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	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
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	• 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.		
Circuit layout			

Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions
Terminal connection diagram	
Disconnection/Short-circuit detection	Not supported. Protective function With load short-circuit protection.

Transistor Output Unit (MIL Connector, 30 mm Width)

NX-OD5121-5

Unit name	Transistor Output Unit	Model	NX-OD5121-5
Number of points	16 points	External connection terminals	MIL connector (20 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator	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	• 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	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions
Terminal connection diagram	• Be sure to wire both pins 3 and 4 (COM). • Be sure to wire both pins 1 and 2 (+V).
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	• 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.		
Circuit layout			

Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions
Terminal connection diagram	• Be sure to wire both pins 1 and 2 (COM (+V)). • Be sure to wire both pins 3 and 4 (0V).
Disconnection/Short-circuit detection	Not supported. Protective function With load short-circuit protection.

NX-OD6121-5

Unit name	Transistor Output Unit	Model	NX-OD6121-5
Number of points	32 points	External connection terminals	MIL connector (40 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		
Indicators	TS indicator, output indicator	Internal I/O common	NPN
		Rated voltage	12 to 24 VDC
		Operating load voltage range	10.2 to 28.8 VDC
		Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• 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.		
Circuit layout			

Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	• 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.		
	<table> <tr> <td>Protective function</td><td>Not supported.</td></tr> </table>	Protective function	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	20 MΩ min. between isolated	Dielectric strength	510 VAC between isolated circuits for

resistance	circuits (at 100 VDC)		1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• Connected to a CPU Unit 1.30 W max. • Connected to a Communications Coupler Unit 1.00 W max.	Current consumption from I/O power supply	80 mA max.
Weight	95 g max.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	• 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

Unit name	Transistor Output Unit	Model	NX-OD6121-6
Number of points	32 points	External connection terminals	Fujitsu connector (40 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and Free-Run refreshing		

Indicators	TS indicator, output indicator	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	- 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.		
Circuit layout			
Installation orientation and restrictions	Installation orientation: - Connected to a CPU Unit: Possible in upright installation. - Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram	- Be sure to wire both pins A9 and A19 (COM0). - Be sure to wire both pins B9 and B19 (COM1). - Be sure to wire both pins A10 and A20 (+V0). - Be sure to wire both pins B10 and B20 (+V1).		
Disconnection/Short-circuit detection	Not supported.	Protective function	Not supported.

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

NX-OC2633

Unit name	Relay Output Units	Model	NX-OC2633
Number of points	2 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing		
Indicators	TS indicator, output indicator	Relay type	N.O. contact
		Maximum switching capacity	250 VAC/2 A ($\cos\phi = 1$), 250 VAC/2 A ($\cos\phi = 0.4$), 24 VDC/2 A, 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 M Ω min. (500 VDC) Between the external terminals and internal circuits: 20 M Ω min. (500 VDC) Between the internal circuit and GR terminal: 20 M Ω min. (100 VDC) Between the external terminals and GR terminal: 20 M Ω 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	• 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	You cannot replace the relay.		
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			
Disconnection/Short-circuit	Not supported.	Protective function	Not supported.

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

NX-OC2733

Unit name	Relay Output Unit	Model	NX-OC2733
Number of points	2 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing		
Indicators	TS indicator, output indicator	Maximum switching capacity	250 VAC/2 A ($\cos\phi = 1$), 250 VAC/2 A ($\cos\phi = 0.4$), 24 VDC/2 A, 4 A/Unit
		Minimum switching capacity	5 VDC, 10 mA
Relay service life	Electrical: 100,000 operations Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation
Insulation resistance	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: 20 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	• 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	NO0 and NO1 are normal open contacts, and NC0 and NC1 are normal close contacts. You cannot replace the relay.		
Installation orientation and restrictions	Installation orientation: • Connected to a CPU Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions		
Terminal connection diagram			

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

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

NX-OC4633

Unit name	Relay Output Unit	Model	NX-OC4633
Number of points	8 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals x 2)
I/O refreshing method	Free-Run refreshing		
Indicators	TS indicator, output indicator	Relay type	N.O. contact
		Maximum switching capacity	250 VAC/2 A ($\cos\phi = 1$), 250 VAC/2 A ($\cos\phi = 0.4$), 24 VDC/2 A, 8 A/Unit
		Minimum switching capacity	5 VDC, 1 mA
Relay service life	Electrical: 100,000 operations* Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.
Dimensions	24 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation
Insulation resistance	Between output bits: 20 M Ω min. (at 500 VDC) Between the external terminals and the 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 output bits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and the functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.
Vibration resistance	Conforms to IEC 60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 8.4 to 150 Hz, acceleration of 9.8 m/s ² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s ² , 3 times each in X, Y, and Z directions
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	• Connected to a CPU Unit 2.00 W max. • Connected to a Communications Coupler Unit 1.65 W max.	Current consumption from I/O power supply	No consumption
Weight	140 g max.		
Circuit layout			

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.

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

NX-MD6121-5

Unit name		DC Input/Transistor Output Unit	Model		NX-MD6121-5
Number of points		16 inputs/16 outputs	External connection terminals		2 MIL connectors (20 terminals)
I/O refreshing method		Switching Synchronous I/O refreshing and Free-Run refreshing			
Output section (CN1)	Internal I/O common	NPN	Input section (CN2)	Internal I/O common	For both NPN/PNP
	Rated voltage	12 to 24 VDC		Rated input voltage	24 VDC (15 to 28.8 VDC)
	Operating load voltage range	10.2 to 28.8 VDC		Input current	7 mA typical (at 24 VDC)
	Maximum value of load current	0.5 A/point, 2 A/Unit		ON voltage/ ON current	15 VDC min./3 mA min. (between COM and each signal)
	Maximum inrush current	4.0 A/point, 10 ms max.		OFF voltage/ OFF current	5 VDC max./1 mA max. (between COM and each signal)
	Leakage current	0.1 mA max.		ON/OFF response time	20 μs max./400 μs max.
	Residual voltage	1.5 V max.		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
	ON/OFF response time	0.1 ms max./0.8 ms max.			

Indicators	TS indicator, I/O indicators	Dimensions	30 (W) x 100 (H) x 71 (D)
		Isolation method	Photocoupler isolation
		Insulation resistance	20 MΩ min. between isolated circuits (at 100 VDC)
		Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
		I/O power supply method	Supply from external source
		Current capacity of I/O power supply terminal	Without I/O power supply terminals
		NX Unit power consumption	• 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	30 mA max.
		Weight	105 g max.
Circuit layout			
Installation orientation and restrictions			
Terminal connection diagram			

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

NX-MD6256-5

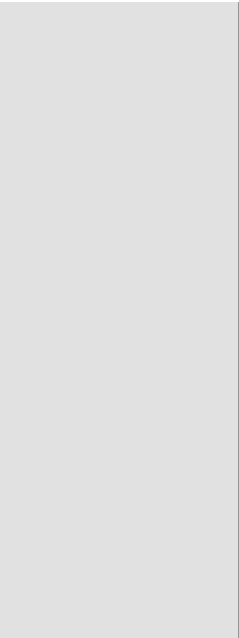
Unit name		DC Input/Transistor Output Unit	Model		NX-MD6256-5
Number of points		16 inputs/16 outputs	External connection terminals		2 MIL connectors (20 terminals)
I/O refreshing method		Switching Synchronous I/O refreshing and Free-Run refreshing			
Output section (CN1)	Internal I/O common	PNP	Input section (CN2)	Internal I/O common	For both NPN/PNP
	Rated voltage	24 VDC		Rated input voltage	24 VDC (15 to 28.8 VDC)
	Operating load voltage range	20.4 to 28.8 VDC		Input current	7 mA typical (at 24 VDC)
	Maximum value of load current	0.5 A/point, 2 A/Unit		ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
	Maximum inrush current	4.0 A/point, 10 ms max.		OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
	Leakage current	0.1 mA max.		ON/OFF response time	20 μs max./400 μs max.
	Residual voltage	1.5 V max.		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
	ON/OFF response time	0.5 ms max./1.0 ms max.			
Indicators		TS indicator, I/O indicators	Dimensions		30 (W) x 100 (H) x 71 (D)
			Isolation method		Photocoupler isolation
			Insulation resistance		20 MΩ min. between isolated circuits (at 100 VDC)
			Dielectric strength		510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
			I/O power supply method		Supply from external source
			Current capacity of I/O power supply terminal		Without I/O power supply terminals
			NX Unit power consumption		• Connected to a CPU Unit 1.10 W max. • Connected to a Communications Coupler Unit 0.75 W max.
			Current consumption from I/O power supply		40 mA max.

	Weight		110 g max.
Circuit layout			
Installation orientation and restrictions			
Terminal connection diagram			
Disconnection/Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

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

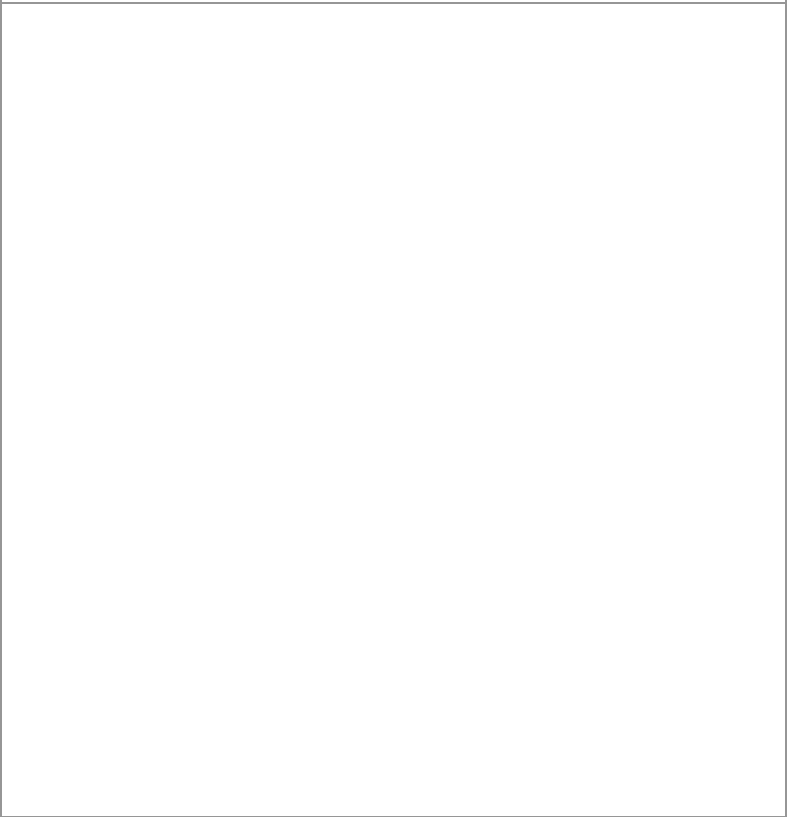
NX-MD6121-6

Unit name		DC Input/Transistor Output Unit	Model		NX-MD6121-6
Number of points		16 inputs/16 outputs	External connection terminals		2 Fujitsu connectors (24 terminals)
I/O refreshing method		Switching Synchronous I/O refreshing and Free-Run refreshing			
Output section (CN1)	Internal I/O common	NPN	Input section (CN2)	Internal I/O common	For both NPN/PNP
	Rated voltage	12 to 24 VDC		Rated input voltage	24 VDC (15 to 28.8 VDC)
	Operating load voltage range	10.2 to 28.8 VDC		Input current	7 mA typical (at 24 VDC)
	Maximum value of load current	0.5 A/point, 2 A/Unit		ON voltage/ ON current	15 VDC min./3 mA min. (between COM and each signal)
	Maximum inrush current	4.0 A/point, 10 ms max.		OFF voltage/ OFF current	5 VDC max./1 mA max. (between COM and each signal)
	Leakage current	0.1 mA max.		ON/OFF response time	20 μs max./400 μs max.
	Residual voltage	1.5 V max.		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
	ON/OFF response time	0.1 ms max./0.8 ms max.			
Indicators		TS indicator, I/O indicators	Dimensions		30 (W) x 100 (H) x 71 (D)
			Isolation method		Photocoupler isolation
			Insulation resistance		20 MΩ min. between isolated circuits (at 100 VDC)
			Dielectric strength		510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
			I/O power supply method		Supply from external source
			Current capacity of I/O power supply terminal		Without I/O power supply terminals
			NX Unit power consumption		• 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		30 mA max.
			Weight		95 g max.
Circuit layout					



Installation orientation
and restrictions

Terminal connection
diagram



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 versions *	
Model	Unit version	CPU Unit	Sysmac Studio
NX-ID3317	Ver.1.0	Ver.1.13 or later	Ver.1.17 or higher
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

* 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 a Communications Coupler Unit

NX Unit		Corresponding versions *1				
Model	Unit Version	EtherCAT			EtherNet/IP	
		Communi- cations Coupler Unit	NJ/NX-series CPU Units or NY-series Industrial PCs	Sysmac Studio	Communi- cations Coupler Unit	Sysmac Studio
NX-ID3317	Ver.1.0	Ver.1.0 or later	Ver.1.05 or later	Ver.1.06 or higher	Ver.1.0 or later	Ver.1.10 or higher
NX-ID3343						
NX-ID3344				Ver.1.07 or higher		
NX-ID3417		Ver.1.0 or later	Ver.1.05 or later	Ver.1.06 or higher	Ver.1.0 or later	Ver.1.10 or higher
NX-ID3443						
NX-ID3444		Ver.1.1 or later	Ver.1.06 or later *2	Ver.1.07 or higher	---	---
NX-ID4342		Ver.1.0 or later	Ver.1.05 or later	Ver.1.06 or higher	Ver.1.0 or later	Ver.1.10 or higher
NX-ID4442						
NX-ID5142-1				Ver.1.13 or higher		Ver.1.13 or higher
NX-ID5142-5				Ver.1.10 or higher		Ver.1.10 or higher
NX-ID5342				Ver.1.06 or higher		
NX-ID5442						
NX-ID6142-5				Ver.1.10 or higher		
NX-ID6142-6				Ver.1.13 or higher		Ver.1.13 or higher
NX-IA3117				Ver.1.08 or higher		Ver.1.10 or higher
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.1.06 or higher	Ver.1.0 or later	Ver.1.10 or higher
NX-OD3153						
NX-OD3256						
NX-OD3257						
NX-OD3268				Ver.1.13 or higher		Ver.1.13 or higher
NX-OD4121				Ver.1.06 or higher		Ver.1.10 or higher
NX-OD4256						
NX-OD5121						
NX-OD5121-1				Ver.1.13 or higher		Ver.1.13 or higher
NX-OD5121-5				Ver.1.10 or higher		Ver.1.10 or higher
NX-OD5256				Ver.1.06 or higher		

NX-OD5256-1				Ver.1.13 or higher		Ver.1.13 or higher
NX-OD5256-5				Ver.1.10 or higher		Ver.1.10 or higher
NX-OD6121-5						
NX-OD6121-6				Ver.1.13 or higher		Ver.1.13 or higher
NX-OD6256-5				Ver.1.10 or higher		Ver.1.10 or higher
NX-OC2633				Ver.1.06 or higher		
NX-OC2733				Ver.1.08 or higher		
NX-OC4633				Ver.1.17 or higher		Ver.1.17 or higher
NX-MD6121-5	Ver.1.0	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-MD6121-6				Ver.1.13 or higher		Ver.1.13 or higher
NX-MD6256-5				Ver.1.10 or higher		Ver.1.10 or higher

*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. 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.

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