## **NX-series Digital Output Units**

# NX-OD/OC

CSM NX-OD OC DS E 6 3

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

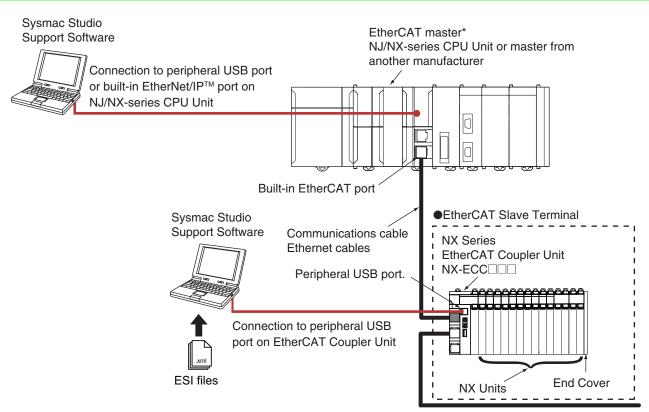
- Transistor and relay Output Units for the NX-series modular I/O system.
- Connect to other NX-series I/O Units and EtherCAT Coupler units using the high-speed NX-bus.
- Synchronous Units update their output status according to the controller's instructions every EtherCAT cycle.



### **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 includies 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.

### **System Configuration**



<sup>\*</sup> Refer to *Versions information* on the unit versions of CPU Units when you connect an EtherCAT Slave Terminal to the built-in EtherCAT port on an OMRON NJ/NX-series CPU Unit. OMRON CJ1W-NC□81/□82 Position Control Units cannot be connected to the EtherCAT Slave Terminal even though they support EtherCAT.

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### **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: EC Directives, and KC: KC Registration.
- Contact your OMRON representative for further details and applicable conditions for these standards.

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

					Spec	ification			
Unit type	Product Name	Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
		O nainta	NPN	0.5 A/point,	24 VDC	Output refreshing with specified time	300 ns max./	NX-OD2154	
		2 points	PNP	1 A/Unit	24 VDC	stamp only*	300 ns max.	NX-OD2258	
			NPN		12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD3121	UC1, N, L,
	Transistor	ransistor utput nit 4 points P  8 points N  16 points	INFIN	0.5 A/point, 2 A/Unit	24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	300 ns max./ 300 ns max.	NX-OD3153	CE, KC
NX	Unit						0.5 ms max./ 1.0 ms max.	NX-OD3256	
Series Digital output			PNP				300 ns max./ 300 ns max.	NX-OD3257	
Units				2 A/point, 8 A/Unit			0.5 ms max./ 1.0 ms max.	NX-OD3268 NEW	UC1, CE, KC
			NPN		12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD4121	
			PNP	0.5 A/point,	24 VDC 12 to 24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD4256	UC1, N, L, CE, KC
			NPN	4 A/Unit			0.1 ms max./ 0.8 ms max.	NX-OD5121	
			PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256	

<sup>\*</sup> To use output refreshing with specified time stamp, 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)

		-		•		<u> </u>			
					Spec	ification			
Unit type	Product Name	Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
NX Series	Transistor Output Unit	16 mainta	NPN	0.5 A/point,	12 to 24 VDC	Switching Synchronous I/O refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-1 <u>NEW</u>	UC1, CE,
Digital output Units		16 points	PNP	5 A/Unit	24 VDC	and Free-Run refreshing	0.5 ms max./ 1.0 ms max.	NX-OD5256-1 <u>NEW</u>	KC

### **Transistor Output Units (MIL Connector, 30 mm Width)**

			Specification						
Unit type Product Name		Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
	Transistor Output	16 nointe	NPN 0.5	0.5 A/point,	12 to 24 VDC	Switching Synchronous I/O refreshing and Free-Run refreshing	0.1 ms max./ 0.8 ms max.	NX-OD5121-5	
NX Series	Unit	16 points	PNP	2 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-5	
Digital output	Digital output	N	NPN	0.5 A/point,	12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD6121-5	UC1, CE, KC
Units		32 points 2 A/d		2 A/common, 4 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD6256-5	

## **Transistor Output Units (Fujitsu Connector, 30 mm Width)**

			Specification						
Unit type	Product Name	Number of points	Internal I/O common	Maximum value of load current	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
NX Series Digital output Units	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 <u>NEW</u>	

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

				Spec	Specification			
Unit type	Product Name	Capacity	Relay type	Maximum switching capacity	I/O refreshing method	ON/OFF response time	Model	Standards
NX Series			N.O.	AC250V/2A (cosφ=1) AC250V/2A (cosφ=0.4)		15ms max./	NX-OC2633	UC1, N, L, CE, KC
Digital output Units		2 points	NO+NC	DC24V/2A 4A/Unit	Free-Run refreshing	15ms max.	NX-OC2733	UC1, N, CE,KC

### Option

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

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

### **Accessories**

Not included.

## **General Specification**

	Item	Specification		
Enclosure		Mounted in a panel		
Grounding n	nethod	Ground to 100 Ω or less		
	Ambient operating temperature	0 to 55°C		
	Ambient operating humidity	10% to 95% (with no condensation or icing)		
	Atmosphere	Must be free from corrosive gases.		
	Ambient storage temperature	-25 to 70°C (with no condensation or icing)		
	Altitude	2,000 m max.		
	Pollution degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.		
Operating environment	Noise immunity	2 kV on power supply line (Conforms to IEC61000-4-4.)		
environment	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/s², 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)		
	Shock resistance *1	Conforms to IEC 60068-2-27. 147 m/s², 3 times each in X, Y, and Z directions		
Applicable standards *2		cULus: Listed UL508 and ANSI/ISA 12.12.01 EC: EN 61131-2 and C-Tick, KC: KC Registration, NK, LR		

<sup>\*1</sup> For the Relay Output Unit, refer to the Digital Input Unit Specifications.
\*2 Refer to the OMRON website (http://www.ia.omron.com/) or consult your OMRON representative for the most recent applicable standards for

## **Digital Output Unit Specifications**

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

Unit name	Transistor Output Unit	Model	NX-OD2154
Capacity	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Output refreshing with specified time stamp	)	
	TS indicator, output indicator	Internal I/O common	NPN
	OD2154	Rated voltage	24 VDC
	■TS ■0 ■1	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 1 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	0.50 W max.	I/O current consumption	30 mA max.
Weight	70 g max.		
Circuit layout	·	ush-pull output circuit.	OUT0 to OUT1  Terminal block  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	Power Supply Unit  A1 B1  OIOV IOV  OIOG IOG  24 VDC	ransistor Output Unit NX-OD2154  DUT0 OUT1  IOV IOV  IOG IOG  NC NC  B8	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD2258
Capacity	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Output refreshing with specified time stamp	)	
	TS indicator, output indicator	Internal I/O common	PNP
	OD2258	Rated voltage	24 VDC
	■TS ■0 ■1	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 1 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	0.50 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout		ush-pull output circuit.	OUT0 to OUT1  Terminal block  I/O power supply +  I/O power supply -  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	A1 B1 A1 C	ransistor Output Unit NX-OD2258 DUT0 OUT1 IOV IOV OG IOG NC NC B8	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD3121
Capacity	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, output indicator	Internal I/O common	NPN
	OD3121 ■TS	Rated voltage	12 to 24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	10.2 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	0.55 W max.	I/O current consumption	10 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)  NX bus connector (left)		OUT0 to OUT3  Terminal block  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Power Supply Unit  A1 B1  OIOV IOV  12 to 24 VDC  IOV IOV	Ansistor Output Unit NX-OD3121  B1  Two-wire typ DUT0   OUT1  DUT0   IOV1  DUT2   OUT3  DUT2   IOV3  DUG2   IOG3	e Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD3153
Capacity	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	1	
	TS indicator, output indicator	Internal I/O common	NPN
	OD3153	Rated voltage	24 VDC
	<b>=</b> 0 <b>=</b> 1 <b>=</b> 2 <b>=</b> 3	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	300 ns max./300 ns max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	0.50 W max.	I/O current consumption	30 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  I/O power supply -  This unit uses a push	· · ·	OUT0 to OUT3  Terminal block  I/O power supply + I/O power supply - I/O power supply - I/O power supply -
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	Additional I/O Power Supply Unit  A1 B1  OIOV IOV  IOV IOV  IOV IOV  IOG IOG  A8 B8 A8	Transistor Output Unit NX-OD3153  B1 Two-wire ty OUT0 OUT10  IOV0 IOV10  IOG0 IOG1  OUT2 OUT30  IOV2 IOV30  IOG2 IOG30	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD3256
Capacity	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, output indicator	Internal I/O common	PNP
	OD3256	Rated voltage	24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	0.55 W max.	I/O current consumption	20 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  I/O power supply -	Short-circuit protection	OUT0 to OUT3  IOG0 to 3  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Power Supply Unit  A1 B1  OIOV IOV  ICU  ICU  IOV IOV  ICU  ICU  ICU  ICU  ICU  ICU  ICU  IC	nsistor Output Unit NX-OD3256  B1  Two-wire type  UT0 OUT1  DV0 IOV1  OG0 IOG1  UT2 OUT3  OG2 IOG3  B8	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD3257
Capacity	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	_	
	TS indicator, output indicator	Internal I/O common	PNP
	OD3257 ■TS	Rated voltage	24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	15 to 28.8 VDC
Indicators		Maximum value of load current	0.5 A/point, 2 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
Dimensions	12 (M) × 100 (H) × 71 (D)	ON/OFF response time Isolation method	300 ns max./300 ns max.
	12 (W) x 100 (H) x 71 (D) 20 MΩ min. between isolated circuits (at		Digital isolator isolation 510 VAC between isolated circuits for 1
Insulation resistance	100 VDC)	Dielectric strength	minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max., IOG: 0.5 A/terminal max.
NX Unit power consumption	0.50 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  I/O power supply -  This unit uses a push  Installation orientation: Possible in 6 orienta		IOV0 to 3  Terminal block  OUT0 to OUT3  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Restrictions: No restrictions	ations.	
Terminal connection diagram	Power Supply Unit  A1 B1  OIOV IOV  IOV IOV  IOV IOV	ransistor Output Unit NX-OD3257  B1	Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

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	_	
	TS indicator, output indicator	Internal I/O common	PNP
	OD3268	Rated voltage	24 VDC
	■TS ■0 ■1	Operating load voltage range	15 to 28.8 VDC
Indicators	■2 ■3	Maximum value of load current	2 A/point, 8 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
Dimensions	12 (M) × 100 (H) × 71 (D)	ON/OFF response time Isolation method	0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D) 20 M $\Omega$ min. between isolated circuits (at		Photocoupler isolation 510 VAC between isolated circuits for 1
Insulation resistance	100 VDC)	Dielectric strength	minute at a leakage current of 5 mA max.
I/O power supply method	Supply from 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	0.50 W max.	Current consumption from I/O power supply	20 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector supply + 1/O power supply -	Short-circuit	OUT 0 to IOV 3  OUT 0 to OUT 3  Forminal block  OUT 0 to OUT 3  OV  I/O power supply + I/O power supply - I/
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	OUTO OUT1 IOV0 IOV1		
Disconnection/			With load shout sire, it and a transfer
Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD4121
Capacity	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, output indicator	Internal I/O common	NPN
	OD4121 ■TS	Rated voltage	12 to 24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	10.2 to 28.8 VDC
Indicators	■4 ■5 ■6 ■7	Maximum value of load current	0.5 A/point, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOV: 0.5 A/terminal max.
NX Unit power consumption	0.55 W max.	I/O current consumption	10 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  I/O power supply -		I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	Power Supply Unit  A1  B1  IOV  IOV  IOV  IOV  IOV  IOV  IOV  IO	G 10G 10V0 10 G 10G 0UT2 01 G 10G 10V2 10 G 10G 0UT4 01 G 10G 10V4 10 G 10G 0UT6 OUT6	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD4256
Capacity	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing		
	TS indicator, output indicator	Internal I/O common	PNP
	OD4256 ■TS	Rated voltage	24 VDC
	■0 ■1 ■2 ■3	Operating load voltage range	15 to 28.8 VDC
Indicators	<b>■4 ■5</b> <b>■6 ■7</b>	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. 0.5 ms max./1.0 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	ON/OFF response time Isolation method	Photocoupler isolation
	20 MΩ min. between isolated circuits (at		510 VAC between isolated circuits for 1
Insulation resistance	100 VDC)	Dielectric strength	minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	IOG: 0.5 A/terminal max.
NX Unit power consumption	0.65 W max.	I/O current consumption	30 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  I/O power supply + I/O power supply -	Short-circuit protection	OUT0 to OUT7  Terminal block  I/O power supply +  NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	24 VDC   IOV   IOV		Three-wire type
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

Unit name	Transistor Output Unit	Model	NX-OD5121
Capacity	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	1	
	TS indicator, output indicator	Internal I/O common	NPN
	OD5121 ■TS	Rated voltage	12 to 24 VDC
	m0 m1 m2 m3 m4 m5 m8 m7	Operating load voltage range	10.2 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 4 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.1 ms max./0.8 ms max.
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	0.65 W max.	I/O current consumption	20 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  I/O power supply -		OUT0 to OUT15 Terminal block  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	12 to 24 VDC	National Connection Unit	Transistor Output Unit NX-OD5121  B1 Two-wire type OUT0 OUT1  OUT2 OUT3 OUT4 OUT5  OUT6 OUT7  OUT8 OUT9  OUT10 OUT11  OUT12 OUT13  OUT14 OUT15  B8
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	Transistor Output Unit	Model	NX-OD5256
Capacity	16 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator, output indicator	Internal I/O common	PNP
	OD5256	Rated voltage	24 VDC
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	15 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 4 A/Unit
		Maximum inrush current	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 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the NX bus	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	0.70 W max.	I/O current consumption	40 mA max.
Weight	70 g max.		
Circuit layout	NX bus connector (left)  I/O power supply +	Short-aircuit protection	OUT0 to OUT15 Terminal block  I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	IOV   IOV	Connection Unit	
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

## ● 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	_	
	TS indicator, output indicator	Internal I/O common	NPN
	OD5121−1	Rated voltage	12 to 24 VDC
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	10.2 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 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 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from the external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power	0.00 W mov	Current consumption	20 mA mov
consumption	0.60 W max.	from I/O power supply	30 mA max.
Weight	125 g max.		<u> </u>
Circuit layout	NX bus connector (left)  NX bus connector supply + I/O power supply -		OUT0 to OUT15  Terminal block  COM  I/O power supply + I/O power supply - I/O power suppl
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	Terminal A B Signal name A B Signal name A B Signal name A B Signal name B Signal name A Signa		
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

### NX-OD5256-1

Unit name	Transistor Output Unit	Model	NX-OD5256-1
	·	External connection	
Number of points	16 points	terminals	M3 screw terminal block (18 terminals)
I/O refreshing method	Switching Synchronous I/O refreshing and	_	
	TS indicator, output indicator	Internal I/O common	PNP
	OD5256-1	Rated voltage	24 VDC
	■TS ■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	20.4 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 5 A/Unit
		Maximum inrush current	4.0 A/point, 10 ms max.
		Leakage current	0.1 mA max.
		Residual voltage	1.5 V max.
		ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	0.65 W max.	Current consumption from I/O power supply	30 mA max.
Weight	125 g max.		
Circuit layout	NX bus connector (left)    I/O power supply + I/O power supply - I/O p	Short-circuit	OUT0 to OUT15  OV  I/O power supply + I/O power supply - I/O power sup
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.	
Terminal connection diagram	Terminal	= - - - -	
Disconnection/ Short-circuit detection	Not supported.	Protective function	With load short-circuit protection.

## ● 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	
	TS indicator, output indicator	Internal I/O common	NPN
	OD5121-5 <sub>■ TS</sub>	Rated voltage	12 to 24 VDC
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	10.2 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 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 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	0.60 W max.	Current consumption from I/O power supply	30 mA max.
Weight	80 g max.		
Circuit layout	NX bus connector (left)  Installation orientation: Possible in 6 orientations and the state of t		COM COM COM /O power supply + /O power supply - /O power supply - /O power supply -
restrictions	Restrictions: No restrictions  Signal Connector name pin	Signal name	
	12 to 24 VDC +V 1 2	¬+v	
	COM 3 4	COM	
	OUT15 5 6	OUT07	
	OUT14 7 0	OUT06	
Terminal connection	OUT13 9 10	OUT05	
diagram	OUT12 11 12	OUT04	
	OUT11 13 14	OUT03	
	OUT10 15 16	OUT02	
	OUT09 17 18	OUT01	
	OUT08 19 20	OUT00	
	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		
	TS indicator, output indicator	Internal I/O common	PNP
	OD5256-5 <sub>■ TS</sub>	Rated voltage	24 VDC
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	20.4 to 28.8 VDC
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Maximum value of load current	0.5 A/point, 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.
Br	00 (14) 100 (11) 71 (7)	ON/OFF response time	0.5 ms max./1.0 ms max.
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	Supplied from external source.	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	0.70 W max.	Current consumption from I/O power supply	40 mA max.
Weight	85 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)	Short-circuit pratection	COM (+V)  Connector  OUT0 to OUT15  OV  OV  I/O power supply +  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation: Possible in 6 orientations Restrictions: No restrictions		
Terminal connection diagram	0V 3 4 0V OUT15 5 6 OL  OUT14 7 8 OL  L OUT13 9 10 OL  L OUT12 11 12 OL  L OUT11 13 14 OL  L OUT10 15 16 OL  L OUT09 17 18 OL  OUT08 19 20 OL  Be sure to wire both pins 1 and 2 (COM (+V)).	Signal name DM (+V) // JT07	
Disconnection/Short-circuit detection	Be sure to wire both pins 3 and 4 (0V).  Not supported.	Protective function	With load short-circuit protection.

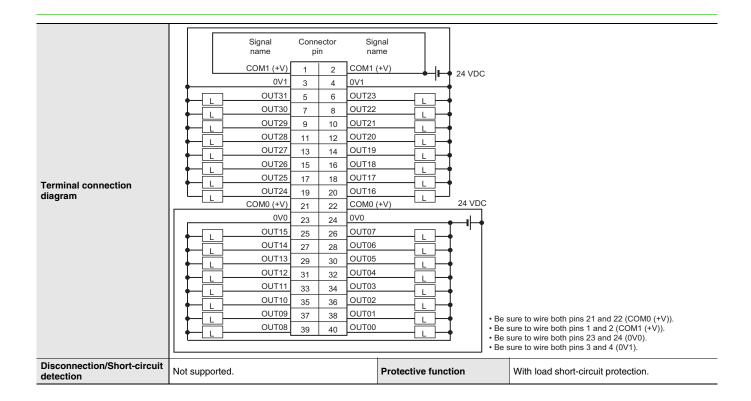
### NX-OD6121-5

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-F	Switching Synchronous I/O refreshing and Free-Run refreshing			
	TS indicator, output indicator	Internal I/O common	NPN		
	OD6121−5	Rated voltage	12 to 24 VDC		
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	10.2 to 28.8 VDC		
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15 ■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23 ■24 ■25 ■26 ■27 ■22 ■23	Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit		
	■24 ■25 ■26 ■27 ■28 ■29 ■30 ■31	Maximum inrush current	4.0 A/point, 10 ms max.		
		Leakage current	0.1 mA max.		
		Residual voltage	1.5 V max.		
		ON/OFF response time	0.1 ms max./0.8 ms max.		
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation		
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.		
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
NX Unit power consumption	0.80 W max.	Current consumption from I/O power supply	50 mA max.		
Weight	90 g max.				
Circuit layout	NX bus connector (left)  I/O power supply -	+V0 +V0 OUT0 to OUT15 COM0 COM0 +V1 +V1 +V1 OUT16 to OUT31 COM1 COM1 I/O power	connector		
Installation orientation and restrictions	Installation orientation: Possible in 6 orientations. Restrictions: No restrictions				

	12 1		Signal name	Conn	ector in	Signal name			
	24 \	/DC	+V1	1	2	+V1			
			COM1	3	4	COM1			
	I '	<u>'</u>	OUT31	5	6	OUT23			
			OUT30	7	8	OUT22			
	I		OUT29	9	10	OUT21			
	I		OUT28	11	12	OUT20			
			OUT27	13	14	OUT19			
			OUT26	15	16	OUT18			
			OUT25	17	18	OUT17			
Terminal connection			OUT24	19	20	OUT16			
diagram		+V0	21	22	+V0				
			сомо	23	24	COM0			
			OUT15	25	26	OUT07			
			OUT14	27	28	OUT06			
			OUT13	29	30	OUT05			
			OUT12	31	32	OUT04			
			OUT11	33	34	OUT03			
			OUT10	35	36	OUT02			
			OUT09	37	38	OUT01		'   _	
	12 to 24 VDC		OUT08	39	40	OUT00			e sure to wire both pins 21 and 22 (+V0). e sure to wire both pins 23 and 24 (COM0).
						1		<b>Г</b>   • в	e sure to wire both pins 1 and 2 (+V1).
	<u>'</u>							• B	e sure to wire both pins 3 and 4 (COM1).
Disconnection/Short-circuit detection	Not supported.					Protecti	ve 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-F	Run refreshing		
	TS indicator, output indicator	Internal I/O common	PNP	
	OD6256-5	Rated voltage	24 VDC	
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	Operating load voltage range	20.4 to 28.8 VDC	
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15 ■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23	Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit	
	■24 ■25 ■26 ■27 ■28 ■29 ■30 ■31	Maximum inrush current	4.0 A/point, 10 ms max.	
		Leakage current	0.1 mA max.	
		Residual voltage	1.5 V max.	
		ON/OFF response time	0.5 ms max./1.0 ms max.	
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation	
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals	
NX Unit power consumption	1.00 W max.	Current consumption from I/O power supply	80 mA max.	
Weight	95 g max.			
Circuit layout	NX bus connector (left)  I/O power supply + I/O power supply -	Short-circuit protection protecti	COM0 (+V)  COM0 (+V)  OUT0 to OUT15  OV0 OV0 COM1 (+V)  COM1 (+V)  OUT16 to OUT31  OV1 OV1  I/O power supply +  I/O power supply -  I/O power supply -	
Installation orientation and restrictions	Installation orientation: Possible in 6 orientations. Restrictions: No restrictions			



## ● 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-F	Run refreshing		
	TS indicator, output indicator	Internal I/O common	NPN	
	OD6121−6	Rated voltage Operating load voltage	12 to 24 VDC	
	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7	range	10.2 to 28.8 VDC	
Indicators	■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15 ■16 ■17 ■18 ■19 ■20 ■21 ■22 ■23	Maximum value of load current	0.5 A/point, 2 A/common, 4 A/Unit	
	■24 ■25 ■26 ■27 ■28 ■29 ■30 ■31	Maximum inrush current	4.0 A/point, 10 ms max.	
		Leakage current	0.1 mA max.	
		Residual voltage ON/OFF response time	0.1 ms max./0.8 ms max.	
Dimensions	30 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation	
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100	Dielectric strength	510 VAC between isolated circuits for 1 minute at	
ilisulation resistance	VDC)	_	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	0.80 W max.	Current consumption from I/O power supply	50 mA max.	
Weight	90 g max.			
Circuit layout	NX bus sconnector (left) I/O power supply + I/O power supply -	Internal circuits	+V0 +V0 +V0 +V0 +V0 OUT0 to OUT15  COM0 COM0 +V1 +V1 +V1 OUT16 to OUT31  COM1  /O power supply +  //O power supply -	
Installation orientation and restrictions	Installation orientation: Possible in 6 orientations. Restrictions: No restrictions			
Terminal connection diagram	12 to 24 VDC			
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	
Capacity	2 points, independent contacts	External connection terminals	Screwless clamping terminal block (8 terminals)	
I/O refreshing method	Free-Run refreshing	Г		
Indicators	TS indicator, output indicator  OC2633  TS  TS  TS	Relay type  Maximum switching capacity	N.O. contact 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: $20~M\Omega$ min. ( $500~VDC$ ) Between the external terminals and internal circuits: $20~M\Omega$ min. ( $500~VDC$ ) Between the internal circuit and GR terminal: $20~M\Omega$ min. ( $100~VDC$ ) Between the external terminals and GR terminal: $20~M\Omega$ min. ( $500~VDC$ )	Dielectric strength	Between A1/B1 terminals and A3/B3 terminals: 2300 VAC for 1 min at a leakag current of 5 mA max.  Between the external terminals and GR terminal: 2300 VAC for 1 min at a leakag 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 <sup>2</sup> 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)	Shock resistance	100 m/s², 3 times each in X, Y, and Z directions	
I/O power supply method	11.7	Current capacity of I/O power supply terminal	Without I/O power supply terminals	
NX Unit power consumption Weight	0.80 W max. 65 g max.	I/O current consumption	No consumption	
Circuit layout			0 to 1  Terminal block  C0 to C1  I/O power supply +  NX bus connector (right)	
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.		
Terminal connection diagram	Relay Output Unit NX-OC2633 B1 Load  1 C1 NC			
	A8 B8			
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.	

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

## ● Relay Output Unit NX-OC2733

Unit name	Relay Output Unit	Model	NX-OC2733				
	, ,	External connection	Screwless clamping terminal block (8				
Number of points	2 points, independent contacts	terminals	terminals)				
Capacity	TS indicator, output indicator  OC2733  TS  TS	Maximum switching capacity	250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit				
aidutoio	<b>-</b> 0 <b>-</b> 1	Minimum switching capacity	5 VDC, 10 mA				
Relay service life	Electrical: 100,000 operations Mechanical: 20,000,000 operations	ON/OFF response time	15 ms max./15 ms max.				
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Relay isolation				
Insulation resistance	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: $20~M\Omega$ min. (at $500~VDC$ ) Between the external terminals and functional ground terminal: $20~M\Omega$ min. (at $500~VDC$ ) Between the external terminals and internal circuits: $20~M\Omega$ min. (at $500~VDC$ ) Between the internal circuit and the functional ground terminal: $20~M\Omega$ min. (at $100~VDC$ )	Dielectric strength	Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max.  Between the external terminals and the functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max.  Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max.  Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max.				
I/O power supply method	Supply from external source	Current capacity of I/O power supply terminal	Without I/O power supply terminals				
NX Unit power consumption	0.95 W max.	Current consumption from I/O power supply	No consumption				
Weight	70 g max.	70 g max.					
Circuit layout			NO0 to NO1 C0 to C1 Terminal block  I/O power supply + NX bus connector (right)  NC0 and NC1 are normal close contacts.				
Installation orientation and restrictions	Installation orientation: Possible in 6 oriental Restrictions: No restrictions	ations.					
Terminal connection diagram	Relay Output Unit NX-OC2733 B1  C0 C0 C0 C1 C1 C1 C1 A8 B8						
Disconnection/Short- circuit detection	Not supported.	Protective function	Not supported.				

### **Version Information**

NX U	Units	Corresponding Unit Versions/Versions *1						
			EtherCAT	EtherN	EtherNet/IP			
Model	Unit version	Communications Coupler Units NX-ECC20□	NJ/NX series CPU Units	Sysmac Studio	Communications Coupler Units NX-EIC202	Sysmac Studio		
NX-OD2154		Ver.1.1	Ver.1.06 *2	Ver.1.07				
NX-OD2258		vei.i.i	Ver. 1.00 2	ver.1.07				
NX-OD3121								
NX-OD3153				Ver.1.06		Ver.1.10		
NX-OD3256				ver. 1.06	Ver.1.0	ver.1.10		
NX-OD3257		Ver.1.0	Ver.1.05					
NX-OD3268				Ver.1.13		Ver.1.13		
NX-OD4121				Ver.1.06				
NX-OD4256						Ver.1.10		
NX-OD5121	V 1 0							
NX-OD5121-1	Ver.1.0			Ver.1.13		Ver.1.13		
NX-OD5121-5				Ver.1.10		Ver.1.10		
NX-OD5256				Ver.1.06		ver.1.10		
NX-OD5256-1				Ver.1.13		Ver.1.13		
NX-OD5256-5				Ver.1.10		Ver.1.10		
NX-OD6121-5				ver.1.10		ver.i.iu		
NX-OD6121-6				Ver.1.13		Ver.1.13		
NX-OD6256-5				Ver.1.10	1			
NX-OC2633				Ver.1.06		Ver.1.10		
NX-OC2733				Ver.1.08				

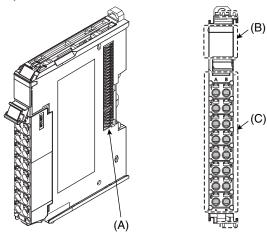
<sup>\*1</sup> Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

<sup>\*2</sup> 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.

### **External Interface**

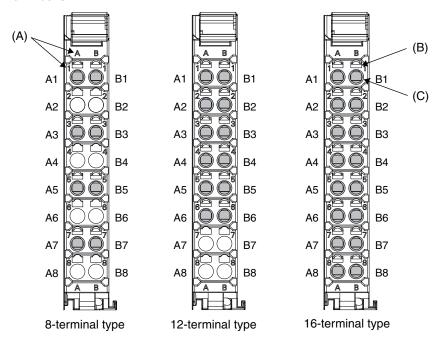
## **Screwless Clamping Terminal Block Type**

NX Units (12 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**

			181					
Unit model	Terminal Blocks							
Offic filoder	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				

### **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.

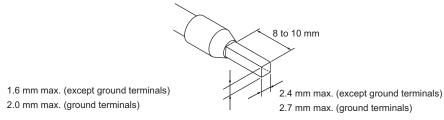
The applicable ferrules, wires, and crimping tool are given in the following table.

Terminal types	Manufacturer	Ferrule model number	Applicable wire (mm² (AWG))	Crimping tool
Terminals other	Phoenix Contact	AI0,34-8	0.34 (#22)	Phoenix Contact (The figure in parentheses is the applicable wire size.)
than ground terminals		AI0,5-8	0.5 (#20)	CRIMPFOX 6 (0.25 to 6 mm <sup>2</sup> , AWG24 to 10)
temmas	AI0,5-10			
	AI0,75-8	0.75 (#18)		
	AI0,75-10	1		
	Al1,0-8	1.0 (#18)		
		Al1,0-10	1	
		Al1,5-8	1.5 (#16)	
		Al1,5-10	1	
Ground terminals		Al2,5-10	2.0 *	
Terminals other	Weidmuller	H0.14/12	0.14 (#26)	Weidmuller (The figure in parentheses is the applicable wire size.)
than ground terminals		H0.25/12	0.25 (#24)	PZ6 Roto (0.14 to 6 mm <sup>2</sup> , AWG 26 to 10)
terrilliais		H0.34/12	0.34 (#22)	
		H0.5/14	0.5 (#20)	
		H0.5/16		
		H0.75/14	0.75 (#18)	
		H0.75/16		
		H1.0/14	1.0 (#18)	
		H1.0/16		
		H1.5/14	1.5 (#16)	
		H1.5/16		

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

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

Finished Dimensions of Ferrules



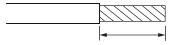
### **Using Twisted Wires/Solid Wires**

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

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

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

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

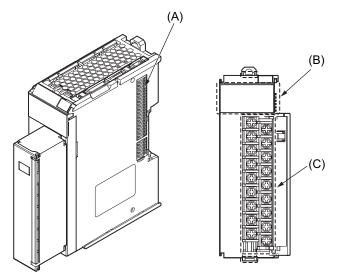


Conductor length (stripping length)

< 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)

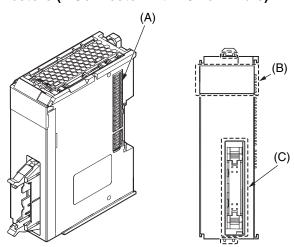


Letter	Name	Function
(A)	NX bus connector	This connector is used to connect each Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Screw terminals	These screw terminals are used to connect the wires.

### **Connector Types**

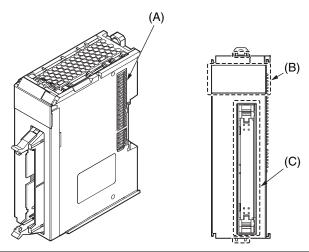
NX Units (30 mm Width)

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



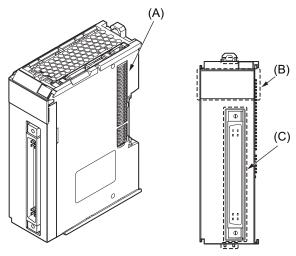
Letter	Name	Function	
(A)	NX bus connector	This connector is used to connect each Unit.	
(B)	Indicators	The indicators show the current operating status of the Unit.	
(C)	Connectors	The connectors are used to connect to external devices.	

### • 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.	

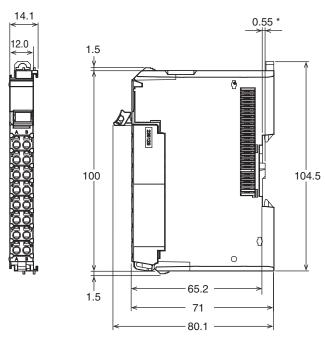
### • Units with Fujitsu Connectors (1 Connector with 40 Terminals)



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.	

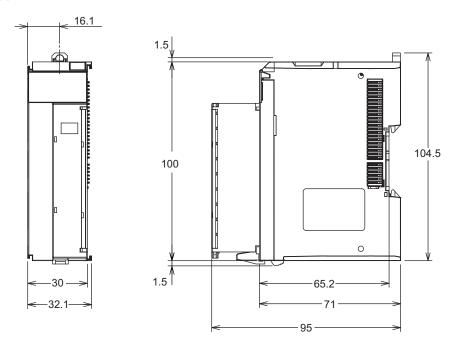
**Dimensions** (Unit/mm)

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



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

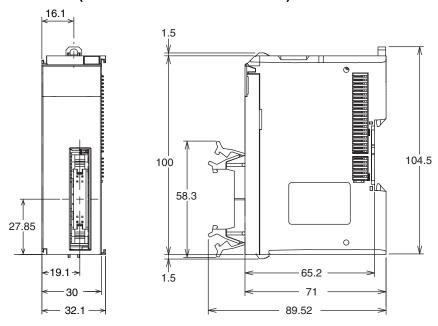
## M3 Screw Terminal Block Type 30 mm Width



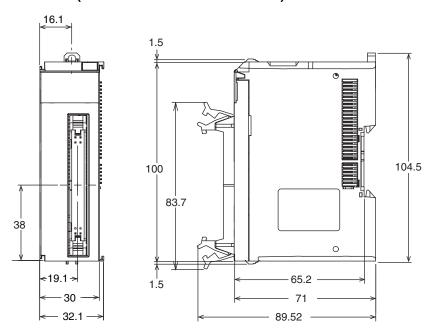
### **Connector Types**

30 mm Width

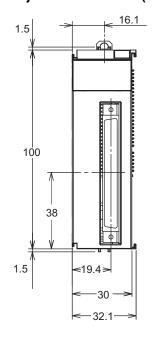
● Units with MIL Connectors (1 Connector with 20 Terminals)

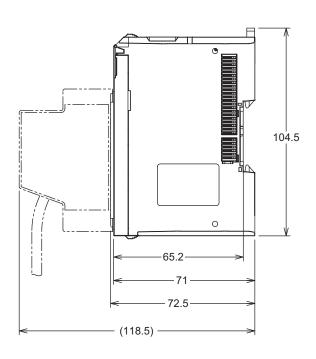


• Units with MIL Connectors (1 Connector with 40 terminals)



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





## **Related Manuals**

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