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# Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China







# NX-ID/IA/OD/OC/MD

CSM\_NX-ID\_IA\_OD\_OC\_MD\_DS\_E\_3\_2

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

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





#### **Features**

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

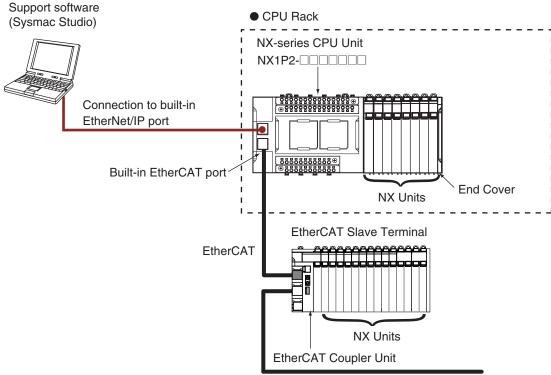
Sysmac is a trademark or registered trademark of OMRON Corporation in Japan and other countries for OMRON factory automation products. EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany. EtherNet/IP<sup>TM</sup> is a trademark of ODVA.

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# **System Configurations**

#### Connected to a CPU Unit

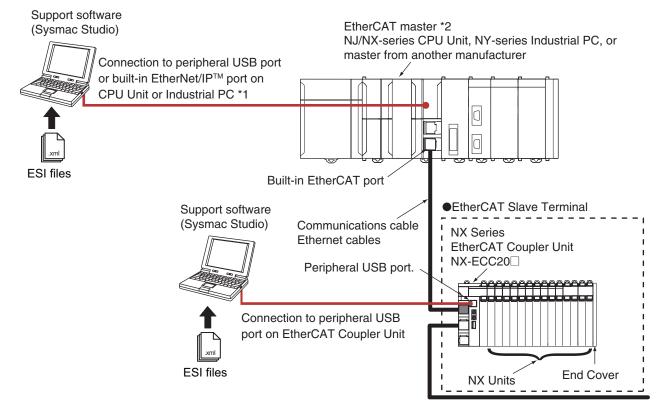
The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



Note: For whether an NX Unit can be connected to the CPU Unit, refer to the version information.

#### Connected to an EtherCAT Coupler Unit

The following figure shows an example of the system configuration when an EtherCAT Coupler Unit is used as a Communications Coupler Unit.



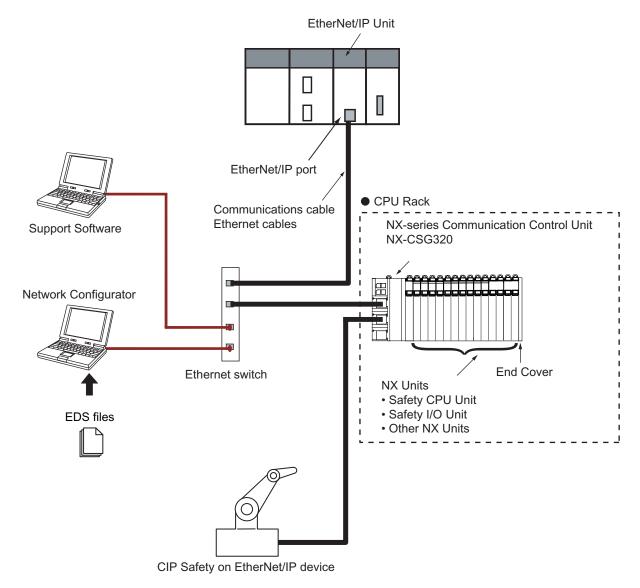
- \*1. The connection method for the Sysmac Studio depends on the model of the CPU Unit or Industrial PC.
- \*2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81/□82 Position Control Units even though they can operate as EtherCAT masters.

Note: For whether an NX Unit can be connected to the Communications Coupler Unit, refer to the version information.

# System Configuration in the Case of a Communication Control Unit

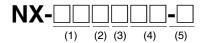
The following figure shows a system configuration when a group of NX Units is connected to an NX-series Communication Control Unit. To configure a Safety Network Controller, mount the Safety CPU Unit, which is one of the NX Units, to the CPU Rack of the Communication Control Unit

You cannot connect a Communication Control Unit with Digital I/O Units that support input refreshing with input changed time or output refreshing with specified time stamp.



Note: For whether an NX Unit can be connected to the Communication Control Unit, refer to the version information.

# **Model Number Structure**



#### (1) Unit type

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

#### (2) Number of points

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

#### (3) I/O type

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

#### (5) External connection terminals

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

# (4) Other specifications Digital Input Units

		ON/OFF res	ponse time	I/O refreshing method		
No.	Input voltage	Exceeds 1 μs	1 μs max.	Free-Run refreshing *1 only or Switching Synchronous I/O refreshing *2 and Free-Run refreshing	Input refreshing with input changed time only	
17	12 to 24 VDC or 240 VAC	Yes		Yes		
42		Yes		Yes		
43	24 VDC		Yes	Yes		
44			Yes		Yes	

#### **Digital Output Units**

			ON/OFF response time		I/O refreshing	method	Other functions														
No.	Rated voltage	Load current	Exceeds 1 μs	1 μs max.	Free-Run refreshing *1 only or Switching Synchronous I/O refreshing *2 and Free-Run refreshing	Output refreshing with specified time stamp only	Load short-circuit protection														
21	12 to 24 VDC	0.5 A	Yes		Yes																
33	or 240 VAC	2 A	Yes		Yes																
53																		Yes	Yes		
54				Yes		Yes															
56	24 VDC	0.5 A	Yes		Yes		Yes														
57	24 VDC			Yes	Yes		Yes														
58				Yes		Yes	Yes														
68		2 A	Yes		Yes		Yes														

# Digital Mixed I/O Units

	Input section	Output section								
No.	Rated input voltage		1	ON/OFF res	ponse time		Other functions			
110.		Rated voltage	Rated voltage Load current		1 μs max.	I/O refreshing method	Load short-circuit protection			
21	21 24 VDC	12 to24 VDC	0.5 A	Yes		Switching Synchronous	Yes			
		24 VDC	U.5 A	Yes		I/O refreshing and Free-Run refreshing				

<sup>\*1</sup> Free-Run refreshing
\*2 Synchronous I/O refreshing

<sup>\*1</sup> Free-Run refreshing
\*2 Synchronous I/O refreshing

# **Ordering Information**

#### **Applicable standards**

Refer to the OMRON website (www.ia.omron.com) or ask your OMRON representative for the most recent applicable standards for each model.

#### **Digital Input Units**

	Specifications					
Product Name	Number of points	Internal I/O common	Rated input voltage	I/O refreshing method	ON/OFF response time	Model
			12 to 24 VDC	Switching Synchronous I/O re-	20 μs max./400 μs max.	NX-ID3317
		NPN		freshing and Free-Run refreshing		NX-ID3343
DC Input Unit		14114	24 VDC	Input refreshing with input changed time only *1	100 ns max./100 ns max.	NX-ID3344
	4 points		12 to 24 VDC	Switching Synchronous I/O re-	20 μs max./400 μs max.	NX-ID3417
		PNP		freshing and Free-Run refreshing		NX-ID3443
		1141		Input refreshing with input changed time only *1	100 ns max./100 ns max.	NX-ID3444
Screwless Clamping	0	NPN	24 VDC			NX-ID4342
Terminal Block, 12 mm Width)	8 points	PNP		Switching Synchronous I/O re-	00 /400	NX-ID4442
widii)	40	NPN		freshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID5342
	16 points	PNP				NX-ID5442
DC Input Unit  (M3 Screw Terminal Block, 30 mm Width)	16 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O re- freshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID5142-1
DC Input Unit	16 points For both NPN/PNP		24 VDC	Switching Synchronous I/O re- freshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID5142-5
(MIL Connector, 30 mm Width)	32 points					NX-ID6142-5
DC Input Unit  (Fujitsu Connector, 30 mm Width)	32 points	For both NPN/PNP	24 VDC	Switching Synchronous I/O re- freshing and Free-Run refreshing	20 μs max./400 μs max.	NX-ID6142-6
(Screwless Clamping Terminal Block, 12 mm Width)	4 points	200 to 240 VAC, 50/60 Hz (170 to 264 VAC, ±3 Hz)		Free-Run refreshing	10 ms max./40 ms max.	NX-IA3117

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

# **Digital Output Units**

				Specifications			
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
	2	NPN	0.5 A/point, 1 A/Unit	24 VDC	Output refreshing with speci-	300 ns max./	NX-OD2154
	۷	PNP	0.5 A point, 1 A onit	24 100	fied time stamp only *1	300 ns max.	NX-OD2258
		NPN		12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD3121
ransistor Output Unit			0.5 A/point, 2 A/Unit			300 ns max./ 300 ns max.	NX-OD3153
	4		0.5 Apoint, 2 Avoint	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD3256
H 1		PNP		24 VDO		300 ns max./ 300 ns max.	NX-OD3257
			2 A/point, 8 A/Unit		Switching Synchronous I/O re- freshing and Free- Run refresh- ing	0.5 ms max./ 1.0 ms max.	NX-OD3268
Screwless Clamping Ferminal Block, 12 mm Vidth)	8	NPN		12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD4121
nutil)	0	PNP	0 5 A/paint 4 A/Lluit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD4256
	16	NPN	0.5 A/point, 4 A/Unit	12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD5121
	16	PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256
ransistor Output Unit	16	NPN	0.5 A/point, 5 A/Unit	12 to 24 VDC	Switching Synchronous I/O re- freshing and Free- Run refresh- ing	0.1 ms max./ 0.8 ms max.	NX-OD5121-
(M3 Screw Terminal Block, 30 mm Width)	.0	PNP		24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-
ransistor Output Unit	10	NPN	0.5.4/ 0.4//	12 to 24 VDC	Switching Synchronous I/O re- freshing and Free- Run refresh- ing	0.1 ms max./ 0.8 ms max.	NX-OD5121-
	16 PNP	PNP	0.5 A/point, 2 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD5256-
	32	NPN	0.5 A/point, 2 A/	12 to 24 VDC		0.1 ms max./ 0.8 ms max.	NX-OD6121-
MIL Connector, 30 mm Vidth)	Ü2	PNP	common, 4 A/Unit	24 VDC		0.5 ms max./ 1.0 ms max.	NX-OD6256-
Fujitsu Connector, 30 nm Width)	32	NPN	0.5 A/point, 2 A/ common, 4 A/Unit	12 to 24 VDC	Switching Synchronous I/O re- freshing and Free- Run refresh- ing	0.1 ms max./ 0.8 ms max.	NX-OD6121-
Relay Output Unit		Relay type: N.O.	250 VAC/2 A (cosφ=1	). 250 VAC/		15 ms max./	NX-OC2633
	2	Relay type: N.O.+N.C.	2 A (cosφ=0.4), 24 VD		Free-Run refreshing	15 ms max.	NX-OC2733
Screwless Clamping erminal Block, 12 mm Vidth/24 mm Width)	8	Relay type: N.O.	250 VAC/2 A (cosφ=1), 250 VAC/ 2 A (cosφ=0.4), 24 VDC/2 A, 8 A/Unit		Free-Run refreshing	15 ms max./ 15 ms max.	NX-OC4633

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

# **Digital Mixed I/O Units**

		Specifications							
Product Name	Number of points	Internal I/O Maximum value of load common current		I/O refreshing method	ON/OFF response time	Model			
DC Input/Transistor Output Unit	Outputs: 16 points	Outputs: NPN Inputs: For both NPN/PNP	Outputs: 12 to 24 VDC Inputs: 24 VDC	Switching Synchronous I/	Outputs: 0.1 ms max./ 0.8 ms max. Inputs: 20 µs max./ 400 µs max.	NX-MD6121-5			
(MIL Connector, 30 mm Width)	Inputs: 16 points	Outputs: PNP Inputs: For both NPN/PNP	Outputs: 24 VDC Inputs: 24 VDC	O refreshing and Free- Run refreshing	Outputs: 0.5 ms max./ 1.0 ms max. Inputs: 20 μs max./ 400 μs max.	NX-MD6256-5			
DC Input/Transistor Output Unit  (Fujitsu Connector, 30 mm Width)	Outputs: 16 points Inputs: 16 points	Outputs: NPN Inputs: For both NPN/PNP	Outputs: 12 to 24 VDC Inputs: 24 VDC	Switching Synchronous I/ O refreshing and Free- Run refreshing	Outputs: 0.1 ms max./ 0.8 ms max. Inputs: 20 μs max./ 400 μs max.	NX-MD6121-6			

# **Optional Products**

Product name		Specif		Model	Standards	
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block:	30 pins, Unit: 30 p	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.

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

Pattern	Configuration	Number of connectors	Branching
А	Connecting Cable Connector-Terminal Block Conversion Unit 20 or 40 terminals	1	None
В	Connecting Cable with two branches  Connector-Terminal Block Conversion Unit  20 terminals 20 terminals		2 branches
С	Connecting Cable Connector-Terminal Block Conversion Unit 20 terminals 20 terminals	2	None

# **Connections to Connector-Terminal Block Conversion Units**

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

## NX-ID/IA/OD/OC/MD

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Connecting Cable *1	Connector-Terminal Block Conversion Unit	Wiring method	Common terminal
				А	XW2Z-□□□PM	XW2R-□34GD-C4	Depends on model *3	None
				Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	None
NX-OD6121-5	32 inputs	1 MIL connector	NPN	В	XW2Z-□□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				В	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				В	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None
				А	XW2Z-□□PF	XW2R-□34GD-C3	Depends on model *3	None
		. =		Α	XW2Z-□□□B	XW2D-40G6	Phillips screw	None
NX-OD6121-6	32 inputs	1 Fujitsu connector	NPN	В	XW2Z-□□□L	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				В	XW2Z-□□□L	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				В	XW2Z-□□□L	XW2D-20G6 (2 Units)	Phillips screw	None
				А	XW2Z-□□□PM	XW2R-□34GD-C4	Depends on model *3	None
		4.8411		Α	XW2Z-□□□K	XW2D-40G6	Phillips screw	None
NX-OD6256-5	32 inputs	1 MIL connector	PNP	В	XW2Z-□□□N	XW2R-□20GD-T (2 Units)	Depends on model *3	None
				В	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Phillips screw	Yes
				В	XW2Z-□□□N	XW2D-20G6 (2 Units)	Phillips screw	None
	16 outputs	1 MIL connector	NPN/ PNP	С	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
NX-MD6121-5		COMMECTOR	IOI I IVI	С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
NX-WD0121-3	16 outputs	1 MIL connector	NPN	С	XW2Z-□□X	XW2R-□20GD-T	Depends on model *3	None
		COMMECTOR		С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
				С	XW2Z-□□□A	XW2R-□20GD-T	Depends on model *3	None
	40	1 Fujitsu	NPN/	С	XW2Z-□□□A	XW2C-20G5-IN16 *2	Phillips screw	Yes
	16 outputs	connector	PNP	С	XW2Z-□□□A	XW2C-20G6-IO16	Phillips screw	Yes
NX-MD6121-6				С	XW2Z-□□□A	XW2D-20G6	Phillips screw	None
14V-MD0151-0				С	XW2Z-□□□A	XW2E-20G5-IN16 *2	Phillips screw	Yes
	40	1 Fujitsu	NDV	С	XW2Z-□□□A	XW2R-□20GD-T	Depends on model *3	None
	16 outputs	connector	NPN	С	XW2Z-□□□A	XW2C-20G6-IO16	Phillips screw	Yes
				С	XW2Z-□□□A	XW2D-20G6	Phillips screw	None
	16 outputs	1 MIL	NPN/ PNP	С	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
NX-MD6256-5	15.5	connector	I INI.	С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None
14V-14ID0520-2	16 outputs	1 MIL	PNP	С	XW2Z-□□□X	XW2R-□20GD-T	Depends on model *3	None
		connector		С	XW2Z-□□□X	XW2D-20G6	Phillips screw	None

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

<sup>\*1</sup>  $\square\square\square$  in the model number indicates the cable length. Refer to the *XW2Z Datasheet* for details.

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

<sup>\*3</sup> The wiring methods vary depending on the Connector-Terminal Block Conversion Unit. ☐ in the model number indicates the wiring method. J = Phillips screw

E = Slotted screw (rise up)

P= Push-in spring

# **Connection Patterns for I/O Relay Terminals**

Pattern	Configuration	Number of connectors	Branching
Α	Connecting Cable  I/O Relay Terminal	1	2 branches
E	I/O Relay Terminal Connecting Cable	2	None
F	Connecting Cable  I/O Relay Terminal	1	

# Connections to I/O Relay Terminals

Unit	I/O capacity	Number of connectors	Polarity	Connectio n pattern	Number of branches	Connecting Cable *	I/O Relay Terminal	Wiring method
				F	None	XW2Z-RO□C	G7TC-ID16	Phillips screw
				F	None	XW2Z-RO□C	G7TC-IA16	Phillips screw
NIV ID5440.5	40:	1 MIL	NPN	F	None	XW2Z-RO□C	G70V-SID16P	Push-in spring
NX-ID5142-5	16 inputs	connector		F	None	XW2Z-RO□C	G70V-SID16P-C16	Push-in spring
			PNP	F	None	XW2Z-RO□C	G70V-SID16P-1	Push-in spring
			PINP	F	None	XW2Z-RO□C	G70V-SID16P-1-C16	Push-in spring
				Α	2	XW2Z-RO□-□-D1	G7TC-ID16	Phillips screw
			NPN	Α	2	XW2Z-RO□-□-D1	G7TC-IA16	Phillips screw
NX-ID6142-5	22 inputs	1 MIL	INFIN	Α	2	XW2Z-RO□-□-D1	G70V-SID16P	Push-in spring
NA-1D0142-5	32 inputs	connector		Α	2	XW2Z-RO□-□-D1	G70V-SID16P-C16	Push-in spring
			PNP	Α	2	XW2Z-RO□-□-D1	G70V-SID16P-1	Push-in spring
			FINE	Α	2	XW2Z-RO□-□-D1	G70V-SID16P-1-C16	Push-in spring
		1 Fujitsu		Α	2	XW2Z-RI□C-□	G7TC-ID16	Phillips screw
			NPN	Α	2	XW2Z-RI□C-□	G7TC-IA16	Phillips screw
NX-ID6142-6	32 inputs			Α	2	XW2Z-RI□C-□	G70V-SID16P	Push-in spring
NX-1D0142-0	32 iliputs	connector		Α	2	XW2Z-RI□C-□	G70V-SID16P-C16	Push-in spring
			PNP	Α	2	XW2Z-RI□C-□	G70V-SID16P-1	Push-in spring
			FINE	Α	2	XW2Z-RI□C-□	G70V-SID16P-1-C16	Push-in spring
				F	None	XW2Z-RO□C	G7TC-OC08	Phillips screw
				F	None	XW2Z-RO□C	G70D-SOC08	Phillips screw
				F	None	XW2Z-RO□C	G70R-SOC08	Phillips screw
				F	None	XW2Z-RO□C	G7TC-OC16	Phillips screw
				F	None	XW2Z-RO□C	G70D-SOC16	Phillips screw
NX-OD5121-5	16 outputs	1 MIL connector	NPN	F	None	XW2Z-RO□C	G70D-VSOC16	Phillips screw
				F	None	XW2Z-RO□C	G70D-FOM16	Phillips screw
				F	None	XW2Z-RO□C	G70D-VFOM16	Phillips screw
				F	None	XW2Z-RO□C	G70A-ZOC16-3	Phillips screw
				F	None	XW2Z-RO□C	G70V-SOC16P	Push-in spring
			F	None	XW2Z-RO□C	G70V-SOC16P-C4	Push-in spring	

# NX-ID/IA/OD/OC/MD

Unit	I/O capacity	Number of connectors	Polarity	Connectio n pattern	Number of branches	Connecting Cable *	I/O Relay Terminal	Wiring method
				F	None	XW2Z-RI□C	G7TC-OC16-1	Phillips screw
				F	None	XW2Z-RO□C	G70D-SOC16-1	Phillips screw
NX-OD5256-5	16 outputo	1 MIL	PNP	F	None	XW2Z-RO□C	G70D-FOM16-1	Phillips screw
NA-OD5256-5	16 outputs	connector	FINE	F	None	XW2Z-RO□C	G70A-ZOC16-4	Phillips screw
				F	None	XW2Z-RO□C	G70V-SOC16P-1	Push-in spring
				F	None	XW2Z-RO□C	G70V-SOC16P-1-C4	Push-in spring
				Α	2	XW2Z-RO□-□-D1	G7TC-OC16	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G7TC-OC08	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G70D-SOC16	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G70D-FOM16	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G70D-VSOC16	Phillips screw
NX-OD6121-5	32 outputs	1 MIL connector	NPN	Α	2	XW2Z-RO□-□-D1	G70D-VFOM16	Phillips screw
		Connector		Α	2	XW2Z-RO□-□-D1	G70A-ZOC16-3 and Relay	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G70R-SOC08	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G70D-SOC08	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G70V-SOC16P	Push-in spring
				Α	2	XW2Z-RO□-□-D1	G70V-SOC16P-C4	Push-in spring
-				Α	2	XW2Z-RO□C-□	G7TC-OC16	Phillips screw
				Α	2	XW2Z-RO□C-□	G7TC-OC08	Phillips screw
				Α	2	XW2Z-RO□C-□	G70D-SOC16	Phillips screw
			NPN	Α	2	XW2Z-RO□C-□	G70D-FOM16	Phillips screw
				Α	2	XW2Z-RO□C-□	G70D-VSOC16	Phillips screw
NX-OD6121-6	32 outputs	1 Fujitsu connector		Α	2	XW2Z-RO□C-□	G70D-VFOM16	Phillips screw
				Α	2	XW2Z-RO□C-□	G70A-ZOC16-3 and Relay	Phillips screw
				Α	2	XW2Z-RO□C-□	G70R-SOC08	Phillips screw
				Α	2	XW2Z-RO□C-□	G70D-SOC08	Phillips screw
				Α	2	XW2Z-RO□C-□	G70V-SOC16P	Push-in spring
				Α	2	XW2Z-RO□C-□	G70V-SOC16P-C4	Push-in spring
·				Α	2	XW2Z-RI□-□-D1	G7TC-OC16-1	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G70D-SOC16-1	Phillips screw
		1 MIL		Α	2	XW2Z-RO□-□-D1	G70D-FOM16-1	Phillips screw
NX-OD6256-5	32 outputs	connector	PNP	Α	2	XW2Z-RO□-□-D1	G70A-ZOC16-4 and Relay	Phillips screw
				Α	2	XW2Z-RO□-□-D1	G70V-SOC16P-1	Push-in spring
				Α	2	XW2Z-RO□-□-D1	G70V-SOC16P-1-C4	Push-in spring
				Е	None	XW2Z-RO□C	G7TC-ID16	Phillips screw
		1 MIL		Е	None	XW2Z-RO□C	G7TC-IA16	Phillips screw
	16 inputs	connector	NPN	Е	None	XW2Z-RO□C	G70V-SID16P	Push-in spring
				Е	None	XW2Z-RO□C	G70V-SID16P-C16	Push-in spring
				Е	None	XW2Z-RO□C	G7TC-OC16	Phillips screw
				Е	None	XW2Z-RO□C	G7TC-OC08	Phillips screw
				E	None	XW2Z-RO□C	G70D-SOC16	Phillips screw
NX-MD6121-5				E	None	XW2Z-RO□C	G70D-FOM16	Phillips screw
				E	None	XW2Z-RO□C	G70D-VSOC16	Phillips screw
	16 outputs	1 MIL	NPN	E	None	XW2Z-RO□C	G70D-VFOM16	Phillips screw
	· · · · · · · · · · · · · · · · · · · ·	connector		E	None	XW2Z-RO□C	G70A-ZOC16-3 and Relay	Phillips screw
				E	None	XW2Z-RO□C	G70R-SOC08	Phillips screw
				E	None	XW2Z-RO□C	G70D-SOC08	Phillips screw
				E	None	XW2Z-RO□C	G70V-SOC16P	Push-in spring
				E	None	XW2Z-RO□C	G70V-SOC16P-C4	Push-in spring
					INUITE	AWZZ-NOLIC	G/07-300 10F-04	i usii-iii spiiliy

# NX-ID/IA/OD/OC/MD

Unit	I/O capacity	Number of connectors	Polarity	Connectio n pattern	Number of branches	Connecting Cable *	I/O Relay Terminal	Wiring method
				Е	None	XW2Z-R□C	G7TC-ID16	Phillips screw
	40 in	1 Fujitsu	NIDNI	Е	None	XW2Z-R□C	G7TC-IA16	Phillips screw
	16 inputs	connector	NPN	Е	None	XW2Z-R□C	G70V-SID16P	Push-in spring
				E	None	XW2Z-R□C	G70V-SID16P-C16	Push-in spring
				Е	None	XW2Z-R□C	G7TC-OC16	Phillips screw
				E	None	XW2Z-R□C	G7TC-OC08	Phillips screw
				E	None	XW2Z-R□C	G70D-SOC16	Phillips screw
NX-MD6121-6			NPN	E	None	XW2Z-R□C	G70D-FOM16	Phillips screw
		1 Fujitsu connector		E	None	XW2Z-R□C	G70D-VSOC16	Phillips screw
	16 outputs			E	None	XW2Z-R□C	G70D-VFOM16	Phillips screw
				E	None	XW2Z-R□C	G70A-ZOC16-3 and Relay	Phillips screw
				E	None	XW2Z-R□C	G70R-SOC08	Phillips screw
				E	None	XW2Z-R□C	G70D-SOC08	Phillips screw
				E	None	XW2Z-R□C	G70V-SOC16P	Push-in spring
				E	None	XW2Z-R□C	G70V-SOC16P-C4	Push-in spring
	16 inputs	1 MIL	PNP	E	None	XW2Z-RO□C	G70V-SID16P-1	Push-in spring
	16 iriputs	connector	FINE	E	None	XW2Z-RO□C	G70V-SID16P-1-C16	Push-in spring
				Е	None	XW2Z-RO□C	G7TC-OC16-1	Phillips screw
NX-MD6256-5				E	None	XW2Z-RI□C	G70D-SOC16-1	Phillips screw
IAV-INID0520-2	16 outputo	1 MIL	PNP	E	None	XW2Z-RI□C	G70D-FOM16-1	Phillips screw
	16 outputs	connector	FINE	E	None	XW2Z-RI□C	G70A-ZOC16-4 and Relay	Phillips screw
				E	None	XW2Z-RI□C	G70V-SOC16P-1	Push-in spring
				E	None	XW2Z-RI□C	G70V-SOC16P-1-C4	Push-in spring

<sup>Note: 1. For other models and specifications that are not listed above, refer to the datasheets.
2. The G70V Series includes models that provide internal connections. Refer to the</sup> *G70V Datasheet* (Cat. No. J215) for details.
3. The G70A is a socket only. Mountable relays and timers are sold separately.
★ □ in the model number indicates the cable length. Refer to the XW2Z-R Datasheet (Cat. No. G126) for details.

# **General Specifications**

	Item	Specification		
Enclosure		Mounted in a panel		
Grounding n	nethod	Ground to 100 $\Omega$ 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) 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		

<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 Input Unit Specifications**

# ● DC Input Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-ID3317

Unit name	DC Input Unit	Model	NX-ID3317
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		
	TS indicator, input indicator	Internal I/O common	NPN
	ID3317 ■TS	Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
	<b>=</b> 0 <b>=</b> 1	Input current	6 mA typical (at 24 VDC), rated current
Indicators	■2 ■3	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 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: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		nt control reuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit  A1  B1  OIOV  IOV  IOV  IOV  IOG  IOG  IOG  IO	DC Input Unit NX-ID3317  Two- Sen  IN0 IN1  IOV0 IOV1  IOG0 IOG1  IN2 IN3  IOV2 IOV3  IOG2 IOG3  A8 B8	Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID3343
	·	External connection	Screwless clamping terminal block (12
Number of points	4 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F TS indicator, input indicator	Internal I/O common	NPN
	ID3343	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS	Input current	3.5 mA typical (at 24 VDC), rated current
Indicators	■0 ■1 ■2 ■3	ON voltage/ON current	15 VDC min./3 mA min. (between IOV and each signal)
indicators		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 $\mu$ s, 2 $\mu$ s, 4 $\mu$ s, 8 $\mu$ s (factory setting), 16 $\mu$ s, 32 $\mu$ s, 64 $\mu$ s, 128 $\mu$ s, 256 $\mu$ s
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: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)  NX bus connector (left)	ent control circuit tinouis uoistelos	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit  A1  B1  OIOV IOV  IOV  IOV  IOG IOG  A8  B8	DC Input Unit NX-ID3343  Two- A1 B1 IN0 IN1 • IOV0 IOV1 IOG0 IOG1 • IN2 IN3 • IOV2 IOV3 • IOG3 IOG3 •  A8 B8	Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

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		
	TS indicator, input indicators	Internal I/O common	NPN
	ID3344	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS	Input current	3.5 mA typical (at 24 VDC), rated current
Indicators	■0 ■1 ■2 ■3	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.
Dimensions	10 (M) × 100 (H) × 71 (D)	Input filter time	No filter *
Dimensions	12 (W) x 100 (H) x 71 (D) 20 MΩ min. between isolated circuits (at	Isolation method	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: 0.1 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	NX bus connector (left) I/O power supply +	Power supply  irrent control circuit  irrent control circuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit  A1  B1  OIOV IOV  IOV  IOG IOG  A8  B8		-wire nsor  Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

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

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 F		I
	TS indicator, input indicator	Internal I/O common	PNP
	ID3417 TS	Rated input voltage	12 to 24 VDC (9 to 28.8 VDC)
	■0 ■1 ■2 ■3	Input current	6 mA typical (at 24 VDC), rated current 9 VDC min./3 mA min. (between IOG and
	-2 -3	ON voltage/ON current	each signal)
Indicators		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 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: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout	NX bus connector (left)  I/O power supply +	t control cult strengle circuits	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit  A1  B1  OIOV  IOV  IOV  IOV  IOG  IOG  IOG  IO	DC Input Unit	Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID3443
Number of points	4 points	External connection	Screwless clamping terminal block (12
<u> </u>	·	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing Internal I/O common	DND
	TS indicator, input indicator ID3443	Rated input voltage	PNP 24 VDC (15 to 28.8 VDC)
	■TS	Input current	3.5 mA typical (at 24 VDC), rated current
	■0 ■1 ■2 ■3	•	15 VDC min./3 mA min. (between IOG and
Indicators		ON voltage/ON current	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 $\mu$ s, 2 $\mu$ s, 4 $\mu$ s, 8 $\mu$ s (factory setting),16 $\mu$ s, 32 $\mu$ s, 64 $\mu$ s, 128 $\mu$ s, 256 $\mu$ s
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Digital isolator isolation
Insulation resistance	20 $\mbox{M}\Omega$ 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: 0.1 A/terminal max., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	30 mA max.
Weight	65 g max.		
Circuit layout	Terminal block IN0 to IN3  NX bus connector (left)  I/O power supply + I/O power supply -	Current control incircuit incircuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communica  Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit  A B1  I OIOV IOV  IOV IOV  IOG IOG  A8 B8	DC Input Unit NX-ID3443  Two- Ser  IN0 IN1  IOV0 IOV1  IOG0 IOG1 IN2 IN3  IOV2 IOV3  IOG2 IOG3  A8 B8	-wire Isor Three-wire sensor
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

Unit name	DC Input Unit	Model	NX-ID3444
Number of points	4 points	External connection	Screwless clamping terminal block (12
<u> </u>	· ·	terminals	terminals)
I/O refreshing method	Input refreshing with input changed time TS indicator, input indicators	Internal I/O common	PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
	ID3444 ■TS	Input current	3.5 mA typical (at 24 VDC), rated current
	<b>=</b> 0 <b>=</b> 1	•	15 VDC min./3 mA min.
Indicators	<b>■</b> 2 <b>■</b> 3	ON voltage/ON current	(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	Terminal block IN0 to IN3  NX bus connector (left) I/O power supply +	Power supply  Current control circuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions		ions.
Terminal connection diagram	Additional I/O Power Supply Unit  A1 B1  OIOV IOV  IOG IOG  IOG IOG  A8 B8	DC Input Unit NX-ID3444  Two- sen  IN0 IN1  IOV0 IOV1  IOG0 IOG1  IN2 IN3  IOV2 IOV3  IOG2 IOG3  A8 B8	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

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

Unit name	DC Input Unit	Model	NX-ID4342
Number of points	8 points	External connection	Screwless clamping terminal block (16
•	·	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing  TS indicator, input indicator Internal I/O common NPN		
	ID4342	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■TS	Input current	3.5 mA typical (at 24 VDC), rated current
	■0 ■1 ■2 ■3 ■4 ■5	ON voltage/ON current	15 VDC min./3 mA min. (between IOG and each signal)
Indicators	■6 ■7	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 $\text{M}\Omega$ 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	IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout	Terminal block INO to IN7  NX bus connector (left)  I/O power supply + I/O power supply -		
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  Connected to a Communications Coupler Unit: Possible in 6 orientations.  Restrictions: No restrictions		
Terminal connection diagram	Power Supply Unit  A1  B1  A1  ICO  ICO  ICO  IOV  IOV  IOV  IOV  IOV	10G0   10V   10V   10G0   10V   10V   10V   10G2   10V   10V   10G4   10G4   10G4   10G4   10G4   10G4   10G4   10G4   10G4   10G64   10G64	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

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		
	TS indicator, input indicator   D4442	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
Indicators		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	$20~\text{M}\Omega$ 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: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		nt control reuit strength of the strength of t	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  Connected to a Communications Coupler Unit: Possible in 6 orientations.  Restrictions: No restrictions		
Terminal connection diagram	Power Supply Unit  Co  A1  FIOV IOV  IC  IC  IOV IOV  IC  IC  IC  IC  IC  IC  IC  IC  IC  I	10V0   10   10G   10G   10V2   10   10G   10G   10V4   10   10G   10G   10V4   10   10G   10G   10G   10V4   10	
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

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		
	TS indicator, input indicator	Internal I/O common	NPN
	ID5342 ■™	Rated input voltage Input current	24 VDC (15 to 28.8 VDC) 2.5 mA typical (at 24 VDC), rated current
	#0 #1 #2 #3 #4 #5 #6 #7 #8 #9 #10 #11	ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
Indicators	■12 ■13 ■14 ■15	OFF voltage/OFF current	5 VDC max./0.5 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	20 $\text{M}\Omega$ 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	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		ent control irrcuit	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  Connected to a Communications Coupler Unit: Possible in 6 orientations.  Restrictions: No restrictions		
Terminal connection diagram	IOV   IOV		DC Input Unit NX-ID5342  B1
Disconnection/ Short-circuit detection	Not supported.	Protective function	Not supported.

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		
	TS indicator, input indicator	Internal I/O common	PNP
	ID5442 ■TS	Rated input voltage	24 VDC (15 to 28.8 VDC)
	■0 ■1 ■2 ■3	Input current	2.5 mA typical (at 24 VDC), rated current
Indicators	■4 ■5 ■6 ■7 ■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	ON voltage/ON current	15 VDC min./2 mA min. (between IOG and each signal)
indicators		OFF voltage/OFF current	5 VDC max./0.5 mA max. (between IOG and each signal)
		ON/OFF response time	20 μs max./400 μs max.
		Input filter time	Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Photocoupler isolation
Insulation resistance	$20~\text{M}\Omega$ 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	Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	65 g max.		
Circuit layout		t control cuit silver and circuits	I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  Connected to a Communications Coupler Unit: Possible in 6 orientations.  Restrictions: No restrictions		
Terminal connection diagram	10V		DC Input Unit NX-ID5442  B1 Two-wire sensor  IN0 IN1
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-F	Run refreshing	
	TS indicator, input indicators	Internal I/O common	For both NPN/PNP
		Rated input voltage	24 VDC (15 to 28.8 VDC)
	ID5142−1	Input current	7 mA typical (at 24 VDC)
Indicators	■0 ■1 ■2 ■3 ■4 ■5 ■6 ■7 ■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
	-8 -9 -10 -11 -12 -13 -14 -13	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 $\mbox{M}\Omega$ 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	Connected to a CPU Unit or Communication Control Unit 0.85 W max.     Connected to a Communications Coupler Unit 0.55 W max.	Current consumption from I/O power supply	No consumption
Weight	125 g max.		
Circuit layout	Terminal block    IN0		

#### Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. • Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. · For upright installation Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 45°C 16 12 points at 55°C 12 8 I/O power supply voltage 4 28.8 V 0 Installation orientation and 0 40 45 50 55 60 10 20 30 restrictions Ambient temperature (°C) · For any installation other than upright Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic -16 points at 40°C 16 points at 45°C 16 12 12 points at 55°C I/O power supply voltage 8 ----24 V 7 points at 55°C 4 28.8 V 0 40 45 50 55 60 0 10 20 30 Ambient temperature (°C) Terminal Signal Name Signal Name IN0 A0 о́-B0 ● IN1 IN2 A1 B1 . IN3 • A2 IN4 IN5 B2 • IN6 • A3 60 IN7 B3 • **Terminal connection** ● A4 IN8 √o-B4 **●** IN9 diagram IN10 • A5 B5 🌲 IN11 60 •A6 IN12 √o IN13 B6 **●** IN14 ■ A7 24 VDC 60 IN15 B7 **●** COM A8 B8 COM • The polarity of the input power supply can be connected in either direction. Disconnection/ Not supported. **Protective function** Not supported.

**Short-circuit detection**