Product News

OMRON AUTOMATION & SAFETY

NO: **PC-296** **PRODUCT:** **NX I/O Units, Connector Terminals**
DATE: **April 2015** **TYPE:** **Product Release**

NX Series Slice I/O Expanded with MIL Connector Models

Designed for use in high-density I/O blocks for compact control panels

Omron has expanded the NX network distributed I/O lineup with MIL connector models that simplify connection of real world inputs and outputs to high-density 16- and 32-point units.

Key Features and Benefits

Shorten installation time and reduce wiring errors and costs: Combine the MIL connector NX I/O units with XW2☐-series wiring terminal blocks or G7-series relay terminal blocks and their pre-terminated connector cables. It eliminates tedious wiring of 2 or 3 device leads per point (up to 96 wires for a 32-point block) going into the control panel.

Space-saving solution for high-density I/O blocks. All models are MIL connector models are 30 mm wide. Compare to using 2 or 3 standard NX I/O units that have screw-less clamp terminals and measure 12 mm wide.

Ideal for OEM panel builders The NX I/O blocks with MIL connectors help complete their designs down to the wiring connections for slim and small control panels using compact controls from Omron or other suppliers.

Easily connect to EtherNet/IP and high-speed EtherCAT networks for seamless and simple integration. The EtherNet/IP network coupler opens opportunities to promote NX I/O to machine builders locked into Rockwell/Allen-Bradley controllers as their standard control platform. The EtherCAT network coupler lets NX I/O join Omron's high-speed, highly synchronized Sysmac platform for the benefits of maximized integrated control.

Standard Parts

Model	Description	Connector type	I/O points	Input/Output type
NX-ID5142-5	DC Input Unit	MIL	16 points	For both NPN/PNP
NX-ID6142-5	DC Input Unit	MIL	32 points	For both NPN/PNP
NX-OD5121-5	Transistor Output Unit	MIL	16 points	NPN
NX-OD5256-5	Transistor Output Unit	MIL	16 points	PNP
NX-OD6121-5	Transistor Output Unit	MIL	32 points	NPN
NX-OD6256-5	Transistor Output Unit	MIL	32 points	PNP
NX-MD6121-5	DC Input/Transistor Output Unit	MIL	16 in/16 out	For both NPN/PNP input, NPN output
NX-MD6256-5	DC Input/Transistor Output Unit	MIL	16 in/16 out	For both NPN/PNP input, PNP output

Connections to XW2☐ Wiring Terminal Blocks

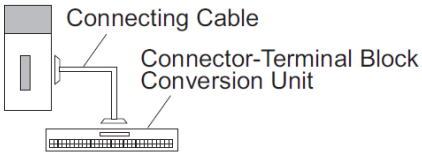
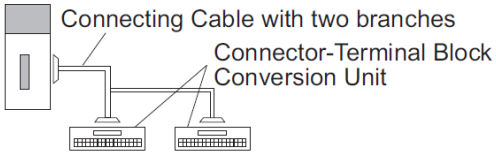
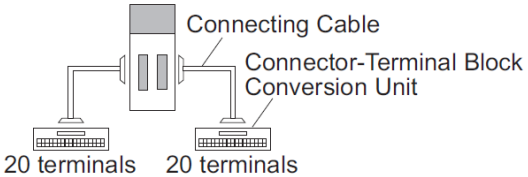
Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable	Connector-Terminal Block Conversion Unit	Common terminal
NX-ID5142-5	16 inputs	1 MIL connector	NPN/PNP	A	None	XW2Z-☐☐☐X	XW2D-20G6	None
				A	None	XW2Z-☐☐☐X	XW2B-20G5	None
				A	None	XW2Z-☐☐☐X	XW2B-20G4	None
NX-ID6142-5	32 inputs	1 MIL connector	NPN/PNP	A	None	XW2Z-☐☐☐K	XW2D-40G6	None
				A	None	XW2Z-☐☐☐K	XW2D-40G6-RM *1	None
				A	None	XW2Z-☐☐☐K	XW2B-40G5	None
				A	None	XW2Z-☐☐☐K	XW2B-40G4	None
				B	2	XW2Z-☐☐☐N	XW2D-20G6 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2C-20G6-IO16 (2 Units)	Yes
				B	2	XW2Z-☐☐☐N	XW2C-20G5-IN16 (2 Units) *2	Yes
				B	2	XW2Z-☐☐☐N	XW2E-20G5-IN16 (2 Units) *2	Yes
				B	2	XW2Z-☐☐☐N	XW2F-20G7-IN16 (2 Units) *2	Yes
				B	2	XW2Z-☐☐☐N	XW2N-20G8-IN16 (2 Units) *2	Yes
NX-OD5121-5	16 outputs	1 MIL connector	NPN	A	None	XW2Z-☐☐☐X	XW2D-20G6	None
				A	None	XW2Z-☐☐☐X	XW2B-20G5	None
				A	None	XW2Z-☐☐☐X	XW2B-20G4	None
NX-OD5256-5	16 outputs	1 MIL connector	PNP	A	None	XW2Z-☐☐☐X	XW2D-20G6	None
				A	None	XW2Z-☐☐☐X	XW2B-20G5	None
				A	None	XW2Z-☐☐☐X	XW2B-20G4	None
NX-OD6121-5	32 outputs	1 MIL connector	NPN	A	None	XW2Z-☐☐☐K	XW2D-40G6	None
				A	None	XW2Z-☐☐☐K	XW2B-40G5	None
				A	None	XW2Z-☐☐☐K	XW2B-40G4	None
				B	2	XW2Z-☐☐☐N	XW2D-20G6 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2C-20G6-IO16 (2 Units)	Yes
				B	2	XW2Z-☐☐☐N	XW2F-20G7-OUT16 (2 Units)	Yes

*1. Bleeder resistor (5.6 kΩ) is built in.
*2. The inputs are NPN. For PNP inputs, reverse the polarity of the external power supply connections to the power supply terminals on the Connector-Terminal Block Conversion Unit.

Connections to XW2☐ Wiring Terminal Blocks (continued)

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable	Connector-Terminal Block Conversion Unit	Common terminal
NX-OD6256-5	32 outputs	1 MIL connector	PNP	A	None	XW2Z-☐☐☐K	XW2D-40G6	None
				A	None	XW2Z-☐☐☐K	XW2B-40G5	None
				A	None	XW2Z-☐☐☐K	XW2B-40G4	None
				B	2	XW2Z-☐☐☐N	XW2D-20G6 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-☐☐☐N	XW2C-20G6-IO16 (2 Units)	Yes
				B	2	XW2Z-☐☐☐N	XW2F-20G7-OUT16 (2 Units)	Yes
NX-MD6121-5	16 inputs	1 MIL connector	NPN/PNP	C	None	XW2Z-☐☐☐X	XW2D-20G6	None
				C	None	XW2Z-☐☐☐X	XW2B-20G5	None
				C	None	XW2Z-☐☐☐X	XW2B-20G4	None
	16 outputs	1 MIL connector	NPN	C	None	XW2Z-☐☐☐X	XW2D-20G6	None
				C	None	XW2Z-☐☐☐X	XW2B-20G5	None
				C	None	XW2Z-☐☐☐X	XW2B-20G4	None
NX-MD6256-5	16 inputs	1 MIL connector	NPN/PNP	C	None	XW2Z-☐☐☐X	XW2D-20G6	None
				C	None	XW2Z-☐☐☐X	XW2B-20G5	None
				C	None	XW2Z-☐☐☐X	XW2B-20G4	None
	16 outputs	1 MIL connector	PNP	C	None	XW2Z-☐☐☐X	XW2D-20G6	None
				C	None	XW2Z-☐☐☐X	XW2B-20G5	None
				C	None	XW2Z-☐☐☐X	XW2B-20G4	None

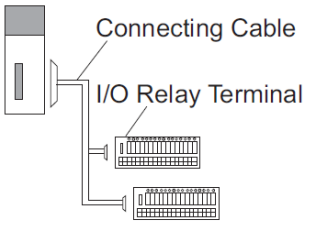
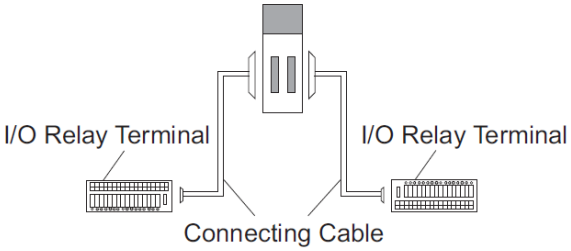
Connection Patterns for XW2☐ Wiring Terminal Units

Pattern	Configuration	Number of connectors	Branching
A		1	None
B			2 branches
C		2	None

Connections to I/O Relay Terminals

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable	I/O Relay Terminal
NX-ID5142-5	16 inputs	1 MIL connector	NPN	F	None	G79-O□C	G7TC-ID16
				F	None	G79-O□C	G7TC-IA16
NX-ID6142-5	32 inputs	1 MIL connector	NPN	A	2	G79-O□-□-D1	G7TC-ID16
				A	2	G79-O□-□-D1	G7TC-IA16
NX-OD5121-5	16 outputs	1 MIL connector	NPN	F	None	G79-O□C	G7TC-OC08
				F	None	G79-O□C	G70D-SOC08
				F	None	G79-O□C	G70R-SOC08
				F	None	G79-O□C	G7TC-OC16
				F	None	G79-O□C	G70D-SOC16
				F	None	G79-O□C	G70D-VSOC16
				F	None	G79-O□C	G70D-FOM16
				F	None	G79-O□C	G70D-VFOM16
				F	None	G79-O□C	G70A-ZOC16-3
NX-OD5256-5	16 outputs	1 MIL connector	PNP	F	None	G79-I□C	G7TC-OC16-1
				F	None	G79-O□C	G70D-SOC16-1
				F	None	G79-O□C	G70D-FOM16-1
				F	None	G79-O□C	G70A-ZOC16-4
NX-OD6121-5	32 outputs	1 MIL connector	NPN	A	2	G79-O□-□-D1	G7TC-OC16
				A	2	G79-O□-□-D1	G7TC-OC08
				A	2	G79-O□-□-D1	G70D-SOC16
				A	2	G79-O□-□-D1	G70D-FOM16
				A	2	G79-O□-□-D1	G70D-VSOC16
				A	2	G79-O□-□-D1	G70D-VFOM16
				A	2	G79-O□-□-D1	G70A-ZOC16-3 and Relay
				A	2	G79-O□-□-D1	G70R-SOC08
				A	2	G79-O□-□-D1	G70D-SOC08
NX-OD6256-5	32 outputs	1 MIL connector	PNP	A	2	G79-I□-□-D1	G7TC-OC16-1
				A	2	G79-O□-□-D1	G70D-SOC16-1
				A	2	G79-O□-□-D1	G70D-FOM16-1
				A	2	G79-O□-□-D1	G70A-ZOC16-4 and Relay
NX-MD6121-5	16 inputs	1 MIL connector	NPN	E	None	G79-O□C	G7TC-ID16
				E	None	G79-O□C	G7TC-IA16
	16 outputs	1 MIL connector	NPN	E	None	G79-O□C	G7TC-OC16
				E	None	G79-O□C	G7TC-OC08
				E	None	G79-O□C	G70D-SOC16
				E	None	G79-O□C	G70D-FOM16
				E	None	G79-O□C	G70D-VSOC16
				E	None	G79-O□C	G70D-VFOM16
				E	None	G79-O□C	G70A-ZOC16-3 and Relay
				E	None	G79-O□C	G70R-SOC08
				E	None	G79-O□C	G70D-SOC08
NX-MD6256-5	16 outputs	1 MIL connector	PNP	E	None	G79-O□C	G7TC-OC16-1
				E	None	G79-I□C	G70D-SOC16-1
				E	None	G79-I□C	G70D-FOM16-1
				E	None	G79-I□C	G70A-ZOC16-4 and Relay

Connection Patterns for G7-Series I/O Relay Terminals

Pattern	Configuration
A	
E	
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