## **NX-series Digital Mixed I/O Units**

# **NX-MD**

CSM\_NX-MD\_DS\_F\_3\_1

## Digital Mixed I/O Units for High speed Synchronous Control

- DC Input/Transistor 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.
- One Unit enables synchronous Units to update the status of input devices to the controller and the output status of synchronous Units according to the controller's instructions every EtherCAT cycle.





### **Features**

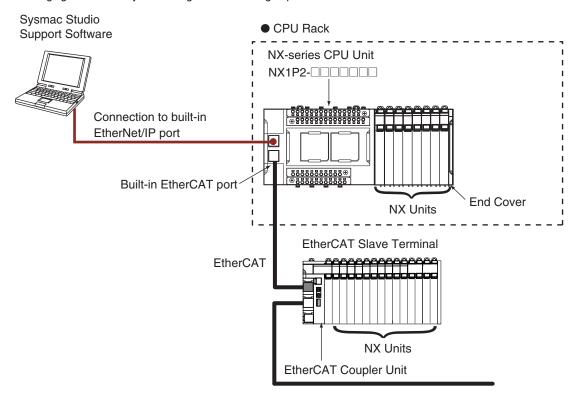
- High-speed I/O refreshing is possible by connecting with the NX-series EtherCAT Coupler.
- Output refreshing can be synchronized with the control cycle of the Controller. (Synchronous refreshing)
- Connector Types significantly reduces wiring work.
- Connection to the CJ-series is possible by connecting with the EtherNet/IP™ Coupler.

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## **System Configuration**

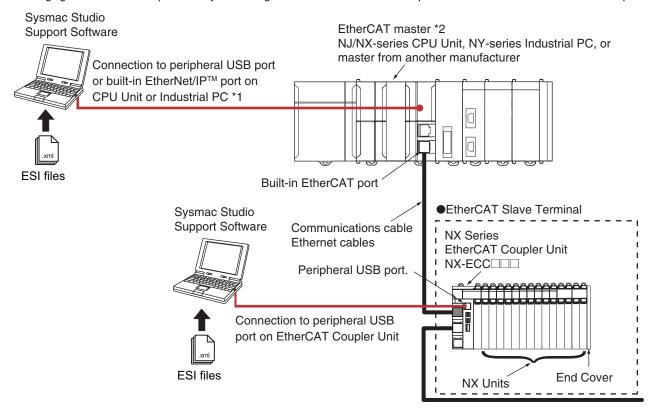
### System Configuration in the Case of a CPU Unit

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



### **System Configuration of Slave Terminals**

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



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

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

## **Ordering Information**

### **International Standards**

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

## **Digital Mixed I/O Units**

## ● DC Input/Transistor Output Units (MIL Connector, 30 mm Width)

	Duadicat			Specif	ication			
Unit type	Product name	Number of points	Internal I/O common	Rated voltage	I/O refreshing method	ON/OFF response time	Model	Standards
DC Input/ Inputs:	Outputs: NPN Inputs: For both NPN/PNP	Outputs: 12 to 24 VDC Inputs: 24 VDC	Switching Synchronous	Outputs: 0.1 ms max./0.8 ms max. Inputs: 20 µs max./400 µs max.	NX-MD6121-5	UC1, CE,		
I/O Unit		Inputs: 16 points	Outputs: PNP Inputs: For both NPN/PNP	Outputs: 24 VDC Inputs: 24 VDC	Synchronous I/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	RCM, KC

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

	Product			Specification				
Unit type	name	Number of points	Rated voltage ON/OFF red		ON/OFF response time	Model	Standards	
NX-series Digital Output Unit	DC Input/ Transistor Output Unit	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	UC1, CE, RCM, KC

### **Accessories**

Not included.

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

Pattern	Configuration	Number of connectors	Branching
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	Number of branches	Connecting Cable	Connector-Terminal Block Conversion Unit	Common terminal
				С	None	XW2Z-□□□X	XW2B-20G4	None
	40 innuts	1 MIL	NPN/	С	None	XW2Z-□□□X	XW2B-20G5	None
	16 inputs	connector	PNP	С	None	XW2Z-□□□X	XW2D-20G6	None
NX-MD6121-5				С	None	XW2Z-□□□X	XW2R-J20G-T	None
NX-NID0121-5				С	None	XW2Z-□□□X	XW2B-20G4	None
	16 autouta	1 MIL	NPN	С	None	XW2Z-□□□X	XW2B-20G5	None
	16 outputs	connector	INPIN	С	None	XW2Z-□□□X	XW2D-20G6	None
				С	None	XW2Z-□□□X	XW2R-J20G-T	None
				С	None	XW2Z-□□□A	XW2B-20G4	None
				С	None	XW2Z-□□□A	XW2B-20G5	None
				С	None	XW2Z-□□□A	XW2C-20G5-IN16 *	Yes
				С	None	XW2Z-□□□A	XW2C-20G6-IO16	Yes
	16 inputs	1 Fujitsu connector	NPN/ PNP	С	None	XW2Z-□□□A	XW2D-20G6	None
				С	None	XW2Z-□□□A	XW2E-20G5-IN16 *	Yes
				С	None	XW2Z-□□□A	XW2F-20G7-IN16 *	Yes
NX-MD6121-6				С	None	XW2Z-□□□A	XW2N-20G8-IN16 *	Yes
				С	None	XW2Z-□□□A	XW2R-J20G-T	None
				С	None	XW2Z-□□□A	XW2B-20G4	None
				С	None	XW2Z-□□□A	XW2B-20G5	None
	16 autouta	1 Fujitsu	NPN	С	None	XW2Z-□□□A	XW2C-20G6-IO16	Yes
	16 outputs	connector	INPIN	С	None	XW2Z-□□□A	XW2D-20G6	None
				С	None	XW2Z-□□□A	XW2F-20G7-OUT16	Yes
				С	None	XW2Z-□□□A	XW2R-J20G-T	None
				С	None	XW2Z-□□□X	XW2B-20G4	None
	40 innuts	1 MIL	NPN/	С	None	XW2Z-□□□X	XW2B-20G5	None
NX-MD6256-5	16 inputs	connector	PNP	С	None	XW2Z-□□□X	XW2D-20G6	None
				С	None	XW2Z-□□□X	XW2R-J20G-T	None
				С	None	XW2Z-□□□X	XW2B-20G4	None
	16 01:40:4-	1 MIL	PNP	С	None	XW2Z-□□□X	XW2B-20G5	None
	16 outputs	connector		С	None	XW2Z-□□□X	XW2D-20G6	None
				С	None	XW2Z-□□□X	XW2R-J20G-T	None

<sup>\*</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.

Note: For details of connection patterns for I/O relay terminals, refer to the NX-series Digital I/O Units User's Manual (Cat. No. W521).

## **General Specification**

		Specification			
		Mounted in a panel			
		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) 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 Mixed I/O Unit Specifications**

# ● DC Input/Transistor Output Units (MIL Connector, 30 mm Width) NX-MD6121-5

Unit name		DC Input/Transistor Output Unit			NX-MD6121-5	
Number of points		16 inputs/16 outputs  External connection terminals		onnection	2 MIL connectors (20 terminals)	
I/O refresi	hing method	Switching Synchronous I/O refreshing and Free-	Run refresh	ing		
	Internal I/O common	NPN	Internal I/O common		For both NPN/PNP	
	Rated voltage	12 to 24 VDC		Rated input voltage	24 VDC (15 to 28.8 VDC)	
	Operating load voltage range	10.2 to 28.8 VDC		Input current	7 mA typical (at 24 VDC)	
Output section	Maximum value of load current	0.5 A/point, 2 A/Unit	Input section	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)	
(CN1)	Maximum inrush current	4.0 A/point, 10 ms max.	(CN2)	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)	
	Leakage current	0.1 mA max.		ON/OFF response time	20 μs max./400 μs max.	
	Residual voltage ON/OFF response	1.5 V max.  0.1 ms max./0.8 ms max.		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms	
	time	TS indicator, I/O indicators	Dimension	าร	30 (W) x 100 (H) x 71 (D)	
			Isolation r	nethod	Photocoupler isolation	
		MD6121-5 CN ■TS	Insulation	resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	
		1 =0 =1 =2 =3 =4 =5 =6 =7 =8 =9 =10 =11 =12 =13 =14 =15	Dielectric	strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
		2 =0 =1 =2 =3 =4 =5 =6 =7 =8 =9 =10 =11 =12 =13 =14 =15	I/O power supply method		Supply from external source	
Indicators	<b>:</b>	L=0 =3 =10 =11 =12 =13 =14 =13	Current capacity of I/O power supply terminal		Without I/O power supply terminals	
			NX Unit power consumption		Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max.	
			Current consumption from I/O power supply		30 mA max.	
			Weight		105 g max.	
Circuit layout		NX bus connector (left)  NX bus connector (left)  Connector IN0  Connector IN0  Input indicator 3.3 kΩ  IN15  COM1  NX bus connector (left)  NX bus connector (left)  NX bus connector (left)  NX bus connector (left)  NX bus connector (left)	Oles Oles Oles Oles Oles Oles Oles Oles	Connector  M0 M0 DDOWer NY bus		

#### Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. 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 points at 35°C 16 13 points at 55°C 12 9 points at 55°C 8 I/O power supply voltage ---24 V 4 28.8 V 0 0 10 20 30 40 45 50 55 60 Installation orientation and restrictions Ambient temperature • For any installation other than upright Number of simultaneously ON input points vs. Number of simultaneously ON input points Ambient temperature characteristic 16 points at 40°C 16 points at 25°C 16 12 I/O power supply 5 points at 55°C 8 voltage ---24 V 4 28.8 V 0 0 3 points at 55°C 10 30 40 45 50 55 60 Ambient temperature (°C) CN1 (left) output terminal Signal Connector Signal name name pin name OUT0 20 19 OUT8 OUT1 18 17 OUT9 OUT2 16 15 OUT10 OUT3 14 13 OUT11 OUT4 12 11 OUT12 OUT5 10 9 OUT13 OUT6 8 7 OUT14 OUT7 6 5 OUT15 COM0 4 3 COM0 +V0 2 1 +V0 12 to 24 VDC • Be sure to wire both pins 3 and 4 (COM0) of CN1. **Terminal connection** • Be sure to wire both pins 1 and 2 (+V0) of CN1. diagram CN2 (right) input terminal Signal Connector Signal 24 VDC name name ₁−⊪ NC 1 2 NC COM1 3 4 COM1 5 IN15 6 IN07 IN14 7 8 IN<sub>06</sub> IN13 9 10 IN05 60 IN12 11 12 IN04 IN11 13 14 IN03 €0 IN10 15 16 IN02 60 60 IN09 17 18 IN01 IN08 19 20 IN00 60 The polarity of the input power supply of CN2 can be connected in either direction. Be sure to wire both pins 3 and 4 (COM1) of CN2, and set the same polarity for both pins. Disconnection/Short-circuit detection Not supported. **Protective function** Not supported.

## NX-MD6256-5

of load current (CN1)  Maximum inrush current  Leakage current 1.5 V max.  NOFF response on the second of the seco	Jnit name	•	DC Input/Transistor Output Unit	Model		NX-MD6256-5	
Internal I/O   Common   PNP   Rated voltage   24 VDC   Unit   Common   Rated input   24 VDC (15 to 28.8 VDC)   Common   Rated input   24 VDC (15 to 28.8 VDC)   Common   Rated input   24 VDC (15 to 28.8 VDC)   Common   Rated input   24 VDC (15 to 28.8 VDC)   Common   Rated input   24 VDC (15 to 28.8 VDC)   Common	Number of points				2 MIL connectors (20 terminals)		
common   FNP   For North-PhP   Fasted viltage   24 VDC   45 to 28.8 VDC   Poperating load voltage range   20.4 to 28.8 VDC   Poperating load voltage range   20.4 to 28.8 VDC   Poperating load voltage range   20.4 to 28.8 VDC   Poperating load voltage   20.4 to 28.8 VDC   Poperating load current   Poperating load voltage   20.4 to 28.8 VDC   Poperating load current   Poperating load voltage   20.4 to 28.8 VDC   Poperating load current   Pop	/O refresh	ning method	Switching Synchronous I/O refreshing and Free-	Run refresh	ing		
Output Section (CR1)  Output Section (CR2)  Output Maximum value of load current  Leakage current 0.1 mA max.  Leakage current 0.1 mA max.  Residual vottage 1.5 V max.  ONOFFresponse time  TS indicator, IV olindicators  ND6256-5  ON 1			PNP			For both NPN/PNP	
Obtput becircin (CN1)  Maximum inrush do A Apont, 10 ms max.  Leakage current 0.1 mA max.  Residual voltage 1.5 V max.  ONVFFresponse time  To indicator, I/O indicator surply in the construction of the cons	R	Rated voltage	24 VDC			24 VDC (15 to 28.8 VDC)	
current deach signal)  Maximum inrush deach signal deach			20.4 to 28.8 VDC	-	Input current	7 mA typical (at 24 VDC)	
Current   4.0 A/point, 10 ms max.   Current   Current   Connector   Connecto	section		0.5 A/point, 2 A/Unit	section	current	<b>0</b> /	
TS indicators  TS indicator, I/O indicator  TS indicator, I/O indicators  TS indicator, I/O indicator  TS indic	CN1)		4.0 A/point, 10 ms max.	(CN2)		5 VDC max./1 mA max. (between COM and each signal)	
ON/OFFresponse time  T5 indicator, I/O indicators  MD6256-5  ND						20 μs max./400 μs max.	
ON/OFF response time  TS indicator, I/O indicators    MD6256-5			1.5 V max.			No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms,	
Isolation method   Photocoupler isolation   Photocoupler isolation   Photocoupler isolated circuits (2d M2 min. between isolated circuits for at a leakage current of 5 mA max.   10 y power supply method   Supply from life   10 y power supply terminal   10 y power supply sup			0.5 ms max./1.0 ms max.		Input filter time	4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms	
Insulation resistance    MD6256-5			TS indicator, I/O indicators				
Insulation resistance    Converted to a Count of 5 mA max.			MD6256-5	Isolation	method	•	
Dielectric strength  at a leakage current of 5 mA max.  I/O power supply method  Supply from external source  Current capacity of I/O power supply terminals  1. 10 W max.  Connected to a CPU Unit 1.10 W max.  Current consumption from I/O power supply  Weight  Connected to a Communications C of the consumption of the			CN ■TS	Insulation	resistance	(at 100 VDC)	
Connected to a CPU Unit 1.10 W max. Connected to a Communications C Unit 0.75 W max. Connected to a Communication C Unit 0.75 W max. Connected to a Communication C Unit 0.75 W max.			L■8 ■9 ■10 ■11 ■12 ■13 ■14 ■15	Dielectric strength		510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.	
Supply terminal  NX Unit power consumption  NX Unit power consumption  Current consumption from I/O power supply  Weight  CN1 (left) output circuit  NX bus connector supply + (left)  NX bus connector (left)  NX bus connector supply + (loft)  NX bus connector supply + (loft)  NX bus connector (left)  NX bus connector (left)  NX bus connector supply - (loft)  NX bus connector (left)						Supply from external source	
NX Unit power consumption    Current consumption from   Unit	ndicators	•				,	
CN1 (left) output circuit    Variable   Vari				NX Unit power consumption		1.10 W max.     Connected to a Communications Coupler Unit	
CN1 (left) output circuit  NX bus connector (left)						40 mA max.	
Circuit layout  NX bus connector supply + 1/O power supply + 1/O power supply - 1/O power							
NX bus connector (left) I/O power   NX bus connector (right)	Circuit layout		NX bus connector (left)  NX bus connector (left)  Connector IN0 power supply –  CN2 (right) input circuit  Connector IN0 to IN15 COM1  NX bus COM1	ator **	COM0 (+V)  Conn to OUT15 OV0 VOV0 VOV0 VO DIVO power supply + VO power supply - VO p	tor	

#### Installation orientation: Connected to a CPU Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. · For upright installation ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 35°C 16 points at 45°C Number of simultaneously 16 13 points at 55°C 12 9 points at 55°C 8 I/O power supply voltage ---24 V 4 28.8 V 0 Installation orientation and 0 10 40 45 50 55 60 restrictions Ambient temperature (°C) · For any installation other than upright ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 40°C 16 points at 25°C 16 Number of simultaneously 12 I/O power supply 5 points at 55°C 8 voltage ----24 V 4 28.8 V 3 points at 55°C 0 0 10 20 30 40 45 50 55 60 Ambient temperature (°C) CN1 (left) output terminal Signal Connector Signal name pin name OUT0 20 19 OUT8 OUT1 18 17 OUT9 L OUT2 16 15 OUT10 OUT3 14 13 OUT11 OUT4 12 11 OUT12 OUT5 10 9 OUT13 OUT14 OUT6 8 L L 5 OUT7 6 OUT15 COM0 (+V) 4 3 COM0 (+V) 0V0 2 1 0V0 • Be sure to wire both pins 3 and 4 (COM0 (+V)) of CN1. • Be sure to wire both pins 1 and 2 (0V0) of CN1. Terminal connection diagram CN2 (right) input terminal Signal Connector Signal VDC name name pin dh. NC NC 3 4 COM1 COM1 5 6 IN15 IN07 €0 IN14 8 IN06 9 10 IN13 IN05 60 IN12 11 12 **IN04** 60 60 IN11 13 14 IN03 IN10 15 16 IN02 60 60 17 18 IN01 IN09 60 60 IN08 19 20 IN00 60 The polarity of the input power supply of CN2 can be connected in either direction. Be sure to wire both pins 3 and 4 (COM1) of CN2, and set the same polarity for both pins. Disconnection/Short-circuit Protective function With load short-circuit protection. Not supported.

detection

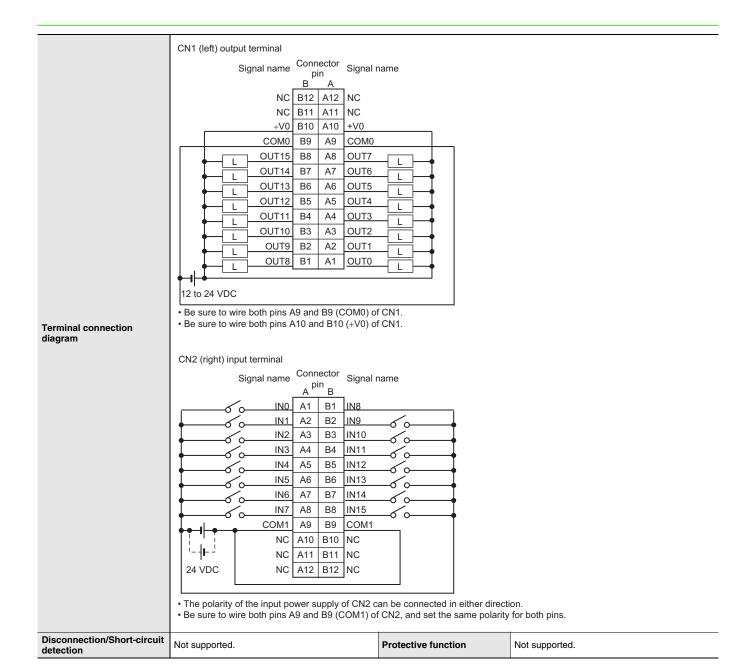
# ● DC Input/Transistor Output Units (Fujitsu Connector, 30 mm Width) NX-MD6121-6

Unit name		DC Input/Transistor Output Unit	Model		NX-MD6121-6
Number of points		16 inputs/16 outputs	External connection terminals		2 Fujitsu connectors (24 terminals)
I/O refres	hing method	Switching Synchronous I/O refreshing and Free-F	Run refreshi	ng	
	Internal I/O common	NPN	Internal I/O common		For both NPN/PNP
	Rated voltage	12 to 24 VDC		Rated input voltage	24 VDC (15 to 28.8 VDC)
Output section	Operating load voltage range	10.2 to 28.8 VDC		Input current	7 mA typical (at 24 VDC)
	Maximum value of load current	0.5 A/point, 2 A/Unit	Input section	ON voltage/ON current	15 VDC min./3 mA min. (between COM and each signal)
(CN1)	Maximum inrush current	4.0 A/point, 10 ms max.	(CN2)	OFF voltage/OFF current	5 VDC max./1 mA max. (between COM and each signal)
	Leakage current	0.1 mA max.		ON/OFF response time	20 μs max./400 μs max.
	Residual voltage	1.5 V max.			No filter 0.05 mg 0.5 mg 1 mg (default) 2 mg
	ON/OFF response time	0.1 ms max./0.8 ms max.		Input filter time	No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms
	•	TS indicator, I/O indicators	Dimensio	ns	30 (W) x 100 (H) x 71 (D)
		MD6121-6	Isolation i	method	Photocoupler isolation
		MD6121-6 CN_ =TS	Insulation	resistance	20 MΩ min. between isolated circuits (at 100 VDC)
		1	Dielectric	strength	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
		2 8 9 10 11 12 13 14 15	I/O power	supply method	Supply from external source
Indicators	5		Current capacity of I/O power supply terminal		Without I/O power supply terminals
			NX Unit power consumption		Connected to a CPU Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max.
			Current consumption from I/O power supply		30 mA max.
			Weight		95 g max.
Circuit layout		NX bus connector (left)  NX bus connector (left)  CN2 (right) input circuit		COM0 COM0 I/O power	Connector  NX bus connector (right)
		Connector  Connector  INO to IN15  COM1  COM1  COM1  COM1  COM1  I/O power supply + I/O power supply -	icator	I/O power supply + I/O power supply -	NX bus connector (right)

Installation orientation:

Connected to a CPU Unit: Possible in upright installation.

Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: As shown in the following. • For upright installation Number of simultaneously ON input points vs. Ambient temperature characteristic Number of simultaneously ON input points 16 points at 35°C 16 points at 45°C 16 13 points at 55°C 12 9 points at 55°C 8 I/O power supply voltage ••24 V 28.8 V 0 0 40 45 50 55 60 10 20 30 Installation orientation and Ambient temperature (°C) restrictions • For any installation other than upright Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 40°C Number of simultaneously ON input points 16 points at 25°C 16 12 I/O power supply 5 points at 55°C voltage 8 ----24 V 4 28.8 V -3 points at 55°C 0 0 10 20 30 40 45 50 55 60 Ambient temperature (°C)



## **Version Information**

## **Connecting with CPU Units**

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

NX U	nit	Corresponding versions *		
Model	Unit version	CPU Unit	Sysmac Studio	
NX-MD6121-5	Ver.1.0	Ver.1.13 or later	Ver.1.17 or higher	
NX-MD6121-6				
NX-MD6256-5				

<sup>\*</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

## **Connecting with Coupler Units**

NX Unit		Corresponding versions *					
			EtherCAT		EtherNet/IP		
Model	Unit version	Communications Coupler Unit	NJ/NX-series CPU Units or NY-series Industrial PCs	Sysmac Studio	Communications Coupler Unit	Sysmac Studio	
NX-MD6121-5	Ver.1.0	Ver.1.0 or later	Ver.1.05 or later	Ver.1.10 or higher	Ver.1.0 or later	Ver.1.10 or higher	
NX-MD6121-6				Ver.1.13 or higher		Ver.1.13 or higher	
NX-MD6256-5				Ver.1.10 or higher		Ver.1.10 or higher	

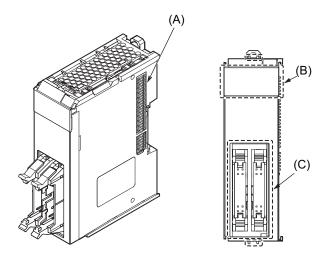
<sup>\*</sup> Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

## **External Interface**

## **Connector Types**

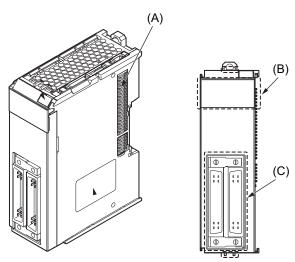
NX Units (30 mm Width)

• Units with MIL Connectors (2 Connectors 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. The number of terminals depends on the type of Unit.				

## ● Units with Fujitsu Connectors (2 Connectors with 24 Terminals)



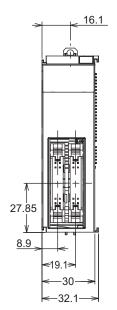
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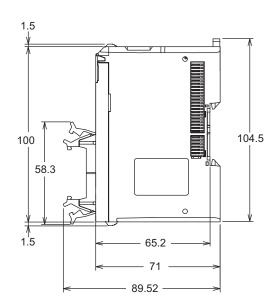
**Dimensions** (Unit/mm)

## **Connector Types**

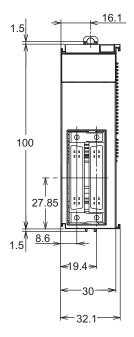
30 mm Width

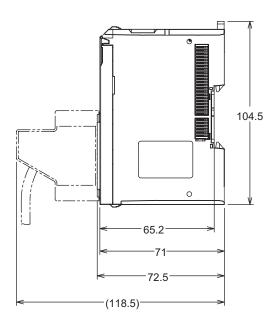
● Units with MIL Connectors (2 Connectors with 20 Terminals)





Units with Fujitsu Connectors (2 Connectors with 24 Terminals)





## **Related Manuals**

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