# NX-series Analog I/O Unit NX-AD/DA

CSM NX-AD DA DS F 2 2

### Analog inputs and outputs to meet all machine control needs, from general purpose to high-speed synchronous control

- Connect to other NX I/O Units and EtherCAT® Coupler Units using the high-speed NX-bus
- Separate modules for voltage and current



#### **Features**

- Up to eight analog inputs per unit (NX-AD)
- Up to four analog outputs per unit (NX-DA)
- Free-run refreshing or synchronous I/O refreshing with the NX1P2 CPU Unit or EtherCAT Coupler Unit
- Sampling times down to 10 μs per channel and high resolution of 1/30,000
- Single-ended or differential input (NX-AD)
- Selecting channel to use, moving average, input disconnection detection, over range/under range detection, and user calibration
- Detachable front connector with screwless Push-In Plus terminals for easy installation and maintenance
- Compact with a width of 12 mm per unit
- Connect to the CJ PLC using the EtherNet/IP<sup>™</sup> bus coupler

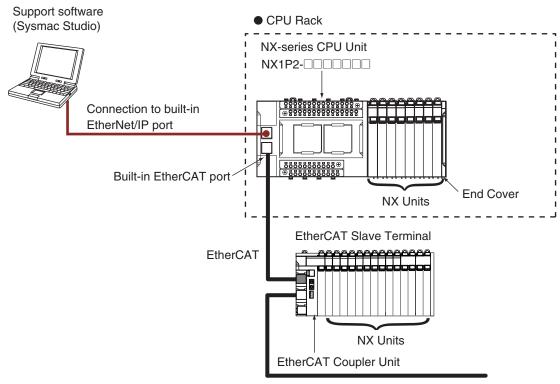
Sysmac is a trademark or registered trademark of OMRON Corporation in Japan and other countries for OMRON factory automation products. EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany. EtherNet/IP<sup>TM</sup> is a trademark of ODVA.

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#### **System Configurations**

#### **Connected to a CPU Unit or Communication Control Unit**

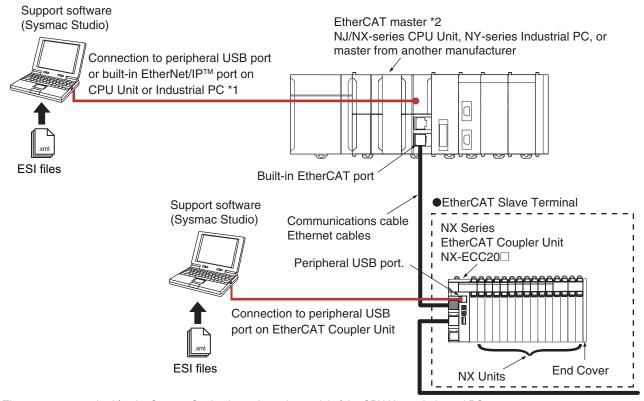
The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



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.

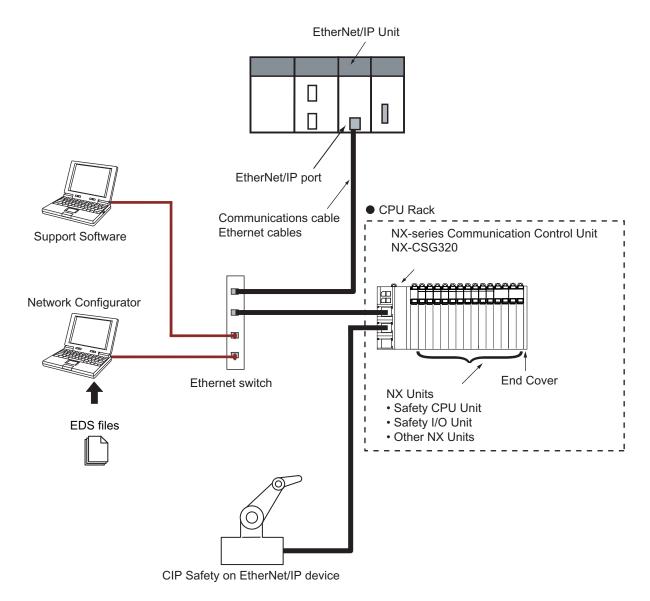


- \*1. The connection method for the Sysmac Studio depends on the model of the CPU Unit or Industrial PC.
- \*2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81/□82 Position Control Units even though they can operate as EtherCAT masters.

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

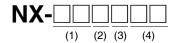
#### System Configuration in the Case of a Communication Control Unit

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.



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
AD	Analog input
DA	Analog output

#### (2) Number of points

No.	Specification
2	2 points
3	4 points
4	8 points

#### (3) I/O range

No.	Specification			
1				
2	4 to 20 mA			
6	-10 to +10 V			

#### (4) Other specifications **Analog Input Units**

				I/O refreshing method		
No.	Resolution	Conversion time	Input method	Free-Run refreshing *1 only	Switching synchronous I/O refreshing *2 and Free-Run refreshing	
03	1/8000	250 μs/point	Single-ended	Yes		
04	1/8000	250 μs/point	Differential	Yes		
08	1/30000	10 μs/point	Differential		Yes	

#### **Analog Output Units**

			I/O refreshing method		
No.	Resolution	Conversion time	Free-Run refreshing *1 only	Switching synchronous I/O refreshing *2 and Free-Run refreshing	
03	1/8000	250 μs/point	Yes		
05	1/30000	10 μs/point		Yes	

<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.

#### **Analog Input Units**

					Specificat	ion				
Product name	Number of points	Input range	Resolution	Conversion value, decimal number (0 to 100%)	Over all accuracy (25°C)	Input method	Conversion time	Input impedance	I/O refreshing method	Model
					±0.2%	Single-ended input	250 μs/		Free-Run	NX-AD2603
			1/8000	-4000 to 4000	(full scale)	Differential input	point		refreshing	NX-AD2604
	2 points		1/30000	-15000 to 15000	±0.1% (full scale)	Differential input	10 μs/ point		Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD2608
Voltage Input type			. /2222		±0.2%	Single-ended input	250 μs/		Free-Run	NX-AD3603
		-10 to	1/8000	-4000 to 4000	(full scale)	Differential input	point		refreshing	NX-AD3604
	4 points	+10 V	1/30000	-15000 to 15000	±0.1% (full scale)	Differential input	10 μs/ point	1 MΩ min.	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD3608
				-4000 to 4000	±0.2% (full scale)	Single-ended input	250 μs/	-	Free-Run refreshing	NX-AD4603
	8 points		1/8000			Differential input	point			NX-AD4604
			1/30000	-15000 to 15000	±0.1% (full scale)	Differential input	10 μs/ point		Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD4608
	2 points			0 to 8000	±0.2% (full scale)	Single-ended input	250 μs/		Free-Run refreshing	NX-AD2203
			1/8000			Differential input	point			NX-AD2204
			1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/ point		Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD2208
Current Input type			4/0000	0.4- 0000	±0.2% (full scale)	Single-ended input	250 μs/	- 250 Ω	Free-Run	NX-AD3203
		4 to 20 mA	1/8000	0 to 8000		Differential input	point		refreshing	NX-AD3204
	4 points		1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/ point		Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD3208
			4/0000	0.4- 0000	±0.2%	Single-ended input	250 μs/		Free-Run	NX-AD4203
			1/8000	0 to 8000	(full scale)	Differential input	point		refreshing	NX-AD4204
	8 points	points	1/30000	0 to 30000	±0.1% (full scale)	Differential input	10 μs/ point	85 Ω	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-AD4208

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### **Analog Output Units**

	Specification							
Product name	Number of points	Output range	Resolution	Output setting value, decimal number (0 to 100%)	Over all accuracy (25°C)	Conversion time	I/O refreshing method	Model
Voltage Output type			1/8000	-4000 to 4000	±0.3% (full scale)	250 μs/point	Free-Run refreshing	NX-DA2603
voltage output type	2 points	-10 to	1/30000	-15000 to 15000	±0.1% (full scale)	10 μs/point	Selectable Synchronous I/O refreshing or Free- Run refreshing	NX-DA2605
	4 points	+10 V	1/8000	-4000 to 4000	±0.3% (full scale)	250 μs/point	Free-Run refreshing	NX-DA3603
			1/30000	-15000 to 15000	±0.1% (full scale)	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-DA3605
Current Output type	2 points	4 to 20 mA	1/8000	0 to 8000	±0.3% (full scale)	250 μs/point	Free-Run refreshing	NX-DA2203
			1/30000	0 to 30000	±0.1% (full scale)	10 μs/point	Selectable Synchronous I/O refreshing or Free-Run refreshing	NX-DA2205
			1/8000	0 to 8000	±0.3% (full scale)	250 μs/point	Free-Run refreshing	NX-DA3203
	4 points		1/30000	0 to 30000	±0.1% (full scale)	10 μs/point	Selectable Synchronous I/O refreshing or Free- Run refreshing	NX-DA3205

### **Optional Products**

Product name		Specification				
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	
	8				NX-TBA082	
Terminal Block	12	A/B	None	10 A	NX-TBA122	
	16				NX-TBA162	

#### **Accessories**

Not included.

### **General Specifications**

	Item	Specification		
Enclosure		Mounted in a panel		
Grounding method		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	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	IConforms to IEC 60068-2-27. 147 m/s², 3 times each in X, Y, and Z directions		
Applicable sta	andards *	cULus: Listed (UL508), ANSI/ISA 12.12.01, EU: EN 61131-2, C-Tick or RCM, KC Registration, NK, LR		

<sup>\*</sup> Refer to the OMRON website (www.ia.omron.com) or ask your OMRON representative for the most recent applicable standards for each model.

### **Analog Input Unit Specifications**

### Analog Input Unit (voltage input type) 2 points NX-AD2603

Unit name	Analog Input Unit (voltage input type)	Model		NX-AD2603				
		External c	onnection	Screwless clamping terminal block (8				
Number of points	2 points	terminals	terminals)					
I/O refreshing method	Free-Run refreshing							
	TS indicator	Input method		Single-ended input				
	AD2603 ■TS	Input rang		-10 to +10 V				
		•	rersion range	-5 to 105% (full scale)				
Indicator		Absolute r rating		±15 V				
maioatoi		Input impe		1 MΩ min.				
		Resolution	1	1/8000 (full scale)				
		Overall accuracy	25°C	±0.2% (full scale)				
		Conversio	0 to 55°C	±0.4% (full scale)				
		Conversio	ii uiiie	250 μs/point  Between the input and the NX bus: Power				
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation n	nethod	= Transformer, Signal = Digital isolator (no isolation between inputs)				
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		pacity of I/O oply 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 1.35 W max. Connected to a Communications Coupler Unit 1.05 W max.	No consumption						
Weight	70 g max.							
Circuit layout	Terminal block Input1+ to 2+  INX bus connector (left)  I/O power supply + I/O power supply - I/O power supp							
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	Additional I/O Power Supply Unit NX-AD2603  A1 Input + Input + Input + 24 V (Sensor power supply +) OV (Sensor power supply - / Input -) IOG IOG IOG  NC NC  NC NC  The NC terminal is not connected to the internal circuit.							
Input disconnection detection	Not supported.							

### Analog Input Unit (voltage input type) 2 points NX-AD2604

Unit name	Analog Input Unit (voltage input type)	Model	NX-AD2604			
Number of points	2 points	External connection	Screwless clamping terminal block (8			
•	·	terminals terminals)				
I/O refreshing method	Free-Run refreshing	In most march and	Differential land			
	TS indicator AD2604	Input method Input range	Differential Input -10 to +10 V			
	■TS	Input conversion range	-5 to 105% (full scale)			
		Absolute maximum	,			
In all a skew		rating	±15 V			
Indicator		Input impedance	1 MΩ min.			
		Resolution	1/8000 (full scale)			
		Overall 25°C	±0.2% (full scale)			
		accuracy 0 to 55°C	±0.4% (full scale)			
		Conversion time	250 µs/point			
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)			
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	No supply	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 1.35 W max. Connected to a Communications Coupler Unit 1.05 W max.	I/O current consumption	No consumption			
Weight	70 g max.					
Circuit layout	Terminal block  Input1+ to 2+  AG  AG  AG: Analog circuit internal GND  NX bus connector (left)  I/O power supply +  I/O power supply -  I/O power supply -  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	Voltage Input Unit NX-AD2604  A1					
Input disconnection detection	Not supported.					

### Analog Input Unit (voltage input type) 2 points NX-AD2608

Number of points  Violentia Selectable Synchronous VO refreshing or Free-Run refreshing Selectable Synchronous VO refreshing or Free-Run refreshing Differential Input Imput Conversion range 15 to 165% full scale)  AD2809  Input conversion range 10 to 16 U Input conversion range 11 Miz min.  Resolution Minum 12 (W) x 100 (H) x 71 (D)  Dimensions  12 (W) x 100 (H) x 71 (D)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  10 VDC were supply and a 1 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  20 Miz min. between isolated dircuits (at 100 VDC)  Insulation resistance  10 VDC were supply terminals  10 VDC were supply terminals  10 VDC were supply terminals  11 Miz min. between isolated dircuits (at 100 VDC)  Commence of the CPU Unit or Communications  Connected to a Communications  10 VDC were supply terminals  Installation orientation:  10 VDC were supply terminals	Selectable Synchronous I/O refreshing method   Selectable Synchronous I/O refreshing or Free-Run refreshing	Unit name	Analog langet limit (voltage innet type)	Madel	NV ADOCOS			
Monte   Mont	Iteminals   Item	Unit name	Analog Input Unit (voltage input type)	Model				
Input method   Differential Input   Input range	Input method   Differential Input   Input range   -10 to +10 V   Input range   -5 to 105% (full scale)   Input range   -5 t	•	'	terminals terminals)				
Injust ranges 10 to 4 10 V	Input range   -10 to +10 V   Input conversion range   -5 to 105% (full scale)	I/O refreshing method	,	i -	Tage			
Indicator  Indicator  Indicator  Input conversion range Absolute maximum rating Input impedance I M30 min. Resolution Overall 25°C ±0.1% (full scale) 20°C ±0.1% (full scale) Conversion time Input input in 50°C 55°C ±0.2% (full scale) Conversion time Input input input and the NX bus: Power randomary. Signal = Digital isolator (no location) between isolated circuits (at 100 VbC) Insulation resistance I/O power supply Resolution Insulation resistance I/O conversion time I/O conversion time I/O conversion time I/O power supply terminal  Cornected to a CPU Unit or Consumption  Resolution I/O current capacity of I/O power supply terminals  Concerded to a CPU Unit or Consumption  Conjugit I/O power supply terminals  Concerded to a Communications Coupler Unit I/O current consumption  I/O current consumption  Resolution I/O current consumption  Installation orientation Insulation orientation I/O connected to a CPU Unit or Communication Control Unit: Possible in upright installation Insulation orientation Insulation orientation I/O connected to a CPU Unit or Communication Control Unit: Possible in upright installation Insulation orientation I/O connected to a CPU Unit or Communication Control Unit: Possible in upright installation I/O connected to a CPU Unit or Communication Control Unit: Possible in upright installation I/O connected to a CPU Unit or Communication Control Unit Possible in upright installation I/O connected to a CPU Unit or Communication Control Unit	Indicator   Ind			•				
Indicator	Absolute maximum rating   ±15 V			•				
Indicator    Input impedance	Indicator    Part   Input   Impedance   Two min.				-5 to 105% (full scale)			
Resolution   1/30000 (full scale)   1/300000 (full scale)   1/30000 (full scale)   1/30000 (full scale)   1/30000 (full scale)   1/3000	Input   Ho 2   Feminal block   Input   Ho 2	Indicator		rating	±15 V			
Overall accuracy   25°C   ±0.1% (full scale)   ±0.2% (full scale)   ±	Overall accuracy   25°C ±0.1% (full scale) accuracy   0 to 55°C ±0.2% (full scale)	mulcator						
Dimensions   12 (W) x 100 (H) x 71 (D)   Isolation method   Isolatio	Conversion time   10 ps/point   10 ps/point   12 (W) x 100 (H) x 71 (D)   Insulation resistance   12 (W) x 100 (H) x 71 (D)   Insulation resistance   13 ps/point   14 ps/point   15 p				<u>'</u>			
Conversion time   10 μs/point   10 μs/point   10 μs/point   10 μs/point   12 (W) x 100 (H) x 71 (D)   1	Conversion time   10 μs/point   10 μs/point   12 (W) x 100 (H) x 71 (D)   Isolation method   Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)   100 VDC			Ovcium				
Dimensions   12 (W) x 100 (H) x 71 (D)   Isolation method   Dielectric strength   Diel	Dimensions   12 (W) x 100 (H) x 71 (D)   Isolation method   Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)			7   7 . 7 . 7	<u>'</u>			
12 (W) x 100 (H) x 71 (D)   Isolation method   Transformer, Signal - Digital isolator (no isolation between inputs)	Dimensions   12 (W) x 100 (H) x 71 (D)   Isolation method   = Transformer, Signal = Digital isolator (no isolation between inputs)			Conversion time				
Mo power supply method   No supply   No supply method	Installation resistance   100 VDC)   Delectric strength   minute at a leakage current of 5 mA max.	Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	= Transformer, Signal = Digital isolator (no			
Power supply terminal  Connected to a CPU Unit or Communication Control Unit  1.35 W max.  Weight  70 g max.  Circuit layout  Installation orientation  Installation orientations  Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.  Connected to a CPU Unit or Communication Control Unit: Possible in 6 orientations.  Restrictions: No restrictions  AG AG Arealog circuit inside the Unit.  Installation orientation:  Connected to a CPU Unit or Communication Control Unit: Possible in 6 orientations.  Restrictions: No restrictions  AG AG AG Inside the Unit.  Input 4 Input 5 Input 4 Input 5 Input 4 Input 6 Input 6 Input 7 Input 6 Input 7 Input 7 Input 7 Input 7 Input 8 It is not necessary to wire AG terminal normally.  Input disconnection  Not supported.	Power supply terminal  Connected to a CPU Unit or Communication Control Unit  1.35 W max.  Connected to a Communications Coupler Unit  1.05 W max.  Circuit layout  Circuit layout  Circuit layout  Installation orientation and restrictions  No consumption  No consumption	Insulation resistance		Dielectric strength				
NX Unit power consumption  Communication Control Unit 1.35 W max.  Connected to a Communications Coupler Unit 1.05 W max.  Vo g max.  Terminal block Input1 to 2+	NX Unit power consumption  Communication Control Unit 1.35 W max.  Connected to a Communications Coupler Unit 1.05 W max.  70 g max.  Circuit layout  Circuit layout  Circuit layout  Installation orientation and restrictions  Installation or communications  Commended 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	I/O power supply method	,		Without I/O power supply terminals			
Circuit layout    Input   + to 2+	Circuit layout    Input1+ to 2+	NX Unit power consumption	Communication Control Unit 1.35 W max.  Connected to a Communications Coupler Unit	I/O current consumption	No consumption			
Circuit layout    Input   Liput   Lipu	Circuit layout  NX bus connector (left)  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	Weight	70 g max.					
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       Voltage Input Unit NX-AD2608      Input	<ul> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> <li>Restrictions: No restrictions</li> </ul>	Circuit layout	Terminal block Input1– to 2–  AG  AG  AG: Analog circuit internal GND  NX bus connector (Jule)  NX bus connector (Jule)					
Terminal connection diagram  AG AG  NC NC  NC NC  AG terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.  Input disconnection		Installation orientation and restrictions	<ul> <li>Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.</li> <li>Connected to a Communications Coupler Unit: Possible in 6 orientations.</li> </ul>					
	Terminal connection diagram  AG AG  NC NC  AG terminal is connected to 0 V of analog circuit inside the Unit.		NX-AD2608  A1 Input1+ Input2+  Input + Input -					
uotootioti		Input disconnection detection	Not supported.					

### Analog Input Unit (voltage input type) 4 points NX-AD3603

Unit name	Analog Input Unit (voltage input type)	Model	NX-AD3603
		External connection	Screwless clamping terminal block (12
Number of points	4 points	terminals	terminals)
I/O refreshing method	Free-Run refreshing TS indicator	Innut method	Single-ended input
	AD3603	Input method Input range	-10 to +10 V
	■TS	Input conversion range	-5 to 105% (full scale)
		Absolute maximum	, ,
Indicator		rating	±15 V
ilidicator		Input impedance	1 MΩ min.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.2% (full scale)
		accuracy 0 to 55°C	±0.4% (full scale)
		Conversion time	250 μs/point  Between the input and the NX bus: Power
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	= Transformer, Signal = Digital isolator (no
	20 M $\Omega$ min. between isolated circuits (at		isolation between inputs) 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.
	Connected to a CPU Unit or	passer capping terminal	
NV Unit names	Communication Control Unit		
NX Unit power consumption	1.35 W max.     Connected to a Communications	I/O current consumption	No consumption
·	Coupler Unit		
Weight	1.10 W max. 70 g max.		
Weight	To g max.		
	Γ ΙΟΥ		
	Terminal block Input1+ to 4+	1MΩ AMP	
Circuit layout	log		
		↓ AG AG: Analog circuit inte	rnal GND
	NX bus I/O power supply +		I/O power supply + NX bus
	connector (left) I/O power supply –		I/O power supply – (right)
	2 % points supply		The second section of the sect
Installation orientation	Installation orientation:  • Connected to a CPU Unit or Communication	ation Control Unit: Possible in	n unright installation
and restrictions	Connected to a Communications Couple		
	Restrictions: No restrictions		
	Additional I/O	Voltage Input Unit	
	Power Supply Unit	NX-AD3603	
	A1 B1	A1 B1	Input +
		IOV IOV	24 V (Sensor power supply +)
Terminal connection	IOG IOG	IOG IOG •	0 V (Sensor power supply – / Input –)
diagram	24 VDC	Input3+ Input4+ Three-wi	re sensor
	IOV IOV	IOV IOV	
		IOG IOG	
	IOG IOG		
		A8 B8	
Input dia same stiss			
Input disconnection detection	Not supported.		

### Analog Input Unit (voltage input type) 4 points NX-AD3604

Unit name	Analog Input Unit (voltage input type)	Model		NX-AD3604
			onnection	Screwless clamping terminal block (12
Number of points	4 points	terminals		terminals)
I/O refreshing method	Free-Run refreshing			
	TS indicator	Input meth		Differential Input
	AD3604 TS	Input rang	<u> </u>	-10 to +10 V
			version range	-5 to 105% (full scale)
Indicator		Absolute i rating		±15 V
maioator		Input impe		1 MΩ min.
		Resolution	1	1/8000 (full scale)
		Overall	25°C	±0.2% (full scale)
		accuracy	0 to 55°C	±0.4% (full scale)
		Conversion	on time	250 µs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation r	nethod	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric		510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	No supply		apacity of I/O oply terminal	Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.35 W max. Connected to a Communications Coupler Unit 1.10 W max.	I/O curren	t consumption	No consumption
Weight	70 g max.			
Circuit layout	Terminal block Input1+ to 4+  AG  AG  AG: Analog circuit internal GND  NX bus connector (left)  I/O power supply +  I/O power supply -  I/O power			
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	Voltage Input Unit NX-AD3604  A1			
Input disconnection detection	Not supported.			

### Analog Input Unit (voltage input type) 4 points NX-AD3608

Unit name	Analog Input Unit (voltage input type)	Model	NX-AD3608	
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)	
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing			
	TS indicator	Input method	Differential Input	
	AD3608	Input range	-10 to +10 V	
		Input conversion range	-5 to 105% (full scale)	
Indicator		Absolute maximum rating	±15 V	
maioaioi		Input impedance	1 MΩ min.	
		Resolution	1/30000 (full scale)	
		Overall 25°C accuracy 0 to 55°C	±0.1% (full scale) ±0.2% (full scale)	
		Conversion time	10 μs/point	
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)	
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	No supply	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 1.45 W max. Connected to a Communications Coupler Unit 1.10 W max.	I/O current consumption	No consumption	
Weight	70 g max.			
Circuit layout	Terminal block Input1+ to 4+  AG  AG  AG: Analog circuit internal GND  NX bus connector (left)  I/O power supply +  I/O power supply -  I/O power			
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communications Coupled Restrictions: No restrictions			
Terminal connection diagram	Input1- Input2- Input3+ Input4+ Input3- Input4- AG AG AG AG	Input + Input – ed to 0 V of analog circuit inside the Ur re AG terminal normally.	nit.	
Input disconnection detection	Not supported.			

### Analog Input Unit (voltage input type) 8 points NX-AD4603

Unit name	Analog Innut I Init (valtage innut tune)	Madel	NV AD4600	
Unit name	Analog Input Unit (voltage input type)	Model External connection	NX-AD4603 Screwless clamping terminal block (16	
Number of points	8 points	terminals	terminals)	
I/O refreshing method	Free-Run refreshing			
	TS indicator	Input method	Single-ended input	
	AD4603	Input range	-10 to +10 V	
		Input conversion range	-5 to 105% (full scale)	
		Absolute maximum rating	±15 V	
Indicator		Input impedance	1 MΩ min.	
		Resolution	1/8000 (full scale)	
		Overall 25°C	±0.2% (full scale)	
		accuracy 0 to 55°C	±0.4% (full scale)	
		Conversion time	250 μs/point	
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)	
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	IOG: 0.1 A/terminal max.	
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 1.15 W max.	I/O current consumption	No consumption	
Weight	70 g max.			
Circuit layout	Terminal block IOG  NX bus connector (left) I/O power supply +	AMP AG AG: Analog circuit inte	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	IOV IC   I	Ünit NX-AD4603  B1 A1 B1  DV IOG IOG   DV Input3+ Input4+	Input +  24 V (Sensor power supply +) 0 V (Sensor power supply – / I  Three-wire sensor	
Input disconnection detection	Not supported.			

### Analog Input Unit (voltage input type) 8 points NX-AD4604

Unit name	Analog Input Unit (voltage input type)	Model	NX-AD4604
Number of points	8 points	External connection	Screwless clamping terminal block (16
·	•	terminals	terminals)
I/O refreshing method	Free-Run refreshing TS indicator	Input method	Differential Input
	AD4604	Input method	-10 to +10 V
	■TS	Input conversion range	-5 to 105% (full scale)
		Absolute maximum	,
La alla akan		rating	±15 V
Indicator		Input impedance	1 MΩ min.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.2% (full scale)
		accuracy 0 to 55°C	±0.4% (full scale)
		Conversion time	250 µs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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	No supply	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 1.45 W max. Connected to a Communications Coupler Unit 1.15 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout		AMP AG: Analog circuit inte	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		nput + nput –	
Input disconnection detection	Not supported.		

### Analog Input Unit (voltage input type) 8 points NX-AD4608

Unit name	Analog Input Unit (voltage input type)	Model	NX-AD4608			
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 method Differential Input				
	AD4608	Input range	-10 to +10 V			
	■TS	Input conversion range	-5 to 105% (full scale)			
		Absolute maximum	, , ,			
		rating	±15 V			
Indicator		Input impedance	1 MΩ min.			
		Resolution	1/30000 (full scale)			
		Overall 25°C	±0.1% (full scale)			
		accuracy 0 to 55°C	±0.2% (full scale)			
		Conversion time	10 μs/point			
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)			
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	No supply	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 1.45 W max. Connected to a Communications Coupler Unit 1.15 W max.	I/O current consumption	No consumption			
Weight	70 g max.					
Circuit layout	Terminal block Input1+ to 8+  Input1- to 8-  NX bus connector (left)  I/O power supply +  I/O power supply -	AMP 510 KΩ  AG: Analog circuit inte	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		nput + nput –				
Input disconnection detection	Not supported.					

### Analog Input Unit (current input type) 2 points NX-AD2203

Unit name	Analog Input Unit (augment input tune)	Model	NV AD0000
Unit name	Analog Input Unit (current input type)	Model External connection	NX-AD2203 Screwless clamping terminal block (8
Number of points  I/O refreshing method	2 points  Free-Run refreshing	terminals	terminals)
70 refreshing method	TS indicator	Input method	Single-ended input
	AD2203	Input range	4 to 20 mA
	■TS	Input conversion range	-5 to 105% (full scale)
		Absolute maximum	, ,
Indicator		rating	±30 mA
Indicator		Input impedance	250 $\Omega$ min.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.2% (full scale)
		accuracy 0 to 55°C	±0.4% (full scale)
		Conversion time	250 µs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.25 W max. Connected to a Communications Coupler Unit 0.90 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	Terminal block Input1+ to 2+ IOG  NX bus connector (left)  I/O power supply + I/O power supply -	250 Ω AMP AG AG: Analog circuit inte	ernal GND  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  IOV IOV  IOG IOG  A8 B8	IOG IOG NC	Input +  24 V (Sensor power supply +)  0 V (Sensor power supply – / Input –)  wire sensor
Input disconnection detection	Supported.		

### Analog Input Unit (current input type) 2 points NX-AD2204

Unit name	Analog Input Unit (current input type)	Model	NX-AD2204
		External connection	Screwless clamping terminal block (8
Number of points	2 points	terminals	terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Input method	Differential Input
	AD2204	Input range	4 to 20 mA
		Input conversion range	-5 to 105% (full scale)
Indicator		Absolute maximum rating	±30 mA
maioutor		Input impedance	250 Ω min.
		Resolution	1/8000 (full scale)
		Overall 25°C accuracy 0 to 55°C	±0.2% (full scale)
		Conversion time	±0.4% (full scale) 250 μs/point
		Conversion time	Between the input and the NX bus: Power
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	= Transformer, Signal = Digital isolator (no isolation between inputs)
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	No supply	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 1.25 W max. Connected to a Communications Coupler Unit 0.90 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	Terminal block Input1+ to 2+		I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communications Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Input1- Input2-  AG AG  NC NC	nput + nput – ed to 0 V of analog circuit inside the U re AG terminal normally.	nit.
Input disconnection detection	Supported.		

### Analog Input Unit (current input type) 2 points NX-AD2208

Unit name	Analog Input Unit (current input type)	Model	NX-AD2208		
Number of points	2 points	External connection	Screwless clamping terminal block (8		
	•	terminals	terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing  TS indicator Input method Differential Input				
	AD2208	Input method Input range	Differential Input 4 to 20 mA		
	■TS	Input conversion range	-5 to 105% (full scale)		
		Absolute maximum	, ,		
		rating	±30 mA		
Indicator		Input impedance	250 Ω		
		Resolution	1/30000 (full scale)		
		Overall 25°C	±0.1% (full scale)		
		accuracy 0 to 55°C	±0.2% (full scale)		
		Conversion time	10 μs/point		
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)		
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	No supply	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 1.25 W max. Connected to a Communications Coupler Unit 0.90 W max.	I/O current consumption	No consumption		
Weight	70 g max.				
Circuit layout	Terminal block Input1+ to 2+  Input1- to 2-  AG  NX bus connector (left)  I/O power supply +  I/O power supply -		log circuit rnal GND  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	Input1- Input2-  AG AG  NC NC	nput + nput – d to 0 V of analog circuit inside the U re AG terminal normally.	nit.		
Input disconnection detection	Supported.				

### Analog Input Unit (current input type) 4 points NX-AD3203

Unit name	Analog Input Unit (current input type)	Model	NX-AD3203
		External connection	Screwless clamping terminal block (12
Number of points	4 points	terminals	terminals)
I/O refreshing method	Free-Run refreshing	In must meather at	Cinale and adding at
	TS indicator AD3203	Input method Input range	Single-ended input 4 to 20 mA
	AD3203 ■TS	Input conversion range	-5 to 105% (full scale)
		Absolute maximum	, ,
		rating	±30 mA
Indicator		Input impedance	250 $\Omega$ min.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.2% (full scale)
		accuracy 0 to 55°C	±0.4% (full scale)
		Conversion time	250 μs/point
<b>.</b>	10 (11) 100 (11) 71 (7)		Between the input and the NX bus: Power
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	= Transformer, Signal = Digital isolator (no isolation between inputs)
	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	Supply from the NX bus	Current capacity of I/O	IOV: 0.1 A/terminal max.,
method	117	power supply terminal	IOG: 0.1 A/terminal max.
	Connected to a CPU Unit or Communication Control Unit		
NX Unit power	1.25 W max.	I/O current consumption	No consumption
consumption	Connected to a Communications     Coupler Unit	" o carront concamption	The concumption
	0.90 W max.		
Weight	70 g max.		
Circuit layout	Terminal block Input1+ to 4+  IOG  NX bus connector (left)  I/O power supply +  I/O power supply -	AMP 250 Ω  AG  AG: Analog circuit inte	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	er Unit: Possible in 6 orienta	
Terminal connection diagram	Additional I/O Power Supply Unit  A1 B1  O IOV IOV  IOV IOV  IOG IOG  A8 B8	Current Input Unit NX-AD3203  A1  Input1+ Input2+  IOV IOV  IOG IOG  Input3+ Input4+  IOV IOV  IOG IOG  A8  B8	Input + 24 V (Sensor power supply +) 0 V (Sensor power supply - / Input -) vire sensor
Input disconnection detection	Supported.		

### Analog Input Unit (current input type) 4 points NX-AD3204

Unit name	Analog Input Unit (current input type)	Model	NX-AD3204
Number of points	4 points	External connection	Screwless clamping terminal block (12
•	•	terminals	terminals)
I/O refreshing method	Free-Run refreshing TS indicator	Input method	Differential Input
	AD3204	Input range	4 to 20 mA
	■TS	Input conversion range	-5 to 105% (full scale)
		Absolute maximum rating	±30 mA
Indicator		Input impedance	250 Ω min.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.2% (full scale)
		accuracy 0 to 55°C	±0.4% (full scale)
		Conversion time	250 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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	No supply	Current capacity of I/O power supply terminal	Without I/O power supply terminals
NX Unit power consumption	<ul> <li>Connected to a CPU Unit or Communication Control Unit 1.25 W max.</li> <li>Connected to a Communications Coupler Unit 0.90 W max.</li> </ul>	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	Terminal block Input1+ to 4+  AG  NX bus connector (left)  I/O power supply +  I/O power supply -	AMP 510 KΩ S 510 KΩ  AG: Analinteri	og circuit nal GND  I/O power supply + NX bus connector I/O power supply - (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	Input1- Input2- Input3+ Input4+ Input3- Input4- AG AG AG AG AG AG	nput + nput – d to 0 V of analog circuit inside the Ur e AG terminal normally.	nit.
Input disconnection detection	Supported.		

### Analog Input Unit (current input type) 4 points NX-AD3208

Unit name	Analog Input Unit (current input type)	Model	NX-AD3208	
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)	
I/O refreshing method	Selectable Synchronous I/O refreshing or Free-Run refreshing			
	TS indicator	Input method	Differential Input	
	AD3208 ■TS	Input range	4 to 20 mA	
		Input conversion range	-5 to 105% (full scale)	
Indicator		Absolute maximum rating	±30 mA	
		Input impedance	250 Ω min.	
		Resolution Overall 25°C	1/30000 (full scale) ±0.1% (full scale)	
		Overall 25°C accuracy 0 to 55°C	±0.1% (full scale)	
		Conversion time	10 μs/point	
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)	
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	No supply	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 1.30 W max. Connected to a Communications Coupler Unit 0.95 W max.	I/O current consumption	No consumption	
Weight	70 g max.			
Circuit layout	Terminal block Input1+ to 4+    AG  NX bus connector (left)  I/O power supply +    I/O power supply −		log circuit rnal GND  I/O power supply +  I/O power supply -  I/O power supply -	
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions			
Terminal connection diagram	Input1- Input2- Input3+ Input4+ Input3- Input4- AG AG AG AG AG AG	nput + nput – d to 0 V of analog circuit inside the U re AG terminal normally.	init.	
Input disconnection detection	Supported.			

### Analog Input Unit (current input type) 8 points NX-AD4203

Unit name	Analog Input Unit (current input type)	Model	NX-AD4203
Number of points	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Input method	Single-ended input
	AD4203	Input range	4 to 20 mA
	-13	Input conversion range	-5 to 105% (full scale)
Indicator		Absolute maximum rating	±30 mA
indicator		Input impedance	85 Ω
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.2% (full scale)
		accuracy 0 to 55°C	±0.4% (full scale)
		Conversion time	250 µs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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 1.40 W max. Connected to a Communications Coupler Unit 1.05 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	Terminal block Input1+ to 8+  NX bus connector (left)  I/O power supply +	AG: Analog circuit inte	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	B1 A1 B1 Input1+ Input2+ Input3+ Input4+ Input4+	Input +  24 V (Sensor power supply +) 0 V (Sensor power supply – / Input –)  ree-wire Sensor
Input disconnection detection	Supported.		

### Analog Input Unit (current input type) 8 points NX-AD4204

Unit name	Analog Input Unit (ourrent input type)	Model		NV AD4204
Unit name	Analog Input Unit (current input type)	Model External conne	oction	NX-AD4204 Screwless clamping terminal block (16
Number of points	8 points	terminals	ection	terminals)
I/O refreshing method	Free-Run refreshing	I		Differential lands
	TS indicator AD4203	Input method		Differential Input 4 to 20 mA
	AD4203 ■TS	Input conversi	ion rongo	
		Absolute maxi		-5 to 105% (full scale) ±30 mA
Indicator		rating		
		Input impedan	ice	85 Ω
		Resolution Overall 25°	·C	1/8000 (full scale) ±0.2% (full scale)
		Overan	55°C	±0.4% (full scale)
		Conversion tir		250 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation meth		Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
Insulation resistance	20 M $\Omega$ min. between isolated circuits (at 100 VDC)	Dielectric stre	ngth	510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.
I/O power supply method	No supply	Current capac power supply		Without I/O power supply terminals
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.40 W max.     Connected to a Communications Coupler Unit 1.05 W max.	I/O current cor	nsumption	No consumption
Weight	70 g max.			
Circuit layout	Terminal block Input1+ to 8+	510 ΚΩ \$510 ΚΩ	AG: Analo	l/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		nput + nput –		
Input disconnection detection	Supported.			

### Analog Input Unit (current input type) 8 points NX-AD4208

Unit name	Analog Input Unit (current input type)	Model	NX-AD4208
Number of points	8 points	External connection	Screwless clamping terminal block (16
I/O refreshing method	Selectable Synchronous I/O refreshing or I	terminals	terminals)
WO TETTESTINING INICATION	TS indicator	Input method	Differential Input
	AD4208	Input range	4 to 20 mA
	■TS	Input conversion range	-5 to 105% (full scale)
		Absolute maximum	` '
		rating	±30 mA
Indicator		Input impedance	85 Ω
		Resolution	1/30000 (full scale)
		Overall 25°C	±0.1% (full scale)
		accuracy 0 to 55°C	±0.2% (full scale)
		Conversion time	10 μs/point
			Between the input and the NX bus: Power
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	= Transformer, Signal = Digital isolator (no
	20 MO min had a serial at a fair the fair		isolation between inputs)
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	,	Current capacity of I/O	<u> </u>
method	No supply	power supply terminal	Without I/O power supply terminals
	Connected to a CPU Unit or		
	Communication Control Unit		
NX Unit power consumption	<ul><li>1.45 W max.</li><li>Connected to a Communications</li></ul>	I/O current consumption	No consumption
consumption	Coupler Unit		·
	1.10 W max.		
Weight	70 g max.		
Circuit layout	Terminal block Input1+ to 8+  Input1- to 8-  NX bus connector (left)  I/O power supply -		log circuit nal GND  I/O power supply +  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	Input1- Input2- Input3+ Input4+ Input3- Input4- Input5+ Input6+ Input5- Input6- Input7+ Input8+ Input7- Input8- A8 B8	Input + Input –	
detection	Supported.		

### **Analog Output Unit Specifications**

### Analog Output Unit (voltage output type) 2 points NX-DA2603

Unit name	Analog Output Unit (voltage output type)	Model	NX-DA2603
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator DA2603  TS	Output range Output conversion range	-10 to +10 V -5 to 105% (full scale)
		Allowable load resistance	5 kΩ min.
Indicator		Output impedance	0.5 Ω max.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.3% (full scale)
		accuracy 0 to 55°C	±0.5% (full scale)
		Conversion time	250 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.40 W max. Connected to a Communications Coupler Unit 1.10 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)  NX bus connector (left)	AMP (0)	Output V1+ to V2+  IOG  I/O power supply +  I/O power supply -  I/O power supply -
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  IOO IOV  IOV IOV  IOG IOG  A8 B8 A8	Voltage Output Unit NX-DA2603  V1+ V2+  IOV IOV  IOG IOG  NC NC  B8  B8	Voltage output + Voltage output –

### Analog Output Unit (voltage output type) 2 points NX-DA2605

Unit name	Analog Output Unit (voltage output type)	Model	NX-DA2605
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or I	ree-Run refreshing	
	TS indicator	Output range	-10 to +10 V
	DA2605 ■TS	Output conversion range	-5 to 105% (full scale)
		Allowable load resistance	5 k $Ω$ min.
Indicator		Output impedance	0.5 Ω max.
		Resolution	1/30000 (full scale)
		Overall 25°C	±0.1% (full scale)
		accuracy 0 to 55°C	±0.3% (full scale)
		Conversion time	10 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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 1.40 W max. Connected to a Communications Coupler Unit 1.10 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)  I/O power supply -	AMP 00 wit internal GND AG	Output V1+ to V2+  IOG  I/O power supply +  I/O power supply -  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communic.  Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	elov lov  elog log  lov lov  log log  log log	Voltage Output Unit NX-DA2605  A B1 V1+ V2+ IOV IOV IOG IOG NC NC A6 B8	Voltage output +  Voltage output -

### Analog Output Unit (voltage output type) 4 points NX-DA3603

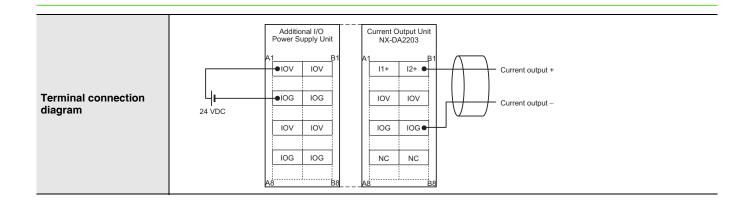
Unit name	Analog Output Unit (voltage output type)	Model	NX-DA3603
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Output range	-10 to +10 V
	DA3603 ■TS	Output conversion range	-5 to 105% (full scale)
		Allowable load resistance	5 k $Ω$ min.
Indicator		Output impedance	0.5 Ω max.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.3% (full scale)
		accuracy 0 to 55°C	±0.5% (full scale)
		Conversion time	250 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.35 W max. Connected to a Communications Coupler Unit 1.25 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	NX bus connector (left) I/O power supply +	AMP W	Output V1+ to V4+  IOG  I/O power supply +  I/O power supply -  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation:		
Terminal connection diagram	Additional I/O Power Supply Unit  A1  IOV IOV  IOV IOV  IOG IOG  IOG IOG  A8  B8	Voltage Output Unit NX-DA3603  A1	Voltage output +  Voltage output –

### Analog Output Unit (voltage output type) 4 points NX-DA3605

Unit name	Analog Output Unit (voltage output type)	Model	NX-DA3605
Number of points	4 points	External connection	Screwless clamping terminal block (12
I/O refreshing method	Selectable Synchronous I/O refreshing or F	terminals	terminals)
70 reneshing method	TS indicator	Output range	-10 to +10 V
	DA3605	Output conversion range	-5 to 105% (full scale)
		Allowable load resistance	5 kΩ min.
Indicator		Output impedance	0.5 Ω max.
		Resolution	1/30000 (full scale)
		Overall 25°C	±0.1% (full scale)
		accuracy 0 to 55°C	±0.3% (full scale)
		Conversion time	10 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 1.60 W max. Connected to a Communications Coupler Unit 1.25 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus convector (left)  NX bus convector (left)  NX bus convector (left)	alit internal GND AG	Output V1+ to V4+  IOG  I/O power supply +  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communications Connected to a Communications Couple Restrictions: No restrictions		
Terminal connection diagram	Additional I/O Power Supply Unit  A1  OIOV IOV  IOV  IOV  IOG IOG  A8  B8	Voltage Output Unit NX-DA3605  11	Voltage output + Voltage output –

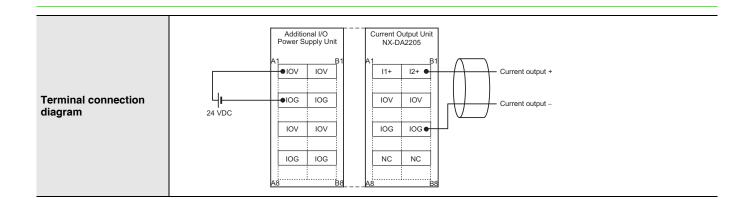
### Analog Output Unit (current output type) 2 points NX-DA2203

Unit name	Analog Output Unit (current output type)	Model	NX-DA2203
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Output range	4 to 20 mA
	DA2203 ■TS	Output conversion range	-5 to 105% (full scale)
Indicator		Allowable load resistance	600 Ω min.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.3% (full scale)
		accuracy 0 to 55°C	±0.6% (full scale)
		Conversion time	250 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 2.10 W max. Connected to a Communications Coupler Unit 1.75 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)  NX bus connector (left)	amp wit internal GND AG	Output I1+ to I2+  IOG  I/O power supply +  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation:  • Connected to a CPU Unit or Communic • Connected to a Communications Coupl Restrictions: For upright installation: No restrictions For any installation other than upright: Res	er Unit: Possible in 6 orienta	ations.



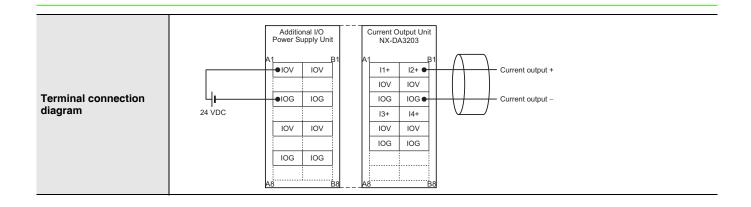
### Analog Output Unit (current output type) 2 points NX-DA2205

Unit name	Analog Output Unit (current output type)	Model	NX-DA2205
Number of points	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or I	ree-Run refreshing	
	TS indicator	Output range	4 to 20 mA
	DA2205 ■™	Output conversion range	-5 to 105% (full scale)
Indicator		Allowable load resistance	600 $Ω$ min.
		Resolution	1/30000 (full scale)
		Overall 25°C	±0.1% (full scale)
		accuracy 0 to 55°C	±0.3% (full scale)
		Conversion time	10 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 2.10 W max. Connected to a Communications Coupler Unit 1.75 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)  NX bus connector (left)	auit internal GND AG	Output I1+ to I2+  IOG  I/O power supply +  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation:  • Connected to a CPU Unit or Communic.  • Connected to a Communications Couple Restrictions:  For upright installation: No restrictions  For any installation other than upright: Res	tricted as shown in the grap  Use  40 55 (°C)	tions.



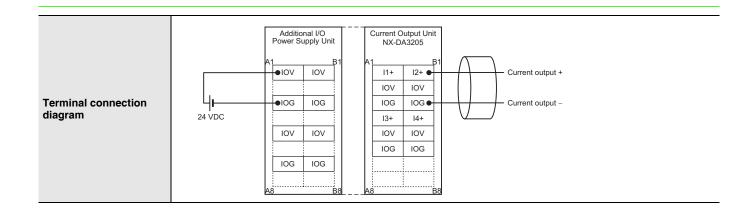
### Analog Output Unit (current output type) 4 points NX-DA3203

Unit name	Analog Output Unit (current output type)	Model	NX-DA3203
Number of points	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Output range	4 to 20 mA
	DA3203 ■TS	Output conversion range	-5 to 105% (full scale)
Indicator		Allowable load resistance	350 $Ω$ min.
		Resolution	1/8000 (full scale)
		Overall 25°C	±0.3% (full scale)
		accuracy 0 to 55°C	±0.6% (full scale)
		Conversion time	250 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 2.10 W max. Connected to a Communications Coupler Unit 1.80 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)  NX bus connector (left)	internal GND AG	Output I1+ to I4+  IOG  I/O power supply +  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation:  • Connected to a CPU Unit or Communic  • Connected to a Communications Coupl Restrictions: For upright installation: No restrictions For any installation other than upright: Res	er Unit: Possible in 6 oriental stricted as shown in the grap  Use i	ttions.



### Analog Output Unit (current output type) 4 points NX-DA3205

Unit name	Analog Output Unit (current output type)	Model	NX-DA3205
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	Output range	4 to 20 mA
	DA3205	Output conversion range	-5 to 105% (full scale)
Indicator		Allowable load resistance	$350~\Omega$ min.
		Resolution	1/30000 (full scale)
		Overall 25°C	±0.1% (full scale)
		accuracy 0 to 55°C	±0.3% (full scale)
		Conversion time	10 μs/point
Dimensions	12 (W) x 100 (H) x 71 (D)	Isolation method	Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)
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., IOG: 0.1 A/terminal max.
NX Unit power consumption	Connected to a CPU Unit or Communication Control Unit 2.10 W max. Connected to a Communications Coupler Unit 1.80 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	NX bus connector (left)  NX bus connector (left)  NX bus connector (left)	aMP (0)	Output I1+ to I4+  IOG  I/O power supply +  I/O power supply -  I/O power supply -
Installation orientation and restrictions	Installation orientation:  Connected to a CPU Unit or Communications Couple Restrictions:  For upright installation: No restrictions  For any installation other than upright: Res	tricted as shown in the grap  Use it within the state of	tions. The below.



#### **Version Information**

#### Connected to a CPU Unit

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

NX Unit		Corresponding unit versions/versions	
Model	Unit version	CPU Unit	Sysmac Studio
NX-AD	Ver.1.0	Ver.1.13	Ver.1.17

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

#### Connected to an EtherCAT Coupler Unit

N	NX Unit	Corre	esponding unit versions/versions			
Model Unit version		EtherCAT Coupler Unit	CPU Unit or Industrial PC	Sysmac Studio		
NX-AD	Ver.1.0	Ver.1.0	Ver.1.05	Ver.1.06		

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

#### Connected to an EtherNet/IP Coupler Unit

NX Uni	t	Corresponding unit versions/versions					
		Application with a	an NJ/NX/NY-serie	es Controller *1	ntroller *1 Application with a CS/CJ/CP-series PLC *2		
Model	Unit version	EtherNet/IP CPU Unit or Sysmac Coupler Unit Industrial PC Studio		EtherNet/IP Coupler Unit	Sysmac Studio	NX-IO Configurator *3	
NX-AD	Ver. 1.0	Ver. 1.2	Ver. 1.14	Ver. 1.19	Ver. 1.0	Ver. 1.10	Ver. 1.00

Note: 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.

- \*1 Refer to the user's manual for the EtherNet/IP Coupler Units for information on the unit versions of EtherNet/IP Units that are compatible with EtherNet/IP Coupler Units.
- \*2 Refer to the user's manual for the EtherNet/IP Coupler Units for information on the unit versions of CPU Units and EtherNet/IP Units that are compatible with EtherNet/IP Coupler Units.
- \*3 For connection to an EtherNet/IP Coupler Unit with unit version 1.0, connection is supported only for a connection to the peripheral USB port on the EtherNet/IP Coupler Unit. You cannot connect by any other path. If you need to connect by another path, use an EtherNet/IP Coupler Unit with unit version 1.2 or later.

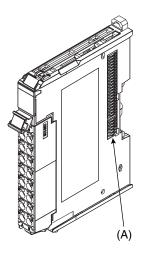
#### **Connected to Communication Control Units**

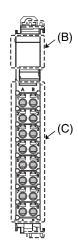
	NX Unit	Corresponding unit versions/versions		
Model Unit version		Communication Control Unit	Sysmac Studio	
NX-AD	Ver.1.0	Ver.1.00	Ver.1.24	

Note: 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**

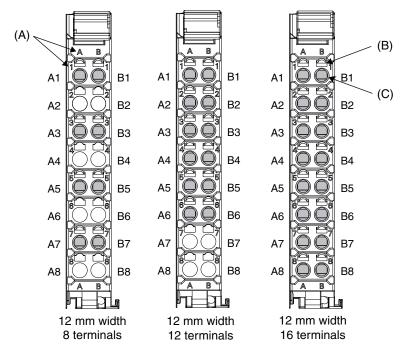
## Screwless Clamping Terminal Block Type 12 mm Width





Letter	Item	Specification	
(A)	NX bus connector	This connector is used to connect to another Unit.	
(B)	Indicators	The indicators show the current operating status of the Unit.	
(C)	Terminal block	The terminal block is used to connect to external devices. The number of terminals depends on the Unit.	

#### **Terminal Blocks**



Letter	Item	Specification
(A)	Terminal number indication	The terminal number is identified by a column (A through D) and a row (1 through 8).  Therefore, terminal numbers are written as a combination of columns and rows, A1 through A8 and B1 through B8.  The terminal number indication is the same regardless of the number of terminals on the terminal block.
(B)	Release hole	A flat-blade screwdriver is inserted here to attach and remove the wiring.
(C)	Terminal hole	The wires are inserted into these holes.

#### **Applicable Terminal Blocks for Each Unit Model**

	Terminal Blocks						
Unit model	Model	No. of terminals	Terminal number indications	Ground terminal mark	Terminal current capacity		
NX-AD2□□□	NX-TBA082	8	A/B	None	10 A		
NX-AD3□□□	NX-TBA122	12	A/B	None	10 A		
NX-AD4□□□	NX-TBA162	16	A/B	None	10 A		
NX-DA2□□□	NX-TBA082	8	A/B	None	10 A		
NX-DA3□□□	NX-TBA122	12	A/B	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.

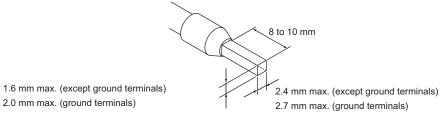
The applicable ferrules, wires, and crimping tool are given in the following table.

Terminal type	Manufacturer	Ferrule model	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)
terriirais		AI0,5-10		
		AI0,75-8	0.75 (#18)	
		AI0,75-10		
		AI1,0-8	1.0 (#18)	
		AI1,0-10		
		AI1,5-8	1.5 (#16)	
		Al1,5-10		
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 mm², AWG 26 to 10)
terminais		H0.34/12	0.34 (#22)	
		H0.5/14	0.5 (#20)	
		H0.5/16	1	
		H0.75/14	0.75 (#18)	
		H0.75/16	1	
		H1.0/14	1.0 (#18)	
		H1.0/16	1	
		H1.5/14	1.5 (#16)	
		H1.5/16		

<sup>\*</sup> Some AWG 14 wires exceed 2.0 mm<sup>2</sup> 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



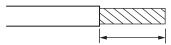
#### **Using Twisted Wires/Solid Wires**

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

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



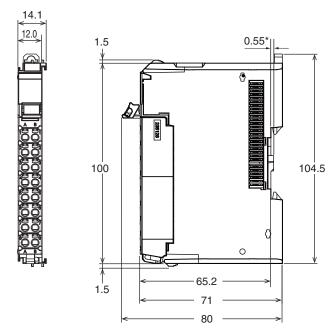
Conductor length (stripping length)

<sup>&</sup>lt; Additional Information > If more than 2 A will flow on the wires, use plated wires or use ferrules.

**Dimensions** (Unit/mm)

### **Screwless Clamping Terminal Block Type**

12 mm Width



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

#### **Related Manual**

Cat. No.	Model number	Manual name	Application	Description
W522	NX-AD	NX-series Analog I/O Units User's Manual for Analog Input Units and Analog Output Units		The hardware, setup methods, and functions of the NX-series Analog Input Units and Analog Output Units are described.

#### Terms and Conditions Agreement

#### Read and understand this catalog.

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- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
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