# NX-series Analog Input Unit

## Analog Inputs to meet all machine control needs; from generalpurpose inputs to high-speed synchronous, high-resolution units

- Analog Input 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.
- Separate modules for voltage- and current inputs.



#### Features

- Up to eight analog inputs per unit.
- Free-run refreshing or synchronous I/O refreshing can be selected using the NX-series EtherCAT Coupler.
- Input update cycles of 10µs per channel, and a resolution of 1/30000, ideal for high-speed measurement and, high-precision control.
- All basic models are available as single-ended and differential-input types.
- The screwless terminal block is detachable for easy commissioning and maintenance.
- Screwless push-in terminal block significantly reduces wiring work.
- All models are just 12 mm wide, saving space in your cabinet.

## System Configuration



\* OMRON CJ1W-NC 81/282 Position Control Units cannot be connected to the EtherCAT Slave Terminal even though they support EtherCAT.

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## **Ordering Information**

#### **International Standards**

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

#### **Analog Input Unit**

						Specifica	tion			-			
Unit type	Product Name	Capacity	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	NX Unit power consum ption	Model	Stand ards
					-4000 to	±0.2%	Single- ended input	250 μs/		Free-Run	1.05W max.	NX-AD2603	
				1/8000	4000	(full scale)	Differential Input	point		refreshing	1.05W max.	NX-AD2604	1
		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	1.05W max.	NX-AD2608	
	Voltage Input				-4000 to	±0.2%	Single- ended input	250 μs/	-	Free-Run	1.10W max.	NX-AD3603	
	Unit		-10 to	1/8000	4000	(full scale)	Differential Input	point		refreshing	1.10W max.	NX-AD3604	
		4 points	+10V	1/30000	-15000 to 15000	±0.1% (full scale)	Differential Input	10 μs/ point	1MΩ min.	Selectable Synchronous I/O refreshing or Free-Run refreshing	max.         NX-AD           1.10W         NX-AD           1.10W         NX-AD           1.10W         NX-AD           1.15W         NX-AD           1.15W         NX-AD           1.15W         NX-AD           1.15W         NX-AD           0.90W         NX-AD           0.90W         NX-AD           0.90W         NX-AD	NX-AD3608	
				1/0000	-4000 to	±0.2%	Single- ended input	250 μs/	-	Free-Run		NX-AD4603	
				1/8000	4000	(full scale)	Differential Input	point		refreshing		NX-AD4604	
NX Series		8 points		1/30000	-15000 to 15000	±0.1% (full scale)	Differential Input	10 μs/ point		Selectable Synchronous I/O refreshing or Free-Run refreshing	-	1.15W NX-AD4608	
Analog Input Unit			t/2000 0.4- 2000 ±0.2% Single- ended input 250 μs/	Free-Run		NX-AD2203	CE, KC						
•				1/8000	0 to 8000	(full scale)	Differential Input	point		refreshing	0.90W max.	NX-AD2204	_
		2 points		1/30000	0 to 30000	±0.1% (full scale)	Differential Input	10 μs/ point	2500	Selectable Synchronous I/O refreshing or Free-Run refreshing	Selectable Synchronous I/O refreshing or Free-Run	NX-AD2208	
	Current Input Unit			1/0000	0.4- 0000	±0.2%	Single- ended input	250 μs/	250Ω	Free-Run	0.90W max.	NX-AD3203	
	onit		4 to	1/8000	0 to 8000	(full scale)	Differential Input	point		refreshing	0.90W max.	NX-AD3204	-
		4 points     20mA       1/30000     0 to 30000       ±0.1%     Differential (full scale)       Input     10 μs/ point	Selectable Synchronous I/O refreshing or Free-Run refreshing	0.95W max.	NX-AD3208	-							
				1/0000	0.1.0000	±0.2%	Single- ended input	250 μs/		Free-Run	1.05W max.	NX-AD4203	_
			1/8000	1/8000	00 0 to 8000	(full scale)	Differential Input	point		refreshing	1.05W max.	NX-AD4204	
		8 points		1/30000	0 to 30000	±0.1% (full scale)	Differential Input	10 μs/ point	85Ω	Selectable Synchronous I/O refreshing or Free-Run refreshing	1.10W max.	NX-AD4208	

### Option

Product Name		Specification				Standards
Unit/Terminal Block Coding Pins	For 10 Units (Terminal Block: 30 pins, Unit: 30 pins)				NX-AUX02	
		Specif	ication			
Product Name	No. of terminals	Terminal number indications	Ground terminal mark	Terminal current capacity	Model	Standards
	8				NX-TBA082	
Terminal Block	12	A/B	None	10 A	NX-TBA122	
	16				NX-TBA162	

#### Accessories

Not included.

## **General Specification**

	Item	Specification			
Enclosure		Mounted in a panel			
Grounding 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/s <sup>2</sup> , 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/s <sup>2</sup> , 3 times each in X, Y, and Z directions			
Applicable sta	andards	cULus: Listed UL508 and ANSI/ISA 12.12.01 EC: EN 61131-2 and C-Tick, KC Registration, NK, LR			

## 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
Capacity	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Input method	Single-ended input
	AD2603	Input range	-10 to +10 V
	■TS	Input conversion range	-5 to 105% (full scale)
le dia atau		Absolute maximum rating	±15 V
Indicator		Input impedance	1 M $\Omega$ 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 $M\Omega$ 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	1.05 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	Terminal block INV Input1+ to 2+	AG AG: Analog circuit in	I/O power supply + NX bus Connector I/O power supply – (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 orient Restrictions: No restrictions	ations.	
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 I OV IOV 24 VDC A8 B8	IOG IOG● NC NC	Input + 24 V (Sensor power supply +) 0 V (Sensor power supply – / Input –) 3-wire sensor
Input disconnection detection	Not supported.		

Unit name	Analog Input Unit (voltage input type)	Model	NX-AD2604		
		External connection	Screwless clamping terminal block (8		
Capacity	2 points	terminals	terminals)		
I/O refreshing method	Free-Run refreshing				
	TS indicator	Input method	Differential Input		
	AD2604	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	$\pm 0.2\%$ (full scale)		
		accuracy 0 to 55°C	$\pm 0.4\%$ (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	1.05 W max.	I/O current consumption	No consumption		
Weight	70 g max.				
Circuit layout	Terminal block Input1+ to 2+ AG AG AG AG AG AG AG AG AG AG				
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.			
Terminal connection diagram	Voltage Input Unit NX-AD2604 1 Input1+ Input2+ Input1- Input2- AG AG 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 detection	Not supported.				

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

Unit name       Analog input (unit (voltage input type)       Model External connection terminals       NXAD2608 (streminals)         VO refreshing method       2 points       External connection terminals)       External connection terminals)       Differential input input method       Differential input input method       Differential input input method         Indicator       TS indicator       AD2608 TS indicator       Input method       Differential input input maximum rating       at 5 V         Indicator       25 C       40.1% (full scale)       at 5 V       at 5 V         Input method       10 weaks       10 weaks       accale)       at 5 V         Dimensions       12 (W) x 100 (H) x 71 (D)       Isolation method       Between the input and the NX bus: Power isolation between isolated circuits (at 10 webod       Dielectric strength       Between the input and the NX bus: Power isolation between isolated circuits (at 10 webod       Dielectric strength       Without I/O power supply terminals         NX Unit power consumption       10.5 W max.       U/O current cospacity of U/O power supply terminals       Without I/O power supply terminals         N2 thint power consumption       105 w max.       U/O current cospacity of U/O power supply terminals       Without I/O power supply terminals         N2 thint power consumption       100 power supply terminals       Input method       No consumption         No cons	Capacity 2 pc I/O refreshing method Sele TS	points	External connection			
Capacity       2 points       terminals       terminals         I/O refreshing method       Selectable Synchronous I/O refreshing or Free-Run refreshing       Input method       Differential input         Indicator       AD2000       10 to +10 V       Input method       Differential input         Indicator       AD2000       10 to +10 V       AD2000         Indicator       AD2000       10 to +10 V       AD3000 (full scale)         Absolute maximum rating       ±15 V       Input impedance       1 Mix min.         Resolution       173 (full scale)       Absolute maximum rating       ±15 V         Dimensions       12 (M) x 100 (H) x 71 (D)       Isolation method       Between the Picipial solator         Insulation resistance       20 M2 min. between isolated circuits (at biotectric strength       Mix but I/O power supply       Mixbut I/O power supply terminals         NX Unit power consumption       1.05 W max.       I/O current consumption       No consumption         NX Unit power consumption       1.05 W max.       I/O current consumption       No consumption         No consumption       1.05 W max.       I/O current consumption       No consumption         No consumption       1.05 W max.       I/O current consumption       No consumption         No consumption       0.0 power supply </th <th>I/O refreshing method Sele</th> <th>DOINTS</th> <th></th> <th></th>	I/O refreshing method Sele	DOINTS				
Indicator       Input method       Differential Input         Input method       Differential Input         Input mage       -10 to +10 V         Input mage       -5 to 105% (full scale)         Absolute maximum       ±15 V         Input impedance       I MQ min.         Resolution       1/30000 (full scale)         Overall       25°C         20 X0 xmin.       25°C         Besolution resistance       20 MQ min. between isolated circuits (at method         Dimensions       12 (W) x 100 (H) x 71 (D)         Insulation resistance       20 MQ min. between isolated circuits (at method         20 MQ min. between isolated circuits (at method       Deleteritic strength         Mo ovDC)       Current capacity of MQ min.         No supply       Current capacity of MQ min.         No supply       Current capacity of MQ min.         No consumption       1.05 W max.         Weight       70 g max.         Terminal connection       Installation orientation: Possible in 6 orientations.         Restrictions: No restrictions:       No consumption         Installation orientation       No consumption         Installation orientation       Acc Analog circuit internal GND         Installation orientation       No consumption <th>TS</th> <th></th> <th></th> <th></th>	TS					
Indicator       Input range       -10 to 10 V         Input conversion range       -5 to 105%. (full scale)         Absolute maximum       =15 V         Input impedance       1 M2 min.         Resolution       1 / 30000 (full scale)         Overall       25°C         accuracy       25°C         Overall       200% (full scale)         Conversion time       10 µs/point         Between the input and the NX bus: Power       - Transformer, Signal - Digital isolator (no isolator foruits for 1 minute at a leakage current of 5 mA max.         Op over supply       No supply       Current capacity of 100         No supply       No supply       Current capacity of 100 power supply terminals         NX Unit power       1.05 W max.       100 current consumption         No consumption       1.05 W max.       100 power supply terminals         NV Unit power       1.05 W max.       100 power supply = 100 power sup			÷	<b></b>		
Indicator       Imput conversion range       -5 to 105% (full scale)         Absolute maximum       ±15 V         Input impedance       1 Mix min.         Participation       1/30000 (full scale)         Overall       25° C         accurrey       0 to 5° C         Overall       25° C         accurrey       0 to 5° C         Owersupply       0 to 5° C         Dimensions       12 (W) x 100 (H) x 71 (D)         Isolation resistance       20 Mix min. between isolated circuits (at 100 VbC)         Insulation resistance       20 Mix min. between isolated circuits (at 100 VbC)         VO power supply       No supply         Ourrent capacity of <i>VC</i> Without I/O power supply terminals         NX Unit power       1.05 W max.       VO current consumption         No consumption       1.05 W max.       VO current consumption         Veight       70 g max.       Imput the over supply terminals         Installation orientation:       Possible in 6 orientations.       Power supply         Installation orientation:       Possible in 6 orientations.       Power supply         Installation orientation:       Possible in 6 orientations.       Power supply         Installation orientation       Ac Achaeting strain fise find the find.				-		
Indicator     Absolute maximum     ±15 V       Input impedance     1 MΩ min.       Resolution     1730000 (full scale)       Overall     25°C     ±0.1% (full scale)       Overall     25°C     ±0.2% (full scale)       Coversion time     10 µspoint       Dimensions     12 (M) x 100 (H) x 71 (D)     Isolation method       Insulation resistance     20 MQ min. between isolated circuits (at 100 left) x 71 (D)     Isolation method       Insulation resistance     20 MQ min. between isolated circuits (at 100 left) x 71 (D)     Dielectric strength     510 VAC between isolated circuits for 1 mule at a leakage current of 5 mA max.       VO power supply     No supply     Current capacity of I/O power supply terminals     Without I/O power supply terminals       NV Unit power consumption     1.05 W max.     V/O current consumption     No consumption       Vo g max.     Termatibula     Input + to 2+     \$10 VAC between usele +       Installation orientation     Installation orientation:     No consumption     No consumption       No tag     I/O power supply     I/O power supply +     I/V power supply +     I/V power supply +       Installation orientation     Installation orientation:     Possible in 6 orientations.       Restrictions     Installation orientation:     Restrictions:       Installation orientation     Installation orientat		■TS				
Indicator       rating       115 V         Input impedance       1 M2 min.       1         Resolution       1 30000 (full scale)       25°C       40.2% (full scale)         Overall       25°C       40.2% (full scale)       25°C       40.2% (full scale)         Coversion time       10 µs/point       10 µs/point       10 µs/point         Insulation resistance       20 M2 min. between isolated circuits (at 100 VPC)       Dielectric strength       510 VAC between isolated circuits for 1 minute at a leakage current of 30 mA max.         I/O power supply       No supply       Current capacity of I/O power supply terminals       Without I/O power supply terminals         NX Unit power       1.05 W max.       I/O current consumption       No consumption       No consumption         Vib termination       100 power supply = 100 power supp		-		-5 to 105% (full scale)		
Input impedance     Introduction       Resculture     1/30000 (full scale)       Overall accuracy     25°C     ±0.1% (full scale)       Dimensions     12 (W) x 100 (H) x 71 (D)     Isolation method     Between the input and the NX bus: Power signal isolator (no isolation between inputs)       Insulation resistance     20 M2 min. between isolated circuits (at 00 VDC)     Dielectric strength     510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.       VO power supply     No supply     Current capacity of I/O power supply terminals     Without I/O power supply terminals       NX Unit power of 00 VDC)     1.05 W max.     I/O current consumption     No consumption       Weight     70 g max.     Imput-to 2-     Imput-to 2-       Installation orientation     Installation orientation: Possible in 6 orientations.     NO power supply -       Installation orientation     Installation orientation: Possible in 6 orientations.       Restrictions: No restrictions     Restrictions: No restrictions	la dia star			±15 V		
Overall accuracy         28°C (10 55°C)         ±0.1% (full scale)           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 MQ min. between isolated circuits (at IVO power supply         Delectric strength         510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.           V/O power supply method         No supply         Current capacity of VO power supply terminals         Without I/O power supply terminals           NX Unit power consumption         1.05 W max.         VO current consumption         No consumption           Vio g max.         70 g max.         VO power supply terminals         No consumption           Without I/O power supply = (if)         U/O power supply = (if)         (if) (if) (if) (if) (if) (if) (if) (if)	Indicator		Input impedance	1 MΩ min.		
accuracy         0 to 55°C         ±0.2% (full scale)           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 M2 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.           VO power supply method         No supply         Current capacity of VO power supply terminals         Without I/O power supply terminals           NX Unit power consumption         1.05 W max.         I/O current consumption         No consumption           Veight         70 g max.         Imput + to 2+			Resolution	1/30000 (full scale)		
Conversion time         10 µspoint           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 MG min. between isolated circuits (at 100 VDC)         Dielectric strength         510 VAC between isolated circuits for 1 minute at a leakage current of 5 m M 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         1.05 W max.         I/O current consumption         No consumption           Veight         70 g max.         Terminated to find the second NU tage (Input1 + to 2+ (Input1 + to 2+ (Input + to			Overall 25°C	±0.1% (full scale)		
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 MΩ min. between isolated circuits (at 100 VDC)     Delectric strength     510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.       VD power supply method     No supply     Current capacity of VO power supply terminal     Without I/O power supply terminals       NX Unit power consumption     1.05 W max.     VO current consumption     No consumption       Weight     70 g max.     Imput-1 to 2+			accuracy 0 to 55°C	±0.2% (full scale)		
Dimensions       12 (W) × 100 (H) × 71 (D)       Isolation method       = Transformer; Signal = Digital isolator (no         Insulation resistance       20 MΩ min. between isolated circuits (at 100 VDC)       Dielectric strength       510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.         V0 power supply       No supply       Current capacity of I/O power supply terminal       Without I/O power supply terminals         NX Unit power consumption       1.05 W max.       I/O current consumption       No consumption         Weight       70 g max.       Input1+ to 2+ (nput1+ to 2- (HT)       Input1+ to 2+ (NC) power supply+ (NC) power supp			Conversion time	10 μs/point		
Insulation resistance     100 VDC)     Delectric strength     minute at a leakage current of 5 mA max.       I/O power supply     No supply     Current capacity of I/O power supply terminals     Without I/O power supply terminals       NX Unit power consumption     1.05 W max.     I/O current consumption     No consumption       Veight     70 g max.     I/O g max.     No consumption     No consumption       Circuit layout     Imput + to 2+ (left)       Installation orientation diagram     Installation orientation: Possible in 6 orientations. Restrictions: No restrictions     No wer supply - (left)     Imput + (left)       Terminal connection diagram     Votage Input thit NX-AD2008     Imput + (left)     Imput + (left)       Votage Input thit NX-AD2008     AG: Analog circuit inside the Unit.	Dimensions 12 (	(W) x 100 (H) x 71 (D)	Isolation method			
method       No suppy       power supply terminal       Winduit NO power supply terminals         NX Unit power consumption       1.05 W max.       1/O current consumption       No consumption         Weight       70 g max.       Imputite to 2+       Imputite to 2+       Imputite to 2+         Circuit layout       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         NX Usit       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+       Imputite to 2+         Installation orientation:       <			Dielectric strength			
consumption     1.05 W max.       Weight     70 g max.       Circuit layout     Imputition     Imputition       NX bis     Imputition       UP power supply     Imputition       NX bis     Imputition       Installation orientation and restrictions     Installation orientation: Restrictions: No restrictions       Terminal connection diagram     Installation orientation: Imputition     Installation orientation: Restrictions: No restrictions		o supply	Current capacity of I/O power supply terminal	Without I/O power supply terminals		
Circuit layout       Input1+ to 2+ Input1- to 2- AG       Input1+ to 2+ AG       Input1+ to 2+ AG       Input1- to 2- AG       Input1- Input1- to 2- AG       Input1- Input1- to 2- AG       Input + Input - Input - AG       Input + Input - Input -       Input + Input - AG       Input + Input - Input -       Input + Input - AG       Input + Input - AG       Input + Input - Input -       Input + Input -       <	consumption 1.05	05 W max.	I/O current consumption	No consumption		
Circuit layout       Terminal block       Input1- to 2- AG       AG       Analog circuit internal GND         NX bus corrector (eff)       I/O power supply + I/O power supply - (eff)       I/O power supply - I/O power supply - I/O power supply - (right)       NX bus I/O power supply - I/O power supply - (right)         Installation orientation and restrictions       Installation orientation: Possible in 6 orientations. Restrictions: No restrictions         Terminal connection diagram       Installation orientation: Quere supply - AG       Input + Input + Input + Input - AG         AG       AG         AG       AG         AG       AG	Weight 70 g	g max.				
and restrictions       Restrictions: No restrictions         Terminal connection diagram       Voltage Input Unit NX-AD2608         A       Input + Input2+         Input1- Input2-       Input + Input - Input + Input - Inp	Circuit layout	Terminal block Input1- to 2- AG	510 ΚΩ			
Terminal connection diagram			tions.			
		NX-AD2608 A1 B1 Input1+ Input2+ AG AG AG AG NC NC AG terminal is connected to 0 V of analog circuit inside the Unit.				
Input disconnection detection Not supported.		ot supported.				

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

Unit name	Analog Input Unit (voltage input type)	Model	NX-AD3603
		External connection	Screwless clamping terminal block (12
Capacity	4 points	terminals	terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Input method	Single-ended input
	AD3603 ■TS	Input range	-10 to +10 V
		Input conversion range	-5 to 105% (full scale)
Indicator		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 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	1.10 W max.	I/O current consumption	No consumption
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 1MΩ AG AG: Analog circuit inter	nal GND I/O power supply + I/O power supply – I/O power supply –
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Additional I/O Power Supply Unit A1 B1 IOV IOV 24 VDC A8 B8	Voltage Input Unit NX-AD3603 A1 B1 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 –) re sensor
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-AD3604		
Capacity	4 points	External connection terminals	Screwless clamping terminal block (12 terminals)		
I/O refreshing method	Free-Run refreshing				
	TS indicator	Input method	Differential Input		
	AD3604	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	1/8000 (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	1.10 W max.	I/O current consumption	No consumption		
Weight	70 g max.				
Circuit layout	Terminal block Input1+ to 4+ Input1- to 4- AG AG AG AG AG: Analog circuit internal GND I/O power supply + I/O power supply + 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: Possible in 6 orienta Restrictions: No restrictions	ations.			
Terminal connection diagram	Voltage Input Unit NX-AD3604         1       Input1+ Input2+         Input1- Input2-       Input +         Input3+ Input4+       Input4-         AG       AG         AG       AG				
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-AD3608		
		External connection	Screwless clamping terminal block (12		
Capacity	4 points	terminals	terminals)		
I/O refreshing method	Selectable Synchronous I/O refreshing or F	-			
	TS indicator	Input method	Differential Input		
	AD3608	Input range	-10 to +10 V		
	=10	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 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	1.10 W max.	I/O current consumption	No consumption		
Weight	70 g max.				
Circuit layout	Terminal block Input1+ to 4+	AMP 510 KΩ AG AG: Analog circuit inte	rnal GND I/O power supply + NX bus connector (right)		
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.			
Terminal connection diagram	Voltage Input Unit NX-AD3608 A1B1Input + Input1+ Input2+ Input3+ Input4+ Input3+ Input4+ AG AG AGAG AGAG terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.				
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-AD4603
Capacity	8 points	External connection terminals	Screwless clamping terminal block (16 terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator AD4603	Input method Input range	Single-ended input -10 to +10 V
	-10	Input conversion range	-5 to 105% (full scale)
Indicator		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 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	1.15 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	Terminal block INC	AMP AG AG: Analog circuit inte	ernal GND I/O power supply + NX bus connector (right)
Installation orientation	Installation orientation: Possible in 6 orienta	ations.	
and restrictions	Restrictions: No restrictions		
Terminal connection diagram	00G         10G         10V         10           24 VDC         10V         10V         10           10V         10V         10V         10           10V         10V         10V         10           10G         10G         10G         10V         10		Input + 24 V (Sensor power supply +) 0 V (Sensor power supply – / I
Input disconnection detection	Not supported.		

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

Unit name	Analog Input Unit (voltage input type)	Model	NX-AD4604	
	8 points	External connection	Screwless clamping terminal block (16	
Capacity	•	terminals	terminals)	
I/O refreshing method	Free-Run refreshing	In much months and	Differential lagest	
	TS indicator AD4604	Input method	Differential Input	
		Input range	-10 to +10 V	
		Input conversion range Absolute maximum	-5 to 105% (full scale)	
Indiantau		rating	±15 V	
Indicator		Input impedance	1 M $\Omega$ 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 $M\Omega$ 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	1.15 W max.	I/O current consumption	No consumption	
Weight	70 g max.			
Circuit layout		AMP 510 KΩ AG AG: Analog circuit inter	I/O power supply + NX bus connector I/O power supply – (right)	
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.		
Terminal connection diagram	Voltage Input Unit NX-AD4604 A1 B1 Input1+ Input2+ Input1- Input2- Input3+ Input4+ Input3- Input4- Input5+ Input6+ Input5- Input6- Input7- Input8- B8			
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-AD4608	
		External connection	Screwless clamping terminal block (16	
Capacity	8 points	terminals	terminals)	
I/O refreshing method	Selectable Synchronous I/O refreshing or F	-		
	TS indicator	Input method	Differential Input	
	AD4608 ■TS	Input range	-10 to +10 V	
		Input conversion range	-5 to 105% (full scale)	
la d'actan		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 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	1.15 W max.	I/O current consumption	No consumption	
Weight	70 g max.			
Circuit layout	Terminal block Input1+ to 8+ Input1− to 8− S510 KΩ AG AG	AMP 510 KΩ AG AG: Analog circuit inter	nal GND I/O power supply + NX bus connector (right)	
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.		
Terminal connection diagram	Voltage Input Unit NX-AD4604 A1Input1+ Input2+ Input1- Input2- Input3+ Input4+ Input5+ Input6+ Input5- Input6- Input7+ Input8+ Input7- Input8+ B8B8			
Input disconnection detection	Not supported.			

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

Unit name	Analog Input Unit (current input type)	Model	NX-AD2203	
Capacity	2 points	External connection terminals	Screwless clamping terminal block (8 terminals)	
I/O refreshing method	Free-Run refreshing			
	TS indicator	Input method	Single-ended input	
	DA2203	Input range	4 to 20 mA	
	■TS	Input conversion range	-5 to 105% (full scale)	
		Absolute maximum rating	±30 mA	
Indicator			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 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	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 - NX bus connector (left) I/O power supply - NX bus connector (left) I/O power supply - NX bus connector (left) I/O power supply -			
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.		
Terminal connection diagram	Additional I/O Power Supply Unit A O Current Input Unit NX-AD2203 A Input + 24 V (Sensor power supply +) 0 V (Sensor power supply -/ Input -) 24 VDC IOV IOV IOV IOV IOG IOG IOG IOG NC NC NC NC The NC terminal is not connected to the internal circuit.		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-AD2203

Unit name	Analog Input Unit (current input type)	Model	NX-AD2204
		External connection	Screwless clamping terminal block (8
Capacity	2 points	terminals	terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Input method	Differential Input 4 to 20 mA
	AD2204 ■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 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	0.90 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	$Terminal block \begin{bmatrix} Input1+ to 2+ \\ Input1- to 2- \\ AG \\ AG \\ KG \\ KG \\ KG \\ KG \\ KG \\ KG$		nal GND 
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Current Input Unit       Input +         Input1+ Input2+       Input +         Input1- Input2-       Input +         AG       AG         AG       AG         AG       AG         AG       AG         AG       AG         Input -       Input -         Input -		
Input disconnection detection	Supported.		

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

Unit name	Analog Input Unit (current input type)	Model	NX-AD2208
		External connection	Screwless clamping terminal block (8
Capacity	2 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	-	
	TS indicator	Input method	Differential Input
	AD2208	Input range	4 to 20 mA
	-10	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 $M\Omega$ 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	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 -	510 KΩ \$ 510 KΩ AG: Analo AG	Dg circuit hal GND I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Current Input Unit NX-AD2208 A1 B1 Input1+ Input2+ Input1- Input2- Input1- Input2- AG AG NC NC A6 terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.		
Input disconnection detection	Supported.		

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

Unit name	Analog Input Unit (current input type) Model NX-AD3203		
		External connection	Screwless clamping terminal block (12
Capacity	4 points	terminals	terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator		Single-ended input
	AD3203	Input range	4 to 20 mA
		Input conversion range	-5 to 105% (full scale)
la dia seco		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 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	0.90 W max. I/O current consumption		No consumption
Weight	70 g max.		
Circuit layout	Terminal block Input1+ to 4+ IOG NX bus connector (left) I/O power supply + I/O power supply - I/O power supply -		
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Additional I/O Power Supply Unit A A A B B A B B A B B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B B A B B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B A B B B A B B B A B B B B B A B B B B A B B B A B B B A B B B A B B B B B A B B B B B B B B B B B B B		
Input disconnection detection	Supported.		

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

Unit name	Analog Input Unit (current input type)	Model	NX-AD3204
		External connection	Screwless clamping terminal block (12
Capacity	4 points	terminals	terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Input method	Differential Input
	AD3204 ■TS	Input range	4 to 20 mA
		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 $M\Omega$ 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	0.90 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 –	510 KΩ 510 KΩ AG: Anale AG	og circuit nal GND I/O power supply + NX bus connector (right)
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Current Input Unit NX-AD3204       B1         A1       B1         Input1+ Input2+       Input +         Input3+ Input4+       Input4+         Input3- Input4-       AG         AG       AG         AG       AG         Input5-       Input4+         Input5-       Input4-         Input5-       Input5-         Input5-       Input5-		
Input disconnection detection	Supported.		

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

Unit name	Analog Input Unit (current input type)	Model	NX-AD3208
		External connection	Screwless clamping terminal block (12
Capacity	4 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F		
	TS indicator	Input method	Differential Input
	AD3208 ■TS	Input range	4 to 20 mA
		Input conversion range	-5 to 105% (full scale)
		Absolute maximum rating	±30 mA
Indicator		Input impedance	250 Ω 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 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	0.95 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	$\begin{array}{c} \text{Terminal block} \begin{bmatrix} \text{Input1+ to 4+} \\ \text{Input1- to 4-} \\ \text{AG} \\ \text{AG} \\ \text{AG} \\ \text{Input1- to 4-} \\ \text{AG} \\ \text{AG} \\ \text{AG} \\ \text{I/O power supply +} \\ \text{I/O power supply +} \\ \text{I/O power supply -} \\ I/O power supply$		
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Current Input Unit NX-AD3208 A1 B1 Input1+ Input2+ Input2- Input3+ Input4+ Input3- Input4- AG AG AG AG AG AG AG AG AG AG BB AG terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.		
Input disconnection	Supported		
detection	Supported.		

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

Unit name       Analog Input Unit (current input type)       Model       NX-AD4203         Capacity       8 points       External connection terminals       Screwless clamping terminal biterminals)         I/O refreshing method       Free-Run refreshing       Input method       Single-ended input         TS indicator       AD4203       Input range       4 to 20 mA         Input accuracion range       5 to 105% (full coole)       5 to 105% (full coole)	lock (16
Capacity     8 points     terminals     terminals)       I/O refreshing method     Free-Run refreshing       TS indicator     Input method     Single-ended input       AD4203     Input range     4 to 20 mA	
TS indicator AD4203 Input method Single-ended input 4 to 20 mA	
AD4203 Input range 4 to 20 mA	
Input conversion range -5 to 105% (full scale)	
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	
Dimensions12 (W) x 100 (H) x 71 (D)Isolation methodBetween the input and the NX to = Transformer, Signal = Digital in isolation between inputs)	
Insulation resistance20 MΩ min. between isolated circuits (at 100 VDC)Dielectric strength510 VAC between isolated circuits (at minute at a leakage current of \$	
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         1.05 W max.         I/O current consumption         No consumption	
Weight 70 g max.	
Circuit layout NX bus connector (left) I/O power supply + I/O power supply - I/O powe	ŗ
Installation orientation Installation orientation: Possible in 6 orientations.	
and restrictions Restrictions: No restrictions	
Terminal connection diagram       Additional I/O Power Supply Unit       I/O Power Supply Unit       Voltage Input Unit NX-AD4203         1       00       100	
Input disconnection detection Supported.	

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

Unit name	Analog Input Unit (current input type) Model NX-AD4204		NX-AD4204
		External connection	Screwless clamping terminal block (16
Capacity	8 points	terminals	terminals)
I/O refreshing method	Free-Run refreshing		
	TS indicator	Input method	Differential Input
	AD4203 ■TS	Input range	4 to 20 mA
		Input conversion range	-5 to 105% (full scale)
la d'actan		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 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	1.05 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	Terminal block Input1+ to 8+ Input1- to 8- S 510 KΩ \$510 KΩ AG: Analog cir internal G NX bus connector (left) I/O power supply +		
Installation orientation and restrictions	Installation orientation: Possible in 6 orient Restrictions: No restrictions	ations.	
Terminal connection diagram	Current Input Unit NX-AD4204 A1		
Input disconnection detection	Supported.		
uelection			

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

Unit name	Analog Input Unit (current input type) Model NX-AD4208		
		External connection	Screwless clamping terminal block (16
Capacity	8 points	terminals	terminals)
I/O refreshing method	Selectable Synchronous I/O refreshing or F	ree-Run refreshing	
	TS indicator		Differential Input 4 to 20 mA
	AD4208		
	■TS		-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
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	1.10 W max.	I/O current consumption	No consumption
Weight	70 g max.		
Circuit layout	$\begin{array}{c} \text{Terminal block} \begin{bmatrix} \text{Input1+ to 8+} \\ \text{Input1- to 8-} \\ \text{Input1- to 8-} \\ \text{KX bus} \\ \text{connector} \\ (\text{left}) \end{bmatrix} \begin{bmatrix} \text{I/O power supply +} \\ \text{I/O power supply -} \\ \text{KX bus} \\ \text{I/O power supply -} \\ \text{KX bus} \\ \text{Connector} \\ \text{I/O power supply -} \\ \text{KX bus} \\ \text{Connector} \\ \text{KX bus} \\ \text{CONECTOR} \\ \text{KX bus} \\ \text{KX bus} \\ \text{KX bus} \\ \text{CONECTOR} \\ \text{KX bus} \\ \text{KX bus} \\ \text{KX bus} \\ \text{CONECTOR} \\ \text{KX bus} \\ \text{KX bus} \\ \text{KX bus} \\ \text{CONECTOR} \\ \text{KX bus} \\ KX$		
Installation orientation and restrictions	Installation orientation: Possible in 6 orienta Restrictions: No restrictions	ations.	
Terminal connection diagram	Current Input Unit NX-AD4208       Input         A1       B1         Input1+       Input2+         Input3+       Input4+         Input5-       Input6+         Input7+       Input8+         Input7-       Input8+         Input7-       Input8+         B8       B8		
Input disconnection detection	Supported.		

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

## **Version Information**

NX Unit		Corresponding unit versions/versions		ons
Model	Unit Version	EtherCAT Coupler Units NX-ECC201/ECC202 *	NJ-series CPU Units NJ501-000/NJ301-000	Sysmac Studio
NX-AD	Ver.1.0	Version 1.0 or later	Version 1.05 or later	Version 1.06 or higher

\* For the NX-ECC202, there is no unit version of 1.1 or earlier.

### **External Interface**

#### **Analog Input Unit**

NX-AD



Symbol	Name	Function
(A)	NX bus connector	This connector is used to connect each Unit.
(B)	Indicators	The indicators show the current operating status of the Unit.
(C)	Terminal block	The terminal block is used to connect external devices. The number of terminals depends on the type of Unit.

#### **Terminal Blocks**



Symbol	Name	Function
(A)	Terminal number indications	Terminal numbers for which A to D indicate the column, and 1 to 8 indicate the line are displayed. The terminal number is a combination of column and line, so A1 to A8 and B1 to B8 are displayed. The terminal number indications are the same regardless of the number of terminals on the terminal block.
(B)	Release holes	Insert a flat-blade screwdriver into these holes to connect and remove the wires.
(C)	Terminal holes	The wires are inserted into these holes.

#### Applicable Terminal Blocks for Each Unit Model

	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	

#### **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 one-pin ferrules. Do not use two-pin ferrules.

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

Terminal types	Manufacturer	Ferrule model number	Applicable wire (mm <sup>2</sup> (AWG))	Crimping tool
Terminals other than ground terminals	Phoenix Contact	AI0,34-8	0.34 (#22)	Phoenix Contact (The figure in parentheses is the applicable wire size.)
		AI0,5-8	0.5 (#20)	CRIMPFOX 6 (0.25 to 6 mm <sup>2</sup> , AWG24 to 10)
		Al0,5-10		
		Al0,75-8	0.75 (#18)	
		Al0,75-10		
		AI1,0-8	1.0 (#18)	
		AI1,0-10		
		AI1,5-8	1.5 (#16)	
		AI1,5-10	1	
Ground terminals		Al2,5-10	2.0 *	
Terminals other	Weidmuller	H0.14/12	0.14 (#26)	Weidmuller (The figure in parentheses is the applicable wire size.)
than ground terminals		H0.25/12	0.25 (#24)	PZ6 Roto (0.14 to 6 mm <sup>2</sup> , AWG 26 to 10)
		H0.34/12	0.34 (#22)	
		H0.5/14	0.5 (#20)	
		H0.5/16		
		H0.75/14	0.75 (#18)	
		H0.75/16		
		H1.0/14	1.0 (#18)	
		H1.0/16		
		H1.5/14	1.5 (#16)	
		H1.5/16		

\* 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



1.6 mm max. (except ground terminals)2.0 mm max. (ground terminals)

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

If you use the twisted wires or the solid wires, the applicable wire range and conductor length (stripping length) are as follows.

Terminal types	Applicable wires	Conductor length (stripping length)
Ground terminals	2.0 mm <sup>2</sup>	9 to 10 mm
Terminals other than ground terminals	0.08 to 1.5 mm <sup>2</sup> AWG28 to 16	8 to 10 mm

Conductor length (stripping length)

## Dimensions

(Unit/mm)

## Analog Input Unit NX-AD



## **Related Manuals**

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

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