

# NX-series Analog Input Unit

# NX-AD

CSM\_NX-AD\_DS\_E\_2\_1

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

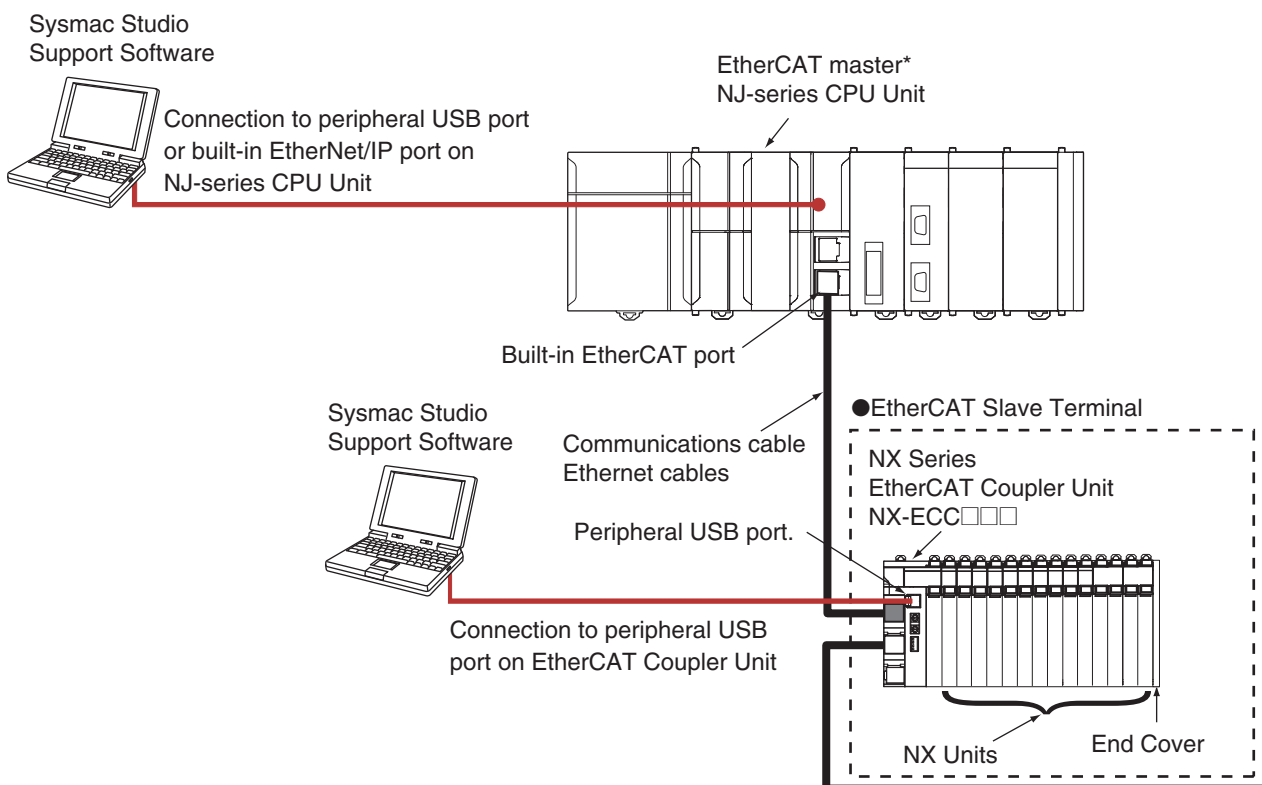
- Analog Input Units for the NX-series modular I/O system.
- Connect to other NX-series I/O Units and EtherCAT Coupler units using the high-speed NX-bus.
- Separate modules for voltage- and current inputs.



## 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 10 $\mu$ s 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/□82 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

| Unit type                   | Product Name  | Specification      |                    |                    |  |  |                    |                     |                     |  | NX Unit power consumption                                    | Model               | Standards         |
|-----------------------------|---|--------------------|--------------------|--------------------|--|--|--------------------|---------------------|---------------------|--|--|---------------------|-------------------|
|                             |   | 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 Series Analog Input Unit | Voltage Input Unit<br>   | 2 points           | -10 to +10V        | 1/8000             | -4000 to 4000  | ±0.2% (full scale)   | Single-ended input | 250 μs/point        | 1MΩ min.            | Free-Run refreshing  | 1.05W max.   | NX-AD2603           | UC1, N, L, CE, KC |
|                             |   |                    |                    |                    |  |  | Differential Input |                     |                     |  | 1.05W max.   |                     |                   |
|                             |   | 4 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           |                   |
|                             |   |                    |                    |                    |  |  | Single-ended input |                     |                     |  | 250 μs/point   |                     |                   |
|                             |   |                    |                    | Differential Input | 10 μs/point  | Selectable Synchronous I/O refreshing or Free-Run refreshing | 1.10W max.         | NX-AD3604           |                     |  |  |                     |                   |
|                             |   | 8 points           |                    | 1/8000             |  |  | -4000 to 4000      |                     |                     | ±0.2% (full scale)   | Single-ended input   | 250 μs/point        |                   |
|                             |   |                    |                    |                    | Differential Input   | 1.15W max.   |                    | 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 | 1.15W max.         |                     | NX-AD4608           |  |  |                     |                   |
|                             |   |                    |                    | Single-ended input |  |  | 250 μs/point       | Free-Run refreshing |                     | 0.90W max.   | NX-AD2203  |                     |                   |
|                             | 2 points  | 1/8000             | 0 to 8000          | ±0.2% (full scale) | Single-ended input   | 250 μs/point   |                    |                     | Free-Run refreshing | 0.90W max.   |  | NX-AD2204           |                   |
|                             |   |                    |                    |                    | Differential Input   |  | 0.90W max.         | NX-AD2208           |                     |  |  |                     |                   |
|                             | Current Input Unit<br> | 4 points           | 4 to 20mA          | 1/30000            | 0 to 30000   | ±0.1% (full scale)   | Differential Input |                     | 10 μs/point         | 250Ω   | Selectable Synchronous I/O refreshing or Free-Run refreshing | 0.90W max.          |                   |
|                             |   |                    |                    |                    |  |  | Single-ended input | 250 μs/point        |                     |  |  | Free-Run refreshing |                   |
|                             |   | 8 points           |                    | 1/8000             | 0 to 8000  | ±0.2% (full scale)   | Single-ended input |                     | 250 μs/point        |  | Free-Run refreshing  |                     |                   |
| Differential Input          |   |                    |                    |                    |  |  | 1.05W max.         | NX-AD4204           |                     |  |  |                     |                   |
| 1/30000                     | 0 to 30000  | ±0.1% (full scale) | Differential Input | 10 μs/point        | Selectable Synchronous I/O refreshing or Free-Run refreshing | 1.10W max.   | NX-AD4208          |                     |                     |  |  |                     |                   |
|                             |   |                    | Single-ended input |                    |  | 250 μs/point   |                    | Free-Run refreshing | 1.10W max.          | NX-AD4208  |  |                     |                   |

## Option

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

## Accessories


Not included.

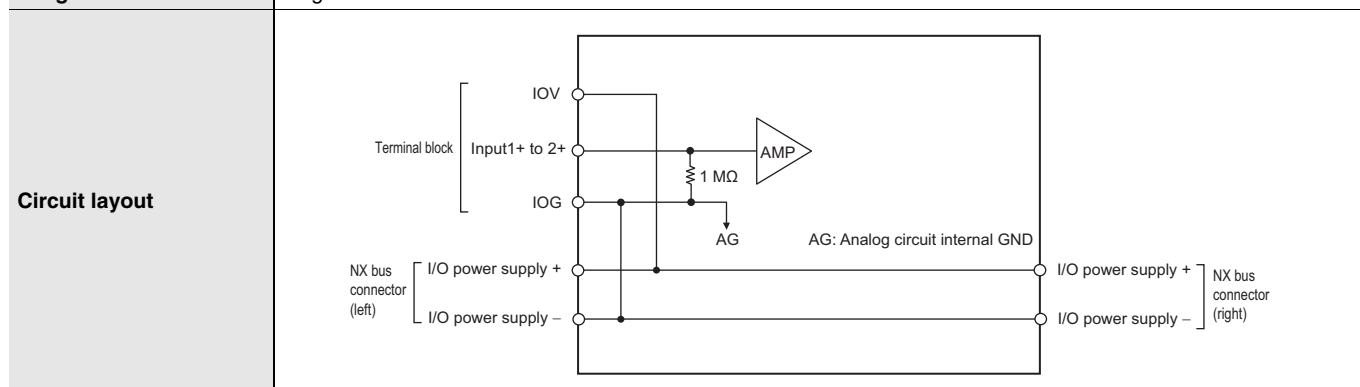
## General Specification

| Item                  | Specification   |   |
|-----------------------|---|---|
| Enclosure             | Mounted in a panel  |   |
| Grounding method      | Ground to 100 Ω or less   |   |
| Operating environment | 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.   |
|                       | Noise immunity  | 2 kV on power supply line (Conforms to IEC61000-4-4.)   |
|                       | 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.<br>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<br>(10 sweeps of 10 min each = 100 min total) |
| Shock resistance      | Conforms to IEC 60068-2-27. 147 m/s <sup>2</sup> , 3 times each in X, Y, and Z directions       |   |
| Applicable standards  | cULus: Listed UL508 and ANSI/ISA 12.12.01<br>EC: EN 61131-2 and C-Tick, KC Registration, NK, LR |   |

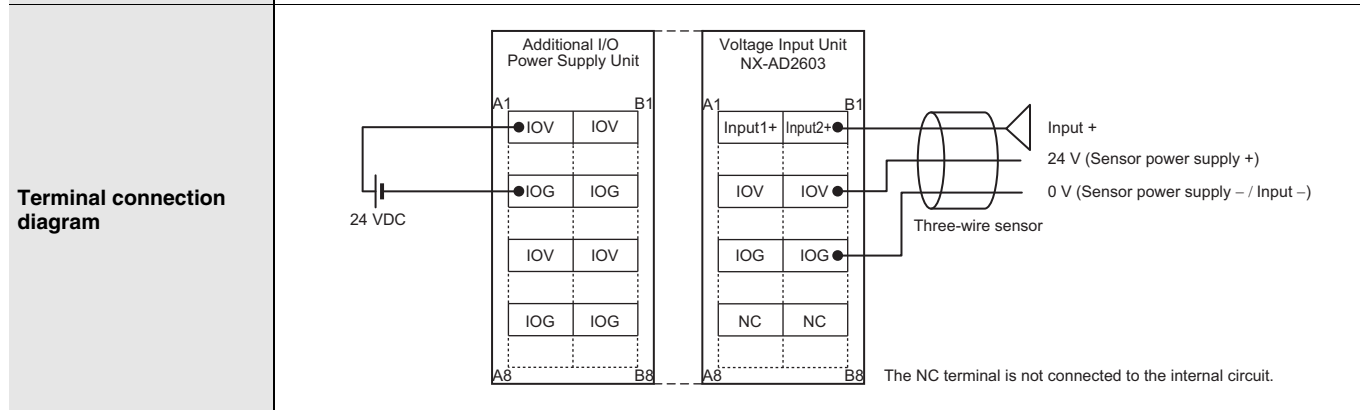
# Analog Input Unit Specifications

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD2603  |                    |
| <b>Capacity</b>                  | 2 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (8 terminals)  |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Single-ended input   |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.2% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.4% (full scale) |
| <b>Conversion time</b>           | 250 μs/point  |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | Supply from the NX bus  | <b>Current capacity of I/O power supply terminal</b> | IOV: 0.1 A/terminal max.,<br>IOG: 0.1 A/terminal max.  |                    |
| <b>NX Unit power consumption</b> | 1.05 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |

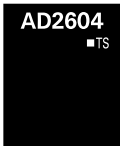


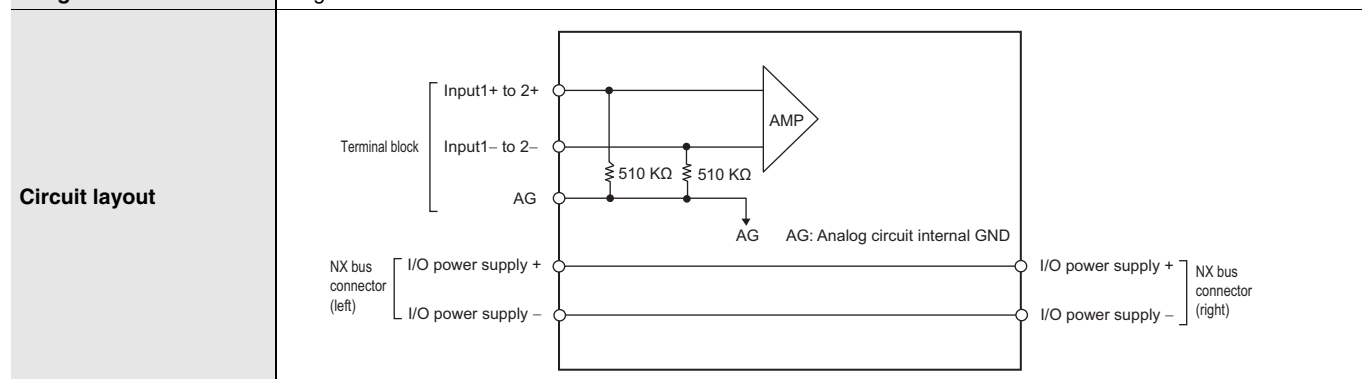
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



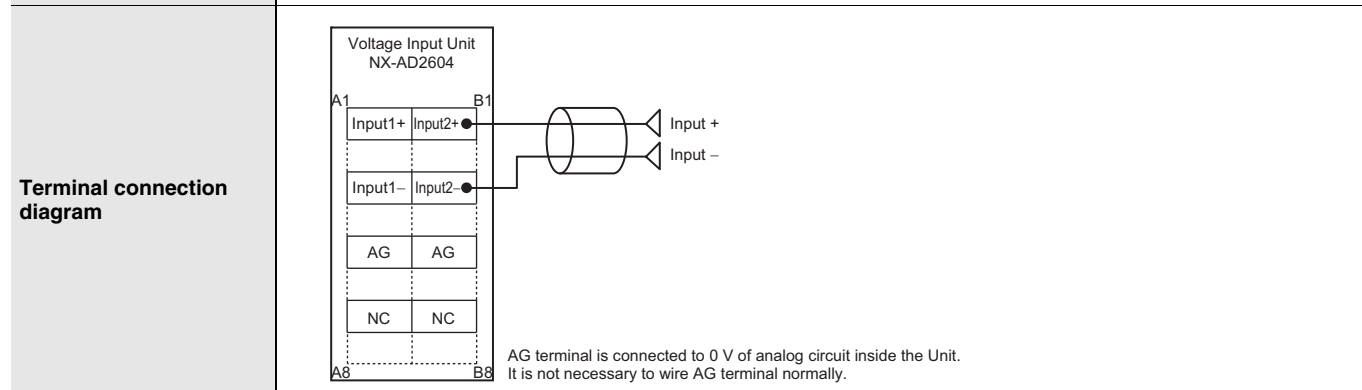
**Input disconnection detection**  
 Not supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD2604  |                    |
| <b>Capacity</b>                  | 2 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (8 terminals)  |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Differential Input   |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.2% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.4% (full scale) |
| <b>Conversion time</b>           | 250 μs/point  |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |                    |
| <b>NX Unit power consumption</b> | 1.05 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |




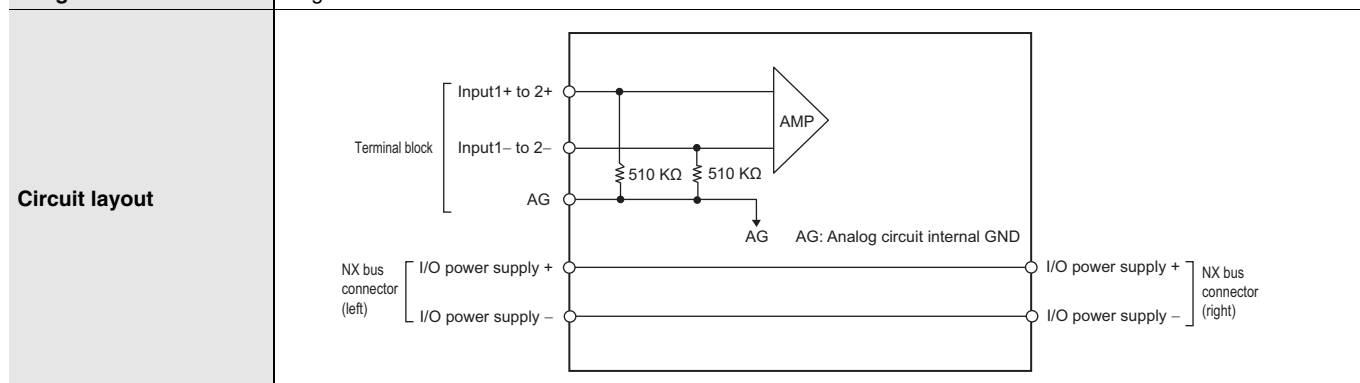
|  |  |
|--|--|
| <b>Installation orientation and restrictions</b> | Installation orientation: Possible in 6 orientations.<br>Restrictions: No restrictions |
|--|--|



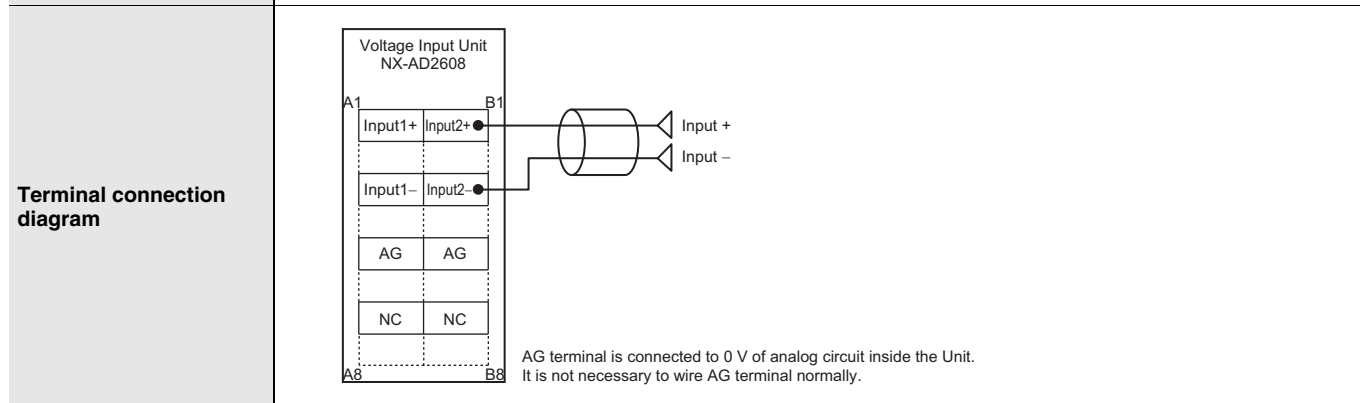
|                                      |                |
|--------------------------------------|----------------|
| <b>Input disconnection detection</b> | Not supported. |
|--------------------------------------|----------------|

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD2608  |                    |
| <b>Capacity</b>                  | 2 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (8 terminals)  |                    |
| <b>I/O refreshing method</b>     | Selectable Synchronous I/O refreshing or Free-Run refreshing                      |  |  |                    |
| <b>Indicator</b>                 |  | <b>Input method</b>                                  | Differential Input   |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |                    |
|                                  |   | <b>Resolution</b>                                    | 1/30000 (full scale)   |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.1% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.2% (full scale) |
| <b>Conversion time</b>           | 10 μs/point   |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)                                 | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |                    |
| <b>NX Unit power consumption</b> | 1.05 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |




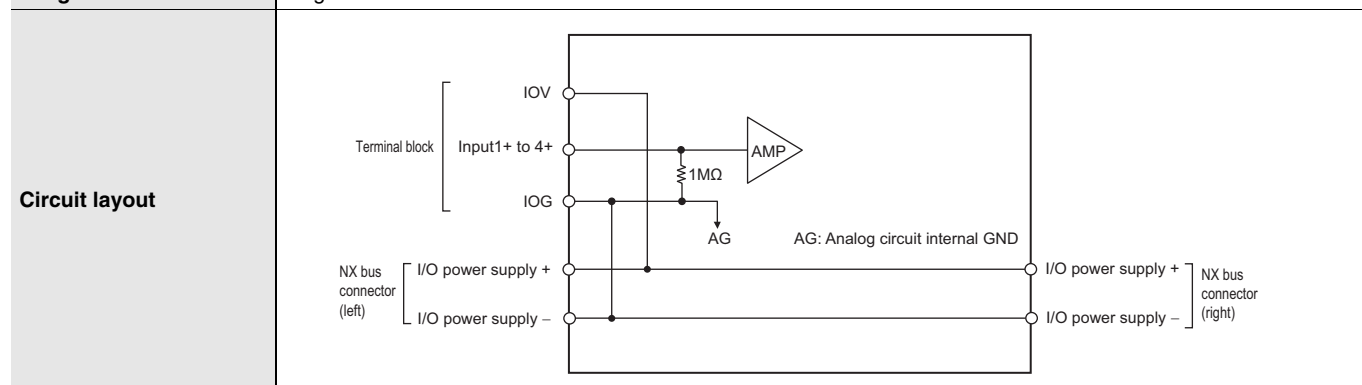
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



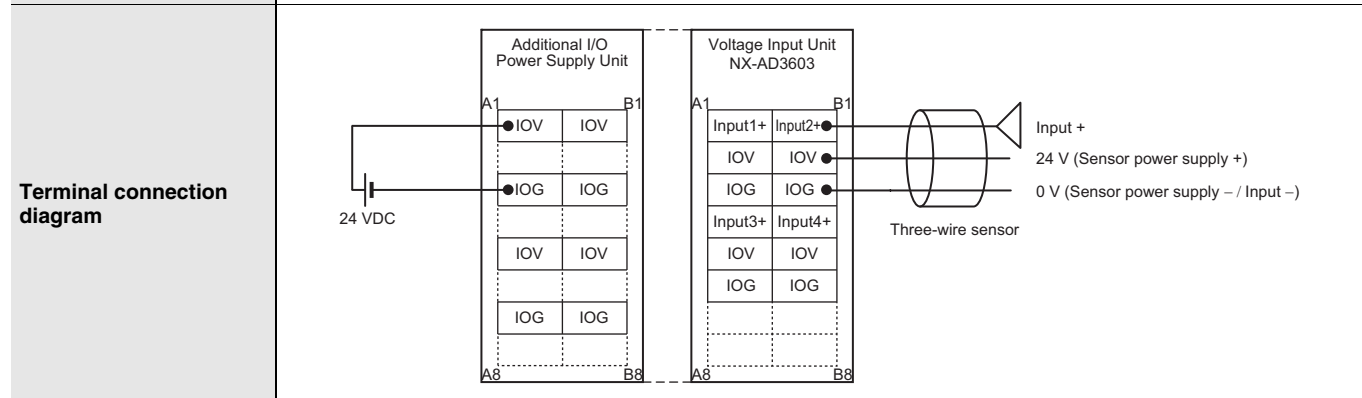
**Input disconnection detection**  
 Not supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD3603  |                    |
| <b>Capacity</b>                  | 4 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (12 terminals)   |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Single-ended input   |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.2% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.4% (full scale) |
| <b>Conversion time</b>           | 250 μs/point  |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | Supply from the NX bus  | <b>Current capacity of I/O power supply terminal</b> | IOV: 0.1 A/terminal max.,<br>IOG: 0.1 A/terminal max.  |                    |
| <b>NX Unit power consumption</b> | 1.10 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |




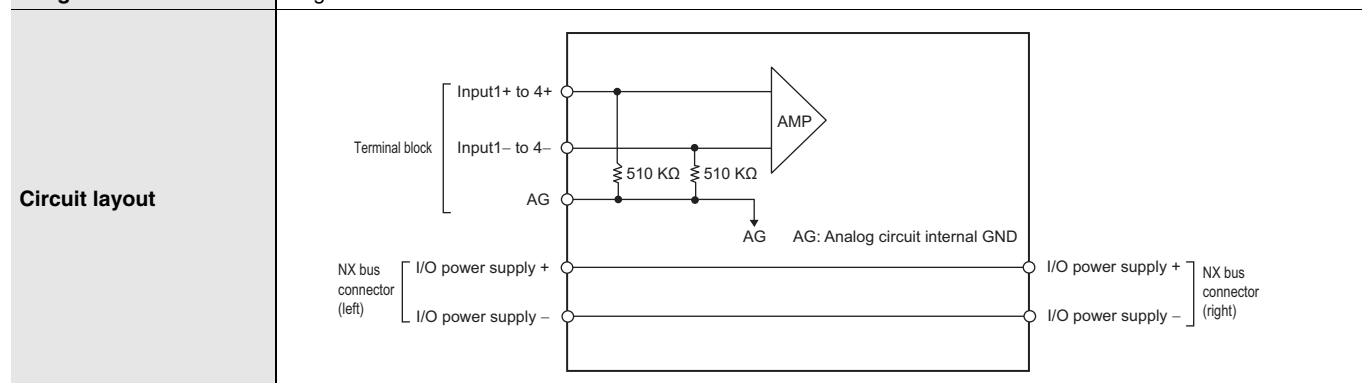
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



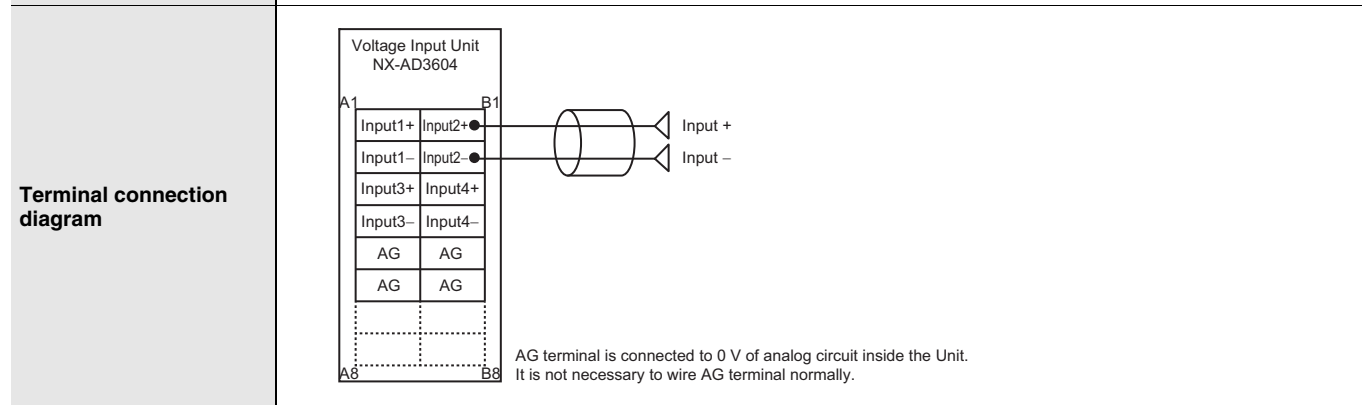
**Input disconnection detection**  
 Not supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD3604  |                    |
| <b>Capacity</b>                  | 4 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (12 terminals)   |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |                    |
| <b>Indicator</b>                 | <p>TS indicator</p>  | <b>Input method</b>                                  | Differential Input   |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.2% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.4% (full scale) |
| <b>Conversion time</b>           | 250 μs/point  |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |                    |
| <b>NX Unit power consumption</b> | 1.10 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |



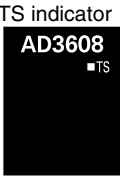
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions

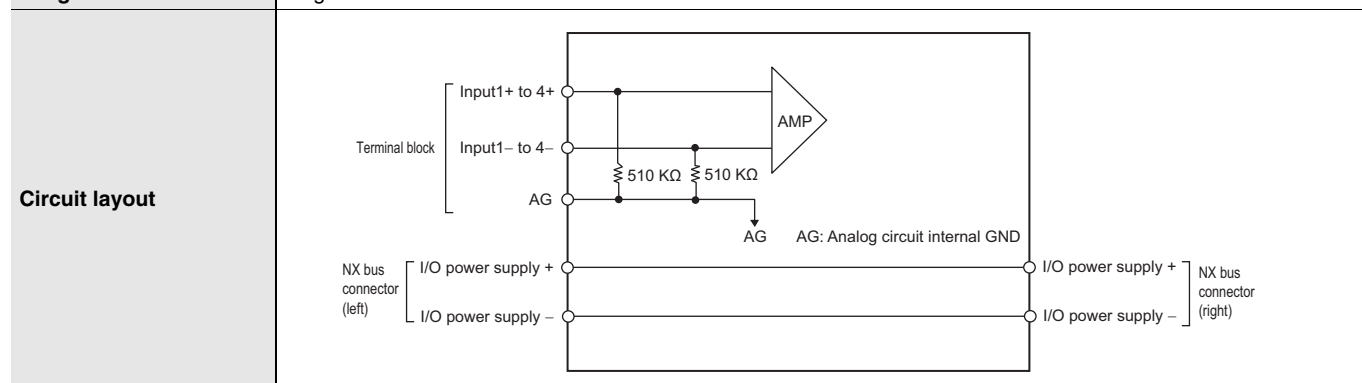


**Input disconnection detection**  
 Not supported.

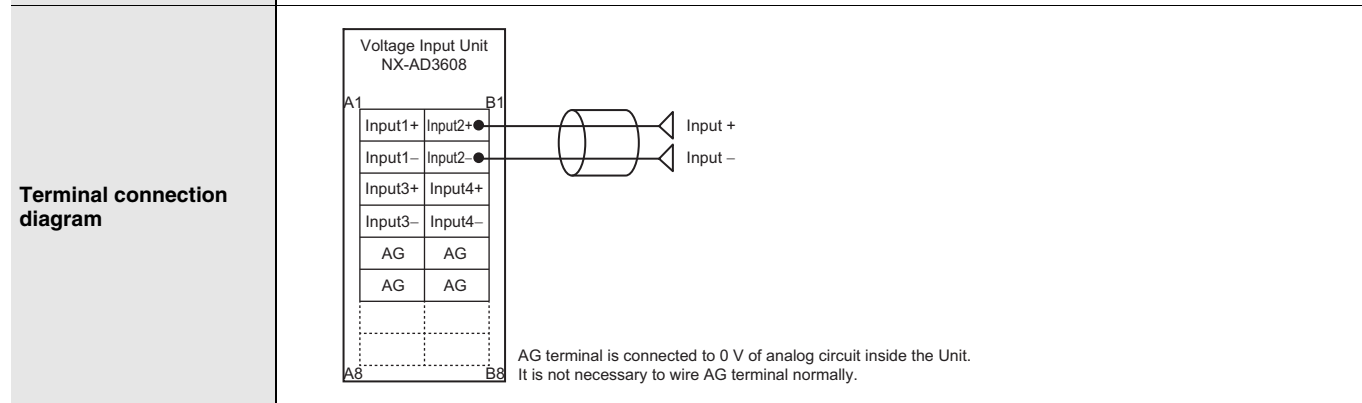


## Analog Input Unit (voltage input type) 4 points NX-AD3608

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD3608  |                    |
| <b>Capacity</b>                  | 4 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (12 terminals)   |                    |
| <b>I/O refreshing method</b>     | Selectable Synchronous I/O refreshing or Free-Run refreshing                      |  |  |                    |
| <b>Indicator</b>                 |  | <b>Input method</b>                                  | Differential Input   |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |                    |
|                                  |   | <b>Resolution</b>                                    | 1/30000 (full scale)   |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.1% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.2% (full scale) |
| <b>Conversion time</b>           | 10 μs/point   |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)                                 | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |                    |
| <b>NX Unit power consumption</b> | 1.10 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |

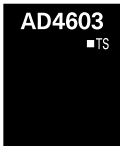


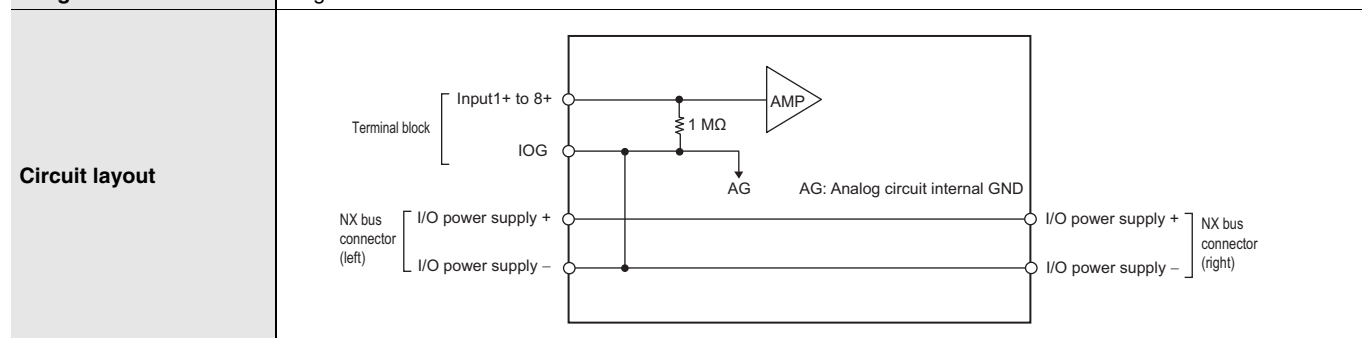
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



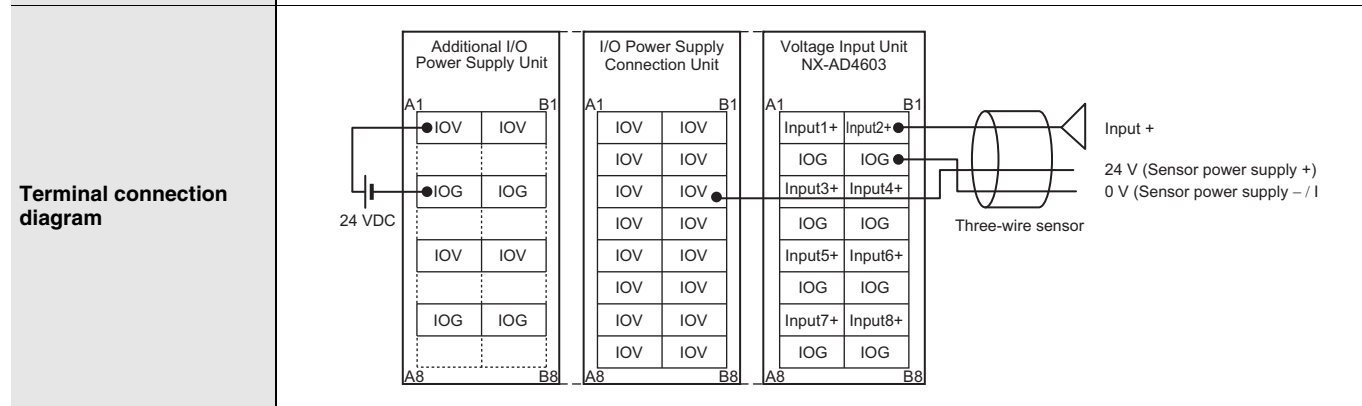
**Input disconnection detection**  
 Not supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD4603  |                    |
| <b>Capacity</b>                  | 8 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (16 terminals)   |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Single-ended input   |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.2% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.4% (full scale) |
| <b>Conversion time</b>           | 250 μs/point  |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | Supply from the NX bus  | <b>Current capacity of I/O power supply terminal</b> | I/OG: 0.1 A/terminal max.  |                    |
| <b>NX Unit power consumption</b> | 1.15 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |




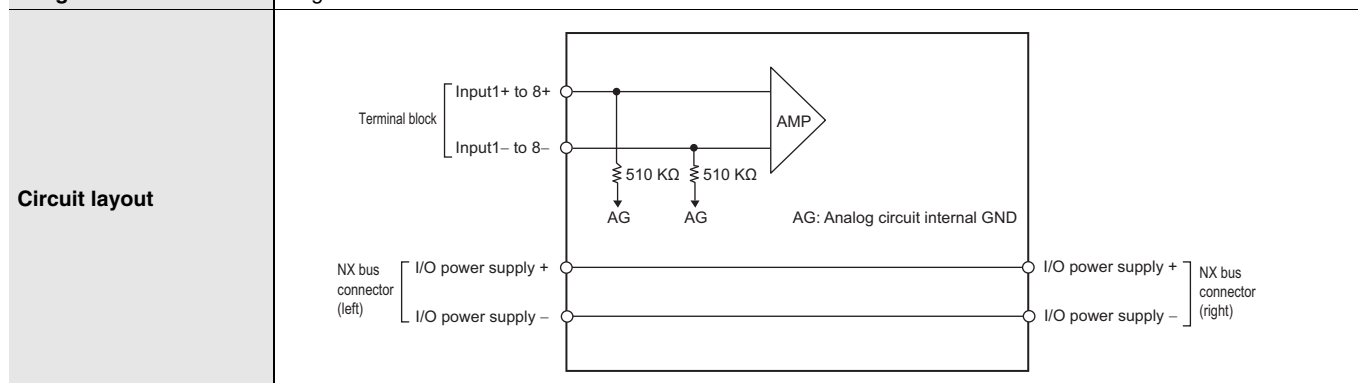
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



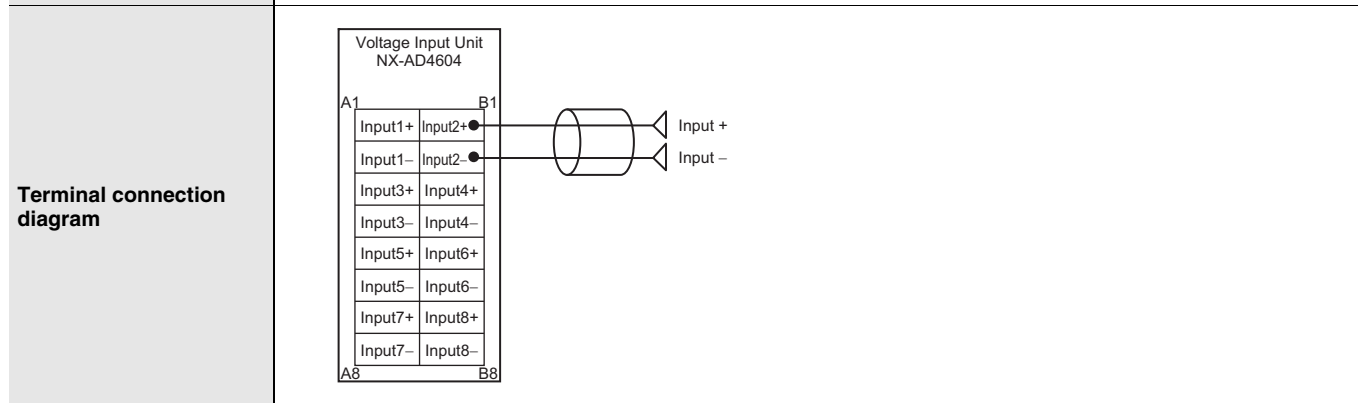
**Input disconnection detection**  
 Not supported.

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

|                                  |   |  |  |      |                    |
|----------------------------------|---|--|--|------|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD4604  |      |                    |
| <b>Capacity</b>                  | 8 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (16 terminals)   |      |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |      |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Differential Input   |      |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |      |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |      |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |      |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |      |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |      |                    |
|                                  |   | <b>Overall accuracy</b>                              | <table border="1"> <tr> <td>25°C</td> <td>±0.2% (full scale)</td> </tr> <tr> <td>0 to 55°C</td> <td>±0.4% (full scale)</td> </tr> </table> | 25°C | ±0.2% (full scale) |
| 25°C                             | ±0.2% (full scale)  |  |  |      |                    |
| 0 to 55°C                        | ±0.4% (full scale)  |  |  |      |                    |
|                                  | <b>Conversion time</b>  | 250 μs/point   |  |      |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)                             |      |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.   |      |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |      |                    |
| <b>NX Unit power consumption</b> | 1.15 W max.   | <b>I/O current consumption</b>                       | No consumption   |      |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |      |                    |

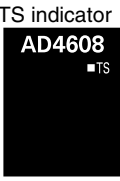


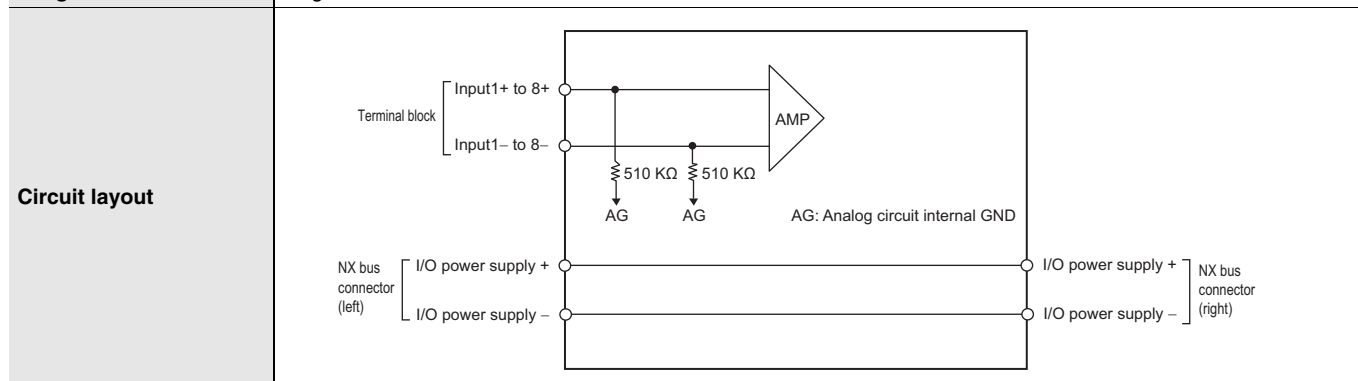
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



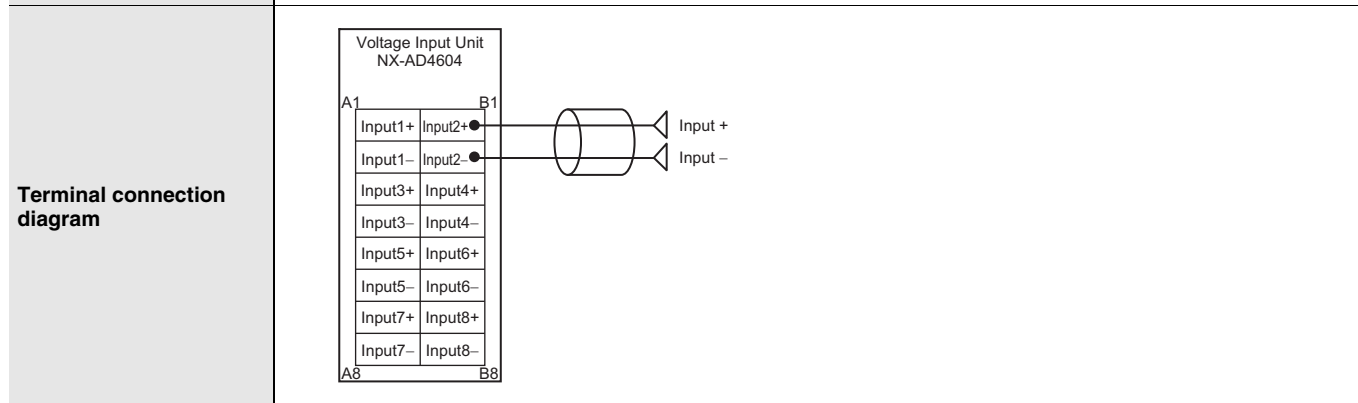
**Input disconnection detection**  
 Not supported.

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

|                                  |   |  |  |      |                    |           |                    |
|----------------------------------|---|--|--|------|--------------------|-----------|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (voltage input type)  | <b>Model</b>   | NX-AD4608  |      |                    |           |                    |
| <b>Capacity</b>                  | 8 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (16 terminals)   |      |                    |           |                    |
| <b>I/O refreshing method</b>     | Selectable Synchronous I/O refreshing or Free-Run refreshing                      |  |  |      |                    |           |                    |
| <b>Indicator</b>                 |  | <b>Input method</b>                                  | Differential Input   |      |                    |           |                    |
|                                  |   | <b>Input range</b>                                   | -10 to +10 V   |      |                    |           |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |      |                    |           |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±15 V  |      |                    |           |                    |
|                                  |   | <b>Input impedance</b>                               | 1 MΩ min.  |      |                    |           |                    |
|                                  |   | <b>Resolution</b>                                    | 1/30000 (full scale)   |      |                    |           |                    |
|                                  |   | <b>Overall accuracy</b>                              | <table border="1"> <tr> <td>25°C</td> <td>±0.1% (full scale)</td> </tr> <tr> <td>0 to 55°C</td> <td>±0.2% (full scale)</td> </tr> </table> | 25°C | ±0.1% (full scale) | 0 to 55°C | ±0.2% (full scale) |
|                                  |   | 25°C   | ±0.1% (full scale)   |      |                    |           |                    |
| 0 to 55°C                        | ±0.2% (full scale)  |  |  |      |                    |           |                    |
| <b>Conversion time</b>           | 10 μs/point   |  |  |      |                    |           |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)                             |      |                    |           |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)                                 | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.   |      |                    |           |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |      |                    |           |                    |
| <b>NX Unit power consumption</b> | 1.15 W max.   | <b>I/O current consumption</b>                       | No consumption   |      |                    |           |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |      |                    |           |                    |




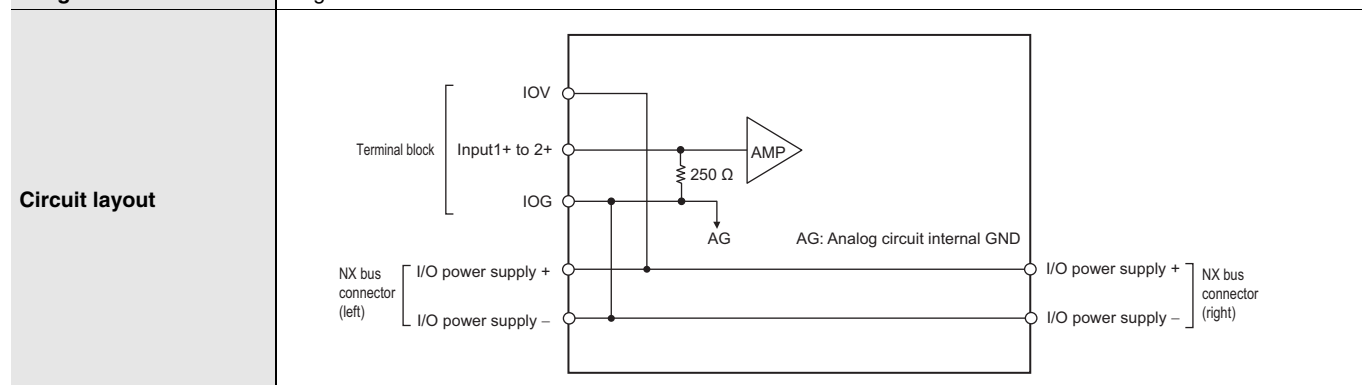
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



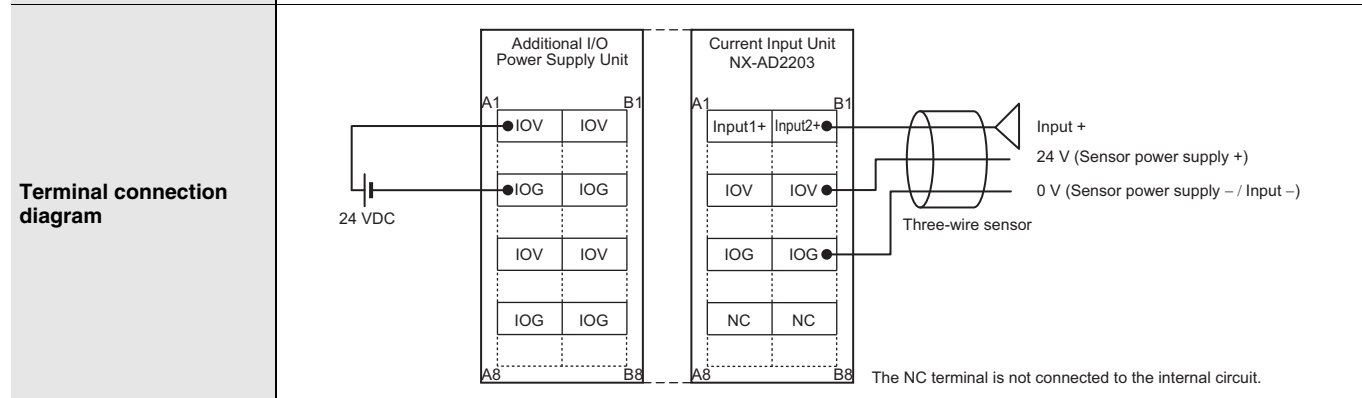
**Input disconnection detection**  
 Not supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD2203  |                    |
| <b>Capacity</b>                  | 2 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (8 terminals)  |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Single-ended input   |                    |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |                    |
|                                  |   | <b>Input impedance</b>                               | 250 Ω min.   |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.2% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.4% (full scale) |
| <b>Conversion time</b>           | 250 μs/point  |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | Supply from the NX bus  | <b>Current capacity of I/O power supply terminal</b> | IOV: 0.1 A/terminal max.,<br>IOG: 0.1 A/terminal max.  |                    |
| <b>NX Unit power consumption</b> | 0.90 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |




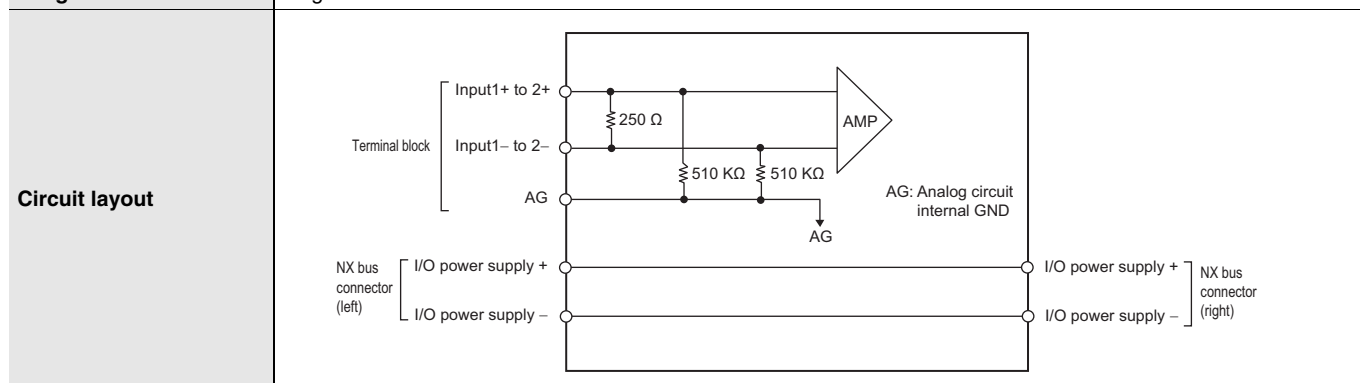
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



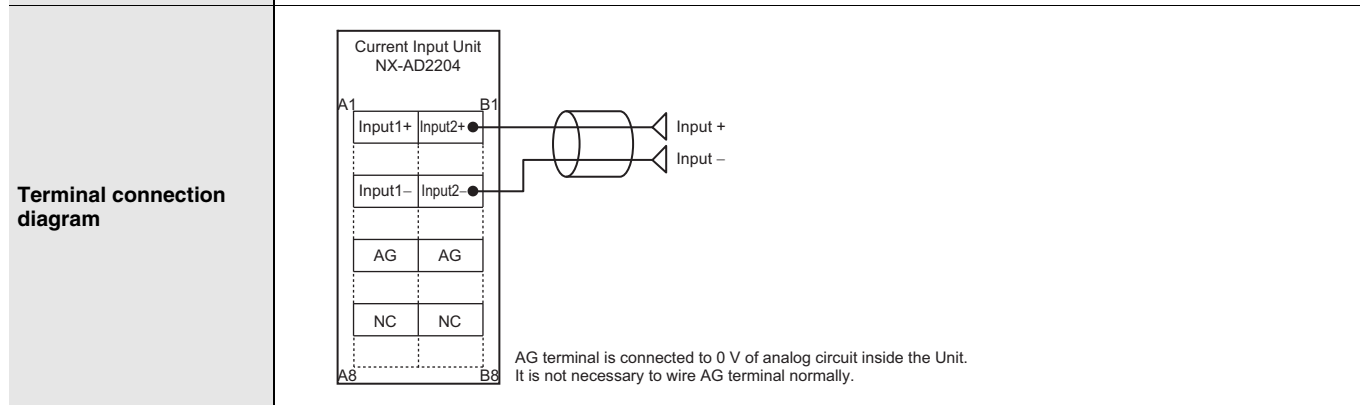
**Input disconnection detection**  
 Supported.

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

|                                  |   |  |  |      |                    |           |                    |
|----------------------------------|---|--|--|------|--------------------|-----------|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD2204  |      |                    |           |                    |
| <b>Capacity</b>                  | 2 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (8 terminals)  |      |                    |           |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |      |                    |           |                    |
| <b>Indicator</b>                 |  | <b>Input method</b>                                  | Differential Input   |      |                    |           |                    |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |      |                    |           |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |      |                    |           |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |      |                    |           |                    |
|                                  |   | <b>Input impedance</b>                               | 250 Ω min.   |      |                    |           |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |      |                    |           |                    |
|                                  |   | <b>Overall accuracy</b>                              | <table border="1"> <tr> <td>25°C</td> <td>±0.2% (full scale)</td> </tr> <tr> <td>0 to 55°C</td> <td>±0.4% (full scale)</td> </tr> </table> | 25°C | ±0.2% (full scale) | 0 to 55°C | ±0.4% (full scale) |
|                                  |   | 25°C   | ±0.2% (full scale)   |      |                    |           |                    |
| 0 to 55°C                        | ±0.4% (full scale)  |  |  |      |                    |           |                    |
| <b>Conversion time</b>           | 250 μs/point  |  |  |      |                    |           |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)                             |      |                    |           |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)                                 | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.   |      |                    |           |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |      |                    |           |                    |
| <b>NX Unit power consumption</b> | 0.90 W max.   | <b>I/O current consumption</b>                       | No consumption   |      |                    |           |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |      |                    |           |                    |




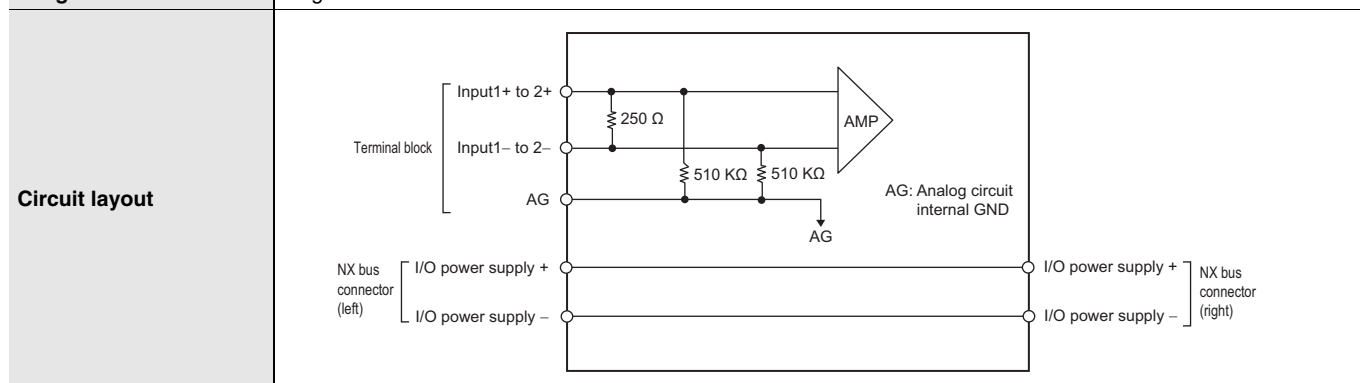
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



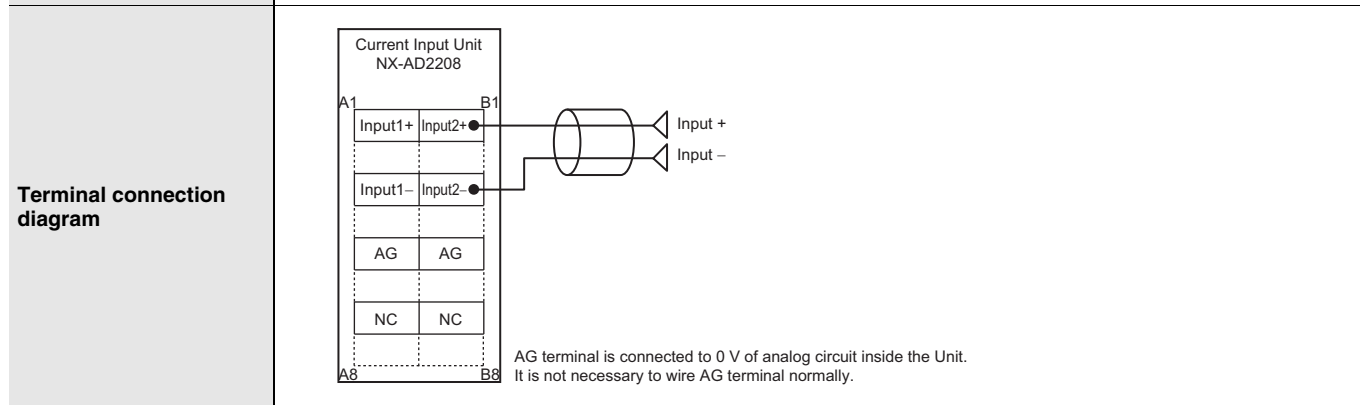
**Input disconnection detection**  
 Supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD2208  |                    |
| <b>Capacity</b>                  | 2 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (8 terminals)  |                    |
| <b>I/O refreshing method</b>     | Selectable Synchronous I/O refreshing or Free-Run refreshing                      |  |  |                    |
| <b>Indicator</b>                 |  | <b>Input method</b>                                  | Differential Input   |                    |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |                    |
|                                  |   | <b>Input impedance</b>                               | 250 Ω  |                    |
|                                  |   | <b>Resolution</b>                                    | 1/30000 (full scale)   |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.1% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.2% (full scale) |
| <b>Conversion time</b>           | 10 μs/point   |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)                                 | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |                    |
| <b>NX Unit power consumption</b> | 0.90 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |




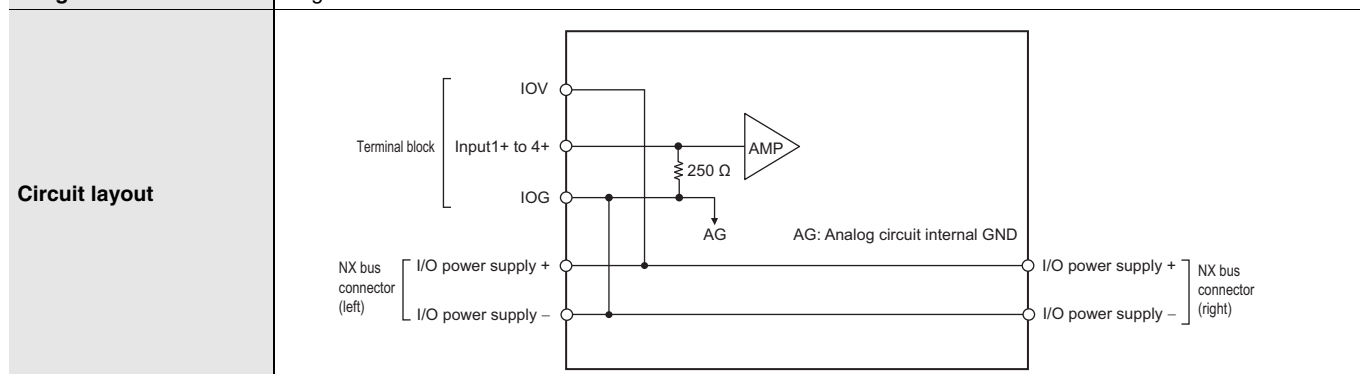
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



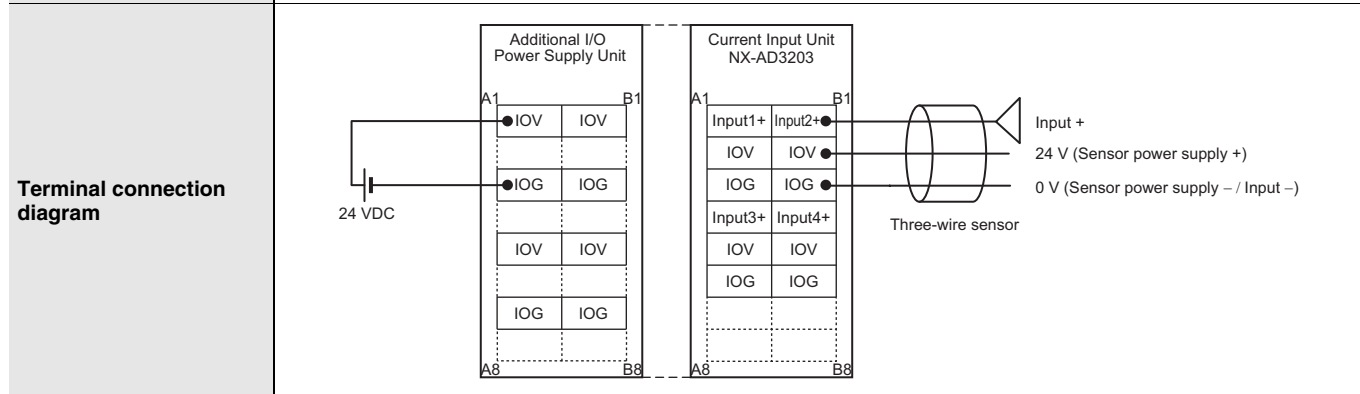
**Input disconnection detection**  
 Supported.

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

|                                  |   |  |  |
|----------------------------------|---|--|--|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD3203  |
| <b>Capacity</b>                  | 4 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (12 terminals)   |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |
| <b>Indicator</b>                 |  | <b>Input method</b>                                  | Single-ended input   |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |
|                                  |   | <b>Input impedance</b>                               | 250 Ω min.   |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |
|                                  |   | <b>Overall accuracy</b>                              | 25°C: ±0.2% (full scale)<br>0 to 55°C: ±0.4% (full scale)  |
|                                  |   | <b>Conversion time</b>                               | 250 μs/point   |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)                                 | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |
| <b>I/O power supply method</b>   | Supply from the NX bus  | <b>Current capacity of I/O power supply terminal</b> | IOV: 0.1 A/terminal max.,<br>IOG: 0.1 A/terminal max.  |
| <b>NX Unit power consumption</b> | 0.90 W max.   | <b>I/O current consumption</b>                       | No consumption   |
| <b>Weight</b>                    | 70 g max.   |  |  |



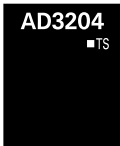
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions

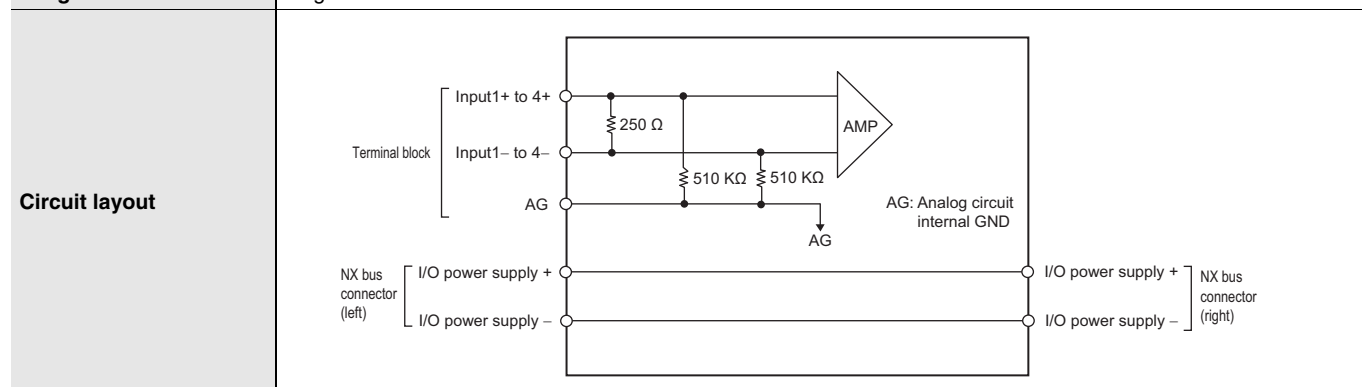


**Input disconnection detection**  
 Supported.

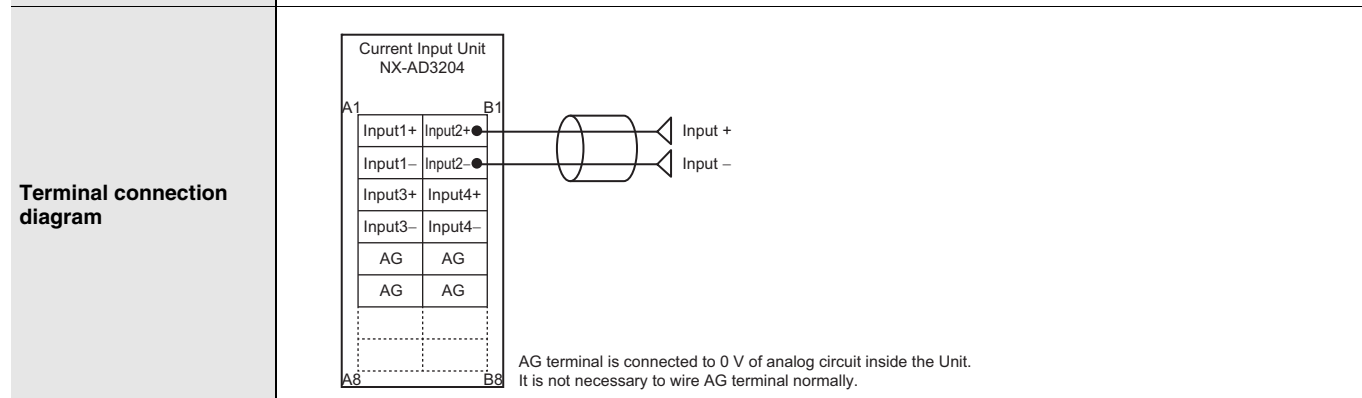


## Analog Input Unit (current input type) 4 points NX-AD3204

|                                  |   |  |  |      |                    |           |                    |
|----------------------------------|---|--|--|------|--------------------|-----------|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD3204  |      |                    |           |                    |
| <b>Capacity</b>                  | 4 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (12 terminals)   |      |                    |           |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |      |                    |           |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Differential Input   |      |                    |           |                    |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |      |                    |           |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |      |                    |           |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |      |                    |           |                    |
|                                  |   | <b>Input impedance</b>                               | 250 Ω min.   |      |                    |           |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |      |                    |           |                    |
|                                  |   | <b>Overall accuracy</b>                              | <table border="1"> <tr> <td>25°C</td> <td>±0.2% (full scale)</td> </tr> <tr> <td>0 to 55°C</td> <td>±0.4% (full scale)</td> </tr> </table> | 25°C | ±0.2% (full scale) | 0 to 55°C | ±0.4% (full scale) |
|                                  |   | 25°C   | ±0.2% (full scale)   |      |                    |           |                    |
| 0 to 55°C                        | ±0.4% (full scale)  |  |  |      |                    |           |                    |
| <b>Conversion time</b>           | 250 μs/point  |  |  |      |                    |           |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)                             |      |                    |           |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.   |      |                    |           |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |      |                    |           |                    |
| <b>NX Unit power consumption</b> | 0.90 W max.   | <b>I/O current consumption</b>                       | No consumption   |      |                    |           |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |      |                    |           |                    |

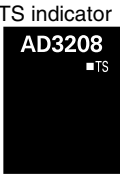


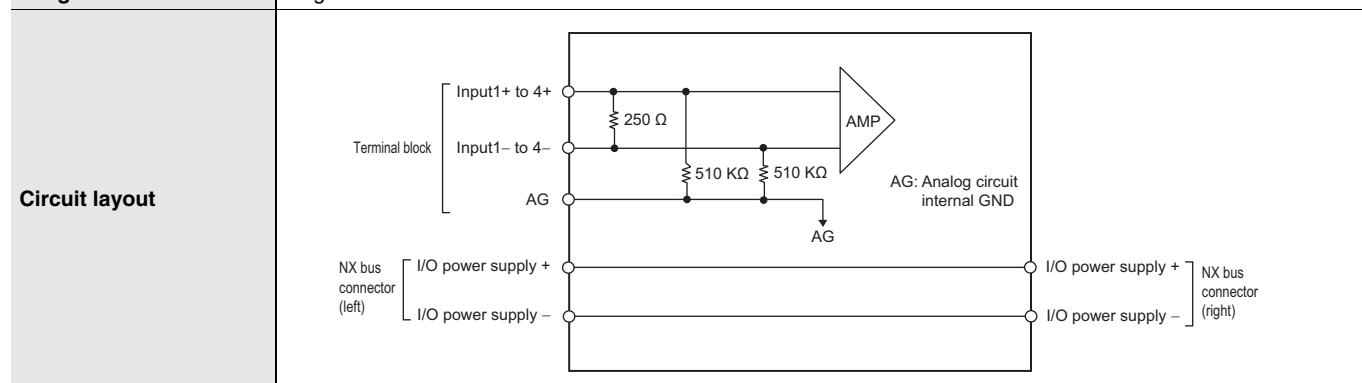
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



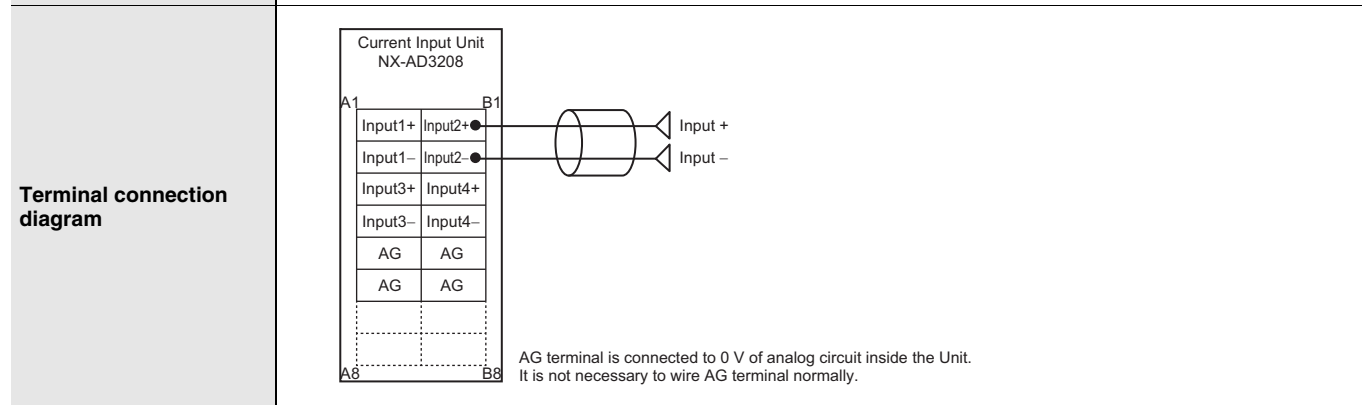
**Input disconnection detection**  
 Supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD3208  |                    |
| <b>Capacity</b>                  | 4 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (12 terminals)   |                    |
| <b>I/O refreshing method</b>     | Selectable Synchronous I/O refreshing or Free-Run refreshing                      |  |  |                    |
| <b>Indicator</b>                 |  | <b>Input method</b>                                  | Differential Input   |                    |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |                    |
|                                  |   | <b>Input impedance</b>                               | 250 Ω min.   |                    |
|                                  |   | <b>Resolution</b>                                    | 1/30000 (full scale)   |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.1% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.2% (full scale) |
| <b>Conversion time</b>           | 10 μs/point   |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)                                 | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |                    |
| <b>NX Unit power consumption</b> | 0.95 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |




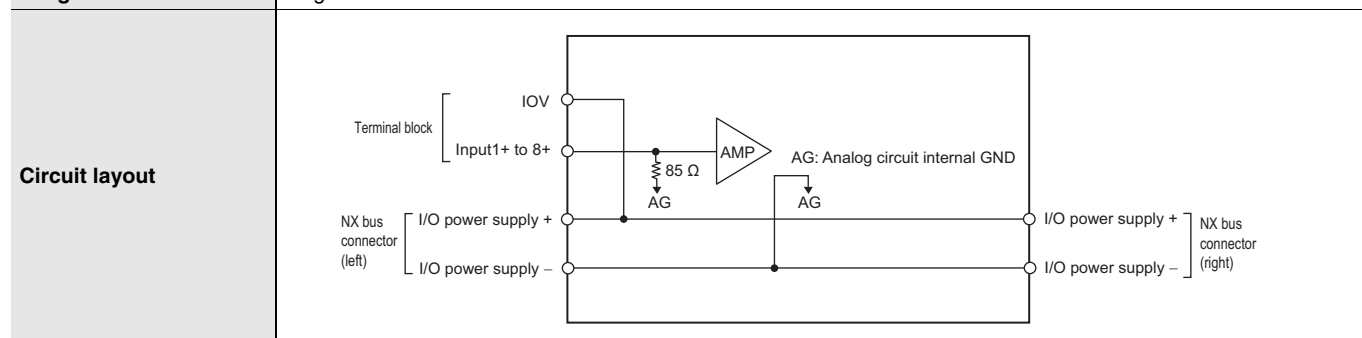
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



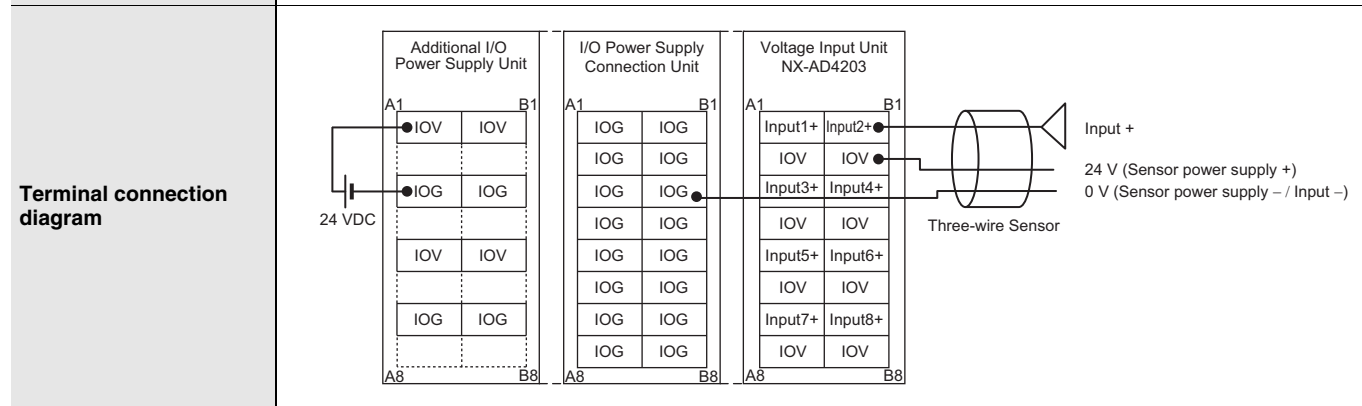
**Input disconnection detection**  
 Supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD4203  |                    |
| <b>Capacity</b>                  | 8 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (16 terminals)   |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Single-ended input   |                    |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |                    |
|                                  |   | <b>Input impedance</b>                               | 85 Ω   |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.2% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.4% (full scale) |
| <b>Conversion time</b>           | 250 μs/point  |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | Supply from the NX bus  | <b>Current capacity of I/O power supply terminal</b> | IOV: 0.1 A/terminal max.   |                    |
| <b>NX Unit power consumption</b> | 1.05 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |

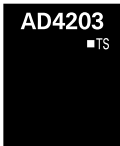


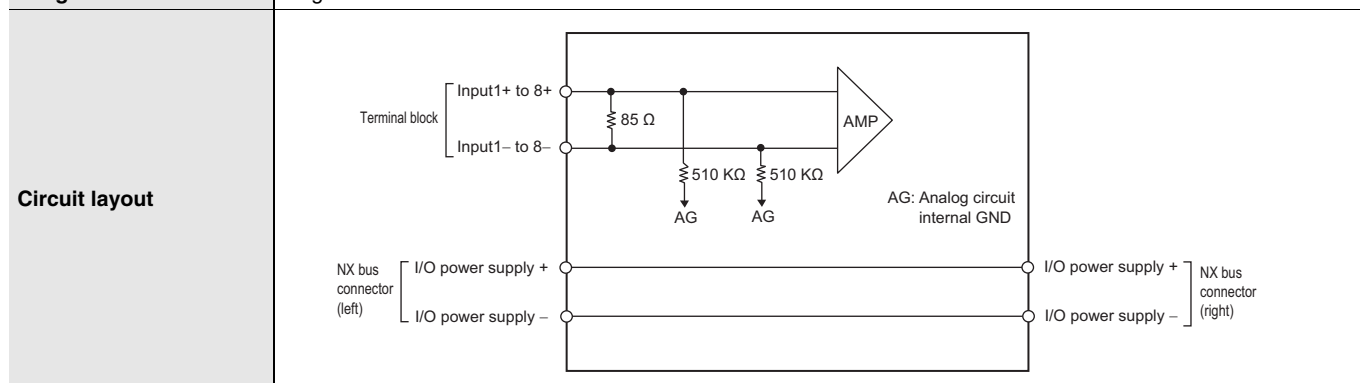
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



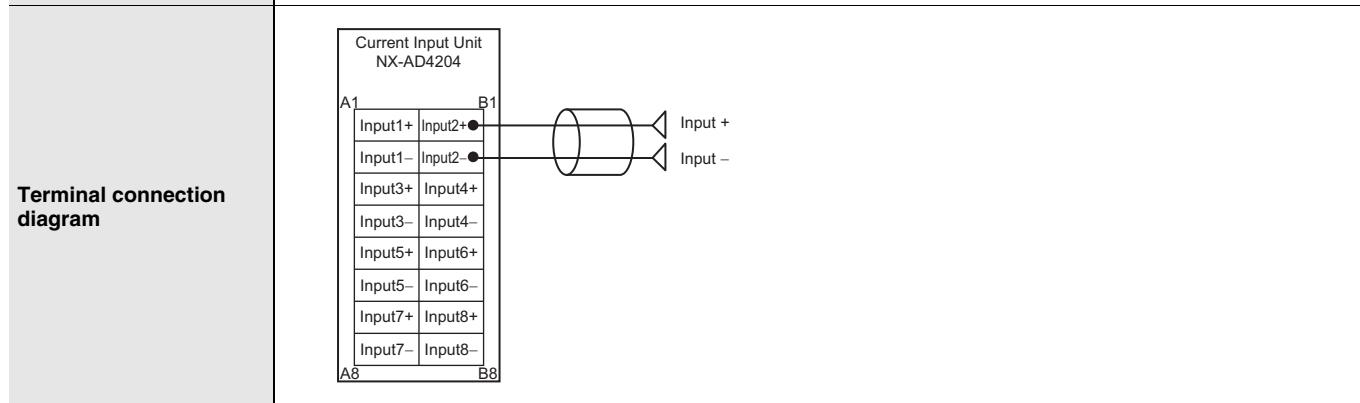
**Input disconnection detection**  
 Supported.

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

|                                  |   |  |  |      |                    |           |                    |
|----------------------------------|---|--|--|------|--------------------|-----------|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD4204  |      |                    |           |                    |
| <b>Capacity</b>                  | 8 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (16 terminals)   |      |                    |           |                    |
| <b>I/O refreshing method</b>     | Free-Run refreshing   |  |  |      |                    |           |                    |
| <b>Indicator</b>                 | TS indicator<br> | <b>Input method</b>                                  | Differential Input   |      |                    |           |                    |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |      |                    |           |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |      |                    |           |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |      |                    |           |                    |
|                                  |   | <b>Input impedance</b>                               | 85 Ω   |      |                    |           |                    |
|                                  |   | <b>Resolution</b>                                    | 1/8000 (full scale)  |      |                    |           |                    |
|                                  |   | <b>Overall accuracy</b>                              | <table border="1"> <tr> <td>25°C</td> <td>±0.2% (full scale)</td> </tr> <tr> <td>0 to 55°C</td> <td>±0.4% (full scale)</td> </tr> </table> | 25°C | ±0.2% (full scale) | 0 to 55°C | ±0.4% (full scale) |
|                                  |   | 25°C   | ±0.2% (full scale)   |      |                    |           |                    |
| 0 to 55°C                        | ±0.4% (full scale)  |  |  |      |                    |           |                    |
| <b>Conversion time</b>           | 250 μs/point  |  |  |      |                    |           |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs)                             |      |                    |           |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)   | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.   |      |                    |           |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |      |                    |           |                    |
| <b>NX Unit power consumption</b> | 1.05 W max.   | <b>I/O current consumption</b>                       | No consumption   |      |                    |           |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |      |                    |           |                    |

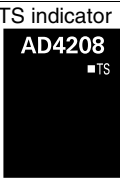


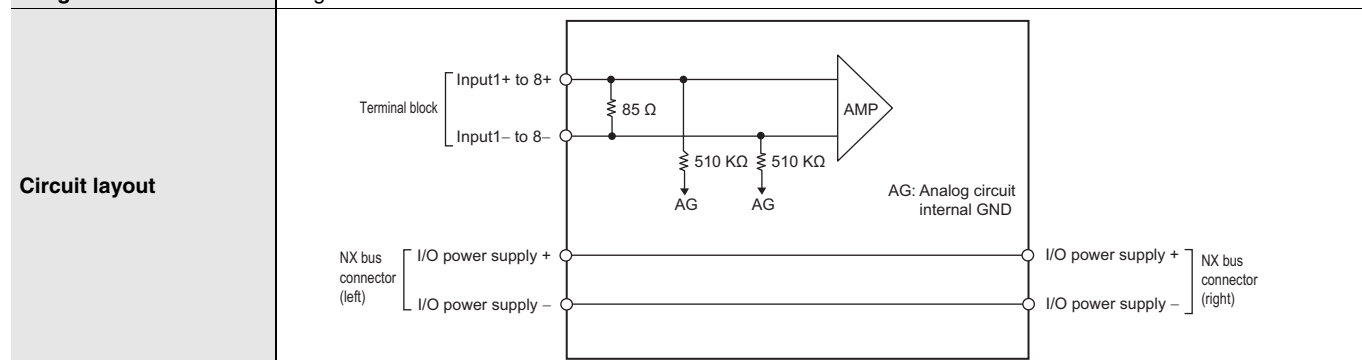
**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



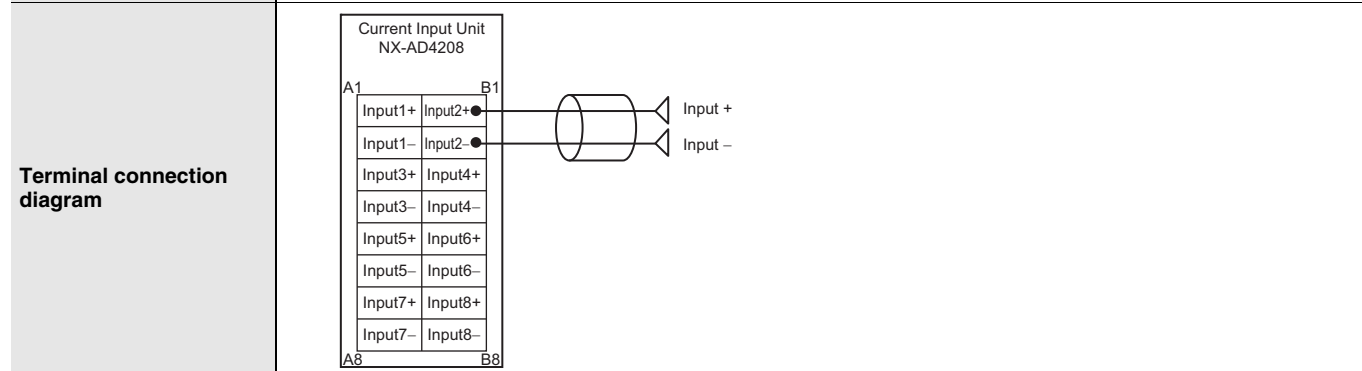
**Input disconnection detection**  
 Supported.

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

|                                  |   |  |  |                    |
|----------------------------------|---|--|--|--------------------|
| <b>Unit name</b>                 | Analog Input Unit (current input type)  | <b>Model</b>   | NX-AD4208  |                    |
| <b>Capacity</b>                  | 8 points  | <b>External connection terminals</b>                 | Screwless clamping terminal block (16 terminals)   |                    |
| <b>I/O refreshing method</b>     | Selectable Synchronous I/O refreshing or Free-Run refreshing                      |  |  |                    |
| <b>Indicator</b>                 |  | <b>Input method</b>                                  | Differential Input   |                    |
|                                  |   | <b>Input range</b>                                   | 4 to 20 mA   |                    |
|                                  |   | <b>Input conversion range</b>                        | -5 to 105% (full scale)  |                    |
|                                  |   | <b>Absolute maximum rating</b>                       | ±30 mA   |                    |
|                                  |   | <b>Input impedance</b>                               | 85 Ω   |                    |
|                                  |   | <b>Resolution</b>                                    | 1/30000 (full scale)   |                    |
|                                  |   | <b>Overall accuracy</b>                              | 25°C   | ±0.1% (full scale) |
|                                  |   |  | 0 to 55°C  | ±0.2% (full scale) |
| <b>Conversion time</b>           | 10 μs/point   |  |  |                    |
| <b>Dimensions</b>                | 12 (W) x 100 (H) x 71 (D)   | <b>Isolation method</b>                              | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) |                    |
| <b>Insulation resistance</b>     | 20 MΩ min. between isolated circuits (at 100 VDC)                                 | <b>Dielectric strength</b>                           | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max.                               |                    |
| <b>I/O power supply method</b>   | No supply   | <b>Current capacity of I/O power supply terminal</b> | Without I/O power supply terminals   |                    |
| <b>NX Unit power consumption</b> | 1.10 W max.   | <b>I/O current consumption</b>                       | No consumption   |                    |
| <b>Weight</b>                    | 70 g max.   |  |  |                    |



**Installation orientation and restrictions**  
 Installation orientation: Possible in 6 orientations.  
 Restrictions: No restrictions



**Input disconnection detection**  
 Supported.

## Version Information

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

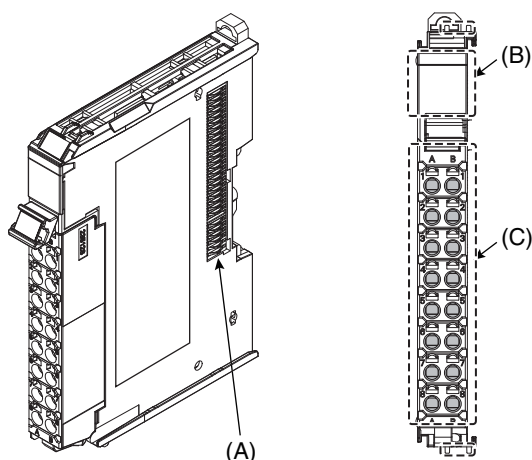
\* For the NX-ECC202, there is no unit version of 1.1 or earlier.

## External Interface

### Analog Input Unit

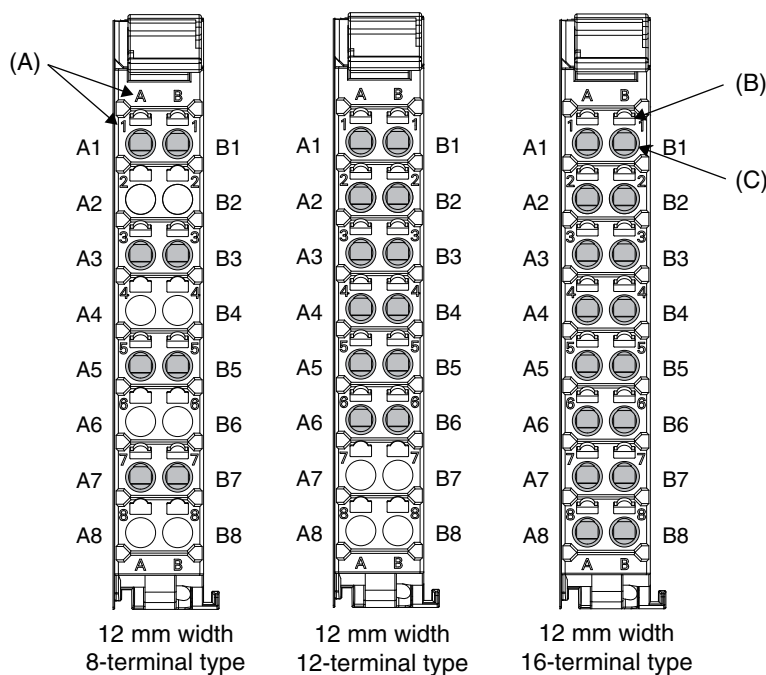
NX-AD□□□□

12mm Width



| 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

| Unit model | Terminal Blocks |                  |                             |                      |                           |
|------------|-----------------|------------------|-----------------------------|----------------------|---------------------------|
|            | 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.

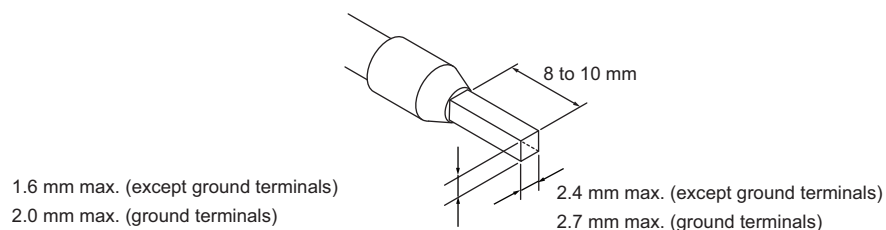
The applicable ferrules, wires, and crimping tool are given in the following table.

| 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.)<br>CRIMPFOX 6 (0.25 to 6 mm <sup>2</sup> , AWG24 to 10) |
|                                       |                 | AI0,5-8              | 0.5 (#20)                               |  |
|                                       |                 | 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)                               |  |
| Ground terminals                      | Phoenix Contact | AI1,5-10             |   |  |
|                                       |                 | AI2,5-10             | 2.0 *                                   |  |
| Terminals other than ground terminals | Weidmuller      | H0.14/12             | 0.14 (#26)                              | Weidmuller (The figure in parentheses is the applicable wire size.)<br>PZ6 Roto (0.14 to 6 mm <sup>2</sup> , AWG 26 to 10)       |
|                                       |                 | H0.25/12             | 0.25 (#24)                              |  |
|                                       |                 | 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.

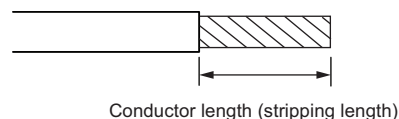
Finished Dimensions of Ferrules



### 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><br>AWG28 to 16 | 8 to 10 mm                          |

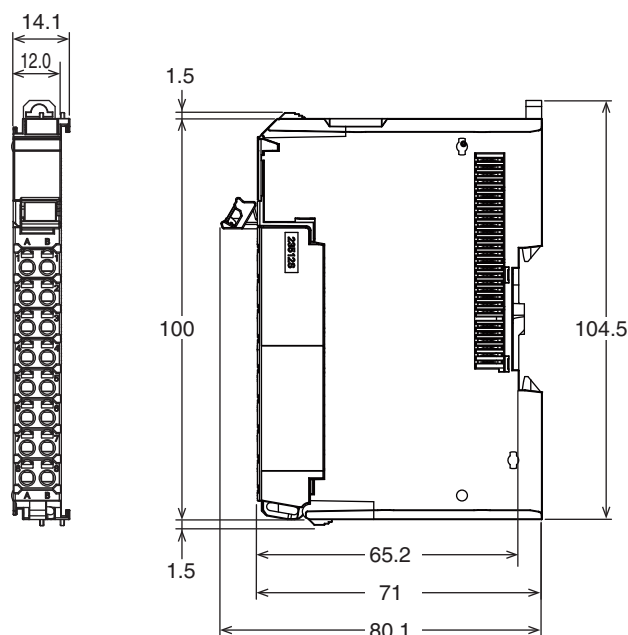


## Dimensions

### Analog Input Unit

NX-AD□□□□

12 mm Width



## Related Manuals

| Cat. No. | Model number                        | Manual name                              | Application  | Description   |
|----------|-------------------------------------|--|--|---|
| W522     | NX-AD□□□□<br>NX-DA□□□□<br>NX-TS□□□□ | 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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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.