

NX-series Analog I/O Unit

NX-AD/DA

CSM_NX-AD_DA_DS_E_3_3

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

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



Features

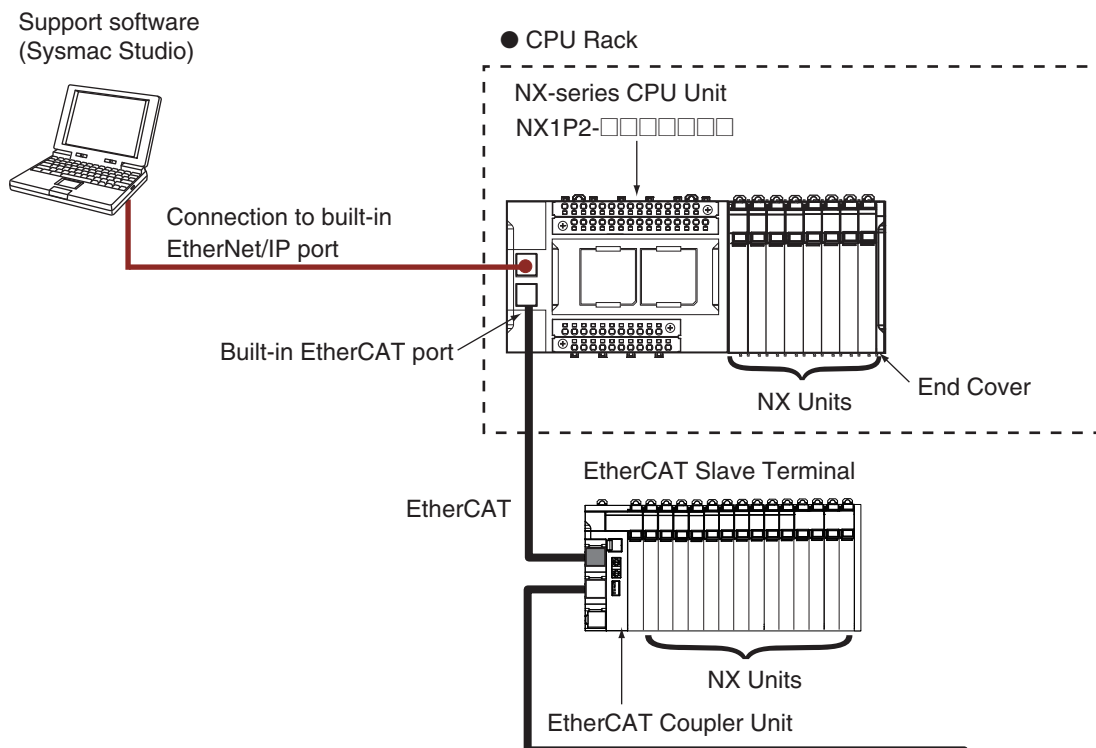
- Up to eight analog inputs per unit (NX-AD)
- Up to four analog outputs per unit (NX-DA)
- Free-run refreshing or synchronous I/O refreshing with the NX1P2 CPU Unit or EtherCAT Coupler Unit
- Sampling times down to 10 μ s per channel and high resolution of 1/30,000
- Single-ended input type with built-in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

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System Configurations

Connected to a CPU Unit or Communication Control Unit

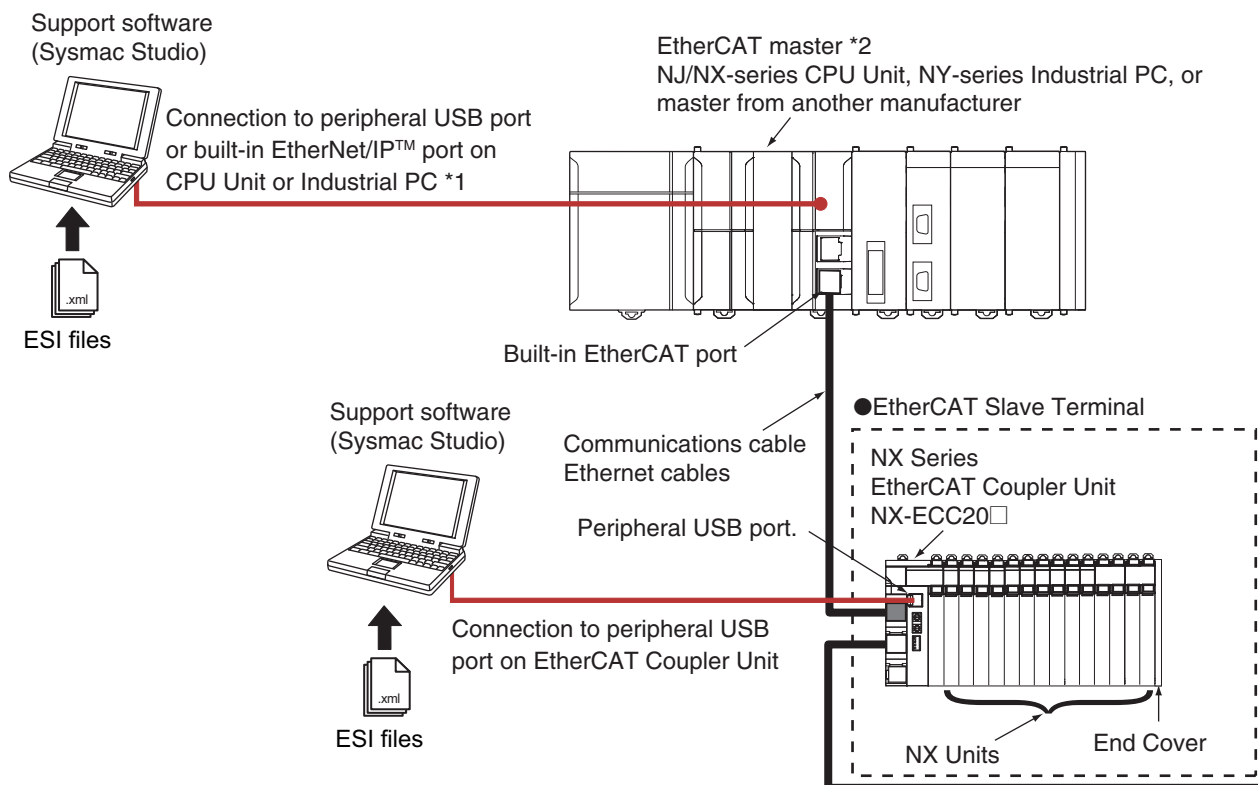
The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



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

Connected to an EtherCAT Coupler Unit

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



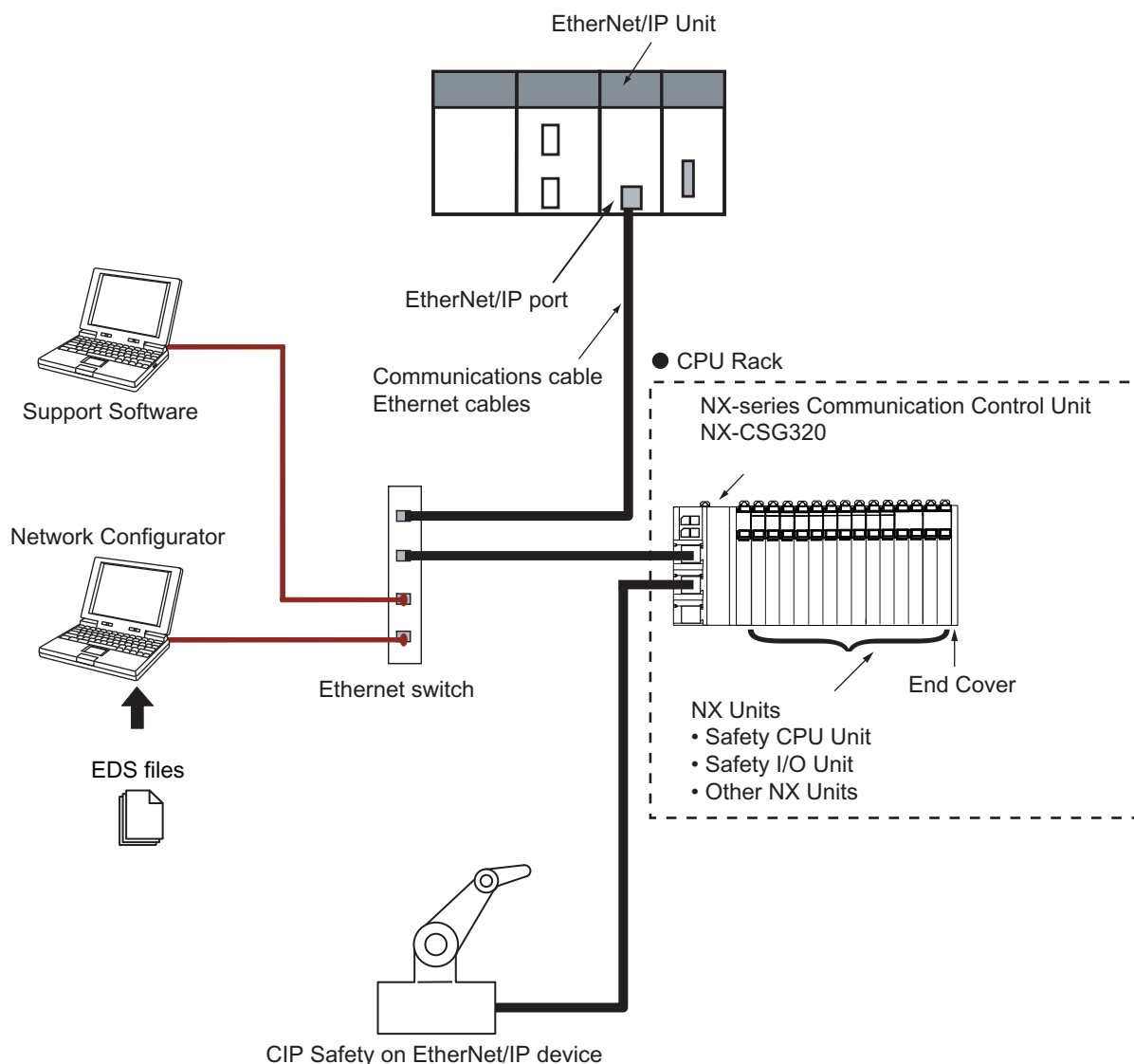
*1. The connection method for the Sysmac Studio depends on the model of the CPU Unit or Industrial PC.

*2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81□82 Position Control Units even though they can operate as EtherCAT masters.

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

System Configuration in the Case of a Communication Control Unit

The following figure shows a system configuration when a group of NX Units is connected to an NX-series Communication Control Unit. To configure a Safety Network Controller, mount the Safety CPU Unit, which is one of the NX Units, to the CPU Rack of the Communication Control Unit.



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

Model Number Structure

NX-□□□□□□
 (1) (2) (3) (4)

(1) Unit type

| No. | Specification |
|-----|---------------|
| AD | Analog input |
| DA | Analog output |

(2) Number of points

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

(3) I/O range

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

(4) Other specifications

Analog Input Units

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

*1 Free-Run refreshing

*2 Synchronous I/O refreshing

Analog Output Units

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

*1 Free-Run refreshing



*2 Synchronous I/O refreshing

Ordering Information



Applicable standards

Refer to the OMRON website (www.ia.omron.com) or ask your OMRON representative for the most recent applicable standards for each model.

Analog Input Units

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

Analog Output Units

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

Optional Products

| Product name | Specification | Model |
|--|--|-----------------|
| Unit/Terminal Block Coding Pins | For 10 Units (Terminal Block: 30 pins, Unit: 30 pins) | NX-AUX02 |

| Product name | Specification | | | | Model |
|-----------------------|------------------|-----------------------------|----------------------|---------------------------|------------------|
| | 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.


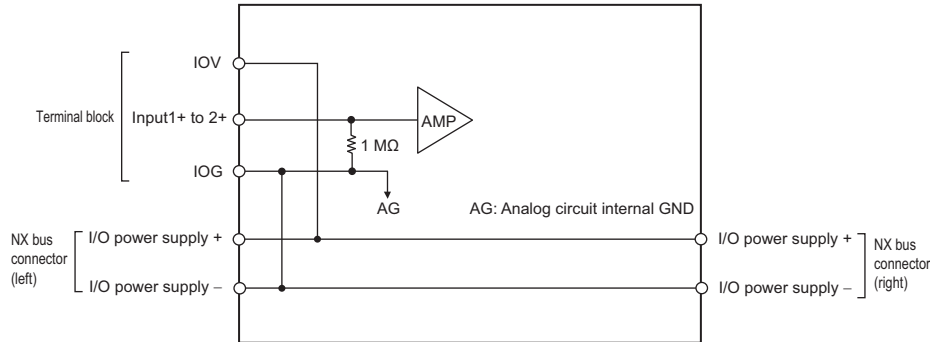
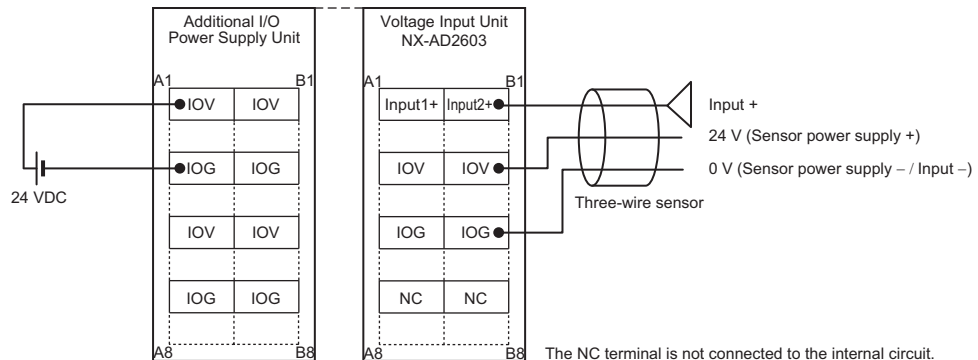
General Specifications

| 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: Meets IEC 61010-2-201. |
| | Noise immunity | 2 kV on power supply line (Conforms to IEC61000-4-4.) |
| | Overvoltage category | Category II: Meets IEC 61010-2-201. |
| | 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 ² , 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total) |
| Shock resistance | Conforms to IEC 60068-2-27. 147 m/s ² , 3 times each in X, Y, and Z directions | |
| Applicable standards * | | cULus: Listed (UL508), ANSI/ISA 12.12.01, EU: EN 61131-2, C-Tick or RCM, KC Registration, NK, LR |

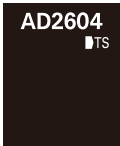
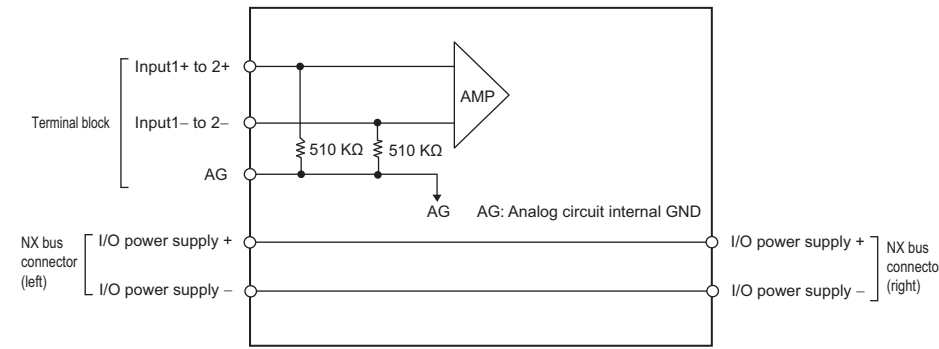
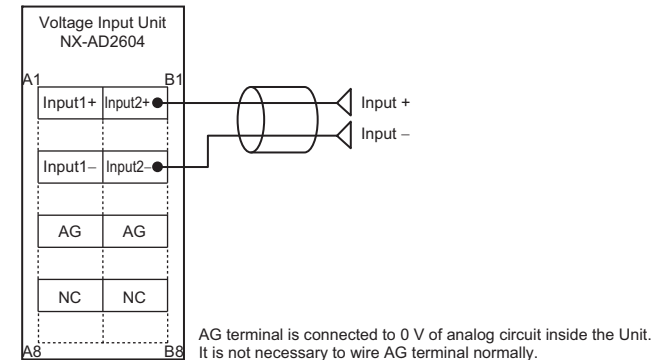
* Refer to the OMRON website (www.ia.omron.com) or ask your OMRON representative for the most recent applicable standards for each model.

Analog Input Unit Specifications

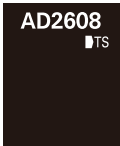
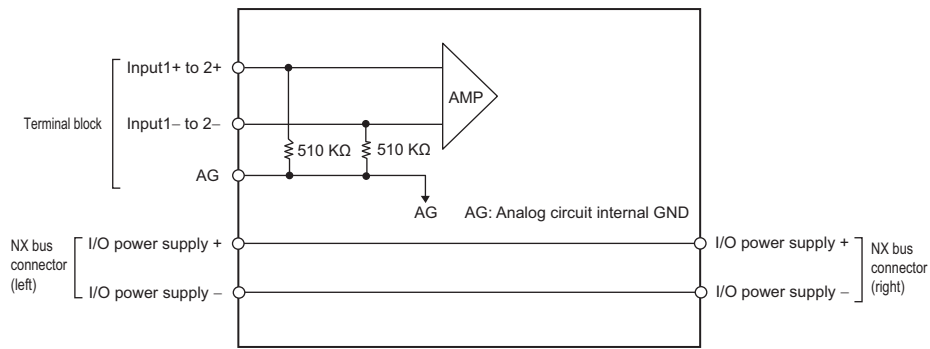
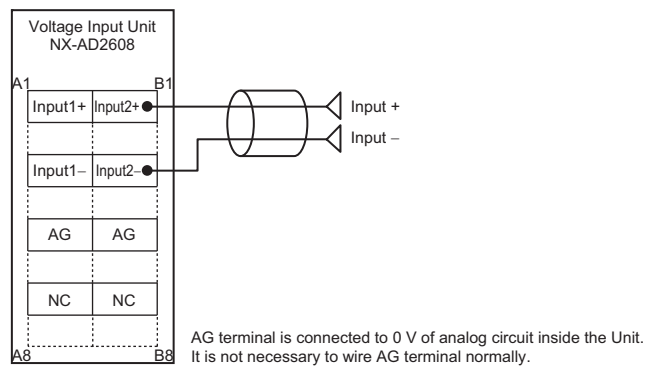
Analog Input Unit (voltage input type) 2 points NX-AD2603

| | | | | | | | |
|--|---|--|--|------|--------------------|-----------|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD2603 | | | | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | | | | |
| I/O refreshing method | Free-Run refreshing | | | | | | |
| Indicator | TS indicator  | Input method | Single-ended input | | | | |
| | | Input range | -10 to +10 V | | | | |
| | | Input conversion range | -5 to 105% (full scale) | | | | |
| | | Absolute maximum rating | ±15 V | | | | |
| | | Input impedance | 1 MΩ min. | | | | |
| | | Resolution | 1/8000 (full scale) | | | | |
| | | Overall accuracy | <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) | | | | | | |
| 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 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. | | | | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.35 W max. Connected to a Communications Coupler Unit 1.05 W max. | I/O current consumption | No consumption | | | | |
| Weight | 70 g max. | | | | | | |
| Circuit layout |  | | | | | | |
| Installation orientation and restrictions | Installation orientation: <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | | | | |
| Terminal connection diagram |  | | | | | | |
| Input disconnection detection | Not supported. | | | | | | |

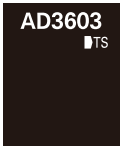
Analog Input Unit (voltage input type) 2 points NX-AD2604

| | | | | | | | |
|--|---|--|--|------|--------------------|-----------|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD2604 | | | | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | | | | |
| I/O refreshing method | Free-Run refreshing | | | | | | |
| Indicator | TS indicator  | Input method | Differential Input | | | | |
| | | Input range | -10 to +10 V | | | | |
| | | Input conversion range | -5 to 105% (full scale) | | | | |
| | | Absolute maximum rating | ±15 V | | | | |
| | | Input impedance | 1 MΩ min. | | | | |
| | | Resolution | 1/8000 (full scale) | | | | |
| | | Overall accuracy | <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) | | | | | | |
| 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 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. | | | | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | | | | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.35 W max. Connected to a Communications Coupler Unit 1.05 W max. | I/O current consumption | No consumption | | | | |
| Weight | 70 g max. | | | | | | |
| Circuit layout |  | | | | | | |
| Installation orientation and restrictions | Installation orientation: <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | | | | |
| Terminal connection diagram |  | | | | | | |
| Input disconnection detection | Not supported. | | | | | | |


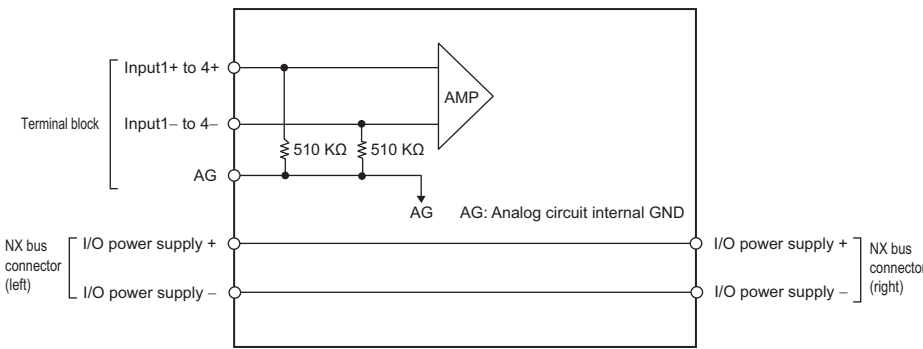
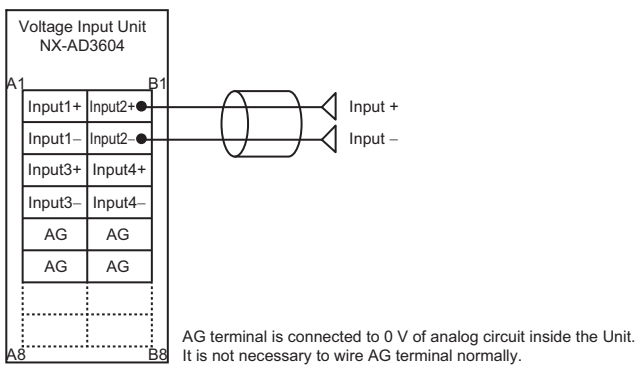
Analog Input Unit (voltage input type) 2 points NX-AD2608

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD2608 | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | |
| Indicator |  | Input method | Differential Input | |
| | | Input range | -10 to +10 V | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±15 V | |
| | | Input impedance | 1 MΩ min. | |
| | | Resolution | 1/30000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.1% (full scale) |
| | | | 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 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. | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.35 W max. Connected to a Communications Coupler Unit 1.05 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | |
| Terminal connection diagram |  | | | |
| Input disconnection detection | Not supported. | | | |


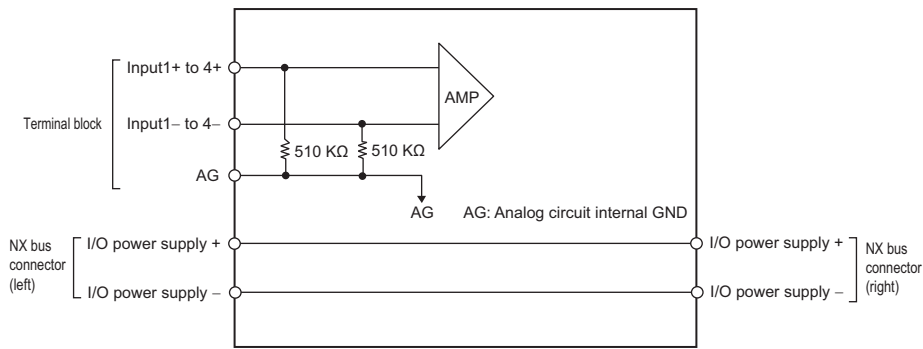
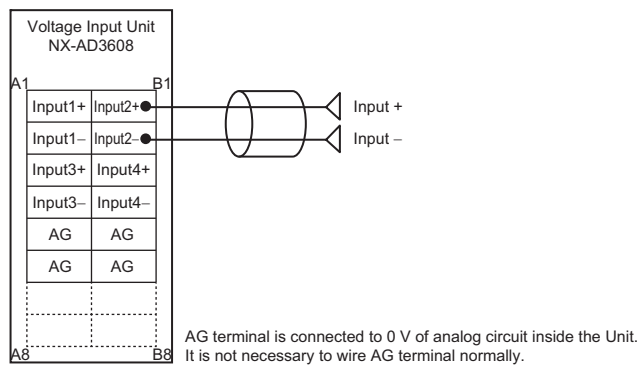
Analog Input Unit (voltage input type) 4 points NX-AD3603

| | | | | | | | |
|--|---|--|--|------|--------------------|-----------|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD3603 | | | | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | | | | |
| I/O refreshing method | Free-Run refreshing | | | | | | |
| Indicator |  | Input method | Single-ended input | | | | |
| | | Input range | -10 to +10 V | | | | |
| | | Input conversion range | -5 to 105% (full scale) | | | | |
| | | Absolute maximum rating | ±15 V | | | | |
| | | Input impedance | 1 MΩ min. | | | | |
| | | Resolution | 1/8000 (full scale) | | | | |
| | | Overall accuracy | <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) | | | | | | |
| 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 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. | | | | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.35 W max. Connected to a Communications Coupler Unit 1.10 W max. | I/O current consumption | No consumption | | | | |
| Weight | 70 g max. | | | | | | |
| Circuit layout | | | | | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | | | | |
| Terminal connection diagram | | | | | | | |
| Input disconnection detection | Not supported. | | | | | | |

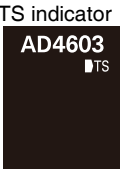
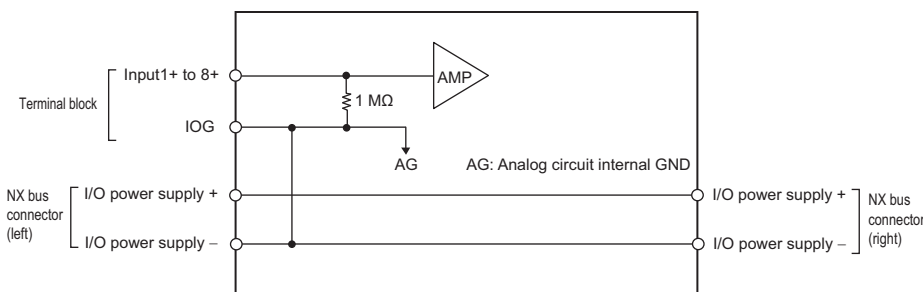
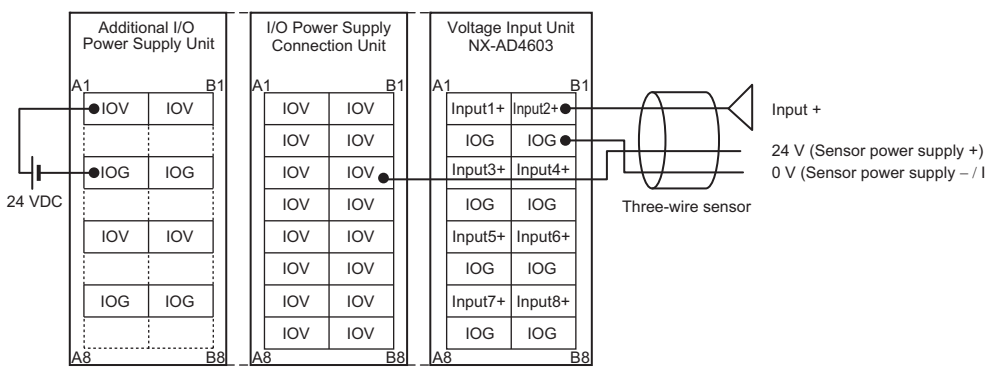
Analog Input Unit (voltage input type) 4 points NX-AD3604

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD3604 | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator | <p>TS indicator</p>  | Input method | Differential Input | |
| | | Input range | -10 to +10 V | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±15 V | |
| | | Input impedance | 1 MΩ min. | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.2% (full scale) |
| | | | 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 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. | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.35 W max. Connected to a Communications Coupler Unit 1.10 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | |
| Terminal connection diagram |  | | | |
| Input disconnection detection | Not supported. | | | |


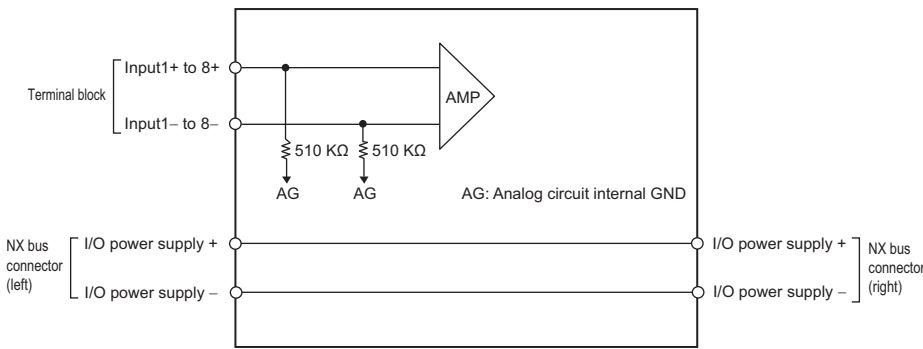
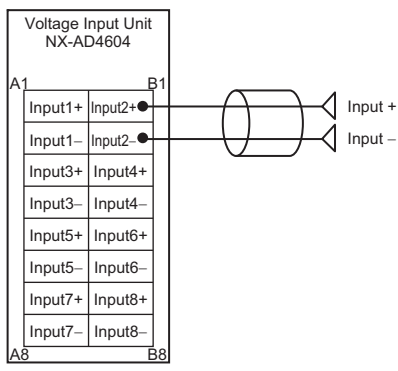
Analog Input Unit (voltage input type) 4 points NX-AD3608

| | | | | | | | |
|--|---|--|--|------|--------------------|-----------|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD3608 | | | | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | | | | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | | | | |
| Indicator |  | Input method | Differential Input | | | | |
| | | Input range | -10 to +10 V | | | | |
| | | Input conversion range | -5 to 105% (full scale) | | | | |
| | | Absolute maximum rating | ±15 V | | | | |
| | | Input impedance | 1 MΩ min. | | | | |
| | | Resolution | 1/30000 (full scale) | | | | |
| | | Overall accuracy | <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) | | | | | | |
| 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 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. | | | | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | | | | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 1.10 W max. | I/O current consumption | No consumption | | | | |
| Weight | 70 g max. | | | | | | |
| Circuit layout |  | | | | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | | | | |
| Terminal connection diagram |  <p>AG terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.</p> | | | | | | |
| Input disconnection detection | Not supported. | | | | | | |

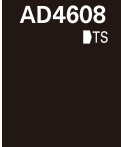
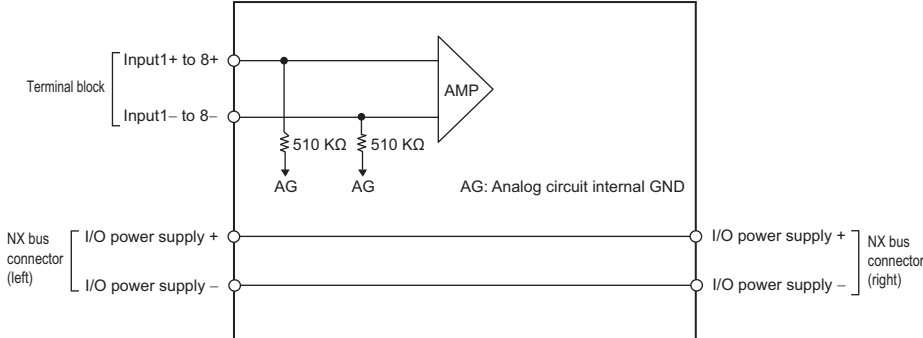
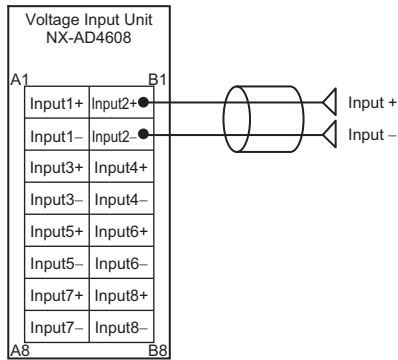
Analog Input Unit (voltage input type) 8 points NX-AD4603

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD4603 | |
| Number of points | 8 points | External connection terminals | Screwless clamping terminal block (16 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator |  | Input method | Single-ended input | |
| | | Input range | -10 to +10 V | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±15 V | |
| | | Input impedance | 1 MΩ min. | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.2% (full scale) |
| | | | 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 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. | |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | I/OG: 0.1 A/terminal max. | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 1.15 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | |
| Terminal connection diagram |  | | | |
| Input disconnection detection | Not supported. | | | |


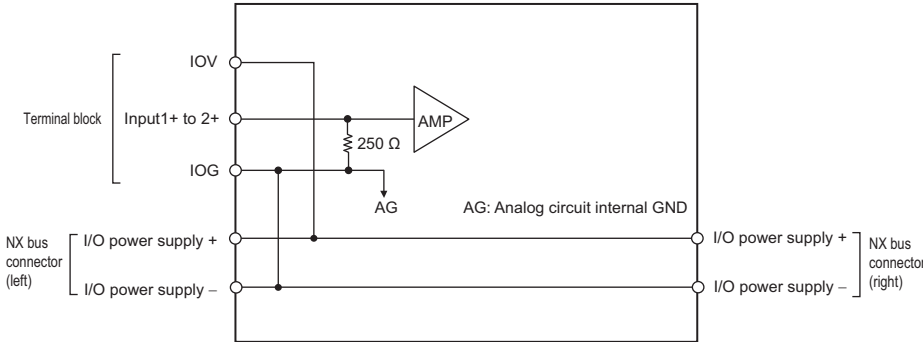
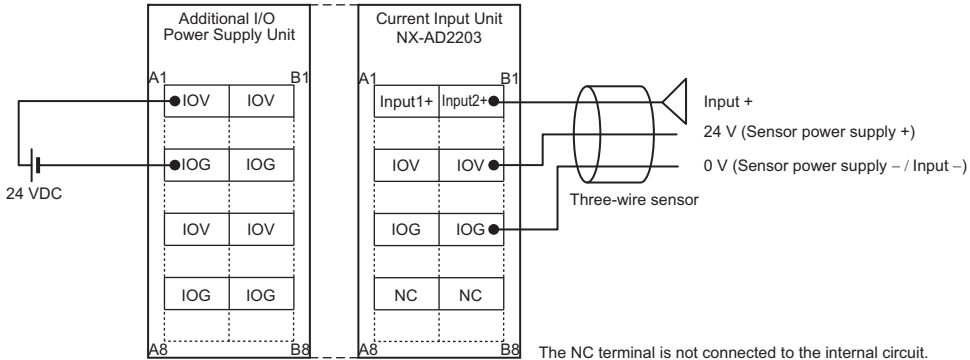
Analog Input Unit (voltage input type) 8 points NX-AD4604

| | | | | | | | |
|--|---|--|--|------|--------------------|-----------|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD4604 | | | | |
| Number of points | 8 points | External connection terminals | Screwless clamping terminal block (16 terminals) | | | | |
| I/O refreshing method | Free-Run refreshing | | | | | | |
| Indicator | TS indicator  | Input method | Differential Input | | | | |
| | | Input range | -10 to +10 V | | | | |
| | | Input conversion range | -5 to 105% (full scale) | | | | |
| | | Absolute maximum rating | ±15 V | | | | |
| | | Input impedance | 1 MΩ min. | | | | |
| | | Resolution | 1/8000 (full scale) | | | | |
| | | Overall accuracy | <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) | | | | | | |
| 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 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. | | | | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | | | | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 1.15 W max. | I/O current consumption | No consumption | | | | |
| Weight | 70 g max. | | | | | | |
| Circuit layout |  | | | | | | |
| Installation orientation and restrictions | Installation orientation: <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | | | | |
| Terminal connection diagram |  | | | | | | |
| Input disconnection detection | Not supported. | | | | | | |


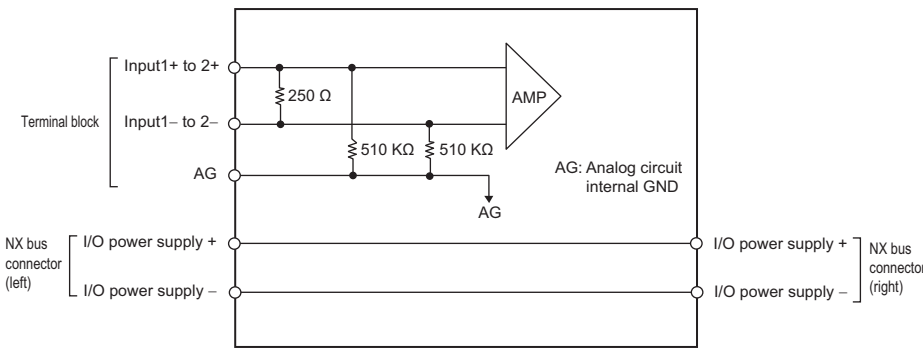
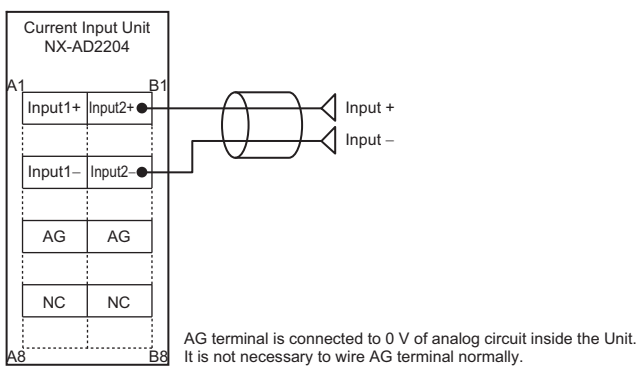
Analog Input Unit (voltage input type) 8 points NX-AD4608

| | | | | | | | |
|--|---|--|--|------|--------------------|-----------|--------------------|
| Unit name | Analog Input Unit (voltage input type) | Model | NX-AD4608 | | | | |
| Number of points | 8 points | External connection terminals | Screwless clamping terminal block (16 terminals) | | | | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | | | | |
| Indicator |  | Input method | Differential Input | | | | |
| | | Input range | -10 to +10 V | | | | |
| | | Input conversion range | -5 to 105% (full scale) | | | | |
| | | Absolute maximum rating | ±15 V | | | | |
| | | Input impedance | 1 MΩ min. | | | | |
| | | Resolution | 1/30000 (full scale) | | | | |
| | | Overall accuracy | <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) | | | | | | |
| 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 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. | | | | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | | | | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 1.15 W max. | I/O current consumption | No consumption | | | | |
| Weight | 70 g max. | | | | | | |
| Circuit layout |  | | | | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | | | | |
| Terminal connection diagram |  | | | | | | |
| Input disconnection detection | Not supported. | | | | | | |


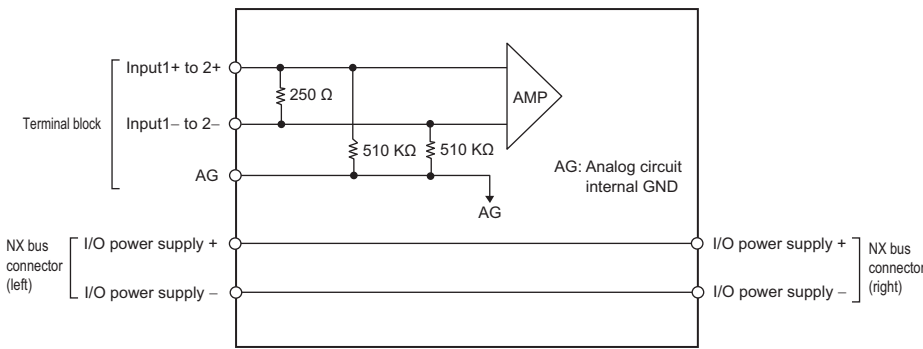
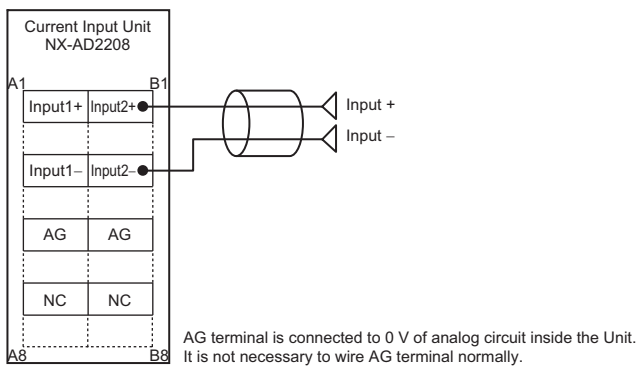
Analog Input Unit (current input type) 2 points NX-AD2203

| | | | | | | | |
|--|---|--|--|------|--------------------|-----------|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD2203 | | | | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | | | | |
| I/O refreshing method | Free-Run refreshing | | | | | | |
| Indicator |  | Input method | Single-ended input | | | | |
| | | Input range | 4 to 20 mA | | | | |
| | | Input conversion range | -5 to 105% (full scale) | | | | |
| | | Absolute maximum rating | ±30 mA | | | | |
| | | Input impedance | 250 Ω | | | | |
| | | Resolution | 1/8000 (full scale) | | | | |
| | | Overall accuracy | <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) | | | | | | |
| 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 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. | | | | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.25 W max. Connected to a Communications Coupler Unit 0.90 W max. | I/O current consumption | No consumption | | | | |
| Weight | 70 g max. | | | | | | |
| Circuit layout |  | | | | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | | | | |
| Terminal connection diagram |  <p>The NC terminal is not connected to the internal circuit.</p> | | | | | | |
| Input disconnection detection | Supported. | | | | | | |


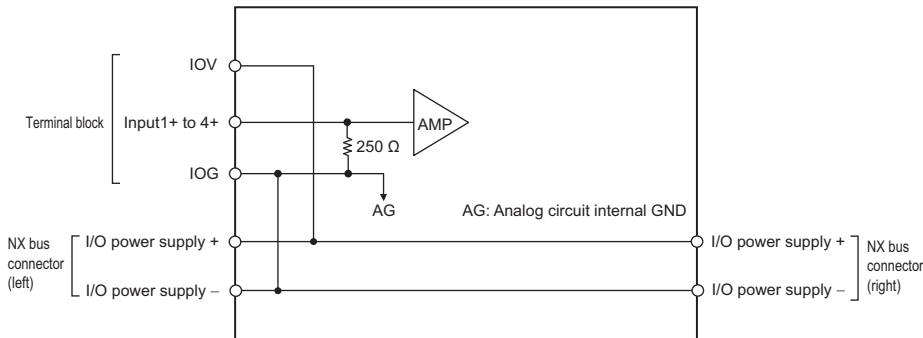
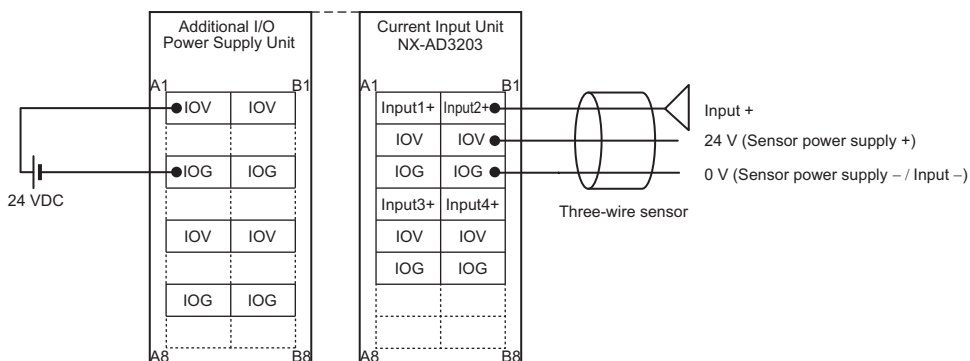
Analog Input Unit (current input type) 2 points NX-AD2204

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD2204 | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator | TS indicator  | Input method | Differential Input | |
| | | Input range | 4 to 20 mA | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±30 mA | |
| | | Input impedance | 250 Ω | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.2% (full scale) |
| | | | 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 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. | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.25 W max. Connected to a Communications Coupler Unit 0.90 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | Installation orientation: <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | |
| Terminal connection diagram |  <p>AG terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.</p> | | | |
| Input disconnection detection | Supported. | | | |


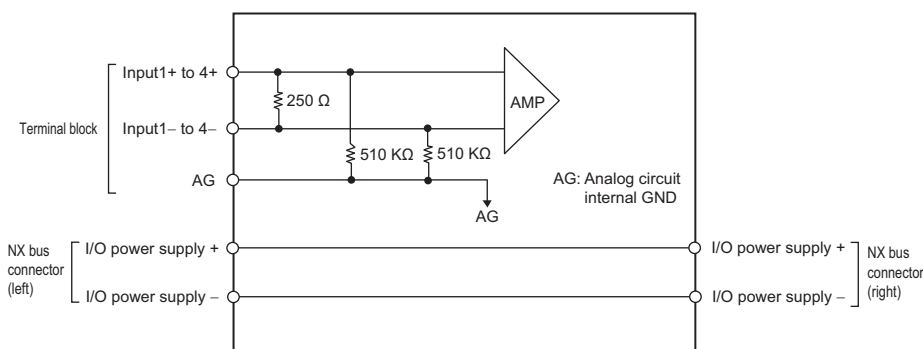
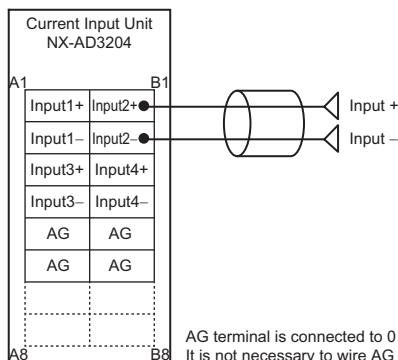
Analog Input Unit (current input type) 2 points NX-AD2208

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD2208 | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | |
| Indicator |  | Input method | Differential Input | |
| | | Input range | 4 to 20 mA | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±30 mA | |
| | | Input impedance | 250 Ω | |
| | | Resolution | 1/30000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.1% (full scale) |
| | | | 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 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. | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.25 W max. Connected to a Communications Coupler Unit 0.90 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | |
| Terminal connection diagram |  <p>AG terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.</p> | | | |
| Input disconnection detection | Supported. | | | |

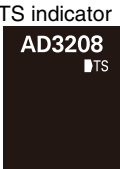
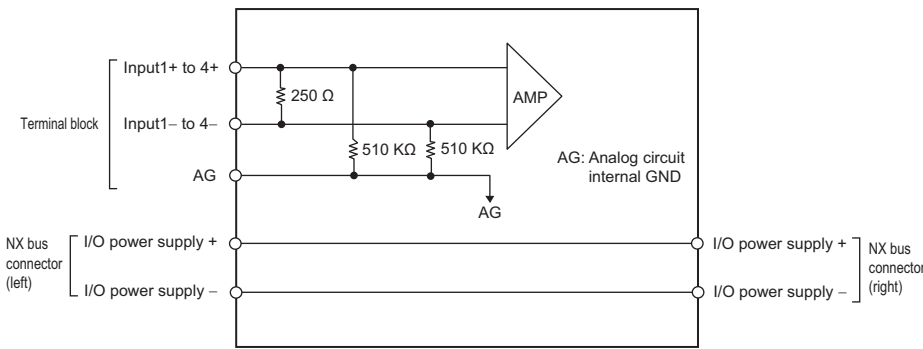
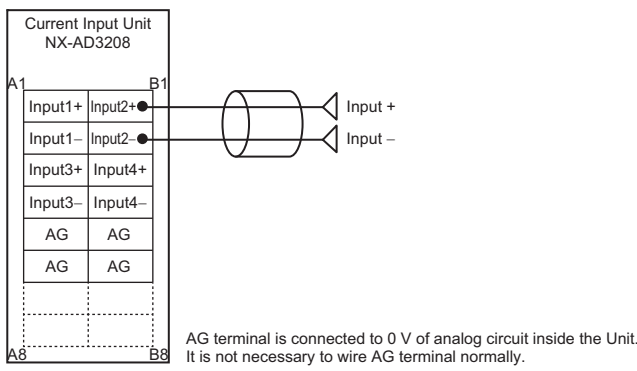
Analog Input Unit (current input type) 4 points NX-AD3203

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD3203 | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator | <p>TS indicator</p>  | Input method | Single-ended input | |
| | | Input range | 4 to 20 mA | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±30 mA | |
| | | Input impedance | 250 Ω | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.2% (full scale) |
| | | | 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 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.25 W max. Connected to a Communications Coupler Unit 0.90 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | |
| Terminal connection diagram |  | | | |
| Input disconnection detection | Supported. | | | |


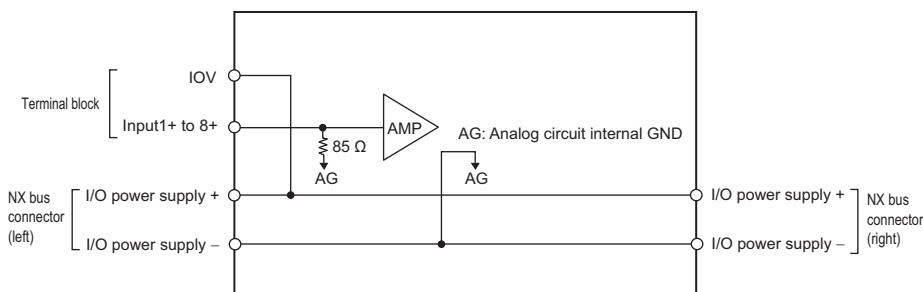
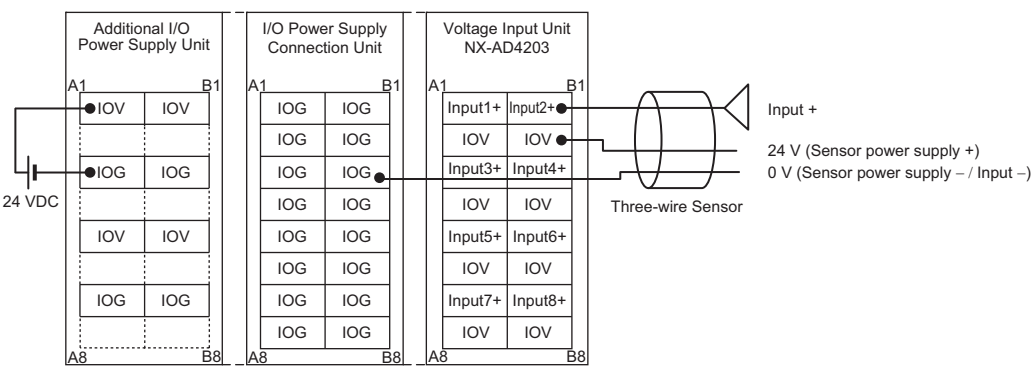
Analog Input Unit (current input type) 4 points NX-AD3204

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD3204 | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator | TS indicator  | Input method | Differential Input | |
| | | Input range | 4 to 20 mA | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±30 mA | |
| | | Input impedance | 250 Ω | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.2% (full scale) |
| | | | 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 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. | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.25 W max. Connected to a Communications Coupler Unit 0.90 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | Installation orientation: <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | |
| Terminal connection diagram |  <p>AG terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.</p> | | | |
| Input disconnection detection | Supported. | | | |

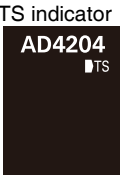
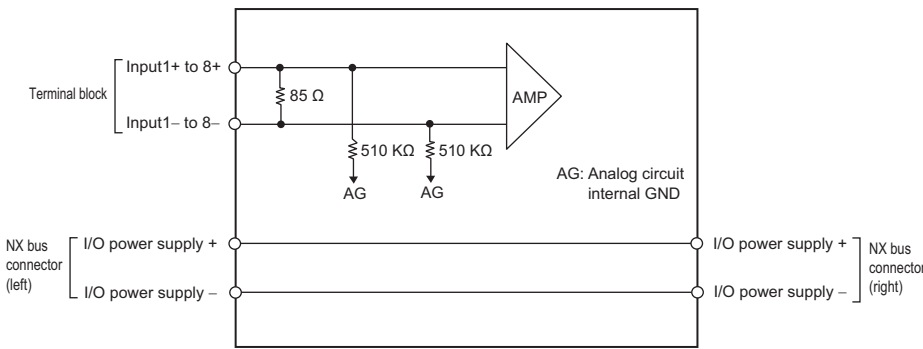
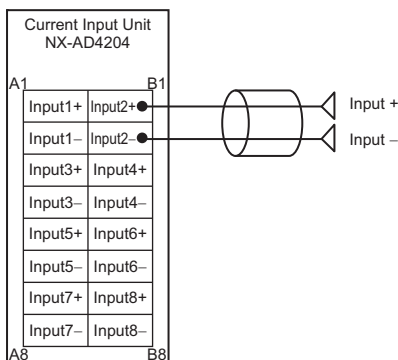
Analog Input Unit (current input type) 4 points NX-AD3208

| | | | | | | | |
|--|---|--|--|------|--------------------|-----------|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD3208 | | | | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | | | | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | | | | |
| Indicator |  | Input method | Differential Input | | | | |
| | | Input range | 4 to 20 mA | | | | |
| | | Input conversion range | -5 to 105% (full scale) | | | | |
| | | Absolute maximum rating | ±30 mA | | | | |
| | | Input impedance | 250 Ω | | | | |
| | | Resolution | 1/30000 (full scale) | | | | |
| | | Overall accuracy | <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) | | | | | | |
| 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 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. | | | | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | | | | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.30 W max. Connected to a Communications Coupler Unit 0.95 W max. | I/O current consumption | No consumption | | | | |
| Weight | 70 g max. | | | | | | |
| Circuit layout |  | | | | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | | | | |
| Terminal connection diagram |  <p>AG terminal is connected to 0 V of analog circuit inside the Unit. It is not necessary to wire AG terminal normally.</p> | | | | | | |
| Input disconnection detection | Supported. | | | | | | |


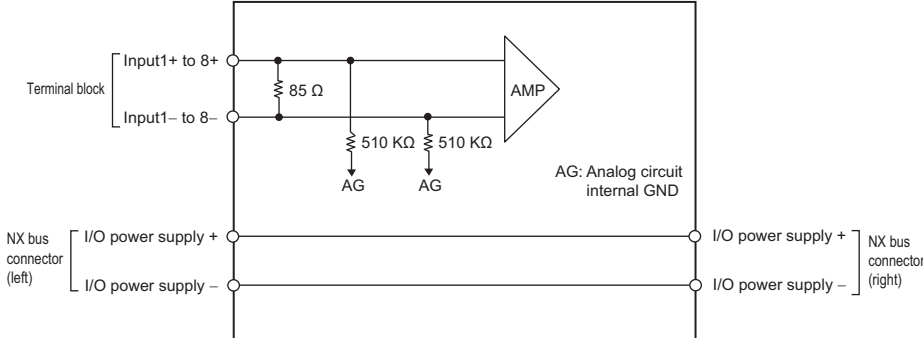
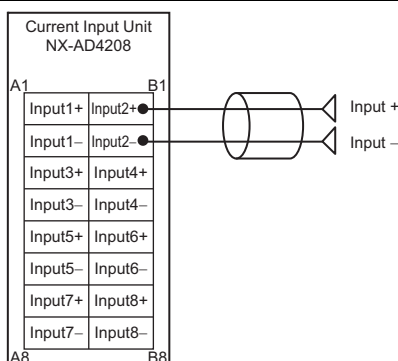
Analog Input Unit (current input type) 8 points NX-AD4203

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD4203 | |
| Number of points | 8 points | External connection terminals | Screwless clamping terminal block (16 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator |  | Input method | Single-ended input | |
| | | Input range | 4 to 20 mA | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±30 mA | |
| | | Input impedance | 85 Ω | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.2% (full scale) |
| | | | 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 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.40 W max. Connected to a Communications Coupler Unit 1.05 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | |
| Terminal connection diagram |  | | | |
| Input disconnection detection | Supported. | | | |

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


| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD4204 | |
| Number of points | 8 points | External connection terminals | Screwless clamping terminal block (16 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator |  | Input method | Differential Input | |
| | | Input range | 4 to 20 mA | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±30 mA | |
| | | Input impedance | 85 Ω | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.2% (full scale) |
| | | | 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 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. | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.40 W max. Connected to a Communications Coupler Unit 1.05 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | <p>Installation orientation:</p> <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. <p>Restrictions: No restrictions</p> | | | |
| Terminal connection diagram |  | | | |
| Input disconnection detection | Supported. | | | |

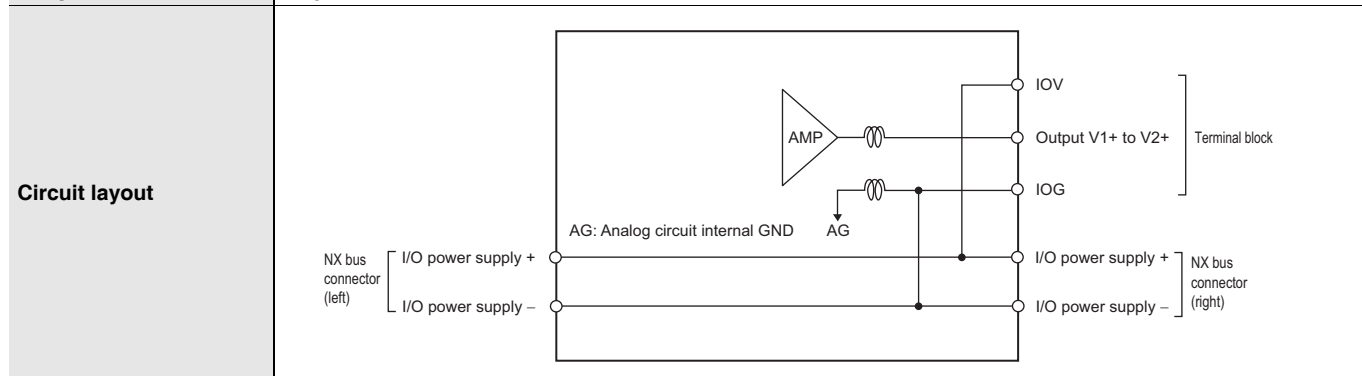
Analog Input Unit (current input type) 8 points NX-AD4208

| | | | | |
|--|---|--|--|--------------------|
| Unit name | Analog Input Unit (current input type) | Model | NX-AD4208 | |
| Number of points | 8 points | External connection terminals | Screwless clamping terminal block (16 terminals) | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | |
| Indicator | TS indicator  | Input method | Differential Input | |
| | | Input range | 4 to 20 mA | |
| | | Input conversion range | -5 to 105% (full scale) | |
| | | Absolute maximum rating | ±30 mA | |
| | | Input impedance | 85 Ω | |
| | | Resolution | 1/30000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.1% (full scale) |
| | | | 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 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. | |
| I/O power supply method | No supply | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.45 W max. Connected to a Communications Coupler Unit 1.10 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout |  | | | |
| Installation orientation and restrictions | Installation orientation: <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | |
| Terminal connection diagram |  | | | |
| Input disconnection detection | Supported. | | | |

Analog Output Unit Specifications

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

| | | | | |
|----------------------------------|---|--|--|--------------------|
| Unit name | Analog Output Unit (voltage output type) | Model | NX-DA2603 | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator | TS indicator  | Output range | -10 to +10 V | |
| | | Output conversion range | -5 to 105% (full scale) | |
| | | Allowable load resistance | 5 kΩ min. | |
| | | Output impedance | 0.5 Ω max. | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.3% (full scale) |
| | | | 0 to 55°C | ±0.5% (full scale) |
| Conversion time | 250 μs/point | | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) | |
| Insulation resistance | 20 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.40 W max. Connected to a Communications Coupler Unit 1.10 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |

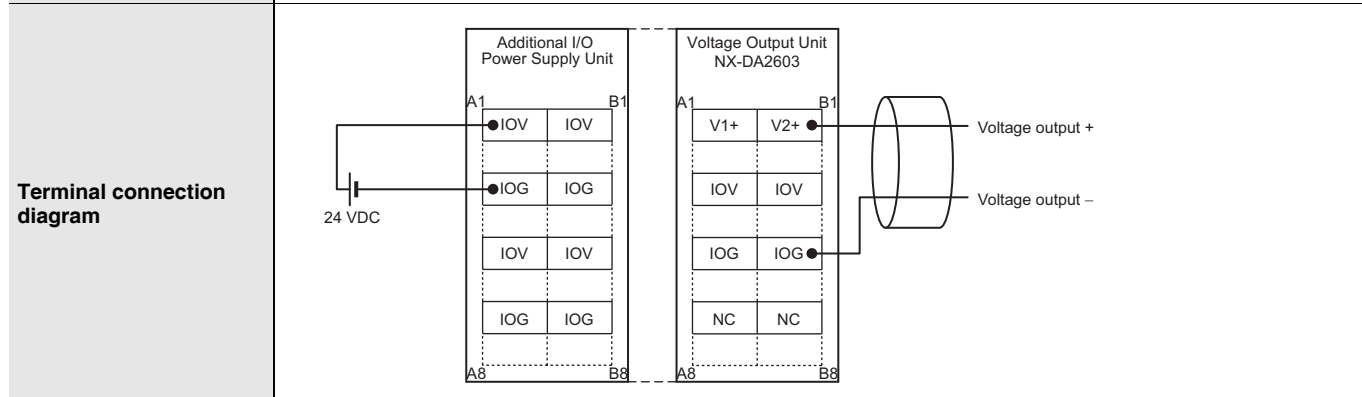


Installation orientation and restrictions

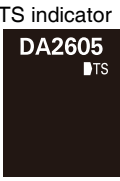
Installation orientation:

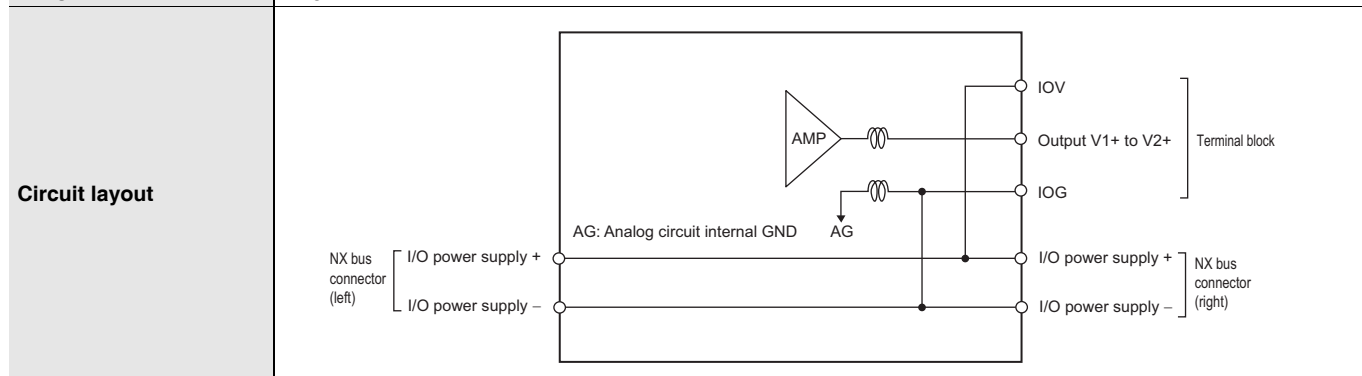
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions



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

| | | | | |
|----------------------------------|---|--|--|--------------------|
| Unit name | Analog Output Unit (voltage output type) | Model | NX-DA2605 | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | |
| Indicator |  | Output range | -10 to +10 V | |
| | | Output conversion range | -5 to 105% (full scale) | |
| | | Allowable load resistance | 5 kΩ min. | |
| | | Output impedance | 0.5 Ω max. | |
| | | Resolution | 1/30000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.1% (full scale) |
| | | | 0 to 55°C | ±0.3% (full scale) |
| Conversion time | 10 μs/point | | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) | |
| Insulation resistance | 20 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.40 W max. Connected to a Communications Coupler Unit 1.10 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |

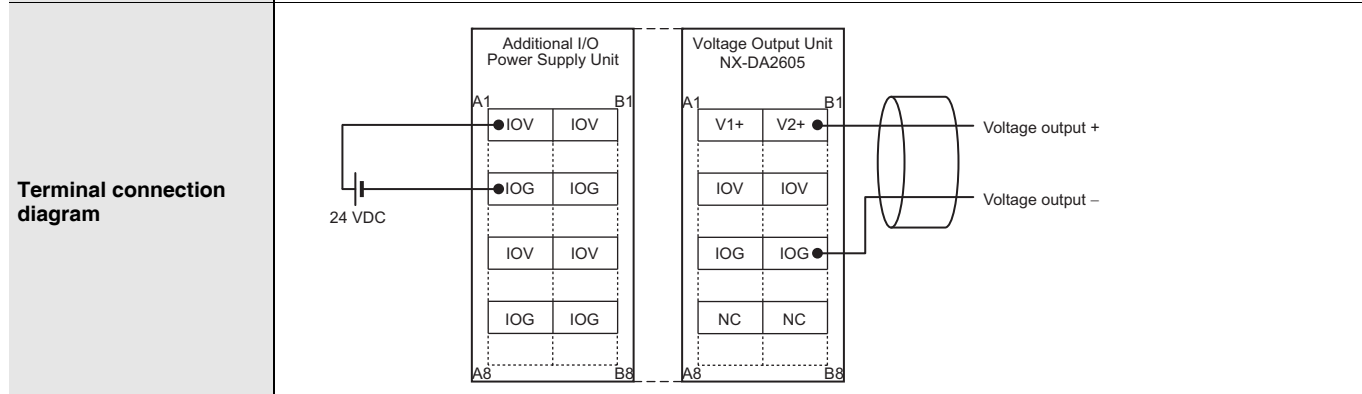


Installation orientation and restrictions


Installation orientation:

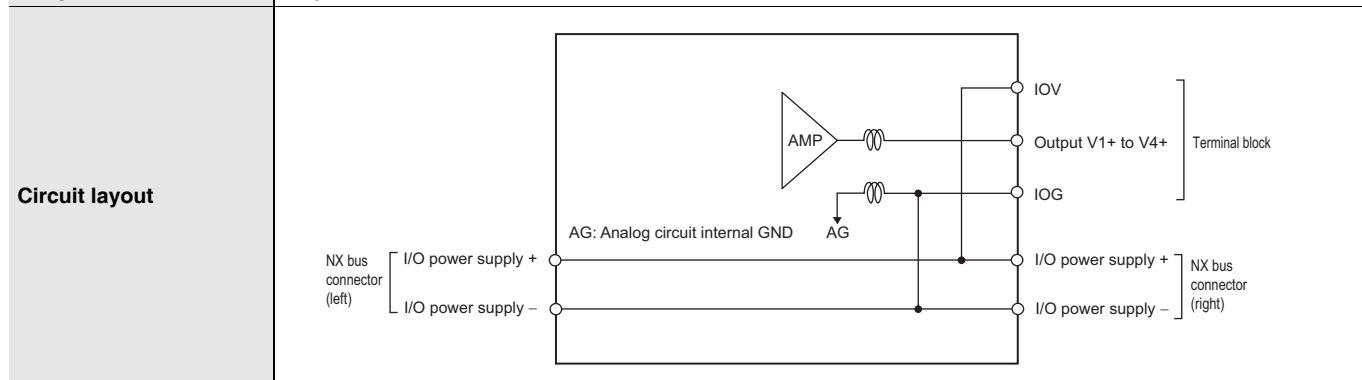
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions



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

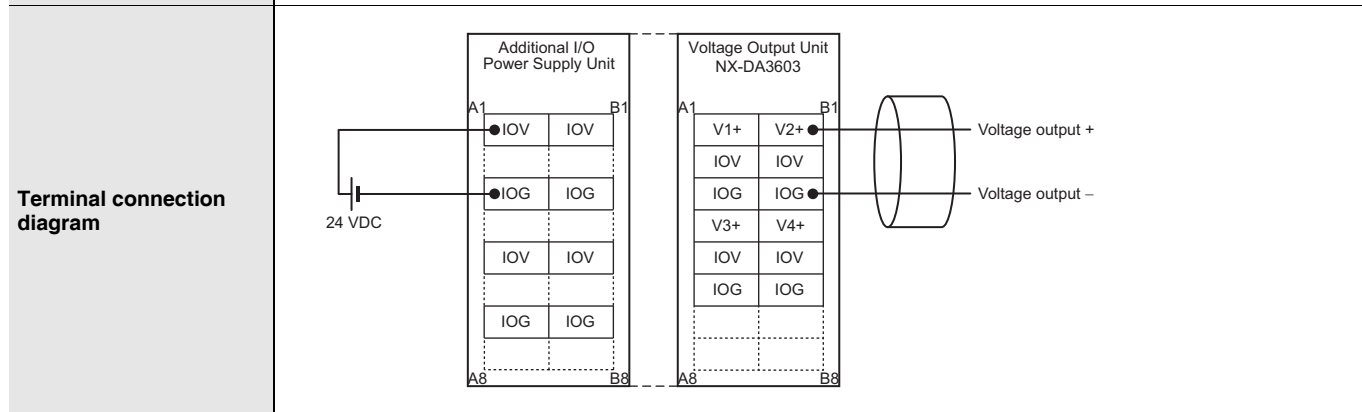
| | | | | |
|----------------------------------|---|--|--|--------------------|
| Unit name | Analog Output Unit (voltage output type) | Model | NX-DA3603 | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator | TS indicator  | Output range | -10 to +10 V | |
| | | Output conversion range | -5 to 105% (full scale) | |
| | | Allowable load resistance | 5 kΩ min. | |
| | | Output impedance | 0.5 Ω max. | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.3% (full scale) |
| | | | 0 to 55°C | ±0.5% (full scale) |
| Conversion time | 250 μs/point | | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) | |
| Insulation resistance | 20 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 1.35 W max. Connected to a Communications Coupler Unit 1.25 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |




Installation orientation and restrictions

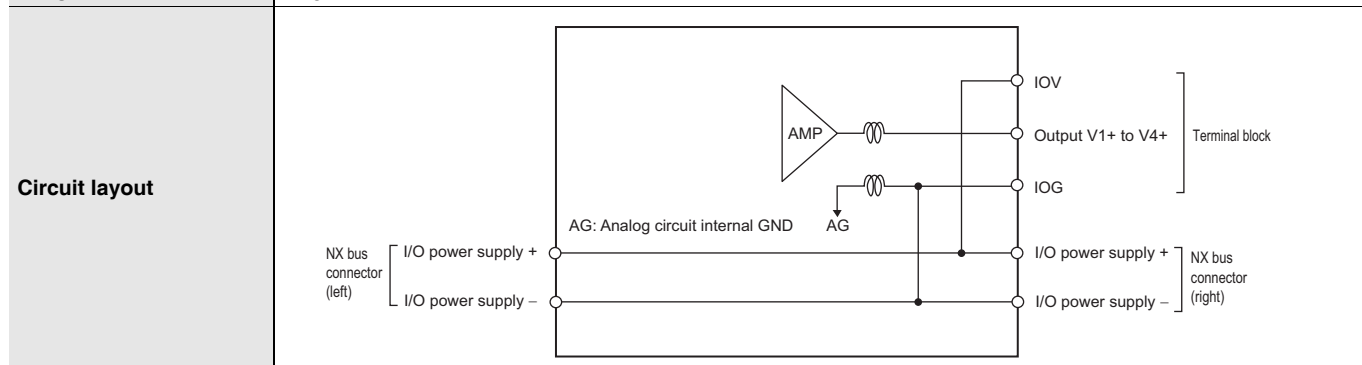
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions



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

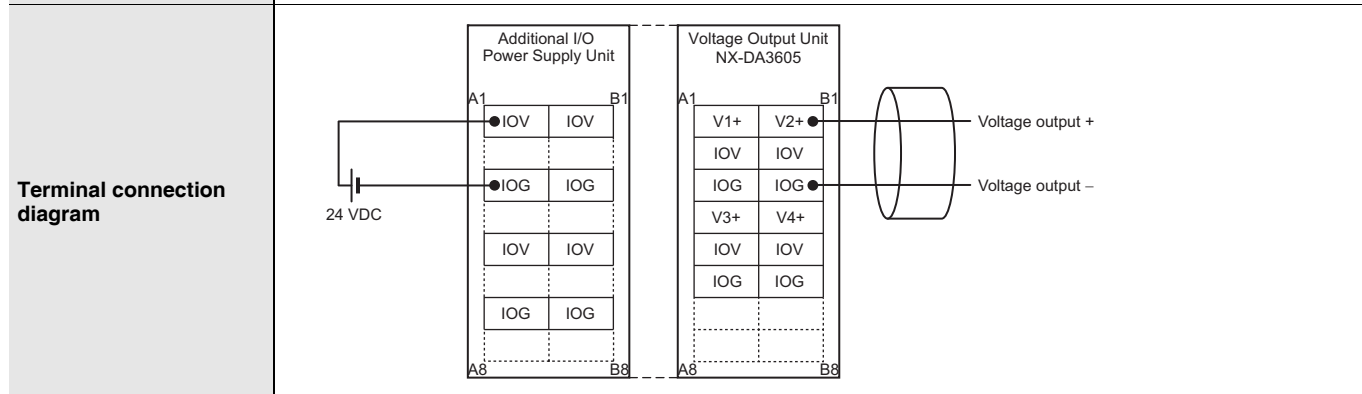
| | | | | |
|----------------------------------|---|--|--|--------------------|
| Unit name | Analog Output Unit (voltage output type) | Model | NX-DA3605 | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | |
| Indicator |  | Output range | -10 to +10 V | |
| | | Output conversion range | -5 to 105% (full scale) | |
| | | Allowable load resistance | 5 kΩ min. | |
| | | Output impedance | 0.5 Ω max. | |
| | | Resolution | 1/30000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.1% (full scale) |
| | | | 0 to 55°C | ±0.3% (full scale) |
| Conversion time | 10 μs/point | | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) | |
| Insulation resistance | 20 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit: 1.60 W max. Connected to a Communications Coupler Unit: 1.25 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |




Installation orientation and restrictions

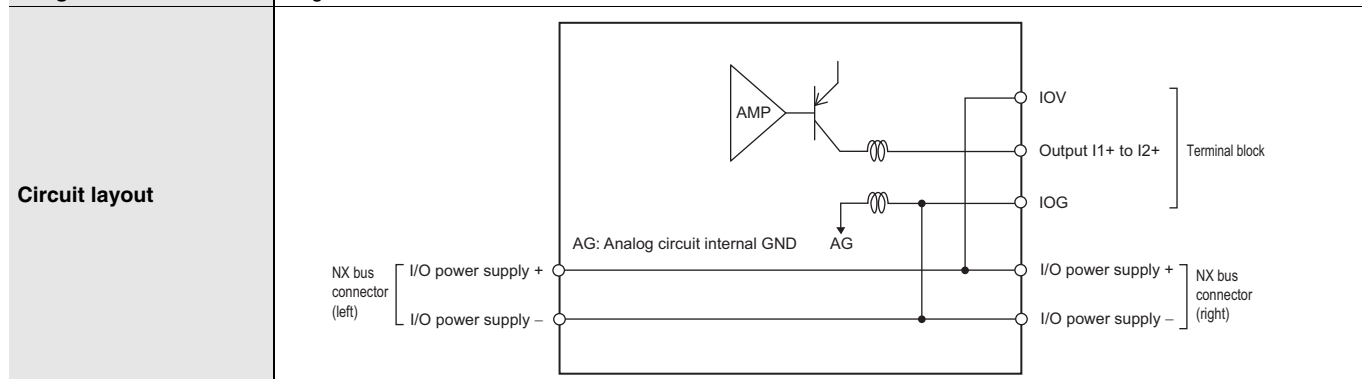
- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions: No restrictions



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

| | | | | | |
|----------------------------------|---|--|--|------|--------------------|
| Unit name | Analog Output Unit (current output type) | Model | NX-DA2203 | | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | | |
| I/O refreshing method | Free-Run refreshing | | | | |
| Indicator | TS indicator  | Output range | 4 to 20 mA | | |
| | | Output conversion range | -5 to 105% (full scale) | | |
| | | Allowable load resistance | 600 Ω max. | | |
| | | Resolution | 1/8000 (full scale) | | |
| | | Overall accuracy | <table border="1"> <tr> <td>25°C</td> <td>±0.3% (full scale)</td> </tr> <tr> <td>0 to 55°C</td> <td>±0.6% (full scale)</td> </tr> </table> | 25°C | ±0.3% (full scale) |
| 25°C | ±0.3% (full scale) | | | | |
| 0 to 55°C | ±0.6% (full scale) | | | | |
| Conversion time | 250 μs/point | | | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) | | |
| Insulation resistance | 20 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. | | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 2.10 W max. Connected to a Communications Coupler Unit 1.75 W max. | I/O current consumption | No consumption | | |
| Weight | 70 g max. | | | | |



Installation orientation and restrictions

Installation orientation:

- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

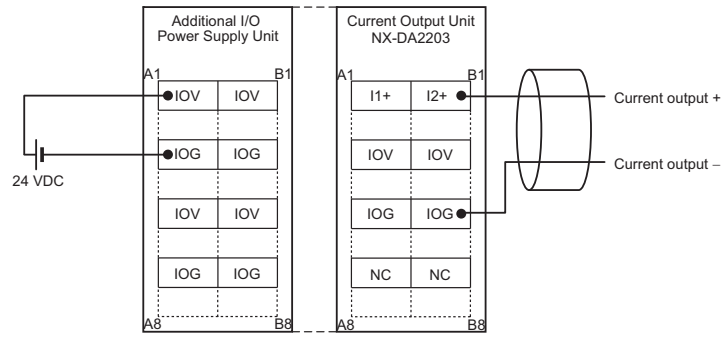
Restrictions:

For upright installation: No restrictions


For any installation other than upright: Restricted as shown in the graph below.

The graph plots Load resistance (per point) in Ohms (Ω) on the y-axis against Ambient operating temperature in degrees Celsius (°C) on the x-axis. The y-axis has markings at 0, 350, and 600. The x-axis has markings at 40 and 55. A shaded region represents the usable range. The load resistance is constant at 600 Ω from 0°C to 40°C. From 40°C to 55°C, the load resistance decreases linearly from 600 Ω to 350 Ω. An arrow points to this shaded region with the text "Use it within this range."

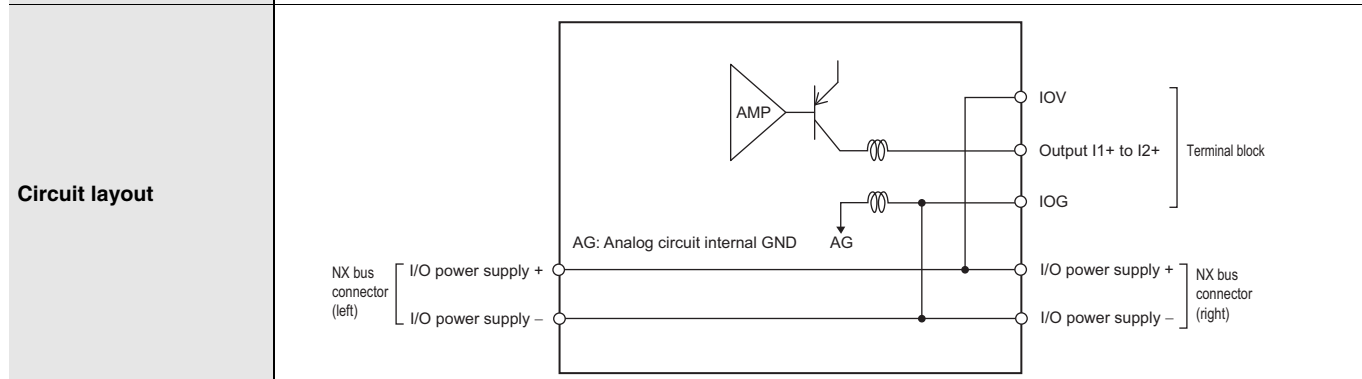
Terminal connection diagram



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

| | | | | |
|----------------------------------|---|--|--|--------------------|
| Unit name | Analog Output Unit (current output type) | Model | NX-DA2205 | |
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | |
| Indicator | TS indicator  | Output range | 4 to 20 mA | |
| | | Output conversion range | -5 to 105% (full scale) | |
| | | Allowable load resistance | 600 Ω max. | |
| | | Resolution | 1/30000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.1% (full scale) |
| | | | 0 to 55°C | ±0.3% (full scale) |
| Conversion time | 10 μs/point | | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) | |
| Insulation resistance | 20 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 2.10 W max. Connected to a Communications Coupler Unit 1.75 W max. | I/O current consumption | No consumption | |

Weight 70 g max.



Installation orientation and restrictions

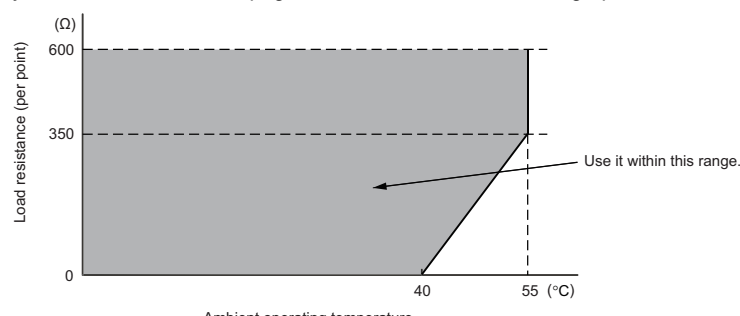
Installation orientation:

- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions:

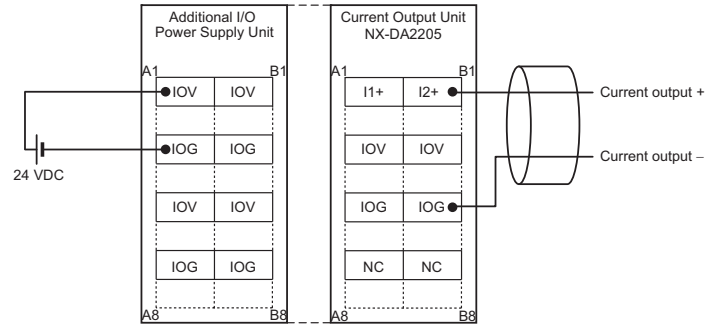
For upright installation: No restrictions

For any installation other than upright: Restricted as shown in the graph below.




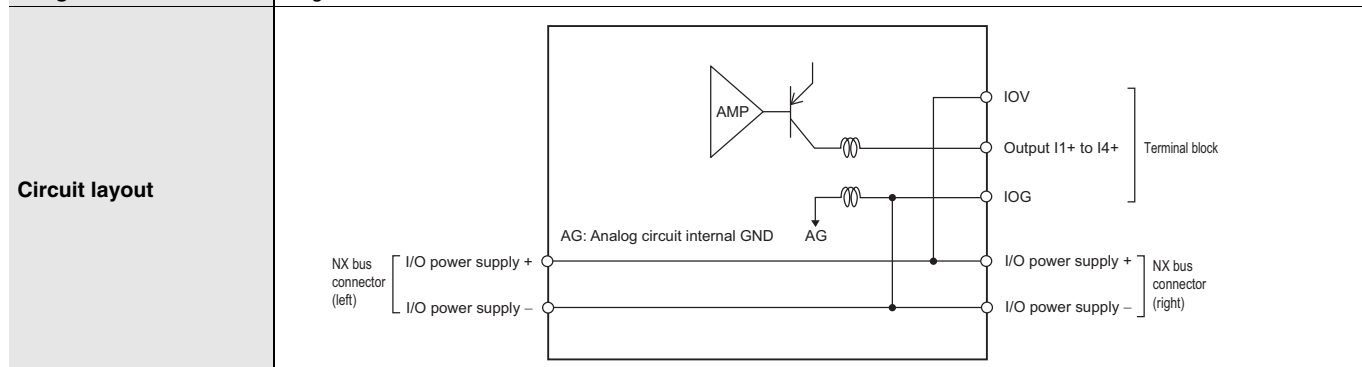
The graph plots Load resistance (per point) in Ω on the y-axis (0 to 600) against Ambient operating temperature in °C on the x-axis (40 to 55). A shaded region indicates the allowed load resistance range. The load resistance is limited to 350 Ω up to 40 °C, and then increases to 600 Ω at 55 °C. An arrow points to the shaded region with the text "Use it within this range."

Terminal connection diagram



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

| | | | | |
|----------------------------------|---|--|--|--------------------|
| Unit name | Analog Output Unit (current output type) | Model | NX-DA3203 | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | |
| I/O refreshing method | Free-Run refreshing | | | |
| Indicator | TS indicator  | Output range | 4 to 20 mA | |
| | | Output conversion range | -5 to 105% (full scale) | |
| | | Allowable load resistance | 350 Ω max. | |
| | | Resolution | 1/8000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.3% (full scale) |
| | | | 0 to 55°C | ±0.6% (full scale) |
| Conversion time | 250 μs/point | | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) | |
| Insulation resistance | 20 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 2.10 W max. Connected to a Communications Coupler Unit 1.80 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |



Installation orientation and restrictions

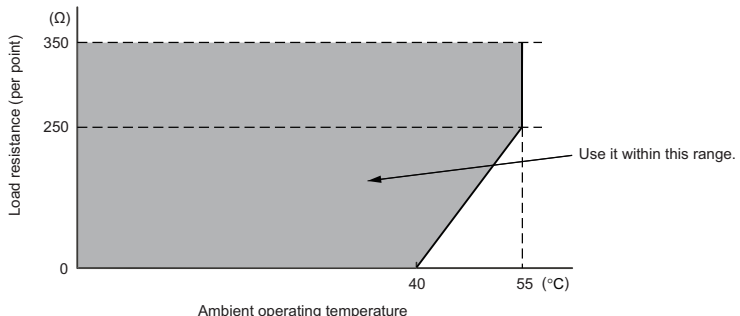
Installation orientation:

- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

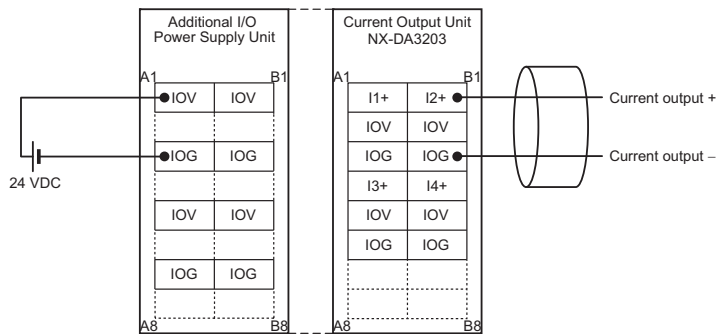
Restrictions:

For upright installation: No restrictions


For any installation other than upright: Restricted as shown in the graph below.

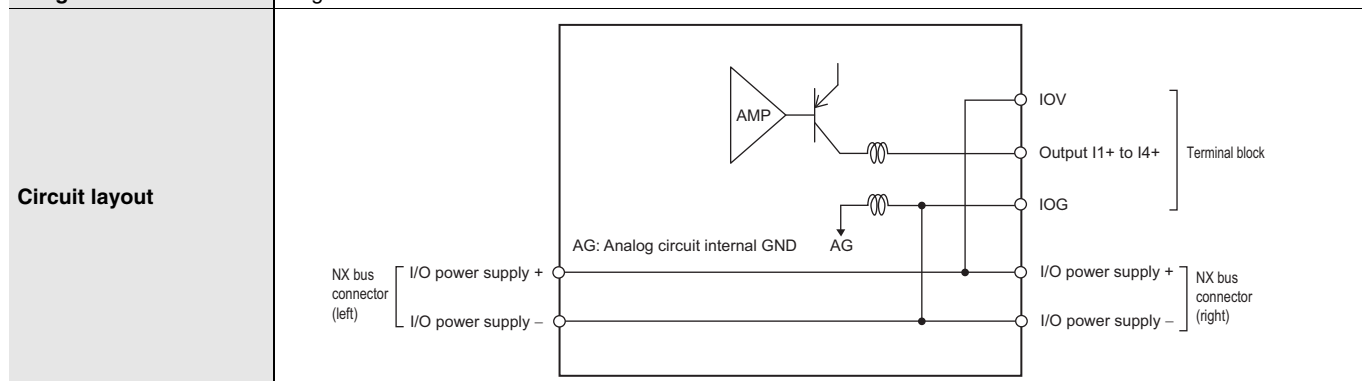


Terminal connection diagram



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

| | | | | |
|----------------------------------|---|--|--|--------------------|
| Unit name | Analog Output Unit (current output type) | Model | NX-DA3205 | |
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) | |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | | |
| Indicator | TS indicator  | Output range | 4 to 20 mA | |
| | | Output conversion range | -5 to 105% (full scale) | |
| | | Allowable load resistance | 350 Ω max. | |
| | | Resolution | 1/30000 (full scale) | |
| | | Overall accuracy | 25°C | ±0.1% (full scale) |
| | | | 0 to 55°C | ±0.3% (full scale) |
| Conversion time | 10 μs/point | | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Between the input and the NX bus: Power = Transformer, Signal = Digital isolator (no isolation between inputs) | |
| Insulation resistance | 20 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. | |
| 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 | <ul style="list-style-type: none"> Connected to a CPU Unit or Communication Control Unit 2.10 W max. Connected to a Communications Coupler Unit 1.80 W max. | I/O current consumption | No consumption | |
| Weight | 70 g max. | | | |



Installation orientation and restrictions

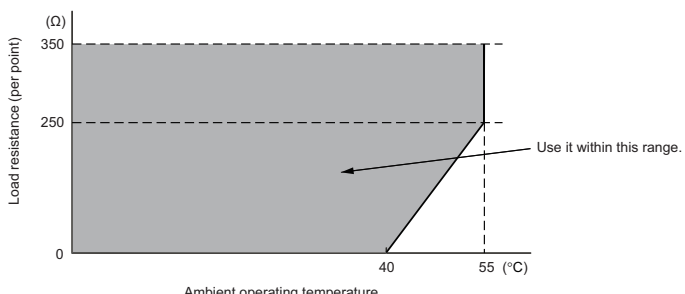
Installation orientation:

- Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.
- Connected to a Communications Coupler Unit: Possible in 6 orientations.

Restrictions:

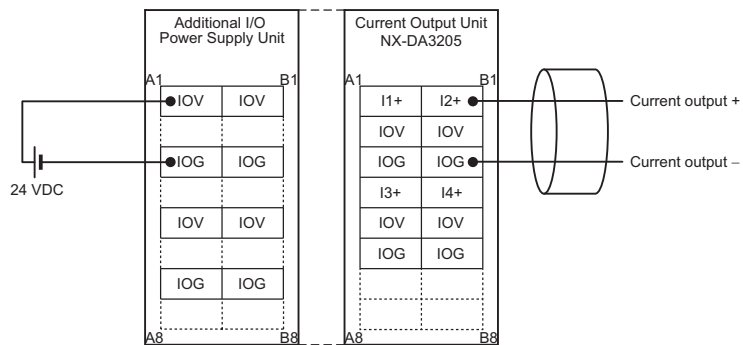
For upright installation: No restrictions

For any installation other than upright: Restricted as shown in the graph below.



The graph plots Load resistance (per point) in Ohms (Ω) on the y-axis against Ambient operating temperature in degrees Celsius (°C) on the x-axis. The y-axis ranges from 0 to 350 Ω, and the x-axis ranges from 0 to 55 °C. A shaded region indicates the acceptable range for load resistance, which is constant at 350 Ω up to 40 °C and then decreases linearly to 250 Ω at 55 °C. An arrow points to this shaded region with the text "Use it within this range."

Terminal connection diagram



Version Information

Connected to a CPU Unit

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

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

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

Connected to an EtherCAT Coupler Unit

| NX Unit | | Corresponding unit versions/versions | | |
|------------------------|--------------|--------------------------------------|---------------------------|---------------|
| Model | Unit version | EtherCAT Coupler Unit | CPU Unit or Industrial PC | Sysmac Studio |
| NX-AD□□□□ NX-DA□□□□ | Ver.1.0 | Ver.1.0 | Ver.1.05 | Ver.1.06 |

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

Connected to an EtherNet/IP Coupler Unit

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

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

*1 Refer to the user's manual for the EtherNet/IP Coupler Units for information on the unit versions of EtherNet/IP Units that are compatible with EtherNet/IP Coupler Units.

*2 Refer to the user's manual for the EtherNet/IP Coupler Units for information on the unit versions of CPU Units and EtherNet/IP Units that are compatible with EtherNet/IP Coupler Units.

*3 For connection to an EtherNet/IP Coupler Unit with unit version 1.0, connection is supported only for a connection to the peripheral USB port on the EtherNet/IP Coupler Unit. You cannot connect by any other path. If you need to connect by another path, use an EtherNet/IP Coupler Unit with unit version 1.2 or later.

Connected to Communication Control Units

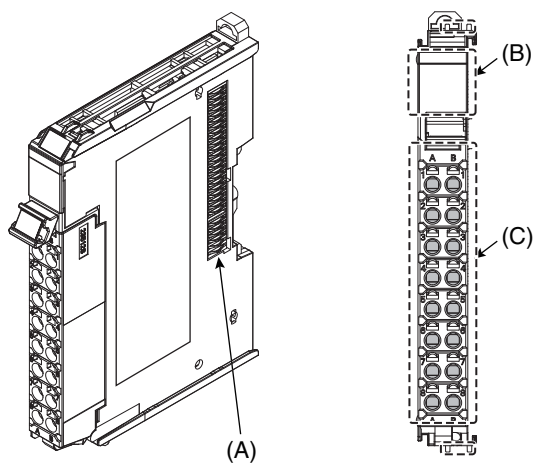
| NX Unit | | Corresponding unit versions/versions | |
|------------------------|--------------|--------------------------------------|---------------|
| Model | Unit version | Communication Control Unit | Sysmac Studio |
| NX-AD□□□□ NX-DA□□□□ | Ver.1.0 | Ver.1.00 | Ver.1.24 |

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

External Interface

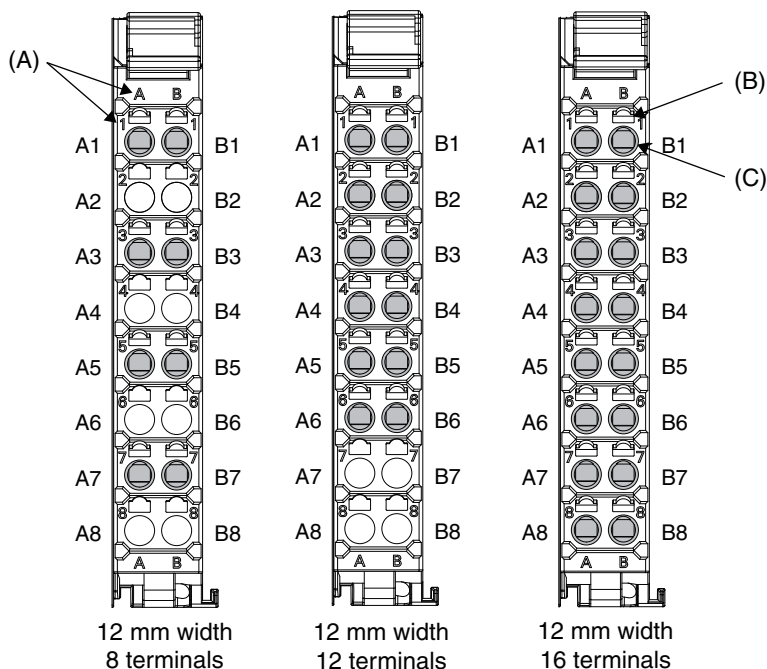
Screwless Clamping Terminal Block Type

12 mm Width



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

Terminal Blocks



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

Applicable Terminal Blocks for Each Unit Model

| 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 |
| NX-DA2□□□ | NX-TBA082 | 8 | A/B | None | 10 A |
| NX-DA3□□□ | NX-TBA122 | 12 | A/B | None | 10 A |

Applicable Wires

Using Ferrules

If you use ferrules, attach the twisted wires to them.

Observe the application instructions for your ferrules for the wire stripping length when attaching ferrules.

Always use plated one-pin ferrules. Do not use unplated ferrules or two-pin ferrules.

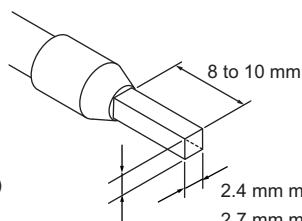
The applicable ferrules, wires, and crimping tool are given in the following table.

| Terminal type | Manufacturer | Ferrule model | Applicable wire (mm ² (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.) CRIMPFOX 6 (0.25 to 6 mm ² , 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 | | AI1,5-10 | | |
| Terminals other than ground terminals | Weidmuller | H0.14/12 | 0.14 (#26) | Weidmuller (The figure in parentheses is the applicable wire size.) PZ6 Roto (0.14 to 6 mm ² , 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 mm² 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)

2.4 mm max. (except ground terminals)

2.7 mm max. (ground terminals)

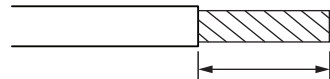
Using Twisted Wires/Solid Wires

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

| Terminals | | Wire type | | | | Wire size | Conductor length (stripping length) |
|---------------------------------------|----------------------------------|---------------|--------------|--------------|--------------|--|-------------------------------------|
| | | Twisted wires | | Solid wire | | | |
| Classification | Current capacity | Plated | Unplated | Plated | Unplated | | |
| All terminals except ground terminals | 2 A or less | Possible | Possible | Possible | Possible | 0.08 to 1.5 mm ² AWG28 to 16 | 8 to 10 mm |
| | Greater than 2 A and 4 A or less | | Not Possible | Possible *1 | Not Possible | | |
| | Greater than 4 A | | Possible *1 | Not Possible | Not Possible | | |
| Ground terminals | --- | Possible | Possible | Possible *2 | Possible *2 | 2.0 mm ² | 9 to 10 mm |

*1. Secure wires to the screwless clamping terminal block. Refer to the Securing Wires in the USER'S MANUAL for how to secure wires.

*2. With the NX-TB□□□1 Terminal Block, use twisted wires to connect the ground terminal. Do not use a solid wire.



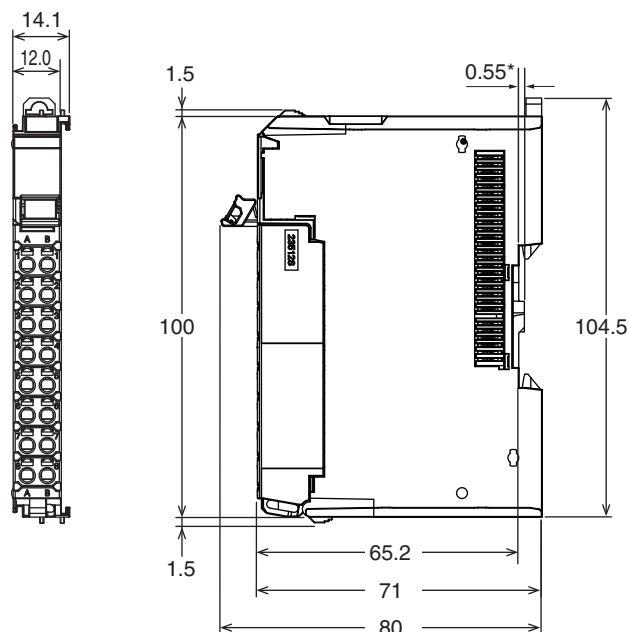
Conductor length (stripping length)

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

Dimensions

Screwless Clamping Terminal Block Type

12 mm Width



* The dimension is 1.35 mm for Units with lot numbers through December 2014.

Related Manual

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

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