NX-ID/IA/OD/OC/MD

CSM NX-ID IA OD OC MD DS F 3 4

A wide range of digital I/O units from general purpose use to high-speed synchronous control

- I/O modules on the NX CPU Unit or EtherCAT® Coupler Unit
- Connect to the NJ/NX/NY Controller via EtherCAT



Features

- High-speed I/O refreshing using the EtherCAT coupler
- I/O refreshing synchronized with the control cycle of the controller (synchronous refreshing)
- Time-stamp inputs and outputs anywhere in the EtherCAT network can be independently controlled with sub-microsecond accuracy
- Detachable terminals for easy maintenance
- Screwless Push-In Plus terminal block or MIL/Fujitsu connector speeds up installation
- Compact with a width of 12 mm per unit (connector type: 30 mm)
- 4, 8, 16 or 32 inputs for flexible I/O configuration (NX-ID/IA)
- 2, 4, 8, 16 or 32 outputs for flexible I/O configuration (NX-OD/OC)
- Connect to the CJ PLC using the EtherNet/IP[™] bus coupler

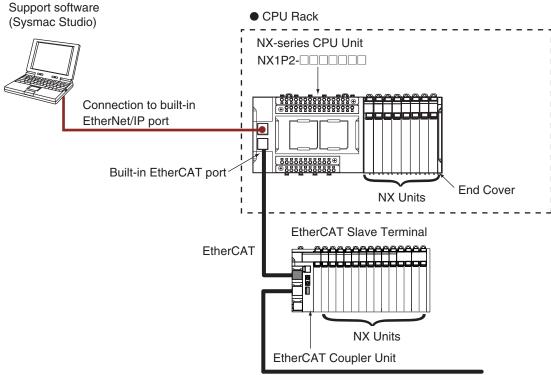
Sysmac is a trademark or registered trademark of OMRON Corporation in Japan and other countries for OMRON factory automation products. EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany. EtherNet/IPTM is a trademark of ODVA.

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System Configurations

Connected to a CPU Unit

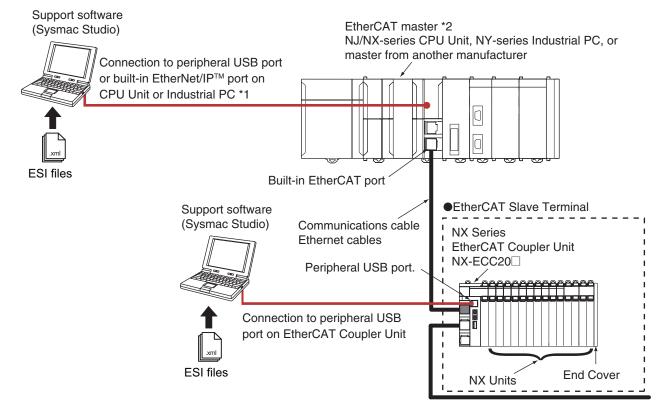
The following figure shows a system configuration when NX Units are connected to an NX-series CPU Unit.



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.



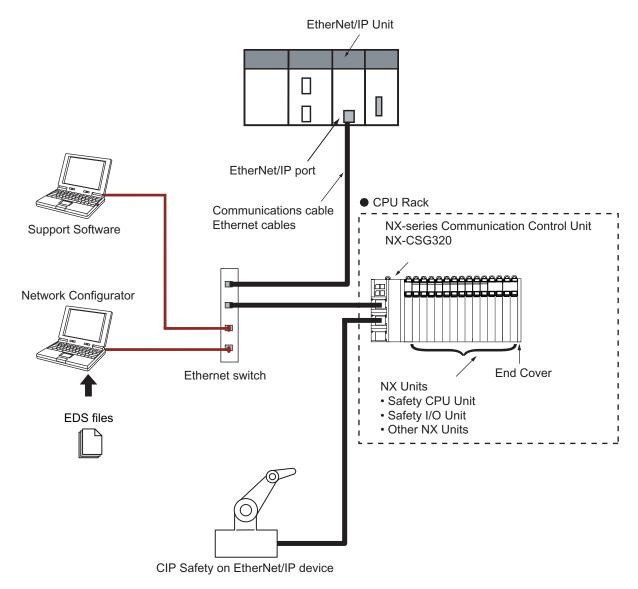
- *1. The connection method for the Sysmac Studio depends on the model of the CPU Unit or Industrial PC.
- *2. An EtherCAT Slave Terminal cannot be connected to any of the OMRON CJ1W-NC□81/□82 Position Control Units even though they can operate as EtherCAT masters.

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

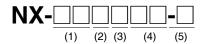
The following figure shows a system configuration when a group of NX Units is connected to an NX-series Communication Control Unit. To configure a Safety Network Controller, mount the Safety CPU Unit, which is one of the NX Units, to the CPU Rack of the Communication Control Unit

You cannot connect a Communication Control Unit with Digital I/O Units that support input refreshing with input changed time or output refreshing with specified time stamp.



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

Model Number Structure



(1) Unit type

| No. | Specification |
|-----|----------------------------|
| ID | DC input |
| IA | AC input |
| OD | Transistor output |
| ОС | Relay output |
| MD | DC input/Transistor output |

(2) Number of points

| No. | Specification |
|-----|---|
| 2 | 2 points |
| 3 | 4 points |
| 4 | 8 points |
| 5 | 16 points |
| 6 | 32 points, or 16 points each for inputs and outputs |

(3) I/O type

| No. | Inputs | Outputs | Mixed I/O (Input, Output) |
|-----|------------------|-----------|---------------------------|
| 1 | For both NPN/PNP | NPN | For both NPN/PNP, NPN |
| 2 | | PNP | For both NPN/PNP, PNP |
| 3 | NPN | | |
| 4 | PNP | | |
| 6 | | N.O. | |
| 7 | | N.O.+N.C. | |

(5) External connection terminals

| No. | Specification |
|------|-----------------------------------|
| None | Screwless clamping terminal block |
| -1 | M3 screw terminal block |
| -5 | MIL connector |
| -6 | Fujitsu connector |

(4) Other specifications Digital Input Units

| | | ON/OFF res | ponse time | I/O refreshing method | | |
|-----|-------------------------|--------------------------------------|------------|---|---|--|
| No. | Input voltage | Input voltage Exceeds 1 μs 1 μs max. | | Free-Run refreshing *1 only or Switching Synchronous I/O refreshing *2 and Free-Run refreshing | Input refreshing with input changed time only | |
| 17 | 12 to 24 VDC or 240 VAC | Yes | | Yes | | |
| 42 | | Yes | | Yes | | |
| 43 | 24 VDC | | Yes | Yes | | |
| 44 | | | Yes | | Yes | |

Digital Output Units

| | | | ON/OFF res | ponse time | I/O refreshing | I/O refreshing method | | | | | | | | | | | |
|-----|------------------|-----------------|--------------|------------|---|--|-------------------------------|-----|--|--|--|--|--|-----|-----|--|--|
| No. | Rated voltage | Load current | Exceeds 1 μs | 1 μs max. | Free-Run refreshing *1 only or Switching Synchronous I/O refreshing *2 and Free-Run refreshing | Output refreshing with specified time stamp only | Load short-circuit protection | | | | | | | | | | |
| 21 | 12 to 24 VDC | 0.5 A | Yes | | Yes | | | | | | | | | | | | |
| 33 | or 240 VAC | 2 A | Yes | | Yes | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | Yes | Yes | | |
| 54 | | | | | | | | | | | | | | | | | |
| 56 | 24 VDC | 0.5 A | Yes | | Yes | | Yes | | | | | | | | | | |
| 57 | 24 VDC | 24 VDC | | | Yes | Yes | | Yes | | | | | | | | | |
| 58 | | | | Yes | | Yes | Yes | | | | | | | | | | |
| 68 | | 2 A | Yes | | Yes | | Yes | | | | | | | | | | |

Digital Mixed I/O Units

| g | | | | | | | | | | | |
|-----|---------------------|----------------------------|-------|--------------|------------|---|-------------------------------|--|--|--|--|
| | Input section | Output section | | | | | | | | | |
| No. | Rated input voltage | | 11 | ON/OFF res | ponse time | | Other functions | | | | |
| | | Rated voltage Load current | | Exceeds 1 μs | 1 μs max. | I/O refreshing method | Load short-circuit protection | | | | |
| 21 | 21 24 VDC | 12 to24 VDC | 0.5 A | Yes | | Switching Synchronous | Yes | | | | |
| | | 24 VDC | U.5 A | Yes | | I/O refreshing and Free-Run refreshing | | | | | |

^{*1} Free-Run refreshing
*2 Synchronous I/O refreshing

^{*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.

Digital Input Units

| | Specifications | | | | | |
|---|------------------|---|---------------------|---|-------------------------|-------------|
| Product Name | Number of points | Internal I/O common | Rated input voltage | I/O refreshing method | ON/OFF response time | Model |
| | | | 12 to 24 VDC | Switching Synchronous I/O re- | 20 μs max./400 μs max. | NX-ID3317 |
| B01: | | NPN | | freshing and Free-Run refreshing | | NX-ID3343 |
| DC Input Unit | | 14114 | 24 VDC | Input refreshing with input changed time only *1 | 100 ns max./100 ns max. | NX-ID3344 |
| | 4 points | | 12 to 24 VDC | Switching Synchronous I/O re- | 20 μs max./400 μs max. | NX-ID3417 |
| | | PNP | | freshing and Free-Run refreshing | | NX-ID3443 |
| | | 1141 | | Input refreshing with input changed time only *1 | 100 ns max./100 ns max. | NX-ID3444 |
| Screwless Clamping | 0 | NPN | 24 VDC | | | NX-ID4342 |
| Terminal Block, 12 mm Width) | 8 points | PNP | | Switching Synchronous I/O re- | 00 /400 | NX-ID4442 |
| widii) | 40 | NPN | | freshing and Free-Run refreshing | 20 μs max./400 μs max. | NX-ID5342 |
| | 16 points | PNP | | | | NX-ID5442 |
| DC Input Unit (M3 Screw Terminal Block, 30 mm Width) | 16 points | For both NPN/PNP | 24 VDC | Switching Synchronous I/O re- freshing and Free-Run refreshing | 20 μs max./400 μs max. | NX-ID5142-1 |
| DC Input Unit | 16 points | For both | 24 VDC | Switching Synchronous I/O re- | 20 μs max./400 μs max. | NX-ID5142-5 |
| (MIL Connector, 30 mm Width) | 32 points | NPN/PNP | | freshing and Free-Run refreshing | | NX-ID6142-5 |
| DC Input Unit (Fujitsu Connector, 30 mm Width) | 32 points | For both NPN/PNP | 24 VDC | Switching Synchronous I/O re- freshing and Free-Run refreshing | 20 μs max./400 μs max. | NX-ID6142-6 |
| (Screwless Clamping Terminal Block, 12 mm | 4 points | 200 to 240 VAC, 50/60 Hz (170 to 264 VAC, ±3 Hz) | | Free-Run refreshing | 10 ms max./40 ms max. | NX-IA3117 |

^{*1.} To use input refreshing with input changed time, the EtherCAT Coupler Unit with unit version 1.1 or later and the Sysmac Studio version 1.07 or higher are required.

Digital Output Units

| | Specifications | | | | | | | | |
|---|------------------|--------------------------|--|---|---|-----------------------------|-------------|--|--|
| Product Name | Number of points | Internal I/O common | Maximum value of load current | Rated voltage | I/O refreshing method | ON/OFF response time | Model | | |
| | 2 | NPN | 0.5 A/point, 1 A/Unit | 24 VDC | Output refreshing with speci- | 300 ns max./ | NX-OD2154 | | |
| | | PNP | 0.5 A point, 1 A onit | 24 100 | fied time stamp only *1 | 300 ns max. | NX-OD2258 | | |
| | | NPN | | 12 to 24 VDC | | 0.1 ms max./ 0.8 ms max. | NX-OD3121 | | |
| ransistor Output Unit | | | 0.5 A/point, 2 A/Unit | | | 300 ns max./ 300 ns max. | NX-OD3153 | | |
| | 4 | | 0.0 7 v point, 2 7 v o int | 24 VDC | | 0.5 ms max./ 1.0 ms max. | NX-OD3256 | | |
| | | PNP | | 24 VDO | | 300 ns max./ 300 ns max. | NX-OD3257 | | |
| | | | 2 A/point, 8 A/Unit | | Switching Synchronous I/O re- freshing and Free- Run refresh- ing | 0.5 ms max./ 1.0 ms max. | NX-OD3268 | | |
| Screwless Clamping erminal Block, 12 mm Vidth) | 0 | NPN | | 12 to 24 VDC | 9 | 0.1 ms max./ 0.8 ms max. | NX-OD4121 | | |
| ridan | 8 | PNP | O.F. A/n sint 4 A/l Init | 24 VDC | | 0.5 ms max./ 1.0 ms max. | NX-OD4256 | | |
| | 40 | NPN | 0.5 A/point, 4 A/Unit | 12 to 24 VDC | | 0.1 ms max./ 0.8 ms max. | NX-OD5121 | | |
| | 16 | PNP | | 24 VDC | | 0.5 ms max./ 1.0 ms max. | NX-OD5256 | | |
| Transistor Output Unit (M3 Screw Terminal Block, 30 mm Width) | 16 | NPN | 0.5 A/point, 5 A/Unit | 12 to 24 VDC Switching Synchronous I/O I freshing and Free- Run refre- | | 0.1 ms max./ 0.8 ms max. | NX-OD5121-1 | | |
| | | PNP | o.s Apoint, S Avoint | 24 VDC | ing | 0.5 ms max./ 1.0 ms max. | NX-OD5256-1 | | |
| Fransistor Output Unit | 40 | NPN | 0.5 A/point, 2 A/Unit 12 to 24 VDC 24 VDC | | | 0.1 ms max./ 0.8 ms max. | NX-OD5121-5 | | |
| | 16 | PNP | | | | 0.5 ms max./ 1.0 ms max. | NX-OD5256-5 | | |
| | | NPN | 0.5 A/point, 2 A/ | 12 to 24 VDC | Switching Synchronous I/O re- freshing and Free- Run refresh- ing | 0.1 ms max./ 0.8 ms max. | NX-OD6121-5 | | |
| MIL Connector, 30 mm Vidth) | 32 | PNP | common, 4 A/Unit | 24 VDC | | 0.5 ms max./ 1.0 ms max. | NX-OD6256-5 | | |
| Fujitsu Connector, 30 nm Width) | 32 | NPN | 0.5 A/point, 2 A/ common, 4 A/Unit | 12 to 24 VDC | Switching Synchronous I/O re- freshing and Free- Run refresh- ing | 0.1 ms max./ 0.8 ms max. | NX-OD6121-6 | | |
| Relay Output Unit | | Relay type: N.O. | 250 VAC/2 A (coso=1 |). 250 VAC/ | | 15 ms max./ | NX-OC2633 | | |
| | 2 | Relay type: N.O.+N.C. | 2 A (cosφ=0.4), 24 VE | | | 15 ms max. | NX-OC2733 | | |
| Screwless Clamping Ferminal Block, 12 mm Width/24 mm Width) | 8 | Relay type: N.O. | 250 VAC/2 A (cosφ=1), 250 VAC/ 2 A (cosφ=0.4), 24 VDC/2 A, 8 A/Unit | | Free-Run refreshing | 15 ms max./ 15 ms max. | NX-OC4633 | | |

^{*1.} To use input refreshing with input changed time, the EtherCAT Coupler Unit with unit version 1.1 or later and the Sysmac Studio version 1.07 or higher are required.

Digital Mixed I/O Units

| Product Name | Number of points | Internal I/O Maximum value of load current | | I/O refreshing method | ON/OFF response time | Model |
|---|---|---|---|--|--|-------------|
| DC Input/Transistor Output Unit | Outputs: 16 points | Outputs: NPN Inputs: For both NPN/PNP | Outputs: 12 to 24 VDC Inputs: 24 VDC | Switching Synchronous I/ | Outputs: 0.1 ms max./ 0.8 ms max. Inputs: 20 μs max./ 400 μs max. | NX-MD6121-5 |
| (MIL Connector, 30 mm Width) | Inputs: 16 points | Outputs: PNP Inputs: For both NPN/PNP | Outputs: 24 VDC Inputs: 24 VDC | O refreshing and Free- Run refreshing | Outputs: 0.5 ms max./ 1.0 ms max. Inputs: 20 μs max./ 400 μs max. | NX-MD6256-5 |
| DC Input/Transistor Output Unit (Fujitsu Connector, 30 mm Width) | Outputs: 16 points Inputs: 16 points | Outputs: NPN Inputs: For both NPN/PNP | Outputs: 12 to 24 VDC Inputs: 24 VDC | Switching Synchronous I/ O refreshing and Free- Run refreshing | Outputs: 0.1 ms max./ 0.8 ms max. Inputs: 20 μs max./ 400 μs max. | NX-MD6121-6 |

Optional Products

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

Accessories

Not included.

Connection Patterns for Connector-Terminal Block Conversion Units

| Pattern | Configuration | Number of connectors | Branching |
|---------|---|----------------------|------------|
| А | Connecting Cable Connector-Terminal Block Conversion Unit 20 or 40 terminals | . 1 | None |
| В | Connecting Cable with two branches Connector-Terminal Block Conversion Unit 20 terminals 20 terminals | | 2 branches |
| С | Connecting Cable Connector-Terminal Block Conversion Unit 20 terminals Connecting Cable Connector-Terminal Block Conversion Unit | 2 | None |

Connections to Connector-Terminal Block Conversion Units

| Unit | I/O capacity | Number of connectors | Polarity | Connection pattern | Connecting Cable *1 | Connector-Terminal Block Conversion Unit | Wiring method | Common terminal | |
|-------------|--------------|--------------------------|-------------|--------------------|---------------------|---|------------------------|------------------------|------|
| NX-ID5142-5 | 16 inputs | 1 MIL connector | NPN/ PNP | А | XW2Z-□□X | XW2R-□20GD-T | Depends on model *3 | None | |
| | | Connector | FINE | | XW2Z-□□□X | XW2D-20G6 | Phillips screw | None | |
| | | | | А | XW2Z-□□□PM | XW2R-□34GD-C2 | Depends on model *3 | None | |
| | | | | Α | XW2Z-□□□K | XW2D-40G6 | Phillips screw | None | |
| | | | | В | XW2Z-□□N | XW2R-□20GD-T (2 Units) | Depends on model *3 | None | |
| NX-ID6142-5 | 32 inputs | 1 MIL connector | NPN/ PNP | В | XW2Z-□□□N | XW2C-20G5-IN16 (2 Units) *2 | Phillips screw | Yes | |
| | | | | В | XW2Z-□□□N | XW2C-20G6-IO16 (2 Units) | Phillips screw | Yes | |
| | | | | В | XW2Z-□□□N | XW2D-20G6 (2 Units) | Phillips screw | None | |
| | | | | В | XW2Z-□□□N | XW2E-20G5-IN16 (2 Units) *2 | Phillips screw | Yes | |
| | | puts 1 Fujitsu connector | | | А | XW2Z-□□□PF | XW2R-□34GD-C1 | Depends on model *3 | None |
| | | | • | Α | XW2Z-□□□B | XW2D-40G6 | Phillips screw | None | |
| | | | | В | XW2Z-□□□D | XW2R-□20GD-T (2 Units) | Depends on model *3 | None | |
| NX-ID6142-6 | 32 inputs | | | В | XW2Z-□□□D | XW2C-20G5-IN16 (2 Units) *2 | Phillips screw | Yes | |
| | | | | В | XW2Z-□□□D | XW2C-20G6-IO16 (2 Units) | Phillips screw | Yes | |
| | | | | В | XW2Z-□□□D | XW2D-20G6 (2 Units) | Phillips screw | None | |
| | | | | В | XW2Z-□□□D | XW2E-20G5-IN16 (2 Units) *2 | Phillips screw | Yes | |
| NX-OD5121-5 | 16 outputs | 1 MIL | INPN | | XW2Z-□□□X | XW2R-□20GD-T | Depends on model *3 | None | |
| | | connector | | Α | XW2Z-□□□X | XW2D-20G6 | Phillips screw | None | |
| NX-OD5256-5 | 16 outputs | 1 MIL connector | ····- | | XW2Z-□□□X | XW2R-□20GD-T | Depends on model *3 | None | |
| | | | | Α | XW2Z-□□□X | XW2D-20G6 | Phillips screw | None | |

NX-ID/IA/OD/OC/MD

| Unit | I/O capacity | Number of connectors | Polarity | Connection pattern | Connecting Cable *1 | Connector-Terminal Block Conversion Unit | Wiring method | Common terminal |
|----------------|--------------|----------------------|-------------|--------------------|---------------------|---|------------------------|-----------------|
| | | | | А | XW2Z-□□□PM | XW2R-□34GD-C4 | Depends on model *3 | None |
| | | | | Α | XW2Z-□□□K | XW2D-40G6 | Phillips screw | None |
| NX-OD6121-5 | 32 inputs | 1 MIL connector | NPN | В | XW2Z-□□□N | XW2R-□20GD-T (2 Units) | Depends on model *3 | None |
| | | | | В | XW2Z-□□□N | XW2C-20G6-IO16 (2 Units) | Phillips screw | Yes |
| | | | | В | XW2Z-□□□N | XW2D-20G6 (2 Units) | Phillips screw | None |
| | | | | А | XW2Z-□□PF | XW2R-□34GD-C3 | Depends on model *3 | None |
| | | . = | | Α | XW2Z-□□□B | XW2D-40G6 | Phillips screw | None |
| NX-OD6121-6 | 32 inputs | 1 Fujitsu connector | NPN | В | XW2Z-□□□L | XW2R-□20GD-T (2 Units) | Depends on model *3 | None |
| | | | | В | XW2Z-□□□L | XW2C-20G6-IO16 (2 Units) | Phillips screw | Yes |
| | | | | В | XW2Z-□□□L | XW2D-20G6 (2 Units) | Phillips screw | None |
| | | | | А | XW2Z-□□□PM | XW2R-□34GD-C4 | Depends on model *3 | None |
| | | 1 MIL connector | | Α | XW2Z-□□□K | XW2D-40G6 | Phillips screw | None |
| NX-OD6256-5 | 32 inputs | | PNP | В | XW2Z-□□□N | XW2R-□20GD-T (2 Units) | Depends on model *3 | None |
| | | | | В | XW2Z-□□□N | XW2C-20G6-IO16 (2 Units) | Phillips screw | Yes |
| | | | | В | XW2Z-□□□N | XW2D-20G6 (2 Units) | Phillips screw | None |
| | 16 outputs | 1 MIL connector | NPN/ PNP | С | XW2Z-□□□X | XW2R-□20GD-T | Depends on model *3 | None |
| NX-MD6121-5 | | | FINE | С | XW2Z-□□□X | XW2D-20G6 | Phillips screw | None |
| NX-WD0121-3 | 16 outputs | 1 MIL connector | NPN | С | XW2Z-□□X | XW2R-□20GD-T | Depends on model *3 | None |
| | | COMMECTOR | | С | XW2Z-□□□X | XW2D-20G6 | Phillips screw | None |
| | | | | С | XW2Z-□□□A | XW2R-□20GD-T | Depends on model *3 | None |
| | 40 | 1 Fujitsu | NPN/ | С | XW2Z-□□□A | XW2C-20G5-IN16 *2 | Phillips screw | Yes |
| | 16 outputs | connector | PNP | С | XW2Z-□□□A | XW2C-20G6-IO16 | Phillips screw | Yes |
| NX-MD6121-6 | | | | С | XW2Z-□□□A | XW2D-20G6 | Phillips screw | None |
| 14V-MD0151-0 | | | | С | XW2Z-□□□A | XW2E-20G5-IN16 *2 | Phillips screw | Yes |
| | | 1 Fujitsu | | С | XW2Z-□□□A | XW2R-□20GD-T | Depends on model *3 | None |
| | 16 outputs | connector | NPN | С | XW2Z-□□□A | XW2C-20G6-IO16 | Phillips screw | Yes |
| | | | | С | XW2Z-□□□A | XW2D-20G6 | Phillips screw | None |
| | 16 outputs | 1 MIL | NPN/ PNP | С | XW2Z-□□□X | XW2R-□20GD-T | Depends on model *3 | None |
| NX-MD6256-5 | 15.5 | connector | I INI. | С | XW2Z-□□□X | XW2D-20G6 | Phillips screw | None |
| 14V-IAID0520-2 | 16 outputs | 1 MIL | PNP | С | XW2Z-□□□X | XW2R-□20GD-T | Depends on model *3 | None |
| | | connector | ector | С | XW2Z-□□□X | XW2D-20G6 | Phillips screw | None |

Note: For other models and specifications that are not listed above, refer to the XW2R Series Connector-Terminal Block Conversion Units Catalog (Cat. No. G077) and XW2R Datasheets.

^{*1} $\square\square\square$ in the model number indicates the cable length. Refer to the *XW2Z Datasheet* for details.

^{*2} The inputs are NPN. For PNP inputs, reverse the polarity of the external power supply connections to the power supply terminals on the Connector-Terminal Block Conversion Unit.

^{*3} The wiring methods vary depending on the Connector-Terminal Block Conversion Unit. ☐ in the model number indicates the wiring method. J = Phillips screw

E = Slotted screw (rise up)

P= Push-in spring

Connection Patterns for I/O Relay Terminals

| Pattern | Configuration | Number of connectors | Branching |
|---------|--------------------------------------|----------------------|------------|
| Α | Connecting Cable I/O Relay Terminal | 1 | 2 branches |
| E | I/O Relay Terminal Connecting Cable | 2 | None |
| F | Connecting Cable I/O Relay Terminal | 1 | |

Connections to I/O Relay Terminals

| Unit | I/O capacity | Number of connectors | Polarity | Connectio n pattern | Number of branches | Connecting Cable *1 | I/O Relay Terminal | Wiring method | |
|---------------|-----------------|----------------------|----------|---------------------|--------------------|---------------------|--------------------|----------------|----------------|
| | | | | F | None | XW2Z-RO□C | G7TC-ID16 | Phillips screw | |
| | | | NIDNI | F | None | XW2Z-RO□C | G7TC-IA16 | Phillips screw | |
| NIV IDE4 40 E | 40: 1 | 1 MIL | NPN | F | None | XW2Z-RO□C | G70V-SID16P | Push-in spring | |
| NX-ID5142-5 | 16 inputs | connector | | F | None | XW2Z-RO□C | G70V-SID16P-C16 | Push-in spring | |
| | | | PNP | F | None | XW2Z-RO□C | G70V-SID16P-1 | Push-in spring | |
| | | | PNP | F | None | XW2Z-RO□C | G70V-SID16P-1-C16 | Push-in spring | |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G7TC-ID16 | Phillips screw | |
| | | | NPN | Α | 2 | XW2Z-RO□-□-D1 | G7TC-IA16 | Phillips screw | |
| NX-ID6142-5 | 00 : | 1 MIL | INPIN | Α | 2 | XW2Z-RO□-□-D1 | G70V-SID16P | Push-in spring | |
| NX-ID6142-5 | 32 inputs | connector | | Α | 2 | XW2Z-RO□-□-D1 | G70V-SID16P-C16 | Push-in spring | |
| | | | PNP | Α | 2 | XW2Z-RO□-□-D1 | G70V-SID16P-1 | Push-in spring | |
| | | | PINP | Α | 2 | XW2Z-RO□-□-D1 | G70V-SID16P-1-C16 | Push-in spring | |
| | | | | Α | 2 | XW2Z-RI□C-□ | G7TC-ID16 | Phillips screw | |
| | | | NPN | Α | 2 | XW2Z-RI□C-□ | G7TC-IA16 | Phillips screw | |
| NX-ID6142-6 | 32 inputs | 1 Fujitsu connector | INPIN | Α | 2 | XW2Z-RI□C-□ | G70V-SID16P | Push-in spring | |
| NX-1D0142-0 | 32 inpuis | | otor | Α | 2 | XW2Z-RI□C-□ | G70V-SID16P-C16 | Push-in spring | |
| | | | PNP | Α | 2 | XW2Z-RI□C-□ | G70V-SID16P-1 | Push-in spring | |
| | | | FINE | Α | 2 | XW2Z-RI□C-□ | G70V-SID16P-1-C16 | Push-in spring | |
| | | | | | F | None | XW2Z-RO□C | G7TC-OC08 | Phillips screw |
| | | | | F | None | XW2Z-RO□C | G70D-SOC08 | Phillips screw | |
| | | | | F | None | XW2Z-RO□C | G70R-SOC08 *2 | Phillips screw | |
| | | | | F | None | XW2Z-RO□C | G7TC-OC16 | Phillips screw | |
| | | | | F | None | XW2Z-RO□C | G70D-SOC16 | Phillips screw | |
| NX-OD5121-5 | 16 outputs | 1 MIL connector | NPN | F | None | XW2Z-RO□C | G70D-VSOC16 | Phillips screw | |
| | | 2311100101 | | F | None | XW2Z-RO□C | G70D-FOM16 | Phillips screw | |
| | | | | F | None | XW2Z-RO□C | G70D-VFOM16 | Phillips screw | |
| | | | | F | None | XW2Z-RO□C | G70A-ZOC16-3 | Phillips screw | |
| | | | | F | None | XW2Z-RO□C | G70V-SOC16P | Push-in spring | |
| | | | | F | None | XW2Z-RO□C | G70V-SOC16P-C4 | Push-in spring | |

NX-ID/IA/OD/OC/MD

| Unit | I/O capacity | Number of connectors | Polarity | Connectio n pattern | Number of branches | Connecting Cable *1 | I/O Relay Terminal | Wiring method |
|---------------|-----------------|------------------------|----------|---------------------|--------------------|---------------------|------------------------|----------------|
| | | | | F | None | XW2Z-RI□C | G7TC-OC16-1 | Phillips screw |
| | | | | F | None | XW2Z-RO□C | G70D-SOC16-1 | Phillips screw |
| NV ODEOGO E | 10 | 1 MIL | DNID | F | None | XW2Z-RO□C | G70D-FOM16-1 | Phillips screw |
| NX-OD5256-5 | 16 outputs | connector | PNP | F | None | XW2Z-RO□C | G70A-ZOC16-4 | Phillips screw |
| | | | | F | None | XW2Z-RO□C | G70V-SOC16P-1 | Push-in spring |
| | | | | F | None | XW2Z-RO□C | G70V-SOC16P-1-C4 | Push-in spring |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G7TC-OC16 | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G7TC-OC08 | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G70D-SOC16 | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G70D-FOM16 | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G70D-VSOC16 | Phillips screw |
| NX-OD6121-5 | 32 outputs | 1 MIL | NPN | Α | 2 | XW2Z-RO□-□-D1 | G70D-VFOM16 | Phillips screw |
| | 02 00.,000 | connector | | A | 2 | XW2Z-RO□-□-D1 | G70A-ZOC16-3 and Relay | Phillips screw |
| | | | | A | 2 | XW2Z-RO□-□-D1 | G70R-SOC08 *2 | Phillips screw |
| | | | | A | 2 | XW2Z-RO□-□-D1 | G70D-SOC08 | Phillips screw |
| | | | | A | 2 | XW2Z-RO□-□-D1 | G70V-SOC16P | Push-in spring |
| | | | | A | 2 | XW2Z-RO□-□-D1 | G70V-SOC16P-C4 | Push-in spring |
| | | | | A | 2 | XW2Z-RO□C-□ | G7TC-OC16 | Phillips screw |
| | | | | A | 2 | XW2Z-RO□C-□ | G7TC-OC08 | Phillips screw |
| | | | | | 2 | XW2Z-RO□C-□ | | |
| | | | NPN | A | | | G70D-SOC16 | Phillips screw |
| | | 1 Fujitsu connector | | A | 2 | XW2Z-RO C- | G70D-FOM16 | Phillips screw |
| NN/ 000/0/ 0 | | | | A | 2 | XW2Z-RO C- | G70D-VSOC16 | Phillips screw |
| NX-OD6121-6 | 32 outputs | | | A | 2 | XW2Z-RO C- | G70D-VFOM16 | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□C-□ | G70A-ZOC16-3 and Relay | Phillips screw |
| | | | | A | 2 | XW2Z-RO□C-□ | G70R-SOC08 *2 | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□C-□ | G70D-SOC08 | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□C-□ | G70V-SOC16P | Push-in spring |
| | | | | Α | 2 | XW2Z-RO□C-□ | G70V-SOC16P-C4 | Push-in spring |
| | | | | Α | 2 | XW2Z-RI□-□-D1 | G7TC-OC16-1 | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G70D-SOC16-1 | Phillips screw |
| NX-OD6256-5 | 32 outputs | 1 MIL | PNP | Α | 2 | XW2Z-RO□-□-D1 | G70D-FOM16-1 | Phillips screw |
| 100 0 0 0 0 0 | oz outputo | connector | | Α | 2 | XW2Z-RO□-□-D1 | G70A-ZOC16-4 and Relay | Phillips screw |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G70V-SOC16P-1 | Push-in spring |
| | | | | Α | 2 | XW2Z-RO□-□-D1 | G70V-SOC16P-1-C4 | Push-in spring |
| | | | | E | None | XW2Z-RO□C | G7TC-ID16 | Phillips screw |
| | 1C innute | 1 MIL | NDN | E | None | XW2Z-RO□C | G7TC-IA16 | Phillips screw |
| | 16 inputs | connector | NPN | Е | None | XW2Z-RO□C | G70V-SID16P | Push-in spring |
| | | | | Е | None | XW2Z-RO□C | G70V-SID16P-C16 | Push-in spring |
| | | | | E | None | XW2Z-RO□C | G7TC-OC16 | Phillips screw |
| | | | | Е | None | XW2Z-RO□C | G7TC-OC08 | Phillips screw |
| | | | | Е | None | XW2Z-RO□C | G70D-SOC16 | Phillips screw |
| NX-MD6121-5 | | | | E | None | XW2Z-RO□C | G70D-FOM16 | Phillips screw |
| | | | | E | None | XW2Z-RO□C | G70D-VSOC16 | Phillips screw |
| | 16 outputs | 1 MIL | NPN | E | None | XW2Z-RO□C | G70D-VFOM16 | Phillips screw |
| | . o oatpato | connector | | E | None | XW2Z-RO□C | G70A-ZOC16-3 and Relay | Phillips screw |
| | | | | E | None | XW2Z-RO□C | G70R-SOC08 *2 | Phillips screw |
| | | | | E | None | XW2Z-RO□C | G70D-SOC08 | Phillips screw |
| | | | | E | None | XW2Z-RO□C | G70V-SOC16P | Push-in spring |
| | | | | | | XW2Z-RO□C | | |
| | 1 | | | Е | None | AVVZZ-NULIU | G70V-SOC16P-C4 | Push-in spring |

NX-ID/IA/OD/OC/MD

| Unit | I/O capacity | Number of connectors | Polarity | Connectio n pattern | Number of branches | Connecting Cable *1 | I/O Relay Terminal | Wiring method |
|----------------|-----------------|----------------------|----------|---------------------|--------------------|---------------------|------------------------|----------------|
| | | | | Е | None | XW2Z-R□C | G7TC-ID16 | Phillips screw |
| | 40 in | 1 Fujitsu | NPN | E | None | XW2Z-R□C | G7TC-IA16 | Phillips screw |
| | 16 inputs | connector | NPN | E | None | XW2Z-R□C | G70V-SID16P | Push-in spring |
| | | | | E | None | XW2Z-R□C | G70V-SID16P-C16 | Push-in spring |
| | | | | Е | None | XW2Z-R□C | G7TC-OC16 | Phillips screw |
| | | | | E | None | XW2Z-R□C | G7TC-OC08 | Phillips screw |
| | | | | E | None | XW2Z-R□C | G70D-SOC16 | Phillips screw |
| NX-MD6121-6 | | | NPN | E | None | XW2Z-R□C | G70D-FOM16 | Phillips screw |
| | | 1 Fujitsu connector | | E | None | XW2Z-R□C | G70D-VSOC16 | Phillips screw |
| | 16 outputs | | | E | None | XW2Z-R□C | G70D-VFOM16 | Phillips screw |
| | | | | E | None | XW2Z-R□C | G70A-ZOC16-3 and Relay | Phillips screw |
| | | | | E | None | XW2Z-R□C | G70R-SOC08 *2 | Phillips screw |
| | | | | E | None | XW2Z-R□C | G70D-SOC08 | Phillips screw |
| | | | | E | None | XW2Z-R□C | G70V-SOC16P | Push-in spring |
| | | | | E | None | XW2Z-R□C | G70V-SOC16P-C4 | Push-in spring |
| | 16 inputs | 1 MIL | PNP | E | None | XW2Z-RO□C | G70V-SID16P-1 | Push-in spring |
| | 16 iriputs | connector | FINE | Е | None | XW2Z-RO□C | G70V-SID16P-1-C16 | Push-in spring |
| | | | | E | None | XW2Z-RO□C | G7TC-OC16-1 | Phillips screw |
| NX-MD6256-5 | | | | E | None | XW2Z-RI□C | G70D-SOC16-1 | Phillips screw |
| IAV-INID0520-2 | 16 outputo | 1 MIL | DND | E | None | XW2Z-RI□C | G70D-FOM16-1 | Phillips screw |
| | 16 outputs | connector | PNP | E | None | XW2Z-RI□C | G70A-ZOC16-4 and Relay | Phillips screw |
| | | | | E | None | XW2Z-RI□C | G70V-SOC16P-1 | Push-in spring |
| | | | | E | None | XW2Z-RI□C | G70V-SOC16P-1-C4 | Push-in spring |

Note: 1. For other models and specifications that are not listed above, refer to the datasheets.

2. The G70V Series includes models that provide internal connections. Refer to the *G70V Datasheet* (Cat. No. J215) for details.

3. The G70A is a socket only. Mountable relays and timers are sold separately.

^{*1.} \square in the model number indicates the cable length. Refer to the XW2Z-R Datasheet (Cat. No. G126) for details.

^{*2.} Product no longer available to order.

General Specifications

| | Item | Specification | | |
|-------------------------|-------------------------------|--|--|--|
| Enclosure | | Mounted in a panel | | |
| Grounding n | nethod | Ground to 100 Ω or less | | |
| | Ambient operating temperature | 0 to 55°C | | |
| | Ambient operating humidity | 10% to 95% (with no condensation or icing) | | |
| | Atmosphere | Must be free from corrosive gases. | | |
| | Ambient storage temperature | -25 to 70°C (with no condensation or icing) | | |
| | Altitude | 2,000 m max. | | |
| | Pollution degree | 2 or less: Conforms to JIS B3502 and IEC 61131-2. | | |
| Operating environment | Noise immunity | 2 kV on power supply line (Conforms to IEC61000-4-4.) | | |
| CHVIIOIIIICH | Overvoltage category | Category II: Conforms to JIS B3502 and IEC 61131-2. | | |
| | EMC immunity level | Zone B | | |
| | Vibration resistance *1 | Conforms to IEC 60068-2-6. 5 to 8.4 Hz with 3.5-mm amplitude, 8.4 to 150 Hz, acceleration of 9.8 m/s², 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total) | | |
| | Shock resistance *1 | Conforms to IEC 60068-2-27. 147 m/s², 3 times each in X, Y, and Z directions | | |
| Applicable standards *2 | | cULus: Listed (UL508) or Listed (UL 61010-2-201), ANSI/ISA 12.12.01, EU: EN 61131-2 or EN 61010-2-201, C-Tick or RCM, KC: KC Registration, NK, LR | | |

^{*1.} For the Relay Output Unit, refer to the Digital Input Unit Specifications.
*2. Refer to the OMRON website (http://www.ia.omron.com/) or consult your OMRON representative for the most recent applicable standards for

Digital Input Unit Specifications

● DC Input Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-ID3317

| Unit name | DC Input Unit | Model | NX-ID3317 |
|--|--|---|--|
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or I | _ | |
| | TS indicator, input indicator | Internal I/O common | NPN |
| | ID3317 | Rated input voltage | 12 to 24 VDC (9 to 28.8 VDC) |
| | 0 1 | Input current | 6 mA typical (at 24 VDC), rated current 9 VDC min./3 mA min. (between IOV and |
| Indicators | 2 3 | ON voltage/ON current | each signal) |
| maioatoro | | OFF voltage/OFF current | 2 VDC max./1 mA max. (between IOV and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | $20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max. | Current consumption from I/O power supply | No consumption |
| Weight | 65 g max. | • | |
| Circuit layout | | nt control reuit | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communications Coupled Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOG IOG A8 B8 | DC Input Unit NX-ID3317 Two- Ser IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3 B8 | -wire Isor Three-wire sensor |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| 11-24 | DO Los ALLOS | M1-1 | NIV IDO040 |
|--|--|---|---|
| Unit name | DC Input Unit | Model External connection | NX-ID3343 Screwless clamping terminal block (12 |
| Number of points | 4 points | terminals | terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F | 1 | LNDN |
| | TS indicator, input indicator ID3343 | Internal I/O common | NPN |
| | ID3343 DTS | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | 0 1 2 3 | Input current | 3.5 mA typical (at 24 VDC), rated current 15 VDC min./3 mA min. (between IOV and |
| Indicators | 2 3 | ON voltage/ON current | each signal) |
| | | OFF voltage/OFF current | 5 VDC max./1 mA max. (between IOV and each signal) |
| | | ON/OFF response time | 100 ns max./100 ns max. |
| | | Input filter time | Without filter, 1 μs, 2 μs, 4 μs, 8 μs (factory setting), 16 μs, 32 μs, 64 μs, 128 μs, 256 μs |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Digital isolator isolation |
| Insulation resistance | 20 M Ω min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max. | Current consumption from I/O power supply | 30 mA max. |
| Weight | 65 g max. | | |
| Circuit layout | | ent control circuit timo: | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 OIOV IOV IOV IOV IOG IOG A8 B8 | DC Input Unit NX-ID3343 Two- Ser IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG3 IOG3 A8 B8 | Three-wire sensor |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| Unit name | DC Input Unit | Model | NX-ID3344 |
|--|--|---|--|
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) |
| /O refreshing method | Input refreshing with input changed time | | |
| | TS indicator, input indicators | Internal I/O common | NPN |
| | ID3344 | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | ₽TS | Input current | 3.5 mA typical (at 24 VDC), rated current |
| Indicators | 0 1 2 3 | ON voltage/ON current | 15 VDC min./3 mA min. (between IOV and each signal) |
| | | OFF voltage/OFF current | 5 VDC max./1 mA max. (between IOV and each signal) |
| | | ON/OFF response time | 100 ns max./100 ns max. |
| | | Input filter time | No filter * |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Digital isolator isolation |
| 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 | Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max. | Current consumption from I/O power supply | 30 mA max. |
| Weight | 65 g max. | | |
| Circuit layout | Terminal block IN0 to IN3 NX bus connector (left) I/O power supply + I/O power supply - | Power supply irrent control circuit | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions | | ions. |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 OIOV IOV IOV IOG IOG A8 B8 | | o-wire nsor Three-wire sensor |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

^{*} This model does not support the input filter. If the Unit is susceptible to noise, take countermeasures such as separating or shielding the Unit and signal lines from the noise source. Refer to NX-series Digital I/O Unit User's Manual (W521) for information on countermeasures.

| Unit name | DC Input Unit | Model | NX-ID3417 |
|--|--|---|--|
| | | External connection | Screwless clamping terminal block (12 |
| Number of points | 4 points | terminals | terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F TS indicator, input indicator | ree-Run refreshing Internal I/O common | PNP |
| | ID3417 | Rated input voltage | 12 to 24 VDC (9 to 28.8 VDC) |
| | ■TS | Input current | 6 mA typical (at 24 VDC), rated current |
| | 0 1 2 3 | ON voltage/ON current | 9 VDC min./3 mA min. (between IOG and each signal) |
| Indicators | | OFF voltage/OFF current | 2 VDC max./1 mA max. (between IOG and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 $\mbox{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max. | Current consumption from I/O power supply | No consumption |
| Weight | 65 g max. | | |
| Circuit layout | Terminal block IN0 to IN3 Current circ IOG0 to 3 NX bus connector (left) I/O power supply + | | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 IOS IOS IOS IOS IOS IOS IOS IOS IOS IO | DC Input Unit NX-ID3417 Two- Ser IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3 A8 B8 | |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| Unit name | DC Input Unit | Model | NX-ID3443 |
|--|--|---|---|
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F | | terrinas) |
| | TS indicator, input indicator | Internal I/O common | PNP |
| | ID3443 | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | ■TS 0 1 | Input current | 3.5 mA typical (at 24 VDC), rated current |
| Indicators | 2 3 | ON voltage/ON current | 15 VDC min./3 mA min. (between IOG and each signal) |
| | | OFF voltage/OFF current | 5 VDC max./1 mA max. (between IOG and each signal) |
| | | ON/OFF response time | 100 ns max./100 ns max. |
| | | Input filter time | Without filter, 1 μ s, 2 μ s, 4 μ s, 8 μ s (factory setting),16 μ s, 32 μ s, 64 μ s, 128 μ s, 256 μ s |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Digital isolator isolation |
| Insulation resistance | 20 M Ω min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max. | Current consumption from I/O power supply | 30 mA max. |
| Weight | 65 g max. | | |
| Circuit layout | | ower upply Current control circuit itinazio uojialos | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOG IOG A8 B8 | DC Input Unit NX-ID3443 Two- ser IN0 IN1 • IOV0 IOV1 • IOG0 IOG1 IN2 IN3 • IOV2 IOV3 • IOG2 IOG3 • A8 B8 | Three-wire sensor |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| Unit name | DC Input Unit | Model | NX-ID3444 |
|--|---|---|--|
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (12 terminals) |
| I/O refreshing method | Input refreshing with input changed time | | |
| | TS indicator, input indicators | Internal I/O common | PNP |
| | ID3444 | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | ₽TS | Input current | 3.5 mA typical (at 24 VDC), rated current |
| Indicators | 0 1 2 3 | ON voltage/ON current | 15 VDC min./3 mA min. (between IOG and each signal) |
| | | OFF voltage/OFF current | 5 VDC max./1 mA max. (between IOG and each signal) |
| | | ON/OFF response time | 100 ns max./100 ns max. |
| | | Input filter time | No filter* |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Digital isolator isolation |
| Insulation resistance | 20 M Ω min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | IOV: 0.1 A/terminal max., IOG: 0.1 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max. | Current consumption from I/O power supply | 30 mA max. |
| Weight | 65 g max. | | |
| Circuit layout | Terminal block IN0 to IN3 NX bus connector (left) I/O power supply - | Current control circuit | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions | | ions. |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 I I I I I I I I I I I I I I I I I I I | DC Input Unit NX-ID3444 A1 B1 IN0 IN1 IOV0 IOV1 IOG0 IOG1 IN2 IN3 IOV2 IOV3 IOG2 IOG3 A8 B8 | ***** |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

^{*} This model does not support the input filter. If the Unit is susceptible to noise, take countermeasures such as separating or shielding the Unit and signal lines from the noise source. Refer to NX-series Digital I/O Unit User's Manual (W521) for information on countermeasures.

| Unit name | DC Input Unit | Model | NX-ID4342 |
|--|---|---|--|
| Number of points | 8 points | External connection terminals | Screwless clamping terminal block (16 terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F | | Lugu |
| | TS indicator, input indicator | Internal I/O common | NPN |
| | ID4342 ■TS | Rated input voltage Input current | 24 VDC (15 to 28.8 VDC) 3.5 mA typical (at 24 VDC), rated current |
| | 0 1 2 3 4 5 | ON voltage/ON current | 15 VDC min./3 mA min. (between IOG and each signal) |
| Indicators | 6 7 | OFF voltage/OFF current | 5 VDC max./1 mA max. (between IOG and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | IOG: 0.1 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max. | Current consumption from I/O power supply | No consumption |
| Weight | 65 g max. | | |
| Circuit layout | Terminal block IN0 to IN7 NX bus connector (left) I/O power supply + logonector (right) I/O power supply - logonector (right) | | |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | |
| Terminal connection diagram | Power Supply Unit A1 B1 A1 ICO ICO ICO IOV IOV IOV IOV IOV | 10G0 10V 10V 10G0 10V 10V 10V 10V 10V 10G4 10V 10G4 10V 10G4 10V 10G4 10V 10V | |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| Unit name | DC Input Unit | Model | NX-ID4442 | | |
|--|---|--|--|--|--|
| 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 | | | |
| | TS indicator, input indicator | Internal I/O common | PNP | | |
| | ID4442 • TS | Rated input voltage | 24 VDC (15 to 28.8 VDC) | | |
| | 0 1 | Input current | 3.5 mA typical (at 24 VDC), rated current | | |
| Indicators | 2 3 4 5 6 7 | ON voltage/ON current | 15 VDC min./3 mA min. (between IOG and each signal) | | |
| | | OFF voltage/OFF current | 5 VDC max./1 mA max. (between IOG and each signal) | | |
| | | ON/OFF response time | 20 μs max./400 μs max. | | |
| | | Input filter time | Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms | | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation | | |
| Insulation resistance | $20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. | | |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | IOV: 0.1 A/terminal max. | | |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max. | Current consumption from I/O power supply | No consumption | | |
| Weight | 65 g max. | | | | |
| Circuit layout | | nt control reuit strength of the strength of t | I/O power supply + NX bus connector (right) | | |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | | |
| Terminal connection diagram | Power Supply Unit A1 IOV IOV IOV IOV IOV IOV IOV IO | OG | | | |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. | | |

| Unit name | DC Input Unit | Model | NX-ID5342 |
|--|---|---|--|
| Number of points | 16 points | External connection terminals | Screwless clamping terminal block (16 terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F | | NDN |
| | TS indicator, input indicator ID5342 | Internal I/O common Rated input voltage | NPN 24 VDC (15 to 28.8 VDC) |
| | DTS | Input current | 2.5 mA typical (at 24 VDC), rated current |
| | 0 1 2 3 4 5 6 7 8 9 10 11 | ON voltage/ON current | 15 VDC min./2 mA min. (between IOG and each signal) |
| Indicators | 12 13 14 15 | OFF voltage/OFF current | 5 VDC max./0.5 mA max. (between IOG and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max. | Current consumption from I/O power supply | No consumption |
| Weight | 65 g max. | | |
| Circuit layout | | ent control circuit | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | |
| Terminal connection diagram | IOV IOV | | DC Input Unit NX-ID5342 B1 |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| Unit name | DC Input Unit | Model | NX-ID5442 |
|--|---|---|--|
| Number of points | 16 points | External connection terminals | Screwless clamping terminal block (16 terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or I | ree-Run refreshing | |
| | TS indicator, input indicator | Internal I/O common | PNP |
| | ID5442 | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | 0 1 2 3 4 5 6 7 8 9 10 11 | ON voltage/ON current | 2.5 mA typical (at 24 VDC), rated current 15 VDC min./2 mA min. (between IOG and each signal) |
| Indicators | 12 13 14 15 | OFF voltage/OFF current | 5 VDC max./0.5 mA max. (between IOG and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | Without filter, 0.25 ms, 0.5 ms, 1 ms (factory setting), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | $20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max. | Current consumption from I/O power supply | No consumption |
| Weight | 65 g max. | | |
| Circuit layout | | t control cuit Internal circuits | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | 10V | | DC Input Unit NX-ID5442 B1 Two-wire sensor IN0 IN1 |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

● DC Input Unit (M3 Screw Terminal Block, 30 mm Width) NX-ID5142-1

| Unit name | DC Input Unit | Model | NX-ID5142-1 |
|---------------------------|--|---|---|
| Number of points | 16 points | External connection terminals | M3 screw terminal block (18 terminals) |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-F | Run refreshing | |
| | TS indicator, input indicators | Internal I/O common | For both NPN/PNP |
| | | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | ID5142-1 | Input current | 7 mA typical (at 24 VDC) |
| Indicators | DTS 0 1 2 3 4 5 6 7 | ON voltage/ON current | 15 VDC min./3 mA min. (between COM and each signal) |
| | 8 9 10 11 12 13 14 15 | OFF voltage/OFF current | 5 VDC max./1 mA max. (between COM and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.85 W max. Connected to a Communications Coupler Unit 0.55 W max. | Current consumption from I/O power supply | No consumption |
| Weight | 125 g max. | | |
| Circuit layout | Terminal block NX bus connector (left) NO power supply + I/O power supply - I/O power | supply + | IX bus onnector right) |

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: As shown in the following. · For upright installation Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 45°C 16 12 points at 55°C 12 8 I/O power supply voltage 4 28.8 V 0 Installation orientation and 0 40 45 50 55 60 10 20 30 restrictions Ambient temperature (°C) · For any installation other than upright Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic -16 points at 40°C 16 points at 45°C 16 12 12 points at 55°C I/O power supply voltage 8 ----24 V 7 points at 55°C 4 28.8 V 0 40 45 50 55 60 0 10 20 30 Ambient temperature (°C) Terminal Signal Name Signal Name IN0 A0 о́-B0 ● IN1 IN2 A1 B1 . IN3 • A2 IN4 IN5 B2 • IN6 • A3 60 IN7 B3 • **Terminal connection** ● A4 IN8 √o-B4 **●** IN9 diagram IN10 • A5 B5 🌲 IN11 60 •A6 IN12 √o IN13 B6 **●** IN14 ■ A7 24 VDC 60 IN15 B7 **●** COM A8 B8 COM • The polarity of the input power supply can be connected in either direction. Disconnection/ Not supported. **Protective function** Not supported.

Short-circuit detection

● DC Input Unit (MIL Connector, 30 mm Width) NX-ID5142-5

| Unit name | DC Input Unit | Model | NX-ID5142-5 |
|---------------------------|--|---|---|
| Number of points | 16 points | External connection terminals | MIL connector (20 terminals) |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-F | Run refreshing | |
| | TS indicator, input indicators | Internal I/O common | For both NPN/PNP |
| | ID5142-5 | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | ∎TS | Input current | 7 mA typical (at 24 VDC) |
| | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | ON voltage/ON current | 15 VDC min./3 mA min. (between COM and each signal) |
| Indicators | | OFF voltage/OFF current | 5 VDC max./1 mA max. (between COM and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 M Ω 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 external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit O.85 W max. Connected to a Communications Coupler Unit O.55 W max. | | |
| Weight | 85 g max. | • | |
| Circuit layout | Connector INO to IN15 COM | | |

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: As shown in the following. · For upright installation Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 45°C 16 12 points at 55°C 12 8 I/O power supply voltage 4 28.8 V 0 Installation orientation and 0 10 20 40 45 50 55 60 restrictions Ambient temperature (°C) · For any installation other than upright Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 40°C 16 points at 45°C 12 12 points at 45°C I/O power supply voltage 8 ----24 V 7 points at 55°C 4 **-**28.8 V 0 0 10 20 30 40 45 50 55 60 Ambient temperature (°C) Signal Connector name pin Signal name 24 VDC NC NC COM 3 4 COM 6 IN07 IN15 **IN14** 8 **IN06 Terminal connection** IN13 9 10 IN05 diagram 11 12 IN12 IN04 IN11 13 14 IN03 IN10 15 16 IN02 IN09 17 18 IN01 20 **IN08** 19 IN00 The polarity of the input power supply can be connected in either direction. Be sure to wire both pins 3 and 4 (COM), and set the same polarity for both pins. Disconnection/ **Protective function** Not supported. Not supported. **Short-circuit detection**

NX-ID6142-5

| Unit name | DC Input Unit | Model | NX-ID6142-5 |
|---------------------------|---|--|---|
| Number of points | 32 points | External connection terminals | MIL connector (40 terminals) |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-F | Run refreshing | |
| | TS indicator, input indicators | Internal I/O common | For both NPN/PNP |
| | ID6142-5 | Rated input voltage | 24 VDC (19 to 28.8 VDC) |
| | ₽TS | Input current | 4.1 mA typical (24 VDC) |
| | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | ON voltage/ON current | 19 VDC min./3 mA min. (between COM and each signal) |
| Indicators | 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | OFF voltage/OFF current | 5 VDC max./1 mA max. (between COM and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| 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 external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.60 W max. | Current consumption from I/O power supply | No consumption |
| Weight | 90 g max. | | |
| Circuit layout | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | I/O power supply + I/O power supply - Supply - Supply - I/O power supp | |

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: As shown in the following. · For upright installation Number of simultaneously ON input points vs. points Ambient temperature characteristic 35 32 points at 45°C of simultaneously ON input 30 32 points at 40°C 13 points/common at 55°C 25 20 10 points/common at 55°C 15 10 I/O power supply voltage ---24 V Number 28.8 V 0 Installation orientation and 0 20 30 40 45 50 55 60 10 restrictions Ambient temperature (°C) · For any installation other than upright Number of simultaneously ON input points vs. Ambient temperature characteristic points 32 points at 35°C 35 32 points at 50°C Number of simultaneously ON input 30 13 points/common at 55°C 32 points at 30°C -25 20 8 points/common at 55°C 15 I/O power supply voltage 10 ----19 V 5 points/common at 55°C 5 ---24 V 28.8 V 0 0 10 40 45 50 55 60 30 Ambient temperature (°C) Signal Connector Signal 24 VDC pin NC NC COM1 COM₁ IN31 6 IN23 IN30 8 IN22 IN29 9 10 IN21 IN28 11 12 IN20 IN27 14 IN19 **IN26** 15 | 16 | IN18 IN25 IN17 18 19 20 24 VDC **Terminal connection** COMO COM0 diagram **IN15** IN07 26 IN14 28 IN06 IN13 IN05 29 30 IN12 IN04 IN11 IN03 IN10 35 36 IN02 38 IN01 IN09 37 IN08 39 40 IN00 The polarity of the input power supply can be connected in either direction.
Be sure to wire both pins 23 and 24 (COM0), and set the same polarity for both pins.
Be sure to wire both pins 3 and 4 (COM1), and set the same polarity for both pins. Disconnection/ Short-circuit detection Protective function Not supported. Not supported.

● DC Input Unit (Fujitsu Connector, 30 mm Width) NX-ID6142-6

| Unit name | DC Input Unit | Model | NX-ID6142-6 |
|---------------------------|---|--|---|
| Number of points | 32 points | External connection terminals | Fujitsu connector (40 terminals) |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-F | Run refreshing | |
| | TS indicator, input indicators | Internal I/O common | For both NPN/PNP |
| | ID6142-6 | Rated input voltage | 24 VDC (19 to 28.8 VDC) |
| | ₽TS | Input current | 4.1 mA typical (24 VDC) |
| Indicators | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | ON voltage/ON current | 19 VDC min./3 mA min. (between COM and each signal) |
| | 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | OFF voltage/OFF current | 5 VDC max./1 mA max. (between COM and each signal) |
| | | ON/OFF response time | 20 μs max./400 μs max. |
| | | Input filter time | No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 M Ω 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 external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.95 W max. Connected to a Communications Coupler Unit 0.55 W max. | Current consumption from I/O power supply | No consumption |
| Weight | 90 g max. | | |
| Circuit layout | Connector Connector IN0 IN15 COM0 COM0 IN16 IN31 COM1 COM1 COM1 COM1 COM1 COM1 COM1 COM | I/O power supply + I/O power supply - NX bus connector (right) | |

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: As shown in the following. · For upright installation Number of simultaneously ON input points vs. Number of simultaneously ON input points Ambient temperature characteristic 35 32 points at 45°C 30 32 points at 40°C 13 points/common at 55°C 25 20 10 points/common at 55°C 15 I/O power supply voltage 10 5 28.8 V 0 Installation orientation and 0 10 20 30 40 45 50 55 60 restrictions Ambient temperature (°C) · For any installation other than upright Number of simultaneously ON input points vs. Ambient temperature characteristic 32 points at 35°C Number of simultaneously ON input points 32 points at 50°C 30 13 points/common at 55°C 32 points at 30°C 20 8 points/common at 55°C 15 10 I/O power supply voltage ----19 V 5 points/common at 55°C 5 ---24 V -28.8 V 0 0 40 45 50 55 60 10 20 30 Ambient temperature (°C) Connector Signal name Signal name pin INO A1 B1 IN1 A2 B2 IN17 IN2 A3 B3 IN18 IN3 IN19 В4 A4 IN4 A5 B5 IN20 IN5 A6 B6 IN21 IN22 A7 B7 IN7 A8 B8 IN23 СОМО A9 В9 COM1 IN8 A10 B10 1N24 Terminal connection IN9 A11 B11 IN25 diagram IN10 A12 B12 IN26 IN11 A13 B13 IN27 IN12 A14 B14 IN28 A15 B15 IN29 IN13 A16 B16 IN30 IN15 A17 B17 IN31 COM0 A18 B18 COM1 A19 B19 NC NC NC A20 B20 NC The polarity of the input power supply can be connected in either direction.
Be sure to wire both pins A9 and A18 (COM0), and set the same polarity for both pins.
Be sure to wire both pins B9 and B18 (COM1), and set the same polarity for both pins. Disconnection/ Not supported. **Protective function** Not supported. Short-circuit detection

● AC Input Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-IA3117

| Points A points | Unit name | AC Input Unit | Model | NX-IA3117 |
|--|---------------------------|---|---------------------|--|
| Terminal Connection Terminal Indicator Termin | Number of points | | External connection | Screwless clamping terminal block |
| Indicators Indicators | <u> </u> | | terminals | (8 terminals) |
| Indicators A 3117 | Сараспу | · · · · · · · · · · · · · · · · · · · | Internal I/O common | No polarity |
| Indicators Indicators | | | Rated input voltage | 200 to 240 VAC, 50/60 Hz |
| Indicators Movement 11 m A (specal (at 200 VAC, 60 Hg) | | | | , , |
| OFF vottage/OFF current 40 VAC max x / Am max x | | | • | 11 mA typical (at 200 VAC, 60 Hz) |
| Dimensions 12 (W) × 100 (H) × 71 (D) Isolation method Photocoupler isolation 250 ms 50 ms 1 ms (adeaux) 2 ms, 4 ms, 9 ms, 16 ms, 32 ms, 64 ms, 128 ms, 25 ms 250 ms | Indicators | | | |
| Input filter time No. filter. Q.S. ms. 0.5 ms. 1 ms. (detail.) | | | | |
| Dimensions 12 (W) x 100 (H) x 71 (D) Isolation method Photocoupler isolation | | | | No filter, 0.25 ms, 0.5 ms, 1 ms (default), |
| Between each AC input circuit: 20 MQ min. (at 500 VDC) Solver to external terminals and the functional ground terminal: 20 MQ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MQ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MQ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MQ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MQ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MQ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MQ min. (at 500 VDC) Between the external terminals and internal circuits: 20 MQ min. (at 500 VDC) Between the external terminals and internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max. Circuit in a connection of the max. Between the external terminals and functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max. Circuit in a connection of the max. Circuit in a connec | | | Input filter time | |
| Insulation resistance Insu | Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Supplied from external source. NX Unit power consumption NX Unit power consumption On the consumption or communication or Communications On B W max. Connected to a Communications Coupler Unit Ferminal block Other or Country INO to IN3 Installation orientation and restrictions Installation orientation and restrictions Terminal connection diagram No consumption Ourrent consumption from I/O power supply No consumption No consumpti | Insulation resistance | 500 VDC) Between the external terminals and the functional ground terminal: 20 M Ω min. (at 500 VDC) Between the external terminals and internal circuits: 20 M Ω min. (at 500 VDC) Between the internal circuit and the functional ground terminal: 20 M Ω min. | _ | for 1 min at a leakage current of 5 mA max. Between the external terminals and functional ground terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage |
| NX Unit power consumption Control Unit | I/O power supply method | Supplied from external source. | | Without I/O power supply terminals |
| Circuit layout NX bus I/O power supply + Connector (left) I/O power supply - Installation orientation and restrictions NX bus connector (left) I/O power supply - Installation orientation and restrictions Connected to a CPU ultior Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions AC Input Unit NX-IA3117 NX-IA3117 Installation orientation | NX Unit power consumption | Control Unit 0.80 W max. • Connected to a Communications Coupler Unit | | No consumption |
| Installation orientation and restrictions Installation orientation: • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. • Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. • Connected to a CPU Unit or Communication Control Unit: Possible in 6 orientations. Restrictions: AC Input Unit NX-IA3117 AND INPUT C2 INTUT C1 INTUT C | Weight | 60 g max. | | |
| Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions AC Input Unit NX-IA3117 AC Input Unit NX-IA3117 INI C1 JOURNAL C2 | Circuit layout | Terminal block C0 to C3 NX bus connector | | I/O power supply + NX bus connector |
| Terminal connection diagram 200 to 240 VAC IN1 C1 VAC | | Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. | | |
| | | NX-İA3117 A | | |
| | | Not supported. | Protective function | Not supported. |

Digital Output Unit Specifications

● Transistor Output Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-OD2154

| Unit name | Transistor Output Unit | Model | NX-OD2154 |
|--|---|--|--|
| Number of points | 2 points | External connection terminals | Screwless clamping terminal block (8 terminals) |
| I/O refreshing method | Output refreshing with specified time stamp |) | , |
| | TS indicator, output indicator | Internal I/O common | NPN |
| | OD2154 | Rated voltage | 24 VDC |
| | DTS 0 1 | Operating load voltage range | 15 to 28.8 VDC |
| Indicators | | Maximum value of load current | 0.5 A/point, 1 A/Unit |
| | | Maximum inrush current | 1 / |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| <u> </u> | 10 (10) 100 (11) 71 (7) | ON/OFF response time | 300 ns max./300 ns max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Digital isolator isolation |
| Insulation resistance | 20 M Ω 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: 0.5 A/terminal max., IOG: 0.5 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.45 W max. | I/O current consumption | 30 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - This unit uses a | push-pull output circuit. | OUT0 to OUT1 Terminal block IOG0 to 1 I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions | | ions. |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOV IOV IOG IOG A8 B8 | Transistor Output Unit NX-OD2154 B1 OUT0 OUT1 IOV IOV IOV IOV IOV IOV IOG NC | Three-wire type |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

NX-OD2258

| Unit name | Translator Output Unit | Model | NX-OD2258 |
|--|--|---|--|
| Unit name | Transistor Output Unit | External connection | Screwless clamping terminal block |
| Number of points | 2 points | terminals | (8 terminals) |
| I/O refreshing method | Output refreshing with specified time stamp |) | |
| | TS indicator, output indicator | Internal I/O common | PNP |
| | OD2258 | Rated voltage | 24 VDC |
| | DTS 0 1 | Operating load voltage range | 15 to 28.8 VDC |
| Indicators | | Maximum value of load current | 0.5 A/point, 1 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | 12 (10 122 (10 124 (2) | ON/OFF response time | 300 ns max./300 ns max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Digital isolator isolation |
| Insulation resistance | 20 M Ω 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: 0.5 A/terminal max., IOG: 0.5 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit 0.85 W max. Connected to a Communications Coupler Unit 0.50 W max. | I/O current consumption | 40 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) I/O power supply + Order Supply - Order S | push-pull output circuit. | OUT0 to OUT1 Terminal block I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit: Possible in up Connected to a Communications Couple Restrictions: No restrictions | | ions. |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 IOV IOV IOG IOG 24 VDC IOV IOV IOG IOG A8 B8 | Transistor Output Unit NX-OD2258 A OUTO OUT1 IOV IOV IOG IOG NC NC A8 B8 | Three-wire type |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | With load short-circuit protection. |

NX-OD3121

| Unit name | Transistor Output Unit | Model | NX-OD3121 |
|--|---|---|---|
| | | External connection | Screwless clamping terminal block (12 |
| Number of points | 4 points | terminals | terminals) |
| /O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | |
| | TS indicator, output indicator OD3121 | Internal I/O common Rated voltage | NPN 12 to 24 VDC |
| | DTS DTS | Operating load voltage | 12 to 24 VDC |
| | 0 1 2 3 | range | 10.2 to 28.8 VDC |
| Indicators | | Maximum value of load current | 0.5 A/point, 2 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | | ON/OFF response time | 0.1 ms max./0.8 ms max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 M Ω 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: 0.5 A/terminal max., IOG: 0.5 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max. | I/O current consumption | 10 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - | | IOV0 to 3 OUT0 to OUT3 Terminal block I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 Old IOV IOV IOV IOV IOG IOG IOG A8 B8 | Transistor Output Unit NX-OD3121 A1 B1 Two-wi OUT0 OUT1 IOV0 IOV1 IOG0 IOG1 OUT2 OUT3 IOV2 IOV3 IOG2 IOG3 A8 B8 | Three-wire type |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

NX-OD3153

| Huit name | Transista Order della | Madal | NV ODO450 |
|--|---|---|--|
| Unit name | Transistor Output Unit | Model External connection | NX-OD3153 Screwless clamping terminal block (12 |
| Number of points | 4 points | terminals | terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or Free-Run refreshing | | |
| | TS indicator, output indicator | Internal I/O common | NPN |
| | OD3153 ■TS | Rated voltage | 24 VDC |
| | 0 1 2 3 | Operating load voltage range | 15 to 28.8 VDC |
| Indicators | | Maximum value of load current | 0.5 A/point, 2 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | | ON/OFF response time | 300 ns max./300 ns max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Digital isolator isolation |
| Insulation resistance | 20 M Ω 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: 0.5 A/terminal max., IOG: 0.5 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.50 W max. | I/O current consumption | 30 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) I/O power supply - This unit uses a push- | pull output circuit. | OUT0 to OUT3 Terminal block I/O power supply + I/O power supply - I/O power supply - I/O power supply - I/O power supply - |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 OIOV IOV IOG IOG IOG IOG A8 B8 | Transistor Output Unit NX-OD3153 A1 | Three-wire type |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| Unit name | Transistor Output Unit | Model | NX-OD3256 |
|--|---|---|--|
| | | External connection | Screwless clamping terminal block (12 |
| Number of points | 4 points | terminals | terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F | | DND |
| | TS indicator, output indicator | Internal I/O common | PNP |
| | OD3256 ■TS | Rated voltage | 24 VDC |
| | 0 1 2 3 | Operating load voltage range | 15 to 28.8 VDC |
| Indicators | | Maximum value of load current | 0.5 A/point, 2 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | | ON/OFF response time | 0.5 ms max./1.0 ms max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 M Ω 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: 0.5 A/terminal max., IOG: 0.5 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max. | I/O current consumption | 20 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) NX bus connector (left) NX bus connector (left) | Short-circuit protection | OUT0 to OUT3 IOG0 to 3 I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 OIOV IOV IOG IOG A8 B8 | Transistor Output Unit NX-OD3256 A1 | Three-wire type |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | With load short-circuit protection. |

| Unit name | Transistor Output Unit | Model | NX-OD3257 |
|--|---|--|--|
| | · | External connection | Screwless clamping terminal block (12 |
| Number of points | 4 points | terminals | terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or FTS indicator, output indicator | Internal I/O common | PNP |
| | OD3257 | Rated voltage | 24 VDC |
| | DTS | Operating load voltage | 15 to 28.8 VDC |
| | 0 1 2 3 | range | 15 to 26.6 VDC |
| Indicators | | Maximum value of load current | 0.5 A/point, 2 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current Residual voltage | 0.1 mA max. 1.5 V max. |
| | | ON/OFF response time | 300 ns max./300 ns max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Digital isolator isolation |
| Insulation resistance | 20 $M\Omega$ min. between isolated circuits (at | Dielectric strength | 510 VAC between isolated circuits for 1 |
| I/O power supply | 100 VDC) | Current capacity of I/O | minute at a leakage current of 5 mA max. IOV: 0.5 A/terminal max., |
| method | Supply from the NX bus | power supply terminal | IOG: 0.5 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.85 W max. Connected to a Communications Coupler Unit 0.50 W max. | I/O current consumption | 40 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) -pull output circuit. | IOV0 to 3 Terminal block OUT0 to OUT3 I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOV IOV IOG IOG A8 B8 B8 | Transistor Output Unit NX-OD3257 A1 B1 Two-wi | Three-wire type |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | With load short-circuit protection. |

| Unit name | Transistor Output Unit | Model | NX-OD3268 | |
|---|---|--|--|--|
| Number of points | 4 points | External connection terminals | Screwless clamping terminal block (16 terminals) | |
| I/O refreshing method | Switching Synchronous I/O refreshing and | Free-Run refreshing | | |
| | TS indicator, output indicator | Internal I/O common | PNP | |
| | OD3268 | Rated voltage | 24 VDC | |
| | ■TS 0 1 | Operating load voltage range | 15 to 28.8 VDC | |
| Indicators | 2 3 | Maximum value of load current | 2 A/point, 8 A/Unit | |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. | |
| | | Leakage current | 0.1 mA max. | |
| | | Residual voltage | 1.5 V max. | |
| | | ON/OFF response time | 0.5 ms max./1.0 ms max. | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation | |
| Insulation resistance | 20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. | |
| I/O power supply method | Supply from external source | Current capacity of I/O power supply terminal | IOV: 2 A/terminal max., IOG: 2 A/terminal max., COM (+V): 4 A/terminal max., 0V: 4 A/terminal max. | |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.85 W max. Connected to a Communications Coupler Unit 0.50 W max. | Current consumption from I/O power supply | 20 mA max. | |
| Weight | 70 g max. | | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - | Short-circuit Short-circuit No No No No No No No No No No No No No | Terminal block UT 0 to OUT 3 G 0 to IOG 3 O power apply + O power apply - O power apply - O power apply - O power (right) | |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | |
| Terminal connection diagram | Transistor Output Unit NX-OD3268 A1 B1 OUT0 OUT1 IOV0 IOV1 IOG0 IOG1 OUT2 OUT3 IOV2 IOV3 IOG2 IOG3 COM (+V) COM (+V) OV OV A8 B8 OV has 2 terminals, so be sure to wire both terminals, so be sure to wire both terminals. | | | |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | With load short-circuit protection. | |

| Unit name | Transistor Output Unit | Model | NX-OD4121 |
|--|--|---|---|
| Number of points | 8 points | External connection | Screwless clamping terminal block (16 |
| <u> </u> | • | terminals | terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F TS indicator, output indicator | Internal I/O common | NPN |
| | OD4121 | Rated voltage | 12 to 24 VDC |
| | DTS 0 1 2 3 | Operating load voltage range | 10.2 to 28.8 VDC |
| Indicators | 4 5 6 7 | Maximum value of load current | 0.5 A/point, 4 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA |
| | | Residual voltage | 1.5 V max. |
| | 10 (11) 100 (11) 71 (7) | ON/OFF response time | 0.1 ms max./0.8 ms max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| 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: 0.5 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.55 W max. | I/O current consumption | 10 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - | | I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | Additional I/O Power Supply Unit A1 B1 IOV IOV IOV IOV IOG IOG A8 B8 | Connection Unit | 2 OUT3 2 IOV3 4 OUT5 Three-wire type 4 IOV5 6 OUT7 |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| Unit name | Transistor Output Unit | Model | NX-OD4256 |
|--|--|--|---|
| Number of points | 8 points | External connection terminals | Screwless clamping terminal block (16 terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F | ree-Run refreshing | |
| | TS indicator, output indicator | Internal I/O common | PNP |
| | OD4256 ■TS | Rated voltage | 24 VDC |
| | 0 1 2 3 | Operating load voltage range | 15 to 28.8 VDC |
| Indicators | 4 5 6 7 | Maximum value of load current | 0.5 A/point, 4 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA |
| | | Residual voltage | 1.5 V max. |
| Dimensions | 12 (M) × 100 (H) × 71 (D) | ON/OFF response time Isolation method | 0.5 ms max./1.0 ms max. |
| | 12 (W) x 100 (H) x 71 (D) 20 MΩ min. between isolated circuits (at | | Photocoupler isolation 510 VAC between isolated circuits for 1 |
| Insulation resistance | 100 VDC) | Dielectric strength | minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | IOG: 0.5 A/terminal max. |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 1.00 W max. Connected to a Communications Coupler Unit 0.65 W max. | I/O current consumption | 30 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) I/O power supply + | Short-circuit protection | OUT0 to OUT7 Terminal block I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | Power Supply Unit A1 FIOV FIOS F | 10G0 10 10G0 10 10U 10U 10G2 10 10U 10U 10G4 10 10U 10U 10G4 10 10U 10U 10U 10UT6 0 | JT1 Two-wire type UT3 OG3 UT5 Three-wire type |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | With load short-circuit protection. |

| Unit name | Transistor Output Unit | Model | NX-OD5121 |
|--|--|---------------------------------------|---|
| Number of points | 16 points | External connection | Screwless clamping terminal block (16 |
| <u> </u> | , | terminals | terminals) |
| /O refreshing method | Selectable Synchronous I/O refreshing or F TS indicator, output indicator | Internal I/O common | NPN |
| | OD5121 | Rated voltage | 12 to 24 VDC |
| | DTS | Operating load voltage | 10.2 to 28.8 VDC |
| | 0 1 2 3 4 5 6 7 | range | 10.2 to 28.8 VDC |
| Indicators | 8 9 10 11 12 13 14 15 | Maximum value of load current | 0.5 A/point, 4 A/Unit |
| | | Maximum inrush current | |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage ON/OFF response time | 1.5 V max. 0.1 ms max./0.8 ms max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| nsulation 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 | , | Current capacity of I/O | - |
| method | Supply from the NX bus | power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 1.00 W max. Connected to a Communications Coupler Unit 0.65 W max. | I/O current consumption | 20 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) //O power supply - //O powe | | OUT0 to OUT15 Terminal block I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | | / IOV | Transistor Output |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

| Hait manna | Transista Order d Heit | Madal | NV ODEOEC |
|--|---|---|---|
| Unit name | Transistor Output Unit | Model External connection | NX-OD5256 Screwless clamping terminal block (16 |
| Number of points | 16 points | terminals | terminals) |
| I/O refreshing method | Selectable Synchronous I/O refreshing or F | | T=1.= |
| | TS indicator, output indicator | Internal I/O common | PNP |
| | OD5256 | Rated voltage | 24 VDC |
| | 0 1 2 3 4 5 6 7 | Operating load voltage range | 15 to 28.8 VDC |
| Indicators | 8 9 10 11 12 13 14 15 | Maximum value of load current | 0.5 A/point, 4 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | | ON/OFF response time | 0.5 ms max./1.0 ms max. |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 $\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from the NX bus | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 1.10 W max. Connected to a Communications Coupler Unit 0.70 W max. | I/O current consumption | 40 mA max. |
| Weight | 70 g max. | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - | Short-circuit protection | OUT0 to OUT15 Terminal block I/O power supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communica Connected to a Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | IOV IOV | Doc Doc | Tansistor Output Unit NX-OD5256 B1 Two-wire type OUT0 OUT1 OUT2 OUT3 OUT4 OUT5 OUT6 OUT7 OUT8 OUT9 OUT10 OUT11 OUT12 OUT112 OUT13 OUT14 OUT15 OUT14 OUT15 OUT14 |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | With load short-circuit protection. |

● Transistor Output Unit (M3 Screw Terminal Block, 30 mm Width) NX-OD5121-1

| Unit name | Transistor Output Unit | Model | NX-OD5121-1 |
|---|--|---|--|
| Number of points | 16 points | External connection terminals | M3 screw terminal block (18 terminals) |
| I/O refreshing method | Switching Synchronous I/O refreshing and | Free-Run refreshing | |
| | TS indicator, output indicator | Internal I/O common | NPN |
| | OD5121-1 | Rated voltage | 12 to 24 VDC |
| | ●TS 0 1 2 3 4 5 6 7 | Operating load voltage range | 10.2 to 28.8 VDC |
| Indicators | 8 9 10 11 12 13 14 15 | Maximum value of load current | 0.5 A/point, 5 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | | ON/OFF response time | 0.1 ms max./0.8 ms max. |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 M Ω 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 external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.90 W max. Connected to a Communications Coupler Unit 0.60 W max. | Current consumption from I/O power supply | 30 mA max. |
| Weight | 125 g max. | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - I/O power supply - | COM I/O power supply + I/O power supply - | Terminal block NX bus connector er (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communications Couple Restrictions: No restrictions | | |
| Terminal connection diagram | Terminal Signal name A B Signal name A Signal name A B Signal name A Signal name A B Signal name A Signal name Signal name A Signal name A Signal name Signa | | |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | Not supported. |

NX-OD5256-1

| 11X-0D3230-1 | | | | |
|---|--|--|--|--|
| Unit name | Transistor Output Unit | Model | NX-OD5256-1 | |
| Number of points | 16 points | External connection terminals | M3 screw terminal block (18 terminals) | |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-Run refreshing | | | |
| | TS indicator, output indicator | Internal I/O common | PNP | |
| | OD5256-1 | Rated voltage | 24 VDC | |
| | ■TS 0 1 2 3 4 5 6 7 | Operating load voltage range | 20.4 to 28.8 VDC | |
| Indicators | 8 9 10 11 12 13 14 15 | Maximum value of load current | 0.5 A/point, 5 A/Unit | |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. | |
| | | Leakage current | 0.1 mA max. | |
| | | Residual voltage | 1.5 V max. | |
| | | ON/OFF response time | 0.5 ms max./1.0 ms max. | |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation | |
| Insulation resistance | 20 $\mbox{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. | |
| I/O power supply method | Supply from external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 0.95 W max. Connected to a Communications Coupler Unit 0.65 W max. | Current consumption from I/O power supply | 30 mA max. | |
| Weight | 125 g max. | 1 | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - I/O pow | Short-circuit Short-circuit No No No No No No No No No No No No No | To to OUT15 Terminal block power pply + connector (right) | |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | |
| Terminal connection diagram | Signal name | | | |
| Disconnection/ Short-circuit detection | Not supported. | Protective function | With load short-circuit protection. | |

● Transistor Output Unit (MIL Connector, 30 mm Width) NX-OD5121-5

| Unit name | Transistor Output Unit | Model | NX-OD5121-5 |
|---|---|--|--|
| Number of points | 16 points | External connection terminals | MIL connector (20 terminals) |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-F | Run refreshing | |
| | TS indicator, output indicator | Internal I/O common | NPN |
| | OD5121-5 | Rated voltage | 12 to 24 VDC |
| | DTS 0 1 2 3 4 5 6 7 | Operating load voltage range | 10.2 to 28.8 VDC |
| Indicators | 8 9 10 11 12 13 14 15 | Maximum value of load current | 0.5 A/point, 2 A/Unit |
| | | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | | ON/OFF response time | 0.1 ms max./0.8 ms max. |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | $20~\text{M}\Omega$ min. between isolated circuits (at 100 VDC) | Dielectric strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| I/O power supply method | Supply from external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 9.95 W max. Connected to a Communications Coupler Unit 0.60 W max. | Current consumption from I/O power supply | 30 mA max. |
| Weight | 80 g max. | | |
| Circuit layout | NX bus connector (left) Installation orientation: | | Connector COM COM I/O power supply + I/O power supply - I/O power sup |
| Installation orientation and restrictions | Connected to a CPU Unit or Communication C Connected to a Communications Coupler Unit Restrictions: No restrictions | Control Unit: Possible in upright i : Possible in 6 orientations. | nstallation. |
| Terminal connection diagram | Signal name | Signal name +V COM OUT07 L OUT06 L OUT05 L OUT04 L OUT03 C OUT02 L OUT01 L OUT01 L OUT01 L OUT00 L | |
| Disconnection/Short-circuit detection | Be sure to wire both pins 1 and 2 (+v). Not supported. | Protective function | Not supported. |

NX-OD5256-5

| Unit name | Transistor Output Unit | | Model | NX-OD5256-5 |
|---|---|--|---|---|
| Number of points | 16 points | | External connection terminals | MIL connector (20 terminals) |
| /O refreshing method | Switching Synchronous I/O refreshing | and Free-R | - | Laura |
| | TS indicator, output indicator | | Internal I/O common | PNP |
| | OD5256-5 | - | Rated voltage | 24 VDC |
| | DTS 0 1 2 3 4 5 6 7 | | Operating load voltage range | 20.4 to 28.8 VDC |
| Indicators | 8 9 10 11 12 13 14 15 | | Maximum value of load current | 0.5 A/point, 2 A/Unit |
| | | - | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | ' | Leakage current | 0.1 mA max. |
| | | | Residual voltage | 1.5 V max. |
| Dimensions | 30 (M) × 100 (H) × 71 (D) | | ON/OFF response time Isolation method | 0.5 ms max./1.0 ms max. |
| | 30 (W) x 100 (H) x 71 (D) 20 M Ω min. between isolated circuits (a | at 100 | isolation method | Photocoupler isolation 510 VAC between isolated circuits for 1 minute |
| Insulation resistance | VDC) | at 100 | Dielectric strength | a leakage current of 5 mA max. |
| I/O power supply method | Supplied from external source. | | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Commic Control Unit 1.00 W max. Connected to a Communications Co 0.70 W max. | | Current consumption from I/O power supply | 40 mA max. |
| Weight | 85 g max. | | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - | ¥ 7 | Short-circuit | COM (+V) COM (+V) OUT0 to OUT15 OV OV I/O power supply + I/O power supply - I/O power supply - I/O power supply - |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Commic Connected to a Communications Connections: No restrictions | | | installation. |
| Terminal connection diagram | L OUT10 L OUT09 | Connector pin 1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18 | Signal name COM (+V) 0V OUT07 OUT06 CUT05 CUT04 CUT03 CUT02 CUT01 CUT00 CUT01 CUT00 | |
| | Be sure to wire both pins 1 and 2 (Ci Be sure to wire both pins 3 and 4 (0) | | OUT00 L | |
| Disconnection/Short-circuit detection | Not supported. | - /- | Protective function | With load short-circuit protection. |

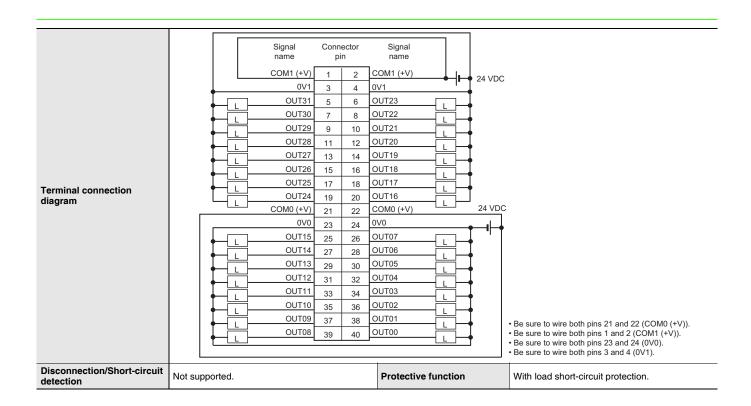
NX-OD6121-5

| Unit name | Transistor Output Unit | Model | NX-OD6121-5 |
|---|---|--|--|
| Number of points | 32 points | External connection terminals | MIL connector (40 terminals) |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-F | Run refreshing | |
| | TS indicator, output indicator | | NPN |
| | OD6121-5 | Rated voltage | 12 to 24 VDC |
| | DTS 0 1 2 3 4 5 6 7 | Operating load voltage range | 10.2 to 28.8 VDC |
| Indicators | 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 | Maximum value of load current | 0.5 A/point, 2 A/common, 4 A/Unit |
| | 24 25 26 27 28 29 30 31 | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | | ON/OFF response time | 0.1 ms max./0.8 ms max. |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| 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 external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 1.00 W max. Connected to a Communications Coupler Unit 0.80 W max. | Current consumption from I/O power supply | 50 mA max. |
| Weight | 90 g max. | | |
| Circuit layout | Internal circuits | +V0 +V0 OUT0 to OUT18 COM0 +V1 +V1 +V1 OUT16 to OUT3* | Connector |
| | NX bus connector (left) I/O power supply + | I/O powe | er supply + NX bus connector (right) |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication C Connected to a Communications Coupler Unit Restrictions: No restrictions | | installation. |

| | · | | | | | | |
|---------------------------------------|----------------|----------------|------------|----------|-----------------|--------------|---|
| | 12 to 24 VD | 1 | Conn pi | n 2 | Signal name +V1 | | |
| | ├ ─ | COM1 | 3 | 4 | COM1 | J | |
| | l + · | L OUT31 | 5 | 6 | OUT23 | ─ | |
| | | OUT30 OUT29 | 7 | 8 | OUT22 | | |
| | + | OUT29 | 9 | 10 | OUT21 OUT20 | <u> </u> | |
| | + | OUT27 | 11 13 | 12 14 | OUT19 | <u> </u> | |
| | — | OUT26 | 15 | 16 | OUT18 | <u> </u> | |
| | | L OUT25 | 17 | 18 | OUT17 | <u> </u> | |
| Terminal connection | ├ ── | DUT24 | 19 | 20 | OUT16 | <u> </u> | |
| diagram | | +V0 | 21 | 22 | +V0 | | |
| | | сомо | 23 | 24 | COM0 | | _ |
| | | OUT15 | 25 | 26 | OUT07 | | |
| | | OUT14 | 27 | 28 | OUT06 | | |
| | | OUT13 | 29 | 30 | OUT05 | | |
| | | OUT12 | 31 | 32 | OUT04 | ├ ┤ | |
| | | OUT11 | 33 | 34 | OUT03 | ₩ | |
| | | OUT10 | 35 | 36 | OUT02 | ; ;;; | |
| | 12 to | OUT09 | 37 | 38 | OUT01 | ├ | Be sure to wire both pins 21 and 22 (+V0). |
| | 24 VDC | OUT08 | 39 | 40 | OUT00 | - | Be sure to wire both pins 23 and 24 (COM0). |
| | | | | | | | Be sure to wire both pins 1 and 2 (+V1). Be sure to wire both pins 3 and 4 (COM1). |
| Disconnection/Short-circuit detection | Not supported. | | | Prof | tective func | tion | Not supported. |

NX-OD6256-5

| Unit name | Transistor Output Unit | Model | NX-OD6256-5 | |
|---|--|---|--|--|
| Number of points | 32 points | External connection terminals | MIL connector (40 terminals) | |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-F | | | |
| | TS indicator, output indicator | Internal I/O common | PNP | |
| | OD6256-5 | Rated voltage | 24 VDC | |
| | DTS 0 1 2 3 4 5 6 7 | Operating load voltage range | 20.4 to 28.8 VDC | |
| Indicators | 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 | Maximum value of load current | 0.5 A/point, 2 A/common, 4 A/Unit | |
| | 24 25 26 27 28 29 30 31 | Maximum inrush current | 4.0 A/point, 10 ms max. | |
| | | Leakage current | 0.1 mA max. | |
| | | Residual voltage | 1.5 V max. | |
| | | ON/OFF response time | 0.5 ms max./1.0 ms max. | |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation | |
| Insulation resistance | 20 M Ω 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 external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 1.30 W max. Connected to a Communications Coupler Unit 1.00 W max. | Current consumption from I/O power supply | 80 mA max. | |
| Weight | 95 g max. | | | |
| Circuit layout | NX bus connector (left) I/O power supply + I/O power supply - | Short-circuit protection protection | COM0 (+V) COM0 (+V) OUT0 to OUT15 OV0 OV0 COM1 (+V) COM1 (+V) OUT16 to OUT31 OV1 OV1 OV1 I/O power supply + I/O power supply - |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Connected to a Communications Coupler Unit Restrictions: No restrictions | | nstallation. | |



● Transistor Output Unit (Fujitsu Connector, 30 mm Width) NX-OD6121-6

| Unit name | Transistor Output Unit | Model | NX-OD6121-6 |
|---|--|--|--|
| Number of points | 32 points | External connection | Fujitsu connector (40 terminals) |
| | · | terminals | . 2, (10 (011111100)) |
| I/O refreshing method | Switching Synchronous I/O refreshing and Free-F | Internal I/O common | NPN |
| | TS indicator, output indicator | Rated voltage | 12 to 24 VDC |
| | OD6121-6 ■TS | Operating load voltage range | 10.2 to 28.8 VDC |
| Indicators | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | Maximum value of load current | 0.5 A/point, 2 A/common, 4 A/Unit |
| | 16 17 18 19 20 21 22 23 | Maximum inrush current | 4.0 A/point, 10 ms max. |
| | 24 25 26 27 28 29 30 31 | Leakage current | 0.1 mA max. |
| | | Residual voltage | 1.5 V max. |
| | | ON/OFF response time | 0.1 ms max./0.8 ms max. |
| Dimensions | 30 (W) x 100 (H) x 71 (D) | Isolation method | Photocoupler isolation |
| Insulation resistance | 20 M Ω 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 external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 1.10 W max. Connected to a Communications Coupler Unit 0.80 W max. | Current consumption from I/O power supply | 50 mA max. |
| Weight | 90 g max. | | |
| Circuit layout | NX bus connector (left) NX bus connector supply + I/O power supply - | COM0 COM0 COM0 COM0 COM1 +V1 +V1 OUT16 to OUT31 COM1 I/O power supply + I/O power supply - I/O power supply | s |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication C Connected to a Communications Coupler Unit Restrictions: No restrictions | | nstallation. |
| Terminal connection diagram | 12 to 24 VDC Signal | | |
| Disconnection/ | Not supported. | Protective function | Not supported. |
| Short-circuit detection | 3866 | | |

● Relay Output Unit (Screwless Clamping Terminal Block, 12 mm Width) NX-OC2633

| Unit name | Relay Output Units | Model | NX-OC2633 | |
|--|--|---|--|--|
| Number of points | 2 points, independent contacts | External connection terminals | Screwless clamping terminal block (8 terminals) | |
| I/O refreshing method | Free-Run refreshing | terminais | | |
| | TS indicator, output indicator | Relay type | N.O. contact | |
| Indicators | OC2633 DTS 0 1 | Maximum switching capacity | 250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit | |
| | | Minimum switching capacity | 5 VDC, 1 mA | |
| Relay service life | Electrical: 100,000 operations* Mechanical: 20,000,000 operations | ON/OFF response time | 15 ms max./15 ms max. | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Relay isolation | |
| Insulation resistance | Between A1/B1 terminals and A3/B3 terminals: $20~\text{M}\Omega$ min. (500 VDC) Between the external terminals and internal circuits: $20~\text{M}\Omega$ min. (500 VDC) Between the internal circuit and GR terminal: $20~\text{M}\Omega$ min. (100 VDC) Between the external terminals and GR terminal: $20~\text{M}\Omega$ min. (500 VDC) | Dielectric strength | Between A1/B1 terminals and A3/B3 terminals: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and GR terminal: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max Between the internal circuit and GR terminal: 510 VAC for 1 min at a leakage current of 5 mA max. | |
| Vibration resistance | Conforms to IEC60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 8.4 to 150 Hz, acceleration of 9.8 m/s² 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total) | Shock resistance | 100 m/s², 3 times each in X, Y, and Z directions | |
| I/O power supply method | Supply from external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 1.20 W max. Connected to a Communications Coupler Unit 0.80 W max. | I/O current consumption | No consumption | |
| Weight | 65 g max. | • | | |
| Circuit layout | NX bus connector (left) I/O power supply + You cannot replace | pjy | I/O power supply + NX bus connector (right) | |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | |
| Terminal connection diagram | Relay Output Unit NX-OC2633 A1 O CO | | | |
| Disconnection/ Short-circuit detection | Not supported. Protective function Not supported. | | | |

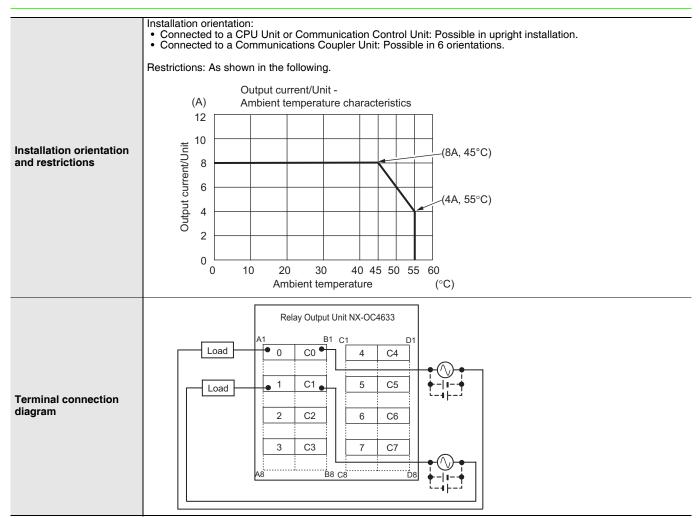
^{*} Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

NX-OC2733

| Unit name | Relay Output Unit | Model | NX-OC2733 | |
|---|--|---|---|--|
| Number of points | 2 points, independent contacts | External connection terminals | Screwless clamping terminal block (8 terminals) | |
| I/O refreshing method | Free-Run refreshing | terminais | terminals) | |
| Indicators | TS indicator, output indicator OC2733 TS 0 1 | Maximum switching capacity Minimum switching | 250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 4 A/Unit | |
| | | capacity | 5 VDC, 10 mA | |
| Relay service life | Electrical: 100,000 operations Mechanical: 20,000,000 operations | ON/OFF response time | 15 ms max./15 ms max. | |
| Dimensions | 12 (W) x 100 (H) x 71 (D) | Isolation method | Relay isolation | |
| Insulation resistance | Between A1/3, B1/3 terminals and A5/7, B5/7 terminals: $20~M\Omega$ min. (at $500~VDC$) Between the external terminals and functional ground terminal: $20~M\Omega$ min. (at $500~VDC$) Between the external terminals and internal circuits: $20~M\Omega$ min. (at $500~VDC$) Between the internal circuit and the functional ground terminal: $20~M\Omega$ min. (at $100~VDC$) | Dielectric strength | Between A1/3, B1/3 terminals and A5/B5/7 terminals: 2300 VAC for 1 min at leakage current of 5 mA max. Between the external terminals and th functional ground terminal: 2300 VAC fmin at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC fmin at a leakage current of 5 mA max. | |
| I/O power supply method | Supply from external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 1.30 W max. Connected to a Communications Coupler Unit 0.95 W max. | Current consumption from I/O power supply | No consumption | |
| Weight | 70 g max. | | | |
| Circuit layout | You cannot r | | NO0 to NO1 C0 to C1 Terminal block NC0 to NC1 I/O power supply + NX bus connector (right) I/O power supply - (right) | |
| Installation orientation and restrictions | Installation orientation: Connected to a CPU Unit or Communication Control Unit: Possible in upright installation. Connected to a Communications Coupler Unit: Possible in 6 orientations. Restrictions: No restrictions | | | |
| Terminal connection diagram | Relay Output Unit NX-OC2733 B1 C0 C0 NO1 NC1 C1 C1 A8 B8 | | | |
| Disconnection/Short-circuit detection | Not supported. | Protective function | Not supported. | |

● Relay Output Unit (Screwless Clamping Terminal Block, 24 mm Width) NX-OC4633

| Unit name | Relay Output Unit | Model | NX-OC4633 | |
|--|--|---|--|--|
| Number of points | 8 points, independent contacts | External connection terminals | Screwless clamping terminal block (8 terminals x 2) | |
| I/O refreshing method | Free-Run refreshing | | | |
| TS indicator, output indicator OC4633 TS O 1 2 3 | | Maximum switching capacity | N.O. contact 250 VAC/2 A (cosφ = 1), 250 VAC/2 A (cosφ = 0.4), 24 VDC/2 A, 8 A/Unit | |
| | 4 5 6 7 | Minimum switching capacity | 5 VDC, 1 mA | |
| Relay service life | Electrical: 100,000 operations* Mechanical: 20,000,000 operations | ON/OFF response time | 15 ms max./15 ms max. | |
| Dimensions | 24 (W) x 100 (H) x 71 (D) | Isolation method | Relay isolation | |
| Insulation resistance | Between output bits: $20~M\Omega$ min. (at $500~VDC$) Between the external terminals and the functional ground terminal: $20~M\Omega$ min. (at $500~VDC$) Between the external terminals and internal circuits: $20~M\Omega$ min. (at $500~VDC$) Between the internal circuit and the functional ground terminal: $20~M\Omega$ min. (at $100~VDC$) | Dielectric strength | Between output bits: 2300 VAC for 1 min a a leakage current of 5 mA max. Between the external terminals and the functional ground terminal: 2300 VAC for min at a leakage current of 5 mA max. Between the external terminals and internal circuits: 2300 VAC for 1 min at a leakage current of 5 mA max. Between the internal circuit and the functional ground terminal: 510 VAC for 1 min at a leakage current of 5 mA max. | |
| Vibration resistance | Conforms to IEC 60068-2-6. 5 to 8.4 Hz with amplitude of 3.5 mm, 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 | 100 m/s ² , 3 times each in X, Y, and Z directions | |
| I/O power supply method | Supply from external source | Current capacity of I/O power supply terminal | Without I/O power supply terminals | |
| NX Unit power consumption | Connected to a CPU Unit or Communication Control Unit 2.00 W max. Connected to a Communications Coupler Unit 1.65 W max. | Current consumption from I/O power supply | No consumption | |
| Weight | 140 g max. | | | |
| Circuit layout | NX bus connector I/O power supply + NX bus connector | | | |
| | (left) I/O power supply – You cannot rep | place the relay. | I/O power supply – | |



^{*} Electrical service life will vary depending on the current value. Refer to "NX-series Digital I/O Units User's Manual" for details.

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

| Unit name | Unit name DC Input/Transistor Output Unit Model | | NX-MD6121-5 | | |
|----------------|---|--|---|--|--|
| Number o | of points | 16 inputs/16 outputs | External connection terminals | | 2 MIL connectors (20 terminals) |
| I/O refres | hing method | Switching Synchronous I/O refreshing and Free-Run refreshing | | | |
| | Internal I/O common | NPN | | Internal I/O common | For both NPN/PNP |
| | Rated voltage | 12 to 24 VDC | | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | Operating load voltage range | 10.2 to 28.8 VDC | | Input current | 7 mA typical (at 24 VDC) |
| Output section | Maximum value of load current | 0.5 A/point, 2 A/Unit | Input section | ON voltage/ON current | 15 VDC min./3 mA min. (between COM and each signal) |
| (CN1) | Maximum inrush current | 4.0 A/point, 10 ms max. | (CN2) | OFF voltage/OFF current | 5 VDC max./1 mA max. (between COM and each signal) |
| | Leakage current | 0.1 mA max. | | ON/OFF response time | 20 μs max./400 μs max. |
| | Residual voltage | 1.5 V max. | | | No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, |
| | ON/OFF response time | 0.1 ms max./0.8 ms max. | | Input filter time | 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| | | TS indicator, I/O indicators | Dimension | ns | 30 (W) x 100 (H) x 71 (D) |
| | | MD6121-5 | Isolation I | nethod | Photocoupler isolation |
| | | CN_ DTS | Insulation | resistance | 20 M Ω min. between isolated circuits (at 100 VDC) |
| | | 1 0 1 2 3 4 5 6 7 1 8 9 10 11 12 13 14 15 2 0 1 2 3 4 5 6 7 | Dielectric | | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| | | 2 8 9 10 11 12 13 14 15 | I/O power supply method | | Supply from external source |
| Indicators | s | | Current capacity of I/O power supply terminal | | Without I/O power supply terminals |
| | | | NX Unit power consumption | | Connected to a CPU Unit or Communication Control Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max. |
| | | | Current consumption from I/O power supply | | 30 mA max. |
| | | | Weight | | 105 g max. |
| | | CN1 (left) output circuit | | | |
| Circuit la | yout | NX bus connector (left) NX bus connector (left) NX bus connector supply + 1/0 power supply - 1/0 power sup | to | OMO Obmo Opower pply + Opower pply - Opower pply - Opower pply - | |
| | | Connector NX bus connector (left) NO power supply + 1/O power supply - 1/O power supply | Input indicator 3.3 kΩ Input indicator IND IND IND IND IND IND IND IN | | |

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: As shown in the following. For upright installation ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic 16 points at 35°C 16 points at 45°C 16 Number of simultaneously 13 points at 55°C 12 9 points at 55°C I/O power supply voltage ---24 V 4 28.8 V 0 0 10 20 30 40 45 50 55 60 Installation orientation and restrictions Ambient temperature • For any installation other than upright Number of simultaneously ON input points vs. Number of simultaneously ON input points Ambient temperature characteristic 16 points at 40°C 16 points at 25°C 16 12 I/O power supply 5 points at 55°C 8 voltage ---24 V 4 28.8 V 3 points at 55°C 0 0 10 30 40 45 50 55 60 Ambient temperature (°C) CN1 (left) output terminal Signal Connector Signal name pin name OUT0 20 19 OUT8 name name OUT1 18 17 OUT9 OUT2 16 15 OUT10 OUT3 14 13 OUT11 OUT4 12 11 OUT12 OUT5 10 9 OUT13 OUT6 8 7 OUT14 OUT7 6 5 OUT15 COM0 4 3 COM0 +V0 2 1 +V0 12 to 24 VDC • Be sure to wire both pins 3 and 4 (COM0) of CN1. Terminal connection • Be sure to wire both pins 1 and 2 (+V0) of CN1. diagram CN2 (right) input terminal Signal Connector Signal name pin name NC 1 2 NC COM1 3 4 COM1 IN15 5 6 IN07 7 8 IN14 IN06 IN13 9 10 IN05 IN12 11 12 IN04 IN03 IN11 13 14 IN10 15 16 IN02 60 IN09 17 18 IN01

19 20 IN00

The polarity of the input power supply of CN2 can be connected in either direction.
Be sure to wire both pins 3 and 4 (COM1) of CN2, and set the same polarity for both pins.

Protective function

IN08

Not supported.

Disconnection/Short-circuit

detection

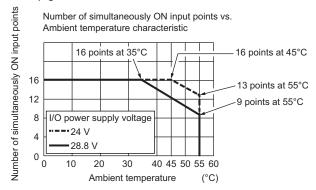
Not supported.

NX-MD6256-5

| Unit name |) | DC Input/Transistor Output Unit | Model | | NX-MD6256-5 | |
|---|-------------------------------|--|---|--|--|--|
| Number o | f points | 16 inputs/16 outputs | External connection terminals | | 2 MIL connectors (20 terminals) | |
| I/O refresh | ning method | Switching Synchronous I/O refreshing and Free | d Free-Run refreshing | | | |
| I/O refreshing method Internal I/O common | | PNP | | Internal I/O common | For both NPN/PNP | |
| | Rated voltage | 24 VDC | | Rated input voltage | 24 VDC (15 to 28.8 VDC) | |
| | Operating load voltage range | 20.4 to 28.8 VDC | | Input current | 7 mA typical (at 24 VDC) | |
| Output section | Maximum value of load current | 0.5 A/point, 2 A/Unit | Input section (CN2) | ON voltage/ON current | 15 VDC min./3 mA min. (between COM and each signal) | |
| (CN1) | Maximum inrush current | 4.0 A/point, 10 ms max. | | OFF voltage/OFF current | 5 VDC max./1 mA max. (between COM and each signal) | |
| | Leakage current | 0.1 mA max. | | ON/OFF response time | 20 μs max./400 μs max. | |
| | Residual voltage | 1.5 V max. | | | No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, | |
| | ON/OFF response time | 0.5 ms max./1.0 ms max. | | Input filter time | 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms | |
| | | TS indicator, I/O indicators | Dimensio | | 30 (W) x 100 (H) x 71 (D) | |
| | | MD6256-5 | Isolation | method | Photocoupler isolation | |
| | | CN DTS | Insulation | n resistance | 20 MΩ min. between isolated circuits (at 100 VDC) | |
| | | 1 8 9 10 11 12 13 14 15 2 0 1 2 3 4 5 6 7 | | strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. | |
| | | ² L8 9 10 11 12 13 14 15 | - | apacity of I/O power | Supply from external source | |
| Indicators | | | supply terminal | | Without I/O power supply terminals | |
| | | | NX Unit power consumption | | Connected to a CPU Unit or Communication Control Unit 1.10 W max. Connected to a Communications Coupler Unit 0.75 W max. | |
| | | | Current consumption from I/ O power supply | | 40 mA max. | |
| | | | Weight | supply | 110 g max. | |
| | | CN1 (left) output circuit | TTO 9 Hiax. | | | |
| Circuit layout | | NX bus connector (left) I/O power supply + I/O power supply - I/O pow | Diotection | COM0 (+V) COM0 (+V) COM0 (+V) COM0 (+V) Con to OUT15 Con l/O power supply + l/O power supply - supply - l/O power supply - | ector | |
| | | CN2 (right) input circuit | | | | |
| | | Connector IN0 (1N15 (COM1) (COM1) (IN15 (IN15 (COM1) (IN15 (IN15 (COM1) (IN15 (IN15 (COM1) (IN15 (IN15 (COM1) (IN15 (COM1 | | | | |

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: As shown in the following.
 - · For upright installation



Installation orientation and restrictions

· For any installation other than upright

Number of simultaneously ON input points Number of simultaneously ON input points vs. Ambient temperature characteristic -16 points at 40°C 16 points at 25°C 16 12 I/O power supply 5 points at 55°C 8 voltage ----24 V 4 28.8 V 3 points at 55°C 0 0 10 20 30 40 45 50 55 60 Ambient temperature (°C)

CN1 (left) output terminal

Signal Connector Signal name pin name 20 19 OUT0 OUT8 18 17 OUT1 OUT9 L L OUT2 16 15 OUT10 L OUT3 14 13 OUT11 L 12 11 OUT4 OUT12 OUT5 10 9 OUT13 OUT6 8 OUT14 L OUT7 6 5 OUT15 4 3 COM0 (+V) COM0 (+V) 0V0 2 1 0V0

Terminal connection diagram

- Be sure to wire both pins 3 and 4 (COM0 (+V)) of CN1.
- Be sure to wire both pins 1 and 2 (0V0) of CN1.

CN2 (right) input terminal

| 24 VDC | | Signal C | | | | | |
|-----------|---|----------|----|----|------|----|---------|
| 1 470 | | name | р | in | name | | |
| | | NC | 1 | 2 | NC | | |
| | 1 | COM1 | 3 | 4 | COM1 | | |
| | Ž | IN15 | 5 | 6 | IN07 | < | <u></u> |
| | | IN14 | 7 | 8 | IN06 | _~ | |
| | | IN13 | 9 | 10 | IN05 | ~ | |
| | | IN12 | 11 | 12 | IN04 | ~ | |
| | | IN11 | 13 | 14 | IN03 | ~~ | |
| | | IN10 | 15 | 16 | IN02 | _~ | |
| | | IN09 | 17 | 18 | IN01 | _~ | \sim |
| | | IN08 | 19 | 20 | IN00 | ~ | \sim |

- The polarity of the input power supply of CN2 can be connected in either direction.
 Be sure to wire both pins 3 and 4 (COM1) of CN2, and set the same polarity for both pins.

| Disconnection/Short-circuit detection | Not supported. | Protective function | With load short-circuit protection. |
|---------------------------------------|----------------|---------------------|-------------------------------------|
|---------------------------------------|----------------|---------------------|-------------------------------------|

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

| Unit name | | DC Input/Transistor Output Unit Model | | | NX-MD6121-6 |
|----------------|--|---|---------------------------|---|--|
| Number o | of points 16 inputs/16 outputs External connection terminals | | | 2 Fujitsu connectors (24 terminals) | |
| I/O refres | hing method | Switching Synchronous I/O refreshing and Free- | Run refreshi | ng | |
| | Internal I/O common | NPN | | Internal I/O common | For both NPN/PNP |
| | Rated voltage | 12 to 24 VDC | | Rated input voltage | 24 VDC (15 to 28.8 VDC) |
| | Operating load voltage range | 10.2 to 28.8 VDC | | Input current | 7 mA typical (at 24 VDC) |
| Output section | Maximum value of load current | 0.5 A/point, 2 A/Unit | Input section | ON voltage/ON current | 15 VDC min./3 mA min. (between COM and each signal) |
| (CN1) | Maximum inrush current | 4.0 A/point, 10 ms max. | (CN2) | OFF voltage/OFF current | 5 VDC max./1 mA max. (between COM and each signal) |
| | Leakage current | 0.1 mA max. | | ON/OFF response time | 20 μs max./400 μs max. |
| | Residual voltage | 1.5 V max. | | | No filter 0.05 mg 0.5 mg 1 mg (default) 0 mg |
| | ON/OFF response time | 0.1 ms max./0.8 ms max. | | Input filter time | No filter, 0.25 ms, 0.5 ms, 1 ms (default), 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms, 256 ms |
| | • | TS indicator, I/O indicators | Dimension | ns | 30 (W) x 100 (H) x 71 (D) |
| | | MD6121 6 | Isolation i | method | Photocoupler isolation |
| | | MD6121-6 CN | Insulation | resistance | 20 MΩ min. between isolated circuits (at 100 VDC) |
| | | 1 0 1 2 3 4 5 6 7 1 8 9 10 11 12 13 14 15 0 0 1 2 3 4 5 6 7 | Dielectric | strength | 510 VAC between isolated circuits for 1 minute at a leakage current of 5 mA max. |
| | | 2 8 9 10 11 12 13 14 15 | I/O power | supply method | Supply from external source |
| Indicators | 5 | | | apacity of I/O oply terminal | Without I/O power supply terminals |
| | | | NX Unit power consumption | | Connected to a CPU Unit or Communication Control Unit 1.00 W max. Connected to a Communications Coupler Unit 0.70 W max. |
| | | | Current co | onsumption from supply | 30 mA max. |
| | | | Weight | | 95 g max. |
| Circuit layout | | NX bus connector (left) NX bus connector (left) CN2 (right) input circuit | | COM0 COM0 I/O power supply + I/O power supply - | Connector NX bus connector (right) |
| | | | ndicator | I/O power supply + I/O power supply - | NX bus connector (right) |

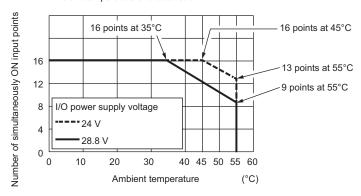
- Installation orientation:

 Connected to a CPU Unit or Communication Control Unit: Possible in upright installation.

 Connected to a Communications Coupler Unit: Possible in 6 orientations.

 Restrictions: As shown in the following.
 - For upright installation

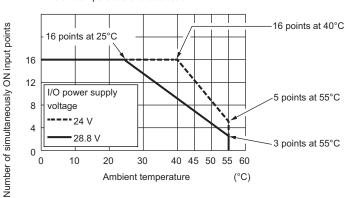
Number of simultaneously ON input points vs. Ambient temperature characteristic

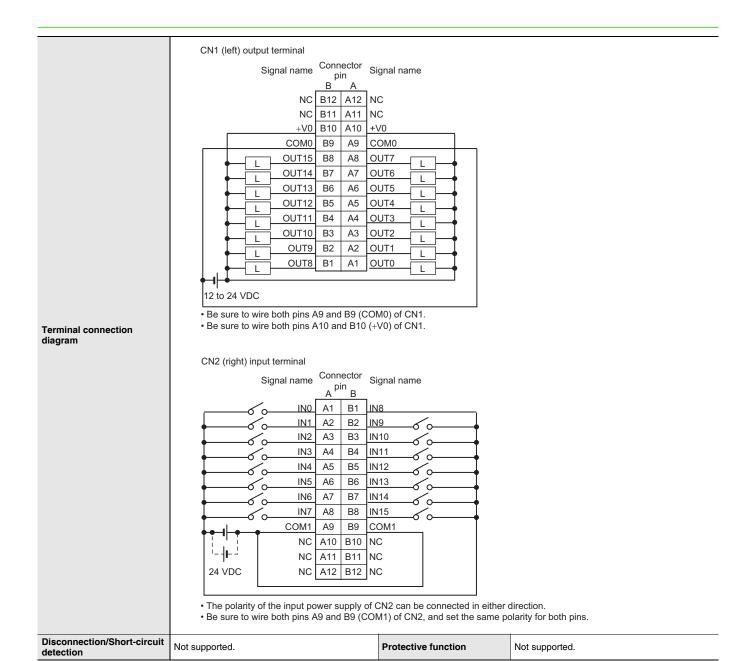


Installation orientation and

• For any installation other than upright

Number of simultaneously ON input points vs. Ambient temperature characteristic





Version Information

Connected to a CPU Unit

Refer to the user's manual for the CPU Unit for 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-ID3317 | | | | | | | |
| NX-ID3343 | | | | | | | |
| NX-ID3344 | | | | | | | |
| NX-ID3417 | | | | | | | |
| NX-ID3443 | | | | | | | |
| NX-ID3444 | | | | | | | |
| NX-ID4342 | | | | | | | |
| NX-ID4442 | | | | | | | |
| NX-ID5142-1 | | | | | | | |
| NX-ID5142-5 | | | | | | | |
| NX-ID5342 | | | | | | | |
| NX-ID5442 | | | | | | | |
| NX-ID6142-5 | | | | | | | |
| NX-ID6142-6 | | | | | | | |
| NX-IA3117 | | | | | | | |
| NX-OD2154 | | | | | | | |
| NX-OD2258 | | | | | | | |
| NX-OD3121 | | | | | | | |
| NX-OD3153 | | | | | | | |
| NX-OD3256 | Ver.1.0 | Ver.1.13 | Ver.1.17 | | | | |
| NX-OD3257 | | | | | | | |
| NX-OD3268 | | | | | | | |
| NX-OD4121 | | | | | | | |
| NX-OD4256 | | | | | | | |
| NX-OD5121 | | | | | | | |
| NX-OD5121-1 | | | | | | | |
| NX-OD5121-5 | | | | | | | |
| NX-OD5256 | | | | | | | |
| NX-OD5256-1 | | | | | | | |
| NX-OD5256-5 | | | | | | | |
| NX-OD6121-5 | | | | | | | |
| NX-OD6121-6 | | | | | | | |
| NX-OD6256-5 | | | | | | | |
| NX-OC2633 | | | | | | | |
| NX-OC2733 | | | | | | | |
| NX-OC4633 | | | | | | | |
| NX-MD6121-5 | | | | | | | |
| NX-MD6121-6 | | | | | | | |
| NX-MD6256-5 | | | | | | | |

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

Connected to an EtherCAT Coupler Unit

| N) | (Unit | Corre | esponding unit versions/versions | ons |
|-------------|--------------|-----------------------|----------------------------------|---------------|
| Model | Unit version | EtherCAT Coupler Unit | CPU Unit or Industrial PC | Sysmac Studio |
| NX-ID3317 | | Ver.1.0 | Ver.1.05 | Ver.1.06 |
| NX-ID3343 | | V 61.1.0 | Ver. 1.05 | Ver. 1.00 |
| NX-ID3344 | | Ver.1.1 | Ver.1.06 * | Ver.1.07 |
| NX-ID3417 | | Ver.1.0 | Ver.1.05 | Ver.1.06 |
| NX-ID3443 | | VC1.1.0 | VCI. 1.00 | VC1.1.00 |
| NX-ID3444 | | Ver.1.1 | Ver.1.06 * | Ver.1.07 |
| NX-ID4342 | | | | Ver.1.06 |
| NX-ID4442 | Ver.1.0 | | | VC1.1.00 |
| NX-ID5142-1 | | | | Ver.1.13 |
| NX-ID5142-5 | | | | Ver.1.10 |
| NX-ID5342 | | Ver.1.0 | Ver.1.05 | Ver.1.06 |
| NX-ID5442 | | | | V C1.1.00 |
| NX-ID6142-5 | | | | Ver.1.10 |
| NX-ID6142-6 | | | | Ver.1.13 |
| NX-IA3117 | | | | Ver.1.08 |
| NX-OD2154 | | Ver.1.1 | Ver.1.06 * | Ver.1.07 |
| NX-OD2258 | | V G1.1.1 | VCI.1.00 | VCI.1.07 |
| NX-OD3121 | | | | |
| NX-OD3153 | | | | Ver.1.06 |
| NX-OD3256 | | | | Ver.1.00 |
| NX-OD3257 | | | | |
| NX-OD3268 | | | | Ver.1.13 |
| NX-OD4121 | | | | |
| NX-OD4256 | | | | Ver.1.06 |
| NX-OD5121 | | | | |
| NX-OD5121-1 | Ver.1.0 | | | Ver.1.13 |
| NX-OD5121-5 | | Ver.1.0 | Ver.1.05 | Ver.1.10 |
| NX-OD5256 | | | | Ver.1.06 |
| NX-OD5256-1 | | | | Ver.1.13 |
| NX-OD5256-5 | | | | Ver.1.10 |
| NX-OD6121-5 | | | | ¥01.1.10 |
| NX-OD6121-6 | | | | Ver.1.13 |
| NX-OD6256-5 | | | | Ver.1.10 |
| NX-OC2633 | | | | Ver.1.06 |
| NX-OC2733 | | | | Ver.1.08 |
| NX-OC4633 | | | | Ver.1.17 |
| NX-MD6121-5 | | | | Ver.1.10 |
| NX-MD6121-6 | Ver.1.0 | Ver.1.0 | Ver.1.05 | Ver.1.13 |
| NX-MD6256-5 | | | | Ver.1.10 |

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.

^{*} The instructions for time stamp refreshing are supported by CPU Units with unit version 1.06 or later. If you do not use instructions for time stamp refreshing, you can use version 1.05. Refer to the *NJ/NX-series Instructions Reference Manual* (Cat. No. W502) for details on the instructions for time stamp refreshing.

Connected to an EtherNet/IP Coupler Unit

| NX | Unit | Corresponding unit versions/versions | | | | | | | | | |
|-------------|--------------|--------------------------------------|---------------------------|------------------|-----------------------------|------------------|--------------------------|--|--|--|--|
| | | Application with | n an NJ/NX/NY-ser *1 | ies Controller | Application w | ith a CS/CJ/CF | P-series PLC *2 | | | | |
| Model | Unit version | EtherNet/IP Coupler Unit | CPU Unit or Industrial PC | Sysmac Studio | EtherNet/IP Coupler Unit | Sysmac Studio | NX-IO Configurator *3 | | | | |
| NX-ID3317 | | Vor. 1.2 | Vor 1 14 | Vor 1 10 | Vor 1.0 | Vor 1 10 | Ver. 1.00 | | | | |
| NX-ID3343 | | Ver. 1.2 | Ver. 1.14 | Ver. 1.19 | Ver. 1.0 | Ver. 1.10 | ver. 1.00 | | | | |
| NX-ID3344 | | | | | | | | | | | |
| NX-ID3417 | | Ver. 1.2 | Vov. 1.14 | Vor. 1.10 | Vor. 1.0 | Vor. 1.10 | Vor. 1.00 | | | | |
| NX-ID3443 | | ver. 1.2 | Ver. 1.14 | Ver. 1.19 | Ver. 1.0 | Ver. 1.10 | Ver. 1.00 | | | | |
| NX-ID3444 | | | | | | | | | | | |
| NX-ID4342 | | | | | | Var. 4.40 | | | | | |
| NX-ID4442 | | | | | | Ver. 1.10 | | | | | |
| NX-ID5142-1 | | | | | | Ver. 1.13 | | | | | |
| NX-ID5142-5 | | | | | | | | | | | |
| NX-ID5342 | | Ver. 1.2 | Ver. 1.14 | Ver. 1.19 | Ver. 1.0 | Vov. 4.40 | Ver. 1.00 | | | | |
| NX-ID5442 | | | | | | Ver. 1.10 | | | | | |
| NX-ID6142-5 | | | | | | | | | | | |
| NX-ID6142-6 | | | | | | Ver. 1.13 | | | | | |
| NX-IA3117 | | | | | | Ver. 1.10 | 1 | | | | |
| NX-OD2154 | | | | | | | | | | | |
| NX-OD2258 | | | | | | | | | | | |
| NX-OD3121 | | | | | | | | | | | |
| NX-OD3153 | | | | | | V: 440 | | | | | |
| NX-OD3256 | Ver. 1.0 | | | | | Ver. 1.10 | | | | | |
| NX-OD3257 | | | | | | | | | | | |
| NX-OD3268 | | | | | | Ver. 1.13 | | | | | |
| NX-OD4121 | | | | | | | | | | | |
| NX-OD4256 | | | | | | Ver. 1.10 | | | | | |
| NX-OD5121 | | | | | | | | | | | |
| NX-OD5121-1 | | | | | | Ver. 1.13 | | | | | |
| NX-OD5121-5 | | | | | | Ver. 1.10 | | | | | |
| NX-OD5256 | | Ver. 1.2 | Ver. 1.14 | Ver. 1.19 | Ver. 1.0 | | Ver. 1.00 | | | | |
| NX-OD5256-1 | | | | | | Ver. 1.13 | | | | | |
| NX-OD5256-5 | | | | | | Ver. 1.10 | | | | | |
| NX-OD6121-5 | | | | | | | | | | | |
| NX-OD6121-6 | | | | | | Ver. 1.13 | | | | | |
| NX-OD6256-5 | | | | | | | | | | | |
| NX-OC2633 | | | | | | Ver. 1.10 | | | | | |
| NX-OC2733 | | | | | | | | | | | |
| NX-OC4633 | | | | | | Ver. 1.17 | | | | | |
| NX-MD6121-5 | | | | | | Ver. 1.10 | | | | | |
| NX-MD6121-6 | | | | | | Ver. 1.13 | | | | | |
| NX-MD6256-5 | | | | | | Ver. 1.10 | | | | | |

- Note: 1. 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.
 - 2. Note: You cannot connect the relevant NX Unit to the target Communications Coupler Unit if "---" is shown in the corresponding unit versions/versions column.
- *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-ID3317 | | V 1.00 | V 104 | | |
| NX-ID3343 | | Ver. 1.00 | Ver. 1.24 | | |
| NX-ID3344 | Ver. 1.0 | | | | |
| NX-ID3417 | | Vor. 1.00 | Vor. 1.04 | | |
| NX-ID3443 | | Ver. 1.00 | Ver. 1.24 | | |
| NX-ID3444 | | | | | |
| NX-ID4342 | | | | | |
| NX-ID4442 | | | | | |
| NX-ID5142-1 | | | | | |
| NX-ID5142-5 | | | | | |
| NX-ID5342 | | Ver. 1.00 | Ver. 1.24 | | |
| NX-ID5442 | | | | | |
| NX-ID6142-5 | | | | | |
| NX-ID6142-6 | | | | | |
| NX-IA3117 | | | | | |
| NX-OD2154 | | | | | |
| NX-OD2258 | | | | | |
| NX-OD3121 | | | | | |
| NX-OD3153 | | | | | |
| NX-OD3256 | | | | | |
| NX-OD3257 | | | | | |
| NX-OD3268 | Vor. 1.0 | | | | |
| NX-OD4121 | Ver. 1.0 | | | | |
| NX-OD4256 | | | | | |
| NX-OD5121 | | | | | |
| NX-OD5121-1 | | | | | |
| NX-OD5121-5 | | | | | |
| NX-OD5256 | | Vor. 1.00 | Vor. 1.24 | | |
| NX-OD5256-1 | | Ver. 1.00 | Ver. 1.24 | | |
| NX-OD5256-5 | | | | | |
| NX-OD6121-5 | | | | | |
| NX-OD6121-6 | | | | | |
| NX-OD6256-5 | | | | | |
| NX-OC2633 | | | | | |
| NX-OC2733 | | | | | |
| NX-OC4633 | | | | | |
| NX-MD6121-5 | | | | | |
| NX-MD6121-6 | | | | | |
| NX-MD6256-5 | | | | | |

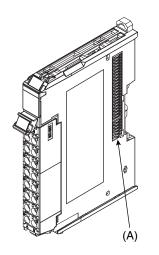
Note: 1. Some Units do not have all of the versions given in the above table. If a Unit does not have the specified version, support is provided by the oldest available version after the specified version. Refer to the user's manuals for the specific Units for the relation between models and versions.

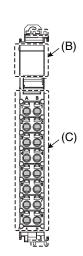
^{2.} Note: You cannot connect the relevant NX Unit to the Communication Control Unit if "---" is shown in the corresponding unit versions/ versions column.

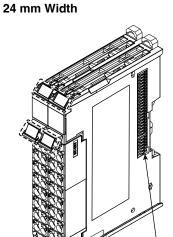
External Interface

Screwless Clamping Terminal Block Type

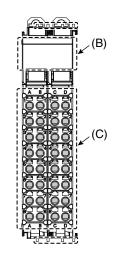
12 mm Width





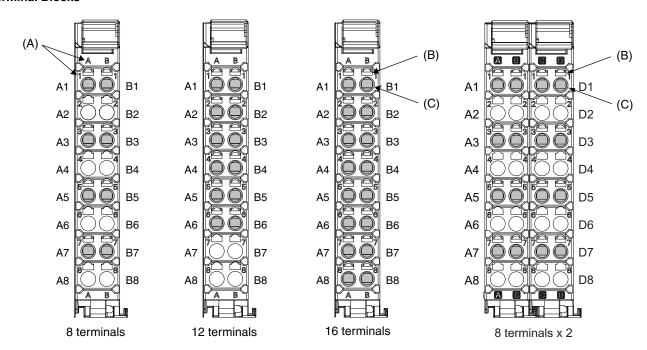


(A)



| Letter | Item | em 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. | | | |

NX-ID/IA/OD/OC/MD

Applicable Terminal Blocks for Each Unit Model

| Unit model | Terminal Blocks | | | | | | |
|--|------------------------|----|----------------------|---------------------------|--|--|--|
| Onit moder | Model No. of terminals | | Ground terminal mark | Terminal current capacity | | | |
| NX-ID3 | NX-TBA122 | 12 | None | 10 A | | | |
| NX-ID4 | NX-TBA162 | 16 | None | 10 A | | | |
| NX-ID5□□□ | NX-TBA162 | 16 | None | 10 A | | | |
| NX-IA3117 | NX-TBA082 | 8 | None | 10 A | | | |
| NX-OD2□□□ | NX-TBA082 | 8 | None | 10 A | | | |
| NX-OD3□□□ (any model other than NX-OD3268) | NX-TBA122 | 12 | None | 10 A | | | |
| NX-OD3268 NX-OD4□□□ | NX-TBA162 | 16 | None | 10 A | | | |
| NX-OD5□□□ | NX-TBA162 | 16 | None | 10 A | | | |
| NX-OC2 | NX-TBA082 | 8 | None | 10 A | | | |
| NIV 00 1000 | NX-TBA082 | 8 | None | 10 A | | | |
| NX-OC4633 | NX-TBB082 | 8 | 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.

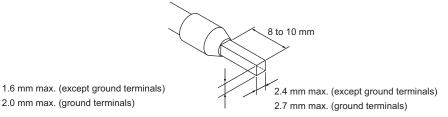
The applicable ferrules, wires, and crimping tools are listed in the following table.

| Terminal type | Manufacturer | Ferrule model | Applicable wire (mm² (AWG)) | Crimping tool |
|--------------------------|----------------|---------------|-----------------------------|--|
| Terminals other | ground Al0.5-8 | AI0,34-8 | 0.34 (#22) | Phoenix Contact (The figure in parentheses is the applicable wire size.) |
| than ground terminals | | AI0,5-8 | 0.5 (#20) | CRIMPFOX 6 (0.25 to 6 mm ² , AWG24 to 10) |
| terminais | | AI0,5-10 | 1 | |
| | | AI0,75-8 | 0.75 (#18) | |
| | | AI0,75-10 | | |
| | | AI1,0-8 | 1.0 (#18) | |
| | | AI1,0-10 | 7 | |
| | | AI1,5-8 | 1.5 (#16) | |
| | | Al1,5-10 | 1 | |
| Ground terminals | | Al2,5-10 | 2.0 * | |
| Terminals other | Weidmuller | H0.14/12 | 0.14 (#26) | Weidmuller (The figure in parentheses is the applicable wire size.) |
| than ground terminals | | H0.25/12 | 0.25 (#24) | PZ6 Roto (0.14 to 6 mm ² , AWG 26 to 10) |
| terminais | | H0.34/12 | 0.34 (#22) | |
| | | H0.5/14 | 0.5 (#20) | |
| | | H0.5/16 | 1 | |
| | | H0.75/14 | 0.75 (#18) | |
| H0.75/16 | | | | |
| | | H1.0/14 | 1.0 (#18) | |
| | | H1.0/16 | 1 | |
| | | H1.5/14 | 1.5 (#16) | |
| | | H1.5/16 | 1 | |

^{*} 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



Using Twisted Wires/Solid Wires

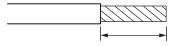
2.0 mm max. (ground terminals)

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

| Tern | | Wire | type | | | 0 | | | |
|---------------------------------------|-------------------------------------|----------------|----------|-----------------|----------------|---------------------|-------------------|-----------|-------------------------------------|
| Tem | | Twisted wires | | Twisted | | Solid wire | | Wire size | Conductor length (stripping length) |
| Classification | Current capacity | Plated | Unplated | Plated | Unplated | | (ourpping length) | | |
| | 2 A or less | | Possible | Possible | Possible | | | | |
| All terminals except ground terminals | Greater than 2 A and 4 A or less | Possible | Not | Possible *1 | Not | I AWG28 to 16 | 8 to 10 mm | | |
| ground terrimale | Greater than 4 A | Possible *1 | Possible | Not Possible | 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.

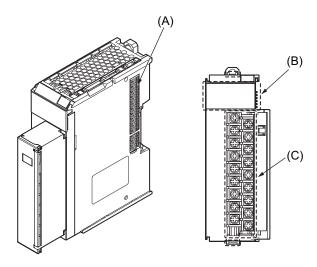
^{*2.} With the NX-TB□□□1 Terminal Block, use twisted wires to connect the ground terminal. Do not use a solid wire.



Conductor length (stripping length)

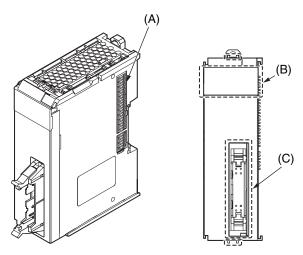
< Additional Information > If more than 2 A will flow on the wires, use plated wires or use ferrules.

M3 Screw Terminal Block Type 30 mm Width

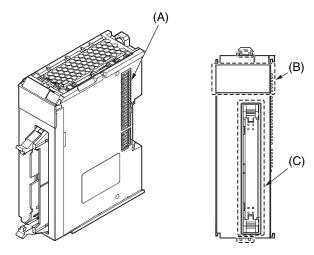


| Letter Item Specification | | Specification |
|---------------------------|------------------|---|
| (A) | NX bus connector | This connector is used to connect to another Unit. |
| (B) | Indicators | The indicators show the current operating status of the Unit. |
| (C) | Screw terminals | These screw terminals are used to connect the wires. |

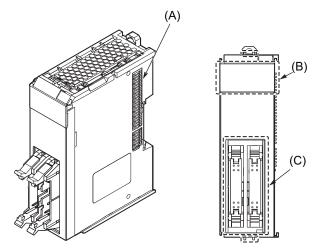
MIL Connector Type (1 Connector with 20 terminals) 30 mm Width



MIL Connector Type (1 Connector with 40 terminals) 30 mm Width

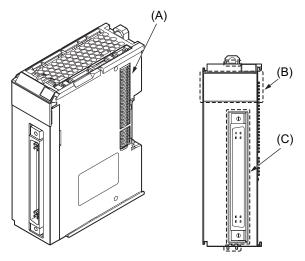


MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

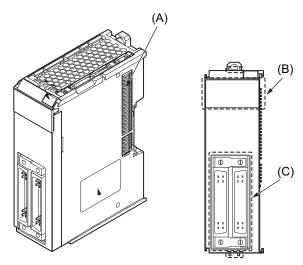


| Letter Item Specification | | Specification |
|---------------------------|------------------|---|
| (A) | NX bus connector | This connector is used to connect to another Unit. |
| (B) | Indicators | The indicators show the current operating status of the Unit. |
| (C) | Connectors | The connectors are used to connect to external devices. |

Fujitsu Connector Type (1 Connector with 40 terminals) 30 mm Width



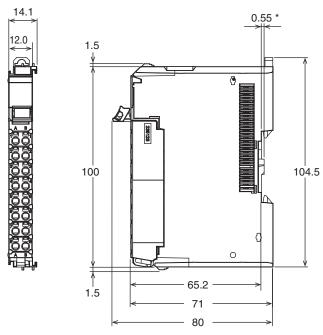
Fujitsu Connector Type (2 Connectors with 24 terminals) 30 mm Width



| Letter | Letter Item Specification | |
|--------|---|---|
| (A) | (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) | Connectors | The connectors are used to connect to external devices. |

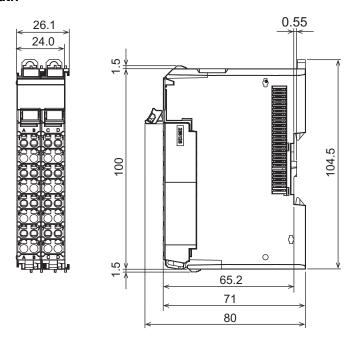
Dimensions (Unit/mm)

Screwless Clamping Terminal Block Type 12 mm Width

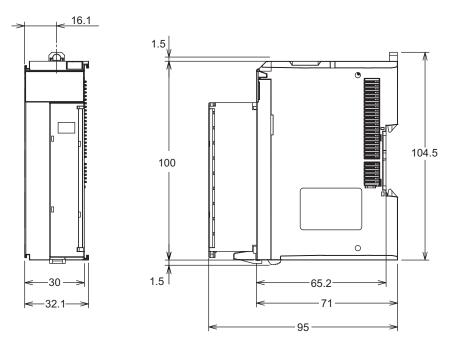


 $^{^{\}star}$ The dimension is 1.35 mm for Units with lot numbers through December 2014.

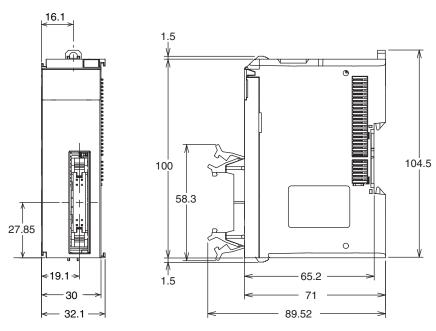
24 mm Width



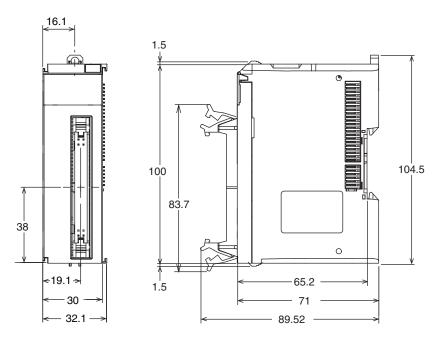
M3 Screw Terminal Block Type 30 mm Width



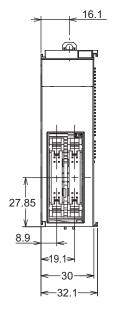
MIL Connector Type (1 Connector with 20 terminals) 30 mm Width

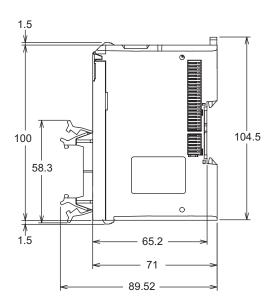


MIL Connector Type (1 Connector with 40 terminals) 30 mm Width

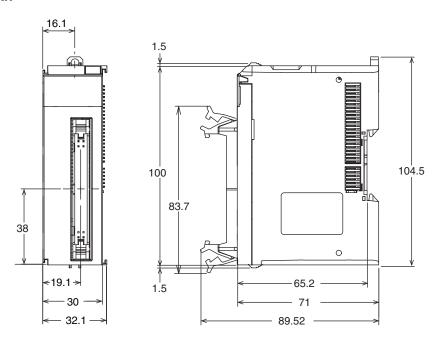


MIL Connector Type (2 Connectors with 20 terminals) 30 mm Width

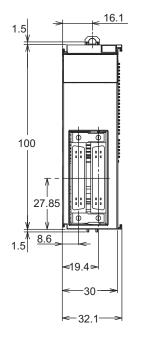


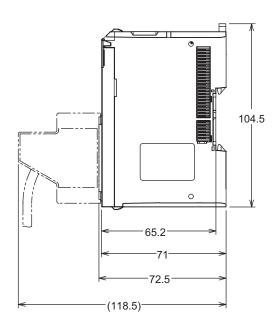


Fujitsu Connector Type (1 Connector with 40 terminals) 30 mm Width



Fujitsu Connector Type (2 Connectors with 24 terminals) 30 mm Width





Related Manual

| Cat. No. | Model number | Manual name | Application | Description |
|----------|--------------|--|--|--|
| W521 | NX-ID | NX-series Digital I/O Units User's Manual | Learning how to use NX-series Digital I/O Units | The hardware, setup methods, and functions of the NX-series Digital I/O Units are described. |

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