

# NX-series EtherNet/IP™ Coupler Unit

## NX-EIC

CSM\_NX-EIC\_DS\_E\_4\_7

## Connecting to open industrial network standard EtherNet/IP

- The EtherNet/IP Coupler Unit is the link between the EtherNet/IP multivendor network and the NX-series I/O Units and Safety Units. With wide variety of the I/O Units and Safety Units, the NX-series is the perfect match for the CJ-series and multivendor Controllers.

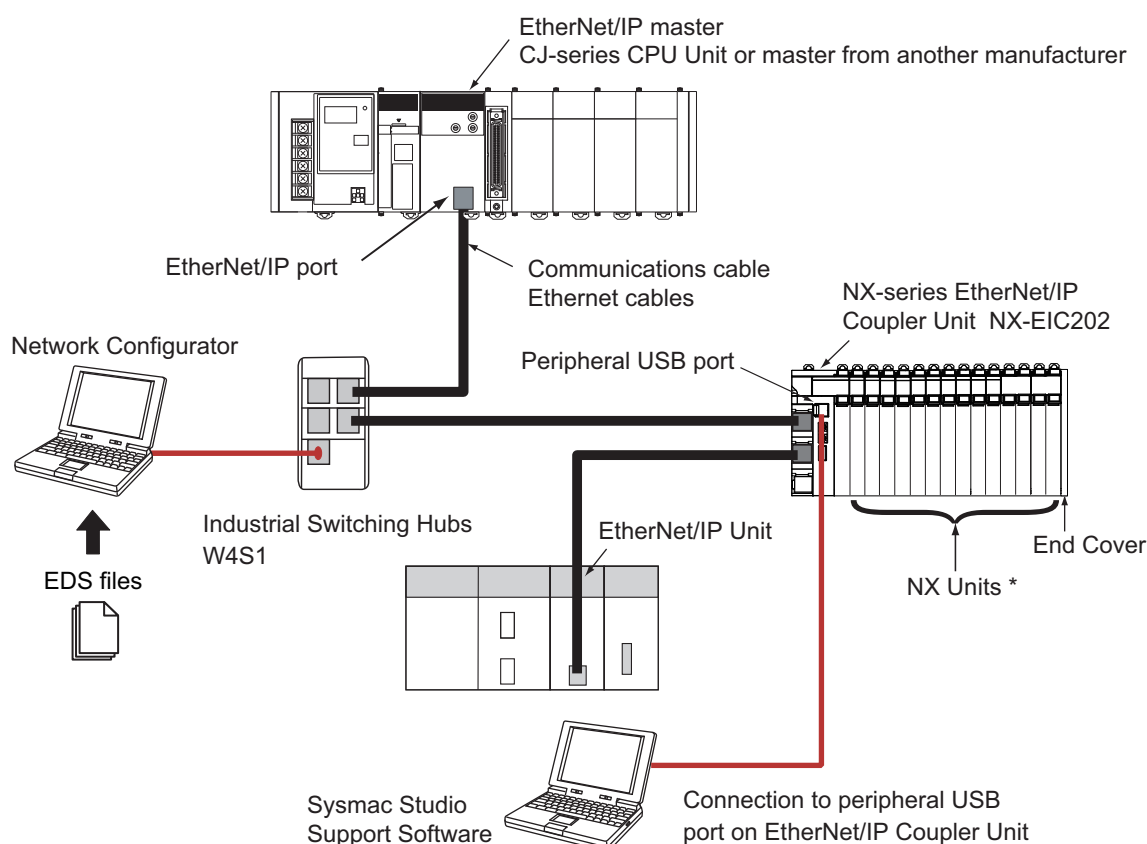


## Features

- Up to 63 NX-IO Units can be connected to one EtherNet/IP Coupler Unit. Standard and high-performance units can be mixed.\*
  - Each Coupler plus its I/O form just a single EtherCAT node on the network.
  - I/O control and safety control can be integrated by connecting Units for safety.
  - The IP address can be found on the label on the Unit, without using software.
  - Slave configuration by Sysmac Studio can be done centrally via the controller, or on-the-spot using the Coupler's built-in USB port.
- \* Input per Coupler Unit: Maximum 504 bytes, Output per Coupler Unit: Maximum 504 bytes

## System Configuration

### System Configuration of Slave Terminals



**Note:** Do not make a loop connection in the communications path between Ethernet switches.

\* Refer to *Configuration Unit* on page 8 for the NX Units that can be connected to the NX-series EtherNet/IP Coupler Unit.

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## Ordering Information

### Applicable standards

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

## EtherNet/IP Coupler Unit

| Product name                                                                                                  | Current consumption | Maximum I/O power supply current | Model            |
|---------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------|------------------|
| EtherNet/IP Coupler Unit<br> | 1.60 W or lower     | 10 A                             | <b>NX-EIC202</b> |

## Automation Software Sysmac Studio

Please purchase a DVD and required number of licenses the first time you purchase the Sysmac Studio. DVDs and licenses are available individually. Each model of licenses does not include any DVD.

| Product name                                  | Specifications                                                                                                                                                                                                                                              | Number of licenses  | Media                            | Model                   |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------|-------------------------|
|                                               |                                                                                                                                                                                                                                                             |                     |                                  |                         |
| Sysmac Studio<br>NX-I/O Edition<br>Ver.1.□□   | Sysmac Studio NX-I/O Edition is a limited license that provides selected functions required for EtherNet/IP Coupler settings.<br>Because this product is a license only, you need the Sysmac Studio Standard Edition DVD media to install it.               | 1 license           | ---                              | <b>SYSMAC-NE001L</b>    |
| Sysmac Studio<br>Standard Edition<br>Ver.1.□□ | The Sysmac Studio is the software that provides an integrated environment for setting, programming, debugging and maintenance of machine automation controllers including the NJ/NX-series CPU Units, NY-series Industrial PC, EtherCAT Slave, and the HMI. | ---<br>(Media only) | Sysmac Studio<br>(32-bit)<br>DVD | <b>SYSMAC-SE200D</b>    |
|                                               | Sysmac Studio runs on the following OS. *1<br>Windows 7 (32-bit/64-bit version)/<br>Windows 8.1 (32-bit/64-bit version)/<br>Windows 10 (32-bit/64-bit version)/<br>Windows 11 (64-bit version)                                                              | ---<br>(Media only) | Sysmac Studio<br>(64-bit)<br>DVD | <b>SYSMAC-SE200D-64</b> |
|                                               | This software provides functions of the Vision Edition.<br>Refer to your OMRON website for details such as supported models and functions.                                                                                                                  | 1 license *2 *3 *4  | ---                              | <b>SYSMAC-SE201L</b>    |

\*1. Model "SYSMAC-SE200D-64" runs on Windows 10 (64 bit) or higher.

\*2. The Sysmac Studio Standard Edition with license(s) (SYSMAC-SE□□□L) provides functions of the NX-I/O Edition (SYSMAC-NE001L).

\*3. With the Sysmac Studio Standard Edition with license(s) (SYSMAC-SE□□□L) version 1.10 or higher, you can use the setup functions for the EtherNet/IP Coupler.

\*4. Multi licenses are available for the Sysmac Studio (3, 10, 30, or 50 licenses).

## Connecting Cable

### Peripheral (USB) Port

Use a commercially available USB-certified cable.

Specifications: USB 1.1 or 2.0 cable (A connector - B connector), 5.0 m max.

## Recommended EtherNet/IP Communications Cables

For EtherNet/IP, required specification for the communications cables varies depending on the baud rate. For 100BASE-TX/10BASE-T, use a straight or cross STP (shielded twisted-pair) cable of category 5 or higher. For 1000BASE-T, use a straight or cross STP cable of category 5e or higher with double shielding (aluminum tape and braiding).

### Cable with Connectors

| Item                                                                                                                                                                                                                                  | Appearance                                                                          | Recommended manufacturer | Cable length (m) | Model                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|------------------|----------------------|
| Cable with Connectors on Both Ends (RJ45/RJ45)<br>Standard RJ45 plugs type *1<br>Wire Gauge and Number of Pairs: AWG26, 4-pair Cable<br>Cable Sheath material: LSZH *2<br>Cable color: Yellow *3                                      |    | OMRON                    | 0.3              | XS6W-6LSZH8SS30CM-Y  |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 0.5              | XS6W-6LSZH8SS50CM-Y  |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 1                | XS6W-6LSZH8SS100CM-Y |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 2                | XS6W-6LSZH8SS200CM-Y |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 3                | XS6W-6LSZH8SS300CM-Y |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 5                | XS6W-6LSZH8SS500CM-Y |
| Cable with Connectors on Both Ends (RJ45/RJ45)<br>Rugged RJ45 plugs type *1<br>Wire Gauge and Number of Pairs: AWG22, 2-pair Cable<br>Cable color: Light blue                                                                         |    | OMRON                    | 0.3              | XS5W-T421-AMD-K      |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 0.5              | XS5W-T421-BMD-K      |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 1                | XS5W-T421-CMD-K      |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 2                | XS5W-T421-DMD-K      |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 5                | XS5W-T421-GMD-K      |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 10               | XS5W-T421-JMD-K      |
| Cable with Connectors on Both Ends (M12 Straight/M12 Straight)<br>Shield Strengthening Connector cable *4<br>M12/Smartclick Connectors<br>Wire Gauge and Number of Pairs: AWG22, 2-pair Cable<br>Cable color: Black                   |  | OMRON                    | 0.5              | XS5W-T421-BM2-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 1                | XS5W-T421-CM2-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 2                | XS5W-T421-DM2-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 3                | XS5W-T421-EM2-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 5                | XS5W-T421-GM2-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 10               | XS5W-T421-JM2-SS     |
| Cable with Connectors on Both Ends (M12 Straight/RJ45)<br>Shield Strengthening Connector cable *4<br>M12/Smartclick Connectors<br>Rugged RJ45 plugs type<br>Wire Gauge and Number of Pairs: AWG22, 2-pair Cable<br>Cable color: Black |  | OMRON                    | 0.5              | XS5W-T421-BMC-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 1                | XS5W-T421-CMC-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 2                | XS5W-T421-DMC-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 3                | XS5W-T421-EMC-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 5                | XS5W-T421-GMC-SS     |
|                                                                                                                                                                                                                                       |                                                                                     |                          | 10               | XS5W-T421-JMC-SS     |

\*1. Standard type cables length 0.2, 0.3, 0.5, 1, 1.5, 2, 3, 5, 7.5, 10, 15 and 20 m are available. Rugged type cables length 0.3, 0.5, 1, 2, 3, 5, 10 and 15 m are available. For details, refer to Cat.No.G019.

\*2. The lineup features Low Smoke Zero Halogen cables for in-cabinet use and PUR cables for out-of-cabinet use. Although the LSZH cable is single shielded, its communications and noise characteristics meet the standards.

\*3. Cables colors are available in blue, yellow, or Green.

\*4. For details, contact your OMRON representative.

## Cables / Connectors

| Item                                  |                                                     | Recommended manufacturer                                                          |                       | Model                          |
|---------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------|--------------------------------|
| Products for EtherNet/IP (100BASE-TX) | Wire Gauge and Number of Pairs: AWG24, 4-pair Cable | Cables                                                                            | Hitachi Cable, Ltd.   | NETSTAR-C5E SAB 0.5 × 4P CP *1 |
|                                       |                                                     | RJ45 Connectors                                                                   | Panduit Corporation   | KETH-SB *1                     |
| Products for EtherNet/IP (100BASE-TX) | Wire Gauge and Number of Pairs: AWG22, 2-pair Cable | Cables                                                                            | Kuramo Electric Co.   | MPS588-C *1                    |
|                                       |                                                     |                                                                                   | JMACS Japan Co., Ltd. | KETH-PSB-OMR *2                |
|                                       |                                                     | RJ45 Assembly Connector                                                           | OMRON                 | PNET/B *2                      |
|                                       |                                                     |  |                       | XS6G-T421-1 *2                 |

\*1. We recommend you to use above cable for EtherNet/IP and RJ45 Connector together.

\*2. We recommend you to use above cable for EtherNet/IP and RJ45 Assembly Connector together.

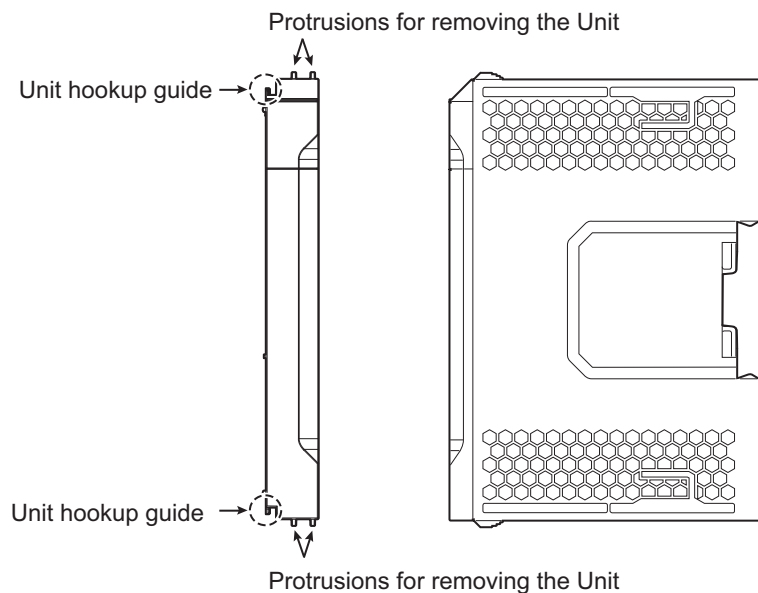
## Optional Products

| Product name                    | Specification                                                  |                             |                      |                           | Model     |
|---------------------------------|----------------------------------------------------------------|-----------------------------|----------------------|---------------------------|-----------|
| Unit/Terminal Block Coding Pins | Pins for 10 Units<br>(30 terminal block pins and 30 Unit pins) |                             |                      |                           | NX-AUX02  |
| Product name                    | Specification                                                  |                             |                      |                           | Model     |
|                                 | No. of terminals                                               | Terminal number indications | Ground terminal mark | Terminal current capacity |           |
| Terminal Block                  | 8                                                              | A/B                         | Provided             | 10 A                      | NX-TBC082 |

## Accessories

### End Cover (NX-END01)

One End Cover is provided together with the EtherNet/IP Coupler Unit.



## General Specification

| Item                    |                               | Specification                                                                                                                                                                                               |
|-------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enclosure               |                               | Mounted in a panel                                                                                                                                                                                          |
| Grounding method        |                               | Ground to 100 Ω or less                                                                                                                                                                                     |
| Operating environment   | Ambient operating temperature | 0 to 55°C                                                                                                                                                                                                   |
|                         | Ambient operating humidity    | 10% to 95% (with no condensation or icing)                                                                                                                                                                  |
|                         | Atmosphere                    | Must be free from corrosive gases.                                                                                                                                                                          |
|                         | Ambient storage temperature   | -25 to 70°C (with no condensation or icing)                                                                                                                                                                 |
|                         | Altitude                      | 2,000 m max.                                                                                                                                                                                                |
|                         | Pollution degree              | Pollution degree 2 or less: Meets IEC 61010-2-201.                                                                                                                                                          |
|                         | Noise immunity                | Conforms to IEC 61000-4-4. 2 kV (power supply line)                                                                                                                                                         |
|                         | Overvoltage category          | Category II: Meets IEC 61010-2-201.                                                                                                                                                                         |
|                         | EMC immunity level            | Zone B                                                                                                                                                                                                      |
|                         | Vibration resistance          | Conforms to IEC 60068-2-6.<br>5 to 8.4 Hz with 3.5-mm amplitude, 8.4 to 150 Hz, acceleration of 9.8 m/s <sup>2</sup> , 100 min each in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total) *1 |
|                         | Shock resistance              | Conforms to IEC 60068-2-27. 147 m/s <sup>2</sup> , 3 times each in X, Y, and Z directions *1                                                                                                                |
| Applicable standards *2 |                               | cULus: Listed UL508, ANSI/ISA 12.12.01<br>EU: EN 61131-2, C-Tick or RCM, KC: KC Registration                                                                                                                |

\*1. Refer to the *NX-series Digital I/O Units User's Manual* (Cat. No. W521) for the vibration and shock resistance specifications of the Relay Output Unit.

\*2. Refer to the OMRON website (<http://www.ia.omron.com/>) or consult your OMRON representative for the most recent applicable standards for each model.

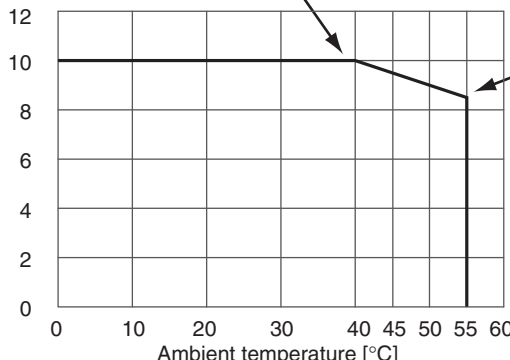
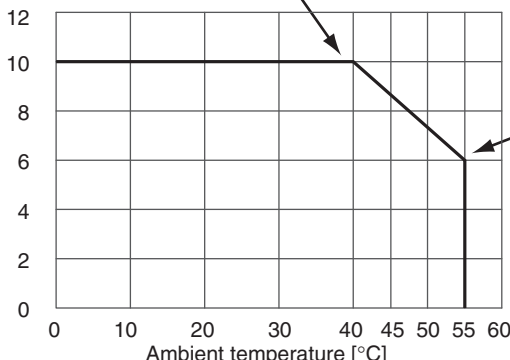
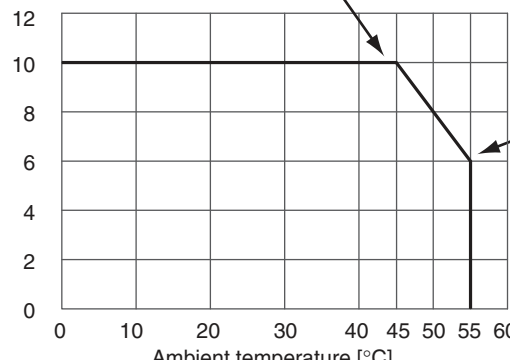
## EtherNet/IP Coupler Unit Specifications

| Item                                                          |                                            | Specification                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                                         |                                            | NX-EIC202                                                                                                                                                                                                                                                                                                                                                                    |
| Number of connectable NX Units                                |                                            | 63 Units max.*1                                                                                                                                                                                                                                                                                                                                                              |
| Communications protocols                                      |                                            | EtherNet/IP                                                                                                                                                                                                                                                                                                                                                                  |
|                                                               |                                            | UDP/IP and TCP/IP (Message Services)<br>Number of buffers (sockets):<br>• 8 message buffers for server<br>• No message buffers for client<br>• Shared buffers for UDP/IP messages and TCP/IP messages<br>Maximum message size:<br>• Request: 492 bytes<br>• Response: 496 bytes<br>Maximum NX output data size:<br>• 490 bytes<br>Maximum NX input data size:<br>• 496 bytes |
| Modulation                                                    |                                            | Baseband                                                                                                                                                                                                                                                                                                                                                                     |
| Link speed                                                    |                                            | 100 Mbps                                                                                                                                                                                                                                                                                                                                                                     |
| Physical layer                                                |                                            | 100BASE-TX (IEEE 802.3)                                                                                                                                                                                                                                                                                                                                                      |
| Number of connections                                         |                                            | 8                                                                                                                                                                                                                                                                                                                                                                            |
| Received Packet Interval (RPI, refresh cycle)                 |                                            | 4 to 1,000 ms                                                                                                                                                                                                                                                                                                                                                                |
| Allowed communications bandwidth addressing to the local node |                                            | 1,000 pps                                                                                                                                                                                                                                                                                                                                                                    |
| Topology                                                      |                                            | Line, Tree, Star                                                                                                                                                                                                                                                                                                                                                             |
| Ethernet Switch                                               |                                            | Layer 2 Ethernet switch                                                                                                                                                                                                                                                                                                                                                      |
| Transmission media                                            |                                            | Category 5 or higher twisted-pair cable (Recommended cable: double-shielded cable with aluminum tape and braiding)                                                                                                                                                                                                                                                           |
| Transmission distance                                         |                                            | Distance between nodes: 100 m or less                                                                                                                                                                                                                                                                                                                                        |
| NX bus I/O data size                                          |                                            | Input: 512 bytes max. (including input data, status, and unused areas)<br>Output: 512 bytes max. (including output data and unused areas)                                                                                                                                                                                                                                    |
| EtherNet/IP I/O connection size                               |                                            | Input: 504 bytes max. (including input data, status, and unused areas)<br>Output: 504 bytes max. (including output data and unused areas)                                                                                                                                                                                                                                    |
| Refreshing methods                                            |                                            | Free-Run refreshing                                                                                                                                                                                                                                                                                                                                                          |
| Unit power supply *2                                          | Power supply voltage                       | 24 VDC (20.4 to 28.8 VDC)                                                                                                                                                                                                                                                                                                                                                    |
|                                                               | NX Unit power supply capacity              | 10 W max. (Refer to <i>Installation orientation and restrictions</i> for details.)                                                                                                                                                                                                                                                                                           |
|                                                               | NX Unit power supply efficiency            | 70%                                                                                                                                                                                                                                                                                                                                                                          |
|                                                               | Isolation method                           | No isolation between NX Unit power supply and Unit power supply terminals                                                                                                                                                                                                                                                                                                    |
|                                                               | Current capacity of power supply terminals | 4 A max.                                                                                                                                                                                                                                                                                                                                                                     |
| I/O power supply *2                                           | Power supply voltage                       | 5 to 24 VDC (4.5 to 28.8 VDC) *3                                                                                                                                                                                                                                                                                                                                             |
|                                                               | Maximum I/O power supply current           | 10 A (Refer to <i>Installation orientation and restrictions</i> for details.)                                                                                                                                                                                                                                                                                                |
|                                                               | Current capacity of power supply terminals | 10 A max.                                                                                                                                                                                                                                                                                                                                                                    |
| NX Unit power consumption                                     |                                            | 1.60 W max.                                                                                                                                                                                                                                                                                                                                                                  |
| Current consumption from I/O power supply                     |                                            | 10 mA max. (for 24 VDC)                                                                                                                                                                                                                                                                                                                                                      |

\*1. Refer to the *NX-series Safety Control Unit User's Manual* (Cat. No. Z930) for the number of Safety Control Units that can be connected.

\*2. Refer to the *NX-series EtherNet/IP™ Coupler Unit User's Manual* (Cat. No. W536) for procedures for designing the Unit power supply system and I/O power supply system.

\*3. Use a voltage that is appropriate for the I/O circuits of the NX Units and the connected external devices.

| Item                                      | Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dielectric strength                       | 510 VAC for 1 min, leakage current: 5 mA max. (between isolated circuits)                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Insulation resistance                     | 100 VDC, 20 MΩ min. (between isolated circuits)                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| External connection terminals             | Communications Connector<br>For EtherNet/IP communications.<br>• RJ45 × 2 (shielded)                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                           | Screwless Clamping Terminal Block<br>For Unit power supply, I/O power supply, and grounding. Removable.                                                                                                                                                                                                                                                                                                                                                                                    |
|                                           | Peripheral USB Port<br>For Sysmac Studio connection.<br>• Physical layer: USB 2.0-compliant, B-type connector<br>• Transmission distance: 5 m max.                                                                                                                                                                                                                                                                                                                                         |
| Dimensions                                | 46 × 100 × 71 mm (W×H×D)                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Weight                                    | 150 g max.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Installation orientation and restrictions | Installation orientation: 6 possible orientations<br>Restrictions:<br>• Used in the upright installation orientation.                                                                                                                                                                                                                                                                                                                                                                      |
|                                           |  <p>Unit power supply [W]</p> <p>10 W output, 40°C</p> <p>8.5 W output, 55°C</p>  <p>Ambient temperature [°C]</p>                                                                                                                                                                                                    |
|                                           | <p>• Used in any other orientation than the upright installation orientation.</p> <p>Unit power supply [W]</p> <p>10 W output, 40°C</p> <p>6.0 W output, 55°C</p>  <p>Ambient temperature [°C]</p> <p>I/O power supply [A]</p> <p>10 A current, 45°C</p> <p>6 A current, 55°C</p>  <p>Ambient temperature [°C]</p> |

| Item                 | Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Circuit layout       | <p>The diagram illustrates the internal circuitry of the NX-EIC unit. On the left, a vertical bus labeled 'Terminal block' contains terminals for 'Peripheral USB port', 'IN communications connector', 'OUT communications connector', 'UV', 'UG', 'IOV', 'IOG', and two ground symbols. These are connected to 'Internal circuits' and 'Non-isolated power supply circuits'. The power supply section includes 'UNIT PWR LED' and 'I/O PWR LED' indicators. On the right, the 'NX bus connector' provides connections for 'NX Unit power supply +', 'NX Unit power supply -', 'I/O power supply +', and 'I/O power supply -'. A 'DIN Track contact plate' is shown at the bottom right.</p> |
| Terminal arrangement | <p>This diagram shows the physical terminal arrangement. It features a 2x4 grid of terminals labeled A1, B1, UG, UG, IOV, IOG, and A8, B8. A 'Unit power supply (24 VDC)' is connected to terminals A1 and B1. An 'I/O power supply (5 to 24 VDC)' is connected to terminals IOV and IOG. A 'Ground to 100 Ω or less.' is connected to terminals A8 and B8. A dashed oval on the right indicates 'Through-wiring for unwired terminals'.</p>                                                                                                                                                                                                                                                  |
| Accessory            | End Cover (NX-END01): 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Configuration Unit

Refer to the user's manuals for information on the NX Units that can be connected to the NX-series EtherNet/IP Coupler Unit.

### EtherNet/IP Coupler Unit

| Unit                     | Model     |
|--------------------------|-----------|
| EtherNet/IP Coupler Unit | NX-EIC202 |

### I/O Units

| Unit                          | Model                                                                      |                                                                            |                                                                            |                                                                                    |                                                                     |
|-------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------|
|                               | 2-point Units                                                              | 4-point Units                                                              | 8-point Units                                                              | 16-point Units                                                                     | 32-point Units                                                      |
| Digital Input Unit            | –                                                                          | NX-ID3317<br>NX-ID3343<br>NX-ID3417<br>NX-ID3443<br>NX-IA3117              | NX-ID4342<br>NX-ID4442                                                     | NX-ID5142-1<br>NX-ID5142-5<br>NX-ID5342<br>NX-ID5442                               | NX-ID6142-5<br>NX-ID6142-6<br>NX-ID6342<br>NX-ID6442                |
| Digital Output Unit           | NX-OC2633<br>NX-OC2733                                                     | NX-OD3121<br>NX-OD3153<br>NX-OD3256<br>NX-OD3257<br>NX-OD3268              | NX-OD4121<br>NX-OD4256<br>NX-OC4633                                        | NX-OD5121<br>NX-OD5121-1<br>NX-OD5121-5<br>NX-OD5256<br>NX-OD5256-1<br>NX-OD5256-5 | NX-OD6121<br>NX-OD6121-5<br>NX-OD6121-6<br>NX-OD6256<br>NX-OD6256-5 |
| Digital Mixed I/O Unit        | –                                                                          | –                                                                          | –                                                                          | NX-MD6121-5<br>NX-MD6121-6<br>NX-MD6256-5                                          | –                                                                   |
| Analog Input Unit             | NX-AD2603<br>NX-AD2604<br>NX-AD2608<br>NX-AD2203<br>NX-AD2204<br>NX-AD2208 | NX-AD3603<br>NX-AD3604<br>NX-AD3608<br>NX-AD3203<br>NX-AD3204<br>NX-AD3208 | NX-AD4603<br>NX-AD4604<br>NX-AD4608<br>NX-AD4203<br>NX-AD4204<br>NX-AD4208 | –                                                                                  | –                                                                   |
| Analog Output Unit            | NX-DA2603<br>NX-DA2605<br>NX-DA2203<br>NX-DA2205                           | NX-DA3603<br>NX-DA3605<br>NX-DA3203<br>NX-DA3205                           | –                                                                          | –                                                                                  | –                                                                   |
| Temperature Input Unit        | NX-TS2101<br>NX-TS2102<br>NX-TS2104<br>NX-TS2201<br>NX-TS2202<br>NX-TS2204 | NX-TS3101<br>NX-TS3102<br>NX-TS3104<br>NX-TS3201<br>NX-TS3202<br>NX-TS3204 | –                                                                          | –                                                                                  | –                                                                   |
| Heater Burnout Detection Unit | –                                                                          | NX-HB3101<br>NX-HB3201                                                     | –                                                                          | –                                                                                  | –                                                                   |

### Temperature Control Units

| Unit                     | Model                                         |                                                             |              |
|--------------------------|-----------------------------------------------|-------------------------------------------------------------|--------------|
|                          | 2CH                                           | 4CH                                                         | 8CH          |
| Temperature Control Unit | NX-TC2405, NX-TC2406,<br>NX-TC2407, NX-TC2408 | NX-TC3405, NX-TC3406, NX-TC3407,<br>NX-TC3408, NX-HTC3510-5 | NX-HTC4505-5 |

### Load Cell Input Unit

| Unit                 | Model     |
|----------------------|-----------|
| Load Cell Input Unit | NX-RS1201 |

### Position Interface Units

| Unit                           | Model                                      |                      |
|--------------------------------|--------------------------------------------|----------------------|
|                                | 1CH                                        | 2CH                  |
| Incremental Encoder Input Unit | NX-EC0112, NX-EC0122, NX-EC0132, NX-EC0142 | NX-EC0212, NX-EC0222 |
| SSI Input Unit                 | NX-ECS112                                  | NX-ECS212            |
| Pulse Output Unit              | NX-PG0112, NX-PG0122                       | –                    |

### Communications Interface Units

| Unit                          | Model                              |
|-------------------------------|------------------------------------|
| Communications Interface Unit | NX-CIF101, NX-CIF105,<br>NX-CIF210 |

### IO-Link Master Unit

| Unit                | Model     |
|---------------------|-----------|
| IO-Link Master Unit | NX-ILM400 |

### System Units

| Unit                                 | Model                              |
|--------------------------------------|------------------------------------|
| Additional NX Unit Power Supply Unit | NX-PD1000                          |
| Additional I/O Power Supply Unit     | NX-PF0630, NX-PF0730               |
| I/O Power Supply Connection Unit     | NX-PC0010, NX-PC0020,<br>NX-PC0030 |
| Shield Connection Unit               | NX-TBX01                           |

### Safety Control Units

| Unit               | Model                   |
|--------------------|-------------------------|
| Safety CPU Unit    | NX-SL3300 *1            |
| Safety Input Unit  | NX-SIH400 *2, NX-SID800 |
| Safety Output Unit | NX-SOH200, NX-SOD400    |

\*1. Safety CPU Unit Ver.1.1 or higher.

\*2. Safety Input Unit Ver.1.1 or higher.

## Version Information

Depending on the type and model of the Unit, some Units do not have all of the versions given in the corresponding versions. 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.

### Connection to the NJ/NX-series CPU Unit or NY-series Industrial PC

#### NX-series CPU Unit or NY-series Industrial PC

| EtherNet/IP Coupler Unit |              | Corresponding unit version/version        |                       |                                              |                            |
|--------------------------|--------------|-------------------------------------------|-----------------------|----------------------------------------------|----------------------------|
| Model                    | Unit version | Unit version of CPU Unit or Industrial PC | Sysmac Studio version | Network Configurator for EtherNet/IP version | CX-ConfiguratorFDT version |
| NX-EIC202                | Ver.1.2      | Ver.1.14                                  | Ver.1.19              | Ver.3.21                                     | Ver.2.4 *                  |
|                          | Ver.1.0      | Not possible.                             | Not possible.         | Not possible.                                | Not possible.              |

\* The CX-ConfiguratorFDT with version 2.2 or later can be used if it is connected to the peripheral USB port on the EtherNet/IP Coupler Unit.

#### NJ-series CPU Unit

| EtherNet/IP Coupler Unit |              | Corresponding unit version/version |                            |                       |                                              |                            |
|--------------------------|--------------|------------------------------------|----------------------------|-----------------------|----------------------------------------------|----------------------------|
| Model                    | Unit version | Unit version of CPU Unit           | Unit version of CJ1W-EIP21 | Sysmac Studio version | Network Configurator for EtherNet/IP version | CX-ConfiguratorFDT version |
| NX-EIC202                | Ver.1.2      | Ver.1.14                           | Ver.2.1                    | Ver.1.19              | Ver.3.21                                     | Ver.2.4 *                  |
|                          | Ver.1.0      | Not possible.                      | Not possible.              | Not possible.         | Not possible.                                | Not possible.              |

\* The CX-ConfiguratorFDT with version 2.2 or later can be used if it is connected to the peripheral USB port on the EtherNet/IP Coupler Unit.

### Connection to CS/CJ/CP-series CPU Unit

#### CS1G/CS1H/CJ1H/CJ1M \* CPU Units

\* Final order entry date for CJ1M: The end of March, 2021

| EtherNet/IP Coupler Unit |              | Corresponding unit version/version |                                       |                                              |                            |                            |
|--------------------------|--------------|------------------------------------|---------------------------------------|----------------------------------------------|----------------------------|----------------------------|
| Model                    | Unit version | Unit version of CPU Unit           | Unit version of CS1W-EIP21/CJ1W-EIP21 | Network Configurator for EtherNet/IP version | NX-IO Configurator version | CX-ConfiguratorFDT version |
| NX-EIC202                | Ver.1.2      | Ver.3.0                            | Ver.2.1                               | Ver.3.00                                     | Ver.1.00                   | Ver.2.4 *1                 |
|                          | Ver.1.0      |                                    |                                       |                                              | Ver.1.00 *2                | Ver.2.2                    |

\*1. The CX-ConfiguratorFDT with version 2.2 or later can be used if it is connected to the peripheral USB port on the EtherNet/IP Coupler Unit.

\*2. You can connect only to the peripheral USB port on the EtherNet/IP Coupler Unit. You cannot connect with any other path.

#### CJ2H-CPU6□/CJ2M-CPU1□/CP1H CPU Unit

| EtherNet/IP Coupler Unit |              | Corresponding unit version/version |                            |                                              |                            |                            |
|--------------------------|--------------|------------------------------------|----------------------------|----------------------------------------------|----------------------------|----------------------------|
| Model                    | Unit version | Unit version of CPU Unit           | Unit version of CJ1W-EIP21 | Network Configurator for EtherNet/IP version | NX-IO Configurator version | CX-ConfiguratorFDT version |
| NX-EIC202                | Ver.1.2      | Ver.1.0                            | Ver.2.1                    | Ver.3.00                                     | Ver.1.00                   | Ver.2.4 *1                 |
|                          | Ver.1.0      |                                    |                            |                                              | Ver.1.00 *2                | Ver.2.2                    |

\*1. The CX-ConfiguratorFDT with version 2.2 or later can be used if it is connected to the peripheral USB port on the EtherNet/IP Coupler Unit.

\*2. You can connect only to the peripheral USB port on the EtherNet/IP Coupler Unit. You cannot connect with any other path.

#### CJ2H-CPU6□-EIP CPU Unit

| EtherNet/IP Coupler Unit |              | Corresponding unit version/version |                            |                                              |                            |                            |
|--------------------------|--------------|------------------------------------|----------------------------|----------------------------------------------|----------------------------|----------------------------|
| Model                    | Unit version | Unit version of CPU Unit           | Unit version of CJ1W-EIP21 | Network Configurator for EtherNet/IP version | NX-IO Configurator version | CX-ConfiguratorFDT version |
| NX-EIC202                | Ver.1.2      | Ver.1.5                            | Ver.2.1                    | Ver.3.00                                     | Ver.1.00                   | Ver.2.4 *1                 |
|                          | Ver.1.0      |                                    |                            |                                              | Ver.1.00 *2                | Ver.2.2                    |

\*1. The CX-ConfiguratorFDT with version 2.2 or later can be used if it is connected to the peripheral USB port on the EtherNet/IP Coupler Unit.

\*2. You can connect only to the peripheral USB port on the EtherNet/IP Coupler Unit. You cannot connect with any other path.

#### CJ2M-CPU3□ CPU Unit

| EtherNet/IP Coupler Unit |              | Corresponding unit version/version |                            |                                              |                            |                            |
|--------------------------|--------------|------------------------------------|----------------------------|----------------------------------------------|----------------------------|----------------------------|
| Model                    | Unit version | Unit version of CPU Unit           | Unit version of CJ1W-EIP21 | Network Configurator for EtherNet/IP version | NX-IO Configurator version | CX-ConfiguratorFDT version |
| NX-EIC202                | Ver.1.2      | Ver.1.0                            | Ver.2.1                    | Ver.3.21                                     | Ver.1.00                   | Ver.2.4 *1                 |
|                          | Ver.1.0      |                                    |                            |                                              | Ver.1.00 *2                | Ver.2.2                    |

\*1. The CX-ConfiguratorFDT with version 2.2 or later can be used if it is connected to the peripheral USB port on the EtherNet/IP Coupler Unit.

\*2. You can connect only to the peripheral USB port on the EtherNet/IP Coupler Unit. You cannot connect with any other path.

## Connection to the Sysmac Gateway

### Sysmac Gateway

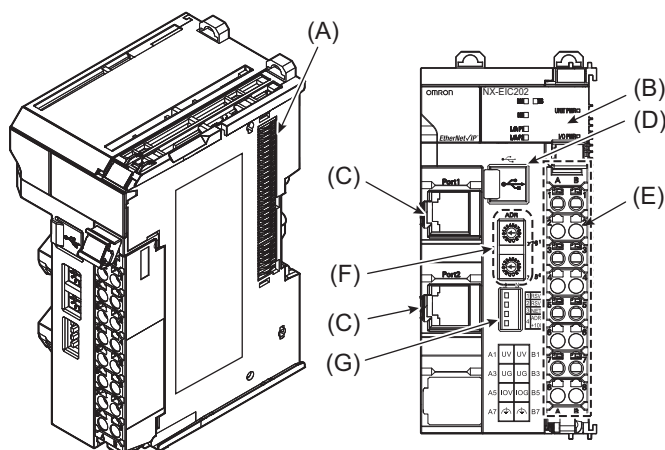
| EtherNet/IP Coupler Unit |              | Corresponding unit version/version |                                              |                            |                            |
|--------------------------|--------------|------------------------------------|----------------------------------------------|----------------------------|----------------------------|
| Model                    | Unit version | Sysmac Gateway version             | Network Configurator for EtherNet/IP version | NX-IO Configurator version | CX-ConfiguratorFDT version |
| NX-EIC202                | Ver.1.2      | Ver.1.31                           | Ver.3.50                                     | Ver.1.00                   | Ver.2.4 *1                 |
|                          | Ver.1.0      |                                    |                                              | Ver.1.00 *2                | Ver.2.2                    |

\*1. The CX-ConfiguratorFDT with version 2.2 or later can be used if it is connected to the peripheral USB port on the EtherNet/IP Coupler Unit.

\*2. You can connect only to the peripheral USB port on the EtherNet/IP Coupler Unit. You cannot connect with any other path.

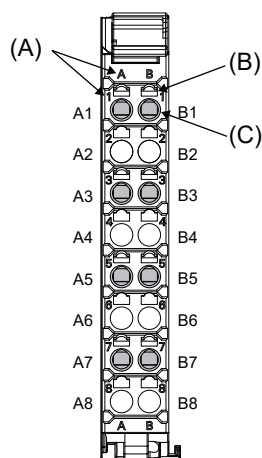
## External Interface

### EtherNet/IP Coupler Unit NX-EIC202



| Letter | Name                      | Function                                                                                                                                                         |
|--------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A)    | NX bus connector          | This connector is used to connect the EtherNet/IP Coupler Unit to the NX Unit on the right of the Coupler Unit.                                                  |
| (B)    | Indicators                | The indicators show the current operating status of the Unit and the status of the power supply.                                                                 |
| (C)    | Communications connectors | These connectors are connected to the communications cables of the EtherNet/IP network.                                                                          |
| (D)    | Peripheral USB port       | This port is used to connect to the Sysmac Studio.                                                                                                               |
| (E)    | Terminal block            | The terminal block is used to connect to the power supply cables and ground wire.                                                                                |
| (F)    | Rotary switches           | The rotary switches are used to set the last octet of the IP address of the EtherNet/IP Coupler Unit as an EtherNet/IP Slave. The address is set in hexadecimal. |
| (G)    | DIP switch                | The DIP switch is used to set the default node address of the EtherNet/IP Coupler Unit as an EtherNet/IP slave.                                                  |

### Terminal Block



Eight-terminal Block

| Symbol | Name                        | Function                                                                                                                                                                             |
|--------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (A)    | Terminal number indications | The terminal numbers (A1 to A8 and B1 to B8) are displayed. The terminal number indicators are the same regardless of the number of terminals on the terminal block, as shown above. |
| (B)    | Release holes               | Insert a flat-blade screwdriver into these holes to connect and remove the wires.                                                                                                    |
| (C)    | Terminal holes              | The wires are inserted into these holes.                                                                                                                                             |

## Applicable Wires

### Using Ferrules

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

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

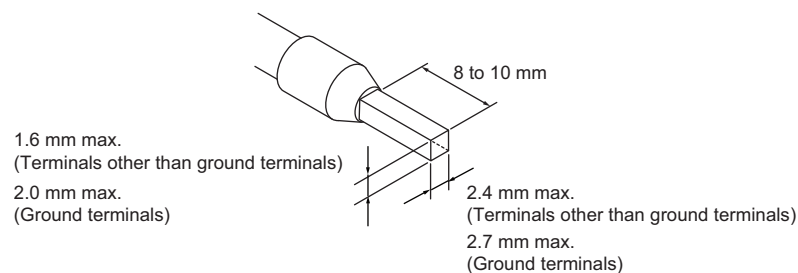
Always use plated one-pin ferrules. Do not use unplated ferrules or two-pin ferrules.

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

| Terminal types                        | Manufacturer    | Ferrule model | Applicable wire (mm <sup>2</sup> (AWG)) | Crimping tool                                                                                                                     |
|---------------------------------------|-----------------|---------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Terminals other than ground terminals | Phoenix Contact | AI0,34-8      | 0.34 (#22)                              | Phoenix Contact (The figure in parentheses is the applicable wire size.)<br>CRIMPFOX 6 (0.25 to 6 mm <sup>2</sup> , AWG 24 to 10) |
|                                       |                 | AI0,5-8       | 0.5 (#20)                               |                                                                                                                                   |
|                                       |                 | AI0,5-10      |                                         |                                                                                                                                   |
|                                       |                 | AI0,75-8      | 0.75 (#18)                              |                                                                                                                                   |
|                                       |                 | AI0,75-10     |                                         |                                                                                                                                   |
|                                       |                 | AI1,0-8       | 1.0 (#18)                               |                                                                                                                                   |
|                                       |                 | AI1,0-10      |                                         |                                                                                                                                   |
|                                       |                 | AI1,5-8       | 1.5 (#16)                               |                                                                                                                                   |
|                                       |                 | AI1,5-10      |                                         |                                                                                                                                   |
| Ground terminals                      |                 | AI2,5-10      | 2.0 *1                                  |                                                                                                                                   |
| Terminals other than ground terminals | Weidmuller      | H0.14/12      | 0.14 (#26)                              | Weidmuller (The figure in parentheses is the applicable wire size.)<br>PZ6 Roto (0.14 to 6 mm <sup>2</sup> , AWG 26 to 10)        |
|                                       |                 | H0.25/12      | 0.25 (#24)                              |                                                                                                                                   |
|                                       |                 | H0.34/12      | 0.34 (#22)                              |                                                                                                                                   |
|                                       |                 | H0.5/14       | 0.5 (#20)                               |                                                                                                                                   |
|                                       |                 | H0.5/16       |                                         |                                                                                                                                   |
|                                       |                 | H0.75/14      | 0.75 (#18)                              |                                                                                                                                   |
|                                       |                 | H0.75/16      |                                         |                                                                                                                                   |
|                                       |                 | H1.0/14       | 1.0 (#18)                               |                                                                                                                                   |
|                                       |                 | H1.0/16       |                                         |                                                                                                                                   |
|                                       |                 | H1.5/14       | 1.5 (#16)                               |                                                                                                                                   |
|                                       |                 | H1.5/16       |                                         |                                                                                                                                   |

\*1. Some AWG 14 wires exceed 2.0 mm<sup>2</sup> and cannot be used in the screwless clamping terminal block.

When you use any ferrules other than those in the above table, crimp them to the twisted wires so that the following processed dimensions are achieved.



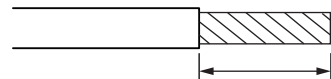
### Using Twisted Wires/Solid Wires

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

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

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

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

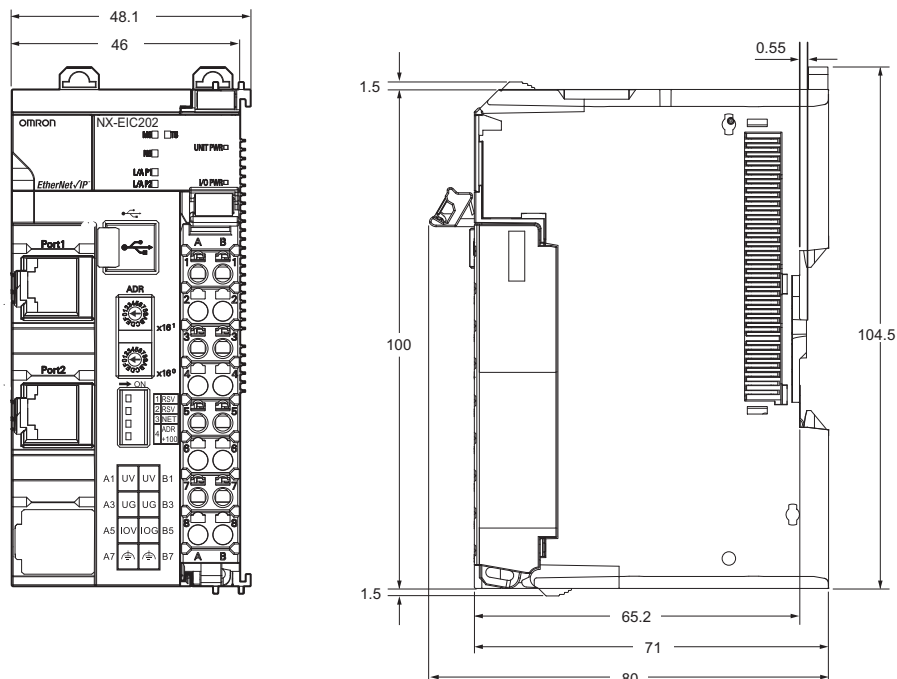


Conductor length (stripping length)

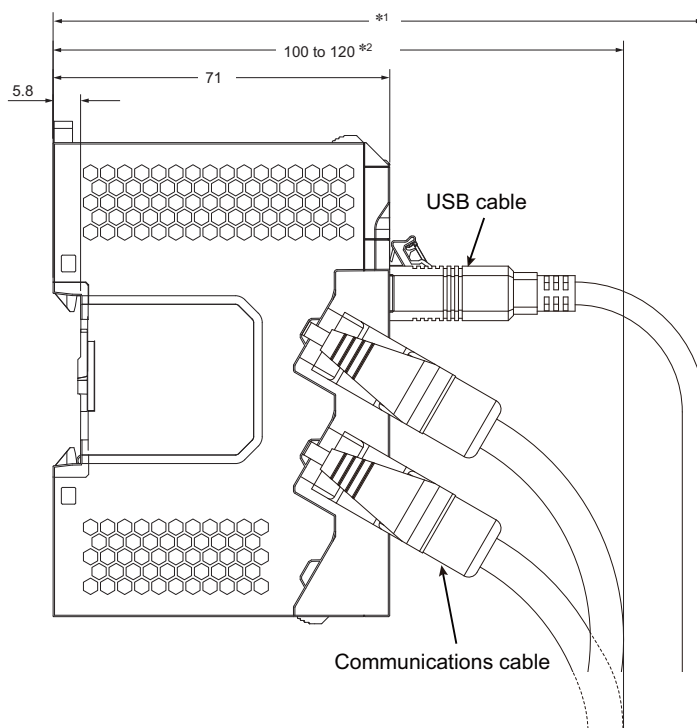
<Additional Information> If more than 2 A will flow on the wires, use plated wires or use ferrules.

## Dimensions

### ● EtherCAT Coupler Unit Only



### ● With Cables Connected

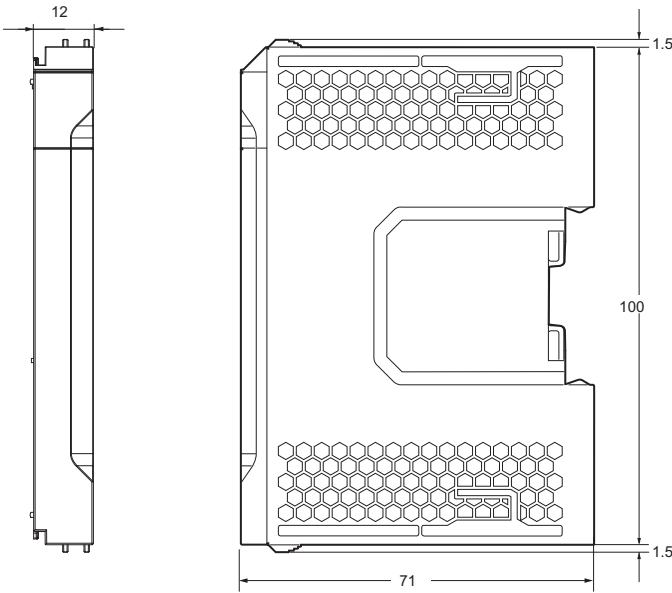


\*1. This dimension depends on the specifications of the commercially available USB-certified cable. Check the specifications of the USB cable that is used.

\*2. This is the dimension from the back of the Unit to the communications cables.

- 100 mm: When an MPS588-C Connector is used.
- 120 mm: When an XS6G-T421-1 Connector is used.

● End Cover



Related Manuals

| Man. No | Model     | Manual                                           | Application                                                                                | Description                                                                                                                                                                          |
|---------|-----------|--------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W536    | NX-EIC□□□ | NX-series EtherNet/IP Coupler Unit User's Manual | Learning how to use an NX-series Ether-Net/IP Coupler Unit and EtherNet/IP Slave Terminals | Introduces the system, configuration methods, Unit hardware, setting methods, and functions of EtherNet/IP Slave Terminals that consist of an EtherNet/IP Coupler Unit and NX Units. |

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