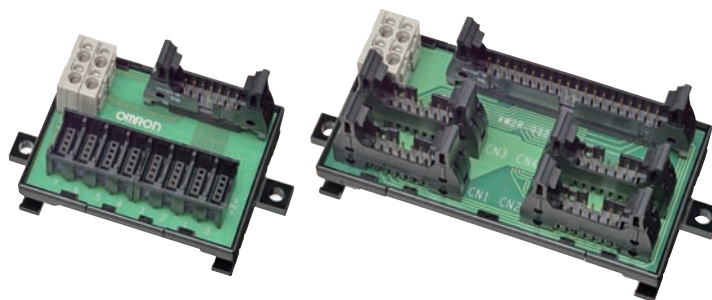
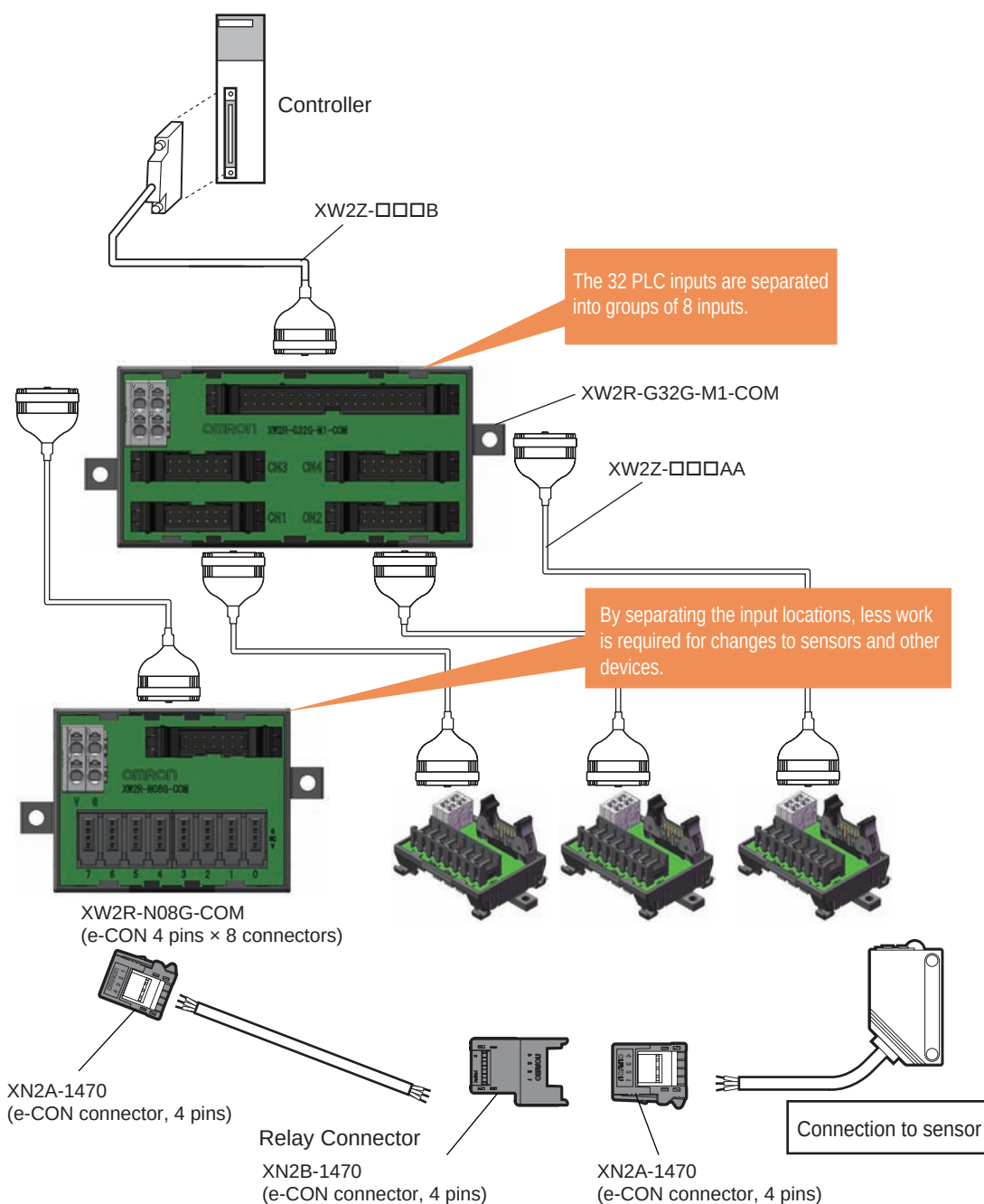


## Conversion Unit with Industrial Standard *e*-CON Terminal Block Connectors

- Power supply terminals provided. Connector terminal blocks provided for wiring.
- I/O connectors for easier wiring.
- Easy connections via connectors (no special tools required).
- Compatible with e-CON connectors from other companies.



### Connection Example



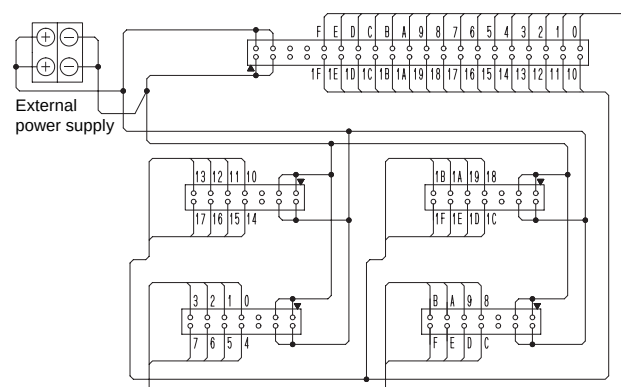
## Ordering Information

| Appearance                                                                        | Model            | Pins                                            | Mitsubishi PLC Module model number |                                     |
|-----------------------------------------------------------------------------------|------------------|-------------------------------------------------|------------------------------------|-------------------------------------|
|                                                                                   |                  |                                                 | I/O points                         | Model                               |
|  | XW2R-G32G-M1-COM | 40 pins × 1 connector<br>14 pins × 4 connectors | 32                                 | QX41, QX41-S1, QX41-S2, QX71        |
|                                                                                   |                  |                                                 |                                    | QH42P (inputs), QX41Y41P (inputs)   |
|                                                                                   |                  |                                                 |                                    | LX41C4                              |
|                                                                                   |                  |                                                 |                                    | A1SX41-S1, A1SX41-S2, A1SX71        |
|                                                                                   |                  |                                                 |                                    | A1SH42 (inputs), A1SH42-S1 (inputs) |
|                                                                                   |                  |                                                 | 64                                 | QX42, QX42-S1, QX-82, QX82-S1       |
|                                                                                   |                  |                                                 |                                    | LX42C4                              |
|                                                                                   |                  |                                                 |                                    | A1SX42-S1, A1SX42-S2, A1SX82-S      |

## Ratings and Specifications

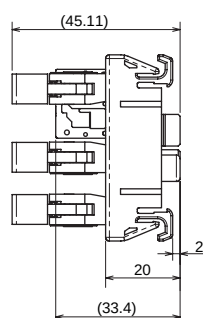
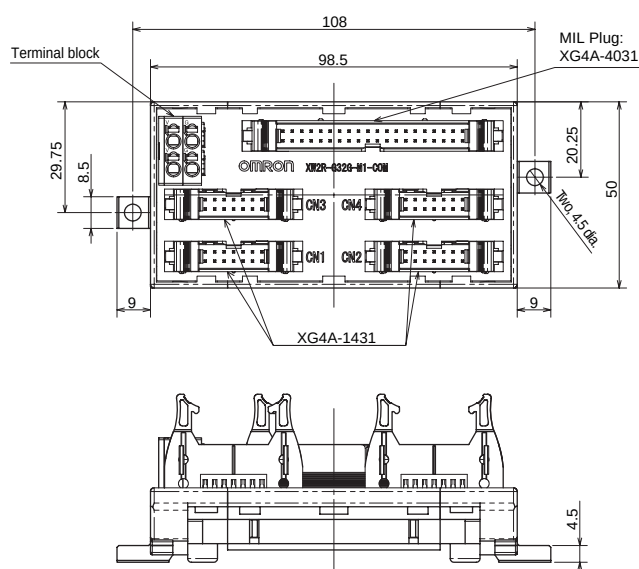
|                                                                                                  |                                   |                                                                                                                                             |
|--------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Rated current</b>                                                                             |                                   | Power supply terminal block: 8 A,<br>Connectors: 1 A                                                                                        |
| <b>Rated voltage</b>                                                                             |                                   | 24 VDC                                                                                                                                      |
| <b>Insulation resistance</b>                                                                     |                                   | 100 MΩ min. (at 500 VDC)                                                                                                                    |
| <b>Dielectric strength</b>                                                                       |                                   | 500 VAC for 1 min<br>(leakage current: 1 mA max.)                                                                                           |
| <b>Ambient operating temperature</b>                                                             |                                   | 0 to 55°C                                                                                                                                   |
| <b>Appl-<br/>cable<br/>wires<br/>(pow-<br/>er<br/>sup-<br/>ply<br/>termi-<br/>nal<br/>block)</b> | <b>Applicable<br/>wire sizes*</b> | AWG 24 to 14 (ferrules), AWG 28 to 14<br>(twisted wires), AWG 28 to 16 (solid<br>wires) (Outer diameter of insulation<br>must be 4 mm max.) |
|                                                                                                  | <b>Stripped<br/>length</b>        | AWG28 to 16: 8 to 10 mm,<br>AWG14: 9 to 10 mm                                                                                               |

## Wiring Diagram



## Dimensions

(Unit: mm)



## Ordering Information

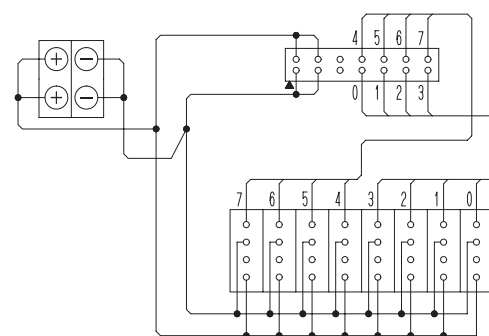
| Appearance                                                                        | I/O points | Number of PLC connector pins | I/O    | Model                | Mounted Connector model                        | Cable Connector Model                            |
|-----------------------------------------------------------------------------------|------------|------------------------------|--------|----------------------|------------------------------------------------|--------------------------------------------------|
|  | 8          | 14                           | Inputs | <b>XW2R-N08G-COM</b> | XG4A-1431 (PLC side)<br>XN2D-4471 (input side) | XG4M-1430-T (PLC side)<br>XN2A-1470 (input side) |

## Ratings and Specifications

|                                                       |                               |                                                                                                                                                                |
|-------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Rated current</b>                                  |                               | Power supply terminal block: 2 A, Connectors (including e-CON Connectors): 1 A (However, rated current of e-CON Connector depends on the wires that are used.) |
| <b>Rated voltage</b>                                  |                               | 24 VDC                                                                                                                                                         |
| <b>Insulation resistance</b>                          |                               | 100 MΩ min. (at 500 VDC)                                                                                                                                       |
| <b>Dielectric strength</b>                            |                               | 500 VAC for 1 min (leakage current: 1 mA max.)                                                                                                                 |
| <b>Ambient operating temperature</b>                  |                               | 0 to 55°C                                                                                                                                                      |
| <b>Applicable wires (power supply terminal block)</b> | <b>Applicable wire sizes*</b> | AWG 24 to 14 (ferrules), AWG 28 to 14 (twisted wires), AWG 28 to 16 (solid wires) (Outer diameter of insulation must be 4 mm max.)                             |
|                                                       | <b>Stripped length</b>        | AWG28 to 16: 8 to 10 mm,<br>AWG14: 9 to 10 mm                                                                                                                  |

\*This is the applicable range for the power supply terminal block. For the applicable wire sizes for I/O Connectors (e-CON), refer to information on the applied Connectors.

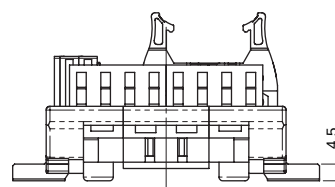
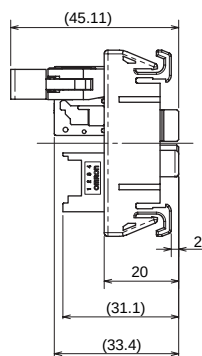
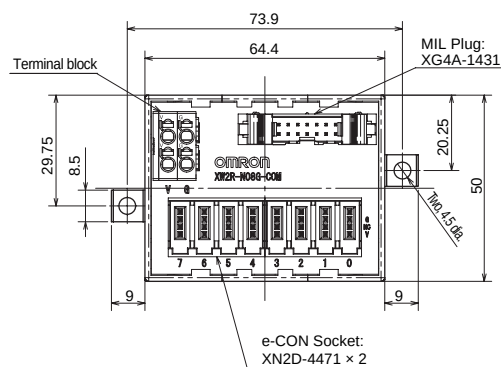
## Wiring Diagram



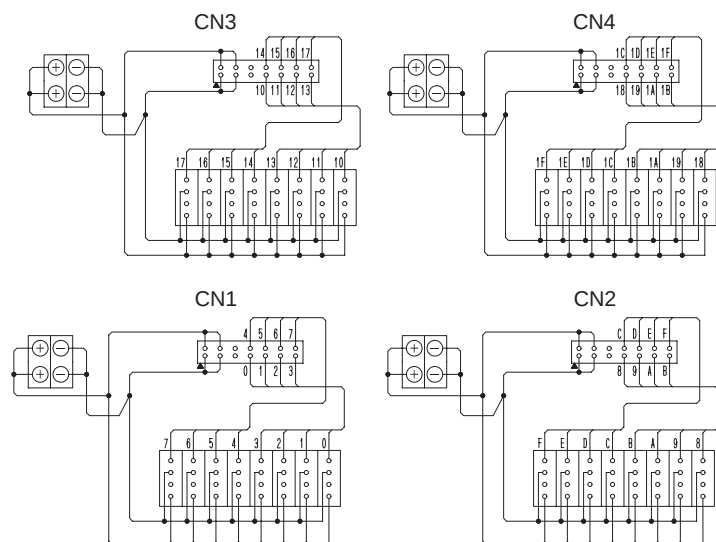
(This connection diagram is for combining with CN1 on the XW2R-G32G-M1-COM.)

## Dimensions

(Unit: mm)



The e-CON address assignments are for combining the XW2R-G32G-M1-COM with four XW2R-N08G-COM.



## XW2Z Cables

### Ratings and Specifications

|                               |                                                              |
|-------------------------------|--------------------------------------------------------------|
| Rated current                 | 1 A                                                          |
| Rated voltage                 | 125 VAC/24 VDC                                               |
| Contact resistance            | 20 mΩ max. (at 20 mV, 100 mA max.)* <sup>1</sup>             |
| Insulation resistance         | 100 MΩ min. (at 500 VDC)                                     |
| Dielectric strength           | 500 VAC for 1 min (leakage current: 1 mA max.)* <sup>2</sup> |
| Ambient operating temperature | –25 to 80°C                                                  |

\*1. This is the contact resistance of the Connectors.

\*2. This is the dielectric strength of the Connectors.

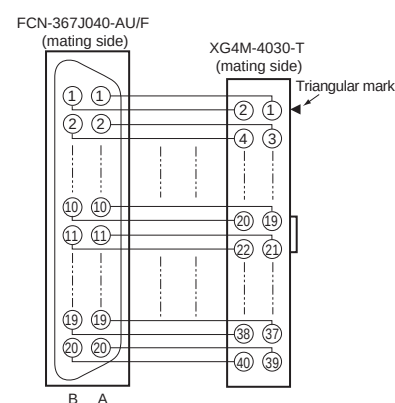
### XW2Z-□□□B Connectors: One 40-pin Connector Made by Fujitsu Component, Ltd. to One 40-pin MIL Connector

| Appearance                                                                        | Model     | Cable length (m) |
|-----------------------------------------------------------------------------------|-----------|------------------|
|  | XW2Z-050B | 0.5              |
|                                                                                   | XW2Z-100B | 1                |
|                                                                                   | XW2Z-150B | 1.5              |
|                                                                                   | XW2Z-200B | 2                |
|                                                                                   | XW2Z-300B | 3                |
|                                                                                   | XW2Z-500B | 5                |
|                                                                                   | XW2Z-700B | 7                |
|                                                                                   | XW2Z-010B | 10               |
|                                                                                   | XW2Z-15MB | 15               |
|                                                                                   | XW2Z-20MB | 20               |

Cable Length (m)



### Wiring Diagram



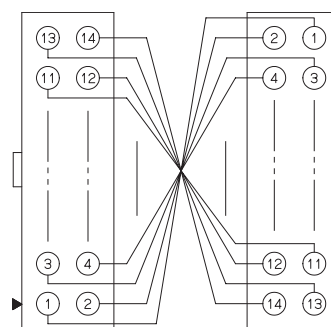
### XW2Z-□□□AA MIL Connectors: One 14-pin MIL Connector to One 14-Pin MIL Connector

| Appearance                                                                          | Model      | Cable length (m) |
|-------------------------------------------------------------------------------------|------------|------------------|
|  | XW2Z-050AA | 0.5              |
|                                                                                     | XW2Z-100AA | 1                |
|                                                                                     | XW2Z-200AA | 2                |
|                                                                                     | XW2Z-500AA | 5                |
|                                                                                     | XW2Z-010AA | 10               |

Cable Length (m)



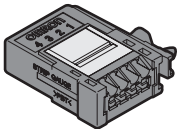
### Wiring Diagram



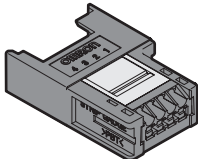
Note: Wire the connectors 1:1 so that the connector terminal numbers coincide.

## Input Device Connectors: XN2 e-CON Connectors

### Sensor Connector

| Appearance                                                                        | Pins | Model     |
|-----------------------------------------------------------------------------------|------|-----------|
|  | 4    | XN2A-1470 |

### Relay Connector

| Appearance                                                                         | Pins | Model     |
|------------------------------------------------------------------------------------|------|-----------|
|  | 4    | XN2B-1470 |

### Ratings and Specifications

|                                      |                                                                                                                           |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Rated current</b>                 | 3 A/pin (with AWG20 wires), 2 A/pin (with AWG22 wires), 1 A/pin (with AWG24 wires), 0.5 A/pin (with AWG26 or AWG28 wires) |
| <b>Rated voltage</b>                 | 32 VDC                                                                                                                    |
| <b>Contact resistance</b>            | 30 mΩ max. (at 20 mV, 100 mA max.)                                                                                        |
| <b>Insulation resistance</b>         | 10 <sup>3</sup> MΩ min. (at 500 V DC)                                                                                     |
| <b>Dielectric strength</b>           | 1,000 VAC for 1 min (leakage current: 1 mA max.)                                                                          |
| <b>Insertion durability</b>          | 50 times                                                                                                                  |
| <b>Ambient operating temperature</b> | –30 to 75°C*1                                                                                                             |
| <b>Applicable wires</b>              | 0.08 to 0.5 mm <sup>2</sup> (AWG28 to AWG20) (Outer diameter of wire must be 1.5 mm max.)*2                               |

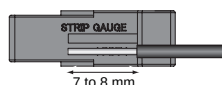
\*1. The operating temperature range is restricted by the maximum operating temperature of the cable.

\*2. Consult with your OMRON representative before using wires with a single wire diameter of 0.16 mm or less.

### Connection Procedure

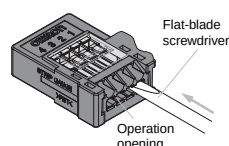
#### ● Preparing Wires

Strip 7 to 8 mm of the wire insulation using the STRIP GAUGE on the Connector as a guide, and twist the wire strands together several times.

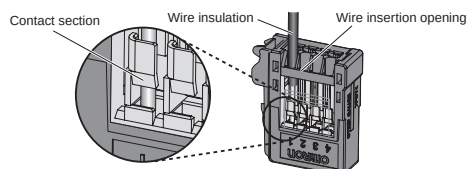


#### ● Connecting Wires

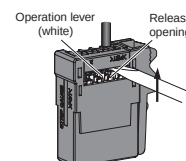
1. Insert a flat-bladed screw driver and press the operation lever inside the operation opening until it locks open.



2. Insert the wire all the way to the back of the wire insertion opening. Confirm that the wire insulation has entered the wire insertion opening and that the end of the core has passed through the contact section.

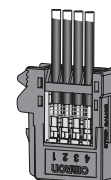


3. Insert the screwdriver in the release opening and gently press the lever until it clicks back to its original position.



4. Confirm the following items.

- The operation level has returned to its original position.
- That the wire and wire insulation are in the proper positions, as described in step 2. (Pull on the wire lightly to be sure it is connected.)

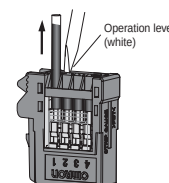


#### ● Removing Wires

1. Insert a flat-bladed screw driver and press the operation lever inside the operation opening until it locks open and then pull out the wire.

2. Always return the operation lever to its original position after removing a wire.

If another wire is to be connected, however, it can be connected immediately without returning the operation lever first.



## Safety Precautions

### Precautions for Correct Use

#### ● Wiring Precautions

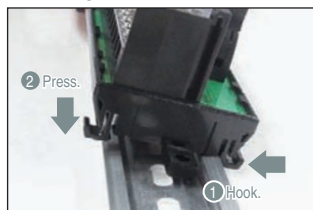
- Do not perform wiring work, remove connectors, or connect connectors while power is being supplied. Electric shock or damage to the device may result.
- Double-check all wiring before turning ON the power supply.
- After wiring, confirm that the cable is connected.
- After wiring, route the cable so that force is not applied directly to the connections.
- Insert only one wire in each wire insertion opening. It may not be possible to remove the wires if more than one wire is inserted.
- Do not apply a current higher than the rated value. Be sure to check the rated current, which depends on the model of the cable.

#### ● Wires for Terminal Blocks

- Do not damage the cores when stripping the insulation from them.
- Always twist stranded wires together before connecting them.
- Do not presolder wires. It may not be possible to connect them or remove them.

#### ● Mounting to and Removing from DIN Track

##### Mounting Procedure



- Hook the Unit on the DIN Track.
- Press the Unit onto the DIN Track to secure it.

##### Removal Procedure



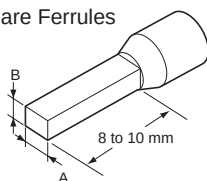
- Insert a flat-blade screwdriver into the DIN Track lock.
- Move the screwdriver like a lever to free the lock.

#### ● Applicable Ferrules

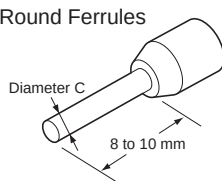
- Use ferrules of the lengths and thicknesses specified below. If other lengths or thicknesses are used, connection may not be possible or it may not be possible to insert or remove the posts.
- Ferrule Dimensions

|                      |                           |                                 |                                                                       |
|----------------------|---------------------------|---------------------------------|-----------------------------------------------------------------------|
| Square fer-<br>rules | Dimension A<br>(width)    | 2.7 mm max.                     | The cross-sectional area<br>after crimping must be 4.8<br>mm² or less |
|                      | Dimension B<br>(height)   | 2 mm max.                       |                                                                       |
| Round fer-<br>rules  | Dimension C<br>(diameter) | 2 mm dia. max. (after crimping) |                                                                       |

Square Ferrules



Round Ferrules



#### ● Recommended Ferrules for XW2R-P□□ Connectors

| Ferrule type    | Manufacturer    | Size        | Ferrule model             | Recommended crimp tool |
|-----------------|-----------------|-------------|---------------------------|------------------------|
| Square ferrules | Phoenix Contact | AWG24       | AI0.25-8□□                | CRIMFOX6               |
|                 |                 | AWG22       | AI0.34-8TQ                |                        |
|                 |                 | AWG20       | AI0.5-10WH<br>AI0.5-8WH   |                        |
|                 |                 | AWG18       | AI0.75-10GY<br>AI0.75-8GY |                        |
|                 |                 | AWG16       | AI1.5-10BK                |                        |
|                 |                 | AWG14       | AI2.5-8BU                 |                        |
|                 | Weidmueller     | AWG24       | H0.25/12                  | PZ6 roto               |
|                 |                 | AWG22       | H0.34/12                  |                        |
|                 |                 | AWG20       | H0.5/14                   |                        |
|                 |                 | AWG18       | H0.75/14                  |                        |
|                 |                 | AWG16       | H1.5/14                   |                        |
|                 |                 | AWG14       | H2.5/15D                  |                        |
| Round ferrules  | Nichifu         | AWG22-AWG16 | TGV<br>TC-1.25-11         | NH11<br>NH32<br>NH65   |

Note: Note: □□ is replaced by the color code. (Example: YE = yellow)

#### ● Connecting Spring cramp Terminals

##### Using Ferrules

##### How to insert wire



##### How to release wire



##### Using Stripped Wires

##### Inserting and Removing Wires

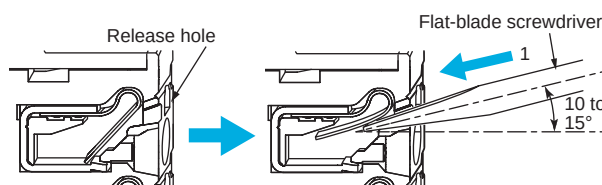


##### Inserting Wires

- Press the a flat-blade screwdriver diagonally into the release hole.

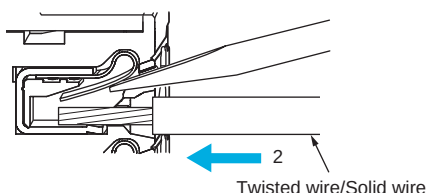
Press at an angle of 10° to 15°.

If you press in the screwdriver correctly, you will feel the spring in the release hole.

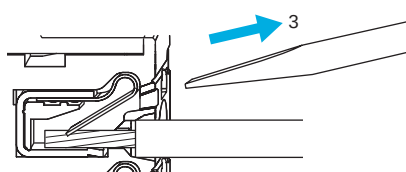


- 2) Leave the flat-blade screwdriver pressed into the release hole and insert the twisted stranded wires or the solid wire into the terminal hole.

Insert the twisted wire or the solid wire until the stripped portion is no longer visible to prevent shorting.



- 3) Remove the flat-blade screwdriver from the release hole.

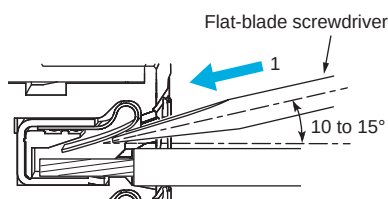


### Removing Wires

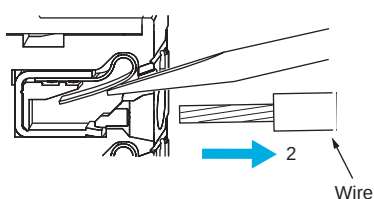
- 1) Press the flat-blade screwdriver diagonally into the release hole.

Press at an angle of 10° to 15°.

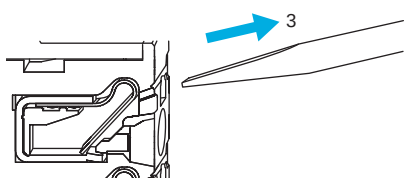
If you press in the screwdriver correctly, you will feel the spring in the release hole.



- 2) Leave the flat-blade screwdriver pressed into the release hole and pull out the wire.

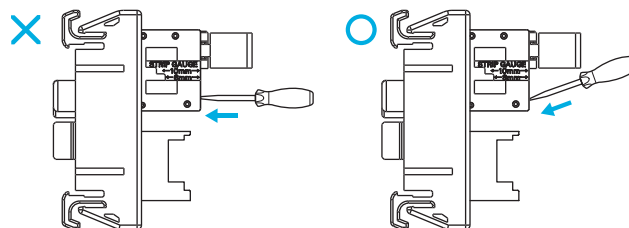


- 3) Remove the flat-blade screwdriver from the release hole.

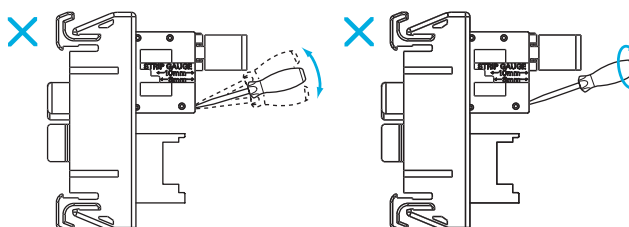


### Precautions for Safe Use

- Do not press the flat-blade screwdriver straight into the release hole. Doing so may break the terminal block.



- When you insert a flat-blade screwdriver into a release hole, press it down with a force of 30 N max. Applying excessive force may damage the terminal block.
- Do not tilt or twist the flat-blade screwdriver while it is pressed into the release hole. Doing so may break the terminal block.



- Make sure that all wiring is correct.
- Do not bend the cable forcibly. Doing so may sever the cable.

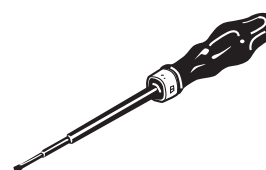
### ● Use tool

- Select a use tool from following table.

| Use tool               | Specialized tool and dimension                            |
|------------------------|-----------------------------------------------------------|
| Flat-blade screwdriver | Model XW4Z-00B<br>Head of screwdriver is 0.4 × 2.5mm max. |

### Flat-blade screwdriver

| Models   |
|----------|
| XW4Z-00B |





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