

## A Wide Range of Basic Input Units for High Speed Input and Different Applications

- Receive ON/OFF signals from external devices into the PLC System to update I/O memory in the CPU Unit.
- New high-speed input models CJ1W-ID212 and CJ1W-ID233 are now available. These units can help to increase system throughput.



CJ1W-ID212



CJ1W-ID233

## Features

- High-speed input models are available, meeting versatile applications.  
ON Response Time: 15 $\mu$ s, OFF Response Time: 90 $\mu$ s
- Use 24-VDC, 100-VAC, and 200-VAC models to connect to devices with different types of outputs.
- The 24-VDC models can be connected to devices with either NPN or PNP outputs. There is no need to select the polarity. \*1
- A digital filter in the Unit can be set from 0 to 32 ms to reduce the influence of external noise.
- Either a Fujitsu or MIL connector interface can be used. \*2
- Several models of Terminal Block Conversion Units are available, making it easy to connect to external devices.

\*1. The same polarity is used for the same common.



\*2. For models with 32 or 64 inputs.

## Ordering Information

### International Standards

- The standards are abbreviated as follows: U: UL, U1: UL (Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, and CE: EC Directives.
- Contact your OMRON representative for further details and applicable conditions for these standards.

### Input Units

| Unit type           | Product name   | Specifications         |                                     |                      |                          |                        | Current consumption (A) |      | Model             | Standards     |
|---------------------|--|------------------------|-------------------------------------|----------------------|--------------------------|------------------------|-------------------------|------|-------------------|---------------|
|                     |  | I/O points             | Input voltage and current           | Commons              | External connection      | No. of words allocated | 5 V                     | 24 V |                   |               |
| CJ1 Basic I/O Units | <b>DC Input Units</b><br>   | 8 inputs               | 12 to 24 VDC, 10 mA                 | Independent contacts | Removable terminal block | 1 word                 | 0.09                    | –    | <b>CJ1W-ID201</b> | UC1, N, L, CE |
|                     |  | 16 inputs              | 24 VDC, 7 mA                        | 16 points, 1 common  | Removable terminal block | 1 word                 | 0.08                    | –    | <b>CJ1W-ID211</b> |               |
|                     |  | 16 inputs (High speed) | 24 VDC, 7 mA                        | 16 points, 1 common  | Removable terminal block | 1 word                 | 0.13                    | –    | <b>CJ1W-ID212</b> | N, L, CE      |
|                     |  | 32 inputs              | 24 VDC, 4.1 mA                      | 16 points, 1 common  | Fujitsu connector        | 2 words                | 0.09                    | –    | <b>CJ1W-ID231</b> | UC1, N, L, CE |
|                     |  | 32 inputs              | 24 VDC, 4.1 mA                      | 16 points, 1 common  | MIL connector            | 2 words                | 0.09                    | –    | <b>CJ1W-ID232</b> |               |
|                     |  | 32 inputs (High speed) | 24 VDC, 4.1 mA                      | 16 points, 1 common  | MIL connector            | 2 words                | 0.20                    | –    | <b>CJ1W-ID233</b> | N, L, CE      |
|                     | <b>AC Input Units</b><br> | 8 inputs               | 200 to 24 VAC, 10 mA (200 V, 50 Hz) | 8 points, 1 common   | Removable Terminal Block | 1 words                | 0.08                    | –    | <b>CJ1W-IA201</b> | UC1, N, L, CE |
|                     |  | 16 inputs              | 100 to 120 VAC, 7 mA (100 V, 50 Hz) | 16 points, 1 common  | Removable Terminal Block | 1 words                | 0.09                    | –    | <b>CJ1W-IA111</b> |               |

### Accessories

Connectors are not included for models with connectors. Either use one of the applicable connector listed below or use an applicable Connector-Terminal Block Conversion Unit or I/O Relay Terminal. For details on wiring methods, refer to *External Interface*.

**Applicable Connectors**

**Fujitsu Connectors for 32-input, 32-output, 64-input, 64-output, 32-input/32-output, and 16-input/16-output Units**

| Name              | Connection      | Remarks  | Applicable Units  | Model      | Standards |
|-------------------|-----------------|--|---|------------|-----------|
| 40-pin Connectors | Soldered        | FCN-361J040-AU Connector<br>FCN-360C040-J2 Connector Cover                   | Fujitsu Connectors:<br>CJ1W-ID231(32 inputs): 1 per Unit<br>CJ1W-ID261 (64 inputs): 2 per Unit<br>CJ1W-OD231 (32 outputs):1 per Unit<br>CJ1W-OD261 (64 outputs): 2 per Unit<br>CJ1W-MD261 (32 inputs, 32 outputs): 2 per Unit | C500-CE404 | -         |
|                   | Crimped         | FCN-363J040 Housing<br>FCN-363J-AU Contact<br>FCN-360C040-J2 Connector Cover |   | C500-CE405 |           |
|                   | Pressure welded | FCN-367J040-AU/F   |   | C500-CE403 |           |
| 24-pin Connectors | Soldered        | FCN-361J024-AU Connector<br>FCN-360C024-J2 Connector Cover                   | Fujitsu Connectors:<br>CJ1W-MD231 (16 inputs, 16 outputs): 2 per Unit   | C500-CE241 | -         |
|                   | Crimped         | FCN-363J024 Socket<br>FCN-363J-AU Contact<br>FCN-360C024-J2 Connector Cover  |   | C500-CE242 |           |
|                   | Pressure welded | FCN-367J024-AU/F   |   | C500-CE243 |           |

**MIL Connectors for 32-input, 32-output, 64-input, 64-output, 32-input/32-output, and 16-input/16-output Units**

| Name              | Connection      | Remarks        | Applicable Units   | Model       | Standards |
|-------------------|-----------------|----------------|--|-------------|-----------|
| 40-pin Connectors | Pressure welded | FRC5-AO40-3TOS | MIL Connectors:<br>CJ1W-ID232/233 (32 inputs): 1 per Unit<br>CJ1W-OD232/233/234 (32 outputs):1 per Unit<br>CJ1W-ID262 (64 inputs): 2 per Unit<br>CJ1W-OD262/263 (64 outputs): 2 per Unit<br>CJ1W-MD263/563 (32 inputs, 32 outputs): 2 per Unit | XG4M-4030-T | -         |
|                   | Crimped         | -              |  | XG5N-401*   |           |
| 20-pin Connectors | Pressure welded | FRC5-AO20-3TOS | MIL Connectors:<br>CJ1W-MD232/233 (16 inputs, 16 outputs): 2 per Unit  | XG4M-2030-T | -         |
|                   | Crimped         | -              |  | XG5N-201*   |           |

\* Crimp Contacts are also required. Refer to page 20 for details.

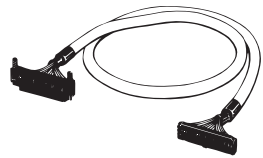
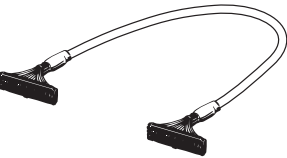
**Applicable Connector-Terminal Block Conversion Units**

| Type | Series | Number of connector poles | Number of terminal block poles | Wiring method  | Terminal type      | Size       |             |            | Mounting  |        | Common terminals | I/O Units                              | Model *          | Standards |
|------|--------|---------------------------|--------------------------------|--|--------------------|------------|-------------|------------|-----------|--------|------------------|--|------------------|-----------|
|      |        |                           |                                |  |                    | Depth (mm) | Height (mm) | Width (mm) | DIN Track | Screws |                  |  |                  |           |
| PLCs | XW2K   | 40                        | 36                             | Push-In Plus<br>            | Spring             | 75         | 39          | 40.8       | -         | -      | No               | CJ1W-ID231<br>CJ1W-ID261               | XW2K-40G-O32A    | -         |
|      |        |                           |                                |  |                    |            |             |            |           |        |                  | CJ1W-ID232<br>CJ1W-ID233<br>CJ1W-ID262 |                  |           |
|      |        | 40                        | 102                            | Push-In Plus<br>            | Spring             | 124        | 52.7        | 40.8       | -         | -      | Yes              | CJ1W-ID231<br>CJ1W-ID261               | XW2K-40G-O32A-IN |           |
|      |        |                           |                                |  |                    |            |             |            |           |        |                  | CJ1W-ID232<br>CJ1W-ID233<br>CJ1W-ID262 | XW2K-40G-O32C-IN |           |
|      | XW2R   | 40                        | 34                             | Phillips screw<br>          | M3                 | 130.7      | 50          | 48.05      | -         | -      | No               | CJ1W-ID231<br>CJ1W-ID261               | XW2R-J34GD-C1    |           |
|      |        |                           |                                |  |                    |            |             |            |           |        |                  | CJ1W-ID232<br>CJ1W-ID233<br>CJ1W-ID262 | XW2R-J34GD-C2    |           |
|      |        | 40                        | 34                             | Slotted screw (rise up)<br> | M3 (European type) | 98.5       | 50          | 44.81      | -         | -      | No               | CJ1W-ID231<br>CJ1W-ID261               | XW2R-E34GD-C1    |           |
|      |        |                           |                                |  |                    |            |             |            |           |        |                  | CJ1W-ID232<br>CJ1W-ID233<br>CJ1W-ID262 | XW2R-E34GD-C2    |           |






**Note:** For the combination of I/O Units with Connector-Terminal Block Conversion Units, refer to 2. *Connecting Connector-Terminal Block Conversion Units.*

\* Representative models only. For details, refer to the XW2K series Datasheet (Cat. No. G152) and XW2R series catalog (Cat. No. G077).

**Connecting Cables for Connector-Terminal Block Conversion Units**

| Appearance   | Connectors   | Cable length [m] | Model     |
|--|--|------------------|-----------|
| <br>XW2Z-□□□B | One 40-pin Fujitsu Connector to One 40-pin MIL Connector | 0.5              | XW2Z-050B |
|  |  | 1                | XW2Z-100B |
|  |  | 1.5              | XW2Z-150B |
|  |  | 2                | XW2Z-200B |
|  |  | 3                | XW2Z-300B |
|  |  | 5                | XW2Z-500B |
| <br>XW2Z-□□□K | One 40-pin MIL Connector to One 40-pin MIL Connector     | 0.5              | XW2Z-C50K |
|  |  | 1                | XW2Z-100K |
|  |  | 1.5              | XW2Z-150K |
|  |  | 2                | XW2Z-200K |
|  |  | 3                | XW2Z-300K |
|  |  | 5                | XW2Z-500K |

Applicable I/O Relay Terminals

| Type                        | Series  | Specifications  |                  |                  |   |                              | Size (horizontal mounting)    |                  |               | Mounting    |              | Model                | Standards                |                          |                |                                 |        |              |     |     |
|-----------------------------|---|---|------------------|------------------|---|------------------------------|-------------------------------|------------------|---------------|-------------|--------------|----------------------|--------------------------|--------------------------|----------------|---------------------------------|--------|--------------|-----|-----|
|                             |   | Classification  |                  | Polarity         | Number of points                        | Rated ON current at contacts | Rated voltage                 | Horizontal (mm)  | Vertical (mm) | Height (mm) | DIN Track    |                      |                          | Screws                   |                |                                 |        |              |     |     |
| Push-In Plus terminal block | <br>G70V                   | Inputs  | DC inputs        | NPN              | 16 (SPSTNO × 16)                        | 50 mA                        | 24 VDC                        | 143              | 90            | 56          | Yes          | Yes                  | G70V-SID16P *4           | UC, CE (TÜV certified)   |                |                                 |        |              |     |     |
|                             |   |   |                  | PNP              |   |                              |                               |                  |               |             |              |                      | G70V-SID16P-1 *4         |                          |                |                                 |        |              |     |     |
|                             |   |   |                  | NPN              |   |                              |                               |                  |               |             |              |                      | G70V-SID16P-C16 *5       |                          |                |                                 |        |              |     |     |
|                             |   |   |                  | PNP              |   |                              |                               |                  |               |             |              |                      | G70V-SID16P-1-C16 *5     |                          |                |                                 |        |              |     |     |
|                             |   | Outputs   | Relay outputs    | NPN              | 16 (SPDT × 16)                          | 6 A/point, 10 A/ common      |                               |                  |               |             |              |                      | G70V-SOC16P *4           |                          |                |                                 |        |              |     |     |
|                             |   |   |                  | PNP              |   |                              |                               |                  |               |             |              |                      | G70V-SOC16P-1 *4         |                          |                |                                 |        |              |     |     |
|                             |   |   |                  | NPN              |   |                              |                               |                  |               |             |              |                      | G70V-SOC16P-C4 *6        |                          |                |                                 |        |              |     |     |
|                             |   |   |                  | PNP              |   |                              |                               |                  |               |             |              |                      | G70V-SOC16P-1-C4 *6      |                          |                |                                 |        |              |     |     |
| Standard                    | <br>G7TC                   | Inputs  | AC inputs        | NPN              | 16 (SPSTNO × 16)                        | 1A                           | 100/(110) VAC                 | 182              | 85            | 68          | Yes          | No                   | G7TC-IA16 AC100/110      | U, C                     |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              | 200/(220) VAC                 |                  |               |             |              |                      | G7TC-IA16 AC200/220      |                          |                |                                 |        |              |     |     |
|                             |   |   | DC inputs        |                  |   |                              | 12 VDC                        |                  |               |             |              |                      | G7TC-ID16 DC12           |                          |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              | 24 VDC                        |                  |               |             |              |                      | G7TC-ID16 DC24           |                          |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              | 100/110 VDC                   |                  |               |             |              |                      | G7TC-ID16 DC100/110      |                          |                |                                 |        |              |     |     |
|                             |   | Outputs   | Relay outputs    | NPN              | 8 (SPSTNO × 8)                          | 5A                           | 12 VDC                        | 102              | 182           | 85          | 68           | Yes                  | No                       |                          | G7TC-OC08 DC12 |                                 |        |              |     |     |
|                             |   |   |                  |                  | 16 (SPSTNO × 16)                        |                              | 24 VDC                        |                  |               |             |              |                      |                          |                          | G7TC-OC08 DC24 |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              | 12 VDC                        |                  |               |             |              |                      |                          |                          | G7TC-OC16 DC12 |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              | 24 VDC                        |                  |               |             |              |                      |                          |                          | G7TC-OC16 DC24 |                                 |        |              |     |     |
|                             |   |   |                  | PNP              | 16 (SPSTNO × 16)                        |                              | 12 VDC                        | G7TC-OC16-1 DC12 |               |             |              |                      |                          |                          |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              | 24 VDC                        | G7TC-OC16-1 DC24 |               |             |              |                      |                          |                          |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              |                               |                  |               |             |              |                      |                          |                          |                |                                 |        |              |     |     |
| High-capacity socket        | <br>G70A *1 (Socket only) | Inputs  | Relay inputs     | NPN/ PNP         | 16 (SPDT × 16 possible with G2R Relays) | 100 mA                       | 110 VDC max., 240 VAC max. *2 | 234              | 75            | 64          | Yes          | No                   | G70A-ZOC16-5             | U, C, CE (VDE certified) |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              | Outputs                       |                  |               |             |              |                      | Relay outputs            |                          | NPN            | 10 A (Terminal block allowable) | 24 VDC | G70A-ZOC16-3 |     |     |
|                             |   | PNP   |                  | G70A-ZOC16-4     |   |                              |                               |                  |               |             |              |                      |                          |                          |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              |                               |                  |               |             |              |                      |                          |                          |                |                                 |        |              |     |     |
| Space-saving                | <br>Vertical type G70D-V | Relay outputs   | NPN              | 16 (SPSTNO × 16) | 5 A or 3 A *3                           | 24 VDC                       | 135                           | 46               | 81            | Yes         | Yes          | G70D-VSOC16          | U, C, CE (VDE certified) |                          |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              |                               |                  |               |             |              | MOSFET relay outputs |                          | 0.3 A                    | G70D-VFOM16    |                                 |        |              |     |     |
|                             |   | Relay outputs   |                  |                  |   |                              |                               |                  |               |             |              |                      |                          | 8 (SPSTNO × 8)           | 5 A            | 68                              | 93     | 44           | Yes | Yes |
|                             |   |   |                  |                  |   |                              |                               |                  |               |             |              | PNP                  |                          | 16 (SPSTNO × 16)         | 3 A            |                                 |        |              |     |     |
|                             | MOSFET relay outputs  | NPN   | 16 (SPSTNO × 16) | 0.3 A            | 156                                     |                              | 51                            | 39               | Yes           | Yes         | G70D-SOC16-1 |                      |                          |                          |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              |                               |                  |               |             | PNP          | 16 (SPSTNO × 16)     | 0.3 A                    | G70D-FOM16               |                |                                 |        |              |     |     |
|                             |   |   |                  |                  |   |                              |                               |                  |               |             |              |                      |                          |                          |                |                                 |        |              |     |     |
|                             | High-capacity, space-saving   | <br>G70R | Outputs          | Relay outputs    | NPN                                     |                              | 8 (SPSTNO × 8)                | 10 A             | 24 VDC        | 136         | 93           | 55                   | Yes                      | Yes                      | G70R-SOC08 *7  | -                               |        |              |     |     |

\*1. G70A is a I/O terminal socket product. Relay is not provided with the socket. Be sure to order a relay, timer separately.  
 \*2. Each relay to be mounted must incorporate a coil that has proper specifications within the maximum rated voltage range.  
 \*3. Eight or fewer points ON: 5 A, Nine or more points ON: 3 A.  
 \*4. Internal common at terminal block: No internal connections  
 \*5. Internal common at terminal block: Internal IO common 16 points internally connected  
 \*6. Internal common at terminal block: Every 4 points internally connected at terminal block middle row.  
 \*7. Product no longer available to order.

**Note:** 1. For the combination of Input Units with I/O Relay Terminal and Connecting Cables, refer to 3. *Connecting I/O Relay Terminals*.  
 2. Please refer to each Datasheet about details.  
 3. When the G7TC is used with an AC rated voltage, three rated currents can be used. If a coil voltage of 110 or 220 VAC is used, 50 Hz cannot be used.

Cables for I/O Relay Terminals

| Type                         | Name  | I/O Classification | Appearance | Cable length L (mm) | Models            |
|------------------------------|---|--------------------|------------|---------------------|-------------------|
| Fujitsu connectors (24 pins) | Cables with Connectors (1:1)<br>XW2Z-R□C                        | 16 I/O points      |            | 1,000               | XW2Z-R100C        |
|                              |   |                    |            | 1,500               | XW2Z-R150C        |
|                              |   |                    |            | 2,000               | XW2Z-R200C        |
|                              |   |                    |            | 3,000               | XW2Z-R300C        |
|                              |   |                    |            | 5,000               | XW2Z-R500C        |
| Fujitsu connectors (40 pins) | Cables with Connectors (1:2)<br>XW2Z-RI□C-□<br>XW2Z-RO□C-□      | 32 input points    |            | (A) 1,000 (B) 750   | XW2Z-RI100C-75    |
|                              |   |                    |            | (A) 1,500 (B) 1,250 | XW2Z-RI150C-125   |
|                              |   |                    |            | (A) 2,000 (B) 1,750 | XW2Z-RI200C-175   |
|                              |   |                    |            | (A) 3,000 (B) 2,750 | XW2Z-RI300C-275   |
|                              |   |                    |            | (A) 5,000 (B) 4,750 | XW2Z-RI500C-475   |
|                              |   | 32 output points   |            | (A) 1,000 (B) 750   | XW2Z-RO100C-75    |
|                              |   |                    |            | (A) 1,500 (B) 1,250 | XW2Z-RO150C-125   |
|                              |   |                    |            | (A) 2,000 (B) 1,750 | XW2Z-RO200C-175   |
|                              |   |                    |            | (A) 3,000 (B) 2,750 | XW2Z-RO300C-275   |
|                              |   |                    |            | (A) 5,000 (B) 4,750 | XW2Z-RO500C-475   |
| MIL connectors (20 pins)     | Cables with Connectors (1:1)<br>XW2Z-RI□C<br>XW2Z-RO□C          | 16 I/O points      |            | 250                 | XW2Z-RI25C        |
|                              |   |                    |            | 500                 | XW2Z-RI50C        |
|                              |   |                    |            | 250                 | XW2Z-RO25C        |
|                              |   |                    |            | 500                 | XW2Z-RO50C        |
| MIL connectors (40 pins)     | Cables with Connectors (1:2)<br>XW2Z-RO□-□-D1,<br>XW2Z-RI□-□-D1 | 32 I/O points      |            | (A) 500 (B) 250     | XW2Z-RO50-25-D1   |
|                              |   |                    |            | (A) 750 (B) 500     | XW2Z-RO75-50-D1   |
|                              |   |                    |            | (A) 1,000 (B) 750   | XW2Z-RO100-75-D1  |
|                              |   |                    |            | (A) 1,500 (B) 1,250 | XW2Z-RO150-125-D1 |
|                              |   |                    |            | (A) 2,000 (B) 1,750 | XW2Z-RO200-175-D1 |
|                              |   |                    |            | (A) 3,000 (B) 2,750 | XW2Z-RO300-275-D1 |
|                              |   |                    |            | (A) 5,000 (B) 4,750 | XW2Z-RO500-475-D1 |
|                              |   |                    |            | (A) 500 (B) 250     | XW2Z-RI50-25-D1   |
|                              |   |                    |            | (A) 750 (B) 500     | XW2Z-RI75-50-D1   |
|                              |   |                    |            | (A) 1,000 (B) 750   | XW2Z-RI100-75-D1  |
|                              |   |                    |            | (A) 1,500 (B) 1,250 | XW2Z-RI150-125-D1 |
|                              |   |                    |            | (A) 2,000 (B) 1,750 | XW2Z-RI200-175-D1 |
|                              |   |                    |            | (A) 3,000 (B) 2,750 | XW2Z-RI300-275-D1 |
|                              |   |                    |            | (A) 5,000 (B) 4,750 | XW2Z-RI500-475-D1 |

Note: Refer to the Datasheet for the XW2Z-R Cables for I/O Relay Terminals (Cat. No. G126).

Mountable Racks

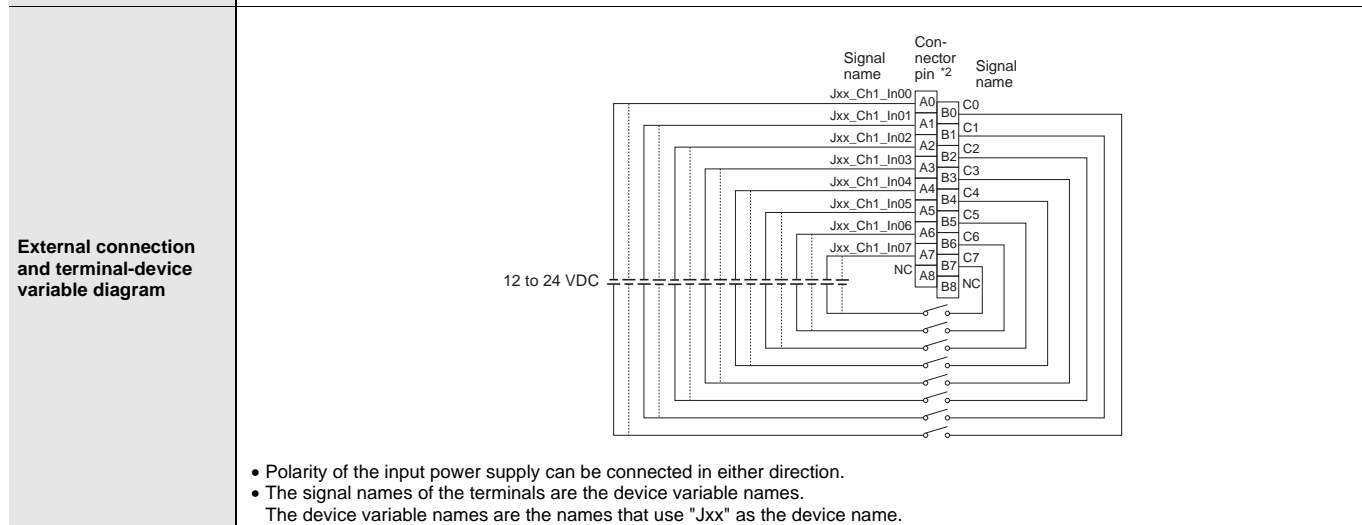
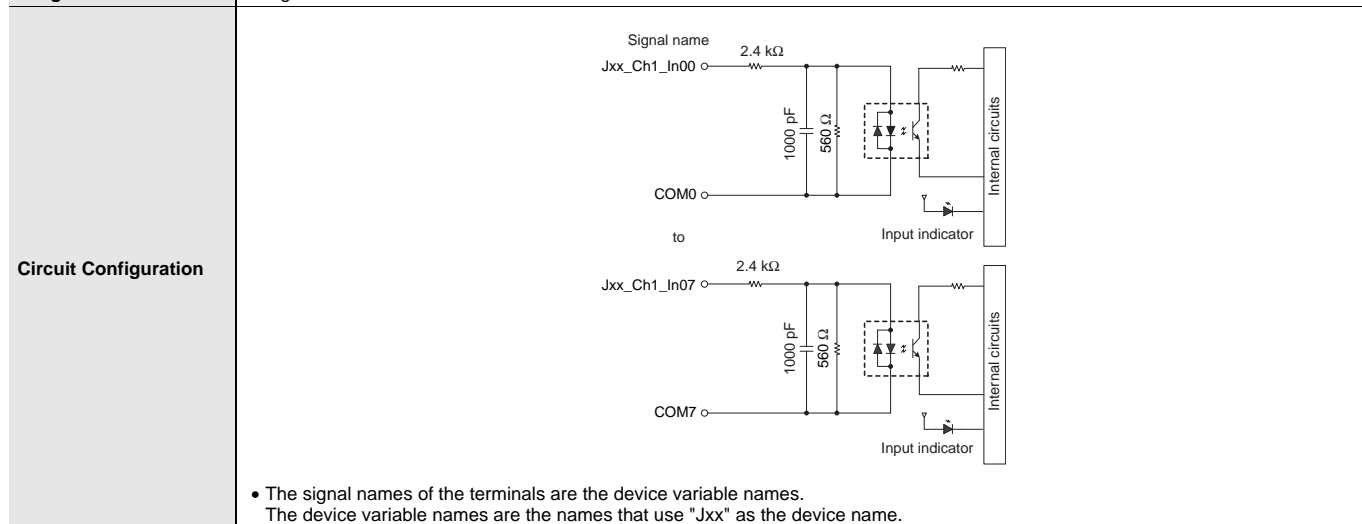
| Model      | NJ system |                               | CJ system (CJ1, CJ2) |                                    | CP1H system   | NSJ system *   |                                    |
|------------|-----------|-------------------------------|----------------------|------------------------------------|---------------|----------------|------------------------------------|
|            | CPU Rack  | Expansion Rack                | CPU Rack             | Expansion Backplane                | CP1H PLC      | NSJ Controller | Expansion Backplane                |
| CJ1W-ID201 | 10 Units  | 10 Units (per Expansion Rack) | 10 Units             | 10 Units (per Expansion Backplane) | Not supported | Not supported  | 10 Units (per Expansion Backplane) |
| CJ1W-ID211 |           |                               |                      |                                    |               |                |                                    |
| CJ1W-ID212 |           |                               |                      |                                    |               |                |                                    |
| CJ1W-ID231 |           |                               |                      |                                    |               |                |                                    |
| CJ1W-ID232 |           |                               |                      |                                    |               |                |                                    |
| CJ1W-ID233 |           |                               |                      |                                    |               |                |                                    |
| CJ1W-ID261 |           |                               |                      |                                    |               |                |                                    |
| CJ1W-ID262 |           |                               |                      |                                    |               |                |                                    |
| CJ1W-IA201 |           |                               |                      |                                    |               |                |                                    |
| CJ1W-IA111 |           |                               |                      |                                    |               |                |                                    |

\* Product no longer available to order.

# Specifications

## CJ1W-ID201 DC Input Unit (12 to 24-VDC, 8 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 8-point DC Input Unit with Terminal Block  |
| <b>Model</b>                              | CJ1W-ID201   |
| <b>Rated Input Voltage</b>                | 12 to 24 VDC   |
| <b>Rated Input Voltage Range</b>          | 10.2 to 26.4 VDC   |
| <b>Input Impedance</b>                    | 2.4 kΩ   |
| <b>Input Current</b>                      | 10 mA typical (at 24 VDC)  |
| <b>ON Voltage/ON Current</b>              | 8.8 VDC min./3 mA min.   |
| <b>OFF Voltage/OFF Current</b>            | 3 VDC max./1 mA max.   |
| <b>ON Response Time</b>                   | 8.0 ms max. (Can be set to between 0 and 32 ms in the Setup.) *1   |
| <b>OFF Response Time</b>                  | 8.0 ms max. (Can be set to between 0 and 32 ms in the Setup.) *1   |
| <b>Number of Circuits</b>                 | 8 independent circuits   |
| <b>Number of Simultaneously ON Points</b> | 100% simultaneously ON   |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (100 VDC)  |
| <b>Dielectric Strength</b>                | 1,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 80 mA max.   |
| <b>Weight</b>                             | 110 g max.   |



\*1. The ON response time will be 20 μs maximum and OFF response time will be 400 μs maximum even if the response time are set to 0 ms due to internal element delays.

\*2. Terminal numbers A0 to A8 and B0 to B8 are used in the external connection and terminal-device variable diagrams. They are not printed on the Units.

**Note:** Although 16 I/O bits (1 word) are allocated, only 8 of these can be used for external I/O.

## CJ1W-ID211 DC Input Unit (24 VDC, 16 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 16-point DC Input Unit with Terminal Block   |
| <b>Model</b>                              | CJ1W-ID211   |
| <b>Rated Input Voltage</b>                | 24 VDC   |
| <b>Rated Input Voltage Range</b>          | 20.4 to 26.4 VDC   |
| <b>Input Impedance</b>                    | 3.3 kΩ   |
| <b>Input Current</b>                      | 7 mA typical (at 24 VDC)   |
| <b>ON Voltage/ON Current</b>              | 14.4 VDC min./3 mA min.  |
| <b>OFF Voltage/OFF Current</b>            | 5 VDC max./1 mA max.   |
| <b>ON Response Time</b>                   | 8.0 ms max.<br>(Can be set to between 0 and 32 ms in the Setup.) *1  |
| <b>OFF Response Time</b>                  | 8.0 ms max.<br>(Can be set to between 0 and 32 ms in the Setup.) *1  |
| <b>Number of Circuits</b>                 | 16 (16 points/common, 1 circuit)   |
| <b>Number of Simultaneously ON Points</b> | 100% simultaneously ON (at 24 VDC)<br>(Refer to the following illustration.)                                 |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (100 VDC)  |
| <b>Dielectric Strength</b>                | 1,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 80 mA max.   |
| <b>Weight</b>                             | 110 g max.   |

**Circuit Configuration**

• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

**External connection and terminal-device variable diagram**

• Polarity of the input power supply can be connected in either direction.  
• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

\*1. The ON response time will be 20 μs maximum and OFF response time will be 400 μs maximum even if the response time are set to 0 ms due to internal element delays.

\*2. Terminal numbers A0 to A8 and B0 to B8 are used in the external connection and terminal-device variable diagrams. They are not printed on the Units.

## CJ1W-ID212 DC Input Unit (24 VDC, 16 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 16-point DC Input Unit with Terminal Block   |
| <b>Model</b>                              | CJ1W-ID212   |
| <b>Rated Input Voltage</b>                | 24 VDC   |
| <b>Rated Input Voltage Range</b>          | 20.4 to 26.4 VDC   |
| <b>Input Impedance</b>                    | 3.3 kΩ   |
| <b>Input Current</b>                      | 7 mA typical (at 24 VDC)   |
| <b>ON Voltage/ON Current</b>              | 14.4 VDC min./3 mA min.  |
| <b>OFF Voltage/OFF Current</b>            | 5 VDC max./1 mA max.   |
| <b>ON Response Time</b>                   | 8.0 ms max.<br>(Can be set to between 0 and 32 ms in the Setup.) *1  |
| <b>OFF Response Time</b>                  | 8.0 ms max.<br>(Can be set to between 0 and 32 ms in the Setup.) *1  |
| <b>Number of Circuits</b>                 | 16 (16 points/common, 1 circuit)   |
| <b>Number of Simultaneously ON Points</b> | 100% simultaneously ON (at 24 VDC)<br>(Refer to the following illustration.)                                 |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (100 VDC)  |
| <b>Dielectric Strength</b>                | 1,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 130 mA max.  |
| <b>Weight</b>                             | 110 g max.   |

**Circuit Configuration**

• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

**External connection and terminal-device variable diagram**

• Polarity of the input power supply can be connected in either direction.  
• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

\*1. The ON response time will be 15 μs maximum and OFF response time will be 90 μs maximum even if the response time are set to 0 ms due to internal element delays.

\*2. Terminal numbers A0 to A8 and B0 to B8 are used in the external connection and terminal-device variable diagrams. They are not printed on the Units.



## CJ1W-ID231 DC Input Unit (24 VDC, 32 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 32-point DC Input Unit with Fujitsu Connector  |
| <b>Model</b>                              | CJ1W-ID231   |
| <b>Rated Input Voltage</b>                | 24 VDC   |
| <b>Rated Input Voltage Range</b>          | 20.4 to 26.4 VDC   |
| <b>Input Impedance</b>                    | 5.6 kΩ   |
| <b>Input Current</b>                      | 4.1 mA typical (at 24 VDC)   |
| <b>ON Voltage/ON Current</b>              | 19.0 VDC min./3 mA min.  |
| <b>OFF Voltage/OFF Current</b>            | 5 VDC max./1 mA max.   |
| <b>ON Response Time</b>                   | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>OFF Response Time</b>                  | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>Number of Circuits</b>                 | 32 (16 points/common, 2 circuits)  |
| <b>Number of Simultaneously ON Points</b> | 75% (12 points/common) simultaneously ON (at 24 VDC) (Refer to the following illustration.)                  |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (100 VDC)  |
| <b>Dielectric Strength</b>                | 1,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 90 mA max.   |
| <b>Weight</b>                             | 70 g max.  |
| <b>Accessories</b>                        | None   |

**Circuit Configuration**

• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

**External connection and terminal-device variable diagram**

• The input power polarity can be connected in either direction.  
• Be sure to wire both pins A9 and A18 (COM0), and set the same polarity for both pins.  
• Be sure to wire both pins B9 and B18 (COM1), and set the same polarity for both pins.  
• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

\* The ON response time will be 20 μs maximum and OFF response time will be 400 μs maximum even if the response times are set to 0 ms due to internal element delays.

**Note:** Observe the following restrictions when connecting to a 2-wire sensor.

- Make sure the input power supply voltage is larger than the ON voltage (19 V) plus the residual voltage of the sensor (approx. 3 V).
- Use a sensor with a minimum load current of 3 mA min.
- Connect bleeder resistance if you connect a sensor with a minimum load current of 5 mA or higher.

## CJ1W-ID232 DC Input Unit (24 VDC, 32 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 32-point DC Input Unit with MIL Connector  |
| <b>Model</b>                              | CJ1W-ID232   |
| <b>Rated Input Voltage</b>                | 24 VDC   |
| <b>Rated Input Voltage Range</b>          | 20.4 to 26.4 VDC   |
| <b>Input Impedance</b>                    | 5.6 kΩ   |
| <b>Input Current</b>                      | 4.1 mA typical (at 24 VDC)   |
| <b>ON Voltage/ON Current</b>              | 19.0 VDC min./3 mA min.  |
| <b>OFF Voltage/OFF Current</b>            | 5 VDC max./1 mA max.   |
| <b>ON Response Time</b>                   | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>OFF Response Time</b>                  | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>Number of Circuits</b>                 | 32 (16 points/common, 2 circuits)  |
| <b>Number of Simultaneously ON Points</b> | 75% (12 points/common) simultaneously ON (at 24 VDC) (Refer to the following illustration.)                  |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (100 VDC)  |
| <b>Dielectric Strength</b>                | 1,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 90 mA max.   |
| <b>Weight</b>                             | 70 g max.  |
| <b>Accessories</b>                        | None   |

**Circuit Configuration**

The graph shows the number of simultaneously ON points versus ambient temperature. At 40°C, 32 points are ON. At 48°C, 32 points are ON. At 55°C, 12 points are ON (common). At 55°C, 10 points are ON (common). The input voltage is 24 VDC. The input voltage is 26.4 VDC. The input voltage is 12 points/common at 55°C. The input voltage is 10 points/common at 55°C.

- The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

**External connection and terminal-device variable diagram**

The diagram shows the terminal pin connections for the 32-point DC input unit. It includes 24 VDC power connections, COM0 and COM1 terminals, and input channels Jxx\_Ch1 and Jxx\_Ch2. The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

- The input power polarity can be connected in either direction.
- Be sure to wire both pins 23 and 24 (COM0), and set the same polarity for both pins.
- Be sure to wire both pins 3 and 4 (COM1), and set the same polarity for both pins.
- The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

\* The ON response time will be 20 μs maximum and OFF response time will be 400 μs maximum even if the response times are set to 0 ms due to internal element delays.

**Note:** Observe the following restrictions when connecting to a 2-wire sensor.

- Make sure the input power supply voltage is larger than the ON voltage (19 V) plus the residual voltage of the sensor (approx. 3 V).
- Use a sensor with a minimum load current of 3 mA min.
- Connect bleeder resistance if you connect a sensor with a minimum load current of 5 mA or higher.

## CJ1W-ID233 DC Input Unit (24 VDC, 32 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 32-point DC Input Unit with MIL Connector  |
| <b>Model</b>                              | CJ1W-ID233   |
| <b>Rated Input Voltage</b>                | 24 VDC   |
| <b>Rated Input Voltage Range</b>          | 20.4 to 26.4 VDC   |
| <b>Input Impedance</b>                    | 5.6 kΩ   |
| <b>Input Current</b>                      | 4.1 mA typical (at 24 VDC)   |
| <b>ON Voltage/ON Current</b>              | 19.0 VDC min./3 mA min.  |
| <b>OFF Voltage/OFF Current</b>            | 5 VDC max./1 mA max.   |
| <b>ON Response Time</b>                   | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>OFF Response Time</b>                  | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>Number of Circuits</b>                 | 32 (16 points/common, 2 circuits)  |
| <b>Number of Simultaneously ON Points</b> | 75% (12 points/common) simultaneously ON (at 24 VDC) (Refer to the following illustration.)                  |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (100 VDC)  |
| <b>Dielectric Strength</b>                | 1,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 200 mA max.  |
| <b>Weight</b>                             | 70 g max.  |
| <b>Accessories</b>                        | None   |

**Circuit Configuration**

• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

**External connection and terminal-device variable diagram**

• The input power polarity can be connected in either direction.  
• Be sure to wire both pins 23 and 24 (COM0), and set the same polarity for both pins.  
• Be sure to wire both pins 3 and 4 (COM1), and set the same polarity for both pins.  
• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

\* The ON response time will be 15 μs maximum and OFF response time will be 90 μs maximum even if the response times are set to 0 ms due to internal element delays.

**Note:** Observe the following restrictions when connecting to a 2-wire sensor.

- Make sure the input power supply voltage is larger than the ON voltage (19 V) plus the residual voltage of the sensor (approx. 3 V).
- Use a sensor with a minimum load current of 3 mA min.
- Connect bleeder resistance if you connect a sensor with a minimum load current of 5 mA or higher.

## CJ1W-ID261 DC Input Unit (24 VDC, 64 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 64-point DC Input Unit with Fujitsu Connector  |
| <b>Model</b>                              | CJ1W-ID261   |
| <b>Rated Input Voltage</b>                | 24 VDC   |
| <b>Rated Input Voltage Range</b>          | 20.4 to 26.4 VDC   |
| <b>Input Impedance</b>                    | 5.6 kΩ   |
| <b>Input Current</b>                      | 4.1 mA typical (at 24 VDC)   |
| <b>ON Voltage/ON Current</b>              | 19.0 VDC min./3 mA min.  |
| <b>OFF Voltage/OFF Current</b>            | 5 VDC max./1 mA max.   |
| <b>ON Response Time</b>                   | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>OFF Response Time</b>                  | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>Number of Circuits</b>                 | 64 (16 points/common, 4 circuits)  |
| <b>Number of Simultaneously ON Points</b> | 50% (16 points/common) simultaneously ON (at 24 VDC) (Refer to the following illustrations.)                 |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (100 VDC)  |
| <b>Dielectric Strength</b>                | 1,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 90 mA max.   |
| <b>Weight</b>                             | 110 g max.   |
| <b>Accessories</b>                        | None   |

**Circuit Configuration**

• The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

**External connection and terminal-device variable diagram**

**CN1**

**CN2**

• The input power polarity can be connected in either direction.  
 • Be sure to wire both pins A9 and A18 (COM0) of CN1, and set the same polarity for both pins.  
 • Be sure to wire both pins B9 and B18 (COM1) of CN1, and set the same polarity for both pins.  
 • The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

• The input power polarity can be connected in either direction.  
 • Be sure to wire both pins A9 and A18 (COM2) of CN2, and set the same polarity for both pins.  
 • Be sure to wire both pins B9 and B18 (COM3) of CN2, and set the same polarity for both pins.  
 • The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

\* The ON response time will be 120 μs maximum and OFF response time will be 400 μs maximum even if the response times are set to 0 ms due to internal element delays.

**Note:** Observe the following restrictions when connecting to a 2-wire sensor.

- Make sure the input power supply voltage is larger than the ON voltage (19 V) plus the residual voltage of the sensor (approx. 3 V).
- Use a sensor with a minimum load current of 3 mA min.
- Connect bleeder resistance if you connect a sensor with a minimum load current of 5 mA or higher.

## CJ1W-ID262 DC Input Unit (24 VDC, 64 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 64-point DC Input Unit with MIL Connector  |
| <b>Model</b>                              | CJ1W-ID262   |
| <b>Rated Input Voltage</b>                | 24 VDC   |
| <b>Rated Input Voltage Range</b>          | 20.4 to 26.4 VDC   |
| <b>Input Impedance</b>                    | 5.6 kΩ   |
| <b>Input Current</b>                      | 4.1 mA typical (at 24 VDC)   |
| <b>ON Voltage/ON Current</b>              | 19.0 VDC min./3 mA min.  |
| <b>OFF Voltage/OFF Current</b>            | 5 VDC max./1 mA max.   |
| <b>ON Response Time</b>                   | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>OFF Response Time</b>                  | 8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *   |
| <b>Number of Circuits</b>                 | 64 (16 points/common, 4 circuits)  |
| <b>Number of Simultaneously ON Points</b> | 50% (8 points/common) simultaneously ON (at 24 VDC) (Refer to the following illustrations.)                  |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (100 VDC)  |
| <b>Dielectric Strength</b>                | 1,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 90 mA max.   |
| <b>Weight</b>                             | 110 g max.   |
| <b>Accessories</b>                        | None   |

**Circuit Configuration**

• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

**Number of Simultaneously ON Points vs. Ambient Temperature Characteristic**

**External connection and terminal-device variable diagram**

**CN1**

**CN2**

• The input power polarity can be connected in either direction.  
• Be sure to wire both pins 23 and 24 (COM0) of CN1, and set the same polarity for both pins.  
• Be sure to wire both pins 3 and 4 (COM1) of CN1, and set the same polarity for both pins.  
• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

• The input power polarity can be connected in either direction.  
• Be sure to wire both pins 23 and 24 (COM2) of CN2, and set the same polarity for both pins.  
• Be sure to wire both pins 3 and 4 (COM3) of CN2, and set the same polarity for both pins.  
• The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

\* The ON response time will be 120 μs maximum and OFF response time will be 400 μs maximum even if the response times are set to 0 ms due to internal element delays.

**Note:** Observe the following restrictions when connecting to a 2-wire sensor.

- Make sure the input power supply voltage is larger than the ON voltage (19 V) plus the residual voltage of the sensor (approx. 3 V).
- Use a sensor with a minimum load current of 3 mA min.
- Connect bleeder resistance if you connect a sensor with a minimum load current of 5 mA or higher.

## CJ1W-IA201 AC Input Unit (200 VAC, 8 Points)

|   |  |
|---|--|
| <b>Name</b>                               | 8-point AC Input Unit with Terminal Block  |
| <b>Model</b>                              | CJ1W-IA201   |
| <b>Rated Input Voltage</b>                | 200 to 240 VAC 50/60 Hz  |
| <b>Rated Input Voltage Range</b>          | 170 to 264 VAC   |
| <b>Input Impedance</b>                    | 21 kΩ (50 Hz), 18 kΩ (60 Hz)   |
| <b>Input Current</b>                      | 9 mA typical (at 200 VAC, 50 Hz),<br>11 mA typical (at 200 VAC, 60 Hz)                                       |
| <b>ON Voltage/ON Current</b>              | 120 VAC min./4 mA min.   |
| <b>OFF Voltage/OFF Current</b>            | 40 VAC max./2 mA max.  |
| <b>ON Response Time</b>                   | 18.0 ms max. (default setting: 8 ms) *1  |
| <b>OFF Response Time</b>                  | 48.0 ms max. (default setting: 8 ms) *1  |
| <b>Number of Circuits</b>                 | 8 (8 points/common, 1 circuit)   |
| <b>Number of Simultaneously ON Points</b> | 100% (8 points/common) simultaneously ON   |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (500 VDC)  |
| <b>Dielectric Strength</b>                | 2,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 80 mA max.   |
| <b>Weight</b>                             | 130 g max.   |
| <b>Accessories</b>                        | None   |

**Circuit Configuration**

- The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

**External connection and terminal-device variable diagram**

- The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

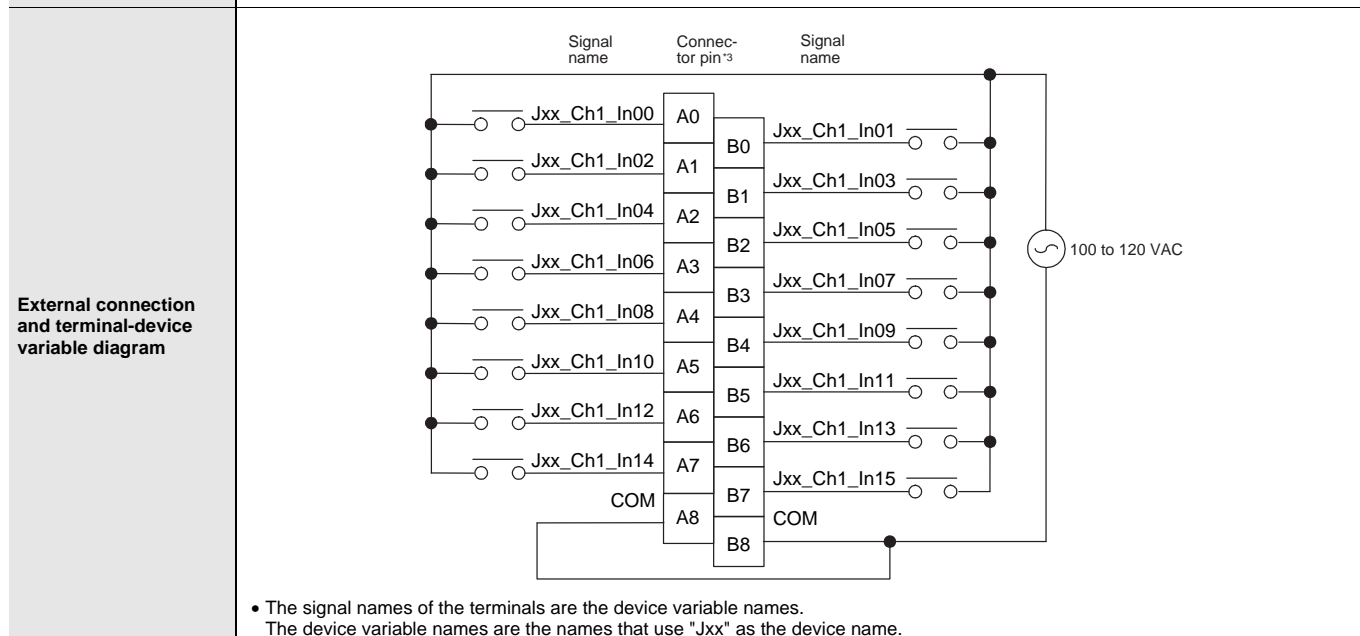
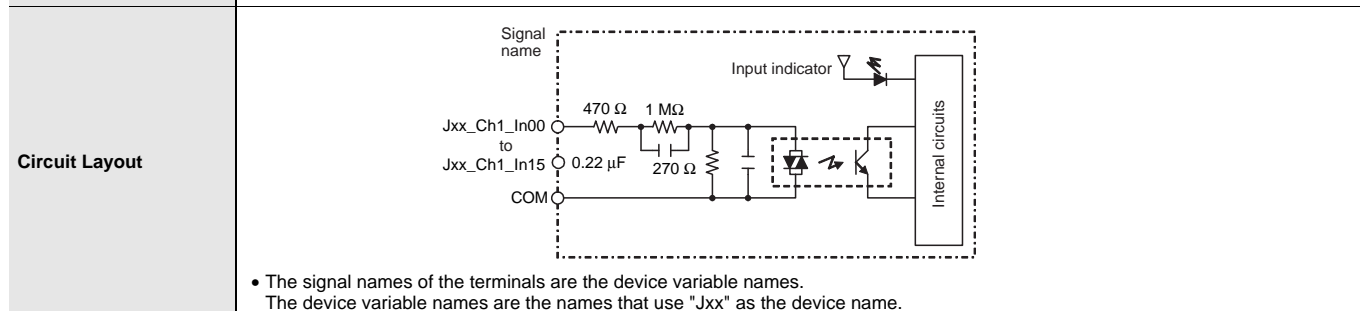
\*1. Can be set to 0 ms, 0.5 ms, 1 ms, 2 ms, 4 ms, 8 ms, 16 ms, or 32ms in the settings. When the response times have been set to 0 ms, the ON response time will be 10 ms maximum and the OFF response time will be 55 ms maximum due to internal element delays.

\*2. Terminal numbers A0 to A8 and B0 to B8 are used in the external connection and terminal-device variable diagrams. They are not printed on the Units.

**Note:** Although 16 I/O bits (1 word) are allocated, only 8 of these can be used for external I/O.

## CJ1W-IA111 AC Input Unit (100 VAC, 16 points)

|   |  |
|---|--|
| <b>Name</b>                               | 16-point AC Input Unit with Terminal Block   |
| <b>Model</b>                              | CJ1W-IA111   |
| <b>Rated input voltage</b>                | 100 to 120 VAC 50/60 Hz *2   |
| <b>Rated Input Voltage Range</b>          | 85 to 132 VAC  |
| <b>Input Impedance</b>                    | 14.5 kΩ (50 Hz), 12 kΩ (60 Hz)   |
| <b>Input Current</b>                      | 7 mA typical (at 100 VAC, 50 Hz),<br>8 mA typical (at 100 VAC, 60 Hz)  |
| <b>ON Voltage/ON Current</b>              | 70 VAC min./4 mA min   |
| <b>OFF Voltage/OFF Current</b>            | 20 VAC max./2 mA max   |
| <b>ON Response Time</b>                   | 18 ms max. (default setting: 8 ms) *1  |
| <b>OFF Response Time</b>                  | 48 ms max. (default setting: 8 ms) *1  |
| <b>Number of Circuits</b>                 | 16 (16 points/common, 1 circuit)   |
| <b>Number of Inputs ON Simultaneously</b> | 100% simultaneously ON (16 points/common)  |
| <b>Insulation Resistance</b>              | 20 MΩ min. between external terminals and the GR terminal (500 VDC)  |
| <b>Dielectric Strength</b>                | 2,000 VAC between the external terminals and the GR terminal for 1 minute at a leakage current of 10 mA max. |
| <b>Internal Current Consumption</b>       | 90 mA max.   |
| <b>Weight</b>                             | 130 g max.   |
| <b>Accessories</b>                        | None   |



\*1. Can be set to 0 ms, 0.5 ms, 1 ms, 2 ms, 4 ms, 8 ms, 16 ms, or 32ms in the settings. When the response times have been set to 0 ms, the ON response time will be 10 ms maximum and the OFF response time will be 55 ms maximum due to internal element delays.

\*2. Use an input voltage of 90 VAC or higher when connecting 2-wire sensors.

\*3. Terminal numbers A0 to A8 and B0 to B8 are used in the external connection and terminal-device variable diagrams. They are not printed on the Units.

## Bit Allocations for Input Unit

### 8-point Input Unit

| Allocated CIO word |     | Signal name (CJ/NJ) |
|--------------------|-----|---------------------|
| CIO                | Bit |                     |
| Wd m<br>(Input)    | 00  | IN0/Jxx_Ch1_In00    |
|                    | 01  | IN1/Jxx_Ch1_In01    |
|                    | :   | :                   |
|                    | 06  | IN6/Jxx_Ch1_In06    |
|                    | 07  | IN7/Jxx_Ch1_In07    |
|                    | 08  | —                   |
|                    | 09  | —                   |
|                    | :   | :                   |
|                    | 14  | —                   |
|                    | 15  | —                   |

### 32-point Input Unit

| Allocated CIO word |     | Signal name (CJ/NJ) |
|--------------------|-----|---------------------|
| CIO                | Bit |                     |
| Wd m<br>(Input)    | 00  | IN0/Jxx_Ch1_In00    |
|                    | 01  | IN1/Jxx_Ch1_In01    |
|                    | :   | :                   |
|                    | 14  | IN14/Jxx_Ch1_In14   |
|                    | 15  | IN15/Jxx_Ch1_In15   |
| Wd m+1<br>(Input)  | 00  | IN0/Jxx_Ch2_In00    |
|                    | 01  | IN1/Jxx_Ch2_In01    |
|                    | :   | :                   |
|                    | 14  | IN14/Jxx_Ch2_In14   |
|                    | 15  | IN15/Jxx_Ch2_In15   |

### 16-point Input Unit

| Allocated CIO word |     | Signal name (CJ/NJ) |
|--------------------|-----|---------------------|
| CIO                | Bit |                     |
| Wd m<br>(Input)    | 00  | IN0/Jxx_Ch1_In00    |
|                    | 01  | IN1/Jxx_Ch1_In01    |
|                    | :   | :                   |
|                    | 14  | IN14/Jxx_Ch1_In14   |
|                    | 15  | IN15/Jxx_Ch1_In15   |

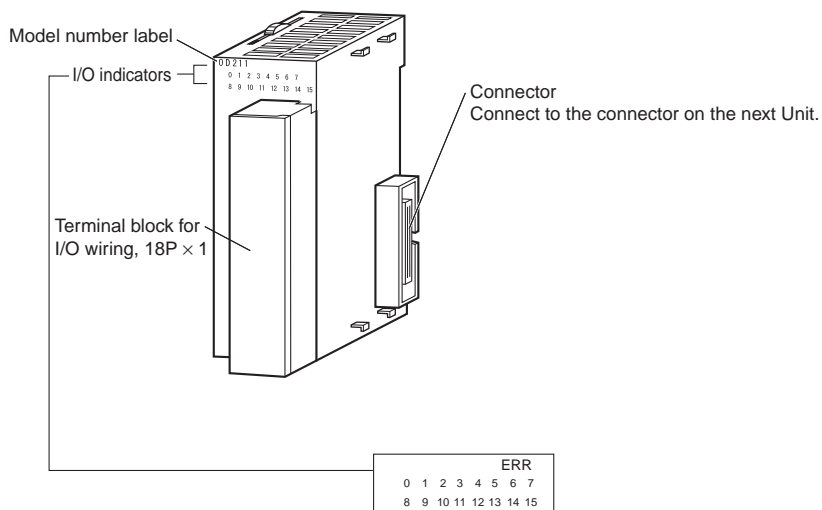
### 64-point Input Unit

| Allocated CIO word |     | Signal name (CJ/NJ) |
|--------------------|-----|---------------------|
| CIO                | Bit |                     |
| Wd m<br>(Input)    | 00  | IN0/Jxx_Ch1_In00    |
|                    | 01  | IN1/Jxx_Ch1_In01    |
|                    | :   | :                   |
|                    | 14  | IN14/Jxx_Ch1_In14   |
|                    | 15  | IN15/Jxx_Ch1_In15   |
| Wd m+1<br>(Input)  | 00  | IN0/Jxx_Ch2_In00    |
|                    | 01  | IN1/Jxx_Ch2_In01    |
|                    | :   | :                   |
|                    | 14  | IN14/Jxx_Ch2_In14   |
|                    | 15  | IN15/Jxx_Ch2_In15   |
| Wd m+2<br>(Input)  | 00  | IN0/Jxx_Ch3_In00    |
|                    | 01  | IN1/Jxx_Ch3_In01    |
|                    | :   | :                   |
|                    | 14  | IN14/Jxx_Ch3_In14   |
|                    | 15  | IN15/Jxx_Ch3_In15   |
| Wd m+3<br>(Input)  | 00  | IN0/Jxx_Ch4_In00    |
|                    | 01  | IN1/Jxx_Ch4_In01    |
|                    | :   | :                   |
|                    | 14  | IN14/Jxx_Ch4_In14   |
|                    | 15  | IN15/Jxx_Ch4_In15   |

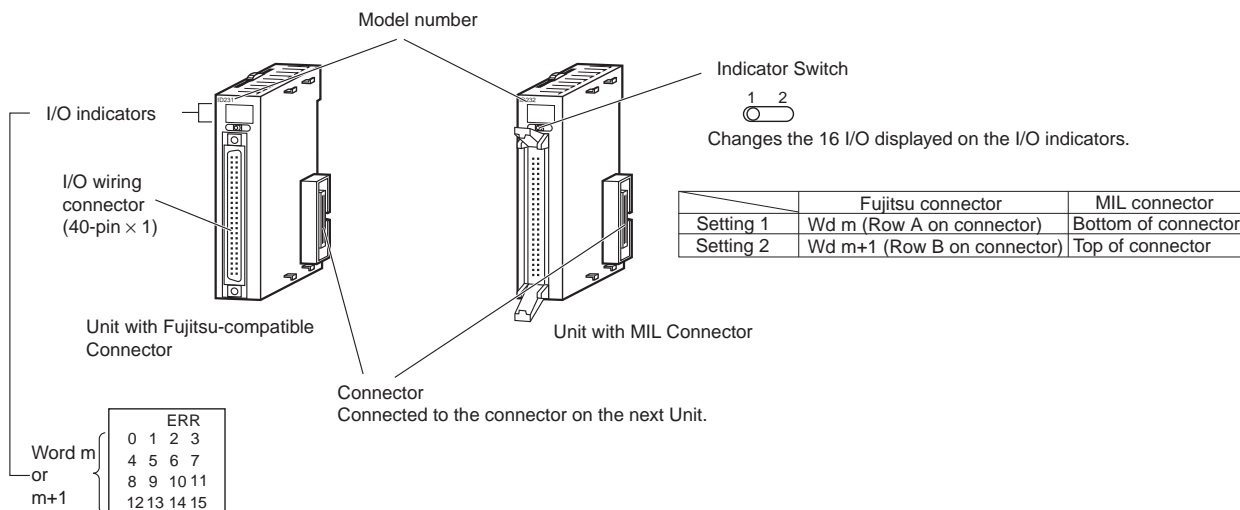


## External Interface

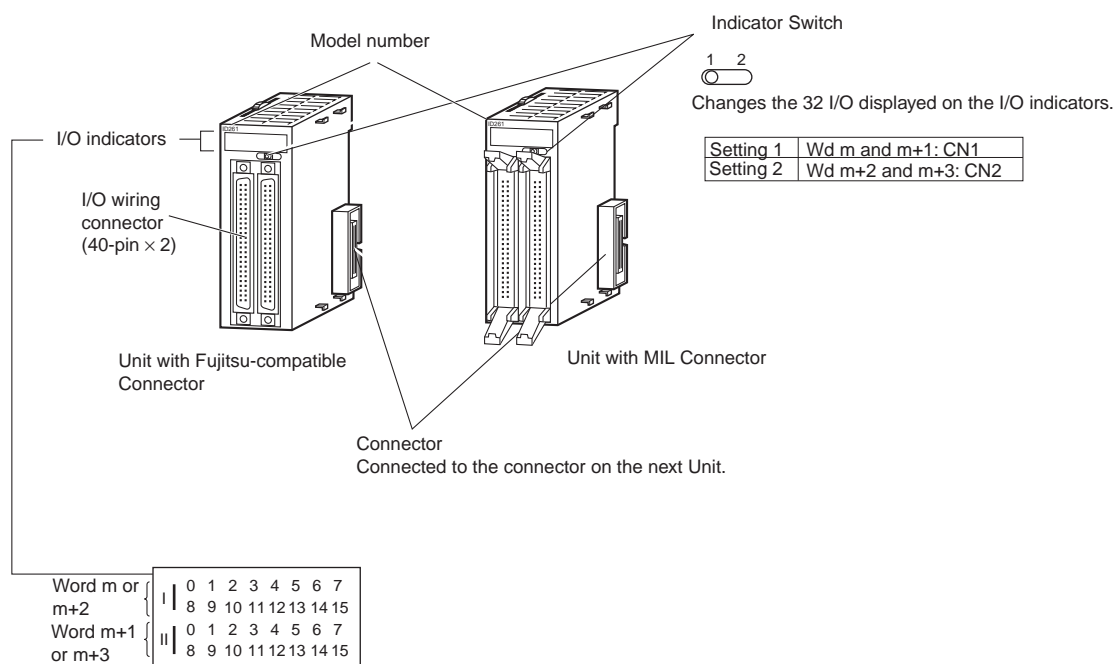
### 8-point/16-point Units (18-point Terminal Blocks)



### 32-point Units (Models with 40-point Fujitsu Connector or MIL Connector)



## 64-point Units (Models with Two 40-point Fujitsu Connectors or MIL Connector)



## Wiring Basic I/O Units with Terminal Blocks

### Electric Wires

The following wire gauges are recommended.

| Terminal Block Connector | Wire Size                                    |
|--------------------------|--|
| 18-terminal              | AWG 22 to 18 (0.32 to 0.82 mm <sup>2</sup> ) |

### Crimp terminals

Use crimp terminals (M3) having the dimensions shown below.

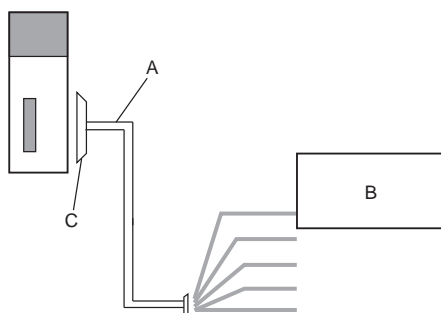


## I/O Unit Wiring Methods

An I/O Unit can be connected to an external device by any of the following three methods.

### 1. User-provided Cable

An I/O Unit can be directly connected to an external device by using a connector.

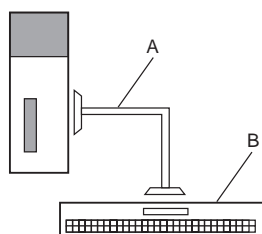


|          |                     |
|----------|---------------------|
| <b>A</b> | User-provided cable |
| <b>B</b> | External device     |
| <b>C</b> | Connector           |

### 2. Connector-Terminal Block Conversion Unit

Use a Connecting Cable to connect to a Connector-Terminal Block Conversion Unit.

Converting the I/O Unit connector to a screw terminal block or push-in terminal block makes it easy to connect external devices.

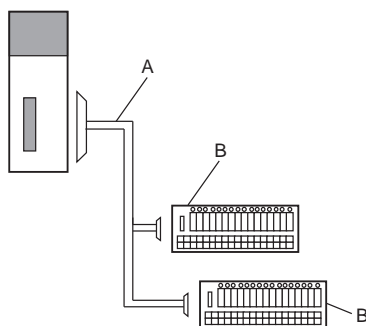


|          |   |
|----------|---|
| <b>A</b> | Connecting Cable for Connector-Terminal Block Conversion Unit<br>XW2Z |
| <b>B</b> | Connector-Terminal Block Conversion Unit<br>XW2□                      |

### 3. I/O Relay Terminal

Use a Connecting Cable to connect to an I/O Relay Terminal.

The I/O specifications can be converted to relay outputs and AC inputs by connecting the I/O Relay Terminal to an I/O Unit.



|          |   |
|----------|---|
| <b>A</b> | Connecting Cable for I/O Relay Terminals<br>XW2Z-R  |
| <b>B</b> | I/O Relay Terminals<br>G70V, G7TC<br>Relay Terminals<br>G70D, G70R<br>I/O Terminal Socket<br>G70A<br>Or, conversion to relay outputs and AC inputs. |

# 1. Using User-made Cables with Connector

## Available Connectors

Use the following connectors when assembling a connector and cable.

### 32- and 64-point Basic I/O Units with Fujitsu-compatible Connectors

#### Applicable Units

| Model      | Specifications                | Pins |
|------------|-------------------------------|------|
| CJ1W-ID231 | Input Unit, 24 VDC, 32 inputs | 40   |
| CJ1W-ID261 | Input Unit, 24 VDC, 64 inputs |      |

#### Applicable Cable-side Connectors

| Connection      | Pins | OMRON set  | Fujitsu parts   |
|-----------------|------|------------|---|
| Solder-type     | 40   | C500-CE404 | Socket: FCN-361J040-AU<br>Connector cover: FCN-360C040-J2                       |
| Crimped         | 40   | C500-CE405 | Socket: FCN-363J040<br>Connector cover: FCN-360C040-J2<br>Contacts: FCN-363J-AU |
| Pressure-welded | 40   | C500-CE403 | FCN-367J040-AU/F  |

### 32- and 64-point Basic I/O Units with MIL Connectors

#### Applicable Units

| Model                    | Specifications                | Pins |
|--------------------------|-------------------------------|------|
| CJ1W-ID232<br>CJ1W-ID233 | Input Unit, 24 VDC, 32 inputs | 40   |
| CJ1W-ID262               | Input Unit, 24 VDC, 64 inputs |      |

#### Applicable Cable-side Connectors

| Connection      | Pins | OMRON set  | DDK parts      |
|-----------------|------|--|----------------|
| Pressure-welded | 40   | XG4M-4030-T *1   | FRC5-A040-3T0S |
|                 | 40   | XG5N-401 *2  | HU-40OS2-001   |
| Crimped         | —    | Crimp Contacts for XG5N *3<br>XG5W-0232 (loose contacts: 100 pieces)<br>XG5W-0232-R (reel contacts: 10,000 pieces) | HU-111S        |

\*1. Socket and Stain Relief set.

\*2. Crimp Contacts (XG5W-0232) are sold separately.

\*3. Applicable wire size is AWG 28 to 24. For applicable conductor construction and more information, visit the OMRON website at [www.ia.omron.com](http://www.ia.omron.com).

## Wire Size

We recommend using cable with wire gauges of AWG 28 to 24 (0.08 to 0.2 mm<sup>2</sup>). Use cable with external wire diameters of 1.61 mm max.

## Crimping Tools

The following models are recommended for crimping tools and pressure-welding tools for Fujitsu connectors.

#### Tools for Crimped Connectors (Fujitsu Component)

| Product Name            | Model           |
|-------------------------|-----------------|
| Hand Crimping Tool      | FCN-363T-T005/H |
| Contact Withdrawal Tool | FCN-360T-T001/H |

#### Tools for Pressure-welded Connectors (Fujitsu Component)

| Product Name  | Model           |
|---------------|-----------------|
| Hand Press    | FCN-707T-T101/H |
| Cable Cutter  | FCN-707T-T001/H |
| Locator Plate | FCN-367T-T012/H |

The following models are recommended for tools for OMRON MIL connectors.

#### Tools for Pressure-welded Connectors (OMRON)

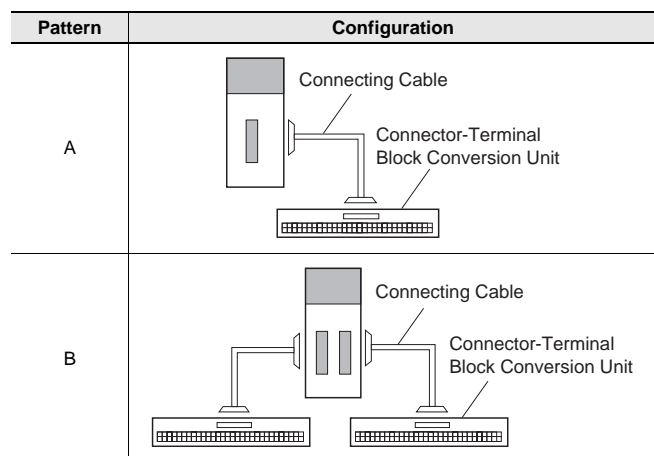
| Product Name          | Model     |
|-----------------------|-----------|
| Pressure-welding Tool | XY2B-0002 |
| Attachment            | XY2B-1007 |

#### Tools for Crimped Connectors (OMRON)

| Product Name         | Model     |
|----------------------|-----------|
| Manual Crimping Tool | XY2B-7007 |

## 2. Connecting Connector-Terminal Block Conversion Units

### Connection Patterns for Connector-Terminal Block Conversion Units



### Combination of I/O Units with Connector-Terminal Block Conversion Units

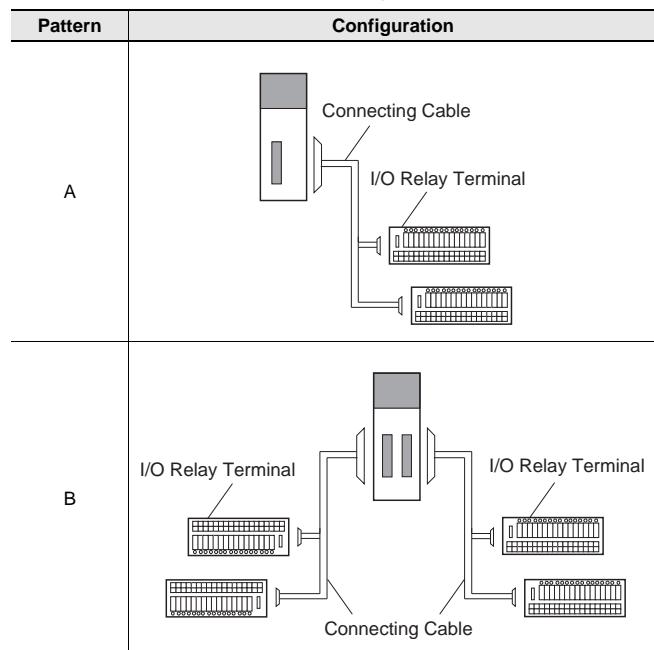
| Unit       | I/O capacity | Number of connectors | Polarity | Connection pattern | Connecting Cable * | Connector-Terminal Block Conversion Unit | Wiring method           | Common terminals |
|------------|--------------|----------------------|----------|--------------------|--------------------|--|-------------------------|------------------|
| CJ1W-ID231 | 32 inputs    | 1 Fujitsu connector  | NPN/PNP  | A                  | XW2Z-□□□B          | XW2K-40G-O32A                            | Push-In Plus            | No               |
|            |              |                      |          |                    |                    | XW2K-40G-O32A-IN                         | Push-In Plus            | Yes              |
|            |              |                      |          |                    |                    | XW2R-J34GD-C1                            | Phillips screw          | No               |
|            |              |                      |          |                    |                    | XW2R-E34GD-C1                            | Slotted screw (rise up) | No               |
| CJ1W-ID232 | 32 inputs    | 1 MIL connector      | NPN/PNP  | A                  | XW2Z-□□□K          | XW2K-40G-O32C                            | Push-In Plus            | No               |
|            |              |                      |          |                    |                    | XW2K-40G-O32C-IN                         | Push-In Plus            | Yes              |
|            |              |                      |          |                    |                    | XW2R-J34GD-C2                            | Phillips screw          | No               |
|            |              |                      |          |                    |                    | XW2R-E34GD-C2                            | Slotted screw (rise up) | No               |
| CJ1W-ID233 | 32 inputs    | 1 MIL connector      | NPN/PNP  | A                  | XW2Z-□□□K          | XW2K-40G-O32C                            | Push-In Plus            | No               |
|            |              |                      |          |                    |                    | XW2K-40G-O32C-IN                         | Push-In Plus            | Yes              |
|            |              |                      |          |                    |                    | XW2R-J34GD-C2                            | Phillips screw          | No               |
|            |              |                      |          |                    |                    | XW2R-E34GD-C2                            | Slotted screw (rise up) | No               |
| CJ1W-ID261 | 64 inputs    | 2 Fujitsu connectors | NPN/PNP  | B                  | XW2Z-□□□B (2 pcs)  | XW2K-40G-O32A (2 Units)                  | Push-In Plus            | No               |
|            |              |                      |          |                    |                    | XW2K-40G-O32A-IN (2 Units)               | Push-In Plus            | Yes              |
|            |              |                      |          |                    |                    | XW2R-J34GD-C1 (2 Units)                  | Phillips screw          | No               |
|            |              |                      |          |                    |                    | XW2R-E34GD-C1 (2 Units)                  | Slotted screw (rise up) | No               |
| CJ1W-ID262 | 64 inputs    | 2 MIL connectors     | NPN/PNP  | B                  | XW2Z-□□□K (2 pcs)  | XW2K-40G-O32C (2 Units)                  | Push-In Plus            | No               |
|            |              |                      |          |                    |                    | XW2K-40G-O32C-IN (2 Units)               | Push-In Plus            | Yes              |
|            |              |                      |          |                    |                    | XW2R-J34GD-C2 (2 Units)                  | Phillips screw          | No               |
|            |              |                      |          |                    |                    | XW2R-E34GD-C2 (2 Units)                  | Slotted screw (rise up) | No               |

\* The box □ is replaced by the cable length.

**Note:** For details, refer to the XW2K series Datasheet (Cat. No. G152) and XW2R series catalog (Cat. No. G077).

### 3. Connecting I/O Relay Terminals

#### Connection Patterns for I/O Relay Terminals



#### Combination of I/O Units with I/O Relay Terminals and Connecting Cables

| I/O Units  |              |                             |                            | Connection pattern | Connecting Cables |                   | I/O Relay Terminals      |            |                   |                |
|------------|--------------|-----------------------------|----------------------------|--------------------|-------------------|-------------------|--------------------------|------------|-------------------|----------------|
| Model      | I/O capacity | External connectors         | Polarity                   |                    | Model *1          | Quantity required | Model                    | I/O points | Quantity required | Wiring method  |
| CJ1W-ID231 | 32 inputs    | 1 Fujitsu connector (40 p)  | Sinking/Sourcing (NPN/PNP) | A                  | XW2Z-RI□C-□       | 1                 | G70V-SID16P(-1)(-C16) *2 | 16         | 2                 | Push-in spring |
|            |              |                             |                            |                    |                   |                   | G7TC-ID/IA16             | 16         |                   | Screw terminal |
|            |              |                             |                            |                    |                   |                   | G70A-ZIM16-5 *3          | 16         |                   |                |
| CJ1W-ID232 | 32 inputs    | 1 MIL connector (40 p)      | Sinking/Sourcing (NPN/PNP) | A                  | XW2Z-RO□-□-D1     | 1                 | G70V-SID16P(-1)(-C16) *2 | 16         | 2                 | Push-in spring |
|            |              |                             |                            |                    |                   |                   | G7TC-ID/IA16             | 16         |                   | Screw terminal |
|            |              |                             |                            |                    |                   |                   | G70A-ZIM16-5             | 16         |                   |                |
| CJ1W-ID233 | 32 inputs    | 1 MIL connector (40 p)      | Sinking/Sourcing (NPN/PNP) | A                  | XW2Z-RO□-□-D1     | 1                 | G70V-SID16P(-1)(-C16) *2 | 16         | 2                 | Push-in spring |
|            |              |                             |                            |                    |                   |                   | G7TC-ID/IA16             | 16         |                   | Screw terminal |
|            |              |                             |                            |                    |                   |                   | G70A-ZIM16-5*3           | 16         |                   |                |
| CJ1W-ID261 | 64 inputs    | 2 Fujitsu connectors (40 p) | Sinking/Sourcing (NPN/PNP) | B                  | XW2Z-RI□C-□       | 2                 | G70V-SID16P(-1)(-C16) *2 | 16         | 4                 | Push-in spring |
|            |              |                             |                            |                    |                   |                   | G7TC-ID/IA16             | 16         |                   | Screw terminal |
|            |              |                             |                            |                    |                   |                   | G70A-ZIM16-5 *3          | 16         |                   |                |
| CJ1W-ID262 | 64 inputs    | 2 MIL connectors (40 p)     | Sinking/Sourcing (NPN/PNP) | B                  | XW2Z-RO□-□-D1     | 2                 | G70V-SID16P(-1)(-C16) *2 | 16         | 4                 | Push-in spring |
|            |              |                             |                            |                    |                   |                   | G7TC-ID/IA16             | 16         |                   | Screw terminal |
|            |              |                             |                            |                    |                   |                   | G70A-ZIM16-5 *3          | 16         |                   |                |

\*1. The box □ is replaced by the cable length.

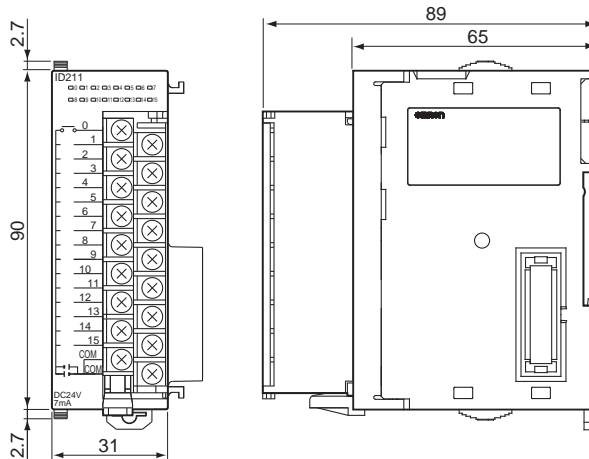
\*2. Either NPN inputs or PNP inputs can be used.

\*3. G70A-ZIM16-5 is a I/O terminal socket products. Relay is not provided with the socket. Be sure to order a relay, timer separately. (with G2R Relays mounted: SPDT × 16)

## Dimensions

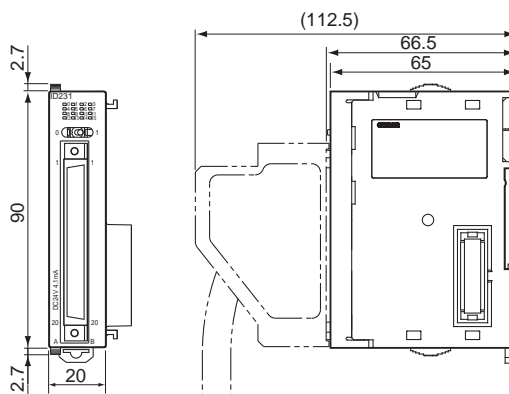
### 8-point/16-point Units (18-point Terminal Blocks)

- CJ1W-ID201
- CJ1W-ID211
- CJ1W-ID212
- CJ1W-IA201
- CJ1W-IA111



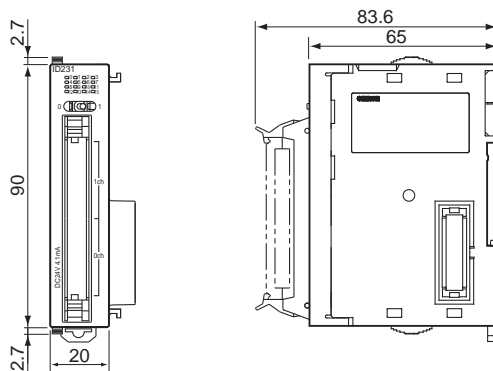
### 32-point Units (Input Units)

- With Fujitsu-compatible Connector (40-pin × 1)
- CJ1W-ID231



### With MIL Connector (40-pin × 1)

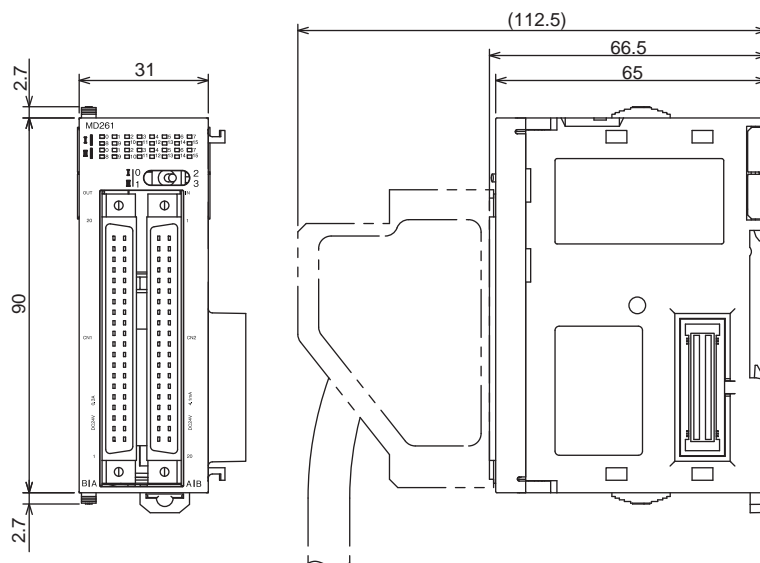
- CJ1W-ID232
- CJ1W-ID233



## 64-point Units (Input Units)

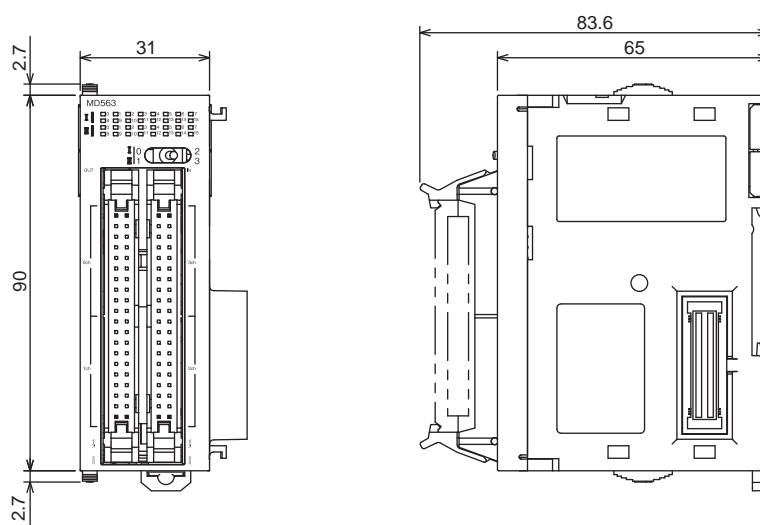
With Fujitsu-compatible Connector (40-pin × 2)

CJ1W-ID261



With MIL Connector (40-pin × 2)

CJ1W-ID262



## Related Manuals

| Name  | Cat. No. | Contents   |
|---|----------|--|
| CJ-series CJ2 CPU Unit Hardware User's Manual<br>CJ2H-CPU6□-EIP<br>CJ2H-CPU6□<br>CJ2M-CPU□□   | W472     | Describes the following for CJ2 CPU Units: <ul style="list-style-type: none"> <li>• Overview and features</li> <li>• Basic system configuration</li> <li>• Part nomenclature and functions</li> <li>• Mounting and setting procedure</li> <li>• Remedies for errors</li> <li>• Also refer to the <i>Software User's Manual</i> (W473).</li> </ul>  |
| SYSMAC CJ Series<br>CJ1H-CPU□□H-R, CJ1G/H-CPU□□H, CJ1G-CPU□□P,<br>CJ1G-CPU□□, CJ1M-CPU□□<br>Programmable Controllers Operation Manual | W393     | Provides an outlines of and describes the design, installation, maintenance, and other basic operations for the CJ-series PLCs.  |
| NJ-series CPU Unit Hardware User's Manual<br>NJ501-□□□□   | W500     | An introduction to the entire NJ-series system is provided along with the following information on a Controller built with an NJ501 CPU Unit. <ul style="list-style-type: none"> <li>• Features and system configuration</li> <li>• Introduction</li> <li>• Part names and functions</li> <li>• General specifications</li> <li>• Installation and wiring</li> <li>• Maintenance and inspection</li> </ul> Use this manual together with the <i>NJ-series CPU Unit Software User's Manual</i> (Cat. No. W501). |



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