

# CJ-series Mixed I/O Units

# CJ1W-MD

CSM\_CJ1W-MD\_DS\_E\_9\_7

## A Wide Range of Basic Mixed I/O Units for Different Applications and Wiring Methods

- One Mixed I/O Unit has connectors for both inputs and outputs. Use Mixed I/O Units to easily build space-saving systems.



CJ1W-MD231



CJ1W-MD261



CJ1W-MD563

## Features

- Select the best interface for each application: Fujitsu connectors and MIL connectors.
- Select sinking outputs or sourcing outputs. The CJ1W-MD232 has load short-circuit protection.
- The ON and OFF response times can be set to between 0 and 32 ms in the Setup in the CPU Unit.
- Mixed I/O Units with 5-V TTL inputs are also available. \*
- A wide variety of Connector-Terminal Block Conversion Units are available to allow you to easily wire external I/O devices.



\* Applies to the CJ1W-MD563.

## 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.

### Mixed I/O Units

Unit type	Product name	Specifications						Current consumption (A)		Model	Standards
		Output type	I/O points	Input voltage, Input current	Commons	External connection	No. of words allocated	5 V	24 V		
				Maximum switching capacity							
CJ1 Basic I/O Units	DC Input/ Transistor Output Units 	Sinking	16 inputs	24 VDC, 7 mA	16 points, 1 common	Fujitsu connector	2 words	0.13	-	CJ1W-MD231	UC1, N, CE
			16 outputs	250 VAC/24 VDC, 0.5 A	16 points, 1 common						
		Sinking	16 inputs	24 VDC, 7 mA	16 points, 1 common	MIL connector	2 words	0.13	-	CJ1W-MD233	UC1, N, CE
			16 outputs	12 to 24 VDC, 0.5 A	16 points, 1 common						
		Sinking	32 inputs	24 VDC, 4.1 mA	16 points, 1 common	Fujitsu connector	4 words	0.14	-	CJ1W-MD261	
			32 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common						
	Sinking	32 inputs	24 VDC, 4.1 mA	16 points, 1 common	MIL connector	4 words	0.14	-	CJ1W-MD263		
		32 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common							
	Sourcing	16 inputs	24 VDC, 7 mA	16 points, 1 common	MIL connector	2 words	0.13	-	CJ1W-MD232	UC1, N, L, CE	
		16 outputs	24 VDC, 0.5 A Short-circuit protection	16 points, 1 common							
TTL I/O Units 	-	32 inputs	5 VDC, 35 mA	16 points, 1 common	MIL connector	4 words	0.19	-	CJ1W-MD563	UC1, N, CE	
		32 outputs	5 VDC, 35 mA	16 points, 1 common							

### 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 FCN-360C040-J2 Connector Cover	Fujitsu Connectors: CJ1W-ID231 (32 inputs): 1 per Unit CJ1W-ID261 (64 inputs): 2 per Unit CJ1W-OD231 (32 outputs): 1 per Unit CJ1W-OD261 (64 outputs): 2 per Unit CJ1W-MD261 (32 inputs, 32 outputs): 2 per Unit	C500-CE404	-
	Crimped	FCN-363J040 Housing FCN-363J-AU Contactor FCN-360C040-J2 Connector Cover		C500-CE405	
	Pressure welded	FCN-367J040-AU/F		C500-CE403	
24-pin Connectors	Soldered	FCN-361J024-AU Connector FCN-360C024-J2 Connector Cover	Fujitsu Connectors: CJ1W-MD231 (16 inputs, 16 outputs): 2 per Unit	C500-CE241	-
	Crimped	FCN-363J024 Socket FCN-363J-AU Contactor 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: CJ1W-ID232 (32 inputs): 1 per Unit CJ1W-OD232/233 (32 outputs): 1 per Unit CJ1W-ID262 (64 inputs): 2 per Unit CJ1W-OD262/263 (64 outputs): 2 per Unit 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: 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.

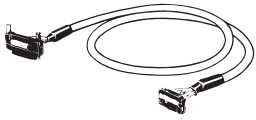
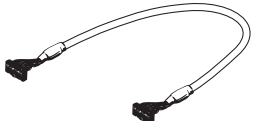
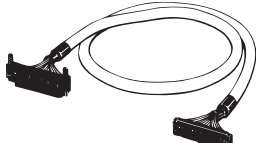
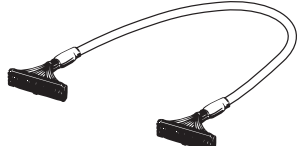
**Applicable Connector-Terminal Block Conversion Units**

Type	Series	Number of poles	Wiring method	Terminal type	Size			Mounting		Common terminals	Bleeder resistance	Indicators	I/O Units	Model *	Standards
					Depth (mm)	Height (mm)	Width (mm)	DIN Track	Screws						
General-purpose devices, PLC	XW2R	20	Phillips screw 	M3	50	48.05	81.7	Yes	-	No	No	No	CJ1W-MD231 CJ1W-MD232 CJ1W-MD233	XW2R-J20GD-T	-
		34			CJ1W-MD261	XW2R-J34GD-C1 XW2R-J34GD-C3									
					CJ1W-MD263	XW2R-J34GD-C2 XW2R-J34GD-C4									
					CJ1W-MD563	XW2R-J34GD-C2 XW2R-J34GD-C4									
			20	Slotted screw (rise up) 	M3 (European type)	50	48.05						81.7	CJ1W-MD231 CJ1W-MD232 CJ1W-MD233	
		34	CJ1W-MD261			XW2R-E34GD-C1 XW2R-E34GD-C3									
			CJ1W-MD263			XW2R-E34GD-C2 XW2R-E34GD-C4									
			CJ1W-MD563			XW2R-E34GD-C2 XW2R-E34GD-C4									
			20	Push-in spring 	Clamp	50	48.05						81.7	CJ1W-MD231 CJ1W-MD232 CJ1W-MD233	
		34	CJ1W-MD261			XW2R-P34GD-C1 XW2R-P34GD-C3									
			CJ1W-MD263			XW2R-P34GD-C2 XW2R-P34GD-C4									
			CJ1W-MD563			XW2R-P34GD-C2 XW2R-P34GD-C4									







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

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

## Connecting Cables for Connector-Terminal Block Conversion Units

Appearance	Connectors	Cable length [m]	Model
XW2Z-□□□A 	One 24-pin Fujitsu Connector to One 20-pin MIL Connector	0.5	XW2Z-050A
		1	XW2Z-100A
		1.5	XW2Z-150A
		2	XW2Z-200A
		3	XW2Z-300A
		5	XW2Z-500A
		7	XW2Z-700A
		10	XW2Z-010A
		15	XW2Z-15MA
		20	XW2Z-20MA
XW2Z-□□□X 	One 20-pin MIL Connector to One 20-pin MIL Connector	0.5	XW2Z-C50X
		1	XW2Z-100X
		2	XW2Z-200X
		3	XW2Z-300X
		5	XW2Z-500X
		10	XW2Z-010X
XW2Z-□□□PF 	One 40-pin Fujitsu Connector to One 40-pin MIL Connector	0.5	XW2Z-050PF
		1	XW2Z-100PF
		1.5	XW2Z-150PF
		2	XW2Z-200PF
		3	XW2Z-300PF
		5	XW2Z-500PF
XW2Z-□□□PM 	One 40-pin MIL Connector to One 40-pin MIL Connector	0.5	XW2Z-050PM
		1	XW2Z-100PM
		1.5	XW2Z-150PM
		2	XW2Z-200PM
		3	XW2Z-300PM
		5	XW2Z-500PM

## 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	G70V 	Inputs	DC inputs	NPN	16 (SPSTNO × 16)	50 mA	24 VDC	143	90	56	Yes	Yes	G70V-SID16P *4	UC, CE (TUV 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	24 VDC	143	90	56	Yes	Yes	G70V-SOC16P *4											
				PNP									G70V-SOC16P-1 *4											
				NPN									G70V-SOC16P-C4 *6											
				PNP									G70V-SOC16P-1-C4 *6											
Standard	G7TC 	Inputs	AC inputs	NPN	16 (SPSTNO × 16)	1A	100/(110) VAC 200/(220) VAC	182	85	68	Yes	No	G7TC-IA16 AC100/110	U, C										
													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	85	68	Yes	No	G7TC-OC08 DC12
																16 (SPSTNO × 16)		24 VDC						G7TC-OC08 DC24
		16 (SPSTNO × 16)		24 VDC	G7TC-OC16 DC12																			
		PNP		16 (SPSTNO × 16)	12 VDC	182	85	68	Yes	No	G7TC-OC16 DC24													
				16 (SPSTNO × 16)	24 VDC						G7TC-OC16-1 DC12													
				16 (SPSTNO × 16)	24 VDC						G7TC-OC16-1 DC24													
		High-capacity socket	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	24 VDC			G70A-ZOC16-4																				
Space-saving	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										
	Flat type G70D 	Outputs	Relay outputs	NPN	8 (SPSTNO × 8)	5 A	24 VDC	156	51	39	Yes	Yes	G70D-SOC08	-										
					16 (SPSTNO × 16)	3 A							G70D-SOC16											
				PNP	16 (SPSTNO × 16)	3 A							G70D-SOC16-1											
				MOSFET relay outputs	NPN	16 (SPSTNO × 16)							0.3 A		G70D-FOM16									
PNP	16 (SPSTNO × 16)	0.3 A	G70D-FOM16-1																					
High-capacity, space-saving	G70R 	Outputs	Relay outputs	NPN	8 (SPSTNO × 8)	10 A	24 VDC	136	93	55	Yes	Yes	G70R-SOC08	-										

\*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.

**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) 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) XW2Z-RI□C-□ 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) XW2Z-RI□C 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) XW2Z-RO□-□-D1, 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**

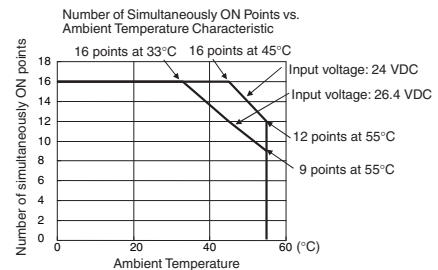
Model	NJ system		CJ system (CJ1, CJ2)		CP1H system	NSJ system	
	CPU Rack	Expansion Rack	CPU Rack	Expansion Backplane	CP1H PLC	NSJ Controller	Expansion Backplane
CJ1W-MD231	10 Units	10 Units (Per Expansion Rack)	10 Units	10 Units (Per Expansion Backplane)	Not supported	Not supported	10 Units (Per Expansion Backplane)
CJ1W-MD232							
CJ1W-MD233							
CJ1W-MD261							
CJ1W-MD263							
CJ1W-MD563							

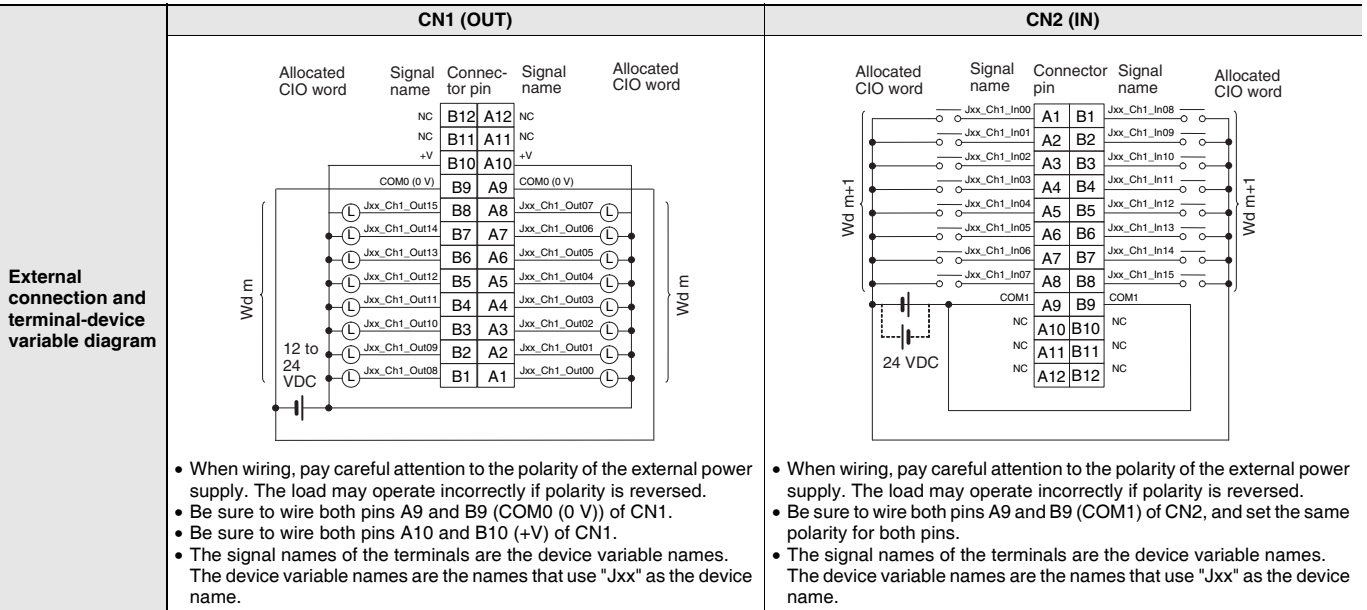
# Specifications

## CJ1W-MD231 DC Input/Transistor Output Unit (24 VDC, 16 Inputs/16 Outputs)

<b>Name</b>	16-point DC Input/16-point Transistor Output Unit with Fujitsu Connectors (Sinking Outputs)		
<b>Model</b>	CJ1W-MD231		
<b>Output section (CN1)</b>		<b>Input section (CN2)</b>	
<b>Rated Voltage</b>	12 to 24 VDC	<b>Rated Input Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC	<b>Operating Input Voltage</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 2.0 A/Unit	<b>Input Impedance</b>	3.3 kΩ
<b>Maximum Inrush Current</b>	4.0 A/point, 10 ms max.	<b>Input Current</b>	7 mA typical (at 24 VDC)
<b>Leakage Current</b>	0.1 mA max.	<b>ON Voltage/ON Current</b>	14.4 VDC min./3 mA min.
<b>Residual Voltage</b>	1.5 V max.	<b>OFF Voltage/OFF Current</b>	5 VDC max./1 mA max.
<b>ON Response Time</b>	0.1 ms 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>	0.8 ms max.		
<b>No. of Circuits</b>	16 (16 points/common, 1 circuit)	<b>OFF Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *
<b>Fuse</b>	None		
<b>External Power Supply</b>	10.2 to 26.4 VDC, 20 mA min.	<b>No. of Circuits</b>	16 (16 points/common, 1 circuit)
		<b>Number of Simultaneously ON Points</b>	75% (at 24 VDC)
<b>Insulation Resistance</b>	20 MΩ min. between the external terminals and the GR terminal (at 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>	5 VDC 130 mA max.		
<b>Weight</b>	90 g max.		
<b>Accessories</b>	None		

<b>Circuit Configuration</b>	<b>CN1 (OUT)</b>	<b>CN2 (IN)</b>
	<p>• 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.</p>	<p>• 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.</p>





External connection and terminal-device variable diagram

- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if polarity is reversed.
- Be sure to wire both pins A9 and B9 (COM0 (0 V)) of CN1.
- Be sure to wire both pins A10 and B10 (+V) of CN1.
- 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.

- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if polarity is reversed.
- Be sure to wire both pins A9 and B9 (COM1) 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 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.

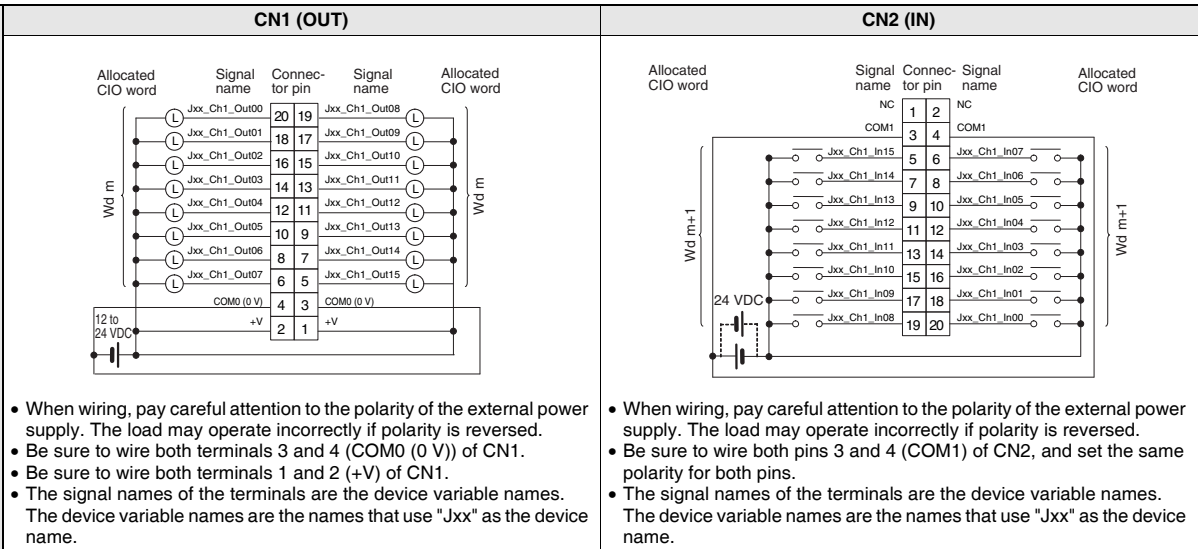


## CJ1W-MD233 DC Input/Transistor Output Unit (24 VDC, 16 Inputs/16 Outputs)

<b>Name</b>	16-point DC Input/16-point Transistor Output Unit with MIL Connectors (Sinking Outputs)		
<b>Model</b>	CJ1W-MD233		
<b>Output section (CN1)</b>		<b>Input section (CN2)</b>	
<b>Rated Voltage</b>	12 to 24 VDC	<b>Rated Input Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC	<b>Operating Input Voltage</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 2.0 A/Unit	<b>Input Impedance</b>	3.3 k $\Omega$
<b>Maximum Inrush Current</b>	4.0 A/point, 10 ms max.	<b>Input Current</b>	7 mA typical (at 24 VDC)
<b>Leakage Current</b>	0.1 mA max.	<b>ON Voltage/ON Current</b>	14.4 VDC min./3 mA min.
<b>Residual Voltage</b>	1.5 V max.	<b>OFF Voltage/OFF Current</b>	5 VDC max./1 mA max.
<b>ON Response Time</b>	0.1 ms 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>	0.8 ms max.		
<b>No. of Circuits</b>	16 (16 points/common, 1 circuit)	<b>OFF Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *
<b>Fuse</b>	None		
<b>External Power Supply</b>	10.2 to 26.4 VDC, 20 mA min.	<b>No. of Circuits</b>	16 (16 points/common, 1 circuit)
		<b>Number of Simultaneously ON Points</b>	75% (at 24 VDC)
<b>Insulation Resistance</b>	20 M $\Omega$ min. between the external terminals and the GR terminal (at 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>	5 VDC 130 mA max.		
<b>Weight</b>	90 g max.		
<b>Accessories</b>	None		

<b>Circuit Configuration</b>	<b>CN1 (OUT)</b>	<b>CN2 (IN)</b>									
		<p style="text-align: center;">Number of Simultaneously ON Points vs. Ambient Temperature Characteristic</p> <table border="1"> <caption>Number of Simultaneously ON Points vs. Ambient Temperature</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>Number of Simultaneously ON Points</th> </tr> </thead> <tbody> <tr> <td>33</td> <td>16</td> </tr> <tr> <td>45</td> <td>16</td> </tr> <tr> <td>55</td> <td>12</td> </tr> <tr> <td>55</td> <td>9</td> </tr> </tbody> </table>	Ambient Temperature (°C)	Number of Simultaneously ON Points	33	16	45	16	55	12	55
Ambient Temperature (°C)	Number of Simultaneously ON Points										
33	16										
45	16										
55	12										
55	9										
	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>									

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



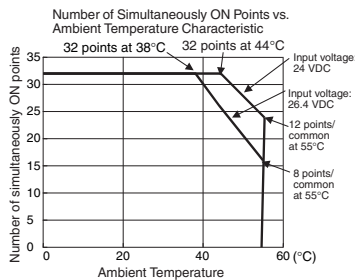
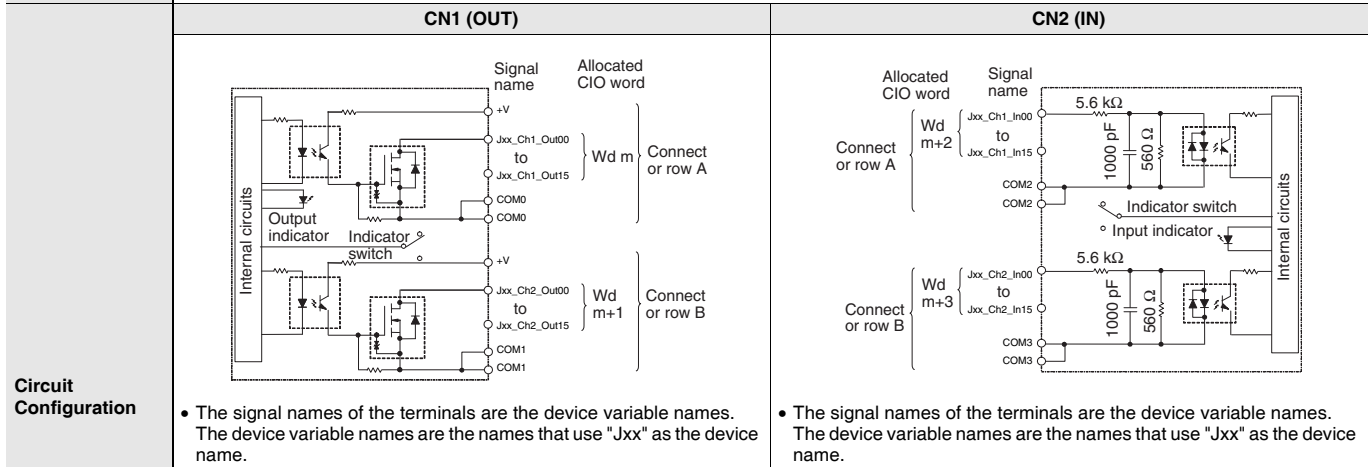
- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if polarity is reversed.
- Be sure to wire both terminals 3 and 4 (COM0 (0 V)) of CN1.
- Be sure to wire both terminals 1 and 2 (+V) of CN1.
- The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

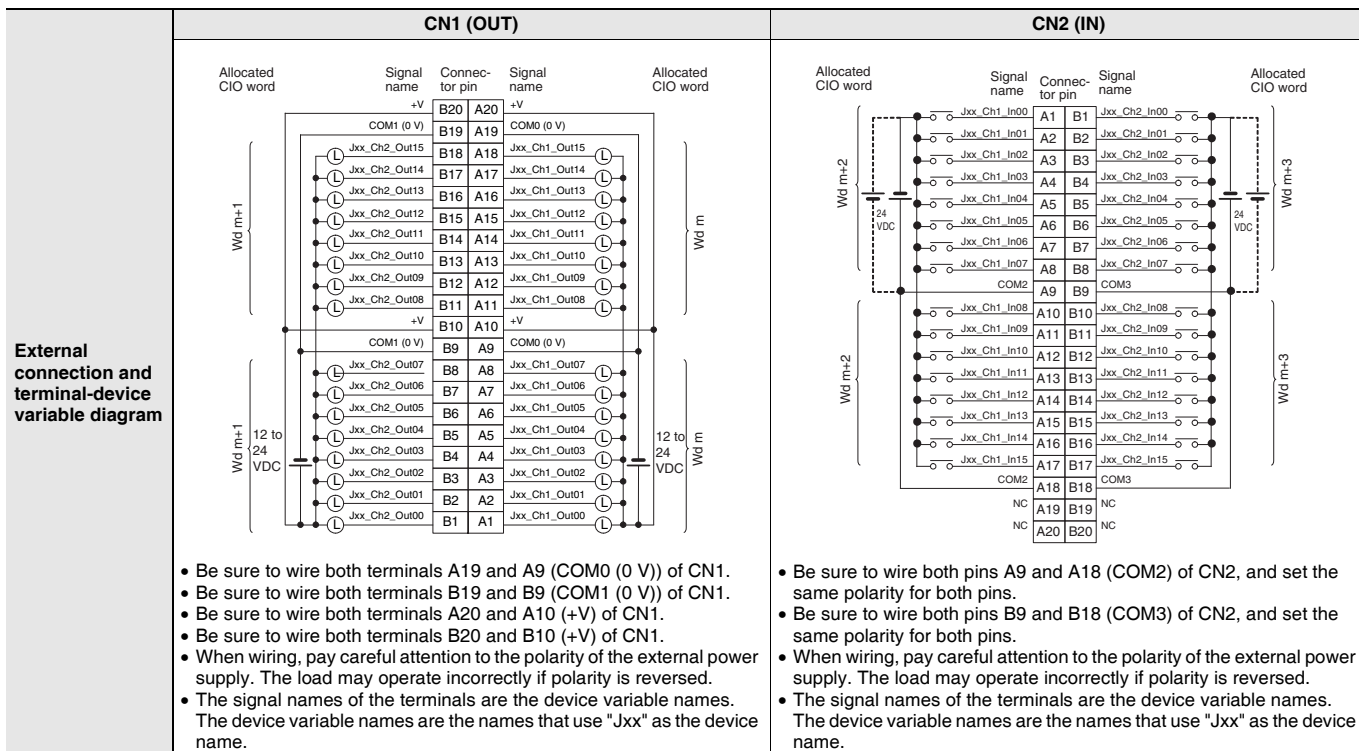
- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if polarity is reversed.
- Be sure to wire both pins 3 and 4 (COM1) of CN2, and set the same polarity for both pins.
- The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

\* The ON response time will be 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.

## CJ1W-MD261 DC Input/Transistor Output Unit (24 VDC 32 Inputs/32 Outputs)

<b>Name</b>	32-point DC Input/32-point Transistor Output Unit with Fujitsu Connectors (Sinking Outputs)		
<b>Model</b>	CJ1W-MD261		
<b>Output section (CN1)</b>		<b>Input section (CN2)</b>	
<b>Rated Voltage</b>	12 to 24 VDC	<b>Rated Input Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC	<b>Operating Input Voltage</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.3 A/point, 1.6 A/common, 3.2 A/Unit	<b>Input Impedance</b>	5.6 kΩ
<b>Maximum Inrush Current</b>	3.0 A/point, 10 ms max.	<b>Input Current</b>	4.1 mA typical (at 24 VDC)
<b>Leakage Current</b>	0.1 mA max.	<b>ON Voltage/ON Current</b>	19.0 VDC min./3 mA min. *2
<b>Residual Voltage</b>	1.5 V max.	<b>OFF Voltage/OFF Current</b>	5 VDC max./1 mA max.
<b>ON Response Time</b>	0.5 ms max.	<b>ON Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *1
<b>OFF Response Time</b>	1.0 ms max.		
<b>No. of Circuits</b>	32 (16 points/common, 2 circuits)	<b>OFF Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *1
<b>Fuse</b>	None		
<b>External Power Supply</b>	10.2 to 26.4 VDC, 30 mA min.	<b>No. of Circuits</b>	32 (16 points/common, 2 circuits)
		<b>Number of Simultaneously ON Points</b>	75% (24 points) (at 24 VDC)
<b>Insulation Resistance</b>	20 MΩ min. between the external terminals and the GR terminal (at 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>	5 VDC 140 mA max.		
<b>Weight</b>	110 g max.		
<b>Accessories</b>	None		





- Be sure to wire both terminals A19 and A9 (COM0 (0 V)) of CN1.
- Be sure to wire both terminals B19 and B9 (COM1 (0 V)) of CN1.
- Be sure to wire both terminals A20 and A10 (+V) of CN1.
- Be sure to wire both terminals B20 and B10 (+V) of CN1.
- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if polarity is reversed.
- 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.

- 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.
- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if polarity is reversed.
- 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 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.

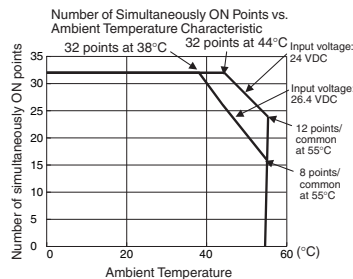
\*2. Observe the following restrictions when connecting to a 2-wire sensor.

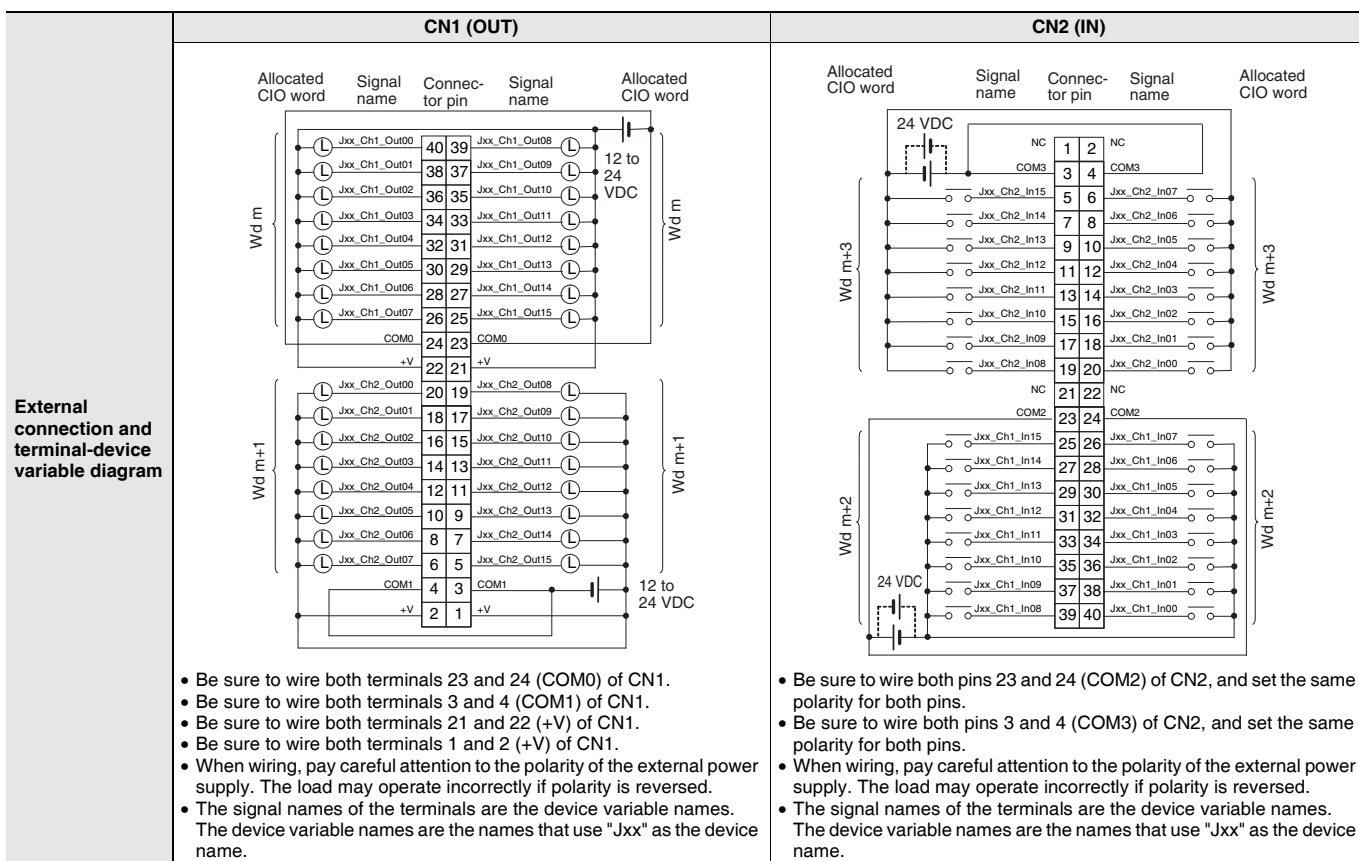
- Make sure the input power supply voltage is larger than the ON voltage (19 V) plus the residual voltage of the sensor (approx. 3 V).
- Use a sensor with a minimum load current of 3 mA min.
- Connect bleeder resistance if you connect a sensor with a minimum load current of 5 mA or higher.

## CJ1W-MD263 DC Input/Transistor Output Unit (24 VDC 32 Inputs/32 Outputs)

<b>Name</b>	32-point DC Input/32-point Transistor Output Unit with MIL Connectors (Sinking Outputs)		
<b>Model</b>	CJ1W-MD263		
<b>Output section (CN1)</b>		<b>Input section (CN2)</b>	
<b>Rated Voltage</b>	12 to 24 VDC	<b>Rated Input Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC	<b>Operating Input Voltage</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.3 A/point, 1.6 A/common, 3.2 A/Unit	<b>Input Impedance</b>	5.6 kΩ
<b>Maximum Inrush Current</b>	3.0 A/point, 10 ms max.	<b>Input Current</b>	4.1 mA typical (at 24 VDC)
<b>Leakage Current</b>	0.1 mA max.	<b>ON Voltage/ON Current</b>	19.0 VDC min./3 mA min. *2
<b>Residual Voltage</b>	1.5 V max.	<b>OFF Voltage/OFF Current</b>	5 VDC max./1 mA max.
<b>ON Response Time</b>	0.5 ms max.	<b>ON Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *1
<b>OFF Response Time</b>	1.0 ms max.		
<b>No. of Circuits</b>	32 (16 points/common, 2 circuits)	<b>OFF Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *1
<b>Fuse</b>	None		
<b>External Power Supply</b>	10.2 to 26.4 VDC, 30 mA min.	<b>No. of Circuits</b>	32 (16 points/common, 2 circuits)
		<b>Number of Simultaneously ON Points</b>	75% (24 points) (at 24 VDC)
<b>Insulation Resistance</b>	20 MΩ min. between the external terminals and the GR terminal (at 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>	5 VDC 140 mA max.		
<b>Weight</b>	110 g max.		
<b>Accessories</b>	None		

	CN1 (OUT)	CN2 (IN)
<b>Circuit Configuration</b>		
	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>



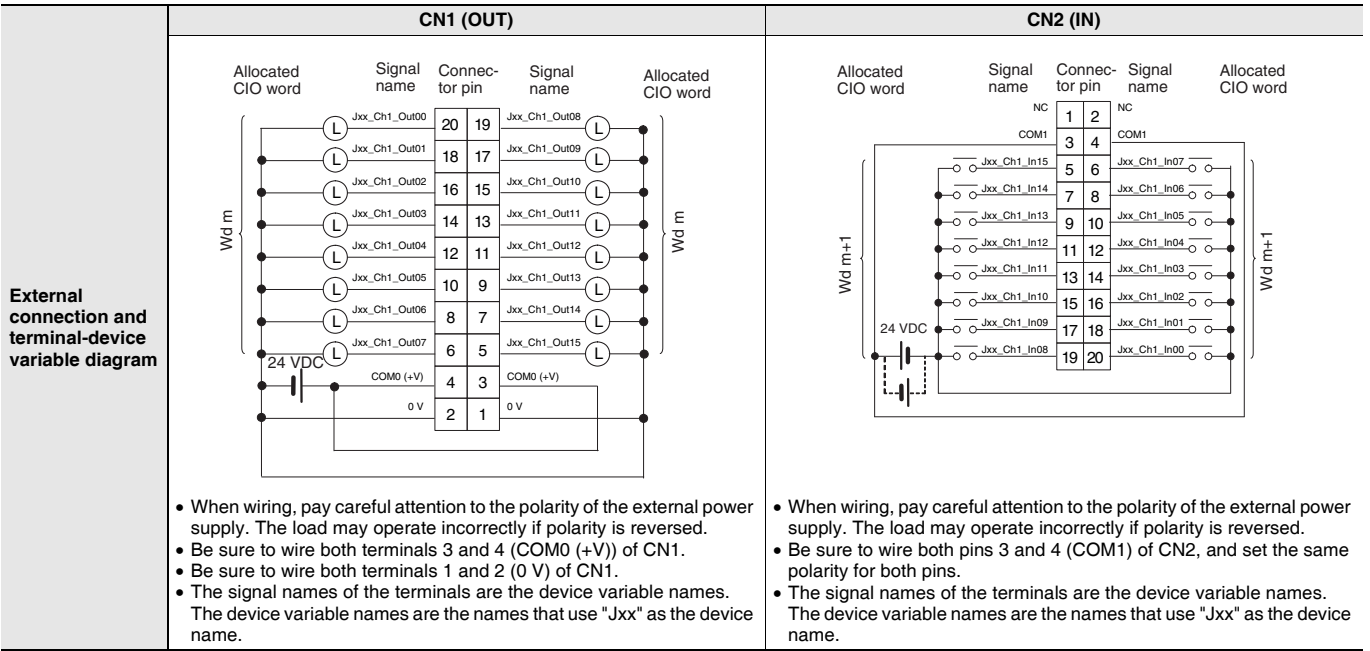


- \*1. The ON response time will be 120 μs maximum and OFF response time will be 400 μs maximum even if the response times are set to 0 ms due to internal element delays.
- \*2. Observe the following restrictions when connecting to a 2-wire sensor.
  - Make sure the input power supply voltage is larger 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-MD232 DC Input/Transistor Output Unit (24 VDC, 16 inputs/16 Outputs)

<b>Name</b>	16-point DC Input/16-point Transistor Output Unit with MIL Connectors (Sourcing Outputs)		
<b>Model</b>	CJ1W-MD232		
<b>Output section (CN1)</b>		<b>Input section (CN2)</b>	
<b>Rated Voltage</b>	24 VDC	<b>Rated Input Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	20.4 to 26.4 VDC	<b>Operating Input Voltage</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 2.0 A/Unit	<b>Input Impedance</b>	3.3 kΩ
<b>Leakage Current</b>	0.1 mA max.	<b>Input Current</b>	7 mA typical (at 24 VDC)
<b>Residual Voltage</b>	1.5 V max.	<b>ON Voltage/ON Current</b>	14.4 VDC min./3 mA min.
<b>ON Response Time</b>	0.5 ms max.	<b>OFF Voltage/OFF Current</b>	5 VDC max./1 mA max.
<b>OFF Response Time</b>	1.0 ms max.	<b>ON Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *
<b>Load Short-circuit Protection</b>	Detection current: 0.7 to 2.5 A min. Automatic restart after error clearance.	<b>OFF Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *
<b>No. of Circuits</b>	16 (16 points/common, 1 circuit)	<b>No. of Circuits</b>	16 (16 points/common, 1 circuit)
<b>External Power Supply</b>	20.4 to 26.4 VDC, 40 mA min.	<b>Number of Simultaneously ON Points</b>	75% (at 24 VDC)
<b>Insulation Resistance</b>	20 MΩ min. between the external terminals and the GR terminal (at 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>	5 VDC 130 mA max.		
<b>Weight</b>	100 g max.		
<b>Accessories</b>	None		

<b>Circuit Configuration</b>	<b>CN1 (OUT)</b>	<b>CN2 (IN)</b>																																
	<p>• 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.</p>	<p>• 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.</p>																																
		<p>Number of Simultaneously ON Points vs. Ambient Temperature Characteristic</p> <table border="1"> <caption>Number of Simultaneously ON Points vs. Ambient Temperature</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>24 VDC (16 points at 33°C)</th> <th>26.4 VDC (16 points at 45°C)</th> <th>24 VDC (12 points at 55°C)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>16</td> <td>16</td> <td>12</td> </tr> <tr> <td>20</td> <td>16</td> <td>16</td> <td>12</td> </tr> <tr> <td>33</td> <td>16</td> <td>16</td> <td>12</td> </tr> <tr> <td>40</td> <td>16</td> <td>16</td> <td>12</td> </tr> <tr> <td>45</td> <td>16</td> <td>16</td> <td>12</td> </tr> <tr> <td>55</td> <td>12</td> <td>12</td> <td>9</td> </tr> <tr> <td>60</td> <td>9</td> <td>9</td> <td>9</td> </tr> </tbody> </table>	Ambient Temperature (°C)	24 VDC (16 points at 33°C)	26.4 VDC (16 points at 45°C)	24 VDC (12 points at 55°C)	0	16	16	12	20	16	16	12	33	16	16	12	40	16	16	12	45	16	16	12	55	12	12	9	60	9	9	9
Ambient Temperature (°C)	24 VDC (16 points at 33°C)	26.4 VDC (16 points at 45°C)	24 VDC (12 points at 55°C)																															
0	16	16	12																															
20	16	16	12																															
33	16	16	12																															
40	16	16	12																															
45	16	16	12																															
55	12	12	9																															
60	9	9	9																															



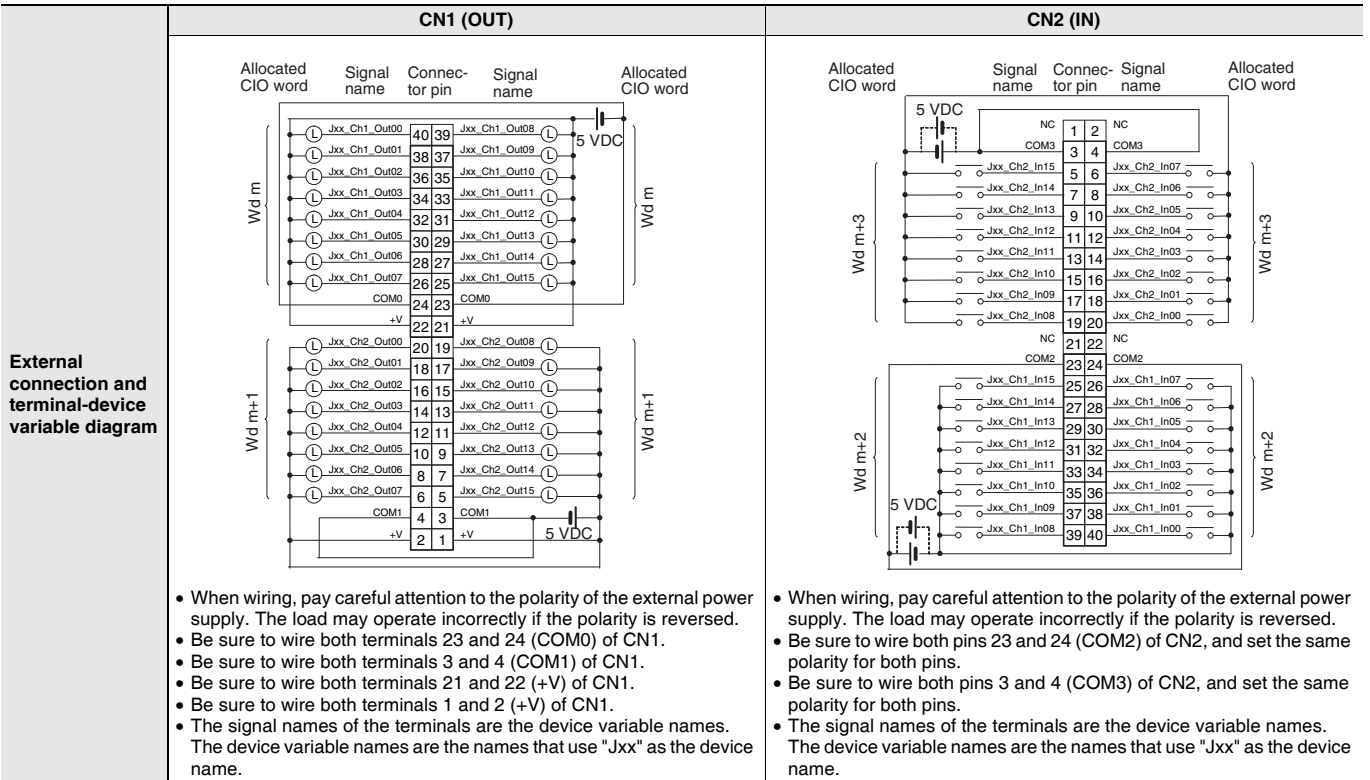
\* The ON response time will be 20 μs maximum and OFF response time will be 400 μs maximum even if the response times are set to 0 ms due to internal element delays.



## CJ1W-MD563 TTL I/O Unit (32 Inputs/32 Outputs)

<b>Name</b>	32-point Input /32-point Output TTL I/O Unit with MIL Connectors		
<b>Model</b>	CJ1W-MD563		
<b>Output section (CN1)</b>		<b>Input section (CN2)</b>	
<b>Rated Voltage</b>	5 VDC±10%	<b>Rated Input Voltage</b>	5 VDC±10%
<b>Operating Load Voltage Range</b>	4.5 to 5.5 VDC	<b>Input Impedance</b>	1.1 kΩ
<b>Maximum Load Current</b>	35 mA/point, 560 mA/common, 1.12 A/Unit	<b>Input Current</b>	Approx. 3.5 mA (at 5 VDC)
<b>Leakage Current</b>	0.1 mA max.	<b>ON Voltage</b>	3.0 VDC min.
<b>Residual Voltage</b>	0.4 V max.	<b>OFF Voltage</b>	1.0 VDC max.
<b>ON Response Time</b>	0.2 ms 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>	0.3 ms max.	<b>OFF Response Time</b>	8.0 ms max. (Can be set to between 0 and 32 in the Setup.) *
<b>No. of Circuits</b>	32 points (16 points/common, 2 circuits)	<b>No. of Circuits</b>	32 points (16 points/common, 2 circuits)
<b>Fuse</b>	None	<b>Number of Simultaneously ON Points</b>	100% (16 points/common)
<b>External Power Supply</b>	5 VDC±10%, 40 mA min. (1.2 mA × No. of ON points)		
<b>Insulation Resistance</b>	20 MΩ min. between the external terminals and the GR terminal (at 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>	5 VDC 190 mA max.		
<b>Weight</b>	110 g max.		
<b>Accessories</b>	None		

	CN1 (OUT)	CN2 (IN)
<b>Circuit Configuration</b>	<p>• 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.</p>	<p>• 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.</p>



\* 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.

## Bit Allocations for Mixed I/O Unit

### 32-point Mixed I/O Unit

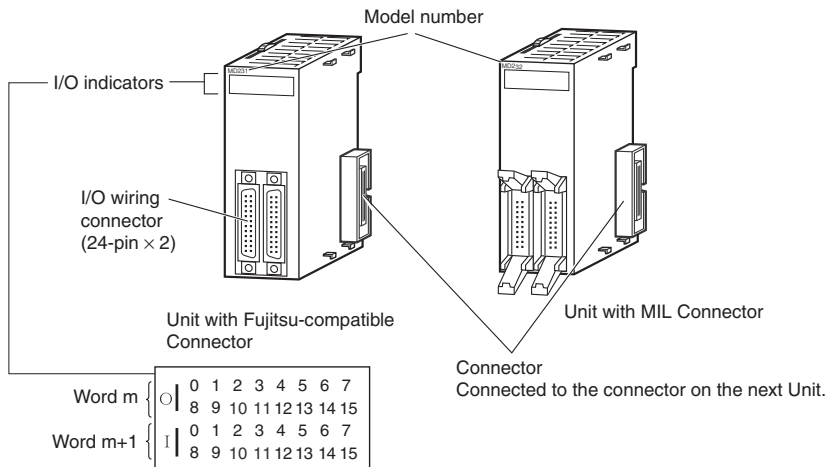
Allocated CIO word		Signal name (CJ/NJ)
CIO	Bit	
Wd m (Output)	00	OUT0/Jxx_Ch1_Out00
	01	OUT1/Jxx_Ch1_Out01
	:	:
	14	OUT14/Jxx_Ch1_Out14
	15	OUT15/Jxx_Ch1_Out15
Wd m+1 (Input)	00	IN0/Jxx_Ch1_In00
	01	IN1/Jxx_Ch1_In01
	:	:
	14	IN14/Jxx_Ch1_In14
	15	IN15/Jxx_Ch1_In15

### 64-point Mixed I/O Unit

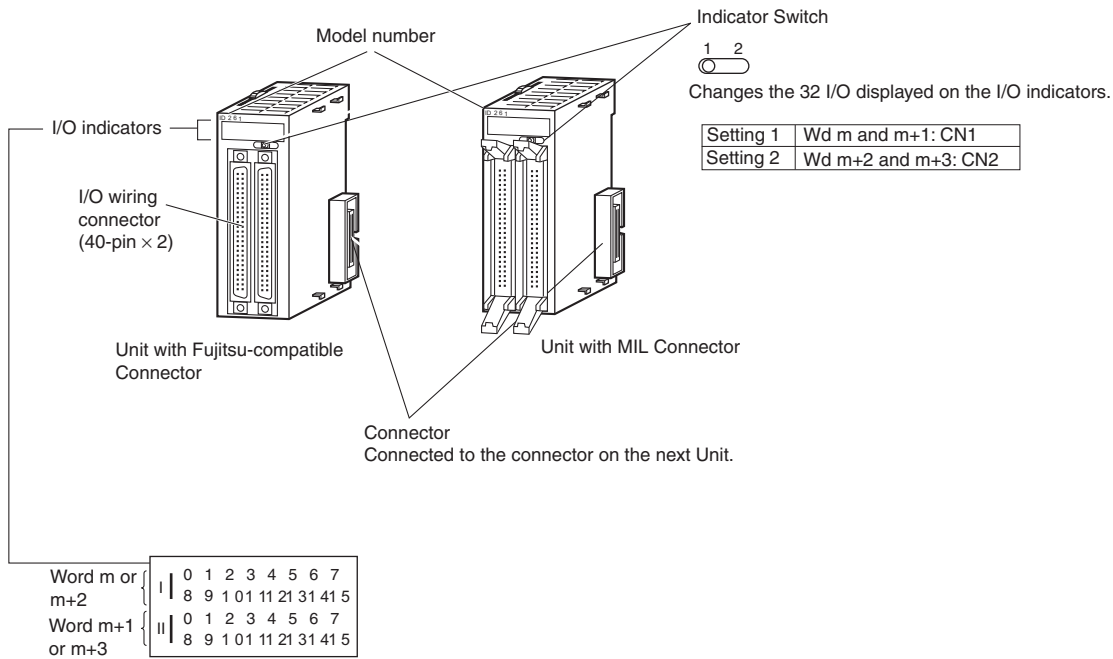
Allocated CIO word		Signal name (CJ/NJ)
CIO	Bit	
Wd m (Output)	00	OUT0/Jxx_Ch1_Out00
	01	OUT1/Jxx_Ch1_Out01
	:	:
	14	OUT14/Jxx_Ch1_Out14
	15	OUT15/Jxx_Ch1_Out15
Wd m+1 (Output)	00	OUT0/Jxx_Ch2_Out00
	01	OUT1/Jxx_Ch2_Out01
	:	:
	14	OUT14/Jxx_Ch2_Out14
	15	OUT15/Jxx_Ch2_Out15
Wd m+2 (Input)	00	IN0/Jxx_Ch1_In00
	01	IN1/Jxx_Ch1_In01
	:	:
	14	IN14/Jxx_Ch1_In14
	15	IN15/Jxx_Ch1_In15
Wd m+3 (Input)	00	IN0/Jxx_Ch2_In00
	01	IN1/Jxx_Ch2_In01
	:	:
	14	IN14/Jxx_Ch2_In14
	15	IN15/Jxx_Ch2_In15

## External Interface

### 32-point Units (Model with 24-pin × 2 Fujitsu Connectors or with 20-pin × 2 MIL Connectors)



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

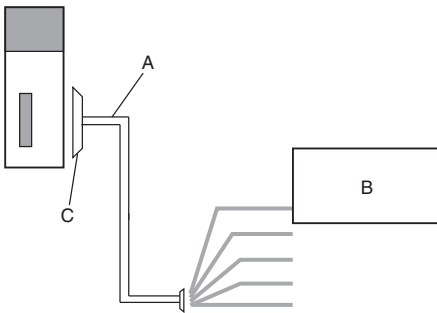


## I/O Unit Wiring Methods

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.

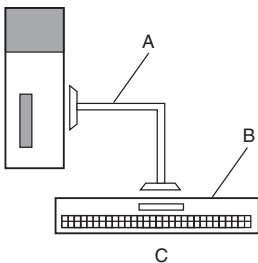


<b>A</b>	User-provided cable
<b>B</b>	External device
<b>C</b>	Connector

### 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.

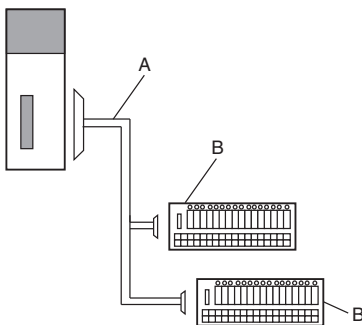


<b>A</b>	Connecting Cable for Connector-Terminal Block Conversion Unit XW2Z
<b>B</b>	Connector-Terminal Block Conversion Unit XW2□
<b>C</b>	Conversion to a screw terminal block

### 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 XW2Z-R
<b>B</b>	I/O Relay Terminals G70V, G7TC Relay Terminals G70D, G70R I/O Terminal Socket G70A 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-MD261	24-VDC Input/Transistor Output Units, 32 Inputs, 32 Outputs	40
CJ1W-MD231	24-VDC Input/Transistor Output Units, 16 Inputs, 16 Outputs	24

#### Applicable Cable-side Connectors

Connection	Pins	OMRON set	Fujitsu parts
Solder-type	40	C500-CE404	Socket: FCN-361J040-AU Connector cover: FCN-360C040-J2
	24	C500-CE241	Socket: FCN-361J024-AU Connector cover: FCN-360C024-J2
Crimped	40	C500-CE405	Socket: FCN-363J040 Connector cover: FCN-360C040-J2 Contacts: FCN-363J-AU
	24	C500-CE242	Socket: FCN-363J024 Connector cover: FCN-360C024-J2 Contacts: FCN-363J-AU
Pressure-welded	40	C500-CE403	FCN-367J040-AU/F
	24	C500-CE243	FCN-367J024-AU/F

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

#### Applicable Units

Model	Specifications	Pins
CJ1W-MD263	24-VDC Input/Transistor Output Units, 32 inputs, 32 outputs	40
CJ1W-MD563	TTL Input/TTL Output Units, 32 inputs, 32 outputs	
CJ1W-MD232	24-VDC Input/Transistor Output Units, 16 inputs, 16 outputs	20
CJ1W-MD233	24-VDC Input/Transistor Output Units, 16 inputs, 16 outputs	

#### Applicable Cable-side Connectors

Connection	Pins	OMRON set	DDK parts
Pressure-welded	40	XG4M-4030-T *1	FRC5-A040-3T0S
	20	XG4M-2030-T	FRC5-A020-3T0S
Crimped	40	XG5N-401 *2	HU-40OS2-001
	–	Crimp Contacts for XG5N *3 XG5W-0232 (loose contacts: 100 pieces) 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)

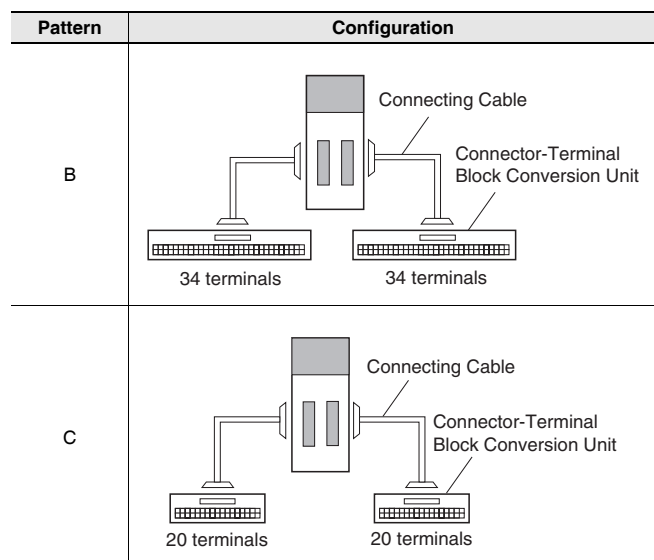
Product Name	Model
Pressure-welding Tool	XY2B-0002
Attachment	XY2B-1007

#### 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-MD231	16 I/O points	2 Fujitsu connectors (1 for 16 inputs and 1 for 16 outputs)	NPN	C	XW2Z-□□□A (2 pcs)	XW2R-J20GD-T (2 Units)	Phillips screw	No
						XW2R-E20GD-T (2 Units)	Slotted screw (rise up)	
						XW2R-P20GD-T (2 Units)	Push-in spring	
CJ1W-MD232	16 I/O points	2 MIL connectors (1 for 16 inputs and 1 for 16 outputs)	PNP	C	XW2Z-□□□X (2 pcs)	XW2R-J20GD-T (2 Units)	Phillips screw	No
						XW2R-E20GD-T (2 Units)	Slotted screw (rise up)	
						XW2R-P20GD-T (2 Units)	Push-in spring	
CJ1W-MD233	16 I/O points	2 MIL connectors (1 for 16 inputs and 1 for 16 outputs)	NPN	C	XW2Z-□□□X (2 pcs)	XW2R-J20GD-T (2 Units)	Phillips screw	No
						XW2R-E20GD-T (2 Units)	Slotted screw (rise up)	
						XW2R-P20GD-T (2 Units)	Push-in spring	
CJ1W-MD261	32 I/O points	2 Fujitsu connectors (1 for 32 inputs and 1 for 32 outputs)	NPN	B	XW2Z-□□□PF (1 pcs)	XW2R-J34GD-C1 (Input side of the unit)	Phillips screw	No
					XW2Z-□□□PF (1 pcs)	XW2R-J34GD-C3 (Output side of the unit)		
					XW2Z-□□□PF (1 pcs)	XW2R-E34GD-C1 (Input side of the unit)	Slotted screw (rise up)	
					XW2Z-□□□PF (1 pcs)	XW2R-E34GD-C3 (Output side of the unit)		
					XW2Z-□□□PF (1 pcs)	XW2R-P34GD-C1 (Input side of the unit)	Push-in spring	
					XW2Z-□□□PF (1 pcs)	XW2R-P34GD-C3 (Output side of the unit)		
CJ1W-MD263	32 I/O points	2 MIL connectors (1 for 32 inputs and 1 for 32 outputs)	NPN	B	XW2Z-□□□PM (1 pcs)	XW2R-J34GD-C2 (Input side of the unit)	Phillips screw	No
					XW2Z-□□□PM (1 pcs)	XW2R-J34GD-C4 (Output side of the unit)		
					XW2Z-□□□PM (1 pcs)	XW2R-E34GD-C2 (Input side of the unit)	Slotted screw (rise up)	
					XW2Z-□□□PM (1 pcs)	XW2R-E34GD-C4 (Output side of the unit)		
					XW2Z-□□□PM (1 pcs)	XW2R-P34GD-C2 (Input side of the unit)	Push-in spring	
					XW2Z-□□□PM (1 pcs)	XW2R-P34GD-C4 (Output side of the unit)		

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

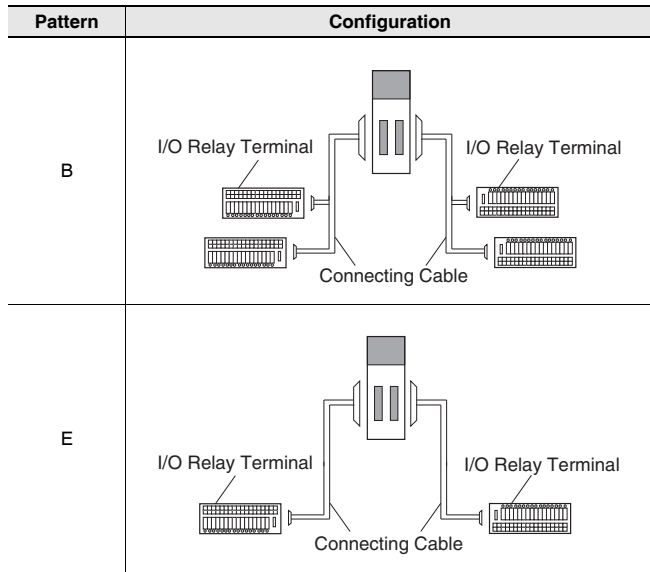
Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Connecting Cable *	Connector-Terminal Block Conversion Unit	Wiring method	Common terminals
CJ1W-MD563	32 I/O points	2 MIL connectors (1 for 32 inputs and 1 for 32 outputs)	-	B	XW2Z-□□□PM (1 pcs)	XW2R-J34GD-C2 (Input side of the unit)	Phillips screw	No
					XW2Z-□□□PM (1 pcs)	XW2R-J34GD-C4 (Output side of the unit)		
					XW2Z-□□□PM (1 pcs)	XW2R-E34GD-C2 (Input side of the unit)	Slotted screw (rise up)	
					XW2Z-□□□PM (1 pcs)	XW2R-E34GD-C4 (Output side of the unit)		
					XW2Z-□□□PM (1 pcs)	XW2R-P34GD-C2 (Input side of the unit)	Push-in spring	
					XW2Z-□□□PM (1 pcs)	XW2R-P34GD-C4 (Output side of the unit)		

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



### 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

Model	I/O Units			Connection pattern	Connecting Cables		I/O Relay Terminals			
	I/O capacity	External connectors	Polarity		Model *1	Quantity required	Model	I/O points	Quantity required	Wiring method
CJ1W-MD231	16 inputs	1 Fujitsu connector (24 p)	NPN/PNP	E	XW2Z-R□C	1	G70V-SID16P(-1)(-C16) *2	16	1	Push-in spring
							G7TC-ID/IA16	16		Screw terminal
	16 outputs	1 Fujitsu connector (24 p)	NPN (Sinking)		XW2Z-R□C	1	G70V-SOC16P(-C4)	16	1	Push-in spring
							G7TC-OC16	16		Screw terminal
					G70D-SOC/FOM16	16				
					G70D-VSOC16/VFOM16	16				
G70A-ZOC16-3 *4	16									
G70R-SOC08 *3	8									
CJ1W-MD232	16 inputs	1 MIL connector (20 p)	NPN/PNP	E	XW2Z-RO□C	1	G70V-SID16P(-1)(-C16) *2	16	1	Push-in spring
							G7TC-ID/IA16	16		Screw terminal
	16 outputs	1 MIL connector (20 p)	PNP (Sourcing)		XW2Z-RI□C	1	G70V-SOC16P-1(-C4)	16	1	Push-in spring
							G70A-ZOC16-4 *4	16		Screw terminal
					G70D-SOC/FOM16-1	16				
					XW2Z-RO□C	1	G7TC-OC16-1	16		
CJ1W-MD233	16 inputs	1 MIL connector (20 p)	NPN/PNP	E	XW2Z-RO□C	1	G70V-SID16P(-1)(-C16) *2	16	1	Push-in spring
							G7TC-ID/IA16	16		Screw terminal
	16 outputs	1 MIL connector (20 p)	NPN (Sinking)		XW2Z-RO□C	1	G70V-SOC16P(-C4)	16	1	Push-in spring
							G7TC-OC16	16		Screw terminal
					G70D-SOC/FOM16	16				
					G70D-VSOC16/VFOM16	16				
G70A-ZOC16-3 *4	16									
G70R-SOC08 *3	8									
CJ1W-MD261	32 inputs	1 Fujitsu connector (40 p)	NPN/PNP	B	XW2Z-RI□C-□	1	G70V-SID16P(-1)(-C16) *2	16	2	Push-in spring
							G7TC-ID/IA16	16		Screw terminal
	32 outputs	1 Fujitsu connector (40 p)	NPN (Sinking)		XW2Z-RO□C-□	1	G70V-SOC16P(-C4)	16	2	Push-in spring
							G7TC-OC16	16		Screw terminal
					G70D-SOC/FOM16	16				
					G70D-VSOC16/VFOM16	16				
G70A-ZOC16-3 *4	16									
G70R-SOC08 *3	8									

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

\*2. Inputs can be either NPN or PNP.

\*3. In addition to the G70R-SOC08, 8-point output G7TC-OC08 and G70D-SOC08 models are available.

\*4. The G70A-ZOC16-3/4 has I/O terminal sockets. Mounted relays are sold separately.

In addition, an G70A-ZOC16-3/4 will be SPDT × 16 points with G2R relays.

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-MD263	32 inputs	1 MIL connector (40 p)	NPN/PNP	B	XW2Z-RO□-□-D1	1	G70V-SID16P(-1)(-C16) *2	16	2	Push-in spring		
							G7TC-ID/IA16			16	Screw terminal	
	32 outputs	1 MIL connector (40 p)	NPN (Sinking)		XW2Z-RO□-□-D1	1	G70V-SOC16P(-C4)	16	2	16	Push-in spring	
							G7TC-OC16				16	Screw terminal
							G70D-SOC/FOM16				16	
							G70D-VSOC16/VFOM16				16	
					G70A-ZOC16-3 *4	16						
					G70R-SOC08 *3	8						

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

\*2. Inputs can be either NPN or PNP.

\*3. In addition to the G70R-SOC08, 8-point output G7TC-OC08 and G70D-SOC08 models are available.

\*4. The G70A-ZOC16-3/4 has I/O terminal sockets. Mounted relays are sold separately.

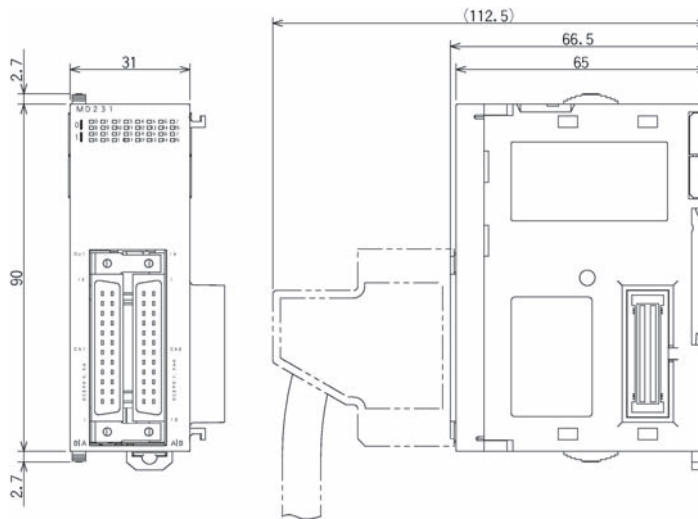
In addition, an G70A-ZOC16-3/4 will be SPDT × 16 points with G2R relays.

## Dimensions

### 32-point Units (Mixed I/O Units)

With Fujitsu-compatible connector (24-pin × 2)

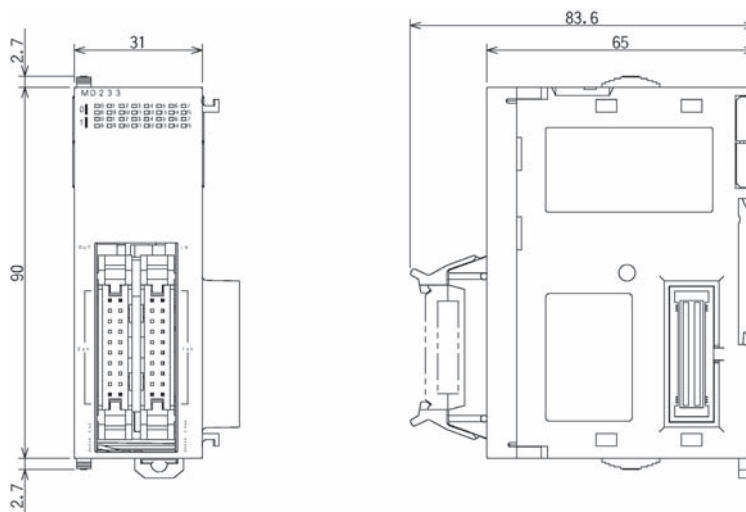
CJ1W-MD231



With MIL connector (20-pin × 2)

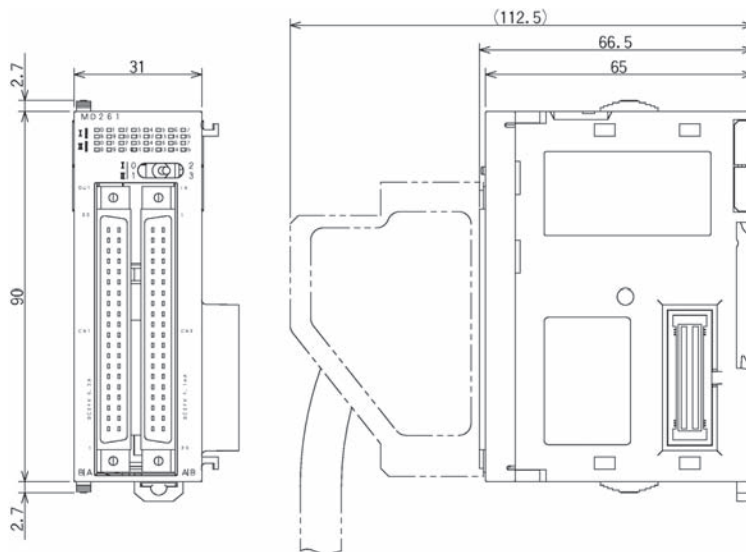
CJ1W-MD232

CJ1W-MD233



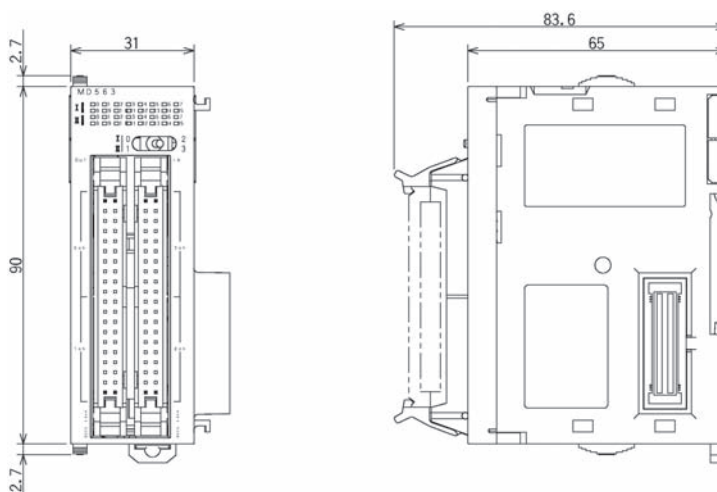
### 64-point Units (Mixed I/O Units)

With Fujitsu-compatible connector (40-pin × 2)  
CJ1W-MD261



### With MIL connector (40-pin × 2)

CJ1W-MD263  
CJ1W-MD563



## Related Manuals

Name	Cat. No.	Contents
NJ-series CPU Unit Hardware User's Manual 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 NJ-series CPU Unit Software User's Manual (Cat. No. W501).
CJ Series CJ1H-CPU□□H-R, CJ1G/H-CPU□□H, CJ1G-CPU□□P, CJ1G-CPU□□, CJ1M-CPU□□ Programmable Controllers Operation Manual	W393	Provides an outlines of and describes the design, installation, maintenance, and other basic operations for the CJ-series PLCs.
CJ-series CJ2H-CPU6□-EIP, CJ2H-CPU6□, CJ2M-CPU□□ CJ2 CPU Unit Hardware User's Manual	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> </ul> Also refer to the Software User's Manual (W473).

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