

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

- These Output Units receive the results of output instructions from the CPU Unit and perform ON/OFF control for external devices.
- High-speed Output models CJ1W-OD213 and CJ1W-OD234 can help to increase system throughput.



CJ1W-OD213



CJ1W-OD234

## Features

- High-speed output models are available, meeting versatile applications.  
ON Response Time: 15 $\mu$ s, OFF Response Time: 80 $\mu$ s
  - Output Units are available with any of three output types: relay contact outputs, triac outputs, or transistor outputs.
  - For transistor outputs, select from sinking outputs or sourcing outputs.
  - Output Units with load short-circuit protection are also available. \*1
  - Select the best interface for each application: Fujitsu connectors or MIL connectors. \*2
  - A wide variety of Connector-Terminal Block Conversion Units are available to allow you to easily wire external output devices.
- \*1. The following Units have load short-circuit protection: CJ1W-OC202, CJ1W-OD204, CJ1W-OD212, and CJ1W-OD232.  
\*2. Available for models with 32 outputs or 64 outputs

## 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.

## Output Units

Unit type	Product name	Specifications					No. of words allocated	Current consumption (A)		Model	Standards	
		Output type	I/O points	Maximum switching capacity	Commons	External connection		5 V	24 V			
CJ1 Basic I/O Units	<b>Relay Contact Output Units</b> 	–	8 outputs	250 VAC/24 VDC, 2 A	Independent contacts	Removable terminal block	1 words	0.09	0.048 max.	<b>CJ1W-OC201</b>	UC1, N, L, CE	
		–	16 outputs	250 VAC/24 VDC, 2 A	16 points, 1 common	Removable terminal block	1 words	0.11	0.096 max.	<b>CJ1W-OC211</b>		
	<b>Triac Output Unit</b> 	–	8 outputs	250 VAC, 0.6 A	8 points, 1 common	Removable terminal block	1 words	0.22	–	<b>CJ1W-OA201</b>		
	<b>Transistor Output Units</b>   	Sinking	8 outputs	12 to 24 VDC, 2 A	4 points, 1 common	Removable terminal block	1 words	0.09	–	<b>CJ1W-OD201</b>		
		Sinking	8 outputs	12 to 24 VDC, 0.5 A	8 points, 1 common	Removable terminal block	1 words	0.10	–	<b>CJ1W-OD203</b>		
		Sinking	16 outputs	12 to 24 VDC, 0.5 A	16 points, 1 common	Removable terminal block	1 words	0.10	–	<b>CJ1W-OD211</b>		
		Sinking	16 outputs (High speed)	24 VDC, 0.5 A	16 points, 1 common	Removable terminal block	1 words	0.15	–	<b>CJ1W-OD213</b>		N, L, CE
		Sinking	32 outputs	12 to 24 VDC, 0.5 A	16 points, 1 common	Fujitsu connector	2 words	0.14	–	<b>CJ1W-OD231</b>		UC1, N, L, CE
		Sinking	32 outputs	12 to 24 VDC, 0.5 A	16 points, 1 common	MIL connector	2 words	0.14	–	<b>CJ1W-OD233</b>		
		Sinking	32 outputs (High speed)	24 VDC, 0.5 A	16 points, 1 common	MIL connector	2 words	0.22	–	<b>CJ1W-OD234</b>		N, L, CE
		Sinking	64 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common	Fujitsu connector	4 words	0.17	–	<b>CJ1W-OD261</b>		UC1, N, L, CE
		Sinking	64 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common	MIL connector	4 words	0.17	–	<b>CJ1W-OD263</b>		
		Sourcing	8 outputs	24 VDC, 2 A Short-circuit protection	4 points, 1 common	Removable terminal block	1 words	0.11	–	<b>CJ1W-OD202</b>		
		Sourcing	8 outputs	24 VDC, 0.5 A Short-circuit protection	8 points, 1 common	Removable terminal block	1 words	0.10	–	<b>CJ1W-OD204</b>		
		Sourcing	16 outputs	24 VDC, 0.5 A Short-circuit protection	16 points, 1 common	Removable terminal block	1 words	0.10	–	<b>CJ1W-OD212</b>		
		Sourcing	32 outputs	24 VDC, 0.5 A Short-circuit protection	16 points, 1 common	MIL connector	2 words	0.15	–	<b>CJ1W-OD232</b>		
Sourcing	64 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common	MIL connector	4 words	0.17	–	<b>CJ1W-OD262</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 FCN-360C040-J2	Connector 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 FCN-363J-AU FCN-360C040-J2	Housing Contact Connector Cover		C500-CE405	
	Pressure welded	FCN-367J040-AU/F			C500-CE403	
24-pin Connectors	Soldered	FCN-361J024-AU FCN-360C024-J2	Connector Connector Cover	Fujitsu Connectors: CJ1W-MD231 (16 inputs, 16 outputs): 2 per Unit	C500-CE241	-
	Crimped	FCN-363J024 FCN-363J-AU FCN-360C024-J2	Housing Contact 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-ID232/233 (32 inputs): 1 per Unit CJ1W-OD232/233/234 (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	-
20-pin Connectors	Pressure welded	FRC5-AO20-3TOS	MIL Connectors: CJ1W-MD232/233 (16 inputs, 16 outputs): 2 per Unit	XG4M-2030-T	-

### Applicable Connector-Terminal Block Conversion Units

Type	Series	I/O	Number of poles	Terminal type	Size			Mounting		Common terminals	Bleeder resistance	Indicators	Model	Standards
					Depth (mm)	Height (mm)	Width (mm)	DIN Track	Screws					
Slim	XW2D	I/O	20	M3	39	40	79	Yes	Yes	No	No	No	XW2D-20G6	-
			40				149						XW2D-40G6	
		Input only	40				149						XW2D-40C6	
			40				149						XW2D-40G6-RF	
			40				149						XW2D-40G6-RM	
Through	XW2B	I/O	20	M3.5	45	45.3	112.5	Yes	Yes	No	No	No	XW2B-20G5	-
			20	M3 (European type)			67.5						XW2B-20G4	
			40	M3.5			202.5						XW2B-40G5	
			40	M3 (European type)			135						XW2B-40G4	
			40	M3 (European type)			135						XW2B-40G4	
With common terminals	XW2C	I/O	20	M3	39	40	149	Yes	Yes	Yes	No	No	XW2C-20G6-IO16	-
		Input only	20	M3.5	50	38	160					Yes	Yes	
With common terminals, 3-tier	XW2E	Inputs only, 3 tiers	20	M3.5	50	53	149	Yes	Yes	Yes	No	No	XW2E-20G5-IN16	-
Screwless clamp terminals	XW2F	Input only	20	Clamp	50	40	95.5	Yes	Yes	Yes	No	No	XW2F-20G7-IN16	-
		Outputs only	20	Clamp	50	40	95.5	Yes	Yes	Yes	No	No	XW2F-20G7-OUT16	
e-CON	XW2N	Input only	20	e-CON connector	50	40	95.5	Yes	Yes	Yes	No	No	XW2N-20G8-IN16	-

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

Applicable I/O Relay Terminals

Type	Series		Specifications						Size (horizontal mounting)			Mounting		Model	Standrads		
			Classification	Polarity	Number of points	Rated ON current at contacts	Operation indicators	Terminal block for power supply wiring	Horizontal (mm)	Vertical (mm)	Height (mm)	DIN Track	Screws				
Space-saving	G70D	Vertical type G70D-V	Outputs	Relay outputs	NPN	16 (SPST-NO × 16)	5A or 3A	Yes	Expandable	135	46	81	Yes	Yes	G70D-VS0C16	U, C, CE	
				MOSFET relay outputs			0.3A								G70D-VF0M16		
		Flat type G70D		Relay outputs	NPN	8 (SPST-NO × 8)	5A	Yes	-	68	93	44	Yes	Yes	G70D-S0C08	-	
						16 (SPST-NO × 16)	3A								G70D-S0C16	-	
	MOSFET relay outputs			NPN	16 (SPST-NO × 16)	3A	Yes	-	156	51	39	Yes	Yes	G70D-S0C16-1	-		
					PNP	3A								G70D-F0M16	-		
	High-capacity, space-saving	G70R		Outputs	Relay outputs	NPN	8 (SPST-NO × 8)	10A	Yes	-	136	93	55	Yes	Yes	G70R-S0C08	-
																PNP	0.3A
Standard	G7TC	Inputs	AC inputs	NPN	16 (SPST-NO × 16)	1A	Yes	-	182	85	68	Yes	-	G7TC-IA16	U, C		
														DC inputs		102	G7TC-ID16
		Outputs	Relay outputs	NPN	8 (SPST-NO × 8)	5A	Yes	-	182	85	68	Yes	-	G7TC-OC08	-		
					16 (SPST-NO × 16)									182		G7TC-OC16	
High-capacity socket	G70A (Socket only)	Outputs	Relay outputs	NPN	16 (SPDT × 16 possible with G2R Relays)	10 A (Terminal block allowable current)	No	-	234	75	64	Yes	-	G70A-Z0C16-3 (Socket only) + Relay/SSR/MOSFET Relay/Timer	U, C, CE		
				PNP										G70A-Z0C16-4 (Socket only) + Relay/SSR/MOSFET Relay/Timer			

**Note:** For the combination of Output Units with I/O Relay Terminal and Connecting Cables, refer to 3. *Connecting I/O Relay Terminals.*

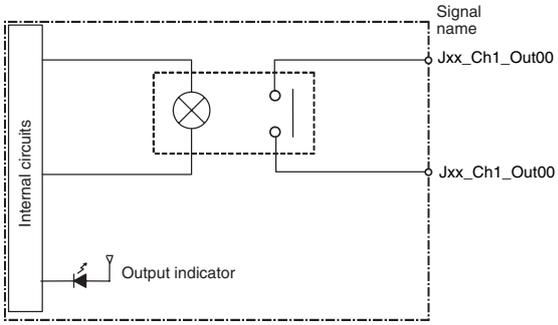
## Mountable Racks

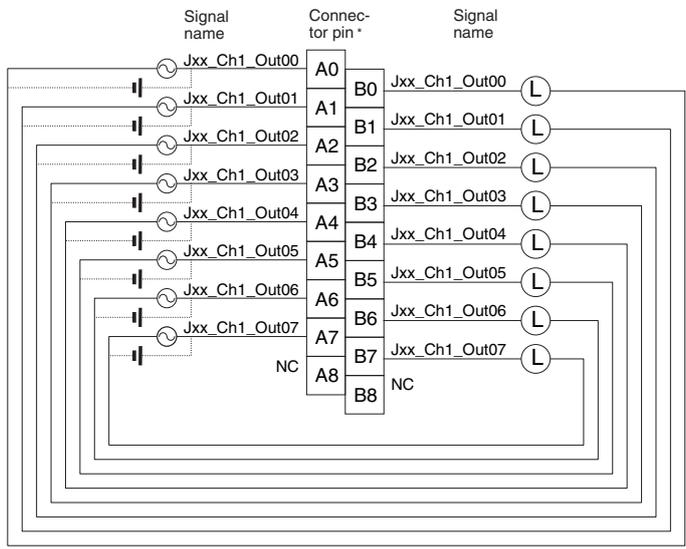
Model	NJ system		CJ system (CJ1, CJ2)		CP1H system	NSJ system	
	CPU Rack	Expansion Rack	CPU Rack	Expansion Backplane	CP1H PLC	NSJ Controller	Expansion Backplane
CJ1W-OC201	10 Units	10 Units (Per Expansion Rack)	10 Units	10 Units (Per Expansion Backplane)	Not Supported	Not Supported	10 Units (Per Expansion Backplane)
CJ1W-OC211							
CJ1W-OA201							
CJ1W-OD201							
CJ1W-OD203							
CJ1W-OD211							
CJ1W-OD213							
CJ1W-OD231							
CJ1W-OD233							
CJ1W-OD234							
CJ1W-OD261							
CJ1W-OD263							
CJ1W-OD202							
CJ1W-OD204							
CJ1W-OD212							
CJ1W-OD232							
CJ1W-OD262							

## Specifications

### CJ1W-OC201 Contact Output Unit (Independent Relays, 8 Points)

<b>Name</b>	8-point Contact Output Unit with Terminal Block (Independent Relays)
<b>Model</b>	CJ1W-OC201
<b>Max. Switching Capacity</b>	2 A 250 VAC ( $\cos\phi = 1$ ), 2 A 250 VAC ( $\cos\phi = 0.4$ ), 2 A 24 VDC (16 A/Unit)
<b>Min. Switching Capacity</b>	1 mA 5 VDC
<b>Relays</b>	NY-24W-K-IE (Fujitsu Takamizawa Components, Ltd.), Cannot be replaced.
<b>Service Life of Relay</b>	Electrical: 150,000 operations (24 VDC, resistive load)/100,000 operations (240 VAC, $\cos\phi = 0.4$ , inductive load) Mechanical: 20,000,000 operations Service life will vary depending on the connected load.
<b>ON Response Time</b>	15 ms max.
<b>OFF Response Time</b>	15 ms max.
<b>Number of Circuits</b>	8 independent contacts
<b>Insulation Resistance</b>	20 M $\Omega$ 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 5 VDC max. 48 mA 24 VDC max. (6 mA $\times$ No. of ON points)
<b>Weight</b>	140 g max.

<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>
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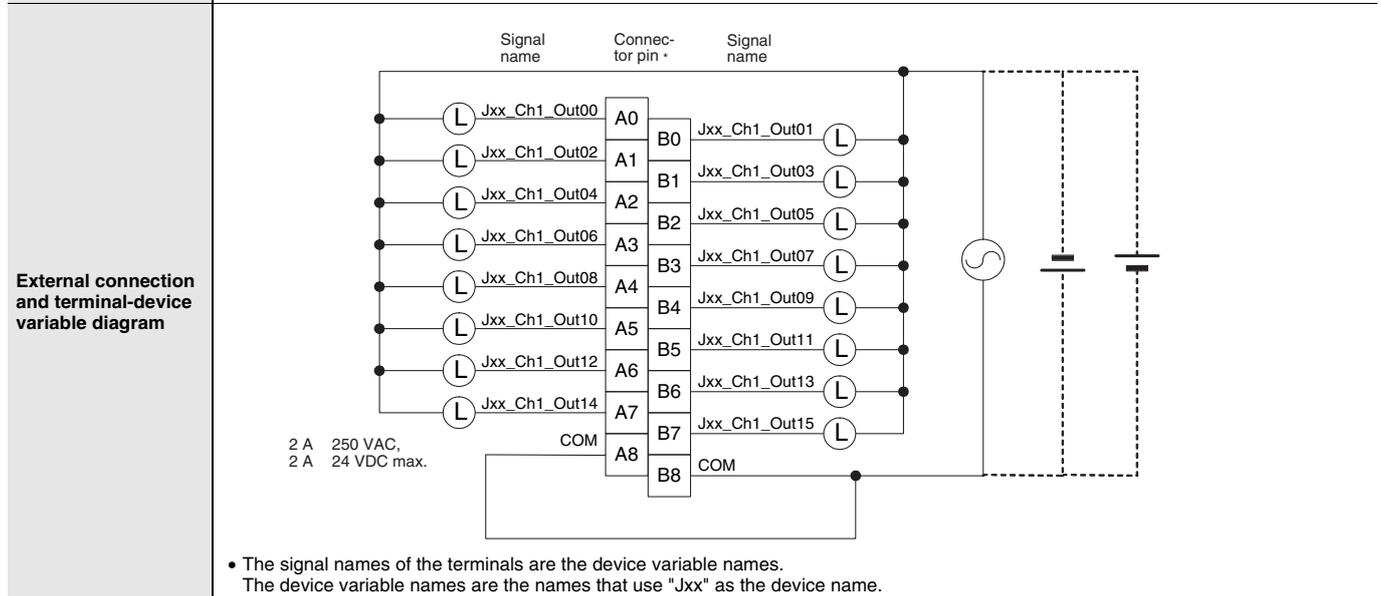
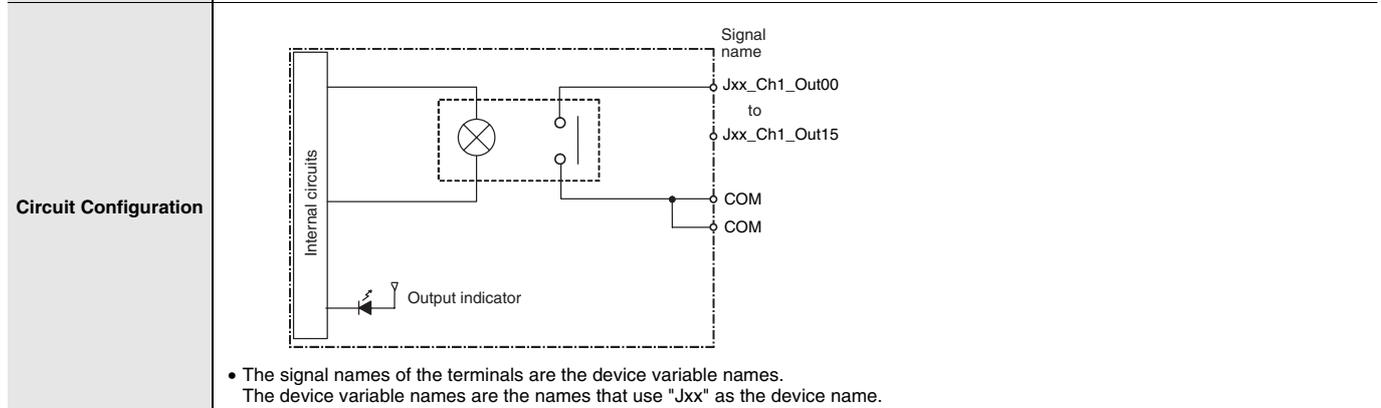
<b>External connection and terminal-device variable diagram</b>	 <p>2 A 250 VAC, 2 A 24 VDC max.</p> <p>• The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name. • The input power supply polarity can be connected in either direction.</p>
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\* 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-OC211 Contact Output Unit (16 Points)

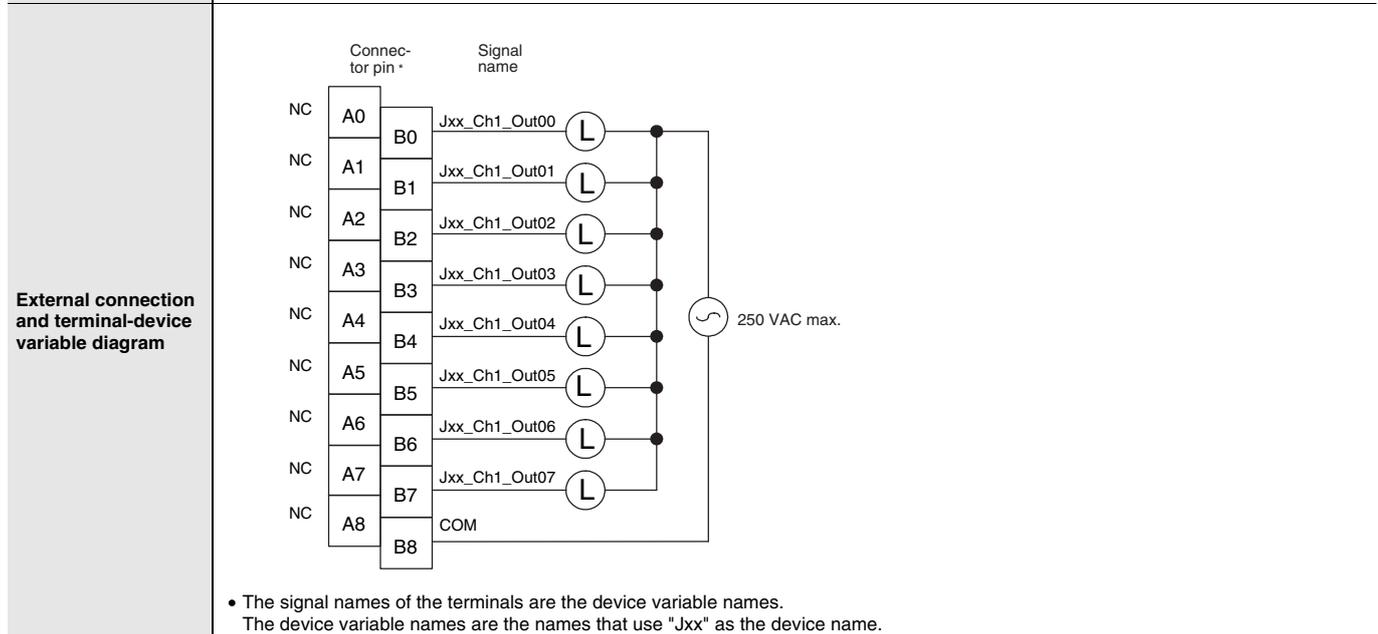
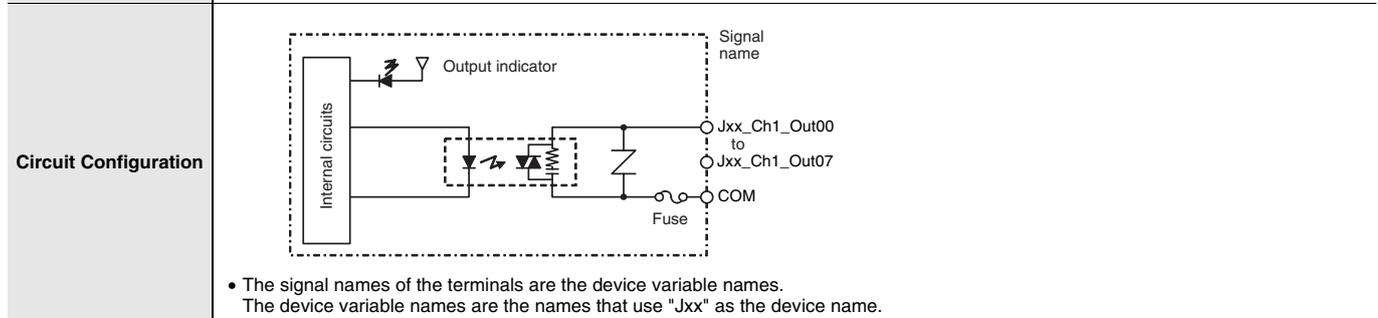
<b>Name</b>	16-point Contact Output Unit with Terminal Block
<b>Model</b>	CJ1W-OC211
<b>Max. Switching Capacity</b>	2 A 250 VAC ( $\cos\phi = 1$ ), 2 A 250 VAC ( $\cos\phi = 0.4$ ), 2 A 24 VDC (8 A/Unit)
<b>Min. Switching Capacity</b>	1 mA 5 VDC
<b>Relays</b>	NY-24W-K-IE (Fujitsu Takamizawa Components, Ltd.), Cannot be replaced.
<b>Service Life of Relay</b>	Electrical: 150,000 operations (24 VDC, resistive load)/ 100,000 operations (250 VAC, $\cos\phi = 0.4$ , inductive load) Mechanical: 20,000,000 operations Service life will vary depending on the connected load.
<b>ON Response Time</b>	15 ms max.
<b>OFF Response Time</b>	15 ms max.
<b>Number of Circuits</b>	16 points/common, 1 circuit
<b>Insulation Resistance</b>	20 M $\Omega$ 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>	110 mA 5 VDC max. 96 mA 24 VDC max. (6 mA $\times$ No. of ON points)
<b>Weight</b>	170 g max.



\* 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-OA201 Triac Output Unit (8 Points)

<b>Name</b>	8-point Triac Output Unit with Terminal Block
<b>Model</b>	CJ1W-OA201
<b>Max. Switching Capacity</b>	0.6 A 250 VAC, 50/60 Hz (2.4 A/Unit)
<b>Max. Inrush Current</b>	15 A (pulse width: 10 ms max.)
<b>Min. Switching Capacity</b>	50 mA 75 VAC
<b>Leakage Current</b>	1.5 mA (200 VAC) max.
<b>Residual Voltage</b>	1.6 VAC max.
<b>ON Response Time</b>	1 ms max.
<b>OFF Response Time</b>	1/2 of load frequency + 1 ms or less.
<b>Number of Circuits</b>	8 (8 points/common, 1 circuit)
<b>Surge Protector</b>	C.R Absorber + Surge Absorber
<b>Fuses</b>	5 A (1/common, 1 used) The fuse cannot be replaced by the user.
<b>Insulation Resistance</b>	20 MΩ between the 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>	220 mA max.
<b>Weight</b>	150 g max.



\* 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-OD201 Transistor Output Unit (8 Points)

<b>Name</b>	8-point Transistor Output Unit with Terminal Block (Sinking Outputs)
<b>Model</b>	CJ1W-OD201
<b>Rated Voltage</b>	12 to 24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC
<b>Maximum Load Current</b>	2.0 A/point, 8.0 A/Unit
<b>Maximum Inrush Current</b>	10 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.5 ms max.
<b>OFF Response Time</b>	1.0 ms max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	8 (4 points/common, 2 circuits)
<b>Internal Current Consumption</b>	90 mA max.
<b>Fuse</b>	6.3 A (1/common, 2 used) The fuse cannot be replaced by the user.
<b>External Power Supply</b>	12 to 24 VDC, 10 mA min.
<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**

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

\* 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-OD203 Transistor Output Unit (8 Points)

<b>Name</b>	8-point Transistor Output Unit with Terminal Block (Sinking Outputs)
<b>Model</b>	CJ1W-OD203
<b>Rated Voltage</b>	12 to 24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 4.0 A/Unit
<b>Maximum Inrush Current</b>	4.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.1 ms max.
<b>OFF Response Time</b>	0.8 ms max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	8 (8 points/common, 1 circuit)
<b>Internal Current Consumption</b>	100 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	10.2 to 26.4 VDC, 20 mA min.
<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**

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

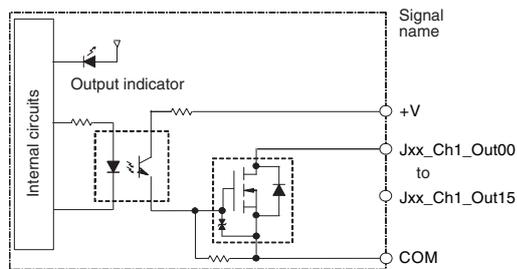
\* Terminal numbers A0 to A8 and B0 to B8 are used in the external connection and terminal-device variable diagrams. They are not printed on the Units.

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

## CJ1W-OD211 Transistor Output Unit (16 Points)

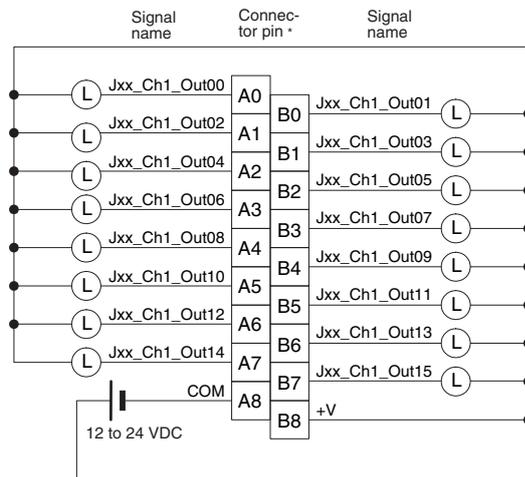
<b>Name</b>	16-point Transistor Output Unit with Terminal Block (Sinking Outputs)
<b>Model</b>	CJ1W-OD211
<b>Rated Voltage</b>	12 to 24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 5.0 A/Unit
<b>Maximum Inrush Current</b>	4.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.1 ms max.
<b>OFF Response Time</b>	0.8 ms max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	16 (16 points/common, 1 circuit)
<b>Internal Current Consumption</b>	5 VDC 100 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	10.2 to 26.4 VDC, 20 mA min.
<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**



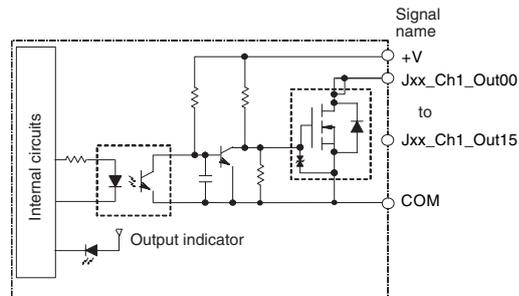
- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

\* 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-OD213 Transistor Output Unit (16 Points)

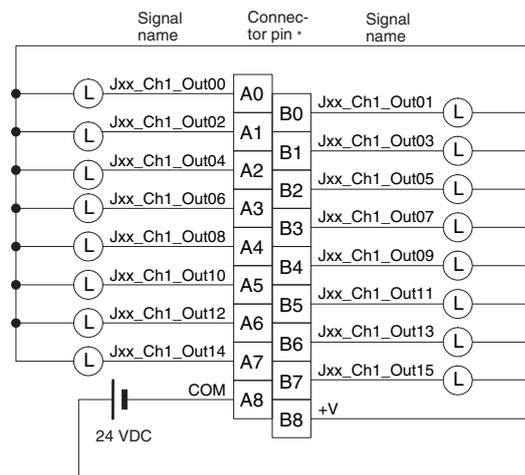
<b>Name</b>	16-point Transistor Output Unit with Terminal Block (Sinking Outputs)
<b>Model</b>	CJ1W-OD213
<b>Rated Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 5.0 A/Unit
<b>Maximum Inrush Current</b>	4.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	15 $\mu$ s max.
<b>OFF Response Time</b>	80 $\mu$ s max.
<b>Insulation Resistance</b>	20 M $\Omega$ between the 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>Number of Circuits</b>	16 (16 points/common, 1 circuit)
<b>Internal Current Consumption</b>	5 VDC 150 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	20.4 to 26.4 VDC, 55 mA min.
<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



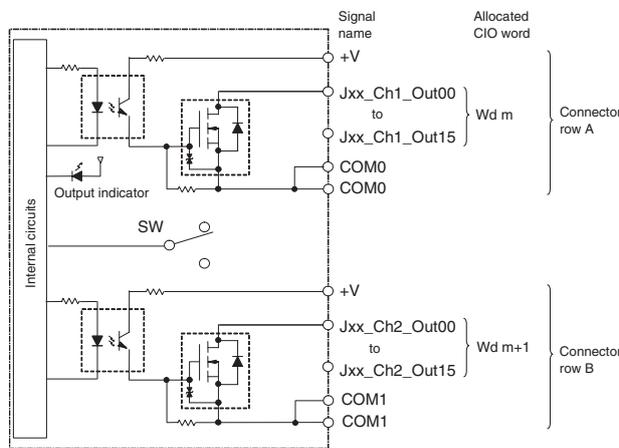
- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

\* 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-OD231 Transistor Output Unit (32 Points)

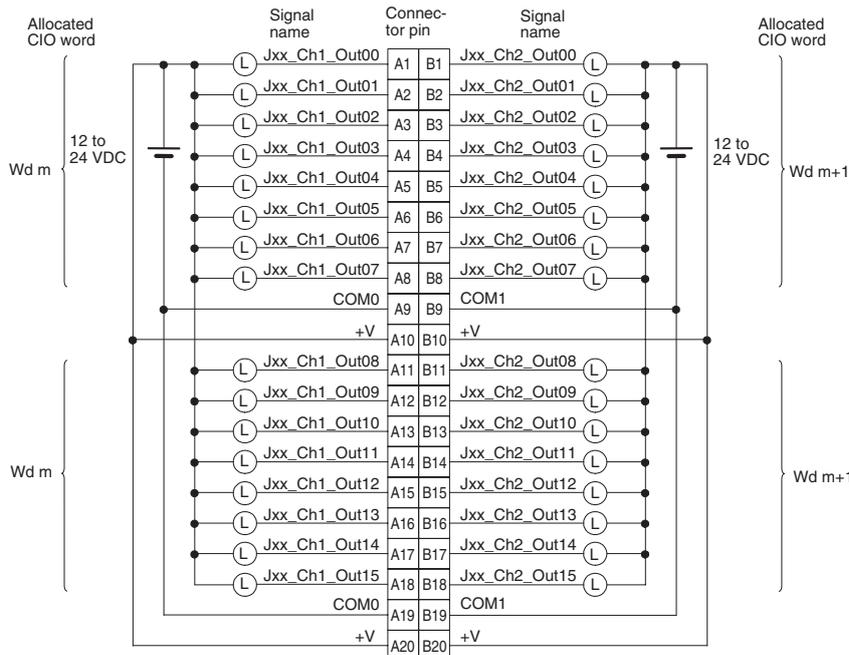
<b>Name</b>	32-point Transistor Output Unit with Fujitsu Connector (Sinking Outputs)
<b>Model</b>	CJ1W-OD231
<b>Rated Voltage</b>	12 to 24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 2.0 A/common, 4.0 A/Unit
<b>Maximum Inrush Current</b>	4.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.1 ms max.
<b>OFF Response Time</b>	0.8 ms max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	32 (16 points/common, 2 circuits)
<b>Internal Current Consumption</b>	5 VDC 140 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	10.2 to 26.4 VDC, 30 mA min.
<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.

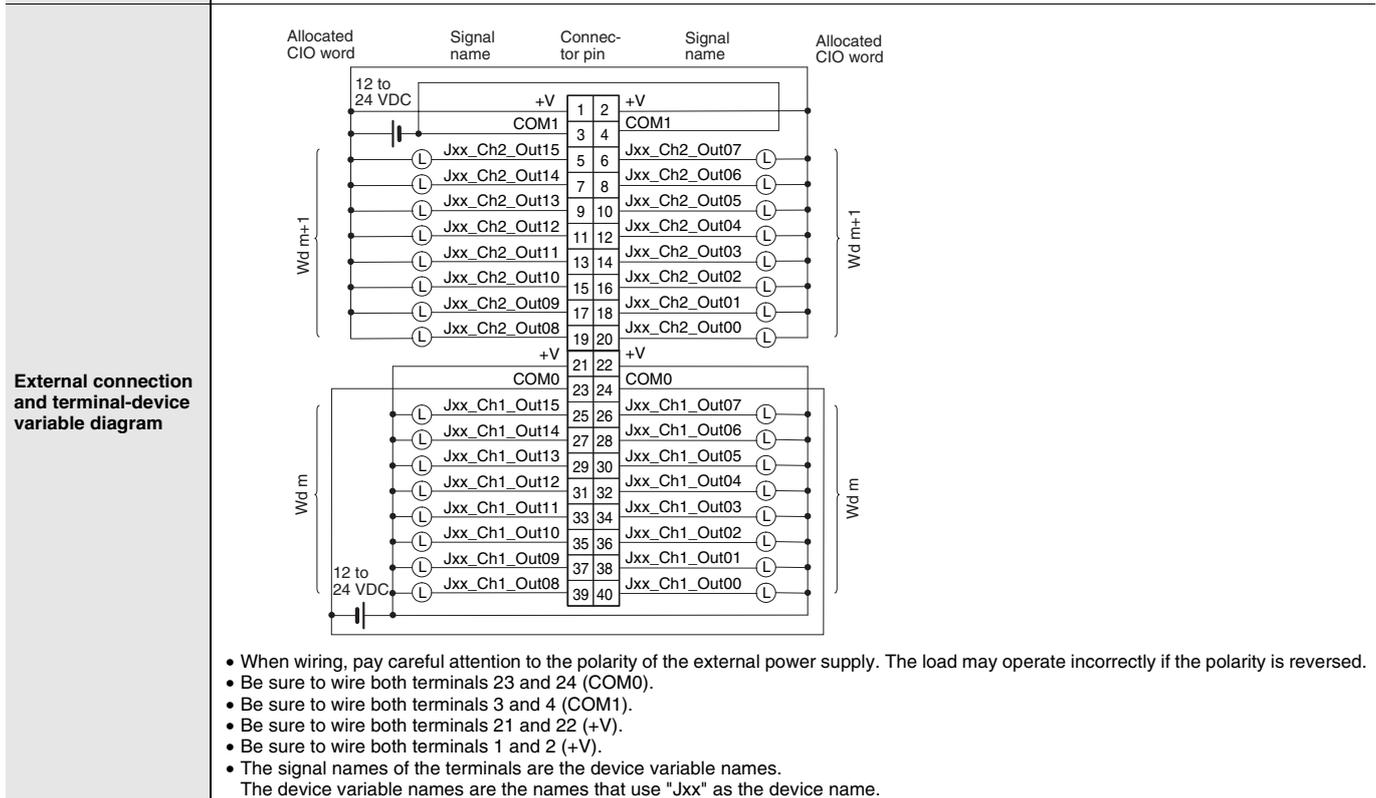
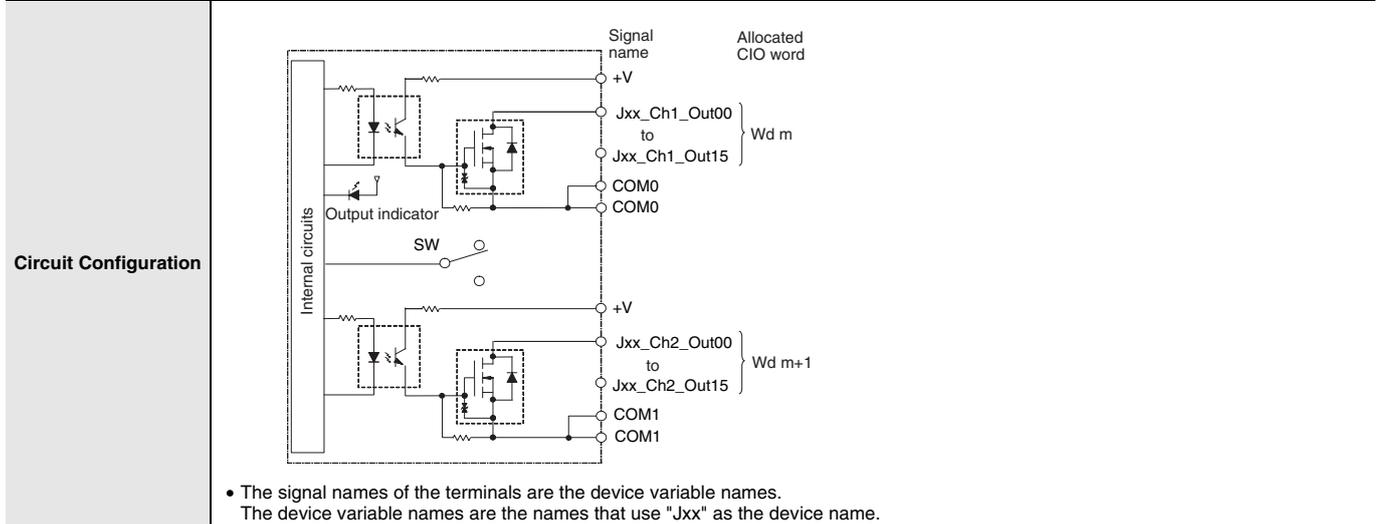
### External connection and terminal-device variable diagram



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

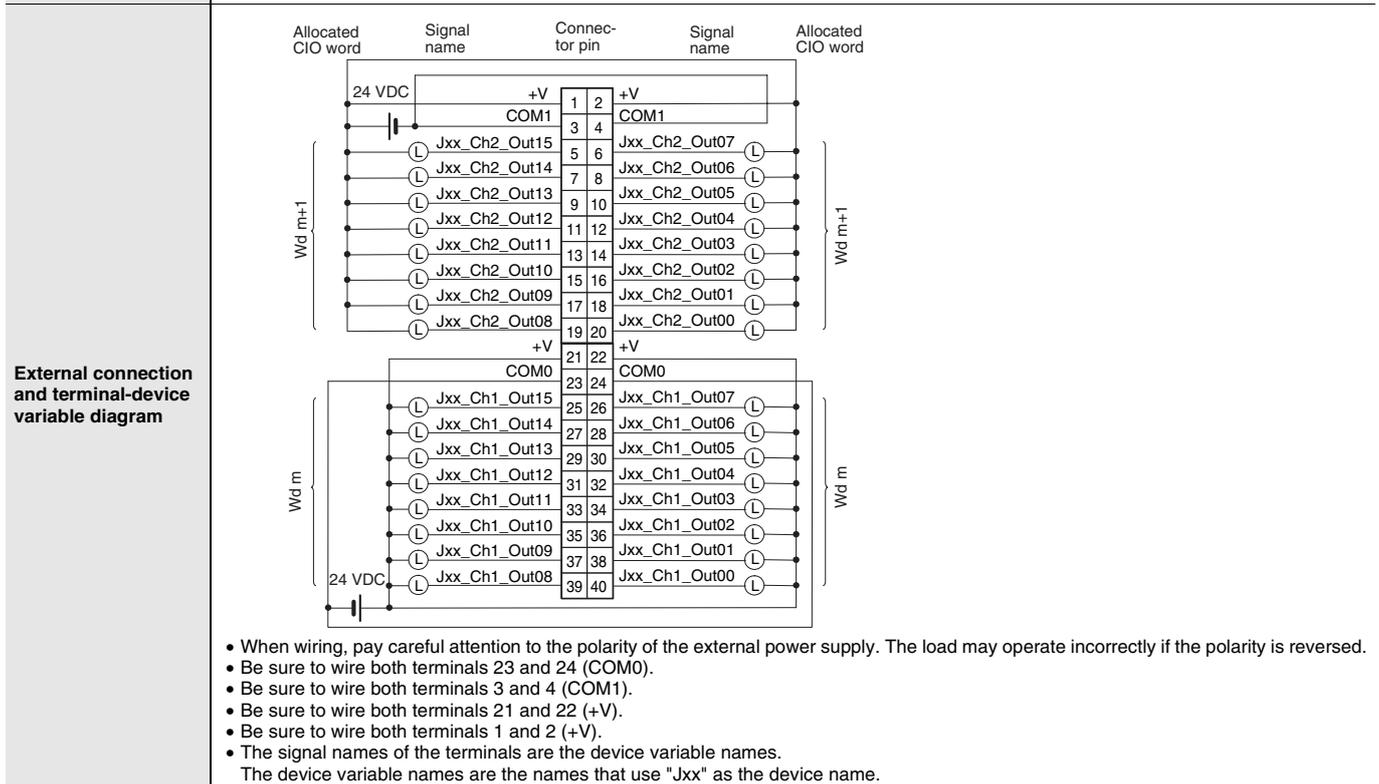
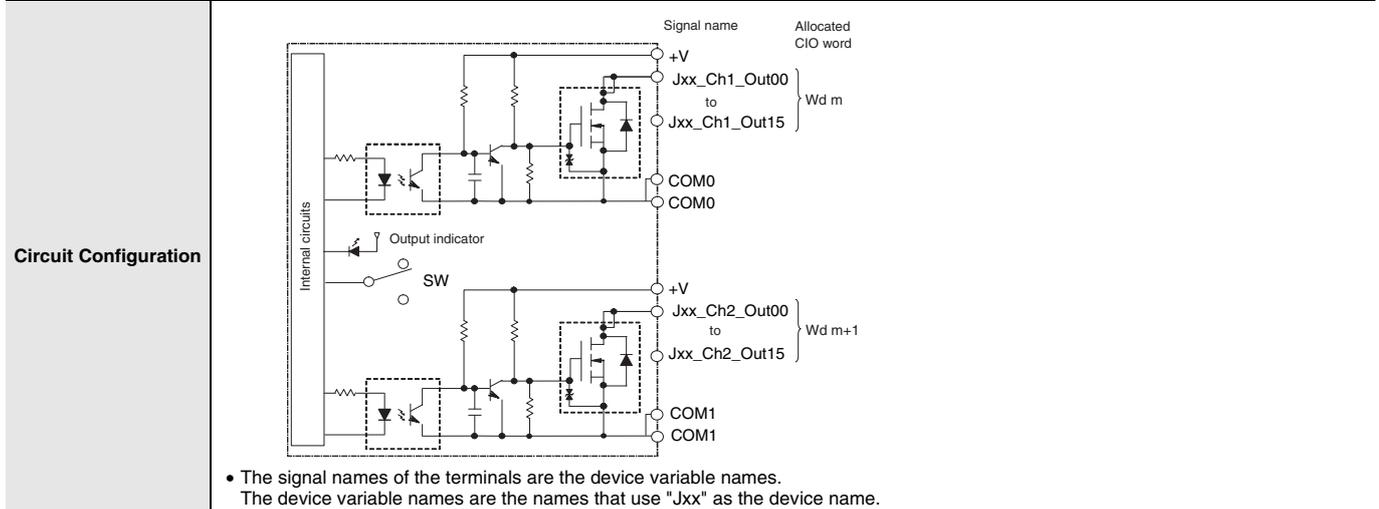
### CJ1W-OD233 Transistor Output Unit (32 Points)

<b>Name</b>	32-point Transistor Output Unit with MIL Connector (Sinking Outputs)
<b>Model</b>	CJ1W-OD233
<b>Rated Voltage</b>	12 to 24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 2 A/common, 4 A/Unit
<b>Maximum Inrush Current</b>	4.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.1 ms max.
<b>OFF Response Time</b>	0.8 ms max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	32 (16 points/common, 2 circuits)
<b>Internal Current Consumption</b>	140 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	12 to 24 VDC, 30 mA min.
<b>Weight</b>	70 g max.



### CJ1W-OD234 Transistor Output Unit (32 Points)

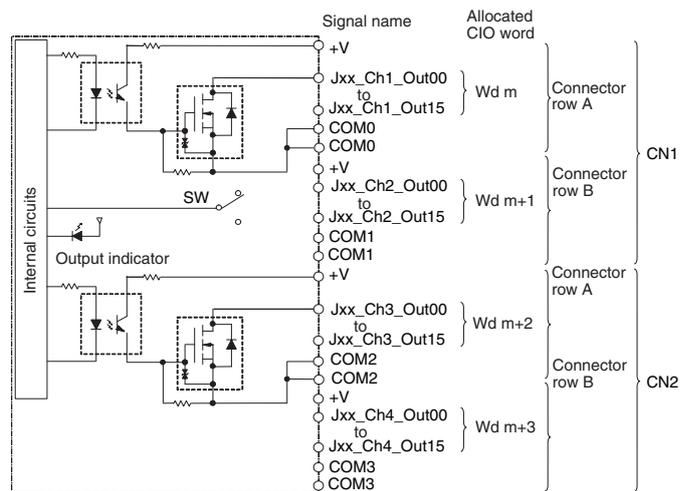
<b>Name</b>	32-point Transistor Output Unit with MIL Connector (Sinking Outputs)
<b>Model</b>	CJ1W-OD234
<b>Rated Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 2 A/common, 4 A/Unit
<b>Maximum Inrush Current</b>	4.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	15 μs max.
<b>OFF Response Time</b>	80 μs max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	32 (16 points/common, 2 circuits)
<b>Internal Current Consumption</b>	220 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	20.4 to 26.4 VDC, 110 mA min.
<b>Weight</b>	70 g max.



## CJ1W-OD261 Transistor Output Unit (64 Points)

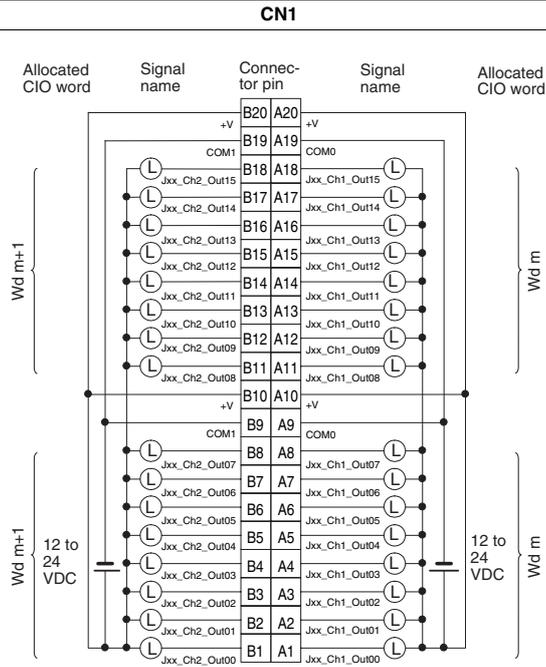
<b>Name</b>	64-point Transistor Output Unit with Fujitsu Connectors (Sinking Outputs)
<b>Model</b>	CJ1W-OD261
<b>Rated Voltage</b>	12 to 24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC
<b>Maximum Load Current</b>	0.3 A/point, 1.6 A/common, 6.4 A/Unit
<b>Maximum Inrush Current</b>	3.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.5 ms max.
<b>OFF Response Time</b>	1.0 ms max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	64 (16 points/common, 4 circuits)
<b>Internal Current Consumption</b>	5 VDC, 170 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	10.2 to 26.4 VDC, 50 mA min.
<b>Weight</b>	110 g max.
<b>Accessories</b>	None

### Circuit Configuration

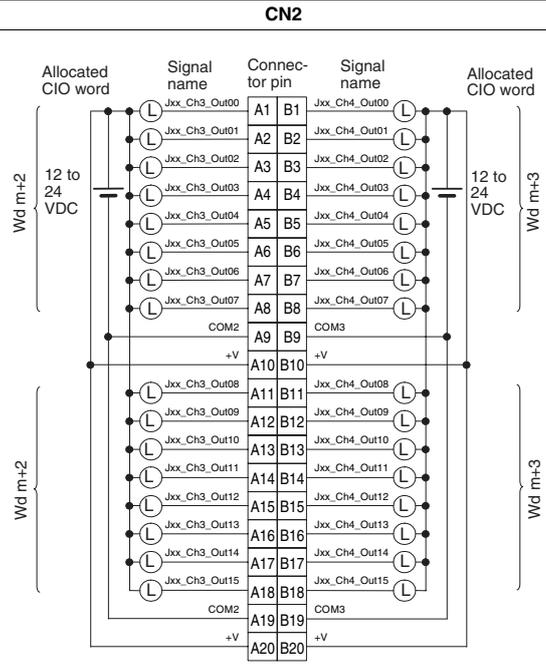


- The signal names of the terminals are the device variable names.  
The device variable names are the names that use "Jxx" as the device name.

External connection and terminal-device variable diagram



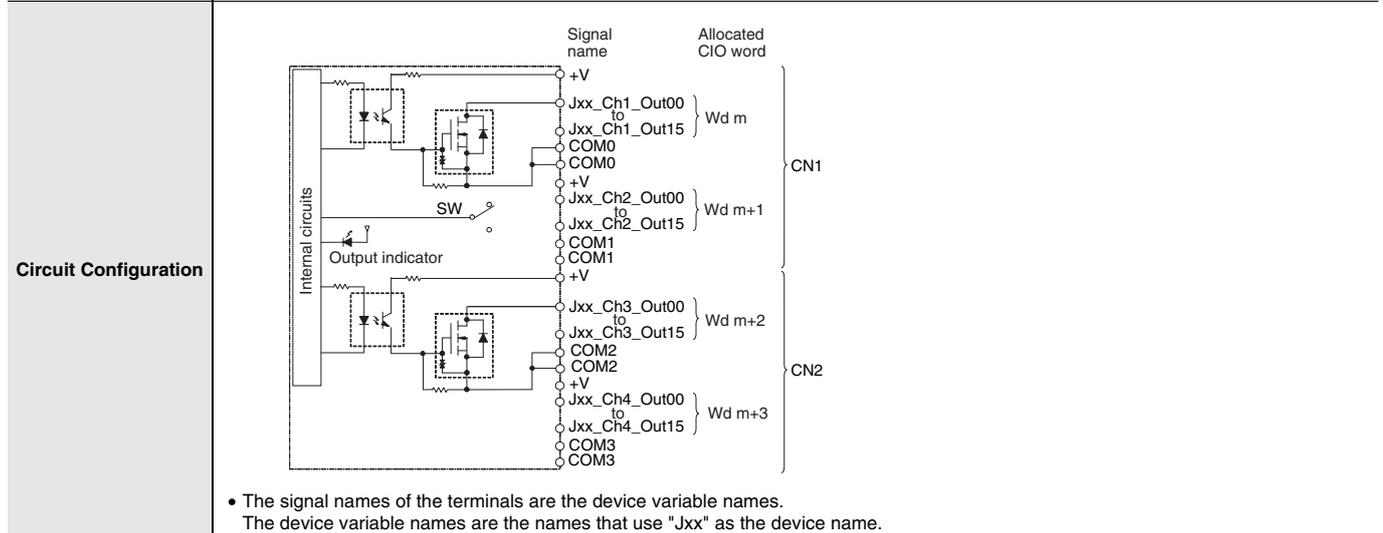
- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- Be sure to wire both terminals A9 and A19 (COM0) of CN1.
- Be sure to wire both terminals B9 and B19 (COM1) of CN1.
- Be sure to wire both terminals A10 and A20 (+V) of CN1.
- Be sure to wire both terminals B10 and B20 (+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 the polarity is reversed.
- Be sure to wire both terminals A9 and A19 (COM2) of CN2.
- Be sure to wire both terminals B9 and B19 (COM3) of CN2.
- Be sure to wire both terminals A10 and A20 (+V) of CN2.
- Be sure to wire both terminals B10 and B20 (+V) of CN2.
- 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.

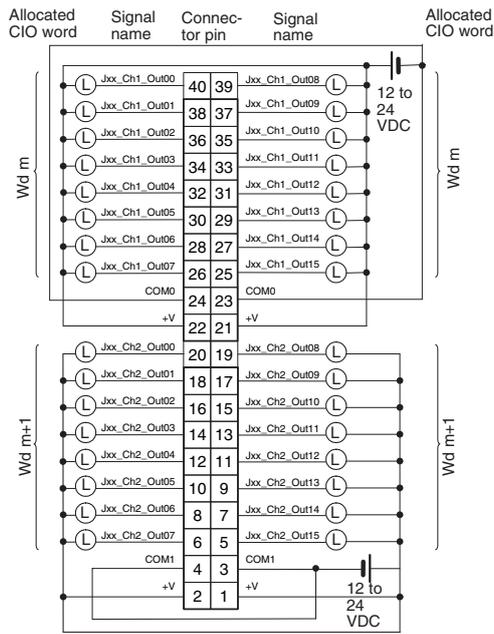
### CJ1W-OD263 Transistor Output Unit (64 Points)

<b>Name</b>	64-point Transistor Output Unit with MIL Connectors (Sinking Outputs)
<b>Model</b>	CJ1W-OD263
<b>Rated Voltage</b>	12 to 24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC
<b>Maximum Load Current</b>	0.3 A/point, 1.6 A/common, 6.4 A/Unit
<b>Maximum Inrush Current</b>	3.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.5 ms max.
<b>OFF Response Time</b>	1.0 ms max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	64 (16 points/common, 4 circuits)
<b>Internal Current Consumption</b>	170 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	12 to 24 VDC, 50 mA min.
<b>Weight</b>	110 g max.



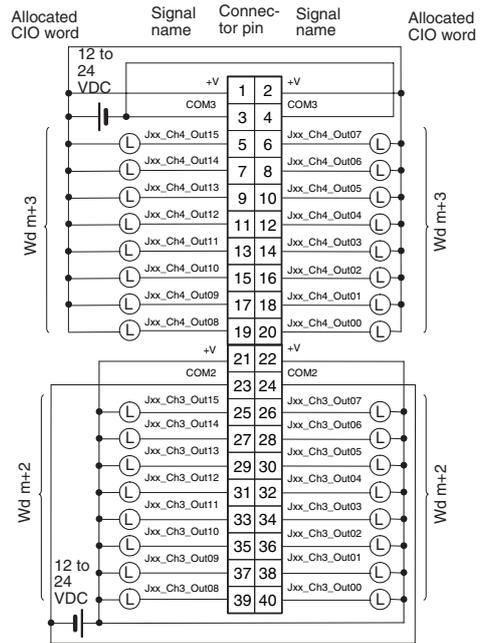
External connection and terminal-device variable diagram

CN1



- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- Be sure to wire both terminals 23 and 24 (COM0) of CN1.
- Be sure to wire both terminals 3 and 4 (COM1) of CN1.
- Be sure to wire both terminals 21 and 22 (+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.

CN2



- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- Be sure to wire both terminals 23 and 24 (COM2) of CN2.
- Be sure to wire both terminals 3 and 4 (COM3) of CN2.
- Be sure to wire both terminals 21 and 22 (+V) of CN2.
- Be sure to wire both terminals 1 and 2 (+V) of CN2.
- 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.

### CJ1W-OD202 Transistor Output Unit (8 Points)

<b>Name</b>	8-point Transistor Output Unit with Terminal Block (Sourcing Outputs)
<b>Model</b>	CJ1W-OD202
<b>Rated Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	2 A/point, 8 A/Unit
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.5 ms max.
<b>OFF Response Time</b>	1.0 ms max.
<b>Load Short-circuit Protection</b>	Detection current: 6 A min. Automatic restart after error clearance.
<b>Line Disconnection Detection</b>	Detection current: 200 mA
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	8 (4 points/common, 2 circuits)
<b>Internal Current Consumption</b>	110 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	24 VDC, 50 mA min.
<b>Weight</b>	120 g max.

**Circuit Configuration**

- When overcurrent or line disconnection is detected, the ERR indicator will light, and the corresponding bit (two points per bit) in the Basic I/O Unit Information Area (A050 to A069) will change to TRUE.
- 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**

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

\* 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-OD204 Transistor Output Unit (8 Points)

<b>Name</b>	8-point Transistor Output Unit with Terminal Block (Sourcing Outputs)
<b>Model</b>	CJ1W-OD204
<b>Rated Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 4.0 A/Unit
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.5 ms max.
<b>OFF Response Time</b>	1.0 ms max.
<b>Load Short-circuit Protection</b>	Detection current: 0.7 to 2.5 A Automatic restart after error clearance.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	8 (8 points/common, 1 circuit)
<b>Internal Current Consumption</b>	5 VDC, 100 mA max.
<b>Fuse</b>	None
<b>External Power Supply</b>	20.4 to 26.4 VDC, 40 mA min.
<b>Weight</b>	120 g max.

**Circuit Configuration**

- When overcurrent is detected, the ERR indicator will light, and the corresponding bit in the Basic I/O Unit Information Area (A050 to A069) will change to TRUE.
- 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**

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

\* 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-OD212 Transistor Output Unit (16 Points)

<b>Name</b>	16-point Transistor Output Unit with Terminal Block (Sourcing Outputs)
<b>Model</b>	CJ1W-OD212
<b>Rated Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 5.0 A/Unit
<b>Maximum Inrush Current</b>	0.1 mA max.
<b>Leakage Current</b>	1.5 V max.
<b>ON Response Time</b>	0.5 ms max.
<b>OFF Response Time</b>	1.0 ms max.
<b>Load Short-circuit Protection</b>	Detection current: 0.7 to 2.5 A Automatic restart after error clearance.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	16 (16 points/common, 1 circuit)
<b>Internal Current Consumption</b>	5 VDC, 100 mA max.
<b>External Power Supply</b>	20.4 to 26.4 VDC, 40 mA min.
<b>Weight</b>	120 g max.

**Circuit Configuration**

- When overcurrent is detected, the ERR indicator will light, and the corresponding bit in the Basic I/O Unit Information Area (A050 to A069) will change to TRUE.
- 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**

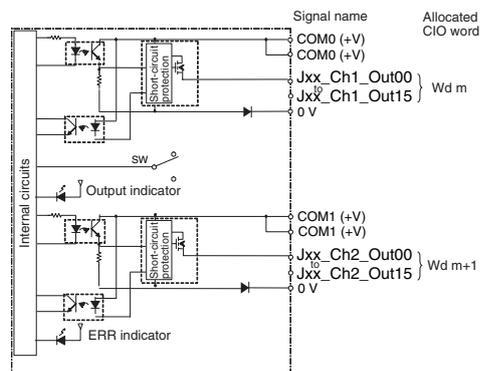
- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- The signal names of the terminals are the device variable names. The device variable names are the names that use "Jxx" as the device name.

\* 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-OD232 Transistor Output Unit (32 Points)

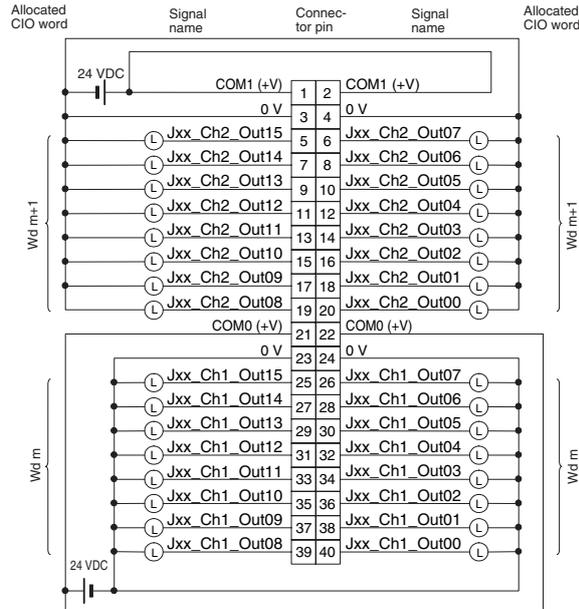
<b>Name</b>	32-point Transistor Output Unit with MIL Connector (Sourcing Outputs)
<b>Model</b>	CJ1W-OD232
<b>Rated Voltage</b>	24 VDC
<b>Operating Load Voltage Range</b>	20.4 to 26.4 VDC
<b>Maximum Load Current</b>	0.5 A/point, 2.0 A/common, 4.0 A/Unit
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.5 ms max.
<b>OFF Response Time</b>	1.0 ms max.
<b>Load Short-circuit Protection</b>	Detection current: 0.7 to 2.5 A Automatic restart after error clearance.
<b>Insulation Resistance</b>	20 M $\Omega$ between the 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>Number of Circuits</b>	32 (16 points/common, 2 circuits)
<b>Internal Current Consumption</b>	5 VDC 150 mA max.
<b>External Power Supply</b>	20.4 to 26.4 VDC, 70 mA min.
<b>Weight</b>	80 g max.
<b>Accessories</b>	None

### Circuit Configuration



- When overcurrent is detected, the ERR indicator will light, and the corresponding bit (bit allocated for each common) in the Basic I/O Unit Information Area (A050 to A069) will change to TRUE.
- 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.

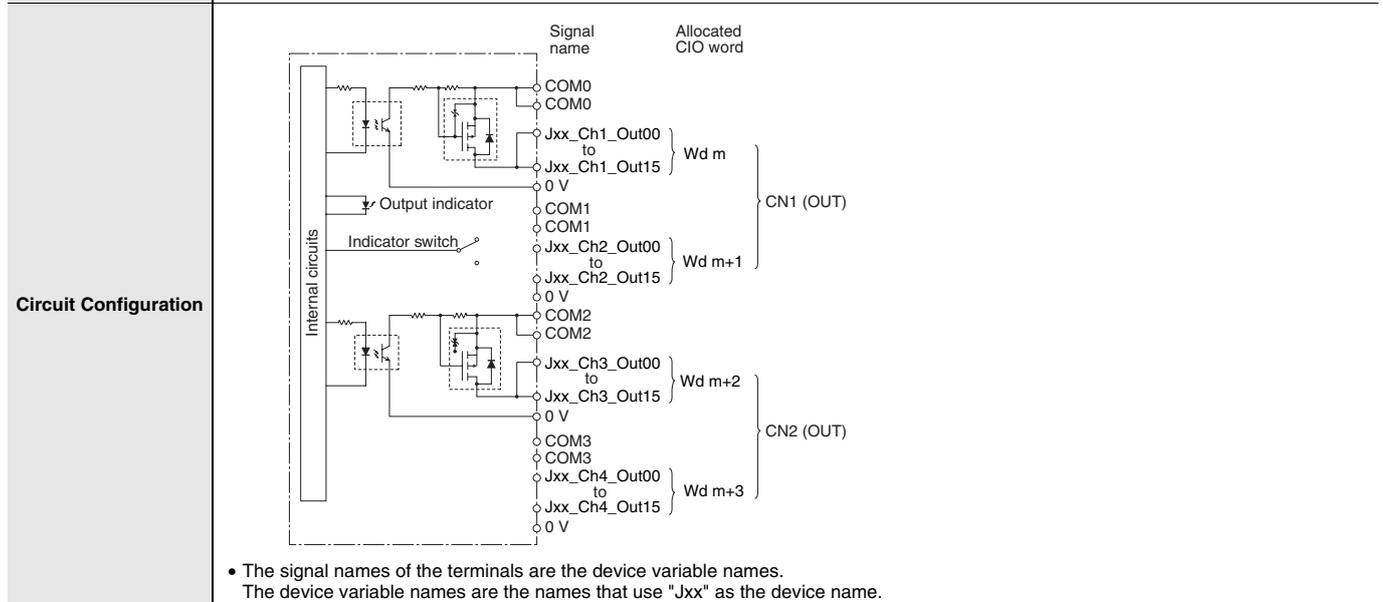
**External connection and terminal-device variable diagram**



- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- Be sure to wire both terminals 21 and 22 (COM0 (+V)).
- Be sure to wire both terminals 1 and 2 (COM1 (+V)).
- Be sure to wire both terminals 3 and 4 (0 V).
- Be sure to wire both terminals 23 and 24 (0 V).
- 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.

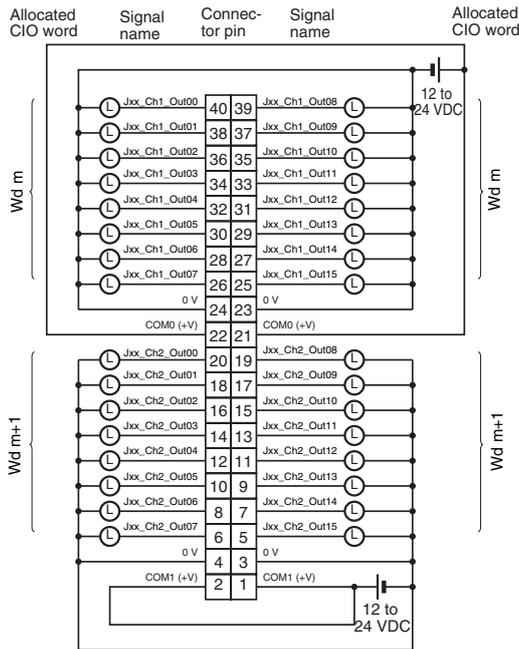
### CJ1W-OD262 Transistor Output Unit (64 Points)

<b>Name</b>	64-point Transistor Output Unit with MIL Connectors (Sourcing Outputs)
<b>Model</b>	CJ1W-OD262
<b>Rated Voltage</b>	12 to 24 VDC
<b>Operating Load Voltage Range</b>	10.2 to 26.4 VDC
<b>Maximum Load Current</b>	0.3 A/point, 1.6 A/common, 6.4 A/Unit
<b>Maximum Inrush Current</b>	3.0 A/point, 10 ms max.
<b>Leakage Current</b>	0.1 mA max.
<b>Residual Voltage</b>	1.5 V max.
<b>ON Response Time</b>	0.5 ms max.
<b>OFF Response Time</b>	1.0 ms max.
<b>Insulation Resistance</b>	20 MΩ between the 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>Number of Circuits</b>	64 (16 points/common, 4 circuits)
<b>Internal Current Consumption</b>	170 mA max. (5 VDC)
<b>Fuse</b>	None
<b>External Power Supply</b>	10.2 to 26.4 VDC, 50 mA min.
<b>Weight</b>	110 g max.
<b>Accessories</b>	None



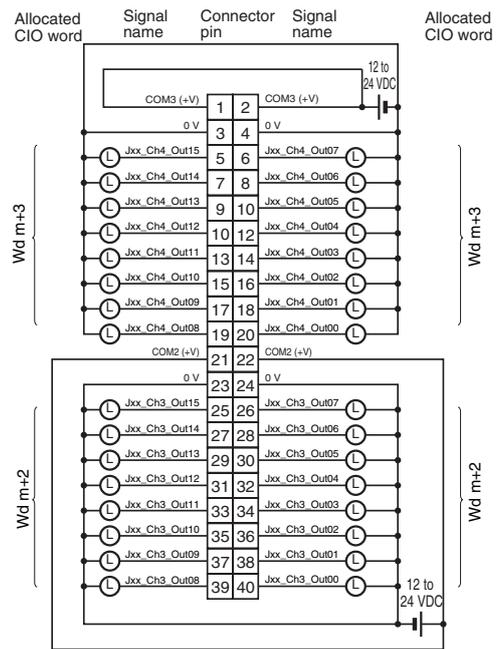
External connection and terminal-device variable diagram

CN1



- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- Be sure to wire both terminals 21 and 22 (COM0 (+V)) of CN1.
- Be sure to wire both terminals 1 and 2 (COM1 (+V)) of CN1.
- Be sure to wire both terminals 23 and 24 (0 V) of CN1.
- Be sure to wire both terminals 3 and 4 (0 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.

CN2



- When wiring, pay careful attention to the polarity of the external power supply. The load may operate incorrectly if the polarity is reversed.
- Be sure to wire both terminals 21 and 22 (COM2 (+V)) of CN2.
- Be sure to wire both terminals 1 and 2 (COM3 (+V)) of CN2.
- Be sure to wire both terminals 23 and 24 (0 V) of CN2.
- Be sure to wire both terminals 3 and 4 (0 V) of CN2.
- 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.

## Bit Allocations for Output Unit

### 8-point Output Unit

Allocated CIO word		Signal name (CJ/NJ)
CIO	Bit	
Wd m (Output)	00	OUT0/Jxx_Ch1_Out00
	01	OUT1/Jxx_Ch1_Out01
	:	:
	06	OUT6/Jxx_Ch1_Out06
	07	OUT7/Jxx_Ch1_Out07
	08	—
	09	—
	:	:
	14	—
15	—	

### 32-point Output 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

### 16-point Output Unit

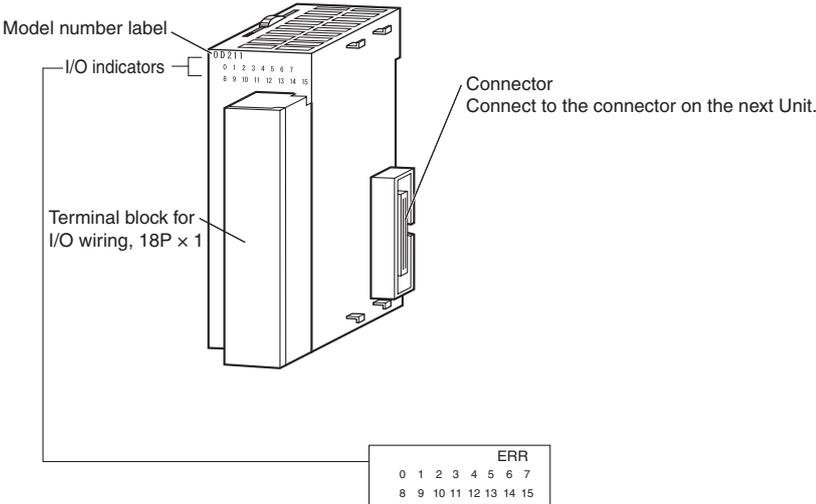
Allocated CIO word		Signal name (CJ/NJ)
CIO	Bit	
Wd m (Output)	00	OUT0/Jxx_Ch1_Out00
	01	OUT1/Jxx_Ch1_Out01
	:	:
	14	OUT14/Jxx_Ch1_Out14
	15	OUT15/Jxx_Ch1_Out15

### 64-point Output 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 (Output)	00	OUT0/Jxx_Ch3_Out00
	01	OUT1/Jxx_Ch3_Out01
	:	:
	14	OUT14/Jxx_Ch3_Out14
	15	OUT15/Jxx_Ch3_Out15
Wd m+3 (Output)	00	OUT0/Jxx_Ch4_Out00
	01	OUT1/Jxx_Ch4_Out01
	:	:
	14	OUT14/Jxx_Ch4_Out14
	15	OUT15/Jxx_Ch4_Out15

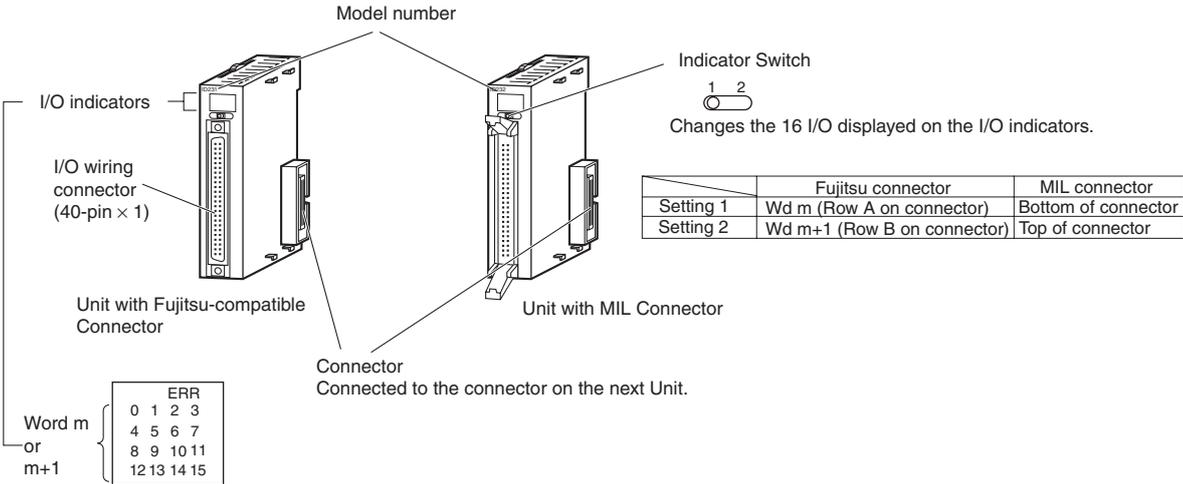
# External Interface

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



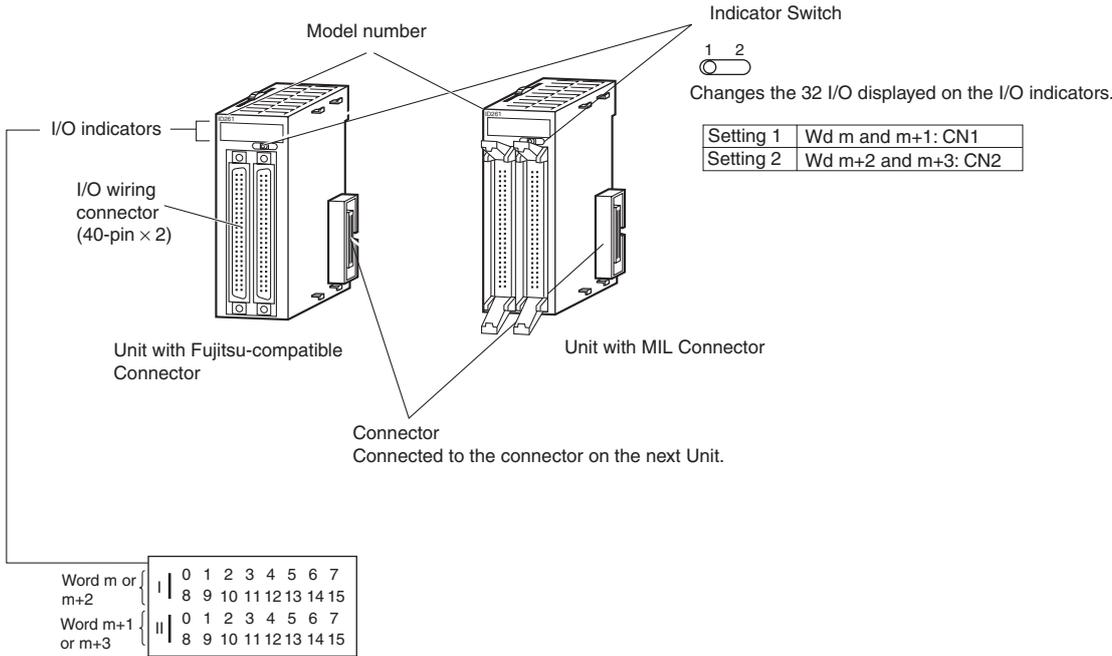
**Note:** The CJ1W-OD202, CJ1W-OD204, and CJ1W-OD212 also have an ERR indicator for the load short-circuit alarm.

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



**Note:** Only the CJ1W-OD232 has an ERR indicator for the load short-circuit alarm.

**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.

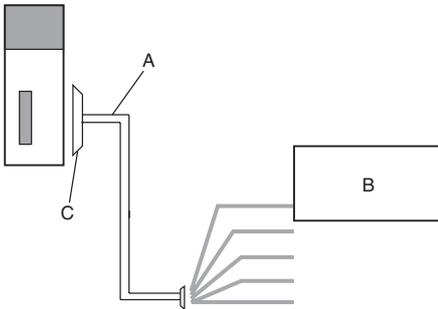


## I/O Unit Wiring Methods

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.

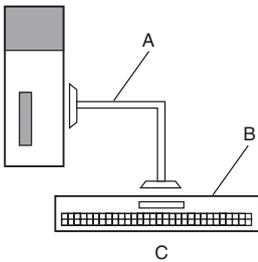


<b>A</b>	User-provided cable
<b>B</b>	External device
<b>C</b>	Connector

### 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 makes it easy to connect external devices.

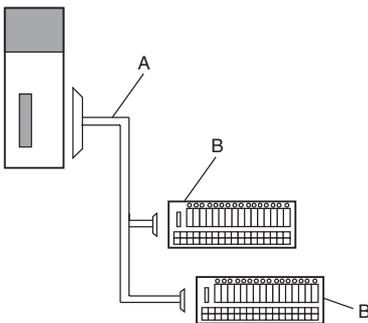


<b>A</b>	Connecting Cable for Connector-Terminal Block Conversion Unit XW2Z
<b>B</b>	Connector-Terminal Block Conversion Unit XW2□
<b>C</b>	Conversion to a screw terminal block

### 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>	G79 I/O Relay Terminal Connecting Cable
<b>B</b>	G7□□ I/O Relay Terminals 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-OD231	Transistor Output Unit with Sinking Outputs, 32 outputs	40
CJ1W-OD261	Transistor Output Unit with Sinking Outputs, 64 outputs	

#### Applicable Cable-side Connectors

Connection	Pins	OMRON set	Fujitsu parts
Solder-type	40	C500-CE404	Socket: FCN-361J040-AU Connector cover: FCN-360C040-J2
Crimped	40	C500-CE405	Socket: FCN-363J040 Connector cover: FCN-360C040-J2 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-OD232	Transistor Output Unit with sourcing outputs, 32 outputs	40
CJ1W-OD262	Transistor Output Unit with sourcing outputs, 64 outputs	
CJ1W-OD233 CJ1W-OD234	Transistor Output Unit with sinking outputs, 32 outputs	
CJ1W-OD263	Transistor Output Unit with sinking outputs, 64 outputs	

#### Applicable Cable-side Connectors

Connection	Pins	OMRON set	DDK parts
Pressure-welded	40	XG4M-4030-T	FRC5-A040-3T0S

## Wire Size

We recommend using cable with wire gauges of AWG 24 or AWG 28 (0.2 mm<sup>2</sup> to 0.08 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 crimping tools for MIL connectors.

#### Tools for Crimped Connectors (OMRON)

Product Name	Model
Crimping Tool	XY2B-0002
Attachment	XY2B-1007

## 2. Connecting Connector-Terminal Block Conversion Units

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

Pattern	Configuration	Number of Connectors	Branching
A	<p>Connecting Cable</p> <p>Connector-Terminal Block Conversion Unit</p> <p>40 or 60 terminals</p>	1	None
B	<p>Connecting Cable with two branches</p> <p>Connector-Terminal Block Conversion Unit</p> <p>20 terminals 20 terminals</p>		2 branches
D	<p>Connecting Cable</p> <p>Connector-Terminal Block Conversion Unit</p> <p>40 or 60 terminals 40 or 60 terminals</p>	2	None
F	<p>Connecting Cable with two branches</p> <p>Connector-Terminal Block Conversion Unit</p> <p>20 terminals 20 terminals 20 terminals 20 terminals</p>		2 branches

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

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable	Connector-Terminal Block Conversion Unit	Common terminal
CJ1W-OD231	32 outputs	1 Fujitsu connector	NPN	A	None	XW2Z-□□□B	XW2D-40G6	None
				A	None	XW2Z-□□□B	XW2B-40G5	None
				A	None	XW2Z-□□□B	XW2B-40G4	None
				A	None	XW2Z-□□□BU	XW2D-40C6	None
				B	2	XW2Z-□□□L	XW2D-20G6 (2 Units)	None
				B	2	XW2Z-□□□L	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-□□□L	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-□□□L	XW2C-20G6-IO16 (2 Units)	Yes
CJ1W-OD232	32 outputs	1 MIL connector	PNP	A	None	XW2Z-□□□K	XW2D-40G6	None
				A	None	XW2Z-□□□K	XW2B-40G5	None
				A	None	XW2Z-□□□K	XW2B-40G4	None
				B	2	XW2Z-□□□N	XW2D-20G6 (2 Units)	None
				B	2	XW2Z-□□□N	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-□□□N	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Yes
				B	2	XW2Z-□□□N	XW2F-20G7-OUT16 (2 Units)	Yes

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable	Connector-Terminal Block Conversion Unit	Common terminal
CJ1W-OD233	32 outputs	1 MIL connector	NPN	A	None	XW2Z-□□□K	XW2D-40G6	None
				A	None	XW2Z-□□□K	XW2B-40G5	None
				A	None	XW2Z-□□□K	XW2B-40G4	None
				B	2	XW2Z-□□□N	XW2D-20G6 (2 Units)	None
				B	2	XW2Z-□□□N	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-□□□N	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Yes
CJ1W-OD234	32 outputs	1 MIL connector	NPN	A	None	XW2Z-□□□K	XW2D-40G6	None
				A	None	XW2Z-□□□K	XW2B-40G5	None
				A	None	XW2Z-□□□K	XW2B-40G4	None
				B	2	XW2Z-□□□N	XW2D-20G6 (2 Units)	None
				B	2	XW2Z-□□□N	XW2B-20G5 (2 Units)	None
				B	2	XW2Z-□□□N	XW2B-20G4 (2 Units)	None
				B	2	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Yes
CJ1W-OD261	64 outputs	2 Fujitsu connectors	NPN	D	None	XW2Z-□□□B	XW2D-40G6	None
				D	None	XW2Z-□□□B	XW2B-40G5	None
				D	None	XW2Z-□□□B	XW2B-40G4	None
				D	None	XW2Z-□□□BU	XW2D-40C6	None
				F	2	XW2Z-□□□L	XW2D-20G6 (2 Units)	None
				F	2	XW2Z-□□□L	XW2B-20G5 (2 Units)	None
				F	2	XW2Z-□□□L	XW2B-20G4 (2 Units)	None
				F	2	XW2Z-□□□L	XW2C-20G6-IO16 (2 Units)	Yes
CJ1W-OD262	64 outputs	2 MIL connectors	PNP	D	None	XW2Z-□□□K	XW2D-40G6	None
				D	None	XW2Z-□□□K	XW2B-40G5	None
				D	None	XW2Z-□□□K	XW2B-40G4	None
				F	2	XW2Z-□□□N	XW2D-20G6 (2 Units)	None
				F	2	XW2Z-□□□N	XW2B-20G5 (2 Units)	None
				F	2	XW2Z-□□□N	XW2B-20G4 (2 Units)	None
				F	2	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Yes
				F	2	XW2Z-□□□N	XW2F-20G7-OUT16 (2 Units)	Yes
CJ1W-OD263	64 outputs	2 MIL connectors	NPN	D	None	XW2Z-□□□K	XW2D-40G6	None
				D	None	XW2Z-□□□K	XW2B-40G5	None
				D	None	XW2Z-□□□K	XW2B-40G4	None
				F	2	XW2Z-□□□N	XW2D-20G6 (2 Units)	None
				F	2	XW2Z-□□□N	XW2B-20G5 (2 Units)	None
				F	2	XW2Z-□□□N	XW2B-20G4 (2 Units)	None
				F	2	XW2Z-□□□N	XW2C-20G6-IO16 (2 Units)	Yes
				F	2	XW2Z-□□□N	XW2F-20G7-OUT16 (2 Units)	Yes

Types of Connecting Cables

Cable length	XW2Z-□□B	XW2Z-□□BU	XW2Z-□□L	XW2Z-□□K	XW2Z-□□N
0.25m	-	-	-	XW2Z-C25K	-
0.5m	XW2Z-050B	XW2Z-050BU	-	XW2Z-C50K	-
1.0m	XW2Z-100B	XW2Z-100BU	XW2Z-100L	XW2Z-100K	XW2Z-100N
1.5m	XW2Z-150B	XW2Z-150BU	XW2Z-150L	XW2Z-150K	XW2Z-150N
2.0m	XW2Z-200B	XW2Z-200BU	XW2Z-200L	XW2Z-200K	XW2Z-200N
3.0m	XW2Z-300B	XW2Z-300BU	XW2Z-300L	XW2Z-300K	XW2Z-300N
5.0m	XW2Z-500B	XW2Z-500BU	XW2Z-500L	XW2Z-500K	XW2Z-500N
10.0m	XW2Z-010B	-	XW2Z-010L	-	XW2Z-010N
15.0m	XW2Z-15MB	-	XW2Z-15ML	-	XW2Z-15MN
20.0m	XW2Z-20MB	-	XW2Z-20ML	-	XW2Z-20MN

### 3. Connecting I/O Relay Terminals

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

Pattern	Configuration
A	
B	

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

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable	I/O Relay Terminal
CJ1W-OD231	32 outputs	1 Fujitsu connector	NPN	A	2	G79-O□C-□	G7TC-OC16
				A	2	G79-O□C-□	G7TC-OC08
				A	2	G79-O□C-□	G70D-SOC16
				A	2	G79-O□C-□	G70D-FOM16
				A	2	G79-O□C-□	G70D-VSOC16
				A	2	G79-O□C-□	G70D-VFOM16
				A	2	G79-O□C-□	G70A-ZOC16-3 and Relay
				A	2	G79-O□C-□	G70R-SOC08
CJ1W-OD232	32 outputs	1 MIL connector	PNP	A	2	G79-I□-□-D1	G7TC-OC16-1
				A	2	G79-O□-□-D1	G70D-SOC16-1
				A	2	G79-O□-□-D1	G70D-FOM16-1
				A	2	G79-O□-□-D1	G70A-ZOC16-4 and Relay
CJ1W-OD233	32 outputs	1 MIL connector	NPN	A	2	G79-O□-□-D1	G7TC-OC16
				A	2	G79-O□-□-D1	G7TC-OC08
				A	2	G79-O□-□-D1	G70D-SOC16
				A	2	G79-O□-□-D1	G70D-FOM16
				A	2	G79-O□-□-D1	G70D-VSOC16
				A	2	G79-O□-□-D1	G70D-VFOM16
				A	2	G79-O□-□-D1	G70A-ZOC16-3 and Relay
				A	2	G79-O□-□-D1	G70R-SOC08
CJ1W-OD234	32 outputs	1 MIL connector	NPN	A	2	G79-O□-□-D1	G7TC-OC16
				A	2	G79-O□-□-D1	G7TC-OC08
				A	2	G79-O□-□-D1	G70D-SOC16
				A	2	G79-O□-□-D1	G70D-FOM16
				A	2	G79-O□-□-D1	G70D-VSOC16
				A	2	G79-O□-□-D1	G70D-VFOM16
				A	2	G79-O□-□-D1	G70A-ZOC16-3 and Relay
				A	2	G79-O□-□-D1	G70R-SOC08
A	2	G79-O□-□-D1	G70D-SOC08				

Unit	I/O capacity	Number of connectors	Polarity	Connection pattern	Number of branches	Connecting Cable	I/O Relay Terminal
CJ1W-OD261	64 outputs	2 Fujitsu connectors	NPN	B	2	G79-O□C-□	G7TC-OC16
				B	2	G79-O□C-□	G7TC-OC08
				B	2	G79-O□C-□	G70D-SOC16
				B	2	G79-O□C-□	G70D-FOM16
				B	2	G79-O□C-□	G70D-VSOC16
				B	2	G79-O□C-□	G70D-VFOM16
				B	2	G79-O□C-□	G70A-ZOC16-3 and Relay
				B	2	G79-O□C-□	G70R-SOC08
CJ1W-OD262	64 outputs	2 MIL connectors	PNP	B	2	G79-I□-□-D1	G7TC-OC16-1
				B	2	G79-O□-□-D1	G70D-SOC16-1
				B	2	G79-O□-□-D1	G70D-FOM16-1
				B	2	G79-O□-□-D1	G70A-ZOC16-4 and Relay
CJ1W-OD263	64 outputs	2 MIL connectors	NPN	B	2	G79-O□-□-D1	G7TC-OC16
				B	2	G79-O□-□-D1	G7TC-OC08
				B	2	G79-O□-□-D1	G70D-SOC16
				B	2	G79-O□-□-D1	G70D-FOM16
				B	2	G79-O□-□-D1	G70D-VSOC16
				B	2	G79-O□-□-D1	G70D-VFOM16
				B	2	G79-O□-□-D1	G70A-ZOC16-3 and Relay
				B	2	G79-O□-□-D1	G70R-SOC08
				B	2	G79-O□-□-D1	G70D-SOC08

**Types of Connecting Cables**

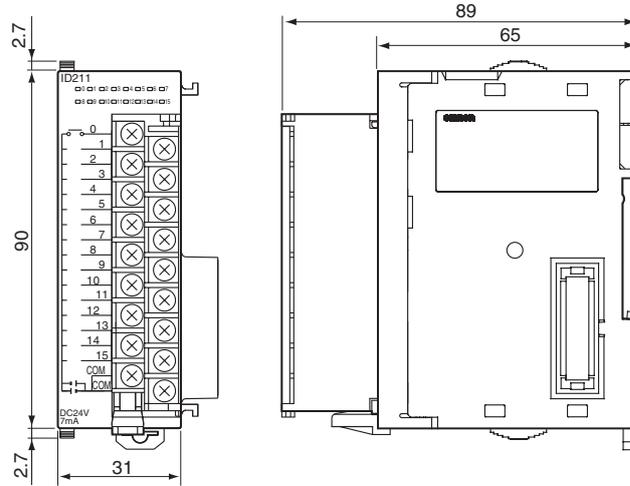
Cable length	G79-O□C-□	G79-O□-□-D1	G79-I□-□-D1
0.25m	-	-	-
0.5m	-	G79-O50-25-D1	G79-I50-25-D1
1.0m	G79-O100C-75	G79-O75-50-D1	G79-I75-50-D1
1.5m	G79-O150C-125	-	-
2.0m	G79-O200C-175	-	-
3.0m	G79-O300C-275	-	-
5.0m	G79-O500C-475	-	-

Dimensions

(Unit: mm)

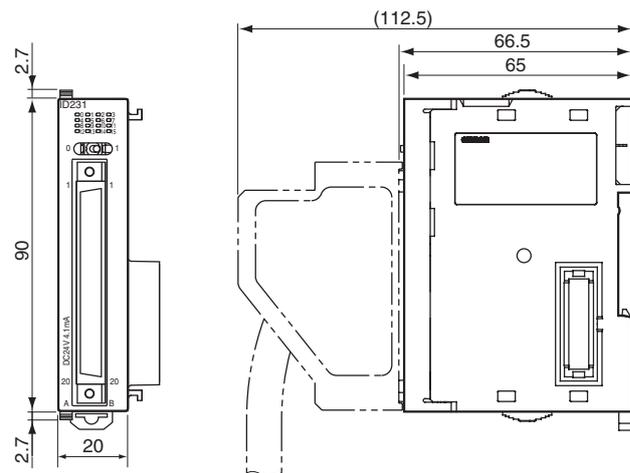
8-point/16-point Units (18-point Terminal Blocks)

CJ1W-OC201/ OC211/ OA201/ OD201 / OD202/ OD203/ OD204/ OD211/ OD213 / OD212



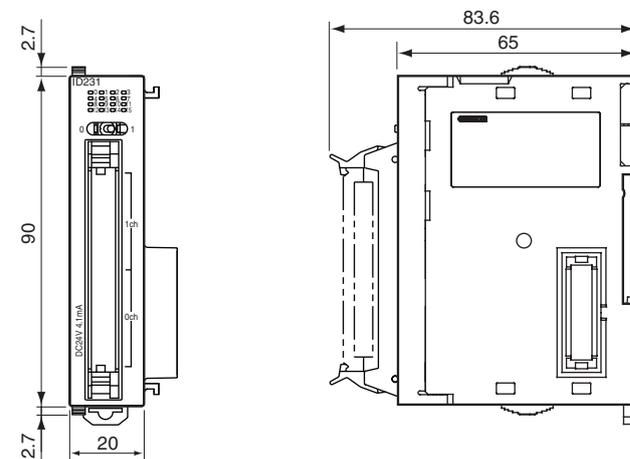
32-point Unit (Output Units)

With Fujitsu-Compatible Connector (40-pin × 1)  
CJ1W-OD231



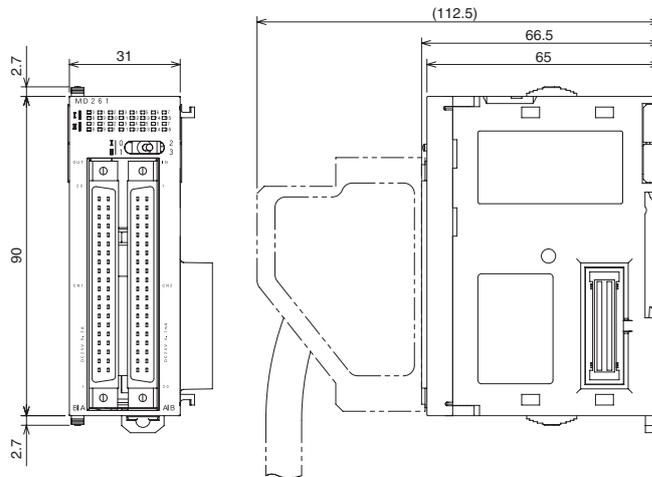
With MIL Connector (40-pin × 1)

CJ1W-OD232 / OD233 / OD234

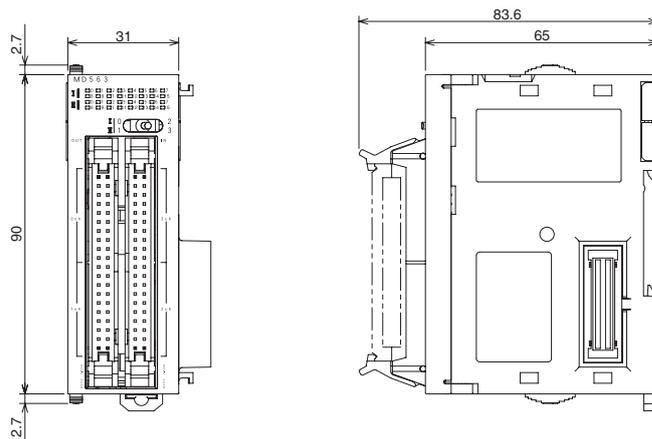


### 64-point Units (Output Units)

With Fujitsu-Compatible Connector (40-pin × 2)  
CJ1W-OD261



With MIL Connector (40-pin × 2)  
CJ1W-OD262 / OD263



### Related Manuals

Name	Cat. No.	Contents
CJ-series CJ2 CPU Unit Hardware User's Manual CJ2H-CPU6□-EIP CJ2H-CPU6□ 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>
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.
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).

## Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

## Warranty and Limitations of Liability

### WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

### LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

## Application Considerations

### SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

### PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

## Disclaimers

### CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

### DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

### PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

### ERRORS AND OMISSIONS

The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

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In the interest of product improvement, specifications are subject to change without notice.

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