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Basic I/O Selection

This section describes the standard, high-density and mixed I/O modules, terminal blocks and cables used in a CS1 system.

Input Configuration

What input voltage do you need?

DC

Type	5 VDC	12 VDC	12-24 VDC	24 VDC
Model number	C200H-ID501	C200H-ID111	C200H-ID211	CS1W-ID211
				CS1W-ID231
				CS1W-ID261
				CS1W-ID291
				CS1W-IDP01
See page	**C-42**	**C-42**	**C-42**	**C-42**

AC

Type	100-120 VAC	200-240 VAC
Model number	C200H-IA121	C200H-IA221
	C200H-IA122V	CS1W-IA211
		C200H-IA222V
See page	**C-42**	**C-42**

AC/DC

Type	12-24 VAC/DC	24 VAC/DC	100-120 VAC/DC
Model number	C200H-IM211	C200H-IM212	CS1W-IA111
See page	**C-42**	**C-42**	**C-42**

How many input points are required?

Choose from the available point densities below.

Input Points	8	16	32	64	96
DC inputs	C200H-ID211	CS1W-ID211	CS1W-ID231	CS1W-ID261	CS1W-ID291
		CS1W-IDP01	C200H-ID501	C200H-ID111	
AC inputs	C200H-IA121	CS1W-IA211	–	–	–
	C200H-IA221	C200H-IA122V			
		C200H-IA222V			
AC/DC inputs	C200H-IM211	CS1W-IA111	–	–	–
		C200H-IM212			
See page	**C-42**	**C-42**	**C-42**	**C-42**	**C-42**

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What are the input current requirements?

Input Current	4.1 mA or Below	7 mA or Below	10 mA or Below
DC inputs	C200H-ID111	CS1W-ID211	C200H-ID211
		CS1W-ID231	
		CS1W-ID261	
		CS1W-ID291	
		CS1W-IDP01	
AC inputs	–	–	CS1W-IA211
			C200H-IA121
			C200H-IA122V
			C200H-IA221
			C200H-IA222V
AC/DC inputs	CS1W-IA111 (DC In)	C200H-IM212	CS1W-IA111 (AC In)
			C200H-IM211
See page	**C-42**	**C-42**	**C-42**

Are terminal blocks and connection cables necessary?

Input modules with 8 or 16 points have removable terminal blocks that accept direct wiring from input devices. High-density 32-, 64- and 96-point modules use cables and terminal blocks to connect inputs and consolidate wiring back to the control panel. For more information see page C-67.

Module	Connector Type	Terminal Block	Cable
CS1W-ID211	Removable terminal block	Not required	Not required
CS1W-IDP01			
CS1W-IA111			
CS1W-IA211			
C200H-ID211			
C200H-IA121			
C200H-IA221			
C200H-IA122V			
C200H-IA222V			
C200H-IM211			
C200H-IM212			
CS1W-ID231	Fujitsu-compatible connector on module	XW2B-40G4 or G5	XW2Z-□□□B
CS1W-ID261		Two XW2B-40G4 or G5	Two XW2Z-□□□B
CS1W-ID291		Two XW2B-60G4 or G5	Two XW2Z-□□□H-1
C200H-ID501		Two XW2B-20G4 or G5	Two XW2Z-□□□A
C200H-ID111		Two XW2B-40G4 or G5	Two XW2Z-□□□B

Note: For more information on wiring connections, please refer to the wiring section starting on page D-1.

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Output Configuration

How many output points are required?

Choose from the available point densities below.

Output Points	5	8	12	16	32	64	96
Transistor Sinking (NPN)	–	C200H-OD411 C200H-OD213	C200H-OD211	CS1W-OD211	CS1W-OD231 C200H-OD215 C200H-OD218 C200H-OD501	CS1W-OD261 C200H-OD219	CS1W-OD291
Transistor Sourcing (PNP)	–	C200H-OD214 C200H-OD216	C200H-OD217	CS1W-OD212 C200H-OD21A	CS1W-OD232	CS1W-OD262	CS1W-OD292
Relay	C200H-OC223	CS1W-OC201 C200H-OC221	C200H-OC222	CS1W-OC211	–	–	–
Triac	–	CS1W-OA201	C200H-OA222V C200H-OA224	CS1W-OA211	–	–	–
See page	**C-51**	**C-51, C-52**	**C-51, C-52**	**C-51, C-52**	**C-51, C-52**	**C-51**	**C-51**

Are terminal blocks and connection cables necessary?

Output modules with 5, 8 or 16 points have removable terminal blocks that accept direct wiring from output devices. High-density 32-, 64- and 96-point modules use cables and terminal blocks to connect inputs and consolidate wiring back to the control panel. For more information see page C-67.

Module	Connector Type	Terminal Block	Cable
CS1W-OC201	Removable terminal block	Not required	Not required
CS1W-OC211			
CS1W-OD211			
CS1W-OD212			
CS1W-OA201			
CS1W-OA211			
C200H-OC223			
C200H-OC221			
C200H-OC222			
C200H-OD411			
C200H-OD213			
C200H-OD214			
C200H-OD216			
C200H-OD211			
C200H-OD217			
C200H-OD21A			
C200H-OA222V			
C200H-OA224			
CS1W-OD231	Fujitsu-compatible connector on module	XW2B-40G4 or G5	XW2Z-□□□B
CS1W-OD232		XW2B-40G4 or G5	XW2Z-□□□B
CS1W-OD261		Two XW2B-40G4 or G5	Two XW2Z-□□□B
CS1W-OD262		Two XW2B-40G4 or G5	Two XW2Z-□□□B
CS1W-OD291		Two XW2B-60G4 or G5	Two XW2Z-□□□H-1
CS1W-OD292		Two XW2B-60G4 or G5	Two XW2Z-□□□H-1
C200H-OD215		Two XW2B-20G4 or G5	Two XW2Z-□□□A
C200H-OD218		XW2B-40G4 or G5	XW2Z-□□□B
C200H-OD219		Two XW2B-40G4 or G5	Two XW2Z-□□□B
C200H-OD501		Two XW2B-20G4 or G5	Two XW2Z-□□□A

Note: For more information on wiring connections, please refer to the wiring section starting on page D-1.

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Mixed I/O Configuration

What input voltage and transistor output type (NPN or PNP) do you need?

Input Voltage	5 VDC	12 VDC	24 VDC	See page
Sinking outputs (NPN)	CS1W-MD561	C200H-MD115	CS1W-MD261	**C-63**
	C200H-MD501		CS1W-MD291	**C-63**
			C200H-MD215	**C-63**
Sourcing outputs (PNP)	–	–	CS1W-MD262	**C-63**
			CS1W-MD292	**C-63**

How many input/output points are required?

Choose from the available point densities below.

I/O Points	16 In/16 Out	32 In/32 Out	48 In/ 48 Out	See page
	C200H-MD501	CS1W-MD261	CS1W-MD291	**C-63**
	C200H-MD115	CS1W-MD262	CS1W-MD292	**C-63**
	C200H-MD215	CS1W-MD561		**C-63**

Are terminal blocks and connection cables necessary?

High-density I/O modules use cables and terminal blocks to connect inputs/outputs and consolidate wiring back to the control panel. For more information see page C-67.

Module	Connector Type	Terminal Block	Cable
CS1W-MD261	Fujitsu-compatible connector on module	Two XW2B-40G4 or G5	Two XW2Z-□□□B
CS1W-MD262		Two XW2B-40G4 or G5	Two XW2Z-□□□B
CS1W-MD561		Two XW2B-40G4 or G5	Two XW2Z-□□□B
CS1W-MD291		Two XW2B-60G4 or G5	Two XW2Z-□□□H-1
CS1W-MD292		Two XW2B-60G4 or G5	Two XW2Z-□□□H-1

Note: For more information on wiring connections, please refer to the wiring section starting on page D-1.

Configuration Guidelines

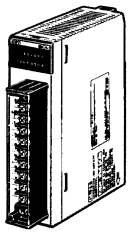
Remember to add all the current consumptions of basic I/O, special I/O modules, and CPU bus units to determine which power supply is appropriate.

Please refer to the ***System Configuration*** section for current consumption of individual modules.

For more I/O options, see the ***Industrial Networks and Communication*** section for DeviceNet I/O on page C-123 and CompoBus/S I/O on page C-138.

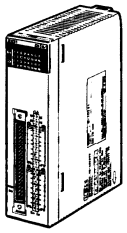
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Input Module Specifications

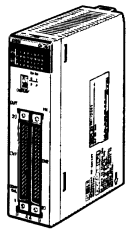


Input Module
CS1W-ID211
16 points

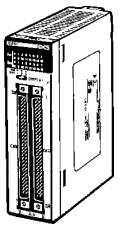
AC Input Modules
CS1W-IA111/IA211
16 points



Input Module
CS1W-ID231
32 points



Input Module
CS1W-ID261
64 points



Input Module
CS1W-ID291
96 points

■ DC Input Modules

Classification	Input voltage	Inputs	Connections	Input Current	Model
CS1 Basic I/O	24 VDC	16 pts	Removable terminal block	7 mA	CS1W-ID211
		32 pts	Connector	6 mA	CS1W-ID231
		64 pts		6 mA	CS1W-ID261
		96 pts		5 mA	CS1W-ID291
C200H Basic I/O	12 to 24 VDC	8 pts	Connector	10 mA	C200H-ID211
C200H Group-2 I/O	12 VDC	64 pts		4.1 mA	C200H-ID111

Note: The previous Modules work with the CS1: C200H-ID212/215/216/217/218/219.

■ High Speed DC Input Module

Classification	Input voltage	Inputs	Connections	Min. pulse width	Model
CS1 Basic I/O	24 VDC	16 pts	Removable block	0.1 ms	CS1W-IDP01

■ TTL Input Module

Classification	Input voltage	Inputs	Connections	Remarks	Model
C200H Special I/O	5 VDC	32 pts	Connector	8 pts. can be set as high-speed inputs	CS1W-ID501

■ AC Input Modules

Classification	Input voltage	Inputs	Connections	Remarks	Model
CS1 Basic I/O	100 to 120 VAC/VDC	16 pts	Removable terminal block	—	CS1W-IA111
	200 to 240 VAC	16 pts		—	CS1W-IA211
C200H Basic I/O	100 to 120 VAC	8 pts	Removable terminal block	—	C200H-IA121
	200 to 240 VAC			—	C200H-IA221
	100 to 120 VAC	16 pts		EC compliant	C200H-IA122
	200 to 240 VAC			—	C200H-IA222

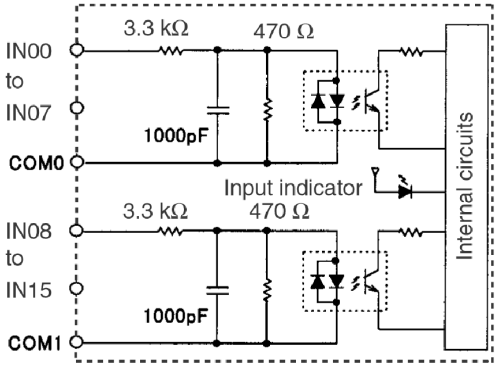
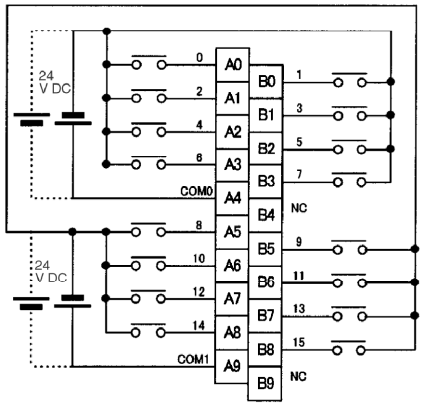
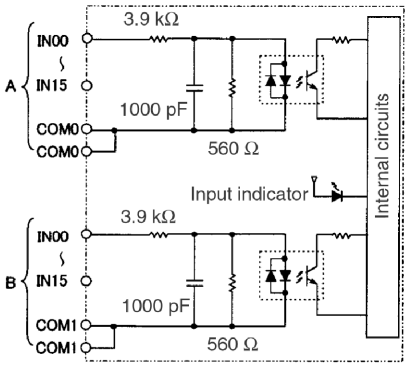
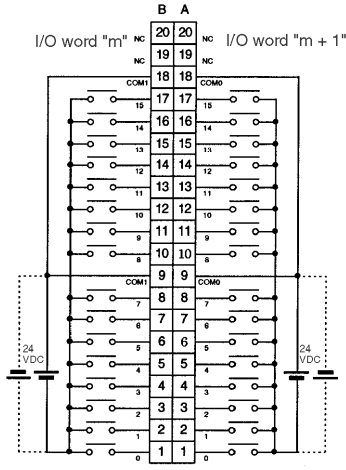
Note: Previous C200H modules work with the CS1: C200H-IA122/222.

■ AC/DC Input Modules

Classification	Input voltage	Inputs	Connections	Remarks	Model
C200H Basic I/O	12 to 24 VAC/VDC	8 pts	Removable terminal block	—	C200H-IM211
	24 VAC/VDC	16 pts		—	C200H-IM212

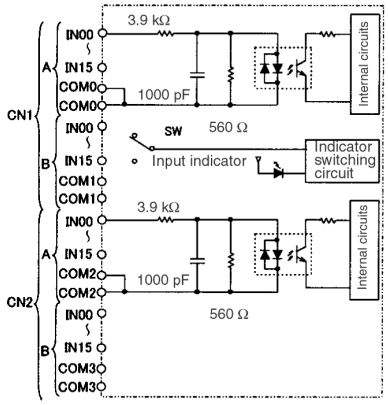
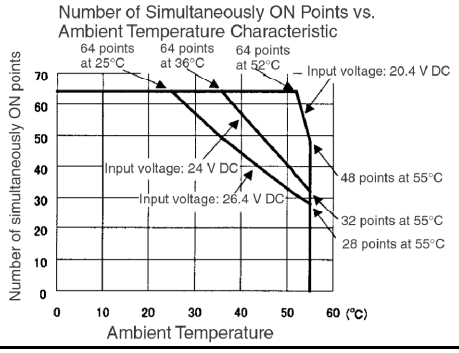
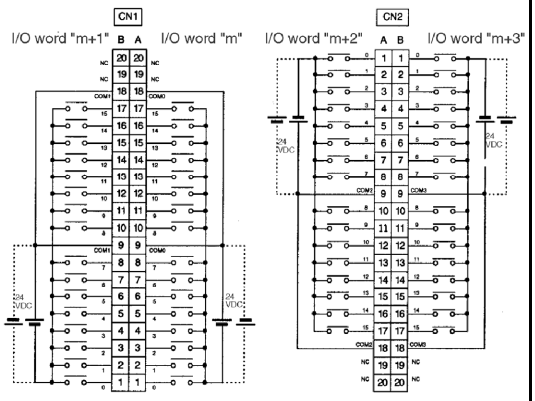
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■ Input Modules

Model	Circuit configuration	Terminal arrangement
CS1W-ID211 (16 pts)		
CS1W-ID231 DC Input Module (32 pts)		

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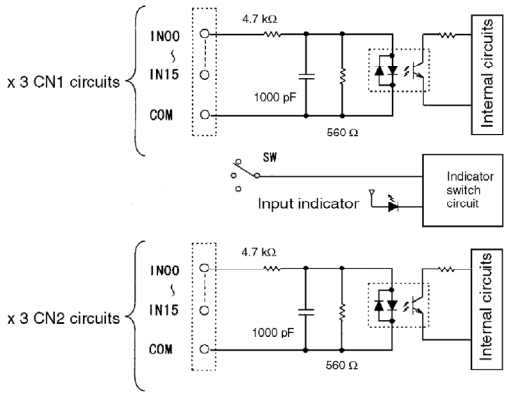
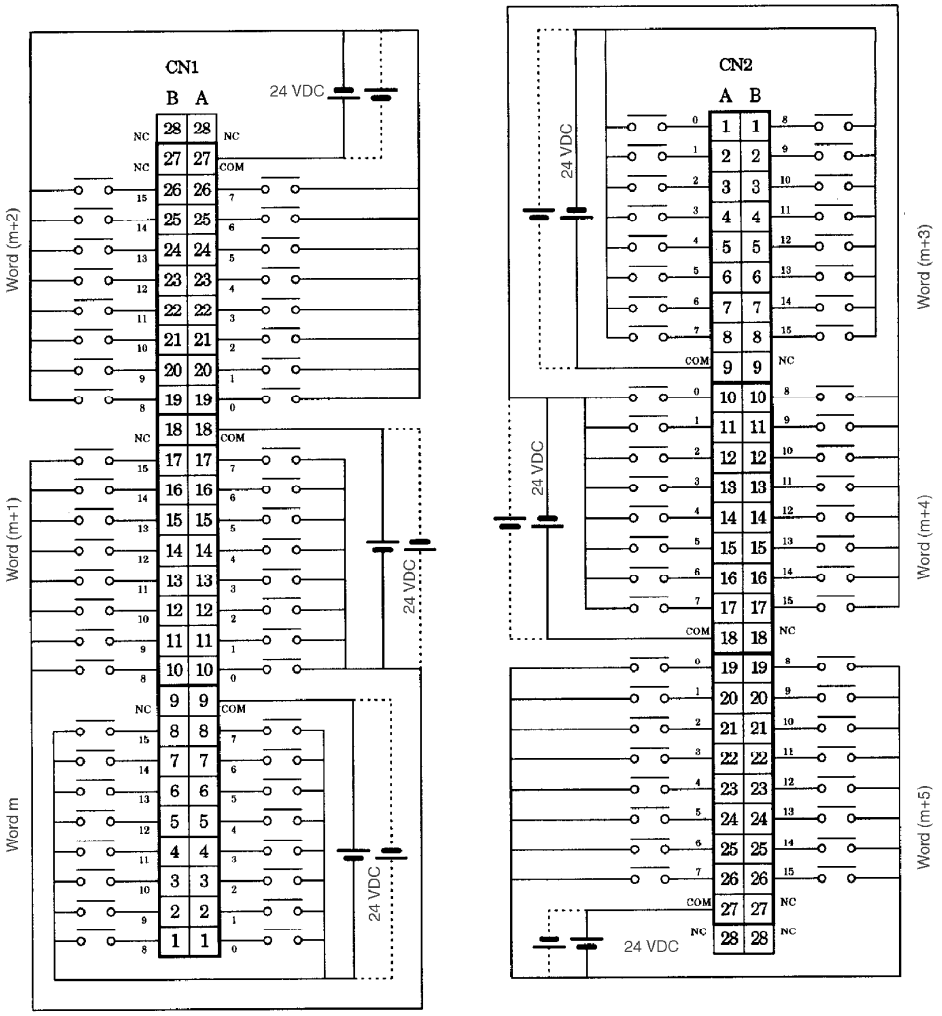
■ DC Input Modules

Model	Circuit configuration	Terminal arrangement
CS1W-ID261 DC Input Module (64 pts)	 	

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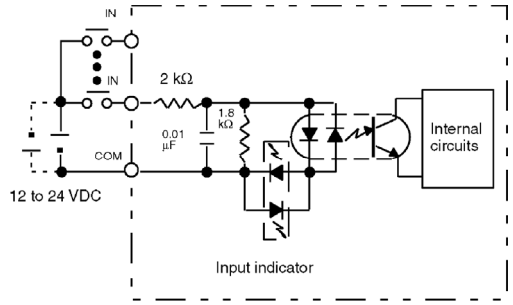
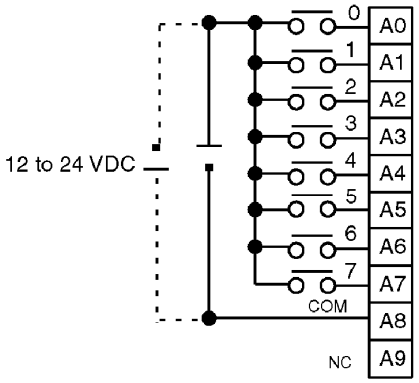
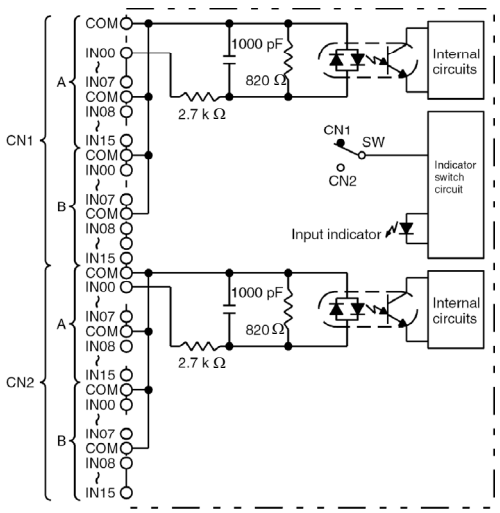
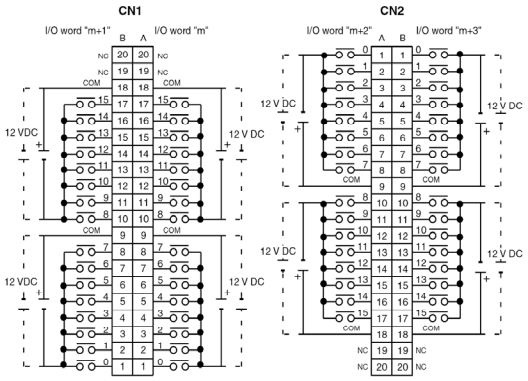
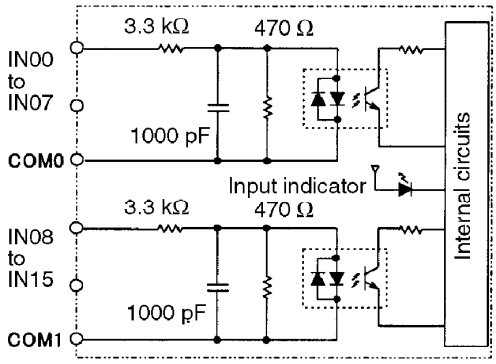
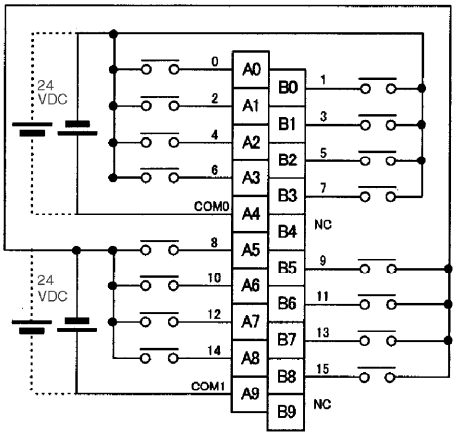
DC Input Modules (continued)

Model	Circuit configuration
CS1W-ID291 Input Module (96 pts)	
	Terminal arrangement 

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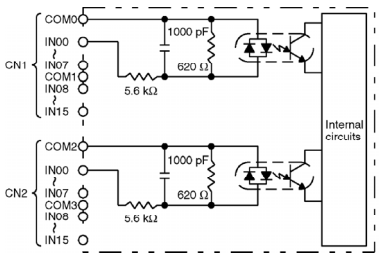
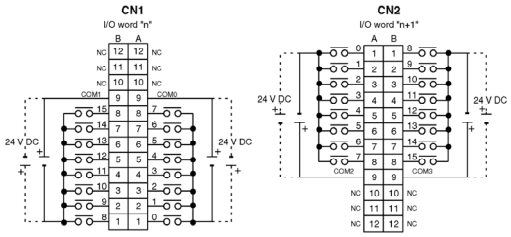
DC Input Modules (continued)

Model	Circuit configuration	Terminal arrangement
C200H-ID211 DC Input Module (8 pts)		
C200H-ID111 DC Input Module (64 pts)		
CS1W-IDP01 High Speed DC Input Module (16 pts)		 Polarity of the input power supply can be connected in either direction.

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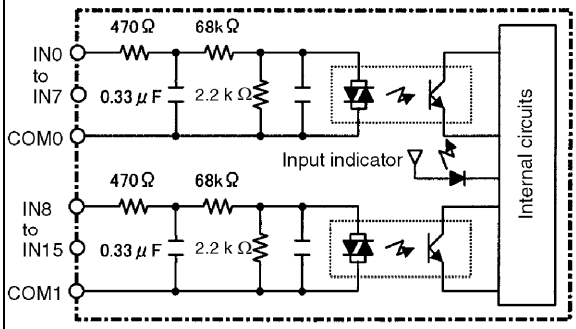
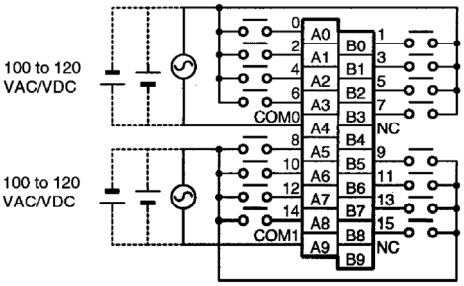
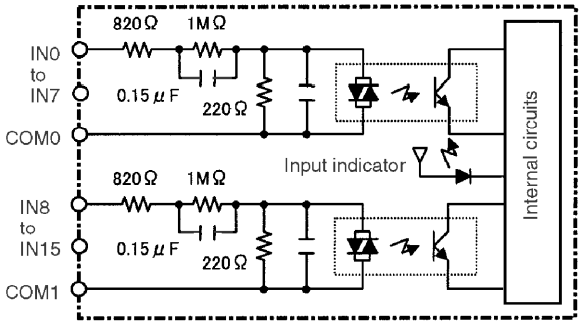
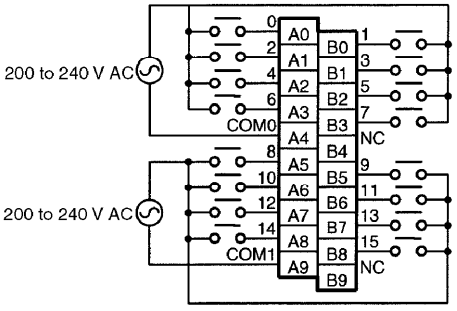
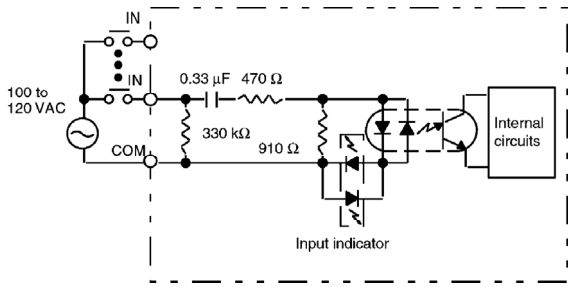
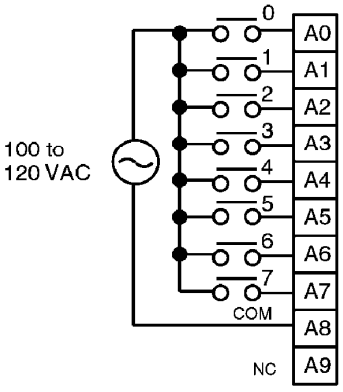
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DC Input Modules (continued)

Model	Circuit configuration	
C200H-ID501 Special I/O (32 pts)		

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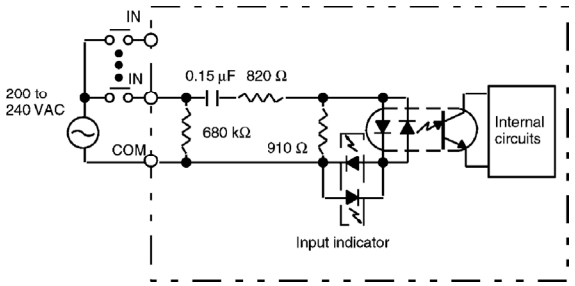
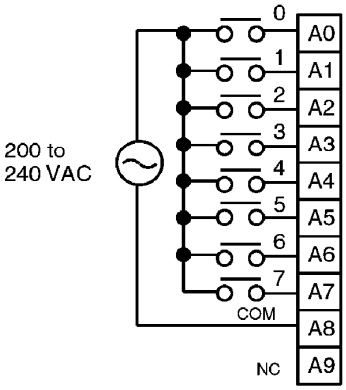
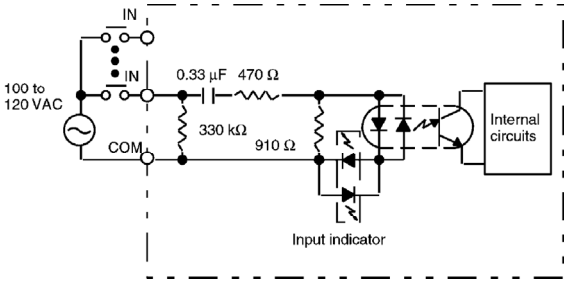
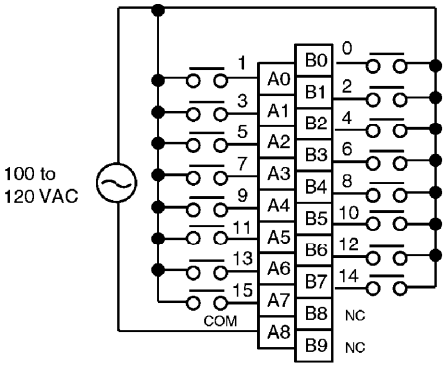
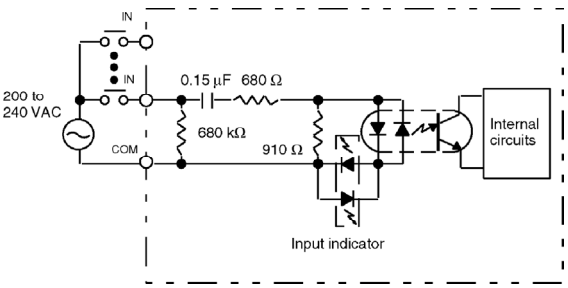
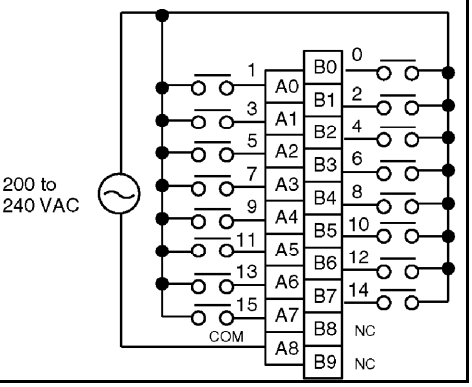
■ AC Input Modules

Model	Circuit configuration	Terminal arrangement
CS1W-IA111 AC/DC Input Module (16 pts)		
CS1W-IA211 AC Input Module (16 pts)		
C200H-IA121 AC Input Module (8 pts)		

(This table continues on the next page.)

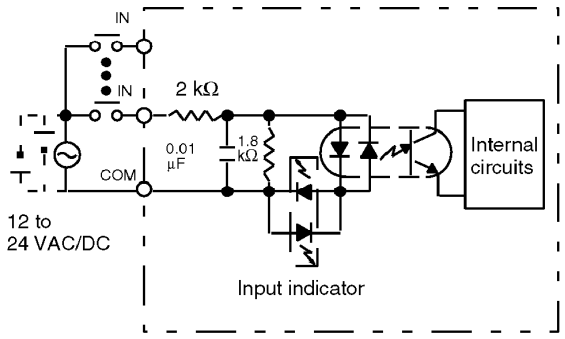
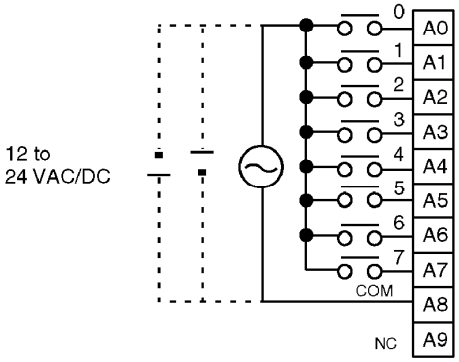
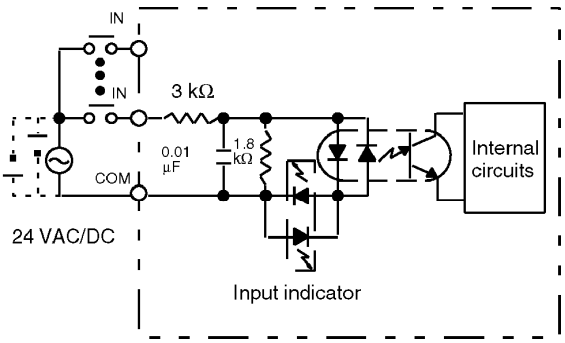
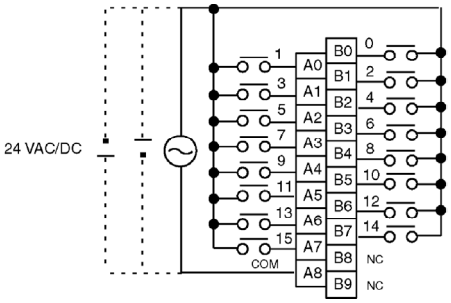
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AC Input Modules (continued)

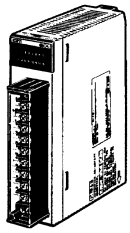
Model	Circuit configuration	Terminal arrangement
C200H-IA221 AC input module (8 points)		
C200H-IA122 AC input module (16 points)		
C200H-IA222 AC input module (16 points)		

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■ AC/DC Input Modules

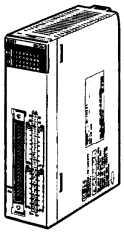
Model	Circuit configuration	Terminal arrangement
C200H-IM211 AC/DC Input Modules (8 points)		
C200H-IM212 AC/DC Input Modules (16 points)		

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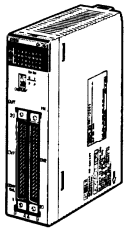


Output Module
CS1W-OC2□1
16 points

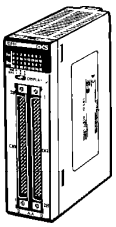
AC Output Modules
CS1W-OD21□
16 points



Output Module
CS1W-OD23□
32 points



Output Module
CS1W-OD26□
64 points



Output Module
CS1W-OD29□
96 points

■ Relay Contact Output Modules

Classification	Outputs	Maximum switching capacity	Connector type	Model
CS1 Basic I/O	8 pts (independent)	2 A, 250 VAC	Removeable terminal block	CS1W-OC201
	16 pts			CS1W-OC211
C200H Basic I/O	5 pts			C200H-OC223
	8 pts			C200H-OC221
	12 pts			C200H-OC222

Note: The previous Modules work with the CS1: C200H-OC224/224N/225/226N.

■ Transistor Output Modules

Classification	Outputs	Maximum switching capacity	Connections	Model
CS1 Basic I/O Module	16 pts	12 to 24 VDC, 0.5 A/pt, 8 A/unit sinking	Removable terminal block	CS1W-OD211
		24 VDC, 0.5 A/pt, 5 A/unit, sourcing, load short protection, alarm		CS1W-OD212
	32 pts	12 to 24 VDC, 0.5 A/pt, 5 A/unit sinking	Connector	CS1W-OD231
		24 VDC, 0.5 A/pt, 5 A/unit, sourcing, load short protection, alarm		CS1W-OD232
	64 pts	12 to 24 VDC, 0.3 A/pt, 6.4 A/unit sinking		CS1W-OD261
		24 VDC, 0.3 A/pt, 6.4 A/unit, sourcing, load short protection, alarm		CS1W-OD262
	96 pts	12 to 24 VDC, 0.1 A sinking, 7.2 A/unit		CS1W-OD291
		12 to 24 VDC, 0.1 A sourcing, 7.2 A/unit		CS1W-OD292
C200H Basic I/O Module	8 pts	12 to 48 VDC, 1 A sinking	Removable terminal block	C200H-OD411
	8 pts	24 VDC, 2.1 A, sinking		C200H-OD213
	8 pts	24 VDC, 0.8 A, sourcing, load short protection		C200H-OD214
	8 pts	5 to 24 VDC, 0.3 A sourcing		C200H-OD216
	12 pts	24 VDC, 0.3 A, sinking		C200H-OD211
	12 pts	5 to 24 VDC, 0.3 A sourcing		C200H-OD217
	16 pts	24 VDC, 1.0 A, sourcing, load short protection		C200H-OD21A
C200H Group-2 I/O Module	32 pts	16 mA at 4.5 V to 100 mA at 26.4 V, sinking	Connector	C200H-OD218
	64 pts	16 mA at 4.5 V to 100 mA at 26.4 V, sinking		C200H-OD219
C200H Special I/O module	32 pts	16 mA at 4.5 V to 100 mA at 26.4 V, sinking		C200H-OD215 (128-pt dynamic outputs possible)

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■ TTL Output Module

Classification	Specifications		Model
TTL output modules	5 VDC, 35 mA	Static output mode: 32 outputs	C200H-OD501
		Dynamic output mode: 128 outputs	

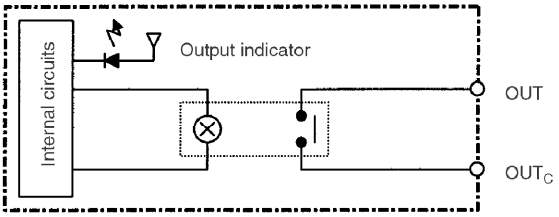
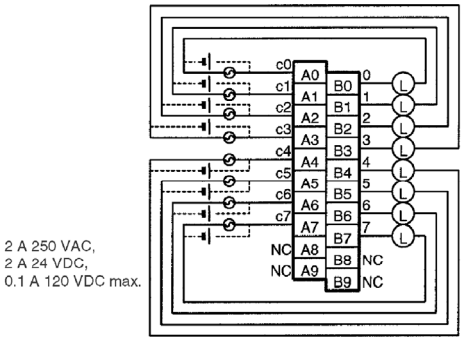
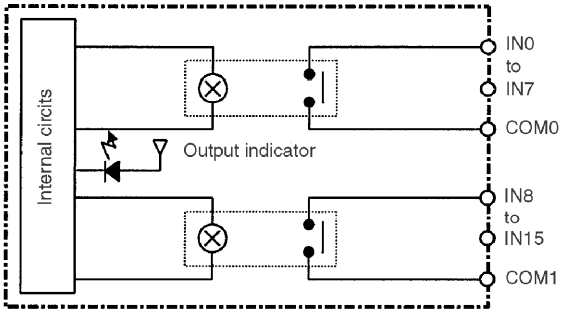
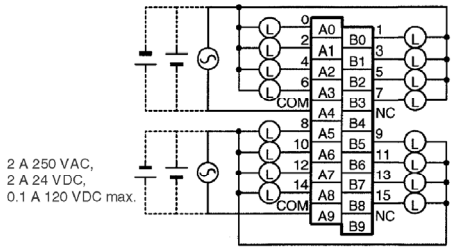
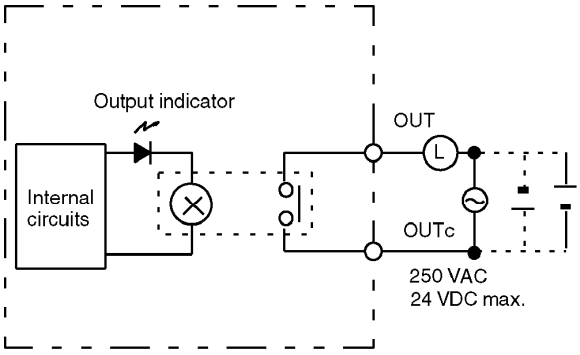
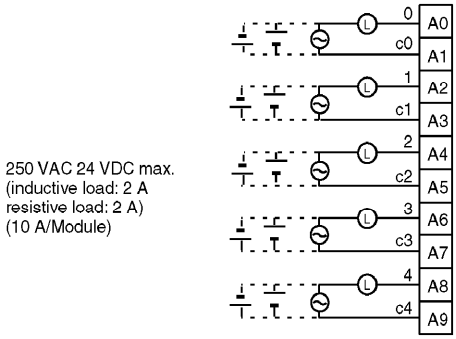
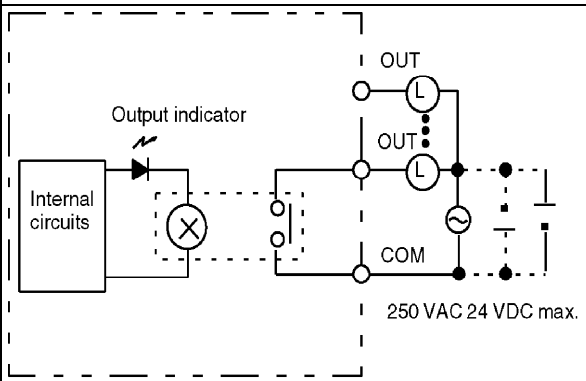
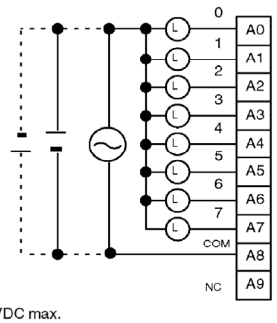
■ Triac Output Modules

Classification	Outputs	Maximum switching capacity	Connections	Model
CS1 Basic I/O	8 pts	250 VAC, 1.2 A, 50/60 Hz	Removable terminal block	CS1W-OA201
	16 pts	250 VAC, 0.5 A, 50/60 Hz		CS1W-OA211
	16 pts	250 VAC, 0.5 A, 50/60 Hz		CS1W-OA221
C200H Basic I/O	12 pts	250 VAC, 0.3 A, 50/60 Hz		C200H-OA224
	12 pts	250 VAC, 0.3 A, 50/60 Hz		C200H-OA222V

Note: Previous C200H-OA223 module can also be used with CS1 PLCs.

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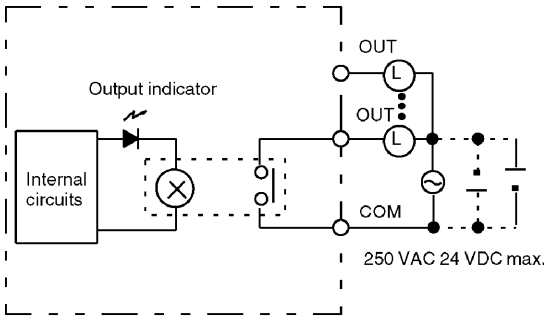
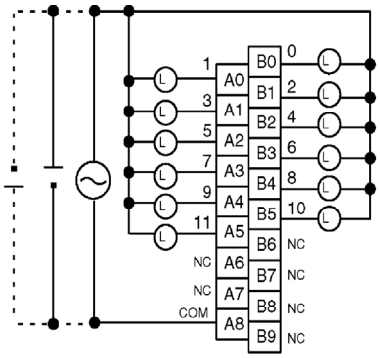
■ Output Modules

Model	Circuit configuration	Terminal arrangement
CS1W-OC201 (8 pts)		
CS1W-OC211 (16 pts)		
C200H-OC223 (5 pts)		
C200H-OC221 (8 pts)		

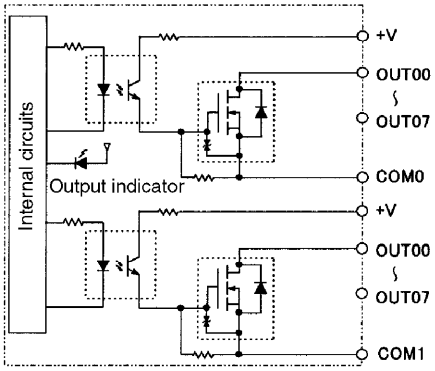
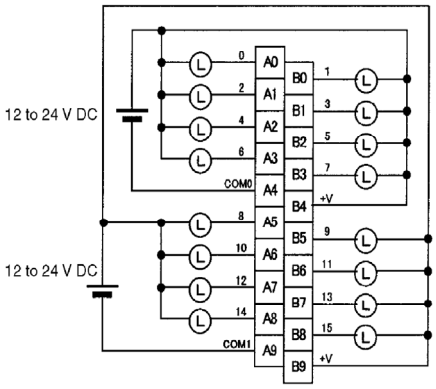
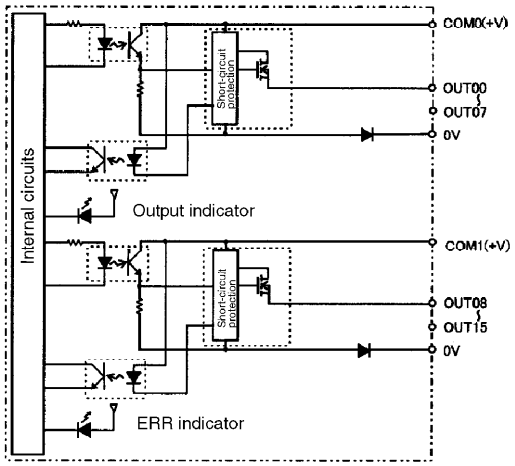
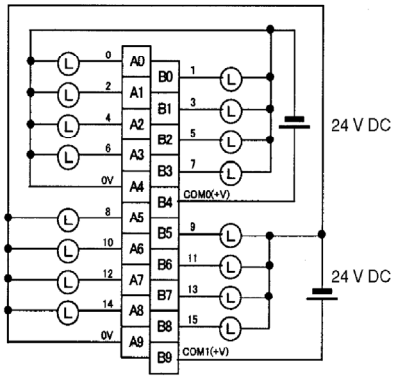
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Output Modules (Continued)

Model	Circuit configuration	Terminal arrangement
C200H-OC222 (12 pts)		

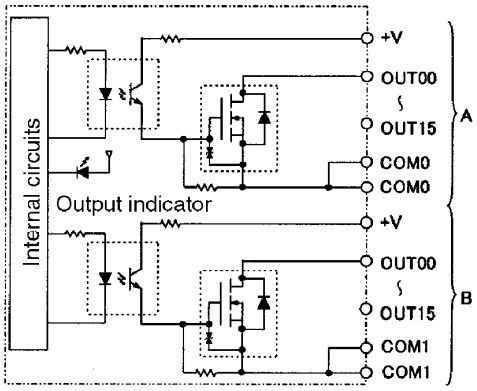
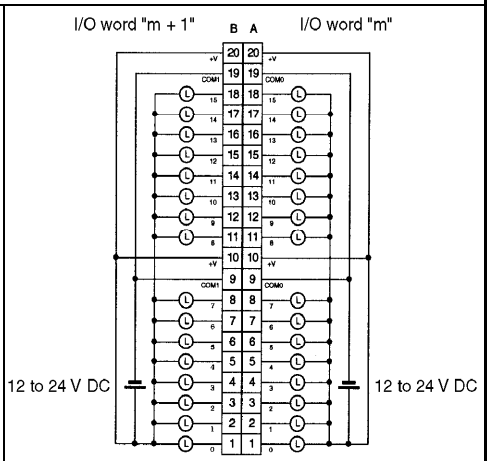
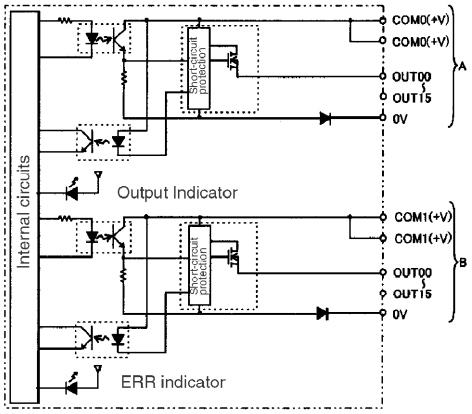
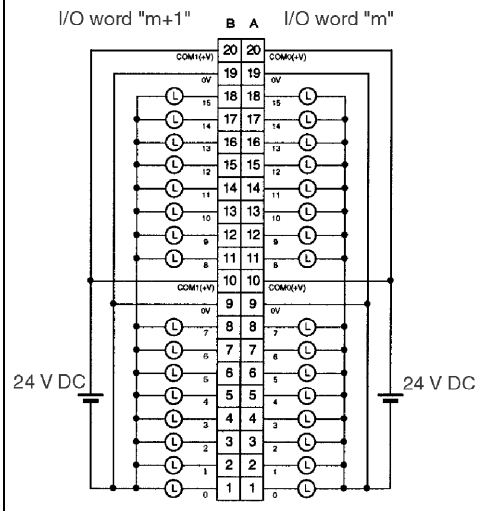
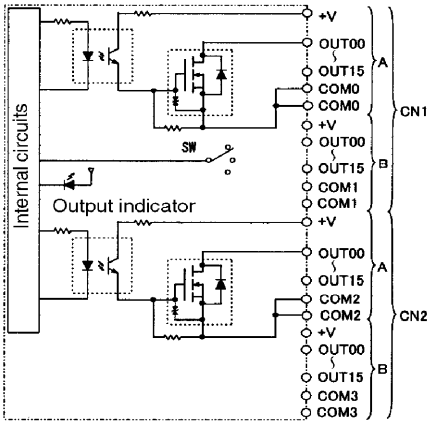
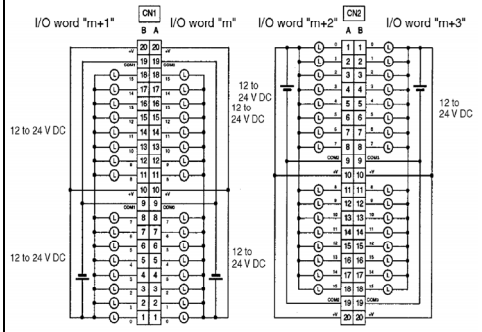
■ Transistor Output Modules

Model	Circuit configuration	Terminal arrangement
CS1W-OD211 (16 pts, sinking)		
CS1W-OD212 (16 pts, sourcing)		

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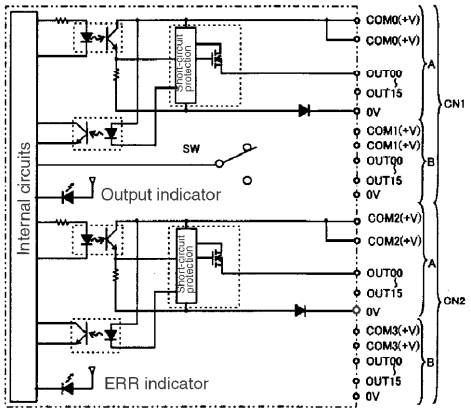
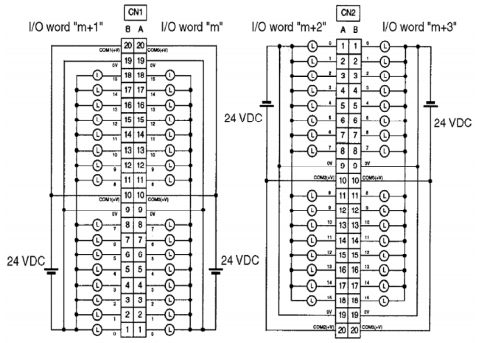
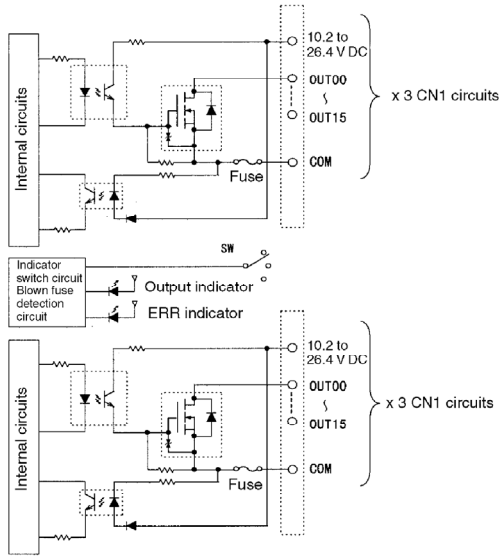
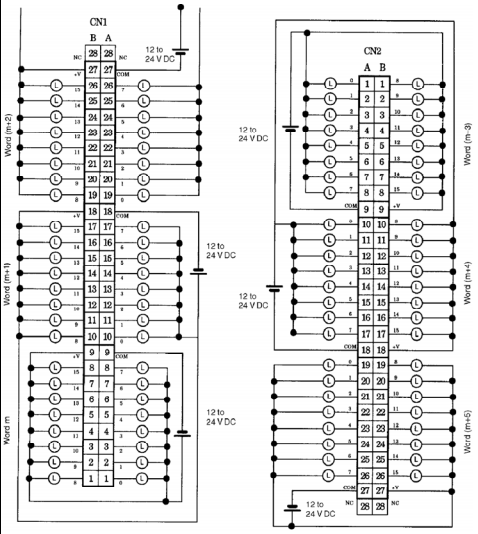
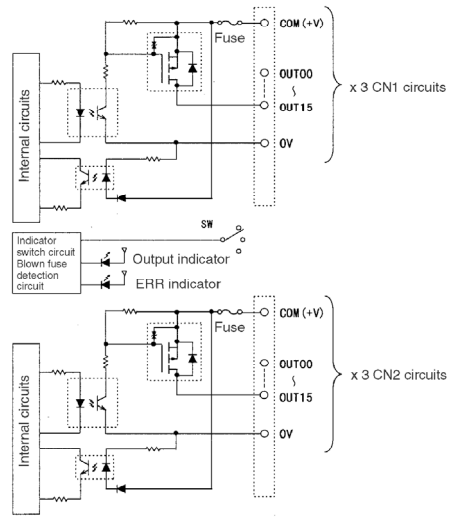
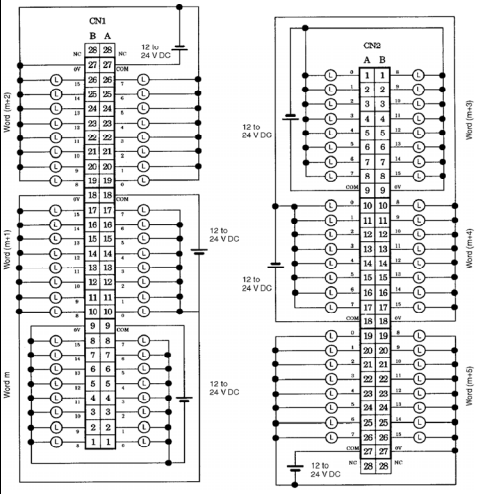
Transistor Output Modules (Continued)

Model	Circuit configuration	
CS1W-OD231 (32 pts, sinking)		
CS1W-OD232 (32 pts, sourcing)		
CS1W-OD261 (64 pts, sinking)		

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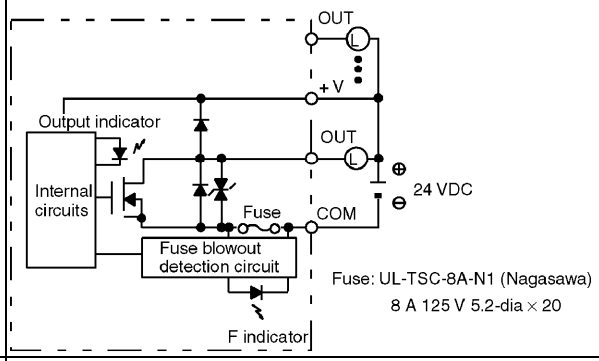
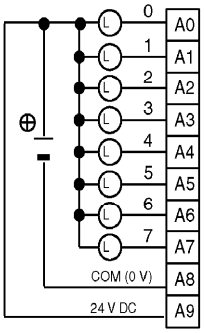
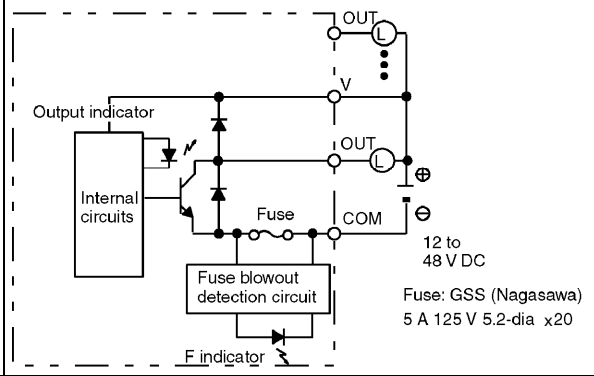
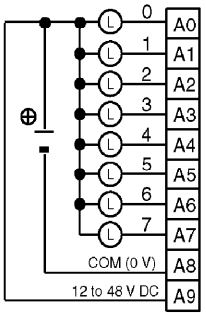
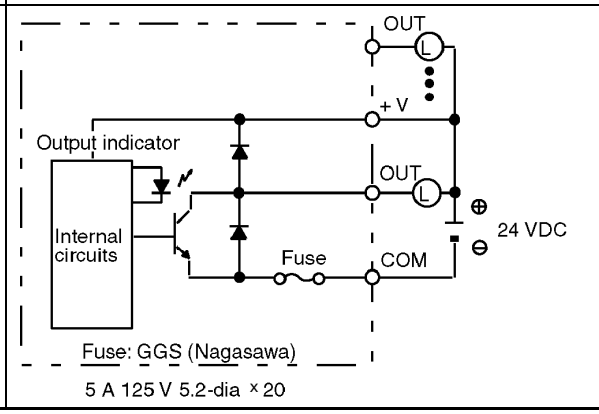
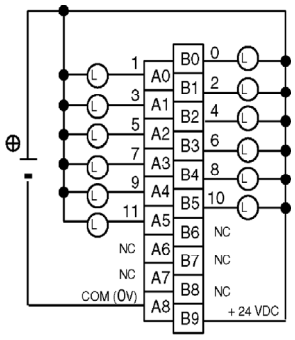
Transistor Output Modules (Continued)

Model	Circuit configuration	
CS1W-OD262 (64 pts, sourcing)		
CS1W-OD291 (96 pts, sinking)		
CS1W-OD292 (96 pts, sourcing)		

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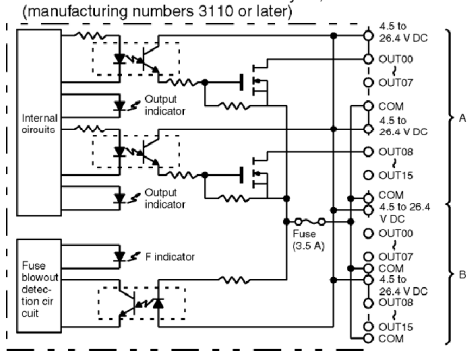
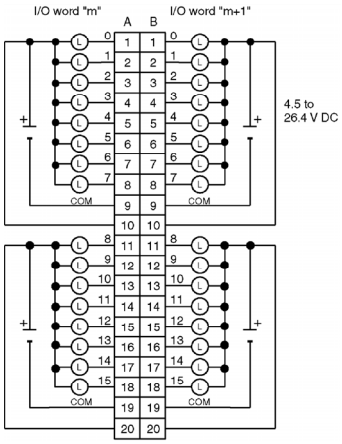
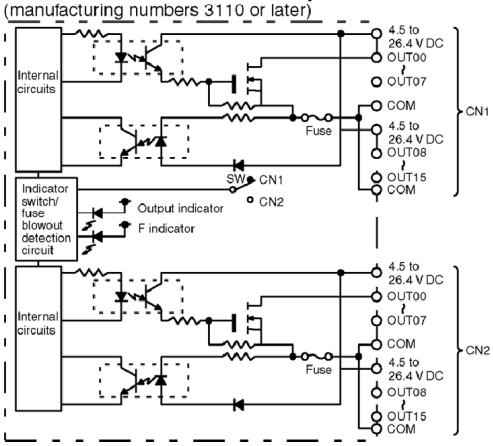
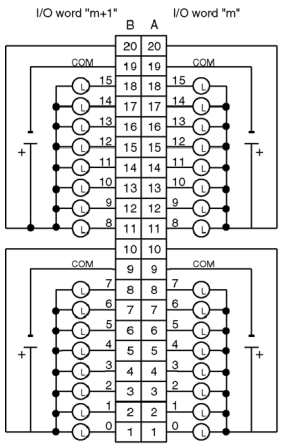
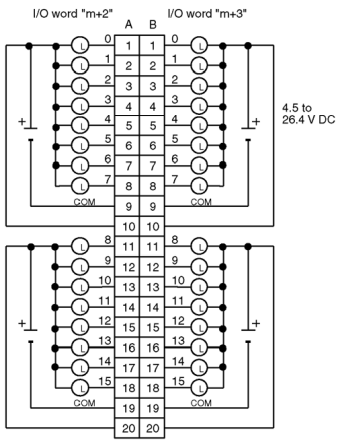
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Transistor Output Modules (Continued)

Model	Circuit configuration	
C200H-OD213 (8 pts)		24 V DC (2.1 A max., 5.2 A/Unit) 
C200H-OD411 (8 pts)		12 to 48 V DC (1 A max., 3 A/Unit) 
C200H-OD211 (12 pts)		24 VDC (0.3 A max., 2 A/Unit) 

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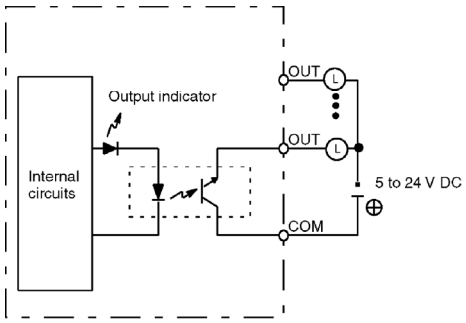
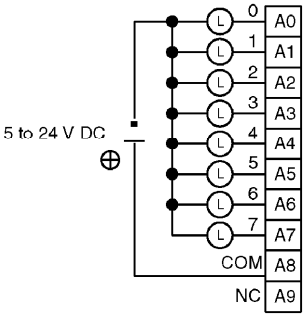
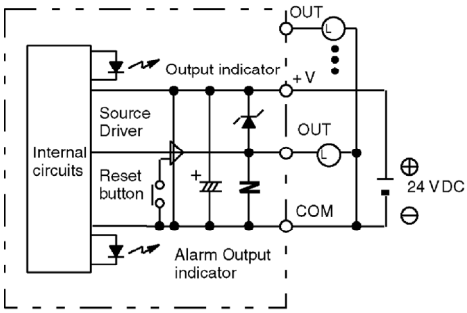
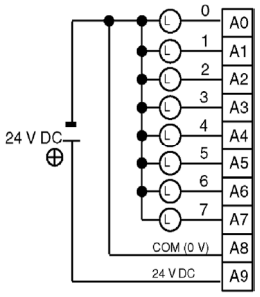
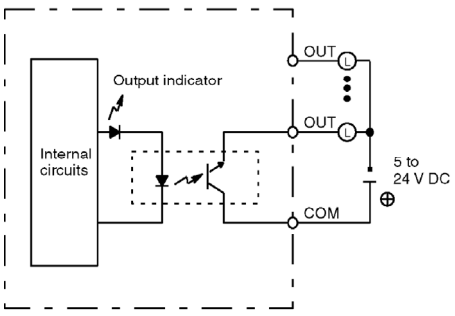
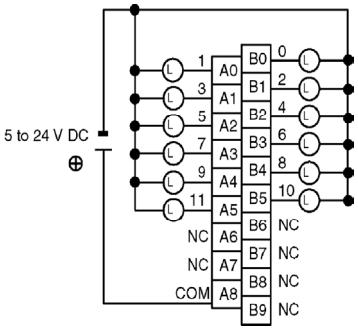
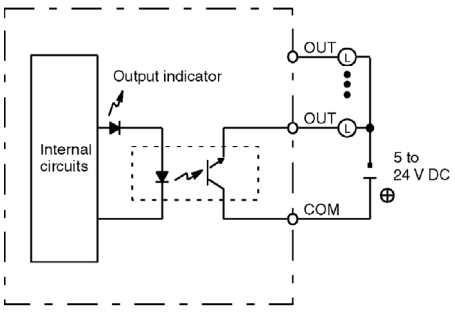
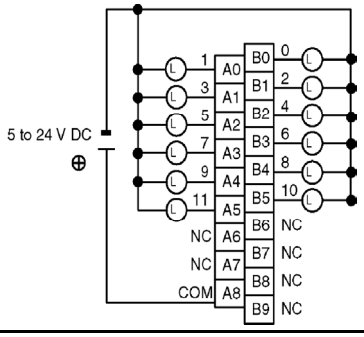
Transistor Output Modules (Continued)

Model	Circuit configuration	
C200H-OD218 (32 pts)	Units manufactured on or after January 31, 2000 (manufacturing numbers 3110 or later) 	
C200H-OD219 (64 pts)	Units manufactured on or after January 31, 2000 (manufacturing numbers 3110 or later) 	CN1  CN2 

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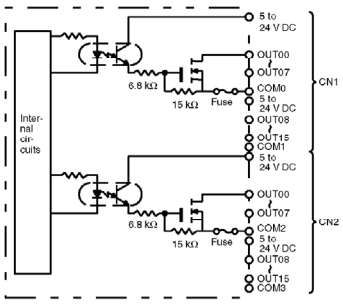
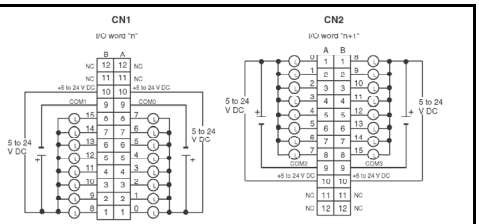
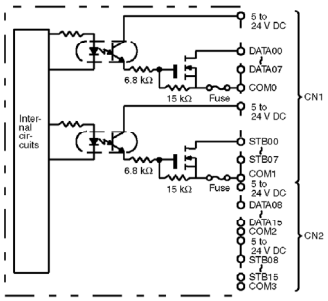
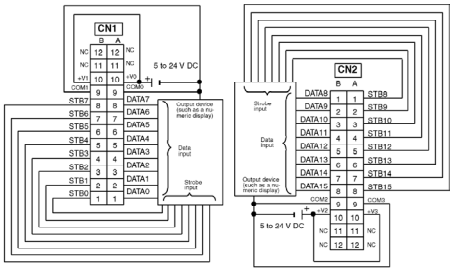
Transistor Output Modules (Continued)

Model	Circuit configuration	
C200H-OD216 (8 pts Sourcing)		
C200H-OD214 (8 pts Sourcing)		
C200H-OD217 (12 pts Sourcing)		
C200H-OD217 (12 pts Sourcing)		

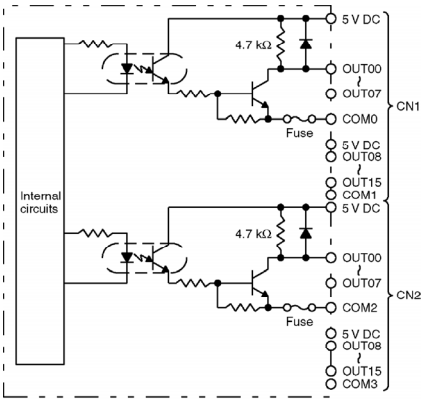
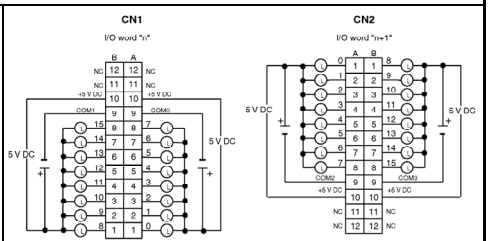
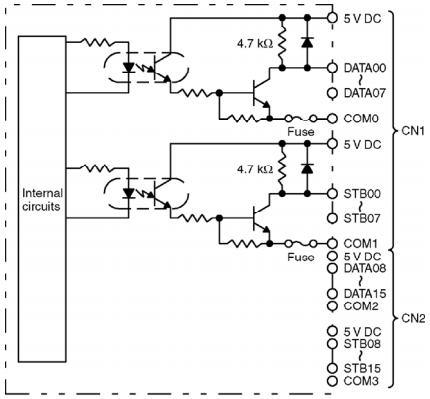
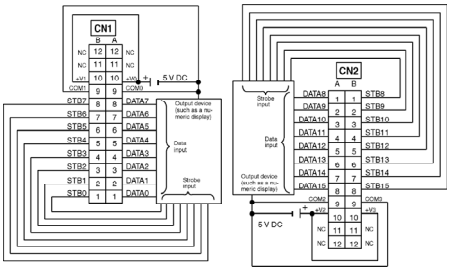
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Transistor Output Modules (Continued)

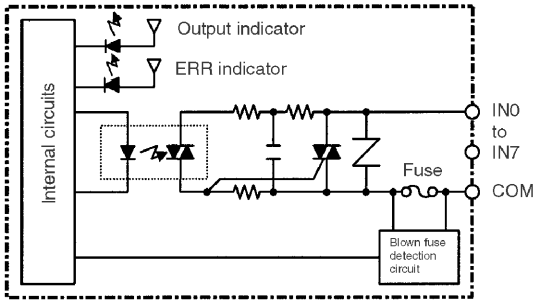
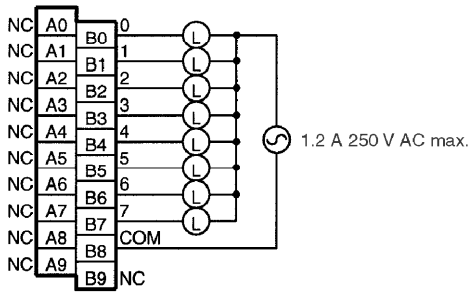
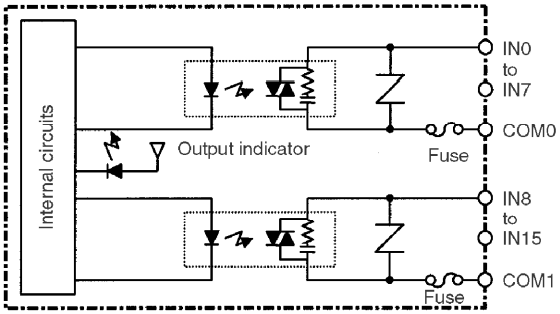
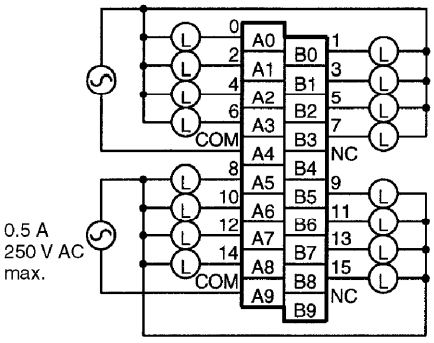
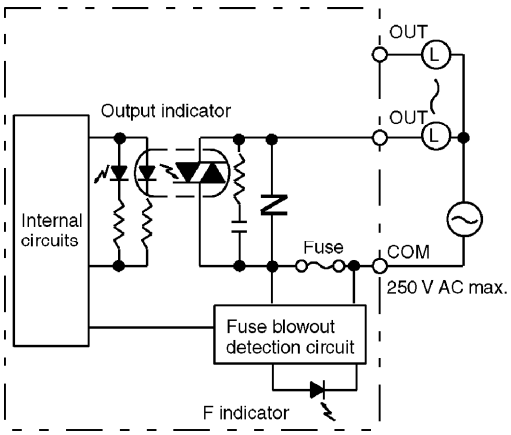
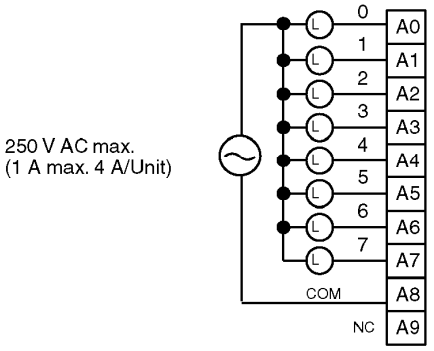
C200H-OD215 (used for 32 static outputs)	Units manufactured on or after November 30, 1999 (manufacturing numbers 30Y9 or later) 	
C200H-OD215 (used for 128 dynamic outputs)	Units manufactured on or after November 30, 1999 (manufacturing numbers 30Y9 or later) 	

■ TTL Output Modules

Model	Circuit configuration	
C200H-OD501 (Used for 32 static outputs)		
C200H-OD501 (Used for 128 Dynamic Inputs)		

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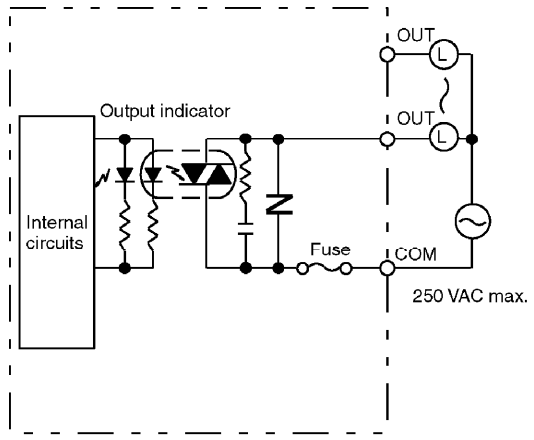
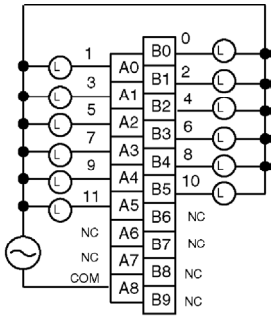
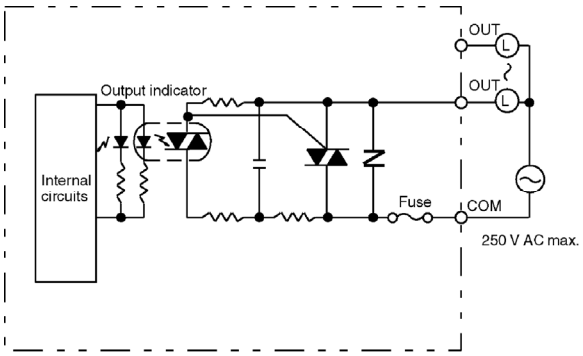
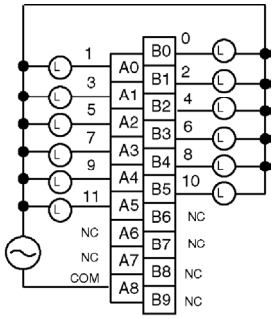
■ Triac Output Modules

Model	Circuit configuration	
CS1W-OA201 (8 pts)		
CS1W-OA211 (16 pts)		
C200H-OA221 (8 pts)	 Fuse: 5 A 250 V (5.2-dia. x20) MF51SH (JIS)	

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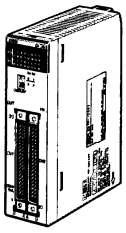
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Triac Output Modules (continued)

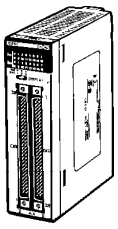
Model	Circuit configuration	
C200H-OA222V (12 pts)	 Fuse: 3 A 250 V (5.2-dia. x20) MQ4 (SOC)	250 V AC max. (0.3 A max., 2 A/Unit) 
C200H-OA224 (12 pts)	 Fuse: 3.15 A 250 V (5.2-dia .x 20) MT4 (SOC)	250 VAC max. (0.5 A max., 2 A/Unit) 

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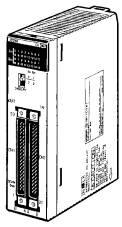
Output Modules — Circuit Configuration and Terminal Arrangement



I/O Units
CS1W-MD26□
32/32 points



I/O Units
CS1W-MD29□
48/48 points



TTL I/O Unit
CS1W-MD561
32/32 points

■ Mixed I/O Modules

Name	Classification	Inputs/ Outputs	Input voltage	Max. switching capacity	Connections	Model
DC Input/ Transistor Output Modules	CS1 Basic I/O Units	32 inputs/ 32 outputs	24 VDC	12 to 24 VDC, 0.3 A, sinking	Connector	CS1W-MD261
		32 inputs/ 32 outputs		24 VDC, 0.3 A, sourcing, load short protection, alarm		CS1W-MD262
		48 inputs/ 48 outputs	24 VDC	12 to 24 VDC, 0.1 A, sinking		CS1W-MD291
		48 inputs/ 48 outputs		12 to 24 VDC, 0.1 A, sourcing		CS1W-MD292
	C200H Special I/O Units	16 inputs/ 16 outputs	24 VDC	16 mA at 4.5 V to 100 mA at 26.4 VDC, sinking		C200H-MD215 (See note 2)
		16 inputs/ 16 outputs	12 VDC	24 VDC, 50 mA, sinking		C200H-MD115 (See note 2)

Note: 1. In addition to the normal I/O functions, C200H High-density I/O Units (Special I/O Units) provide the following functions.

- Dynamic I/O (except for OD501/OD215): In stead of normal static inputs and normal static outputs, dynamic outputs and dynamic inputs are used to increase I/O capacity to 128 inputs and 128 outputs through the use of strobe signal outputs. These functions can be used to reduce wiring to devices with more digits, such as displays and keyboards.
- High-speed Inputs (except OD501/OD215): Eight of the inputs can be set as high-speed inputs to accurately input short pulses from devices like photomicrosensors.

2. High-speed inputs, 128-pt dynamic outputs possible

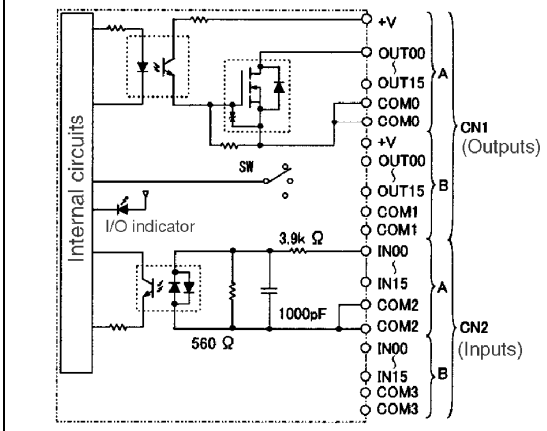
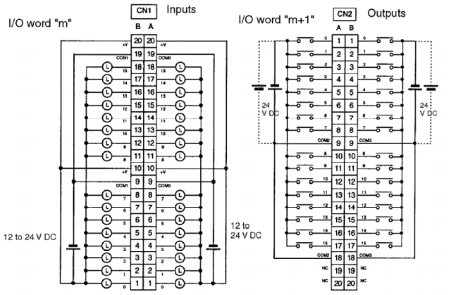
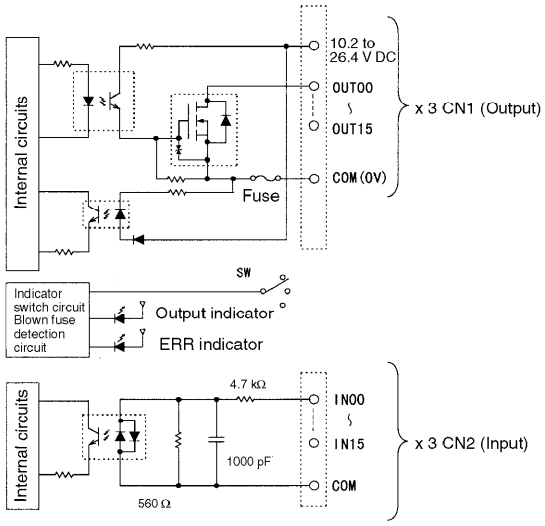
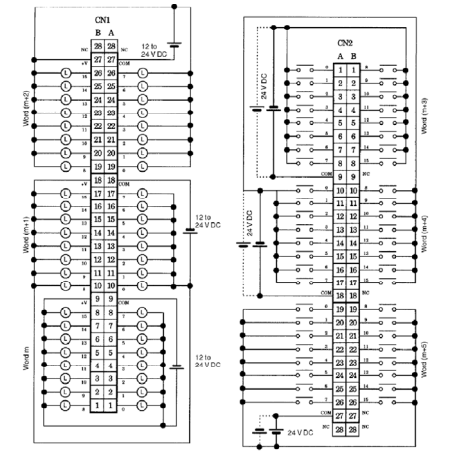
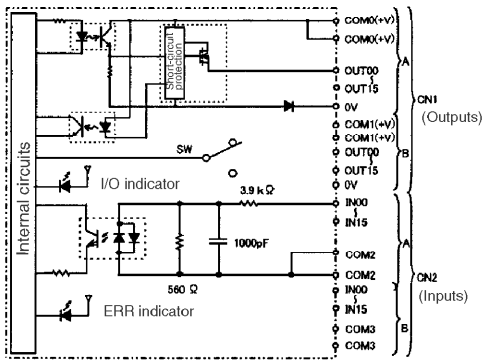
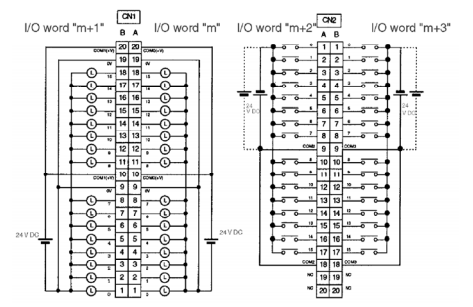
■ Mixed I/O TTL Modules

Name	Classification	Inputs/ Outputs	Input voltage	Max. switching capacity	Connections	Model
TTL I/O Modules	CS1 Basic I/O	32 inputs/ 32 outputs	5 VDC	5 VDC, 35 mA	Connector	CS1W-MD561 (See note)
	C200H Special I/O Units	16 inputs/ 16 outputs				C200H-MD501 (See note)

Note: High-speed inputs, 128-pt dynamic outputs possible

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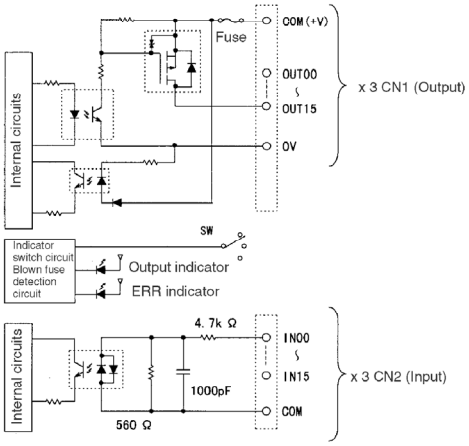
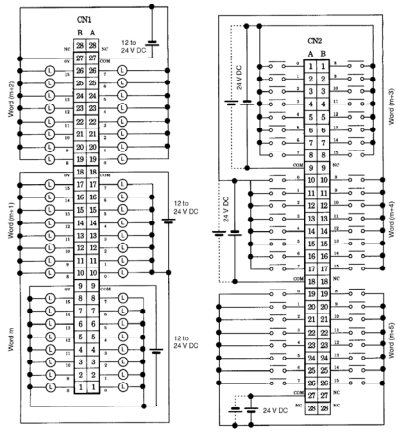
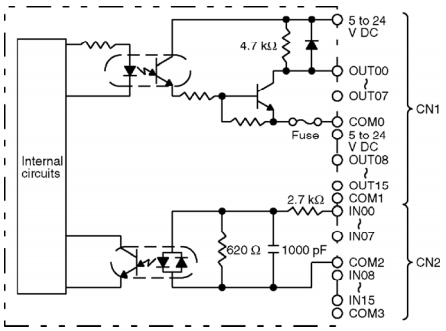
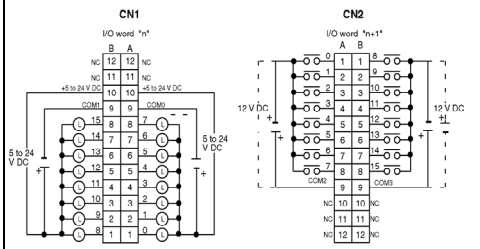
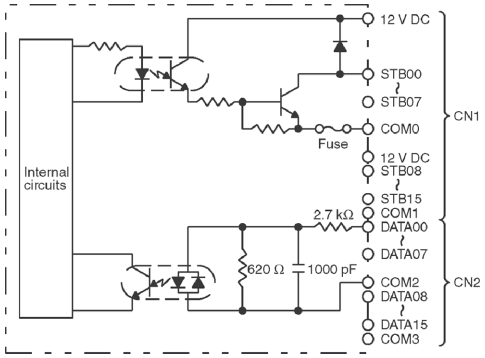
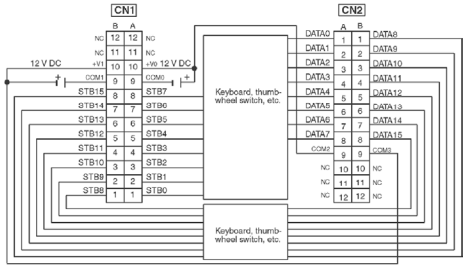
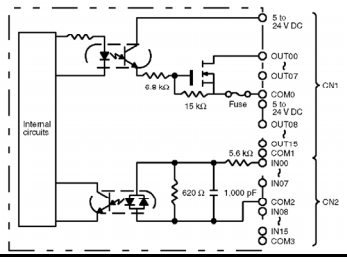
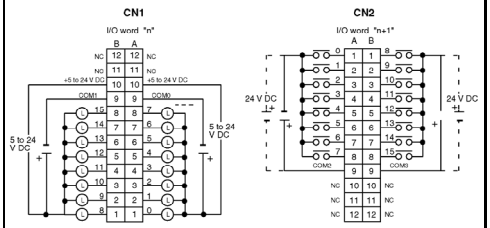
■ Mixed I/O Modules

Model	Circuit configuration	
CS1W-MD261 (32/32 pts, sinking)		
CS1W-MD291 (48/48 pts, sinking)		
CS1W-MD262 (32/32 pts, sourcing)		

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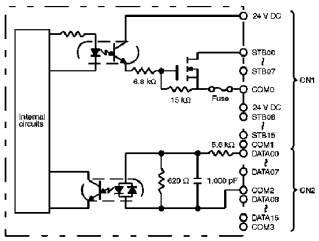
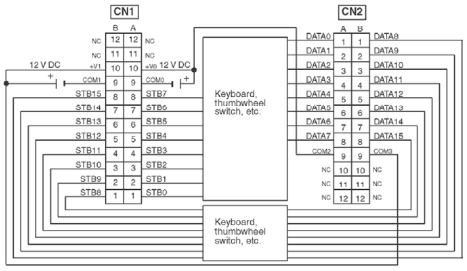
Mixed I/O Modules (continued)

Model	Circuit configuration	
CS1W-MD292 (48 inputs/48 outputs, sourcing)		
C200H-MD115 (16 inputs/ 16 outputs, sourcing, 12 VDC)		
C200H-MD115 (128 dynamic inputs)		
C200H-MD215 (16 inputs/ 16 outputs, sourcing, 24 VDC)	Units manufactured on or after November 30, 1999 (manufacturing numbers 30Y9 or later) 	

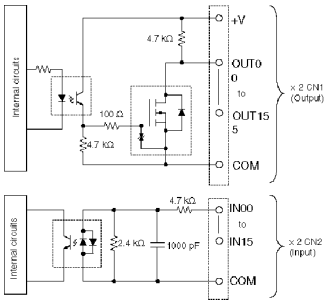
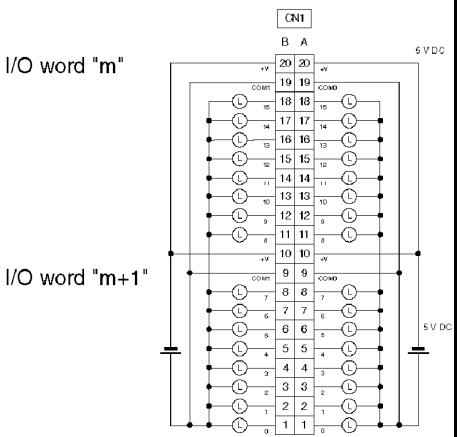
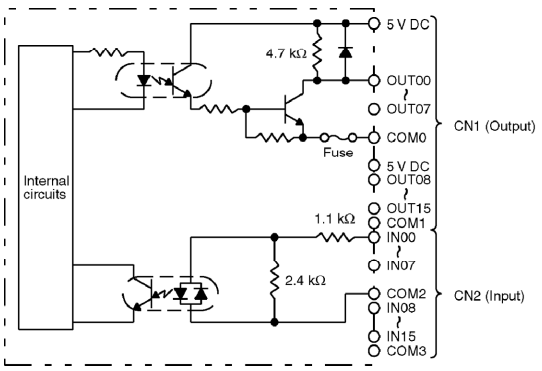
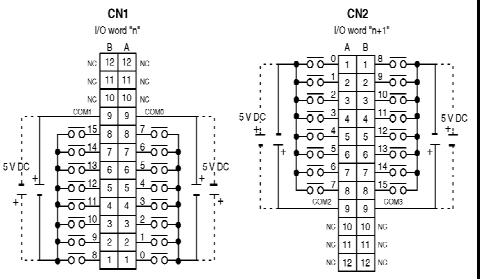
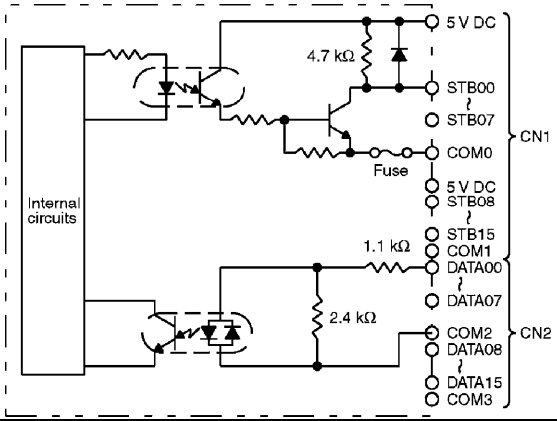
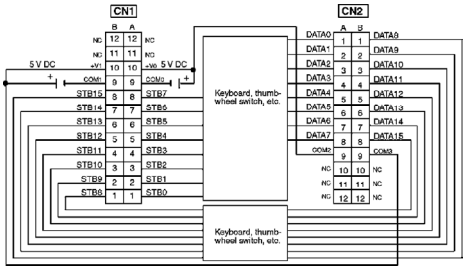
(This table continues on the next page.)

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Mixed I/O Modules (continued)

C200H-MD215 (128 dynamic inputs/outputs, 24 VDC)	Units manufactured on or after November 30, 1999 (manufacturing numbers 30Y9 or later) 	

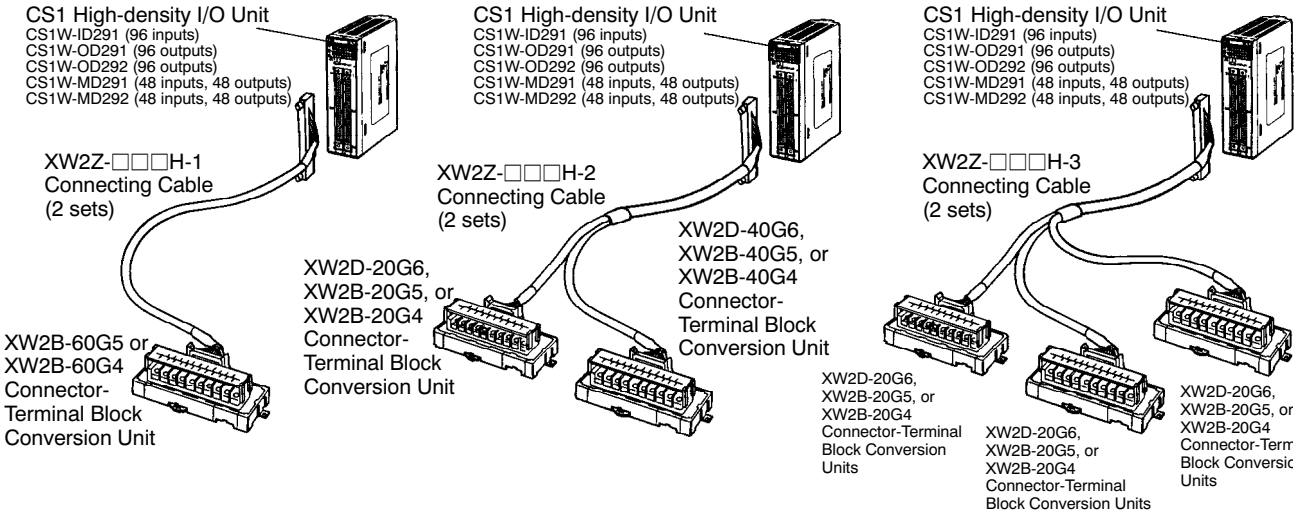
■ Mixed I/O TTL Modules

Model	Circuit configuration	
CS1W-MD561 (32 inputs/ 32 outputs)		
C200H-MD501 (16 inputs/ 16 outputs, static)		
C200H-MD501 (128 dynamic inputs)		

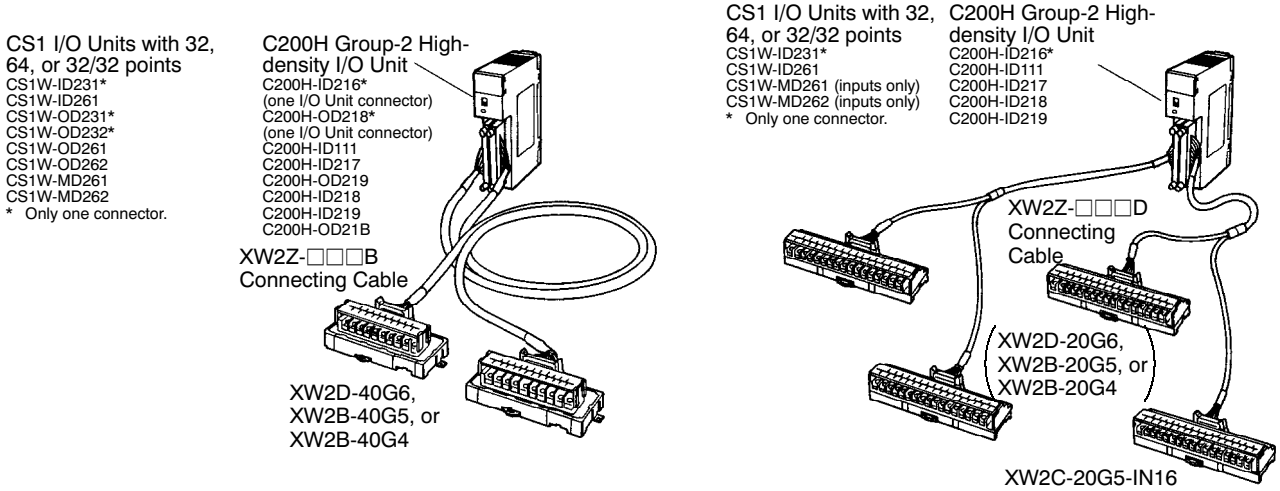
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Connect High-density I/O Units to Terminal Blocks

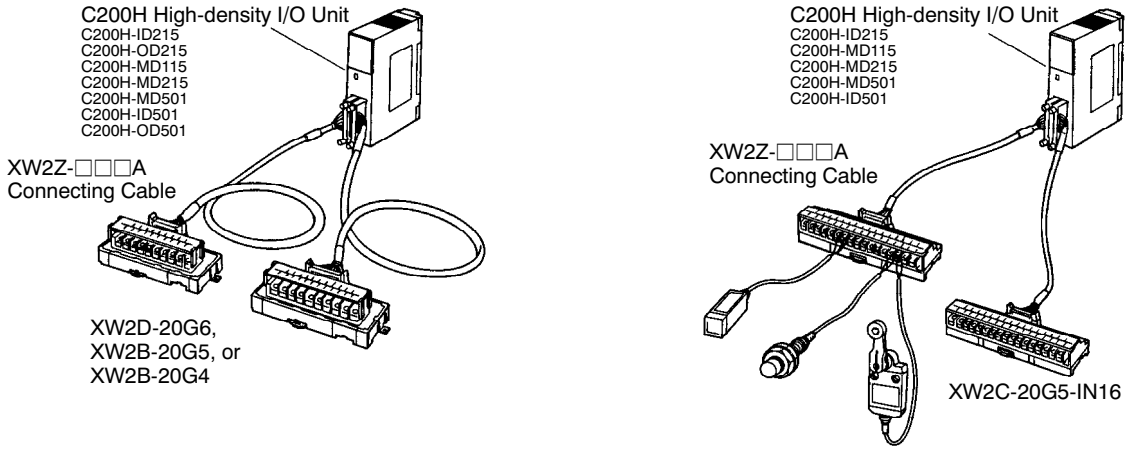
■ CS1 High-density (96 or 48/48 I/O Points) I/O Units (Basic I/O Units)



■ CS1 High-density (32, 64, or 32/32 I/O Points) and C200H Group-2 High-density I/O Units (Basic I/O Units)



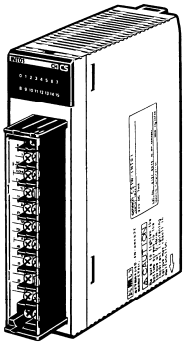
■ C200H High-density I/O Units (Special I/O Units)



Note: See Wiring Solutions section for additional information on cables and terminal blocks.

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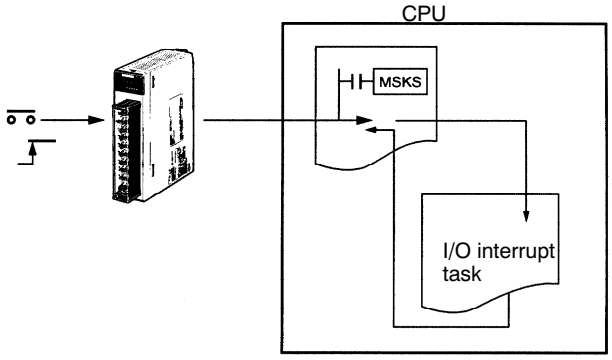
Interrupt Module



CS1W-INT01

When the input on the Interrupt Input Unit turns ON, the CPU Unit is notified immediately, cyclic task execution (normal programming) is interrupted and an I/O interrupt task is executed.

■ System Configuration



■ Features

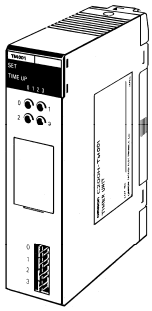
- High-speed Response (0.42 ms OFF to ON)
- Execute an interrupt task within 1.0 ms after input turns ON

■ Specifications

Classifications	Input voltage	Inputs	Input pulse width	Connections	Allocations (CIO 0319 to CIO 2000)	Model
CS1W Basic I/O Unit	24 VDC	16 pts	ON: 0.1 ms min. OFF: 0.5 ms min.	Removable terminal block	16 bits	CS1W-INT01

Note: The interrupt function can be used with the CPU Backplane only. (Up to 2 Interrupt Input Units can be mounted to a CPU Rack.)

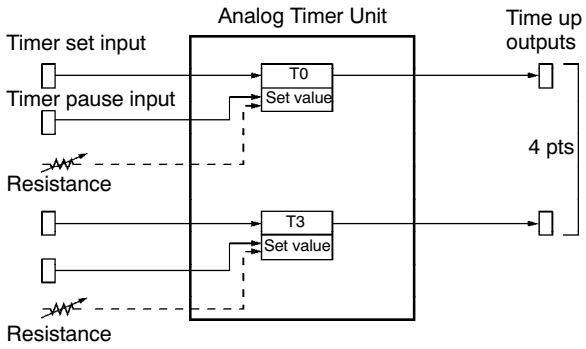
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C200H-TM001

Provides four timers easily adjusted on-site via front-panel adjustments or external variable resistors: No Programming Device required. Using timer pause inputs enables applications as a accumulative timer.

■ System Configuration



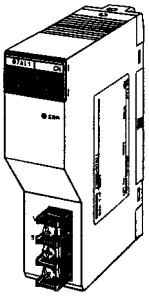
■ Specifications

Classification	Timers	Setting range	Time setting method	CPU bits	Allocations (CIO 0319 to CIO 2000)	Model
C200H Basic I/O Unit	4 pts	0.1 to 1.0 s, 1 to 10 s, 2 to 60 s, 1 to 10 min	Internal or external variable resistor	Timer set input, timer pause input, and time up ouput	16 bits	C200H-TM001

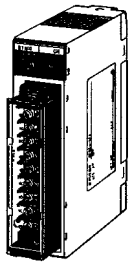
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B7A Interface Units

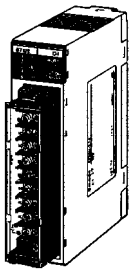
Wire-reduction Units that Transfer 16 Points of I/O Information on Two Signal Wires



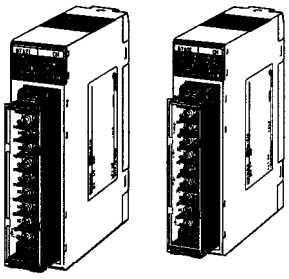
C200H-B7AI1 (16 inputs)
C200H-B7AO1 (16 outputs)



C200H-B7A02
(32 outputs)

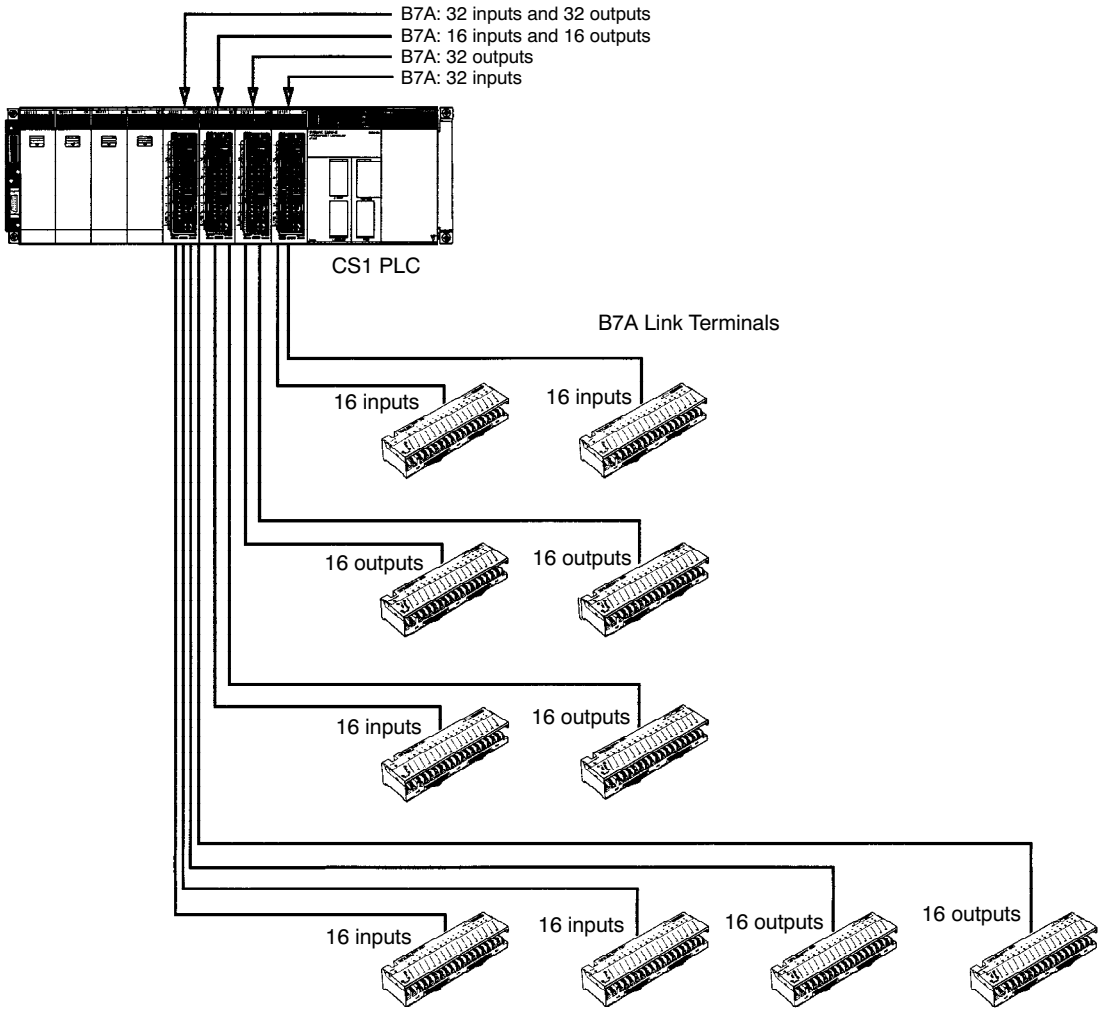


C200H-B7A12
(32 inputs)



C200H-B7A21
(16 inputs/16 outputs)
C200H-B7A22
(32 inputs/32 outputs)

■ Connection Example



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■ Specifications

Item		B7A Interface Units		B7A Group-2 Interface Units			
		C200H-B7AI1	C200H-B7AO1	C200H-B7A12	C200H-B7A02	C200H-B7A21	C200H-B7A22
I/O capacity	Inputs	16 inputs or 15 + 1 error input	---	32 inputs (See note 1.)	---	16 inputs (See note 2.)	32 inputs (See note 1.)
	Outputs	---	16 outputs	---	32 outputs	16 outputs	32 outputs
Transmission distance		500 m max. if separate power supplies are used for Unit and Link Terminals. 100 m max. if same power supply is used for Unit and Link Terminals.		Normal operation: 500 m max. if separate power supplies are used for Unit Link Terminals. 100 m max. if same power supply is used for Unit Link Terminals. High-speed operation: 100 m max. with shield connected and 10 m max. without shield connected if separate power supplies are used for Unit Link Terminals. 50 m max. with shield connected and 10 m max. without shield connected if same power supply is used for Unit and Link Terminals.			
Transmission delay		19.2 ms typical, 31 ms max.		Normal operation: 19.2 ms typical, 31 ms max. HIgh-speed operation: 3 ms typical, 5 ms max. (See note 3.)			
Internal current consumption		100 mA max. at 5 VDC					
External power supply (See note 4.)		10 mA max. at 12 to 24 VDC ±10%	30 mA max. at 12 to 24 VDC ±10%	50 mA max. at 12 to 24 VDC ±10%	60 mA max. at 12 to 24 VDC ±10%	50 mA max. at 12 to 24 VDC ±10%	80 mA max. at 12 to 24 VDC ±10%
Weight		200 g max.		300 g max.			
I/O word allocations		The unit number set with the I/O number setting switch on the front panel is invalid. I/O words are allocated consecutively according to the mounting position, in the same way as with basic I/O Units.					

Note: 1. Can also be used for 32 inputs or 30 inputs + 2 error inputs by changing input mode.
2. Can also be used for 16 inputs or 15 inputs + 1 error input by changing input mode.
3. Normal and high-speed operation set via switch.
4. Not including power supply to B7A Link Terminals

■ Applicable B7A Link Terminals

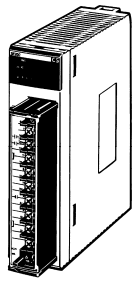
Input Terminals

Type	Model	Transmission delay
Screw terminals	B7A-T6□1	Normal (19.2 ms)
	B7AS-T6□1	
	B7A-T6□6	High-speed (3 ms)
	B7AS-T6□6	
Modules	B7A-T6D2	Normal (19.2 ms)
	B7A-T6D7	High-speed (3 ms)
Interface connectors	B7A-T□E3	Normal (19.2 ms)
	B7A-T□E8	High-speed (3 ms)

Output Terminals

Type	Model	Transmission delay
Screw terminals	B7A-R6□□1	Normal (19.2 ms)
	B7AS-R6□□1	
	B7A-R6□□6	High-speed (3 ms)
	B7AS-R6□□6	
Modules	B7A-R6A52	Normal (19.2 ms)
	B7A-RA57	High-speed (3 ms)
Interface connectors	B7A-R□A□3	Normal (19.2 ms)
	B7A-R□A□8	High-speed (3 ms)

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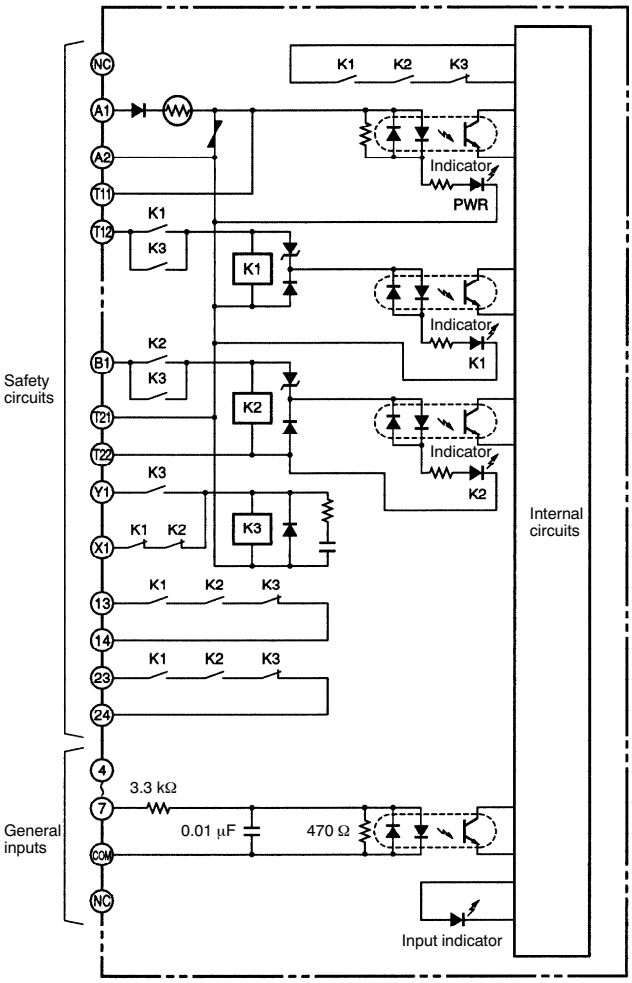
CS1W-SF200

This Safety Relay Unit mounts as an I/O Unit and provides both safety relays and inputs for monitoring.

■ Features

- Safety relays and monitor inputs in 1 Unit to reduce wiring and space.
- Safety relays operate with separate power supply from PLC.
- Monitor safety circuit output, K1/K2 relay, or power status from PLC.
- Four general-purpose inputs provided.
- Safety standards: EN954-1 and EN60204-1

■ Internal Connections



■ Specifications

Item	Specifications
Contact resistance	100 mΩ (5 VDC, 1 A, voltage drop method)
Operating time	300 ms max. (not including bounce)
Response time	10 ms max. (time from input OFF to main contact OFF, not including bounce)
Insulation resistance (See note.)	20 MΩ min. (at 500 VDC) for following: Safety circuits-safety outputs, General inputs-safety outputs, Different poles of safety outputs, and safety circuits-general inputs
Withstand voltage (See note.)	2,500 VAC, 50/60 Hz for 1 min for following: Safety circuits-safety outputs, General inputs-safety outputs, Different poles of safety outputs 500 VAC, 50/60 Hz for 1 min for Safety circuits-general inputs
Durability	Mechanical: 5,000,000 min. (7,200 time/hr) Electrical: 100,000 min. (1,800 time/hr)
Weight	300 g

Note: Measured while mounted to PLC.

■ Ratings of Safety Circuits

Item		Specification
Power	Supply voltage	24 VDC
	Fluctuation	$^{-15\%}/_{+10\%}$ of supply voltage
	Consumption	24 VDC: 1.7 W max.
Inputs	Current	75 mA max.
Switching	Rated load	250 VAC, 5 A
	Rated ON current	5 A

■ Ratings of General Inputs

Item	Specifications
Power voltage	24 VDC
Fluctuation	$^{-15\%}/_{+10\%}$ of supply voltage
Input impedance	3.3 kΩ
Input current	7 mA typ. (24 VDC)
ON voltage/current	14.4 VDC min./3 mA min.
OFF voltage/current	5 VDC max./1 mA max.
ON/OFF response	8 ms max. (Set to 1 to 32 in PC Setup)
Circuits	4 points, 1 common
ON points	100% simultaneously ON

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