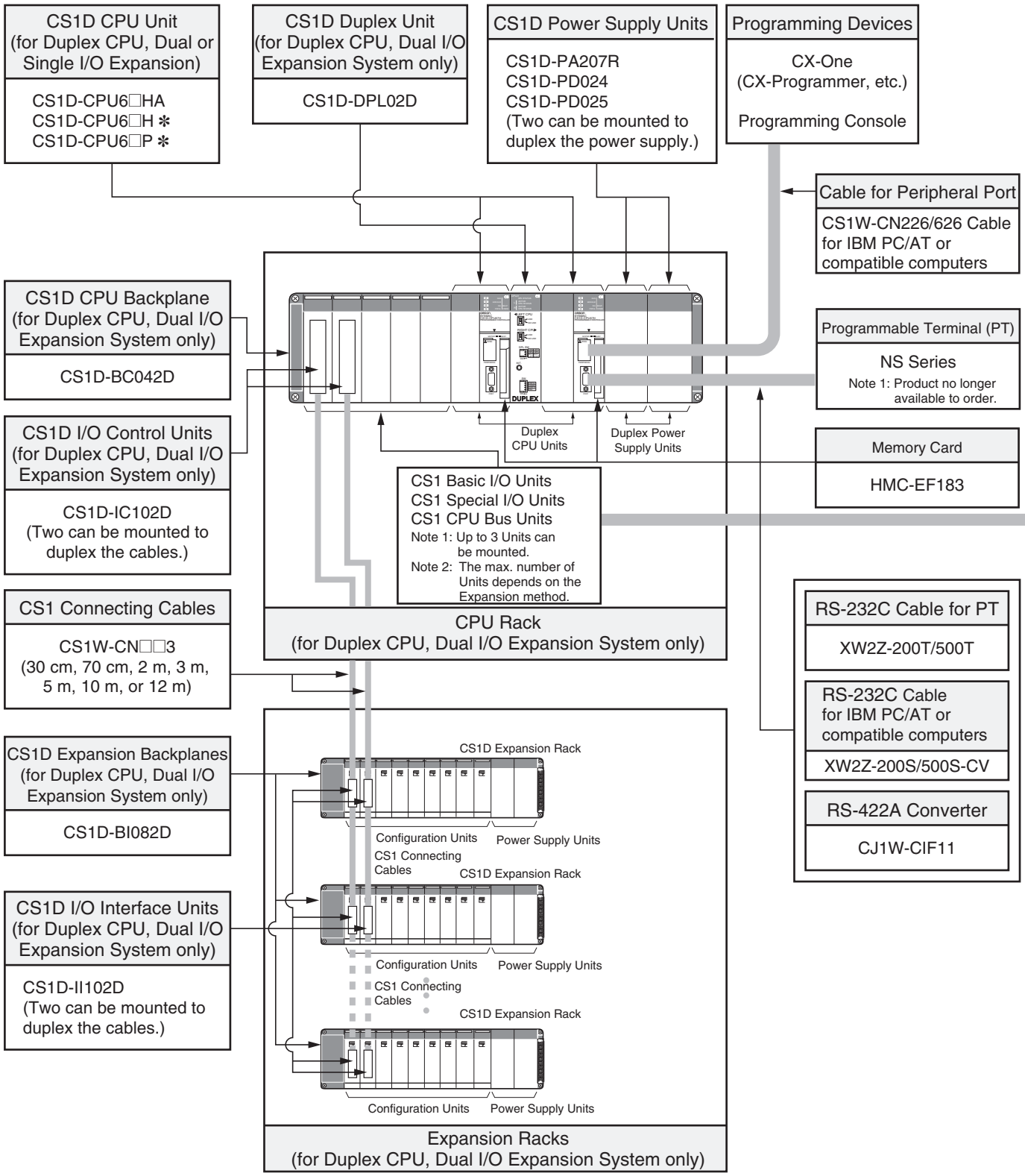
System Configuration

Basic System

SYSTEM 1	CS1D Duplex CPU, Dual I/O Expansion System



✻ The CS1D-CPU6□H/CS1D-CPU6□P CPU Unit version 1.3 or later is required.

Configuration Units

Basic I/O Units				
8 I/O points	**16 I/O points**	**32 I/O points**	**64 I/O points**	**96 I/O points**
Input Units				
---	• DC Input Units CS1W-ID211 • AC Input Units CS1W-IA111 CS1W-IA211	• DC Input Units CS1W-ID231	• DC Input Units CS1W-ID261	• DC Input Units CS1W-ID291
Output Units				
• Triac Output Units CS1W-OA201 • Relay Output Units (independent commons) CS1W-OC201	• Transistor Output Units CS1W-OD21□ • Triac Output Units CS1W-OA211 • Relay Output Units CS1W-OC211	• Transistor Output Units CS1W-OD23□	• Transistor Output Units CS1W-OD26□	• Transistor Output Units CS1W-OD29□
I/O Units				
---	---	---	32 inputs and 32 outputs • DC Input/Transistor Output Units CS1W-MD26□ • TTL I/O Units CS1W-MD561	48 inputs and 48 outputs • DC Input/Transistor Output Units CS1W-MD29□
Other Units				
---	• Interrupt Input Units CS1W-INT01 • High-speed Input Units CS1W-IDP01	B7A Interface Units • 32 inputs CS1W-B7A12 • 32 outputs CS1W-B7A02 • 16 inputs and 16 outputs CS1W-B7A21	B7A Interface Units • 32 inputs and 32 outputs CS1W-B7A22	---

Special I/O Units and CPU Bus Units			
Temperature Sensor Input Units (Process Analog I/O Units) • CS1W-PTS□□ Analog Input Units • Analog Input Units CS1W-AD041-V1 CS1W-AD081-V1 CS1W-AD161 • Process Analog Input Units such as Isolated-type DC Input Units CS1W-PDC□□ CS1W-PTW01 CS1W-PTR0□ Analog Output Units • Analog Output Units CS1W-DA041 CS1W-DA08V CS1W-DA08C • Isolated-type Analog Output Units (Process Analog I/O Units) CS1W-PMV01 CS1W-PMV02 Analog I/O Units • CS1W-MAD44 Isolated-type Pulse Input Unit (Process Analog I/O Unit) • CS1W-PPS01	• High-speed Counter Units CS1W-CT021 CS1W-CT041 • Customizable Counter Units CS1W-HCP22-V1 CS1W-HCA□2-V1 CS1W-HIO01-V1 • Position Control Units CS1W-NC1□3 CS1W-NC2□3 CS1W-NC4□3 • MECHATROLINK-II-compatible Position Control Units CS1W-NC271 CS1W-NC471 CS1W-NCF71 • Motion Control Units CS1W-MC221-V1 CS1W-MC421-V1	• Serial Communications Units CS1W-SCU21-V1 CS1W-SCU31-V1 • EtherNet/IP Units CS1W-EIP21 CS1W-EIP21S • Ethernet Units CS1W-ETN21 CS1D-ETN21D • Controller Link Units CS1W-CLK23 CS1W-CLK13 CS1W-CLK53 • SYSMAC LINK Units CS1W-SLK11 CS1W-SLK21 • FL-Net Units CS1W-FLN22 • DeviceNet Units CS1W-DRM21-V1 • CompoNet Master Units CS1W-CRM21	• ID Sensor U Units CS1W-V680C11 CS1W-V680C12 CS1W-V600C11 CS1W-V600C12 • GPIB Interface Units CS1W-GPI01 • High-speed Data Storage Units CS1W-SPU01-V2 CS1W-SPU02-V2

Note: Including models no longer available to order.

Basic System

SYSTEM 1	CS1D Duplex CPU, Dual I/O Expansion System

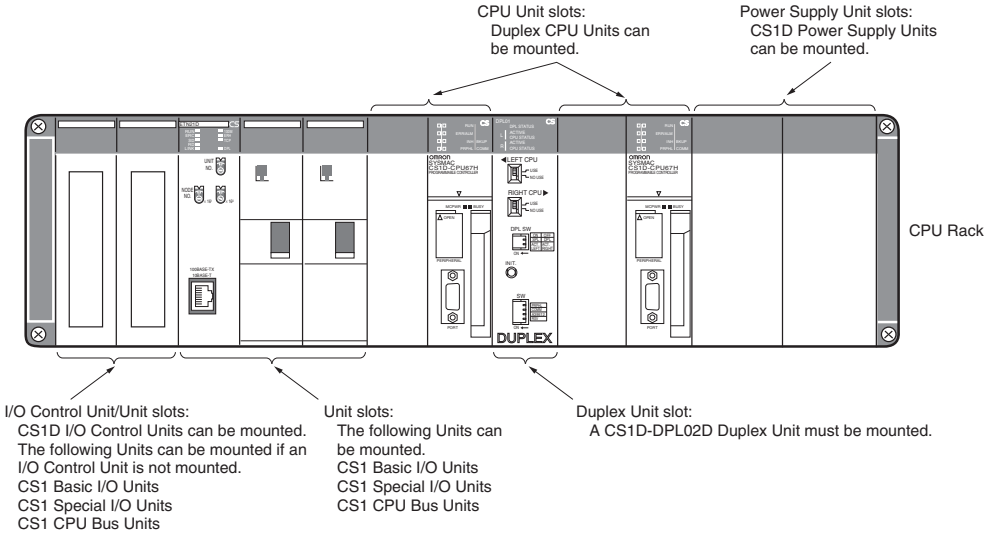
The entire system, including the expansion cables, can be duplexed for the most advanced redundancy and maintenance functions.

The CS1D-CPU6□HA CPU Unit supports FB, ST and SFC programming.

The CS1D-CPU6□H CPU Unit must be version 1.3 or later.

■CPU Rack

System Configuration



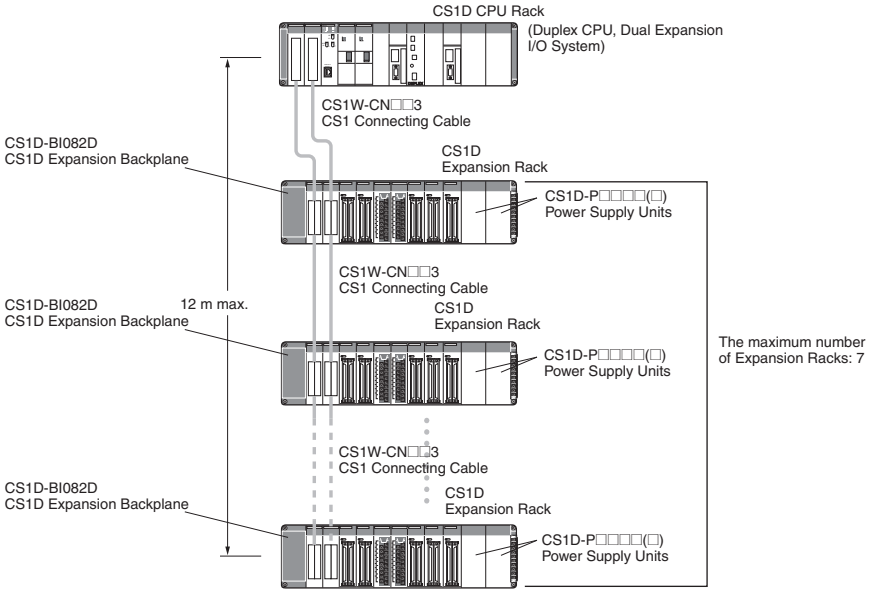
List of Required Devices

Rack	Unit name		Number required
CPU Rack	CS1D-BC042D CPU Backplane (for Duplex CPU Dual I/O Expansion Systems)		1 Backplane
	CS1D-PA207R/CS1D-PD02□ Power Supply Unit		2 Units (Just 1 Unit can also be used.)
	CS1D-CPU6□HA/CS1D-CPU6□H/CS1D-CPU6□P CPU Unit		2 Units
	CS1D-DPL02D Duplex Unit (for Duplex CPU Dual I/O Expansion Systems)		1 Unit
	CS1D-IC102D I/O Control Unit (for Duplex CPU Dual I/O Expansion Systems)		Required only when there is an I/O Expansion System. Two Units are required for a Dual I/O Expansion System, and just one Unit is required for a Single I/O Expansion System.
	Maximum number of I/O Units	Dual I/O Expansion System	3 Units
		Single I/O Expansion System	4 Units
		No I/O Expansion	5 Units

■Dual I/O Expansion Racks

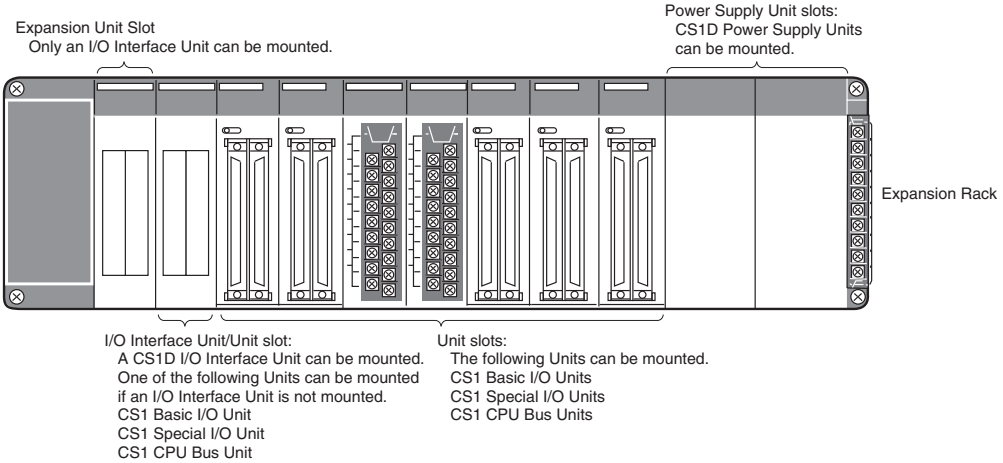
The Dual I/O Expansion System has a duplexed expansion bus and supports online replacement of a Duplex Unit, online replacement of Units without a Programming Device, and online addition of I/O Units and Expansion Backplanes. (These functions are supported by the Duplex CPU Dual I/O Expansion System only.) Special I/O Control Units and I/O Interface Units are used in the Dual I/O Expansion System. The expansion bus can be set to either single or dual operation.

System Configuration



Maximum Expansion Racks

Model	Maximum No. of Racks
CS1D-CPU6□HA **CS1D-CPU6□H** **CS1D-CPU6□P**	7 Racks



List of Required Devices

Rack	Unit name		Number required
CPU Rack	CS1D-IC102D I/O Control Unit (for Duplex CPU Dual I/O Expansion Systems)		Two Units are required for a Dual I/O Expansion System, and just one Unit is required for a Single I/O Expansion System.
	Maximum number of I/O Units	Dual I/O Expansion System	3 Units
		Single I/O Expansion System	4 Units

Rack	Unit name		Number required
Expansion Rack	CS1D-BI082D Expansion Backplane (for Duplex CPU Dual I/O Expansion Systems)		1 Backplane
	CS1D-PA207R/CS1D-PD02□ Power Supply Unit		2 Units (Just 1 Unit can also be used.)
	CS1D-II102D I/O Interface Unit (for Duplex CPU Dual I/O Expansion Systems)		Two Units are required for a Dual I/O Expansion System, and just one Unit is required for a Single I/O Expansion System.
	Maximum number of I/O Units	Dual I/O Expansion System	7 Units
		Single I/O Expansion System	8 Units

Limitations on the System Configuration

Note: 1. Dual I/O Expansion cannot be used in a Duplex CPU Single I/O Expansion System or Single CPU System.
2. The number of I/O Units that can be mounted in the Backplanes depends on the expansion method being used.
3. CS1W-PNT21 units can be used in the configuration with CS1D (duplex system) but do NOT support HOT SWAPPING function. (CS1W-PNT21 is a spcific product released in a specific area.)

SYSTEM 1 Expansion Racks (Dual I/O Expansion System)

Each Expansion Rack requires a CS1D Expansion Backplane (for a Duplex CPU, Dual I/O Expansion System), one or two CS1D Power Supply Units, and one or two I/O Interface Units.

■CS1D Expansion Backplane

Name	Specifications			Current consumption (A)		Model
	Applicable systems	Number of Power Supply Units	Number of I/O Units	5 V system	26 V system	
CS1D Expansion Backplane	Duplex CPU, Dual I/O Expansion System only	2 Units max. (for duplex operation)	9 Units max. (Slot number 0 is reserved for an I/O Interface Unit.)	1.21	---	CS1D-BI082D

Note: 1. C200H-series Units cannot be mounted.

2. CS-series CPU Bus Units can be mounted in an Expansion Rack, but the I/O refreshing time is longer than it is when the CPU Bus Unit is mounted in the CPU Rack.

■I/O Control Unit

When an Expansion Rack is being connected, mount the CS1D-IC102D I/O Control Unit in the left side of the CPU Backplane and connect the Connecting Cable. Two Units can be mounted to duplex the expansion bus.

Name	Specifications					Current consumption (A)		Model
	Applicable systems	Duplexing	Online Replacement	Mounting Backplane	Connecting Cable	5 V system	26 V system	
I/O Control Unit	Duplex CPU, Dual I/O Expansion System only	Supported	Supported	Expansion Backplane	CS1W-CN□□3 CS-series Connecting Cable	0.20	---	CS1D-IC102D

Note: Connecting Cables for Long-distance Racks (CV500-CN□□2) cannot be used.

■CS1D I/O Interface Unit

When an Expansion Rack is being connected, mount the CS1D-II102D I/O Interface Unit in the left side of the CS1-series Expansion Backplane. Two Units can be mounted to duplex the expansion bus.

Name	Specifications					Current consumption (A)		Model
	Applicable systems	Duplexing	Online Replacement	Mounting Backplane	Connecting Cable	5 V system	26 V system	
CS1D I/O Interface Unit	Duplex CPU, Dual I/O Expansion System only	Supported	Supported	CPU Backplane	CS1W-CN□□3 CS-series Connecting Cable	0.22	---	CS1D-II102D

Note: Connecting Cables for Long-distance Racks cannot be used.