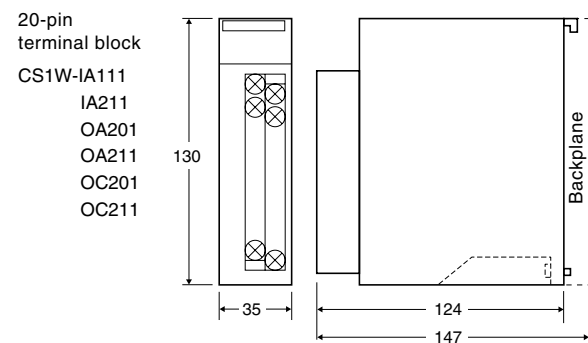


Dimensions (Unit: mm)



Standard Models

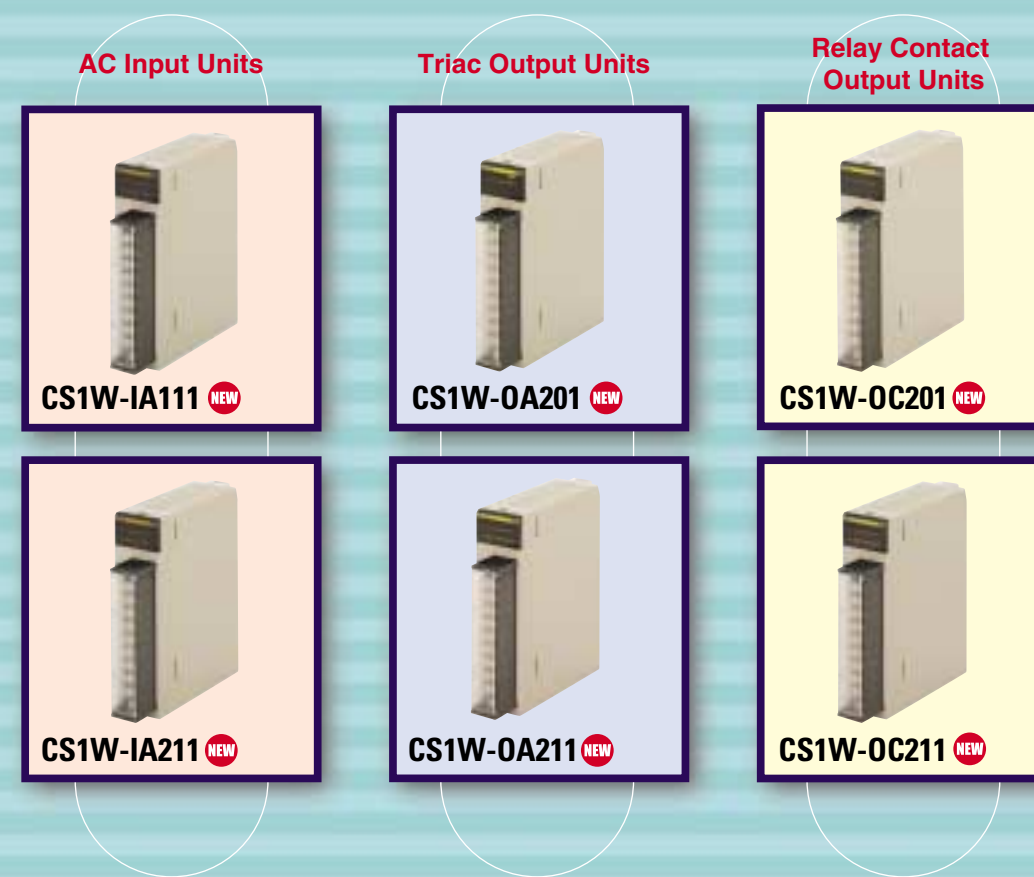
Name	Specifications	Model number	Standard
16-point AC Input Unit	100 VAC with 10 mA input current, 100 VDC with 1.5 mA input current	CS1W-IA111	UC, N, CE
16-point AC Input Unit	200 VAC with 10 mA input current	CS1W-IA211	UC, N, CE
8-point Triac Output Unit	250 VAC, 1.2 A (4.8 A/Unit)	CS1W-OA201	UC, N, CE
16-point Triac Output Unit	250 VAC, 0.5 A (2 A/common, 4 A/Unit)	CS1W-OA211	UC, N, CE
Relay Contact Output Unit with 8 independent points	250 VAC/2 A, 24 VDC/2 A (16 A/Unit), 120 VDC/0.1 A	CS1W-OC201	UC, N, CE
16-point Relay Contact Output Unit	250 VAC/2 A, 24 VDC/2 A (8 A/common, 16 A/Unit), 120 VDC/0.1 A	CS1W-OC211	UC, N, CE

\*The UC mark is the UL-approved UL and CSA marks combined.

# CS1 Series

## I/O Units

Now including new AC Input Units, Triac Output Units, and Relay Contact Output Units. They take 1/10th the I/O refresh time of conventional Units and can be mounted up to 50 m away on Long-distance Expansion Racks.



Note: Do not use this document to operate the Unit.

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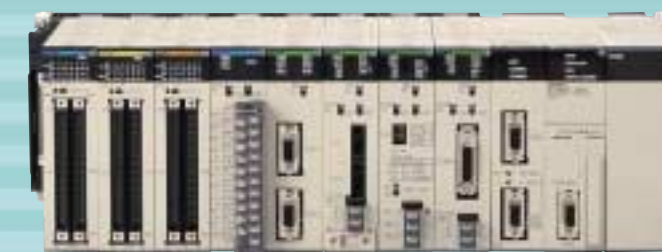
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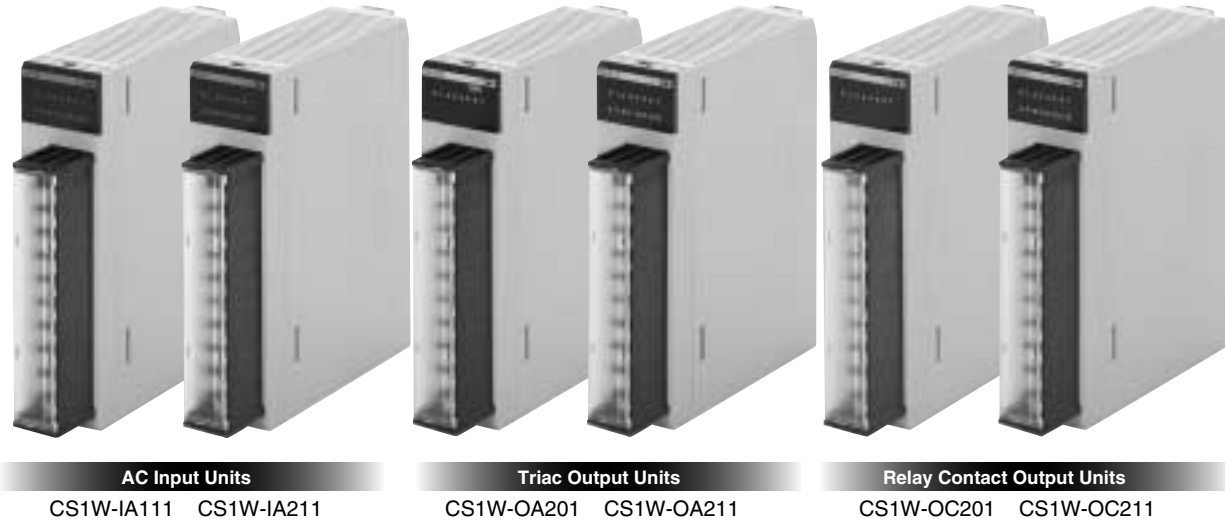
Note: Specifications subject to change without notice.

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Printed in Japan  
0301-3M

Programmable Controllers  
**SYSMAC**  
**CS1**



AC Input Units, Triac Output Units, and Relay Contact Output Units have been added to the CS1 Series. They feature faster I/O refresh times and can be mounted up to 50 m away on Long-distance Expansion Racks.



**Faster I/O Refresh Times**

The design for the CS1 bus has greatly reduced the I/O refresh time, thus enabling a faster cycle time. The I/O refresh time is about 1/10th that of conventional Units.

Example:  
 C200H Series: 16-point Basic I/O Unit refreshes in 0.03 ms  
 CS1 Series: 16-point Basic I/O Unit refreshes in 0.004 ms

**Mounting Up To 50 m Away**

Unlike C200H Units, the new CS1 Series Units can be mounted up to 50 m away on Long-distance Expansion Racks.

**More Points on Triac Output Units**

The CS1-series Triac Output Unit (CS1W-OA211) provides 16 points, which is four more than the 12 points available on the conventional Unit (C200H-OA224).

**100 VDC Compatibility**

The AC Input Units and Relay Output Units can run on 100 VDC as well (CS1W-IA111, CS1W-OC201, and CS1W-OC211).

**More Common Points and Better I/O Performance**

The new Units offer more common points and better I/O performance than conventional Units.

**Adjustable Response Time**

The response time of AC Input Units can be set between 0 and 32 ms in the PC Setup.

**Specifications**

● Input Units

Name	Model	Rated voltage	Input current	ON voltage	OFF voltage	ON response time	OFF response time	No. of circuits	Weight
16-point AC Input Unit	CS1W-IA111	100 to 120 VAC (+10%/-15%), 50/60 Hz 100 to 120 VDC (+10%/-15%)	10 mA typical (100 VAC) 1.5 mA typical (100 VDC)	65 VAC min. 75 VDC min.	20 VAC max. 25 VDC max.	18 ms max. (when 8 ms is set)	63 ms max. (when 8 ms is set)	16 points (8 points/ 2 common circuits)	260 g max.
16-point AC Input Unit	CS1W-IA211	200 to 240 VAC (+10%/-15%), 50/60 Hz	10 mA typical (200 VAC)	120 VAC min.	40 VAC max.	18 ms max. (when 8 ms is set)	48 ms max. (when 8 ms is set)	16 points (8 points/ 2 common circuits)	260 g max.

\*The response time of AC Input Units can be set between 0 and 32 ms in the PC Setup.

● Output Units

Name	Model	Maximum switching capacity	ON voltage	OFF voltage	No. of circuits	Weight
8-point Triac Output Unit	CS1W-OA201	250 VAC, 1.2 A, 50/60 Hz (4.8 A/Unit)	1 ms max.	1/2 the load frequency + 1 ms max.	8 points (8 points/ common circuit)	300 g max.
16-point Triac Output Unit	CS1W-OA211	250 VAC, 0.5 A, 50/60 Hz (2 A/Unit, 4 A/Unit)	1 ms max.	1/2 the load frequency + 1 ms max.	16 points (8 points/ 2 common circuits)	300 g max.
Relay Contact Output Unit with 8 independent points	CS1W-OC201	250 VAC/2 A (cos $\phi$ = 1), 24 VDC/2 A (16 A/Unit), 120 VDC/0.1 A	15 ms max.	15 ms max.	8 independent points	260 g max.
16-point Relay Contact Output Unit	CS1W-OC211	250 VAC/2 A (cos $\phi$ = 1), 24 VDC/2 A (8 A/Unit), 120 VDC/0.1 A	15 ms max.	15 ms max.	16 points (8 points/ 2 common circuits)	290 g max.

**I/O Units and Installation Locations**

Name	Model	Installation locations				
		CPU Rack	C200H Expansion I/O Rack	CS1 Expansion Rack	CS1 Long-distance Expansion Rack	SYSMAC BUS Remote I/O Slave Racks
16-point AC Input Unit	CS1W-IA111	○	×	○	○	×
16-point AC Input Unit	CS1W-IA211	○	×	○	○	×
8-point Triac Output Unit	CS1W-OA201	○	×	○	○	×
16-point Triac Output Unit	CS1W-OA211	○	×	○	○	×
Relay Contact Output Unit with 8 independent points	CS1W-OC201	○	×	○	○	×
16-point Relay Contact Output Unit	CS1W-OC211	○	×	○	○	×

**Specifications that differ from those of C200H Units**

This section focuses solely on those areas where specifications are different from those of the C200H Units.

● 16-point 100-VAC Input Unit: CS1W-IA111

Item	New Unit: CS1W-IA111	Conventional Unit: C200H-IA122	Conventional Unit: C200H-IA122V
100 VDC compatible	○		×
Input impedance (only different for 100 VAC/50 Hz)	10 k $\Omega$		9.7k $\Omega$
ON voltage (AC)	65 VAC min.		60 VAC min.
ON response time	18 ms max. (when 8 ms is set)		35 ms max.
OFF response time	63 ms max. (when 8 ms is set)		55 ms max.
No. of common circuits	2		1
Internal current consumption at 5 VDC	110 mA max.		10 mA max.
Response time setting	○		×
Weight	260 g max.	300 g max.	400 g max.
Standard	UC, N, CE	U, C, N, L	CE

● 16-point 200-VAC Input Unit: CS1W-IA211

Item	New Unit: CS1W-IA211	Conventional Unit: C200H-IA222	Conventional Unit: C200H-IA222V
ON response time	18 ms max. (when 8 ms is set)		35 ms max.
OFF response time	48 ms max. (when 8 ms is set)		55 ms max.
No. of common circuits	2		1
Internal current consumption at 5 VDC	110 mA max.		10 mA max.
Response time setting	○		×
Weight	260 g max.	300 g max.	400 g max.
Standard	UC, N, CE	U, C, N, L	CE

● 8-point Triac Output Unit: CS1W-OA201

Item	New Unit: CS1W-OA201	Conventional Unit: C200H-OA223
Max. switching capacity per Unit	4.8 A/Unit	4 A/Unit
Max. inrush current	10 A at a pulse width of 100 ms, 20 A at a pulse width of 10 ms	15 A at a pulse width of 100 ms, 30 A at a pulse width of 10 ms
Fuse	8 A	5 A
Internal current consumption (5 VDC)	230 mA max. (70 mA + 20 mA x the number of ON points)	180 mA max.
Standard	UC, N, CE	CE

● 8-point Relay Contact Output Unit: CS1W-OC201

Item	New Unit: CS1W-OC201	Conventional Unit: C200H-OC224	Conventional Unit: C200H-OC224N
100 VDC compatible	○		×
Min. switching capacity(5 VDC)	1 mA		10 mA
Relay service life	Electrical: 150,000 times (resistive load) 100,000 times (inductive load) Mechanical: 20,000,000 times	Electrical: 500,000 times (resistive load) 100,000 times (inductive load) Mechanical: 50,000,000 times	Electrical: 300,000 times Mechanical: 10,000,000 times
Internal current consumption	5 VDC: 100 mA max., 26 VDC: 48 mA max. (6 mA x the number of ON points)	5 VDC: 10 mA max., 26 VDC: 75 mA per 8 points ON simultaneously	5 VDC: 10 mA max., 26 VDC: 90 mA per 8 points ON simultaneously
Weight	260 g max.	300 g max.	350 g max.
Standard	UC, N, CE	U, C, N, L	CE

● 16-point Triac Output Unit: CS1W-OA211

Item	New Unit: CS1W-OA211	Conventional Unit: C200H-OA224	Conventional Unit: C200H-OA222V
Max. switching capacity at 250 VAC, 50/60 Hz	0.5 A (2 A/Unit, 4 A/Unit)	0.5 A (2 A/Unit)	0.3 A (2 A/Unit)
Max. inrush current	15 A at a pulse width of 10 ms	10 A at a pulse width of 100 ms, 20 A at a pulse width of 10 ms	—
Min. switching capacity	50 mA at 75 VAC	100 mA at 10 VAC, 50 mA at 24 VAC, 10 mA at 100 VAC or higher	10 mA with a resistive load and 40 mA with an inductive load at 10 VAC
Leakage current	1.5 mA max. at 200 VAC	1.5 mA max. at 120 VAC, 3 mA max. at 240 VAC	3 mA max. at 100 VAC, 6 mA max. at 200 VAC
Residual voltage	1.6 VAC max.	1.5 VAC max. at 50 to 500 mA, 5 VAC max. at 10 to 50 mA	1.2 V max.
ON response time		1 ms max.	1/2 the load frequency max.
OFF response time		1/2 the load frequency + 1 ms max.	1/2 the load frequency max.
No. of circuits	16		12
No. of common circuits	2		1
Fuse	4 A x 2 common	3.15 A	3 A
Internal current consumption (5 VDC)	406 mA max. (70 mA + 21 mA x the number of points ON)	270 mA max.	200 mA max.
Weight		300 g max.	400 g max.
Standard	UC, N, CE	U, C, N, L	CE

● 16-point Relay Contact Output Unit: CS1W-OC211

Item	New Unit: CS1W-OC211	Conventional Unit: C200H-OC225	Conventional Unit: C200H-OC226N
100 VDC compatible	○		×
Common/Unit, current capacity at 24 VDC	8 A/common, 16 A/Unit		8 A/Unit
Min. switching capacity (5 VDC)	1 mA		10 mA
Relay service life	Electrical: 150,000 times (resistive load) 100,000 times (inductive load) Mechanical: 20,000,000 times	Electrical: 500,000 times (resistive load) 100,000 times (inductive load) Mechanical: 50,000,000 times	Electrical: 300,000 times Mechanical: 10,000,000 times
ON/OFF response time		15 ms max.	10 ms max.
No. of common circuits		2	1
No. of points ON simultaneously	16		8
Internal current consumption	5 VDC: 130 mA max., 26 VDC: 96 mA max. (6 mA x the number of ON points)	5 VDC: 50 mA max., 26 VDC: 75 mA per 8 points ON simultaneously	5 VDC: 30 mA max., 26 VDC: 90 mA per 8 points ON simultaneously
Weight	290 g max.	400 g max.	500 g max.
Standard	UC, N, CE	U, C, N, L	CE