

## Ordering Information

Applicable PLCs	Maximum I/O points	Model number
CJ Series	256 (128 input, 128 output)	CJ1W-SRM21

## Communications Specifications

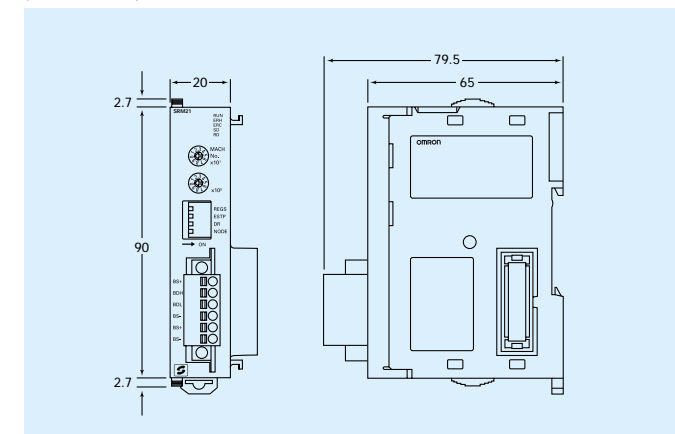
Item	Specification			
Communications method	CompoBus/S protocol			
Coding method	Manchester coding method			
Connection method	Multi-drop method and T-branch method (See note 1.)			
Communications baud rate	High-speed communications mode: 750 kbps Long-distance communications mode: 93.75 kbps (See note 2.)			
Communications cycle time	High-speed communications mode 0.5 ms (No. of connected Slaves: 8 input, 8 output)			
	0.8 ms (No. of connected Slaves: 16 input, 16 output)			
	Long-distance communications mode 4.0 ms (No. of connected Slaves: 8 input, 8 output)			
Communications cable	6.0 ms (No. of connected Slaves: 16 input, 16 output)			
	2-conductor VCTF cable (0.75 X 2) 4-conductor VCTF cable (0.75 X 4) Special flat cable			
Communications distance	2-conductor VCTF cable			
	Communications mode	Main line length	Branch line length	Total branch line length
	High-speed	100 m max.	3 m max.	50 m max.
	Long-distance	500 m max.	6 m max.	120 m max.
Special flat cable or 4-conductor VCTF cable	Communications mode	Main line length	Branch line length	Total branch line length
	High-speed (See note 3.)	30 m max.	3 m max.	30 m max.
	Long-distance (See note 4.)	Variable branch wiring (total cable length 200 m max.)		
	Error control checks	Manchester code check, frame length check, and parity check		

Note 1: An external terminator must be connected.  
 Note 2: The communications baud rate is set with the DIP switch.  
 Note 3: When flat cable is used to connect fewer than 16 slaves, the main line can be up to 100 m long and the total branch line length can be up to 50 m.  
 Note 4: There are no limits on the branching format or main, branch, or total line lengths. The terminator must be connected to the point in the system farthest from the Master.

## Master Specifications

Model number	CJ1W-SRM21		
Unit	CJ-series Special I/O Unit		
Mountable location	CJ-series CPU Rack, CJ-series Expansion Rack		
No. of Units that can be mounted	40 max.		
Unit numbers used	2 unit numbers (20 words used)	1 unit number (10 words used)	
No. of CPU Unit allocated words	Slave I/O allocation	Input: 8 words Output: 8 words	Input: 4 words Output: 4 words
	Slave status	4 words	2 words
Max. number of control points per Master	256 (128 input, 128 output)	128 (64 input, 64 output)	
Max. number of connecting nodes per Master	32	16	
Max. number of connecting node addresses per Master	Input: 0 to 15 Output: 0 to 15	Input: 0 to 7 Output: 0 to 7	
Number of points per node number	8 points	8 points	
Communications cycle time	High-speed communications mode	0.8 ms	0.5 ms
	Long-distance communications mode	6.0 ms	4.0 ms
Status information	Participation flag, communications error flag for each Slave		
Internal current consumption	5 VDC, 150 mA		
Weight	Approx. 66 g (including attached connector)		

## Dimensions (Unit: mm)



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

### OMRON Corporation

FA Systems Division H.Q.  
 66 Matsumoto  
 Mishima-city, Shizuoka 411-8511  
 Japan  
 Tel: (81)559-77-9181  
 Fax: (81)559-77-9045

### Regional Headquarters

OMRON EUROPE B.V.  
 Wegalaan 67-69, NL-2132 JD Hoofddorp  
 The Netherlands  
 Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ELECTRONICS LLC  
 1 East Commerce Drive, Schaumburg, IL 60173  
 U.S.A.  
 Tel: (1)847-843-7900/Fax: (1)847-843-8568

OMRON ASIA PACIFIC PTE. LTD.  
 83 Clemenceau Avenue,  
 #11-01, UE Square,  
 Singapore 239920  
 Tel: (65)835-3011/Fax: (65)835-2711

### Authorized Distributor:



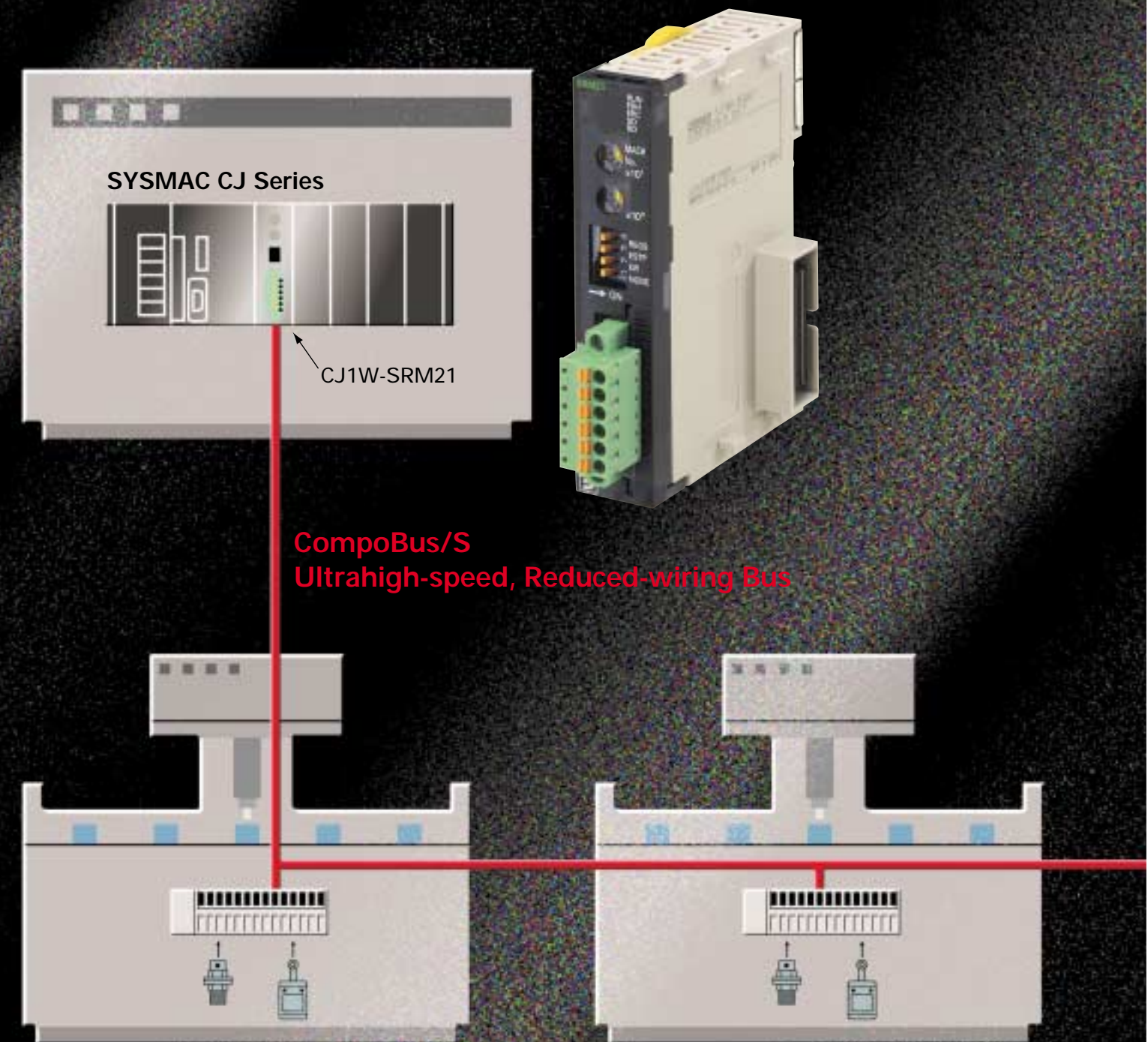
Note: Specifications subject to change without notice.

Cat. No. R096-E1-01  
 Printed in Japan  
 1101-0.3M

# OMRON

Reduces Overall System Wiring for Faster,  
 More Functional Machines

## Compact, Slim CompoBus/S Master Unit CJ1W-SRM21 For the CJ Series





# Fast, Compact, Simple, and Reliable – Boosts Machine Efficiency

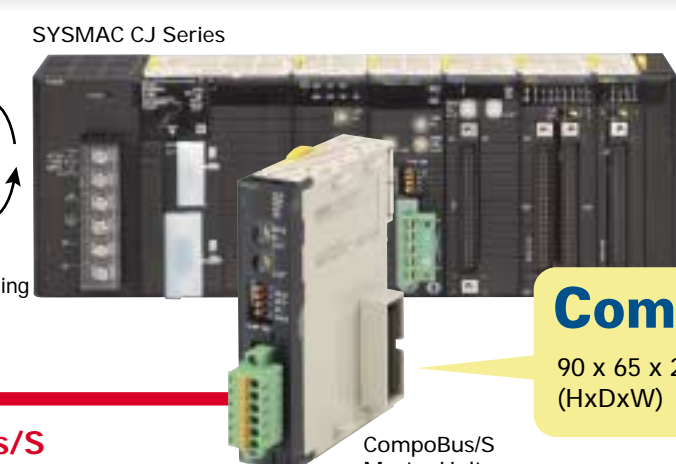
- **Fast**.....Faster total I/O response with a high-speed ON/OFF bus.
- **Compact**...Slim 90 x 20 mm (HxW) size (approx. 1/3 the volume of previous OMRON models).
- **Simple**.....Variable wiring for both main and branch lines (for long-distance communications mode, using the special flat cable or 4-conductor VCTF cable).
- **Reliable**....Slave registration function checks Slave participation, and I/O communications automatically stop in the event of a communications error.

**Fast**

The high-speed processing of the CJ-series CPU Unit combines with speedy communications cycles to achieve faster total response.

**Compact**

90 x 65 x 20 mm (HxDxW)



**CompoBus/S**  
Ultra-high-speed, reduced-wiring bus with a communications cycle time of 0.5 ms.

**Simple**

Variable branch wiring within the total line length of 200 m (in long-distance communications mode).

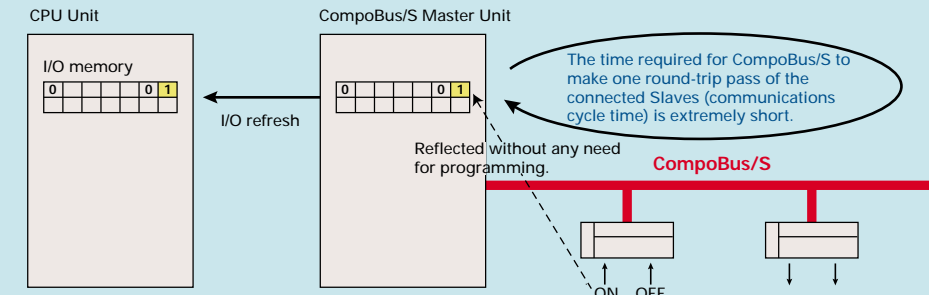
**256 I/O Points Maximum, Up to 32 Units Can Be Connected.**

**High-speed Communications Mode**  
Communications cycle times are fast, at 0.5 ms for 128 I/O points and 0.8 ms for 256 I/O points, over a communications distance of up to 100 m.

**Long-distance Communications Mode**  
This mode allows a line length of up to 500 m, and variable wiring within a 200-m line length when using the special flat cable or 4-conductor VCTF cable.

**About CompoBus/S...**

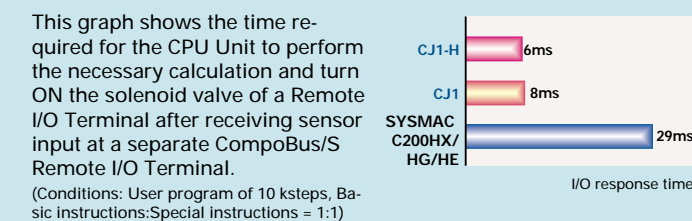
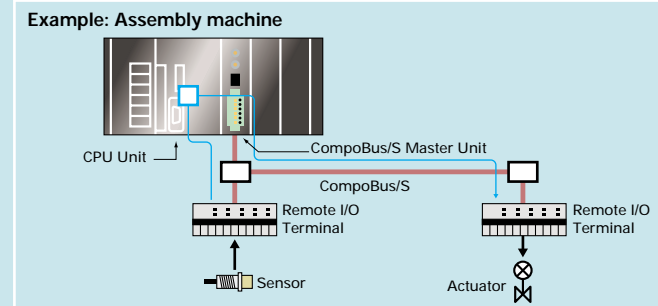
CompoBus/S is a machine-control level, high-speed ON/OFF bus. It allows a "remote I/O function" to automatically exchange I/O data between Slaves and a CPU Unit without the need for any CPU Unit programming. Its communications cycle time of less than 1 ms for 256 I/O points enables high-speed remote I/O.



## Fast

Shortens machine processing cycles.

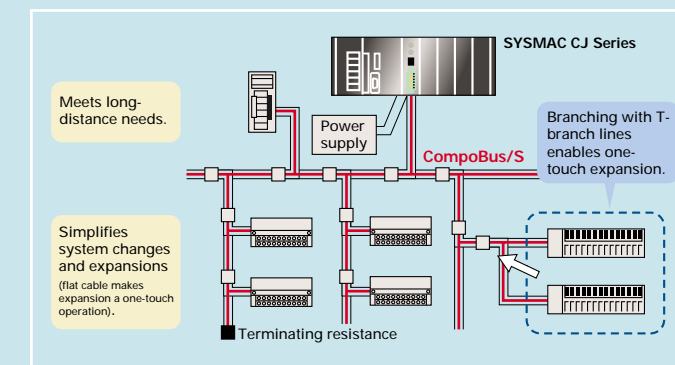
By optimizing the high processing capability of the CJ-series CPU Unit, the overall response of a dispersed, reduced-wiring system using CompoBus/S has been greatly improved.



## Simple

Variable wiring ability simplifies system changes and expansions.

When using long-distance communications mode and the special flat cable or 4-conductor VCTF cable, variable branch wiring is possible within the total line length of 200 m (including both main and branch lines). This removes many constraints in layout design.



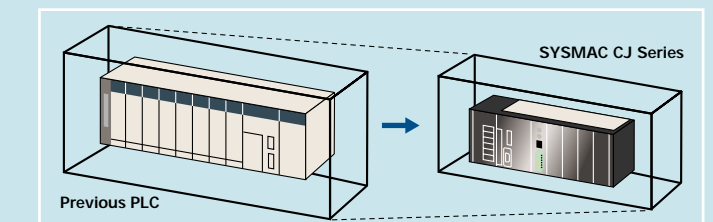
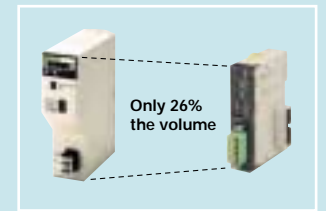
### Slave Model Line-up

<p><b>Remote I/O Terminals</b> (Slaves with Terminal Blocks) ● 4 pts., 8 pts., 16 pts.</p> <ul style="list-style-type: none"> <li>● SRT2-ID04(-1)</li> <li>● SRT2-OD04(-1)</li> <li>● SRT2-ID08(-1)</li> <li>● SRT2-OD08(-1)</li> <li>● SRT2-ID16(-1)</li> <li>● SRT2-OD16(-1)</li> </ul>	<p>(Slaves with Three-tier Terminal Blocks) ● 16 pts.</p> <ul style="list-style-type: none"> <li>● SRT2-ID16T(-1)</li> <li>● SRT2-OD16T(-1)</li> <li>● SRT2-MD16T(-1)</li> </ul> <p>(Relay Output Type) ● 8 pts., 16 pts.</p> <ul style="list-style-type: none"> <li>● SRT2-ROC08</li> <li>● SRT2-ROF08</li> <li>● SRT2-ROC16</li> <li>● SRT2-ROF16</li> </ul>	<p>(Slaves with Connectors) ● 8 pts., 16 pts., 32 pts.</p> <ul style="list-style-type: none"> <li>● SRT2-VID08S(-1)</li> <li>● SRT2-VOD08S(-1)</li> <li>● SRT2-VID16ML(-1)</li> <li>● SRT2-VOD16ML(-1)</li> <li>● SRT2-ID32ML(-1)</li> <li>● SRT2-OD32ML(-1)</li> <li>● SRT2-MD32ML(-1)</li> </ul>	<p><b>Analog Terminals</b></p> <ul style="list-style-type: none"> <li>● SRT2-AD04</li> <li>● SRT2-DA02</li> <li>● SRT2-ID04MX</li> <li>● SRT2-ID08MX</li> </ul>	<p><b>Waterproof Terminals</b> ● 4 pts., 8 pts.</p> <ul style="list-style-type: none"> <li>● SRT2-ID04CL(-1)</li> <li>● SRT2-OD04CL(-1)</li> <li>● SRT2-ID08CL(-1)</li> <li>● SRT2-OD08CL(-1)</li> </ul>	<p><b>Fiber Amplifier Communications Unit</b></p> <ul style="list-style-type: none"> <li>● E3X-SRT21</li> <li>● Position Driver</li> <li>● FND-XCI-SRT</li> </ul>
---	--	--	---	--	---

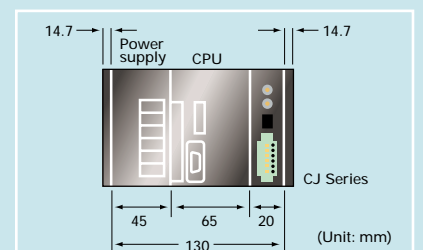
## Compact

Helps to downsize machines.

The volume of the CJ-series CompoBus/S Master Unit is only 26% that of previous OMRON models. With dimensions of 90 x 65 x 20 mm (HxDxW), this slim Unit helps to reduce the total space required by the PLC and greatly downsize machine control panels.



With no need for backplanes, there is greater flexibility in width design.



## Reliable

Slave registration function and I/O communications stop function supported.

