

NEW

Programmable Controllers SYSMAC CJ2

CJ2H-CPU6□-EIP
CJ2H-CPU6□



Throughput Refined at the Microsecond Level

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

OMRON Corporation
Industrial Automation Company
Control Devices Division H.Q.
Automation & Drive Division
Automation Department 1
Shiokoji Horikawa, Shimogyo-ku,
Kyoto, 600-8530 Japan
Tel: (81) 75-344-7084/Fax: (81) 75-344-7149

Regional Headquarters
OMRON EUROPE B.V.
Wegalaan 67-69-2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388
OMRON Industrial Automation Global: www.ia.omron.com

OMRON ELECTRONICS LLC
One Commerce Drive Schaumburg,
IL 60173-5302 U.S.A.
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON ASIA PACIFIC PTE. LTD.
No. 438A Alexandra Road # 05-05/08 (Lobby 2),
Alexandra Technopark, Singapore 119967
Tel: (65) 6835-3011/Fax: (65) 6835-2711

OMRON (CHINA) CO., LTD.
Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

Authorized Distributor:

© OMRON Corporation 2008 All Rights Reserved.
In the interest of product improvement,
specifications are subject to change without notice.

Cat. No. P059-E1-03

Printed in Japan
0509 (0908)

realizing

SYSMAC: Enhanced for Greater Reliability

Throughput Refined at the Microsecond Level

For Cell Control and Machine Control

The SYSMAC CJ2 covers a wide range of applications with improved system throughput from inputs and processing to outputs.

The application range is also increased through data synchronization between Units.

CJ Series Enhancements

- Higher speed for system throughput from inputs and processing to outputs.
- Stable control with no fluctuations.

Synchronous Unit Operation

Advanced motion control can be performed easily and at low cost.

Improved System Throughput

Higher precision is provided for machine operation and processing quality.

Improved Basic Performance

The CPU Unit operates at higher speed and provides higher capacity.

A Programmable Controller that Inherits All the Features of the SYSMAC CJ1

Programmable Controllers
SYSMAC CJ2

CONTENTS

ConceptsF-2

System Design Guide 1

System Configuration 2

Dimensions 6

General Specifications 9

Performance Specifications 10

Function Specifications 13

Checking Current Consumption and Power Consumption 18

Ordering Information 19

Basic Configuration Units 20

Programming Devices 22

Programming Device Connecting Cable 23

FA Communications Software 24

Optional Products and Maintenance Products 25

DIN Track Accessories 25

Basic I/O Units 26

Special I/O Units and CPU Bus Units 30



Windows is a registered trademark of Microsoft Corporation in the USA. DeviceNet, DeviceNet Safety, and CompoNet are registered trademarks of the ODVA. Other company names and product names are the trademarks or registered trademarks of their respective companies.

Improved System Throughput

Higher Precision for Machine Operation and Processing Quality

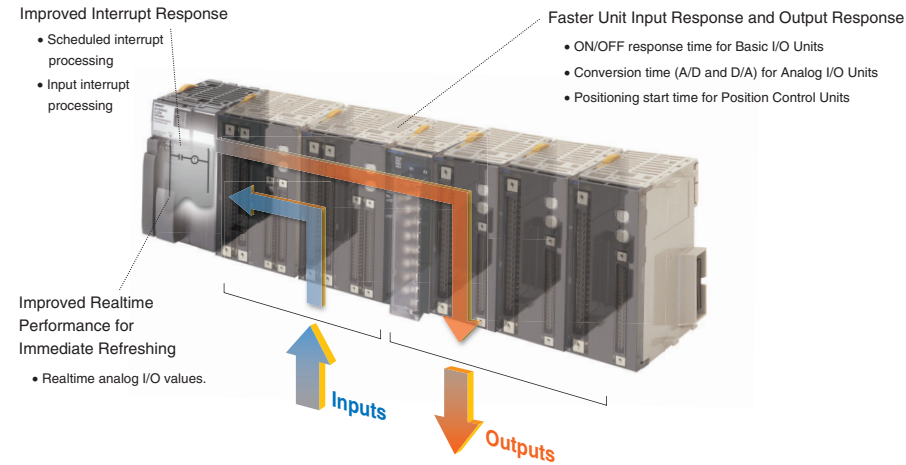
Lineup of High-speed Units

In addition to the greater processing performance of the CPU Unit, OMRON has also improved the response performance of each Unit. Faster throughput from inputs and processing to outputs helps to improve equipment tact time and work processing quality.

NEW

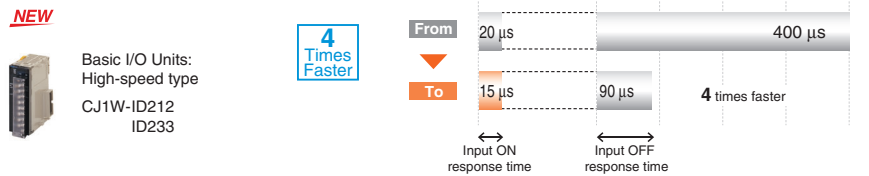
Flexible Machine Control with Refined I/O Perform

Improve realtime control.



Improved Equipment Performance with Faster Unit I/O Response

- Faster Basic I/O Unit OFF Response Time: 90 μs



- High-speed Analog Conversion: 20 μs per Point (35 μs per Four Points)



- High-speed Positioning Starts in up to 0.1 ms*

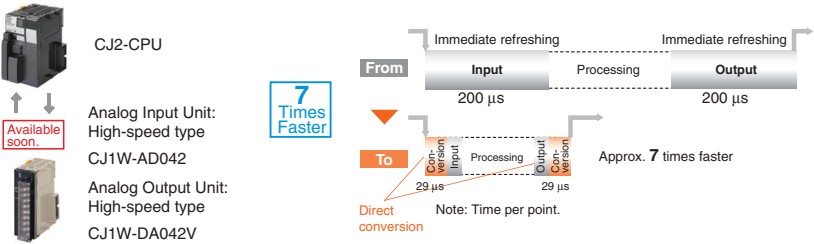


For Cell Control and Machine Control

Direct Processing for High-speed Units with Enhanced Immediate Refreshing

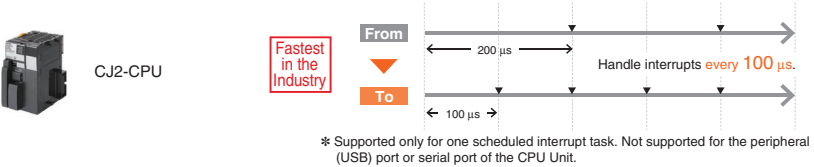
The addition of the immediate refreshing instructions for High-speed Units increases the I/O throughput speed.

- Analog I/O Direct Conversion Instruction
- Conversion for an Analog I/O Unit is immediately executed when a direct conversion instruction is executed in the CPU Unit. Refreshed data is read and used for control in realtime.

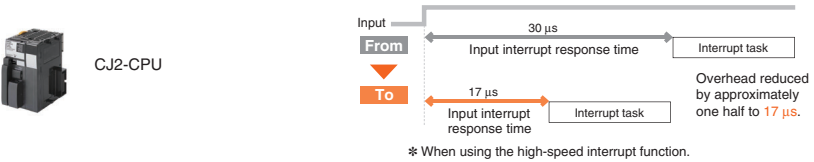


Improved Interrupt Response for Finer Control with the High-speed Interrupt Function

- Shorter Minimum Interval for Scheduled Interrupts (100 μs*)



- Faster Interrupt Response Time for Input Interrupts (17 μs*)



Applications

Image-processing Inspection of Electronic Components

Shutter output

Workpiece detection

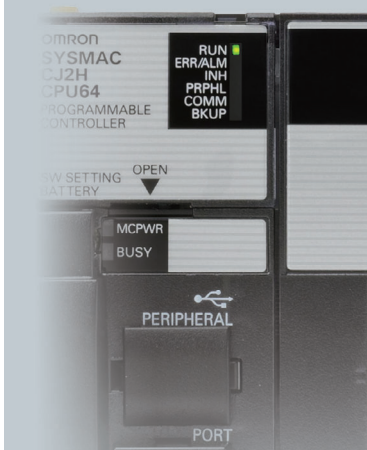
High speed is achieved with no variations from detecting the workpiece with the Photoelectric Sensor to activating the camera shutter. Precise, high-speed inspection is thus possible.

High-speed Sorting on Conveyors

Sorting

Workpiece detection

Control the processing speed at ultra-high speed without variations from the sensor input to response output.



Synchronous Unit Operation

Advanced Motion Control with Low Cost and Easy Operation

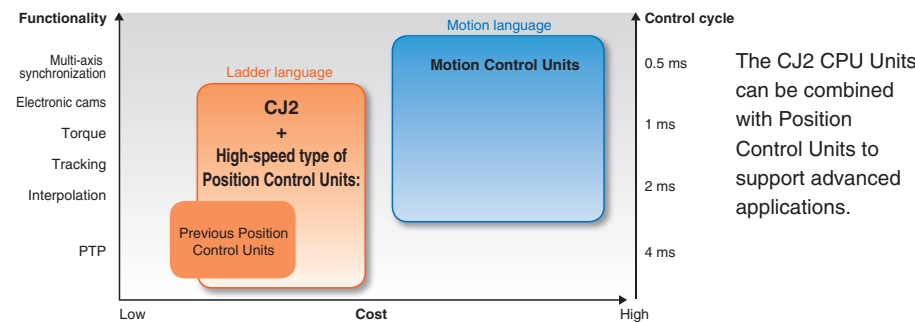
Building Synchronized Systems Using Only Ladder Programming and No Special Controllers

The CJ2 covers a wide range of applications from positioning control to synchronized multi-axis control, so there is no need to use different Controllers depending on the difficulty of the motion operation. No expensive Motion Control Units are required, and so design efficiency is improved by sharing the development environment, and inventory management costs are reduced.

NEW

Wide Range of Support from Positioning Control to Synchronized Multi-axis Control Up to 20 axes

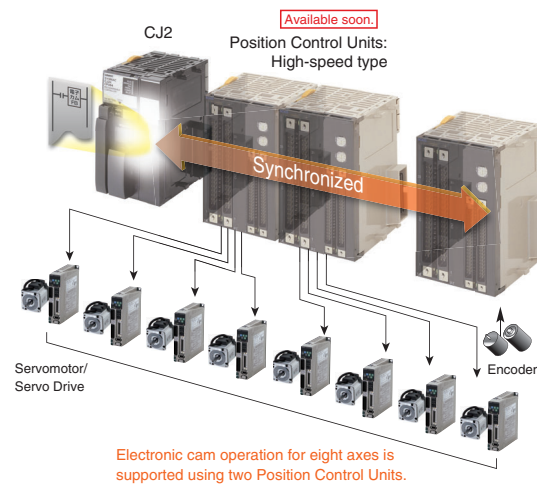
Standardize controllers for motion applications.



Build synchronized systems using only ladder programming and no special Controllers.

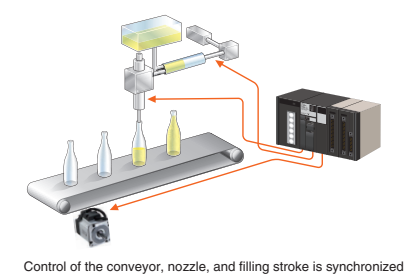
Synchronized control can be performed for up to 20 axes by using five Position Control Units. Programming can also be easily performed simply by pasting an electronic cam function block into a synchronized interrupt task. (See note.)

Note: The electronic cam function block is provided with CX-One version 3.1 or the CX-One auto update for February 2009.

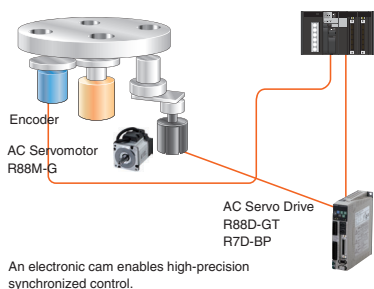


Applications

Bottle Filler



Crimping Equipment



For Cell Control and Machine Control

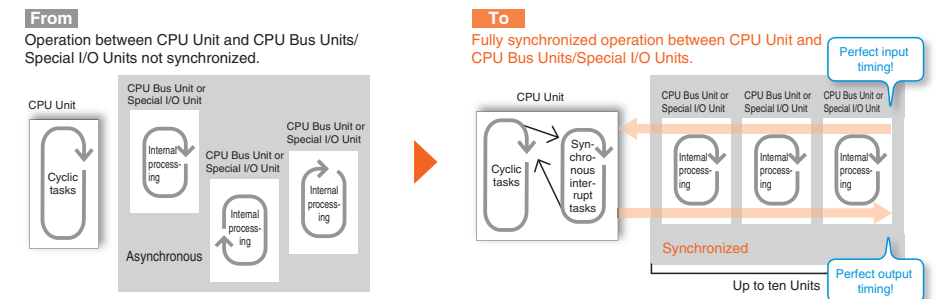
NEW

Synchronization from Inputs and Processing to Outputs

Synchronize the CPU Unit with CPU Bus Units and Special I/O Units.

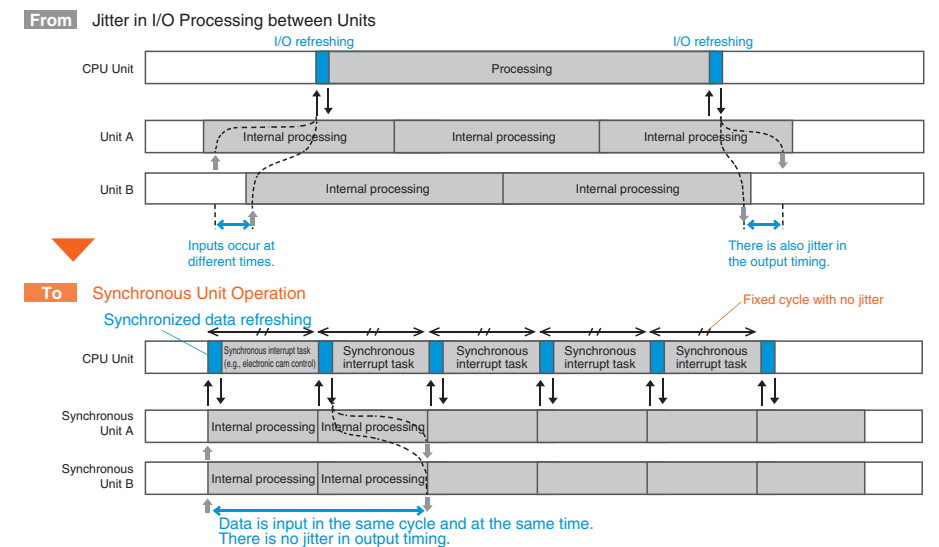
Synchronize the Processing Timing between CPU Bus Units and Special I/O Units.

The CJ2 CPU Units now support Synchronous Unit Operation in which the CPU Unit synchronizes the start of processing by the CPU Bus Units and Special I/O Units. This enables using synchronized data refreshing to share data between the CPU Unit and CPU Bus Units/Special I/O Units and using synchronous interrupt tasks to process that data. In the future, the range of applications will expand with the release of more CPU Bus Units and Special I/O Units that support Synchronous Unit Operation. (These Units are called Synchronous Units).



Achieve Application Performance with a Synchronized Operation Cycle at the Maximum Speed of 1 ms with No Jitter

The CJ2 supports applications that require strict time management, such as electronic cam control, by using multi-axis control, which minimizes jitter from inputs and processing to outputs.



Improved Basic Performance

Faster and Higher-capacity CPU Units

Data Memory: 832 Kwords,
Basic Instructions: 0.016 μs

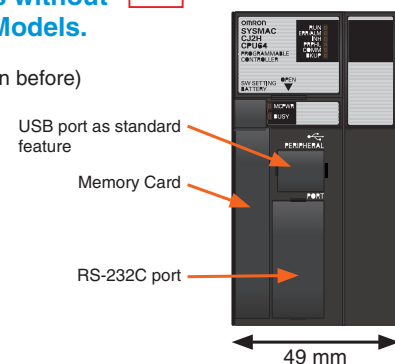
High-capacity data memory is in demand to meet the need for quality control for equipment and products and to provide realtime processing and collection of measurement data. Large program capacity is also in demand due to the need for improving program reusability through modularization and structured programming.

Greatly Expanded Program Capacity and Data Memory Capacity

Ample support is provided for programming and data required for complicated control.

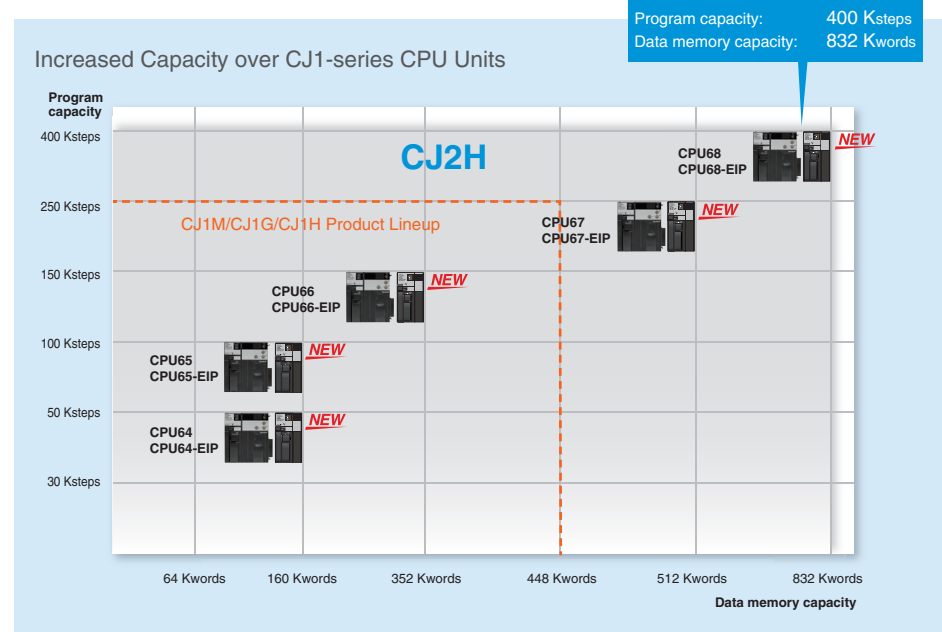
Additions to the Lineup Include Models without EtherNet/IP, Including Large-capacity Models. NEW

- Program capacity: 400 Ksteps (1.6 times larger than before)
- Data memory capacity: 832 Kwords (2 times larger than before)
- Unit width: 49 mm



And, All CJ2 Models Have More Capacity Than CJ1 Models.

In addition, all models have more capacity than the equivalent CJ1-series models to meet needs for structured programming and increasing amounts of data.



High-speed Performance as a Controller

The CJ2 also provides flexible machine control with refined basic performance.

Ample Instruction Execution Performance for Machine Control.

The CJ2 fully responds to customer needs for improved tact time and increased information handling.

System Overhead	Common processing:	100 μs *	Floating-point Math	SIN processing:	0.59 μs
	Interrupt response:	30 μs		Floating-point decimal addition and subtraction:	0.24 μs
Basic Instructions	LD instruction execution:	0.016 μs			
	OUT instruction execution:	0.016 μs			

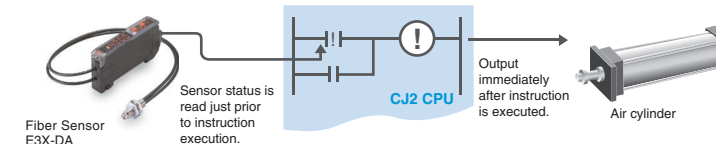
* The overhead processing time is 200 μs for the CJ2H-CPU6□-EIP.

Faster Immediate Refreshing

20 Times Faster

Immediate refreshing of basic I/O is also faster. Realtime inputs and outputs during instruction execution are up to 20 times faster than before.

(Example: ILD instruction speed improved from 20 μs to 1 μs)

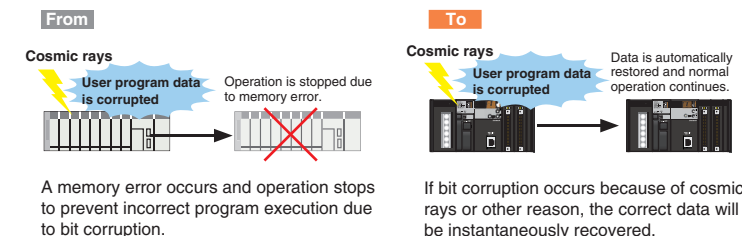
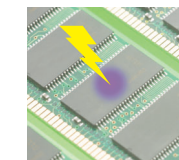


High Reliability in Operation

The CJ2 provides high reliability and dependability with corrective actions against unforeseen events.

Automatic User Memory Recovery

Finer memory production processes have been accompanied by problems such as bit corruption caused by cosmic rays. With the CJ2 CPU Units, corruption in the user program is detected and the program recovered in realtime before program execution. This reduces equipment down time by minimizing the number of times that operation is stopped due to memory errors.

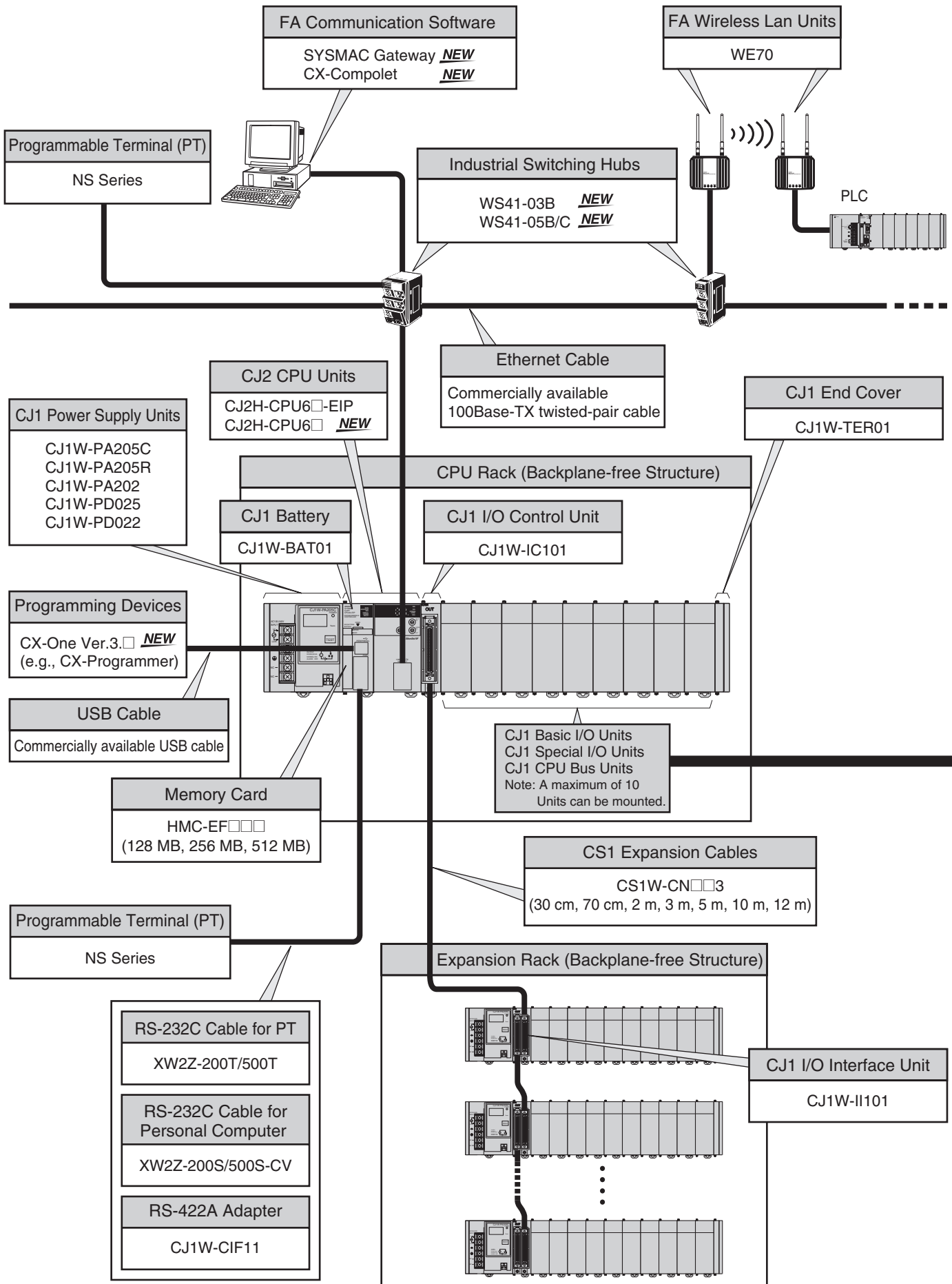


System Design Guide

System Configuration	2
Dimensions	6
General Specifications	9
Performance Specifications	10
Function Specifications	13
Checking Current Consumption and Power Consumption	18

System Configuration

Basic System



■ Configuration Units

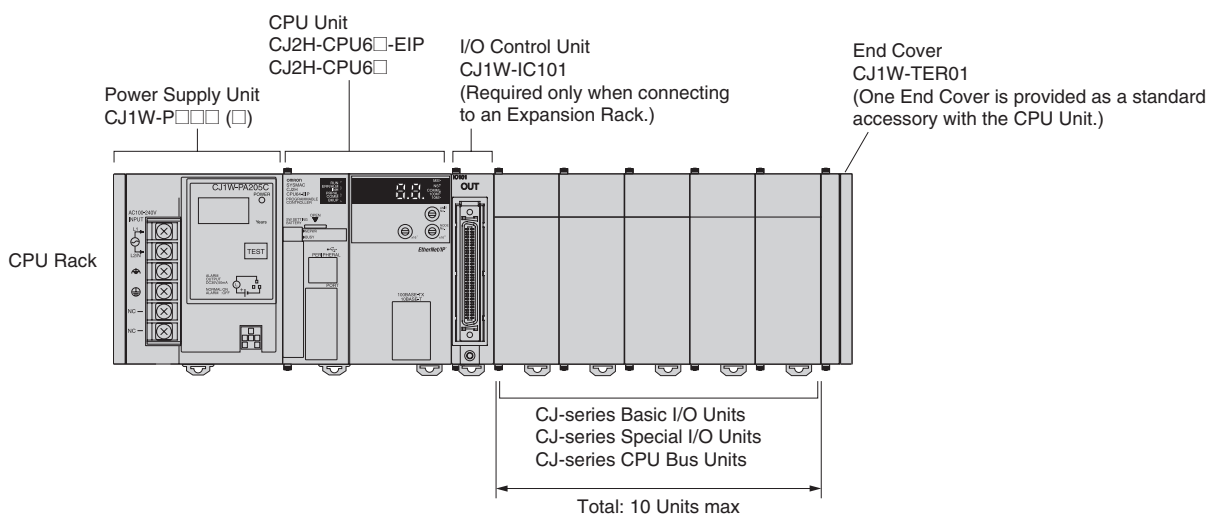
CJ1 Basic I/O Units			
8-point Units	16-point Units	32-point Units	64-point Units
Input Units			
<ul style="list-style-type: none"> ● DC Input Unit CJ1W-ID201 ● AC Input Unit CJ1W-IA201 	<ul style="list-style-type: none"> ● DC Input Unit CJ1W-ID211 CJ1W-ID212 <i>NEW</i> ● AC Input Unit CJ1W-IA111 	<ul style="list-style-type: none"> ● DC Input Unit CJ1W-ID231 CJ1W-ID232 CJ1W-ID233 <i>NEW</i> 	<ul style="list-style-type: none"> ● DC Input Unit CJ1W-ID261 CJ1W-ID262
Output Units			
<ul style="list-style-type: none"> ● Relay Contact Output Unit (independent commons) CJ1W-OC201 ● Triac Output Unit CJ1W-OA201 ● Transistor Output Units CJ1W-OD201 CJ1W-OD203 CJ1W-OD202 CJ1W-OD204 	<ul style="list-style-type: none"> ● Relay Contact Output Unit CJ1W-OC211 ● Transistor Output Units CJ1W-OD211 CJ1W-OD213 <i>NEW</i> CJ1W-OD212 	<ul style="list-style-type: none"> ● Transistor Output Units CJ1W-OD231 CJ1W-OD233 CJ1W-OD234 <i>NEW</i> CJ1W-OD232 	<ul style="list-style-type: none"> ● Transistor Output Units CJ1W-OD261 CJ1W-OD263 CJ1W-OD262
I/O Units			
---	---	(16 inputs, 16 outputs) ● DC Input/Transistor Output Units CJ1W-MD231 CJ1W-MD233 CJ1W-MD232	32 inputs, 32 outputs ● DC Input/Transistor Output Units CJ1W-MD261 CJ1W-MD263 32 inputs, 32 outputs ● TTL I/O Unit CJ1W-MD563
Other Units			
---	<ul style="list-style-type: none"> ● Interrupt Input Unit CJ1W-INT01 	---	<ul style="list-style-type: none"> ● B7A Interface Units (64 inputs) CJ1W-B7A14 (64 outputs) CJ1W-B7A04 (32 inputs, 32 outputs) CJ1W-B7A22

CJ1 Special I/O Units and CPU Bus Units			
<ul style="list-style-type: none"> ■ Process I/O Units ● Isolated-type Units with Universal Inputs CJ1W-PH41U CJ1W-AD04U ● Isolated-type Thermocouple Input Units CJ1W-PTS15 CJ1W-PTS51 ● Isolated-type Resistance Thermometer Input Units CJ1W-PTS16 CJ1W-PTS52 ● Isolated-type DC Input Unit CJ1W-PDC15 ■ Analog I/O Units ● Analog Input Units CJ1W-AD042 <i>Available soon</i> CJ1W-AD081-V1 CJ1W-AD041-V1 ● Analog Output Units CJ1W-DA042V <i>Available soon</i> CJ1W-DA08V CJ1W-DA08C CJ1W-DA041 CJ1W-DA021 ● Analog I/O Units CJ1W-MAD42 ■ Temperature Control Units CJ1W-TC001, CJ1W-TC002 CJ1W-TC003, CJ1W-TC004 CJ1W-TC101, CJ1W-TC102 CJ1W-TC103, CJ1W-TC104 	<ul style="list-style-type: none"> ■ High-speed Counter Units CJ1W-CT021 ■ Position Control Units ● Position Control Units (High-speed type) CJ1W-NC214 <i>Available soon</i> CJ1W-NC414 <i>Available soon</i> CJ1W-NC234 <i>Available soon</i> CJ1W-NC434 <i>Available soon</i> ● Position Control Units CJ1W-NC113 CJ1W-NC213 CJ1W-NC413 CJ1W-NC133 CJ1W-NC233 CJ1W-NC433 ■ MECHATROLINK II-compatible Position Control Unit CJ1W-NC271 <i>NEW</i> CJ1W-NC471 <i>NEW</i> CJ1W-NCF71 CJ1W-NCF71-MA <i>NEW</i> ■ MECHATROLINK II-compatible Motion Control Unit CJ1W-MCH71 	<ul style="list-style-type: none"> ■ Serial Communications Units CJ1W-SCU21-V1 CJ1W-SCU31-V1 CJ1W-SCU41-V1 ■ EtherNet/IP Unit CJ1W-EIP21 <i>NEW</i> ■ Ethernet Unit CJ1W-ETN21 ■ Controller Link Units CJ1W-CLK23 ■ FL-net Unit CJ1W-FLN22 ■ DeviceNet Unit CJ1W-DRM21 ■ CompoNet Master Unit CJ1W-CRM21 ■ CompoBus/S Master Unit CJ1W-SRM21 	<ul style="list-style-type: none"> ■ ID Sensor Units CJ1W-V680C11 CJ1W-V680C12 CJ1W-V600C11 CJ1W-V600C12 ■ High-speed Data Storage Unit CJ1W-SPU01-V2

Note: MECHATROLINK II is a registered trademark of the MECHATROLINK Members Association.

■ CJ-series CPU Racks

A CJ-series CPU Rack consists of a CPU Unit, Power Supply Unit, Configuration Units (Basic I/O Units, Special I/O Units, and CPU Bus Units), and an End Cover.

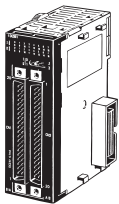
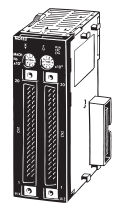
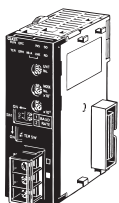


● Required Units

Rack	Unit name	Required number of Units
CPU Rack	Power Supply Unit	1
	CPU Unit	1
	I/O Control Unit	Required only for mounting to an Expansion Rack.
	Number of Configuration Units	10 max. (Same for all models of CPU Unit.) (The number of Basic I/O Units, Special I/O Units, and CPU Bus Units can be varied. The number does not include the I/O Control Unit.)
	End Cover	1 (Included with CPU Unit.)

● Types of Units

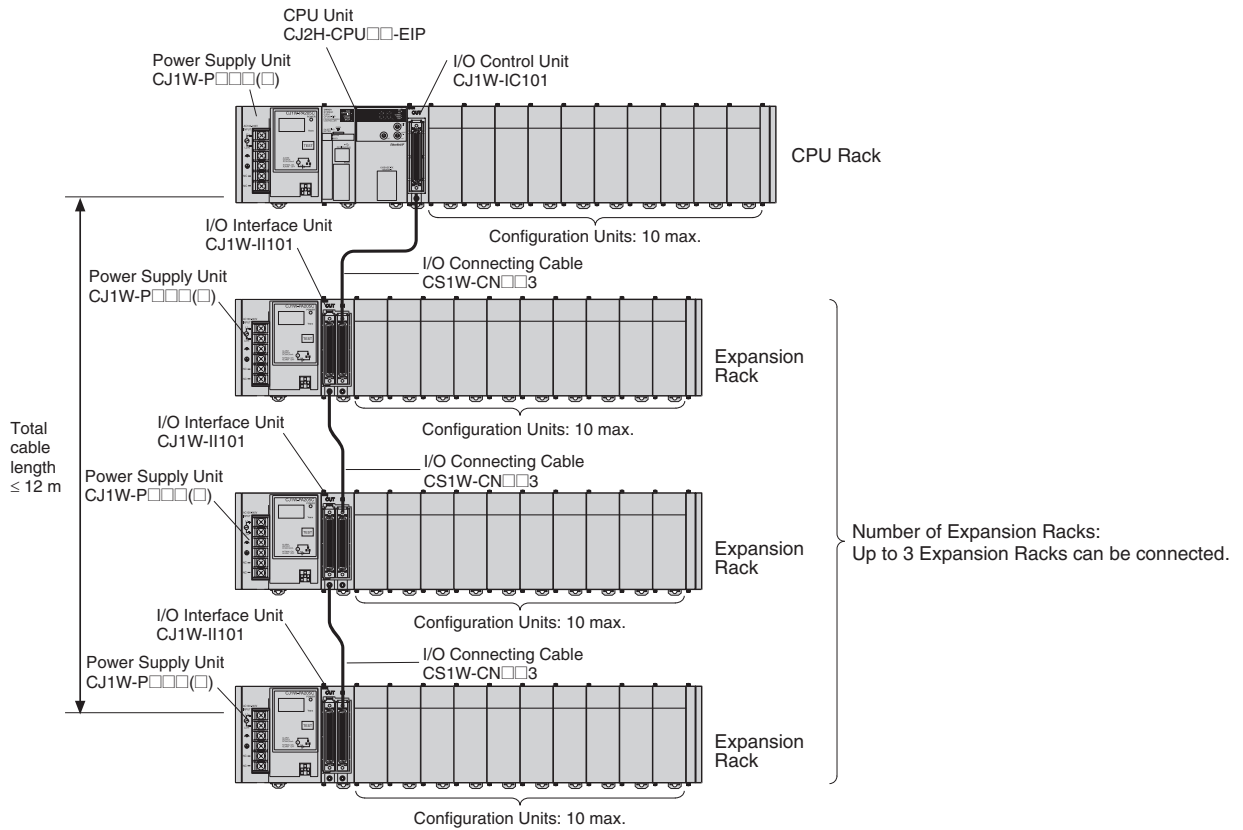
In the SYSMAC CJ Series, Units are classified into the following three types. The number of Racks differs depending on the type.

Type	Appearance (example)	Description	Unit recognition method	No. of Units
Basic I/O Units		Units with contact inputs and contact outputs.	Recognized by the CPU Unit according to the position of the Rack and slot.	No restrictions.
Special I/O Units		Special I/O Units provide more advanced functions than do Basic I/O Units, including I/O other than contact inputs and contact outputs. Examples of Special I/O Units are Analog I/O Units and High-speed Counter Units. They differ from CPU Bus Units (including Network Communications Units) in having a smaller area for exchanging data with the CPU Unit.	Recognized by the CPU Unit according to the unit number (0 to 95) set with the rotary switches on the front panel.	A maximum of 96 Units can be connected. (Multiple unit numbers are allocated per Unit, depending on the model and settings.)
CPU Bus Units		CPU Bus Units exchange data with the CPU Unit via the CPU Bus. Examples of CPU Bus Units are Network Communications Units and Serial Communications Units. They differ from Special I/O Units in having a larger area for exchanging data with the CPU Unit.	Recognized by the CPU Unit according to the unit number (0 to F) set with the rotary switch on the front panel.	A maximum of 16 Units can be mounted. *

* CJ2H-CPU6□-EIP : A maximum of 15 Units can be mounted. (The built-in EtherNet/IP port on the CPU Unit must be allocated as one of the CPU Bus Units.)

■ CJ-series Expansion Racks

A CJ-series Expansion Rack consists of a Power Supply Unit, an I/O Interface Unit, Configuration Units (Basic I/O Units, Special I/O Units, and CPU Bus Units), and an End Cover.



● Required Units

Rack	Unit name	Required number of Units
CPU Rack	I/O Control Unit	One Unit. Required only when an Expansion Rack is used. Mount the I/O Control Unit immediately to the right of the CPU Unit. (See note 1.)
Expansion Rack	Power Supply Unit	One Unit
	I/O Interface Unit	One Unit. Mount the I/O Interface Unit immediately to the right of the Power Supply Unit. (See note 2.)
	Number of Configuration Units	Ten Units max. (The number of Basic I/O Units, Special I/O Units, and CPU Bus Units can be varied. This number does not include the I/O Interface Unit.)
	End Cover	One (Included with the I/O Interface Unit.)

Note 1. Mounting the I/O Control Unit in any other location may cause faulty operation.
Note 2. Mounting the I/O Interface Unit in any other location may cause faulty operation.

● Maximum Number of Configuration Units That Can Be Mounted

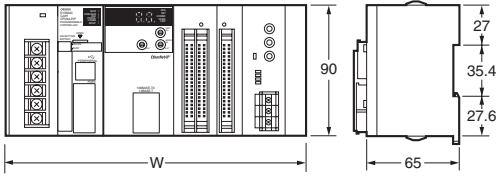
CPU Unit	Model	Total Units	No. of Units on CPU Rack *	No. of Expansion Racks
CJ2H	CJ2H-CPU68 (-EIP)	40	10 per Rack *	3 Racks x 10 Units
	CJ2H-CPU67 (-EIP)			
	CJ2H-CPU66 (-EIP)			
	CJ2H-CPU65 (-EIP)			
	CJ2H-CPU64 (-EIP)			

* Up to eight Units can be connected to a CJ2H-CPU6□-EIP CPU Units.

Dimensions

Note: Units are in mm unless specified otherwise.

Product Dimensions



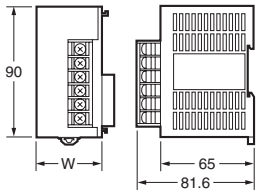
Example Rack Widths using CJ1WPA202 Power Supply Unit (AC, 14 W)

No. of Units mounted with 31-mm width	Rack width (mm)	
	With CJ2H-CPU6□-EIP	With CJ2H-CPU6□
1	170.5	139.5
2	201.5	170.5
3	232.5	201.5
4	263.5	232.5
5	294.5	263.5
6	325.5	294.5
7	356.5	325.5
8	387.5	356.5
9	418.5	387.5
10	449.5	418.5

Power Supply Units, CPU Units, and End Covers

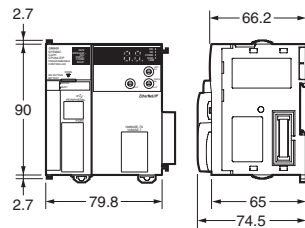
Unit/product	Model	Width
Power Supply Unit	CJ1W-PA205C	80
	CJ1W-PA205R	80
	CJ1W-PA202	45
	CJ1W-PD025	60
	CJ1W-PD022	27
CPU Unit	CJ2H-CPU6□-EIP	79.8
	CJ2H-CPU6□	48.8
End Cover	CJ1W-TER01	14.7

Power Supply Units

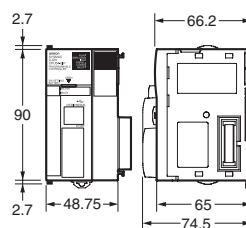


W=27: CJ1W-PD022
 W=45: CJ1W-PA202
 W=80: CJ1W-PA205R
 CJ1W-PA205C
 W=60: CJ1W-PD025

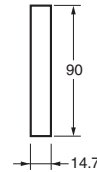
CPU Units CJ2H-CPU6□-EIP



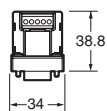
CPU Units CJ2H-CPU6□



End Cover (included with CPU Units)



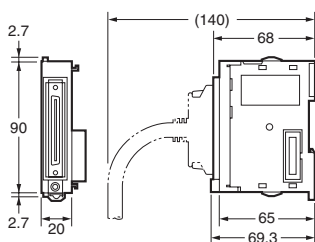
RS-422A Adapter CJ1W-CIF11



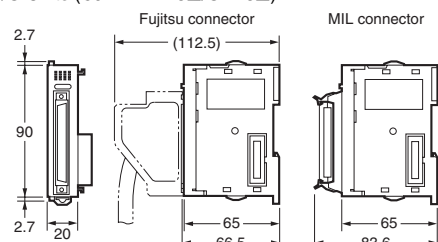
Units of Width 20 mm

Unit/product	Model	Width
I/O Control Unit	CJ1W-IC101	20
32-point Basic I/O Units	CJ1W-ID231/232/233	
	CJ1W-OD231/232/233/234	
B7A Interface Unit	CJ1W-B7A22	
	CJ1W-B7A14	
	CJ1W-B7A04	
CompoBus/S Master Unit	CJ1W-SRM21	
Space Unit	CJ1W-SP001	

I/O Control Unit



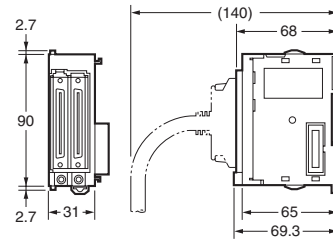
32-Point I/O Units (CJ1W-ID223□/OD23□)



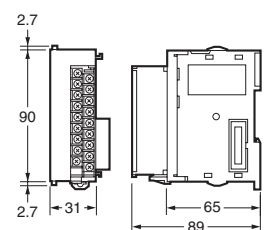
● Units of Width 31 mm

Unit	Model	Width
I/O Interface Unit	CJ1W-II101	31
8/16-point Basic I/O Units	CJ1W-ID201	
	CJ1W-ID211/212	
	CJ1W-IA111/201	
	CJ1W-OD20□	
	CJ1W-OD211/212/213	
	CJ1W-OC201/211	
CJ1W-OA201		
32-point Basic I/O Units	CJ1W-MD231	
	CJ1W-MD232/233	
64-point Basic I/O Units	CJ1W-ID261	
	CJ1W-OD261	
	CJ1W-MD261	
	CJ1W-ID262	
64-point Basic I/O Units	CJ1W-OD262/263	
	CJ1W-MD263	
	CJ1W-MD563	
	Interrupt Input Unit	
Quick-response Input Unit	CJ1W-IDP01	
Analog I/O Units	CJ1W-AD□□□ (-V1)	
	CJ1W-DA□□□ (□)	
	CJ1W-MAD42	
Process Input Units	CJ1W-PH41U	
	CJ1W-AD04U	
	CJ1W-PTS51/52/15/16	
	CJ1W-PDC15	
Temperature Control Units	CJ1W-TC□□□	
Position Control Units	CJ1W-NC113/133	
	CJ1W-NC213/233	
	CJ1W-NC413/433	
MECHATROLINK-II compatible Position Control Unit	CJ1W-NCF71	
High-speed Counter Unit	CJ1W-CT021	
ID Sensor Units	CJ1W-V680C11	
	CJ1W-V680C12	
	CJ1W-V600C11	
	CJ1W-V600C12	
Controller Link Units	CJ1W-CLK23	
Serial Communications Units	CJ1W-SCU41-V1	
	CJ1W-SCU21-V1	
	CJ1W-SCU31-V1	
EtherNet/IP Unit	CJ1W-EIP21	
Ethernet Unit	CJ1W-ETN21	
DeviceNet Unit	CJ1W-DRM21	
CompoNet Master Unit	CJ1W-CRM21	
FL-net Unit	CJ1W-FLN22	

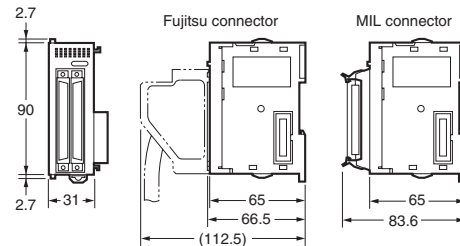
● I/O Interface Unit



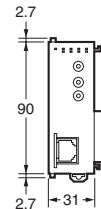
● 8/16-point Basic I/O Units, Interrupt Input Unit, and High-speed Input Unit



● 64-point Basic I/O Units and 32-point Basic I/O Units (CJ1W-MD23□)



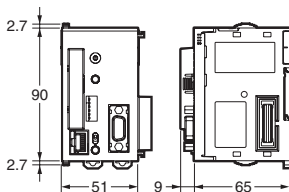
● Special I/O Units and CPU Bus Units



● Unit of Width 51 mm

Unit	Model	Width
SYSMAC SPU (High-speed Data Storage Unit)	CJ1W-SPU01-V2	51
Position Control Units (High-speed type)	CJ1W-NC214/234	

● SYSMAC SPU (High-speed Data Storage Unit) CJ1W-SPU01-V2



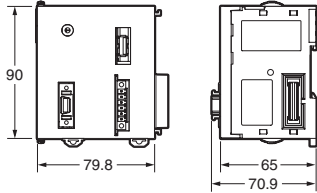
● Unit of Width 62 mm

Unit	Model	Width
Position Control Units (High-speed type)	CJ1W-NC414/434	62

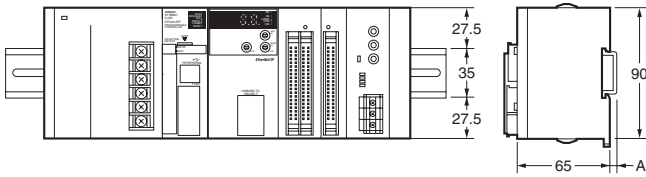
● Unit of Width 79.8 mm

Unit	Model	Width
MECHATROLINK-II compatible Motion Control Unit	CJ1W-MCH71	79.8

● MECHATROLINK-II compatible Motion Control Unit
CJ1W-MCH71



■ Mounting Dimensions

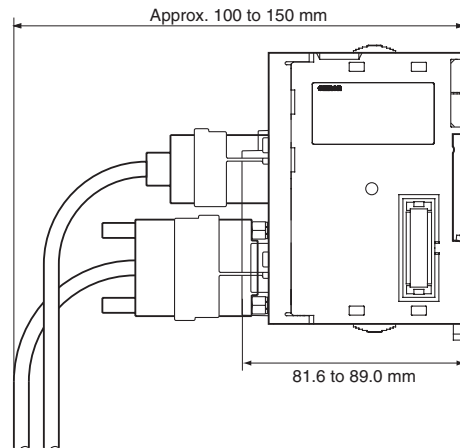


DIN Track model number	A
PFP-100N2	16 mm
PFP-100N	7.3 mm
FPP-50N	7.3 mm

■ Mounting Height

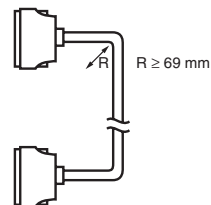
The mounting height of CJ-series CPU Racks and Expansion Racks is from 81.6 to 89.0 mm depending on the Units that are mounted.

Additional height is required to connect Programming Devices (e.g., CX-Programmer) and Cables. Be sure to allow sufficient mounting height.



Note: Consider the following points when expanding the configuration:
The total length of I/O Connecting Cable must not exceed 12 m.
I/O Connecting Cables require the bending radius indicated below.

● CJ-series Connecting Cable



Note: Outer diameter of cable: 8.6 mm.

General Specifications

Item		CJ2H-				
		CPU64 (-EIP)	CPU65 (-EIP)	CPU66 (-EIP)	CPU67 (-EIP)	CPU68 (-EIP)
Enclosure		Mounted in a panel				
Grounding		Less than 100 Ω				
CPU Rack Dimensions		CJ2H-CPU6□-EIP : 90 mm × 65 mm × 80 mm (H × D × W) CJ2H-CPU6□ : 90 mm × 65 mm × 49 mm (H × D × W)				
Weight		CJ2H-CPU6□-EIP : 280 g or less CJ2H-CPU6□ : 190 g or less				
Current Consumption		CJ2H-CPU6□-EIP : 5 VDC, 0.82 A CJ2H-CPU6□ : 5 VDC, 0.42 A				
Use Environment	Ambient Operating Temperature	0 to 55°C				
	Ambient Operating Humidity	10% to 90%				
	Atmosphere	Must be free from corrosive gases.				
	Ambient Storage Temperature	-20 to 70°C (excluding battery)				
	Altitude	2,000 m or less				
	Pollution Degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.				
	Noise Immunity	2 kV on power supply line (Conforms to IEC 61000-4-4.)				
	Overvoltage Category	Category II: Conforms to JIS B3502 and IEC 61131-2.				
	EMC Immunity Level	Zone B				
	Vibration Resistance	Conforms to JIS C60068-2-6. 5 to 8.4 Hz with 3.5-mm amplitude, 8.4 to 150 Hz Acceleration of 9.8 m/s ² for 100 min in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)				
Shock Resistance	Conforms to JIS C60068-2-27. 147 m/s ² , 3 times in X, Y, and Z directions (100 m/s ² for Relay Output Units)					
Battery	Life	5 years at 25°C				
	Model	CJ1W-BAT01				
Applicable Standards		Conforms to cULus and EC Directives.				

Performance Specifications

Item		CJ2H-				
		CPU64 (-EIP)	CPU65 (-EIP)	CPU66 (-EIP)	CPU67 (-EIP)	CPU68 (-EIP)
User Memory		50K steps	100K steps	150K steps	250K steps	400K steps
I/O Bits		2,560 bits				
Processing Speed	Overhead Processing Time	Normal Mode: CJ2H-CPU6□-EIP : 200 μs *1 CJ2H-CPU6□ : 100 μs				
	Execution Time	Basic Instructions: 0.016 μs min.; Special Instructions: 0.048 μs min.				
	Interrupts	I/O Interrupts and External Interrupts	Interrupt task startup time: 17 μs or 26 μs *2 (30 μs for unit version 1.0) Return times to cyclic tasks: 8 μs or 11 μs *2 (15 μs for unit version 1.0)			
		Scheduled Interrupts	Interrupt task startup time: 13 μs or 22 μs *2 (27 μs for unit version 1.0) Return times to cyclic tasks: 8 μs or 11 μs *2 (15 μs for unit version 1.0)			
Maximum Number of Connectable Units		Total per CPU Rack or Expansion Rack: 10 Units max.; Total per PLC: 40 Units max.				
Maximum Number of Expansion Racks		3 max.				
CIO Area	I/O Area	2,560 bits (160 words): Words CIO 0000 to CIO 0159				
	Link Area	3,200 bits (200 words): Words CIO 1000 to CIO 1199				
	Synchronous Data Refresh Area	1,536 bits (96 words): Words CIO 1200 to CIO 1295				
	CPU Bus Unit Area	6,400 bits (400 words): Words CIO 1500 to CIO 1899				
	Special I/O Unit Area	15,360 bits (960 words): Words CIO 2000 to CIO 2959				
	DeviceNet Area	9,600 bits (600 words): Words CIO 3200 to CIO 3799				
	Internal I/O Area	3,200 bits (200 words): Words CIO 1300 to CIO 1499 37,504 bits (2,344 words): Words CIO 3800 to CIO 6143 Cannot be used for external I/O.				
Work Area		8,192 bits (512 words): Words W000 to W511 Cannot be used for external I/O.				
Holding Area		8,192 bits (512 words): Words H000 to H511 Bits in this area maintain their ON/OFF status when PLC is turned OFF or operating mode is changed. Words H512 to H1535: These words can be used only for function blocks. They can be used only for function block instances (i.e., they are allocated only for internal variables in function blocks).				
Auxiliary Area		Read-only: 31,744 bits (1,984 words) • 7,168 bits (448 words): Words A0 to A447 • 24,576 bits (1,536 words): Words A10000 to A11535 Read/write: 16,384 bits (1,024 words) in words A448 to A1471				
Temporary Area		16 bits: TR0 to TR15				
Timer Area		4,096 timer numbers (T0000 to T4095 (separate from counters))				
Counter Area		4,096 counter numbers (C0000 to C4095 (separate from timers))				
DM Area		32k words *3 DM Area words for Special I/O Units: D20000 to D29599 (100 words × 96 Units) DM Area words for CPU Bus Units: D30000 to D31599 (100 words × 16 Units)				
EM Area		32k words/bank × 25 banks max.: E00_00000 to E18_32767 max. *3				
	Force-set/reset Enabled Banks *4	EM3	EM3	EM6 to EM9	EM7 to EME	EM11 to EM18
Index Registers		IR0 to IR15 These are special registers for storing PLC memory addresses for indirect addressing. (Index Registers can be set so that they are unique in each task or so that they are shared by all tasks.)				
Cyclic Task Flag Area		128 flags				
Memory Card		128 MB, 256 MB, or 512 MB				
Operating Modes		PROGRAM Mode: Programs are not executed. Preparations can be executed prior to program execution in this mode. MONITOR Mode: Programs are executed, and some operations, such as online editing, and changes to present values in I/O memory, are enabled in this mode. RUN Mode: Programs are executed. This is the normal operating mode.				
Execution Mode		Normal Mode				

*1. The following times are added if EtherNet/IP data tag links are used for the CJ2H-CPU6□-EIP.

Normal operation: 100 μs + Number of transfer words x 0.33 μs

High-speed interrupt enabled: 100 μs + Number of transfer words x 0.87 μs

*2. This applies when High-speed interrupt function is used.

*3. Bits in the EM Area can be addressed either by bit or by word.

*4. Force-setting/resetting is possible only in the areas specified for automatic address allocation.

Item		CJ2H-					
		CPU64 (-EIP)	CPU65 (-EIP)	CPU66 (-EIP)	CPU67 (-EIP)	CPU68 (-EIP)	
Programming Languages		Ladder Logic (LD), Sequential Function Charts (SFC), Structured Text (ST), and Instruction Lists (IL)					
Function Blocks	Maximum number of definitions	2,048					
	Maximum number of instances	2,048					
Tasks	Type of Tasks	Cyclic tasks Interrupt tasks (Power OFF interrupt tasks, scheduled interrupt tasks, I/O interrupt tasks, and external interrupt tasks)					
	Number of Tasks	Cyclic tasks: 128 Interrupt tasks: 256 (Interrupt tasks can be defined as cyclic tasks to create extra cyclic tasks. Therefore, the total number of cyclic tasks is actually 384 max.)					
Symbols (Variables)	Type of Symbols	<ul style="list-style-type: none"> Local symbols: Can be used only within a single task in the PLC. Global symbols: Can be used in all tasks in the PLC. Network symbols (tags) *5: I/O memory in the CPU Unit can be externally accessed using symbols, depending on parameter settings. 					
	Data Type of Symbols	<ul style="list-style-type: none"> BOOL (bit) UINT (one-word unsigned binary) UDINT (two-word unsigned binary) ULINT (four-word unsigned binary) INT (one-word signed binary) DINT (two-word signed binary) LINT (four-word signed binary) UINT BCD (one-word unsigned BCD) *6 UDINT BCD (two-word unsigned BCD) *6 ULINT BCD (four-word unsigned BCD) *6 REAL (two-word floating-point) LREAL (four-word floating-point) CHANNEL (word) NUMBER (constant or number) WORD (one-word hexadecimal) DWORD (two-word hexadecimal) LWORD (four-word hexadecimal) STRING (1 to 255 ASCII characters) TIMER *7 COUNTER *7 					
	Maximum Size of Symbol	32k words					
	Array Symbols (Array Variables)	One-dimensional arrays					
	Number of Array Elements	32,000 elements max.					
	Number of Registrable Network Symbols (Tags) *5	20,000 max.					
	Length of Network Symbol (Tag) Name *5	255 bytes max.					
	Encoding of Network Symbols (Tags) *5	UTF-8					
	Data Tracing	Memory Capacity	8,000 words	16,000 words	32,000 words		
			(Up to 32k words x 25 banks when EM is specified in CX-Programmer)				
Number of Samplings		Bits = 31, one-word data = 16, two-word data = 8, four-word data = 4					
Sampling Cycle		1 to 2,550 ms (Unit: 1 ms)					
Trigger Conditions		ON/OFF of specified bit Data comparison of specified word Data size: 1 word, 2 words, 4 words Comparison Method: Equals (=), Greater Than (>), Greater Than or Equals (≥), Less Than (<), Less Than or Equals (≤), Not Equal (≠)					
	Delay Value	-32,768 to +32,767 ms					
File Memory		Memory Card (128, 256, or 512 Mbytes) (Use the Memory Cards provided by OMRON.) EM file memory (Part of the EM Area can be converted for use as file memory.)					
Source/Comment Memory	Function block program memory, comment file, program index file, symbol tables	Capacity: 3.5 Mbytes					

*5. Network symbols can be used only with the CJ2H-CPU6□-EIP.

*6. This data type cannot be used in Function blocks.

*7. This data type can be used only in Function blocks.

Item		CJ2H-				
		CPU64 (-EIP)	CPU65 (-EIP)	CPU66 (-EIP)	CPU67 (-EIP)	CPU68 (-EIP)
Communications	Logical Ports for Communications	Logical Ports	8 ports (Used for SEND, RECV, CMND, PMCR, TXDU, and RXDU instructions.)			
		Extended Logical Ports	64 ports (Used for SEND2, RECV2, CMND2, and PMCR2 instructions.)			
	CIP Communications Specification	Class 3 (Number of Connections)	Number of connections: 64			
		UCMM (Non-connection Type)	Maximum number of clients that can communicate at the same time: 32 Maximum number of servers that can communicate at the same time: 40			
	Peripheral (USB) Port		USB 2.0-compliant B-type connector			
			Baud Rate	12 Mbps max.		
			Transmission Distance	5 m max.		
	Serial Port		Interface: Conforms to EIA RS-232C.			
			Communications Method	Half-duplex		
			Synchronization Method	Start-stop		
			Baud Rate	0.3, 0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, or 115.2 (kbps)		
			Transmission Distance	15 m max.		
	EtherNet/IP Port *8		---			
	Transmission Specifications	Media Access Method		CSMA/CD		
		Modulation		Baseband		
		Transmission Paths		Star		
		Baud Rate		100 Mbps (100Base-TX)		
		Transmission Media		Shielded twisted-pair (STP) cable; Categories: 5, 5e		
		Transmission Distance		100 m (between hub and node)		
		Number of Cascade Connections		No restrictions if switching hub is used.		
	Communications Specifications	CIP Communications: Tag Data Links		---		
		Number of Connections		256		
		Packet Interval (Refresh period)		0.5 to 10,000 ms (Unit: 0.5 ms) Can be set for each connection. (Data will be refreshed at the set interval, regardless of the number of nodes.)		
		Permissible Communications Band		6,000 pps *9		
		Number of Tag Sets		256		
		Type of Tags		CIO, DM, EM, HR, and WR		
		Number of Tags per Connection		8 (Seven tags if PLC status is included in the segment.)		
		Maximum Link Data Size per Node		184,832 words		
		Maximum Data Size per Connection		252 or 722 words *10 (Data is synchronized within each connection.)		
		Number of Registrable Tag Set		256 (1 connection = 1 segment)		
		Maximum Tag Set Size		722 words (One word is used when PLC status is included in the segment.)		
		Maximum Number of Tags Refreshable in a Single Cycle of CPU Unit *11		Output/send (CPU Unit to EtherNet/IP): 256 Input/receive (EtherNet/IP to CPU Unit): 256		
		Data Size Refreshable in a Single Cycle of CPU Unit *11		Output/send (CPU to EtherNet/IP): 6,432 words Input/receive (EtherNet/IP to CPU): 6,432 words		
Change of Tag Data Link Parameter Settings during Operation		OK *12				
Multi-cast Packet Filter *13		OK				
CIP Communications: Explicit Messages		---				
Class 3 (Number of Connections)		Number of connections: 128				
UCMM (Non-connection Type)		Maximum number of clients that can communicate at the same time: 32 Maximum number of servers that can communicate at the same time: 32				
CIP Routing		OK (CIP routing is enabled for the following remote Units: CJ1W-EIP21 and CJ2H-CPU6□-EIP)				
FINS Communications		---				
FINS/UDP		OK				
FINS/TCP		16 connections max.				
EtherNet/IP Conformance Test		Conforms to A5.				
EtherNet/IP Interface		10Base-T/100Base-TX Auto Negotiation/Fixed Setting				

*8. The EtherNet/IP port is built into the CJ2H-CPU6□-EIP only.

*9. "Packets per second" is the number of communications packets that can be processed per second.

*10. Large Forward Open (CIP optional specification) must be supported in order for 505 to 1,444 bytes to be used as the data size. Application is supported between CS/CJ-series PLCs. When connecting to devices from other manufacturers, make sure that the devices support the Large Forward Open specification.

*11. If the maximum number is exceeded, refreshing will require more than one CPU Unit cycle.

*12. When changing parameters, however, the EtherNet/IP port where the change is made will be restarted. In addition, a timeout will temporarily occur at the other node that was communicating with that port, and it will then recover automatically.

*13. The EtherNet/IP port supports an IGMP client, so unnecessary multicast packets are filtered by using a switching hub that supports IGMP snooping.

Function Specifications

Functions			Description	
Cycle Time Management	Minimum Cycle Time		A minimum cycle time can be set. (0.2 to 32,000 ms; Unit: 0.1 ms) The minimum cycle time setting can be changed in MONITOR mode. (Unit version 1.1)	
	Cycle Time Monitoring		The cycle time is monitored. (0.01 to 40,000 ms; Unit: 0.01 ms)	
	Background Processing		Instructions with long execution times can be executed over multiple cycles to prevent fluctuations in the cycle time.	
Unit (I/O) Management	Basic I/O Units, Special I/O Units, and CPU Bus Units	I/O Refreshing	Cyclic Refreshing	Cyclic refreshing of Basic I/O Units, Special I/O Units, and CPU Bus Units
			Immediate Refreshing	I/O refreshing by immediate refreshing instructions
			Refreshing by IORF	I/O refreshing by IORF instruction
	Unit Recognition at Startup		The number of units recognized when the power is turned ON is displayed.	
	Basic I/O Units	Input Response Time Setting		The input response times can be set for Basic I/O Units. The response time can be increased to reduce the effects of chattering and noise at input contacts. The response time can be decreased to enable detecting shorter input pulses.
		Load OFF Function		All of the outputs on Basic I/O Units can be turned OFF when an error occurs in RUN or MONITOR mode.
		Basic I/O Unit Status Monitoring		Alarm information can be read from Basic I/O Units and the number of Units recognized can be read.
	Special I/O Units and CPU Bus Units	Unit Restart Bits to Restart Units		A Special I/O Unit or CPU Bus Unit can be restarted.
		Synchronous Unit Operation *1		The start of processing for all the specified Units can be synchronized at a fixed interval. Maximum number of Units: 10Units (Only Units that support Synchronous Operation Mode can be used.) Synchronous operation cycle: 0.5 to 10ms (default: 2 ms) Maximum number of words for synchronous data refreshing: 96 words (total of all Units)
	Configuration Management	Automatic I/O Allocation at Startup		I/O words can be automatically allocated to the Basic I/O Units that are connected in the PLC to start operation automatically without registering Units into I/O tables.
I/O Table Creation		The current unit configuration can be registered in I/O tables to prevent it from being changed, to reserve words, and to set words.		
Rack/Slot First Word Settings		The first words allocated to a Units on the Racks can be set.		
Memory Management	Holding I/O Memory when Changing Operating Modes		The status of I/O memory can be held when the operating mode is changed or power is turned ON. The forced-set/reset status can be held when the operating mode is changed or power is turned ON.	
	File Memory		Files (such as program files, data files, and symbol table files) can be stored in Memory Card, EM File Memory, or Comment Memory.	
	Built-in Flash Memory		The user program and Parameter Area can be backed up to an internal flash memory when they are transferred to the CPU Unit.	
	EM File Function		Parts of the EM Area can be treated as file memory.	
	Storing Comments		I/O comments can be stored as symbol table files in a Memory Card, EM file memory, or comment memory.	
	EM Configuration		EM Area can be set as trace memory or EM file memory.	
Memory Cards	Automatic File Transfer at Startup		A program file and parameter files can be read from a Memory Card when the power is turned ON.	
	Program Replacement during PLC Operation		The whole user program can be read from a Memory Card to CPU Unit during operation.	
	Function for Reading and Writing Data from a Memory Card		Data in I/O memory in the CPU Unit can be written to a Memory Card in CSV/TXT format. Data in CSV/TXT format in the Memory Card can be read to I/O memory in the CPU Unit.	
Communications			---	
	Peripheral (USB) Port	Peripheral Bus		Bus for communications with various kinds of Support Software running on a personal computer. High-speed communications are supported.
		Serial Port		---
	Host Link (SYSWAY) Communications		Host Link commands or FINS commands placed between Host Link headers and terminators can be sent from a host computer or PT to read/write I/O memory, read/control the operating mode, and perform other operations for PLC.	
	No-protocol Communications		I/O instructions for communications ports (such as TXD/RXD instructions) can be used for data transfer with peripheral devices such as bar code readers and printers.	
	NT Link Communications		I/O memory in the PLC can be allocated and directly linked to various PT functions, including status control areas, status notification areas, touch switches, lamps, memory tables, and other objects.	
	Peripheral Bus		Bus for communications with various kinds of Support Software running on a personal computer. High-speed communications are supported.	
	Serial Gateway		This gateway enables receiving and automatically converting FINS to the CompoWay/F.	
	EtherNet/IP Port *2		100Base-TX/10Base-T Protocols: TCP/IP, UDP, ARP, ICMP (ping only), BOOTP Applications: FINS, CIP, POP3, SMTP, SNMP, DNS (Client), FTP (Server)	
	CIP Communications Service	Tag Data Links		Programless cyclic data exchanges with the devices on the EtherNet/IP network.
		Message Communications		Any CIP commands can be received from the devices on the EtherNet/IP network.
FINS Communications Service	Message Communications		Any FINS commands can be transferred with the devices on the EtherNet/IP network.	

*1. This function is supported for unit version 1.1 or later and CX-Programmer version 8.1 or higher.
Support using CX-Programmer version 8.1 is scheduled to be available with a CX-One V3 auto update starting February 2009.

*2. The EtherNet/IP port is built into the CJ2H-CPU6□-EIP only.

Functions		Description
Interrupt	Scheduled Interrupts	Tasks can be executed at a specified interval (minimum of 0.2 ms or 0.1 ms, Unit: 0.1 ms). *3
	Power OFF Interrupts	A task can be executed when CPU Unit's power turns OFF.
	I/O Interrupt Tasks	A task can be executed when an input signal is input to an Interrupt Input Unit.
	External Interrupt Tasks	A task can be executed when interrupts are requested from a Special I/O Unit or a CPU Bus Unit.
	High-speed Interrupt Function	Improves performance for executing interrupt tasks with certain restrictions.
Clock	Clock Function	Clock data is stored in memory. Accuracy (Accuracy depends on the temperature.) Ambient temperature of 55°C: -3.5 to +0.5 min error per month Ambient temperature of 25°C: -1.5 to +1.5 min error per month Ambient temperature of 0°C: -3 to +1 min error per month
	Operation Start Time Storage	The time when operating mode was last changed to RUN mode or MONITOR mode is stored.
	Operation Stop Time Storage	The last time a fatal error occurred or the last time the operating mode was changed to PROGRAM mode is stored.
	Startup Time Storage	The time when the power was turned ON is stored.
	Power Interruption Time Storage	The time when the power is turned OFF is stored.
	Total Power ON Time Calculation	The total time that the PLC has been ON is stored in increments of 10 hours.
	Power ON Clock Data Storage	A history of the times when the power was turned ON is stored.
	User Program Overwritten Time Storage	The time that the user program was last overwritten is stored.
	Parameter Date Storage	The time when the Parameter Area was overwritten is stored.
	Power Supply Management	Memory Protection
Power OFF Detection Time Setting		The detection time for power interruptions can be set. AC power supply: 10 to 25 ms (variable) DC power supply: 2 to 5 ms (CJ1W-PD022) or 2 to 20 ms (CJ1W-PD025)
Power OFF Detection Delay Time		The detection of power interruptions can be delayed: 0 to 10 ms (Not supported by the CJ1W-PD022.)
Number of Power Interruptions Counter		The number of times power has been interrupted is counted.
Function Blocks		Standard programming can be encapsulated as function blocks.
Debugging	Languages in Function Block Definitions	Ladder programming or structured text
	Online Editing	The program can be changed during operation (in MONITOR or PROGRAM mode), except for block programming areas.
	Force-Set/Reset	Specified bits can be set or reset.
	Differentiate Monitoring	ON/OFF changes in specified bits can be monitored.
	Data Tracing	The specified I/O memory data can be stored in the trace memory in the CPU Unit. The triggers can be set. <ul style="list-style-type: none">The trace data can be uploaded during data tracing using CX-Programmer, which enables continuously logging the data by constantly uploading the trace data (trace data uploading during tracing).Data tracing can be automatically started when operation is started (i.e., when the operating mode is changed from PROGRAM mode to MONITOR or RUN mode).
	Storing Location of Error when an Error Occurs	The location and task number where execution stopped for a program error is recorded.
	Program Check	The programs can be checked for items such as no END instruction and FALS/FAL errors at startup.
Self-diagnosis and Restoration	Error Log	A function is provided to store predefined error codes in CPU Unit, error information, and time at which the error occurred.
	CPU Error Detection	CPU Unit WDT errors are detected.
	User-defined Failure Diagnosis	Errors can be generated for user-specified conditions: Non-fatal errors (FAL) and fatal errors (FALS). Program section time diagnosis and program section logic diagnosis are supported (FPD instruction).
	Load OFF Function	This function turns OFF all outputs from Output Units when an error occurs.
	RUN Output	The RUN output from the CJ1W-PA205R turns ON while CPU Unit is in RUN mode or MONITOR mode.
	Basic I/O Load Short-circuit Detection	This function provides alarm information from Basic I/O Units that have load short-circuit protection.
	Failure Point Detection	The time and logic of an instruction block can be analyzed using the FPD instruction.
	CPU Standby Detection	This function indicates when the CPU Unit is on standby because all Special I/O Units and CPU Bus Units have not been recognized at the startup in RUN or MONITOR mode.

*3. This applies when High-speed interrupt function is used.

Functions		Description		
Self-diagnosis and Restoration (Continued from previous page)	Non-fatal Error Detection	System FAL Error Detection (User-defined non-fatal error)	This function generates a non-fatal (FAL) error when the user-defined conditions are met in program.	
		Duplicated Refreshing Error Detection	This function detects an error when an immediate refreshing Instruction in an interrupt task is competing with I/O refreshing of a cyclic task.	
		Basic I/O Unit Error Detection	This function detects the errors in Basic I/O Units.	
		Backup Memory Error Detection	This function detects errors in the memory backup of the user programs and parameter area (backup memory).	
		PLC Setup Error Detection	This function detects setting errors in the PLC Setup.	
		CPU Bus Unit Error Detection	This function detects an error when there is an error in data exchange between the CPU Unit and a CPU Bus Unit.	
		Special I/O Unit Error Detection	This function detects an error when there is an error in data exchange between the CPU Unit and a Special I/O Unit.	
		Tag Memory Error Detection *4	This function detects errors in tag memory.	
		Battery Error Detection	This function detects an error when a battery is not connected to the CPU Unit or when the battery voltage drops.	
		CPU Bus Unit Setting Error Detection	This function detects an error when the model of a CPU Bus Unit in the registered I/O tables does not agree with the model that is actually mounted in the PLC.	
		Special I/O Unit Setting Error Detection	This function detects an error when the model of a Special I/O Unit in the registered I/O tables does not agree with the model of Unit that is actually mounted.	
	Fatal Error Detection	Memory Error Detection	This function detects errors that occur in memory of the CPU Unit.	
		I/O Bus Error Detection	This function detects when an error occurs in data transfers between the Units mounted in Rack slots and the CPU Unit and detects when the End Cover is not connected to the CPU Rack or an Expansion Rack.	
		Unit/Rack Number Duplication Error	This function detects an error when the same unit number is set for two or more Units, the same word is allocated to two or more Basic I/O Units, or the same rack number is set for two or more Racks.	
		Too Many I/O Points Error Detection	This function detects an error when the total number of I/O points set in the I/O tables or the number of Units per Rack exceeds the specified range.	
		I/O Setting Error Detection	The registered I/O tables are used to detect errors if the number of Units in the registered I/O tables does not agree with the actual number of Units that are connected or an Interrupt Unit has been connected in the wrong position, i.e., not in the following slots. <ul style="list-style-type: none"> • CJ2H-CPU6□-EIP: Slots 0 to 3 • CJ2H-CPU6□: Slots 0 to 4 	
		Program Error Detection	This function detects errors in programs.	
			Instruction Processing Error Detection	This function detects an error when the given data value is invalid when executing an instruction, or execution of instruction between tasks was attempted.
			Indirect DM/EM BCD Error Detection	This function detects an error when an indirect DM/EM address in BCD mode is not BCD.
			Illegal Area Access Error Detection	This function detects an error when an attempt is made to access an illegal area with an instruction operand.
			No END Error Detection	This function detects an error when there is no END instruction at the end of the program.
			Task Error Detection	This function detects an error when there are no tasks that can be executed in a cycle, there is no program for a task, or the execution condition for an interrupt task was met but there is no interrupt task with the specified number.
			Differentiation Overflow Error Detection	This function detects an error when too many differentiated instructions are entered or deleted during online editing (131,072 times or more).
			Invalid Instruction Error Detection	This function detects an error when an attempt is made to execute an instruction that is not defined in the system.
		User Program Area Overflow Error Detection	This function detects an error when instruction data is stored after the last address in user program area.	
		Cycle Time Exceeded Error Detection	This function monitors the cycle time (10 to 40,000 ms) and stops the operation when the set value is exceeded.	
		System FALS Error Detection (User-defined Fatal Error)	This function generates a fatal (FALS) error when the user-defined conditions are met in program.	
Version Error Detection	This function detects an error when a user program includes a function that is not supported by the current unit version.			
Memory Card Transfer Error Detection	This function detects an error when the automatic file transfer from Memory Card fails at startup.			
Memory Self-restoration Function	This function performs a parity check on the user program area and self-restoration data.			

*4. CJ2H-CPU6□-EIP only.

Functions		Description			
Maintenance	Simple Backup Function	This function collectively backs up the data in CPU Unit (user programs, parameters, and I/O memory) and internal backup data in the I/O Units.			
	Unsolicited Communications	A function that allows the PLC to use Network Communications Instruction to send required FINS commands to a computer connected via a Host Link			
	Remote Programming and Monitoring	Host Link communications can be used for remote programming and remote monitoring through a Controller Link, Ethernet, DeviceNet, or SYSMAC LINK Network. Communications across network layers can be performed. Controller Link or Ethernet: 8 layers DeviceNet or SYSMAC LINK: 3 layers			
	Automatic Online Connection via Network	<table border="1"> <tr> <td>Direct Serial Connection</td> <td>This function enables automatically connecting to the PLC online when the CX-Programmer is directly connected by a serial connection (peripheral (USB) port or serial port).</td> </tr> <tr> <td>Via Networks</td> <td>This function enables connecting the CX-Programmer online to a PLC that is connected via an EtherNet/IP network.</td> </tr> </table>	Direct Serial Connection	This function enables automatically connecting to the PLC online when the CX-Programmer is directly connected by a serial connection (peripheral (USB) port or serial port).	Via Networks
Direct Serial Connection	This function enables automatically connecting to the PLC online when the CX-Programmer is directly connected by a serial connection (peripheral (USB) port or serial port).				
Via Networks	This function enables connecting the CX-Programmer online to a PLC that is connected via an EtherNet/IP network.				
Security	Read Protection using Password	This function protects reading and displaying programs and tasks using passwords. Write protection: Set using the DIP switch. Read protection: Set a password using the CX-Programmer.			
	FINS Write Protection	This function prohibits writing by using FINS commands sent over the network.			
	Unit Name Function	This function allows the users to give any names to the Units. Names are verified at online connection to prevent wrong connection			
	Hardware ID Using Lot Numbers	This function sets operation protection by identifying hardware using the user programs according to lot numbers stored in the Auxiliary Area.			

■Unit Versions

Units	Models	Unit Version
CJ2H CPU Units	CJ2H-CPU6□-EIP	CPU : Unit version 1.0 EIP : Unit version 2.0
		CPU : Unit version 1.1 EIP : Unit version 2.0
	CJ2H-CPU6□	Unit version 1.1

■Unit Versions and Programming Devices

The following tables show the relationship between unit versions and CX-Programmer versions.

CPU Unit	Functions		Required Programming Device			Programming Console
			CX-Programmer			
			Ver.7.1 or lower	Ver.8.0	Ver.8.1 or higher	
CJ2H-CPU6□-EIP CPU : Unit version 1.0	Functions for unit version 1.0		---	OK *1	OK	--- *4
CJ2H-CPU6□-EIP CPU : Unit version 1.1	Functions added for unit version 1.1	Using new functions	---	OK *2		
		Not using new functions	---	OK *3		
CJ2H-CPU6□ CPU : Unit version 1.1	Functions added for unit version 1.1	Using new functions	---	OK *2		
		Not using new functions	---	OK *2		

- *1. CX-Programmer version 8.0 or higher is required to use CJ2H CPU Units (CJ2H-CPU6□-EIP).
- *2. CX-Programmer version 8.1 or higher is required to use functionality that was upgraded for unit version 1.1.
The High-speed interrupt function and changing the minimum cycle time setting in MONITOR mode are also supported by CX-Programmer version 8.02.
Support using CX-Programmer version 8.1 is scheduled to be available with a CX-One V3 auto update starting February 2009.
- *3. It is not necessary to upgrade the version of the CX-Programmer if functionality that was enhanced for the upgrade of the CPU Unit will not be used.
- *4. A Programming Console cannot be used with a CJ2H CPU Unit.

Checking Current Consumption and Power Consumption

After selecting a Power Supply Unit based on considerations such as the power supply voltage, calculate the current and power requirements for each Rack.

Condition 1: Current Requirements

There are two voltage groups for internal power consumption: 5 V and 24 V.

Current consumption at 5 V (internal logic power supply)

Current consumption at 24 V (relay driving power supply)

Condition 2: Power Requirements

For each Rack, the upper limits are determined for the current and power that can be provided to the mounted Units. Design the system so that the total current consumption for all the mounted Units does not exceed the maximum total power or the maximum current supplied for the voltage groups shown in the following tables.

The maximum current and total power supplied for CPU Racks and Expansion Racks according to the Power Supply Unit model are shown below.

Note 1. For CPU Racks, include the CPU Unit current and power consumption in the calculations. When expanding, also include the current and power consumption of the I/O Control Unit in the calculations.

2. For Expansion Racks, include the I/O Interface Unit current and power consumption in the calculations.

Power Supply Units	Max. current supplied		Max. total power supplied
	5 V	24 V (relay driving current)	
CJ1W-PA205C	5.0 A	0.8 A	25 W
CJ1W-PA205R	5.0 A	0.8 A	25 W
CJ1W-PA202	2.8 A	0.4 A	14 W
CJ1W-PD025	5.0 A	0.8 A	25 W
CJ1W-PD022	2.0 A	0.4 A	19.6 W

Conditions 1 and 2 below must be satisfied.

Condition 1: Maximum Current

(1) Total Unit current consumption at 5 V \leq (A) value

(2) Total Unit current consumption at 24 V \leq (B) value

Condition 2: Maximum Power

(1) \times 5 V + (2) \times 24 V \leq (C) value

Example: Calculating Total Current and Power Consumption

Example: When the Following Units are Mounted to a CJ-series CPU Rack Using a CJ1W-PA205R Power Supply Unit

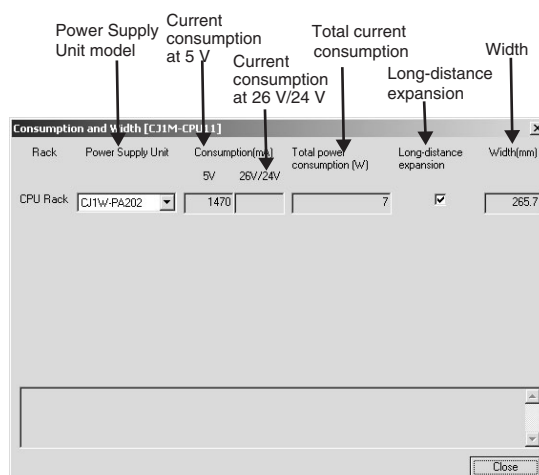
Unit type	Model	Quantity	Voltage group	
			5 V	24 V
CPU Unit	CJ2H-CPU68-EIP	1	0.820 A	---
I/O Control Unit	CJ1W-IC101	1	0.020 A	---
Basic I/O Units (Input Units)	CJ1W-ID211	2	0.080 A	---
	CJ1W-ID231	2	0.090 A	---
Basic I/O Units (Output Units)	CJ1W-OC201	2	0.090 A	0.048 A
Special I/O Unit	CJ1W-DA041	1	0.120 A	---
CPU Bus Unit	CJ1W-CLK23	1	0.350 A	---
Current consumption	Total		$0.820 + 0.020 + 0.080 \times 2 + 0.090 \times 2 + 0.090 \times 2 + 0.120 + 0.350$	$0.048 \text{ A} \times 2$
	Result		1.83 A ($\leq 5.0 \text{ A}$)	0.096 A ($\leq 0.8 \text{ A}$)
Power consumption	Total		$1.83 \times 5 \text{ V} = 9.15 \text{ W}$	$0.096 \text{ A} \times 24 \text{ V} = 2.30 \text{ W}$
	Result		$9.15 + 2.30 = 11.45 \text{ W} (\leq 25 \text{ W})$	

Note: For details on Unit current consumption, refer to *Ordering Information*.

Using the CX-Programmer to Display Current Consumption and Width

CPU Rack and Expansion Rack current consumption and width can be displayed by selecting Current Consumption and Width from the Options Menu in the CJ2 Table Window. If the capacity of the Power Supply Unit is exceeded, it will be displayed in red characters.

Example:



Ordering Information

Basic Configuration Units	20
Programming Devices.....	22
Programming Device Connecting Cable.....	23
FA Communications Software.....	24
Optional Products and Maintenance Products	25
DIN Track Accessories	25
Basic I/O Units	26
Special I/O Units and CPU Bus Units.....	30

International Standards

- The standards information listed in the "Standards" column of the ordering information are those current for UL, CSA, cULus, cUL, NK, and Lloyd standards and EC Directives effective as of the end of November 2008. The standards are abbreviated as follows: U: UL, U1: UL (Class 1 Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class 1 Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, and CE: EC Directives.
- Ask your OMRON representative for the conditions under which the standards were met.

● EC Directives

The EC Directives applicable to PLCs include the EMC Directives and the Low Voltage Directive. OMRON complies with these directives as described below.

● EMC Directives

Applicable Standards

EMI: EN61000-6-4, EN61131-2

EMS: EN61000-6-2, EN61131-2

PLCs are electrical devices that are incorporated in machines and manufacturing installations. OMRON PLCs conform to the related EMC standards so that the devices and machines into which they are built can more easily conform to EMC standards. The actual PLCs have been checked for conformity to EMC standards. Whether these

standards are satisfied for the actual system, however, must be checked by the customer.

EMC-related performance will vary depending on the configuration, wiring, and other conditions of the equipment or control panel in which the PLC is installed. The customer must, therefore, perform final checks to confirm that the overall machine or device conforms to EMC standards.

● Low Voltage Directive

Applicable Standard:EN61131-2

VDC must satisfy the appropriate safety requirements. With PLCs, this applies to Power Supply Units and I/O Units that operate in these voltage ranges.


These Units have been designed to conform to EN61131-2, which is the applicable standard for PLCs.

Ordering Information

Basic Configuration Units


CPU Units

■ CJ2H (Built-in EtherNet/IP) CPU Units

Product name	Specifications				Current consumption (A)		Model	Standards
	I/O capacity/ Mountable Units (Expansion Racks)	Program capacity	Data memory capacity	LD instruction execution time	5 V	24 V		
CJ2H (Built-in EtherNet/IP) CPU Units 	2,560 points/ 40 Units (3 Expansion Racks max.)	400K steps	832K words (DM: 32K words, EM: 32K words × 25 banks)	0.016 μs	0.82 (See note.)	---	CJ2H-CPU68-EIP	UC1, N, L, CE
		250K steps	512K words (DM: 32K words, EM: 32K words × 15 banks)				CJ2H-CPU67-EIP	
		150K steps	352K words (DM: 32K words, EM: 32K words × 10 banks)				CJ2H-CPU66-EIP	
		100K steps	160K words (DM: 32K words, EM: 32K words × 4 bank)				CJ2H-CPU65-EIP	
		50K steps	160K words (DM: 32K words, EM: 32K words × 4 bank)				CJ2H-CPU64-EIP	

Note: Add 0.15 A per Adapter when using NT-AL001 RS-232C/RS-222A Adapters.
Add 0.04 A per Adapter when using CJ1W-CIF11 RS-422A Adapters.

■ CJ2H CPU Units

Product name	Specifications				Current consumption (A)		Model	Standards
	I/O capacity/ Mountable Units (Expansion Racks)	Program capacity	Data memory capacity	LD instruction execution time	5 V	24 V		
CJ2H CPU Units 	2,560 points/ 40 Units (3 Expansion Racks max.)	400K steps	832K words (DM: 32K words, EM: 32K words × 25 banks)	0.016 μs	0.42 (See note.)	---	CJ2H-CPU68 <i>NEW</i>	UC1, N, L, CE
		250K steps	512K words (DM: 32K words, EM: 32K words × 15 banks)				CJ2H-CPU67 <i>NEW</i>	
		150K steps	352K words (DM: 32K words, EM: 32K words × 10 banks)				CJ2H-CPU66 <i>NEW</i>	
		100K steps	160K words (DM: 32K words, EM: 32K words × 4 bank)				CJ2H-CPU65 <i>NEW</i>	
		50K steps	160K words (DM: 32K words, EM: 32K words × 4 bank)				CJ2H-CPU64 <i>NEW</i>	



Note: Add 0.15 A per Adapter when using NT-AL001 RS-232C/RS-222A Adapters.
Add 0.04 A per Adapter when using CJ1W-CIF11 RS-422A Adapters.

The following accessories are included with the CPU Unit.

Item	Specifications
Battery	CJ1W-BAT01
End Cover	CJ1W-TER01(The End Cover must be connected to the right end of the CPU Rack.)
End Plate	PFP-M(2 stoppers)
Serial Port (RS-232C) Connector	Serial Port Connector Set (Plug: XM2A-0901, Hood: XW2S-0911-E, D-sub 9-pin male connector)

■ Power Supply Units


One Power Supply Unit is required for each Rack.

Product name	Power supply voltage	Output capacity			Options			Model	Standards
		5-VDC output capacity	24-VDC output capacity	Total power consumption	24-VDC service power supply	RUN output	Maintenance forecast monitor		
 AC Power Supply Unit	100 to 240 VAC	5 A	0.8 A	25 W		No	Yes	CJ1W-PA205C	UC1, N, L, CE
						Yes	No	CJ1W-PA205R	
		2.8 A	0.4 A	14 W		No	No	No	
 DC Power Supply Unit	24 VDC	5A	0.8 A	25 W		No	No	CJ1W-PD025	
		2 A	0.4 A	19.6 W		No	No	CJ1W-PD022	UC1, CE

Expansion Racks


Select the I/O Control Unit, I/O Interface Unit, Expansion Connecting Cable, and CJ-series Power Supply Unit.

■ CJ-series I/O Control Unit (Mounted on CPU Rack when Connecting Expansion Racks)

Product name	Specifications	Current consumption (A)		Model	Standards
		5 V	24 V		
 CJ-series I/O Control Unit	Mount one I/O Control Unit on the CJ-series CPU Rack when connecting one or more CJ-series Expansion Racks. Connecting Cable: CS1W-CN□□3 Expansion Connecting Cable Connected Unit: CJ1W-II101 I/O Interface Unit Mount to the right of the CPU Unit.	0.02	---	CJ1W-IC101	UC1, N, L, CE


Note: Mounting the I/O Control Unit in any other location may cause faulty operation.

■ CJ-series I/O Interface Unit (Mounted on Expansion Rack)

Product Name	Specifications	Current consumption (A)		Model	Standards
		5 V	24 V		
 CJ-series I/O Interface Unit	One I/O Interface Unit is required on each Expansion Rack. Connecting Cable: CS1W-CN□□3 Expansion Connecting Cable Mount to the right of the CPU Unit.	0.13	---	CJ1W-II101	UC1, N, L, CE

Note: Mounting the I/O Interface Unit in any other location may cause faulty operation.

■ I/O Connecting Cables

Product name	Specifications	Model	Standards
 I/O Connecting Cable	<ul style="list-style-type: none"> Connects an I/O Control Unit on CJ-series CPU Rack to an I/O Interface Unit on a CJ-series Expansion Rack. or Connects an I/O Interface Unit on CJ-series Expansion Rack to an I/O Interface Unit on another CJ-series Expansion Rack. 	Cable length: 0.3 m	CS1W-CN313
		Cable length: 0.7 m	CS1W-CN713
		Cable length: 2 m	CS1W-CN223
		Cable length: 3 m	CS1W-CN323
		Cable length: 5 m	CS1W-CN523
		Cable length: 10 m	CS1W-CN133
		Cable length: 12 m	CS1W-CN133-B2
			N, L, CE

Programming Devices

Support Software

Product name	Specifications	Model		Standards			
		Number of licenses	Media				
FA Integrated Tool Package CX-One Ver. 3.0	The CX-One is a comprehensive software package that integrates Support Software for OMRON PLCs and components. CX-One runs on the following OS. Windows 2000 (Service Pack 3 or higher), XP, or Vista CX-One Version 3.0 includes CX-Programmer Ver. 8.0 and CX-Simulator Ver. 1.0. For details, refer to the CX-One catalog (Cat. No. R134).	1 license	CD	CXONE-AL01C-V3 <i>NEW</i>	---		
			DVD	CXONE-AL01D-V3 <i>NEW</i>			
		3 licenses	CD	CXONE-AL03C-V3 <i>NEW</i>			
			DVD	CXONE-AL03D-V3 <i>NEW</i>			
		10 licenses	CD	CXONE-AL10C-V3 <i>NEW</i>			
			DVD	CXONE-AL10D-V3 <i>NEW</i>			
		30 licenses	CD	CXONE-AL30C-V3 <i>NEW</i>			
			DVD	CXONE-AL30D-V3 <i>NEW</i>			
		50 licenses	CD	CXONE-AL50C-V3 <i>NEW</i>			
			DVD	CXONE-AL50D-V3 <i>NEW</i>			
		CX-Programmer and CX-Simulator can still be ordered individually in the following model numbers.					
		CX-Programmer Ver. 8.0	PLC programming software OS: Windows 2000 (Service Pack 3 or higher), XP, or Vista	1 license		CD	WS02-CXPC1-V8 <i>NEW</i>
3 licenses	CD			WS02-CXPC1-V8L03 <i>NEW</i>			
10 licenses	CD			WS02-CXPC1-V8L10 <i>NEW</i>			

Note 1. Site licenses are available for users who will run CX-One on multiple computers. Ask your OMRON sales representative for details.

2. Before ordering the software on a DVD, be sure that your computer and drive are compatible with the DVD format.

Support Software in CX-One Ver.3.0

The following tables lists the Support Software that can be installed from CX-One.

Support Software in CX-One	Outline
CX-Programmer Ver.8.0	Application software to create and debug programs for SYSMAC CS/CJ/CP/NSJ-series, C-series, and CVM1/C-series CPU Units, and to create and monitor data for SYSMAC CS/CJ-series Position Control Units (High-speed type only).
CX-Integrator Ver.2.0	Application software to build and set up FA networks, such as Controller Link, DeviceNet, CompoNet, CompoWay, and Ethernet networks. The Routing Table Component and Data Link Component can be started from here. DeviceNet Configuration functionality is also included.
Switch Box Utility Ver.1.0	Utility software that helps you to debug PLCs. It helps you to monitor the I/O status and to monitor/change present values within the PLC you specify.
CX-Protocol Ver.1.0	Application software to create protocols (communications sequences) between SYSMAC CS/CJ/CP/NSJ-series or C200HX/HG/HE Serial Communications Boards/Units and general-purpose external devices.
CX-Simulator Ver.1.0	Application software to simulate SYSMAC CS/CJ/CP/NSJ-series CPU Unit operation on the computer to debug PLC programs without a CPU Unit.
CX-Position Ver.2.0	Application software to create and monitor data for SYSMAC CS/CJ-series Position Control Units. (except for High-speed type)
CX-Motion-NCF Ver.1.0	Application software to monitor and set parameters for SYSMAC CS/CJ-series Position Control Units and Servo Drivers that support MECHATROLINK-II communications.
CX-Motion-MCH Ver.2.0	Application software to create data for SYSMAC CS/CJ-series MCH Units, create motion programs, and perform monitoring.
CX-Motion Ver.2.0	Application software to create data for SYSMAC CS/CJ-series, C200HX/HG/HE, and CVM1/CV-series Motion Control Units, and to create and monitor motion control programs.
CX-Drive Ver.1.0	Application software to set and control data for Inverters and Servos.
CX-Process Tool Ver.5.0	Application software to create and debug function block programs for SYSMAC CS/CJ-series Loop Controllers (Loop Control Units/Boards, Process Control CPU Units, and Loop Control CPU Units).
Faceplate Auto-Builder for NS Ver.3.0	Application software that automatically outputs screen data as project files for NS-series PTs from tag information in function block programs created with the CX-Process Tool.
CX-Designer Ver.3.0	Application software to create screen data for NS-series PTs.
CX-Configurator FDT Ver.1.0	Application software for setting various units by installing its DTM module.
CX-Thermo Ver.4.0	Application software to set and control parameters in components such as Temperature Control Units.
CX-FLnet Ver.1.0	Application software for system setting and monitoring of SYSMAC CS/CJ-series FL-net Units
Network Configurator Ver.3.0	Application software for setting the tag datalink at the built-in EtherNet/IP port.
CX-Server Ver.4.0	Middleware necessary for CX-One applications to communicate with OMRON components, such, such as PLCs, Display Devices, and Temperature Control Units.
PLC Tools (Installed automatically.)	A group of components used with CX-One applications, such as the CX-Programmer and CX-Integrator. Includes the following: I/O tables, PLC memory, PLC Setup, Data Tracing/Time Chart Monitoring, PLC Error Logs, File Memory, PLC clock, Routing Tables, and Data Link Tables.

Note 1. Support for High-speed type Position Control Units using CX-Programmer version 8.1 is scheduled to be available with a CX-One V3 auto update starting February 2009.

2. If the complete CX-One package is installed, approximately 2.5 GB of Hard disk space will be required.

Programming Device Connecting Cable

■ Peripheral (USB) Port

Use commercially available USB cable.


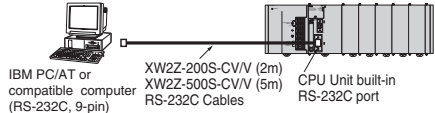
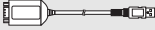
Specifications: USB 1.1 or 2.0 cable (A connector - B connector), 5.0 m max.

■ EtherNet/IP Port

Support Software can also be connected via the built-in EtherNet/IP port. Use commercially available 100Base-TX twisted-pair cable with the same specifications as for an EtherNet/IP Unit.

Specifications: Twisted-pair cable with RJ45 modular connectors at both ends. Connect between EtherNet/IP Unit or built-in EtherNet/IP port and switching hub. Use STP (shielded twisted-pair) cable of category 5 or 5e.

■ Serial Port

Product Name	Specifications				Model	Standards
	Applicable computers	Connection configuration	Cable length	Remarks		
Programming Device Connecting Cables for RS-232C Port 	Connects IBM PC/AT or compatible computers, D-Sub 9-pin	IBM PC/AT or compatible computer + XW2Z-200S-CV/V or XW2Z-500S-CV/V + RS-232C port of CPU Unit or Serial Communications Board or Unit	2 m	Used for Peripheral Bus or Host Link. Anti-static connectors	XW2Z-200S-CV	---
			5 m		XW2Z-500S-CV	
			2 m	Used for Host Link only.	XW2Z-200S-V	
			5 m	Peripheral Bus not supported.	XW2Z-500S-V	
USB-Serial Conversion Cable and PC driver (on a CD-ROM disk)  Complies with USB Specification 1.1.	IBM PC/AT or compatible computer (USB port)	IBM PC/AT or compatible computer + CS1W-CIF31 + XW2Z-200S-CV/500S-CV + RS-232C port of CPU Unit or Serial Communications Unit	0.5 m	Used for Peripheral Bus or Host Link.	CS1W-CIF31	N
		IBM PC/AT or compatible computer + CS1W-CIF31 + XW2Z-200S-V/500S-V + RS-232C port of CPU Unit or Serial Communications Unit		Connect USB Serial Conversion Cable to Serial Connecting Cable, and connect to the PLC peripheral port or RS-232C port.		

FA Communications Software

■SYSMAC Gateway (Communications Middleware)

Product name	Specifications	Model	Standards
SYSMAC Gateway (See note.)	Communications middleware for personal computers running Windows. Supports CIP communications and tag data links (EtherNet/IP) in addition to FinsGateway functions. Supported communications: RS-232C, USB, Controller Link, SYSMAC LINK, Ethernet, EtherNet/IP	WS02-SGWC1 <i>NEW</i>	---
	10 additional licenses (This product provides only additional licenses. The software must be purchased in advance.)	WS02-SGWC1-L10 <i>NEW</i>	
SYSMAC Gateway SDK	Software development kit for creating communications programs using SYSMAC Gateway. Development languages: C, C++, Visual Basic.NET, Visual C#.NET	WS02-SGWC1S <i>NEW</i>	

Supported OS: Microsoft Windows Vista, XP, 2000, and 2003 Server

Note: One license is required per computer.

■CX-Compolet


Product name	Specifications	Model	Standards
CX-Compolet (See note 1.)	Software components that can make it easy to create programs for communications between a computer and controllers. This packaged product bundles SYSMAC Gateway. Development environment: Visual Studio .NET 2003/.NET 2005/.NET 2008 Development languages: Visual Basic .NET, Visual C#.NET, Visual Basic Ver. 5/6 (See note 2.) Supported communications: Equal to SYSMAC Gateway.	WS02-CPLC1 <i>NEW</i>	---
	3 additional licenses (This product provides only additional licenses. The software must be purchased in advance.)	WS02-CPLC1-L3 <i>NEW</i>	
	5 additional licenses (This product provides only additional licenses. The software must be purchased in advance.)	WS02-CPLC1-L5 <i>NEW</i>	
	10 additional licenses (This product provides only additional licenses. The software must be purchased in advance.)	WS02-CPLC1-L10 <i>NEW</i>	
	Software components only. This package doesn't include SYSMAC Gateway as communications drivers.	WS02-CPLC2 <i>NEW</i>	




Supported OS: Microsoft Windows Vista, XP, 2000, and 2003 Server


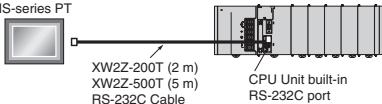
Note 1. One license is required per computer.

2. Only functions provided by Compolet V2 as ActiveX controls are supported for Visual Basic version 5 or 6.

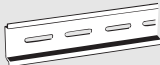

Optional Products and Maintenance Products

Product name	Specifications	Model	Standards
Memory Cards 	Flash memory, 128 MB	HMC-EF183	N, L, CE
	Flash memory, 256 MB	HMC-EF283	
	Flash memory, 512 MB	HMC-EF583	
	Memory Card Adapter (for computer PCMCIA slot)	HMC-AP001	CE

Product name	Specifications	Model	Standards
Battery Set 	Battery for CJ2H-CPU□□-EIP and CJ1M-CPU□□CPU Unit maintenance Note 1. The battery is included as a standard accessory with the CPU Unit. 2. The battery service life is 5 years at 25°C. (The service life depends on the ambient operating temperature and the power conditions.) 3. Use batteries within two years of manufacture.	CJ1W-BAT01	CE
End Cover 	Mounted to the right-hand side of CJ-series CPU Racks or Expansion Racks. One End Cover is provided as a standard accessory with each CPU Unit and I/O Interface Unit.	CJ1W-TER01	UC1, N, L, CE
RS-422A Converter 	Converts RS-232C to RS-422A/RS-485. (Application example: With a CJ1M CPU Unit, the Adapter is used for Serial PLC Link at the built-in RS-232C port of the CPU Unit.)	CJ1W-CIF11	UC1, N, L, CE



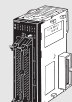
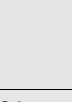

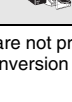


Product name	Specifications		Model	Standards
	Connection configuration	Cable length		
NS-series PT Connecting Cables 	Cable for connecting between an NS-series PT and the RS-232C port on the CPU Unit or Serial Communications Board 	2 m	XW2Z-200T	---
		5 m	XW2Z-500T	

DIN Track Accessories

Product name	Specifications	Model	Standards
DIN Track 	Length: 0.5 m; Height: 7.3 mm	PFP-50N	---
	Length: 1 m; Height: 7.3 mm	PFP-100N	
	Length: 1 m; Height: 16 mm	PFP-100N2	
End Plate 	There are 2 stoppers provided with CPU Units and I/O Interface Units as standard accessories to secure the Units on the DIN Track.	PFP-M	






Basic I/O Units

Input Units

Unit classification	Product name	Specifications					Current consumption (A)		Model	Standards
		I/O points	Input voltage and current	Commons	External connection	No. of words allocated	5 V	24 V		
CJ1 Basic I/O Units	DC Input Units       	8 inputs	12 to 24 VDC, 10 mA	Independent contacts	Removable terminal block	1 word	0.09	---	CJ1W-ID201	UC1, N, L, CE
		16 inputs	24 VDC, 7 mA	16 points, 1 common	Removable terminal block	1 word	0.08	---	CJ1W-ID211	
		16 inputs (High speed)	24 VDC, 7 mA	16 points, 1 common	Removable terminal block	1 word	0.13	---	CJ1W-ID212 ^{NEW}	N, L, CE
		32 inputs	24 VDC, 4.1 mA	16 points, 1 common	Fujitsu connector	2 words	0.09	---	CJ1W-ID231 (See note.)	UC1, N, L, CE
		32 inputs	24 VDC, 4.1 mA	16 points, 1 common	MIL connector	2 words	0.09	---	CJ1W-ID232 (See note.)	
		32 inputs (High speed)	24 VDC, 4.1 mA	16 points, 1 common	MIL connector	2 words	0.20	---	CJ1W-ID233 ^{NEW} (See note.)	N, L, CE
		64 inputs	24 VDC, 4.1 mA	16 points, 1 common	Fujitsu connector	4 words	0.09	---	CJ1W-ID261 (See note.)	UC1, N, L, CE
		64 inputs	24 VDC, 4.1 mA	16 points, 1 common	MIL connector	4 words	0.09	---	CJ1W-ID262 (See note.)	
	AC Input Units 	8 inputs	200 to 24 VAC, 10 mA (200 V, 50 Hz)	8 points, 1 common	Removable Terminal Block	1 words	0.08	---	CJ1W-IA201	UC1, N, L, CE
		16 inputs	100 to 120 VAC, 7 mA (100 V, 50 Hz)	16 points, 1 common	Removable Terminal Block	1 words	0.09	---	CJ1W-IA111	

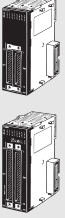
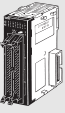
Note: Connectors are not provided with these connector models. Either purchase one of the following 40-pin Connectors, or use an OMRON XW2□ Connector-Terminal Block Conversion Unit or a G7□ I/O Relay Terminal.

■ Output Units

Unit classification	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	Relay Contact Output Units 	–	8 outputs	250 VAC/24 VDC, 2 A	Independent contacts	Removable terminal block	1 words	0.09	0.048 max.	CJ1W-OC201	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.	CJ1W-OC211		
	Triac Output Unit 	–	8 outputs	250 VAC, 0.6 A	8 points, 1 common	Removable terminal block	1 words	0.22	–	CJ1W-OA201		
	Transistor Output Units   	Sinking	8 outputs	12 to 24 VDC, 2 A	4 points, 1 common	Removable terminal block	1 words	0.09	–	CJ1W-OD201		
		Sinking	8 outputs	12 to 24 VDC, 0.5 A	8 points, 1 common	Removable terminal block	1 words	0.10	–	CJ1W-OD203		
		Sinking	16 outputs	12 to 24 VDC, 0.5 A	16 points, 1 common	Removable terminal block	1 words	0.10	–	CJ1W-OD211		
		Sinking	16 outputs (High speed)	24 VDC, 0.5 A	16 points, 1 common	Removable terminal block	1 words	0.15	–	NEW CJ1W-OD213		N, L, CE
		Sinking	32 outputs	12 to 24 VDC, 0.5 A	16 points, 1 common	Fujitsu connector	2 words	0.14	–	CJ1W-OD231 (See note.)		UC1, N, L, CE
		Sinking	32 outputs	12 to 24 VDC, 0.5 A	16 points, 1 common	MIL connector	2 words	0.14	–	CJ1W-OD233 (See note.)		
		Sinking	32 outputs (High speed)	24 VDC, 0.5 A	16 points, 1 common	MIL connector	2 words	0.22	–	NEW CJ1W-OD234 (See note.)		N, L, CE
		Sinking	64 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common	Fujitsu connector	4 words	0.17	–	CJ1W-OD261 (See note.)		UC1, N, L, CE
		Sinking	64 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common	MIL connector	4 words	0.17	–	CJ1W-OD263 (See note.)		
		Sourcing	8 outputs	24 VDC, 2 A Short-circuit protection	4 points, 1 common	Removable terminal block	1 words	0.11	–	CJ1W-OD202		
		Sourcing	8 outputs	24 VDC, 0.5 A Short-circuit protection	8 points, 1 common	Removable terminal block	1 words	0.10	–	CJ1W-OD204		
		Sourcing	16 outputs	24 VDC, 0.5 A Short-circuit protection	16 points, 1 common	Removable terminal block	1 words	0.10	–	CJ1W-OD212		
Sourcing	32 outputs	24 VDC, 0.5 A Short-circuit protection	16 points, 1 common	MIL connector	2 words	0.15	–	CJ1W-OD232 (See note.)				
Sourcing	64 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common	MIL connector	4 words	0.17	–	CJ1W-OD262 (See note.)				

Note: Connectors are not provided with these connector models. Either purchase one of the following 40-pin Connectors, or use an OMRON XW2□ Connector-Terminal Block Conversion Unit or a G7□ I/O Relay Terminal.

■ I/O Units

Unit classification	Product name	Specifications						Current consumption (A)		Model	Standards
		Output type	I/O points	Input voltage, Input current	Commons	External connection	No. of words allocated	5 V	24 V		
				Maximum switching capacity							
CJ1 Basic I/O Units	DC Input/Transistor Output Units 	Sinking	16 inputs	24 VDC, 7 mA	16 points, 1 common	Fujitsu connector	2 words	0.13	---	CJ1W-MD231 (See note 2.)	UC1, N, CE
			16 outputs	250 VAC/24 VDC, 0.5 A	16 points, 1 common						
		Sinking	16 inputs	24 VDC, 7 mA	16 points, 1 common	MIL connector	2 words	0.13	---	CJ1W-MD233 (See note 2.)	UC1, N, CE
			16 outputs	12 to 24 VDC, 0.5 A	16 points, 1 common						
		Sinking	32 inputs	24 VDC, 4.1 mA	16 points, 1 common	Fujitsu connector	4 words	0.14	---	CJ1W-MD261 (See note 1.)	UC1, N, CE
			32 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common						
		Sinking	32 inputs	24 VDC, 4.1 mA	16 points, 1 common	MIL connector	4 words	0.14	---	CJ1W-MD263 (See note 1.)	UC1, N, L, CE
			32 outputs	12 to 24 VDC, 0.3 A	16 points, 1 common						
		Sourcing	16 inputs	24 VDC, 7 mA	16 points, 1 common	MIL connector	2 words	0.13	---	CJ1W-MD232 (See note 2.)	UC1, N, L, CE
			16 outputs	24 VDC, 0.5 A Short-circuit protection	16 points, 1 common						
TTL I/O Units	TTL I/O Units 	---	32 inputs	5 VDC, 35 mA	16 points, 1 common	MIL connector	4 words	0.19	---	CJ1W-MD563 (See note 1.)	UC1, N, CE
			32 outputs	5 VDC, 35 mA	16 points, 1 common						

Note 1 .Connectors are not provided with these connector models. Either purchase one of the following 40-pin Connectors, or use an OMRON XW2□ Connector-Terminal Block Conversion Unit or a G7□ I/O Relay Terminal.

2 .Connectors are not provided with these connector models. Either purchase one of the following 20-pin or 24-pin Connectors, or use an OMRON XW2□ Connector-Terminal Block Conversion Unit or a G7□ I/O Relay Terminal.

● 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 Connector FCN-360C040-J2 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 Housing FCN-363J-AU Contactor FCN-360C040-J2 Connector Cover		C500-CE405	
	Pressure welded	FCN-367J040-AU/F		C500-CE403	
24-pin Connectors	Soldered	FCN-361J024-AU Connector FCN-360C024-J2 Connector Cover	Fujitsu Connectors: CJ1W-MD231 (16 inputs, 16 outputs): 2 per Unit	C500-CE241	---
	Crimped	FCN-363J024 Housing FCN-363J-AU Contactor FCN-360C024-J2 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	

Interrupt Input Units

Unit classification	Product name	Specifications						No. of words allocated	Current consumption (A)		Model	Standards
		I/O points	Input voltage current	Commons	Input pulse width conditions	Max. Units mountable per Unit	External connection		5 V	24 V		
CJ1 Basic I/O Units	Interrupt Input Unit 	16 inputs	24 VDC, 7 mA	16 points, 1 common	ON time: 0.05 ms max. OFF time: 0.5 ms max.	2	Removable terminal block	1 word	0.08	---	CJ1W-INT01	UC1, N, L, CE


- Note 1.** Can be used only on CPU Racks, and not on Expansion Racks.
Note 2. The locations where the Units can be mounted depend on the CPU Rack and the CPU Unit model.
 CJ2H-CPU6□-EIP: From the slot next to the CPU Unit until the forth slot.
 CJ2H-CPU6□, CJ1G, CJ1H: From the slot next to the CPU Unit until the fifth slot.
 CJ1M: From the slot next to the CPU Unit until the third slot.

Quick-response Input Units

Unit classification	Product name	Specifications					No. of words allocated	Current consumption (A)		Model	Standards
		I/O points	Input voltage, Input current	Commons	Input pulse width conditions	External connection		5 V	24 V		
CJ1 Basic I/O Units	Quick-response Input Unit 	16 inputs	24 VDC, 7 mA	16 points, 1 common	ON time: 0.05 ms max. OFF time: 0.5 ms max.	Removable terminal block	1 word	0.08	---	CJ1W-IDP01	UC1, N, L, CE

Note: There are no restrictions on the mounting position or number of Units.


B7A Interface Units

Unit classification	Product name	Specifications		No. of words allocated	Current consumption (A)		Model	Standards
		I/O points	External connection		5 V	24 V		
CJ1 Basic I/O Units	B7A Interface Units 	64 inputs	Removable terminal block	4 words	0.07	---	CJ1W-B7A14	UC1, CE
		64 outputs			0.07	---	CJ1W-B7A04	
		32 inputs/outputs			0.07	---	CJ1W-B7A22	

Special I/O Units and CPU Bus Units

■ Process I/O Units


● Isolated-type Units with Universal Inputs

Unit classification	Product name	Input points	Signal range selection	Signal range	Conversion speed (resolution)	Accuracy (at ambient temperature of 25°C)	External connection	No. of unit numbers allocated	Current consumption (A)		Model	Standards
									5 V	24 V		
CJ1 Special I/O Units	Process Input Units (Isolated-type Units with Universal Inputs) 	4 inputs	Set separately for each input	Universal inputs: Pt100 (3-wire), JPt100 (3-wire), Pt1000 (3-wire), Pt100 (4-wire), K, J, T, E, L, U, N, R, S, B, WRe5-26, PL II, 4 to 20 mA, 0 to 20 mA, 1 to 5 V, 0 to 1.25 V, 0 to 5 V, 0 to 10 V, ±100 mV selectable range, -1.25 to 1.25 V, -5 to 5 V, -10 to 10 V, ±10 V selectable range, potentiometer	Resolution (conversion speed): 1/256,000 (conversion cycle: 60 ms/ 4 inputs) 1/64,000 (conversion cycle: 10 ms/ 4 inputs) 1/16,000 (conversion cycle: 5 ms/ 4 inputs)	Standard accuracy: ±0.05% of F.S.	Removable terminal block	1	0.30	---	CJ1W-PH41U (See note 1.)	UC1, CE
		4 inputs	Set separately for each input	Universal inputs: Pt100, JPt100, Pt1000, K, J, T, L, R, S, B, 4 to 20 mA, 0 to 20 mA, 1 to 5 V, 0 to 5 V, 0 to 10 V	Conversion speed: 250 ms/ 4 inputs	Accuracy: Platinum resistance thermometer input: (±0.3% of PV or ±0.8°C, whichever is larger) ±1 digit max. Thermocouple input: (±0.3% of PV or ±1.5°C, whichever is larger) ±1 digit max. (See note 2.) Voltage or current input: ±0.3% of F.S. ±1 digit max.			0.32	---	CJ1W-AD04U	UC1, L, CE

Note 1. Do not connect a Relay Output Unit to the same CPU Rack or to the same Expansion Rack as the CJ1W-PH41U.

2. L and -100°C or less for K and T are ±2°C±1 digit max., and 200°C or less for R and S is ±3°C±1 digit max. No accuracy is specified for 400°C or less for B.

● Isolated-type Thermocouple Input Units


Unit classification	Product name	Input points	Signal range selection	Signal range	Conversion speed (resolution)	Accuracy (at ambient temperature of 25°C)	External connection	No. of unit numbers allocated	Current consumption (A)		Model	Standards
									5 V	24 V		
CJ1 Special I/O Units	Process Input Units (Isolated-type Thermocouple Input Units) 	2 inputs	Set separately for each input	Thermocouple: B, E, J, K, L, N, R, S, T, U, WRe5-26, PLII DC voltage: ±100 mV	Conversion speed: 10 ms/ 2 inputs, Resolution: 1/64,000	Standard accuracy: ±0.05% of F.S. (See note 1.)	Removable terminal block	1	0.18	0.06 (See note 2.)	CJ1W-PTS15	UC1, CE
		4 inputs	Thermocouple: R, S, K, J, T, L, B	Conversion speed: 250 ms/ 4 inputs	Accuracy: (±0.3% of PV or ±1°C, whichever is larger) ±1 digit max. (See note 3.)	0.25			---	CJ1W-PTS51		

Note 1. The accuracy depends on the sensors used and the measurement temperatures. For details, refer to the user's manual.

2. This is for an external power supply, and not for internal current consumption.


3. L and -100°C or less for K and T are ±2°C±1 digit max., and 200°C or less for R and S is ±3°C±1 digit max. No accuracy is specified for 400°C or less for B.

● Isolated-type Resistance Thermometer Input Units

Unit classification	Product name	Input points	Signal range selection	Signal range	Conversion speed (resolution)	Accuracy (at ambient temperature of 25°C)	External connection	No. of unit numbers allocated	Current consumption (A)		Model	Standards
									5 V	24 V		
CJ1 Special I/O Units	Process Analog Input Units (Isolated-type Resistance Thermometer Input Units) 	2 inputs	Set separately for each input	Resistance thermometer: Pt100, JPt100, Pt50, Ni508.4	Conversion speed: 10 ms/2 inputs, Resolution: 1/64,000	Accuracy: ±0.05% of F.S. or ±0.1°C, whichever is larger.	Removable terminal block	1	0.18	0.07 (See note.)	CJ1W-PTS16	UC1, CE
		4 inputs	Common inputs	Resistance thermometer: Pt100, JPt100	Conversion speed: 250 ms/4 inputs	Accuracy: ±0.3°C of PV or ±0.8°C, whichever is larger, ±1 digit max.			0.25	---	CJ1W-PTS52	

Note: This is for an external power supply, and not for internal current consumption.


● Isolated-type DC Input Units

Unit classification	Product name	Input points	Signal range selection	Conversion speed (resolution)	Accuracy (at ambient temperature of 25°C)	External connection	No. of unit numbers allocated	Current consumption (A)		Model	Standards
								5 V	24 V		
CJ1 Special I/O Units	Isolated-type DC Input Units 	2 inputs	DC voltage: 0 to 1.25 V, -1.25 to 1.25 V, 0 to 5 V, 1 to 5 V, -5 to 5 V, 0 to 10 V, -10 to 10 V, ±10 V selectable range DC current: 0 to 20 mA, 4 to 20 mA	Conversion speed: 10 ms/2 inputs Resolution: 1/64,000	Standard accuracy: ±0.05% of F.S.	Removable terminal block	1	0.18	0.09 (See note.)	CJ1W-PDC15	UC1, CE

Note: This is for an external power supply, and not for internal current consumption.


■ Analog I/O Units

● Analog Input Units

Unit classification	Product name	Input points	Signal range selection	Signal range	Resolution	Conversion speed	Accuracy (at ambient temperature of 25°C)	External connection	No. of unit numbers allocated	Current consumption (A)		Model	Standards
										5 V	24 V		
CJ1 Special I/O Units	Analog Input Units 	4 inputs	Set separately for each input	1 to 5 V (1/10,000), 0 to 10 V (1/20,000), ±5 V (1/20,000), ±10 V (1/40,000), and 4 to 20 mA (1/10,000)		20 μs/1 point, 25 μs/2 points, 30 μs/3 points, 35 μs/4 points	Voltage: ±0.2% of F.S. Current: ±0.4% of F.S.	Removable terminal block	1	---	---	CJ1W-AD042	---
		8 inputs								0.42	---	CJ1W-AD081-V1	UC1, N, L, CE
		4 inputs								0.42	---	CJ1W-AD041-V1	


Note 1. The resolution and conversion speed cannot be set independently. If the resolution is set to 1/4,000, then the conversion speed will be 1 ms/point.
2. At 23 ±2°C

● Analog Output Units

Unit classification	Product name	Output points	Signal range selection	Signal range	Resolution	Conversion speed	Accuracy (at ambient temperature of 25°C)	External connection	External power supply	No. of unit numbers allocated	Current consumption (A)		Model	Standards
											5 V	24 V		
CJ1 Special I/O Units	 Analog Output Units	4 outputs	Set separately for each input	1 to 5 V (1/10,000), 0 to 10 V (1/20,000), and -10 to 10 V (1/40,000)	1/4,000 (Settable to 1/8,000)	20 μs/ 1 point, 25 μs/ 2 points, 30 μs/ 3 points, 35 μs/ 4 points	±0.3% of F.S.	Removable terminal block	---	1	---	---	CJ1W-DA042V	---
		8 outputs		1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V		1 ms/ point max. (Settable to 250 μs/point)			24 VDC +10% -15% , 140 mA max.		0.14	0.14 (See note.)	CJ1W-DA08V	UC1, N, L, CE
		8 outputs		4 to 20 mA		1 ms/ point max.			24 VDC +10% -15% , 170 mA max.		0.14	0.17 (See note.)	CJ1W-DA08C	UC1, N, CE
		4 outputs		1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA		1 ms/ point max.			24 VDC +10% -15% , 200 mA max.		0.12	0.2 (See note.)	CJ1W-DA041	UC1, N, L, CE
		2 outputs		1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA		1 ms/ point max.			24 VDC +10% -15% , 140 mA max.		0.12	0.14 (See note.)	CJ1W-DA021	


Note: This is for an external power supply, and not for internal current consumption

● Analog I/O Units


Unit classification	Product name	No. of points	Signal range selection	Signal range	Resolution (See note.)	Conversion speed (See note.)	Accuracy (at ambient temperature of 25°C)	External connection	No. of unit numbers allocated	Current consumption (A)		Model	Standards
										5 V	24 V		
CJ1 Special I/O Units	 Analog I/O Units	4 inputs	Set separately for each input	1 to 5 V, 0 to 5 V, 0 to 10 V, -10 to 10 V, 4 to 20 mA	1/4,000 (Settable to 1/8,000)	1 ms/point (Settable to 500 μs/point max.)	Voltage input: ±0.2% of F.S. Current input: ±0.2% of F.S.	Removable terminal block	1	0.58	---	CJ1W-MAD42	UC1, N, L, CE
	2 outputs	Voltage output: ±0.3% of F.S. Current output: ±0.3% of F.S.											

Note: The resolution and conversion speed cannot be set independently. If the resolution is set to 1/4,000, then the conversion speed will be 1 ms/point.

■ Temperature Control Units

Unit classification	Product name	Specifications			No. of unit numbers allocated	Current consumption (A)		Model	Standards
		No. of loops	Temperature sensor inputs	Control outputs		5 V	24 V		
CJ1 Special I/O Units	Temperature Control Units 	4 loops	Thermocouple input (R, S, K, J, T, B, L)	Open collector NPN outputs (pulses)	2	0.25	---	CJ1W-TC001	UC1, N, L, CE
		4 loops		Open collector PNP outputs (pulses)		0.25	---	CJ1W-TC002	
		2 loops, heater burnout detection function		Open collector NPN outputs (pulses)		0.25	---	CJ1W-TC003	
		2 loops, heater burnout detection function		Open collector PNP outputs (pulses)		0.25	---	CJ1W-TC004	
		4 loops	Platinum resistance thermometer input (JPt100, Pt100)	Open collector NPN outputs (pulses)		0.25	---	CJ1W-TC101	
		4 loops		Open collector PNP outputs (pulses)		0.25	---	CJ1W-TC102	
		2 loops, heater burnout detection function		Open collector NPN outputs (pulses)		0.25	---	CJ1W-TC103	
		2 loops, heater burnout detection function		Open collector PNP outputs (pulses)		0.25	---	CJ1W-TC104	

■ High-speed Counter Unit


Unit classification	Product name	Specifications			No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Countable channels	Encoder A and B inputs, pulse input Z signals	Max. counting rate		5 V	24 V		
CJ1 Special I/O Units	High-speed Counter Unit 	2	Open collector Input voltage: 5 VDC, 12 V, or 24 V (5 V and 12 V are each for one axis only.)	50 kHz	4	0.28	---	CJ1W-CT021	UC1, N, L, CE
			RS-422 line driver	500 kHz					

■ Position Control Units

● Position Control Units (High-speed type)


Unit classification	Product name	Specifications		No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Control output interface	No. of axes		5 V	24 V		
CJ1 Special I/O Units	Position Control Units (High-speed type)	Pulse-train open-collector output with Pulse Counter Function	2 axes	2	---	---	CJ1W-NC214 <small>Available soon</small>	---
			4 axes		---	---	CJ1W-NC414 <small>Available soon</small>	
		Pulse train line-driver output with Pulse Counter Function	2 axes		---	---	CJ1W-NC234 <small>Available soon</small>	
			4 axes		---	---	CJ1W-NC434 <small>Available soon</small>	

● Position Control Units


Unit classification	Product name	Specifications		No. of unit numbers allocated	Current consumption (A)		Model	Standards	
		Control output interface	No. of axes		5 V	24 V			
CJ1 Special I/O Units	 Position Control Units	Pulse train, open collector output	1 axis	1	0.25	---	CJ1W-NC113	UC1, CE	
		Pulse train, open collector output	2 axes		0.25	---	CJ1W-NC213		
		Pulse train, open collector output (See note.)	4 axes	2	0.36	---	CJ1W-NC413		
		Pulse train, line driver output	1 axis	1	0.25	---	CJ1W-NC133		
		Pulse train, line driver output	2 axes		0.25	---	CJ1W-NC233		
		Pulse train, line driver output (See note.)	4 axes	2	0.36	---	CJ1W-NC433		
	Space Unit	Use a CJ1W-SP001 Space Unit if the operating temperature is 0 to 55°C.					CJ1W-SP001	UC1, CE	
	Servo Relay Units	For 1-Axis Position Control Unit (without communications support) (CJ1W-CN113/133)						XW2B-20J6-1B	---
		For 2- or 4-Axis Position Control Unit (without communications support) (CJ1W-NC213/233/413/433)						XW2B-40J6-2B	
		For 2- or 4-Axis Position Control Unit (with communications support) (CJ1W-NC213/233/413/433)						XW2B-40J6-4A	
	Position Control Unit Cables	For CJ1W-NC113: Pulse train, open collector output, 1 axis	Connecting Servo Drives: OMNUC G/W Series, SMARTSTEP2		Cable length: 0.5 m		XW2Z-050J-A14	---	
					Cable length: 1 m		XW2Z-100J-A14		
			Connecting Servo Drives: SMARTSTEP Junior/A Series		Cable length: 0.5 m		XW2Z-050J-A16		
					Cable length: 1 m		XW2Z-100J-A16		
		For CJ1W-NC213/413: Pulse train, open collector output, 2 axes	Connecting Servo Drives: OMNUC G/W Series, SMARTSTEP2		Cable length: 0.5 m		XW2Z-050J-A15		
					Cable length: 1 m		XW2Z-100J-A15		
			Connecting Servo Drives: SMARTSTEP Junior/A Series		Cable length: 0.5 m		XW2Z-050J-A17		
					Cable length: 1 m		XW2Z-100J-A17		
		For CJ1W-NC133: Pulse train, line-driver output, 1 axis	Connecting Servo Drives: OMNUC G/W Series, SMARTSTEP2		Cable length: 0.5 m		XW2Z-050J-A18		
					Cable length: 1 m		XW2Z-100J-A18		
			Connecting Servo Drives: SMARTSTEP Junior/A Series		Cable length: 0.5 m		XW2Z-050J-A20		
			Cable length: 1 m		XW2Z-100J-A20				
For CJ1W-NC233/433: Pulse train, line driver output, 2 axes	Connecting Servo Drives: OMNUC G/W Series, SMARTSTEP2		Cable length: 0.5 m		XW2Z-050J-A19				
			Cable length: 1 m		XW2Z-100J-A19				
	Connecting Servo Drives: SMARTSTEP Junior/A Series		Cable length: 0.5 m		XW2Z-050J-A21				
			Cable length: 1 m		XW2Z-100J-A21				

Note: The ambient operating temperature for 4-Axis Position Control Units is 0 to 50°C; the allowable voltage fluctuation on the external 24-VDC power supply is 22.8 to 25.2 VDC (24 V ±5%).

■ MECHATROLINK-II-compatible Position Control Units


Unit classification	Product name	Repeater		No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Control output interface	No. of axes		5 V	24 V		
CJ1 CPU Bus Units	MECHATROLINK-II-compatible Position Control Units 	Control commands executed by MECHATROLINK-II synchronous communications. Direct operation by ladder programming. Control mode: Position control, speed control, or torque control	2 axes	1	0.36	---	CJ1W-NC271 <i>NEW</i>	UC1, CE
			4 axes				CJ1W-NC471 <i>NEW</i>	
			16 axes				CJ1W-NCF71	
			16 axes				CJ1W-NCF71-MA <i>NEW</i>	
	MECHATROLINK-II Interface Unit	R88D-WT□ OMNUC W-series AC Servo Driver (Yaskawa Electric Corporation) Use the model numbers provided in this catalog when ordering from OMRON.					FNY-NS115	---
	MECHATROLINK-II Cables	Connects MECHATROLINK-II-compatible devices (Yaskawa Electric Corporation) Use the model numbers provided in this catalog when ordering from OMRON.	Cable length: 0.5 m		FNY-W6003-A5		---	
			Cable length: 1 m		FNY-W6003-01			
			Cable length: 3 m		FNY-W6003-03			
			Cable length: 5 m		FNY-W6003-05			
			Cable length: 10 m		FNY-W6003-10			
Cable length: 20 m			FNY-W6003-20					
Cable length: 30 m		FNY-W6003-30						
MECHATROLINK-II Terminating Resistors	Terminating Resistor for MECHATROLINK-II (Yaskawa Electric Corporation) Use the model numbers provided in this catalog when ordering from OMRON.					FNY-W6022	---	
MECHATROLINK-II Repeater	Repeater					FNY-REP2000	---	

■ MECHATROLINK-II-compatible Motion Control Units

Unit classification	Product name	Specifications	No. of unit numbers allocated	Current consumption (A)		Model	Standards	
				5 V	24 V			
CJ1 CPU Bus Units	MECHATROLINK-II-compatible Motion Control Units 	Position, speed, and torque commands by MECHATROLINK-II 32 axes max. (Physical axes: 30, Virtual axes: 2) Motion control language	1	0.6	---	CJ1W-MCH71	UC1, CE	
								MECHATROLINK-II Interface Unit
	MECHATROLINK-II Cables	Connects MECHATROLINK-II-compatible devices (Yaskawa Electric Corporation) Use the model numbers provided in this catalog when ordering from OMRON.	Cable length: 0.5 m		FNY-W6003-A5		---	
			Cable length: 1 m		FNY-W6003-01			
			Cable length: 3 m		FNY-W6003-03			
			Cable length: 5 m		FNY-W6003-05			
			Cable length: 10 m		FNY-W6003-10			
			Cable length: 20 m		FNY-W6003-20			
	Cable length: 30 m		FNY-W6003-30					
	MECHATROLINK-II Terminating Resistors	Terminating Resistor for MECHATROLINK-II (Yaskawa Electric Corporation) Use the model numbers provided in this catalog when ordering from OMRON.					FNY-W6022	---
MECHATROLINK-II Repeater	For more than 15 slaves/30 m					FNY-REP2000	---	
MECHATROLINK-II 24-VDC I/O Module	Inputs: 64 Outputs: 64					FNY-IO2310		
MECHATROLINK-II Counter Module	Reversible counter, 2 words					FNY-PL2900		
MECHATROLINK-II Pulse Output Module	Pulse train positioning, 2 words					FNY-PL2910		


Note: The CJ1W-MCH71 requires the space of three Units (but just one unit number). A maximum of 10 Units can be mounted on a single CJ-series Rack, up to three CJ1W-MCH71 Motion Control Units plus one other Unit can be mounted per Rack.

■ Serial Communications Units

Unit classification	Product name	Specifications		No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Communications Interface	Communications functions		5 V	24 V		
CJ1 CPU Bus Units		1 RS-232C port and 1 RS-422A/485 port	The following functions can be selected for each port: Protocol macro Host Link NT Links (1:N mode) Serial Gateway (See note 1.) No-protocol (See note 2.) Modbus-RTU Slave (See note 3.)	1	0.38 (See note 4.)	---	CJ1W-SCU41-V1	UC1, N, L, CE
		2 RS-232C ports			0.28 (See note 4.)	---	CJ1W-SCU21-V1	
		2 RS-422A/485 ports			0.38	---	CJ1W-SCU31-V1	


- Note 1.** The Serial Gateway function is enabled only for Serial Communications Units of unit version 1.2 and later.
2. The no-protocol function is enabled only for Serial Communications Units of unit version 1.2 and later (and a CPU Unit of unit version 3.0 or later is also required).
3. The Modbus-STU Slave function is enabled only for Serial Communications Units of unit version 1.3 and later.
4. When an NT-AL001 RS-232C/RS-422A Conversion Unit is used, this value increases by 0.15 A/Unit. When a CJ1W-CIF11 RS-422A Conversion Unit is used, it increases by 0.04 A/Unit.

■ EtherNet/IP Unit



Unit classification	Product name	Specifications			No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Communications cable	Communications functions	Max. Units mountable per CPU Unit		5 V	24 V		
CJ1 CPU Bus Unit		STP (shielded twisted-pair) cable of category 5, 5e, or higher.	Tag data link message service	8 (See note)	1	0.41	---	CJ1W-EIP21 <i>NEW</i>	UC1, N, L, CE

Note: Up to seven EtherNet/IP Units can be connected to a CJ2H-CPU□□-EIP CPU Unit.

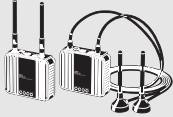
■ Ethernet Unit

Unit classification	Product name	Specifications			No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Communications cable	Communications functions	Max. Units mountable per CPU Unit		5 V	24 V		
CJ1 CPU Bus Unit		100Base-TX	FINS communications service (TCP/IP, UDP/IP), FTP server functions, socket services, mail transmission service, mail reception (remote command receive), automatic adjustment of PLC's built-in clock, server/host name specifications	4	1	0.37	---	CJ1W-ETN21	UC1, N, L, CE

● Industrial Switching Hubs

Product name	Appearance	Specifications			Model	Standards
		Functions	No. of ports	Failure detection		
Industrial Switching Hubs	 	Quality of Service (QoS): EtherNet/IP control data priority Failure detection: Broadcast storm and LSI error detection 10/100BASE-TX, Auto-Negotiation	3	×	W4S1-03B <i>NEW</i>	CE
			5	×	W4S1-05B <i>NEW</i>	
			5	○	W4S1-05C <i>NEW</i>	

● WE70 FA WIRELESS LAN UNITS

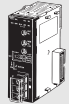
Product name	Applicable region	Type	Model	Standards
WE70 FA WIRELESS LAN UNITS 	Japan	Access Point (Master)	WE70-AP	---
		Client (Slave)	WE70-CL	
	Europe	Access Point (Master)	WE70-AP-EU	CE
		Client (Slave)	WE70-CL-EU	
	U.S.	Access Point (Master)	WE70-AP-US	UC
		Client (Slave)	WE70-CL-US	
	Canada	Access Point (Master)	WE70-AP-CA <i>NEW</i>	---
		Client (Slave)	WE70-CL-CA <i>NEW</i>	
	China	Access Point (Master)	WE70-AP-CN	---
		Client (Slave)	WE70-CL-CN	

Note 1. A Pencil Antenna, mounting magnet, and screw mounting bracket are included as accessories.

2. Always use a model that is applicable in your region. For example, using the WE70-AP-US outside of the United States is illegal in terms of the usage of electromagnetic waves. Refer to the *WE70 Catalog* (Cat. No. N154).

■ Controller Link Units


● Controller Link Units

Unit classification	Product name	Specifications				No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Communications cable	Communications type	Duplex support	Max. Units mountable per CPU Unit		5 V	24 V		
CJ1 CPU Bus Unit	Controller Link Unit 	Wired shielded twisted-pair cable (See note.)	Data links and message service	No	8	1	0.35	---	CJ1W-CLK23	UC1, N, L, CE

Note: Use the following special cable for shielded, twisted-pair cable.

- ESVC0.5 × 2C-13262 (Bando Electric Wire: Japanese Company)
- ESNC0.5 × 2C-99-087B (Nihon Electric Wire & Cable Corporation: Japanese Company)
- ESPC 1P × 0.5 mm² (Nagaoka Electric Wire Co., Ltd.: Japanese Company)
- Li2Y-FCY2 × 0.56qmm (Kromberg & Schubert, Komtec Department: German Company)
- 1 × 2 × AWG-20PE+Tr.CUSN+PVC (Draka Cables Industrial: Spanish Company)
- #9207 (Belden: US Company)
- Li2Y-FCY2×0.56qmm (Kromberg & Schubert, Komtec Department: German Company)
- 1×2×AWG-20PE+Tr.CUSN+PVC (Draka Cables Industrial: Spanish Company)
- #9207 (Belden: US Company)


● Controller Link Support Boards

Unit classification	Specification		Accessories	Model	Standards
	Communications cable	Communications type			
Controller Link Support Board for PCI Bus 	Wired shielded twisted-pair cable	Data link and message service	<ul style="list-style-type: none"> • CD-ROM × 1 (See note.) • INSTALLATION GUIDE (W467) × 1 • Communications connector × 1 	3G8F7-CLK23-E	CE

Note: The CD-ROM contains the following software.

- Controller Link (PCI) Driver
- FinsGateway Version 2003 (PCI-CLK Edition)
- FinsGateway Version 3 (PCI-CLK Edition)
- Setup Diagnostic Utility
- C Library

● Repeater Units


Unit classification	Specifications	Model	Standards
Controller Link Repeater Unit 	Wire-to-wire Model	CS1W-RPT01	UC1, CE
	Wire-to-Optical (H-PCF) Model (See note 2.)	CS1W-RPT02	
	Wire-to-Optical (GI) Model (See note 3.)	CS1W-RPT03	

Note 1. Using Repeater Units enables T-branches and long-distance wiring for Wired Controller Link networks. 62-node configurations, and converting part of the network to optical cable.

2. When using wire-to-optical (H-PCF) cable, use a H-PCF cable (for both Controller Link and SYSMAC LINK) or a H-PCF optical fiber cable with connector.

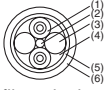

3. When using wire-to-optical (GI) cable, use a GI optical cable (for Controller Link).

● Relay Terminal Block

Unit classification	Specifications	Model	Standards
Relay Terminal Block for Wired Controller Link Unit 	Use for Wired Controller Link Units (set of 5).	CJ1W-TB101	---

Note: Controller Link Units can be replaced without stopping the communications of the entire network if a Relay Terminal Block is installed in advance on the Unit in a Wired Controller Link network. Relay Blocks cannot be used on Controller Link Support Boards.

● H-PCF Cables and Optical Connectors

Name	Application/construction		Specifications	Model	Standards	
Optical Fiber Cables	Controller Link, SYSMAC LINK, SYSBUS	 <p>(1) Optical fiber single-core cord (2) Tension member (plastic-sheathed wire) (3) Filler (plastic) (4) Filler surrounding signal wires (plastic, yarn, or fiber) (5) Holding tape (plastic) (6) Heat-resistant PV sheath</p>	Two-core optical cable with tension member	Black 10 m	S3200-HCCB101	---
				Black 50 m	S3200-HCCB501	
				Black 100 m	S3200-HCCB102	
				Black 500 m	S3200-HCCB502	
				Black 1,000 m	S3200-HCCB103	
				Orange 10 m	S3200-HCCO101	
				Orange 50 m	S3200-HCCO501	
				Orange 100 m	S3200-HCCO102	
				Orange 500 m	S3200-HCCO502	
				Orange 1,000 m	S3200-HCCO103	
Optical Connectors (Crimp-cut) 	CS1W-RPT02		Half lock	S3200-COCF2571		
			Full lock	S3200-COCF2071		

● **H-PCF Optical Fiber Cables with Connectors (Black Composite Cables with Two-Optical Lines and Two Power Supply Lines)**

Application	Appearance	Model	Standards
Controller Link, SYSMAC Link		S3200-CN□□□□-20-20	---
		S3200-CN□□□□-20-25	
		S3200-CN□□□□-25-25	

● **Cable Length**

The following cable lengths are available: 2 m, 5 m, 15 m, 20 m. For lengths of 21 m or more, contact your OMRON sales representative.

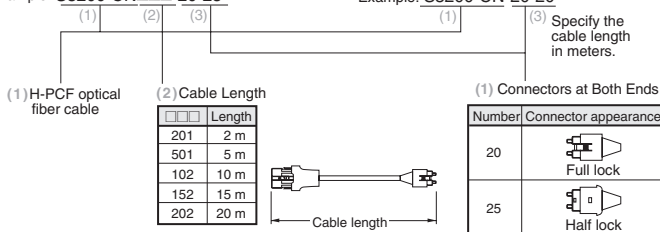
● **Model Numbers**

Lengths of 2 m, 5 m, 10 m, 15 m, and 20 m

Example: S3200-CN□□□□-20-25

Length of 21 m or more

Example: S3200-CN-20-20



● **Optical Connector Assembly Tool**

Name	Applicable Unit	Model	Manufacturer	Standards
Optical Fiber Assembly Tool (See note.)	This tool is used on site for mounting crimp-cut connectors and hard plastic-clad silica optical fiber for optical transmission systems of SYSMAC C-series SYSBUS, SYSMAC LINK, and Controller Link.	CAK-0057	Sumitomo Electric Industries, Ltd.	---

Note: There is a risk of quality problems when using cables assembled by typical users, so we recommend purchasing cables with preattached connectors or having a qualified technician assemble the cables. Optical connectors for H-PCF Optical Cables with Connectors are adhesive polished.

● **GI Optical Cables**

A qualified technician must select, assemble, and install GI Optical Fiber Cable, so always let an optical cable specialist handle the GI cable.

Usable Optical Cables and Optical Connectors

- Optical fiber types: Graded, indexed, multi-mode, all quartz glass, fiber (GI-type AGF cable)
- Optical fiber construction (core diameter/clad diameter): 62.5/125 μm or 50/125 μm
- Optical fiber optical characteristics of optical fiber: Refer to the tables.
- Optical connector: ST connector (IEC-874-10)

● **50/125 μm AGF Cable**

Item	Minimum	Standard	Maximum	Remarks
Numerical Aperture (N.A)	---	0.21	---	---
Transmission loss (dB)	---	---	3.0 Lf	0.5 km ≤ Lf
			3.0 Lf + 0.2	0.2 km ≤ Lf ≤ 0.5 km
			3.0 Lf + 0.4	Lf ≤ 0.2 km
Connection loss (dB)	---	---	1.0	λ = 0.8 μm, one location
Transmission bandwidth (MHz-km)	500	---	---	λ = 0.85 μm (LD)


Lf is fiber length in km, Ta is ambient temperature, and λ: is the peak wavelength of the test light source.

● **62.5/125 μm AGF Cable**


Item	Minimum	Standard	Maximum	Remarks
Numerical Aperture (N.A)	---	0.28	---	---
Transmission loss (dB)	---	---	3.5 Lf	0.5 km ≤ Lf
			3.5 Lf + 0.2	0.2 km ≤ Lf ≤ 0.5 km
			3.5 Lf + 0.4	Lf ≤ 0.2 km
Connection loss (dB)	---	---	1.0	λ = 0.8 μm, one location
Transmission bandwidth (MHz-km)	200	---	---	λ = 0.85 μm (LD)

Lf is fiber length in km, Ta is ambient temperature, and λ is the peak wavelength of the test light source.


■ FL-net Unit

Unit classification	Product name	Specifications			No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Communications interface	Communications functions	Max. Units mountable per CPU Units		5 V	24 V		
CJ1 CPU Bus Units	 FL-net Unit	100Base-TX	With FL-net Ver. 2.0 specifications (OPCN-2) Data links and message service	4	1	0.37	---	CJ1W-FLN22	UC1, CE


■ DeviceNet Unit

Unit classification	Product name	Specifications	Communications type	No. of unit numbers allocated	Current consumption (A)		Model	Standards
					5 V	24 V		
CJ1 CPU Bus Units	 DeviceNet Unit	Functions as master and/or slave; allows control of 32,000 points max. per master.	<ul style="list-style-type: none"> Remote I/O communications master (fixed or user-set allocations) Remote I/O communications slave (fixed or user-set allocations) Message communications 	1	0.29	---	CJ1W-DRM21	UC1, N, L, CE


■ CompoNet Master Unit

Unit classification	Product name	Specifications		No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Communications functions	No. of I/O points per Master Unit		5 V	24 V		
CJ1 Special I/O Units	 CompoNet Master Unit	<ul style="list-style-type: none"> Remote I/O communications Message communications 	Word Slaves: 2,048 max. (1,024 inputs and 1,024 outputs) Bit Slaves: 512 max. (256 inputs and 256 outputs)	1, 2, 4, or 8	0.4	---	CJ1W-CRM21	U, U1, L, CE, (UC, UC1 certification pending)

■ CompoBus/S Master Unit



Unit classification	Product name	Specifications			No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Communications functions	No. of I/O points	Max. Units mountable per CPU Unit		5 V	24 V		
CJ1 Special I/O Units	 CompoBus/S Master Unit	Remote I/O communications	256 max. (128 inputs and 128 outputs) 128 max. (64 inputs and 64 outputs)	40	1 or 2 (variable)	0.15	---	CJ1W-SRM21	UC1, N, L, CE,

■ ID Sensor Units

Unit classification	Product name	Specifications			No. of unit numbers allocated	Current consumption (A)		Model	Standards
		Connected ID Systems	No. of connected R/W heads	External power supply		5 V	24 V		
CJ1 CPU Bus Units	 ID Sensor Units	V680 Series RFID System	1	Not required.	1	0.26 (See note.)	0.13 (See note.)	CJ1W-V680C11	UC, CE
			2		2	0.32	0.26	CJ1W-V680C12	
		V600 Series RFID System	1	Not required.	1	0.26	0.12	CJ1W-V600C11	
			2		2	0.32	0.24	CJ1W-V600C12	

Note: To use a V680-H01 Antenna, refer to the V680 Series RFID System Catalog (Cat. No. Q151).

■SYSMAC SPU (High-speed Data Storage Unit)

Unit classification	Product name	Specifications		No. of unit numbers allocated	Current consumption (A)		Model	Standards
		PC Card slot	Ethernet (LAN) port		5 V	24 V		
CJ1 CPU Bus Units	SYSMAC SPU Ver. 2 (High-speed Data Storage Unit) 	CF Card Type I/II × 1 slot Use an OMRON HMC-EF□□□ Memory Card.	1 port (10/100Base-TX)	1	0.56	---	CJ1W-SPU01-V2 ^{NEW}	UC1, CE
	SPU-Console Ver. 2.0	Functions: Unit settings, sampling settings, etc., for High-speed Data Collection Units (required for making settings for this Unit) OS: Windows 2000 or XP					WS02-SPTC1-V2 ^{NEW}	---
	Ver. 2.0 SYSMAC SPU Data Management Middleware Ver. 2.0	Function: Data files collected by SYSMAC SPU Data Management Middleware are automatically acquired at the personal computer, and can be registered in a database. OS: Windows 2000 or XP			1 license	WS02-EDMC1-V2		
	Memory Cards 	Flash memory, 128 MB	Note: Memory Card is required for data collection.			HMC-EF183	N, L, CE	
Flash memory, 256 MB	HMC-EF283							
Flash memory, 512 MB	HMC-EF583							

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.

Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.

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. 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*.