SYSMAC CJ Programmable Controller

The CJ1M provides solution for applications with lower I/O counts and shorter programs compared to the more powerful CJ1G/H CPUs. All CJ1 Series use the same instruction set and I/O modules, so existing programs and equipment can be easily reused in small and large-scale installations. A common memory area and powerful serial link among nine CJ1M CPUs can help integrate processes or coordinate activities.

CJ1

Key Features and Benefits:
Same instruction set as the more powerful CJ1G/H
All CJ1 I/O are completely compatible with CJ1M CPUs
Smallest CJ1 in physical size; CPU12 and CPU13 are just 1 1/4" wide Up to 64 MB flash memory available for many timesaving programming uses Serial PLC Link allows simple communication among 9 CJ1 PLCs (1 master, 8 slaves) A pulse I/O instruction takes advantage of positioning capabilities in the CPU22 and the CPU23 Built-in peripheral and RS-232 ports Versatile combinations for specific tasks: Process controller with up to 16 process / temperature loops or analog I/O with serial output
Positioning controller with flexibility to provide discrete and analog outputs based on quadrature or other pulsed inputs. Use CX-Programmer software to program and monitor all of Omron's PLCs

	Compact Models	Built-in EtherNet/IP	With Built-in I/O	Standard Models	Loop-control CPU Units	Advanced Models	High-speed Models
	CJ1M-CPU1[]	CJ1M-CPU1[]-ETN	CJ1M-CPU2[]	CJ1G-CPU4[]H	CJ1G-CPU4[]P(-GTC)	CJ1H-CPU6[]H	CJ1H-CPU6[]H-R
Basic instructions	LD 100ns/OUT 350ns	LD 100ns/OUT 350ns	LD 100ns/OUT 350ns	LD 40ns/OUT 40ns	LD 40ns/OUT 40ns	LD 20ns/OUT 20ns	LD 16ns/OUT 16ns
Program capacity	20 to 5 Ksteps	20 to 5 Ksteps	20 to 5 Ksteps	60 to 10 Ksteps	60 to 10 Ksteps	250 to 60 Ksteps	250 to 30 Ksteps
Data memory capacity	32 Kwords	32 Kwords	32 Kwords	128 to 64 Kwords	128 to 64 Kwords	448 to 128 Kwords	448 to 64 Kwords
Number of I/O points	640 to 160	640 to 160	640 to 160	1,280 to 960	1,280 to 960	2,560	2,560
Built-in I/O	None	None	16	None	None	None	None

Built-in EtherNet/IP	None	YES	None	None	None	None	None

CJ2 NEW SERIES

The accumulated experience and advancements in technology now result in CJ2M; fully compatible, yet fully new.

Five variations in program capacity from 5K steps to 60K steps; scale the CPU to your application needs.

Faster processors; LD instruction execution time is reduced to 40 ns, floating point trigonometrics in less than 1 μs.

Faster Function Block calls and execution, faster interrupt handling, less overhead time.

Added execution memory for Function Blocks allows structured, object-oriented programming even in entry-level CPUs

General-purpose Ethernet port supports EtherNet/IP tag-based data links, connection to Support Software, communications between PLCs, FTP data transfers, and more (CJ2M-CPU3@).

Standard USB port on all models allows Support Software to connect directly through standard USB cable.

A Serial Option Module can be mounted to add RS-232C or RS-422A/485 communications ports (CJ2M-CPU3@).

Compatible with all existing CJ1 power supply-, I/O-, control- and communication units

TYPE	Loop-control CPU Units					Built-in EtherNet/IP				
	CJ2M-CPU11	CJ2M-CPU12	CJ2M-CPU13	CJ2M-CPU14	CJ2M-CPU15	CJ2M-CPU31	CJ2M-CPU32	CJ2M-CPU33	CJ2M-CPU34	CJ2M-CPU35
Basic instructions	LD 40ns/OUT 60ns									
Program capacity	5 Ksteps	10 Ksteps	20 Ksteps	30 Ksteps	60 Ksteps	5 Ksteps	10 Ksteps	20 Ksteps	30 Ksteps	60 Ksteps
Data memory capacity	64 Kwords			160 Kwords		64 Kwords			160 Kwords	

Number of I/O points	2,560 points/40 Units (3 Expansion Racks max.)	2,560 points/40 Units (3 Expansion Racks max.)
Built-in I/O	None	

I/O Units

A wide variety of products, such as high-density mountable connectors and removable terminal blocks, is available to meet your requirements.

TYPE	INPUT UNIT			
	MODEL	INPUT	VOLTAGE AND CURRENT	CURRENT CONSUMPTION
CJ1W-ID201		8	24 VDC, 10mA	0.09
CJ1W-ID211		16	24 VDC, 7mA	0.09
CJ1W-ID231		32	24 VDC, 4.1mA	0.09
CJ1W-ID232		32	24 VDC, 4.1mA	0.09
CJ1W-ID261		64	24 VDC, 4.1mA	0.09
CJ1W-ID201		64	24 VDC, 4.1mA	0.09
CJ1W-IA201		8	200 - 240 VAC 10mA	0.09

TYPE	MODEL	OUTPUT	VOLTAGE AND CURRENT	CURRENT CONSUMPTION
CJ1W-IA111		16	100 - 120 VAC 7mA	0.09

TYPE	OUTPUT UNIT			
	MODEL	OUTPUT	VOLTAGE AND CURRENT	CURRENT CONSUMPTION
CJ1W-OC201		8	250 VAC/24 VDC ,2A	0.09
CJ1W-OC211		16	251 VAC/24 VDC ,2A	0.11
CJ1W-OC201		8	12 - 24 VDC, 2mA SINKING	0.09
CJ1W-OC202		8	24 VDC ,2A ,SOURCING	0.11
C1W-OC203		8	12 - 24 VDC, 0.5mA SINKING	0.10
C1W-OC204		8	24 VDC ,2A ,SOURCING	0.10
C1W-OC211		16	12 - 24 VDC, 0.5mA SINKING	0.10
C1W-OC212		16	24 VDC ,0.5A	0.10

C1W-OC231		32	12 - 24 VDC, 0.5mA SINKING	0.14
C1W-OC232		32	24 VDC ,2A ,SOURCING	0.15
C1W-OC233		32	12 - 24 VDC, 0.5mA SINKING	0.17
C1W-OC261		64	13 - 24 VDC, 0.3mA SINKING	0.14
C1W-OC262		64	24 VDC ,2A ,SOURCING	0.17
C1W-OC263		64	12 - 24 VDC, 0.3mA SINKING	0.17
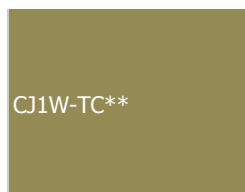
TYPE	ANALOG UNIT				
	MODEL	INPUT	OUTPUT	SIGNAL RANG	CURRENT CONSUMPTION
CJ1W-AD081V1		8			0.42
CJ1W-AD041V1		4		1-5 V, 0-5V,0-10V,-10-10V,4-20mA	0.42
CJ1W-DA08V			8		0.14

Model					
CJ1W-DA08C			8	4-20mA	0.14
CJ1W-DA041			4		0.12
CJ1W-DA021			2	1-5 V, 0-5V,0-10V,-10-10V,4-20mA	0.12
CJ1W-MAD42		4	2		0.58

Special Applications Units

TYPE	SPACIAL UNIT	
	MODEL	DISCRIPTION
CJ1W-CT021		High-Speed Counter Module,Input frequencies to 500 kHz.,32-bit counting range.
CJ1W-NC113/ 213/413/133/233/433		High-Speed, High-Precision Positioning with 1, 2, or 4 Axes
CJ1W-V600C1*		ID Sensor Modules

CJ1W-TC**		Temperature Control Modules, One Module Functions as Four Temperature Controllers

Communications Units Units are available for general-purpose Ethernet, as well as for data links between
PLCs, and the DeviceNet and CompoNet open networks.

TYPE	CJ1W-SCU22	CJ1W-SCU32	CJ1W-EIP21	CJ1W-ETN21	CJ1W-FLN22	CJ1W-DRM21	CJ1W-CRM21	CJ1W-SRM21	CJ1W-V680C1*
DESCRIPTION	2 RS-232C ports	2 RS-422A/485 ports	EtherNet/IP Unit Tag data link message service	Ethernet Unit 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	FL-net Unit With FL-net Ver. 2.0 specifications (OPCN-2) Data links and message service	DeviceNet Unit Remote I/O communications master (fixed or user-set allocations	CompoNet Master Unit Word Slaves: 2,048 max. (1.024 inputs and 1,024 outputs) Bit Slaves: 512 max. (256 inputs and 256 outputs)	CompoBus/S Master Unit 256 max. (128 inputs and 128 outputs)	ID Sensor Units V680 Series RFID System

ORDERING	
CPU CJ1	
CJ1M-CPU11	CPU 5K Step; 160 I/O
CJ1M-CPU12	CPU 10K Step; 320 I/O
CJ1M-CPU13	CPU 20K Step; 640 I/O
CJ1M-CPU11-ETN	CPU 5K Step; 160 I/O Buil-in EtherNet/IP
CJ1M-CPU12-ETN	CPU 10K Step; 320 I/O Buil-in EtherNet/IP
CJ1M-CPU13-ETN	CPU 20K Step; 640 I/O Buil-in EtherNet/IP
CJ1M-CPU21	CPU 5K Step; 160 I/O Buil-in 16DI
CJ1M-CPU22	CPU 10K Step; 320 I/O Buil-in 16DI
CJ1M-CPU23	CPU 20K Step; 640 I/O Buil-in 16DI
CJ1G-CPU42	CPU 10K Step; 960 I/O
CJ1G-CPU43	CPU 20K Step; 1040 I/O
CJ1G-CPU44	CPU 30K Step; 1280 I/O
CJ1G-CPU45	CPU 60K Step; 1280 I/O
CJ1G-CPU45-GTC	CPU 60K Step; 1280 I/O Loop control 50 - 300 block
CJ1H-CPU64	CPU 30K Step; 1280 I/O
CJ1H-CPU65	CPU 60K Step; 1280 I/O
CJ1H-CPU66	CPU 120K Step; 1280 I/O
CJ1H-CPU67	CPU 240K Step; 1280 I/O
CPU CJ2M	
CJ2M-CPU11	CPU 5K Step; 2,560 I/O Buil-in EtherNet/IP
CJ2M-CPU12	CPU 10K Step; 2,560 I/O Buil-in EtherNet/IP
CJ2M-CPU13	CPU 20K Step; 2,560 I/O Buil-in EtherNet/IP
CJ2M-CPU14	CPU 30K Step; 2,560 I/O Buil-in EtherNet/IP
CJ2M-CPU15	CPU 60K Step; 2,560 I/O Buil-in EtherNet/IP
CJ2M-CPU31	CPU 5K Step; 2,560 I/O Buil-in EtherNet/IP
CJ2M-CPU32	CPU 10K Step; 2,560 I/O Buil-in EtherNet/IP

CJ2M-CPU33	CPU 20K Step; 2,560 I/O Buil-in EtherNet/IP
CJ2M-CPU34	CPU 30K Step; 2,560 I/O Buil-in EtherNet/IP
CJ2M-CPU35	CPU 60K Step; 2,560 I/O Buil-in EtherNet/IP
Digital input/output Unit	
CJ1W-ID201	Expantion 8DI 24 V DC
CJ1W-ID211	Expantion 16DI 24 V DC,FUJITSU
CJ1W-ID212	Expantion 16DI HIGH SPEED,MIL
CJ1W-ID231	Expantion 32DI 24 V DC,FUJITSU
CJ1W-ID232	Expantion 32DI 24 V DC, MIL
CJ1W-ID233	Expantion 32DI HIGH SPEED
CJ1W-ID261	Expantion 64DI 24 V DC,FUJITSU
CJ1W-ID262	Expantion 64DI 24 V DC, MIL
CJ1W-IA201	Expantion 8DI,250 VAC
CJ1W-IA111	Expantion 16DI,250 VAC
CJ1W-OC201	Expantion 8DO Relay
CJ1W-OC211	Expantion 16DO Relay
CJ1W-OA20	Expantion 8DO ,250 VAC
CJ1W-OD201	Expantion 8DO ,transistor (sinking) outputs
CJ1W-OD203	Expantion 8DO ,transistor (sourcng) outputs
CJ1W-OD211	Expantion 16DO ,transistor (sinking) outputs
CJ1W-OD211	Expantion 16DO ,transistor (sourcng) outputs
CJ1W-OD231	Expantion 32DO ,Relay
CJ1W-OD233	Expantion 32DO ,transistor (sinking) outputs
CJ1W-OD234	Expantion 32DO ,transistor (sourcng) outputs
CJ1W-OD261	Expantion 64DO ,Relay
CJ1W-OD233	Expantion 64DO ,transistor (sinking) outputs
CJ1W-OD234	Expantion 64DO ,transistor (sourcng) outputs
CJ1W-OD202	Expantion 8DO ,transistor (sinking) outputs
CJ1W-OD204	Expantion 8DO ,transistor (sourcng) outputs
CJ1W-OD212	Expantion 16DO ,transistor (sinking) outputs
CJ1W-OD232	Expantion 32DO ,transistor (sourcng) outputs
CJ1W-MD231	Expantion 16DI/16DO,transistor (sinking) outputs
CJ1W-MD233	Expantion 16DI/16DO,transistor (sinking) outputs
CJ1W-MD261	Expantion 32DI/32DO,transistor (sinking) outputs
CJ1W-MD263	Expantion 33DI/32DO,transistor (sinking) outputs
CJ1W-MD232	Expantion 16DI/16DO,transistor (sourcng) outputs
CJ1W-MD563	Expantion 32DO/32DO TTL I/O
CJ1W-INT01	Interrupt Input Units
CJ1W-IDP01	Quick-response Input Units
Interface Units	
CJ1W-B7A14	Expantion 64 DI
CJ1W-B7A04	Expantion 64 DO
CJ1W-B7A22	Expantion 32 DI/DO

Analog Input/Output Unit	
CJ1W-AD042	Expansions 4AI (0 to 10 V, 4 to 20 mA)
CJ1W-AD081-V1	Expansions 8AI (0 to 10 V, 4 to 20 mA)
CJ1W-AD041-V1	Expansions 4AO (0 to 10 V, 4 to 20 mA)
CJ1W-DA042V	Expansions 4AO,(0-10V)
CJ1W-DA08V	Expansions 8AO,(0-10V)
CJ1W-DA08C	Expansions 8AO,(4-20 MA)
CJ1W-DA041	Expansions 2AO,(0-10V,4-20MA)
CJ1W-DA021	Expansions 4AO,(0-10V,4-20MA)
CJ1W-MAD42	Expansions 4AI/2AO,(0-10V,4-20MA)
Pulse I/O Modules	
CJ2M-MD211	10 inputs 6 outputs
CJ2M-MD212	10 inputs 6 outputs
Isolated-type Units	
CJ1W-PH41U	Expansions 4AI
CJ1W-AD04U	Expansions 4AI
Thermocouple Input Units	
CJ1W-PTS15	Expansions 2AI
CJ1W-PTS51	Expansions 2AI
Resistance Thermometer Input Units	
CJ1W-PTS16	Expansions 2AI
CJ1W-PTS52	Expansions 4AI
Isolated-type DC Input Units	
CJ1W-PDC15	Expansions 2AI
Temperature Control Units	
CJ1W-TC001	Expansions 4 loops
CJ1W-TC002	Expansions 4 loops
CJ1W-TC003	Expansions 2 loops
CJ1W-TC004	Expansions 2 loops
CJ1W-TC101	Expansions 4 loops
CJ1W-TC102	Expansions 4 loops
CJ1W-TC103	Expansions 2 loops,
CJ1W-TC104	Expansions 2 loops
CJ1W-CT021	High-speed Counter Unit
Position Control Units	
CJ1W-NC113	open collector output 1 axis
CJ1W-NC213	open collector output 2 axes
CJ1W-NC413	open collector output 4 axes
CJ1W-NC133	line driver output 1 axis
CJ1W-NC233	line driver output 2 axes
CJ1W-NC433	line driver output 4 axes
Position Control Unit with EtherCAT interface	
CJ1W-NC281	open collector output 2 axes

CJ1W-NC481	open collector output 4 axes
CJ1W-NC881	open collector output 8 axes
CJ1W-NCF81	open collector output 16 axes
CJ1W-NC482	line driver output 4 axes
CJ1W-NC882	line driver output 8 axes
Serial Communications	
CJ1W-EIP21	EtherNet/IP Unit
CJ1W-ETN21	Ethernet Unit
CJ1W-CLK23	Controller Link Units
CJ1W-FLN22	FL-net Unit
CJ1W-DRM21	DeviceNet Unit
CJ1W-CRM21	CompoNet Master Unit
CJ1W-SRM21	CompoBus/S Master Unit
ID Sensor Units	
CJ1W-V680C11	V680 Series RFID
CJ1W-V680C12	V680 Series RFID
CJ1W-V600C11	V600 Series RFID
CJ1W-V600C12	V600 Series RFID
CJ1W-SPU01-V2	SYSMAC SPU (High-speed Data Storage Unit)
Power Supply Units	
CJ1W-PA205C	AC Power Supply 5 A
CJ1W-PA205R	AC Power Supply 2 A
CJ1W-PD025	DC Power Supply 5 A
CJ1W-PD022	DC Power Supply 2 A
CJ1W-IC101	Control Unit
CJ1W-II101	I/O Interface
Optional Products	
CP1W-CIF01	RS-232C
CP1W-CIF11	RS-422A/485
CP1W-CIF12	RS-422A/485
HMC-EF183	Flash memory, 128 MB
HMC-EF283	Flash memory, 256 MB
HMC-EF583	Flash memory, 512 MB
HMC-AP001	Memory Card Adapter
CJ1W-BAT01	Battery Set
CJ1W-TER01	End Cover
CJ1W-CIF11	RS-422A Converter
Connecting to Pulse I/O Modules	
XG4M-4030-T	MIL Flat Cable
XW2D-40G6	Slim type
XW2B-40G4	Through type
XW2B-40G5	Through type
XW2Z-100K	Cable for Connector-Terminal Block

XW2Z-150K	Cable for Connector-Terminal Block
XW2Z-200K	Cable for Connector-Terminal Block
XW2Z-300K	Cable for Connector-Terminal Block
XW2Z-500K	Cable for Connector-Terminal Block
Servo Relay Units	
XW2B-20J6-8A	1 axis
XW2B-40J6-9A	2 axes