OMRON

General Specifications

		Specifications											
Power Sup Unit mo Item	ply del C200HW-PA204	C200HW-PA204C	C200HW-PA204R	C200HW-PA204S	C200HW-PA209R	C200HW-PD024	C200HW-PD025						
Power supply voltage	100 to 240 VAC (wide	range), 50/60 Hz * 1		100 to 120 VAC/200 to 240 V, 50/60 Hz 24 VDC									
Operating voltage range	85 to 264 VAC			85 to 132 VAC/170 t	o 264 V	19.2 to 28.8 VDC							
Power consumpti	on 120 VA max.	100 VA max.	120 VA max.		180 VA max.	40 W max.	60 W max.						
Inrush current	100 to 120 VAC input 15 200 to 240 VAC input 30	A/8 ms max. (cold start at room te A/8 ms max. (cold start at room te	mperature) emperature)	100 to 120 VAC input 20 A/8 ms max. (cold start at room temperature) 200 to 240 VAC input 30 A/8 ms max. (cold start at room temperature)	100 to 120 VAC: 30 A max. 200 to 240 VAC: 40 A max.	30 A max.							
Insulation resista	20 MΩ min. (at 500 VDC) between AC external and GR terminals ≉2	 20 MΩ min. (at 500 VDC) between all AC external terminals and GR terminal and between all alarm output terminals. 20 MΩ min. (at 250 VDC) between all alarm output terminals and GR terminal. 	20 MΩ min. (at 500 terminals ≭2	VDC) between all AC	external and GR	$20~\text{M}\Omega$ min. (at 500 VDC) between all DC external and GR terminals *2							
Dielectric strengt	2,300 VAC 50/60 Hz for 1 min between AC external and GR terminals *2 Leakage current: 10 mA max.	 2,300 VAC, 50/60 Hz for 1 minute between all AC external terminals and GR terminal and between all alarm output terminals. Leakage current: 10 mA max. 1,000 VAC, 50/60 Hz for 1 minute between all alarm output terminals and GR terminal. Leakage current: 10 mA max. 	2,300 VAC 50/60 Hz terminals ≭2 Leakage current: 10	r for 1 min between all mA max.	1,000 VAC 50/60 Hz for 1 min between all DC external and GR terminals ≉2 Leakage current: 10 mA max.								
	1,000 VAC 50/60 Hz f Leakage current: 10 r	or 1 min between all DC externa nA max.	al and GR terminals *	2									
Noise immunity	2 kV on power supply	line (conforming to IEC61000-4	1-4)										
Vibration resistan	Conforms to JIS 0040 x coefficient factor 10 (CPU Unit mounted to	, 10 to 57 Hz, 0.075-mm amplit = total time 80 min.) o a DIN track: 2 to 55 Hz, 2.9 m/	ude, 57 to 150 Hz, act /s² in X, Y, and Z direc	celeration: 9.8 m/s ² in t	X, Y, and Z directions	for 80 minutes (Time o	coefficient: 8 minutes						
Shock resistance	Conforms to JIS 0041	, 147 m/s ² 3 times each in X, Y,	and Z directions										
Ambient operating temperature	0 to 55°C												
Ambient operating humidity	10% to 90% (with no condensation)	10% to 90% (with no condensation) *4	10% to 90% (with no	condensation)									
Ambient operating atmosphere	No corrosive gases												
Ambient storage temperature	-20 to 75°C (excluding	g battery)											
Grounding	Less than 100 Ω												
Enclosure	Mounted in a panel.												
Weight	Each Rack: 6 kg max												
CPU Rack dimensions (mm)	2 slots: 198.5 x 157 3 slots: 260 x 130 x 5 slots: 330 x 130 x 8 slots: 435 x 130 x 10 slots: 505 x 130 x	x 123 (W x H x D) *3 123 (W x H x D) *3											
Standards	Conforms to UL, CSA	, cULus, NK, Lloyds, and EC Di	rectives.										

*1. C200HW-PA204/PA204R Power Supply Units shipped before March 2010 have power supply voltage specifications of 100 to 120 VAC/200 to 240 VAC, 50/60 Hz.
*2. Disconnect the Power Supply Unit's LG terminal from the GR terminal when testing insulation and dielectric strength. Testing the insulation and dielectric strength with the LG terminal and the GR terminals connected will damage internal circuits in the CPU Unit.
*3. The depth is 153 mm for the C200HW-PA209R/PD025 Power Supply Unit. The depth is 111 mm for the C200HW-PA204C Power Supply Unit.
*4. Maintain an ambient storage temperature of -25 to 30°C and relative humidity of 25% to 70% when storing the C200HW-PA204C for longer than 3 months to keep the replacement notification function in optimum working condition.

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Common Specifications for CPU Units

	Item	Specifications									
Control method		Stored program									
I/O control met	nod	Cvclic scan and immediate processing are both possible.									
Programming		•Ladder diagrams •SFC (sequential function charts) •ST (structured text) •Mnemonics									
Instruction leng	ıth	1 to 7 steps per instruction									
Ladder instruct	ions	Approx. 400 (3-digit function codes)									
	Basic instructions	0.02 μs min.									
Execution time	Special instructions	0.04 µs min.									
Number of tasks		288 (cyclic tasks: 32, interrupt tasks: 256) Note 1:Cyclic tasks are executed each cycle and are controlled with TKON(820) and TKOF(821) instructions. 2:The following 4 types of interrupt tasks are supported. Power OFF interrupt tasks: 1 max. Scheduled interrupt tasks: 2 max. I/O in- terrupt tasks: 32 max. External interrupt tasks: 256 max.									
Interrupt types		Scheauled interrupts: interrupts generated at a time scheduled by the CPU Unit's built-in timer. I/O Interrupts: Interrupts from Interrupt Input Units. Power OFF Interrupts: Interrupts executed when the CPU Unit's power is turned OFF. External I/O Interrupts: Interrupts from the Special I/O Units, CS-series CPU Bus Units, or the Inner Board.									
Function blocks	s *1	Languages in function block definitions: ladder programming, structured text									
	I/O Area	5,120: CIO 000000 to CIO 031915 (320 words from CIO 0000 to CIO 0319) The setting of the first word can be changed from the default (CIO 0000) so that CIO 0000 to CIO 0999 can be used. I/O bits are allocated to Basic I/O Units, such as CS-series Basic I/O Units, C200H Basic I/O Units, and C200H Group-2 High-density I/O Units.									
	Link Area	3,200 (200 words): CIO 10000 to CIO 119915 (words CIO 1000 to CIO 1199) Link bits are used for data links and are allocated to Units in Controller Link Systems and PLC Link Systems									
CIO (Core I/O) Area	CPU Bus Unit Area	6,400 (400 words): CIO 150000 to CIO 189915 (words CIO 1500 to CIO 1899) CS-series CPU Bus Unit bits store the operating status of CS-series CPU Bus Units. (25 words per Unit, 16 Units max.)									
	Special I/O Unit Area	 15,360 (960 words): CIO 200000 to CIO 295915 (words CIO 2000 to CIO 2959) Special I/O Unit bits are allocated to CS-series Special I/O Units and C200H Special I/O Units. (See Note.) (10 words per Unit, 96 Units max. The maximum total number of slots, however, is limited to 80 including expansion slots, s the maximum number of Units is actually 80. Note: A maximum of 16 C200H Special I/O Units can be mounted. Also, depending on the Units, the maximum may be 1 Some I/O Units are classified as Special I/O Units. 									
	Inner Board Area	1,600 (100 words): CIO 190000 to CIO 199915 (words CIO 1900 to CIO 1999) Inner Board bits are allocated to Inner Boards. (100 I/O words max.)	 used as work bits if the bits are not used 								
	SYSMAC BUS Area	800 (50 words): CIO 300000 to CIO 304915 (words CIO 3000 to CIO 3049) SYSMAC BUS bits are allocated to Slave Racks connected to SYSMAC BUS Remote I/O Master Units. (10 words per Rack, 5 Racks max.)	as shown here.								
	I/O Terminal Area	512 (32 words): CIO 310000 to CIO 313115 (words CIO 3100 to CIO 3131) I/O Terminal bits are allocated to I/O Terminal Units (but not to Slave Racks) connected to SYSMAC BUS Remote I/O Master Units. (1 word per Terminal, 32 Terminals max.)									
	C200H Special I/O Unit Area	8,192 bits (512 words): W00000 to W51115 (W000 to W511) C200H Special I/O Unit bits are allocated to C200H Special I/O Units, and accessed separately from I/O refreshing.									
	DeviceNet Area	1,600 (100 words): Outputs: CIO 005000 to CIO 009915 (words CIO 0050 to CIO 0099) Inputs: CIO 035000 to CIO 039915 (words CIO 0350 to CIO 0399) DeviceNet bits are allocated to Slaves according to DeviceNet remote I/O communications.									
	PLC Link Area	64 bits (4 words): CIO 024700 to CIO 025015 (words CIO 0247 to CIO 0250) When a PLC Link Unit is used in a PLC Link, use these bits to monitor PLC Link errors and the operating status of other CPU Units in the PLC Link.									
Internal I/O Area	a	4,800 (300 words): CIO 120000 to CIO 149915 (words CIO 1200 to CIO 1499) 37,504 (2,344 words): CIO 380000 to CIO 614315 (words CIO 3800 to CIO 6143) These bits in the CIO Area are used as work bits in programming to control program execution. (They cannot be used for ex	ternal I/O.)								
Work Area		8,192 bits (512 words): H00000 to H51115 (H000 to H511) These bits in the CIO Area are used as work bits in programming to control program execution. (They cannot be used for ex When using work bits in programming, use the bits in the Work Area first before using bits from other areas.	ternal I/O.)								
Holding Area		 8,192 bits (512 words): H00000 to H51115 (H000 to H511) Holding bits are used to control the execution of the program, and maintain their ON/OFF status when the PLC is turned OF operating mode is changed. Note: The Function Block Holding Area words are allocated from H512 to H1535. These words can be used only for the fun instance area (internally allocated variable area). 	F or the nction block								
Auxiliary Area		Read only: 7,168 bits (448 words): A00000 to A44715 (words A000 to A447) Read/write: 8,192 bits (512 words): A44800 to A95915 (words A448 to A959) Auxiliary bits are allocated specific functions.									
Temporary Area	a	16 bits (TR0 to TR15) Temporary bits are used to temporarily store the ON/OFF execution conditions at program branches									
Timer Area		4,096: T0000 to T4095 (separate from counters) Note: The time units for timer settings are 0.1 s, 0.01 s, and 0.001 s (depending on the timer instruction that is used).									
Counter Area		C0000 to C4095 (separate from timers)									
DM Area		C0000 to C4095 (separate from timers) 32K words: D00000 to D32767 Internal Special I/O Unit DM Area: D20000 to D29599 (100 words x 96 Units) Used to set parameters for Special I/O Units. CPU Bus Unit DM Area: D30000 to D31599 (100 words x 16 Units) Used to set parameters for CPU Bus Units. Inner Board DM Area: D32000 to D32099 Used to set parameters for Inner Boards. Head as a constal automatic and the first data in the da									
		the PLC is turned UFF or the operating mode is changed.									

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	Item		Specifications								
EM Area		32K words per bank, 13 banks max.: E0_00000 to E Used as a general-purpose data area for reading an the PLC is turned OFF or the operating mode is cha The EM Area is divided into banks, and the address Changing the current bank using the EMBC(281) ins addresses directly. EM data can be stored in files by specifying the num	C_32767 max. (Varies by CPU Unit model.) d writing data in word units (16 bits). Words in the EM Area maintain their status when nged. es can be set by either of the following methods. struction and setting addresses for the current bank. Setting bank numbers and uber of the first bank								
Data Daviatava		Ein data can be stored in mes by specifying the num	DR0 to DR15: Store offset values for indirect addressing. One register is 16 bits (1 word)								
Data Registers		Driv to Drifts, Store oriset values for inforest aduressing. One register is 16 bits (1 word).									
Index Registers	;	IR0 to IR15: Store PLC memory addresses for indirect addressing. One register is 32 bits (2 words).									
		32 (TK0000 to TK0031): Task Flags are read-only flags that are ON when the corresponding cyclic task is executable and OFF when the									
Task Flag Area		corresponding task is not executable or in standby s	tatus.								
Trace Memory		4,000 words (The maximum amount of data that can be traced in a data trace is 500 samples for 31 bits and 6 words.									
		Vemory Cards: Compact flash memory cards can be used (MS-DOS format).									
File Memory		EM file memory: Part of the EM Area can be conver	ted to file memory (MS-DOS format).								
	Parallel Processing Modes	Program execution and peripheral servicing can be	performed simultaneously.								
	Battery-free operation	The user program and the system's parameters are	backed up automatically in flash memory, which is standard equipment.								
	Constant cycle time	Possible (1 to 32 000 ms) (1 lpit: 1 ms)									
		People (in the people is the people is the length 10 to 40 000 mc (i bit 10 mc)									
	Cycle time monitoring	Possible (Unit stops operating if the cycle is too long): 10 to 40,000 ms (Unit: 10 ms)								
	I/O refreshing	Cyclic refreshing, immediate refreshing, refreshing v	vith I/O REFRESH instruction								
	I/O memory holding when changing operating modes	Possible (Depends on the ON/OFF status of the ION	/I Hold Bit in the Auxiliary Area.)								
	Load OFF	All outputs on Output Units can be turned OFF.									
	Input response time setting	Time constants can be set for inputs from Basic I/O The time constant can be increased to reduce the in inputs (CS1 Basic I/O Units only).	Units. Iluence of noise and chattering or it can be decreased to detect shorter pulses on the								
	Startup mode setting	Supported.									
		Automatically reading programs (autoboot) from the	Memory Card when the power is turned ON.								
	Memory Card functions	Format in which data is stored in Memory Card	User program: Program file format PLC Setup and other parameters: Data file format (binary format) I/O memory: Data file format (binary format), text format, or CSV format								
		Functions for which Memory Card read/write is supported	User program instructions, Programming Devices (including Programming Consoles), Host Link computers								
	Filing	Memory Card data and the EM (Extended Data Memory) Area can be handled as files.									
	Dahuanina	control set/reset, differential monitoring, data tracing (scheduled, each cycle, or when instruction is executed), storing location generating									
	Debugging	error when a program error occurs									
	Online editing	User programs can be overwritten in program-block units when the CPU Unit is in MONITOR or PROGRAM mode. (This function is not available for block programming areas.)									
	Program protection	Overwrite protection: Set using DIP switch. Copy protection: Password set using Programming I	Device.								
	Error check	User-defined errors (i.e., user can define fatal errors and non-fatal errors) The EPD(269) instruction can be used to check the execution time and loaic of each programming block									
	Error log	Lip to 20 errors are stored in the error log. Information	n includes the error code, error details, and the time the error occurred								
Functions	Liferiog	Built is a size stoled in the error log. Information									
	Serial communications	Built-in RS-232C port: Programming Device (exclu Links, and Serial Gateway # Serial communications board (order separately): pr	ing Programming Console) connections, Host Links, NT Links ing Programming Console) connections, Host Links, no-protocol communications, NT control and the second secon								
		Provided on all models	s, and modulus-nito Slave *5								
	Clock Power OFF detection	Note: Used to store the time when power is turned	ON and when errors occur.								
	time	10 to 25 ms (not fixed)									
	Power OFF detection delay time	0 to 10 ms (user-defined, default: 0 ms)									
	Momony setsetion	Held Areas: Holding bits, contents of Data Memory a	and Extended Data Memory, and status of the counter Completion Flags and present								
	during power interruptions	Values. Note: If the IOM Hold Bit in the Auxiliary Area is tu the PLC is turned ON, the contents of the CIC Registers, and the Data Registers will be say	rned ON, and the PLC Setup is set to maintain the IOM Hold Bit status when power to Area, the Work Area, part of the Auxiliary Area, timer Completion Flags and PVs, Index red.								
	Sending commands to	FINS commands can be sent to a computer connect	ed via the Host Link System by executing Network Communications Instructions from								
	Remote programming	Host Link communications can be used for remote p	rogramming and remote monitoring through a Controller Link System or Ethernet								
	8-level communications *2	Remote programming and monitoring across up to e between different types of networks.)	ight network layers (Controller Link or Ethernet) by using Host Link. (They are possible								
	Storing comments in CPU Unit	I/O comments can be stored in the CPU Unit in Men	nory Cards *1 or EM file memory.								
	Program check	Program checks are performed at the beginning of c Programming Devices (except for the Programming	peration for items such as no END instruction and instruction errors. Consoles) can also be used to check programs.								
	Control output signals	RUN output: The internal contacts will be ON (close	d) while the CPU Unit is operating in RUN mode or MONITOR mode.								
	Battery service life	These terminals are provided only on C200HW-PA2 The battery life is 5 years at an ambient temperature and power conditions. (Battery Set: CS1WLRATOL)	יאיה, עבטטרועי-ראבטטא, and CS וש-ראבט/א Power Supply Units. of 25°C, although the lifetime can be as short as 1.1 years under adverse temperature ניג אם								
	Colf diama stics	CDL arrays (watchday ting and 1/0 arrays arrays arrays)									
	Sell-diagnostics	GFO errors (watchdog timer), I/O verification errors,	I/O bus errors, memory errors, and battery errors.								
	Other functions	Words in the Auxiliary Area store the number of pow	er interruptions, time of the last power interruption, and total power ON time.								

*1. CPU Units with unit version 3.0 or later only.
*2. CPU Units with unit version 2.0 or later only. (Communications across three network layers is supported for Pre-Ver. 2.0 CPU Units.)
*3. CPU Units with unit version 3.0 or later only or Serial Communications Board/Unit with unit version 1.2 or later only.

*4. Use a replacement battery that was manufactured within the last two years.

***5.** Serial Communications Board/Unit with unit version 1.3 or later only.

Functions Added by Unit Version

The following functions have been added for the unit versions of CS1G/H CPU Units.

	OK: Supported,: Not supported										
	Model										
Function	Unit version	No unit version	Unit version 2.0	Unit version 3.0	Unit version 4.0						
Downloading a	and Uploading Individual Tasks		OK	OK	OK						
Improved Rea	d Protection Using Passwords		OK	OK	OK						
Write Protection Networks	on from FINS Commands Sent to CPU Units via		ОК	ОК	ОК						
Online Networ	k Connections without I/O Tables		OK	OK	OK						
Communicatio	ons through a Maximum of 8 Network Levels		OK	OK	OK						
Connecting O	nline to PLCs via NS-series PTs	OK (from lot number 030201)	ОК	ОК	ОК						
Setting First S	lot Words	OK (for up to 8 group)	OK (for up to 64 group)	OK (for up to 64 group)	ОК						
Automatic Tra	nsfers at Power ON without a Parameter File (.STD)		OK	OK	OK						
Automatic Det Transfer at Po	ection of I/O Allocation Method for Automatic wer ON				ОК						
Operation Star	t/End Times		OK	OK	OK						
	MILH, MILR, MILC		OK	OK	OK						
	= DT, <>DT, <dt, <="DT,">DT, > = DT</dt,>		ОК	OK	OK						
	BCMP2		OK	OK	OK						
Support of	GRY	OK (from lot number 030201)	ОК	ОК	ОК						
new	ТРО		OK	OK	OK						
instructions	DSW, TKY, HKY, MTR, 7SEG		OK	OK	OK						
	EXPLT, EGATR, ESATR, ECHRD, ECHWR		OK	OK	OK						
	IORD/IOWR reading/writing to CPU Bus Units	OK (from lot number 030418)	ОК	ОК	ОК						
	PRV2				OK						
Function block	(s (CX-Programmer Ver.5.0 or later)			OK	OK						
Serial Gateway F commands a	γ (converting FINS commands to CompoWay/ It the built-in serial port)			ОК	ОК						
Comment men	nory (in internal flash memory)			OK	OK						
Expanded sim	ple backup data			OK	OK						
TXDU(256), RX Serial Commu	DU(255) (support no-protocol communications with nications Units with unit version 1.2 or later)			ОК	ОК						
Model convers COLLC(567), M	sion instructions: XFERC(565), DISTC(566), IOVBC(568), BCNTC(621)			ОК	ОК						
Special function	on block instructions: GETID(286)			OK	OK						
Additional instruction functions	TXD(236), RXD(235) (support no-protocol communications with Serial Communications Units with unit version 1.2 or later)			ОК	ОК						
llos of now	Conversion instructions from numbers to ASCII and ASCII to numbers				ОК						
special instructions	Flowchart conversion instructions (one type of block programming instructions) to convert flowchart programs from C-series Flowchart PLCs to ladder programs for CS/CJ-series PLCs				ОК						
Function	Online editing of function blocks				OK						
block (FB) functional	Support for I/O variables (including array variables for I/O variables)				ОК						
upgrades	Support for STRING data type and processing functions for ST language.				ОК						

Unit Versions

Unit versions have been introduced to control differences in functions featured by CPU Units that are the result of version upgrades.

The unit version is marked on the nameplates of products subject to version control, as shown in the diagram.

Unit

Ó OTRON CS1H-CPU67H CPU UNIT Lot No. 031001 0000€(ver. 3.0) ↔ Unit version OMRON Corporation MADE IN JAPAN

Unit Versions and Programming Devices

Applicable PLCs		Name	CX-Programmer
CS1C/H pariag		No unit version	Version 2.1 or later
	CS1H-CPU67H/66H/65H/64H/63H	Unit version 2.0	Version 4.0 or later
C3TG/II-Series	CS1G-CPU45H/44H/43H/42H	Unit version 3.0	Version 5.0 or later
		Unit version 4.0	Version 7.0 or later

Current Consumption for Power Supply Units

■ 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 three voltage groups for internal power consumption: 5 V, 26 V, and 24 V.

- Current consumption at 5 V (internal logic power supply)
- Current consumption at 26 V (relay driving power supply)
- Current consumption at 24 V (power supply output terminals) (C200HW-PA204S only)

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.

• CPU Racks and Expansion Racks

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

Bower Supply Units	Max.	current sup	plied	(D) Max. total		
Power Supply Units	(A) 5 V	(B) 26 V	(C) 24 V	power supplied		
C200HW-PA204C	4.6 A	0.6 A		30 W		
C200HW-PA204	4.6 A	0.6 A		30 W		
C200HW-PA204S	4.6 A	0.6 A	0.8 A	30 W		
C200HW-PA204R	4.6 A	0.6 A		30 W		
C200HW-PA209R	9 A	1.3 A		45 W		
C200HW-PD024	4.6 A	0.6 A		30 W		
C200HW-PD025	5.3 A	1.3 A		40 W		
CS1D-PA207R	7 A	1.3 A		35 W		
CS1D-PD024	4.3 A	0.56 A		28 W		

Note 1:For CPU Racks, include the CPU Backplane and CPU Unit current and power consumption in the calculations. 2: For Expansion Racks, include the Expansion Backplanes current and power consumption in the calculations.

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 26 V \leq (B) value
- (3) Current consumption for service power supply at 24 V \leq (C) value (Only when using the service power supply from the C200HW-PA204S.)

Condition 2: Maximum Power

(1) x 5 V + (2) x 26 V + (3) x 24 V \leq (D) value

■ Example: Calculating Total Current and Power Consumption

Example: When the Following Units are Mounted to a CS-series CPU Rack Using a CS1W-PA204S Power Supply Unit

Turne	Madal	Quantity		Voltage group							
туре	woder	Quantity	5 V	26 V	24 V						
CPU Backplanes (8 slots)	CS1W-BC083	1	0.11 A								
CPU Unit	CS1H-CPU67H	1	0.82 A								
Input Lipit	CS1W-ID211	2	0.10 A								
input Onit	CS1W-ID291	2	0.20 A								
Output Unit	CS1W-OC201	2	0.10 A	0.048 A							
Special I/O Unit	CS1W-NC213	1	0.25 A								
CPU Bus Unit	CS1W-CLK23	1	0.33 A								
Service power supply		0.3 A used			0.3 A						
Current consumption	Total		0.11 A + 0.82 A + 0.10 A x 2 + 0.20 A x 2 + 0.10 A x 2 + 0.25 A + 0.33 A	0.048 A x 2	0.3 A						
	Result		2.31 A (≤ 4.6 A)	0.096 A (≤ 0.6 A)	0.3 A (≤ 0.8 A)						
Power consumption	Total		11 A + 0.82 A + 0.10 A x 2 + 20 A x 2 + 0.10 A x 2 + 25 A + 0.33 A 2.31 A (\leq 4.6 A) 0.096 A (\leq 0.6 A) 2.31 A x 5 V=11.55 W 0.096 A x 26 V=2.496 W	0.3 A x 24 V=7.2 W							
Fower consumption	Result		11.5	5 + 2.496 + 7.2 = 21.246W (≤ 30	DW)						

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

■ Using the CX-Programer 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 CS1 Table Window. If the capacity of the Power Supply Unit is exceeded, it will be displayed in red characters. Example:



Ordering Information

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Ordering Information

International Standards

- The standards are abbreviated as follows: U: UL, U1: UL (Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, and CE: EC Directives.
- cUL, N: NK, L: Lloyd, and CE: EC Directives. • Contact your OMRON representative for further details and applicable conditions for these standards.

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 manufacturing installations.

EMC Directives

Applicable Standards EMI: EN61000-6-4 EN61131-2 EMS: EN61000-6-2

EMS: EN61000-6-2 EN61131-2

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

Devices that operate at voltages from 50 to 1,000 VAC or 75 to 150 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 Rack

■ CS1 CPU Units

I										Mountable Racks					
				Specific	ations				CS1 CF	PU Rack	CS1D CPU Rack	consu (/	mption A)		
	Product name	Number of I/O points	Program capacity	Data memory capacity	LD instruc- tion execu- tion time	Online Unit replace- ment	Duplex Commu- nications Units	Duplex Power Supply Units	CS-series CPU Backplane CS1W-BC 2	CS/C200H- series CPU Backplane CS1W-BC 3	CS1D CPU Backplane CS1D- BC082S or CS1D-BC052	5 V system	26 V system	Model	Standards
I		5,120 (Expansion Racks: 7)	250K steps	448K words (DM: 32K words, EM: 32K words × 13 banks)					Yes		No	* 0.82		CS1H-CPU67H	UC1, N, L, CE
		5,120 (Expansion Racks: 7)	120K steps	256K words (DM: 32K words, EM: 32K words × 7 banks)	0.02 µs	No		No		Yes		* 0.82		CS1H-CPU66H	
	CS1 CPU Units	5,120 (Expansion Racks: 7)	60K steps	128K words (DM: 32K words, EM: 32K words × 3 banks)			No					* 0.82		CS1H-CPU65H	
		5,120 (Expansion Racks: 7)	30K steps	64K words (DM: 32K words, EM: 32K words × 1 bank)								* 0.82		CS1H-CPU64H	
		5,120 (Expansion Racks: 7)	20K steps	64K words (DM: 32K words, EM: 32K words × 1 bank)								* 0.82		CS1H-CPU63H	
		5,120 (Expansion Racks: 7)	60K steps	128K words (DM: 32K words, EM: 32K words × 3 banks)								* 0.78		CS1G-CPU45H	
		1,280 (Expansion Racks: 3)	30K steps	64K words (DM: 32K words, EM: 32K words × 1 bank)	0.04.00	No	No	No				* 0.78		CS1G-CPU44H	
		960 (Expansion Racks: 2)	20K steps	64K words (DM: 32K words, EM: 32K words × 1 bank)	- 0.04 μs	NO	NO	No				* 0.78		CS1G-CPU43H	
		960 (Expansion Racks: 2)	10K steps	64K words (DM: 32K words, EM: 32K words × 1 bank)								* 0.78		CS1G-CPU42H	

*These values include the current consumption of a connected Programming Console. NT-AL001 Link Adapters consume an additional 0.15 A each when used.

Power Supply Units

One Power Supply Unit is required for each Rack.

		Output capacity			Options					Моц	untable Rad	cks				
Product name	Power supply voltage	5-VDC Model Standards output capacity	26-VDC output capacity	Total power con- sumption	24-VDC 0.8 A service power supply	RUN output	Mainte- nance forecast monitor	CPU Rack	C200HX/ HG/HE Expansion I/O Rack	CS1 Expan- sion Rack	CS1 Long- distance Expan- sion Rack	CS1D CPU Rack	CS1D Expan- sion Rack	SYSMAC BUS Slave Rack	Model	Standards
AC Power Supply Unit	100 to 240 VAC (wide range)	4.6 A	0.625 A	30 W	No	No	Yes								C200HW-PA204C	UC1, N, L, CE
AC Power Supply Unit							No								C200HW-PA204	U, C, N, L, CE
		4.6 A	0.625 A	30 W	No	Yes	No	1							C200HW-PA204R	U, C
	100 to 240 VAC (wide range) *	4.6 A	0.625 A (with 0.8 A, 24 VDC service power supply)	30 W	Yes	No	No			Yes			No	Yes	C200HW-PA204S	U, C, N, L, CE
	100 to 120 VAC or 200 to 240 VAC	9 A	1.3 A	45 W	No	Yes	No								C200HW-PA209R	U, C, N, L, CE
DC Power		4.6 A	0.625 A	30 W	No	No	No	1							C200HW-PD024	
Supply Unit	24 VDC	5.3 A	1.3 A	40 W	No	No	No								C200HW-PD025	UC1, N, L, CE

*C200HW-PA204/PA204R Power Supply Units shipped before March 2010 have power supply voltage specifications of 100 to 120 VAC/200 to 240 VAC, 50/60 Hz.

■ CS1 CPU Backplane

				Mountable configuration units							rent		
					Basic I/O Uni	its	Special I/O Units		CPU Bus Units	consu (/	mption A)		
Product name	Specific	CPU Unit	CS-series Basic I/O Unit	C200H- series Basic I/O Unit	C200H Group-2 High- density I/O Unit	CS-series Special I/O Unit	C200H- series Special I/O Unit	CS-series CPU Bus Unit	5 V system	26 V system	Model	Standards	
	For CS-series Unit only Note: C200H- series Units cannot be mounted.	2 slots (Note: Expansion Racks cannot be connected.)						No	Yes	0.11		CS1W-BC022	-
		3 slots	CS1 CPU Unit	Yes	No		Yes			0.11		CS1W-BC032	
		5 slots								0.11		CS1W-BC052	
		8 slots								0.11		CS1W-BC082	
		10 slots								0.11		CS1W-BC102	U, C, N, L,
CS1 CPU Backplane	For both CS/	2 slots (Note: Expansion Racks cannot be connected.)		Yes						0.11		CS1W-BC023	CE
	C200H-series	3 slots								0.11		CS1W-BC033	
	00	5 slots]							0.11		CS1W-BC053	
		8 slots								0.11		CS1W-BC083	
		10 slots										CS1W-BC103	
	Dimensions (mm)	2 slots (CS1W-BC022/023): 198.5 x 157 (W x H) 3 slots (CS1W-BC032/033): 260 x 132 (W x H)) 5 slots (CS1W-BC052/053): 330 x 132 (W x H) 8 slots (CS1W-BC082/083): 435 x 132 (W x H) 10 slots (CS1W-BC102/103): 505 x 132 (W x H)											

 Note 1: C200H-series Units cannot be mounted to CS-series Expansion Backplanes (CS1W-BI
 2).

 2: CS-series Units cannot be mounted to C200HX/HG/HE Expansion I/O Backplanes (C200HW-BI
 2).