OMRON

Programmable Controller C200HX/HG/HE

Replacement Guide
From C200HX/HG/HE to CJ2

C200HE-CPU11/32/42

C200HG-CPU33/43/53/63

C200HX-CPU34/44/54/64/65/85

CJ2H-CPU6□

CJ2M-CPU1□

CJ2M-CPU3□

Replace
Guide

About this document

This document provides the reference information for replacing C200H PLC systems with CS1 series PLC.

This document does not include precautions and reminders ;please read and understand the important precautions and reminders described on the manuals of PLCs (both of PLC used in the existing system and PLC you will use to replace the existing PLC) before attempting to start operation.

Related Manuals

CPU Units

Man.No.	Model	Manual
W472	CJ2H-CPU6□-EIP CJ2H-CPU6□ CJ2-CPU□□	CJ2 CPU Unit Hardware USER'S MANUAL
W473	CJ2H-CPU6□-EIP CJ2H-CPU6□ CJ2M-CPU□□	CJ2 CPU Unit Software USER'S MANUAL
W486	CJ2M-CPU□□+CH2M-MD21□	CJ2M Pulse I/O Module USER'S MANUAL
W474	CS1G/H-CPU□□H CS1G/H-CPU□□-V1 CS1D-CPU□□H CS1D-CPU□□S CJ1H-CPU□□H-R CJ1G/H-CPU□□H CJ1G-CPU□□P CJ1M/G-CPU□□ NSJ□-□□□□(B)-□□□	CS/CJ/NSJ Series INSTRUCTIONS REFERENCE MANUAL
W342	CS1G/H-CPU□□H CS1G/H-CPU□□-V1 CS1D-CPU□□H CS1D-CPU□□S CS1W-SCU□□-V1 CS1W-SCB□□-V1 CJ1H-CPU□□H-R CJ1G/H-CPU□□H CJ1G-CPU□□P CJ1M/G-CPU□□ CJ1W-SCU□□-V1 CP1H-X□□□□-□ CP1H-XA□□□□-□ CP1H-Y□□□□-□ NSJ□-□□□□(B)-□□□	CS/CJ/CP/NSJ Series Communications Commands REFERENCE MANUAL
W341	CQM1H-PRO01 CQM1-PRO01 C200H-PRO27 CS1W-KS001	CS/CJ Series Programming Consoles OPERATION MANUAL
W302	C200HX/HG/HE -CPU□□/CPU□□-Z	SYSMAC α INSTALLATION GUIDE
W303	C200HX/HG/HE	SYSMAC α OPERATION MANUAL
W322	C200HX-CPU□□-ZE C200HG-CPU□□-ZE C200HE-CPU□□-ZE	SYSMAC α OPERATION MANUAL

Special I/O Units

Man.No.	Model	Manual
W368	CS1W-PTS□□ CS1W-PTW□□ CS1W-PDC□□ CS1W-PTR□□ CS1W-PPS□□ CS1W-PMV□□ CJ1W-PTS□□ CJ1W-PDC□□ CJ1W-PH41U	CS/CJ Series Analog I/O Units OPERATION MANUAL
W345	CS1W-AD0□□-V1/-AD161 CS1W-DA0□□ CS1W-MAD44 CJ1W-AD0□□-V1/-AD042 CJ1W-DA0□□/-DA042V CJ1W-MAD42	CS/CJ Series Analog I/O Units OPERATION MANUAL
W396	CJ1W-TC□□□	CJ Series Temperature Control Units OPERATION MANUAL
W401	CJ1W-CT021	CJ Series High-speed Counter Units OPERATION MANUAL
W397	CJ1W-NC□□3	CJ Series Position Control Units OPERATION MANUAL
W477	CJ1W-NC□□4	CJ Series Position Control Units OPERATION MANUAL
W426	CS1W-NC□71 CJ1W-NC□71(-MA)	CS/CJ Series Position Control Units OPERATION MANUAL
W435	CS1W-MCH71 CJ1W-MCH71	CS/CJ series Motion Control Units OPERATION MANUAL
W336	CS1W-SCB□□-V1 CS1W-SCU□□-V1 CJ1W-SCU□□-V1	CS/CJ Series Serial Communications Boards Serial Communications Units OPERATION MANUAL
W440	CS1W-FLN22 CJ1W-FLN22(100BASE-TX)	CS/CJ Series FL-net Units OPERATION MANUAL
V236	CS1W-SPU01 CS1W-SPU02-V2 CJ1W-SPU01-V2	CS/CJ Series SPU Units OPERATION MANUAL
V237	WS02-SPTC1-V2	SPU-Console OPERATION MANUAL
W124	C200H-TS001/002/101/102	C200H Temperature Sensor Units OPERATION MANUAL
W127	C200H-AD001/DA001	C200H Analog I/O Units OPERATION GUIDE
W325	C200H-AD003 C200H-DA003/DA004 C200H-MAD01	C200H Analog I/O Units OPERATION MANUAL
W225	C200H-TC001/002/003 C200H-TC101/102/103	C200H Temperature Control Units OPERATION MANUAL
W240	C200H-TV001/002/003 C200H-TV101/102/103	C200H Heat/Cool Temperature Control Units OPERATION MANUAL
W241	C200H-PID01/02/03	C200H PID Control Unit OPERATION MANUAL
W141	C200H-CT001-V1/CT002	C200H High-speed Counter Units OPERATION MANUAL
W311	C200H-CT021	C200H High-speed Counter Units OPERATION MANUAL
W224	C200H-CP114	C200H Cam Positioner Units OPERATION MANUAL
W334	C200HW-NC113/213/413	C200HW Position Control Units OPERATION MANUAL
W137	C200H-NC111	C200H Position Control Units OPERATION MANUAL
W128	C200H-NC112	C200H Position Control Units OPERATION MANUAL
W166	C200H-NC211	C200H Position Control Units OPERATION MANUAL
W314	C200H-MC221	C200H Motion Control Units OPERATION MANUAL:INTRODUCTION
W315	C200H-MC221	C200H Motion Control Units OPERATION MANUAL:DETAILS
W165	C200H-ASC02	C200H ASCII Units OPERATION MANUAL
W306	C200H-ASC11/21/31	C200H ASCII Units OPERATION MANUAL
W257	CVM1-PRS71	CVM1-PRS71 Teaching Box OPERATION MANUAL
W304	C200HW-COM01 C200HW-COM02-V1 to C200HW-COM06-EV1	C200HW Communication Boards OPERATION MANUAL

Network Communications Units

Man.No.	Model	Manual
W309	CS1W-CLK23 CS1W-CLK21-V1 CJ1W-CLK23 CJ1W-CLK21-V1 C200HW-CLK21 CVM1-CLK21 CQM1H-CLK21 CS1W-RPT0□	Controller Link Units OPERATION MANUAL
W370	CS1W-CLK13 CS1W-CLK12-V1 CVM1-CLK12(H-PCF Cable) CS1W-CLK53 CS1W-CLK52-V1 CVM1-CLK52(GI Cable)	Optical Ring Controller Link Units OPERATION MANUAL
W465	CS1W-EIP21 CJ1W-EIP21 CJ2H-CPU6□-EIP CJ2M-CPU3□	CS/CJ Series EtherNet/IP Units OPERATION MANUAL
W420	CS1W-ETN21 CJ1W-ETN21 (100Base-TX)	CS/CJ Series Ethernet Units OPERATION MANUAL Construction of Networks
W421	CS1W-ETN21 CJ1W-ETN21(100Base-TX)	CS/CJ Series Ethernet Units OPERATION MANUAL Construction of Applications
W456	CS1W-CRM21 CJ1W-CRM21	CS/CJ Series CompoNet Master Units OPERATION MANUAL
W457	CRT1	CRT1 Series CompoNet Slave Units and Repeater Unit OPERATION MANUAL
W380	CS1W-DRM21-V1 CJ1W-DRM21	CS/CJ Series DeviceNet Units OPERATION MANUAL
W267	CS1W/CJ1W/C200HW DRT1/DRT2 GT1 CVM1	DeviceNet OPERATION MANUAL
W266	C200HW-SRM21-V1 CS1W-SRM21 CJ1W-SRM21 CQM1-SRM21-V1 SRT1/SRT2	CompoBus/S OPERATION MANUAL
W136	C500-RM001-(P)V1 C120-RM001(-P) C500-RT001/RT002-(P)V1 C500/C120-LK010(-P) C200H-RM001-PV1 C200H-RT001/002-P B500-I/O	C series Rack PCs Optical Remote I/O SYSTEM MANUAL
W308	C200HW-ZW3DV2/ZW3PC2 3G8F5-CLK11/21 3G8F6-CLK21	Controller Link Support Software OPERATION MANUAL
W120	C500-RM201/RT201 C200H-RM201/RT201/202 G71-IC16/OD16 G72C-ID16/OD16 S32-RS1	C series Rack PCs Wired Remote I/O SYSTEM MANUAL
W379	CVM1-DRM21-V1 C200HW-DRM21-V1	DeviceNet Master Units OPERATION MANUAL
W347	C200HW-DRT21 CQM1-DRT21 DRT1	DeviceNet Slaves OPERATION MANUAL
W135	C200H-LK401 C500-LK009-V1	C Series PC Link SYSTEM MANUAL

Support Software

Man.No.	Model	Manual
W463	CXONE-AL□□C-V4	CX-One FA Integrated Tool Package SETUP MANUAL
W446	CXONE-AL□□D-V4	CX-Programmer OPERATION MANUAL
W447		CX-Programmer OPERATION MANUAL : Function Blocks/Structured Text
W366		CX-Simulator OPERATION MANUAL
W464		CX-Integrator OPERATION MANUAL
W344		CX-Protocol OPERATION MANUAL
W433		CX-Position OPERATION MANUAL
W436		CX-Motion-NCF OPERATION MANUAL
W448		CX-Motion-MCH OPERATION MANUAL

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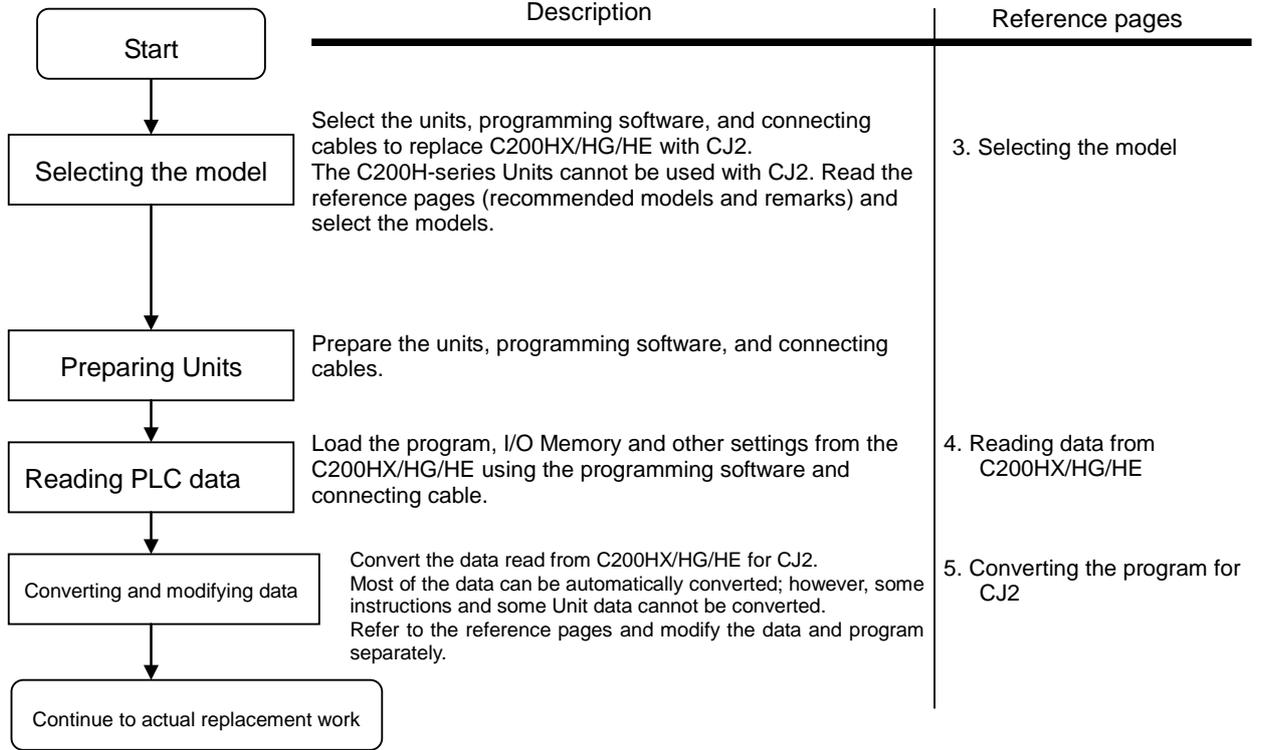# C200HX/HG/HE Replacement Guide
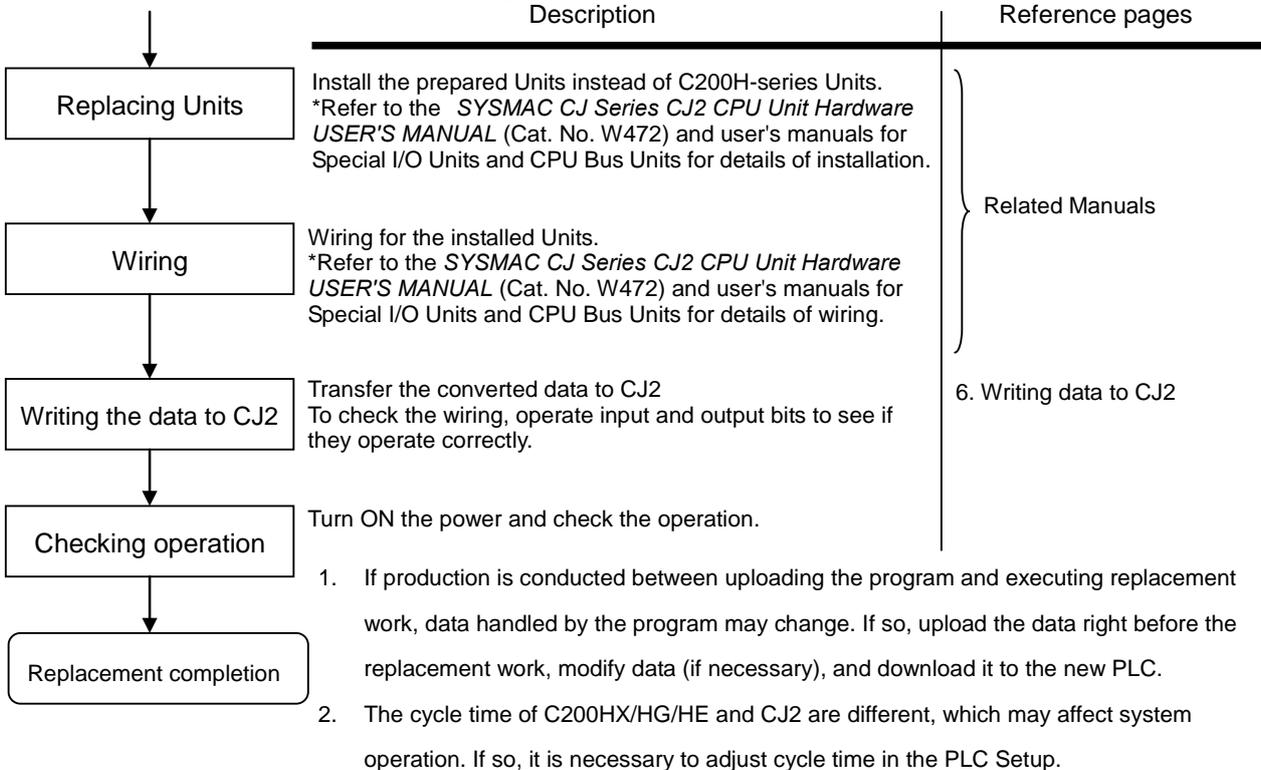## From C200HX/HG/HE to CJ2

Table of Contents

Follow the below work flow to replace C200HX/HG/HE with CJ2. Refer to the reference pages for details.

1.	Work flow

1) Preliminary Steps: Take the following steps before starting the replacement work.

Flow	Description	Reference pages
Start		
Selecting the model	Select the units, programming software, and connecting cables to replace C200HX/HG/HE with CJ2. The C200H-series Units cannot be used with CJ2. Read the reference pages (recommended models and remarks) and select the models.	3. Selecting the model
Preparing Units	Prepare the units, programming software, and connecting cables.	
Reading PLC data	Load the program, I/O Memory and other settings from the C200HX/HG/HE using the programming software and connecting cable.	4. Reading data from C200HX/HG/HE
Converting and modifying data	Convert the data read from C200HX/HG/HE for CJ2. Most of the data can be automatically converted; however, some instructions and some Unit data cannot be converted. Refer to the reference pages and modify the data and program separately.	5. Converting the program for CJ2
Continue to actual replacement work		

2) Actual replacement work: Take the following steps to replace C200HX/HG/HE with CJ2.

Flow	Description	Reference pages
Replacing Units	Install the prepared Units instead of C200H-series Units. *Refer to the *SYSMAC CJ Series CJ2 CPU Unit Hardware USER'S MANUAL* (Cat. No. W472) and user's manuals for Special I/O Units and CPU Bus Units for details of installation.	Related Manuals
Wiring	Wiring for the installed Units. *Refer to the *SYSMAC CJ Series CJ2 CPU Unit Hardware USER'S MANUAL* (Cat. No. W472) and user's manuals for Special I/O Units and CPU Bus Units for details of wiring.	
Writing the data to CJ2	Transfer the converted data to CJ2. To check the wiring, operate input and output bits to see if they operate correctly.	6. Writing data to CJ2
Checking operation	Turn ON the power and check the operation.	
Replacement completion		

1. If production is conducted between uploading the program and executing replacement work, data handled by the program may change. If so, upload the data right before the replacement work, modify data (if necessary), and download it to the new PLC.

2. The cycle time of C200HX/HG/HE and CJ2 are different, which may affect system operation. If so, it is necessary to adjust cycle time in the PLC Setup.

2. Selecting the replacement method

When C200H-series Basic I/O Units are replaced with CJ-series Basic I/O Units, rewiring is required. When C200H-ID215 and C200H-OD215 C200H High-density I/O Units are replaced with CJ-series I/O Units, the same connecting cables that were connected to C200H High-density I/O Units can be used.
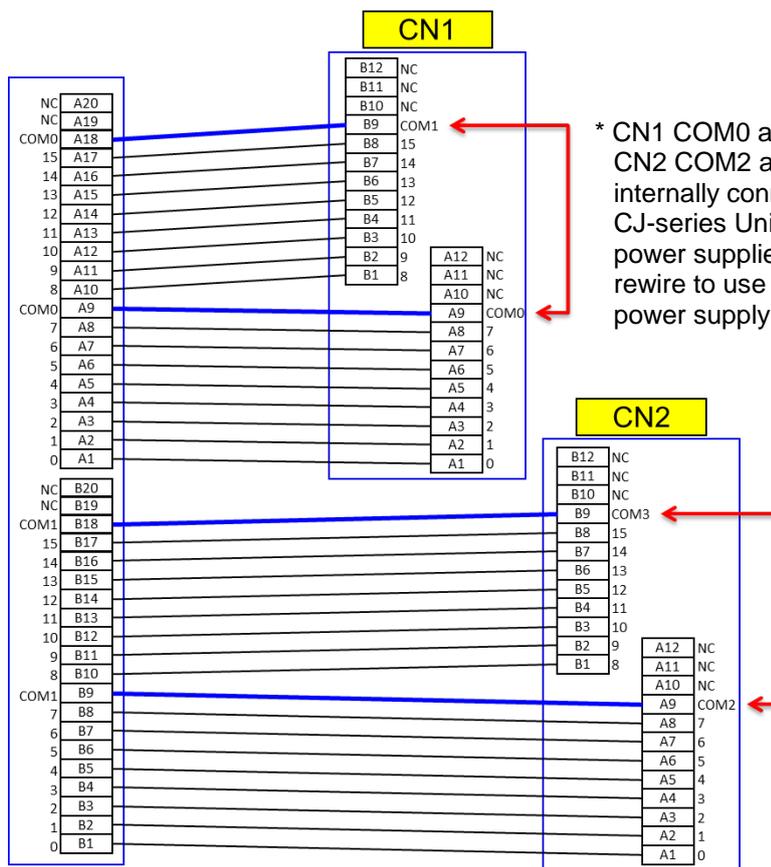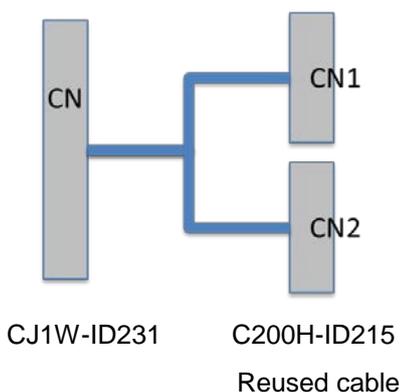
Replacement method	Description	
Using Conversion Cables for C200H High-density I/O Units	Replace C200H-ID215 with CJ1W-ID231, and connect CJ1W-ID231 using the same connecting cables used for C200H-ID215. In the same way, replace C200H-OD215 with CJ1W-OD231, and connect CJ1W-OD231 using the same cable used for C200H-OD215. Pros: Rewiring of I/O Units is not required, which reduces replacement time.	CJ-series Units CPU CJ1W-OD231 Conversion Cable XW2Z-S011 CJ1W-ID231 Conversion Cable XW2Z-S010 Connecting cable that was connected to C200H-ID215 (reuse) Connecting cable that was connected to C200H-OD215 (reuse)

● Replacement of C200H-ID215 and C200H-OD215 using Conversion Cables

The same connecting cables that were connected to C200H-ID215 and C200H-OD215 can be used to replace them with CJ1W-ID231 and CJ1W-OD231.

| C200H-series Unit	CJ-series Unit	Conversion Cable
C200H-ID215	CJ1W-ID231	XW2Z-S010
C200H-OD215	CJ1W-OD231	XW2Z-S011

XW2Z-S010

CJ1W-ID231   C200H-ID215
Reused cable

* CN1 COM0 and COM1 and CN2 COM2 and COM3 are internally connected in the CJ-series Unit. When separate power supplies were used, rewire to use one common power supply.

	C200H-ID215	CJ1W-ID231	Remarks
Rated input voltage	24 VDC	24 VDC	
Operating input voltage	20.4 to 26.4 VDC	20.4 to 26.4 VDC	
Input impedance	5.6 kΩ	5.6 kΩ	Make sure that the connected device operates correctly.
Input current	4.1 mA typical (at 24 VDC)	4.1 mA typical (at 24 VDC)	Make sure that the connected device operates correctly.
ON voltage	14.4 VDC min.	19 VDC min.	Make sure that the connected device operates correctly.
OFF voltage	5 VDC max.	5 VDC max.	
ON response time	2.5 ms max./15 ms max. (switchable)	8 ms max. (switchable)	Can be set to between 0 and 32 ms in the PLC Setup.
OFF response time	2.5 ms max./15 ms max. (switchable)	8 ms max. (switchable)	Can be set to between 0 and 32 ms in the PLC Setup.
No. of circuits	8 points/common x 4 circuits (32 inputs)	16 points/common x 2 circuits (32 inputs)	The number of circuits decreased from 4 to 2. Rewire if separate power supplies are used.
High-speed inputs	8 points (when pin 2 of the DIP switch is ON)	Not supported	Use CJ1W-IDP01 for high-speed inputs.

XW2Z-S011
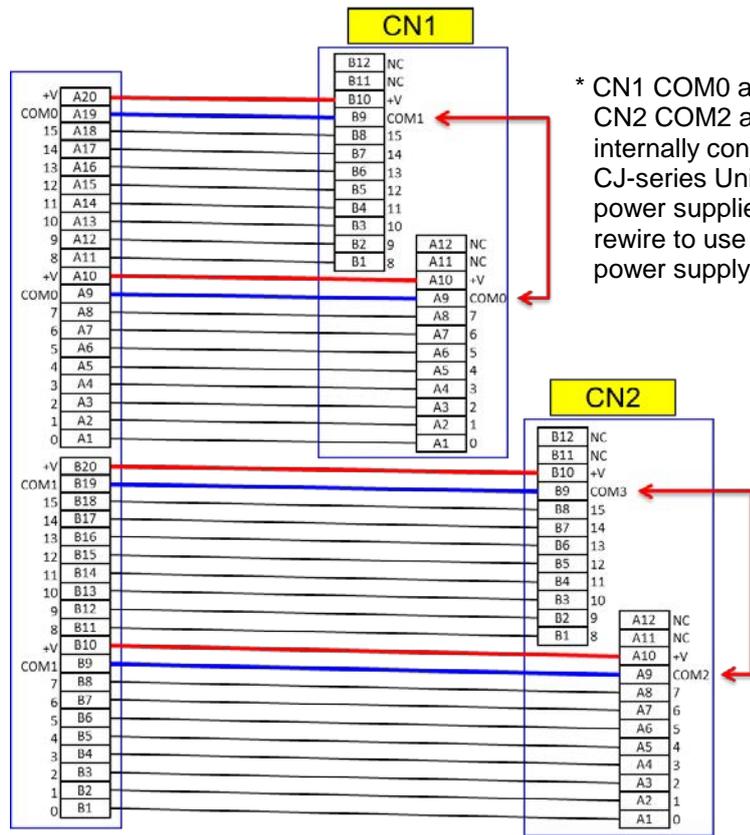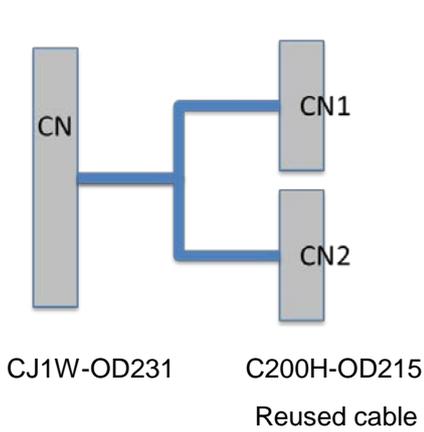
CN

CN1

CN2

CJ1W-OD231   C200H-OD215

Reused cable

CN1

CN2

* CN1 COM0 and COM1 and CN2 COM2 and COM3 are internally connected in the CJ-series Unit. When separate power supplies were used, rewire to use one common power supply.

	C200H-OD215	CJ1W-OD231	Remarks
Rated voltage	5 to 24 VDC	12 to 24 VDC	We recommend you to use 24 VDC instead if 5 VDC is used.
Max. switching capacity	16 mA/4.5 VDC to 100 mA/26.4 VDC 0.8 A/common, 3.2 A/Unit	0.5 A/point, 2 A/common, 4 A/Unit	
Leakage current	0.1 mA max.	0.1 mA max.	
Residual voltage	0.7 V max.	1.5 V max.	Make sure that the connected device operates correctly.
ON response time	0.2 ms max.	0.1 ms max.	Make sure that the connected device operates correctly.
OFF response time	0.6 ms max.	0.8 ms max.	Make sure that the connected device operates correctly.
No. of circuits	8 points/common x 4 circuits (32 outputs)	16 points/common x 2 circuits (32 outputs)	The number of circuits decreased from 4 to 2. Rewire if separate power supplies are used.
Fuses	4 (1 fuse/common)	None	When protection is required, connect a protective device externally.
External power supply	5 to 24 VDC±10%, 90 mA min. 2.8 mA x no. of ON outputs	10.2 to 26.4 VDC, 30 mA min.	
Dynamic outputs	30 mA min.	Not supported	Dynamic outputs are not supported.

3.   Selecting the model

Outline of the system configuration
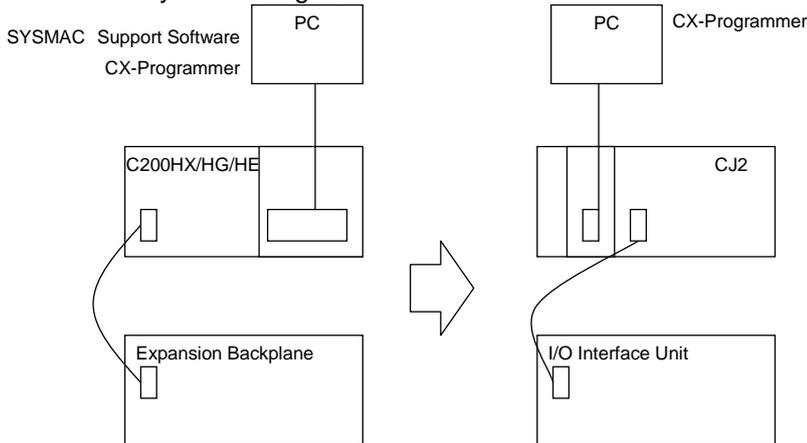
The table below lists the C200H-series Units and each corresponding CJ-series Unit. Select the CJ-series Unit which is compatible with the C200H-series Unit or which has similar specifications to the C200H-series Unit.

Refer to the following manuals for details of the Units:

CJ2: *CJ2H-CPU6□-EIP/CJ2H-CPU6□/CJ2M-CPU□□ SYSMAC CJ Series CJ2 CPU Unit Hardware USER'S MANUAL* (Cat. No. W472)

C200HX/HG/HE: *C200HX/C200HG/C200HE-CPU□□E/-ZE INSTALLATION GUIDE* (Cat. No. W302)

< CPU Rack >

Unit name	C200H-series Unit	CJ-series Unit	Description
CPU Unit (*)	C200HE-CPU11(-Z) C200HE-CPU32(-Z) C200HE-CPU42(-Z) C200HG-CPU33(-Z) C200HG-CPU43(-Z) C200HG-CPU53(-Z) C200HG-CPU63(-Z) C200HX-CPU34(-Z) C200HX-CPU44(-Z) C200HX-CPU54(-Z) C200HX-CPU64(-Z) C200HX-CPU65-Z C200HX-CPU85-Z	[CJ2H] CJ2H-CPU64(-EIP) CJ2H-CPU65(-EIP) CJ2H-CPU66(-EIP) CJ2H-CPU67(-EIP) CJ2H-CPU68(-EIP) [CJ2M] CJ2M-CPU11/CPU31 CJ2M-CPU12/CPU32 CJ2M-CPU13/CPU33 CJ2M-CPU14/CPU34 CJ2M-CPU15/CPU35	UM 50K steps UM 100K steps UM 150K steps UM 250K steps UM 400K steps *The EIP models have one built-in EtherNet/IP port. UM 5K steps UM 10K steps UM 20K steps UM 30K steps UM 60K steps *The CPU3□ models have one built-in EtherNet/IP port
Memory Cassette	C200HW-ME□□K C200HS-MP16K	HMC-EF□□□	
Power Supply Unit	C200HW-PA□□□	CJ1W-PA202 (AC Power Supply Unit)	To use RUN output, prepare an Output Unit separately.
		CJ1W-PA205C (AC Power Supply Unit)	With replacement notification function.
		CJ1W-PA205R (AC Power Supply Unit)	With RUN output.
	C200HW-PD□□□	CJ1W-PD022 (DC Power Supply Unit, non-insulated type)	To use RUN output, prepare an Output Unit separately.
		CJ1W-PD025 (DC Power Supply Unit)	To use RUN output, prepare an Output Unit separately.
CPU Backplane	C200HW-BC031 C200HW-BC051 C200HW-BC081-V1 C200HW-BC101-V1	Unnecessary [DIN Track] PFP-50N PFP-100N PFP-100N2	CJ-series Units are installed on the DIN Track. The CPU Backplane is not required.

(*) The built-in serial port of the CJ2-series CPU Unit has the same functionality as that of C200HX/HG/HE-series CPU Unit. Refer to the related manuals for details because specifications differ between the two series. Use the communications board/unit if required for the application where the built-in port is used.

< CPU Rack >

Unit name	C200H-series Unit	CJ-series Unit	Description
Communications Board	C200HW-COM01	Unnecessary	It is not necessary to mount the communication unit for networks such as SYSMAC LINK and SYSMAC NET.
	C200HW-COM02(-V1)	CJ1W-SCU21-V1	The CJ Series does not have an inner-board type communications unit. Use the unit type.
	C200HW-COM03(-V1)	CJ1W-SCU41-V1	
	C200HW-COM04(-V1)	CJ1W-SCU21-V1	
	C200HW-COM05(-V1)	CJ1W-SCU21-V1	
	C200HW-COM06(-V1)	CJ1W-SCU41-V1	
Insulation Plate for CPU Backplane	C200H-ATT31 C200H-ATT51 C200H-ATT81 C200H-ATTA1	Unnecessary	The CJ-series CPU Backplane has an installation structure to be insulated from the control panel. The Insulation Plate for CPU Backplane is not required.
I/O Control Unit	Unnecessary	CJ1W-IC101	Required to connect a CJ-series Expansion Rack to a CJ-series CPU Rack.

< Expansion Rack >

Unit name	C200H-series Unit	CJ-series Unit	Description
Power Supply Unit	C200HW-PA□□□	CJ1W-PA202 (AC Power Supply Unit)	
		CJ1W-PA205C (AC Power Supply Unit)	With replacement notification function.
		CJ1W-PA205R (AC Power Supply Unit)	The RUN output does not operate.
	C200HW-PD□□□	CJ1W-PD022 (DC Power Supply Unit, non-insulated type)	
		CJ1W-PD025 (DC Power Supply Unit)	
Backplane (Expansion Backplane)	C200HW-BI031 C200HW-BI051 C200HW-BI081-V1 C200HW-BI101-V1	Unnecessary [DIN Track] PFP-50N PFP-100N PFP-100N2	CJ-series Units are installed on the DIN Track. The Backplane is not required.
I/O Interface Unit	Unnecessary	CJ1W-II101	Required for each CJ-series Expansion Rack.
I/O Connecting Cable	C200H-CN311 (0.3 m) C200H-CN711 (0.7 m) C200H-CN221 (2 m) C200H-CN521 (5 m) C200H-CN131 (10 m)	CS1W-CN313 (0.3 m) CS1W-CN713 (0.7 m) CS1W-CN223 (2 m) CS1W-CN323 (3 m) CS1W-CN523 (5 m) CS1W-CN133 (10 m) CS1W-CN133-B2 (12 m)	Connects an I/O Control Unit to an I/O Interface Unit or connects an I/O Interface Unit to another I/O Interface Unit.
Backplane Insulation Plate	C200HW-ATT32 C200HW-ATT52 C200HW-ATT82 C200HW-ATTA2	Unnecessary	*The CJ-series Backplane has an installation structure to be insulated from the control panel. The Insulation Plate for Backplane is not required.

< I/O Units and CPU Bus Units>

Unit name	C200H-series Unit	CJ-series Unit	Description
Basic I/O Unit	C200H-I□□□ C200H-O□□□ C200H-M□□□	CJ1W-I□□□ CJ1W-O□□□ CJ1W-M□□□	Refer to *Appendix E. Table of Input/Output Units* for CJ-series Basic I/O Units corresponding to C200H-series Basic I/O Units.
Special I/O Unit	C200H-□□□□	CJ1W-□□□□	Select a required model to replace the C200H-series Unit. Refer to the manuals of Special I/O Units for specifications. When there is no CJ-series Special I/O Unit which has the same functions and specifications as the C200H-series Unit, we recommend you to use another CJ-series Special I/O Unit instead.
Communication Unit	[SYSMAC LINK] Coaxial: C200HW-SLK23/24 Optical: C200HW-SLK13/14	[SYSMAC LINK] None [Controller Link] Wired: CJ1W-CLK23 Optical: None	SYSMAC LINK cannot be used with the CJ2-series CPU Unit. We recommend you to use Controller Link instead. Refer to the *Controller Link Units Operation Manual* (Cat. No. W309) for details.
	[SYSMAC NET] C200HS-SNT32	[SYSMAC NET] None [Controller Link] Wired: CJ1W-CLK23. Optical: None	SYSMAC NET cannot be used with the CJ2-series CPU Unit. We recommend you to use Controller Link instead. Refer to the *Controller Link Units Operation Manual* (Cat. No. W309) for details.
	[Controller Link] Wired: C200HW-CLK21	[Controller Link] Wired: CS1W-CLK23	To replace with the CJ-series Unit, change the related areas including the Status Area. Refer to the *Controller Link Units Operation Manual* (Cat. No. W309) for details.
	[Host Link]	[Serial Communications]	C200H-series Host Link Units cannot be used with the CJ2-series CPU Unit. Refer to the *SYSMAC CS/CJ Series Serial Communications Boards/Units OPERATION MANUAL* (Cat. No. W336) for details.
	C200H-LK101-PV1	None CJ1W-SCU21-V1 (+ optical link module)	The CJ Series does not have an Optical-type Serial Communications Board/Unit. Use the wired type instead or use an external optical link module.
	C200H-LK201-V1	CJ1W-SCU21-V1 CJ1W-SCU41-V1 Host Link port built in the CPU Unit *For CJ2M-CPU3□, CP1W-CIF01 is required.	Use one of the left CJ-series Units/Boards.. *CJ2M-CPU3□ does not have a built-in Host Link port. Purchase the CP1W-CIF01 RS-232C Option Board.
	C200H-LK202-V1	CJ1W-SCU31-V1 CJ1W-SCU41-V1	Use one of the left CJ-series Units/Boards.
	[PC Link] C200H-LK401	[PC Link] None [Controller Link] Wired: CJ1W-CLK23. Optical: None	PC Link cannot be used with the CJ2-series CPU Unit. We recommend you to use Controller Link instead. Refer to the *Controller Link Units Operation Manual* (Cat. No. W309) for details.

< I/O Units and CPU Bus Units>

Unit name	C200H-series Unit	CJ-series Unit	Description
Communication Unit	[CompoBus/S] C200HW-SRM21(-V1)	[CompoBus/S] CJ1W-SRM21	There are some remarks to be followed when CS1W-SRM21 is used. Refer to the *C200HW/CS1W/CJ1W/CQM1/SRT1/SRT2 CompoBus/S OPERATION MANUAL* (Cat. No. W266) for details.
	[DeviceNet] C200HW-DRM21(-V1)	[DeviceNet] CJ1W-DRM21	There are also some remarks to be followed when CS1W-DRM21 is used. Refer to the *CS1W-DRM21(-V1),CJ1W-DRM21 CS/CJ SERIES DeviceNet UNITS OPERATION MANUAL (Cat. No. W380)* for details.
	[SYSMAC BUS] Wired: C200H-RM201 Optical: C200H-RM001-PV1	[SYSMAC BUS] None [CompoNet] CJ1W-CRM21 [DeviceNet] CJ1W-DRM21 [CompoBus/S] CJ1W-SRM21	SYSMAC BUS cannot be used with the CJ2-series CPU Unit. We recommend you to use left networks instead. Refer to the *CS/CJ series CompoNet Master Units OPERATION MANUAL* (Cat. No. W456) and *CompoNet Slave Units and Repeater Unit OPERATION MANUAL* (Cat. No. W457) for details of CompoNet. Refer to the *CS1W-DRM21(-V1),CJ1W-DRM21 CS/CJ SERIES DeviceNet UNITS OPERATION MANUAL* (Cat. No. W380) for details of DeviceNet. Refer to the *C200HW/CS1W/CJ1W/CQM1/SRT1/SRT2 CompoBus/S OPERATION MANUAL* (Cat. No. W266) for details of CompoBus/S.
	[PC Card Unit] C200HW-PCU01 C200HW-PCS01-V1	[PC Card Unit] None [Memory card] HMC-EF□□□ [Ethernet] CS1W-ETN21 [EtherNet/IP] CS1W-EIP21	The PC Card Unit cannot be used with the CJ2-series CPU Unit. Insert the memory card into the CJ2-series CPU Unit to transfer data in PLC memory between the CPU Unit and memory card. Moreover, communications can be made with the Ethernet Unit or EtherNet/IP Unit.

< Support Software and Peripheral Devices >

Name	C200H-series Unit	CJ-series Unit	Description
Support Software	SYSMAC Support Software CX-Programmer	CX-One CXONE-AL□□C-V□/ AL□□D-V□ (CX-Programmer)	SYSMAC Support Software cannot be used with the CJ2-series CPU Unit.
Peripheral Interface Unit, Connecting Cable	CQM1-CIF02	Commercially available USB cable	USB 2.0 (or 1.1) cable (A connector – B connector) 5.0 m max..
Programming Console	C200H-PRO27 (+C200H-CN□□2) CQM1-PRO01	None	Use the CX-Programmer or Programming Console function of the NS-series Programmable Terminal.

Other remarks

(1) The PFP-50N/100N/100N2 DIN Track and C200H-DIN01 Mounting Bracket can be used to install the CJ-series Units on the DIN Track.

(2) The CJ-series Unit has an installation structure to be insulated from the control panel (DIN Track). The C200H-ATT31/51/81/A1 Insulation Plate for CPU Backplane is not required.

4. Reading data from C200HX/HG/HE

Load the ladder program, PLC settings, and Data Memory from C200HX/HG/HE using the CX-Programmer.

| Required items	Support software (PC)	CX-One (CXONE-AL□□C-V□□, CXONE-AL□□D-V□) or CX-Programmer (WS02-CXPC□-V□)
	Connecting Cable	CQM1-CIF02

PC — CX-Programmer

C200HX/HG/HE

Connoting Cable
CQM1-CIF02

Peripheral port
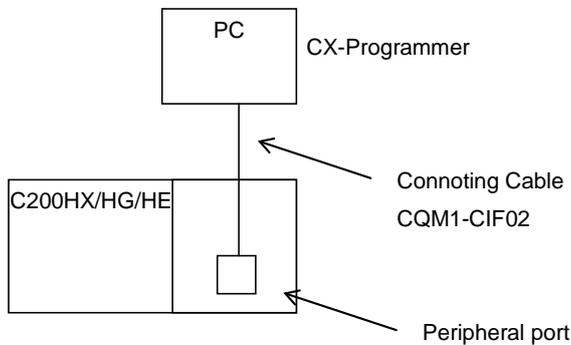
(1) Connect C200HX/HG/HE and a PC using a connecting cable.

(2) Start up the CX-Programmer. (Select **All Program - OMRON - CX-One - CX-Programmer - CX-Programmer** from the Windows Start Menu.)

(3) Select C200HX/HG/HE for the Device Type. (Select **File – New**.)
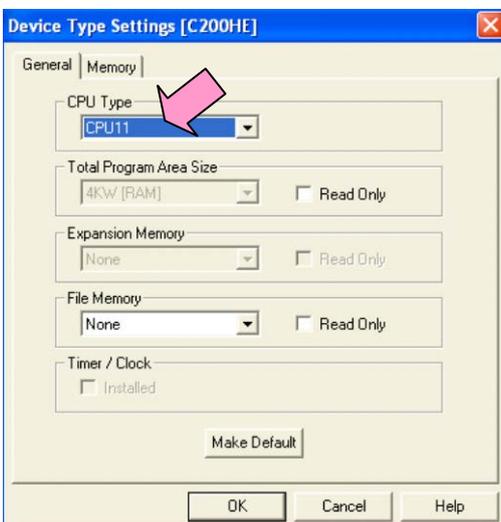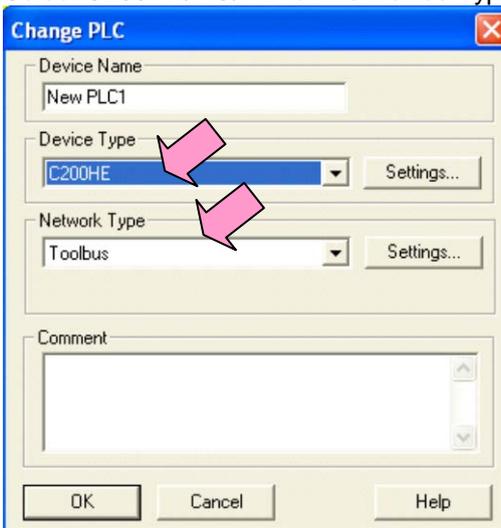
(4) Select *Work Online* from the PLC Menu to go online.

(5) Transfer the ladder program, PLC settings, and I/O table. (Select *Transfer - From PLC* from the PLC Menu.)

Click the *OK* Button to start transfer.
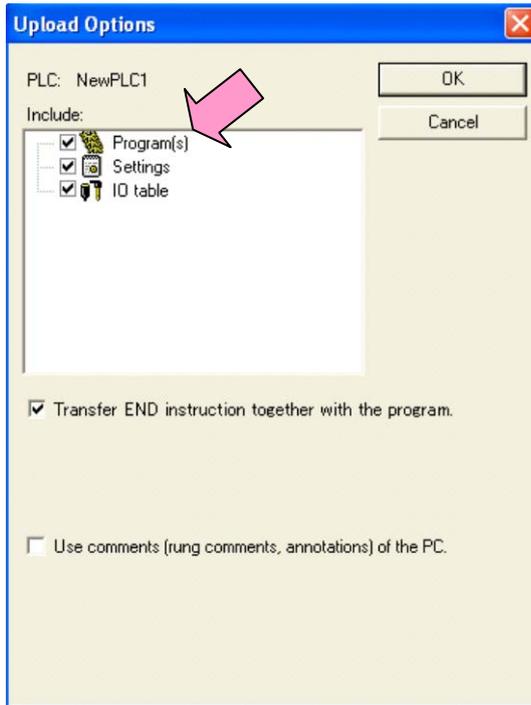
(6) Transfer the PLC memory data (Data Memory). (Select *Edit - Memory* from the PLC Menu.)

Scroll and select all the areas. Click the *Transfer from PLC* Button to start transfer.

(7) Select *Work Online* from the PLC Menu to go offline.

(8) Save the program with a new project name. (Select *Save As* from the File Menu.)

5.   Converting the program for CJ2

On the CX-Programmer, convert the program for CJ2.

(1) Start the CX-Programmer and open the saved program file for C200HX/HG/HE. (Select *Open* from the File Menu.)

(2) Change the Device Type from C200HX/HG/HE to CJ2M or CJ2H. (Select *Change Model* from the PLC Menu to display the below dialog box.)
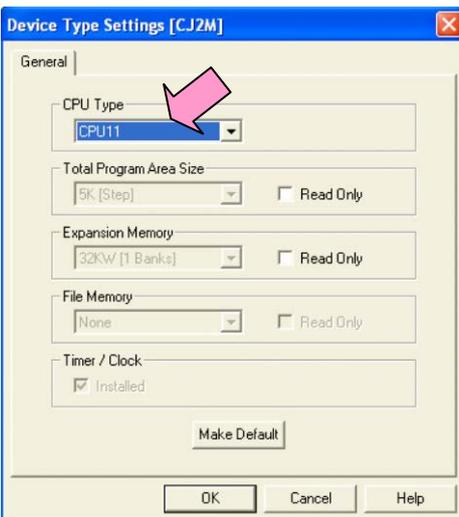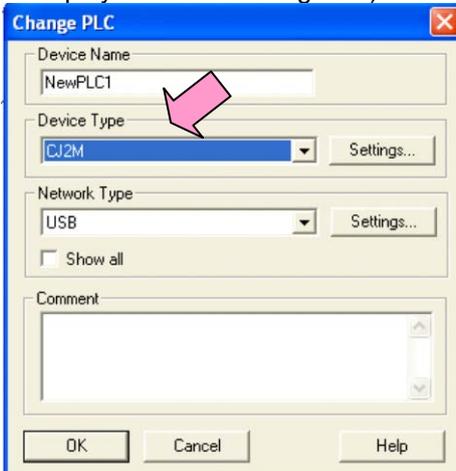

(3) The instructions are automatically converted. The Output Window shows the conversion results. Double-click an error shown on the Output Window to jump to the corresponding section of the ladder program.
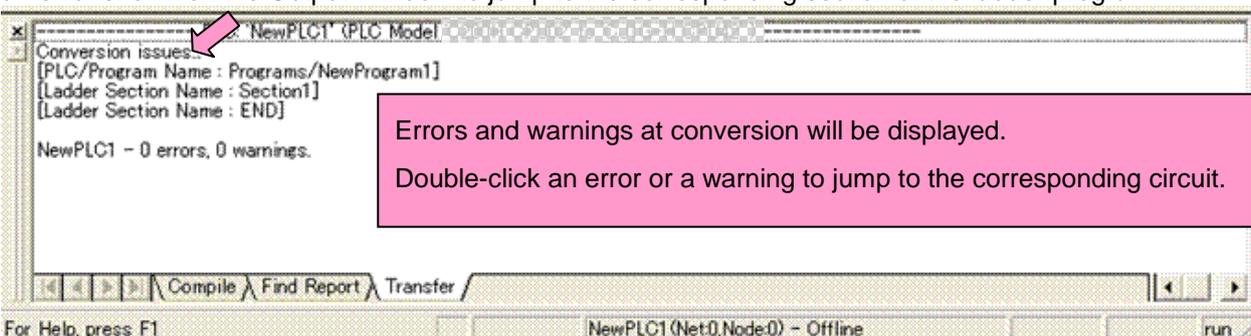
Some instructions cannot be converted. Modify the ladder program by referring to *Appendix A. Instructions converted by Change Model on CX-Programmer.*

You can check the program by selecting *Compile* from the Program Menu. The Output Window shows the checking results.

(4) The PLC memory data cannot be maintained when the PLC model is changed. Open the PLC Memory Window for both C200HX/HG/HE and CJ2, and copy and paste the necessary memory data.


Select the necessary PLC Memory on the C200HX/HG/HE PLC Memory Window, and copy and paste it onto the CJ2 PLC Memory Window.
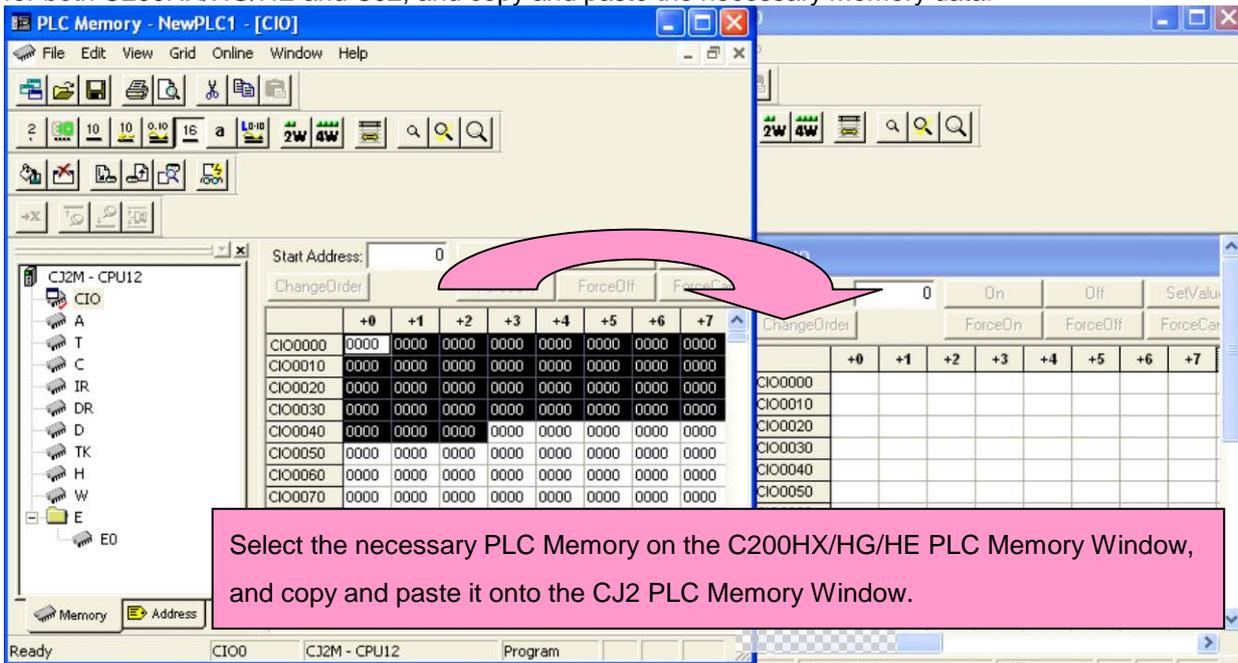
(5) The I/O allocation of C200HX/HG/HE is partly different from that of CJ2. Refer to *Appendix B. Change of unit area allocation* and modify the ladder program.

(6) The PLC settings of C200HX/HG/HE are partly different from those of CJ2. Refer to *Appendix C. Change in PLC settings* and change the PLC settings.

(7) Select **Compile** from the Program Menu to check the program. If an error is detected, correct it.

(8) Save the program with a new project name. (Select **Save As** from the File Menu.)
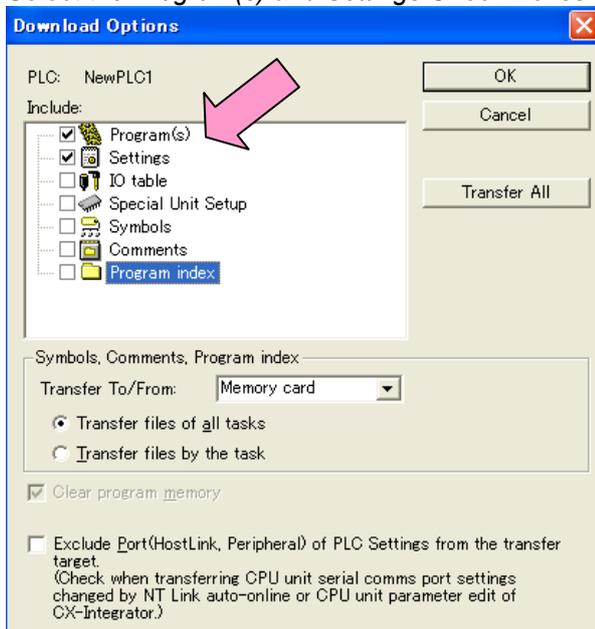
6. Writing data to CJ2

Transfer the converted and modified program, PLC settings, and Data Memory to CJ2.

Required items	Support Software (PC)	CX-One CXONE-AL□□C-V□/ AL□□D-V□ (CX-Programmer)
	Connecting cable	Commercially available USB cable USB 2.0 (or 1.1) cable (A connector – B connector) 5.0 m max.

PC — CX-Programmer

CJ2

Connecting cable
Commercially available USB cable

Peripheral (USB) port on

CPU Unit
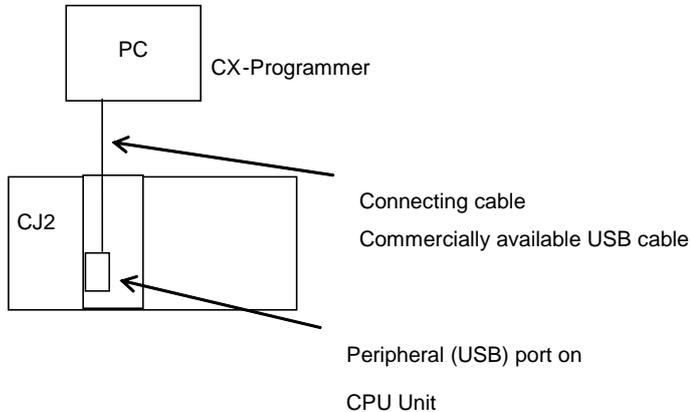
(1) Connect CJ2 with a PC.

(2) Start the CX-Programmer and open the converted program file for CJ2.

(3) Go online with CJ2.

(4) Transfer the ladder program and PLC settings to CJ2. (Select *Transfer - To PLC* from the PLC Menu.)

Select the *Program(s)* and *Settings* Check Boxes. Click the **OK** Button to start transfer.

Download Options

PLC: NewPLC1

Include:
- ☑ Program(s)
- ☑ Settings
- ☐ IO table
- ☐ Special Unit Setup
- ☐ Symbols
- ☐ Comments
- ☐ Program index

OK
Cancel
Transfer All

Symbols, Comments, Program index

Transfer To/From: Memory card

⦿ Transfer files of all tasks
◯ Transfer files by the task

☑ Clear program memory

☐ Exclude Port(HostLink, Peripheral) of PLC Settings from the transfer target.
(Check when transferring CPU unit serial comms port settings changed by NT Link auto-online or CPU unit parameter edit of CX-Integrator.)

(5) Select **Edit - Memory** from the PLC Menu to display the below dialog box. Select the PLC memory (Data Memory Area: D and Holding Area: HR) and click the **Transfer to PLC** Button to start transfer.
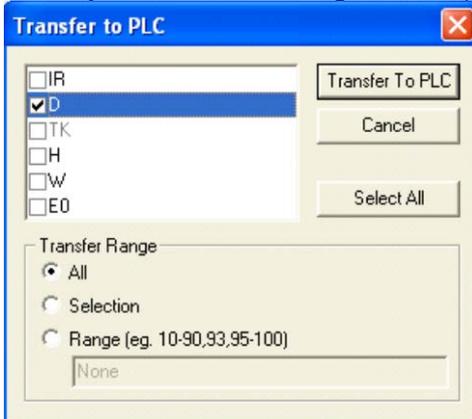
(6) Select **Work Online** from the PLC Menu to go offline

7.　　　Appendix

Appendix A. Instructions converted by Change Model on CX-Programmer

(1) The data type of operand is changed from BCD to binary for some instructions.

(2) The number of operands is changed for some instructions.

(3) Interrupt control instructions must be changed. (Use MSKS, MSKR, CLI, DI, and EI).

Refer to the list below for details. The table lists the instructions which differ between before and after conversion. The other instructions remain unchanged after conversion.

Instruction for C200HX/HG/HE	Instruction for CJ2	Operand	Number of operands
JMP(04)	JMP(004) or JMP0(515)	When #0 is set to the operand, JMP is converted to JMP0 and the operand is deleted. If a value other than #0 is set, the operand is the same.	#0: Changed from 1 to 0 <> #0: Same
JME(05)	JME(005) or JME0(516)	When #0 is set to the operand, JME is converted to JME0 and the operand is deleted. If a value other than #0 is set, the operand is the same.	#0: Changed from 1 to 0 <> #0: Same
FAL(06)	FAL(006)	#0 is added to the second operand. FAL N → FAL N #0	Changed from 1 to 2.
FALS(07)	FALS(007)	#0 is added to the second operand. FALS N → FALS N #0	Changed from 1 to 2.
STEP(08)	STEP(008)	The Work Area (WR) or Index Register (indirect) can be used to specify the operand. Change the operand.	Same
SNXT(09)	SNXT(009)	The Work Area (WR) or Index Register (indirect) can be used to specify the operand. Change the operand.	Same
SCAN(18)	Not supported	Set a minimum cycle time in the PLC Setup.	
ADD(30)	+BC(406)	Same as C200HX/HG/HE	Same
SUB(31)	-BC(416)	Same as C200HX/HG/HE	Same
MUL(32)	*B(424)	Same as C200HX/HG/HE	Same
DIV(33)	/B(434)	Same as C200HX/HG/HE	Same
INC(38)	++B(452)	Same as C200HX/HG/HE	Same
DEC(39)	--B(454)	Same as C200HX/HG/HE	Same
MSG(46)	MSG(046)	#0 is added to the first operand. MSG FM → MSG #0 M The number of characters (words) to be registered from the first message word is changed from 16 characters (8 words) to 32 characters (16 words).	Changed from 1 to 2.
LMSG(47)	Not supported	Use MSG (046) instead.	
TERM(48)	Not supported	To execute the keyboard mapping function, use the function on the touch panel.	
ADB(50)	+C(402)	Same as C200HX/HG/HE	Same
SBB(51)	-C(412)	Same as C200HX/HG/HE	Same
MLB(52)	*U(422)	Same as C200HX/HG/HE	Same
DVB(53)	/U(432)	Same as C200HX/HG/HE	Same
ADDL(54)	+BCL(407)	Same as C200HX/HG/HE	Same
SUBL(55)	-BCL(417)	Same as C200HX/HG/HE	Same
MULL(56)	*BL(425)	Same as C200HX/HG/HE	Same
DIVL(57)	/BL(435)	Same as C200HX/HG/HE	Same
MPRF(61)	Not supported	Use IORF (097) instead.	
LINE(63)	LINE(063)	The data type of the second operand is changed from BCD to binary. When a constant is specified, "#" is automatically converted to "&". When a word address is specified, change the data type of the word from BCD to binary.	Same
COLM(64)	COLM(064)	The data type of the third operand is changed from BCD to binary. When a constant is specified, "#" is automatically converted to "&". When a word address is specified, change the data type of the word from BCD to binary.	Same

Instruction for C200HX/HG/HE	Instruction for CJ2	Operand	Number of operands
BCNT(67)	BCNTC(621)	Same as C200HX/HG/HE	Same
XFER(70)	XFERC(565)	Same as C200HX/HG/HE	Same
DIST(80)	DISTC(566)	Same as C200HX/HG/HE	Same
COLL(81)	COLLC(567)	Same as C200HX/HG/HE	Same
MOVB(82)	MOVBC(568)	Same as C200HX/HG/HE	Same
TTIM(87)	TTIM(087)	The third operand (reset bit) is deleted. Add the reset input. (See the figure below). TTIM(87) 000 #3000 200.00 ↓ 200.00 TTIM(087) 000 #3000	Changed from 3 to 2.
INT(89)	Not supported	Use the following instructions for each function: SET INTERRUPT MASK: MSKS(690) CLEAR INTERRUPT: CLI(691) READ INTERRUPT MASK: MSKR(692) DISABLE INTERRUPTS: DI(693) ENABLE INTERRUPTS : EI(694) Scheduled Interrupt Interval: Set in the PLC Setup	
SEND(90)	SEND(090)	The specification of the first control word (third operand) is changed. Refer to the manual to change the settings.	Same
WDT(94)	WDT(094)	The specification of the operand is changed. Refer to the manual to change the settings.	Same
RECV(98)	RECV(098)	The specification of the first control word (third operand) is changed. Refer to the manual to change the settings.	Same
BXFR(125)	Not supported	Use XFER(070) or XFERC(565) instead.	
FCS(180)	FCS(180)	The specification of the first control word (first operand) is changed. Refer to the manual to change the settings.	Same
SRCH(181)	SRCH(181)	The specification of the first control word (first operand) is changed. Refer to the manual to change the settings.	Same
MAX(182)	MAX(182)	The specification of the first control word (first operand) is changed. Refer to the manual to change the settings.	Same
MIN(183)	MIN(183)	The specification of the first control word (first operand) is changed. Refer to the manual to change the settings.	Same
SUM(184)	SUM(184)	The specification of the first control word (first operand) is changed. Refer to the manual to change the settings.	Same
PID(190)	PID(190)	The specification of the first parameter word (second operand) is changed. Refer to the manual to change the settings.	Same
AVG(195)	AVG(195)	The data type of the second operand is changed from BCD to binary. When a constant is specified, "#" is automatically converted to "&". When a word address is specified, change the data type of the word from BCD to binary.	Same
DSW(210)	DSW(210)	The fourth and fifth operands are added. The fourth operand specifies the number of digits that will be read. Check if the number of digits after conversion is the same as the number specified by this operand. The fifth operand specifies a work word used by this instruction. As this word cannot be used for any other purpose, change to another area when the area assigned by conversion is the area used for another purpose.	Changed from 3 to 5.
HKY(212)	HKY(212)	The fourth operand is added. The fourth operand specifies a work word used by this instruction. As this word cannot be used for any other purpose, change to another area when the area assigned by conversion is the area used for another purpose.	Changed from 3 to 4.

Instruction for C200HX/HG/HE	Instruction for CJ2	Operand	Number of operands
MTR(213)	MTR(213)	The fourth operand is added. The fourth operand specifies a work word used by this instruction. As this word cannot be used for any other purpose, change to another area when the area assigned by conversion is the area used for another purpose.	Changed from 3 to 4.
7SEG(214)	7SEG(214)	The fourth operand is added. The fourth operand specifies a work word used by this instruction. As this word cannot be used for any other purpose, change to another area when the area assigned by conversion is the area used for another purpose.	Changed from 3 to 4.
IORD(222)	IORD(222)	The specifications of the operands are changed. Refer to the *CS1/CJ1/CJ2/NSJ SYSMAC CS/CJ SERIES SYSMAC ONE NSJ SERIES PROGRAMMABLE CONTROLLERS INSTRUCTIONS REFERENCE MANUAL* (Cat. No.W474), and change the settings.	Same
IOWR(223)	IOWR(223)	The specifications of the operands are changed. Refer to the *CS1/CJ1/CJ2/NSJ SYSMAC CS/CJ SERIES SYSMAC ONE NSJ SERIES PROGRAMMABLE CONTROLLERS INSTRUCTIONS REFERENCE MANUAL* (Cat. No.W474), and change the settings.	Same
RXD(235)	RXD(235)	This instruction cannot specify the peripheral port. The data type of the number of bytes to store (third operand) is changed from BCD to binary. When a constant is specified, "#" is automatically converted to "&". When a word address is specified, change the data type of the word from BCD to binary.	Same
TXD(236)	TXD(236)	This instruction cannot specify the peripheral port. The data type of the number of bytes (third operand) is changed from BCD to binary. When a constant is specified, "#" is automatically converted to "&". When a word address is specified, change the data type of the word from BCD to binary.	Same
STUP(237)	STUP(237)	The specification of the control word (port) (first operand) is changed. Refer to the manual to change the settings.	Same
PMCR(260)	PMCR(260)	The specification of the control word 1 (first operand) is changed. Refer to the manual to change the settings.	Changed from 3 to 4.
CMCR(261)	Not supported	Insert the memory card into the CPU Unit and use FREAD(700) or FWRIT(701) instead.	
FPD(269)	FPD(269)	The data types of the FAL number of the control word (first operand) and monitoring time (second operand) are changed from BCD to binary.	Same
XDMR(280)	Not supported	Use XFER(070) or XFERC(565) instead.	
EMBC(281)	EMBC(281)	The data type of the operand is changed from BCD to binary. When a constant is specified, "#" is automatically converted to "&". When a word address is specified, change the data type of the word from BCD to binary.	Same
TST(350)	TST(350)	The data type of the second operand is changed from BCD to binary. When a constant is specified, "#" is automatically converted to "&". When a word address is specified, change the data type of the word from BCD to binary.	Same
TSTN(351)	TSTN(351)	The data type of the second operand is changed from BCD to binary. When a constant is specified, "#" is automatically converted to "&". When a word address is specified, change the data type of the word from BCD to binary.	Same
ADBL(480)	+CL(403)	Same as C200HX/HG/HE	Same
SBBL(481)	-CL(413)	Same as C200HX/HG/HE	Same
MBSL(482)	*L(421)	Same as C200HX/HG/HE	Same
DBSL(483)	/L(431)	Same as C200HX/HG/HE	Same
MBS(484)	*(420)	Same as C200HX/HG/HE	Same
DBS(485)	/(430)	Same as C200HX/HG/HE	Same
BXF2	Not supported	Use XFER(070) or XFERC(565) instead.	
XFR2	Not supported	Use XFER(070) or XFERC(565) instead.	
IEMS	Not supported	Specify another address by using an Index Register.	
NEG(--)	NEG(160)	Same as C200HX/HG/HE However, if NEG Flag UF (25405) is used, change the Condition flags to P_N (Negative Flag).	Same
NEGL(--)	NEGL(161)	Same as C200HX/HG/HE However, if NEGL Flag UF (25405) is used, change the Condition flags to P_N (Negative Flag).	Same

Appendix B. Change of unit area allocation
This section describes the differences in unit area allocation between C200HX/HG/HE and CJ2.
Refer to related manuals for details.

Item	C200HX/HG/HE	CJ2	Description
I/O allocation Basic I/O	"Free location and fixed word allocation"	"Free location and free word allocation" Change the word and bit addresses used in the program.	Refer to the *CJ2H-CPU6□-EIP/CJ2H-CPU 6□/CJ2M-CPU□□ SYSMAC CJ SERIES CJ2 CPU UNIT SOFTWARE USER'S MANUAL* (Cat. No. W473) for details on I/O allocation.
I/O allocation Special I/O	IR 100 to IR 199 IR 400 to IR 459 (10 words allocated for each Unit No.) DM 1000 to DM 2599 (100 words allocated for each Unit No.)	CIO 2000 to CIO 2199 (10 words allocated for each Unit No.) D20000 to D21999 (100 words allocated for each Unit No.) Change the word and bit addresses used in the program.	
I/O allocation Group-2 High-density I/O	IR 030 to IR 049 IR 330 to IR 341 (2 or 4 words allocated for each I/O word)	The allocation is decided in the same way as Basic I/O Units depending on the installed position (rack and slot). Change the word and bit addresses used in the program.	
Link Relay Area (LR)	LR 00 to LR 63	None	PC Link cannot be used with CJ2.
Special Relay Area (SR) Auxiliary Relay Area (AR)	SR 236 to SR 255 SR 256 to SR 299 AR 00 to AR 27	(1) Auxiliary Area and bits Change the word and bit addresses used in the program. (2) Condition flags and clock pulses Change the arithmetic flags in the program to the condition flags. Clock pulses are specified using global symbols, such as "P_0.1ms" and "P_1ms".	In CJ2, operation flags and condition flags are specified by labels.
PLC Link Words	SR 247 to SR 250 (In SR Area)	None	PC Link cannot be used with CJ2.
Optical I/O Unit and I/Terminal Area	IR 200 to IR 231	None	The Optical I/O Unit cannot be used with CJ2.
DeviceNet Area and SYSMAC BUS Area	IR 050 to IR 099 IR 350 to IR 399	[DeviceNet Area] CIO 3200 to CIO 3799 [SYSMAC BUS Area] None	SYSMAC BUS cannot be used with CJ2.
Work/Internal I/O Area	IR 310 to IR 329 IR 342 to IR 349 IR 460 to IR 511	CIO 1200 to CIO 1499 CIO 3800 to CIO 6143 W000 to W511	
Temporary Relay Area (TR)	TR 00 to TR 07	TR 00 to TR 15	
Holding Relay Area (HR)	HR 00 to HR 99	HR 000 to HR 959	
Error Log Area	DM 6000 to DM 6030	A100 to A199	Change the program if the Error Log Area is read in the program.

Appendix C. Change in PLC Settings

Item	C200HX/HG/HE	CJ2	Description
PLC Setup	Always uses the DM Area (DM 6600 to DM 6655	Uses dedicated area for PLC settings (there is no address for setting by users).	Refer to related manuals for details.

Appendix D. Change of execution timing etc.

Item	C200HX/HG/HE	CJ2	Description
Interrupt execution method and execution timing	Write interrupt programs in subroutines.	Write interrupt programs in interrupt tasks.	In CJ2, interrupt tasks are executed even when an instruction is being executed or I/O is being refreshed.
I/O table registration	Not required	Required I/O tables must be created with the CX-Programmer or other programming device.	
Cycle time	-	The cycle time is shortened with CS1. If the system operation is affected by cycle time, check the operation after conversion.	To keep the same cycle time as C200HX/HG/HE, set Minimum Cycle Time in the PLC Setup.

Appendix E. Table of Input/Output Units

■ Input Unit

(1) The terminal block of the CJ-series Unit differs from that of the C200H-series Unit. Change the wiring.

(2) If a different type of connector is used, change the wiring.

(3) If the input specifications differ, make sure that the system operates correctly.

(4) If the number of circuits increases, rewire the terminals to each common terminal.

(5) If internal current consumption is different, make sure the power supply capacity is large enough.

(6) Refer to the related manuals for details. Although CJ-series Units have basic functions of C200H-series Units, some specifications may differ.

< DC Input Units >

C200H -series Unit	Corresponding CJ-series Unit	Description	Difference

C200H-ID211
12 to 24 VDC, 10 mA, Terminal block, 8 inputs
	CJ1W-ID211
	24 VDC, 7 mA, Terminal block, 16 inputs
		DC Input Unit with terminal block for 8 inputs.
		Replace this unit with a DC Input Unit with 16 inputs.
			1) Terminal block
			2) Input points (8 points → 16 points)
			3) Input circuit specifications
			  Input impedance (2 kΩ → 3.3 kΩ)
			  ON voltage (10.2 VDC → 14.4 VDC)
			  OFF voltage (3 VDC → 5 VDC)
			4) Internal current consumption
			  (5 VDC: 10 mA → 80 mA)

C200H-ID212
24 VDC, 7 mA, Terminal block, 16 inputs
	CJ1W-ID211
	24 VDC, 7 mA, Terminal block, 16 inputs
		DC Input Unit with terminal block for 16 inputs.	1) Terminal block
			2) Input circuit specification
			  Input impedance (3 kΩ → 3.3 kΩ)
			3) Internal current consumption
			  (5 VDC: 10 mA → 80 mA)

C200H-ID215
24 VDC, 4.1 mA, Connector, 32 inputs (Special I/O)
	CJ1W-ID231
	24 VDC, 4.1 mA, Connector, 32 inputs
		DC Input Unit with connector for 32 inputs.	1) Connector
			  Use the XW2Z-S010 Conversion Cable to reuse the connecting cable.
			2) No. of circuits (8 points/common x 4 circuits → 16 points/common x 2 circuits)
			3) Input circuit specification
			  ON voltage(14.4 VDC → 19 VDC)
			4) Internal current consumption
			  (5 VDC: 130 mA → 90 mA)

C200H-ID216
24 VDC, 4.1 mA, Connector, 32 inputs (Group-2)
	CJ1W-ID231
	24 VDC, 4.1 mA, Connector, 32 inputs
		DC Input Unit with connector for 32 inputs.	1) No. of circuits (32 points/common x 1 circuit → 16 points/common x 2 circuits)
			2) Input circuit specification
			  ON voltage (14.4 VDC → 15.4 VDC)
			3) Internal current consumption
			  (5 VDC: 100 mA → 90 mA)

C200H-ID218 24 VDC, 6 mA, Connector, 32 inputs (Group-2)	**CJ1W-ID231** 24 VDC, 4.1 mA, Connector, 32 inputs	DC Input Unit with connector for 32 inputs.	1) No. of circuits (32 points/common x 1 circuit → 16 points/common x 2 circuits) 2) Internal current consumption (5 VDC: 100 mA → 90 mA)

C200H-ID111
12 VDC, 4.1 mA, Connector, 64 inputs (Group-2)
	CJ1W-ID261
	24 VDC, 4.1 mA, Connector, 64 inputs
		DC Input Unit with connector for 64 inputs.	1) No. of circuits (32 points/common x 2 circuits → 16 points/common x 4 circuits)
			2) Input circuit specifications
			  Input voltage (12 VDC → 24 VDC)
			  Input impedance (2.7 kΩ → 5.6 kΩ)
			  ON voltage (8 VDC → 19 VDC)
			  OFF voltage (3 VDC → 5 VDC)
			3) Internal current consumption
			  (5 VDC: 120 mA → 90 mA)

C200H-ID217
24 VDC, 4.1 mA, Connector, 64 inputs (Group-2)
	CJ1W-ID261
	24 VDC, 4.1 mA, Connector, 64 inputs
		DC Input Unit with connector for 64 inputs.	1) No. of circuits (32 points/common x 2 circuits → 16 points/common x 4 circuits)
			2) Input circuit specification
			  ON voltage (14.4 VDC → 19 VDC)
			3) Internal current consumption
			  (5 VDC: 120 mA → 90 mA)

C200H-ID219
24 VDC, 6 mA, Connector, 64 inputs (Group-2)
	CJ1W-ID261
	24 VDC, 4.1 mA, Connector, 64 inputs
		DC Input Unit with connector for 64 inputs.	1) No. of circuits (32 points/common x 2 circuits → 16 points/common x 4 circuits)
			2) Input circuit specifications
			  Input impedance (3.9 kΩ → 5.6 kΩ)
			  ON voltage (15.4 VDC → 19 VDC)
			3) Internal current consumption
			  (5 VDC: 120 mA → 90 mA)

< TTL Input Unit >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference
C200H-ID501 5 VDC, 3.5 mA, Connector, 32 inputs (Special I/O)	No replacement model	TTL Input Unit with connector for 32 inputs. The CJ Series does not have the same type of Unit. Use the CJ1W-ID231 24-VDC Input Unit or CJ1W-MD563 TTL I/O Unit instead.	

< AC Input Units >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference
C200H-IA121 100 to 120 VAC, 10 mA, Terminal block, 8 inputs	**CJ1W-IA111** 100 to 120 VAC, 7 mA, Terminal block, 16 inputs	100 VAC Input Unit with terminal block for 8 inputs. Replace this unit with a 100 VAC Input Unit with 16 inputs.	1) Terminal block 2) Input points (8 points → 16 points) 3) Input circuit specifications 　Input impedance (9.7 kΩ → 14.5 kΩ) 　ON voltage (60 VAC → 70 VAC) 4) Internal current consumption 　(5 VDC: 10 mA → 90 mA)
C200H-IA221 200 to 240 VAC, 10 mA, Terminal block, 8 inputs	**CJ1W-IA201** 200 to 240 VAC, 9 mA, Terminal block, 8 inputs	200 VAC Input Unit with terminal block for 8 inputs. .	1) Terminal block 2) Input points (8 points → 8 points*) 　*16 I/O bits (1 word) are allocated. 3) Internal current consumption 　(5 VDC: 10 mA → 80 mA)
C200H-IA122/IA122V 100 to 120 VAC, 10 mA, Terminal block, 16 inputs, IA122V: Complying with EC Directive	**CJ1W-IA111** 100 to 120 VAC, 7 mA, Terminal block, 16 inputs	100 VAC Input Unit with terminal block for 16 inputs.	1) Terminal block 2) Input circuit specifications 　Input impedance (9.7 kΩ → 14.5 kΩ) 　ON voltage (60 VAC → 70 VAC) 3) Internal current consumption 　(5 VDC: 10 mA → 90 mA)
C200H-IA222/IA222V 200 to 240 VAC, 10 mA, Terminal block, 16 inputs, IA222V: Complying with EC Directive	**CJ1W-IA201** 200 to 240 VAC, 9 mA, Terminal block, 8 inputs	200 VAC Input Unit with terminal block for 16 inputs. Replace this unit with two 200 VAC Input Units with 8 inputs.	1) Terminal block 2) No. of circuits (16 points/common x 1 circuit → 8 points/common x 1 circuit x 2) 3) Internal current consumption 　(5 VDC: 10 mA → 80 mA x 2)

< AC/DC Input Units >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference
C200H-IM211 12 to 24 VAC/VDC , Terminal block, 8 inputs	**CJ1W-ID211** 24 VDC, 7 mA, Terminal block, 16 inputs	AC/DC Input Unit with terminal block for 8 inputs. Replace this unit with a DC Input Unit with 16 inputs. *The CJ Series does not have an AC/DC Input Unit. If this Unit is used with AC inputs, change the wiring for DC inputs.	1) Terminal block 2) Input points (8 points → 16 points) 3) Input circuit specifications 　Input voltage range 　(12 to 24 VAC/VDC → 24 VDC) 　Input impedance (2 kΩ → 3.3 kΩ) 　ON voltage (10.2 VDC → 14.4 VDC) 　OFF voltage (3 VDC → 5 VDC) 4) Internal current consumption 　(5 VDC: 10 mA → 80 mA)
C200H-IM212 24 VAC/VDC , Terminal block, 16 inputs	**CJ1W-ID211** 24 VDC, 7 mA, Terminal block, 16 inputs	AC/DC Input Unit with terminal block for 16 inputs. Replace this unit with a DC Input Unit with 16 inputs. *The CJ Series does not have an AC/DC Input Unit. If this Unit is used with AC inputs, change the wiring for DC inputs.	1) Terminal block 2) No. of circuits (16 points/common x 1 circuit → 8 points/common x 2 circuits) 3) Input circuit specifications 　Input voltage range (24 VAC/VDC → 24 VDC) 　Input impedance (3 kΩ → 3.3 kΩ) 4) Internal power consumption 　(5 VDC: 10 mA → 80 mA)

■ Output Unit

(1) The terminal block of the CJ-series Unit differs from that of the C200H-series Unit. Change the wiring.

(2) If a different type of connector is used, change the wiring.

(3) If the number of circuits increases, rewire the terminals to each common terminal.

(4) If the output specifications differ, make sure that the system operates correctly.

(5) The relay lifetime may vary depending on usage when a different relay is used. Refer to *A-1-3 Precautions on Contact Output Unit* of the *CJ2H-CPU6□-EIP/CJ2H-CPU6□/CJ2M-CPU□□ SYSMAC CJ Series CJ2 CPU Unit Hardware USER'S MANUAL* (Cat. No. W472) for details.

(6) If internal current consumption is different, make sure the power supply capacity is large enough.

(7) If the voltage and current consumption of the external power supply differ, make sure the power supply capacity is large enough.

(8) Refer to the related manuals for details. Although CJ-series Units have basic functions of C200H-series Units, some specifications may differ.

< Relay Output Units >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference

C200H-OC223
250 VAC/24 VDC, 2 A,
Terminal block, 5 outputs
(independent contacts)
	CJ1W-OC201
	250 VAC/24 VDC, 2 A,
	Terminal block, 8 outputs
	(independent contacts)
		Relay Output Unit with terminal block for 5 outputs (independent contacts). Replace this unit with a Relay Output Unit with 8 outputs (independent contacts).	1) Terminal block
			2) Output points
			   (independent contacts 5 points → 8 points)
			3) Output circuit specifications
			   ON/OFF response time (10 ms → 15 ms)
			   Used relay
			4) Internal current consumption
			   (5 VDC: 10 mA → 90 mA,
			   26 VDC: 46 mA → 24 VDC: 48 mA)

C200H-OC224
250 VAC/24 VDC, 2 A,
Terminal block, 8 outputs
(independent contacts)
	CJ1W-OC201
	250 VAC/24 VDC, 2 A,
	Terminal block, 8 outputs
	(independent contacts)
		Relay Output Unit with terminal block for 8 outputs (independent contacts).	1) Terminal block
			2) Output circuit specifications
			   ON/OFF response time (10 ms → 15 ms)
			   Used relay
			3) Internal current consumption
			   (5 VDC: 10 mA → 90 mA,
			   26 VDC: 75 mA → 24 VDC: 48 mA)

C200H-OC224V, OC224N
250 VAC/24 VDC, 2 A,
Terminal block, 8 outputs
(independent contacts)
	CJ1W-OC201
	250 VAC/24 VDC, 2 A,
	Terminal block, 8 outputs
	(independent contacts)
		Relay Output Unit with terminal block for 8 outputs (independent contacts).	1) Terminal block
			2) Output circuit specification
			   Used relay
			3) Internal current consumption
			   (5 VDC: 10 mA → 90 mA,
			   26 VDC: 90 mA → 24 VDC: 48 mA)

C200H-OC221
250 VAC/24 VDC, 2 A,
Terminal block, 8 outputs
	CJ1W-OC211
	250 VAC/24 VDC, 2 A,
	Terminal block, 16 outputs
		Relay Output Unit with terminal block for 8 outputs. Replace this unit with a Relay Output Unit with 16 outputs.	1) Terminal block
			2) Output points (8 points → 16 points)
			3) Output circuit specifications
			   ON/OFF response time (10 ms → 15 ms)
			   Used relay
			4) Internal current consumption
			   (5 VDC: 10 mA → 110 mA,
			   26 VDC: 75 mA → 24 VDC: 96 mA)

C200H-OC222
250 VAC/24 VDC, 2 A,
Terminal block, 12 outputs
	CJ1W-OC211
	250 VAC/24 VDC, 2 A,
	Terminal block, 16 outputs
		Relay Output Unit with terminal block for 12 outputs. Replace this unit with a Relay Output Unit with 16 outputs.	1) Terminal block
			2) Output points (12 points → 16 points)
			3) No. of circuits (12 points/common x 1 circuit → 8 points/common x 2 circuits)
			4) Output circuit specifications
			   ON/OFF response time (10 ms → 15 ms)
			   Used relay
			5) Internal current consumption
			   (5 VDC: 10 mA → 110 mA,
			   26 VDC: 75 mA → 24 VDC: 96 mA)

C200H-OC222V, OC222N
250 VAC/24 VDC, 2 A,
Terminal block, 12 outputs
	CJ1W-OC211
	250 VAC/24 VDC, 2 A,
	Terminal block, 16 outputs
		Relay Output Unit with terminal block for 12 outputs. Replace this unit with a Relay Output Unit with 16 outputs.	1) Terminal block
			2) Output points (12 points → 16 points)
			3) No. of circuits (12 points/common x 1 circuit → 8 points/common x 2 circuits)
			4) Output circuit specification
			   Used relay
			5) Internal current consumption
			   (5 VDC: 10 mA → 110 mA,
			   26 VDC: 90 mA → 24 VDC: 96 mA)

< Relay Output Units >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference
C200H-OC225 250 VAC/24 VDC, 2 A, Terminal block, 16 outputs	**CJ1W-OC211** 250 VAC/24 VDC, 2 A, Terminal block, 16 outputs	Relay Output Unit with terminal block for 16 outputs.	1) Terminal block 2) No. of circuits (16 points/common x 1 circuit → 8 points/common x 2 circuits) 3) Output circuit specifications 　ON/OFF response time (10 ms → 15 ms) 　Used relay 4) Internal current consumption 　(5 VDC: 10 mA → 110 mA, 　26 VDC: 75 mA → 24 VDC: 96 mA)
C200H-OC226, OC226N 250 VAC/24 VDC, 2 A, Terminal block, 16 outputs	**CJ1W-OC211** 250 VAC/24 VDC, 2 A, Terminal block, 16 outputs	Relay Output Unit with terminal block for 16 outputs.	1) Terminal block 2) No. of circuits (16 points/common x 1 circuit → 8 points/common x 2 circuits) 3) Output circuit specification 　Used relay 4) Internal current consumption 　(5 VDC: 10 mA → 110 mA, 　26 VDC: 90 mA → 24 VDC: 96 mA)

< Transistor Output Units >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference
C200H-OD411 12 to 48 VDC, 1 A, Sinking, Terminal block, 8 outputs	**CJ1W-OD211** 12 to 24 VDC, 0.5 A, Sinking, Terminal block, 16 outputs	Transistor Output Unit with terminal block for 8 outputs. Replace this unit with a Transistor Output Unit with 16 outputs.	1) Terminal block 2) Output points (8 points → 16 points) 3) Output circuit specifications 　Voltage range (12 to 48 VDC → 12 to 24VDC) 　Output capacity 　(1 A/point, 3 A/Unit → 0.5 A/point, 5 A/Unit) 　Residual voltage (1.4 V → 1.5 V) 　ON response time (0.2 ms → 0.1 ms) 　OFF response time (0.3 ms → 0.8 ms) 4) Internal current consumption 　(5 VDC: 140 mA → 100 mA)
C200H-OD213 24 VDC, 2.1 A, Sinking, Terminal block, 8 outputs	**CJ1W-OD211** 12 to 24 VDC, 0.5 A, Sinking, Terminal block, 16 outputs	Transistor Output Unit with terminal block for 8 outputs. Replace this unit with a Transistor Output Unit with 16 outputs.	1) Terminal block 2) Output points (8 points → 16 points) 3) Output circuit specifications 　Output capacity 　(2.1 A/point, 5.2 A/Unit → 0.5 A/point, 5 A/Unit) 　Residual voltage (1.4 V → 1.5 V) 　ON response time (0.2 ms → 0.1 ms) 　OFF response time (0.3 ms → 0.8 ms) 4) Internal current consumption 　(5 VDC: 140 mA → 100 mA)
C200H-OD214 24 VDC, 0.8 A, Sourcing, Terminal block, Load short circuit protection, 8 outputs	**CJ1W-OD212** 24 VDC, 0.5 A, Sourcing, Terminal block, Load short circuit protection, 16 outputs	Transistor Output Unit with terminal block for 8 outputs. Replace this unit with a Transistor Output Unit with 16 outputs.	1) Terminal block 2) Output points (8 points → 16 points) 3) Output circuit specifications 　Output capacity 　(0. 8A/point, 2.4 A/Unit → 0.5 A/point, 5 A/Unit) 　ON response time (1 ms → 0.5 ms) 4) Internal current consumption 　(5 VDC: 140 mA → 100 mA)
C200H-OD216 5 to 24 VDC, 0.3 A, Sourcing, Terminal block, 8 outputs	**CJ1W-OD212** 24 VDC, 0.5 A, Sourcing, Terminal block, Load short circuit protection, 16 outputs	Transistor Output Unit with terminal block for 8 outputs. Replace this unit with a Transistor Output Unit with 16 outputs.	1) Terminal block 2) Output points (8 points → 16 points) 3) Output circuit specifications 　Output voltage range (5 to 24 VDC → 24 VDC) 　ON response time (1.5 ms → 0.5 ms) 　OFF response time (2 ms → 1 ms) 4) Internal current consumption (5 VDC: 10 mA → 100 mA, 26 VDC: 75 mA → 0 mA) 5) External power supply 　(Not required → 24 VDC/40 mA)
C200H-OD211 24 VDC, 0.3 A, Sinking, Terminal block, 12 outputs	**CJ1W-OD211** 12 to 24 VDC, 0.5 A, Sinking, Terminal block, 16 outputs	Transistor Output Unit with terminal block for 12 outputs. Replace this unit with a Transistor Output Unit with 16 outputs.	1) Terminal block 2) Output points (12 points → 16 points) 3) Output circuit specifications 　Residual voltage (1.4 V → 1.5 V) 　ON response time (0.2 ms → 0.1 ms) 　OFF response time (0.3 ms → 0.8 ms) 4) Internal current consumption 　(5 VDC: 160 mA → 100 mA)

< Transistor Output Units >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference

C200H-OD217
5 to 24 VDC, 0.3 A, Sourcing, Terminal block, 12 outputs
	CJ1W-OD212
	24 VDC, 0.5 A, Sourcing, Terminal block, Load short circuit protection, 16 outputs
		Transistor Output Unit with terminal block for 12 outputs. Replace this unit with a Transistor Output Unit with 16 outputs.	1) Terminal block
			2) Output points (12 points → 16 points)
			3) Output circuit specifications
			  Output voltage range (5 to 24 VDC → 24 VDC)
			  ON response time (1.5 ms → 0.5 ms)
			  OFF response time (0.5 ms → 1.0 ms)
			4) Internal current consumption
			  (5 VDC: 10 mA → 100 mA,
			  26 VDC: 75 mA → 0 mA)
			5) External power supply
			  (Not required → 24 VDC: 40 mA)

C200H-OD212
24 VDC, 0.3 A, Sinking, Terminal block, 16 outputs
	CJ1W-OD211
	12 to 24 VDC, 0.5 A, Sinking, Terminal block, 16 outputs
		Transistor Output Unit with terminal block for 16 outputs.	1) Terminal block
			2) Output circuit specifications
			  Residual voltage (1.4 V → 1.5 V)
			  ON response time (0.2 ms → 0.1 ms)
			  OFF response time (0.3 ms → 0.8 ms)
			4) Internal current consumption
			  (5 VDC: 180 mA → 100 mA,)

C200H-OD21A
24 VDC, 1.0 A, Sourcing, Terminal block, Load short circuit protection, 16 outputs
	CJ1W-OD212
	24 VDC, 0.5 A, Sourcing, Terminal block, Load short circuit protection, 16 outputs
		Transistor Output Unit with terminal block for 16 outputs.	1) Terminal block
			2) Output circuit specifications
			  Output capacity
			  (1 A/point, 4 A/Unit → 0.5 A/point, 5 A/Unit)
			  Residual voltage (0.8 V → 1.5 V)
			  ON response time (0.1 ms → 0.5 ms)
			  OFF response time (0.3 ms → 1.0 ms)
			4) Internal current consumption
			  (5 VDC: 160 mA → 100 mA)
			5) Alarm output (Supported → Not supported)

C200H-OD218
4.5 to 26.3 VDC, 0.1A, Sinking, Connector, 32 outputs (Group-2)
	CJ1W-OD231
	12 to 24 VDC, 0.5A, Sinking, Connector, 32 outputs
		Transistor Output Unit with connector for 32 outputs.	1) No. of circuits (32 points/common x 1 circuit → 16 points/common x 2 circuits)
			2) Output circuit specifications
			  Output voltage range
			  (5 to 24 VDC → 12 to 24 VDC)
			  Residual voltage (0.8 V → 1.5 V)
			  OFF response time (0.4 ms → 0.8 ms)
			3) Internal current consumption
			  (5 VDC: 180 mA → 140 mA)

C200H-OD215
4.5 to 26.3 VDC, 0.1 A, Sinking, Connector, 32 outputs (Special I/O)
	CJ1W-OD231
	12 to 24 VDC, 0.5A, Sinking, Connector, 32 outputs
		Transistor Output Unit with connector for 32 outputs.
		*The CJ-series Unit does not support dynamic outputs. Change the wiring for static outputs.
			1) Connector
			  Use the XW2Z-S011 Conversion Cable to reuse the connecting cable.
			2) Output method
			  (Dynamic or static mode → Static mode only)
			Based on specifications in static output mode
			3) No. of circuits (8 points/common x 4 circuits → 16 points/common x 2 circuits)
			4) Output circuit specifications
			  Output voltage range
			  (5 to 24 VDC → 12 to 24 VDC)
			  Residual voltage (0.7 V → 1.5 V)
			  ON response time (0.2 ms → 0.1 ms)
			  OFF response time (0.6 ms → 0.8 ms)
			5) Internal current consumption
			  (5 VDC: 220 mA → 140 mA)

C200H-OD21B
24 VDC, 0.5 A, Sourcing, Connector, Load short circuit protection, 32 outputs (Group-2)
	CJ1W-OD232
	24 VDC, 0.5 A, Sourcing, Connector, Load short circuit protection, 32 outputs
		Transistor Output Unit with connector for 32 outputs.	1) No. of circuits (32 points/common x 1 circuit → 16 points/common x 2 circuits)
			2) Output circuit specifications
			  Output capacity (0.5 A/point, 5 A/Unit → 0.5 A/point, 2.5 A/common, 4 A/Unit)
			  Residual voltage (0.8 V → 1.5 V)
			  ON response time (0.1 ms → 0.5 ms)
			  OFF response time (0.3 ms → 1 ms)
			3) Internal current consumption
			  (5 VDC: 180 mA → 150 mA)

C200H-OD219
4.5 to 26.3 VDC, 0.1 A, Sinking, Connector, 64 outputs (Group-2)
	CJ1W-OD261
	12 to 24 VDC, 0.3 A, Sinking, Connector, 64 outputs
		Transistor Output Unit with connector for 64 outputs..	1) No. of circuits (32 points/common x 2 circuits → 16 points/common x 4 circuits)
			2) Output circuit specifications
			  Output voltage range
			  (5 to 24 VDC -> 12 to 24 VDC)
			  Residual voltage (0.8 V → 1.5 V)
			  ON response time (0.1 ms → 0.5 ms)
			  OFF response time (0.4 ms → 1.0 ms)
			3) Internal current consumption
			  (5 VDC: 270 mA → 170 mA)

< TTL Output Unit >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference
C200H-OD501 5 VDC, 35 mA, Connector, 32 outputs (Special I/O)	No replacement model	TTL Output Unit with connector for 32 outputs. The CJ Series does not have the same type of Unit. Use C200H-OD501 with CJ2 or use the CJ1W-OD231 Transistor Output Unit or CJ1W-MD563 TTL I/O Unit instead.	

< Triac Output Units >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference
C200H-OA223 250 VAC, 1.2 A, Terminal block, 8 outputs	**CJ1W-OA201** 250 VAC, 0.6 A, Terminal block, 8 outputs	Triac Output Unit with terminal block for 8 outputs.	1) Terminal block 2) Output circuit specifications Output capacity (1.2 A/point, 4 A/unit → 0.6 A/point, 2.4 A/Unit) Max. inrush current (15 A/100 ms, 30 A/10 ms → 15 A/10 ms) Residual voltage (50 to 1200 mA: 1.5 VAC, 10 to 50 mA: 5 VAC → 1.6 VAC). 3) Internal current consumption (5 VDC: 180 mA → 220 mA)
C200H-OA221 250 VAC, 1.2 A, Terminal block, 8 outputs	**CJ1W-OA201** 250 VAC, 0.6 A, Terminal block, 8 outputs	Triac Output Unit with terminal block for 8 outputs.	1) Terminal block 2) Output circuit specifications Output capacity (1 A/point, 4 A/unit → 0.6 A/point, 2.4 A/Unit) Max. inrush current (No regulation → 15 A/10 ms) Residual voltage (1.2 VAC → 1.6 VAC) OFF response time (1/2 of load frequency or less → 1/2 of load frequency + 1 ms or less) 3) Internal current consumption (5 VDC: 140 mA → 220 mA)
C200H-OA224 250 VAC, 0.5 A, Terminal block, 12 outputs	**CJ1W-OA201** 250 VAC, 0.6 A, Terminal block, 8 outputs	Triac Output Unit with terminal block for 12 outputs. Replace this unit with two Triac Output Units with 8 outputs.	1) Terminal block 2) Output points (12 points → 8 points x 2) 3) No. of circuits (12 points/common x 1 circuit → 8 points/common x 1 circuit x 2) 4) Output circuit specifications Output capacity (250 VAC 0.5 A/point, 2 A/unit → 0.6 A/point, 2.4 A/Unit x 2) Max. inrush current (10 A/100 ms, 20 A/10 ms → 15 A/10 ms) Residual voltage (50 to 500 mA: 1.5 VAC, 10 to 50 mA: 5 VAC → 1.6 VAC). 5) Internal current consumption (5 VDC: 270 mA → 220 mA x 2)
C200H-OA222V 250 VAC, 0.3 A, Terminal block, 12 outputs (CE marked)	**CJ1W-OA201** 250 VAC, 0.6 A, Terminal block, 8 outputs	Triac Output Unit with terminal block for 12 outputs. Replace this unit with two Triac Output Units with 8 outputs.	1) Terminal block 2) Output points (12 points → 8 points x 2) 3) No. of circuits (12 points/common x 1 circuit → 8 points/common x 1 circuit x 2) 4) Output circuit specifications Max. inrush current (No regulation → 15 A/10 ms) Residual voltage (1.2 VAC → 1.6 VAC) ON response time (1/2 of load frequency or less → 1 ms or less) OFF response time (1/2 of load frequency or less → 1/2 of load frequency + 1 ms or less). 5) Internal current consumption (5 VDC: 200 mA → 220 mA x 2)

◆ **Input/Output Units**

(1) The CJ Series has following I/O Units: CJ1W-MD23□, CJ1W-MD26□, and CJ1W-MD563.

(2) Refer to the related manuals for details. Although CJ-series Units have basic functions of C200H-series Units, some specifications may differ.

< DC Input/Transistor Output Units >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference
C200H-MD115 12 VDC/16 inputs (4.1 mA), 12 VDC/16 outputs (0.1A, Sinking), Connector (Special I/O)	**CJ1W-MD231** 24 VDC/16 inputs (7 mA), 12 to 24VDC/16 outputs (0.5 A, Sinking), Connector	I/O Unit with connector for 16 inputs and 16 outputs. *The CJ-series Unit does not support dynamic outputs. Change the wiring for static outputs.	1) Connector 2) Output method (Dynamic or static mode → Static mode only) 3) Internal current consumption (5 VDC: 180 mA → 130 mA) Based on specifications in static output mode < Output circuit > 4) No. of circuits (8 points/common x 2 circuits → 16 points/common x 1 circuit) 5）Output circuit specifications Output voltage range (5 to 24 VDC → 12 to 24 VDC) Residual voltage (0.7 V → 1.5 V) ON response time (0.2 ms → 0.1 ms) OFF response time (0.6 ms → 0.8 ms) < Input circuit > 6) No. of circuits (8 points/common x 2 circuits → 16 points/common x 1 circuit) 7) Input circuit specifications Input voltage (12 VDC → 24 VDC) Input impedance (2.7 kΩ → 3.3 kΩ) ON voltage (8 VDC → 14.4 VDC) OFF voltage (3 VDC → 5 VDC)
C200H-MD215 24 VDC/16 inputs (4.1 mA), 5 to 24 VDC/16 outputs (0.1 A, Sinking), Connector (Special I/O)	**CJ1W-MD231** 24 VDC/16 inputs (7 mA), 12 to 24VDC/16 outputs (0.5 A, Sinking), Connector	I/O Unit with connector for 16 inputs and 16 outputs. *The CJ-series Unit does not support dynamic outputs. Change the wiring for static outputs.	1) Connector 2) Output method (Dynamic or static mode → Static mode only) 3) Internal current consumption (5 VDC: 180 mA → 130 mA) Based on specifications in static output mode < Output circuit > 4) No. of circuits (8 points/common x 2 circuits → 16 points/common x 1 circuit) 5）Output circuit specifications Output voltage range (5 to 24 VDC → 12 to 24 VDC) Residual voltage (0.7 V → 1.5 V) ON response time (0.2 ms → 0.1 ms) OFF response time (0.6 ms → 0.8 ms) < Input circuit > 6) No. of circuits (8 points/common x 2 circuits → 16 points/common x 1 circuit) 7) Input circuit specification Input impedance (5.6 kΩ → 3.3 kΩ)

< TTL I/O Unit >

C200H-series Unit	Corresponding CJ-series Unit	Description	Difference

C200H-MD501
 	
5 VDC/16 inputs (3.5 mA),
5 VDC/16 outputs (35 mA,
Sinking), Connector
(Special I/O)
	CJ1W-MD231
	
	24 VDC/16 inputs (7 mA),
	12 to 24VDC/16 outputs
	(0.5 A, Sinking), Connector
		I/O Unit with connector for 16 inputs and 16 outputs.
		*The CJ-series Unit does not support dynamic outputs. Change the wiring for static outputs.
		*We recommend you to replace this Unit with CJ1W-MD563 (32 inputs/32 outputs) for TTL I/O.
			1) Connector
			2) Output method
			   (Dynamic or static mode → Static mode only)
			3) Internal current consumption
			   (5 VDC: 180 mA → 130 mA)
			Based on specifications in static output mode
			< Output circuit >
			4) No. of circuits (8 points/common x 2 circuits
			   → 16 points/common x 1 circuit)
			5）Output circuit specifications
			   Output voltage range
			   (5 VDC → 12 to 24 VDC)
			   Residual voltage (0.4 V -> 1.5 V)
			   ON response time (0.2 ms → 0.1 ms)
			   OFF response time (0.3 ms → 0.8 ms)
			< Input circuit >
			6) No. of circuits (8 points/common x 2 circuits
			   → 16 points/common x 1 circuit)
			7) Input circuit specifications
			   Input voltage (5 VDC → 24 VDC)
			   Input impedance (1.1 kΩ → 3.3 kΩ)
			   ON voltage (3 VDC → 14.4 VDC)
			   OFF voltage (1 VDC → 5 VDC)

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