

Programmable Controller CJ1

Replacement Guide From CJ1M/CJ1G to CJ2M

CJ1M-CPU□□

CJ1G-CPU4□(H)

CJ2M-CPU□□



Replace
Guide

About this document

This document provides the reference information for replacing CJ1M/CJ1G PLC systems with CJ2M 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

Man.No.	Manual
W472	CJ2 CPU Unit Hardware USER'S MANUAL
W473	CJ2 CPU Unit Software USER'S MANUAL
W486	CJ2M Pulse I/O Module USER'S MANUAL
W393	CJ Series OPERATION MANUAL
W441	CJ series CJ1M CPU Units with Ethernet Functions OPERATION MANUAL
W395	CJ series Built-in I/O CJ1M CPU Units OPERATION MANUAL
W394	CS/CJ/NSJ PROGRAMMING MANUAL
W474	CS/CJ/NSJ Series INSTRUCTIONS REFERENCE MANUAL
W342	CS/CJ/CP/NSJ Series Communications Commands REFERENCE MANUAL
W345	CS/CJ Series Analog I/O Units AD/DA/MAD42 OPERATION MANUAL
W368	CS/CJ Series Analog I/O Units OPERATION MANUAL
W466	CJ Series Universal Input Units OPERATION MANUAL
W396	CJ Series Temperature Control Units OPERATION MANUAL
W401	High-speed Counter Units OPERATION MANUAL
W465	EtherNet/IP Units OPERATION MANUAL
W420	CS and CJ Series Ethernet Units OPERATION MANUAL Construction of Networks
W343	CS/CJ Series Ethernet Units OPERATION MANUAL
W421	CS/CJ Series Ethernet Units OPERATION MANUAL Construction of Applications
Z174	CS/CJ Series ID SENSOR UNITS OPERATION MANUAL
W397	CJ Series Position Control Units CJ1W-NC□□3 OPERATION MANUAL
W477	CJ Series Position Control Units CJ1W-NC□□4 OPERATION MANUAL
W336	CS/CJ Series Serial Communications Boards Serial Communications Units OPERATION MANUAL
W426	CS/CJ Series Position Control Units CS1W-NC□□1/CJ1WNC□□1-MA OPERATION MANUAL
W435	CS/CJ series Motion Control Unit CS1W/CJ1W-MCH71 OPERATION MANUAL
W467	Controller Link Support Boards for PCI Bus INSTALLATION GUIDE
W309	Controller Link Units OPERATION MANUAL
V237	SPU-Console Ver.2.1 OPERATION MANUAL
W406	CS/CJ Series Loop Control Boards/Process-control CPU Units /Loop-control CPU Units OPERATION MANUAL
W407	CS/CJ Series Loop Control Boards/Process-control CPU Units /Loop-control CPU Units FUNCTION BLOCK REFERENCE MANUAL
W463	CX-One FA Integrated Tool Package SETUP MANUAL
W446	CX-Programmer OPERATION MANUAL
W447	CX-Programmer OPERATION MANUAL: Function Blocks/Structured Text
W469	CX-Programmer OPERATION MANUAL SFC Programming
W366	CX-Simulator OPERATION MANUAL
W464	CX-Integrator OPERATION MANUAL
W433	CX-Position OPERATION MANUAL
W436	CX-Motion-NCF OPERATION MANUAL
W448	CX-Motion-MCH OPERATION MANUAL

Terms and Conditions Agreement

Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranties.

(a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

(b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right.

(c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

Limitation on Liability; Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings

and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

Microsoft products screen shot(s) reprinted with permission from Microsoft Corporation.

Other company names and product names in this document are the trademarks or registered trademarks of their respective companies.

Replacement guide from CJ1M/CJ1G to CJ2

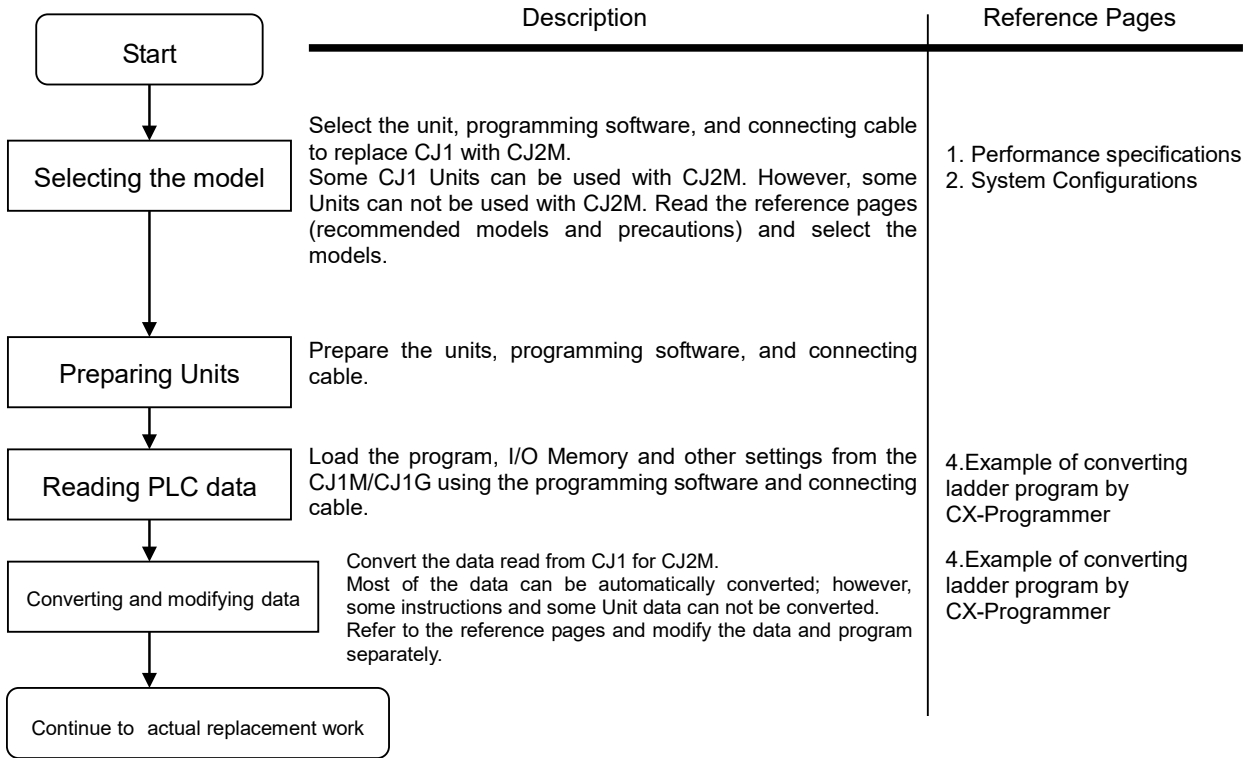
Table of Contents

WORK FLOW	2
1. PERFORMANCE SPECIFICATIONS	3
1.1 CJ1M/CJ2M SPECIFICATIONS COMPARISON	3
1.2 CJ1G/CJ2M SPECIFICATIONS COMPARISON	4
2. SYSTEM CONFIGURATIONS	5
2.1 CJ1M/CJ1G/CJ2M SYSTEM COMFIGURATION COMPARISON	5
3. MEMORY AREA	6
3.1 CJ1M/CJ1G/CJ2M MEMORY AREA COMPARISON	6
4. EXAMPLE OF CONVERTING LADDER PROGRAM BY CX-PROGRAMMER	8
APPENDIX 1. CJ1M/CJ2M APPEARANCE COMPARISON	10
APPENDIX 2. CJ1M/CJ2M PERIPHERAL FUNCTION COMPARISON	13
APPENDIX 3. CJ1M/CJ2M BUILT IN I/O FUNCTION COMPARISON	14
APPENDIX 4. CJ1M/CJ2M BUILT IN ETHERNET FUNCTION COMPARISON	16

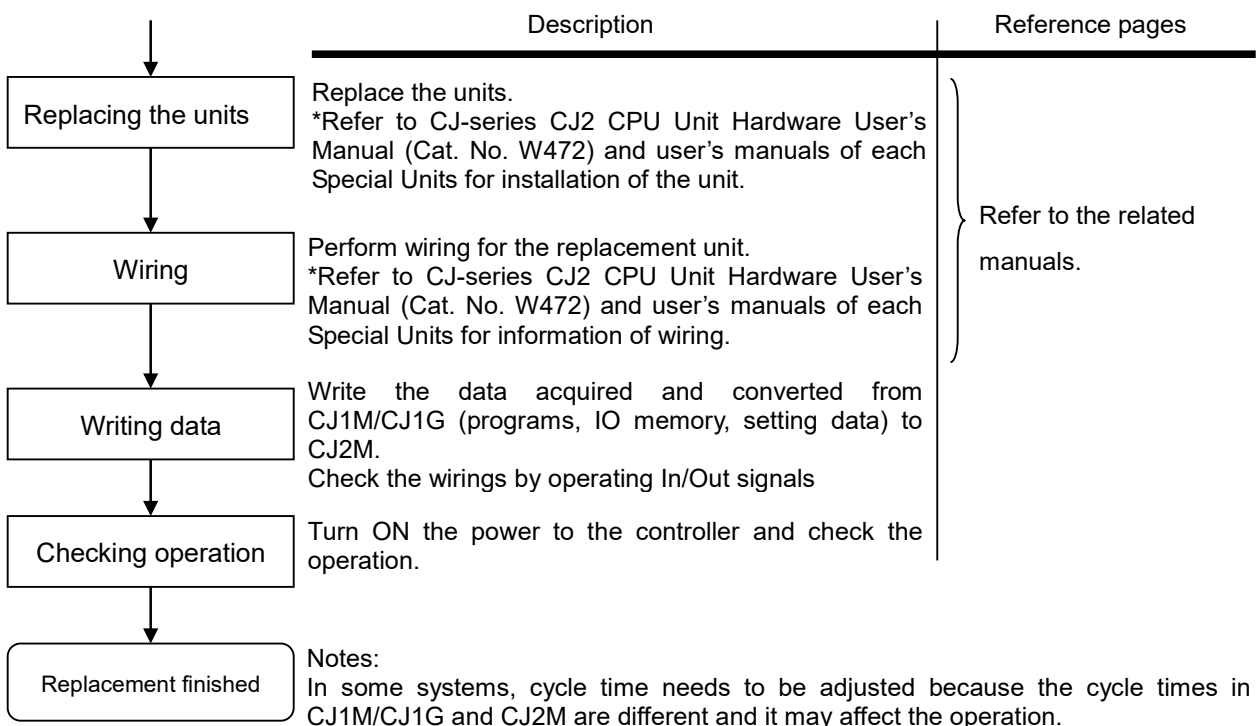
This replacement guide describes the procedure to rebuild the system which uses the CJ1-series PLC by introducing the CJ2M-series PLC instead. The CJ2M-series has functions which can replace the functions and operation of CJ1-series PLC. Take the below work flow to replace your system. Also, refer to the reference pages for details.

Work flow

1) Preparation: Before starting replacement, prepare according to the following steps.



2) Actual replacement work: Take the steps below to replace the CJ1M/CJ1G to CJ2M.



1. Performance specifications

1.1 CJ1M/CJ2M specifications comparison

The table below lists the major difference in specifications of the CJ1M series and CJ2M series.

Item		CJ1M-CPU**	CJ2M-CPU**
Number of I/O points		CPU*1: 160 points CPU*2: 320 points CPU*3: 640 points	2,560 points
Program capacity		CPU*1: 5k step CPU*2: 10k step CPU*3: 20k step	CPU*1: 5k step CPU*2: 10k step CPU*3: 20k step CPU*4: 30k step CPU*5: 60k step
Data memory		32k words	32k words
			EM CPU*1 to *3: 1 bank (32k) CPU*4 to *5: 4 banks (32k x 4)
Built-in I/O		CJ2*: In:10 points/Out:6 points	CPU Unit functions will be available by mounting CJ2M-MD211/CJ2M-MD212. Up to two units can be mounted. In:10 points/Out:6 points (when one unit is used) In:20 points/Out:12 points (when two units are used) Attention: It is possible to use the unit with the CPU Unit of unit version 2.0 or later.
Length of instructions		1-7 steps/one instruction	1-30 steps/one instruction
Execution time of instruction	LD instruction	0.10us	0.04us
	MOV instruction	0.30us	0.12us
Overhead processing time		CPU*1: 0.7ms CPU*2/*3: 0.5ms	CPU3*: 270us CPU1*: 160us
Maximum Number of Connectable Units		CPU*1/CPU*2: 10 units CPU*3: 20 units	40 units
Maximum Number of Expansion Racks		CPU*1/CPU*2: No expansion CPU*3: 1	3
Clock function		Equipped as a standard function	Equipped as a standard function
Dimensions (CPU Unit)		CPU*1: 90(H)x31(W)x65(D) CPU*2: 90(H)x49(W)x65(D)	CPU*1: 90(H) x 31(W) x 75(D) CPU*3: 90(H) x 62(W) x 75(D)
Programming software		CX-Programmer	CX-Programmer
Programming device connection	Programming device for personal computer	< Peripheral port connection > Connection with PC requires cables: CS1W-CN*** or CS1W-CN118 + XW2Z-***S-** < RS232C port connection > Connection with PC requires cables: XW2Z-***S-CV or XW2Z-***S (-V) .	< Peripheral (USB) port > A direct connection can be made between the USB port of the personal computer and the PLC using the commercially-available USB cable < Serial (RS232C) port connection > Use the serial cable (XW2Z-200S-CV/500S-CV) to connect the PC and serial port on the CPU Unit. (The CPU3* does not have the RS232C port on it. Mount the RS232C option board (CP1W-CIF01) and connect the cable with the unit)
	Programming console	Available C200H-PRO27 CQM1-PRO01	Not supported

1.2 CJ1G/CJ2M specifications comparison

The table below lists the major difference in specifications of the CJ1G and CJ2M series.

Item		CJ1G-CPU4*H/CPU4*	CJ2M-CPU**
Number of I/O points		CPU42H/43H: 960 points CPU44/45/44H/45H: 1280 points	2,560 points
Program capacity		CPU42H: 10k step CPU43H: 20k step CPU44/44H: 30k step CPU45/45H: 60k step	CPU*1: 5k step CPU*2: 10k step CPU*3: 20k step CPU*4: 30k step CPU*5: 60k step
Data memory		32k words	32k words
			EM CPU*1 to *3: 1 bank (32k) CPU*4 to *5: 4 banks (32k x 4)
Built-in I/O		-	Built-in CPU function will be available by adding the CJ2M-MD211/CJ2M-MD212. Up to two units can be mounted. In:10 points/Out:6 points (when one unit is used) In:20 points/Out:12 points (when two units are used) Attention: It is possible to use the unit with the CPU Unit of unit version 2.0 or later.
Length of instructions		1-7 steps/one instruction	1-30 steps/one instruction
Execution time of instruction	LD instruction	CPU4*H: 0.04us CPU4*: 0.08us	0.04us
	MOV instruction	CPU4*H: 0.20us CPU4*: 0.29us	0.12us
Overhead processing time		CPU4*H : 0.3ms CPU4*: 0.5ms	CPU3*: 270us CPU1*: 160us
Maximum number of connectable units		40 units	40 units
Maximum number of Expansion Racks		3	3
Clock function		Equipped as a standard function	Equipped as a standard function
Dimensions (CPU Unit)		90(H) x 62(W) x 65(D)	CPU1*: 90(H) x 31(W) x 75(D) CPU3*: 90(H) x 62(W) x 75(D)
Programming software		CX-Programmer	CX-Programmer
Programming device connection	Programming device for personal computer	< Peripheral port connection > Connection with PC requires cables: CS1W-CN*** or CS1W-CN118 + XW2Z-***S-** < RS232C port connection > Connection with PC requires cables: XW2Z-***S-CV or XW2Z-***S(-V)	< Peripheral (USB) port > A direct connection can be made between the USB port of the personal computer and the PLC using the commercially-available USB cable < Serial (RS232C) port connection > Use the serial cable (XW2Z-200S-CV/500S-CV) to connect the PC and serial port on the CPU Unit. (The CPU3* does not have the RS232C port on it. Mount the RS232C option board (CP1W-CIF01) and connect the cable with the unit)
	Programming console	Available C200H-PRO27 CQM1-PRO01	Not supported.

2. System Configurations

2.1 CJ1M/CJ1G/CJ2M system configuration comparison

Same Power Supply Unit, Special I/O Units, and Basic I/O Unit can be used for CJ1M/CJ1G Series and CJ2M Series.

◆ Built-in I/O

CJ1M	CJ1G	CJ2M
Built-in I/O function	Built-in I/O function not supported	CPU functions will be available by adding the CJ2M-MD211/CJ2M-MD212 Up to two units can be mounted. *It is possible to use the unit with the CPU Unit of unit version 2.0 or later
In:10 points/Out:6 points Supported by CPU2* only	-	In:10 points/Out:6 points (when one unit is used) In:20 points/Out:12 points (when two units are used)

3. Memory area

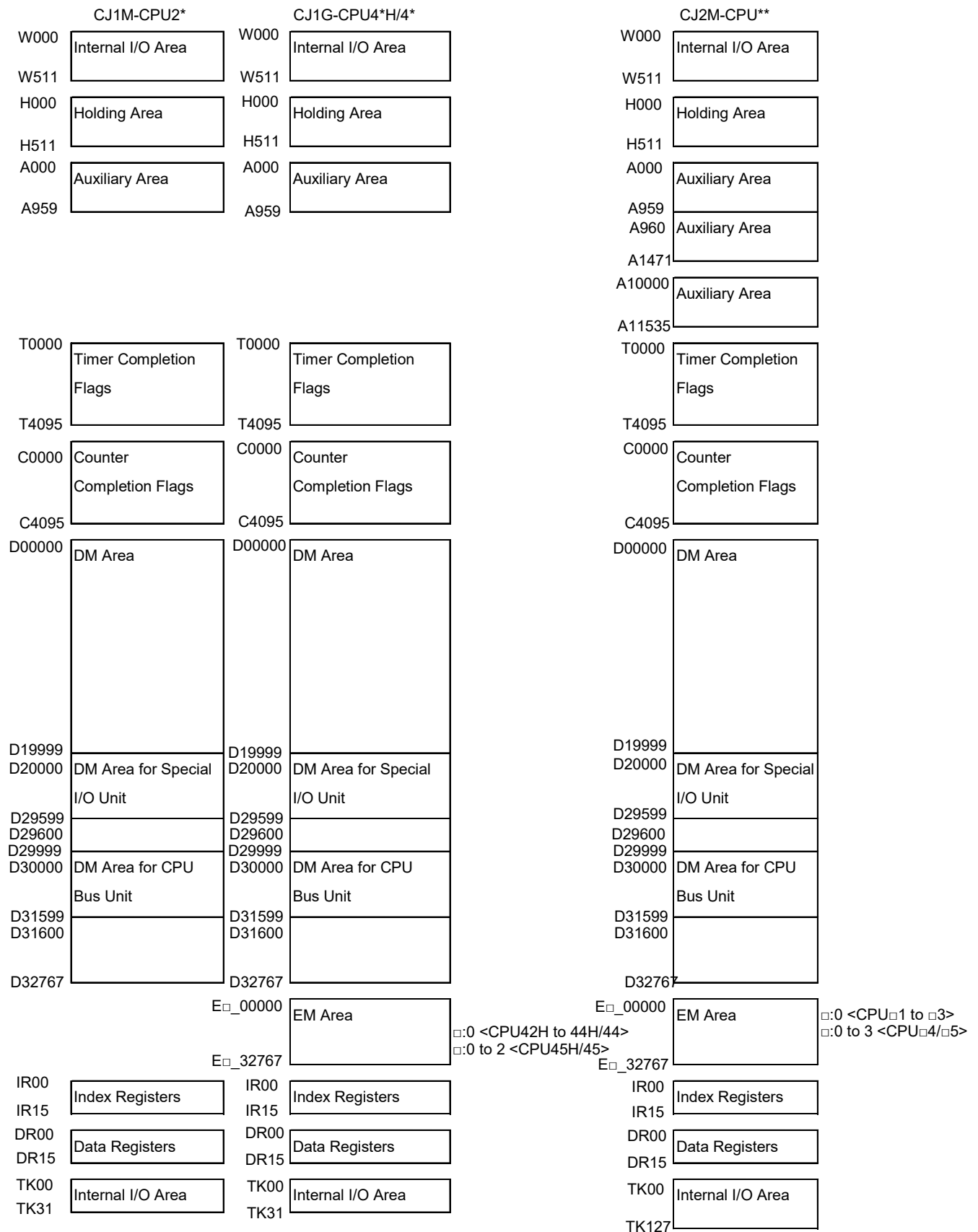
3.1 CJ1M/CJ1G/CJ2M memory area comparison

This section explains the difference of the memory area of the CJ1M series, CJ1G series and CJ2M series, using an example of CJ1M-CPU2*, CJ1G-CPU4*H/4* and CJ2M-CPU**.

◆ CI/O area

CJ1M-CPU2*		CJ1G-CPU4*H/4*		CJ2M-CPU**	
0000	I/O Area	0000	I/O Area	0000	I/O Area
0039					
0040	Not used				
		0159		0159	
		0160	Not used	0160	Not used
0999		0999		0999	
1000	Data Link Area	1000	Data Link Area	1000	Data Link Area
1199		1199		1199	
1200	Internal I/O Area	1200	Internal I/O Area	1200	Not used
				1299	
				1300	Internal I/O Area
1499		1499		1499	
1500	CPU Bus Unit Area	1500	CPU Bus Unit Area	1500	CPU Bus Unit Area
1899		1899		1899	
1900	Not used	1900	Not used	1900	Not used
1999		1999		1999	
2000	Special I/O Unit Area	2000	Special I/O Unit Area	2000	Special I/O Unit Area
2959		2959		2959	
2960	Pulse I/O Area	2960	Not used	2960	Pulse I/O Area
2961					
2962	Not used			2963	
				2964	Not used
3099		3099		3099	
3100	Serial P L C Link Area	3100	Not used	3100	Serial P L C Link Area
3189				3189	
3190	Not used			3190	Not used
3199		3199		3199	
3200	DeviceNet Area	3200	DeviceNet Area	3200	DeviceNet Area
3799		3799		3799	
3800	Internal I/O Area	3800	Internal I/O Area	3800	Internal I/O Area
6143		6143		6143	

◆ Area other than CIO Area



4. Example of converting ladder program by CX-Programmer

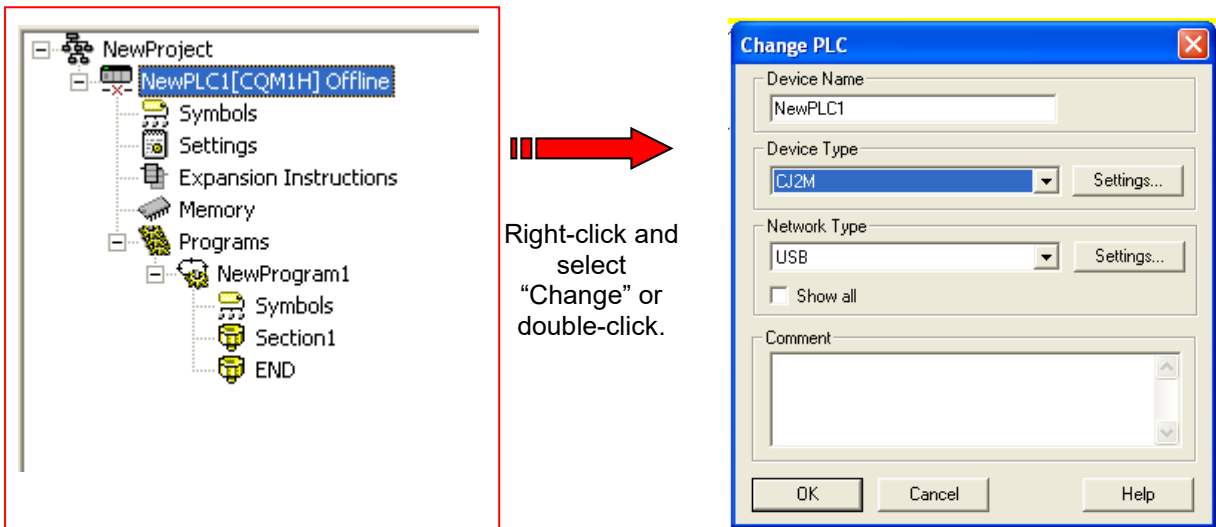
This section explains the method of converting the ladder program using CX-Programmer Ver.9.1. Here, convert the ladder program of CJ1M/CJ1G for CJ2M-CPU** as an example.

◆ Changing model from CJ1M/CJ1G to CJ2M.

As shown on the below figure, select NewPLC1[CJ1M] and right-click or double click it to change the PLC model. Please set the CPU model to the Device Type.

The error report might be displayed if there are instructions which cannot be converted.

Please correct and modify the program using support software function or manually, and execute program check. If errors are detected by the program check, please correct them referring to the error report.



Right-click and select "Change" or double-click.

◆ Checking program

Check whether there is problem in the ladder program which was converted from the CJ1M/CJ1G series for CJ2M series.

■ Program check

There are 2 types of program check; automatic check on the CX-Programmer and check conducted by users. CX-Programmer checks the program when "Change model" is executed and the ladder program is converted.

• Automatic program checks on the CX-Programmer

Timing of program check	Description
When PLC model is changed.	Program check for each PLC model Check for all instructions and all operands.

You can see the check result on the "Compile (Program check)" tab of the Output Window. The left bus-bar on the ladder section window turns red if there is an error in the rung.

• Program check conducted by users

This section describes the procedure of program check, an example of checking result, and explanation of error levels.

<Program check for one program (task)>

1. Select the ladder section window or nimonic window to check.
2. Select **Program – Compile (Program check)**.

The results of program check will be displayed on the Output Window. Refer to *Results of program check* on the next page for details.

- Checking the entire program
Select **PLC – Compile All PLC Programs**.

You can see the program check results on the Output Window.
Refer to *Results of program check* for details.

<Results of program check>

You can see the check result on the "Compile (Program check)" tab of the Output Window.

There are three error levels; errors are divided and shown for each level.

When there is no error.

```

----- PLC: 'NewPLC1' [PLC Model 'CQM1H CPU11' to 'CJ2M CPU11'] -----
Conversion issues...
[PLC/Program Name : Programs/NewProgram1]
[Ladder Section Name : Section1]
[Ladder Section Name : END]

NewPLC1 - 0 errors, 0 warnings.

```

When there are errors.

```

Compiling...
[PLC/Program Name : NewPLC1/NewProgram1]
[Ladder Section Name : Section1]
ERROR: Element at rung 0 (0, 0) is not connected at its output.
ERROR: Element at rung 0 (0, 1) is not connected at its output.
ERROR: Missing operand at rung 1 (1, 0).
ERROR: Missing operand at rung 1 (0, 0).
[Ladder Section Name : END]

NewProgram1 - 4 errors, 0 warnings.
The programs have been checked with the program check option set to Unit Ver.1.0.

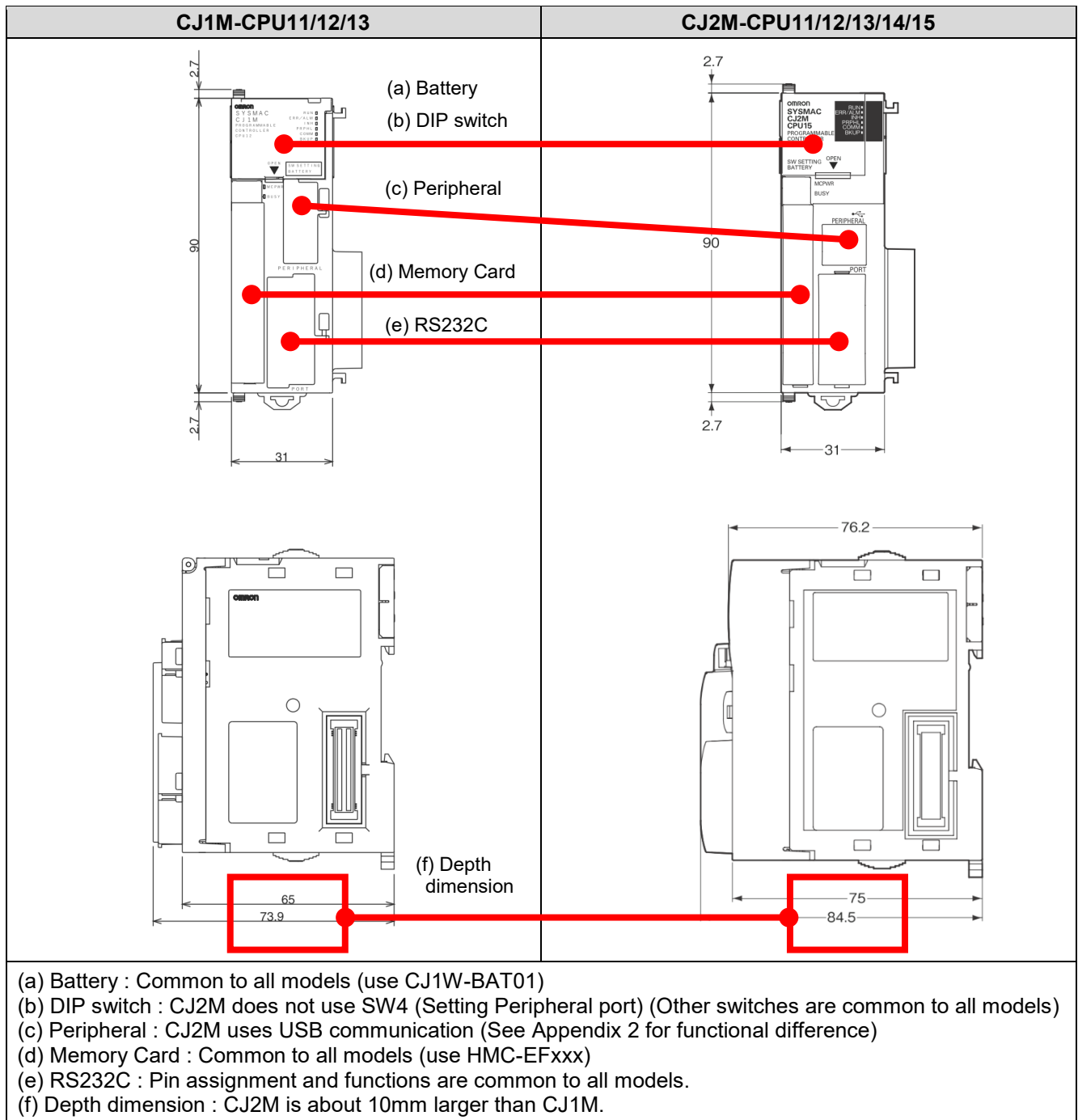
```

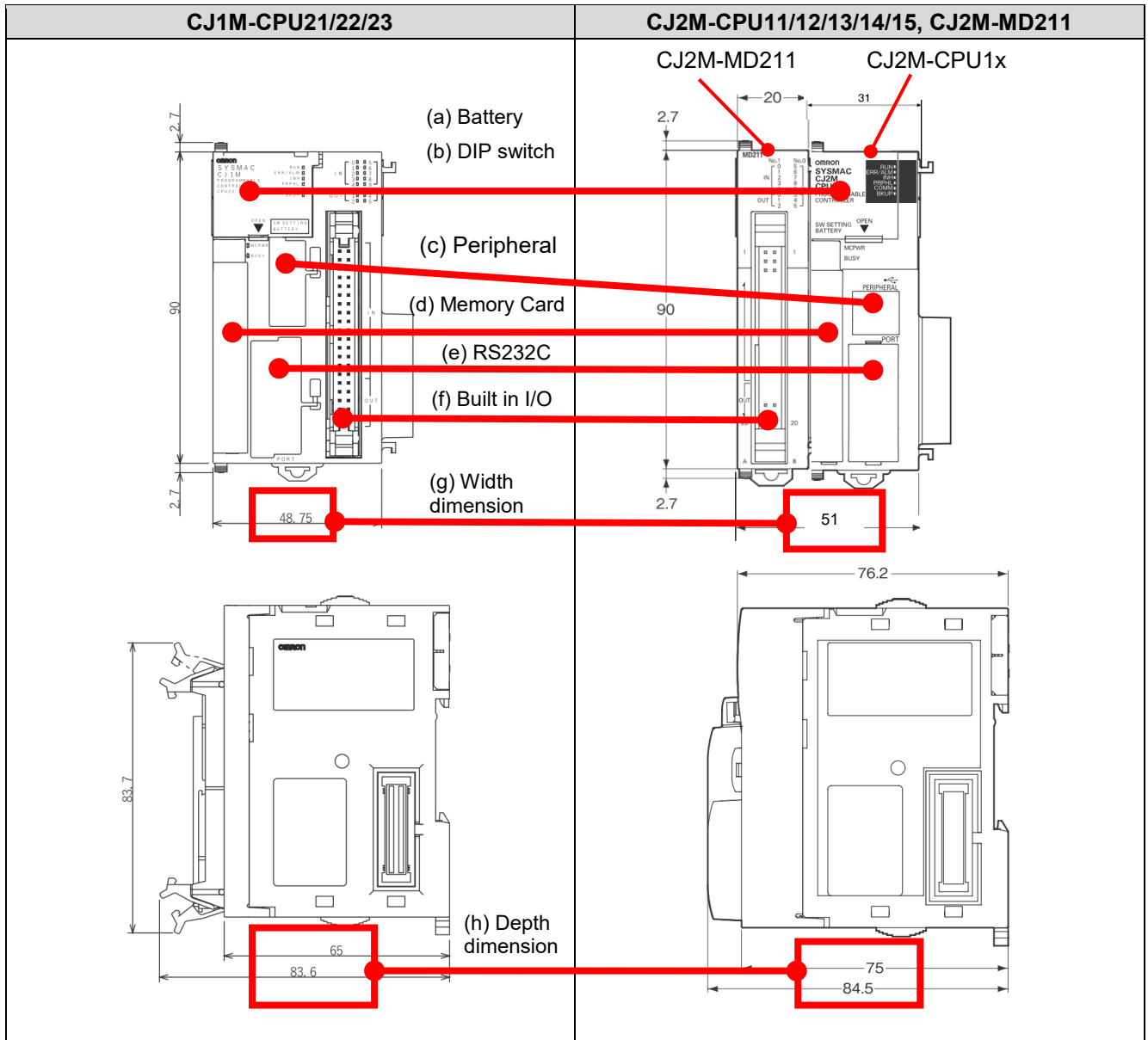
Double-click an error on the Output Window to jump to the corresponding cell.
Numeric data in (,) shows the position of a cell with an error.

If you right-click on the Output Window, below menus are shown.

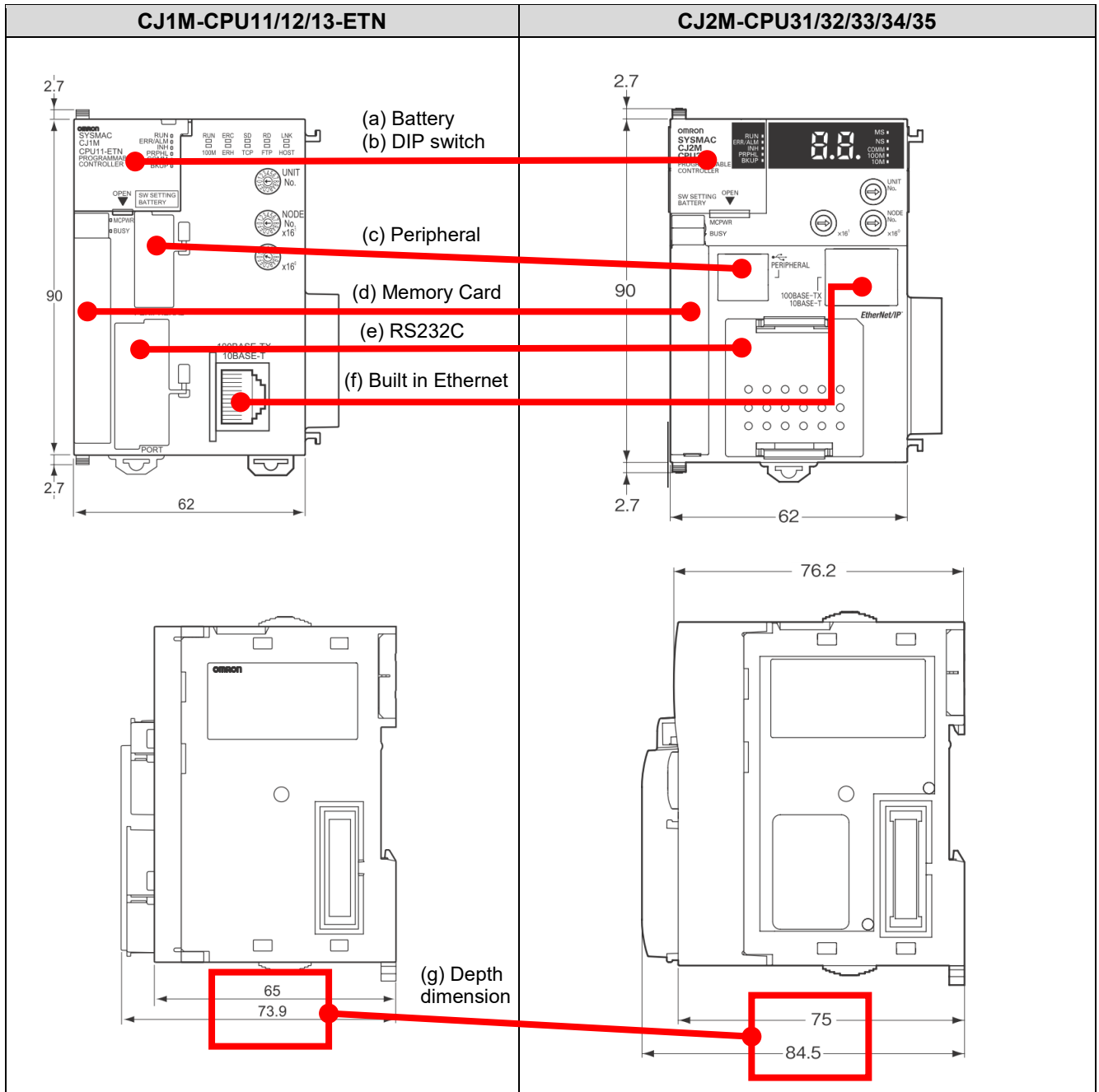
Menu	Functions
[Clear]	Clears the content of Output Window. Same as selecting "Edit" – "Clear Compile Window".
[Next Reference]	Jump to the error cell next to the error now selected. Same as selecting "Edit" – "Next Reference".
[Allow Docking]	Output Window is shown on the main window of the CX-Programmer. If uncheck the check box, Output Window will be shown on the separate window.
[Hide]	Close the output window. Same as selecting "View" – "Window" – "Output".
[Float In Main Window]	Output window will be changed to other window (ex. Ladder section window).

Appendix 1. CJ1M/CJ2M Appearance comparison





- (a) Battery : Common to all models (use CJ1W-BAT01)
- (b) DIP switch : CJ2M does not use SW4 (Setting Peripheral port) (Other switches are common to all models)
- (c) Peripheral : CJ2M uses USB communication (See Appendix 2 for functional difference)
- (d) Memory Card : Common to all models (use HMC-EFxxx)
- (e) RS232C : Pin assignment and functions are common to all models.
- (f) Built in I/O :
- [Position] CJ1M is located on the right side and CJ2M is located on the left side.
 - [Wiring] Same. However, do not connect any signal other than "Power supply input (+V) for output" to pin 38. (See Appendix 3 for pin assignment)
 - [Operation] There are some differences in the operation of the interrupt input. (See Appendix 3 for functional differences)
- (g) Width dimension : CJ2M is about 2mm larger than CJ1M.
- (h) Depth dimension : CJ2M is about 10mm larger than CJ1M.



- (a) Battery : Common to all models (use CJ1W-BAT01)
- (b) DIP switch : CJ2M does not use SW4 (Setting Peripheral port) (Other switches are common to all models)
- (c) Peripheral : CJ2M uses USB communication (See Appendix 2 for functional difference)
- (d) Memory Card : Common to all models (use HMC-EFxxx)
- (e) RS232C : CJ2M requires an optional board (CP1W-CIF01) to be installed.
- (f) Built in Ethernet : Some functions cannot be used with the built-in EtherNet/IP of CJ2M (See Appendix 4)
- (g) Depth dimension : CJ2M is about 10mm larger than CJ1M.

Appendix 2. CJ1M/CJ2M Peripheral function comparison

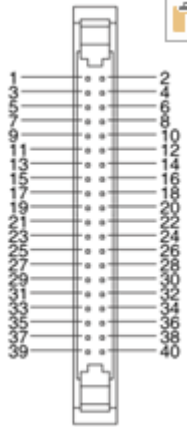
Function	CJ1M	CJ2M	Description
Programming console	Supported	Not Supported	CJ2M cannot use the programming console.
Tool Bus	Supported	Supported	
Host Link	Supported	Not Supported	Use CJ1W-SCUxx, if you use this function
NT Link (1: N)	Supported	Not Supported	Use CJ1W-SCUxx, if you use this function
Serial Gateway	Supported	Not Supported	Use CJ1W-SCUxx, if you use this function

Appendix 3. CJ1M/CJ2M Built in I/O function comparison

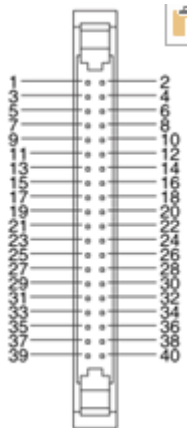
(1) Pin assignment

Note. CJ1M does not use Pin No.38, but CJ2M use as “Power supply input +V for output”. CJ2M does not affect operation if it is not connected. But remove the wiring if it is connecting to another signal.

[CJ1M-CPU21/22/23]

Pin layout	Terminal symbol	Input signal type	Pin No.	Terminal symbol	Input signal type	Pin No.
	IN0	24 VDC	1	IN1	24 VDC	2
		LD+	3		LD+	4
		0 V/LD-	5		0 V/LD-	6
	IN2	24 VDC	7	IN3	24 VDC	8
		LD+	9		LD+	10
		0 V/LD-	11		0 V/LD-	12
	IN4	24 VDC	13	IN5	24 VDC	14
		LD+	15		LD+	16
		0 V/LD-	17		0 V/LD-	18
	IN6	24 VDC	19	IN7	24 VDC	20
		LD+	21		LD+	22
		0 V/LD-	23		0 V/LD-	24
	IN8	24 VDC	25	IN9	24 VDC	26
		LD+	27		LD+	28
		0 V/LD-	29		0 V/LD-	30
	OUT0	---	31	OUT1	---	32
OUT2	---	33	OUT3	---	34	
OUT4	---	35	OUT5	---	36	
Power supply input (+V) for output	---	37	Not used	---	38	
Output COM	---	39	Output COM	---	40	

[CJ2M-MD211]

Pin layout	Terminal symbol	Input signal type	Pin No.	Terminal symbol	Input signal type	Pin No.
	IN0/IN10	24 VDC	1	IN1/IN11	24 VDC	2
		LD+	3		LD+	4
		0 V/LD-	5		0 V/LD-	6
	IN2/IN12	24 VDC	7	IN3/IN13	24 VDC	8
		LD+	9		LD+	10
		0 V/LD-	11		0 V/LD-	12
	IN4/IN14	24 VDC	13	IN5/IN15	24 VDC	14
		LD+	15		LD+	16
		0 V/LD-	17		0 V/LD-	18
	IN6/IN16	24 VDC	19	IN7/IN17	24 VDC	20
		LD+	21		LD+	22
		0 V/LD-	23		0 V/LD-	24
	IN8/IN18	24 VDC	25	IN9/IN19	24 VDC	26
		LD+	27		LD+	28
		0 V/LD-	29		0 V/LD-	30
	OUT0/OUT10	---	31	OUT1/OUT11	---	32
OUT2/OUT12	---	33	OUT3/OUT13	---	34	
OUT4/OUT14	---	35	OUT5/OUT15	---	36	
Power supply input (+V) for output	---	37	Power supply input (+V) for output	---	38	
Output COM	---	39	Output COM	---	40	

(2) Functional differences for Interrupt inputs

The following operation differences exist between CJ1M / CJ2M in the interrupt input function. If used, check that the operation is not affected.

Interrupt Inputs	CJ1M	CJ2M	Description
Update method for interrupt counter SV (Counter Mode)	Updating interrupt counter SV in Auxiliary Area	Updating interrupt counter SV in Auxiliary Area and then executing MSKS again to enable interrupts	Add MSKS instruction, if you use this operation.
Update method for interrupt counter PV (Counter Mode)	<ul style="list-style-type: none"> · Updating with INI instruction · Updating interrupt counter PV in Auxiliary Area 	Updating with INI instruction	Change to INI instruction, if you use Auxiliary for updating.
Updating timing for interrupt counter PV (Counter Mode)	<ul style="list-style-type: none"> · Once per count · When PRV instruction is executed 	<ul style="list-style-type: none"> · Every cycle · When count completion interrupt occurs · When PRV instruction is executed 	Make sure that it does not affect operation. If it is affected, it is necessary to change the program etc.
Operation of interrupt counter when interrupts are disabled with DI instruction	Counter operation not continued	Counter operation continued, but interrupt will not occur at count completion	Make sure that it does not affect operation. If it is affected, it is necessary to change the program etc.

Appendix 4. CJ1M/CJ2M Built in Ethernet function comparison

Function	CJ1M Built in Ethernet	CJ2M Built in EtherNet/IP	Description
Tag data link communications service	Not supported	Supported	
CIP message communications service	Not supported	Supported	
FINS/UDP service	Supported	Supported	
FINS/TCP service	Supported	Supported	
File transfer (FTP)	Supported	Supported	
Web functions	Supported	Not supported	Use CJ1W-ETN21, if you use this function
Automatic adjustment of PLC's internal clock	Supported	Supported	
Simple backup function	Supported	Supported	
Error log	Supported	Supported	
Response to PING command	Supported	Supported	
SNMP/SNMP trap	Not supported	Supported	
CIDR function for IP addresses	Not supported	Supported	
Online connection by EtherNet/IP using CX-One	Not supported	Supported	
Online connection by Ethernet (FINS) using CX-One	Supported	Supported	
Online connection by EtherNet/IP using Network Configurator	Not supported	Supported	

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

OMRON Corporation Industrial Automation Company

Tokyo, JAPAN

Contact: www.ia.omron.com

Regional Headquarters

OMRON EUROPE B.V.

Wegalaan 67-69, 2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ELECTRONICS LLC

2895 Greenspoint Parkway, Suite 200
Hoffman Estates, IL 60169 U.S.A
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON ASIA PACIFIC PTE. LTD.

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

OMRON (CHINA) CO., LTD.

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

Authorized Distributor:

© OMRON Corporation 2020 All Rights Reserved.
In the interest of product improvement,
specifications are subject to change without notice.

Cat. No. **P068-E1-03**

0320(1210)