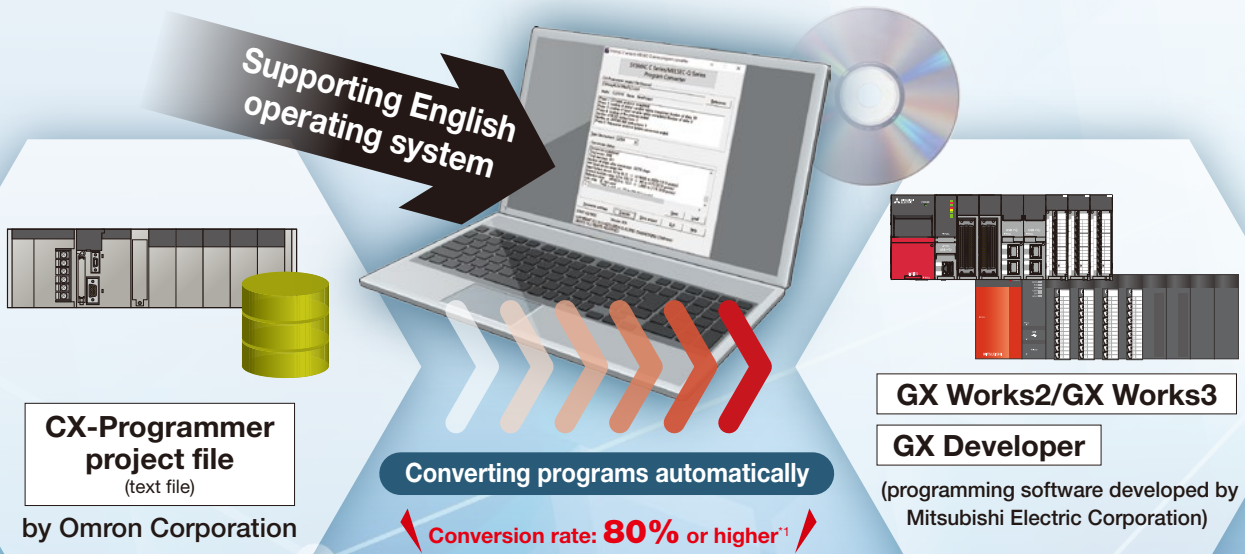# MITSUBISHI ELECTRIC ENGINEERING

OMRON SYSMAC C Series→ MELSEC Series Program Converter

Model: ERNT-CQ1W2C (Ver.30A)

Compatible with English and Japanese versions of Windows® operating system

Supporting English operating system

CX-Programmer project file
(text file)

by Omron Corporation

Converting programs automatically

Conversion rate: **80%** or higher[*1]

GX Works2/GX Works3

GX Developer

(programming software developed by Mitsubishi Electric Corporation)

Program converter	SYSMAC C series
Conversion target	OMRON

SYSMAC **CS1**、**CJ1**、**CJ2**[*2]、C200H/HS/HX/HE/HG
SYSMAC C1000H、C2000H

*1: For details, refer to the "Percentage of the converted amount".
*2: Program conversion is available after project files for the CJ2 series are converted into project files for the CJ1 series using CX-Programmer.

Reducing time and cost for program conversion

- SYSMAC C series CPUs are automatically identified.
- The percentage of converted programs is 80% or higher (calculated based on the instruction usage ratio).
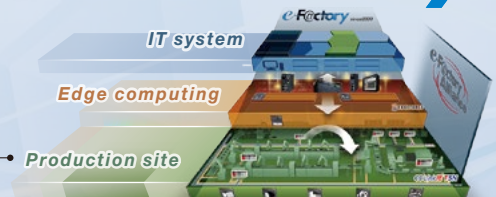
Enhancing support service for conversion

- Online help is available for users to check how to convert each unconverted instruction.

Saving converted data

- Converted data are saved as CSV files (programs and comments) that can be loaded to GX Works2 or saved as GX Developer project files.

To use these converted data in MELSEC iQ-R series modules, convert them by using GX Works2 and GX Works3.

FA products e-F@ctory

Upgrade

IT system
Edge computing
Production site

Source: Mitsubishi Electric Corporation

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The program converter helps users who want to replace SYSMAC C series units with MELSEC series modules
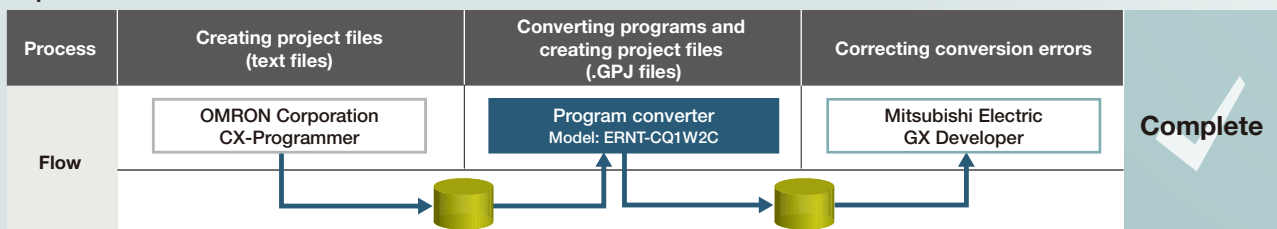
What is the program converter?

The program converter is software to convert OMRON SYSMAC C series programs to GX Developer project files.
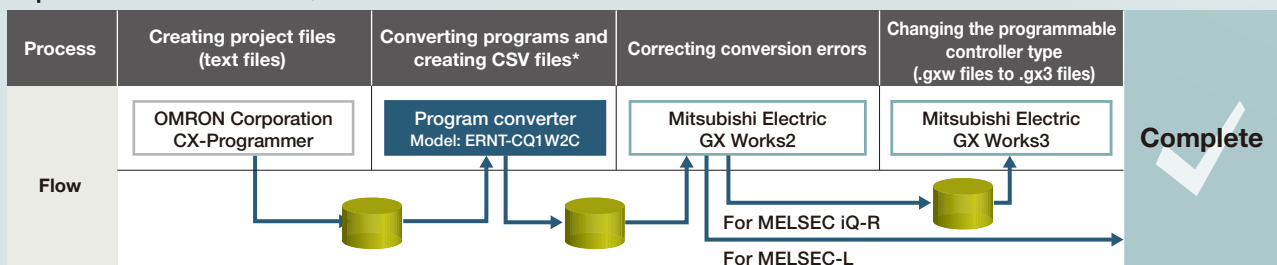
When using the SYSMAC C series programs in MELSEC iQ-R series modules, convert the programs (CX-Programmer project files) with this program converter. After that, convert them into project files compatible with the programming software for MELSEC iQ-R series, GX Works3.

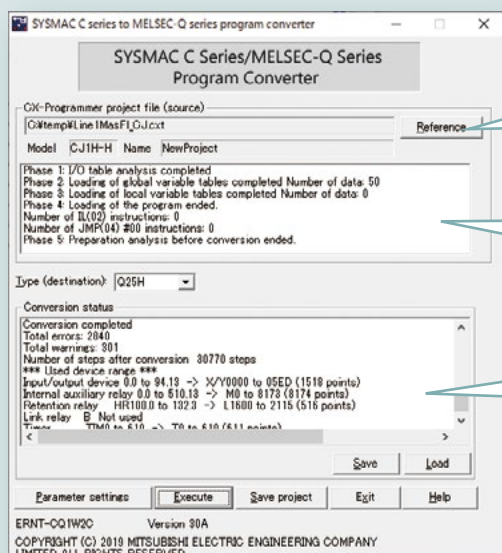## ▎Program conversion process flow

Replacement with MELSEC-Q series

Process	Creating project files (text files)	Converting programs and creating project files (.GPJ files)	Correcting conversion errors	
Flow	OMRON Corporation CX-Programmer	Program converter Model: ERNT-CQ1W2C	Mitsubishi Electric GX Developer	**Complete** ✔

Replacement with MELSEC iQ-R/L series

Process	Creating project files (text files)	Converting programs and creating CSV files*	Correcting conversion errors	Changing the programmable controller type (.gxw files to .gx3 files)	
Flow	OMRON Corporation CX-Programmer	Program converter Model: ERNT-CQ1W2C	Mitsubishi Electric GX Works2	Mitsubishi Electric GX Works3	**Complete** ✔

For MELSEC iQ-R
For MELSEC-L

* Data can be saved as files that can be displayed in the ladder edit window or the comment edit window of GX Works2.

▎Program converter startup window

1 Select the conversion source project (.cxt file).
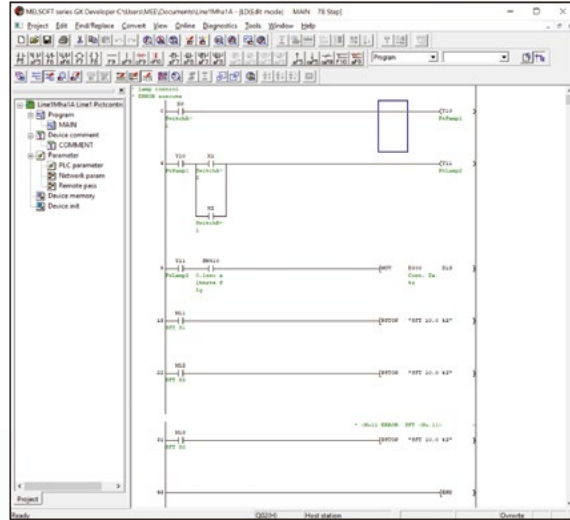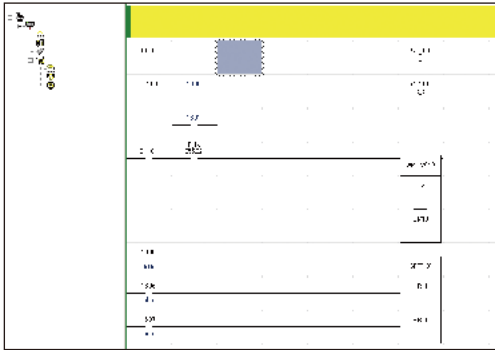
2 Analysis results of the selected project file are displayed.

3 Conversion errors and warning messages are displayed in line.
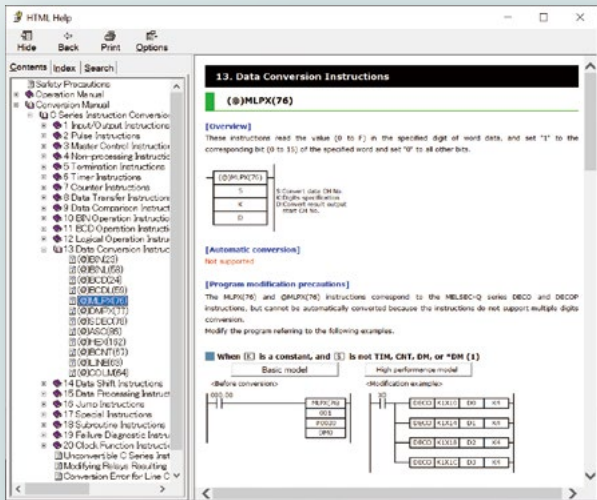Double-click them to check the online help.

Conversion source program (CX-Programmer) → **Conversion** → **Converted program (GX Developer)**

Online help

Users can proceed with the conversion while checking how to convert each instruction.

Users can replace unconverted programs with sample programs by copying them from the online help file and pasting them on GX Developer.

Percentage of the converted amount

• C1000H/2000H/200H series

Sequence program instruction classification		No. of instructions	No. of convertible instructions	Conversion ratio	Instruction usage ratio *1	Program conversion ratio
Sequence instructions	Basic instructions	17	17	100%	51%	51%
	Timer/counter	4	3	75%	3%	2%
Data instructions	Transfer instructions	9	7	78%	25%	19%
	Arithmetic and function instructions	17	15	88%	8%	7%
	Comparison logical instructions	10	7	70%	6%	4%
	Other: Special module step ladder block instructions	22	0	29%	7%	2%
	Other: Other than the above	46	20			
Total		125	69	55%	100%	Approx. 80%*2

• CS1/CJ1 series

Sequence program instruction classification		No. of instructions	No. of convertible instructions	Conversion ratio	Instruction usage ratio *1	Program conversion ratio
Sequence instructions	Basic instructions	55	54	98%	51%	50%
	Timer/counter	22	18	82%	3%	2%
Data instructions	Transfer instructions	15	11	73%	25%	18%
	Arithmetic and function instructions	193	124	64%	8%	5%
	Comparison logical instructions	54	27	50%	6%	3%
	Other: Special module step ladder block instructions	97	7	15%	7%	1%
	Other: Other than the above	54	15			
Total		490	256	52%	100%	Approx. 80%*2

*1: The instruction usage ratio is the percentage (ratio) of use of sequence instructions and data instructions in all programs.

*2: This value is for reference only.

Operating environment

Item		Description
Personal computer		Personal computer on which Windows® runs
	CPU	Intel® Core™ 2 Duo processor 2GHz or higher recommended
	Memory	1GB or more recommended
HDD free space	At installation (HD)	3MB or more
	When running (virtual memory)	10MB or more
CD-ROM drive		Required during installation
Display		Resolution 800 x 600 pixels or higher

Compatible basic software (OS)

Program converter version	Ver.30A
Installable basic software (OS)	Microsoft® Windows®10 Home Microsoft® Windows®10 Professional Microsoft® Windows®10 Enterprise Microsoft® Windows®10 Education Microsoft® Windows®11 Home Microsoft® Windows®11 Professional Microsoft® Windows®11 Enterprise

Compatible Mitsubishi Electric programming software

Program converter version	Ver.30A
GX Developer version	Ver.8.45X or earlier
	Ver.8.68W or later
GX Works2 version	Ver.1.73B or later

Precautions before use

Programs for models earlier than C1000H series (such as C500) also can be converted with this program converter by taking the following steps. Firstly convert these programs into C1000H/C2000H/C200H series programs by using a file exchange utility included with CX-Programmer. After that, convert the C1000H/C2000H/C200H series programs by using the program converter.

MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED

NAGOYA ENGINEERING OFFICE | 1-9, Daiko-Minami, 1-Chome, Higashi-ku, Nagoya, Aichi 461-0047 Japan

Website www.mitsubishielectricengineering.com/sales/fa/meefan/ ▶Contact US

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