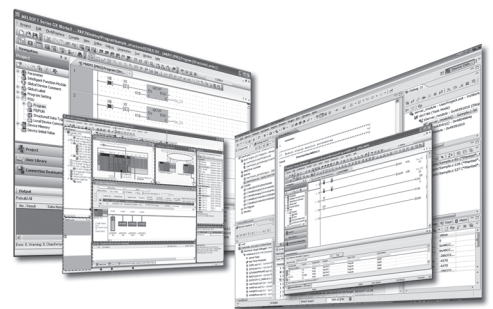# MITSUBISHI ELECTRIC

MELSOFT

Engineering Software

CW Configurator Operating Manual

-SW1DND-RCCPU-E

SAFETY PRECAUTIONS

(Read these precautions before using this product.)

Before using this product, please read this manual and the relevant manuals carefully and pay full attention to safety to handle the product correctly.

The precautions given in this manual are concerned with this product only. For the safety precautions for the programmable controller system, refer to the user's manual for the module used and the MELSEC iQ-R Module Configuration Manual.

In this manual, the safety precautions are classified into two levels: "⚠ WARNING" and "⚠ CAUTION".

⚠ **WARNING**	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
⚠ **CAUTION**	Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage.

Under some circumstances, failure to observe the precautions given under "⚠ CAUTION" may lead to serious consequences.

Observe the precautions of both levels because they are important for personal and system safety.

Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

[Design Precautions]

⚠ WARNING

● To control the following operation, configure an interlock circuit in a user program to ensure that the entire system will always operate safely.
   (1) Changing data in the running C Controller module from the connected personal computer
   (2) Changing the operating status
   (3) Operating from the personal computer
   Especially, in the case of a control from an external device to a remote C Controller module, immediate action cannot be taken for a problem on the C Controller module due to a communication failure.
   To prevent this, configure an interlock circuit in a user program, and determine corrective actions to be taken between the external device and C Controller module in case of a communication failure.

[Startup and Maintenance Precautions]

⚠ WARNING

● To control the following operation, configure an interlock circuit in a user program to ensure that the entire system will always operate safely.
   (1) Changing data in the running C Controller module from the connected personal computer
   (2) Changing the operating status
   (3) Operating from the personal computer
   Especially, in the case of a control from an external device to a remote C Controller module, immediate action cannot be taken for a problem on the C Controller module due to a communication failure.
   To prevent this, configure an interlock circuit in a user program, and determine corrective actions to be taken between the external device and C Controller module in case of a communication failure.

[Startup and Maintenance Precautions]

⚠ CAUTION

● Before performing online operations (especially, program modification, forced output, and operating status change) for the running C Controller module from the peripheral devices connected, read relevant manuals carefully and ensure the safety. Improper operation may damage machines or cause accidents.

CONDITIONS OF USE FOR THE PRODUCT

(1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;

i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and

ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.

MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.

("Prohibited Application")

Prohibited Applications include, but not limited to, the use of the PRODUCT in;

- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.

- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.

- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above, restrictions Mitsubishi may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTs are required. For details, please contact the Mitsubishi representative in your region.

INTRODUCTION

Thank you for purchasing the Mitsubishi FA software, MELSOFT series.

This manual describes the functions and parameter settings required when using CW Configurator.

Before using this product, please read this manual carefully, and develop familiarity with the functions and performance of CW Configurator to handle the product correctly.

CONTENTS

PART 1   FUNDAMENTALS OF CW CONFIGURATOR

PART 2   SYSTEM DESIGN AND SETTING

CHAPTER 4   CREATING MODULE CONFIGURATION DIAGRAM AND SETTING
PARAMETERS   38

PART 3   DEBUGGING AND OPERATION

CHAPTER 5   ROUTE SETTING   58

CHAPTER 6   WRITING/READING DATA   68

CONTENTS

7

RELEVANT MANUALS

Manual name [manual number]	Description	Available form
CW Configurator Operating Manual [SH-081382ENG] (this manual)	Explains the system configuration, parameter settings, and operation method for the online function of CW Configurator.	e-Manual EPUB PDF
MELSEC iQ-R C Controller Module User's Manual (Startup) [SH-081367ENG]	Explains the performance specifications, module startup procedure, and troubleshooting of C Controller module.	Print book e-Manual EPUB PDF
MELSEC iQ-R C Controller Module User's Manual (Application) [SH-081369ENG]	Explains the functions, devices, and parameters of C Controller module.	Print book e-Manual EPUB PDF
MELSEC iQ-R C Controller Module Programming Manual [SH-081371ENG]	Explains the programming specifications and dedicated functions of C Controller module.	e-Manual EPUB PDF
CW Workbench/CW-Sim Operating Manual [SH-081373ENG]	Explains the system configuration, specifications, functions, and troubleshooting of CW Workbench/CW-Sim.	e-Manual EPUB PDF

Point

e-Manual refers to the Mitsubishi FA electronic book manuals that can be browsed using a dedicated tool.

e-Manual has the following features:

• Required information can be cross-searched in multiple manuals.

• Other manuals can be accessed from the links in the manual.

• The hardware specifications of each part can be found from the product figures.

• Pages that users often browse can be bookmarked.

TERMS

Unless otherwise specified, this manual uses the following terms.

Term	Description
C Controller module	A generic term for MELSEC iQ-R series C Controller module
CC-Link IE Controller Network module	An abbreviation for CC-Link IE Controller Network module, RJ71GP21-SX
CC-Link IE Field Network module	An abbreviation for CC-Link IE Field Network module, RJ71GF11-T2
CC-Link module	An abbreviation for CC-Link module, RJ61BT11
Control CPU	An abbreviation for Mitsubishi programmable controllers which control the system. C Controller module is included in Control CPU.
CPU module	A generic term for MELSEC iQ-R series CPU module
CW Configurator	A generic product name for model names, SWnDND-RCCPU ('n' indicates version.)
I/O module	A generic term for input module, output module, I/O combined module, and interrupt module
Intelligent function module	A generic term for modules which has functions other than input and output, such as A/D converter module and D/A converter module
Network module	A generic term for the following modules: • CC-Link module • CC-Link IE Controller Network module • CC-Link IE Field Network module
R12CCPU-V	An abbreviation for R12CCPU-V C Controller module
RCPU	A generic term for MELSEC iQ-R series programmable controller CPU

MEMO

PART 1 FUNDAMENTALS OF CW CONFIGURATOR

This part explains the screen configuration and basic operations of CW Configurator.

1 BEFORE USING THIS PRODUCT

CW Configurator is a dedicated software package/tool used for the parameter settings and monitoring of C Controller module. The usability is much better since the functionality and appearance have been improved compare to existing setting/monitoring tools for C Controller module.

1.1 Main Functions of CW Configurator

CW Configurator manages module configuration data and parameters in project units in C Controller module.
CW Configurator has the functions shown below.

Parameter setting function

Parameters of C Controller modules, I/O modules, and Intelligent function modules can be set.
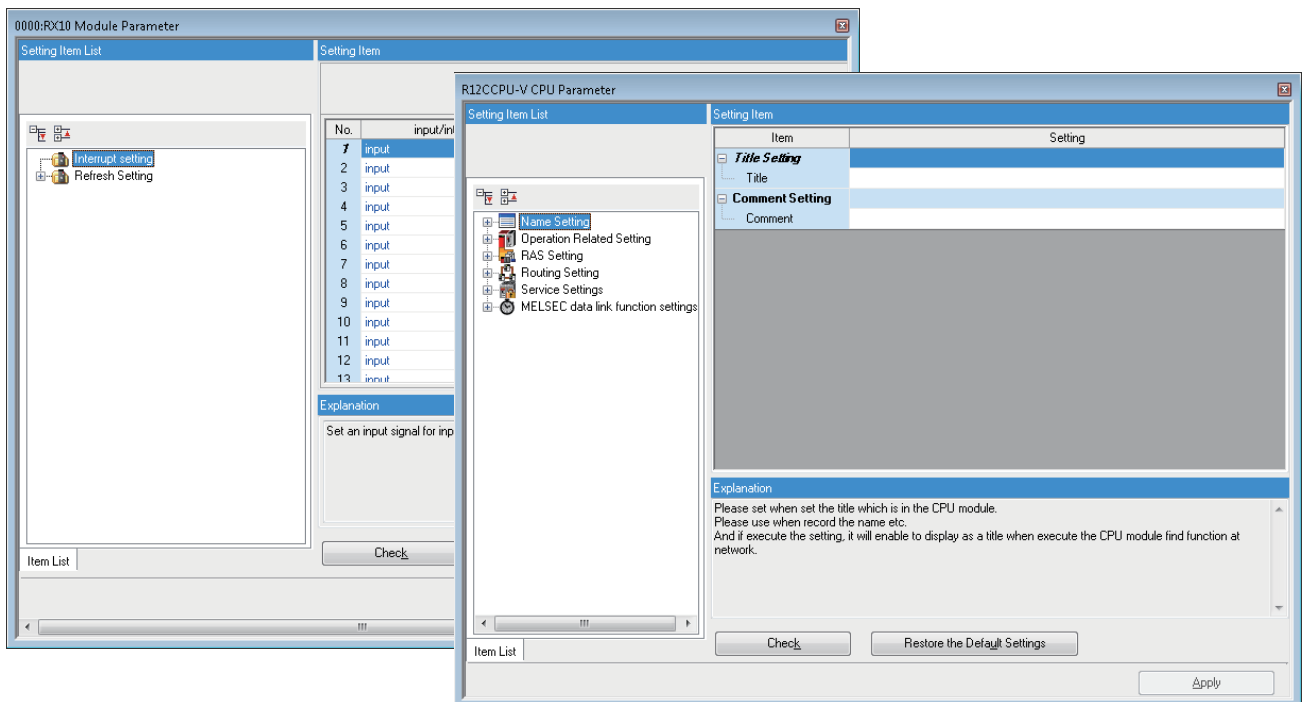
Writing to PLC/Reading from PLC function

Set parameters can be written to/read from C Controller module with the Write to PLC/Read from PLC function.
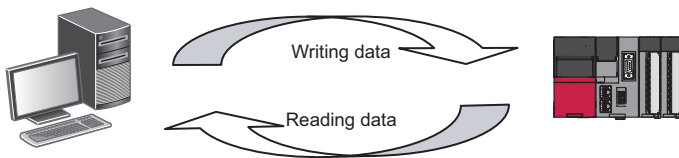
Module operation check function

The operation of modules can be checked by connecting C Controller module to a personal computer and monitoring devices of C Controller module and Intelligent function module.
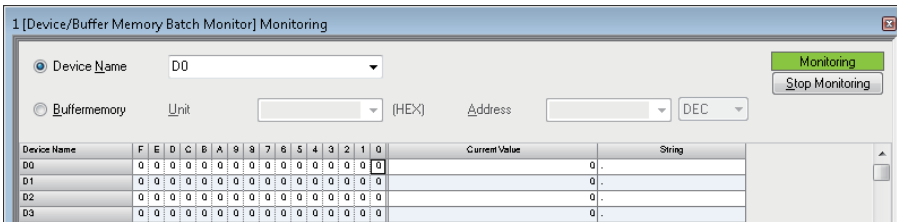
Diagnostic function

The current error status and the error history of modules or the network can be diagnosed. By using the diagnostic function, recovery work can be completed in a short time.

By using the System Monitor function, the detailed information of Intelligent function module can be obtained. This helps to shorten the recovery work time at error occurrence.

Diagnosing the module ("Module Diagnostics" screen)
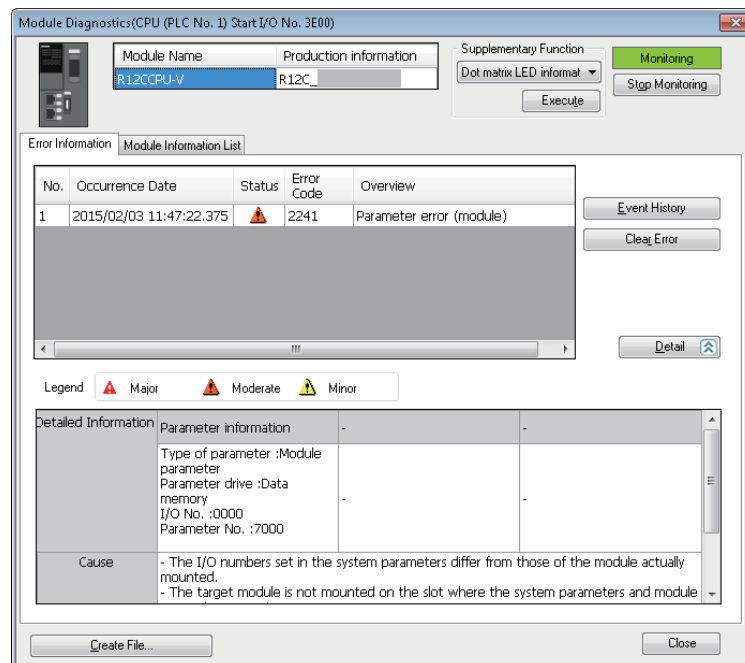
1.2 Learning Operation Method of CW Configurator

This section explains how to learn the operation methods of CW Configurator.

Displaying HELP

Display the Help to learn about operations and functions, and check the error codes of C Controller module.

Operating procedure

Select [Help] ⇨ [CW Configurator Help] ( ).
e-Manual Viewer is started and a manual is displayed.

Find HELP function

Enter a character string in on the toolbar and press the <u>Enter</u> key to start searching on e-Manual Viewer. The entered character string can be searched in the manuals which have been registered in e-Manual Viewer.

Connecting to MITSUBISHI ELECTRIC FA Global Website

Display the MITSUBISHI ELECTRIC FA Global Website in Web browser.
Connect the personal computer to the Internet in advance.

Operating procedure

Select [Help] ⇨ [Connection to MITSUBISHI ELECTRIC FA Global Website].

Checking version of CW Configurator

Display the information such as the software version of CW Configurator.

Operating procedure

Select [Help] ⇨ [Version Information].

1.3 Connection Configurations between Personal Computer and C Controller module

The configurations when connecting a personal computer and C Controller module are shown below.

Connection via Ethernet board
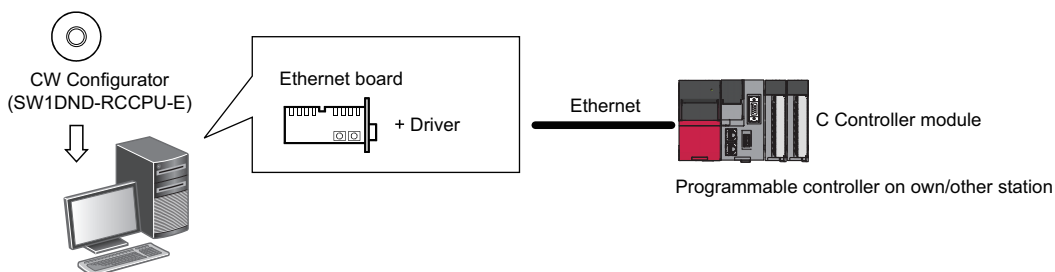
Use an Ethernet board that is built-in to a personal computer or commercially available.

Connection via USB port

This connection is used to access C Controller module via other CPU module in a multiple CPU system configuration.

For the connection using a USB port, refer to the following section.

☞ Page 65 Accessing to Multiple CPU System
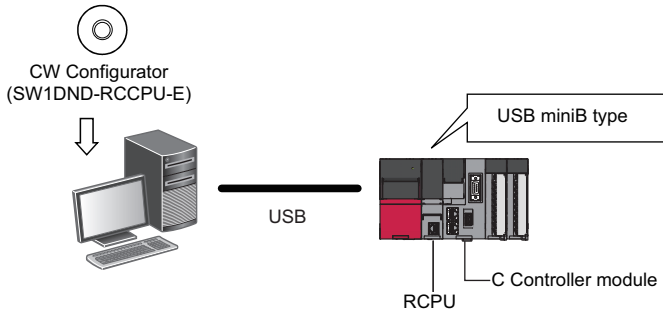
The USB cables of which the operation is ensured by Mitsubishi Electric Corporation are shown below.

When using a USB cable for the first time, install the USB driver.

For details, refer to the following section.

☞ Page 93 USB Driver Installation Procedure

Product name	Model	Manufacturer
USB cable (USB A type — USB B type)	AU230	BUFFALO KOKUYO SUPPLY INC.
USB cable (USB A type — USB miniB type)	KU-AMB530	SANWA SUPPLY INC.
	KU-AMB550	
USB adapter (USB B type — USB miniB type)	AD-USBBFTM5M	ELECOM Co., Ltd.

For the considerations when accessing C Controller module, refer to the following section.

☞ Page 67 Considerations on Communication

■Configuration of USB connection

Only one RCPU can be connected to a personal computer at the same time.

Connection to RCPU is not applicable for the following configuration.
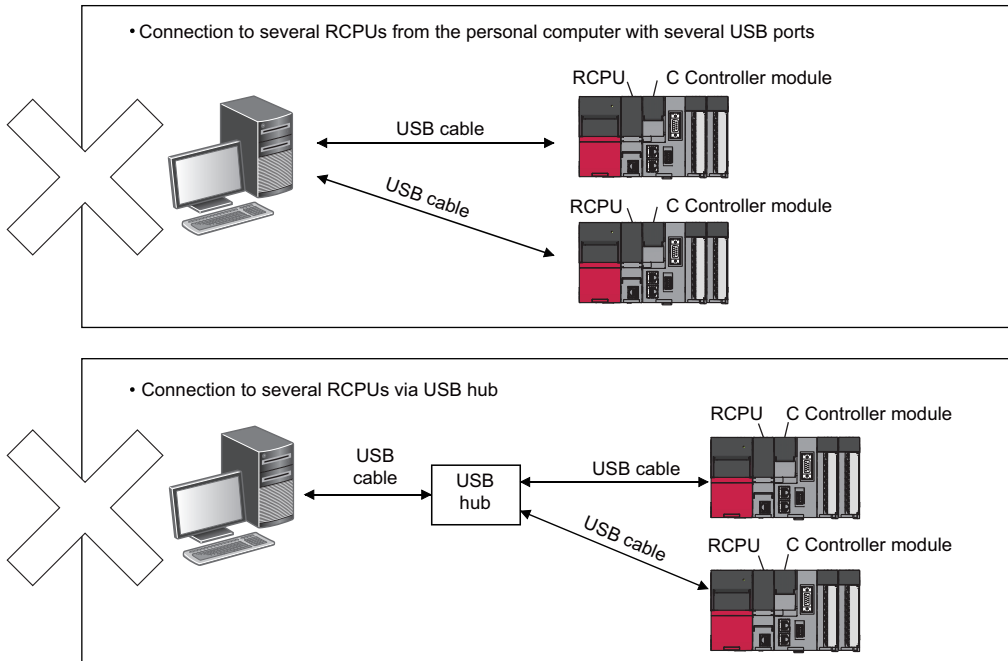
2 SCREEN CONFIGURATION AND BASIC OPERATIONS

This chapter explains the screen configuration and basic operations of CW Configurator.

2.1 Starting and Exiting CW Configurator

This section explains the operation methods for starting and exiting CW Configurator.

Starting CW Configurator

Operating procedure

Select [MELSOFT Application] ⇨ [CW Configurator] ⇨ [CW Configurator] from Windows® Start[*1].

*1 Select [All apps] on the Start screen or [Start] ⇨ [All Programs].

Exiting CW Configurator

Operating procedure

Select [Project] ⇨ [Exit CW Configurator].

2.2 Switching Displayed Language

Since CW Configurator supports multiple languages, switching the languages on the menu bar is available on the one personal computer.

Window

[View] ⇨ [Switch Display Language]
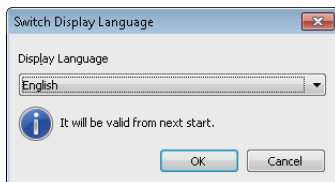
2.3 Screen Configuration

This section explains the screen configuration of CW Configurator that is displayed when it is started.

Main frame

The main frame configuration is shown below.

The following screen shows a main frame configuration on which a work window and docked windows are displayed.

Title bar

Menu bar

Toolbar

Work window

A main screen used for operations such as programming, parameter setting, and monitoring

Status bar

Navigation window

Watch window etc.

Element Selection window
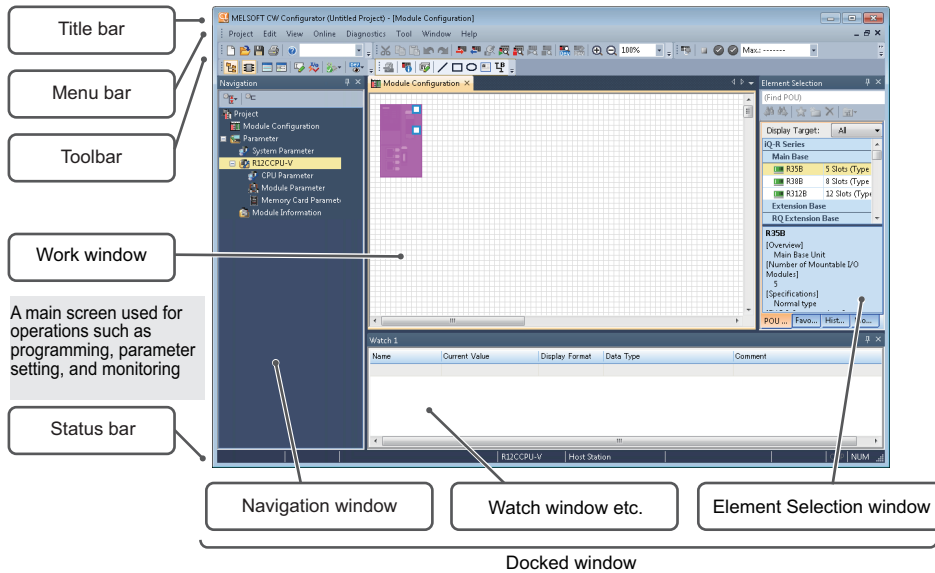
Docked window

Window operation

■Displaying docked windows

[View] ⇨ [Docking Window] ⇨ [(target item)]

■Switching docked window and work window

The windows or files can be switched by pressing the ⎄Ctrl⎄ key and ⎄Tab⎄ key.

Select it by pressing the ⎄Ctrl⎄ key and ⎄←⎄ key/⎄→⎄ key /⎄↑⎄ key/⎄↓⎄ key.

■Arranging work windows

The list of windows being open is displayed.

Opening the specific window and arranging the windows are available.

Arranging the windows improves display efficiency while opening multiple windows.

Window

[Window] ⇨ [Window]
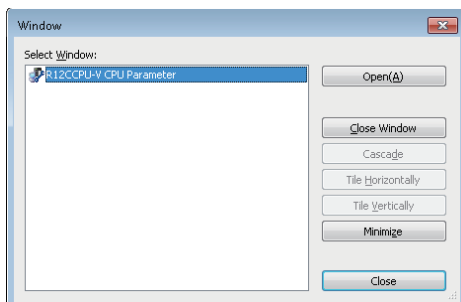
■Docking/floating dockable windows

• Docked display: Drag the title bar of a floating dockable window and drop it to the guidance to dock the main frame.
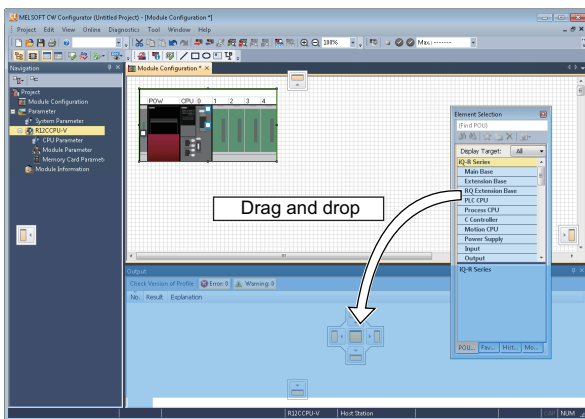
Drag a dockable window to the guidance
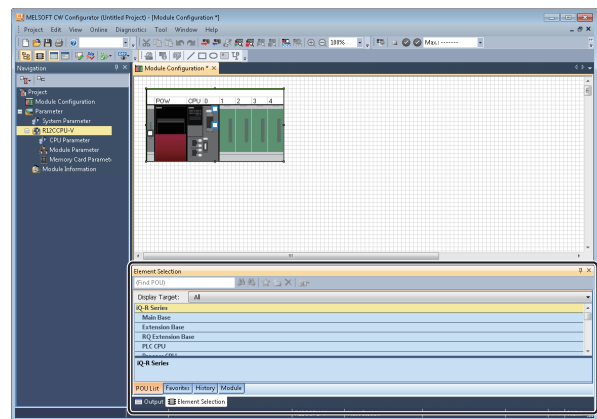
A new tab appears after the window is docked.

• Floating display: Drag the title bar of a docked window and drop it to the arbitrary position to float from the main frame.

■Docking/floating work windows

• Docked display: Select the floating work window and select [Window] ⇨ [Docking].

• Floating display: Select the docked work window and select [Window] ⇨ [Floating].

Point

Docked windows can be switched from docked to floating or vice versa by double-clicking the title bar.

Customizing/resetting toolbars

Set the types of tool buttons to be displayed on each toolbar.

The selected tool buttons on the list are displayed on the tool bar.

Operating procedure

■Customizing toolbar

1. Click ⁀ on the toolbar, and select [Show/Hide Buttons] ⇨ [(toolbar name)].

2. Select the tool button to be displayed from the list.

■Resetting toolbar

Click ⁀ on the toolbar, and select [Show/Hide Buttons] ⇨ [Reset].

Navigation window

Navigation window is the screen that displays the content of a project in a tree format.

Operations such as creating new data and displaying editing screens can be performed on the tree.

For details, refer to the following section.

☞ Page 30 PROJECT MANAGEMENT

Window

[View] ⇨ [Docking Window] ⇨ [Navigation] (📑)
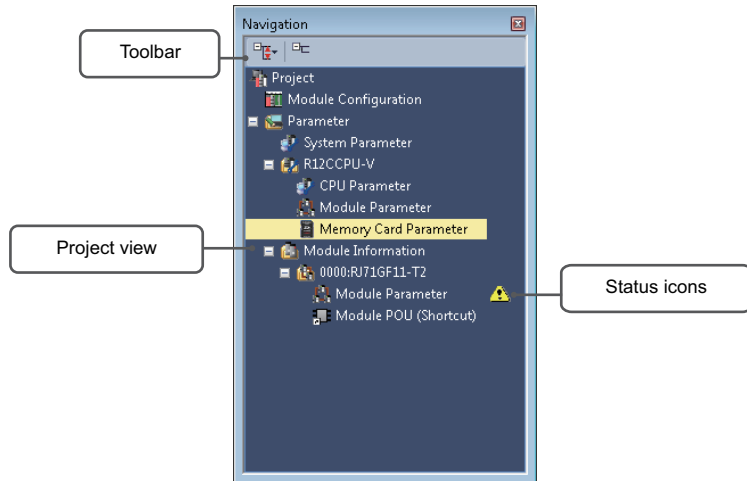
Displayed items

Name	Description	Reference
Status icons	Displays icons which indicate state of the project.	Page 19 Status icons

Simple display

Click 📑 on the toolbar to hide the unused folders.

Status icons

The icons that indicate the state of the project are as follows:

Icon	Status	Display timing	Item	Description
❌	Parameter mismatched	Offline	Module folder	Displays when a mismatch is detected between the system parameters and the property of module.
⚠️	Unconfirmed required settings		Module parameter	Displays when the [Apply] button has never been pressed on the setting screen of module parameter (network) that is required to be set.

Element Selection window

The Element Selection window is the window that displays elements for the Module Configuration Diagram in a list format.

Window

[View] ⇨ [Docking Window] ⇨ [Element Selection] (▦)
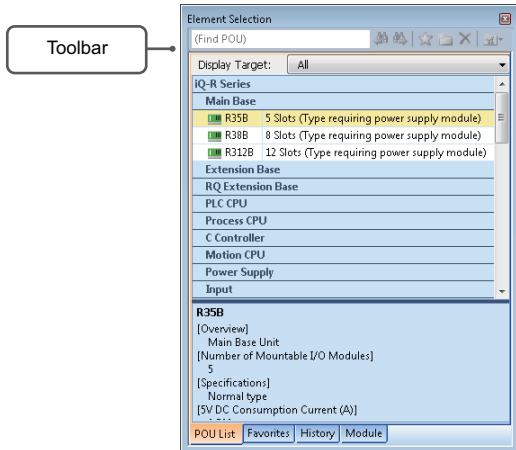
Toolbar

The focus is moved to the element of which character string match with the entered character string (element name or keyword included in the element description) to the toolbar.

The only elements included in the category selected from the display target can be displayed.

Pasting elements

■Pasting elements to Module Configuration Diagram

When the Module Configuration Diagram is displayed, the elements which can be pasted are displayed in the Element Selection window.

The elements can be pasted by dragging and dropping them on the Module Configuration Diagram from the list.

2.4 Menu List

Basic menus

[Project]	
⇨ [New]	Page 31 Creating projects
⇨ [Open]	Page 32 Opening projects
⇨ [Close]	—
⇨ [Save]	Page 33 Overwriting projects
⇨ [Save As]	Page 33 Saving projects under the specified name
⇨ [Delete]	Page 33 Deleting projects
⇨ [Project Verify]	Page 36 Verifying Projects
⇨ [Data Operation] ⇨ [Delete Data]	Page 34 Deleting data
⇨ [Data Operation] ⇨ [Copy Data]	Page 34 Copying/pasting data
⇨ [Data Operation] ⇨ [Paste Data]	
⇨ [Data Operation] ⇨ [Add New Module]	Page 38 Parameter settings Page 55 Simple motion module setting tool
⇨ [Data Operation] ⇨ [Properties]	Page 35 Property
⇨ [Intelligent Function Module] ⇨ [Module Parameter List]	Page 51 Setting parameters
⇨ [Printer Setup]	Page 27 Printing Data
⇨ [Page Setup]	
⇨ [Print Preview]	
⇨ [Print]	
⇨ [Recent Projects] ⇨ [(recently used project 1 to 10)]	—
⇨ [Exit CW Configurator]	Page 16 Exiting CW Configurator

[Edit]	
⇨ [Undo]	—
⇨ [Redo]	
⇨ [Cut]	
⇨ [Copy]	
⇨ [Paste]	

[View]	
⇨ [Toolbar] ⇨ [Standard]	Page 17 Main frame
⇨ [Toolbar] ⇨ [Program Common]	
⇨ [Toolbar] ⇨ [Docking Window]	
⇨ [Toolbar] ⇨ [Monitor Status]	
⇨ [Statusbar]	
⇨ [Color and Font]	Page 25 Checking and Changing Colors and Fonts
⇨ [Docking Window] ⇨ [Navigation]	Page 19 Navigation window
⇨ [Docking Window] ⇨ [Element Selection]	Page 20 Element Selection window
⇨ [Docking Window] ⇨ [Output]	—
⇨ [Docking Window] ⇨ [Progress]	
⇨ [Docking Window] ⇨ [Input the Configuration Detailed Information]	—
⇨ [Docking Window] ⇨ [Result of Power Supply Capacity and I/O Points Check]	
⇨ [Docking Window] ⇨ [(Watch 1 to 4)]	Page 77 Checking Current Values of Registered Device
⇨ [Docking Window] ⇨ [Intelligent Function Module Monitor] ⇨ [(Intelligent Function Module Monitor 1 to 10)]	Page 78 Checking Current Values in Intelligent Function Module
⇨ [Zoom] ⇨ [Set Zoom Factor]	—
⇨ [Zoom] ⇨ [Zoom In]	
⇨ [Zoom] ⇨ [Zoom Out]	
⇨ [Switch Display Language]	Page 16 Switching Displayed Language

[Online]	
⇨ [Specify Connection Destination]	Page 58 Specification of Connection Destination
⇨ [Read from PLC]	Page 68 Writing/Reading Data in C Controller module
⇨ [Write to PLC]	
⇨ [Verify with PLC]	Page 72 Verifying Data in C Controller module
⇨ [Remote Operation]	Page 89 Remote Operation of C Controller module
⇨ [CPU Memory Operation]	Page 90 Checking Memory Usage
⇨ [Delete PLC Data]	Page 71 Deleting data in C Controller module
⇨ [Set Clock]	Page 88 Setting Clock in C Controller module
⇨ [Monitor] ⇨ [Monitor (Write Mode)]	—
⇨ [Monitor] ⇨ [Start Monitoring (All Windows)]	Page 75 Monitoring Status
⇨ [Monitor] ⇨ [Stop Monitoring (All Windows)]	
⇨ [Monitor] ⇨ [Start Monitoring]	
⇨ [Monitor] ⇨ [Stop Monitoring]	
⇨ [Monitor] ⇨ [Device/Buffer Memory Batch Monitor]	Page 76 Checking Device/Buffer Memory in Batch
⇨ [Watch] ⇨ [Start Watching]	Page 77 Checking Current Values of Registered Device
⇨ [Watch] ⇨ [Stop Watching]	

[Diagnostics]	
⇨ [System Monitor]	Page 81 Checking Module Status of System
⇨ [Module Diagnostics (CPU Diagnostics)]	Page 82 Diagnosing Module
⇨ [CC-Link IE Control Diagnostics (Optical Cable)]	Page 84 CC-Link IE Controller Network diagnostics
⇨ [CC-Link IE Field Diagnostics]	Page 85 CC-Link IE Field Network diagnostics
⇨ [CC-Link Diagnostics]	Page 86 CC-Link diagnostics

[Tool]	
⇨ [Check Parameter]	Page 47 Setting Parameters
⇨ [Module Tool List]	Page 54 Displaying module tool list
⇨ [Register Profile]	Page 37 Registering Profiles
⇨ [Shortcut Key]	Page 24 Checking and Changing Shortcut Keys
⇨ [Circuit Trace]	—
⇨ [Options]	Page 26 Setting Options

[Window]	
⇨ [Cascade]	—
⇨ [Tile Vertically]	
⇨ [Tile Horizontally]	
⇨ [Arrange Icons]	
⇨ [Close All Windows]	
⇨ [Reset Window Layout Back to Initial Status]	
⇨ [Split]	
⇨ [Restore Split]	
⇨ [Floating]	Page 17 Screen Configuration
⇨ [Docking]	
⇨ [(Window information being displayed)]	
⇨ [Window]	

[Help]	
⇨ [CW Configurator Help]	Page 14 Displaying HELP
⇨ [Connection to MITSUBISHI ELECTRIC FA Global Website]	Page 14 Connecting to MITSUBISHI ELECTRIC FA Global Website
⇨ [Version Information]	Page 14 Checking version of CW Configurator

Applicable menus for Module Configuration Diagram

[Edit]	
⇨ [Delete]	—
⇨ [Select All]	
⇨ [Bring to Front]	
⇨ [Send to Back]	
⇨ [Module Status Setting (Empty)]	Page 39 Creating Module Configuration Diagram
⇨ [Display Module Information]	Page 42 Displaying model names on module objects
⇨ [Check] ⇨ [Power Supply Capacity and I/O Points]	Page 38 Module Configuration Diagram
⇨ [Check] ⇨ [System Configuration]	
⇨ [Parameter] ⇨ [Fix]	Page 43 Setting parameters on the Module Configuration Diagram
⇨ [Parameter] ⇨ [Input Detailed Configuration Information Window]	—
⇨ [Start XY Batch Input]	Page 38 Module Configuration Diagram
⇨ [Default Points Batch Input]	

[Online]	
⇨ [Read Module Configuration from PLC]	Page 41 Reading module configuration from actual system

[View]	
⇨ [Toolbar] ⇨ [Module Configuration Diagram]	Page 39 Creating Module Configuration Diagram

Applicable menus for parameter editor

[Edit]	
⇨ [Set Maximum Value]	The menus to be displayed differ depending on the module.
⇨ [Set Minimum Value]	
⇨ [Copy Positioning Data]	
⇨ [Paste Positioning Data]	
⇨ [Channel Copy]	
⇨ [Copy Axis]	
⇨ [Auto-assignment]	
⇨ [Setting Method] ⇨ [Start/End]	
⇨ [Setting Method] ⇨ [Points/Start]	
⇨ [Device Assignment Method] ⇨ [Start/End]	
⇨ [Device Assignment Method] ⇨ [Points/Start]	
⇨ [Word Device Setting Value Input Format] ⇨ [Decimal]	
⇨ [Word Device Setting Value Input Format] ⇨ [Hexadecimal]	
⇨ [IP Address Input Format] ⇨ [Decimal]	
⇨ [IP Address Input Format] ⇨ [Hexadecimal]	

Applicable menus for verification result screen

[Edit]	
⇨ [Export to File]	Page 37 Exporting data to file

[View]	
⇨ [Return to Result List]	—
⇨ [Close Detailed Result]	
⇨ [Close All Detailed Result]	

Applicable menus for Device/Buffer Memory Batch Monitor screen

[View]	
⇨ [Display Format Detailed Setting]	—

2.5 Checking and Changing Shortcut Keys

The shortcut keys of each function can be checked and changed on the "Shortcut Key" screen.

Up to 3 shortcut keys can be assigned to one command.

Window

[Tool] ⇨ [Shortcut Key]
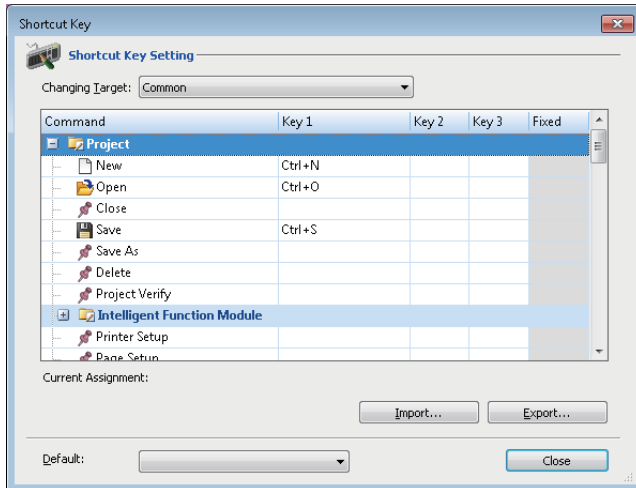
Operating procedure

1. Double-click the cell of a command of which shortcut key will be changed to edit it.

2. Press the key to be assigned on the keyboard.

3. Click the [Close] button.

■Change to default setting

The assignment of the shortcut keys can be changed to the default format by selecting the format from "Default" pull-down list.

The available format is shown below:

• Change to CW Configurator Format: Change to the default setting.

> **Point** ℘
>
> By importing the exported file(*.gks), the settings can be utilized in other personal computers.

2.6 Checking and Changing Colors and Fonts

The colors and fonts used in each editor can be checked and changed on the "Color and Font" screen.

The changed color and font settings are saved in a logon user unit.

Window

[View] ⇨ [Color and Font]
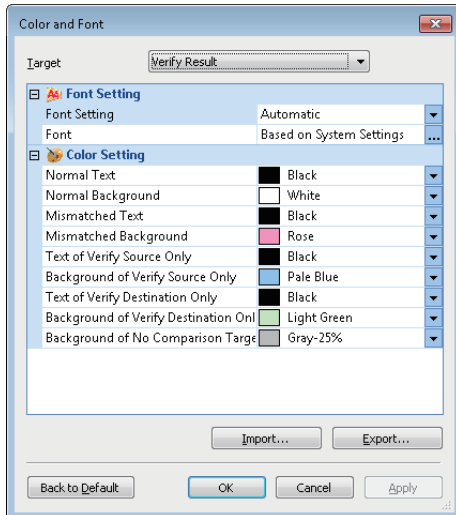
Operating procedure

1. Select "User Setting" in the pull-down list of "Font Setting".

2. Set the items on the "Font" screen, and click the [OK] button.

3. Select the color from "Color Setting" to be changed, and click the [Apply] button.

4. Click the [OK] button.

Precautions

Some fonts may be displayed as garbled characters.

Change the setting to another font if this happens.

Point

By importing the exported file(*.gcs), the settings can be utilized in other personal computers.

2.7 Setting Options

Some functions and editors have an option setting function. Changing option settings enables the change of a screen display format and the settings of detailed operation for each function.

Window

[Tool] ⇨ [Options]
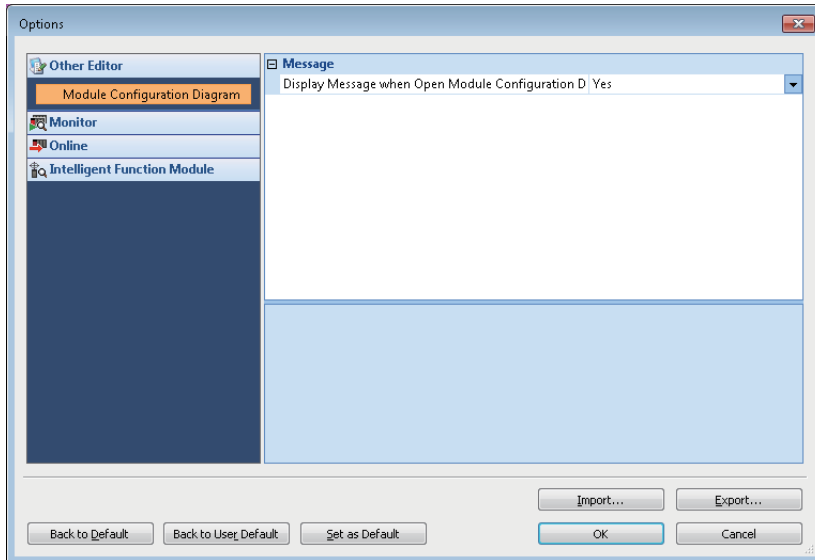
Operating procedure

Set the items and click the [OK] button.

Point

By importing the exported file (*.gos), the settings can be utilized in other personal computers.

2.8 Printing Data

This section explains how to print the data created in CW Configurator.

Window

[Project] ⇨ [Print] (🖨️)
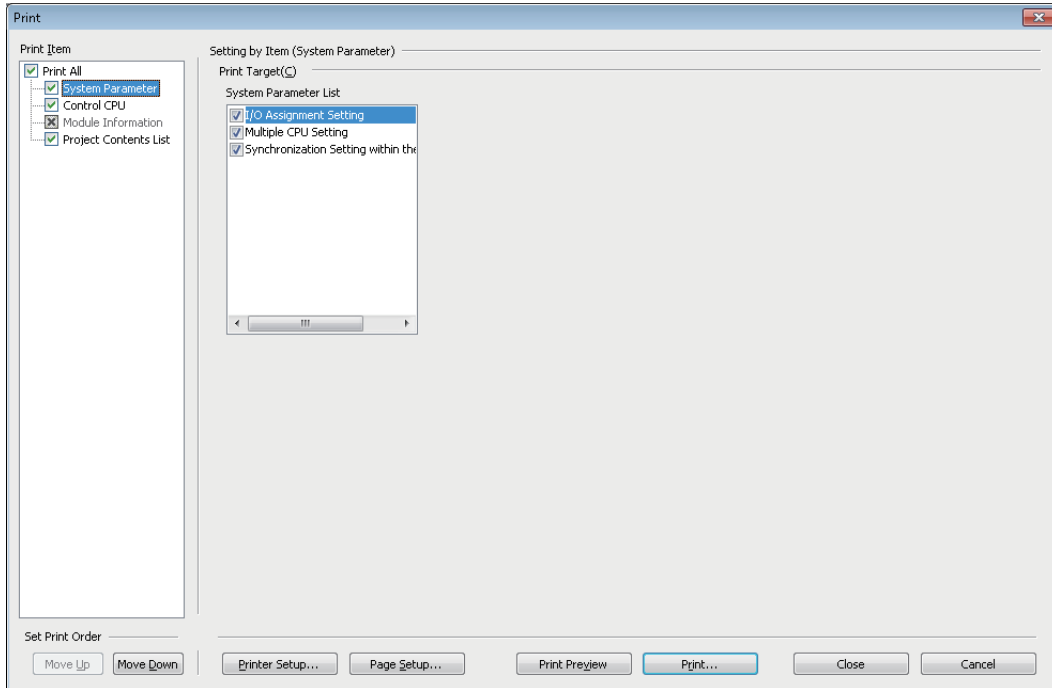
When no data exist or only read protect data exist in "Print" and "Do Not Print" list, × is displayed on the checkbox of the Print Item.

Operating procedure

1. Select the data to be printed, and configure each setting.

2. Set the printer and page by clicking the [Printer Setup] button and [Page Setup] button.

3. Click the [Print] button.

Previewing print images

Check the print images of each data.

Window

Operating procedure

1. Select [Project] ⇨ [Print Preview].

2. Click the [Print Preview] button on the "Print" screen.

3. When switching the data to be previewed, select "Print Item" and "Data Name", and click the [Display] button.

Considerations

■Displaying print previews and printing data
In the following situations, neither displaying print preview nor printing data can be performed.
- The data to be printed do not exist.
- The print target screen is being monitored. (Stop monitoring before start printing.)

■Printing large volume data
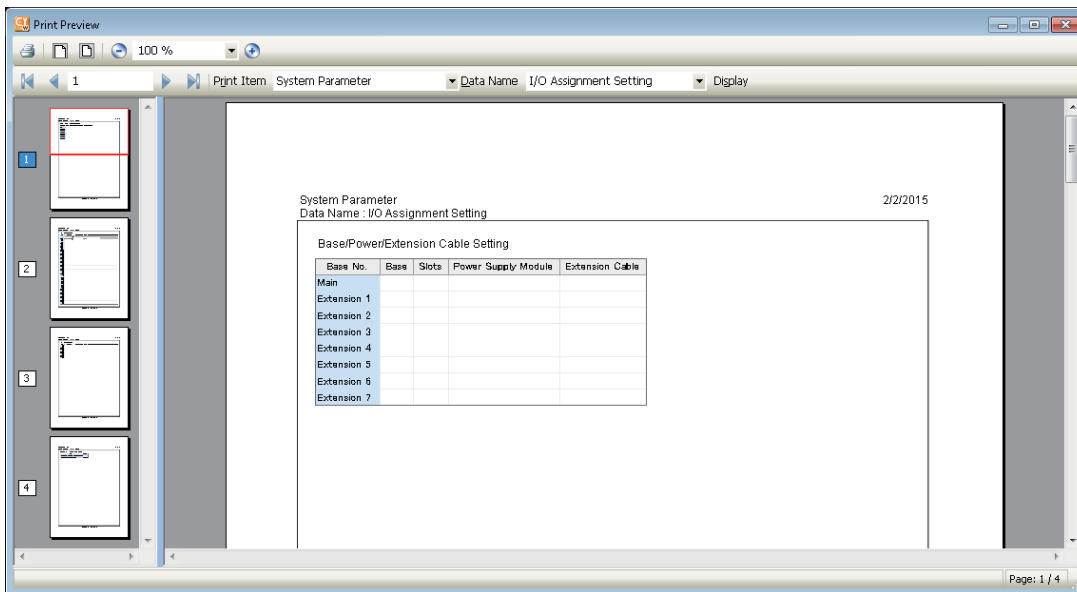Large volume data may not be printed at all or printed half way due to the limitations of printer driver or Windows® print spooler. In this case, print the data by any of the following methods.
- Split the data by setting a print range
- Select "Print directly to the printer" in the [Advanced] tab of the property screen (select [Control Panel] ⇨ [Devices and Printers] from Windows® Start[*1])
- Set "Output by Item" for the print job output on the "Printer Setup" screen.

*1 Select [All apps] on the Start screen or [Start] ⇨ [All Programs].

■Outputting the print contents on a file
- When the print content is output to a file, the "Save As" screen may be displayed in the background of other screen. Press the [Alt] and [Tab] keys or [Alt] and [Esc] keys to bring the screen in the foreground.
- If CW Configurator is operated while the "Save As" screen is displayed, CW Configurator will be in "No response" state. Select "Wait for the program to respond" on the displayed message. Selecting "Close the program" may result in loss of unsaved data.

PART 2 SYSTEM DESIGN AND SETTING

This part explains the system design including project management and parameter settings.

3 PROJECT MANAGEMENT

This chapter explains basic operations and management of projects.

3.1 Project Files and Data Configuration

The projects created with CW Configurator are saved and managed in the single file format.
The data created in the project are displayed on the Project view.

File format

Single file format

Projects can be managed without being aware of the folder configuration and the file configuration by saving projects in the single file format.
Thereby, operations such as changing project names, copying and pasting projects, and sending and receiving data, can easily be performed using an application such as Windows® Explorer.

Data configuration

Data displayed on the Project view

The data displayed on the Project view in tree format are as shown below. (The data names are default.)

■Module configuration data

Creation method: ☞ Page 39 Creating Module Configuration Diagram

Figure	Item	Description
Module Configuration	Module Configuration	A data that displays target system of a project graphically.

■Parameter data

For the structures of the tree and creation methods, refer to the following section.
☞ Page 47 Setting Parameters

3.2 Creating Project Files

This section explains basic operations of CW Configurator such as creating, opening, and saving projects.

Creating projects

Create a new project.

Window

[Project] ⇨ [New] (▯)
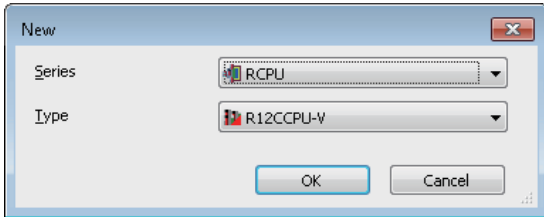
Operating procedure

Set the items and click the [OK] button.

Creating new project by data read from C Controller module

A new project can be created by reading existing project from C Controller module using the read data function without creating new project as shown above.

Operating procedure

1. Start CW Configurator, and select [Online] ⇨ [Read from PLC] (▦).

2. Select the series to be read on the "Series Selection" screen, and click the [OK] button.

3. Set the communication route to access C Controller module on the "Specify Connection Destination" screen, and click the [OK] button.

4. Perform the reading from C Controller module function on the "Online Data Operation" screen.

For the method to perform the reading from C Controller module function on the "Online Data Operation" screen, refer to the following section.

☞ Page 71 Reading data from C Controller module

Precautions

When parameters are not read from C Controller module to create a new project, default parameters for new project creation will be set. Check the parameter setting.

Opening projects

Read the project saved on the personal computer or other data storage device.

Window

[Project] ⇨ [Open] ( )
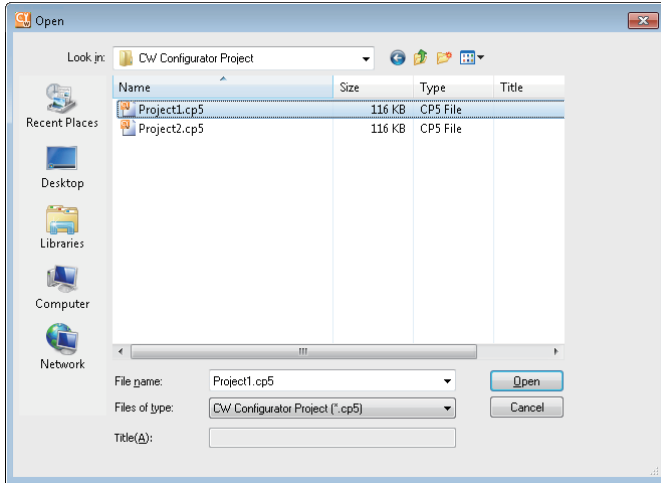
Operating procedure

Set the items and click the [Open] button.

Precautions

■Opening projects being edited by other users
The project can be opened as a read-only project. However, the following function cannot be used.
 • Saving projects

■Projects saved on a network drive or a removal media
Do not open the project directly. Open it after saving it to the personal computer.

Saving projects

Save the project on the personal computer or other data storage device.

Saving projects under the specified name

Window

[Project] ⇨ [Save As]
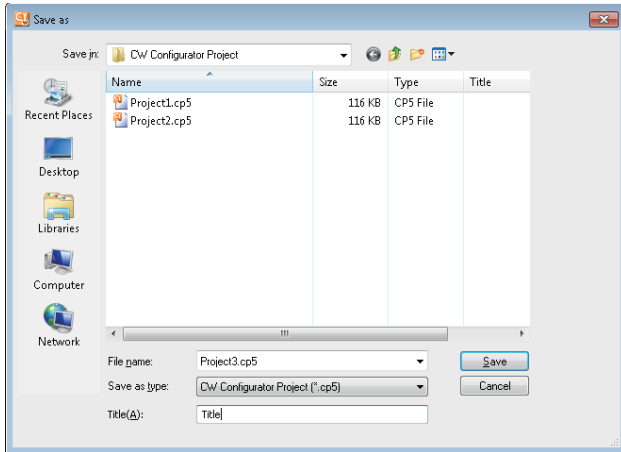
Operating procedure

Set the items and click the [Save] button.

Overwriting projects

Operating procedure

Select [Project] ⇨ [Save] (💾).

Deleting projects

Delete the project saved on the personal computer or other data storage device.

Window

[Project] ⇨ [Delete]

Operating procedure

Select the project (🗔) to be deleted, and click the [Delete] button.

3.3 Managing Project Data

This section explains how to edit data and properties.

Project data

■Character strings that cannot be used

Refer to the following section.

☞Page 92 Character Strings that cannot be Used for Data Names

■Maximum number of data that can be created
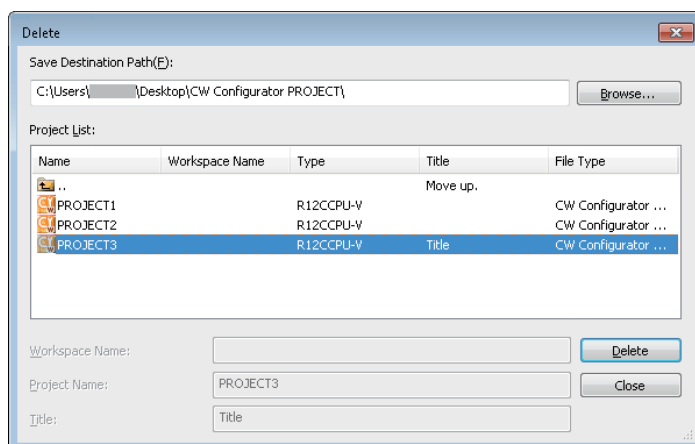
Up to 800 data can be created in one project.

> **Precautions**
>
> For data names, use the characters in the Unicode Basic Multilingual Plane.

Adding new modules

Add a new module to the project.

For the setting method, refer to the following sections.

☞Page 51 Setting parameters of Intelligent function module, Page 55 Simple motion module setting tool

Editing project

Copying/pasting data

Utilize data of a project being edited or other projects.

Data cannot be copied/pasted between projects with different module type.

> **Operating procedure**

1. Select the data name to be copied on the Project view.

2. Select [Project] ⇨ [Data Operation] ⇨ [Copy Data] (📄).

3. Select the target folder (one-level upper hierarchy of the copy source data) on the Project view or other project.

4. Select [Project] ⇨ [Data Operation] ⇨ [Paste Data] (📄).

If the same data name exists in the folder where the data is to be pasted, the pasted data is named automatically.

Deleting data

Delete data from the open project.

> **Operating procedure**

1. Select the data name to be deleted on the Project view.

2. Select [Project] ⇨ [Data Operation] ⇨ [Delete Data].

Property

Display the properties of data such as folders and parameters.

Titles and comments can be added to each data.

Window

[Project] ⇨ [Data Operation] ⇨ [Properties] ( )
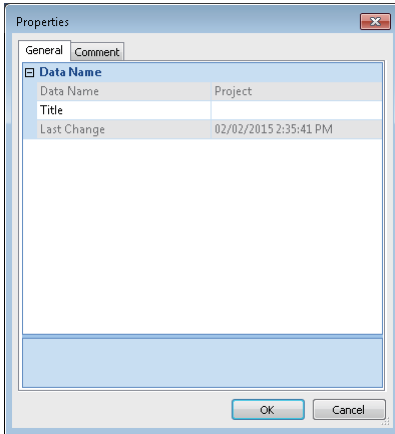
Operating procedure

Set the items and click the [OK] button.

Titles

The title set to a data is displayed with a data name on the Navigation window.

The title is also displayed on the "Online Data Operation" screen when writing/reading data to/from C Controller module.
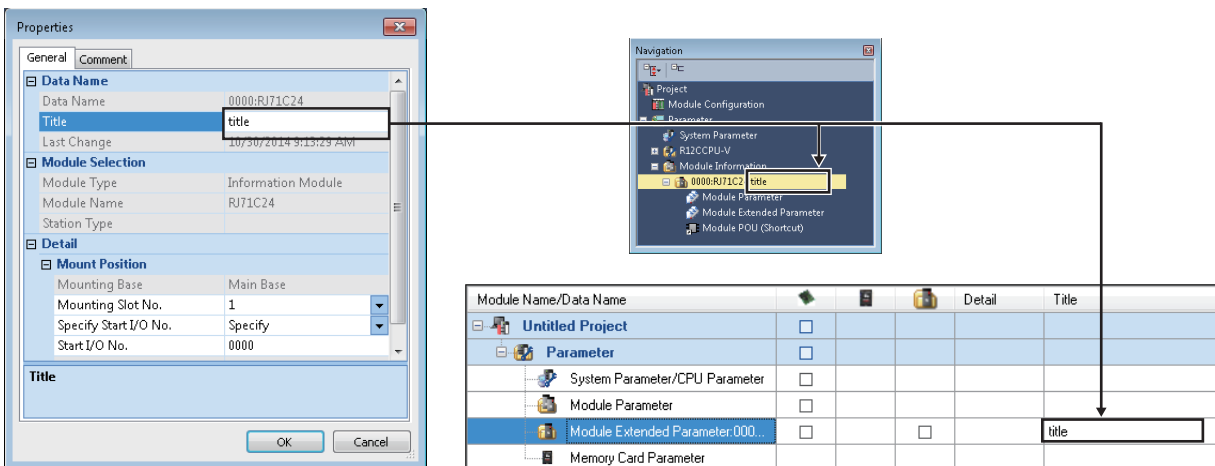
3.4 Verifying Projects

Verify the open project against the other project.

Use this function to compare the content of two projects.

Performing verification

Window

[Project] ⇨ [Project Verify]
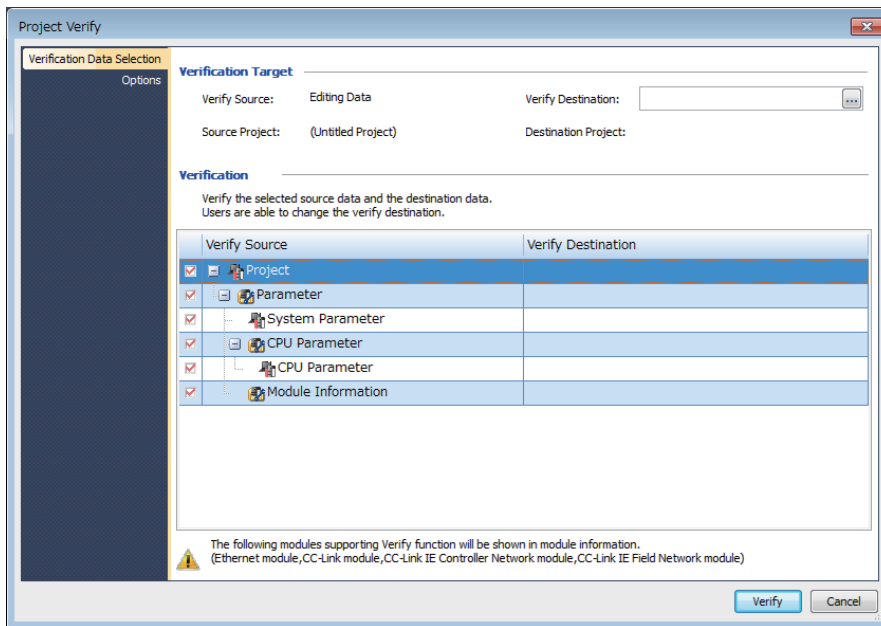
Operating procedure

1. Specify the project to "Verify Destination" in [Verification Data Selection].

2. Select the data to be verified, and click the [Verify] button.

> **Point**
>
> The target project file can be specified by dragging and dropping the respective file.

Precautions

- Verification is available between the projects of C Controller module. Verification with a project of a programmable controller CPU cannot be performed.

Parameters

■Verification levels

Select the parameter verification level from [Options] tab on the "Project Verify" screen.

Checking verification result

Check the details of mismatched data on the Verify Result screen.

Updated verify source data is displayed in the verification result.

Therefore, the verification result of updated verify source data can be checked without performing the verification function again after mismatched data is modified.

Operating procedure

1. Double-click the row of the data to display the details on the Verify Result screen.

Point

Font color, background color, and fonts can be changed.

☞ Page 25 Checking and Changing Colors and Fonts

Parameters

When the same profile is not registered to the verify destination and the verify source, the verification result may be a mismatch.

Exporting data to file

Export the data displayed on the Verify Result screen to a file.

Operating procedure

Select [Edit] ⇨ [Export to File] (🖳).

3.5   Registering Profiles

Register profiles in CW Configurator.

Profiles are the data in which the connected device information (such as model names) is stored.

Before registering profiles, log on to the personal computer as a user with administrator authority. All open projects must be closed.

Operating procedure

1. Select [Tool] ⇨ [Register Profile].

2. Select the file on the "Register Profile" screen, and click the [Register] button.

4 CREATING MODULE CONFIGURATION DIAGRAM AND SETTING PARAMETERS

In CW Configurator, parameters for C Controller system can be set on the Module Configuration Diagram, as if to configure the actual system.

The parameters can also be configured on the Project view.

Module Configuration Diagram

By using the Module Configuration Diagram, the following operations can easily be performed.

Item	Reference
Display an actual C Controller system configuration visually	Page 39 Creating Module Configuration Diagram
Set parameters for modules	Page 43 Setting parameters on the Module Configuration Diagram
Input start XY in batch	Page 46 Inputting start XY in batch
Input default points in batch	Page 46 Inputting default points in batch
Check a power supply capacity and I/O points	Page 46 Checking power supply capacity and I/O points
Check a system configuration	Page 46 Checking system configurations

Parameter settings

There are two methods for setting parameters: using the Module Configuration Diagram and using the Project view.

For the operation methods, refer to the following sections.

☞ Page 43 Setting parameters on the Module Configuration Diagram, Page 47 Setting Parameters

■When an unsupported module exists in the system parameter

When a module that is not supported by C Controller module and is not displayed in the Element Selection window of CW Configurator (unsupported module) exists, the Module Configuration Diagram can not be used. When using the Module Configuration Diagram, delete the unsupported module from the system parameter. (☞ Page 41 Reading module configuration from actual system, Page 49 Setting system parameters)

4.1 Creating Module Configuration Diagram

Place the module parts (object) with the same configuration as an actual system configuration on the Module Configuration Diagram.

The Module Configuration Diagram of CW Configurator can be configured within the range that can be managed by the C Controller module of a project.

Editor configuration of Module Configuration Diagram

Point

Display settings can be changed by setting the following option.

[Tool] ⇨ [Options] ⇨ "Other Editor" ⇨ "Module Configuration Diagram"

Window

Double-click "Module Configuration" on the Project view.

● Toolbar

● Module Configuration Diagram

Displayed items

Screen name	Item	Description
Module Configuration Diagram	iQ-R series	An object of MELSEC iQ-R series module.
	Q series	An object of MELSEC-Q series module.
	General module	An object of module for which the start XY and point can be set arbitrarily by each module type. The same points as empty slot points can be assigned as an initial value. Select this when using a module which is not displayed in the Element Selection window.
	Figure (Straight Line, Rectangle, Ellipse, Text Box)	An object that is used when adding information such as description on the Module Configuration Diagram.
	Connection line	An object of a bus cable to be connected to a base unit.
	Connection point	A point to be connected with a connection line.
	Module status setting (empty)	A module to be used when operating system by placing modules on the Module Configuration Diagram without mounting actual modules. The module placed on the Module Configuration Diagram and its related parameters will also be set as "(Empty)". (Reserved status)
	Object placement error	The module object which is not placed properly is highlighted.
Element Selection window		A list of objects which can be used on the Module Configuration Diagram.
Input the Configuration Detailed Information window		A window to enter the information such as start XY or station number of the module placed on the Module Configuration Diagram.

Placing objects

Placing module objects

Operating procedure

1. Select a main base from the Element Selection window, and drag and drop it onto the Module Configuration Diagram.

2. Select a module from the Element Selection window, and drag and drop it on the base unit placed on the Module Configuration Diagram in the Step 1.

The available locations are highlighted while dragging the module.

Precautions

Only bus cables are available. Network connection and serial connection are not available.

■Moving placed modules
If a module is removed from the main base or extension base, the object information such as start I/O and parameter information is retained. Therefore, when the removed module is placed on the base unit again, the retained parameter information will be set automatically.
The module removed from the Module Configuration Diagram is deleted from the I/O Assignment Setting screen.

■Deleting placed modules
When a module is deleted, the module information displayed on the Project view after fixing parameters is deleted as well.

■Copying and pasting modules
The copy source parameter information is succeeded.
If C Controller module placed on the base unit in a multiple CPU configuration is copied, the CPU number will be unknown.
The objects can be copied to the Module Configuration Diagram of other projects.

Placing symbol objects

The symbols and text boxes can be placed on the Module Configuration Diagram.

The symbols placed on the Module Configuration Diagram are not written to C Controller module. They are saved only in the project.

Operating procedure

Select a figure in "Figure" in the Element Selection window, and drag and drop it onto the Module Configuration Diagram.

Change the text and color of a symbol object on the "Properties" screen.

Module status setting (empty)

Set this when operating a system without mounting actual modules.

The module is displayed in a pale color.

Operating procedure

Select the module to be set to empty, and [Edit] ⇨ [Module Status Setting (Empty)].

Reading module configuration from actual system

The Module Configuration Diagram can be configured with the information read from C Controller module.

Operating procedure

Select [Online] ⇨ [Read Module Configuration from PLC].

Precautions

- Module configuration can not be read to the system configuration on which a module that is not supported by C Controller module and is not displayed in the Element Selection window of CW Configurator is mounted. (☞ Page 49 Setting system parameters)
- Module configuration can not be read to the extension base units where its number is incorrectly set.

Checking module information

Checking on a balloon help

Place the cursor on the object (such as module and symbol) to display a balloon help on the Module Configuration Diagram.
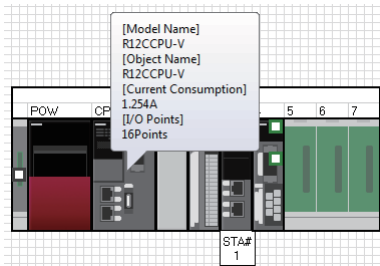
Displaying model names on module objects

Operating procedure

Select [Edit] ⇨ [Display Module Information] (📘).

Normal display   Module information display
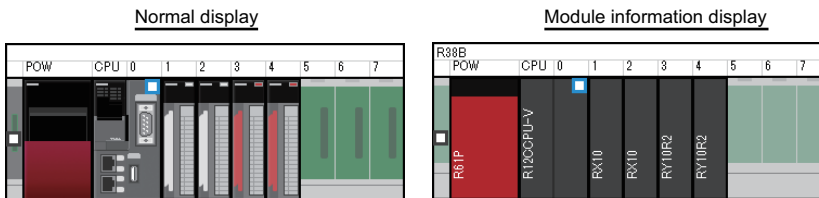
Checking on the "Properties" screen

A model name, object name, and outline of a specification can be checked on the "Properties" screen.

Additionally, a comment can be entered.
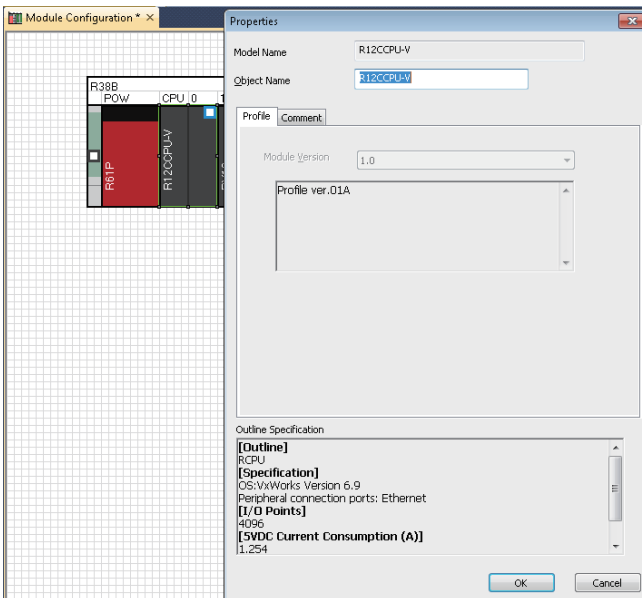
Operating procedure

Select a module on the Module Configuration Diagram, right-click and select [Property] from the shortcut menu.

Setting parameters on the Module Configuration Diagram

Set the parameters of the control CPU and module on the Module Configuration Diagram.

Operating procedure

1. Select the module to edit the parameters.

2. Set the items on the Input the Configuration Detailed Information window.

3. Select [Edit] ⇨ [Parameter] ⇨ [Fix] (🔧).

When setting details of the module, click the [Detailed Setting] button to display the parameter editor.

■Fixing parameters

After editing an object on the Module Configuration Diagram, the status of the parameters of edited object will be undefined.
Following are parameters of which operation is undefined:

- Adding or deleting a module
- Removing a module from the slot. Or, placing the removed module on the slot.
- Cutting and pasting modules
- Connecting modules
- Performing undo/redo
- Changing property of a module
- Performing the Start XY Batch Input function
- Performing the Default Points Batch Input function
- Setting the Module status setting (empty)
- Operations on the Input the Configuration Detailed Information window
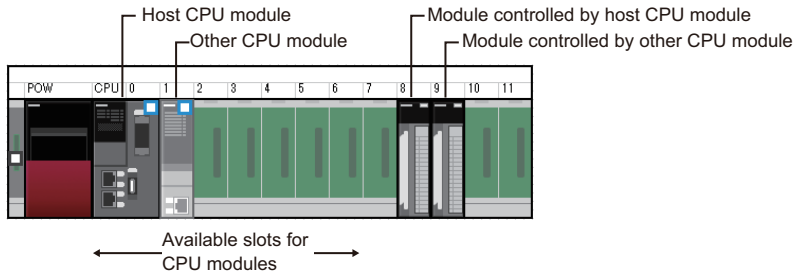
The fixed parameters are reflected to the following screens.

- Project view (For a new module information, the module information is added to the Project view.)
- Parameter editor
- I/O Assignment Setting screen

Multiple CPU configuration

Displaying multiple CPU configuration

The multiple CPU configuration can be set on the Module Configuration Diagram.

Item	Description
Host CPU module	For a multiple CPU configuration, only one project which is set as a host CPU can be set.
Other CPU module	Set the CPU module which is not set as a host CPU to other CPU. The module is displayed in a pale color, same as when the module status setting (empty) is set.
Module controlled by the host CPU module	A module that is controlled by the CPU module set as a host CPU.
Module controlled by the other CPU module	A module that is controlled by the CPU module set as other CPU. The module is displayed in a pale color, same as when the module status setting (empty) is set.
Available slots for CPU modules	Up to four CPU modules can be placed on the CPU slot and slot 0 to 6. The placed CPU modules are assigned a number, CPU No.1 to CPU No.4 starting from the left.

Setting multiple CPU configuration

In a multiple CPU configuration, place two or more CPU modules on the base unit.

Change the control CPU of the module on the Input the Configuration Detailed Information window.

The following explains how to change a single CPU configuration to a multiple CPU configuration, and vice versa.

■Changing a single CPU configuration to a multiple CPU configuration

Drag and drop a CPU module from the Element Selection window in a single CPU configuration (a state where one CPU is placed on the base unit), and place the second CPU module on the base unit.

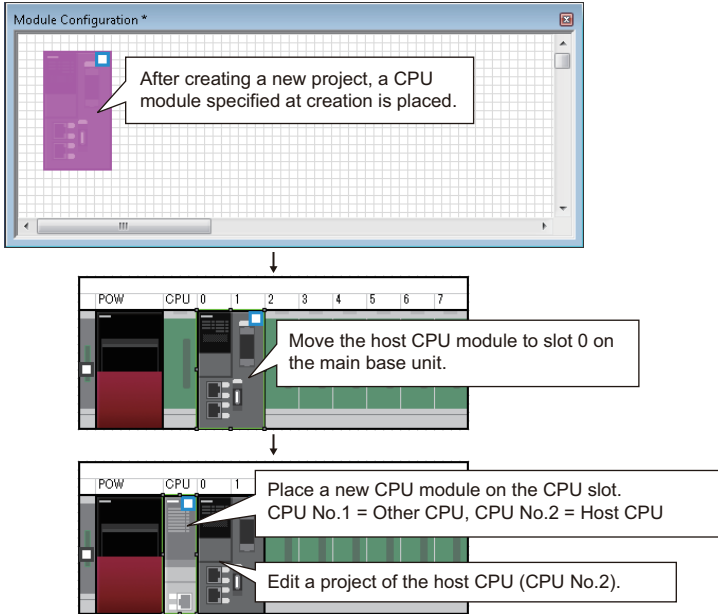### ■Changing a multiple CPU configuration to a single CPU configuration

Delete one CPU module (or remove it from the slot) in a multiple CPU configuration (a state where two or more CPU modules are placed on the base unit), and keep only one CPU module on the base unit.

Changing CPU number of the CPU module set as host CPU

For a multiple CPU configuration, the CPU number of a CPU module placed on the base unit is set in order from the left.
To change the CPU number, change the position of the CPU module.
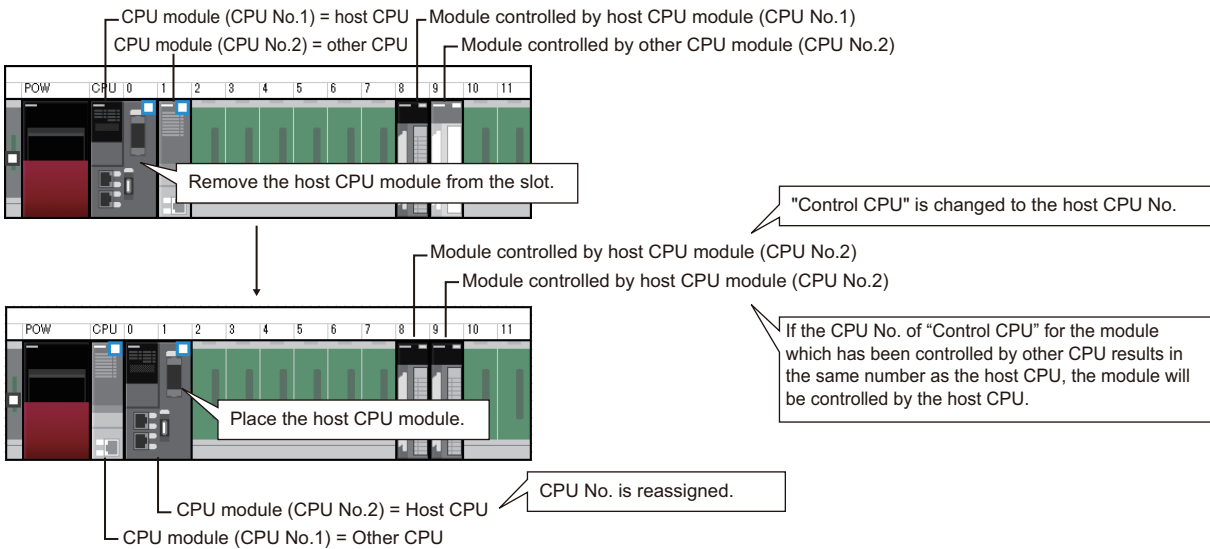
■Operation for single CPU configuration

Move the CPU module placed on the CPU slot to an empty slot, and place a new CPU module on the empty CPU slot.

After creating a new project, a CPU module specified at creation is placed.

Move the host CPU module to slot 0 on the main base unit.

Place a new CPU module on the CPU slot.
CPU No.1 = Other CPU, CPU No.2 = Host CPU

Edit a project of the host CPU (CPU No.2).

■Operation for multiple CPU configuration

Exchange the CPU module on the CPU slot and the CPU module on other slot.
Since the parameter information of the modules removed from the base unit is retained, the retained information is succeeded when the removed modules are placed again.

CPU module (CPU No.1) = host CPU
CPU module (CPU No.2) = other CPU
Module controlled by host CPU module (CPU No.1)
Module controlled by other CPU module (CPU No.2)

Remove the host CPU module from the slot.

"Control CPU" is changed to the host CPU No.

Module controlled by host CPU module (CPU No.2)
Module controlled by host CPU module (CPU No.2)

If the CPU No. of "Control CPU" for the module which has been controlled by other CPU results in the same number as the host CPU, the module will be controlled by the host CPU.

Place the host CPU module.

CPU module (CPU No.2) = Host CPU
CPU module (CPU No.1) = Other CPU

CPU No. is reassigned.

Inputting start XY in batch

Set the start XY of each module in order of the slot number in batch.

Operating procedure

Select [Edit] ⇨ [Start XY Batch Input] (🖼️).

Inputting default points in batch

Change the points, points occupied by empty slot, and empty slot side points (for a module occupies two or more slots) in all the modules and empty slots on the Module Configuration Diagram to default in batch.

Operating procedure

Select [Edit] ⇨ [Default Points Batch Input].

Checking power supply capacity and I/O points

Check if the power capacity and I/O points in the configuration on the Module Configuration Diagram exceed the upper limit.

Operating procedure

1. Select [Edit] ⇨ [Check] ⇨ [Power Supply Capacity and I/O Points] (🖼️).

2. Check the result displayed on the Result of Power Supply Capacity and I/O Points Check window.

Checking system configurations

Check if the layout of each module on the Module Configuration Diagram is proper. The result is displayed on the Output window.

Operating procedure

1. Select [Edit] ⇨ [Check] ⇨ [System Configuration] (🖼️).

2. Check the result displayed on the Output window.

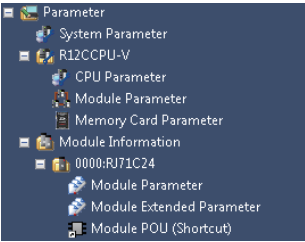# Operation for writing to C Controller module/reading from C Controller module

Only parameters of the modules in the information of Module Configuration Diagram can be read/written.
When reading data from C Controller module, the coordinate position of the modules on the Module Configuration Diagram are displayed by default status.
The information of symbols is deleted.

4.2 Setting Parameters

To operate C Controller module, setting of parameters for the module are required.

The following explains the settings of parameters on the Project view.

Project view	Item	Description	Reference
	System Parameter	Set the required items to configure the system which is known as module configuration. The term 'system' in this section signifies that configuration of main base unit, extension base unit, and RQ extension base unit connected with the extension cable.	Page 49 Setting system parameters
	(Parameter of control CPU)	Set the self operation function of the C Controller module.	Page 50 Setting parameters of control CPU
	Module Information	Parameters that is set to an I/O module and Intelligent function module. This includes initial values of each module. There are two kinds of parameters; 'Module Parameter' and 'Module Extended Parameter'. • Module parameter: A parameter used to set an I/O module and Intelligent function module. The initial setting values are also included. • Module extended parameter: A parameter used to set specific Intelligent Function Module. The parameters will be read/written separately with module parameters.	Page 49 Setting parameters

Common operations for parameter settings

Operation on parameter editor

The respective items of the system parameter, control CPU parameter, and module information are displayed.

Set the items with reference to the information displayed in "Explanation".

Checking parameters

Following are the two methods for checking parameters:

- Check if there is an input error on the parameter editor
  Click the [Check] button on the parameter editor.
- Check if there is an error related to parameter setting in the project
 Select [Tool] ⇨ [Check Parameter].

Setting system parameters

Set the parameters of "I/O Assignment Setting", "Multiple CPU Setting", and "Synchronization Setting within the Modules" which affect entire system.

For details about the setting items of the parameters, refer to the following manuals.

I/O Assignment: 📖 MELSEC iQ-R Module Configuration Manual

Multiple CPU Setting: 📖 MELSEC iQ-R C Controller Module User's Manual (Application)

Synchronization Setting within the Modules: 📖 MELSEC iQ-R Inter-Module Synchronization Function Reference Manual

Setting parameters

Operating procedure

1. Double-click "Parameter" ⇨ "System Parameter" on the Project view.

2. Select the items to be set in the [I/O Assignment] tab, [Multiple CPU Setting] tab, or [Synchronization Setting within the Modules] tab.

3. Set the items and click the [OK] button.

■When module is deleted in I/O Assignment Setting

The parameter of the deleted module is displayed as "Unset" on the Project view. To restore the state of the parameter (to display in I/O Assignment Setting again), select the mount position on the "Properties" screen.

■When I/O Assignment Setting is read from the read mounting status

- When reading mounting status is executed to the system configuration on which a module that is not supported by C Controller module and is not displayed in the Element Select window of CW Configurator is mounted, I/O Assignment Setting is read as "No Support Unit".
- Mounting status can not be read to the extension base units where its number is incorrectly set.

> *Point*
>
> Mounting status can be read to I/O Assignment Setting by clicking the [Read Mounting Status] button.

■When utilizing a system parameter including an unsupported module

When utilizing a system parameter including a module that is not supported by C Controller module and is not displayed in the Element Selection window of CW Configurator, the unsupported module is displayed as "No Support Unit".

When "No Support Unit" exists in the system parameter, the operations of CW Configurator are as follows:

- Module Configuration Diagram can not be used.
- The control CPU setting of "No Support Unit" can not be changed to C Controller module.
- A module can not be changed for "No Support Unit".
- "No Support Unit" is not displayed on the Navigation window.
- "No Support Unit" can not be diagnosed.
- The model name of "No Support Unit" is displayed on the system monitor, but its image is displayed as "?".

> *Point*
>
> System parameters of other project can be utilized by clicking the [System Parameter Diversion] button.

Setting parameters of control CPU

Set the parameters related to C Controller module (the host CPU for a multiple CPU configuration).

For details about the setting items of the parameters, refer to the following manuals.

📖 MELSEC iQ-R C Controller Module User's Manual (Application)

Setting parameters

Operating procedure

1. Double-click "Parameter" ⇨ "(PLC type of the project)" ⇨ "CPU Parameter"/"Module Parameter"/"Memory Card Parameter" on the Project view.

2. Set the items on the parameter editor.

3. Click the [Apply] button or [OK] button.

> **Point** 🔍
>
> The setting screen can also be opened by double-clicking the object of a module on the Module Configuration Diagram.

Setting parameters of Intelligent function module

Set the parameters of Intelligent function module.

For details about items for parameters, refer to the user's manual of respective module.

Setting parameters

Operating procedure

1. Select "Parameter" ⇨ "Module Information" in the Project view, and select [Project] ⇨ [Data Operation] ⇨ [Add New Module].

2. Select the items on the "Add New Module" screen.

3. Double-click the created parameter.

Creating external device configuration/network configuration

Set the network configuration of Ethernet, CC-Link IE Field, and CC-Link on each network configuration diagram.

For details about the settings, refer to the user's manual of respective network.

Window

The configuration setting screen is displayed from one of the following module parameter items.

- Ethernet: External Device Configuration of Basic Settings
- CC-Link IE Field (master station): Network Configuration Settings of Basic Settings
- CC-Link (master station): Network Configuration Settings of Basic Settings

> **Point**
>
> When using CC-Link IE Controller Network, assign link devices from "Network Range Assignment" in "Required Settings" of the module parameter. In addition, when a station number is not continuous, setting of reserved station is required.
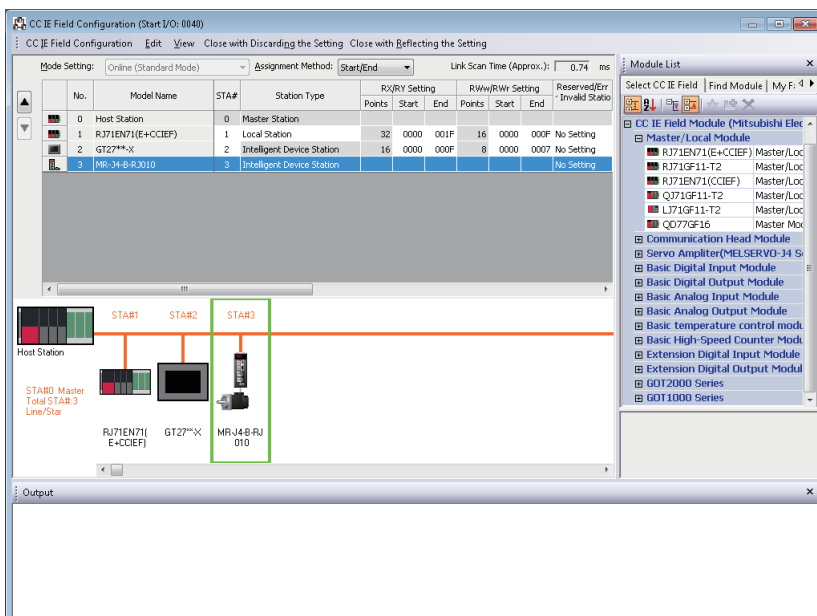
■Property

The image diagram can be changed using "Properties" for the particular selected module. Right-click and select [Property] in the shortcut menu.

Configuration applications, setting files, and manuals can be linked to the modules. Double-click the added module to open the linked application or file.

Checking/changing the number of Intelligent function module parameters

Display the setting information of the start XY addresses and initial settings of Intelligent function module available in the list.

After Intelligent function module parameters are written to C Controller module, the following operations are performed.

- Initial setting: The parameters of the individual Intelligent function module data are set as an initial setting.
  The data is registered in C Controller module parameters and written to the Intelligent function module automatically when the C Controller module turns to the RUN state.

Window

[Project] ⇨ [Intelligent Function Module] ⇨ [Module Parameter List]
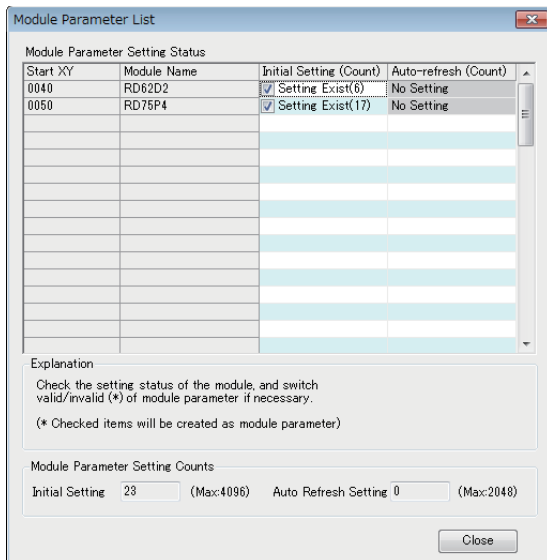
■Enabling/disabling parameters

Set whether to enable/disable the initial setting of intelligent function module parameter.

The number of parameters that can be set has limits depending on the Intelligent function module to be used. Check the setting information using this function and accordingly enable/disable the parameters so that the number of set parameters is within the allowable range.

For details about the number of the parameter settings, refer to the manuals of relevant Intelligent function module.

Operating procedure

Set the items and click the [Close] button.

| Item		Description
Initial Setting (Count)		Unselect the item if it is not set as an intelligent function module parameter. For a module with no initial settings, "-" is displayed.
Module Parameter Setting Counts	Initial Setting	Displays the number of initial settings set as intelligent function module parameters.

Checking property information

Check the setting information of Intelligent function module.

This operation changes the mounting slot number, start I/O number, and title (up to 32 characters).

Window

Select "Parameter" ⇨ "Module Information" ⇨ "(module name)" on the Project view, and select [Project] ⇨ [Data Operation] ⇨ [Properties] (icon).
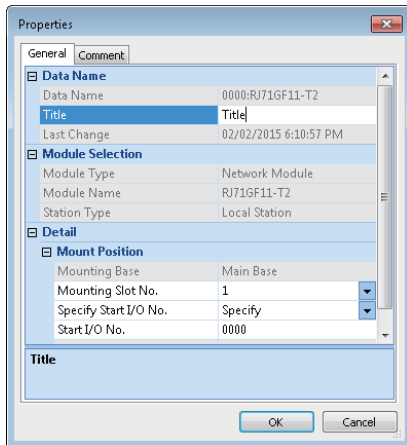
Operating procedure

Set the items and click the [OK] button.

Module dedicated menus for the parameter editor

Depending on the setting items of each module, the input format and device assignment method can be selected from one of the following menus.

- [Edit] ⇨ [IP Address Input Format] ⇨ [Decimal]/[Hexadecimal]
- [Edit] ⇨ [Device Assignment Method] ⇨ [Start/End]/[Points/Start]
- [Edit] ⇨ [Word Device Setting Value Input Format] ⇨ [Decimal]/[Hexadecimal]

4.3 Using Configuration Function

A function used to perform parameter settings, monitoring, and testing for Intelligent function module is referred as 'configuration function' in this manual.

This section explains the configuration function excluding the parameter settings.

For details about the parameter settings, refer to the following section.

☞ Page 47 Setting Parameters

List of supported modules

■MELSEC iQ-R series

| Supported module	Function name	Reference
Analog input module	Offset/gain setting	📖 MELSEC iQ-R Analog-Digital Converter Module User's Manual (Startup)
Analog output module	Offset/gain setting	📖 MELSEC iQ-R Digital-Analog Converter Module User's Manual (Startup)
Pulse I/O, positioning module	Preset	📖 MELSEC iQ-R High-Speed Counter Module User's Manual (Application)
	Positioning monitor	📖 MELSEC iQ-R Positioning Module User's Manual (Application)
	Positioning test	

■MELSEC-Q series

Supported module	Function name	Reference
Analog module	Offset/gain setting	📖 User's manual of the module used
Temperature input module	Offset/gain setting	📖 User's manual of the module used
Temperature control module	Auto-tuning	📖 User's manual of the module used
	Sensor correction function	
Counter module	Preset	📖 User's manual of the module used

Displaying module tool list

The configuration function can be performed using the "Module Tool List" screen.

Window

[Tool] ⇨ [Module Tool List]
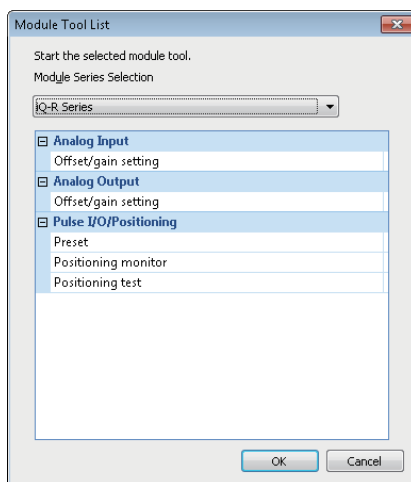
Simple motion module setting tool

Set parameters and positioning data of simple motion module using the simple motion module setting tool.

For details about the operation methods and setting items, refer to the help of Simple Motion Module Setting Tool.

Operating procedure

1. Select "Parameter" ⇨ "Module Information" in the Project view, and select [Project] ⇨ [Data Operation] ⇨ [Add New Module].

2. Select the items on the "Add New Module" screen.

3. Double-click the added simple motion module setting.

Precautions

The settings of simple motion module are also saved when saving the CW Configurator project.

4

MEMO

4 CREATING MODULE CONFIGURATION DIAGRAM AND SETTING PARAMETERS
4.3 Using Configuration Function

PART 3　DEBUGGING AND OPERATION

This part explains the communication route setting to access C Controller module, writing/reading data, and monitoring the execution status.

5 ROUTE SETTING

This chapter explains how to set the connection destination for accessing C Controller module with CW Configurator.

5.1 Specification of Connection Destination

This section explains how to set communication routes to access C Controller module, including the interfaces of both a personal computer and programmable controller, and the networks to be routed through, on the "Specify Connection Destination" screen.

Window

[Online] ⇨ [Specify Connection Destination]
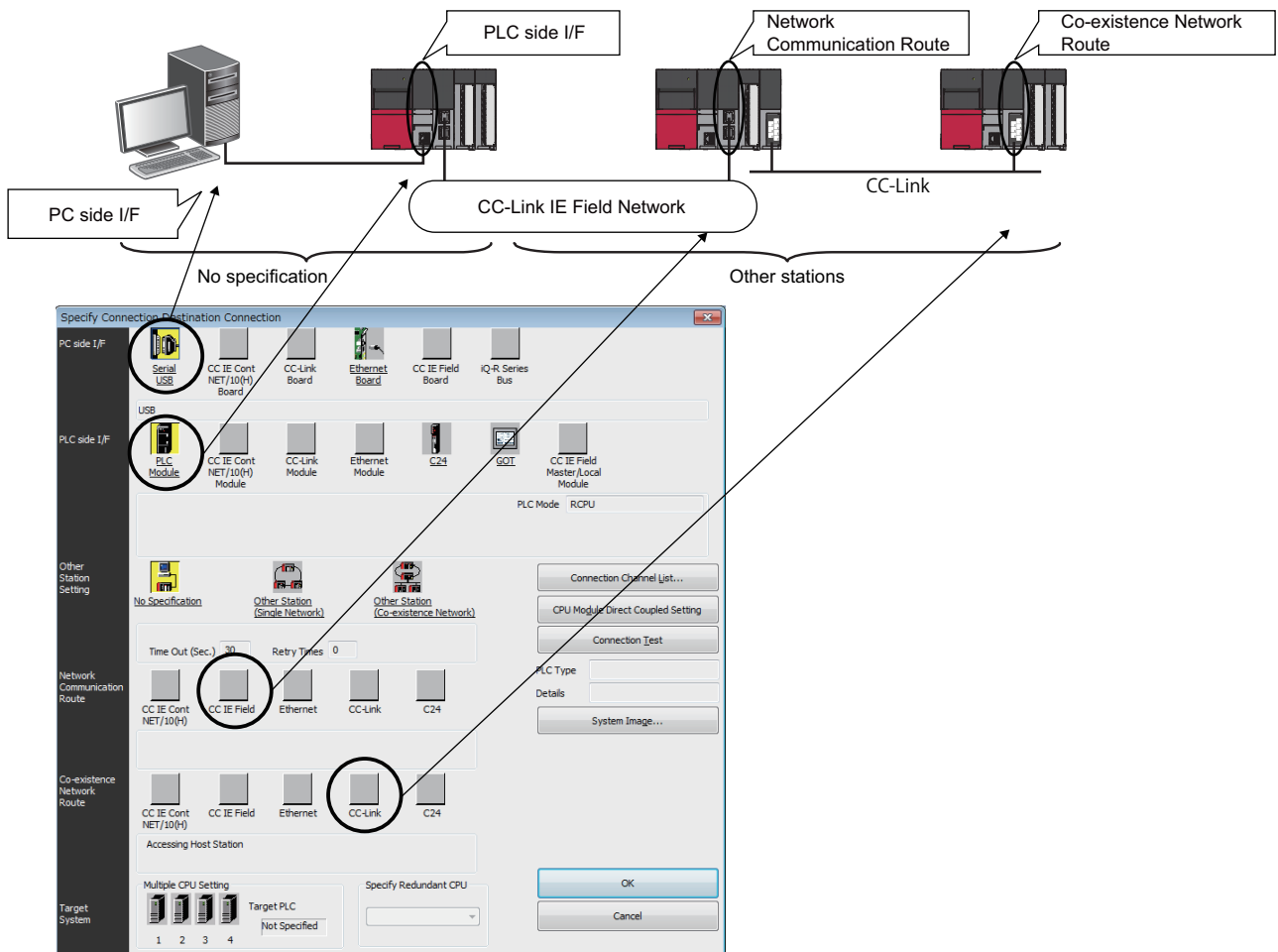
Double-click the items underlined on the screen to set the details of each item.

The icons colored yellow indicate that the settings have been applied.

Displayed items

Item		Description
Other Station Setting	No Specification	Specify this to access the C Controller module directly connected to a personal computer.
	Other Station (Single Network)[*1]	Specify this to access the C Controller module on other station via only one kind of network (including a multi-tier system).
	Other Station (Co-existence Network)	Specify this to access the C Controller module on other station via different network.
Network Communication Route		Select the network type, network number, station number, and start I/O number of the network to be routed through to access other station. The setting items differ depending on the selected network type.
Co-existence Network Route		Select the network type, network number, station number, and start I/O number of the network to be accessed. The setting items differ depending on the selected network type.
Target System		Specify the access target in the multiple CPU system.

*1 Specify "Single Network" for a system in which Ethernet, CC-Link IE, and MELSECNET/10(H) are mixed since Ethernet is regarded as equivalent to CC-Link IE and MELSECNET/10(H).

Display the illustration of the connection route

Click the [System Image] button to display the set connection route in an illustration to check the route.

5.2 Direct Connection

This section explains the configuration for connecting a personal computer to C Controller module directly.

> **Point**
>
> Click the [CPU Module Direct Coupled Setting] button on the "Specify Connection Destination" screen to change the settings to connect directly to C Controller module. For the direct connection method, refer to the following manual.
>
> 📖 MELSEC iQ-R C Controller Module User's Manual (Startup)

Ethernet connection

The following figure shows the configuration example to access C Controller module using Ethernet.

C Controller module

Ethernet
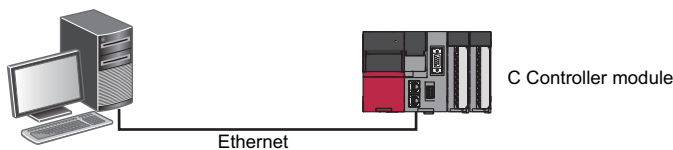
Precautions

■Windows Vista® or later

A warning message may appear.

Click the [Unblock] button for Windows Vista®, and click the [Allow access] button for Windows® 7 or later to unblock the program (permit the access) and continue the operation.

■When the same IP addresses are displayed

When the [Find] button is clicked on the "PLC side I/F Detailed Setting of PLC Module" screen, the same IP addresses may be displayed in the list of the connection destination CPU.

Two or more IP addresses may have been set to the [IP Settings] tab on the "Advanced TCP/IP Settings" screen of Windows® network settings. Set only one IP address.

■When the personal computer does not allow to communicate with CW Configurator by the Windows® Firewall

When the Windows® Firewall is enabled and communicate with CW Configurator is not allowed, a timeout may occur.

To allow the communication, set the personal computer as shown below.

When using other software with a firewall function, refer to the manual for the software used and allow the communication with CW Configurator.

Ex.
For Windows Vista®

1. Select [Control Panel] ⇨ [Security] ⇨ [Windows Firewall] ⇨ [Allow a program through Windows Firewall] from Windows® Start.

2. Click the [Add Program] button in the [Exception] tab.

3. Select "CW Configurator" on the "Add a Program" screen, and click the [OK] button.

4. Select "CW Configurator"[*1] added to the list, and click the [OK] button.

*1   'CWConfig' may be displayed when CPU module/Ethernet module is searched on the network and access through the Windows® firewall is set to allow before Ethernet port direct connection.

Ex.
For Windows® 7 or later

1. Select [Control Panel] ⇨ [System and Security] ⇨ [Windows Firewall] ⇨ [Allow a program[*2] or feature through Windows Firewall] from Windows® Start[*1].

2. Click the [Change settings] button, and click the [Allow another program[*2]] button.

3. Select "CW Configurator" on the "Add a Program[*2]" screen, and click the [Add] button.

4. Select "Domain", "Home/Work (Private)", and "Public" of CW Configurator[*3] added to the list, and click the [OK] button.

*1   Select [All apps] on the Start screen or [Start] ⇨ [All Programs].
*2   For Windows® 8 or later, "Apps" is displayed instead.
*3   'CWConfig' may be displayed when CPU module/Ethernet module is searched on the network and access through the Windows® firewall is set to allow before Ethernet port direct connection.

5

5.3 Accessing via Network

This section explains the configuration for accessing C Controller module on other station via network.
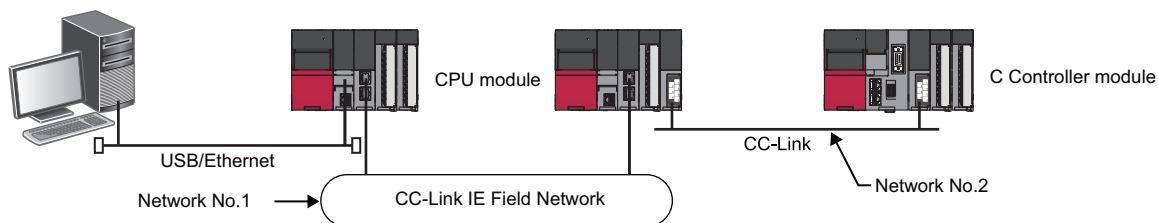
Single network

The following figure shows the configuration example to access C Controller module via single network from a personal computer.
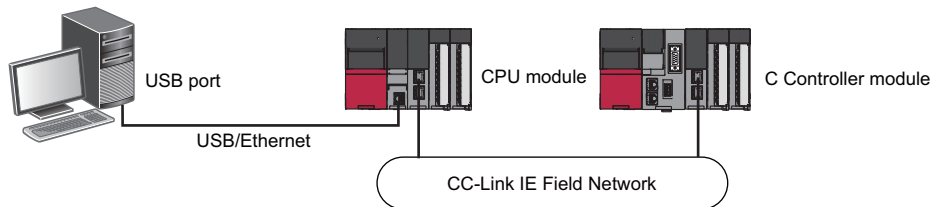
Co-existence network

The following figure shows the configuration example to access C Controller module via co-existence network from a personal computer.

> **Point**
>
> C Controller module can manage the network modules listed below. For the usage, refer to the manuals for respective network module.
> - CC-Link IE Controller Network module
> - CC-Link IE Field Network module
> - CC-Link module

5.4 Accessing via Serial Communication Module

This section explains the configuration example for accessing the CPU module on the own station or other station via a serial communication module.

In a multiple CPU configuration, the access via serial communication module controlled by programmable controller CPU other than C Controller module is available.

Connection on a 1:1 bases

The following figure shows the configuration example to access C Controller module on other station via a serial communication module by connecting a personal computer and a serial communication module.
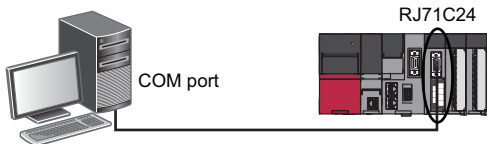

Connection on a 1:n basis

The following explains how to access the C Controller module on other station from CW Configurator in a system that is composed of multiple CPU module stations.

■Accessing via a serial communication module

The following figure shows the configuration example to access C Controller module on other station via a serial communication module.

To connect via a serial communication module, the module parameters for MELSOFT connection are required.

For details, refer to the following manual.

📖 MELSEC iQ-R Serial Communication Module User's Manual (Application)
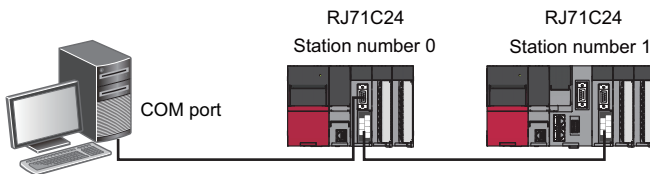
■Direct connection of a programmable controller CPU

The following figure shows the configuration example for direct access of C Controller module on other station via a serial communication module by connecting a personal computer and a programmable controller CPU.
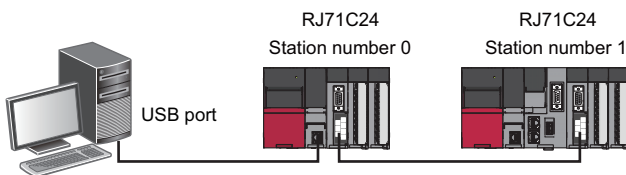
5.5 Accessing via GOT (GOT Transparent Function)

This section explains how to access C Controller module from CW Configurator via GOT using the GOT transparent function.

Precautions

■Performing online operations from CW Configurator

During the online operation from CW Configurator to C Controller module using GOT transparent function, do not perform online operations (e.g. downloading project data) on GOT from GT Designer2 or GT Designer3.

■When GOT is not monitoring normally

The GOT transparent function cannot be used in the following cases.
- When GOT does not perform normal monitoring due to C Controller module failure or communication errors between C Controller module and GOT
- During the period of time between power ON or reset C Controller module or GOT and start of monitoring on GOT

Check the following items if monitoring on GOT is not normal.

Item	Reference
Does C Controller module operates normally?	☞ Page 81 DIAGNOSING MODULE
Is C Controller module connected to GOT normally?	📖 Manual of GOT to be used

Accessing via GOT

The following figure shows the configuration to access C Controller module by connecting GOT to the C Controller module.

Personal computer (CW Configurator)

GOT

C Controller module

*1   The connection between the personal computer and GOT is as follows:
○: Connectable, ─: Unconnectable

Connection	GOT	
	GOT2000 series	**GOT1000 series**
RS-232 connection	─	○
USB connection	○	○
Ethernet connection	○	○

*2   For information about cables connecting GOT with C Controller module, GOT settings, and considerations, refer to the manual of GOT to be used.

Restriction

To access via a serial communication module and an Ethernet module, configure a multiple CPU system, and access the C Controller module form the module which is controlled by the programmable controller CPU.

5.6 Accessing to Multiple CPU System

This section explains the setting method for accessing the C Controller module connected to the personal computer (host CPU) or other CPUs in a multiple CPU system.

The setting method for accessing a multiple CPU system on other station via a network is also explained.

Accessing host CPU

The setting for accessing the host CPU is the same as that for accessing C Controller module on the own station. (☞ Page 60 Direct Connection)

Accessing other CPUs

To access C Controller module that is not directly connected to the personal computer in the multiple CPU system, specify the CPU number (PLC No.1 to 4) of the access target C Controller module in "Multiple CPU Setting".

The setting for accessing CPU (PLC) No.4 (C Controller module) by connecting a personal computer to CPU (PLC) No.1 (RCPU) is shown in the figure below.

CPU No. 1 (connected to the personal computer)
CPU No. 2
CPU No. 3
(1)   (2)   (3)
CPU No. 4 (access target)
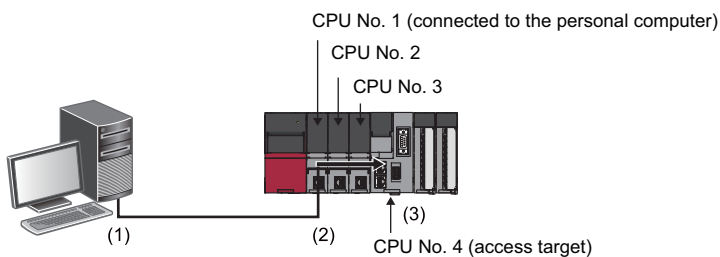
No.	Item	Item to be selected	Internal setting	Input value
(1)	PC side I/F	Serial/USB	USB	—
(2)	PLC side I/F	PLC Module	PLC Mode	RCPU
	Other Station Setting	No Specification	Check at Communication Time	30 seconds
			Retry Times	0 time
(3)	Target System	Multiple CPU Setting	Target PLC	PLC No.4

Accessing via network

The following figure shows the configuration example to access C Controller module (CPU (PLC) No.4) in the multiple CPU system via a network.
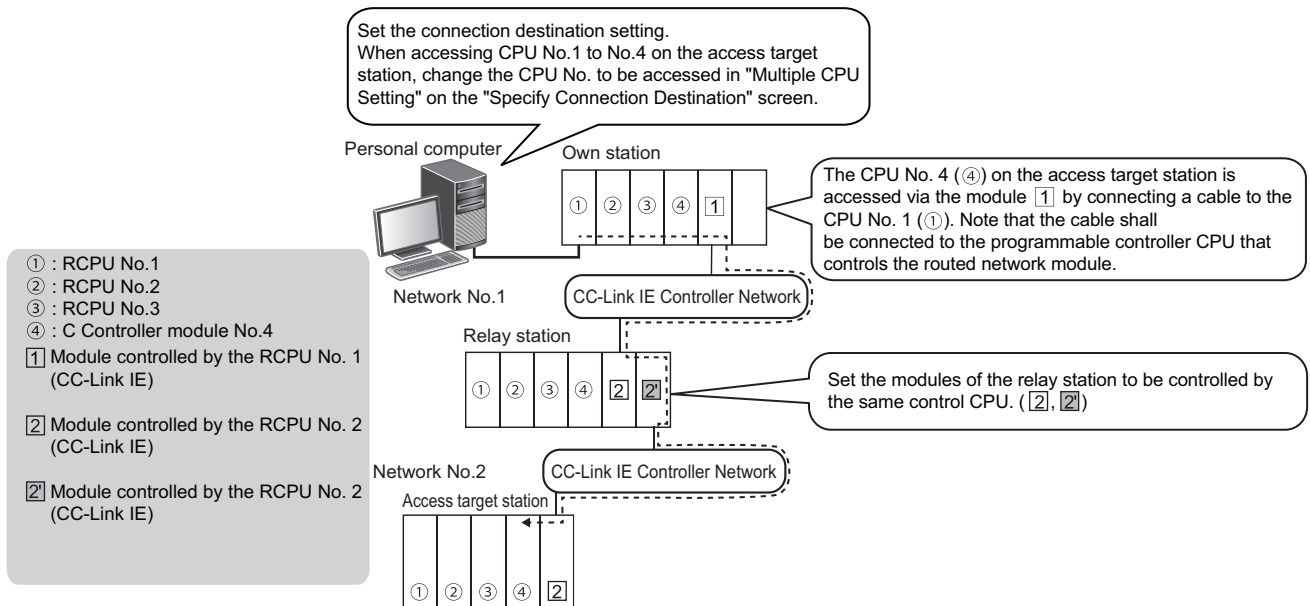
■Relay station

Control the modules on the relay station by RCPU since C Controller module cannot be a control CPU for the relay station. In addition, set the parameters so that the modules are controlled by the same RCPU.

■Access target station

Set the CPU number in "Multiple CPU Setting" on the "Specify Connection Destination" screen when the access target station is configured in the multiple CPU system.

5.7 Considerations on Communication

This section describes the considerations on communication with C Controller module.

Refer to the considerations described in each section as well as the descriptions in this section.

Communication with C Controller module using a USB cable

■Connecting/disconnecting a USB cable, resetting CPU module, and turning the power ON/OFF

A communication error may occur and it may not be recovered if connecting and disconnecting a USB cable, resetting CPU module, or turning the power ON/OFF is performed frequently during communication with C Controller module.

Therefore, set CW Configurator to the offline state as much as possible during these operations. 'Offline' indicates the state other than below.

 • Writing to/reading from C Controller module, and performing monitoring or diagnostics

If the operation is not recovered from an error, remove the USB cable. Then, connect it again after five seconds or later. (Even after this operation, an error may occur at initial communication. However, communication will be successful after that.)

Click the [OK] button on the warning message, and remove a USB cable from the personal computer.

■Combination of personal computer model and USB cable

A communication error may occur depending on the combination of personal computer models and USB cables.

If an error occurs, take appropriate actions in accordance with the message displayed on the screen.

Other considerations

■Resume function, suspend setting, power saving function, and standby mode of the personal computer

A communication error may occur during communication with C Controller module when any of the settings shown above are enabled.

Disable these settings for communication with C Controller module.

6 WRITING/READING DATA

This chapter explains the operations for writing/reading data to/from C Controller module or SD memory card, and verifying data.

For the methods for writing the clock setting to C Controller module, refer to the following section.

☞ Page 88 Setting Clock in C Controller module
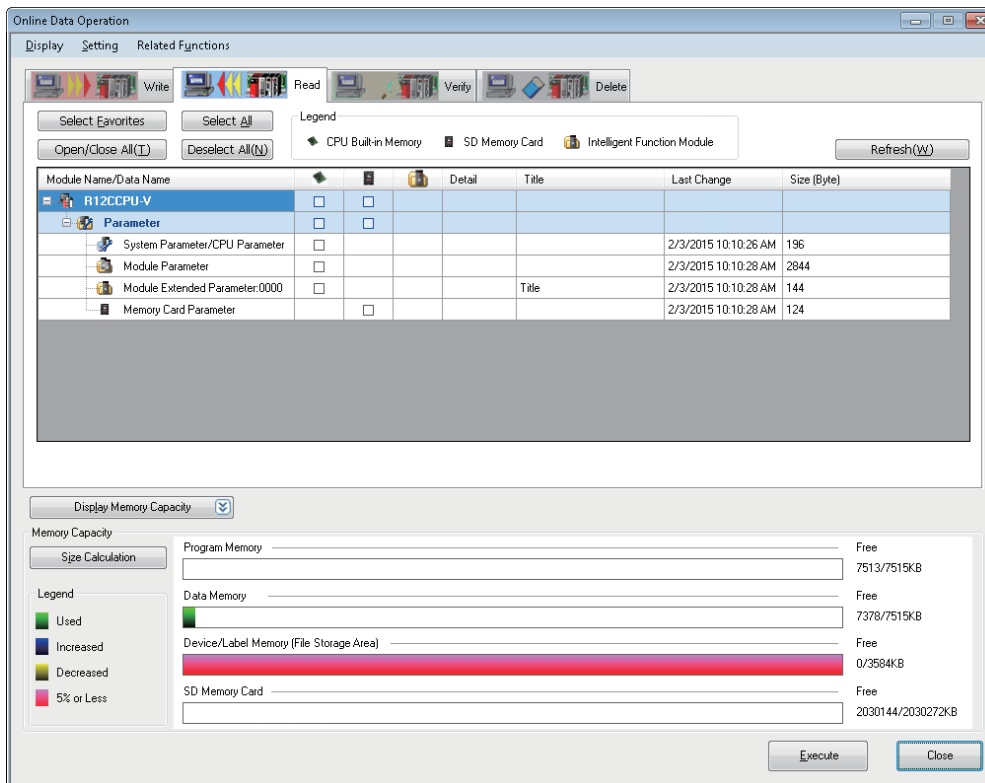
6.1 Writing/Reading Data in C Controller module

Write/read the created data to/from C Controller module or an SD memory card on the "Online Data Operation" screen.

Configuration of Online Data Operation screen

Window

[Online] ⇨ [Write to PLC] ⇨ (�"button")/[Read from PLC] (�"button")/[Delete PLC Data]

The example of writing data is shown below.

When data is written to C Controller module, the target memory capacity may be displayed smaller than the actual file size.

The graph display of the memory capacity can be updated by clicking the [Size Calculation] button.

■Data to be written and write target

○: Applicable, ×: Not applicable

Data name	Write target		
	CPU built-in memory	SD memory card	Intelligent function module
System Parameter/CPU Parameter	○	○	×
Module parameter	○	○	×
Module Extended Parameter	○	○	○
Memory Card Parameter	×	○	×

■How to check the data size to be written

The size of write data can be displayed on the "Size (Byte)" column by enabling the file size display.

Select [View] ➪ [Display File Size] on the "Online Data Operation" screen to enable the file size display.

■Graph display of memory capacity

The display content differs depending on the setting file size display.

Disabled: The current capacity of memory for writing on target is displayed.

Enabled: The capacity of memory to which the size of data to be written/deleted is displayed.

■Device/label memory (File storage area)

Since all of the area in the device/label memory (file storage area) of C Controller module is assigned as file register, it does not have any free space left.

6

Writing data to C Controller module

Write data to C Controller module.

### Operating procedure

1. Select the [Write] tab on the "Online Data Operation" screen.

2. Select a file to be written and write destination.

3. Click the [Detail] button to set the details such as a range to be written.

4. Click the [Execute] button.

Parameter

Write "Parameter" in accordance with the operation or change of the system.

■Relation between module parameter on the Project view and module parameter in C Controller module

Module parameters are written with the parameters displayed on the Project view combined in one file.
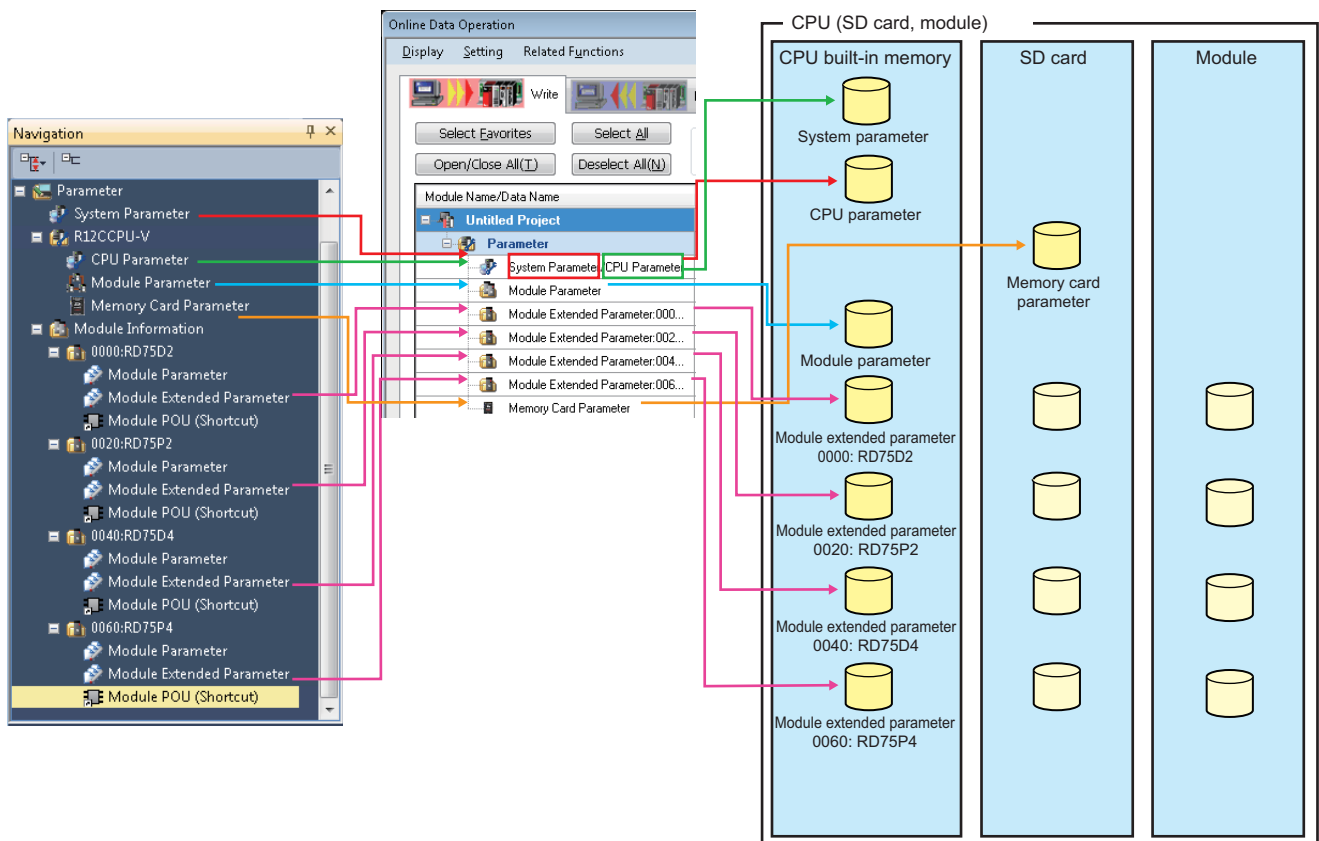
Therefore, when a module parameter exists in C Controller module, the parameter file is overwritten.

Ex.

When writing four module parameters to C Controller module in which module parameters of five modules exist; the settings of five modules are overwritten with the settings of four modules, and one setting that does not exist in the project will be deleted.

■Consistency of parameters

When writing a part of the parameters additionally or writing modified parameters, the consistency of the parameters are required. Consistency means the information of I/O assignment (start I/O number, slot number, etc.) between the system parameters and each parameter should be matched.

■Modules with start I/O number unset

The unset module parameters cannot be written to C Controller module.

Reading data from C Controller module

Read data from C Controller module.

Operating procedure

1. Select the [Read] tab on the "Online Data Operation" screen.

2. Select the files to be read and read destination.

3. Click the [Detail] button to set the details such as a range to be read.

4. Click the [Execute] button.

> **Point**
>
> Data can be read when a project is not opened.
>
> ☞ Page 31 Creating new project by data read from C Controller module

Precautions

During the frequent access of SD memory card, the response to the reading operation from C Controller module (until the "Online Data Operation" screen is displayed) could be slow.

Parameters

■Unsupported modules

The module parameters that are not supported by CW Configurator cannot be read.

Deleting data in C Controller module

Delete the parameter data in C Controller module.

Operating procedure

Select the file to be deleted from the list on the "Online Data Operation" screen, and click the [Execute] button.

6.2 Verifying Data in C Controller module

This section explains how to verify the open project against the data in C Controller module.

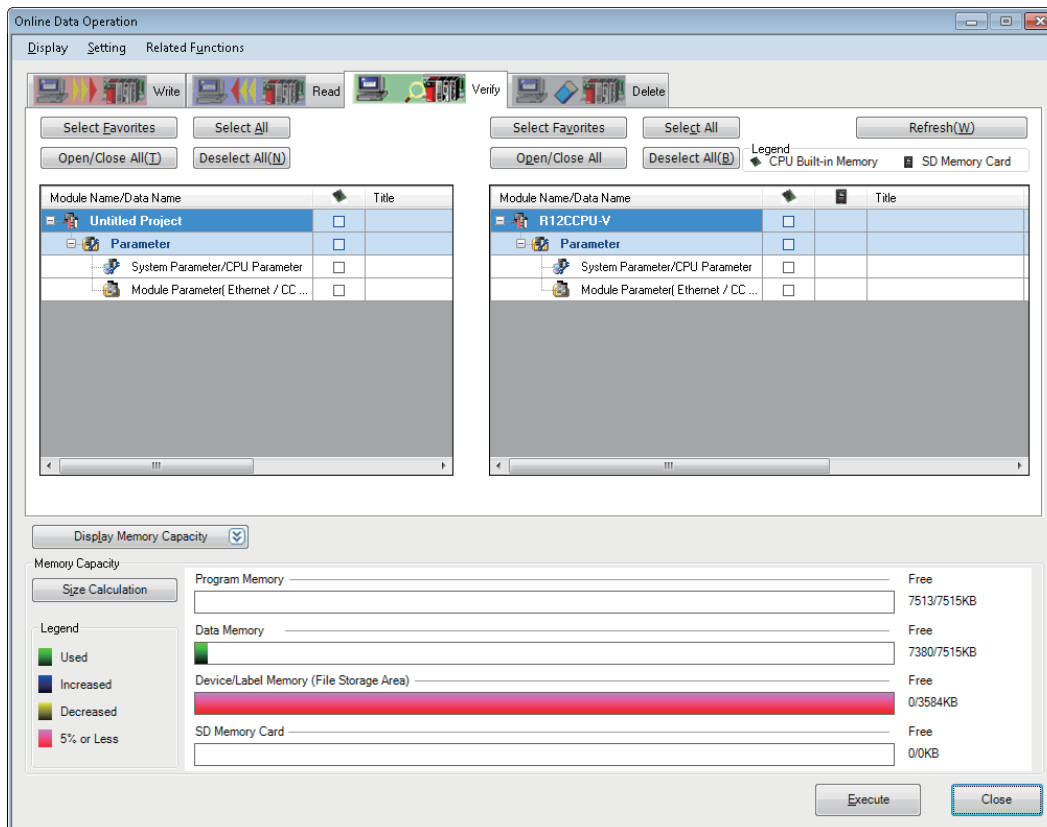This function is used to compare the contents of projects.

To verify data between projects, use the Project Verify function.

For details, refer to the following section.

☞ Page 36 Verifying Projects

Window

[Online] ⇨ [Verify with PLC]

Operating procedure

Select the data to be verified, and click the [Execute] button.

The operation method for displaying the verification result is the same as the Project Verify function. Refer to the following section.

☞ Page 36 Verifying Projects

Parameters

■Verification of module parameters

The data which can be selected as verification target are as follows: CC-Link modules, CC-Link IE Controller Network modules, and CC-Link IE Field Network modules.

6.3 Deleting All Files (Initialization)

Perform the procedure of "Initialization" process to delete files in C Controller module or SD memory card.

The process of "Initialization" is used when using the C Controller module or SD memory card for the first time or clearing all data stored in C Controller module or SD memory card.

Once initialized, the following processing on memory is performed.

- Data memory: All folders/files in the data memory are deleted.
- SD memory card: All folders/files in the SD memory card are deleted.

Point

After deletion (initialization) of all files, the parameter files stored on data memory are deleted, and the default parameters are set.

Operating procedure

Delete all files on the "CPU Memory Operation" screen. Refer to the following section.

7 CHECKING MODULE OPERATION

This chapter explains how to check the execution status of C Controller module and Intelligent function module by connecting a personal computer to the C Controller module.

The functions to check the execution status are as follows:

Purpose	Function name	Reference
A function to check the current values of the device or buffer memory in batch	Device/buffer memory batch monitor	Page 76 Checking Device/Buffer Memory in Batch
A function to check the current values of registered devices.	Watch	Page 77 Checking Current Values of Registered Device
A function to check the I/O signals and the current value of buffer memory by registering the module information of Intelligent function module	Intelligent function module monitor	Page 78 Checking Current Values in Intelligent Function Module

Changing current values

Check the operation by changing the current value of devices, and buffer memory using the Change Current Value function.

This function turns bit devices forced ON/OFF on C Controller module. The current values of the word device and buffer memory can also be forced change.

The current values can be changed on the following screens.

- "Device/Buffer Memory Batch Monitor" screen
- Watch window
- Intelligent Function Module Monitor window

7.1 Monitoring Status

Check the operating status of C Controller module and Intelligent function modules using the monitoring function by connecting a personal computer.

Starting/stopping monitoring

Start/stop monitoring by selecting one of the following menus.
- [Online] ⇨ [Monitor] ⇨ [Start Monitoring (All Windows)]/[Stop Monitoring (All Windows)]
- [Online] ⇨ [Monitor] ⇨ [Start Monitoring]/[Stop Monitoring]
- [Online] ⇨ [Watch] ⇨ [Start Watching]/[Stop Watching]

■When monitoring multiple projects using a single personal computer
- If an communication error occurred in one of the projects, the monitoring speed of the other projects may become slow. The operation speed will be back to normal after closing the error message displayed in the project in which the communication error occurred.

Status monitoring

Status is displayed during monitoring on the monitor status bar.

Window

At the start of monitoring

Fixed cycle processing time

USER status
ERROR status
CPU operating status
Connection status
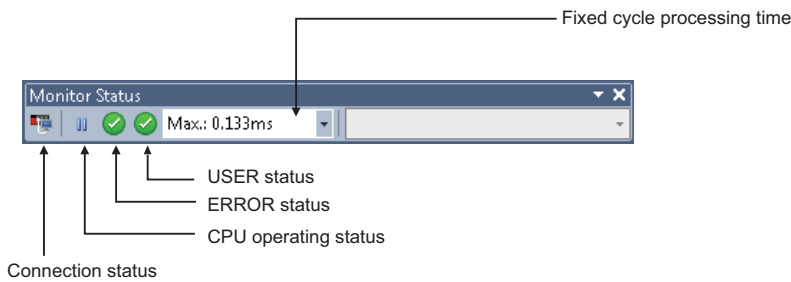
Displayed items

Item	Description	Icon	Detail
Connection Status	Displays the connection status between C Controller module and personal computer. The "Specify Connection Destination" screen is displayed by clicking the icon. For details about the connection destination specification, refer to the following section. ☞ Page 58 Specification of Connection Destination	↔ ↔	When connected to C Controller module
CPU Operating Status	Displays the C Controller module status operated by the RESET/STOP/RUN switch on C Controller module or by the remote operation from CW Configurator. The "Remote Operation" screen is displayed by clicking the icon. For details about the remote operation, refer to the following section. ☞ Page 89 Remote Operation of C Controller module	▶	RUN
		■	STOP
		❚❚	PAUSE
ERROR Status	Displays the ERROR LED status of C Controller module. The "Module Diagnostics" screen is displayed by clicking the icon. For details about the Module Diagnostic function, refer to the following section. ☞ Page 82 Diagnosing Module	✓	ERROR is OFF.
		↔	ERROR is ON.
		↔ ↔	ERROR is flashing.
USER Status	Displays the USER LED status of C Controller module. The "Module Diagnostics" screen is displayed by clicking the icon. For details about the Module Diagnostic function, refer to the following section. ☞ Page 82 Diagnosing Module	✓	USER is OFF.
		↔	USER is ON.
		↔ ↔	USER is flashing.
Fixed cycle processing time	Displays the current value, maximum value, and minimum value of the fixed cycle processing time by switching them from the pull-down list.		

7.2 Checking Device/Buffer Memory in Batch

Check the devices and buffer memory using the Device/Buffer Memory Batch Monitor function.

When the multiple monitoring screens are opened, lead time to start monitoring and monitoring intervals may become longer.

The CPU buffer memory of a multiple CPU system can be monitored only with the Device/Buffer Memory Batch Monitor function.
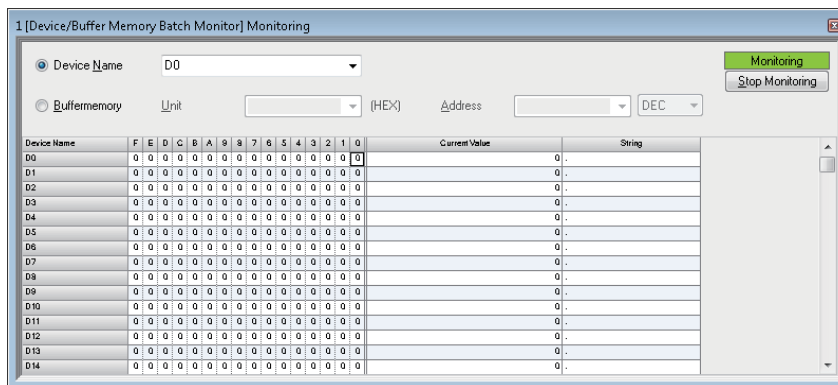
Window

[Online] ⇨ [Monitor] ⇨ [Device/Buffer Memory Batch Monitor] (🖳)

lToolbar

lDevice/Buffer Memory Batch screen

Up to 64 monitoring screens can be displayed. The number is displayed at the head of the screen title.

Operating procedure

■Monitoring devices in batch

Enter the target (start) in "Device name".

■Monitoring buffer memory in batch

Enter the start I/O number and address of the Intelligent function module.

Item	Description
Unit	Enter the start I/O number of the Intelligent function module to be monitored in hexadecimal. • For multiple CPU configuration Specify the CPU module to be monitored. CPU No.1: 3E00, CPU No.2: 3E10, CPU No.3: 3E20, CPU No.4: 3E30
Address	Enter the address of buffer memory to be monitored in decimal or hexadecimal.

> **Point**
>
> Fonts can be changed.
> ☞ Page 25 Checking and Changing Colors and Fonts

Changing current values

The current value can be changed by double-clicking the cell of the device or pressing the ⏎Enter during monitoring.

• Since the digit specification (Example: K4DX0) cannot be used for the following devices, the current values can be changed only when "Bit and Word" or bit order of '0-F' is specified in Display Format (🖳).
 J□\X□, J□\Y□, J□\B□, J□\SB□

7.3 Checking Current Values of Registered Device

Check the current values of registered devices using the Watch function. Register the target devices in the Watch window. Once devices are registered and the project is saved, the registered devices are displayed in the registered state when the project is opened again.

Window

[View] ⇨ [Docking Window] ⇨ [Watch 1] to [Watch 4] ()
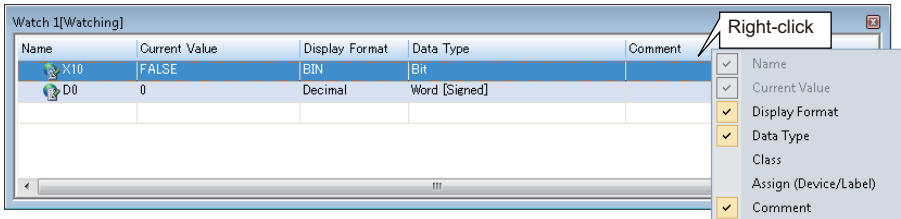
The display format can be selected per row from the pull-down list displayed when selecting the display format.

Operating procedure

1. Register the devices to be monitored. (Page 77 Registering to Watch window)

2. Select [Online] ⇨ [Watch] ⇨ [Start Watching]. "[Watching]" is added on the Watch window title while monitoring.

Registering to Watch window

Register the devices to be monitored on the Watch window.

Operating procedure

1. Display the Watch window.

2. Enter the device to be registered to "Name", and press the ⌨Enter key.

Precautions

When a device that does not exist in C Controller module is registered in the Watch window, "--" is displayed on the Current Value, Display Format, Data Type, and Comment of the registered device.
For the devices that can be used for C Controller module, refer to the following manual.
📖 MELSEC iQ-R C Controller Module User's Manual (Application)

Changing current values

The value can be entered directly in the "Current Value" column during monitoring.
For a bit device, the current value can be changed by selecting a row and double-clicking it while pressing the ⌨Shift key, or pressing the ⌨Shift key and ⌨Enter key.

Importing to/exporting from file

Export/import the information displayed on the Watch window to/from a file.
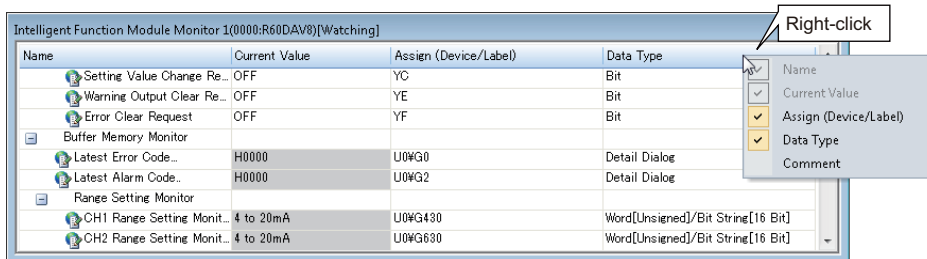
Operating procedure

Select [Edit] ⇨ [Import File]/[Export to File].

7.4 Checking Current Values in Intelligent Function Module

Check the current value of I/O signals and buffer memory of Intelligent function module using the Intelligent Function Module Monitor function.

Window

[View] ⇨ [Docking Window] ⇨ [Intelligent Function Module Monitor] ⇨ [Intelligent Function Module Monitor 1] to [Intelligent Function Module Monitor 10]

Operating procedure

1. Register the Intelligent function module to be monitored. (☞ Page 80 Registering Intelligent function modules)

2. Select [Online] ⇨ [Watch] ⇨ [Start Watching].

"[Watching]" is added on the Watch window title while monitoring.

> **Point**
>
> Select and right click the module information, and then select [Copy] from the shortcut menu to paste it to a text file.

Customizing monitoring items

Select the items on the Intelligent Function Module Monitor window, and right-click and select [Cut]/[Copy]/[Paste]/[Delete] from the shortcut menu to customize the items.

If the customized project is saved, the customized items will not be retained when the project is opened next time.

The customized items cannot be restored again.

Precautions

The cut/copied items can only be pasted to the same project in the same window.

■Detailed display of log information

Display the details of log information during monitoring.

Double-click a row in which "Detail Dialog" is shown in "Data Type" column, or right-click and select [Detailed Dialog] from the shortcut menu.

When the menu is not selectable, it is not supported by the module.

■Detailed display of error codes/alarm codes

Display the details of an error code/alarm code on the Intelligent Function Module Monitor windows or Detailed Dialog.

Double-click a row in which an error code/alarm code is displayed, or right-click and select [Detail Display] from the shortcut menu.

■Customizing multiple Intelligent Function Module Monitor windows

Each axis of the positioning module can be monitored by activating multiple Intelligent Function Module Monitor windows and customizing each window.

Precautions

The Intelligent Function Module Monitor updates current values only within the range displayed on the window for monitoring acceleration.

When performing operation such as copy and paste on Excel®, "--" or the previously monitored current value is displayed for the data outside the range displayed on the window.

7

Registering Intelligent function modules

Register the Intelligent function module to be monitored in the Intelligent Function Module Monitor window.

Operating procedure

■Register Intelligent function modules using shortcut menu from Project view

1. Select the module to be registered in the Intelligent Function Module Monitor window from the Project view.

2. Right-click, and select [Register to Intelligent Function Module Monitor] from the shortcut menu.

■Register Intelligent function modules by drag-and-drop operation from Project view

1. Select a module to be registered from the Project view.

2. Drag and drop it onto the Intelligent Function Module Monitor window.

■Register Intelligent function modules using shortcut menu from Intelligent Function Module Monitor window

1. On the Intelligent Function Module Monitor window, right-click and select [Register Module Information] from the shortcut menu.

2. Select the module to be registered in "Module List", and click the [OK] button.

When a positioning module is selected in "Module List", select the item displayed in "Monitor Item Category List".

8 DIAGNOSING MODULE

This function displays the status of modules, networks, and entire system. At the time of error, it displays the error contents and the corrective action.

The diagnostic functions of CW Configurator are as follows:

Function	Reference
System monitor	Page 81 Checking Module Status of System
Diagnosing module	Page 82 Diagnosing Module
Diagnosing network	Page 84 CC-Link IE Controller Network diagnostics
	Page 85 CC-Link IE Field Network diagnostics
	Page 86 CC-Link diagnostics

8.1 Checking Module Status of System

The System Monitor function displays the module configuration of the system in operation and detailed information of each module.

In addition, the error status can be checked and the module in which the error occurred can be diagnosed.

Window

[Diagnostics] ⇨ [System Monitor]
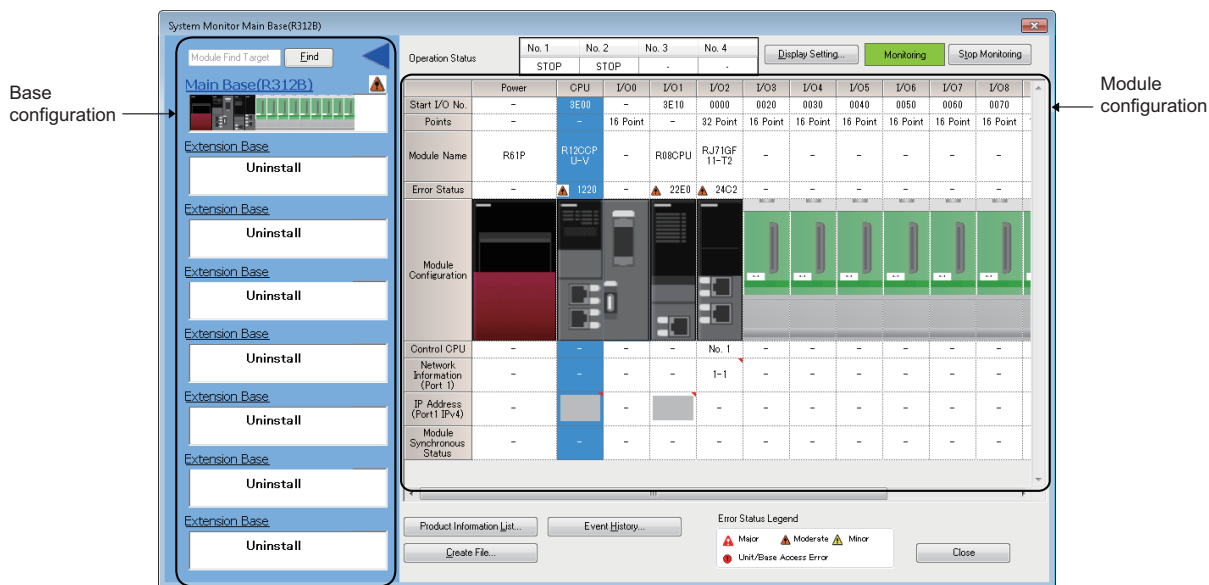
- For MELSEC-Q series power supply, the model name is displayed as "Power" instead of their model name. Additionally, for MELSEC-Q series module, the network information and IP address are not displayed.
- '?' is displayed on the module with no profile.
- To display the network information and IP address of port-2 of the modules having two ports, click [Display Setting] button.
- For "No Support Unit", the model name is displayed, but its image is displayed as "?". In addition, it can not be diagnosed. (☞ Page 49 Setting system parameters)
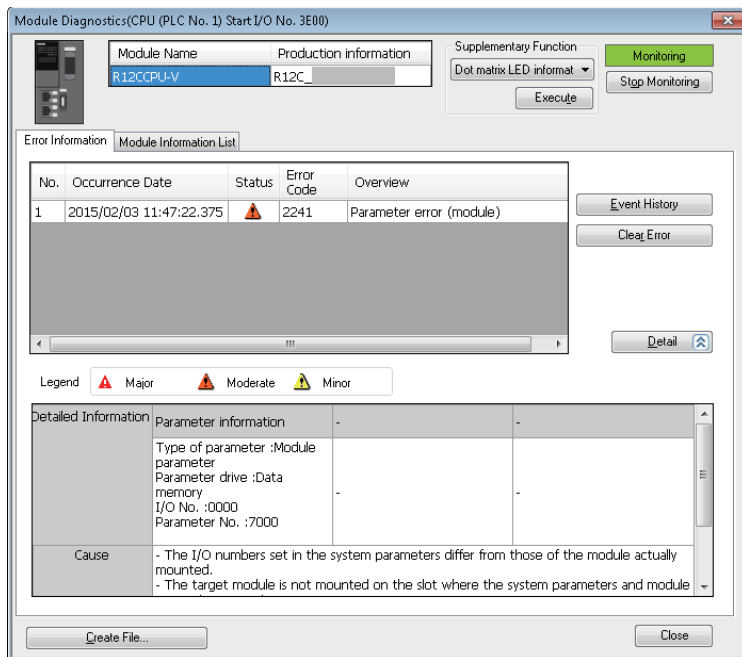
Check of module firmware version and product information

The firmware version and product information can be checked on the "Product Information List" screen which is displayed after [Product Information List] button is clicked.

8.2 Diagnosing Module

This section explains how to display the status and error codes of modules.

Window

■Diagnosing CPU modules

[Diagnostics] ⇨ [Module Diagnostics (CPU Diagnostics)]

■Diagnosing I/O modules and Intelligent function modules

Select the module to be diagnosed from the module configuration of the "System Monitor" screen and double-click one of the cells on the same column to display the "Module Diagnostics" screen.

For MELSEC-Q series module, '-' is displayed in Occurrence Date, Status, and Overview.

Error information

Display the error history registered in the diagnostic target module in the [Error Information] tab.

■Display content

The displayed information will differ depending on the module.

- CPU module: Up to 16 current errors will be displayed in the order of occurrence. The 17th and succeeding error(s) are not displayed.
- Other than CPU module: Up to 16 current errors are displayed.

When a same error with error code has occurred which has already been displayed, then display content will not be updated.

For the errors of MELSEC-Q series module, occurrence date is not displayed.

■Event history

☞ Page 87 Checking Error History/Operation History

■Clearing errors

After taking corrective actions against the errors displayed on the "Module Diagnostics" screen, click the [Clear Error] button to clear the error status of the module. (The LED indicating the error status on the front of the module turns OFF.)

The error content are also deleted from the list of the error information.

Module information list

The current LED status/state and switch information of the target module are displayed in the [Module Information List] tab.

8.3 Diagnosing Network

This section explains how to diagnose networks.
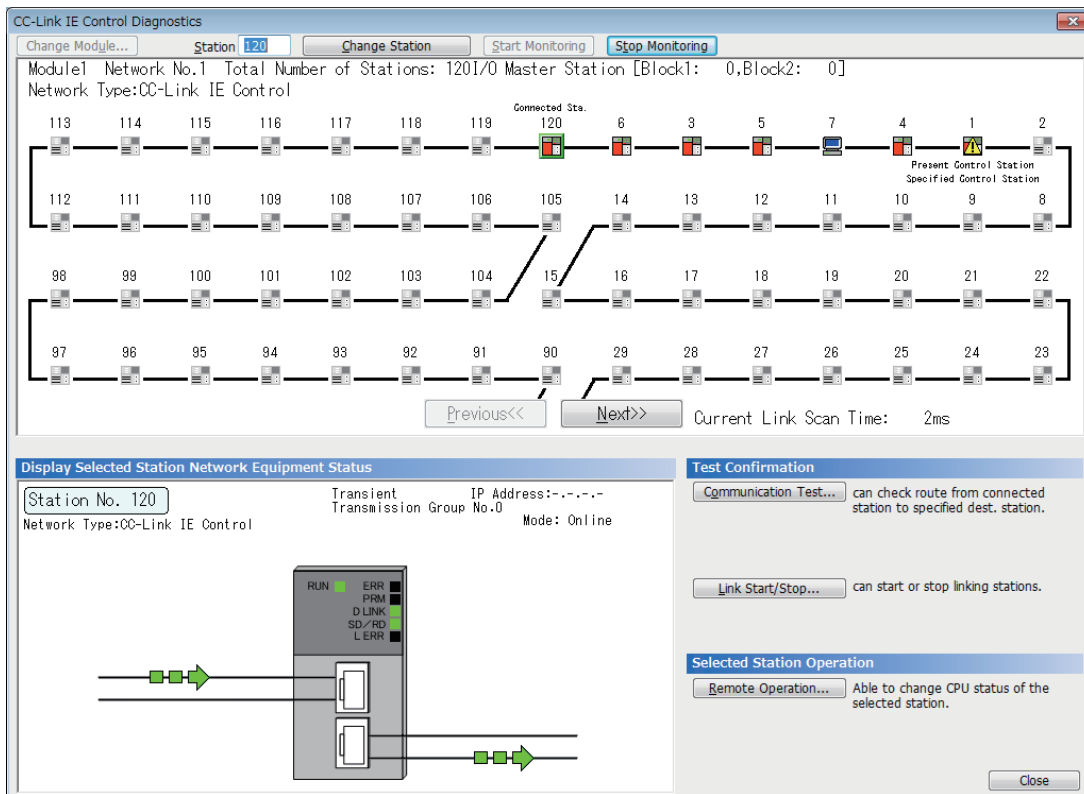
CC-Link IE Controller Network diagnostics

Monitor the network information, diagnose the network status, and perform testing.

For details, refer to the following manual.

📖 MELSEC iQ-R CC-Link IE Controller Network User's Manual (Application)

Window

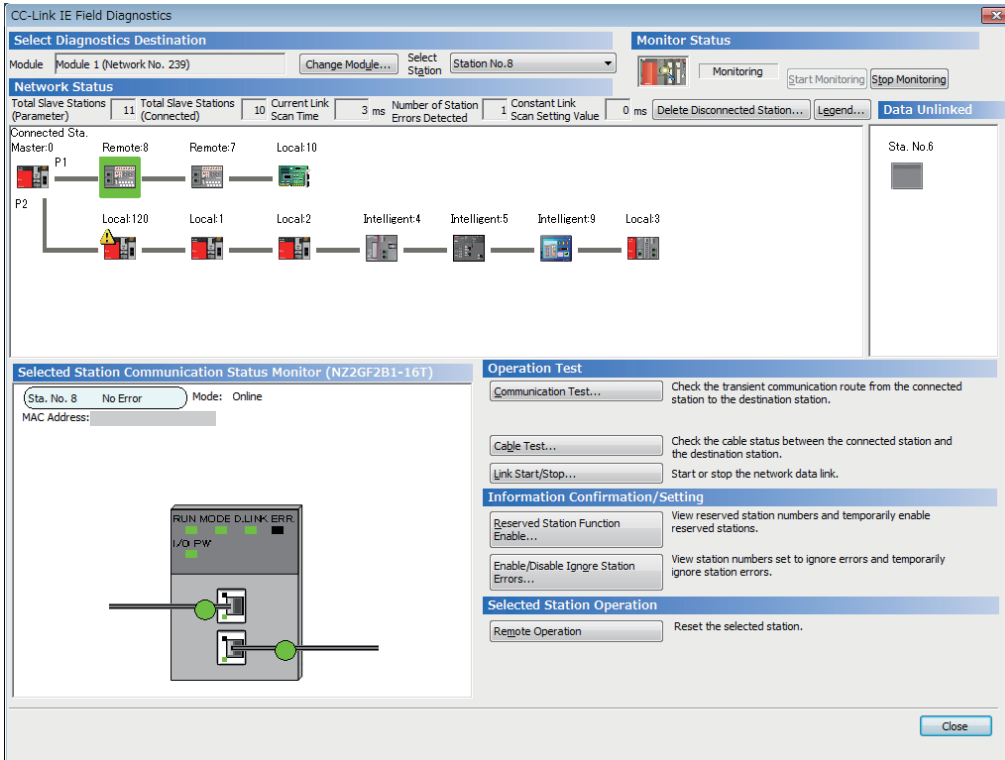[Diagnostics] ⇨ [CC-Link IE Control Diagnostics (Optical Cable)]

Restriction

"Communication Test" and "Link Start/Stop" are available when a multiple CPU system is configured.

Access the C Controller module via other CPU module using the USB port.

For access via other CPU module, refer to the following section.

☞ Page 65 Accessing other CPUs

CC-Link IE Field Network diagnostics

Monitor the network information, diagnose the network status, and perform testing.

For details, refer to the following manual.

📖 MELSEC iQ-R CC-Link IE Field Network User's Manual (Application)

Window

[Diagnostics] ⇨ [CC-Link IE Field Diagnostics]

Restriction👆

"Communication Test" and "Link Start/Stop" are available when a multiple CPU system is configured.

Access the C Controller module via other CPU module using the USB port.

For access via other CPU module, refer to the following section.

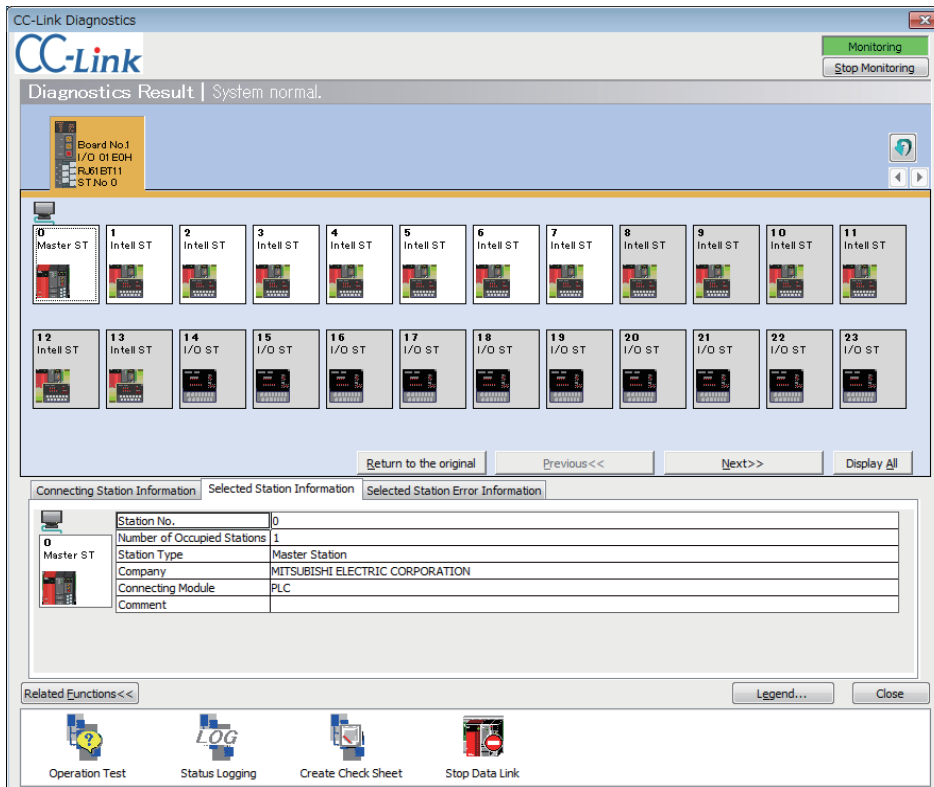☞ Page 65 Accessing other CPUs

CC-Link diagnostics

Monitor the network information of each station, diagnose the network status, and perform testing.

For details, refer to the following manual.

📖 MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application)

Window

[Diagnostics] ⇨ [CC-Link Diagnostics]

8.4 Checking Error History/Operation History

The module's error information, history of operation and system information can be displayed using the Event History function.
The detailed information of the error history can be displayed if a CPU module and Intelligent function modules supports the module error history collection function.
For the versions of modules that support this function, refer to the user's manual of respective module.

Operating procedure

Click the [Event History] button on the "Module Diagnostics" screen or "System Monitor" screen.

9 CHECKING/CHANGING OPERATION

Check the operating status and change the operation of C Controller module with CW Configurator.

Purpose	Function name	Reference
Set the clock in C Controller module.	Clock setting	Page 88 Setting Clock in C Controller module
RUN/STOP/PAUSE/RESET the CPU module connected to CW Configurator.	Remote operation	Page 89 Remote Operation of C Controller module
Check the usage of data memory.	Memory management	Page 90 Checking Memory Usage
Clear the values of data memory.	Clear value	Page 91 Initializing/Clearing Memory

9.1 Setting Clock in C Controller module

This section explains how to set the clock in C Controller module.

Window

[Online] ⇨ [Set Clock]
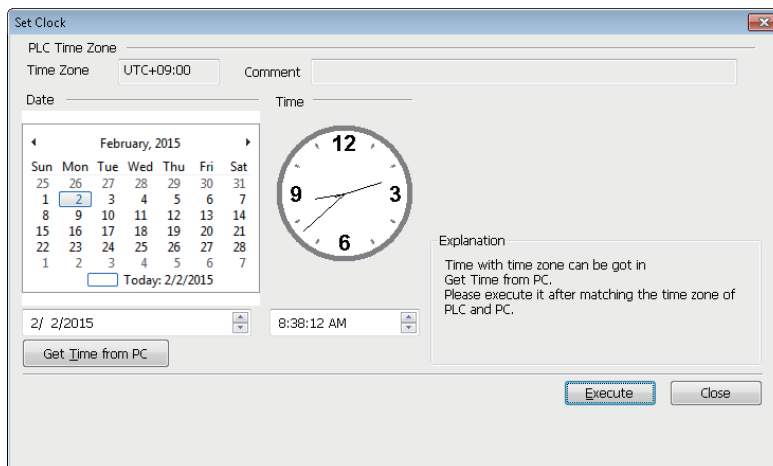
Operating procedure

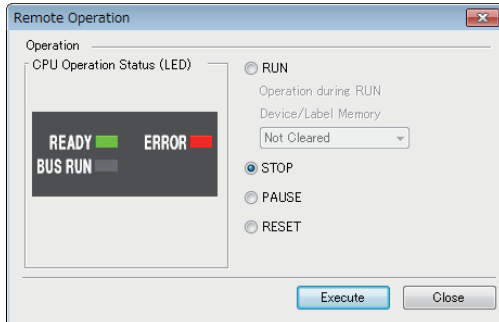Set the items and click the [Execute] button.

Precautions

- In the clock setting, a time-lag may occur due to the time of transfer.
- When different time zones are specified between the connected station and other station, the same time is set.

9.2 Remote Operation of C Controller module

This section explains how to switch the operating status of C Controller module (RESET/STOP/RUN) from CW Configurator.

Window

[Online] ⇨ [Remote Operation]

Operating procedure

Select the operating status of C Controller module, and click the [Execute] button.

Remote operation and RESET/STOP/RUN switch

The change in operation of C Controller module using remote operation or RESET/STOP/RUN switch differs, C Controller module operates in order of the priority shown below:

Operation to C Controller module	Priority
STOP	1
PAUSE	2
RUN	3

The operating status of C Controller module operated with the RESET/STOP/RUN switch after remote operation is shown below.

Remote operation	Switch status of C Controller module	
	RUN	STOP
RUN	RUN	STOP
STOP	STOP	STOP
PAUSE	PAUSE	STOP
RESET[*1]	Inoperable [*2]	RESET

*1 The remote reset operation must be enabled on "Operation Related Setting" for the CPU Parameter of CW Configurator.
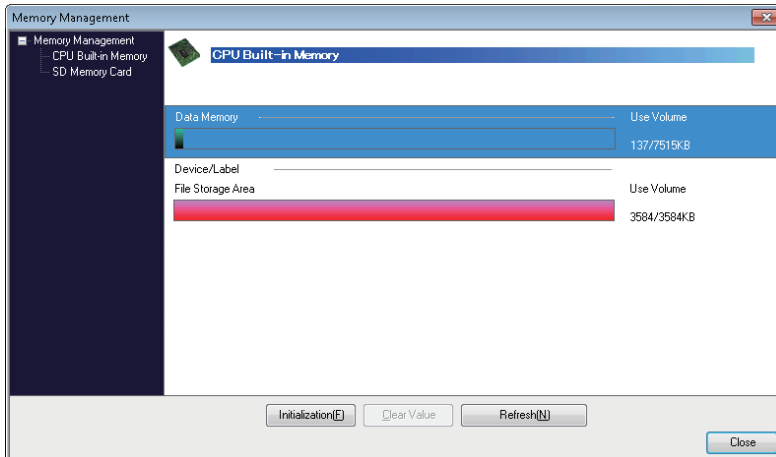*2 Operable when the C Controller module is switched to STOP by remote operation.

9.3 Checking Memory Usage

This section explains how to check the usage of data memory, built-in memory, device/label memory, and SD memory card of C Controller module.

[Online] ⇨ [CPU Memory Operation]

■Device/label memory (File storage area)

Since all of the area in the device/label memory (file storage area) of C Controller module is assigned as file register, it does not have any free space left.

9.4 Initializing/Clearing Memory

This section explains how to initialize the memory or clear values.

For details about the initialization and clearing value, refer to the following manual.

📖 MELSEC iQ-R C Controller Module User's Manual (Application)

Initialization

Delete folders and files stored in the data memory of C Controller module or in the SD memory card.

Operating procedure

1. Select [Online] ⇨ [CPU Memory Operation]. (☞ Page 90 Checking Memory Usage)

2. Select "Data Memory" or "File Storage Area" on the "Memory Management" screen, and click the [Initialization] button. When initializing an SD memory card, select "SD Memory Card" displayed on the left of the screen.

> *Point*
>
> After deletion (initialization) of all files, the parameter files stored on memory are deleted, and the default parameters are set.

Precautions

Format an SD memory card to be used for C Controller module by using this function.

If a memory card is formatted using the function such as Windows® format function, it may not be used on C Controller module.

Clearing values

Clear the values of devices and file registers.

Operating procedure

1. Select [Online] ⇨ [CPU Memory Operation]. (☞ Page 90 Checking Memory Usage)

2. Select "Device/Label Memory" on the "Memory Management" screen, and click the [Clear Value] button.

3. Set the items on the "Clear Value" screen, and click the [Execute] button.

APPENDIX

Appendix 1 Character Strings that cannot be Used for Data Names

Character strings used for application function names, common instruction names, special instruction names, instructions and so on are referred to as the reserved words.

These reserved words cannot be used for data names.

If the character string defined as a reserved word is used for a data name, an error occurs during registration or conversion.

Category	String
Symbol	(blank), !, ", #, $, %, ', *, &, +, ,, ., /, :, ;, <, =, >, ?, @, [, \,], ^, `, {, |, }, ~
Windows® reserved word	COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9, AUX, CON, PRN, NUL, CLOCK$, END_MARK
Data type reserved words	VAR, VAR_RETAIN, VAR_ACCESS, VAR_CONSTANT, VAR_INPUT, VAR_INPUT_RETAIN, VAR_OUTPUT, VAR_OUTPUT_RETAIN, VAR_IN_OUT, VAR_IN_EXT, VAR_EXTERNAL, VAR_EXTERNAL_CONSTANT, VAR_EXTERNAL_RETAIN, VAR_GLOBAL, VAR_GLOBAL_CONSTANT, VAR_GLOBAL_RETAIN, VAR_PUBLIC, VAR_PUBLIC_RETAIN, BOOL, BYTE, INT, SINT, DINT, LINT, UINT, USINT, UDINT, ULINT, WORD, DWORD, LWORD, ARRAY, REAL, LREAL, TIME, STRING, WSTRING, TIMER, LTIMER, RETENTIVETIMER, LRETENTIVETIMER, COUNTER, LCOUNTER, POINTER, ANY, ANY_NUM, ANY_BIT, ANY_REAL, ANY_INT, ANY_DATE, ANY_SIMPLE, ANY16, ANY32, DATE, DATE_AND_TIME, DT, TIME, TIME_OF_DAY, TOD, BODY_CCE, BODY_FBD, BODY_IL, BODY_LD, BODY_SFC, BODY_ST, END_BODY, END_PARAMETER_SECTION, PARAM_FILE_PATH, PARAMETER_SECTION, POW, LONGCOUNTER, LONGRETENTIVETIMER, LONGTIMER, Unknown, ANY_BITADDR, ANY_WORDADDR, ANY_STRING, ANYSTRING_SINGLE, ANYSTRING_DOUBLE, ANY_ELEMENTARY, ANY_ELEMENTARY_IEC, ANY_MAGNITUDE, ANY_BOOL, ANY_SIGNED, ANY_UNSIGNED, ANYREAL_64, ANYREAL_32, ANY_DERIVED, ANY16_S, ANY16_U, ANY32_S, ANY32_U, ANY64, ANY64_S, ANY64_U, ANY_STRUCT, ANYWORD_ARRAY, ANY16_ARRAY, ANY16_S_ARRAY, ANY16_U_ARRAY, ANY32_ARRAY, ANY32_S_ARRAY, ANY32_U_ARRAY, ANY64_ARRAY, ANY64_S_ARRAY, ANY64_U_ARRAY, ANY_REAL_ARRAY, ANY_REAL_32_ARRAY, ANY_REAL_64_ARRAY, ANY_STRING_ARRAY, ANYSTRING_SINGLE_ARRAY, ANYSTRING_DOUBLE_ARRAY, ANYBIT_ARRAY, UINT_WORD, UDINT_DWORD, ULINT_LWORD, TIME2, KBIT64, KBIT32, KBIT16, WDEVICE, BDEVICE, DUMMYDEVICE, FB, FUN, STRUCT_MEMBER, BIT_ARRAY, STRUCT_ARRAY, STRING_ARRAY, WSTRING_ARRAY, LINT_ARRAY, ULINT_LWORD_ARRAY, DINT_ARRAY, UDINT_DWORD_ARRAY, INT_ARRAY, UINT_WORD_ARRAY, REAL_ARRAY, LREAL_ARRAY, TIME_ARRAY, NONE, ANY16_OR_STRING_SINGLE, ANY_DT, ANY_TM
IEC reserved word	NOT, MOD, LD, LDN, ST, STN, S, S1, R, R1, AND, ANDN, OR, ORN, XOR, XORN, ADD, SUB, MUL, DIV, GT, GE, EQ, NE, LE, LT, JMP, JMPC, JMPCN, CAL, CALC, CALN, RET, RETC, RETN, LDI, LDP, LDF, ANI, ANDP, ANDF, ANB, ORI, ORP, ORF, ORB, MPS, MRD, MPP, INV, MEP, MEF, EGP, EGF, OUT, OUTH, SET, RST, PLS, PLF, FF, DELTA, DELTAP, SFT, SFTP, MC, MCR, STOP, PAGE, NOP, NOPLF, RETURN, IF, THEN, ELSE, ELSIF, END_IF, CASE, OF, END_CASE, FOR, TO, BY, DO, END_FOR, WHILE, END_WHILE, REPEAT, UNTIL, END_REPEAT, EXIT, TYPE, END_TYPE, STRUCT, END_STRUCT, RETAIN, END_VAR, FUNCTION, END_FUNCTION, FUNCTION_BLOCK, END_FUNCTION_BLOCK, STEP, INITIAL_STEP, END_STEP, TRANSITION, END_TRANSITION, FROM, UNTILWHILE, ACTION, END_ACTION, CONFIGURATION, END_CONFIGURATION, CONSTANT, F_EDGE, R_EDGE, AT, PROGRAM, WITH, END_PROGRAM, READ_ONLY, READ_WRITE, RESOURCE, END_RESOURCE, ON, TASK, EN, ENO, SINGLE, TRUE, FALSE, INTERVAL
Character string recognized as device (Device name + numerals)	X0, etc.
Others	Manufacturer-defined FB/FUN, MELSEC instructions

Precautions

Data names are not case-sensitive.

Appendix 2 USB Driver Installation Procedure

To communicate with C Controller module by accessing the other CPU from an USB-connected programmable controller CPU or motion CPU in a multiple CPU system configuration, installing a USB driver is required.
The procedure of USB driver installation is as shown below.
If multiple MELSOFT products are installed previously, refer to their installed location.

Windows® XP

Operating procedure

1. Connect the personal computer to a programmable controller CPU or a motion CPU with a USB cable, and turn ON the power for the programmable controller.

2. Select "Install from a list or specific location (Advanced)" on the "Found New Hardware Wizard" screen.

3. Select "Search for the best driver in these locations" on the next screen. Select "Include this location in the search", and specify 'Easysocket\USBDrivers' in the folder where CW Configurator has been installed.

Precautions

If the driver cannot be installed, check the following settings on Windows®.
The USB driver may not be installed when "Block—Never install unsigned driver software" is selected in [Control Panel] ⇨ [System] ⇨ [Hardware] ⇨ [Driver Signing].
Select "Ignore — Install the software anyway and don't ask for my approval", or "Warn — Prompt me each time to choose an action" in [Driver Signing], and execute the USB driver installation.

Windows Vista®

Operating procedure

1. Connect the personal computer to a programmable controller CPU or a motion CPU with a USB cable, and turn ON the power for the programmable controller.

2. Select "Locate and install driver software (recommended)" on the "Found New Hardware Wizard" screen.

3. Select "Browse my computer for driver software (advanced)" on the "Found New Hardware" screen.

4. Select "Search for the best driver in these locations" on the displayed screen. Select "Include subfolders" and specify 'Easysocket\USBDrivers' in the folder where CW Configurator has been installed.

Precautions

When "Windows can't verify the publisher of this driver software" is displayed during the installation, select "Install this driver software anyway".

Windows® 7 or later

Operating procedure

1. Connect the personal computer to a programmable controller CPU or a motion CPU with a USB cable, and turn ON the power for the programmable controller.

2. Select [Control Panel] ⇨ [System and Maintenance] ⇨ [Administrative Tools] ⇨ [Computer Management] ⇨ [Device Manager] from Windows® Start[*1]. Right-click "Unknown device" and click "Update Driver Software".

3. Select "Browse my computer for driver software" on the "Update Driver Software" screen, and specify 'Easysocket\USBDrivers' in the folder where CW Configurator has been installed on the next screen.

*1 Select [All apps] on the Start screen or [Start] ⇨ [All Programs].

Appendix 3 Functions Added to/Changed from Previous Version

The table below shows the main functions added/changed along with the upgrades.

Supported version	Main functions	Added/changed contents	Reference
Version 1.001B	System parameter utilization	Utilization of the system parameter including modules unsupported by C Controller module is supported.	Page 49 Setting system parameters

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I

MEMO

REVISIONS

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