## MELSOFT



# FA Integrated Engineering Software

# iQ AppPortal Operating Manual

-SW1DND-IQAPL-M



# SAFETY PRECAUTIONS

(Read these precautions before using this product.)

Before using this product, please read this manual carefully and pay full attention to safety to handle the product correctly. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

The precautions given in this manual are concerned with this product only. In this manual, the safety precautions are classified into two levels: " A WARNING" and " CAUTION".

Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
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 "A 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.

### [Security Precautions]

### 

To maintain the security (confidentiality, integrity, and availability) of the programmable controller and the system against unauthorized access, denial-of-service (DoS) attacks, computer viruses, and other cyberattacks from external devices via the network, take appropriate measures such as firewalls, virtual private networks (VPNs), and antivirus solutions.

# **CONDITIONS OF USE FOR THE PRODUCT**

(1) MELSEC 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 ELECTRIC 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 ELECTRIC USER'S, 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 Electric 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 Electric 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 Electric representative in your region.

(3) Mitsubishi Electric shall have no responsibility or liability for any problems involving programmable controller trouble and system trouble caused by DoS attacks, unauthorized access, computer viruses, and other cyberattacks.

# INTRODUCTION

Thank you for purchasing the FA integrated engineering software MELSOFT.

This manual describes the programming and functions required when using iQ AppPortal.

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

Note that the menu names and operating procedures may differ depending on an operating system in use and its version. When reading this manual, replace the names and procedures with the applicable ones as necessary.

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# **RELEVANT MANUALS**

Manual name [manual number]	Description	Available form
iQ AppPortal Operating Manual [SH-081623ENG] (this manual)	Functions and operation methods of iQ AppPortal	e-Manual PDF

Point P

e-Manual refers to the Mitsubishi Electric 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.
- Hardware specifications of each part can be found from the product figures.
- Pages that users often browse can be bookmarked.
- Sample programs can be copied to an engineering tool.

# **1** BEFORE USING THIS PRODUCT

iQ AppPortal is an integrated management tool for managing applications.

Assets such as project files of MELSOFT products and design documents that are managed in Windows<sup>®</sup> Explorer can be saved for each application, and centrally managed in iQ AppPortal.

This can reduce person-hours for search and management.



# **1.1** System Overview

Assets (such as project files of MELSOFT products and design documents) registered and managed in iQ AppPortal are referred to as objects.

For using the system of iQ AppPortal, two personal computers are required: one as a server for saving master data (DB) of objects and the other as a client for operating objects in the screen of iQ AppPortal.

One personal computer can be used as both a server and a client.



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# **1.2** Features of iQ AppPortal

This section shows the features of iQ AppPortal for managing registered objects efficiently.



#### Simple registration

Objects can easily be registered in iQ AppPortal by dragging and dropping folders and files.

A folder for each application is automatically generated when registering a new object. Name the folder to manage. Folders and files are saved to a server after registered in iQ AppPortal, then the history can be managed and data can be

acquired.

#### Management for each application

In iQ AppPortal, folders are displayed for each application and objects in a folder are displayed in a layer structure.

The parent-child relationships of workspace files and project files of MELSOFT products are automatically determined by iQ AppPortal, and the files are displayed accordingly.

Information on folders and objects managed in iQ AppPortal can easily be checked in the feature information displayed in the callout property.

In addition, property information of folders and objects can be edited in the callout property and "Properties" screen. Images can also be added to the property information.

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#### Quick search

Target folders and objects can easily be searched for by refining them under the smart filter (type, register date, and date modified).

In addition, they can be searched for more quickly by using keywords for the property information and colored and named classifications.

#### Secure editing/saving of objects

In iQ AppPortal, the latest data of an object saved to a server can be edited securely by acquiring it in a work area separated from the save location.

Save the object to the server again after editing it in the work area.

The edit/management status of an object can be checked with the status displayed on it. ( Frage 29 Status display of an object)

#### Utilization of past data

When saving an added, edited, or deleted object to a server, the history is also saved.

From the history, the property information of the object can be browsed and past data can be acquired.

# 1.3 Object List

This section shows the objects that can be managed in iQ AppPortal.

Name in the manual	lcon	Description	File format	Extension
		MEL SOET Novigator workspace file		
Workspace lie of MELSOFT products	÷	MELSOFT Navigator workspace me	Compressed single file format	*.nvz
Project file of MELSOFT products	啮	GX Works3 project file	-	*.gx3
	THE	GX Works2 project file	—	*.gd2
			Single file format	*.gxw
			Compressed file format	*.gwz
	6	GX Developer project file	_	*.gpj
	1000	MT Developer2 project file (iQ-R series)	—	*.mtw
	<b>.</b> 0	MT Developer2 project file (Q series)	—	*.mt2
	-		Single file format	*.mtw
			Compressed file format	*.mtz
		GT Designer3 (GOT2000) project file	—	*.gt32
	-		Single file format	*.gtx
			Single file format (including a GOT operating system)	*.gtxs
		GT Designer3 (GOT1000) project file	—	*.gt3
			Single file format	*.gtw
	73	RT ToolBox3 workspace file <sup>*1</sup>	_	MELFA_WSP.xm I <sup>*2</sup>
	7	RT ToolBox2 workspace file <sup>*1</sup>	_	MELFA_WSP.xm I <sup>*2</sup>
		Simple Motion Module Setting project file	—	*.pmc
	<u></u>		Single file format	*.pcw
	Cĩ	CW Configurator project file	Single file format	*.cp5
	_	MR Configurator2 project file	—	*.mr2
	-11		Single file format	*.mrc2
		MR Configurator2 multiple axes system configuration project file	Single file format	*.mrc2m
	MU 2	FR Configurator2 project file	Single file format	*.frc2
	댜	FR Configurator2 (Developer) project file	Single file format	*.fgw

Name in the manual	Icon	Description		File format	Extension
Objects other than those of MELSOFT products <sup>*3</sup>	Differs for each extension. (Example)	Other files	FB libraries	_	*.mslm *.mslu *.usl *.sul
	pdf iqap		Files other than the above	_	*.pdf *.xls *.doc etc.
		Folder format object	Folder containing other files registered as an object. For details, refer to the following: Image 79 Folder format object	_	_

- \*1 Managed together in each workspace.
- \*2 Used to determine an object.
- \*3 An extension name is displayed on each icon.

The icon color can be set for each extension. (

# **1.4** Learning Operation Methods of iQ AppPortal

This section explains the operation methods of iQ AppPortal.

### **Displaying the manual**

Browse the manual to learn about operations and functions.

#### Operating procedure

Select the [Home] tab  $\Rightarrow$  the [Help] group  $\Rightarrow$  [Manual]. e-Manual Viewer starts and the manual appears.

### **Connecting to MITSUBISHI ELECTRIC FA Global Website**

Open the MITSUBISHI ELECTRIC FA Global Website in a web browser. Make sure your personal computer connect to the Internet in advance.

#### Operating procedure

Select the [Home] tab ⇒ the [Help] group ⇒ [Connect to MITSUBISHI ELECTRIC FA Global Website].

### Checking the version of iQ AppPortal

Display information such as the software version of iQ AppPortal.

#### Operating procedure

Select the [Home] tab  $\Rightarrow$  the [Help] group  $\Rightarrow$  [Version Information].

# **2** SYSTEM CONFIGURATION

This chapter explains the system configuration of iQ AppPortal.

Folders and objects can be saved to a server in the screen of iQ AppPortal installed on a client.

For editing an object, acquire it from the server to a work area in the client and edit it in the work area. Then, save the edited object to the server again in the screen of iQ AppPortal, and the data in the server is updated.



Syste	em configuration	Role
(1)	Server	<ul><li>To store master data.</li><li>To save past data and manage histories.</li></ul>
(2)	Client	<ul> <li>To select a server to connect to.</li> <li>To display information on objects saved to a server and those acquired in a work area on iQ AppPortal.</li> <li>To manage differences between an object in a work area and the corresponding one in a server.</li> </ul>
(3)	Work area	To acquire data from a server and edit it.

# **3** SCREEN CONFIGURATION AND BASIC OPERATIONS

This chapter explains the screen configuration and basic operations of iQ AppPortal.

# 3.1 Start and End

This section explains the operation methods for starting and ending iQ AppPortal.

### Start

#### Operating procedure

Start iQ AppPortal from "MELSOFT" in Windows Start.

### End

#### Operating procedure

Select the [File] tab ⇒ [End].

# 3.2 Display Language Switching

iQ AppPortal supports multiple languages, and therefore the display language such as one on the menu can be switched on a personal computer.

#### Window

Select the [File] tab ⇒ [Switch Display Language].

Switch Display Language
Display Language(L)
English 💌
It will be valid from next start.
OK Cancel

#### Precautions

If the display language differs from the one for the operating system, displayed texts may get cut. The language of feature information of MELSOFT products and entered characters cannot be switched.

# **3.3** Data Storage Destination/Work Area Setting

This section shows the "Data Storage Destination/Work Area Setting" screen for setting a data storage destination in a server and a work area in a client.

#### Window

Select the [File] tab ⇒ [Data Storage Destination/Work Area Setting].

F F C F	Please change the port No. only when you want to specify the port No. connected to the server. Please execute "Add Connection Information" when you want to create new connection information of data storage lestination. Please execute "Connect" after selecting data storage destination which you want to connect by Radio button of Connection nformation List.								
Connection Information List ()									
Ш			Server IP address	Port No.	Repository		Work Area	_	Add Connection Information(N
	1	•	127.0.0.1	61687	iQAP		C:\Sample\iQAP		Delete Connection Information(
	2	0	127.0.0.1	61687	iQAP1		C:\iQAP1		- (1)
	3	$\circ$	127.0.0.1	61687	iQAP2		C:\Repositories\iQAP2		
	4	0		61687	iQAP				
	V Do	o not	display this dialog	again at start(D)					
h	This s	ettin	g can be changed in	the option settin	a dialoa.				
_			, ,						

Item	Description
Server IP address	The IP address of a data storage destination (MELSOFT iQ AppPortal (Server))
Port No.	A port number used for VisualSVN Server 5.0.3 (
Repository	A data storage destination. It can be named to identify multiple repositories. When installing iQ AppPortal, the default repository (iQAP) is generated as a data storage destination. To add a repository, run the installer on a server. ( FP Page 17 Adding a repository)
Work Area	A local folder for editing data acquired from a repository

#### Point P

Connection information (1) must be set so that a data storage destination (server IP address, port number, and repository) and a work area are on a 1:1 basis.

#### Operating procedure

#### Adding connection information and establishing a connection

**1.** Click the [Add Connection Information] button.

A row is added in "Connection Information List."

- 2. Set each item for "Server IP address," "Port No.," "Repository," and "Work Area."
- 3. Select the radio button (2), and click the [Connect] button.

The connection is established to a data storage destination containing the specified connection information.

#### ■Deleting connection information

- **1.** Click the [Delete Connection Information] button.
- Connection information is deleted.

However, the data in the repository is not deleted.

When deleting the connection information of a connected data storage destination, a new connection is established to the destination containing connection information in the first row.

#### Adding a repository

A repository can be added by running the installer on a server after installing iQ AppPortal.

#### Point P

- Up to 100 repositories can be created.
- Data registered in iQ AppPortal with version earlier than Version 1.11M is stored in the repository (iQAP) generated when installing iQ AppPortal.
- When adding a repository, also create a corresponding work area.
- Before adding or deleting a repository, make sure that another client is not connected to a server.

#### Operating procedure

1. On a server, double-click "setup.exe" in the data obtained for installation. Follow the on-screen instructions to add a repository.

MELSOFT iQ AppPortal - Install	Shield Wizard X	MELSOFT iQ AppPortal - InstallS	X	
MELSOFT IQ AppPortal - Install	Initial MELSOFT (Q AppPortal     Add the data storage destination repository of MELSOFT (Q AppPortal	MELSOFT IQ AppPortal - InstallS Add data storage destination Please input the data storage	hield Witard nr (MELSOFT 10 AppPoral(Server)) repository destination (MELSOFT 10 AppPoral(Server)) repository that ye Added Repository  GAP1 Data Storage Destination Repository	v wert to add
	Delete the dota storage destination repository of MELSDFT /0 AppPortal Please add data storage destination repository when you want to create multiple data storage destinations in the computer. Please specify the repository created by this operation when connecting from clerit.			
InstallShield	< <u>Back</u> <u>N</u> ext> Cancel	InstallShield	< <u>B</u> ack <u>N</u> ext≻	Cancel

The added repository can be selected in the "Data Storage Destination/Work Area Setting" screen.

2. Select the repository in the "Repository Setting" screen.



3

# 3.4 Option Setting

This section shows the "Option" screen for setting options such as "Basic Setting" for iQ AppPortal.

#### Window

#### Select the [File] tab ⇒ [Option].

Option						
Basic Setting	Urer Setting					
Object 1	User Setting					
Object 2	User Name( <u>U</u> ):	USER				
Register	Message					
Verify	Display the settir	Display the setting dialog of Data Storage Destination/Work Area at start(D)				
Restore Work Area						
		OK Cancel				

### **Basic setting**

#### User setting

A user name set under "User Setting" is displayed in the "Comment Input" screen when saving, and in "Comment" or "Author" in the "History" screen. (S Page 26 Saving an object)( Page 52 History Management)

### **Object 1**

#### **Object filtering**

#### Displaying deleted objects

Deleted folders and objects can be displayed on iQ AppPortal by selecting the checkbox of "Display the deleted object" under "Object Filtering." ( SP Page 56 Deleted object acquisition)

#### ■Hiding read-only attribute folders

Read-only attribute folders can be hidden by unselecting the checkbox of "Display the read-only attribute folder." ( 🖙 Page 84 Hiding read-only attribute folders)

#### **Classification option**

#### Displaying the names of classifications added to objects (at the time of list display)

The names of classifications added to folders and objects can be displayed in the object list area by selecting the checkbox of "Display the name of classification added to object. (At the time of list display)." ( Page 41 Classification name display)

#### Callout property option

#### Enabling editing the callout property

Property information can be edited in the callout property by selecting the checkbox of "Enable Editing of Callout Property." (SP Page 30 Editing in the callout property)

#### Cache setting

Objects can be displayed in the screen more quickly by enabling the cache setting. ( SP Page 49 Increasing the display speed in the object list area)

### **Object 2**

#### Object icon display setting

The icon color of an object other than one of MELSOFT products can be set for each extension. (SP Page 50 Setting the icon colors of objects)

### Register

#### Folder format object setting

A folder can be registered as a folder format object in iQ AppPortal by selecting "Maintain Folder Configuration and Register it as Folder Format Object." (CP Page 79 Folder format object)

### Verify

#### External tool setting

A tool used to verify an object other than one of MELSOFT products can be set. (SP Page 87 Setting an external tool used for verification)

### **Restore work area**

If an error such as 'failed to restore work area' occurs while operating iQ AppPortal, a work area must be restored in "Restore Work Area." (SP Page 48 Restoring a work area)

# 3.5 Screen Configuration

This section explains the screen configuration of iQ AppPortal.



Name	)	Description					
(10) Application tree area		Objects in a selected folder are displayed in a tree format. The parent-child relationship of objects is automatically determined and the objects are displayed in a layer structure accordingly.	_				
*1 \\	$1$ . When collecting the basis of the names of electricity added to folders and chiests can be displayed. ( $\Sigma = Dage 44$ Classification name						

<sup>1</sup> When selecting List Display -, the names of classifications added to folders and objects can be displayed. ( Page 41 Classification name display)

# 3.6 Menu List

This section shows the menu list.

[File] tab				
⇔ [New] ( <mark></mark> )		Page 23 New registration		
⇒ [Data Storage Destination/Work	Area Setting] (🦫)	Page 16 Data Storage Destination/Work Area Setting		
⇔ [Switch Display Language] (	3)	Page 15 Display Language Switching		
		Page 18 Option Setting		
⇔ [End] ( 🔀 )		Page 15 Start and End		
[Home] tab				
⇔ [Edit] group ( 🖋 )	⇒ [Copy] ()	-		
	⇔ [Paste] ( <mark></mark> ]	-		
	⇒ [Delete Reservation] (X)	Page 27 Deleting an object		
$\Rightarrow$ [Work Area] group ( $\square$ )	⇔ [Get the Latest Data] (1)	Page 42 Acquiring the latest data of an object in a work area		
	⇔ [Solve the Data Conflict] (	Page 45 Solving an object conflict		
	⇔ [Cancel the Change] ( ເ )	Page 47 Canceling a change		
⇔ [Configuration Management]	⇔ [Create Branch] (ᢏ)	Page 57 Creating a branch		
group (= 📳)	⇔ [Revision Graph] ( <mark>┣</mark>	Page 58 Displaying a revision graph		
	⇔ [Revision Graph [Selected Folder]] ()			
$\Rightarrow$ [Classification] group ( $=$ )	⇔ [Classification Edit] (💞 )	Page 37 Classification edit		
⇔ [Sort] group (Kৈ)	⇒ Pull-down list (Name / Date Modified •)	Page 20 Screen Configuration		
	⇔ [Ascending order] ( 2)			
	⇔ [Descending order] ( 21)			
⇔ [Display] group (ಝಿ)	⇔ [Refresh] (	Page 28 Updating the display status		
	⇒ [Properties] (L)	Page 31 Editing in the properties screen		
	⇔ [History] (♀])	Page 52 History Management		
	⇔ Pull-down list (Tile Display	Page 20 Screen Configuration		
	⇔ [Release Refine] (ttps://www.astronycom/astronyc	Page 41 Releasing refinement		
⇔ [Verify] group (🔯 )	⇒ [Verify between Objects] (♥)	Page 64 Verifying two objects		
	⇒ [Verify with the Latest Data] ( )	Page 66 Verifying with the latest data		
⇒ [Data Operation] group ( <a>§</a> )	⇒ [Import] (	Page 69 Importing objects		
	⇒ [Export] (	Page 71 Exporting objects		
⇔ [Help] group ( 🕐 )	⇔ [Manual] (🔩)	Page 12 Displaying the manual		
	<ul> <li>⇒ [Connect to MITSUBISHI ELECTRIC FA Global Website]</li> <li>()</li> </ul>	Page 12 Connecting to MITSUBISHI ELECTRIC FA Global Website		
	⇔ [Version Information] (//er.)	Page 12 Checking the version of iQ AppPortal		

# **4** OBJECT MANAGEMENT

This chapter explains the methods for managing objects by using iQ AppPortal.

# 4.1 Object Registration/Save/Deletion

This section explains the basic operations of iQ AppPortal such as registering, saving, and deleting an object.

### **Registering an object**

In iQ AppPortal, an object is managed in a folder for each application.

When registering an object, a folder for each application is created in the object list area.

#### New registration

An object can be registered by dragging and dropping a folder or file onto the object list area.

The parent-child relationship of files in a folder is automatically determined by iQ AppPortal and the files are displayed in a layer structure accordingly.

There are two selectable methods for registering a folder. For details, refer to the following:

Page 79 Folder format object



#### Operating procedure

- **1.** Drag and drop a folder or file onto the object list area.
- **2.** Enter a folder name.

#### Restriction (??

- If multiple folders or files with the same name are included in the same layer in a folder, the folder cannot be registered. In this case, register it as a folder format object. (
- · Hidden files and folders included in a folder are also registered at the same time.

#### Point P

- Folders and objects registered in iQ AppPortal are saved to a server by clicking the [Save] button, and copied to a work area at the same time. ( I Page 26 Saving an object)
- Up to 200 objects can be registered in one folder, and up to 10,000 folders and objects can be saved to a server in total.

#### **When registering a workspace or project that consists of multiple files**

It can be registered in iQ AppPortal by compressing it into a single file format (.zip, etc.).

Workspaces and projects other than the following must be compressed into a single file format (.zip, etc.).

■Workspace file (workspace format)
MELSOFT Navigator
• RT ToolBox3
RT ToolBox2
■Project file (workspace format)
• GX Works3
• GX Works2
GX Developer
MT Developer2
• GT Designer3
Simple Motion Module Setting
MR Configurator2

#### Additional registration/update

An additional object can be registered by dragging and dropping a folder or file onto a folder in the object list area or onto the application tree area.

If the name and type of a dragged and dropped file are the same as those of a registered object and the file and object are determined to be in the same layer by iQ AppPortal, the object is updated.

There are two selectable methods for registering a folder. For details, refer to the following:

Page 79 Folder format object



#### When dragging and dropping a file onto a folder in the object list area

An object is added to the folder.

If the object is a workspace file or project file of MELSOFT products, it is automatically displayed in a layer determined by iQ AppPortal.

#### When dragging and dropping a file onto the application tree area

An object can be freely added to any layer in the application tree area.

However, rules such as a layer placement relationship and parent-child relationship apply to the object. (EP Page 78 Object configuration rules)

#### Restriction (??

When re-registering a workspace file or project file edited in a MELSOFT product, a message appears if the update date and time is different between the MELSOFT iQ AppPortal information file (.iqap) and the workspace file or project file.

If the message appears, save the workspace file or project file again in a MELSOFT product that supports MELSOFT iQ AppPortal information files (.iqap), then re-register it.

#### Precautions

- If a project file is moved from the workspace tree of MELSOFT Navigator in the application tree area, it is deleted from the workspace managed in MELSOFT Navigator.
- When adding a project file to a workspace managed in MELSOFT Navigator in the application tree area, register it in a workspace format. If registered in a single file format, it is not displayed in the workspace tree of MELSOFT Navigator.

### Saving an object

A folder and object registered in iQ AppPortal can be saved to a server by clicking the [Save] button.

A comment entered in the "Comment Input" screen is displayed in "Comment" in the "History" screen. ( Figure 22 History Management)





#### Operating procedure

- 1. Click the [Save] button in the application tree area.
- 2. Enter a comment.

### Point P

- For saving a folder and object in the application tree area, the following operation is also available:
- $\cdot$  Right-click it and select [Save the Selected Object] from the shortcut menu.
- When saving multiple objects at the same time, there may be the following cases:
- · A comment entered when saving them is displayed in "Comment" of all of them.
- · If there is even one conflicting object in a folder, the objects cannot be saved. Solve the data conflict, then save them again. (SP Page 45 Solving an object conflict)
- Up to 2,000 characters can be entered in a comment. A line feed is counted as two characters.

#### Precautions

Check that the overlay icon is 💟 (Normal) after saving an object. If it is not Normal, the object is not saved properly. Save it again after removing the cause. (🖙 Page 29 Status display of an object)

### **Deleting an object**

#### Data saved to a server can be deleted.

When deleting data in a server, the corresponding folder or object acquired in a work area is also deleted at the same time.



#### Operating procedure

**1.** Select the [Home] tab ⇒ the [Edit] group ⇒ [Delete Reservation].

The overlay icon changes to 🗙 (Delete Reservation). ( 🖙 Page 29 Status display of an object)

2. Click the [Save] button. ( Page 26 Saving an object)

#### Precautions

When deleting a folder and object, all objects in their lower layers are also deleted at the same time. In addition, its property information is deleted at the same time.

# 4.2 Object Information Edit

This section shows the details on editing object information registered in iQ AppPortal.

### Updating the display status

The statuses of a folder and object displayed on iQ AppPortal can be updated as necessary after comparing data saved to a server with an object acquired in a work area.



#### Operating procedure

Select the [Home] tab  $\Rightarrow$  the [Display] group  $\Rightarrow$  [Refresh].

#### Point P

If neither folder in the object list area nor object in the application tree area is selected, the displays of all folders and objects are updated.

Even when an error occurs in a selected folder or object, the displays of all folders and objects other than the selected one are updated.

#### Status display of an object

The status of an object is displayed with an overlay icon.

The object status indicates the difference between data saved to a server and an object acquired in a work area.

Overlay icon	Object status	Status of an object
	Conflict	While editing an object in a work area, the corresponding data in a server is updated by another user.
1	Change	An object in a work area is newer than the corresponding data in a server.
×	Delete Reservation	Data in a server is reserved for deletion (not saved).
+	Add	Data is added to a server, or a file is added to a work area (not saved).
0	Past Version Data	An object in a work area is older than the corresponding data in a server.
(N/A)	Not acquired	No object is acquired in a work area.
0	Normal	There is no difference between an object in a work area and the corresponding data in a server.

#### Restriction ("?

The overlay icon is not displayed on a read-only attribute folder because an object in the read-only attribute folder cannot be edited.

For details on read-only attribute folders, refer to the following:

Page 83 Read-only attribute folders

#### If several object statuses exist in a folder

The object statuses of all objects in the folder are determined and the overlay icon of the folder is displayed accordingly.

Priority order	1	2	3	4	5	6	7
Object status	Conflict	Change	Delete Reservation	Add	Past Version Data	Not acquired	Normal

#### Ex.

If several object statuses exist, the overlay icon of a folder is displayed as follows:

- · The Conflict overlay icon is displayed on the folder if the folder contains a conflicting object.
- The Change overlay icon is displayed on the folder if the folder contains objects that are changed, reserved for deletion, or added.
- The overlay icon is displayed in the order of Past Version Data, not acquired, and Normal if an object in the folder is past version data, not acquired, or normal.

#### If several object statuses exist in objects in the parent-child relationship

The object status of the lower layer is also displayed on the object in the upper layer.

The object status displayed on an object in the upper layer is displayed in the same priority order as a folder.

However, if there is no change in an object in the upper layer when an object status in the lower layer changes, the edit history of the object in the upper layer is not saved.

#### ■If an overlay icon is not updated

When caching is enabled, an overlay icon may not be updated. In this case, select the folder to update it.

To update all overlay icons, refresh the cache.

For details, refer to the following:

Page 49 Increasing the display speed in the object list area

#### ■If a MELSOFT iQ AppPortal information file (.iqap) in a work area is old



If a MELSOFT iQ AppPortal information file (.iqap) in a work area is older than the corresponding one in a server, the icon indicating that the file is old is displayed.

To match the file between the work area and the server, acquire the latest data.

### **Editing property information**

Property information of folders and objects can be edited in the callout property and "Properties" screen.

#### Editing in the callout property

#### Window

Select the [File] tab ⇔ [Option] ⇔ "Object 1."

Option	x		MELSOFT iQ AppPortal	– 🗆 X
			File Home	
Basic Setting	Object Filtering		<u>у ₩</u>	× <
Object 1	✓ Display the deleted object( <u>S</u> )			<u>^</u>
Object 2	✓ Display the read-only attribute folder( <u>R</u> )		정철 책 책	
Register	The option at output		GX Works3 Sample GX Works3 Sample GX W	Vorks3 Sample
Verify	Start the explorer at get the latest data(£)		Data Data Data Data Data Data Data Data	Modified:
Restore Work Area	Classification Option		2022/11/14 2022/11/14	2022/11/14
	☑ Display the name of classification added to object. (At the time of list display)(Q)			
	Callout Property Option			
	✓ Enable Editing of Callout Property()		Save Cancel	Properties 🛞
	It is possible to edit the name, model name, outline, image, author, and remark.		Name GX Works3 Sample Data	
	The display item other than the name can be selected.		Date Modified 2022/11/14 09:26:42	=
	Display Item(D): Item Name	Ľ	Model Name Vol11_Cart_PLC	
	Date Modified		Outline Application program example for Automa	ited Guided Vehicle. 🛨
	✓ Model Name ✓ Outline		PLC CPU:R04CPU,Simple Motion module:	RD7/MS4
	✓ Feature		Feature R04 GX Works3 Ver	Program:1
	Cache Setting		Image	
	Enable Cache(C)     Disable Cache(N)			
	If cache setting is enabled, the screen can be displayed faster. But if enabled, the displayed			
	folder cannot be displayed in the latest state sometimes. The latest state can be displayed by selecting the folder which the latest state want to be confirmed.		Classification Classification Name?	
	When refresh all the object cache, please execute "Cache Refresh",		Classification Name5	
	Cache Refresh		Classification Name4	
			Author MITSUBISHI ELECTRIC CORPORATION	
	OK Cancel	J	Register Date 2016/03/26 11:10:15	
			Date Created 2015/03/17 19:11:24	
			File Size 695,635 Byte	
			File Name Vol11_Cart_PLC.gx3	
			Remark	

#### Operating procedure

**1.** Select the checkbox of "Enable Editing of Callout Property" under "Callout Property Option" in the "Option" screen.

**2.** In the "Display Item" list, select the checkboxes of items to display in the callout property, and click the [OK] button. The items with their checkboxes selected are displayed in the callout property. ("Name" is always displayed.)

**3.** Enter property information in the callout property, and click the [Save] button.

Point P

- The contents of "Name," "Model Name," "Outline," "Author," and "Remark" can be edited.
- An image file can be added to "Image." ( Page 31 Image registration)

#### Restriction (")

Property information cannot be edited in the following cases:

- A read-only attribute folder is selected.
- A deleted object is selected.
- An object is selected when its overlay icon is 🚺 (Conflict), 🗙 (Delete Reservation), or 🛄 (Past Version Data).
- The "Properties" screen of an object with its callout property displayed is open.

#### Editing in the properties screen

#### Window

Click the [Properties] button in the callout property.



#### Operating procedure

Enter property information, and click the [Save] button.

#### Point P

- The contents of "Name," "Model Name," "Outline," "Author," and "Remark" can be edited.
- An image file can be added to "Image." ( 🖙 Page 31 Image registration)

#### Restriction ("

Property information cannot be edited in the following cases:

- A read-only attribute folder is selected.
- A deleted object is selected.
- An object is selected when its overlay icon is 🚺 (Conflict), 🗙 (Delete Reservation), or 🛄 (Past Version Data).

#### Image registration

An image can be registered in the property information of a folder and object. The registered image is displayed in the callout property and in "Image" in the "Properties" screen.

#### Operating procedure

Click the [+] button at the bottom right of "Image" to select an image file.

#### File types and sizes which can be registered in "Image"

An image file (.bmp, .jpg, .jpeg, .gif, .tif, .tiff, .png, etc.) can be registered in "Image." A size which can be registered is less than 5 MB per image file.

# 4.3 Object Search

This section shows the details on quickly searching for folders and objects registered in iQ AppPortal by using the smart filter area, free search box (folder/object), or classification area.

- In the smart filter area, folders and objects can be refined under "Type," "Register Date," or "Date Modified."
- In the free search box (folder/object), folders and objects can be searched for by entering a keyword included in their property information.
- In the classification area, folders and objects with classifications added can be searched for.

Found folders and objects are displayed in the object list area.

#### Point P

A condition specified for a search is retained even after ending iQ AppPortal. When starting it next time, the object list area will be displayed with a condition specified for the previous search retained.

### Refining under the smart filter

In the smart filter area, folders and objects can be refined by specifying an item under "Type" or a period under "Register Date" or "Date Modified."



The display in the smart filter area is updated by clicking the [Get the Latest Data] button in the application tree area.



#### Operating procedure

- · Select the checkbox of the type of an object under "Type."
- · Specify a period under "Register Date" or "Date Modified."

#### Objects that can be refined by the type

The following shows the objects that can be refined by the type.

■Workspace file
MELSOFT Navigator
■Project file
• GX Works3
• GX Works2
GX Developer
MT Developer2
• GT Designer3
• RT ToolBox3
RT ToolBox2
Simple Motion Module Setting
CW Configurator
MR Configurator2
FR Configurator2

### Searching by a keyword

Folders and objects can be searched for by entering a keyword included in their property information in the free search box (folder/object).

5	MELSOFT iQ AppPortal			× □ - ×
	A Date Modified: 2019/08/23	A社様向けプロジェクト Date Modified: 2018/01/17	B Date Modified: 2019/08/23	GX Works3 Sample Data Date Modified: 2020/03/12
	GX Works3 Sample Data Date Modified: 2019/09/13	GX Works3 Sample Data Date Modified: 2019/09/13	GX Works3 Sample Data Date Modified: 2019/09/13	GX Works3 Sample Data Date Modified: 2020/03/02

For searching by a keyword, characters are case-sensitive.

When entering multiple keywords delimited by spaces, objects including the keywords can be searched for.

#### Operating procedure

Enter a keyword in the free search box (folder/object).
# Searching by a classification

In the classification area, folders and objects with classifications added can be searched for.



### Operating procedure

- 1. Select "AND" or "OR" in "Search Method" in the classification area.
- 2. Select the checkbox of a classification for a search.

# Point P

For searching for folders and objects in the classification area, the following operations must be performed in advance:

- Create a colored and named classification in the "Classification Edit" screen. (SP Page 37 Classification edit)
- Assign a classification type to a classification in the "Classification Edit" screen. (SP Page 37 Assigning a classification type)
- Add a classification to a folder and object. ( 🖙 Page 40 Classification addition)

### **Classification search**

Classifications can be searched for by entering a keyword in the free search box (classification).



For searching by a keyword, characters are case-sensitive. When entering multiple keywords delimited by spaces, classifications including the keywords can be searched for.

### Operating procedure

Enter a keyword in the free search box (classification).

### Search condition clearing

All search conditions for classifications can be cleared by clicking the 🌆 icon in the classification area.

### **Classification edit**

A classification can be edited (added/changed/deleted) in the "Classification Edit" screen. In addition, a classification type can be assigned to a classification.

Up to 5000 classifications can be created.

### Window

#### Click the 📝 icon in the classification area.



×.

### Operating procedure

#### Adding a classification

- 1. Click the [New] button.
- 2. Enter a classification name.

### Changing a classification name

- **1.** Perform either of the following operations:
- Double-click a classification name.
- · Select a classification to change its name, and click the [Rename] button.
- 2. Enter a classification name.

### Changing a classification color

- 1. Select a classification to change its color.
- 2. Select a color from the pull-down list of **I**.

### ■Assigning a classification type

Select a classification type to assign from the pull-down list in the "Classification Type" column.

For the setting method of a classification type, refer to the following:

Page 38 Classification type setting

#### Setting the display position for each classification

In the "Classification Display Position Setting" screen, set the display position for each classification in the object list area and application tree area.

For details, refer to the following:

Page 39 Display position setting for each classification

### ■Deleting a classification

- 1. Select a classification to delete.
- 2. Click the [Delete] button.

### **Classification type setting**

A classification type can be set in the "Classification Type Setting" screen.

The set classification type can be assigned to a classification. ( Page 37 Assigning a classification type) Up to four classification types can be set.

#### Window

Click the [Classification Type Setting] button in the "Classification Edit" screen.

Classific	ation Type Setting	x
No.	Name	
1	Customer	
2	Equipment	
3	Function	
4	Project	
	OK Cancel	

### Operating procedure

1. Enter a classification type name.

**2.** Click the [OK] button.

The set classification type is applied to the "Classification Type" column in the "Classification Edit" screen.

Point *P* 

In the "Properties" screen, classifications are displayed in numerical order (No.1 to No.4) of the classification types in the "Classification Type Setting" screen.

(Example) For the following combinations:

- Classification type No.1: Customer, Classification: Company A
- Classification type No.2: Equipment, Classification: Equipment B
- Classification type No.3: Function, Classification: Function C
- · Classification type No.4: Project, Classification: Project D



## Display position setting for each classification

The display position for each classification in the object list area, application tree area, and revision graph can be set in the "Classification Display Position Setting" screen.

Set the display position of a classification for each classification type.

#### Window

Click the [Classification Display Position Setting] button in the "Classification Edit" screen.





### Operating procedure

- **1.** Set a classification type in the "Display Position Setting" field for each number displayed in the "Display Position Description" field.
- 2. Click the [OK] button.
- 3. Click the [OK] button in the "Classification Edit" screen.

Classifications are displayed in the set display positions.

## **Classification addition**

A selected classification can be added to a folder and object.



### Operating procedure

#### In the classification area

Select a classification, and drag and drop it onto a folder and object.

### In the "Classification Edit" screen

1. Select a folder and object, and select the [Home] tab ⇒ the [Classification] group ⇒ [Classification Edit].

The checkboxes of classifications are displayed in the "Classification Edit" screen.

2. Select the checkboxes of classifications, and click the [OK] button.

Point P

Up to 20 classifications can be added to one folder or object.

### Classification cancellation

An added classification can be canceled by unselecting the checkbox in the "Classification Edit" screen.

## Classification name display

The names of classifications added to folders and objects can be displayed when listing the folders and objects in the object list area.

### Window

Select the [File] tab ⇔ [Option] ⇔ "Object 1."

Option	I I I I I I I I I I I I I I I I I I I		
Basic Setting	Object Filtering		
Object ?	Display the deleted object(S)		
	✓ Display the read-only attribute folder( <u>R</u> )		
Register	The option at output		
Verify	Start the explorer at get the latest data(E)		
Restore Work Area	Classification Option		
	✓ Display the name of classification added to object. (At the time of list display)(0)		
	Callout Property Option		
	Enable Editing of Callout Property(V)		
	It is possible to edit the name, model name, outline, image, author, and remark.	ServoSolution1	Date Modified:
	The display item other than the name can be selected.	Company A	2022/11/15
	Display Item(D): Item Name	Function D	
	Cache Setting		
	Enable Cache(C)     Disable Cache(N)		
	If cache setting is enabled, the screen can be displayed faster. But if enabled, the displayed folder cannot be displayed in the latest state sometimes. The latest state can be displayed by selecting the folder which the latest state want to be confirmed. When refresh all the object cache, please execute "Cache Refresh".		
	OK Cancel		

# Operating procedure

Select the checkbox of "Display the name of classification added to object. (At the time of list display)," and click the [OK] button.

# **Releasing refinement**

The display in the object list area and classification area can be returned to the state before searching.

### Operating procedure

Select the [Home] tab ⇒ the [Display] group ⇒ [Release Refine].

# 4.4 Object Utilization

This section shows the details on editing an object registered in iQ AppPortal by acquiring the corresponding data from a server to a work area.

The edited object must be saved to the server after updating the display status in iQ AppPortal.

# Acquiring the latest data of an object in a work area

The latest data of an object to be edited (including objects in its lower layer) can be acquired from a server to a work area.



A work area can be set in the "Data Storage Destination/Work Area Setting" screen. (See Page 16 Data Storage Destination/Work Area Setting)

# Operating procedure

Click the [Get the Latest Data] button in the application tree area.

# Editing an object

An object acquired in a work area can be edited.

D	MELS	SOFT iQ AppPortal		MELSOFT GX Works3 (Untitled Project	ect) - [Module Configuration *]	
				Project Edit Find/Replace Conve	ert View Online Debug Diagnostics Tool Window Help	_ # ×
Fi	ile	Home		i 🗅 🗎 🗃 🥹 😐 💿 💽	26 10 15 🖝 🝽 🖼 🖼 🛤 🛤 🖉 🛤 🛤 🐘	₽#₽₽₽₽₽₩000+1;₽₽;
>	<b>ň</b> –	× Get the Latest Data	a Save Cancel	128 B B B M R 12 18	🔛 🐨 😏 松 🌮 💱 🕯 🐨 🔋 📼 🕅 🖕	
				<u>4</u> ¶ø/□○ <u>₽</u> ;		
	- 1		<u> </u>	Navigation # × 5]	[Local Label 💁 ProgPou [PRG] [LD] 2Step	Element Selection 9 ×
	$\odot$	ServoSoluti	ion1	Ne Protect		
	GX V	Vorks3 Sample Vol11_c	:art_r_a	Module Configuration		Direbu Torrett
	Data			🔳 🌄 Program	POW CPU 0 1 2 3 4	iQ-R Series
	Date	Modified:		🏥 Initial		Main Base
		2020/03/18 GX W	Vorks3 Sample Data			Extension Base
			/ol11_Cart_	🖬 🙍 ProgPou		RQ Extension Base
L	_			🔓 Local Label		Process CPU
- 6				ProgramBody	POW 0 1 2 3 4	R6RFM
		Save the Selected Object	nPortal Installatio	I Event		POU Fav Hist Mod Libr
	<b>Q</b>	Create Branch(B)		🚯 Standby		Input the Configuration Detailed Inf $\P$ ×
	Ð	Refresh(E)		Unregistered Program		
	÷1	Get the Latert Data(L)		😰 FB/FUN		
			OFT iQ AppPortal	n Gabel		No configuration detailed information
	₩2	venty(F)		🖬 🚱 Parameter		- found.
I.	_	Open the Place of Object(I)	<b>∨</b>	- Output	,,	
	(	Open From Program(G)			R08 Host	
	C'h	Copy(C)		•		
	В	Paste(P)				
	×	Delete Reservation(D)				
	5	Solve the Data Conflict(O)				
		Cancel the Change(V)				
	<b>7</b>	Classification Edit(M)				
	Θ,	History(H)				
	ł::	Revision Graph(A)				
	Loo	Revision Graph [Selected Folder](S)				
	6	Properties(R)				

### Operating procedure

To edit an object acquired in a work area, start a tool for editing in iQ AppPortal by either of the following operations:

- · Double-click an object.
- Right-click an object and select [Open From Program] from the shortcut menu.

#### Restriction ("

If the overlay icon is *(Conflict)* or + (Add), or no object is acquired, a tool for editing does not start. In addition, it does not start if not installed on the operating system.

### If a tool for editing does not start in iQ AppPortal

Edit an object by the following procedure:

- **1.** Open the place of an object by either of the following operations:
- Right-click an object and select [Open the Place of Object] from the shortcut menu.
- Click the root ([1]) in the data storage destination/work area setting area.
- 2. Start the tool for editing and edit the object.

# Saving an edited object again

An edited object must be saved to a server again.



## Operating procedure

**1.** Select the [Home] tab ⇔ the [Display] group ⇔ [Refresh]. (▷ Page 28 Updating the display status) The overlay icon changes to ✓ (Change). (▷ Page 29 Status display of an object)

2. Click the [Save] button. ( Page 26 Saving an object)

#### Restriction (")

- Even when changing a folder or file name in a work area, the corresponding folder or object saved to a server is not updated. The changed one is registered as a new folder or object.
- To re-register a folder and file duplicated outside a work area in iQ AppPortal, drag and drop a folder for each application onto iQ AppPortal.

For the folder configuration, refer to the following: (SP Page 85 Folder configuration in a work area)

# Solving an object conflict

When saving an object edited in a work area to a server, its overlay icon changes to *Solary* (Conflict) if the corresponding data in the server is updated by another user.

If the overlay icon is 🛃 (Conflict), the state must be solved.



(1) Solving the conflict by overwriting the data in the data storage destination with the object in the work area

(2) Solving the conflict by updating the object in the work area with the data in the data storage destination

### Operating procedure

# ■(1) Solving the conflict by overwriting the data in the data storage destination with the object in the work area

- 1. Select the [Home] tab ⇒ the [Work Area] group ⇒ [Solve the Data Conflict].
- 2. Select "Overwrite and register it with the object of work area."
- The data in the server (edited by another user) can be overwritten with the object in the work area (being edited).
- The overlay icon changes to (Change).
- 3. Acquire past data (edited by another user) from the history, and merge the changes in the data into the object.
- 4. Click the [Save] button. ( Page 26 Saving an object)

# ■(2) Solving the conflict by updating the object in the work area with the data in the data storage destination

Point P

An object being edited in a work area is updated with data edited by another user. Save data being edited outside the work area in advance.

- 1. Select the [Home] tab ⇒ the [Work Area] group ⇒ [Solve the Data Conflict].
- 2. Select "Update the work area in the object of the data storage destination (Discard the edit data of work area)."
- The object in the work area (being edited) is deleted, and the latest data (edited by another user) is acquired from the server in the work area.
- The overlay icon changes to 💟 (Normal).
- 3. Merge the changes in the object that was being edited into the object in the work area (data edited by another user).
- **4.** Click the [Save] button. ( Page 26 Saving an object)

# Canceling a change

A change in an object can be canceled unless the object is saved to a server.

- An object edited in a work area will be the latest data saved to a server.
- An object operated (moved/reserved for deletion) in iQ AppPortal returns to the state before the operation.
- The overlay icons such as 🛃 (Conflict), 🗙 (Delete Reservation), 💉 (Change), and 🕂 (Add) return to 📀 (Normal).



When a change is canceled, the change for the lower layer is also canceled.

### Operating procedure

Select the [Home] tab ⇒ the [Work Area] group ⇒ [Cancel the Change].

### Precautions

If data in a server is updated by another user before canceling a change, the updated data is acquired in a work area.

# Restoring a work area

If an error such as 'failed to restore work area' occurs while operating iQ AppPortal, a work area must be restored in "Restore Work Area."

Inconsistency between data in a server and an object in a work area can be solved by restoring the work area.



If the status is inconsistent between data in a server and an object in a work area

Data in the server is saved but the object in the work area is not saved in iQ AppPortal.

### Window

Select the [File] tab ⇔ [Option] ⇔ "Restore Work Area."



### Operating procedure

Click the [Restore Work Area] button.

# Increasing the display speed in the object list area

The display speed in the object list area can be increased by saving the status of an object to the cache (temporary file) and using it when updating the display to reduce the number of times of communication with a server.

### Window

Select the [File] tab  $\Rightarrow$  [Option]  $\Rightarrow$  "Object 1."

ption	
Basic Setting	Object Filtering
Object 1	✓ Display the deleted object(S)
Object 2	✓ Display the read-only attribute folder(R)
Register	
Varit	ine option at output
veniy	Start the explorer at get the latest data(E)
Restore Work Area	Classification Option
	Display the name of classification added to object. (At the time of list display)(Q)
	Callout Property Option
	□ Enable Editing of Callout Property(V)
	It is possible to edit the name, model name, outline, image, author, and remark.
	The display item other than the name can be selected.
	Display (tem(D):
	Date Medified
	Model Name
	✓ Outline
	✓ Feature
	Cache Setting
	Enable Cache(C)     Disable Cache(N)
	If cache setting is enabled, the screen can be displayed faster. But if enabled, the displayed
	folder cannot be displayed in the latest state sometimes. The latest state can be displayed by selecting the folder which the latest state want to be confirmed.
	When refresh all the object cache, please execute "Cache Refresh".
	Cache Refresh
	OK Cancel

### Operating procedure

Select "Enable Cache" under "Cache Setting," and click the [OK] button.

### Operation when caching is enabled

When caching is enabled, an overlay icon may not be updated. In this case, select the folder to update it. To update the overlay icons of all folders, click the [Cache Refresh] button.

# Setting the icon colors of objects

The icon color of an object other than one of MELSOFT products can be set for each extension. It is white if no color is set for an extension.

### Precautions

Colors are set by default for some extensions.

Only the colors can be changed from the default settings; the extension names cannot be changed and the settings themselves cannot be deleted.

### Window

Select the [File] tab ⇔ [Option] ⇔ "Object 2."



(1): Default settings

(2): Newly created settings

(3): If no color is set for the extension

# Operating procedure

### ■Creating a new setting

**1.** Click the [New] button.

A row is added in the list.

- **2.** Select a color from the pull-down list of **I**.
- 3. Enter an extension name in the "Extension" column, and click the [OK] button. (Up to 32 characters)

### ■Changing an extension name

- **1.** Perform either of the following operations:
- · Double-click an extension name.
- Select a setting to change its extension name, and click the [Change Extension] button.
- 2. Enter an extension name in the "Extension" column, and click the [OK] button. (Up to 32 characters)

## ■Changing a color

- **1.** Select a setting to change its color.
- 2. Select a color from the pull-down list of **.**.
- **3.** Click the [OK] button.

## ■Deleting a setting

- **1.** Select a setting to delete.
- **2.** Click the [Delete] button.
- **3.** Click the [OK] button.

### Restoring colors to their defaults

**1.** Click the [Restore the Default Settings] button. Only the icon colors set by default return to their defaults.

2. Click the [OK] button.

# 4.5 History Management

This section shows the details on managing data, a saved comment, and the property information when performing each operation (add/change/delete) for an object as histories in a server via iQ AppPortal.

## Precautions

An operation (add/change/delete) for an object is managed as a history but the following operations are not saved as histories:

- · Changing a property
- · Editing or adding a classification

When performing a same operation (add/delete) for an object, only the latest operation is saved as a history.

# Checking a change history of an object

The history list of an object and a comment entered when saving the object to a server can be checked in the "History" screen.

### Window

Select the [Home] tab  $\Rightarrow$  the [Display] group  $\Rightarrow$  [History].

File Home										
Copy		Solve the Data Conflict	Create Branch		Name		operties 📲	Verify between Objects	Import	
Paste		Cancel the Change	Revision Graph				tory	Nerify with the Latest Dat	a 🖳 Export	
X Delete Reservation	Get the Latest Data		Revision Graph [Selected Folder]	Classification Edit	z∳zI	Refresh Tile Di	isplay Release			Help
Edit		Work Area	Configuration Management	Classification	Sort	[	Display	Verify	Data Operati	ion
MELSOFT IQ A	ppPortal		- 0	$\times$	Histo					×
File Home				-					Close	e
>		X Curl Lu		>	Ple	ease select the revision whi	ich wants to check the h	istory from the history list.		
		Get the Late	st Data Save Cancel		The	e selected revision comme	ent and properties are di	splayed.		
-5P					The	e data can be verified afte	r specifying the two revi	sions.		
		Servi	oSolution1		Cu	irrent acquiring revision is	displayed with bold.			
ServoSolution	1		/ol11_cart_r_a		His	story List				
2023	1: 3/10/10	4				Revision Acti	ion Date	Comment		<b>A</b>
						2 10 Char	nge 2023/10/	0 11:02:20 GX WORKS P	roject	- <sup></sup>
			GX Works3 Sample Data			9 Add	2023/10/	10 10:58:05 New		
			Vorri_Cart_PEC							
					_					
					_					~
ServoSolution	1-2	pdf	bcn-b62005-721 a							
Date Modified	:					Verify between Revisions	(Source: 11 Destin	ation: 10) Acquire t	he selected data	
2023	10/10			- 11 -	Co	omment				
			Leaflet		G	X Works3 Project				^
		pdt	103106a		_					
			-		_					
		~			_					
					_					
										~
					<					>
						Name	e GX Works3 Sample E	lata		Â
						Date Modified	d 2016/03/26 10:03:41			
						Model Name	e Vol11_Cart_PLC			
						Outline	<ul> <li>Application program</li> </ul>	example for Automated Guided V	/ehicle.	
							PLC CPU:R04CPU,Sin	ple Motion module:RD77MS4		
						Featur	e R04		Detailed Display	
							GX Works3		Detailed Display	
							Program:1	×	Detailed Display	
							FB/FUN:3		Detailed Display	
							Title	× ×	Detailed Display	
							Comment	·	Detailed Display	=
						imagi	e			
						Autho		CORPORATION		
						Register Date	e 2016/03/26 11:10:15			
						Date Creater	2015/03/17 19:11:24			
						File Size	e 1254.023 Pute			
						File New	2 Val11 C DI C			
						File Name	vol11_Cart_PLC.gx3		_	
						Remar	K Contraction of the second se			$\sim$

Details when editing an object are displayed in "Revision," "Action" (add/change/delete), and "Date" under "History List."

# Acquiring past data of an object from the history

Past data of an object can be acquired from "History List."

listory	r				×		
Close Please select the revision which wants to check the history from the history list. The selected revision comment and properties are displayed. The corresponding data can be excitted from "Acquire the selected data" button. The data can be verified after specifying the two revisions. Current acquiring revision is displayed with bold.							
	Revision	Action	Date	Comment			
з	73	Change	2023/10/10 10:45:18	GX Works3 Project	^		
2	72	Change	2023/10/10 10:38:56	Change			
1	71	Add	2023/10/10 10:38:09	New			
,	/erify between Revi	sions (Source:	73 Destination: -)	Acquire the selec	v ted data		
Com	ment						
GX '	Works3 Project				~		
<					>		

### Operating procedure

- 1. Select a history from "History List" in the "History" screen.
- 2. Click the [Acquire the selected data] button.
- **3.** Specify an output destination for the selected past data of the object.

### Restriction (")

To prevent data from being overwritten, a folder different from one in a work area must be specified as the output destination for past data of an object.

### Precautions

The history of acquired past data of an object is not retained. It is treated in the same way as new registration when reregistering it after editing.

# Browsing/acquiring a deleted object

Data of a deleted object can be acquired in the history screen after displaying the deleted object.

## Deleted object display

A deleted folder and object can be displayed by setting an option.

#### Window

Select the [File] tab  $\Rightarrow$  [Option]  $\Rightarrow$  "Object 1."





### Operating procedure

Select the checkbox of "Display the deleted object" under "Object Filtering," and click the [OK] button.

## Deleted object acquisition

Past data of an object can be acquired in the "History" screen of the deleted object.



### Operating procedure

- **1.** Select a deleted object, and select [History] in the [Home] tab ⇒ the [Display] group.
- 2. Select a history under "History List" in the "History" screen, and click the [Acquire the selected data] button.
- 3. Specify an output destination for the selected past data of the object.

### Precautions

The history of acquired past data of an object is not retained. It is treated in the same way as new registration when reregistering it after editing.

# 4.6 Branch Management

This section shows the details on branches created when utilizing folders saved to a server.

A folder duplicated by creating a branch can be customized independently from its source folder.

The relationship between a duplicated branch and its source folder is displayed in a tree structure in the revision graph. This enables visual management.

# Creating a branch

To create a branch from the latest folder, select a folder on iQ AppPortal.



### Operating procedure

- **1.** Select the [Home] tab ⇒ the [Configuration Management] group ⇒ [Create Branch].
- 2. Click the [Save] button. ( See Page 26 Saving an object)

# Displaying a revision graph

A revision graph is a graph for displaying revisions of folders related to a selected folder in a tree structure.

Only revisions of a selected folder can also be displayed.

A revision graph can be displayed in the following screens:

- "Revision Graph" screen: Revisions of folders related to a selected folder are displayed.
- "Revision Graph [Selected Folder]" screen: Only revisions of a selected folder are displayed.

In addition to the revision graph, the history list and revision details are also displayed in these screens. (SP Page 63 Revision refinement)



The selected folder is displayed in bold. A deleted folder is displayed in gray.

# Operating procedure

- **1.** Select a folder in the object list area or application tree area.
- 2. Select the [Home] tab ⇒ the [Configuration Management] group ⇒ [Revision Graph] or [Revision Graph [Selected Folder]].

# Point P

By classifying folders for each purpose, they can easily be found when displaying the revision graph.



### Tree structure display switching

The display of a tree structure can be switched by clicking  $\mathbb{H}$  (display upper and lower folders only) or  $\mathbb{H}$  (display all folders) to the right of "Switch Display."

This operation is available in the "Revision Graph" screen only.

### ■When displaying only upper and lower folders of a selected folder in a tree

(Display upper and lower folders only)





A branch source folder is an upper one, and a folder duplicated from a selected folder is a lower one.



[]] Range of upper and lower folders

# When displaying all folders related to a selected folder in a tree

🔚 (Display all folders)

Revision Graph							- C	ı ×
Switch Display: 📴 📴 Layer: 📴 📴	Verify betwe	een Revisions	Display Ob	jects in Folder	r Displa	/ Revision Deta	ails Crea	te Branch
Revisio	87 2021/09/07	88 2021/09/07	91	94	95	97	99	100 <
ServoSolution2 vol11_cart_r_a						2021/09/07		
ServoSolution2-2 vol11_cart_r_a								2021/09,
ServoSolution2-1 vol11_cart_r_a							2021/09/07	_
ServoSolution1-2 vol11_cart_r_a				2021/09/07				-
vol11_cart_r_a			2021/09/07					
ServoSolution1-1-1 vol11_cart_r_a					2021/09/07			
	<			111				>

## Layer display switching

The display of a selected folder can be switched for each layer by clicking 📴 (Open All Layers) or 📴 (Close All Layers) to the right of "Layer."

In addition, lower folders of a selected folder can be expanded and collapsed by clicking 🕨 (expand the layer) at the bottom left of the folder.

These operations are available in the "Revision Graph" screen only.

### ■When opening all layers

(Open All Layers)

Revision Graph							— E	
Switch Display: 📴 🔚 Layer: 📴 🖼	Verify betw	een Revisions	Display Ob	jects in Folde	r Display	r Revision Det	ails Crea	te Branch
Revision No.	87	88	91	94	95	97	99	100 <
ServoSolution1 vol11_cart_r_a	2021/09/07	2021/09/07						_
vol11_cart_r_a			•••••			2021/09/07		_
vol11_cart_r_a								2021/09,
ServoSolution2-1 vol11_cart_r_a							2021/09/07	_
servoSolution1-2 vol11_cart_r_a				2021/09/07				
vol11_cart_r_a			2021/09/07					
ServoSolution1-1-1 vol11_cart_r_a					2021/09/07			
K III						>		

### ■When closing all layers

(Close All Layers)

Revision Graph							-	⊐ ×
Switch Display: 📴 📴 Layer: 🖳	Verify betw	een Revisions	Display Ob	ojects in Folde	r Display	/ Revision Det	tails Cre	ate Branch
Revision No.	$\bigcirc$	88	91	94	95	97	99	100 <
ServoSolution1	2021/09/07	2021/09/07						
vol11_cart_r_a								
	4							

### **When expanding and collapsing lower folders of a selected folder**

(Expand the layer)



### Display of objects in a selected folder

Objects in a selected folder can be displayed in the application tree area. This operation is available in the "Revision Graph" screen only.



# Operating procedure

Click the [Display Objects in Folder] button.

### Revision details display

A comment when saving or the list of changed objects of a selected folder can be displayed.



### Operating procedure

Click the [Display Revision Details] button.

### **Branch creation**

A duplicate of a selected folder can be created.



# Operating procedure

- **1.** Click the [Create Branch] button.
- **2.** Enter a folder name.
- 3. Click the [Save] button. ( Page 26 Saving an object)

## **Revision refinement**

Revisions displayed under "History List" can be refined by entering a keyword in the free search box.

Information entered when saving a changed object to a server is displayed in "Comment" under "History List." This enables quick search of a target revision.

In addition, only objects changed in a selected revision are displayed in "Change Object List." This enables a target object to easily be found.



### Operating procedure

Enter a keyword in the free search box.

### **Displayed items**

No.	Item	Description
(1)	[<]/[>] button	Click either of these to display or hide "History List" and "Revision Details."
(2)	Free search box	Revisions can be refined according to the contents in "Date," "Folder Name," and "Comment" by entering a keyword. Characters are case-sensitive. When entering multiple keywords delimited by spaces, revisions including the keywords can be refined.
(3)	[Save History List] button	Click this to output the content displayed under "History List" to a file in CSV format.
(4)	Display Change Object List	Unselect the checkbox to hide the change object list.
(5)	Change Object List	Only changed objects are displayed. They are displayed in order from read ones. Double-click a displayed object to open. When opening and editing it, save it with a name.

# 4.7 Verification

This section shows the details on verifying an object to check changes in the object.

## Target objects

The following table shows the objects to be verified.

For verification, a tool supporting a target object must be installed.

Object	ΤοοΙ
GX Works3 project file	GX Works3 <sup>*1</sup>
GX Works2 project file	GX Works2*1
GT Designer3 (GOT2000) project file	GT Designer3 <sup>*1</sup>
Objects other than those of MELSOFT products	A set external tool. For the setting method, refer to the following: I Page 87 Setting an external tool used for verification

\*1 For the supported versions, refer to the following:

Page 86 Versions of MELSOFT products used for verification

# Verifying two objects

Two objects, which are selected in the object list area, application tree area, "History" screen, "Revision Graph" screen, "Revision Graph [Selected Folder]" screen, and "Revision Verification Result" screen, can be verified.



# Operating procedure

- 1. Select an object or revision in any of the following:
- Object list area
- Application tree area
- "History" screen
- "Revision Graph" screen
- "Revision Graph [Selected Folder]" screen
- "Revision Verification Result" screen
- **2.** Right-click the selected one, and select [Select as Verify Source] or [Select as Verify Destination] from the shortcut menu.<sup>\*1</sup>

The "Verify between Objects" screen appears, and the corresponding object is displayed in "Verify Source" or "Verify Destination."

**3.** Repeat steps 1 and 2 to set objects for "Verify Source" and "Verify Destination" in the "Verify between Objects" screen.

### 4. Click the [Verify] button.

The verification result is displayed in a tool supporting the object.

\*1 When selecting a changed object in the "Revision Verification Result" screen, specify the revision number of a verification source or verification destination.

Point P

To display the "Verify between Objects" screen before selecting an object or a revision, select the following menu:

• [Home] tab ⇔ [Verify] group ⇔ [Verify between Objects]

# Verifying with the latest data

Data in a work area can be verified with the latest data in a server.

Point *P* 

Note that all items may be determined to match in a verification result in the following cases:

- Only information not to be verified is changed in an object (example: comments of a GX Works3 project, etc.).
- A project is overwritten without being edited.

For information on verification targets of GX Works3, GX Works2, and GT Designer3 project files, refer to the manual for each tool.



### Operating procedure

1. Select an object in the application tree area.

2. Select the [Home] tab ⇔ the [Verify] group ⇔ [Verify with the Latest Data].

The verification result is displayed in a tool supporting the object.

# Verifying two revisions in the history list

Two revisions can be verified under "History List."

P	oint	8

Changes between revisions more detailed than the comment can be checked.



### Operating procedure

Select an object in the application tree area, and display its history. (F Page 52 History Management)

- **1.** Click the revision (1) for a verification source.
- 2. Click the revision (2) for a verification destination with the two held down.
- **3.** Click the [Verify between Revisions] button.

The verification result is displayed in a tool supporting the object.

# Verifying an object in two revisions in the revision graph

An object between revisions can be verified in the "Revision Graph" and "Revision Graph [Selected Folder]" screens.



Changes in a folder duplicated by creating a branch and those in an object changed between revisions can be checked.



# Operating procedure

Select a folder in the object list area, and display its revision graph. (IP Page 58 Displaying a revision graph)

- **1.** Click the revision (1) for a verification source.
- 2. Click the revision (2) for a verification destination with the *term* key held down.
- **3.** Click the [Verify between Revisions] button.

The revision verification result is displayed.

Item	Description
Verify Source	The folder information of a verification source is displayed.
Verify Destination	The folder information of a verification destination is displayed.
Change Object List	Changed, added, or deleted objects are listed. They are displayed in order from read ones.

4. Double-click a changed object in "Change Object List."

The verification result is displayed in a tool supporting the object.

# 4.8 Import and Export of Objects

This section shows the details on importing or exporting multiple folders and objects to register or output them in a batch. These operations enable efficient work when handling multiple folders, such as for the operation start of iQ AppPortal or server migration.

# Importing objects

Multiple folders and objects can be registered in iQ AppPortal and saved to a server in a batch. There are two selectable methods for registering folders. For details, refer to the following:

### Window

#### Select the [Home] tab ⇒ the [Data Operation] group ⇒ [Import].

# Operating procedure

- Specify the path to a folder to register by either of the following operations: Click the [Browse] button to specify a folder, or enter the path directly under "Path."<sup>\*1</sup>
- 2. Click the [Read] button.
- 3. Select the checkbox of a folder to register.
- 4. Click the [Import] button.
- \*1 Specify a folder in the one-level upper layer.



By right-clicking a folder or object in the import list and selecting [Open the Place of Object] from the shortcut menu, the corresponding folder opens in Windows Explorer.

### Folder configuration that cannot be imported

An error occurs and a folder does not appear under "Import List" in the following cases:

#### ■If the layer structure is incorrect

If the layer structure of an object in a folder is incorrect, an error occurs.

For the layer structure of an object, refer to the following:

Page 78 Object configuration rules

#### ■If an object with the same name exists

According to the object configuration rules, all objects other than those of MELSOFT products are placed as other files in the second layer immediately under a folder.

As a result, if another object with the same name already exists in the second layer, an error occurs.

For the object configuration rules, refer to the following:

Page 78 Object configuration rules

#### ■If a folder cannot be accessed

If a user does not have the access right to a folder, an error occurs.

#### Precautions

Neither object nor property can be saved to a server from another client during import.
# **Exporting objects**

Data saved to a server can be output to a folder in a batch.

#### Window

Select the [Home] tab ⇒ the [Data Operation] group ⇒ [Export].



### Operating procedure

- Specify the path to a folder to output by either of the following operations: Click the [Browse] button to specify a folder, or enter the path directly under "Path."
- 2. Select the checkbox of a folder to output under "Export List."
- 3. When exporting a MELSOFT iQ AppPortal information file (.iqap), select the checkbox of "Export the information file."

By exporting a MELSOFT iQ AppPortal information file (.iqap), the property information can be retained when saving the folder to another server.

**4.** Click the [Export] button.

### Point P

If objects displayed in the object list area are refined by a keyword, the smart filter, or classification, the condition is applied to "Export List."

To change the condition, close the "Export" screen once, change the condition, and then open the "Export" screen again.

### Precautions

The following types of folders do not appear under "Export List."

- · Read-only attribute folder
- · Folder with the object status of Add
- · Folder added by another client after opening the "Export" screen

# APPENDIX

# Appendix 1 Additions and Changes from Previous Version

This section shows the additions and changes with upgrade.

### Version 1.01B

Item	Description	Reference
_	The folder configuration in a work area is changed.	Page 89 Update from iQ AppPortal Version 1.00A

Version 1.04E		
Item	Description	Reference
Creating a branch	Branches can be created based on information on a folder saved to a server.	Page 57 Branch Management
Revision graph	A branch source folder and a folder duplicated by creating a branch can be displayed in a tree structure.	
Linking with tools	Tools for editing can be started in iQ AppPortal.	Page 43 Editing an object
_	When changing a folder name in iQ AppPortal, the corresponding one in a work area is also changed.	Page 85 Folder configuration in a work area

Version 1.07H			
Item	Description	Reference	
Classification	Up to 100 classifications can be created.	Page 35 Searching by a classification	
	"AND" or "OR" can be selected for searching by classifications.		
Import and export	Folders can be imported or exported in a batch.	Page 69 Import and Export of Objects	
RT ToolBox3	Workspaces created in RT ToolBox3 can be registered and managed.	-	
Registering and saving objects	<ul> <li>Up to 200 objects can be registered in one folder.</li> <li>Up to 10,000 folders and objects can be saved to a server in total.</li> </ul>	Page 23 Object Registration/Save/Deletion	
Display speed	The display speed in the object list area is increased by enabling caching.	Page 49 Increasing the display speed in the object list area	

Version 1.11M		
Item	Description	Reference
Operating system	Windows 10 IoT Enterprise 2016 LTSB and Windows Server <sup>®</sup> 2016 (Standard and Essentials) are supported.	LiQ AppPortal Installation Instructions
Data storage destination	Up to 100 data storage destinations can be created in one server.	Page 16 Data Storage Destination/Work Area Setting
Repository	A repository is displayed in the data storage destination/work area setting area.	Page 20 Screen Configuration
Comment	Up to 2,000 characters can be entered in a comment.	Page 26 Saving an object
Retaining search conditions	The object list area can be displayed with a condition specified for a search retained even when restarting iQ AppPortal.	Page 32 Object Search
Revision graph	Folders can be expanded and collapsed for each layer in the revision graph.	Page 61 Layer display switching

Version 1.14Q		
Item	Description	Reference
Revision graph	The history list and revision details can be displayed in the "Revision Graph" screen.	Page 63 Revision refinement

### Version 1.17T

Item	Description	Reference
Verification	Changes in an object can be checked by verifying the object.	Page 64 Verification
Hiding read-only attribute folders	Read-only attribute folders can be hidden.	Page 84 Hiding read-only attribute folders

### Version 1.20W

Item	Description	Reference
Revision graph	<ul> <li>The display speed in the change object list is increased in the "Revision Graph" screen.</li> <li>Revisions for a verification source and destination are displayed in different background colors in the "Revision Graph" screen.</li> </ul>	Page 57 Branch Management Page 64 Verification

### Version 1.23Z

Item	Description	Reference
GX Developer	Projects created in GX Developer can be registered and managed.	-
Folder format object	Folders can be registered and managed as folder format objects.	Page 79 Folder format object
Verification	Objects other than those of MELSOFT products can be verified by using an external tool.	Page 64 Verification Page 87 Setting an external tool used for verification

### Version 1.26C

Item	Description	Reference
Server specifications	<ul> <li>The version of VisualSVN Server is updated from 3.4.2 to 4.3.3.</li> <li>The connection method for VisualSVN Server is changed from HTTP to HTTPS.</li> </ul>	Page 75 Server specifications for using iQ AppPortal
Verification	Any two objects can be verified.	Page 22 Menu List Page 64 Verifying two objects
Search	The following operations can be performed when refining objects: <ul> <li>Registering a new object</li> <li>Registering an additional object</li> <li>Moving an object</li> <li>Importing an object</li> <li>Creating a branch</li> </ul>	_

Version 1.29F			
Item	Description	Reference	
Operating system	The following operating systems are supported: • Windows 11 • Windows Server 2022 • Windows Server 2019	LiQ AppPortal Installation Instructions	
Server specifications	The version of VisualSVN Server is updated from 4.3.3 to 4.3.7.	Page 76 Version 1.26C or later	
Object list area	Objects can also be listed.	Page 20 Screen Configuration Page 22 Menu List	
Application tree area	Folder and object names are displayed in up to two lines.	-	
Revision graph	<ul> <li>Folder names are displayed in up to two lines.</li> <li>The width of the "Revision No." column can be adjusted.</li> <li>The width of the change object list can be adjusted by using the separator.</li> </ul>		
Revision details display Revision verification result	<ul> <li>Folder names are displayed in up to two lines.</li> <li>The width of the change object list can be adjusted by using the separator.</li> </ul>		

### Version 1.32J

Item	Description	Reference
Operating system	The following operating systems are no longer supported: • Windows 8 • Windows 7 • Windows Server 2008 R2	LaiQ AppPortal Installation Instructions
Server specifications	The version of VisualSVN Server is updated from 4.3.7 to 5.0.3.	Page 76 Version 1.26C or later
Editing property information	Property information can be edited in the callout property.	Page 18 Callout property option Page 30 Editing in the callout property
Revision graph [selected folder]	Only revisions of a folder selected in the object list area or application tree area can be displayed.	Page 58 Displaying a revision graph

Version 1.38Q		
Item	Description	Reference
Operating system	The following operating systems are no longer supported: • Windows 8.1 • Windows Server 2012 R2	LiQ AppPortal Installation Instructions
Classification	The names of classifications added to folders and objects can be displayed in the object list area.	Page 18 Classification option Page 41 Classification name display
	Up to 5000 classifications can be created.	Page 37 Adding a classification
	Classification types can be set.	Page 38 Classification type setting
	The display positions of classifications can be set.	Page 39 Display position setting for each classification
Object icon display setting	The icon color of an object other than one of MELSOFT products can be set for each extension.	Page 19 Object icon display setting Page 50 Setting the icon colors of objects
Object list area	The display order of folders and objects is retained even after ending iQ AppPortal.	-

# Appendix 2 Specifications of iQ AppPortal

This section shows the specifications and restrictions of iQ AppPortal.

## Server specifications for using iQ AppPortal

The following shows the specifications of servers used for iQ AppPortal.

### Version 1.23Z or earlier

Connection method	Port number used <sup>*1</sup>	Others	
HTTP	TCP: 61687	Root directory	
		Repository name	
		iQAP	
		■Service name <sup>*2</sup>	
		VisualSVN Server	
HTTP	TCP: 61689	■Service name <sup>*2</sup>	
		<ul> <li>postgresql-9.4 (32-bit version)</li> </ul>	
		<ul> <li>postgresql-x64-9.4 (64-bit version)</li> </ul>	
HTTP	TCP: 61688	■Service name <sup>*2</sup>	
		MELSOFT iQ AppPortal Service	
	Connection method HTTP HTTP HTTP	Connection method         Port number used*1           HTTP         TCP: 61687           HTTP         TCP: 61689           HTTP         TCP: 61689	

\*1 When installing iQ AppPortal in an environment where each product is already installed, the set port number is used.

\*2 Runs as a service.

Point P

Use VisualSVN Server Manager to change the port number of VisualSVN Server.

Version 1.26C or later			
Туре	Connection method	Port number used <sup>*1</sup>	Others
VisualSVN Server <sup>*2</sup>	HTTPS	TCP: 61687	<ul> <li>Root directory</li> <li>C:\Repositories\</li> <li>Repository name</li> <li>iQAP</li> <li>License type</li> <li>Community (free)*3*4</li> <li>Authentication mode</li> <li>Subversion authentication*3</li> <li>TLS/SSL compatibility level</li> <li>Intermediate*1</li> <li>Service name*5</li> <li>VisualSVN HTTP Service</li> </ul>
PostgreSQL 9.4.6	НТТР	TCP: 61689	<ul> <li>Service name<sup>*5</sup></li> <li>postgresql-9.4 (32-bit version)</li> <li>postgresql-x64-9.4 (64-bit version)</li> </ul>
iQ AppPortal	HTTP	TCP: 61688	■Service name <sup>*5</sup> MELSOFT iQ AppPortal Service

\*1 When installing iQ AppPortal in an environment where each product is already installed, the set port number is used.

\*2 Versions of VisualSVN Server used for each version of iQ AppPortal are as follows:

· iQ AppPortal Version 1.26C: VisualSVN Server 4.3.3

- · iQ AppPortal Version 1.29F: VisualSVN Server 4.3.7
- · iQ AppPortal Version 1.32J or later: VisualSVN Server 5.0.3
- \*3 If VisualSVN Server is not installed or VisualSVN Server (evaluation) is installed before installing iQ AppPortal, the license type and authentication mode of VisualSVN Server are set as follows:
  - · License type: Community (free)
  - $\cdot$  Authentication mode: Subversion authentication
- \*4 When using a paid edition, iQ AppPortal can be used if the other specifications match.
- \*5 Runs as a service.

## Point P

Use VisualSVN Server Manager to change the setting such as the port number or certificate for VisualSVN Server.

### Restrictions

If VisualSVN Server is already installed before installing iQ AppPortal, specify the port number set for VisualSVN Server for "Port No." in the "Data Storage Destination/Work Area Setting" screen.

## Unusable character strings for iQ AppPortal

The following tables show the character strings that cannot be used for iQ AppPortal.

### Precautions

The character strings are not case-sensitive.

A blank character (space) cannot be used before or after a character string; it is deleted.

### Unusable character strings for a drive/path name

Category	Character string
Invalid character (symbol)	/, *, ?, ", <, >,  , ,, ;, and a period at the end of a name
Reserved device name	CON, AUX, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9, PRN, NUL, CLOCK\$
Reserved word for MELSOFT Navigator	\$_CPRJ_\$

### Unusable character strings for a folder name

Category	Character string
Invalid character (symbol) <sup>*1</sup>	/, :, *, ?, ", <, >,  , ', %, ,, &, =, and a period at the end of a name
Reserved device name	CON, AUX, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9, PRN, NUL, CLOCK\$
Reserved word for MELSOFT Navigator	\$_CPRJ_\$
File name restriction by an operating system	Character codes 0x00 to 0x1f

\*1 If used, iQ AppPortal may not run properly.

# **Object configuration rules**

When newly adding or updating a folder or object, the configuration of the object is displayed in the application tree area according to the following relationships:

- Multiple objects can be placed in the same layer if their types are the same.
- An object cannot be placed in the lower layer of a target object if its type is the same as the target one.
- · All objects other than those of MELSOFT products are placed in the second layer immediately under a folder.

### Layer placement relationship of objects

 $\bigcirc$ : Placeable,  $\times$ : Not placeable

Target	Layer			
	1st layer	2nd layer	3rd layer	4th layer
Folder	0	×	×	×
Workspace file	×	0	×	×
Project file	×	0	0	×
Other objects	×	0	0	0

### Parent-child relationship of objects

○: Placeable, ×: Not placeable

Upper layer	Lower layer			
	Folder	Workspace file	Project file	Other objects
Folder	×	0	0	0
Workspace file	×	×	0	0
Project file	×	×	×	0
Other objects	×	×	×	×

## Folder format object

A folder format object is one of objects managed in iQ AppPortal. Files other than those of MELSOFT products can be managed in a folder as one object.

### Setting method of a folder format object

The following explains the method for registering a folder as a folder format object in iQ AppPortal. To unify methods for registering a folder when multiple clients use one server, select the same item in the following setting among the clients.

### Window

Select the [File] tab ⇔ [Option] ⇔ "Register."

Option	x
Basic Setting	Folder Format Object Setting
Object 1	
Object 2	Maintain Folder Configuration and Register it as Folder Format Object(F)     Evpand Folder and Register for Fach File (Default)(0)
Register	
Verify	This setting will be applied when registering to MELSOFT Q AppPortal. The registered object is not affected by this setting.
Restore Work Area	The registered folder format object can be edited like the previous ones. However, the files of MELSOFT product will be registered in object unit without applying this operation.
	Please refer to the manual for the registration image of folder format object.
	Display Manuals
	OK Cancel

### Displayed items

Item		Description
(1)	Maintain Folder Configuration and Register it as Folder Format Object	A folder is registered as a folder format object. It is registered as one object with the configuration maintained.
(2)	Expand Folder and Register for Each File (Default)	A folder is expanded and each object is registered.
_		

### Operating procedure

For registering a folder as a folder format object, select (1) and click the [OK] button.

### **Registration image**

The following shows images when registering a folder.

- (1): When selecting "Maintain Folder Configuration and Register it as Folder Format Object"
- (2): When selecting "Expand Folder and Register for Each File"

### When registering only an object other than one of MELSOFT products



### When registering a folder that contains a project file of MELSOFT products



### Number of objects that can be registered in one folder format object

Up to 200 objects can be registered in one folder format object.

Data included or not in this number is as follows:

- Object and MELSOFT iQ AppPortal information file (.iqap): Included.
- Folder: Not included.

### Precautions

The following table shows the considerations for operating and displaying a folder format object.

Operation and display	Consideration
Registration (≌ Page 23 Registering an object)	<ul> <li>If there is any read-only attribute folder, hidden folder, or hidden file in a folder registered as a folder format object, it is registered as a normal folder or object.</li> <li>In addition, if there is any workspace file or project file of MELSOFT products in a folder registered as a folder format object, it is expanded and registered in the same layer as the folder format object.</li> </ul>
Status display of an object ( I Page 29 Status display of an object)	The status is displayed for each folder format object, not for each object in a folder format object. (Example: When adding an object to a folder format object, the object status of the folder format object changes to 'change.')
Edit (⊯ Page 43 Editing an object)	<ul> <li>When performing either of the following operations for a folder format object, the corresponding folder opens in Windows Explorer.</li> <li>Double-click an object.</li> <li>Right-click an object and select [Open From Program] from the shortcut menu.</li> </ul>
Import (≌ Page 69 Importing objects)	If there is any workspace file or project file of MELSOFT products in a folder format object to be imported, it is expanded in the same layer as the folder format object, registered in iQ AppPortal, and saved to a server. It is displayed in each screen for import as follows: • Import list in the "Import" screen: Data in the folder format object is not displayed. If there is any workspace file or project file of MELSOFT products in the folder format object, it is expanded and displayed in the same layer as the folder format object. • Windows Explorer opened by right-clicking the folder format object in the import list in the "Import" screen and selecting [Open the Place of Object] from the shortcut menu: Data in the folder format object is displayed. If there is any workspace file or project file of MELSOFT products in the folder format object, it is included and displayed in the folder of the folder format object.

# **Read-only attribute folders**

The following explains read-only attribute folders.

### Read-only attribute folder types

When installing MELSOFT iQ AppPortal or FA Application Package iQ Monozukuri, the read-only attribute folder is automatically registered.

Type ▲ I ③ iQ Monozukuri Folder ReadOnly Folder	
Туре	Description
ReadOnly Folder	Registered by selecting the checkbox of "Sample Workspace" when installing MELSOFT iQ AppPortal.
iQ Monozukuri Folder	Registered when installing FA Application Package iQ Monozukuri.

### Point P

When registering these folders by dragging and dropping from the data obtained for installation, they are registered as normal folders.

### Restrictions on a read-only attribute folder

The following table shows the restrictions on a read-only attribute folder.

Item	Description
Register	The read-only attribute folder is registered when installing an application. Its type and name are displayed.
Сору	The history is also retained when copying a read-only attribute folder in iQ AppPortal. However, it is not retained when copying a read-only attribute folder in a work area.
Paste	When a copy source is a read-only attribute folder, an object in the folder is pasted to a paste destination. When copying an object in the read-only attribute folder and pasting it to an empty area in the object list area, a new folder is created in the same way as new registration. The icon of the folder in the paste destination changes to the normal icon. (The type is a normal folder.)
Delete	An object stored in a read-only attribute folder cannot be deleted.
Edit property information	For a read-only attribute folder, only the property information can be browsed. Property information cannot be edited or saved in the "Properties" screen.
Display the status of an object	The object status is not displayed for a read-only attribute folder.
Acquire	When acquiring the latest data, specify a different area from a work area.
Classify	A classification cannot be added to an object in a read-only attribute folder.

### Editing a read-only attribute folder

Read-only attribute folders do not exist in a work area, because the data is saved to a server only. To edit a read-only attribute folder, the data must be acquired then re-registered in iQ AppPortal. The following shows the procedure for re-registering a read-only attribute folder.

### Operating procedure

- **1.** Select a read-only attribute folder, and click the [Get the Latest Data] button.
- 2. Specify a folder different from the work area.
- **3.** Drag and drop the generated folder onto iQ AppPortal.

Point P

When re-registering a read-only attribute folder, it is registered as a normal folder.

### Hiding read-only attribute folders

Read-only attribute folders cannot be reserved for deletion. Hide them as necessary.



They can be hidden in the option setting.

### Window

Select the [File] tab ⇔ [Option] ⇔ "Object 1."





### Operating procedure

Unselect the checkbox of "Display the read-only attribute folder" under "Object Filtering," and click the [OK] button.

### ■Maintaining the hidden state

Read-only attribute folders remain hidden even after uninstalling MELSOFT iQ AppPortal.

If read-only attribute folders are not displayed after reinstalling MELSOFT iQ AppPortal, select the checkbox of "Display the read-only attribute folder" to display.

# Restrictions on GX Developer, RT ToolBox3, and RT ToolBox2 objects

The following restrictions apply to GX Developer, RT ToolBox3, and RT ToolBox2 objects in a workspace managed in MELSOFT Navigator:

- Objects cannot be added to/changed in a workspace managed in MELSOFT Navigator.
- Objects cannot be deleted from a workspace managed in MELSOFT Navigator.
- · Objects cannot be pasted to a workspace managed in MELSOFT Navigator.
- · Objects cannot be moved to/from a workspace managed in MELSOFT Navigator.

In addition, if there are multiple objects with the same workspace name among GX Developer, RT ToolBox3, or RT ToolBox2 objects, the following restrictions apply:

- Objects cannot be updated by dragging and dropping or by copying and pasting between workspaces with the same name.
- Workspaces with the same name cannot be registered in the same layer.

# Folder configuration in a work area

The following shows the folder configuration in a work area.

	New Folder (2) (3) (1) (4)	<ul> <li>New Folder##</li> <li>New Folder\$\$</li> <li>GXW3 sample.gx3</li> <li>GXW3 sample.gx3.iqap</li> <li>Navigator_sample.nvw</li> <li>workspacelist.xml</li> <li>New Folder.iqap</li> <li>WS</li> </ul>	nple.pdf nple.pdf.iqap nple.txt nple.txt.iqap
Folde	er name/file name	Stored file type	Reference
(1)	(Folder name) <sup>*1</sup>	A file that can be refined by the type under the smart filter	Page 34 Objects that can be refined by the type
(2)	(Folder name)## <sup>*1</sup>	A file other than the above	—

(2)			
(3)	(Folder name)\$\$ <sup>*1</sup>	An image added in the "Properties" screen	Page 31 Image registration
(4)	(Folder name).iqap <sup>*1</sup>	A MELSOFT iQ AppPortal information file (.iqap)	Page 86 MELSOFT iQ AppPortal information file (.iqap)

\*1 For iQ AppPortal Version 1.01B or earlier, (New Folder (date and time)) is displayed for (folder name).

### Folder name in a work area

For iQ AppPortal Version 1.04E or later, a folder name in a work area is the same as one created in iQ AppPortal.

### Changing a folder name or file name in a work area

Even when changing a folder name or file name in a work area directly in Windows Explorer, etc., the change is not applied to the folder or object in iQ AppPortal.

A folder or file will no longer be managed in iQ AppPortal if its name is changed.

To manage it in iQ AppPortal, re-register it in iQ AppPortal.

# MELSOFT iQ AppPortal information file (.iqap)

A MELSOFT iQ AppPortal information file (.iqap) is a file with information on a folder and object (feature information of a project, the icon of an application, etc.).

It is saved to a server and work area with a folder and object.

### Output method of a MELSOFT iQ AppPortal information file (.iqap)

Whether to output a MELSOFT iQ AppPortal information file (.iqap) can be set in "Setting for MELSOFT iQ AppPortal" in each MELSOFT product.

For the setting method of "Setting for MELSOFT iQ AppPortal," refer to the manual for each MELSOFT product.

### Precautions

Do not change the name, configuration, or contents of a MELSOFT iQ AppPortal information file (.iqap). If any of them is changed, the property information may not be displayed properly.

### Point P

For a MELSOFT iQ AppPortal information file (.iqap) to which security such as access authority or a security key is set, only "Security" is displayed in the feature information of iQ AppPortal to prevent information leakage.

## Versions of MELSOFT products used for verification

The following table shows the versions of MELSOFT products used for verification ( Page 64 Verification).

MELSOFT product	Version
iQ AppPortal	Ver.1.17T or later
GX Works3	Ver.1.025B or later
GX Works2	Ver.1.595V or later
GT Designer3 (GOT2000)	Ver.1.235V or later

Point P

For details on verification, refer to the following: GX Works3 Operating Manual GX Works2 Version 1 Operating Manual (Common) GT Designer3 (GOT2000) Screen Design Manual

## Setting an external tool used for verification

The following explains the method for setting an external tool used to verify ( F Page 64 Verification) objects other than those of MELSOFT products.

An external tool refers to a tool other than a MELSOFT product.

The operation of WinMerge, which can compare folders and files, has been checked as an external tool used for verification. Note that not all external tools are guaranteed to work with iQ AppPortal. Check the operation before use.



### Window

### Select the [File] tab ⇔ [Option] ⇔ "Verify."

Option	X
Basic Setting Object 1 Object 2	External Tool Setting Command(M): C:\Program Files\WinMerge\WinMergeU.exe
Register Verify	Argument(A): /wl /wr /dl %sname /dr %dname %src %dst
Restore Work Area	Set the external tool used for verification of other file or folder format objects. Please make sure that the trusted external tool has been stored before verification. Please set the command/argument of external tool after referring to the manual.
	Display Manuals

### Displayed items

Item		Description
(1)	Command	Enter the command (execution file path) of an external tool used for verification. Up to 260 characters can be entered.
(2)	Argument	<ul> <li>Enter a command argument defined in an external tool and a replacement parameter.</li> <li>Up to 1024 characters can be entered.</li> <li>Refer to the manual or help for the external tool as necessary.</li> <li>Replacement parameter</li> <li>A replacement parameter is used to define an argument (the file path of a verification target, etc.), which requires a different value for each verification operation, as a parameter. It is replaced with the corresponding value by iQ AppPortal when verifying an object.</li> </ul>
(3)	[▶] button	Click this to reference replacement parameters.

### Operating procedure

- 1. Enter the command (execution file path) of an external tool used for verification for "Command."
- **2.** Enter a command argument defined in the external tool for "Argument." Click the [▶] button to select and enter a replacement parameter<sup>\*1</sup>.

### **3.** Click the [OK] button.

\*1 Each replacement parameter is replaced as follows when verifying an object.

Replacement parameter	Content replaced when verifying an object
Source object (%src)	<ul> <li>Absolute paths to a folder and file of a verification source object.</li> <li>When verifying with the latest data: Path on a work area</li> <li>When setting an object selected in the object list area or application tree area as a verification source in the "Verify between Objects" screen: Path on a work area</li> <li>Other cases: Paths to a folder and file of a verification source object output to a temporary area</li> </ul>
Destination object (%dst)	<ul> <li>When setting an object selected in the object list area or application tree area as a verification destination in the "Verify between Objects" screen: Path on a work area</li> <li>Other cases: Absolute paths to a folder and file of a verification destination object output to a temporary area</li> </ul>
Source object window display name (%sname)	A display name of a verification source object in the window of an external tool
Destination object window display name (%dname)	A display name of a verification destination object in the window of an external tool

# Appendix 3 Considerations

This section describes the considerations for iQ AppPortal.

# When communication with iQ AppPortal is not allowed by Windows Firewall

When Windows Firewall is enabled and communication with iQ AppPortal is not allowed, a timeout may occur. To allow the communication on a personal computer on which a server is installed, configure the setting by the following procedure.

When using other software with a firewall function, refer to the manual for the software and allow the communication with iQ AppPortal.

- **1.** Select [System and Security] ⇒ [Windows Defender Firewall] ⇒ [Advanced settings] in the control panel of Windows.
- **2.** Select [Inbound Rules] ⇔ [New Rule] in the "Windows Defender Firewall with Advanced Security" screen.
- 3. Select "Port" in [Steps:] ⇒ [Rule Type] in the "New Inbound Rule Wizard" screen.
- **4.** Select "TCP" and "Specific local ports" in [Steps:] ⇒ [Protocol and Ports].
- 5. Enter '61688' in "Specific local ports," and click the [Next] button.
- 6. Select "Allow the connection" in [Steps:] ⇒ [Action], and check that all the checkboxes are selected in [Steps:] ⇒ [Profile].
- **7.** Enter a name (example: MELSOFT iQ AppPortal) in "Name" and "Description" in [Steps:] ⇒ [Name], and click the [Finish] button.

The name (example: MELSOFT iQ AppPortal) is added to the list of "Inbound Rules" in the "Windows Defender Firewall with Advanced Security" screen.

## Update from iQ AppPortal Version 1.00A

The configuration of a folder generated in a work area differs between iQ AppPortal Version 1.00A and iQ AppPortal Version 1.01B or later.

Therefore, when re-registering a folder generated in a work area by using iQ AppPortal Version 1.00A in iQ AppPortal Version 1.01B or later without changing the configuration, some data (files other than those of MELSOFT products, images added in the "Properties" screen, etc.) is not displayed properly on iQ AppPortal.

To display it properly on iQ AppPortal Version 1.01B or later, change the folder configuration by either of the following methods:

• When updating the folder configuration in a work area to a new one

Update it in iQ AppPortal Version 1.00A. The folder configuration is automatically updated to a new one.

· When changing the folder configuration outside a work area to a new one

Manually change it to the same folder configuration as that in the work area. (SP Page 85 Folder configuration in a work area)

Re-register it in iQ AppPortal Version 1.01B or later after changing to a new folder configuration.

### Folders/files for system management

The following types of folders and files generated in a work area are for system management. Do not delete or move them.

- MELSOFT iQ AppPortal information file (.iqap)
- VisualSVN Server folder (.svn)
- iQAPData file (iQAPData)

## Subversion function

Subversion is built into iQ AppPortal.

To maintain the consistency of managed data, do not use the Subversion function for folders and objects in a work area.

# Appendix 4 Troubleshooting

This section explains the errors which may occur when using iQ AppPortal and their corrective actions.

Symptom	Check point	Corrective action
Contents in the screen are not displayed properly. (For example, overlapping of icons, text overflowing from the frame of a button, etc.)	Is the size of the text and other items in the screen set to a value other than 100% (96 DPI, 9 pt etc.) in Windows settings?	<ul> <li>Set the value to 100% (96 DPI, 9 pt etc.).</li> <li>For Windows 10 (version 1703 or later) or later<sup>*1</sup>, the display of iQ AppPortal can be displayed with high DPI scaling by using a function of the operating system.<sup>*2</sup></li> <li>Select and right-click 'IQAppPortal.exe,<sup>*3</sup> then select [Properties] from the shortcut menu.</li> <li>Click the [Change high DPI settings] button in the [Compatibility] tab.</li> <li>Select the checkbox of "Override high DPI scaling behavior. Scaling performed by:," then select "System" from the pull-down list.</li> <li>Click the [OK] button.</li> </ul>
Connection to a server fails when using iQ AppPortal Version 1.23Z or earlier.	<ul> <li>Is the connection method set to 'https' in the communication setting for VisualSVN Server?</li> <li>Has iQ AppPortal Version 1.26C or later ever been installed?</li> </ul>	Change the connection method to 'http' in the communication setting for VisualSVN Server.

\*1 The Windows version can be checked by the following procedure:

Inter "winver" in the search box of Windows, and select it from the menu.

- Oteck the version in the displayed screen.
- \*2 The display of iQ AppPortal will be blurred by enlarging.

The following lists the setting values for "Change the size of text, apps, and other items" and the recommended display resolution for each setting value in Windows 10 or later.

Setting value: 100%, display resolution: 1024  $\times$  768 dots or more

Setting value: 125%, display resolution:  $1900 \times 1200 \mbox{ dots or more}$ 

Setting value: 150%, display resolution: 1900  $\times$  1200 dots or more

Setting value: 175%, display resolution:  $2880 \times 1620 \mbox{ dots or more}$ 

Setting value: 200%, display resolution: 2880  $\times$  1620 dots or more

- Setting value: 225%, display resolution: 3840  $\times$  2160 dots or more
- Setting value: 250%, display resolution:  $3840 \times 2160$  dots or more
- \*3 'IQAppPortal.exe' is stored in the folder where iQ AppPortal is installed. The following are examples of storage locations.
   64-bit version operating system: C:\Program Files (x86)\MELSOFT\iQAP\Client\IQAppPortal.exe

32-bit version operating system: C:\Program Files\MELSOFT\iQAP\Client\IQAppPortal.exe

# Appendix 5 Open Source Software

This section describes open source software and its license utilized for this product.

### Entity Framework 6.1.3

Copyright © Microsoft Open Technologies, Inc. All rights reserved. For details, refer to "MELSOFT\iQAP\Server\licenses\EntityFramework" in the folder in which this product has been installed.

### Mono.Security 4.0.0.0

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### Npgsql 2.2.7, Npgsql for Entity Framework 2.2.7

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### PostgreSQL 9.4.6

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### SharpSvn 1.8

Copyright © 2007-2012 The SharpSvn Project

For details, refer to "MELSOFT\iQAP\Client\licenses\SharpSvn" in the folder in which this product has been installed.

### VisualSVN Server 5.0.3

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For details, refer to "VisualSVN Server\README.txt" in the installed folder.

For the license, visit the following:

Apache License Version 2.0: www.apache.org/licenses/LICENSE-2.0

### zlib 1.2.8

/\* zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.8, April 28th, 2013

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The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files http://tools.ietf.org/html/rfc1950 (zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).\*/

### MiniZip (included in zlib 1.2.8)

MiniZip - Copyright © 1998-2010 - by Gilles Vollant - version 1.1 64 bits from Mathias Svensson

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# REVISIONS

Revision date	*Manual number	Description
April 2016	SH(NA)-081623ENG-A	First edition
June 2016	SH(NA)-081623ENG-B	Added or modified parts RELEVANT MANUALS, Chapter 2, Section 3.4, Section 3.6, Chapter 4, Appendix 1, Appendix 2, Appendix 3
March 2017	SH(NA)-081623ENG-C	<ul> <li>Added or modified parts</li> <li>Chapter 1, Section 1.2, Section 1.3, Chapter 2, Section 3.5, Section 3.6, Section 4.1, Section 4.2, Section 4.3, Section 4.4, Section 4.5, Section 4.6, Appendix 1, Appendix 2</li> <li>Deleted part</li> <li>Section 1.3</li> </ul>
December 2017	SH(NA)-081623ENG-D	Added or modified parts Section 3.4, Section 3.6, Section 4.1, Section 4.2, Section 4.3, Section 4.4, Section 4.5, Section 4.7, Appendix 1, Appendix 2, Appendix 4
April 2019	SH(NA)-081623ENG-E	Added or modified parts Section 3.3, Section 3.5, Section 4.1, Section 4.3, Section 4.6, Appendix 1
November 2019	SH(NA)-081623ENG-F	Added or modified parts Section 4.6, Appendix 1
May 2020	SH(NA)-081623ENG-G	Added or modified parts Section 3.4, Section 3.5, Section 3.6, Section 4.4, Section 4.7, Appendix 1, Appendix 2
November 2020	SH(NA)-081623ENG-H	Added or modified parts SAFETY PRECAUTIONS, CONDITIONS OF USE FOR THE PRODUCT, Section 4.6, Section 4.7, Appendix 1
April 2021	SH(NA)-081623ENG-I	Added or modified parts Section 1.3, Section 3.4, Section 4.1, Section 4.3, Section 4.4, Section 4.5, Section 4.7, Section 4.8, Appendix 1, Appendix 2
October 2021	SH(NA)-081623ENG-J	Added or modified parts Section 3.3, Section 3.6, Section 4.7, Appendix 1, Appendix 2, Appendix 4, Appendix 5
April 2022	SH(NA)-081623ENG-K	Added or modified parts Section 3.3, Section 3.5, Section 3.6, Appendix 1, Appendix 2, Appendix 4, Appendix 5
December 2022	SH(NA)-081623ENG-L	<ul> <li>Added or modified parts</li> <li>SAFETY PRECAUTIONS, Section 1.2, Section 3.3, Section 3.4, Section 3.5, Section 3.6, Section 4.2, Section 4.6, Section 4.7, Appendix 1, Appendix 2, Appendix 4, Appendix 5</li> </ul>
November 2023	SH(NA)-081623ENG-M	Added or modified parts Section 1.3, Section 3.4, Section 3.5, Section 4.2, Section 4.3, Section 4.4, Section 4.5, Appendix 1, Appendix 2
July 2024	SH(NA)-081623ENG-N	Added or modified parts Section 3.3, Appendix 2

\*The manual number is given on the bottom left of the back cover.

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