MELSOFT

MITSUBISHI ELECTRIC

Engineering Software

GT SoftGOT3000 User's Manual

-SW1DND-GTWK3-E

SAFETY PRECAUTIONS

Always read the precautions before using this product.

Also read this manual and the relevant manuals mentioned in this manual carefully, and use the product properly while paying full attention to safety.

Note that the precautions in this manual apply only to this product.

The safety precautions are divided into the following levels: ⚠ warnings and ⚠ cautions.

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

Note that failure to observe ⚠ CAUTION may lead to a serious accident depending on the circumstances.

Make sure to observe both warnings and cautions to ensure personal safety.

Ensure that this manual is easily accessible to all users of this product.

[Design precautions]

⚠WARNING

- Some failures of the personal computer, interface board, or cables may keep the GT SoftGOT3000 outputs on or off.
  Create an external monitoring circuit to check for output signals which may lead to a serious accident.
  Not doing so may cause an accident due to false output or malfunction.
- Do not use GT SoftGOT3000 as the warning device that warns you of serious accidents.
  For the device that displays or outputs serious warnings, provide an independent redundant hardware or mechanical interlock.
  Not doing so may cause an accident due to false output or malfunction.
- If you have changed a program or parameter of the controller (such as a PLC) that is monitored by GT SoftGOT3000, restart GT SoftGOT3000.
  Not doing so may cause an accident due to false output or malfunction.
- Create safety circuits external to the PLC to ensure that the entire system works safely even if the personal computer fails.
  Not doing so may cause an accident due to false output or malfunction.
  (1) Create the following circuits external to the PLC: emergency stop circuits, protection circuits, interlock circuits that prevent an invert operation (such as a forward/reverse rotation), and interlock circuits that prevent a machine breakage (such as positioning at the upper or lower limit).
  (2) If the station with an interface board is disconnected from the data link due to a data link error, the other stations retain the last-minute data output from that station. The data is retained until the data link resumes (the disconnected station is returned). Establish a mechanism so that each station in the data link system monitors the data link status and handles data link errors.
- To check the operating status of each station if a network communication error occurs, refer to the manual for the interface module used.
  Not doing so may cause an accident due to false output or malfunction.
- If you change the data during operation, provide an interlock using the program of the PLC to ensure that the entire system always works safely.
  Establish a mechanism to handle data communication between the personal computer and PLC CPU if a data communication error occurs in the system.
- To maintain the security (availability, integrity, and confidentiality) of the GOT and the system against unauthorized access, DoS[*1] attacks, computer viruses, and other cyberattacks from unreliable networks and devices via network, take appropriate measures such as firewalls, virtual private networks (VPNs), and antivirus solutions.
  Mitsubishi Electric shall have no responsibility or liability for any problems involving GOT trouble and system trouble by unauthorized access, DoS attacks, computer viruses, and other cyberattacks.
  *1 DoS: A denial-of-service (DoS) attack disrupts services by overloading systems or exploiting vulnerabilities, resulting in a denial-of-service (DoS) state.
- Periodically check our vulnerability site, and if any vulnerabilities are found, upgrade the software and related components.

[Design precautions]

⚠CAUTION

- When using the Ethernet interfaces, set an IP address for each interface to access a different network.
- Turn on the controllers and the network devices to be ready for communication before they communicate with the GOT.
  Not doing so may cause a communication error on the GOT.
- Do not run control line cables and communication cables together with or near main circuit cables, power line cables, or other cables.
  Run these cables separately from such wiring and keep them a minimum of 100 mm apart.
  Not doing so may cause a malfunction due to noise.
- Turn on the controllers and the network devices to be ready for communication before they communicate with GT SoftGOT3000.
  Not doing so may cause a communication error on GT SoftGOT3000.

[Wiring precautions]

⚠WARNING

- Before wiring, make sure to shut off all phases of the external power supply used by the system.
  Not doing so may result in an electric shock, product damage or malfunction.

[Wiring precautions]

⚠CAUTION

- Connect the communication cable to the interface connector of the personal computer, and tighten the mounting screws and terminal screws within the specified torque range.
  Undertightening may cause a short circuit or malfunction.
  Overtightening may damage the screws or personal computer interface, causing a short circuit or malfunction.
  Also, do not apply excessive force to the connector or bend the cable excessively.
  Doing so may cause contact failure or disconnection.

[Input operation precautions]

⚠WARNING

- Thoroughly read the manual to fully understand the operating procedures before performing input operations on a user-created screen (such as turning a bit device on or off, changing the current value of a word device, changing the set or current value of a timer or counter, or changing the current value of a buffer memory or parameter).
  During the input operation, never change the data of the devices which are used to perform significant operation for the system.
  Doing so may cause an accident due to an incorrect output or malfunction.

[Startup and maintenance precautions]

⚠WARNING

- Do not touch the terminals while power is on.
  Close the terminal block cover before supplying power.
  Not doing so may cause an electric shock or malfunction.
- Before cleaning or terminal screw retightening, make sure to shut off the external power supply in all phases.
  Not doing so may cause damage to the personal computer interface or malfunction.
  Undertightening may cause a short circuit or malfunction.
  Overtightening may damage the screws or personal computer interface, causing a short circuit or malfunction.

[Remote control precautions]

⚠WARNING

- Remote control is available through a network by using GOT functions, including the VNC server function and the GOT Mobile function.
  If these functions are used to perform remote control of control equipment, the field operator may not notice the remote control, possibly leading to an accident.
  In addition, a communication delay or interruption may occur depending on the network environment, and remote control of control equipment cannot be performed normally in some cases.
  Before using the above functions to perform remote control, fully grasp the circumstances of the field site and ensure safety.
- When operating the server (GOT) of the GOT Mobile function to disconnect a client, notify the operator of the client about the disconnection beforehand.
  Not doing so may cause an accident.

Product application

(1) Mitsubishi graphic operation terminal ("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")
- 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 graphic operation terminal trouble and system trouble caused by DoS attacks, unauthorized access, computer viruses, and other cyberattacks.

INTRODUCTION

Thank you for choosing Mitsubishi Electric Graphic Operation Terminal (GOT).
Before using the product, read this manual carefully and make sure you understand the functions and performance of the GOT for correct use.

CONTENTS

Relevant manuals

Point

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 the engineering tool.

Screen design software-related manuals

Manual name	Manual number	Format
GT Works3 Installation Instructions	—	PDF
GT Designer3 (GOT3000) Screen Design Manual	SH-082590ENG	PDF e-Manual

Connection manuals

Manual name	Manual number	Format
GOT3000 Series User's Manual (Connection)	SH-082593ENG	PDF e-Manual

GT SoftGOT3000 manual

Manual name	Manual number	Format
GT SoftGOT3000 User's Manual	SH-082594ENG	PDF e-Manual

GOT3000 series use's manuals

Manual name	Manual number (Model code)	Format
GOT3000 Series User's Manual (Hardware)	SH-082591ENG (1VM002)	PDF e-Manual Bound document
GOT3000 Series User's Manual (Utility & Maintenance Functions)	SH-082592ENG	PDF e-Manual

Abbreviations, Generic Terms, and Model Icons

The following shows the abbreviations, generic terms, and model icons used in this manual.

GOT3000 series

Abbreviations and generic terms			Model	Meaning of icon	
				Available	Unavailable
GT37	GT37-W		GT3715-FHCBD		
			GT3712-WXCBD		
	GT37-X	GT3712-X	GT3712-XRBA GT3712-XRBD		
		GT3710-X	GT3710-XRBA GT3710-XRBD		
		GT3708-X	GT3708-XRBA GT3708-XRBD		
GT SoftGOT3000			GT SoftGOT3000		

GOT2000 series and GOT1000 series

Abbreviations and generic terms	Model	Meaning of icon	
		Available	Unavailable
GOT2000 series	GOT2000 series	—	—
GOT1000 series	GOT1000 series	—	—

GOT units and option units

Abbreviations and generic terms		Description
Extension interface converter unit		This unit connects the extension unit of the GOT2000 series and GOT1000 series to the GOT3000 series.
Extension unit	Communication unit	A unit, such as the serial communication unit or CC-Link IE TSN communication unit, installed on the GOT to enable communication with other devices
	Option unit	A unit, such as an external I/O unit, installed on the GOT to provide specific functions
Option		Options, such as SD cards, batteries, and protective sheets, installed on the GOT for use

Software

■Software related to GOT

Abbreviations and generic terms	Description
GT Works3	Software that comprehensively supports screen design for the GOT
GT Works3 Version1	
GT Designer3	Screen design software for the GOT3000 series, GOT2000 series, and GOT1000 series
GT Works3(GOT3000)	Screen design software for the GOT3000 series
Speech synthesis license	License to use the speech synthesis function
VNC server function license	License to use the VNC server function with the GOT3000
VPN function license	License to use the VPN function with the GOT3000
License for GT SoftGOT3000	License to use GT SoftGOT3000
GOT Mobile function license for GOT3000	License to use the GOT Mobile function with the GOT3000
GOT Mobile function license for GT SoftGOT3000	License to use the GOT Mobile function with GT SoftGOT3000
GENESIS64 Advanced	GENESIS64 server application (GEN64-APP)
GENESIS64 Basic SCADA	GENESIS64 server application (GEN64-BASIC)
GENESIS64	Generic term of GENESIS64 Advanced and GENESIS64 Basic SCADA
GT Simulator3	Screen simulator GT Simulator3 for the GOT3000 series
GT SoftGOT3000	GOT3000-compatible HMI software GT SoftGOT3000
GT OPC UA Client	OPC UA server connection setting software

■Software related to iQ Works

Abbreviations and generic terms	Description
iQ Works	iQ Platform compatible engineering environment MELSOFT iQ Works
MELSOFT Navigator	Integrated development environment software included in the iQ Platform-compatible engineering environment, MELSOFT iQ Works
MELSOFT iQ AppPortal	Integrated application management software

■Other software

Abbreviations and generic terms		Description
GX Works3		Programmable controller engineering software
GX Works2		
Controller simulator	GX Simulator3	Simulation function of GX Works3
	GX Simulator2	Simulation function of GX Works2
	GX Simulator	Ladder logic test tool function software package
GX Developer		Programmable controller programming software
GX LogViewer		Dedicated logging data viewer
MI Configurator		Configuration and monitor tool for Mitsubishi Electric industrial computers
PX Developer		FBD software package for process control
MT Works2		Motion controller engineering software
MT Developer		Integrated start-up support software for motion controller Q series
CW Configurator		Setting/monitoring tools for the C Controller module and MELSECWinCPU
MR Configurator2		Servo configuration software
MR Configurator		Servo configuration software
FR Configurator2		Inverter setup software
FR Configurator		Inverter setup software
NC Configurator2		CNC parameter setting support software
NC Configurator		CNC parameter setting support tool
FX Configurator-FP		Parameter setting, monitoring, and testing software
FX Configurator-EN-L		FX3U-ENET-L type Ethernet module setting software
RT ToolBox2		Robot program creation software
RT ToolBox3		Robot program creation software
MX Component		Communication library
MX Sheet		Communication support software package
CPU Module Logging Configuration Tool		CPU Module Logging Configuration Tool

PART 1 How to read this manual

1 What to do when

1 What to do when

☞ Page 15 Finding the reference manual

1.1 Finding the reference manual

This section describes the main GOT manuals and their contents.

The following abbreviations are used for the manual names.

Manual name	Abbreviation	Main contents
GT Designer3 (GOT3000) Screen Design Manual	GTD	• Screen operation with GT Designer3 • Settings of the functions that run on the GOT • Functions enabled by connecting the GOT and controllers
GOT3000 Series User's Manual (Hardware)	HW	• GOT hardware specifications • How to connect cables to and install units on the GOT
GOT3000 Series User's Manual (Utility & Maintenance Functions)	UT	• How to operate the utility • System alarms and corrective actions
GOT3000 Series User's Manual (Connection)	Connection	• Devices connectable with the GOT • System configuration • Communication settings • FA transparent function (reading and writing programs between a personal computer and a controller via the GOT)
GT SoftGOT3000 User's Manual	SGT	• How to operate GT SoftGOT3000

The following contents and their reference manuals are shown below.

☞ Page 16 Operations related to package data, BootOS, and CoreOS (data transfer)
☞ Page 16 How to protect the GOT and data
☞ Page 16 Operating the GOT using gestures
☞ Page 16 How to use GOT peripherals
☞ Page 17 Settings that can be changed in the utility or in GT Designer3
☞ Page 17 Devices, labels, and tags that can be monitored with the GOT
☞ Page 18 Drive configuration and capacity of the GOT
☞ Page 18 Differences between GT SoftGOT3000 functions and other functions

1.1.1 Operations related to package data, BootOS, and CoreOS (data transfer)

○: Available

—: Not available

Information on...	Reference				
	GTD	HW	UT	Connection	SGT
Reading/writing the package data	○	—	—	—	—
Writing the BootOS and the CoreOS (version upgrade)	○	—	—	—	—
How to use the package data of the GOT with another GOT (uploading and downloading)	—	—	○	—	—

1.1.2 How to protect the GOT and data

○: Available

—: Not available

Information on...	Reference				
	GTD	HW	UT	Connection	SGT
Security functions of the GOT and GT Designer3	○	—	—	—	○ ☞ Page 75 Opening the project

1.1.3 Operating the GOT using gestures

○: Available

—: Not available

Information on...	Reference				
	GTD	HW	UT	Connection	SGT
Operating the GOT screen using gestures	○	—	—	—	—
Operating objects using gestures	○	—	—	—	—

1.1.4 How to use GOT peripherals

○: Available

—: Not available

Information on...	Reference				
	GTD	HW	UT	Connection	SGT
How to use a barcode reader	○	—	—	○	—
How to use an RFID controller	○	—	—	○	—
How to use a VNC server	○	—	—	○	—
How to display an image from a web camera on the GOT	○	—	—	○	—
How to display the GOT screen on an external display	○	—	—	○	—
How to play a sound file through speakers	○	—	—	○	—
How to monitor a controller on a tablet via the GOT	○	—	—	○	—
How to use the GOT as an OPC UA server	○	—	—	—	—

1.1.5 Settings that can be changed in the utility or in GT Designer3

The following shows whether utility menus can be set in GT Designer3.

When the package data is written to the GOT, the utility settings of the GOT can be updated to those of GT Designer3.

○: Available

—: Not available

Information on...		Reference				
		GTD	HW	UT	Connection	SGT
[GOT basic set] tab	[Display]	○	—	○	—	—
	[Brightness adjustment]	○	—	○	—	—
	[Language]	○	—	○	—	—
	[Unique info]	○	—	○	—	—
	[IP address]	○	—	○	—	—
	[IP filter setting]	○	—	○	—	—
	[Operation]	○	—	○	—	—
	[Utility call key]	○	—	○	—	—
	[USB device/host]	○	—	○	—	—
	[Time]	○	—	○	—	—
	[Controller]	○	—	○	—	—
	[Ethernet]	○	—	○	—	—
	[Transparent mode]	○	—	○	—	—
	[Security]	○	—	○	—	—
	[Operator authentication management]	—	—	○	—	—
	[Opr authn. Password change]	—	—	○	—	—
[Add-on setting] tab	[VNC server function]	○	—	○	—	—
	[License management]	—	—	○	—	—
	[ANDON connection]	—	—	○	—	—
	[VPN connection function]	○	—	○	—	—
	[Contactless tag function]	○	—	○	—	—
[Maintenance]		—	—	○	—	—
[Data mng.]		—	—	○	—	—

1.1.6 Devices, labels, and tags that can be monitored with the GOT

○: Available

—: Not available

Information on...	Reference				
	GTD	HW	UT	Connection	SGT
GOT internal device list	○	—	—	—	—
Mitsubishi Electric products device list	○	—	—	○	—
Non-Mitsubishi Electric products device list	○	—	—	○	—
Types of devices that can be monitored with the GOT	○	—	—	—	—
Types of labels and tags that can be monitored with the GOT	○	—	—	—	—

1.1.7 Drive configuration and capacity of the GOT

○: Available

—: Not available

Information on...	Reference				
	GTD	HW	UT	Connection	SGT
Drive configuration and capacity of the GOT	○	—	—	—	—
Virtual drive of GT SoftGOT3000	○	—	—	—	○ ☞ Page 23 Virtual drive

1.1.8 Differences between GT SoftGOT3000 functions and other functions

○: Available

—: Not available

Information on...	Reference				
	GTD	HW	UT	Connection	SGT
List of differences between GT SoftGOT3000 functions and other functions	—	—	—	—	○ ☞ Page 26 Available and unavailable functions

PART 2 Specifications

2 Operating environment

The following shows the GT SoftGOT3000 operating environment.

Item	Description
Personal computer	A personal computer that can run Windows
OS*1*2*3*4*5*6	• Microsoft Windows Server 2019 Standard (64-bit)*7 • Microsoft Windows Server 2016 Standard (64-bit)*7 • Microsoft Windows 11 Education (64-bit)*7 • Microsoft Windows 11 Enterprise (64-bit)*7 • Microsoft Windows 11 Pro (64-bit)*7 • Microsoft Windows 11 Home (64-bit)*7 • Microsoft Windows 10 Enterprise (64-bit, 32-bit)*7 • Microsoft Windows 10 Pro (64-bit, 32-bit)*7 • Microsoft Windows 10 Home (64-bit, 32-bit)*7 • Microsoft Windows 10 IoT Enterprise 2019 LTSC (64-bit)*8 • Microsoft Windows 10 IoT Enterprise 2016 LTSB (64-bit)*8
CPU	Intel Core i3 (8th generation) or later
Memory	8 GB or more recommended
Display	9 inches or larger with a resolution of FWXGA (1366 dots × 768 dots) or higher
Hard disk space	• For installation: 5 GB or more recommended • For execution: 512 MB or more recommended
Display color	High color (16 bits) or more
Hardware	Network adapter

*1 Administrator privileges are required when installing GT SoftGOT3000.
Administrator privileges are not required when using GT SoftGOT3000.
If another MELSOFT product is running with administrator privileges, also start GT SoftGOT3000 with administrator privileges.

*2 The following Windows functions are not supported by GT SoftGOT3000.
Activating the application with Windows compatibility mode
Fast user switching
Changing the desktop theme (or font size)
Remote desktop
Setting the size of text and illustrations on the screen to any size other than [Small-100%]

*3 Disable high-speed startup.
If enabled, GT SoftGOT3000 may not operate properly when the personal computer is shut down and then started.

*4 Some digital pens are unusable.

*5 Operation is not supported in a virtual environment such as Hyper-V.

*6 The following lockdown features are not supported.
Unified Write Filter
Assigned Access
USB Filter
Layout Control
AppLocker
Shell Launcher

*7 Use the same language version of Windows OS as that of GT SoftGOT3000.
Example: When using the Japanese version of GT SoftGOT3000, use the Japanese version of Windows OS.

*8 Install a language pack as needed.

Precautions

■Resume, suspend, power saving, standby, or sleep setting on the personal computer

If the resume, suspend, power saving, standby, or sleep setting is configured on the personal computer, a communication error may occur when communication with the PLC CPU is attempted.

Therefore, do not configure the above-mentioned settings.

■Precautions when using the GOT Mobile function

When using the GOT Mobile function, run GT SoftGOT3000 with administrator privileges.

■Operating environment for starting multiple modules or using the multi-channel function

Monitoring performance may be degraded or a timeout may occur depending on the specifications of the personal computer.

Request the network administrator to adjust each communication setting, which may improve such situations.

■Installing a redistributable package of the Visual C++ 2015 or a later version

A redistributable package of the Visual C++ 2015 or a later version may not function correctly if the OS is not supported or prerequisites are not met.

If the package does not function correctly, check the following.

- Use a supported OS.
- Install the Visual C++ 2015 redistributable package or a later version again.
- Perform Windows Update.

■Operating environment when using a user-created application

The user-created application is used together with GT SoftGOT3000.

Therefore, when using the user-created application, prepare an operating environment where the user-created application and GT SoftGOT3000 can operate simultaneously.

3 Specifications of GT SoftGOT3000

3.1 Operating specifications

The following shows the operating specifications of GT SoftGOT3000.

Item	Specifications
Resolution (dots)	• VGA: 640 × 480 • SVGA: 800 × 600 • XGA: 1024 × 768 • HD: 1280 × 720 • WXGA: 1280 × 800 • FWXGA: 1366 × 768 • Full HD: 1920 × 1080 • WUXGA: 1920 × 1200 • Custom (to be specified): X × Y*1
Display color	High color (16 bits) or more
User memory capacity	• Storage memory (ROM): 256 MB • Operating memory (RAM): 768 MB

*1 The following shows the setting ranges.
• X: [640] dots to [1920] dots
• Y: [480] dots to [1920] dots
When creating a project in GT Designer3 with a custom screen size, set the values within the above ranges.
Also, if one side length is set to [1920] dots, set the other side length to within [1200] dots.
For details, refer to the following.
GT Designer3 (GOT3000) Screen Design Manual

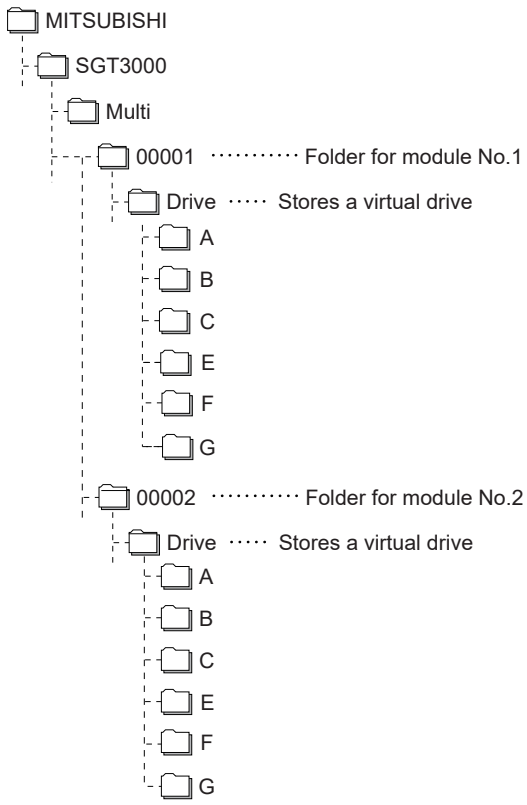
3.2 Supported software versions

The following lists the software versions compatible with GT SoftGOT3000.

Software	Version	Application
GT Designer3 (GOT3000)	1.400S or later	Used to create a project.
GX Works3	1.105K or later	Used to connect to GX Simulator3.
GX Works2	1.621X or later	Used to connect to GX Simulator2.
MT Works2	1.189X or later	Used to connect to MT Simulator2.

3.3 Virtual drive

GT SoftGOT3000 uses the following folders on the hard disk of the personal computer as virtual drives.
C:\Users\(user name)\AppData\Local\MITSUBISHI\SGT3000\Multi\(5-digit module No.)\Drive



A virtual drive is created for each module.
☞ Page 33 Data of each module

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Any folder can be set as a virtual drive.
For changing the folder specified as the virtual drive, refer to the following.
☞ Page 106 [Action]

3.4 Resource data

The following shows the destination folder, file name, and file format when each resource data is saved.

Function	Save destination folder	File format and file name
Alarm Observation	Folder set in the project	AAM*****.G3A
		AAM*****.CSV
		AAM*****.TXT
Recipe	Folder set in the project	ARP*****.G3P
		ARP*****.CSV
		ARP*****.TXT
Logging	Folder set in the project	LOG*****_*****.G3L
		LOG*****_*****.CSV
		LOG*****_*****.TXT
Hard copy (File save)	Folder set in the project	SNAP***.BMP
		SNAP****.JPG
Hard copy (Print)	G3SgtHardcopy	HARDCOPY.BMP
Operation log function	Folder set in the project	OPELOG_YYYYMMDD_SSSS.G3O
		OPELOG_YYYYMMDD_SSSS.CSV
		OPELOG_YYYYMMDD_SSSS.TXT
	• OPELOG • SGT3000DELLOG	SGTLOG_NNNNN_YYYYMMDD_SSSS.G3O*1
Time action	Folder set in the project	TIMEACTION.G3T

*1 This log file is output by the GT SoftGOT3000 application log function, which is a unique operation log function of GT SoftGOT3000. For details, refer to the following.
☞ Page 25 GT SoftGOT3000 application log function

Precautions

The following ASCII symbols cannot be used in a folder name for the virtual drive.

Invalid symbol	How to read
|	Vertical bar
,	Comma
;	Semicolon

Up to 78 characters can be set as a folder name for the virtual drive.

Ensure that the maximum length of the folder path including the file storage destination, file name, and extension is 256 characters.

3.4.1 GT SoftGOT3000 application log function

The GT SoftGOT3000 application log function is an operation log function unique to GT SoftGOT3000.
The following shows the behaviors and operations to be recorded by the GT SoftGOT3000 application log function.

Item	Description
Starting the GT SoftGOT3000 application	Records information when GT SoftGOT3000 is started.
Exiting the GT SoftGOT3000 application	Records information when GT SoftGOT3000 is exited.
Time change	Records the information when the time of the personal computer is changed.
GT SoftGOT3000 all data initialization function	Records the information when the GT SoftGOT3000 all data initialization function is executed.

For details on the GT SoftGOT3000 application log function, refer to the following.
GT Designer3 (GOT3000) Screen Design Manual

Point

GT SoftGOT3000 application logs are always output regardless of the security mode set for the project.

3.5 Available and unavailable functions

Some functions available for the GOT3000 series are not available for GT SoftGOT3000.
The following shows the functions available and unavailable for GT SoftGOT3000.

☞ Page 26 Figures and objects
☞ Page 27 Functions running in the background
☞ Page 27 Functions used with peripheral devices
☞ Page 28 Common functions for screen display/control and other relevant/extended functions
☞ Page 29 Utility function

3.5.1 Figures and objects

○: Available, —: Not available

Function	Supported/Unsupported
Figure	○
Touch switch	○
Lamp	○
Numerical display	○
Numerical input	○
Text display	○
Text input	○
Date display, time display	○
Comment display	○
Parts display	○
Historical data list display	○
Simple alarm display	○
System alarm display	○
Alarm display (user)	○
Alarm display (system)	○
Recipe display (record list)	○
Line graph	○
Trend graph	○
Bar graph	○
Band graph	○
Pie graph	○
Scatter graph	○
Historical trend graph	○
Graphical meter	○
Level	○
Panelmeter	○
Slider	○
Document display*1	○
Script parts	○
Animation frame	○
Hyperlink	○

*1 JPEG files converted with Document Converter are supported.

Precautions

When [Real] is set for [Format] in [Numerical Display], if the specified device stores an invalid value, GT SoftGOT3000 displays that value (the GOT displays [non]).

3.5.2 Functions running in the background

○: Available, —: Not available

Function	Supported/Unsupported
Logging	○
Operation log	○
Recipe	○
Device data transfer	○
Trigger action	○
Time action	○
System information	○
Hard copy	○
Project/screen script	○
Object script	○

3.5.3 Functions used with peripheral devices

○: Available, —: Not available

Function	Supported/Unsupported
Barcode function	○
RFID function	○
GOT Mobile Setting	○
VNC server function	—
Digital video output function	—
USB mouse/keyboard function	○
Web browser function	—
Contactless tag function	—
OPC UA server function	—
VPN connection function	—

3.5.4 Common functions for screen display/control and other relevant/extended functions

○: Available, —: Not available

Function	Supported/Unsupported
Base screen	○
Overlap window	○
Superimpose window	○
Dialog window	○
Mobile screen	○
Key window	○
Screen switching	○
System language switching	○
User language switching	○
Monitoring of the labels or tags set to the monitored device	○
FA transparent function	—
Multi-channel function	○
Station No. switching	○
Buffer memory unit No. switching	○
CPU No. switching	○
Module No. switching (indirect specification with a GD device)	○
Servo axis switching (indirect specification with a GD device)	○
Offset	○
Startup logo	○
IP filter function	—
Vertical display	—
Transition to the utility	○
Level authentication	○
Operator authentication (mode 1)	○
Operator authentication (mode 2)	○

3.5.5 Utility function

○: Available, —: Not available

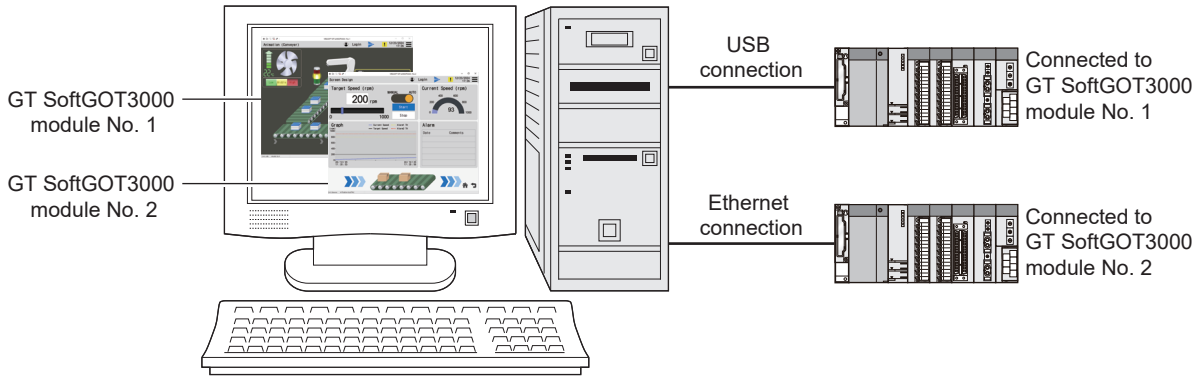
Function		Supported/Unsupported
[GOT basic set]	[Display]	○
	[Language]	○
	[Unique info]	—
	[IP address]	—
	[IP filter setting]	—
	[Operation]	○
	[Utility call key]	○
	[USB device/host]	—
	[Time]	—
	[Controller]	—
	[Ethernet]	—
	[Transparent mode]	—
	[GOT internal device monitor]	—
	[Operator authentication management]	○
	[Opr authn. Password change]	○
[Add-on setting]	[VNC server function]	—
	[License management]	—
	[ANDON connection]	○
	[VPN connection function]	—
	[Contactless tag function]	—
[Maintenance]	[USB device management]	—
	[Batch self check]	—
	[Screen cleaning]	—
	[Touch panel calibration]	—
	[System alarm]	○
	[Drawing check]	—
	[Font check]	—
	[Touch panel check]	—
	[I/O check]	—
	[Ethernet status check]	—
	[GOT information]	—
	[GOT Mobile information]	○
[Data mng.]	[File manager]	—
	[Image file management]	○
	[Recipe information]	○
	[Logging information]	○
	[Operation log information]	○
	[Alarm information]	○
	[File print]	—
	[Package management]	○*1
	[Backup/restoration]	○
	[NVRAM management]	○*2
	[Memory card format]	—
	[Memory check]	—
	[GOT data pkg. acquisition]	—
	[Full GOT reset]	—
	[Certificate management]	○

*1 [Delete all labels] and [Sort out labels] are supported.
*2 [Initialize all] and [Initialize selected area] are supported.

3.6 Specifications for starting multiple modules

☞ Page 30 Recommended number of modules
☞ Page 31 Module numbers when multiple modules are started
☞ Page 32 Functions managed for each module
☞ Page 33 Data of each module

The following explains the specifications for starting multiple GT SoftGOT3000 modules.
Multiple GT SoftGOT3000 modules can be started on a single personal computer.
Each GT SoftGOT3000 module can start with module No. n and use different connection types for monitoring.



Operating procedure

When either of the following operations is performed multiple times, an equivalent number of GT SoftGOT3000 modules will start.

- From the Windows start menu, select [MELSOFT] → [GT SoftGOT3000].
- Click the [GT SoftGOT3000] icon.

3.6.1 Recommended number of modules

The following shows the recommended number of GT SoftGOT3000 modules to be started on a single personal computer.

Number of channels set in [Controller]	Recommended number of GT SoftGOT3000 modules
1CH	Up to 4
2CH to 4CH	1

Precautions

■Performance degradation when multiple modules are running

When multiple GT SoftGOT3000 modules are running, the monitor performance may decrease or a timeout may occur depending on the specifications of the personal computer.
Request the network administrator to adjust each communication setting, which may improve such situations.

■Monitoring PLCs while multiple modules are running

When multiple GT SoftGOT3000 modules are connected to PLC, if the same port number is specified as the monitoring target for the modules, only the module that starts monitoring first can communicate with the PLC.
A communication timeout occurs in GT SoftGOT3000 modules that start monitoring later.

3.6.2 Module numbers when multiple modules are started

The following explains the module number assignment and module number specification method when multiple GT SoftGOT3000 modules are started.

Module number assignment

Module numbers are assigned to GT SoftGOT3000 modules sequentially, starting with 1 for the first module started.
Modules with the same module number cannot be started simultaneously.
If a new GT SoftGOT3000 module is started while multiple GT SoftGOT3000 modules are running, it will be assigned the smallest available module number.

Ex.
If a GT SoftGOT3000 module is started while module No. 1 and No. 10 are running, the started module will be assigned module No. 2.

Specifying the module to be started

A GT SoftGOT3000 module can be started with any number between 1 and 32767 by setting the startup option in the [Properties] of the GT SoftGOT3000 shortcut.
For details, refer to the following.
☞ Page 71 Starting GT SoftGOT3000 by specifying a module number

Module number display

The module number appears in the title bar.
The module number can be displayed or hidden by configuring the setting under [Display] in the [Set] dialog.
☞ Page 108 [Display]

3.6.3 Functions managed for each module

The following shows the functions managed for each GT SoftGOT3000 module.

Function	Reference
Each setting	—
Virtual drive	☞ Page 23 Virtual drive
GOT internal device	🕮GT Designer3 (GOT3000) Screen Design Manual
Operator and group information (when the security mode is mode 2)	🕮GT Designer3 (GOT3000) Screen Design Manual 🕮GOT3000 Series User's Manual (Utility & Maintenance Functions)
Display language switching	☞ Page 83 Switching the display language

Precautions

■GOT internal devices while multiple modules are running

GOT internal devices are controlled for each module.

GOT internal devices cannot be shared among modules.

■Data save destination while multiple modules are running

Data are saved in different destinations for each module.

3.6.4 Data of each module

Data storage destination

The data of each module is stored in its respective folder.

For information on the folder structure, refer to the following.

☞ Page 23 Virtual drive

Deletion of data

The user can delete the following folders and data for each module.

Folders and data that can be deleted	Description
Folder of each module (00001 to 32767)	—
Folders and data within virtual drive A	Resource data folders and files
Folders and data within virtual drive B	
Folders and data within virtual drive E	
Folders and data within virtual drive F	
Folders and data within virtual drive G	

Precautions

If you delete folders and data other than those listed above, delete the folder of the corresponding module.

If the module's folder is deleted, a new folder is created when the module is started.

Reconfiguring is necessary because the settings are reset to default.

3.7 Screen saver specifications

When the screen saver of GT SoftGOT3000 is set, the monitor screen does not darken like it does on the GOT, even when the screen saver is active. (The screen display remains the same.)
The first input operation (touch, mouse, or keyboard) while GT SoftGOT3000 is in screen saver mode is not recognized as an input because the input is recognized as clearing the screen saver mode.
When clearing the screen saver mode, be careful not to make incorrect inputs.
The GT SoftGOT3000 screen saver and Windows screen saver are different functions.
If both GT SoftGOT3000 and Windows screen savers are active, each must be cleared separately.

PART 3 Screen layout

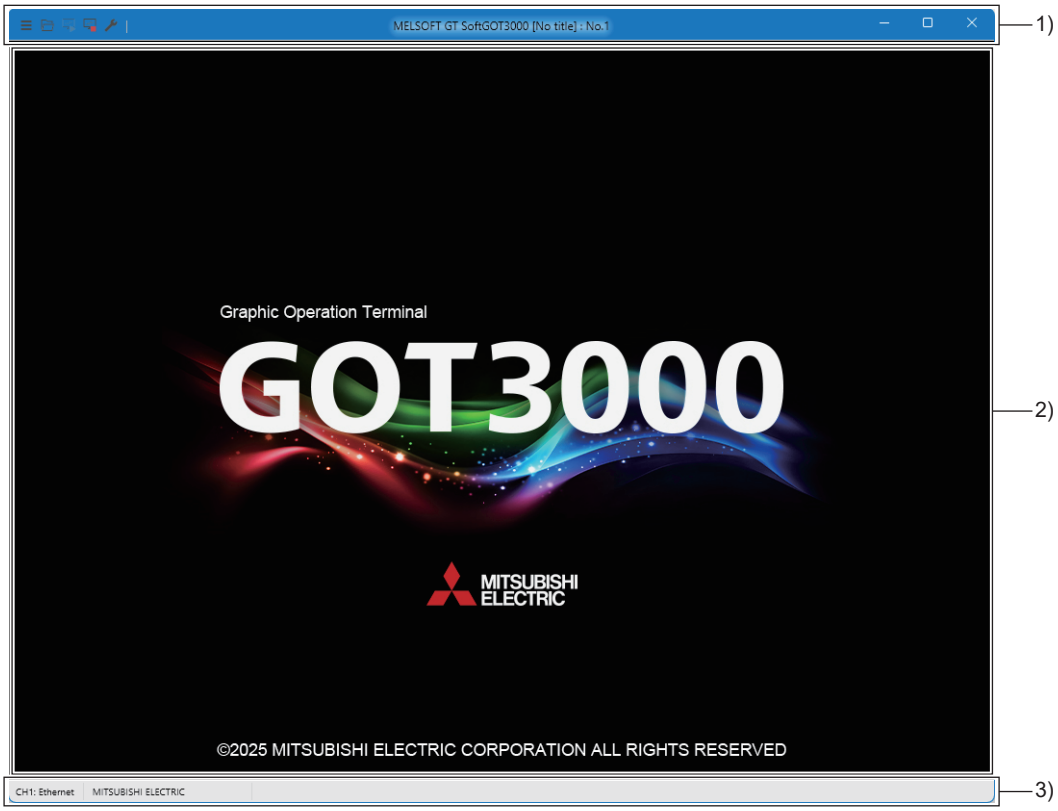
4 GT SoftGOT3000 screen and menu layout

The following explains the GT SoftGOT3000 screen layout and menus.

☞ Page 36 Screen layout
☞ Page 38 Menus

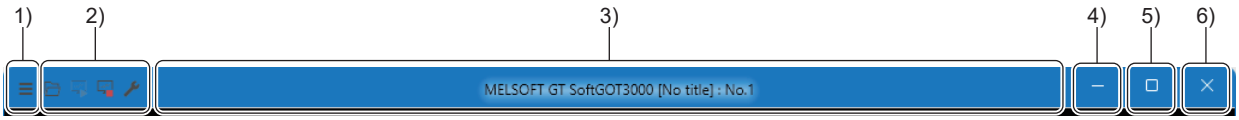
4.1 Screen layout

The following explains the GT SoftGOT3000 screen layout.



Item		Description
1)	Title bar	Displays the menu icons, and the information including the application name. ☞ Page 37 Title bar
2)	Monitor screen	The area that displays the monitor screen.
		Right-clicking the mouse on the monitor screen displays the context menu. Various function settings can be configured from the context menu. ☞ Page 43 Context menu
3)	Status bar	Displays the channel setting, connection method in the communication settings, model, communication port, and baud rate.
		If connection settings are configured for multiple channels in [Controller], you can switch the displayed channel using the right-click context menu in the status bar. Only the channels with settings configured in [Controller] are configured are displayed in the context menu.

Title bar



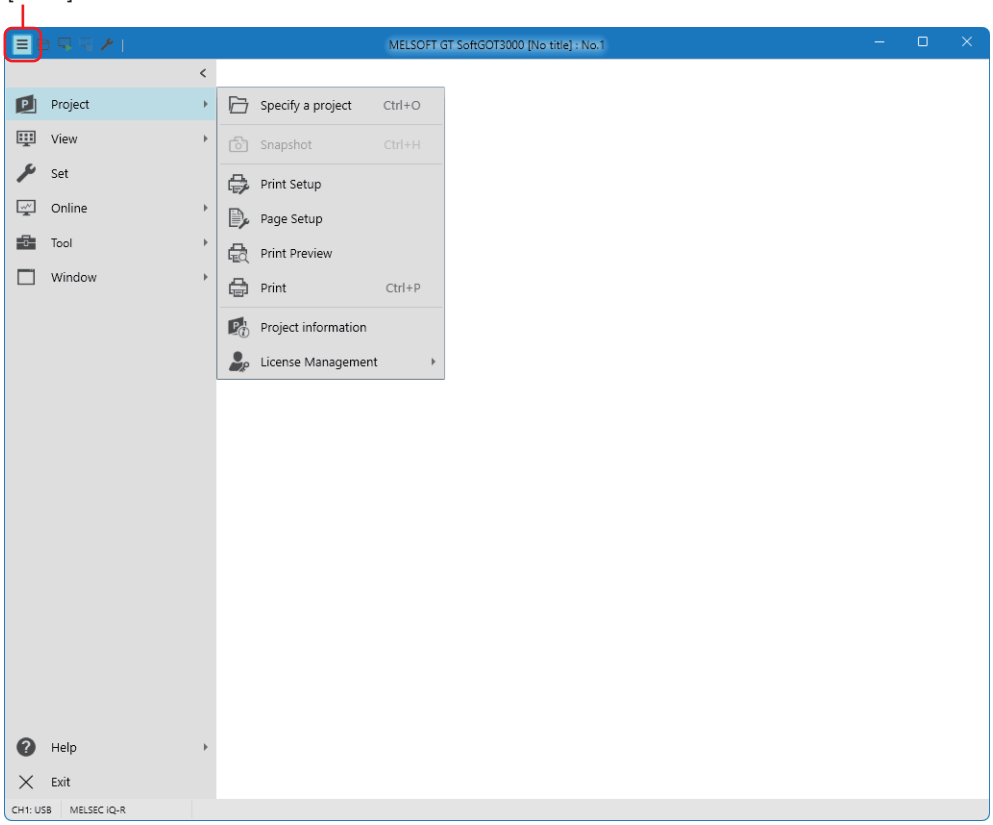
Item		Description
1)	[Menu] icon	Click this button to display the GT SoftGOT3000 menu. ☞ Page 38 Menus
2)	Quick access toolbar	Click an icon to display the corresponding dialog or execute the corresponding function. • [Specify a project] • [Start monitoring] • [Monitor Stop] • [Set]
3)	Title display area	Displays the following items. • Application name • Project title • Module No.
		If no project title is set, [No title] is displayed. You can set the items to be displayed in the title display area in [Display]. ☞ Page 108 [Display]
4)	[Minimize] button	Click this button to minimize the window.
5)	[Maximize] button	Click this button to maximize the window.
6)	[×] button	Click this button to exit GT SoftGOT3000.
		The [×] button can be enabled or disabled. ☞ Page 127 Enabling/disabling the close button

PART 3

4.2 Menus

The following explains each menu item that appears when the [Menu] icon is clicked in GT SoftGOT3000.

[Menu] icon

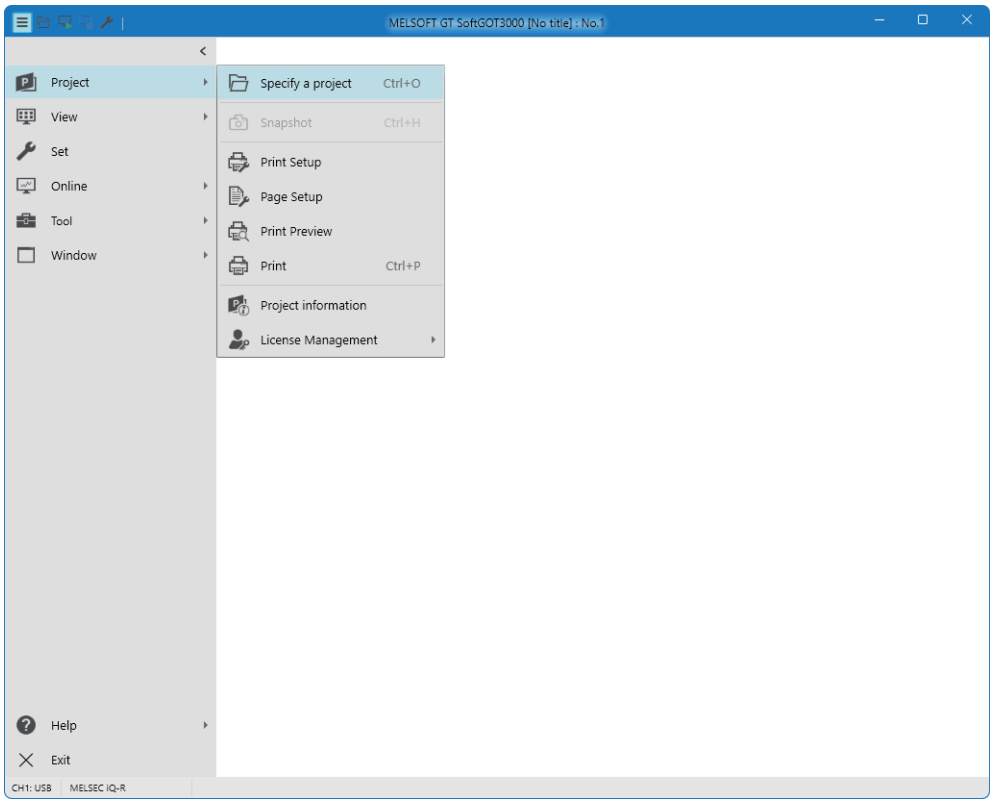


☞ Page 39 [Project] menu
☞ Page 40 [View] menu
☞ Page 41 [Set] menu
☞ Page 41 [Online] menu
☞ Page 41 [Tool] menu
☞ Page 41 [Window] menu
☞ Page 42 [Help] menu

Point

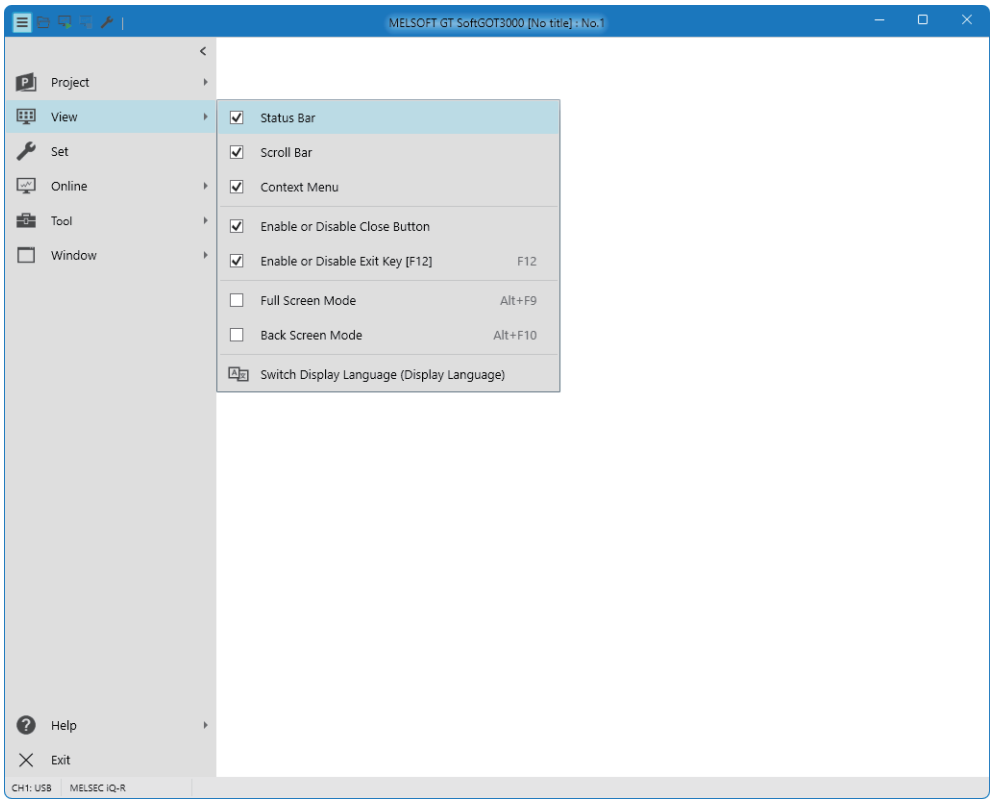
The GT SoftGOT3000 menu can also be opened by pressing the Alt + 1 keys.

4.2.1 [Project] menu



Item		Description
[Specify a project]		Specify the project to be opened with GT SoftGOT3000. Also, set the behavior for monitoring with GT SoftGOT3000. ☞ Page 76 [Specify a project] dialog
[Snap Shot]		Saves the image of the screen being monitored in a BMP or JPEG format file. ☞ Page 157 Snap shot
[Print Setup]		Configure the print settings. ☞ Page 158 Performing print setup
[Page Setup]		Adjusts the page layout for printing. ☞ Page 159 Page settings
[Print Preview]		Displays a print preview. ☞ Page 160 Displaying the print preview
[Print]		The screen image being monitored is output to a printer. ☞ Page 161 Printing
[Project information]		The project title, project ID and data size of project data being monitored are displayed. ☞ Page 155 Project information
[License Management]	[Product License Management]	Displays the registration status of GT SoftGOT3000 license. The license can also be registered or deregistered. ☞ Page 162 Product license management
	[Add-on Function License Management]	Displays the registration status of the add-on function license. The add-on function license can be registered or deregistered. ☞ Page 163 Add-on function license management
	[Display individual identification information of GT SoftGOT3000]	Displays the individual identification information of GT SoftGOT3000. ☞ Page 164 GT SoftGOT3000 individual identification information display

4.2.2 [View] menu



Item	Description
[Status Bar]	Displays or hides the status bar. Select this item to display the status bar at the bottom of the screen.
[Scroll Bar]	Displays or hides the scroll bar. Select this item to display scroll bars. ☞ Page 129 Enabling/disabling the scroll bar display
[Context Menu]	Displays or hides the context menu when the mouse is right-clicked. Select this item to display the context menu when the mouse is right-clicked. ☞ Page 119 Enabling/disabling the context menu display
[Enable or Disable Close Button]	Enables or disables the [×] button in the upper right corner of the title bar and the [Close] menu of the context menu that appears when the title bar is right-clicked. Select this item to enable the [×] button and the [Close] menu. ☞ Page 127 Enabling/disabling the close button
[Enable or Disable Exit Key [F12]]	Switches between exiting and not exiting GT SoftGOT3000 when the F12 key is pressed. Select this item to exit GT SoftGOT3000 by pressing the F12 key. ☞ Page 128 Enabling/disabling the exit key [F12]
[Full Screen Mode]	Switches the GT SoftGOT3000 screen between full-screen mode and non-full-screen mode. Select this item to display the GT SoftGOT3000 screen is in full screen mode. ☞ Page 120 Full-screen display
[Back Screen Mode]	Switches the GT SoftGOT3000 screen between displaying and not displaying in the background. Select this item to display the GT SoftGOT3000 screen in the background. ☞ Page 126 Back screen mode
[Switch Display Language]	Switches the display language of GT SoftGOT3000. ☞ Page 83 Switching the display language

4.2.3 [Set] menu

Click [Set] from the menu to display the [Set] dialog.

For details on each setting in the [Set] dialog, refer to the following.

☞ Page 85 [Basic Settings]

☞ Page 87 [System Settings]

4.2.4 [Online] menu

Item	Description
[Monitor Start]	Starts monitoring. ☞ Page 81 Starting monitoring
[Monitor Stop]	Stops monitoring. ☞ Page 82 Stopping monitoring
[Startup in Online Mode]	Set whether to start monitoring simultaneously with the next startup of GT SoftGOT3000 or not. Select this item to start monitoring simultaneously with the next startup.
[Monitor-only Mode]	Enables or disables operations using a mouse, keyboard, and touch display on the monitor screen. Select this item to disable the operations. ☞ Page 138 Monitor-only mode

4.2.5 [Tool] menu

Item	Description
[Resource Data]	Refers to the resource data in the personal computer. ☞ Page 156 Referring to resource data
[Keyboard Input]	Enables or disables the keyboard input. ☞ Page 142 Enabling/disabling the keyboard input
[Initialize all information]	Deletes any data that is not removed during the uninstallation of GT SoftGOT3000. ☞ Page 165 All data initialization

4.2.6 [Window] menu

Item	Description
[Cascade]	Cascades the running GT SoftGOT3000 windows. ☞ Page 130 Cascade
[Minimize All Windows]	Minimizes all the running GT SoftGOT3000 windows. ☞ Page 131 Minimize all windows
[Move Window]	Moves the GT SoftGOT3000 window with the mouse or the move buttons. ☞ Page 132 Window movement
[Move to Start-up Display Position]	Moves the GT SoftGOT3000 window to its startup display position. ☞ Page 135 Movement to the startup display position
[Move to Previous Display]	When multiple displays are connected to the personal computer, the GT SoftGOT3000 window moves across the displays according to the descending order of the display numbers assigned by GT SoftGOT3000. ☞ Page 136 Movement to the previous display
[Move to Next Display]	When multiple displays are connected to the personal computer, the GT SoftGOT3000 window moves across the displays according to the ascending order of the display numbers assigned by GT SoftGOT3000. ☞ Page 137 Movement to the next display
Move to display n.*1	When multiple displays are connected to the personal computer, the GT SoftGOT3000 window moves to the specified display. ☞ Page 137 Movement to the specified display

*1 The number of menu options increases correspondingly with the increase in the number of displays.

4.2.7 [Help] menu

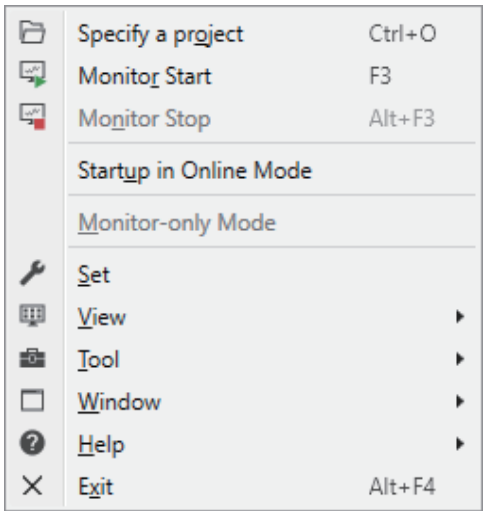
Item	Description
[MELSOFT GT SoftGOT3000 Help]	Displays Help (e-Manual) of GT SoftGOT3000.
[Connection to MITSUBISHI ELECTRIC FA Global Website]	Connects to the Mitsubishi Electric Factory Automation Global Website.
[About GT SoftGOT3000]	The GT SoftGOT3000 version can be checked.

4.2.8 [Exit] menu

Exit GT SoftGOT3000.

5 Context menu

The following explains the context menu that appears when the mouse is right-clicked on the monitor screen.



Item		Reference
[Specify a project]		Specify the project to be opened with GT SoftGOT3000. Also, set the behavior for monitoring with GT SoftGOT3000. ☞ Page 76 [Specify a project] dialog
[Monitor Start]		Starts monitoring. ☞ Page 81 Starting monitoring
[Monitor Stop]		Stops monitoring. ☞ Page 82 Stopping monitoring
[Startup in Online Mode]		Set whether to start monitoring simultaneously with the next startup of GT SoftGOT3000 or not. Select this item to start monitoring simultaneously with the next startup.
[Monitor-only Mode]		Enables or disables operations using a mouse, keyboard, and touch display on the monitor screen. Select this item to disable the operations. ☞ Page 138 Monitor-only mode
[Set]		Displays the [Set] dialog. For details on each setting in the [Set] dialog, refer to the following. ☞ Page 85 [Basic Settings] ☞ Page 87 [System Settings]
[View]	[Status Bar]	Displays or hides the status bar. Select this item to display the status bar at the bottom of the screen.
	[Scroll Bar]	Displays or hides the scroll bar. Select this item to display scroll bars. ☞ Page 129 Enabling/disabling the scroll bar display
	[Context Menu]	Displays or hides the context menu when the mouse is right-clicked. Select this item to display the context menu when the mouse is right-clicked. ☞ Page 119 Enabling/disabling the context menu display
	[Enable or Disable Close Button]	Enables or disables the [×] button in the upper right corner of the title bar and the [Close] menu of the context menu that appears when the title bar is right-clicked. Select this item to enable the [×] button and the [Close] menu. ☞ Page 127 Enabling/disabling the close button
	[Enable or Disable Exit Key [F12]]	Switches between exiting and not exiting GT SoftGOT3000 when the F12 key is pressed. Select this item to exit GT SoftGOT3000 by pressing the F12 key. ☞ Page 128 Enabling/disabling the exit key [F12]
	[Full Screen Mode]	Switches the GT SoftGOT3000 screen between full-screen mode and non-full-screen mode. Select this item to display the GT SoftGOT3000 screen is in full screen mode. ☞ Page 120 Full-screen display
	[Back Screen Mode]	Switches the GT SoftGOT3000 screen between displaying and not displaying in the background. Select this item to display the GT SoftGOT3000 screen in the background. ☞ Page 126 Back screen mode
	[Switch Display Language]	Switches the display language of GT SoftGOT3000. ☞ Page 83 Switching the display language

Item		Reference
[Tool]	[Resource Data]	Refers to the resource data in the personal computer. ☞ Page 156 Referring to resource data
	[Keyboard Input]	Enables or disables the keyboard input. ☞ Page 142 Enabling/disabling the keyboard input
	[Initialize all information]	Deletes any data that is not removed during the uninstallation of GT SoftGOT3000. ☞ Page 165 All data initialization
[Window]	[Cascade]	Cascades the running GT SoftGOT3000 windows. ☞ Page 130 Cascade
	[Minimize All Windows]	Minimizes all the running GT SoftGOT3000 windows. ☞ Page 131 Minimize all windows
	[Move Window]	Moves the GT SoftGOT3000 window with the mouse or the move buttons. ☞ Page 132 Window movement
	[Move to Start-up Display Position]	Moves the GT SoftGOT3000 window to its startup display position. ☞ Page 135 Movement to the startup display position
	[Move to Previous Display]	When multiple displays are connected to the personal computer, the GT SoftGOT3000 window moves across the displays according to the descending order of the display numbers assigned by GT SoftGOT3000. ☞ Page 136 Movement to the previous display
	[Move to Next Display]	When multiple displays are connected to the personal computer, the GT SoftGOT3000 window moves across the displays according to the ascending order of the display numbers assigned by GT SoftGOT3000. ☞ Page 137 Movement to the next display
	Move to display n.*1	When multiple displays are connected to the personal computer, the GT SoftGOT3000 window moves to the specified display. ☞ Page 137 Movement to the specified display
[Help]	[MELSOFT GT SoftGOT3000 Help]	Displays Help (e-Manual) of GT SoftGOT3000.
	[Connection to MITSUBISHI ELECTRIC FA Global Website]	Connects to the Mitsubishi Electric Factory Automation Global Website.
	[About GT SoftGOT3000]	The GT SoftGOT3000 version can be checked.
[Exit]		Exit GT SoftGOT3000.

*1 The number of menu options increases correspondingly with the increase in the number of displays.

Point

- You can set whether to display the context menu on the monitor screen when right-clicking the mouse.
☞ Page 119 Enabling/disabling the context menu display
- The context menu that appears when the mouse is right-clicked on the title bar is a standard Windows menu.

PART 4 Run

6 Procedure before operation

6 Procedure before operation

This chapter outlines the procedure before operation.
The procedure before operation differs depending on the security mode set for the project.
For the procedure before operation and the differences depending on the security mode, refer to the following.
☞ Page 47 Procedure before operating GT SoftGOT3000

What is the security mode?

The GOT's security function has two security modes.

Security mode	Description
Mode 1	The security functions compatible with the GOT2000 series can be used.
Mode 2 (default)	More robust security functions than mode 1 can be used.

Security mode settings can be configured only with GT Designer3.
For details, refer to the following.
📖GT Designer3 (GOT3000) Screen Design Manual

6.1 Procedure before operating GT SoftGOT3000

This section explains the procedure before operating GT SoftGOT3000 and the manuals describing the details.
The procedure before operation differs depending on the security mode.
The necessity of each step is shown below.
○: Required, △: Optional, —: Not required

Step		Security mode		Reference
		Mode 1	Mode 2	
1	Install GT SoftGOT3000 on the personal computer.	○	○	GT Works3 Version1 Installation Instructions
	When creating a project, install GT Designer3 on the personal computer.	○	○	GT Works3 Version1 Installation Instructions
2	Start GT SoftGOT3000 and register the GT SoftGOT3000 license.	○	○	☞ Page 49 Registering or deregistering the license
	When starting GT SoftGOT3000 for the first time, set a password for the GT SoftGOT3000 application log file.	○	○	☞ Page 60 Startup and exit
3	Create a project with GT Designer3.	○	○	GT Designer3 (GOT3000) Screen Design Manual
	Configure the settings to connect GT SoftGOT3000 and the controller.	○	○	GOT3000 Series User's Manual (Connection)
4	Connect the personal computer with GT SoftGOT3000 installed to the controller.	○	○	GOT3000 Series User's Manual (Connection)
5	Open the project in GT SoftGOT3000.	○	○	☞ Page 75 Opening the project
	Enter the password when the file protection function is enabled.	△	△	GT Designer3 (GOT3000) Screen Design Manual ☞ Page 75 Opening the project
	When the security mode set for the project is mode 2, register the information of the operator with administrator privileges to GT SoftGOT3000.	—	○	GT Designer3 (GOT3000) Screen Design Manual ☞ Page 75 Opening the project
6	Perform monitoring with GT SoftGOT3000 using the project.	○	○	☞ Page 81 Monitoring
	The following shows how to check if GT SoftGOT3000 is monitoring correctly. • When an error occurs, the details of the error can be checked on the [System alarm] screen of the utility.	○	○	GOT3000 Series User's Manual (Utility & Maintenance Functions)

PART 4

PART 5 Basic operations

7 Registering or deregistering the license

The following explains how to register and deregister the license.
There are two types of licenses: the GT SoftGOT3000 license and the add-on function license.
To use GT SoftGOT3000 and the add-on function with GT SoftGOT3000, license registration is required in GT SoftGOT3000.
☞ Page 49 GT SoftGOT3000 license
☞ Page 54 Add-on function license

7.1 GT SoftGOT3000 license

The following explains how to register and deregister the GT SoftGOT3000 license.
To use GT SoftGOT3000, license registration is required.
If monitoring is started without license registration, GT SoftGOT3000 will automatically terminate after about three hours.
Be sure to register the license before starting monitoring with GT SoftGOT3000.
☞ Page 50 Procedure for registering the GT SoftGOT3000 license
☞ Page 53 Procedure for deregistering the GT SoftGOT3000 license

Precautions

■License registration/deregistration rights

Register or deregister the GT SoftGOT3000 license in GT SoftGOT3000.
When registering or deregistering the license, be sure to start GT SoftGOT3000 with administrator privileges.

■Registering or deregistering the license when multiple modules are running

When multiple GT SoftGOT3000 modules are running, the GT SoftGOT3000 license cannot be registered or deregistered.
Start only one GT SoftGOT3000 module when registering or deregistering the license.

7.1.1 Procedure for registering the GT SoftGOT3000 license

Apply for the GT SoftGOT3000 license and register the license in GT SoftGOT3000.

☞ Page 50 Application for the GT SoftGOT3000 license

☞ Page 51 GT SoftGOT3000 license registration

Application for the GT SoftGOT3000 license

Apply for the GT SoftGOT3000 license and obtain the activation file required for license registration.

The following items are required to apply for the GT SoftGOT3000 license.

Item	Description
Product ID for the GT SoftGOT3000 license	It is provided on the purchased license certificate.
GT SoftGOT3000 individual identification information	The individual identification information can be checked in the [Display individual identification information of GT SoftGOT3000] dialog of GT SoftGOT3000. ☞ Page 164 GT SoftGOT3000 individual identification information display
E-mail address	Used to receive the activation file.

■Advance preparation

The following shows how to obtain the activation file for GT SoftGOT3000.

1. Access the HMI GOT activation file application form and apply for the GT SoftGOT3000 license.

https://www.mitsubishielectric.com/contact/ssl/php/1477/kiyaku.php?fid=1477

2. Store the activation file attached to the e-mail, which is received via the HMI GOT activation file application form, in any folder on the computer where GT SoftGOT3000 is installed.

3. Register the license with GT SoftGOT3000.

☞ Page 51 GT SoftGOT3000 license registration

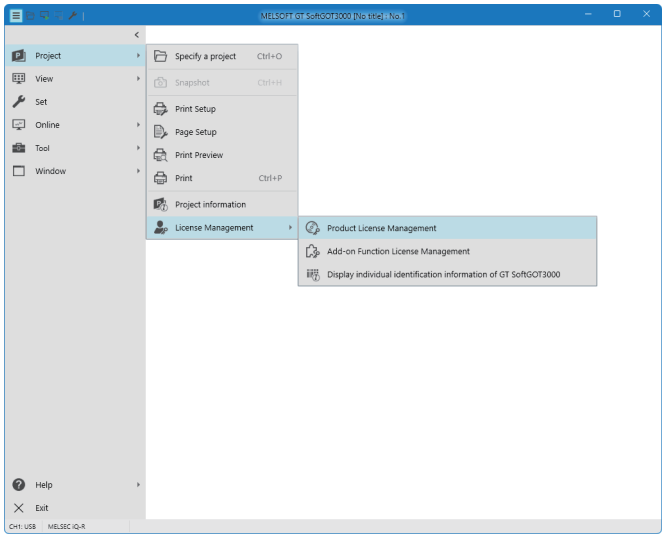
GT SoftGOT3000 license registration

Register the license in GT SoftGOT3000.

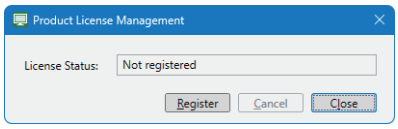
Operating procedure

1. Start GT SoftGOT3000 with administrator privileges.
2. Click the [Menu] icon and select [Project] → [License Management] → [Product License Management] from the menu to display the [Product License Management] dialog.

☞ Page 162 Product license management

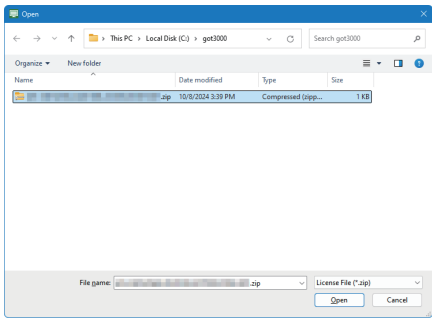


3. Check that [License Status] is set to [Not registered], and click the [Register] button in the [Product License Management] dialog.



The [Open] dialog appears.

4. In the dialog, select the activation file (zip file) stored in a folder, and click the [Open] button.



Clicking the [Open] button registers the license in GT SoftGOT3000.

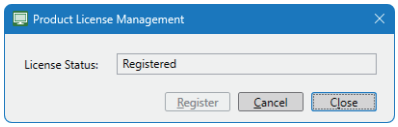
- When the license registration is successful, the license registration successful dialog appears.
- If the license registration fails, an error message appears.

For the error causes and corrective actions, refer to the following.

☞ Page 171 Error messages related to the license

5. Click the [OK] button to close the dialog.

When the license registration is successful, [License Status] in the [Product License Management] dialog is updated to [Registered].



The GT SoftGOT3000 license registration is completed.

Point

After the license registration, you can move the registered activation file to a different folder.
Keep the activation file in a safe place and do not lose it.

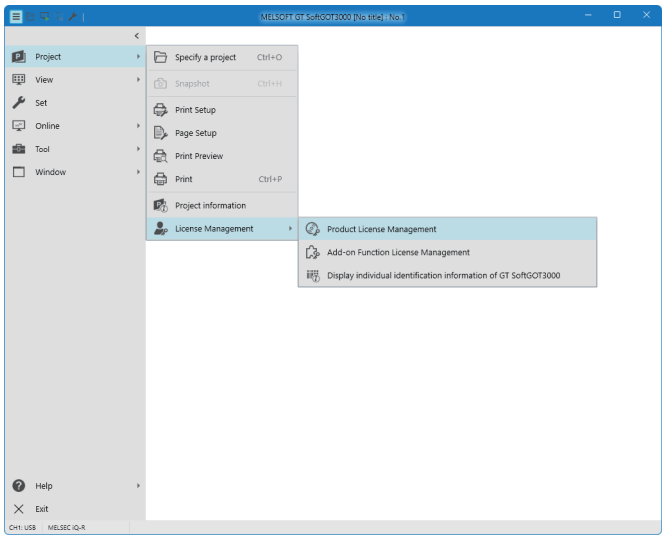
7.1.2 Procedure for deregistering the GT SoftGOT3000 license

The following shows how to deregister the GT SoftGOT3000 license.

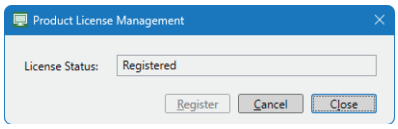
Operating procedure

1. Start GT SoftGOT3000 with administrator privileges.
2. Click the [Menu] icon and select [Project] → [License Management] → [Product License Management] from the menu to display the [Product License Management] dialog.

☞ Page 162 Product license management



3. Check that [License Status] is set to [Registered], and click the [Cancel] button in the [Product License Management] dialog.



A confirmation dialog appears.

4. Click the [Yes] button in the displayed dialog to deregister the license.

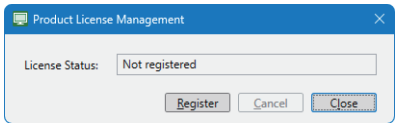
- When the license deregistration is successful, the license deregistration successful dialog appears.
- If the license deregistration fails, an error message appears.

For the error causes and corrective actions, refer to the following.

☞ Page 171 Error messages related to the license

5. Click the [OK] button to close the dialog.

When the license deregistration is successful, [License Status] in the [Product License Management] dialog is updated to [Not registered].



The GT SoftGOT3000 license deregistration is completed.

Point

If you register the GT SoftGOT3000 license on the same personal computer again after deregistering the license, use the activation file previously registered.
Keep the activation file in a safe place and do not lose it.

7.2 Add-on function license

This section explains how to register and deregister the add-on function license.

To use the add-on function with GT SoftGOT3000, license registration is required.

☞ Page 55 Procedure for registering the add-on function license

☞ Page 58 Procedure for deregistering the add-on function license

Precautions

■License registration/deregistration rights

Register or deregister the add-on function license in GT SoftGOT3000.

When registering or deregistering the license, be sure to start GT SoftGOT3000 with administrator privileges.

■Registering or deregistering the license when multiple modules are running

When multiple GT SoftGOT3000 modules are running, the add-on function license cannot be registered or deregistered.

Start only one GT SoftGOT3000 module when registering or deregistering the license.

7.2.1 Procedure for registering the add-on function license

Apply for the add-on function license and register the license to the add-on function.

☞ Page 55 Application for the add-on license function license

☞ Page 56 Add-on function license registration

Application for the add-on license function license

Apply for the add-on function license and obtain the activation file required for license registration.

The following items are required to apply for the add-on function license.

Item	Description
Product ID for the add-on function license	It is provided on the purchased license certificate.
GT SoftGOT3000 individual identification information	The individual identification information can be checked in the [Display individual identification information of GT SoftGOT3000] dialog of GT SoftGOT3000. ☞ Page 164 GT SoftGOT3000 individual identification information display
E-mail address	Used to receive the activation file.

■Advance preparation

The following shows how to obtain the activation file for the add-on function.

1. Access the HMI GOT activation file application form and apply for the add-on function license.

https://www.mitsubishielectric.com/contact/ssl/php/1477/kiyaku.php?fid=1477

2. Store the activation file attached to the e-mail, which is received via the HMI GOT activation file application form, in any folder on the computer where the add-on function is installed.

3. Register the license with GT SoftGOT3000.

☞ Page 56 Add-on function license registration

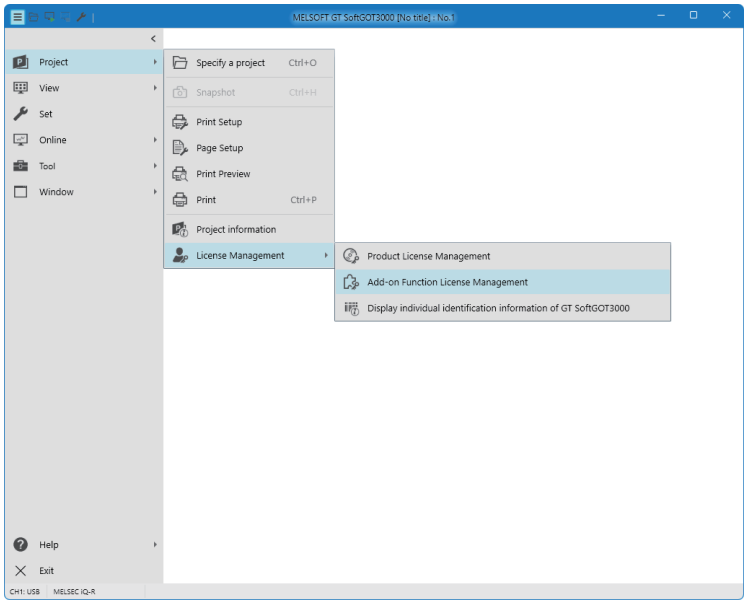
Add-on function license registration

Register the add-on function license in GT SoftGOT3000.

Operating procedure

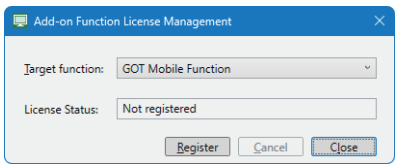
1. Start GT SoftGOT3000 with administrator privileges.
2. Click the [Menu] icon and select [Project] → [License Management] → [Add-on Function License Management] from the menu to display the [Add-on Function License Management] dialog.

☞ Page 163 Add-on function license management



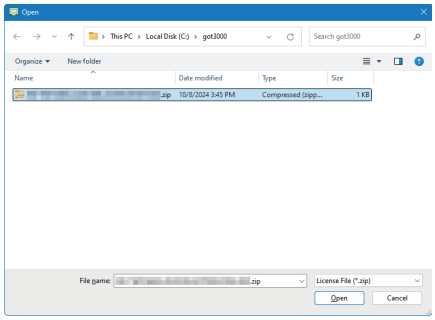
3. Select the add-on function from the [Target function] list to register the license.

Check that [License Status] is set to [Not registered], and click the [Register] button.



The [Open] dialog appears.

4. In the dialog, select the activation file (zip file) stored in a folder, and click the [Open] button.



Clicking the [Open] button registers the license in GT SoftGOT3000.

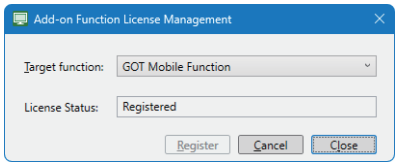
- When the license registration is successful, the license registration successful dialog appears.
- If the license registration fails, an error message appears.

For the error causes and corrective actions, refer to the following.

☞ Page 171 Error messages related to the license

5. Click the [OK] button to close the dialog.

When the license registration is successful, [License Status] in the [Add-on Function License Management] dialog is updated to [Registered].



The add-on function license registration is completed.

Point

After the license registration, you can move the registered activation file to a different folder.
Keep the activation file in a safe place and do not lose it.

PART 5

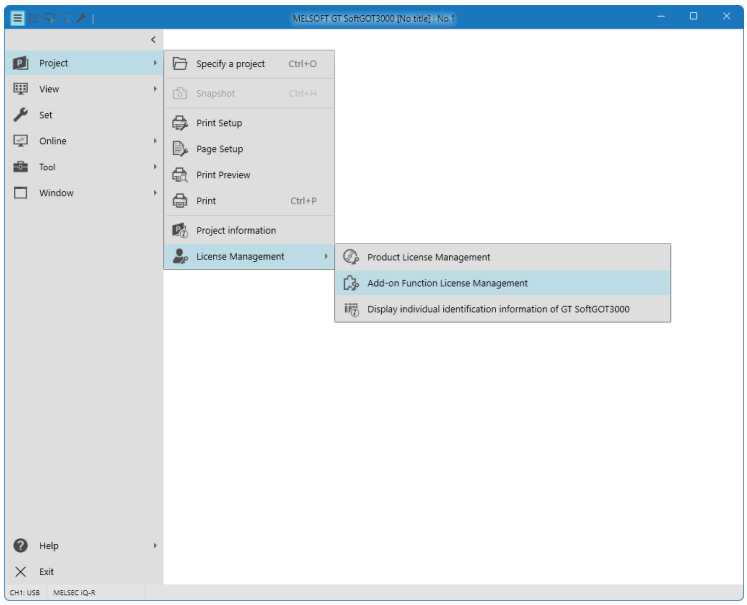
7.2.2 Procedure for deregistering the add-on function license

The following shows how to deregister the add-on function license.

Operating procedure

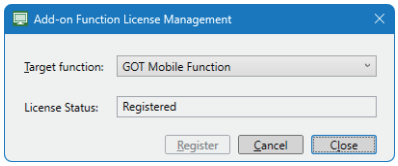
1. Start GT SoftGOT3000 with administrator privileges.
2. Click the [Menu] icon and select [Project] → [License Management] → [Add-on Function License Management] from the menu to display the [Add-on Function License Management] dialog.

☞ Page 163 Add-on function license management



3. Select the add-on function from the [Target function] list to unregister the license.

Check that [License Status] is set to [Registered], and click the [Cancel] button.



A confirmation dialog appears.

4. Click the [Yes] button in the displayed dialog to deregister the license.

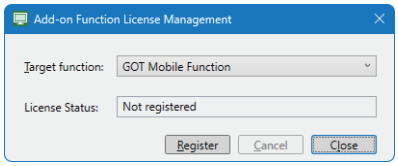
- When the license deregistration is successful, the license deregistration successful dialog appears.
- If the license deregistration fails, an error message appears.

For the error causes and corrective actions, refer to the following.

☞ Page 171 Error messages related to the license

5. Click the [OK] button to close the dialog.

When the license deregistration is successful, [License Status] in the [Add-on function License Management] dialog is updated to [Not registered].



The add-on function license deregistartion is completed.

Point

If you register the add-on function license in the same GT SoftGOT3000 again after deregistering the license, use the activation file previously registered.

Keep the activation file in a safe place and do not lose it.

8 Startup and exit

The following explains how to start and exit GT SoftGOT3000.

Startup procedure

The following methods are available for starting GT SoftGOT3000.

Startup procedure	Reference
Start GT SoftGOT3000 manually from the Windows menu or the [GT SoftGOT3000] icon.	☞ Page 61 Manual startup
Start GT SoftGOT3000 automatically to start monitoring when the personal computer is started.	☞ Page 64 Automatic startup

For manual startup, the operation or processing upon startup of GT SoftGOT3000 can be specified by setting the startup option.

☞ Page 68 Specifying the operation or processing upon startup

Precautions

To perform monitoring with GT SoftGOT3000, register the GT SoftGOT3000 license in advance.

For instructions on how to register the license, refer to the following.

☞ Page 49 GT SoftGOT3000 license

Exiting procedure

For information on how to exit GT SoftGOT3000, refer to the following.

☞ Page 74 Exit

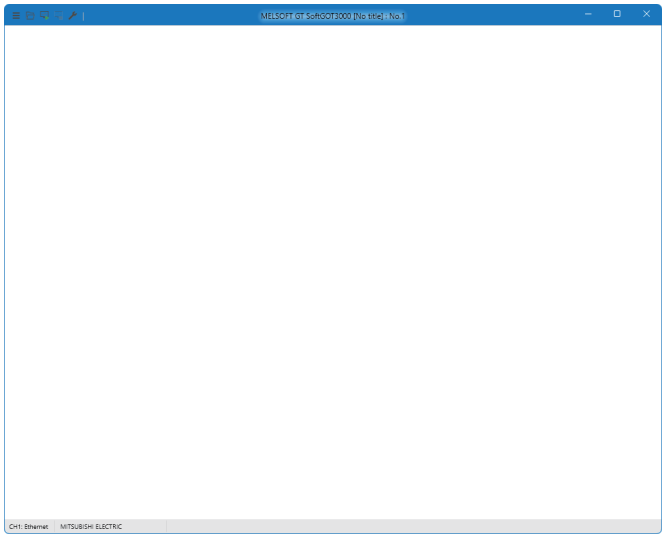
8.1 Manual startup

The following shows the procedure for manually starting GT SoftGOT3000.

Operating procedure

The following explains how to start GT SoftGOT3000 using the Windows 11 operating environment as an example.
Perform one of the following operations to start GT SoftGOT3000.

- From the Windows start menu, select [All apps] → [MELSOFT] → [GT SoftGOT3000].
- Double-click the shortcut to GT SoftGOT3000.



A dialog appears when GT SoftGOT3000 is started for the first time.
For details on the displayed dialog, refer to the following.
☞ Page 62 Dialog displayed at startup

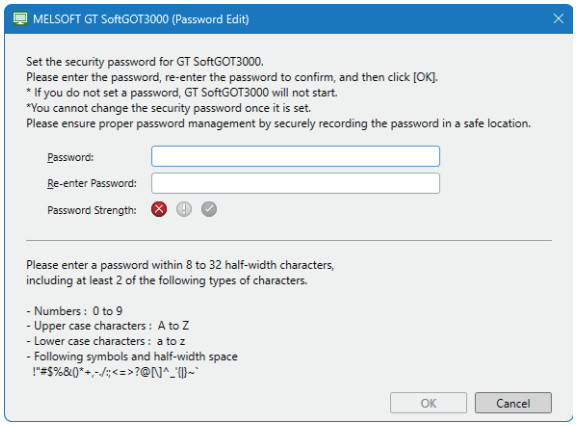
Point

You can start multiple GT SoftGOT3000 modules.
Each time the above startup operation is performed, another GT SoftGOT3000 module is started and assigned a module number sequentially (No. 1, No. 2, etc.).
For the specifications when multiple GT SoftGOT3000 modules are started, refer to the following.
☞ Page 30 Specifications for starting multiple modules

Dialog displayed at startup

The following explains the dialog displayed when GT SoftGOT3000 is started.

■Password setting dialog for the GT SoftGOT3000 application log file



This dialog is used to set a password to protect log files output by the GT SoftGOT3000 application log function, which is a unique operation log function of GT SoftGOT3000.

The dialog appears when a password for the GT SoftGOT3000 application log file is not set when GT SoftGOT3000 is started. If the password is not set, GT SoftGOT3000 will not start.

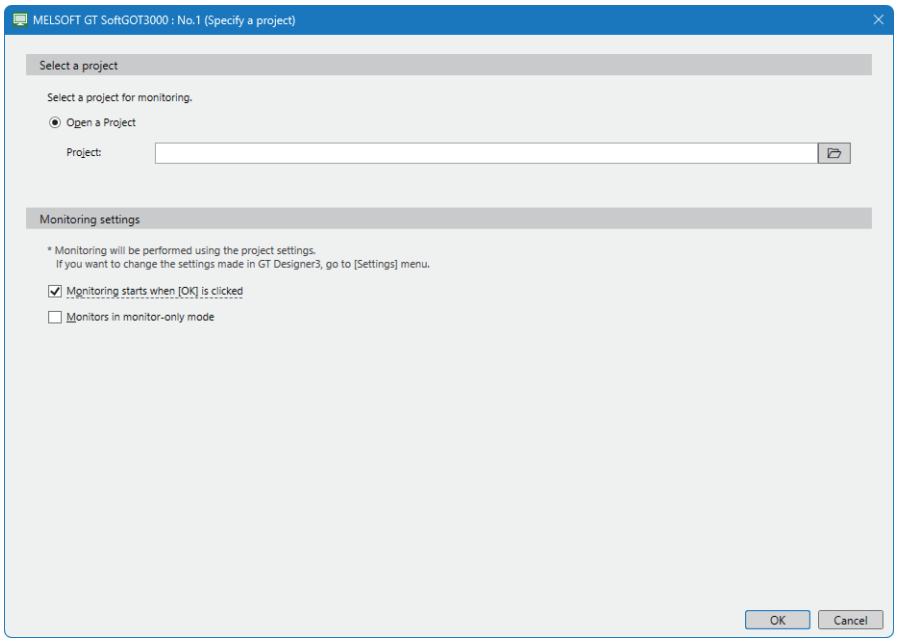
For information on the log files output by the GT SoftGOT3000 application log function, refer to the following.

☞ Page 25 GT SoftGOT3000 application log function

Point

The password for the GT SoftGOT3000 application log files cannot be changed once it has been set. Do not forget the password.

■[Specify a project] dialog



This dialog is used to specify the project used for monitoring.

The dialog appears if the project for monitoring is not specified when each module is started.

Specify the project to be used for monitoring and set the behavior when the project is opened.

☞ Page 75 Opening the project

How to specify the operation or processing upon startup

You can set the startup option in [Properties] of the GT SoftGOT3000 shortcut to specify the operation or processing upon startup of GT SoftGOT3000.

For details, refer to the following.

☞ Page 68 Specifying the operation or processing upon startup

Window position upon startup of GT SoftGOT3000

The window position at GT SoftGOT3000 startup can be set in [Display Position] in the [Environment] dialog or with the startup option.

For details, refer to the following.

☞ Page 107 [Display Position]

☞ Page 68 Specifying the operation or processing upon startup

If GT SoftGOT3000 was abnormally terminated, the window upon startup will be displayed in the position where it was normally terminated last time.

Each GT SoftGOT3000 module retains its window position.

8.2 Automatic startup

Using [Startup in Online Mode] in GT SoftGOT3000 with the Windows [Startup] or [Task Scheduler] functions allows GT SoftGOT3000 to start monitoring automatically when the personal computer starts.
To enable automatic startup of GT SoftGOT3000, you need to configure the settings in both GT SoftGOT3000 and Windows.
☞ Page 64 Settings in GT SoftGOT3000
☞ Page 65 Windows settings

Precautions

Before using the automatic startup, make sure to start Windows while the device to be monitored is on.

8.2.1 Settings in GT SoftGOT3000

Configure the settings of the project to be used when GT SoftGOT3000 is automatically started and the setting of the startup in online mode.

Operating procedure

1. Start GT SoftGOT3000 with the module number to be automatically started.
For information on how to start GT SoftGOT3000 by specifying a module number, refer to the following.
☞ Page 71 Starting GT SoftGOT3000 by specifying a module number

Point

When GT SoftGOT3000 is started for the first time, the password setting dialog for GT SoftGOT3000 application log file is displayed.
Set the password.
☞ Page 62 Password setting dialog for the GT SoftGOT3000 application log file

2. Perform one of the following operations to display the [Specify a project] dialog.
- Click the [Menu] icon and select [Project] → [Specify a project] from the menu.
- Right-click the mouse and select [Specify a project] from the context menu.

Point

If no project is specified to be opened, the [Specify a project] dialog appears at startup.

3. Open the project to be used when GT SoftGOT3000 automatically starts in the [Specify a project] dialog.
Deselect [Monitoring starts when [OK] is clicked].
For information on the [Specify a project] dialog, refer to the following.
☞ Page 76 [Specify a project] dialog

4. Click the [OK] button to open the selected project.

Point

To open the project with security mode set to mode 2 for the first time, an operator with administrator privileges must be registered.
If an operator with administrative privileges has already been registered, the registered operator information will be used for login when the project is opened.
☞ Page 78 Opening a mode 2 project

5. Perform one of the following operations to set [Startup in Online Mode].
- Click the [Menu] icon, select [Online], and select [Startup in Online Mode].
- Right-click the mouse and select [Startup in Online Mode] from the context menu.
- In the [Set] dialog, click [Action] under [Environment] in the setting tree, and then select [Enable online mode on startup].

6. Exit GT SoftGOT3000.
☞ Page 74 Exit

8.2.2 Windows settings

Configure the settings in [Startup] or [Task Scheduler].

☞ Page 65 Settings in [Startup]
☞ Page 66 Settings in [Task Scheduler]

Precautions

If User Account Control (UAC) is enabled, configure the settings in [Task Scheduler] on the Windows.

Settings in [Startup]

When the [Startup] settings are configured in Windows, GT SoftGOT3000 can automatically start and start monitoring when the personal computer is started.

Operating procedure

1. Create a shortcut to GT SoftGOT3000 in the following startup folder.

C:\Users\(Username)\AppData\Roaming\Microsoft\Windows\Start Menu\Programs\Startup

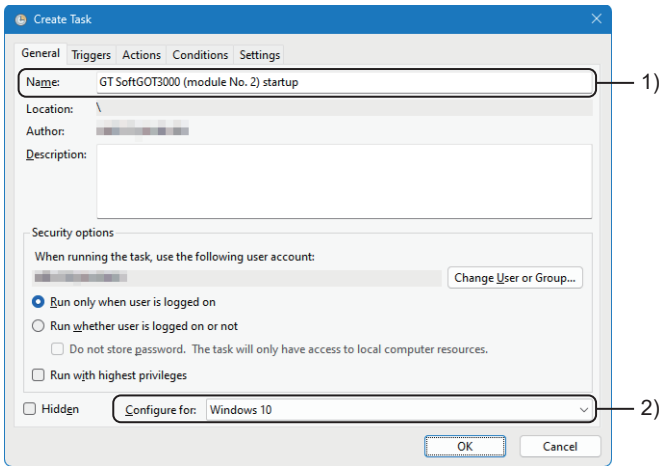
2. When the personal computer is started, GT SoftGOT3000 starts automatically.

Settings in [Task Scheduler]

Configure the settings such as when to start GT SoftGOT3000 in Windows [Task Scheduler].
To start multiple GT SoftGOT3000 modules automatically, set [Task Scheduler] for each module to be started.

Operating procedure

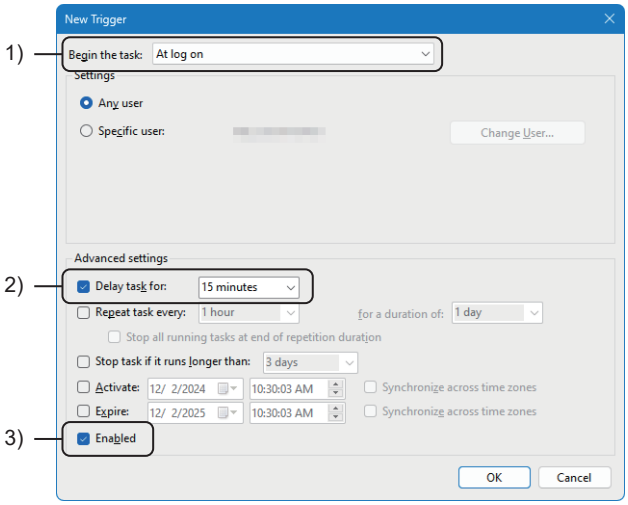
1. Start Windows [Task Scheduler].
2. Select [Actions] → [Create Task] from the menu in the [Task Scheduler] window to display the [Create Task] dialog.
3. On the [General] tab in the [Create Task] dialog, configure the following settings.



Setting item		Description
1)	[Name]	Set a name.
2)	[Configure for]	Select the OS used.

4. Click the [New] button on the [Triggers] tab to display the [New Trigger] dialog.

Configure the settings as shown below.

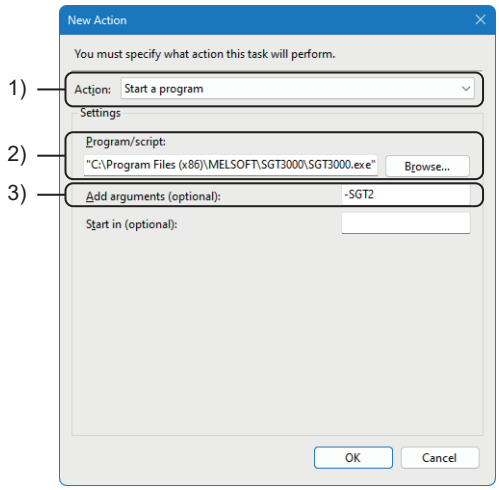


Setting item		Description
1)	[Begin the task]	Select [At log on].
2)	[Delay task for]	According to the personal computer environment, set the optimum time. To set automatic startup for multiple GT SoftGOT3000 modules, set a different trigger delay time for each module.
3)	[Enabled]	Select this item.

5. When you have completed the settings, click the [OK] button to close the [New Trigger] dialog.

6. Click the [New] button on the [Actions] tab to display the [New Action] dialog.

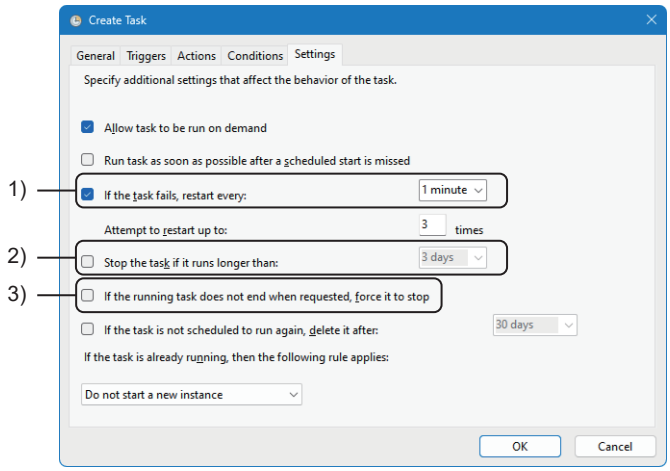
Configure the settings as shown below.



Setting item		Description
1)	[Action]	Select [Start a program].
2)	[Program/script]	Specify the executable file of GT SoftGOT3000.
3)	[Add arguments (optional)]	To start a GT SoftGOT3000 module by specifying the module number, set the startup option in [Add arguments (optional)]. For the startup option, refer to the following. ☞ Page 71 Starting GT SoftGOT3000 by specifying a module number

7. When you have completed the settings, click the [OK] button to close the [New Action] dialog.

8. On the [Settings] tab, configure the following settings.



Setting item		Description
1)	[If the task fails, restart every]	Set this item as required.
2)	[Stop the task if it runs longer than]	Set this item as required. (Recommended: Deselect the checkbox.*1)
3)	[Stop the task if it runs longer than]	Set this item as required. (Recommended: Deselect the checkbox.*2)

*1 Up to [3 days] can be set for [Stop the task if it runs longer than].
To use GT SoftGOT3000 for three or more consecutive days, deselect this item.

*2 If this item is selected, all the termination processing of GT SoftGOT3000 will not be performed correctly when GT SoftGOT3000 is forcibly exited.
Therefore, you are recommended to deselect this item.

9. Click the [OK] button in the [Create Task] dialog to complete the settings.

8.3 Specifying the operation or processing upon startup

You can set the startup option in [Properties] of the GT SoftGOT3000 shortcut to specify the operation or processing upon startup of GT SoftGOT3000.

8.3.1 Setting or canceling the startup option

The following explains how to set and cancel the startup option in [Properties] of the shortcut to GT SoftGOT3000.

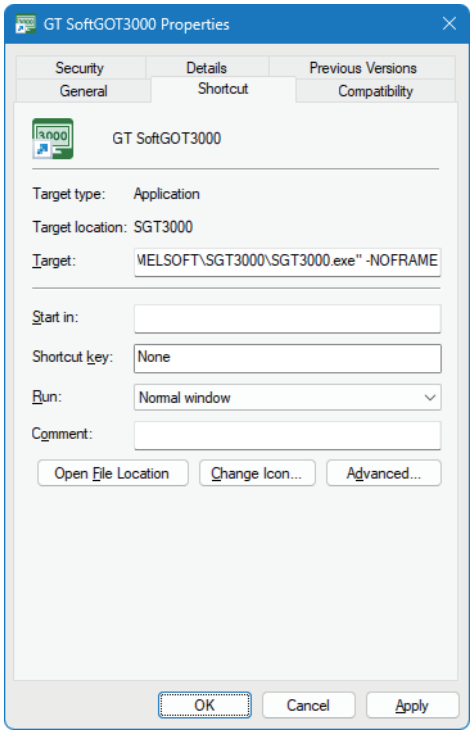
Setting the startup option

The following shows the procedure for setting the startup option.

Operating procedure

1. Create a shortcut to GT SoftGOT3000.
2. Right-click the shortcut and select [Properties] to display the [GT SoftGOT3000 Properties] window.
3. Select the [Shortcut] tab in the [GT SoftGOT3000 Properties] window.
4. Add the startup option corresponding to the operation or processing to be specified to the end of [Target].

Enter a one-byte space before the startup option to be added.



Reference	Startup option
☞ Page 70 Opening the specified project for monitoring	File name with a full path
☞ Page 70 Not displaying the confirmation dialog upon startup	/NOONLINEDLG
☞ Page 71 Starting in the monitor-only mode	/MNTONLY
☞ Page 71 Starting GT SoftGOT3000 by specifying a module number	-SGTn
☞ Page 71 Starting in the full-screen display	-NOFRAME
	-NOFRAMEDLG
	-NOFRAMEDLGMENU
☞ Page 72 Specifying the display position and screen size	-WINDOWSIZE
☞ Page 73 Specifying the display position	-WINDOWPOS

Point

Multiple startup options can be added in combination to [Target].
For example, add the startup option for the full screen mode and the one for module number specification to start a specified GT SoftGOT3000 module in the full-screen display.
There are no rules for the order of adding startup options.
Example) Starting GT SoftGOT3000 module No. 3 in full-screen display 1

"C:\Program Files (x86)\MELSOFT\SGT3000\SGT3000.exe" -SGT3 -NOFRAME

A one-byte space is required before each startup option.

5. After adding startup options, click the [OK] button.

GT SoftGOT3000 module will start in a state corresponding to the set startup options upon the next startup.

Canceling the startup option

To cancel the setting, delete the startup option added to [Target] in [Properties] of the shortcut.

PART 5

8.3.2 Opening the specified project for monitoring

When GT SoftGOT3000 is started, the project specified with the startup option can be opened to start monitoring.
The following shows the startup option and setting example.

Startup option	Setting example
File name with a full path*1	• To read Project 1.GTYP in drive C on the personal computer and start monitoring "C:\Program Files\MELSOFT\SGT3000\SGT3000.exe""C:\Project 1.GTYP"

*1 If the full path of the project contains a one-byte or two-byte space, enclose the entire full path of the project in double quotation marks.

Precautions

■Checking the environmental setting and connection setting

Monitoring is started when GT SoftGOT3000 is started with this startup option specified.
Before setting the startup option, check that the environmental setting and connection setting of GT SoftGOT3000 and the project are correct.

■When the specified project does not exist

If the project specified with the startup option does not exist, an error message appears.
For details on errors and corrective actions, refer to the following.
☞ Page 167 GT SoftGOT3000 error messages

■When specifying a project with security mode set to mode 2

When a project with security mode set to mode 2 is opened for the first time, an operator with administrator privileges must be registered.
If an operator with administrative privileges has already been registered, the registered operator information will be used for login when the project is opened.
For details, refer to the following.
☞ Page 78 Opening a mode 2 project

8.3.3 Not displaying the confirmation dialog upon startup

Without displaying a confirmation dialog for switching to online mode, you can open the project specified with the startup option to start monitoring.

Point

This startup option can be set when the following startup option is set.
☞ Page 70 Opening the specified project for monitoring

The following shows the startup option and setting example.

Startup option	Setting example
/NOONLINEDLG	• To read Project 1.GTYP in drive C on the personal computer and start monitoring without displaying the online transition confirmation dialog "C:\Program Files\MELSOFT\SGT3000\SGT3000.exe" "C:\Project 1.GTYP" /NOONLINEDLG

8.3.4 Starting in the monitor-only mode

GT SoftGOT3000 is started in the monitor-only mode.

The following shows the startup option and setting example.

Startup option	Setting example
/MNTONLY	"C:\Program Files\MELSOFT\SGT3000\SGT3000.exe" /MNTONLY

For details on monitor-only mode, refer to the following.

☞ Page 138 Monitor-only mode

Precautions

Once GT SoftGOT3000 is started in the monitor-only mode, the mode cannot be canceled while GT SoftGOT3000 is running. To change the monitor-only mode and standard screen display while GT SoftGOT3000 is running, set the monitor-only mode after starting GT SoftGOT3000 without setting this option.

☞ Page 138 Starting/canceling the monitor-only mode

8.3.5 Starting GT SoftGOT3000 by specifying a module number

GT SoftGOT3000 is started by specifying a module number with the startup option.

The following shows the startup option and setting example.

Startup option	Setting example
-SGTn*1	• Starting GT SoftGOT3000 module No. 5 "C:\Program Files\MELSOFT\SGT3000\SGT3000.exe" -SGT5

*1 Set the module number of GT SoftGOT3000 to be started for "n". (n = 1 to 32767)

8.3.6 Starting in the full-screen display

GT SoftGOT3000 is displayed in the full-screen display.

The following shows the startup option and setting example.

Startup option	Screen to be displayed	Setting example
-NOFRAME	Full-screen display 1	"C:\Program Files\MELSOFT\SGT3000\SGT3000.exe" -NOFRAME
-NOFRAMEDLG	Full-screen display 2	"C:\Program Files\MELSOFT\SGT3000\SGT3000.exe" -NOFRAMEDLG
-NOFRAMEDLGMENU	Full-screen display 3	"C:\Program Files\MELSOFT\SGT3000\SGT3000.exe" -NOFRAMEDLGMENU

For details on the full screen display, refer to the following.

☞ Page 120 Full-screen display

Precautions

The startup options for full-screen display cannot be set in combination.

Set one of the startup options for the full-screen display.

8.3.7 Specifying the display position and screen size

The startup display position and screen size of GT SoftGOT3000 can be specified with the startup options.
Specify the display position at the left corner of the GT SoftGOT3000 screen using (X, Y) coordinates, considering the upper left corner of the personal computer screen as (0, 0) coordinates.
The coordinates and screen size are specified in units of pixels.
Specify the values for the startup option in units of pixels.
The following shows the startup option and setting example.

Startup option	Setting example
-WINDOWSIZE=left,top,width,height • left: X-coordinate on the upper left corner of the GT SoftGOT3000 screen • top: Y-coordinate on the upper left corner of the GT SoftGOT3000 screen • width: Width of the GT SoftGOT3000 screen • height: Height of the GT SoftGOT3000 screen	• To display the screen at the coordinates (10, 20) with a width of 800 and a height of 600 "C:\Program Files\MELSOFT\SGT3000\SGT3000.exe" -WINDOWSIZE=10,20,800,600

Precautions

■Setting values of the startup option

The setting values of the startup option must be one-byte numeric characters and separated by one-byte commas (,).
No one-byte space is required before or after numeric characters or symbols.
In addition, set the display position of GT SoftGOT3000 to fit into the screen of the personal computer and set the screen size to a value equal to or greater than 1.
If a value outside the screen area of the personal computer is set for the display position or when a value equal to or smaller than 0 is set for the screen size, an error message appears.

■Operation when the display position is set in [Display Position]

Even if the display position at GT SoftGOT3000 startup is set in [Display Position] in the [Environment] dialog, the values set for the startup option are prioritized.

■Combination with other startup options

Do not set this startup option when the display position at GT SoftGOT3000 startup is specified with the startup option (-WINDOWPOS).
When configured with the startup option to open a specified project for monitoring, the screen size of GT SoftGOT3000 at startup prioritizes the resolution set in the project.

8.3.8 Specifying the display position

The startup display position of GT SoftGOT3000 can be specified with the startup option.

Specify the display position at the left corner of the GT SoftGOT3000 screen using (X, Y) coordinates, considering the upper left corner of the personal computer screen as (0, 0) coordinates.

The coordinates are specified in units of pixels.

Specify the values for the startup option in units of pixels.

The following shows the startup option and setting example.

Startup option	Setting example
-WINDOWPOS=left,top • left: X-coordinate on the upper left corner of the GT SoftGOT3000 screen • top: Y-coordinate on the upper left corner of the GT SoftGOT3000 screen	• To set the display position to the coordinates (10, 20) "C:\Program Files\MELSOFT\SGT3000\SGT3000.exe" -WINDOWPOS=10,20

Precautions

■Setting values of the startup option

The setting values of the startup option must be one-byte numeric characters and separated by one-byte commas (,).

No one-byte space is required before or after numeric characters or symbols.

In addition, set the display position of GT SoftGOT3000 to fit into the screen of the personal computer.

If a value outside the screen of the personal computer is set for the display position, an error message appears.

■Operation when the display position is set in [Display Position]

Even if the display position at GT SoftGOT3000 startup is set in [Display Position] in the [Environment] dialog, the values set for the startup option are prioritized.

■Combination with other startup options

Do not set this startup option when the startup display position and screen size of GT SoftGOT3000 are specified with the startup option (-WINDOWSIZE).

8.4 Exit

Exit GT SoftGOT3000.

Operating procedure

Perform one of the following operations to exit GT SoftGOT3000.

- Select [Exit] from the menu.
- Click the [×] button in the title bar.
- Right-click the mouse and select [Exit] from the context menu.
- Press the F12 key on the keyboard.*1
- Press the Alt + F4 keys on the keyboard.
- Turn on the GOT special register (GS500.b0).

*1 You can enable or disable the function to exit GT SoftGOT3000 by pressing the F12 key on the keyboard.
For details, refer to the following.
☞ Page 106 [Action]

Point

By turning on the GOT special register (GS500.b0), GT SoftGOT3000 can be exited.
By setting the above device for a touch switch, GT SoftGOT3000 can be exited without selecting an item from the menu.
GT SoftGOT3000 may not be terminated if device ON time is too short.
Keep the device ON until GT SoftGOT3000 is terminated.
For details on the GOT special register, refer to the following manual.
GT Designer3 (GOT3000) Screen Design Manual

9 Opening the project

Open a project in GT SoftGOT3000 and start monitoring.
The procedure for opening a project depends on the security mode (mode 1, mode 2) set for the project.
For details on the procedure, refer to the following.
☞ Page 77 Opening a mode 1 project
☞ Page 78 Opening a mode 2 project

Point

For information on the security mode specifications, refer to the following.
📖GT Designer3 (GOT3000) Screen Design Manual

Precautions

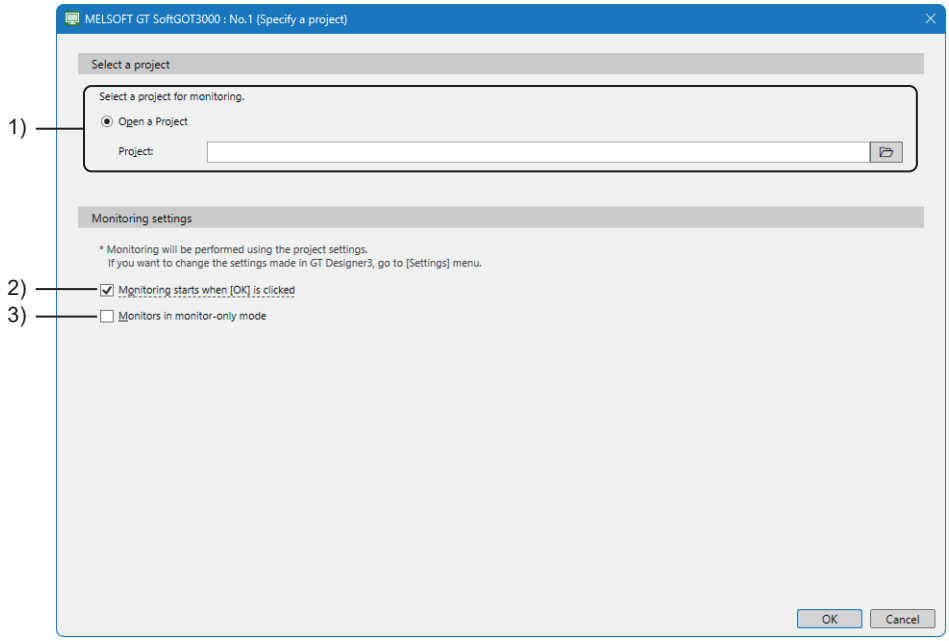
■Reflecting the settings from GT Designer3

The GT SoftGOT3000 settings configured in GT Designer3 are applied to GT SoftGOT3000 when a project is opened.
If a project is opened when GT SoftGOT3000 is in online or offline mode, only the external application start trigger settings are applied to GT SoftGOT3000.
To apply all the settings of the project to GT SoftGOT3000, restart GT SoftGOT3000 and reopen the project.

PART 5

9.1 [Specify a project] dialog

Select the project to be monitored and set the behavior when the project is opened.



Item		Description	
1)	[Open a Project]	Select the project (GTYP file) to be used for monitoring using either of the following methods. • Enter the full path to the project used for monitoring in [Project]. • Click the icon on the right and select the project from the [Open a project] dialog that appears.	
2)	[Monitoring starts when [OK] is clicked]	Select this item to start monitoring when the project is opened.	
		Selected	Click the [OK] button to start monitoring.
		Deselected	Click the [OK] button to display the GT SoftGOT3000 main window before starting the monitoring.
3)	[Monitors in monitor-only mode]	Select this item to perform monitoring in monitor-only mode when the project is opened. For details on monitor-only mode, refer to the following. ☞ Page 138 Monitor-only mode	

9.2 Opening a mode 1 project

The following explains how to open a project in security mode set to mode 1 using GT SoftGOT3000 and perform monitoring.

Operating procedure

1. Start GT SoftGOT3000.

☞ Page 60 Startup and exit

2. Perform one of the following operations to display the [Specify a project] dialog.

- Click the [Menu] icon and select [Project] → [Specify a project] from the menu.
- Click the [Specify a project] icon on the quick access toolbar.
- Right-click the mouse and select [Specify a project] from the context menu.
- Press the Ctrl + O keys on the keyboard.

Point

When GT SoftGOT3000 is started and a project used for monitoring is not specified, the [Specify a project] dialog is automatically displayed.

3. In the [Specify Project] dialog, select the project to be used for monitoring and set the behavior when the project is opened.

☞ Page 76 [Specify a project] dialog

4. When you have completed the settings, click the [OK] button.

If the file protection function is enabled, a dialog prompting you to enter a password is displayed.

Enter the password you have set.

For information on the file protection function, refer to the following.

📖GT Designer3 (GOT3000) Screen Design Manual

The behavior differs depending on whether [Monitoring starts when [OK] is clicked] is selected or deselected in the [Specify a project] dialog.

Selected/deselected	Description
Selected	A confirmation dialog appears to confirm the transition to online mode. The dialog does not appear if the mode is already online mode. Click the [Yes] button to start monitoring with the project selected in the [Specify a project] dialog.
Deselected	The GT SoftGOT3000 main window is displayed. For instructions on how to start monitoring from the main window, refer to the following. ☞ Page 81 Starting monitoring

PART 5

9.3 Opening a mode 2 project

The following explains how to open a project in security mode set to mode 2 using GT SoftGOT3000 and perform monitoring.

Operating procedure

1. Start GT SoftGOT3000.

☞ Page 60 Startup and exit

2. Perform one of the following operations to display the [Specify a project] dialog.

- Click the [Menu] icon and select [Project] → [Specify a project] from the menu.
- Click the [Specify a project] icon on the quick access toolbar.
- Right-click the mouse and select [Specify a project] from the context menu.
- Press the Ctrl + O keys on the keyboard.

Point

When GT SoftGOT3000 is started and a project used for monitoring is not specified, the [Specify a project] dialog is automatically displayed.

3. In the [Specify Project] dialog, select the project to be used for monitoring and set the behavior when the project is opened.

☞ Page 76 [Specify a project] dialog

4. When you have completed the settings, click the [OK] button.

If the file protection function is enabled, a dialog prompting you to enter a password is displayed.

Enter the password you have set.

For information on the file protection function, refer to the following.

GT Designer3 (GOT3000) Screen Design Manual

A different screen appears depending on how many times the mode 2 object is opened.

Number of times a mode 2 project is opened	Description
When a mode 2 project is opened for the first time	The operator registration screen appears. Register an operator with administrator privileges in the Administrators group.
When a mode 2 project is opened for the second time or later	The operator authentication screen appears. Log in with the registered operator information.

If the operator is successfully registered or authenticated, the project opens.

After the project opens, the subsequent operation depends on whether [Monitoring starts when [OK] is clicked] set in step 3 is selected or not.

Selected/deselected	Description
Selected	A confirmation dialog appears to confirm the transition to online mode. The dialog does not appear if the mode is already online mode. Click the [Yes] button to start monitoring with the project selected in the [Specify a project] dialog.
Deselected	The GT SoftGOT3000 main window is displayed. For instructions on how to start monitoring from the main window, refer to the following. ☞ Page 81 Starting monitoring

Registering or editing an operator or group

The operator and group information can be registered or edited with the utility function or the GOT Operator Management Information Conversion Tool.

For details on the utility functions, refer to the following.

GOT3000 Series User's Manual (Utility & Maintenance Functions)

For the operator authentication specifications, refer to the following.

GT Designer3 (GOT3000) Screen Design Manual

Point

The operator and group information is held in each GT SoftGOT3000 module.

PART 5

9.4 Changing the security mode

When a project is opened with GT SoftGOT3000, GT SoftGOT3000 is in the security mode (mode 1 or mode 2) set for the opened project.
The security mode of GT SoftGOT3000 can be changed by opening a project set to a different mode with GT SoftGOT3000.
☞ Page 80 Changing to mode 2
☞ Page 80 Changing to mode 1

9.4.1 Changing to mode 2

When the security mode of GT SoftGOT3000 is mode 1 and a project in mode 2 is opened, GT SoftGOT3000 switches to the mode 2 state.
When switching to the mode 2 state, an operator in the Administrators group with administrator privileges must be registered.
For details on the procedure, refer to the following.
☞ Page 78 Opening a mode 2 project

Precautions

If there is operator information in security mode 1, the information is deleted.

9.4.2 Changing to mode 1

When the security mode of GT SoftGOT3000 is mode 2 and a project in mode 1 is opened, GT SoftGOT3000 switches to the mode 1 state.
For details on the procedure, refer to the following.
☞ Page 77 Opening a mode 1 project

Precautions

■Operations required to open a project

To open a project, authentication by an operator in the Administrators group with administrator privileges is required.

■Operator information when switching to mode 1

When the security mode is changed from mode 2 to mode 1, the operator information registered in GT SoftGOT3000 is deleted.

10 Monitoring

The following explains how to start or stop monitoring with GT SoftGOT3000.

☞ Page 81 Starting monitoring
☞ Page 82 Stopping monitoring

10.1 Starting monitoring

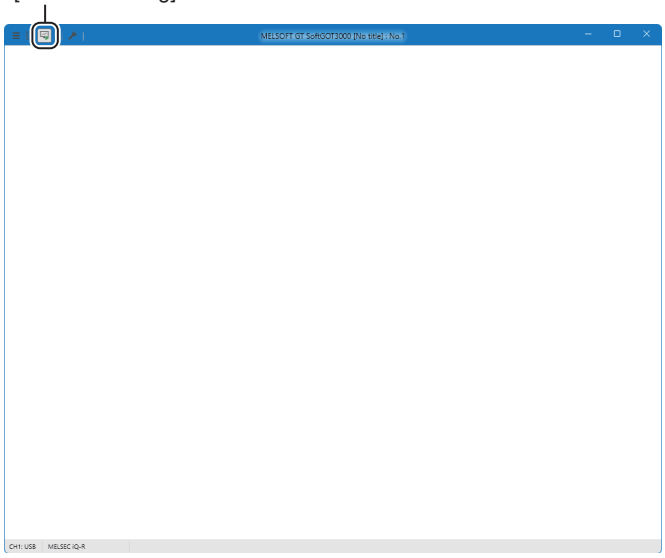
Start monitoring using the project opened on GT SoftGOT3000.

Operating procedure

Perform one of the following operations to start monitoring.

- Click the [Menu] icon and select [Online] → [Monitor Start] from the menu.
- Right-click the mouse and select [Monitor Start] from the context menu.
- Click the [Start monitoring] icon on the quick access tool bar.
- Press the F3 key.

[Start monitoring] icon



During monitoring, operations are performed using a mouse or touch input on the touch display.

Point

When the startup in online mode is enabled, GT SoftGOT3000 can automatically start monitoring at startup.
For details on the setting, refer to the following.

☞ Page 106 [Action]

Precautions

■GT SoftGOT3000 license registration

To perform monitoring with GT SoftGOT3000, register the product license in advance.
If monitoring is started without the product license registered, GT SoftGOT3000 automatically ends in about three hours.
For information on how to register the product license, refer to the following.

☞ Page 49 GT SoftGOT3000 license

PART 5

10.2 Stopping monitoring

This section describes how to stop monitoring.

Operating procedure

Perform one of the following operations to stop monitoring.

- Click the [Menu] icon and select [Online] → [Monitor Stop] from the menu.
- Right-click the mouse and select [Monitor Stop] from the context menu.
- Click the [Monitor Stop] icon on the quick access tool bar.
- Press the Alt key + F3 key.

11 Switching the display language

The display language of GT SoftGOT3000 can be switched.

Operating procedure

1. Perform one of the following operations to display the [Switch Display Language] dialog.
- Click the [Menu] icon and select [View] → [Switch Display Language] from the menu.
- Right-click the mouse and select [View] → [Switch Display Language] from the context menu.

2. Select the language to be switched to from the list in the [Switch Display Language] dialog.

3. Click the [OK] button to close the [Switch Display Language] dialog. Then, the display of GT SoftGOT3000 will change to the selected language.

Precautions

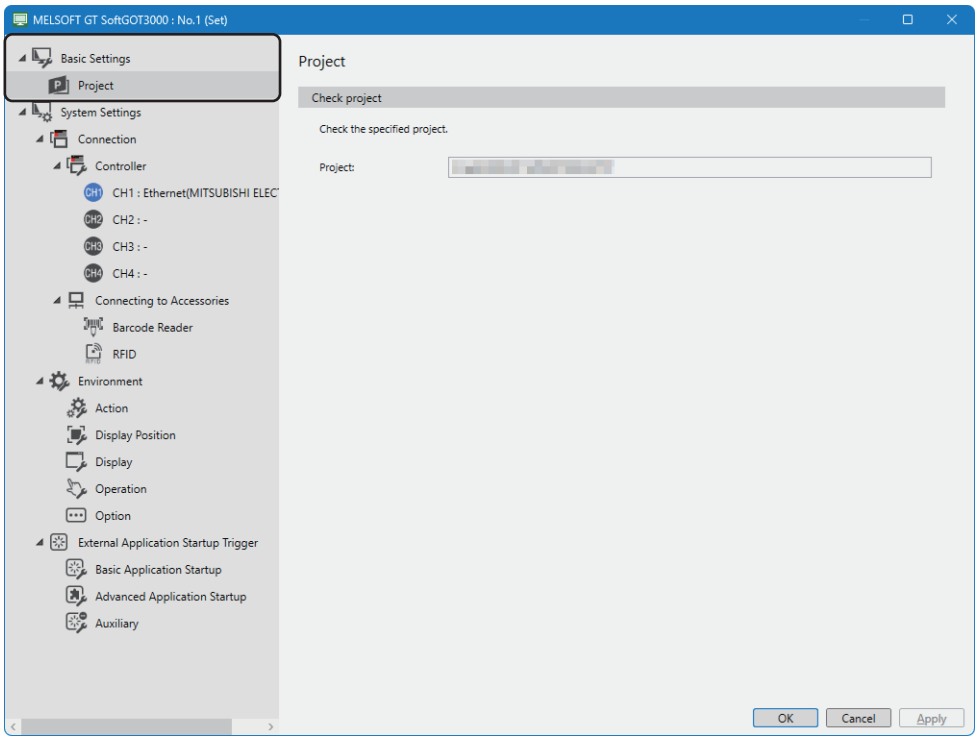
If the personal computer does not support the language to be switched to, the screen layout collapses and characters become garbled on the GT SoftGOT3000 screen.
Install a language pack or other components on the personal computer as needed.

PART 6 Settings

12 [Basic Settings]

The following explains the settings of [Basic Settings] in the left-side tree of the [Set] dialog.

☞ Page 86 [Project]



Operating procedure

1. Perform one of the following operations to display the [Set] dialog.

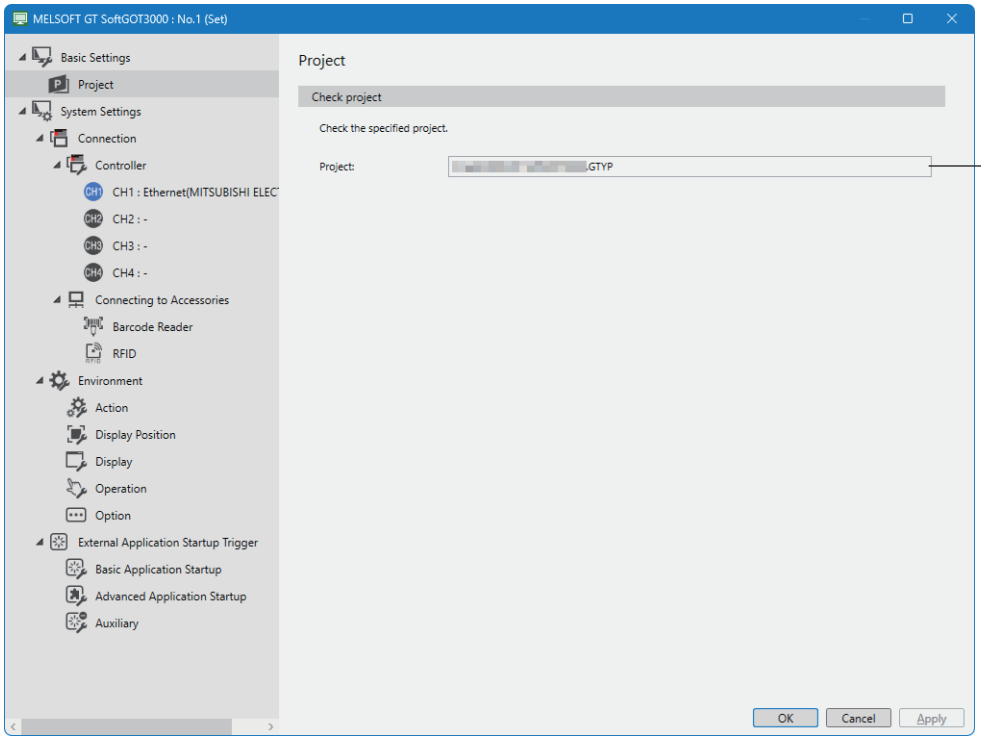
- Click the [Menu] icon and select [Set] from the menu.
- Right-click the mouse and click [Set] from the context menu.
- Click the [Set] icon on the quick access tool bar.

2. Click the setting target item from [Basic Settings] in the left-side tree of the [Set] dialog.

PART 6

12.1 [Project]

Displays the full path to the project opened with GT SoftGOT3000.

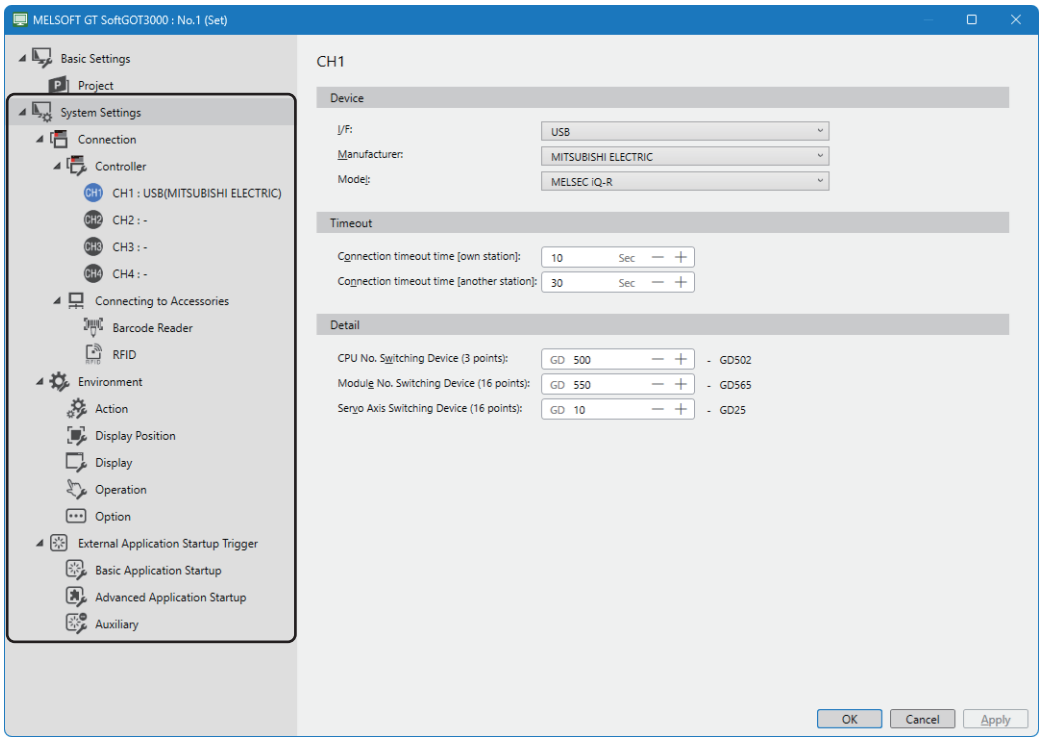


Item		Description
1)	[Project]	Displays the full path to the open project. If no project is open, this field is blank.

13 [System Settings]

The following explains the settings of [System Settings] in the left-side tree of the [Set] dialog.

☞ Page 88 [Connection]
☞ Page 106 [Environment]
☞ Page 111 [External Application Startup Trigger]



Window

1. Perform one of the following operations to display the [Set] dialog.

- Click the [Menu] icon and select [Set] from the menu.
- Right-click the mouse and click [Set] from the context menu.
- Click the [Set] icon on the quick access tool bar.

2. Click the setting target item from [System Settings] in the left-side tree of the [Set] dialog.

Precautions

■Settings in the [Set] dialog

The settings in the [Set] dialog reflect the settings configured in GT Designer3 when a project is created.
Configure these settings in GT Designer3 in advance, rather than after opening the project with GT SoftGOT3000.

■Changing the settings

When the settings in the [Set] dialog are changed for a project opened in GT SoftGOT3000, the changes are applied only to the currently open project.
The changes are not applied to the project specified to be opened.
To change the settings of the specified project, use GT Designer3.
Additionally, if you change the settings in GT Designer3, reopen the project in GT SoftGOT3000 afterward.

PART 6

13.1 [Connection]

Displays the connection settings between GT SoftGOT3000 and the controller.

☞ Page 88 [Controller]

☞ Page 104 [Connecting to Accessories]

13.1.1 [Controller]

Displays the communication settings for the controller set in the project.

The controller settings (connection method and model for each channel) are also displayed in the setting tree.

To use channel No. 2 to No. 4 in GT SoftGOT3000, click the intended channel No. and select [Use CH*] in the upper right.

Items in the setting tree	[I/F] setting
CH1 to CH4	☞ Page 89 [Ethernet]
	☞ Page 95 [USB]
CH1	☞ Page 102 [MELSOFT Simulator]

For details on the controller settings, refer to the following.

GOT3000 Series User's Manual (Connection)

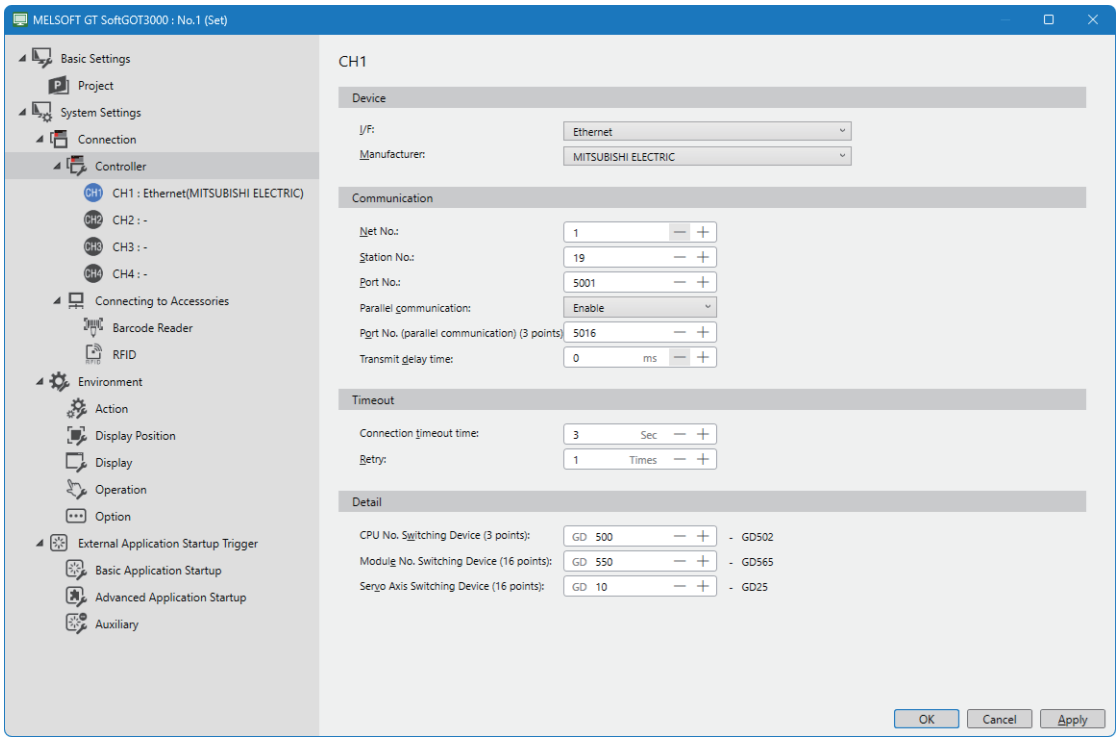
[Ethernet]

Displays the setting item for connecting GT SoftGOT3000 and the controller via Ethernet.

The setting items differ depending on the setting for [Manufacturer].

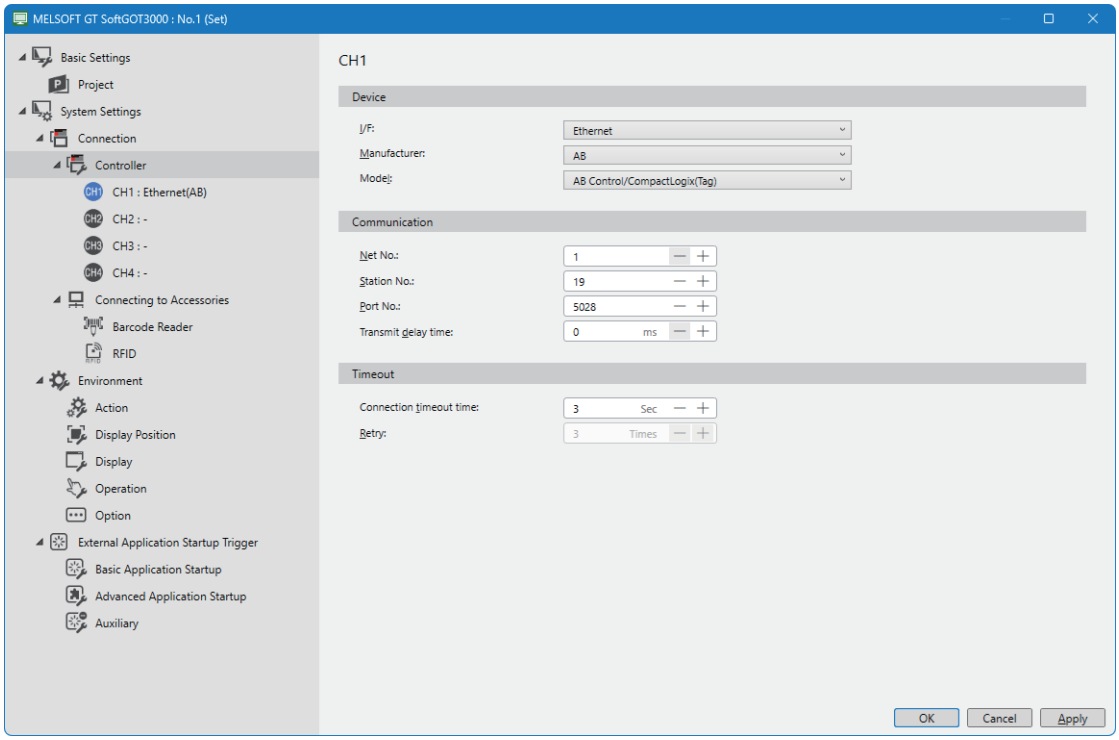
☞ Page 89 [Manufacturer]: [MITSUBISHI ELECTRIC]
☞ Page 90 [Manufacturer]: [AB]
☞ Page 91 [Manufacturer]: [SIEMENS]
☞ Page 92 [Manufacturer]: [CLPA]
☞ Page 93 [Manufacturer]: [MODBUS]
☞ Page 94 [Manufacturer]: [Computer connection]

■[Manufacturer]: [MITSUBISHI ELECTRIC]



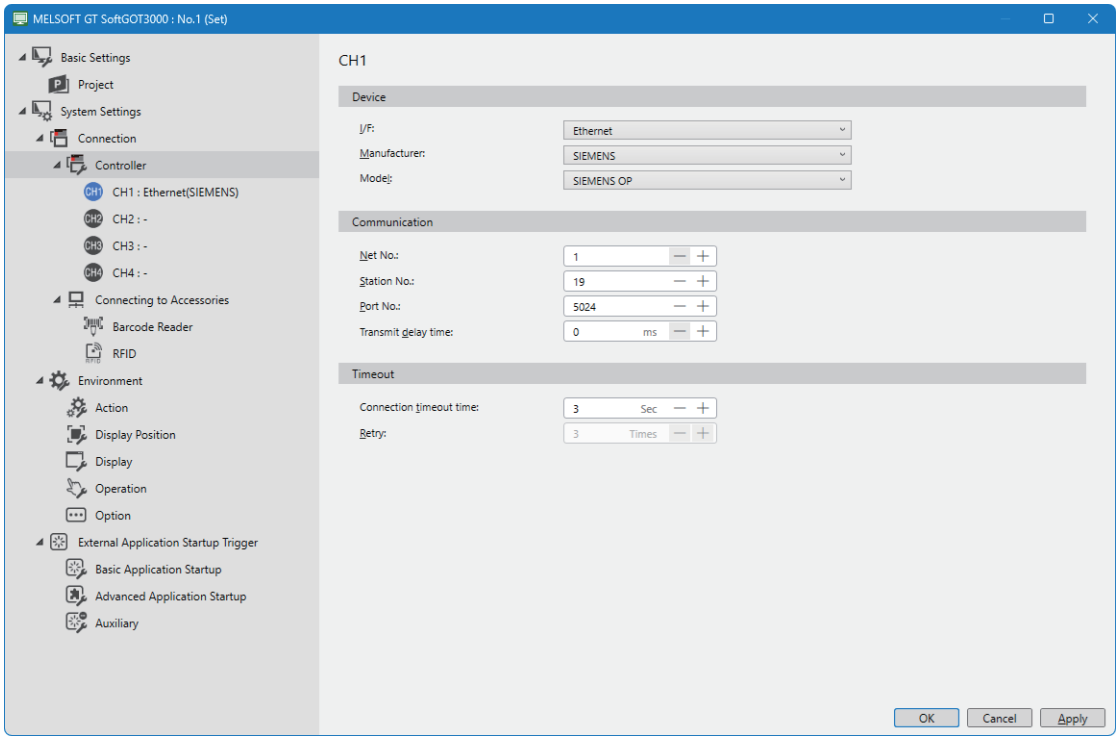
Item		Description	Range
[Device]	[I/F]	[Ethernet]	—
	[Manufacturer]	[MITSUBISHI ELECTRIC]	—
[Communication]	[Net No.]	Displays the network number of GT SoftGOT3000.	[1] to [239]
	[Station No.]	Displays the station number of GT SoftGOT3000.	[1] to [120]
	[Port No.]	Displays the port number of GT SoftGOT3000.	[1024] to [65534]
	[Parallel communication]	Displays whether the parallel communication set in GT SoftGOT3000 is enabled or disabled.	[Enable] [Disable]
	[Port No. (parallel communication)]	Displays the port No. used for the parallel communication.	[1024] to [5008] [5014] to [49150] [49171] to [65532]
	[Transmit delay time]	Display the send delay time for reducing the load on the network and destination PLC.	[0] ms to [10000] ms
[Timeout]	[Connection timeout time]	Displays the time until the communication times out.	[1] Sec to [90] Sec
	[Retry]	Displays the number of retries when the communication times out. If no response is received after the retries, the communication times out.	[0] Times to [10] Times
[Detail]	[CPU No. Switching Device (3 points)]	Displays the start device number of the GOT data registers (GD) to specify the CPU number.	GD[0] to GD[65520]
	[Module No. Switching Device (16 points)]	Displays the start device number of the GOT data registers (GD) to specify the module number.	GD[0] to GD[65520]
	[Servo Axis Switching Device (16 points)]	Displays the start device number of the GOT data registers (GD) to specify the axis number.	GD[0] to GD[65520]

■[Manufacturer]: [AB]



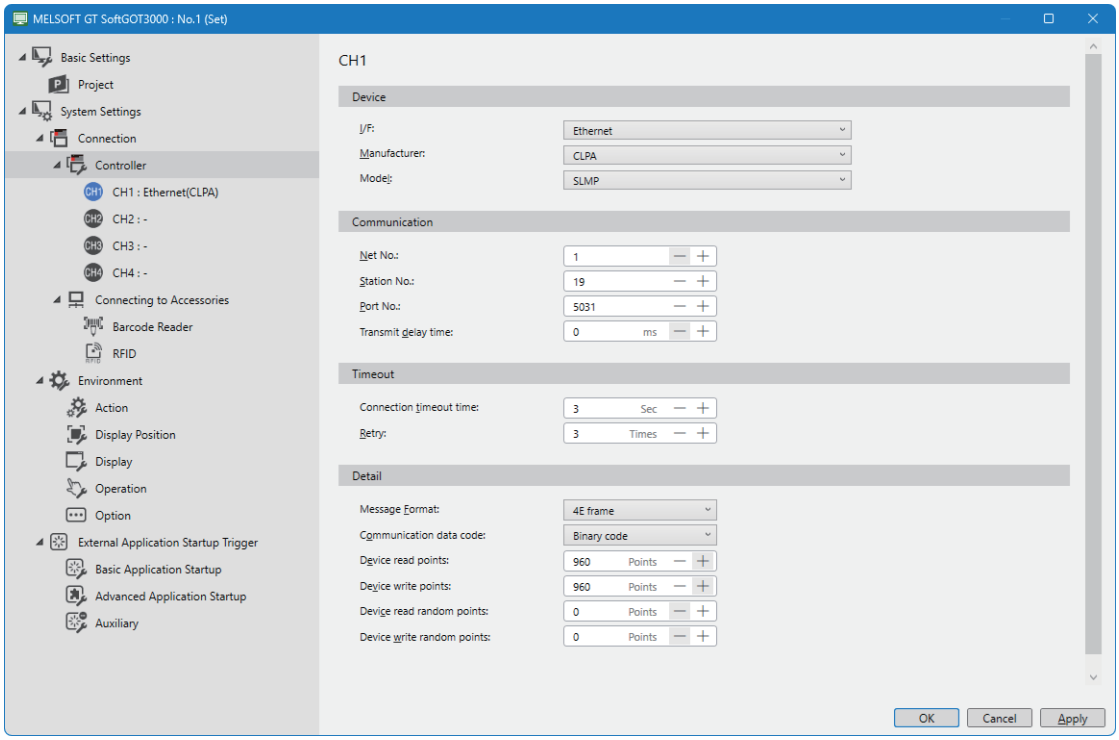
Item		Description	Range
[Device]	[I/F]	[Ethernet]	—
	[Manufacturer]	[AB]	—
	[Type]	[AB Control/CompactLogix(Tag)]	—
[Communication]	[Net No.]	Displays the network number of GT SoftGOT3000.	[1] to [239]
	[Station No.]	Displays the station number of GT SoftGOT3000.	[1] to [64]
	[Port No.]	Displays the port number of GT SoftGOT3000.	[1024] to [5010] [5014] to [49152] [49171] to [65534]
	[Transmit delay time]	Display the send delay time for reducing the load on the network and destination PLC.	[0] ms to [10000] ms
[Timeout]	[Connection timeout time]	Displays the time until the communication times out.	[1] Sec to [90] Sec
	[Retry]	Displays the number of retries when the communication times out. If no response is received after the retries, the communication times out.	[3]Times

■[Manufacturer]: [SIEMENS]



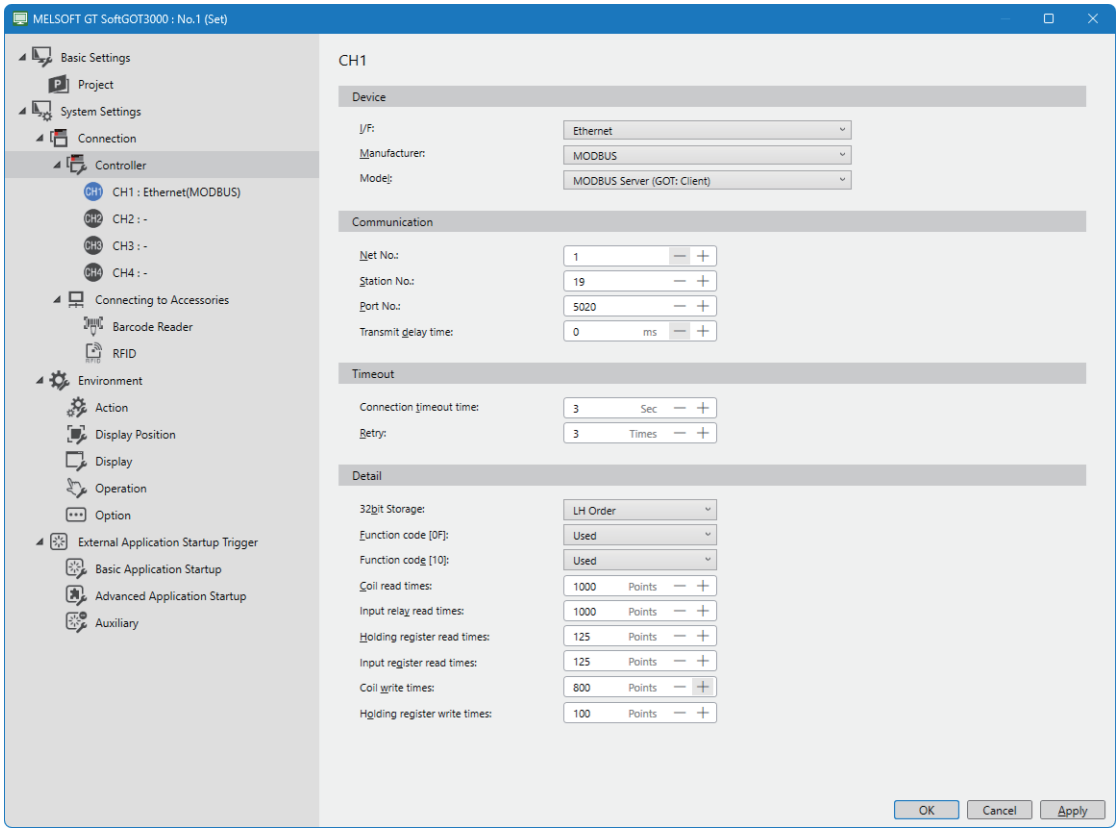
Item		Description	Range
[Device]	[I/F]	[Ethernet]	—
	[Manufacturer]	[SIEMENS]	—
	[Type]	[SIEMENS OP]	—
[Communication]	[Net No.]	Displays the network number of GT SoftGOT3000.	[1] to [239]
	[Station No.]	Displays the station number of GT SoftGOT3000.	[1] to [254]
	[Port No.]	Displays the port number of GT SoftGOT3000.	[1024] to [5010] [5014] to [49152] [49171] to [65534]
	[Transmit delay time]	Display the send delay time for reducing the load on the network and destination PLC.	[0] ms to [10000] ms
[Timeout]	[Connection timeout time]	Displays the time until the communication times out.	[1] Sec to [90] Sec
	[Retry]	Displays the number of retries when the communication times out. If no response is received after the retries, the communication times out.	[3]Times

■[Manufacturer]: [CLPA]



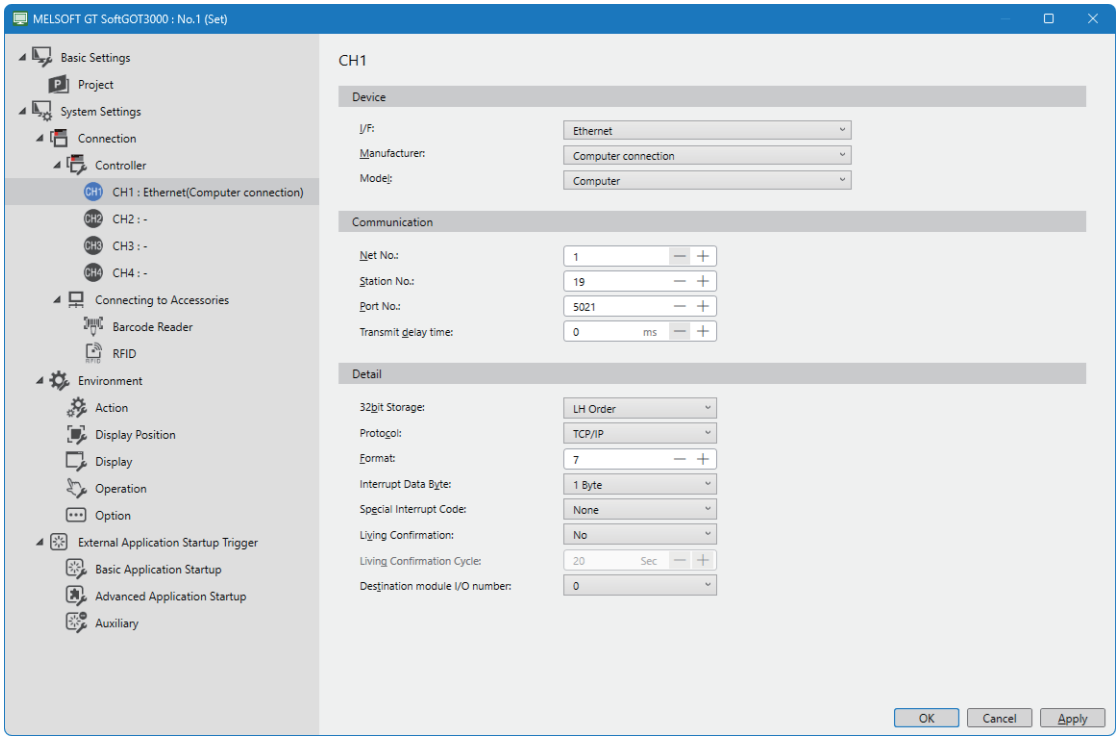
Item		Description	Range
[Device]	[I/F]	[Ethernet]	—
	[Manufacturer]	[CLPA]	—
	[Type]	[SLMP]	—
[Communication]	[Net No.]	Displays the network number of GT SoftGOT3000.	[1] to [239]
	[Station No.]	Displays the station number of GT SoftGOT3000.	[1] to [120]
	[Port No.]	Displays the port number of GT SoftGOT3000.	[1024] to [5010] [5014] to [49152] [49171] to [65534]
	[Transmit delay time]	Display the send delay time for reducing the load on the network and destination PLC.	[0] ms to [10000] ms
[Timeout]	[Connection timeout time]	Displays the time until the communication times out.	[1] Sec to [90] Sec
	[Retry]	Displays the number of retries when the communication times out. If no response is received after the retries, the communication times out.	[0] Times to [5] Times
[Detail]	[Message Format]	Display the message format.	[QnA compatible 3E frame] [4E frame]
	[Communication data code]	Displays the communication code.	[ASCII code] [Binary code]
	[Device read points]	Displays the number of consecutive read points.	[1] Points to [960] Points
	[Device write points]	Displays the number of consecutive write points.	[1] Points to [960] Points
	[Device read random points]	Displays the number of random read points.	[0] Points to [192] Points
	[Device write random points]	Displays the number of random write points.	[0] Points to [160] Points

■[Manufacturer]: [MODBUS]



Item		Description	Range
[Device]	[I/F]	[Ethernet]	—
	[Manufacturer]	[MODBUS]	—
	[Type]	[MODBUS Server (GOT: Client)]	—
[Communication]	[Net No.]	Displays the network number of GT SoftGOT3000.	[1] to [239]
	[Station No.]	Displays the station number of GT SoftGOT3000.	[1] to [247]
	[Port No.]	Displays the port number of GT SoftGOT3000.	[1024] to [5010] [5014] to [49152] [49171] to [65534]
	[Transmit delay time]	Display the send delay time for reducing the load on the network and destination PLC.	[0] ms to [10000] ms
[Timeout]	[Connection timeout time]	Displays the time until the communication times out.	[1] Sec to [90] Sec
	[Retry]	Displays the number of retries when the communication times out. If no response is received after the retries, the communication times out.	[0] Times to [5] Times
[Detail]	[32bit Storage]	Displays the storage order of two words (32-bit data).	[LH Order] [HL Order]
	[Function code [0F]]	Select whether to use the function code [0F].	[Used] [Unused]
	[Function code [10]]	Select whether to use the function code [10].	[Used] [Unused]
	[Coil read times]	Displays the number of coil read points.	[1] Points to [2000] Points
	[Input relay read times]	Displays the number of input relay read points.	[1] Points to [2000] Points
	[Holding register read times]	Displays the number of holding register read points.	[1] Points to [125] Points
	[Input register read times]	Displays the number of input register read points.	[1] Points to [125] Points
	[Coil write times]	Displays the number of coil write points.	[1] Points to [800] Points
	[Holding register write times]	Displays the number of holding register write points.	[1] Points to [100] Points

■[Manufacturer]: [Computer connection]



Item		Description	Range
[Device]	[I/F]	[Ethernet]	—
	[Manufacturer]	[Computer connection]	—
	[Type]	[Computer]	—
[Communication]	[Net No.]	Displays the network number of GT SoftGOT3000.	[1] to [239]
	[Station No.]	Displays the station number of GT SoftGOT3000.	[1] to [64]
	[Port No.]	Displays the port number of GT SoftGOT3000.	[1024] to [5010] [5014] to [49152] [49171] to [65534]
	[Transmit delay time]	Display the send delay time for reducing the load on the network and destination PLC.	[0] ms to [10000] ms
[Detail]	[32bit Storage]	Displays the storage order of two words (32-bit data).	[LH Order] [HL Order]
	[Protocol]	Select a communication protocol.	[TCP/IP] [UDP/IP]
	[Format]	Select a communication format.	[1] to [9]
	[Interrupt Data Byte]	Displays the number of interrupt data bytes.	[1] Byte [2] Bytes [4] Bytes
	[Special Interrupt Code]	Displays whether to output special interrupt codes.	[Done] [None]
	[Living Confirmation]	Displays whether to perform a living confirmation.	[Yes] [No]
	[Living Confirmation Cycle]	Displays the cycle at which a living confirmation is performed.	[10] Sec to [100] Sec
	[Destination module I/O number]	Displays the I/O number of the destination module that responds to requests from the controller.	[0] [Same as requested value]

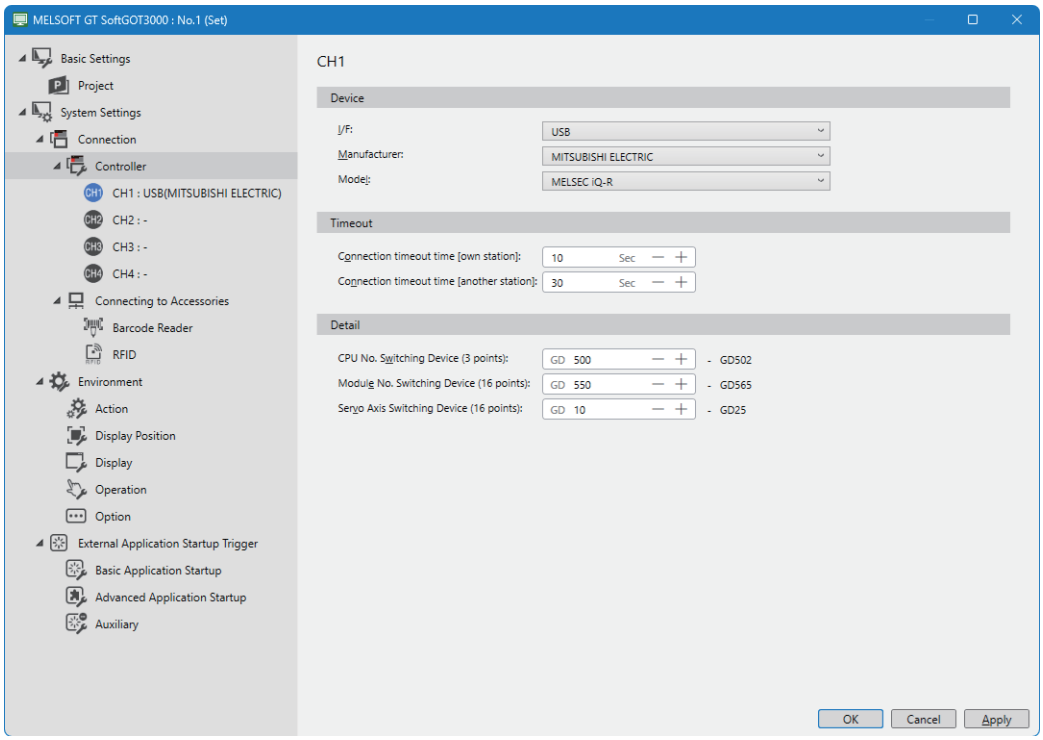
[USB]

Displays the setting item for connecting GT SoftGOT3000 and the controller via USB.

The setting items differ depending on the setting for [Type].

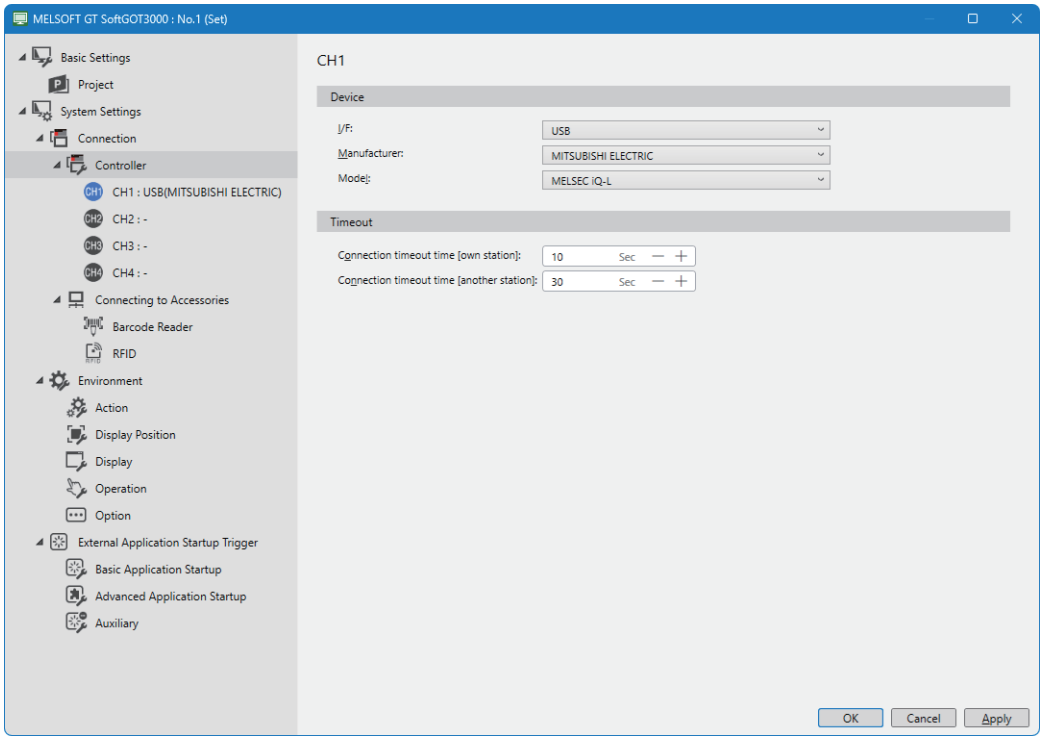
☞ Page 95 [Type]: [MELSEC iQ-R]
☞ Page 96 [Type]: [MELSEC iQ-L]
☞ Page 97 [Type]: [MELSEC iQ-F]
☞ Page 98 [Type]: [MELSEC Q]
☞ Page 99 [Type]: [MELSEC QS]
☞ Page 100 [Type]: [MELSEC-L]
☞ Page 101 [Type]: [MELSEC-FX]

■[Type]: [MELSEC iQ-R]



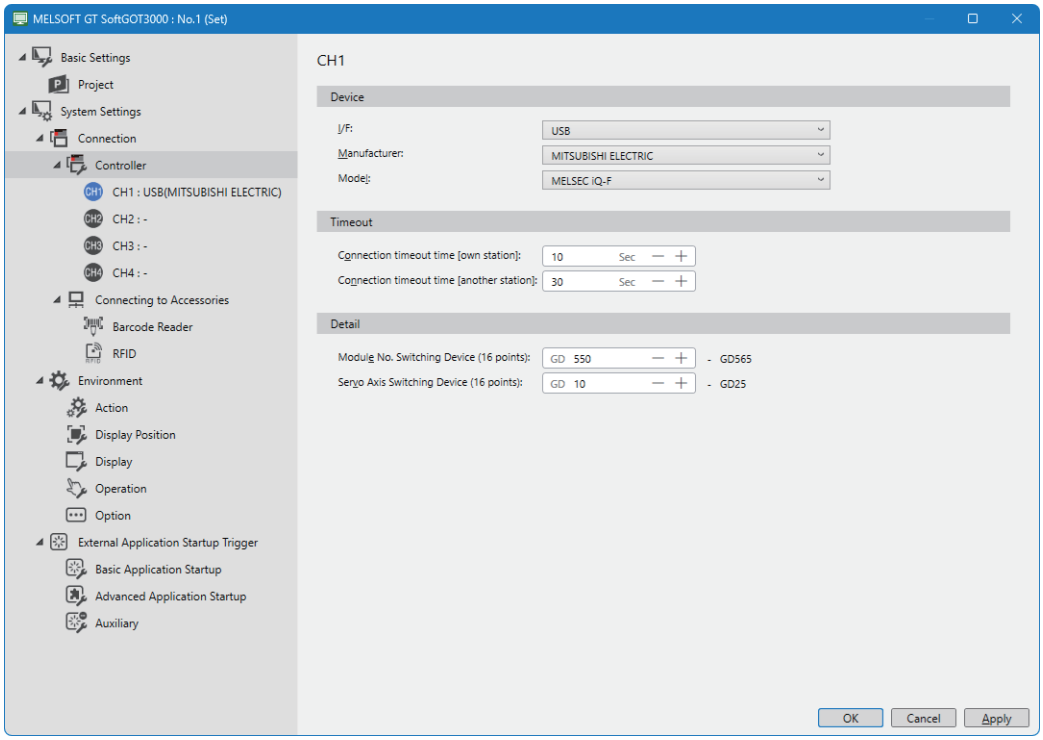
Item		Description	Range
[Device]	[I/F]	[USB]	—
	[Manufacturer]	[MITSUBISHI ELECTRIC]	—
	[Type]	[MELSEC iQ-R]	—
[Timeout]	[Connection timeout time [own station]]	Set the timeout period during monitoring of the host station.	[1] Sec to [90] Sec
	[Connection timeout time [another station]]	Set the timeout period during monitoring of another station.	[1] Sec to [30] Sec
[Detail]	[CPU No. Switching Device (3 points)]	Displays the start device number of the GOT data registers (GD) to specify the CPU number.	GD[0] to GD[65520]
	[Module No. Switching Device (16 points)]	Displays the start device number of the GOT data registers (GD) to specify the module number.	GD[0] to GD[65520]
	[Servo Axis Switching Device (16 points)]	Displays the start device number of the GOT data registers (GD) to specify the axis number.	GD[0] to GD[65520]

■[Type]: [MELSEC iQ-L]



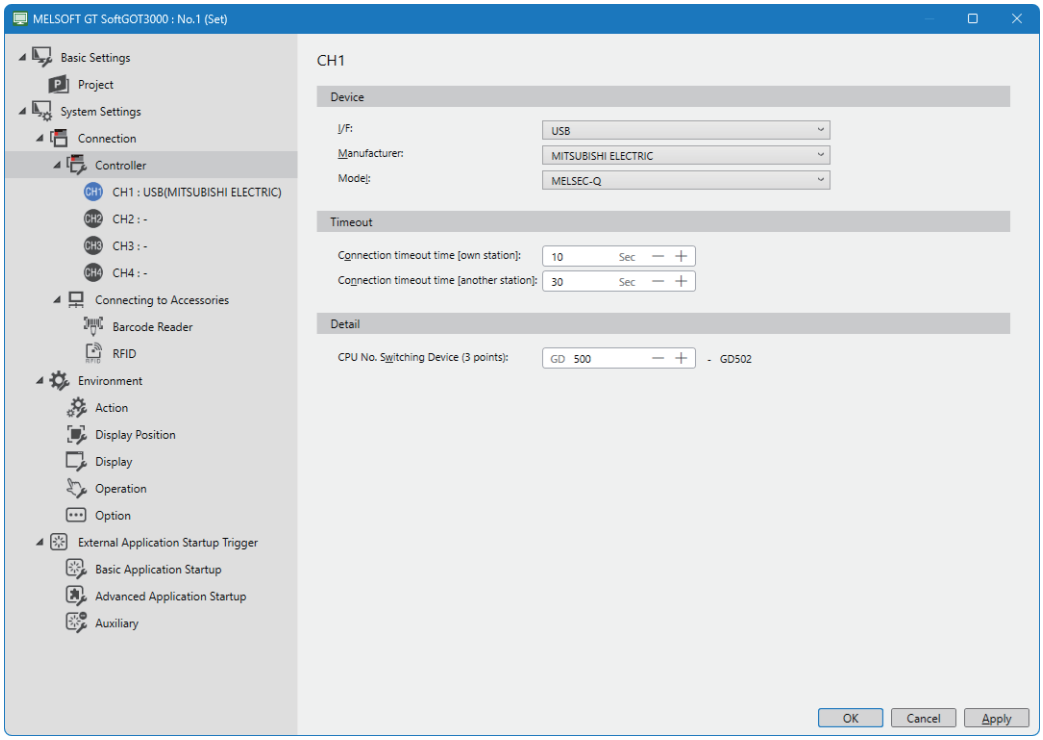
Item		Description	Range
[Device]	[I/F]	[USB]	—
	[Manufacturer]	[MITSUBISHI ELECTRIC]	—
	[Type]	[MELSEC iQ-L]	—
[Timeout]	[Connection timeout time [own station]]	Set the timeout period during monitoring of the host station.	[1] Sec to [90] Sec
	[Connection timeout time [another station]]	Set the timeout period during monitoring of another station.	[1] Sec to [30] Sec

■[Type]: [MELSEC iQ-F]



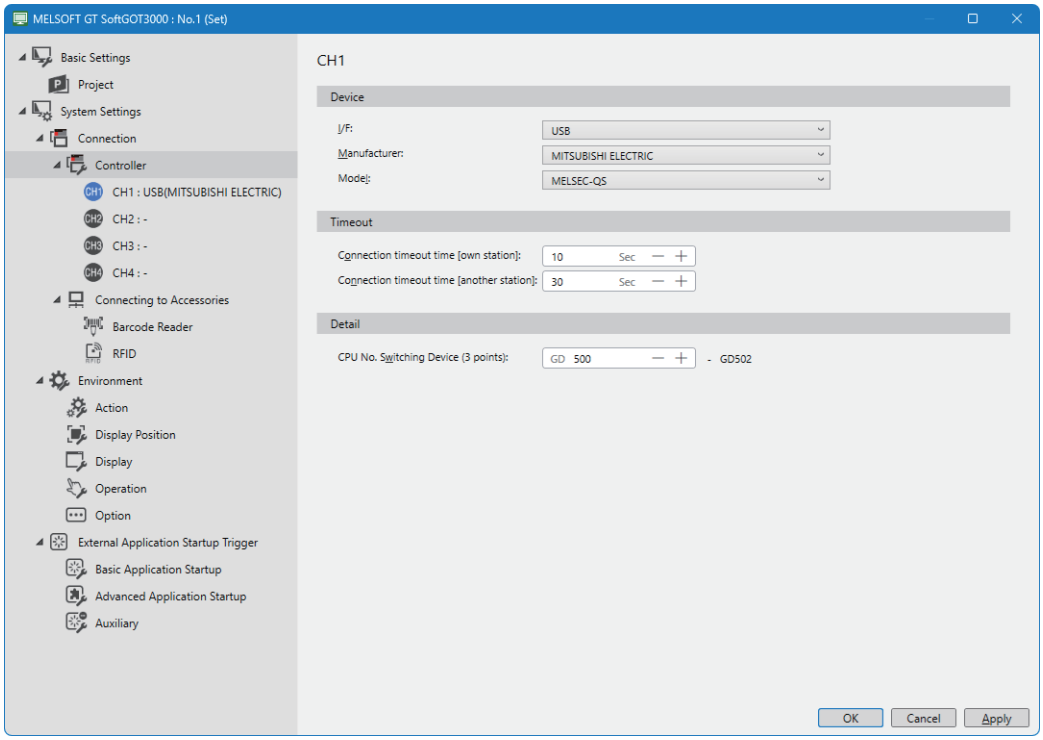
Item		Description	Range
[Device]	[I/F]	[USB]	—
	[Manufacturer]	[MITSUBISHI ELECTRIC]	—
	[Type]	[MELSEC iQ-F]	—
[Timeout]	[Connection timeout time [own station]]	Set the timeout period during monitoring of the host station.	[1] Sec to [90] Sec
	[Connection timeout time [another station]]	Set the timeout period during monitoring of another station.	[1] Sec to [30] Sec
[Detail]	[Module No. Switching Device (16 points)]	Displays the start device number of the GOT data registers (GD) to specify the module number.	GD[0] to GD[65520]
	[Servo Axis Switching Device (16 points)]	Displays the start device number of the GOT data registers (GD) to specify the axis number.	GD[0] to GD[65520]

■[Type]: [MELSEC Q]



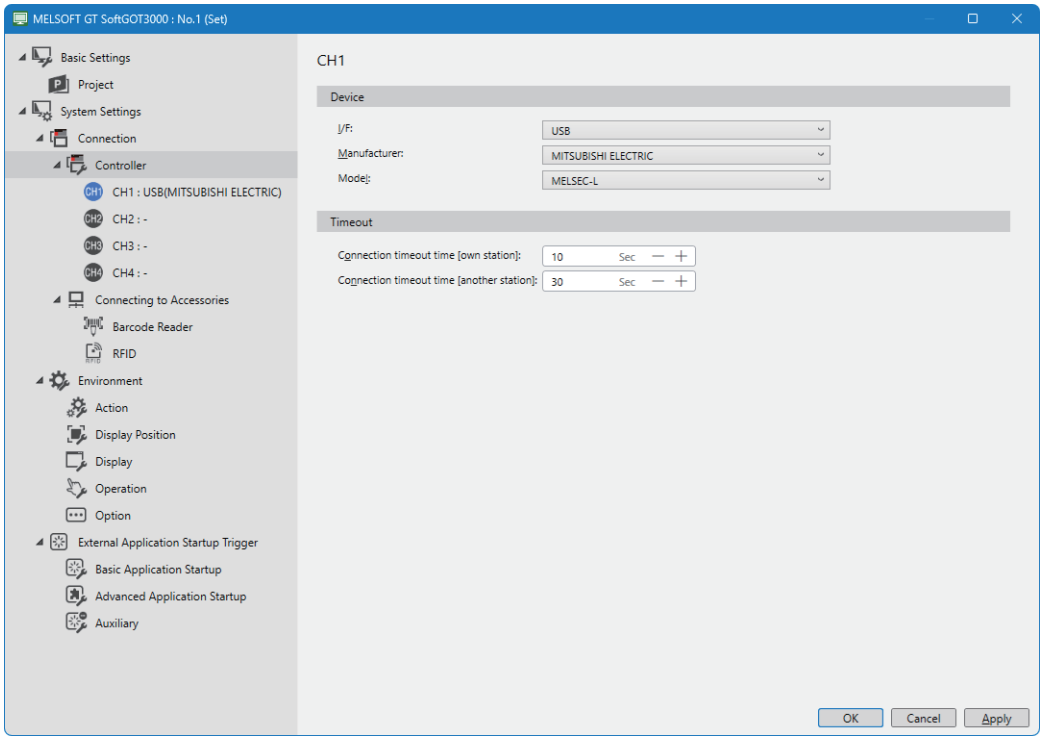
Item		Description	Range
[Device]	[I/F]	[USB]	—
	[Manufacturer]	[MITSUBISHI ELECTRIC]	—
	[Type]	[MELSEC-Q]	—
[Timeout]	[Connection timeout time [own station]]	Set the timeout period during monitoring of the host station.	[1] Sec to [90] Sec
	[Connection timeout time [another station]]	Set the timeout period during monitoring of another station.	[1] Sec to [30] Sec
[Detail]	[CPU No. Switching Device (3 points)]	Displays the start device number of the GOT data registers (GD) to specify the CPU number.	GD[0] to GD[65520]

■[Type]: [MELSEC QS]



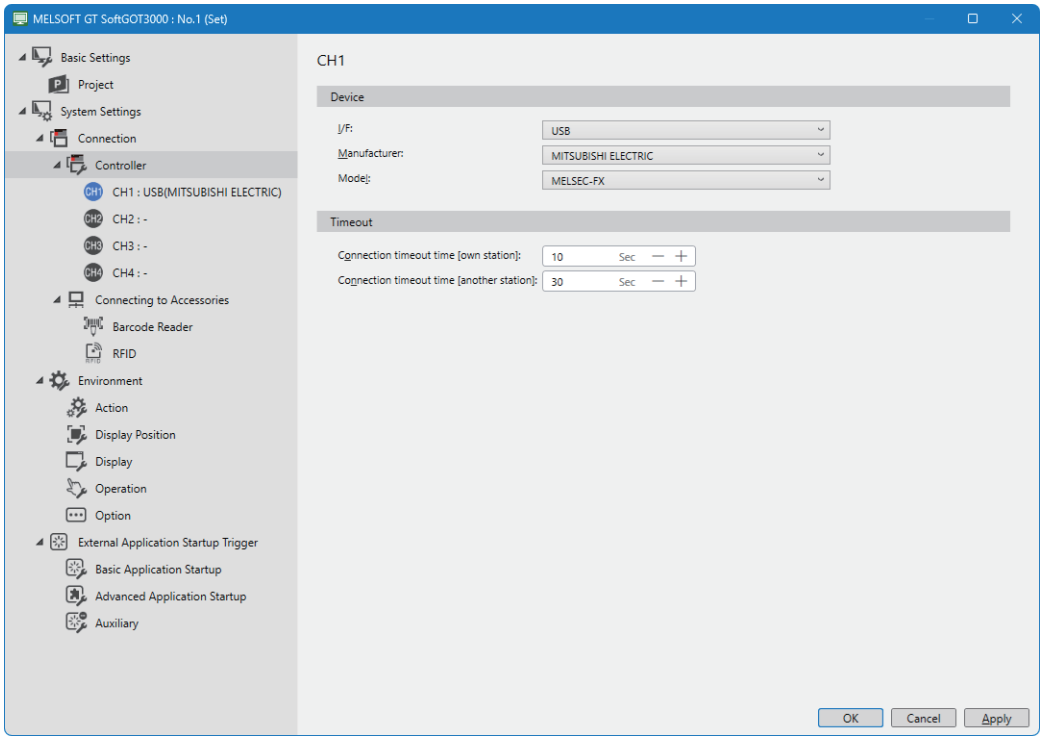
Item		Description	Range
[Device]	[I/F]	[USB]	—
	[Manufacturer]	[MITSUBISHI ELECTRIC]	—
	[Type]	[MELSEC-QS]	—
[Timeout]	[Connection timeout time [own station]]	Set the timeout period during monitoring of the host station.	[1] Sec to [90] Sec
	[Connection timeout time [another station]]	Set the timeout period during monitoring of another station.	[1] Sec to [30] Sec
[Detail]	[CPU No. Switching Device (3 points)]	Displays the start device number of the GOT data registers (GD) to specify the CPU number.	GD[0] to GD[65520]

■[Type]: [MELSEC-L]



Item		Description	Range
[Device]	[I/F]	[USB]	—
	[Manufacturer]	[MITSUBISHI ELECTRIC]	—
	[Type]	[MELSEC-L]	—
[Timeout]	[Connection timeout time [own station]]	Set the timeout period during monitoring of the host station.	[1] Sec to [90] Sec
	[Connection timeout time [another station]]	Set the timeout period during monitoring of another station.	[1] Sec to [30] Sec

■[Type]: [MELSEC-FX]



Item		Description	Range
[Device]	[I/F]	[USB]	—
	[Manufacturer]	[MITSUBISHI ELECTRIC]	—
	[Type]	[MELSEC-FX]	—
[Timeout]	[Connection timeout time [own station]]	Set the timeout period during monitoring of the host station.	[1] Sec to [90] Sec
	[Connection timeout time [another station]]	Set the timeout period during monitoring of another station.	[1] Sec to [30] Sec

[MELSOFT Simulator]

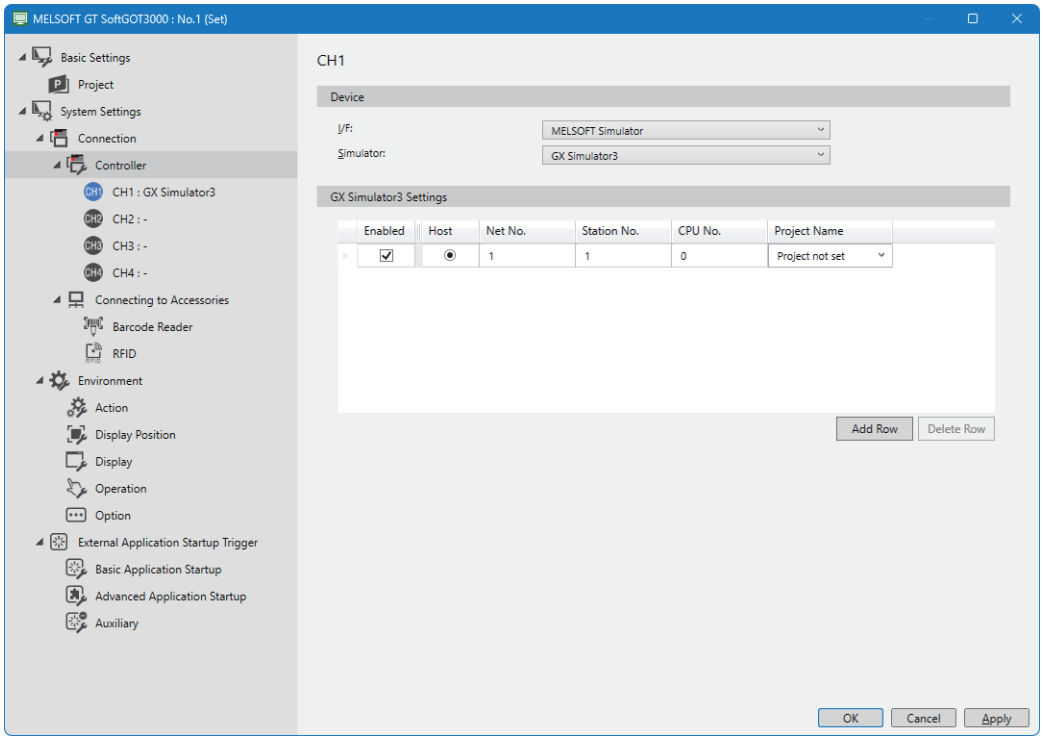
Displays the setting item for connecting GT SoftGOT3000 and the controller via MELSOFT Simulator.

The setting items differ depending on the setting for [Simulator].

☞ Page 102 [Simulator]: [GX Simulator3]

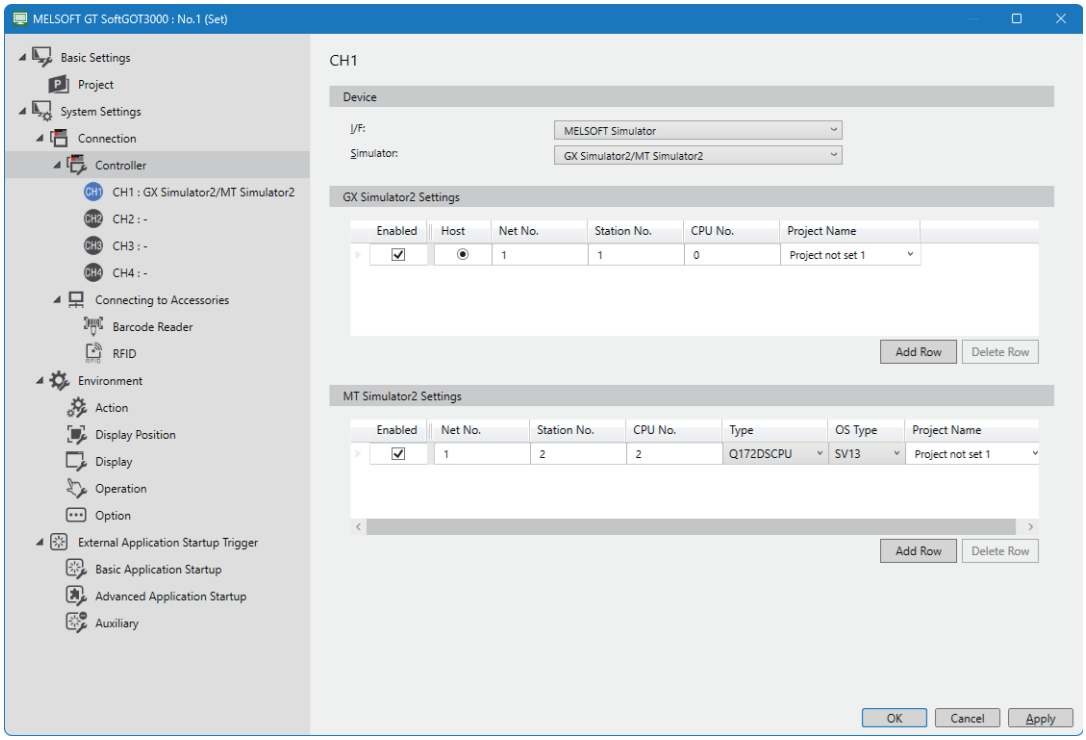
☞ Page 103 [Simulator]: [GX Simulator2/MT Simulator2]

■[Simulator]: [GX Simulator3]



Item		Description	Range
[Device]	[I/F]	[MELSOFT Simulator]	—
	[Simulator]	[GX Simulator3]	—
[GX Simulator3 Settings]	Checkbox	Select this to enable the setting.	—
	[Host]	Displays the host station.	—
	[Net No.]	Displays the network number.	[0] to [239]
	[Station No.]	Displays the station number.	[0] to [255]
	[CPU No.]	Displays the CPU number.	[0] to [4]
	[Project Name]	Displays the name of the configured GX Simulator3 project. Specify a project that starts a simulation with GX Works3 without generating errors. If no project is set, GX Simulator3 will start with the default project.	—
	[Add Row] button	Adds a setting row. Up to 32 rows can be added.	—
	[Delete Row] button	Deletes the selected setting row.	—

■[Simulator]: [GX Simulator2/MT Simulator2]

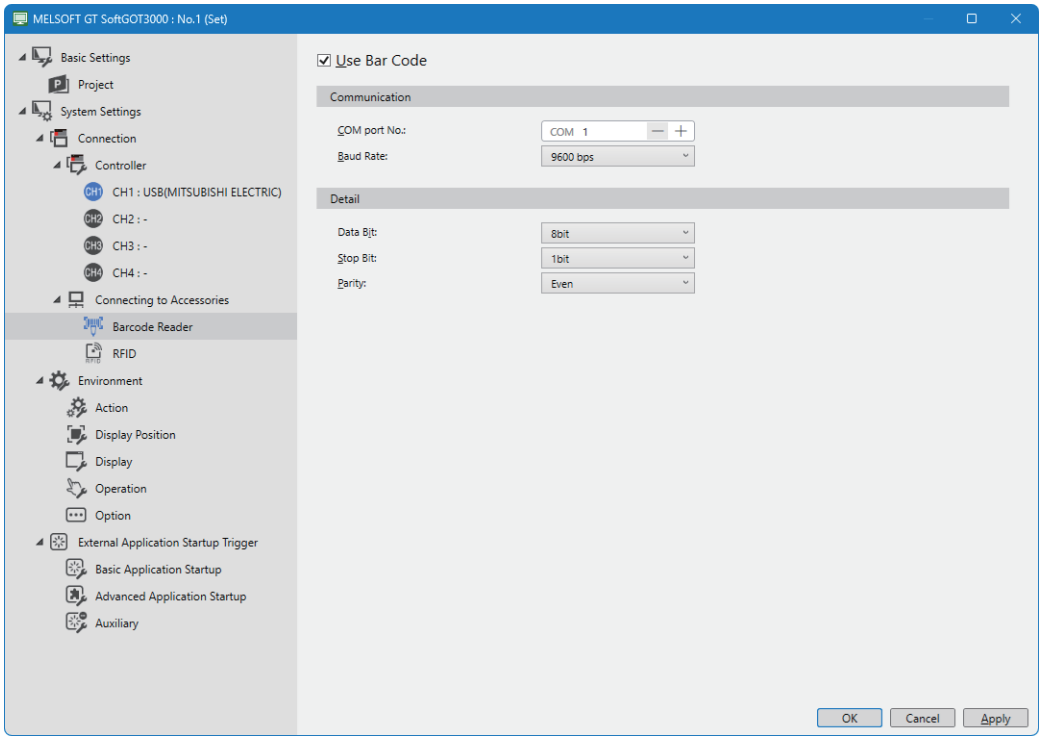


Item		Description	Range
[Device]	[I/F]	[MELSOFT Simulator]	—
	[Simulator]	[GX Simulator2/MT Simulator2]	—
[GX Simulator2 Settings]	Checkbox	Select this to enable the setting.	—
	[Host]	Displays the host station.	—
	[Net No.]	Displays the network number.	[0] to [239]
	[Station No.]	Displays the station number.	[0] to [255]
	[CPU No.]	Displays the CPU number.	[0] to [4]
	[Project Name]	Displays the project name for GX Simulator2. The following shows the available project formats. • Workspace format project (*.gd2) • Single file format project (*.GXW)	[Unset Project1] to [Unset Project4]
	[Add Row] button	Adds a setting row. Up to four rows can be added.	—
	[Delete Row] button	Deletes the selected setting row.	—
[MT Simulator2 Settings]	Checkbox	Select this to enable the setting.	—
	[Net No.]	Displays the network number.	[0] to [239]
	[Station No.]	Displays the station number.	[0] to [255]
	[CPU No.]	Displays the CPU number.	[2] to [4]
	[Type]	Select the PLC to be connected.	[Q172DSCPU] [Q173DSCPU]
	[OS]	Select the OS type of the controller to be connected.	[SV13] [SV22]
	[Project Name]	Displays the project name for MT Simulator2. The following shows the available project formats. • Workspace format project (*.mt2) • Single file format project (*.MTW)	[Unset Project1] to [Unset Project4]
	[Add Row] button	Adds a setting row. Up to three rows can be added.	—
	[Delete Row] button	Deletes the selected setting row.	—

13.1.2 [Connecting to Accessories]

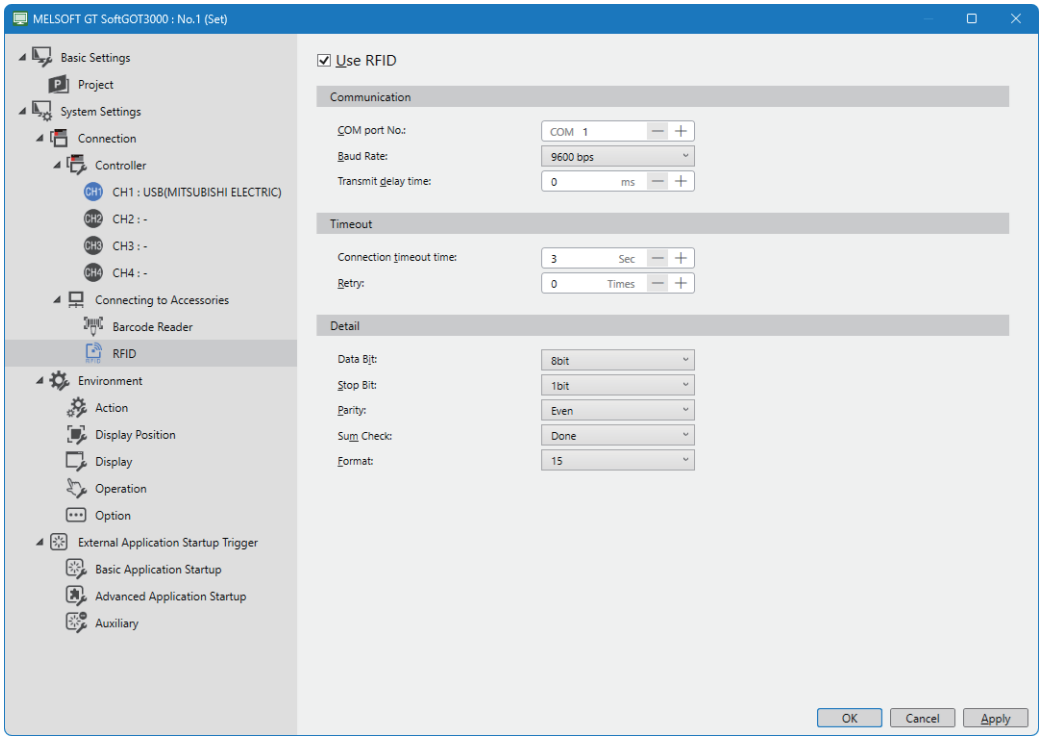
☞ Page 104 [Barcode Reader]
☞ Page 105 [RFID]

[Barcode Reader]



Item		Description	Range
[Communication]	[COM port No.]	Displays the communication port number of the personal computer used for connection.	COM[1] to COM[63]
	[Baud Rate]	Displays the baud rate for communication with the controller.	[4800 bps] [9600 bps] [19200 bps] [38400 bps] [57600 bps] [115200 bps]
[Detail]	[Data Bit]	Displays the data length for communication with the controller.	[7bit] [8bit]
	[Stop Bit]	Displays the stop bit length for communications.	[1bit] [2bit]
	[Parity]	Displays whether a parity check is performed during communication and the format used if it is performed.	[None] [Even] [Odd]

[RFID]

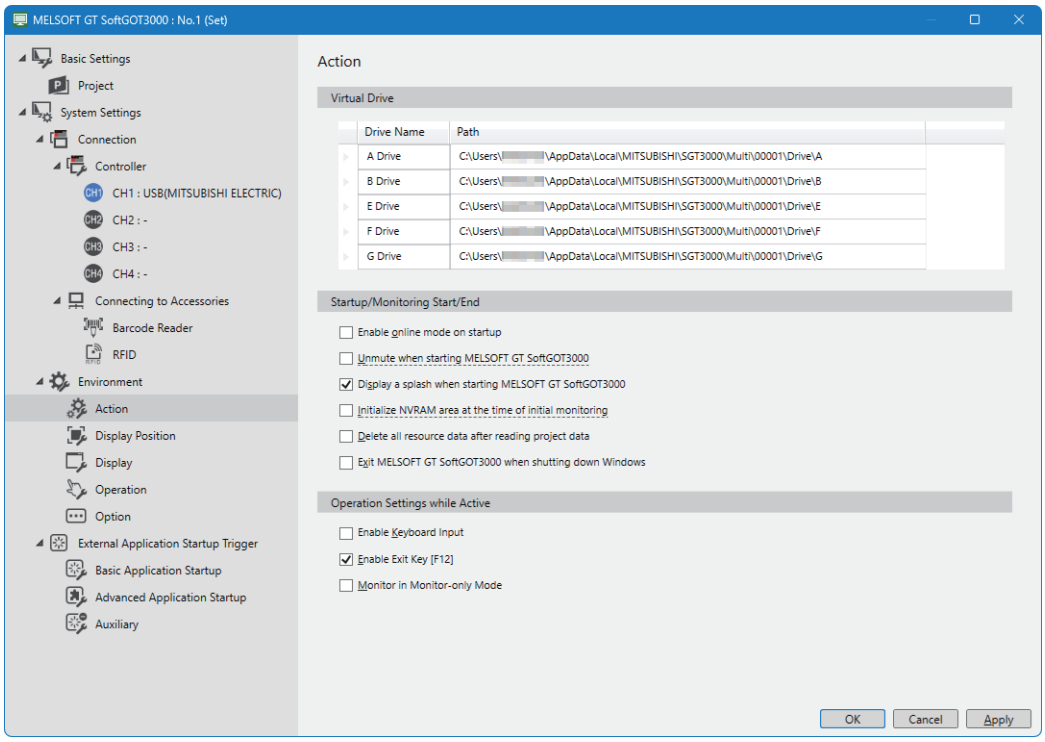


Item		Description	Range
[Communication]	[COM port No.]	Displays the communication port number of the personal computer used for connection.	COM[1] to COM[63]
	[Baud Rate]	Displays the baud rate for communication with the controller.	[4800 bps] [9600 bps] [19200 bps] [38400 bps] [57600 bps] [115200 bps]
	[Transmit delay time]	Appears to adjust the timing of sending a communication request from GT SoftGOT3000.	[0] ms to [3000] ms
[Timeout]	[Connection timeout time]	Displays the time until the communication times out.	[3] Sec to [30] Sec
	[Retry]	Displays the number of retries when the communication times out. When receiving no response after retries, the communication times out.	[0] Times to [5] Times
[Detail]	[Data Bit]	Displays the data length for communication with the controller.	[7bit] [8bit]
	[Stop Bit]	Displays the stop bit length for communications.	[1bit] [2bit]
	[Parity]	Displays whether a parity check is performed during communication and the format used if it is performed.	[None] [Even] [Odd]
	[Sum Check]	Displays whether to perform a sum check during communication.	[Done] [None]
	[Format]	Select a communication format.	[10] [11] [15]

13.2 [Environment]

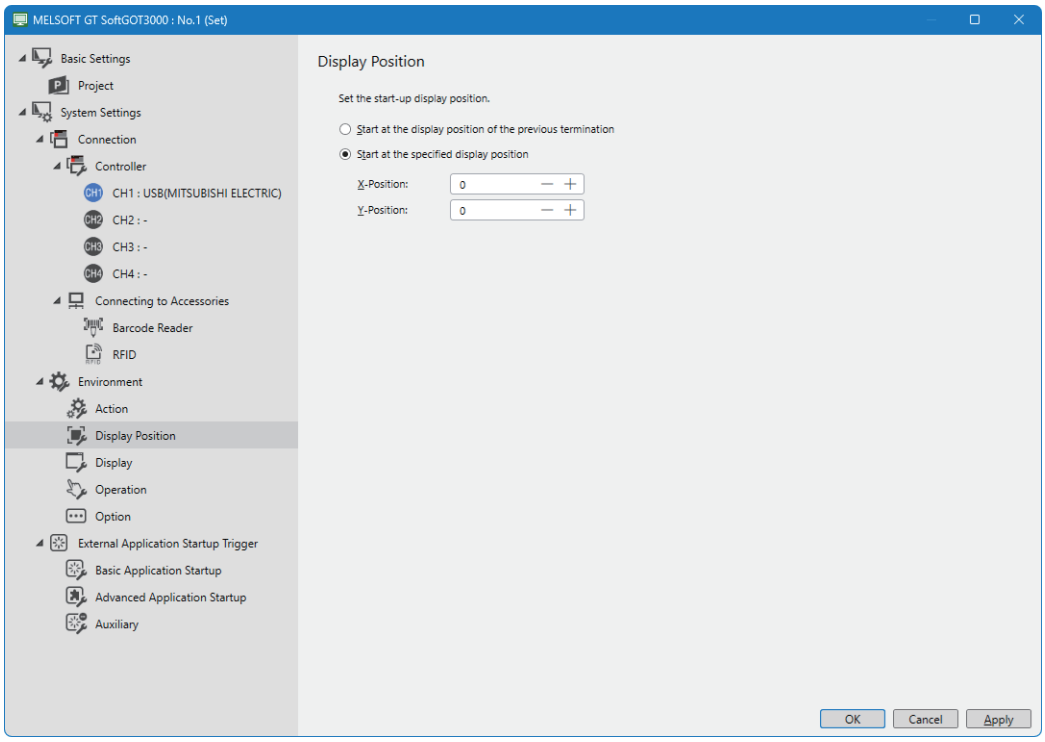
☞ Page 106 [Action]
☞ Page 107 [Display Position]
☞ Page 108 [Display]
☞ Page 109 [Operation]
☞ Page 110 [Option]

13.2.1 [Action]



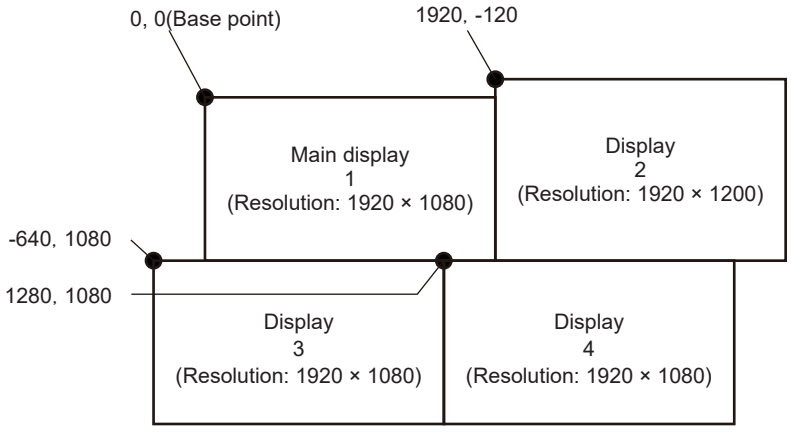
Item		Description
[Virtual Drive Setting (Not set: Default)]		Displays the paths to the folders set as virtual drives. Any folder can be set as a virtual drive.
[Startup/Monitoring Start/End]	[Enable online mode on startup]	Select this item to automatically start monitoring when GT SoftGOT3000 is started.
	[Unmute when starting MELSOFT GT SoftGOT3000]	Select this item to forcibly unmute when GT SoftGOT3000 is started, regardless of the Windows volume setting.
	[Display a splash when starting MELSOFT GT SoftGOT3000]	Select this item to display the splash screen when GT SoftGOT3000 is started.
	[Initialize NVRAM area at the time of initial monitoring]	Select this item to initialize the nonvolatile RAM area when monitoring starts. The nonvolatile RAM area can store data of the following functions. • User alarm monitoring • System alarm monitoring • Logging • Recipe • Internal device retention Deselect this item to start monitoring with the data stored in the nonvolatile RAM area at the last exit.
	[Delete all resource data after reading project data]	Select this item to delete all resource data within and under the virtual drive after the project data reading is completed.
	[Exit MELSOFT GT SoftGOT3000 when shutting down Windows]	Select this item to exit GT SoftGOT3000 simultaneously when logging off or shutting down Windows.
[Operation Settings while Active]	[Enable Keyboard Input]	Select this item to enable keyboard input during monitoring.
	[Enable Exit Key [F12]]	Select this item to exit GT SoftGOT3000 when pressing the F12 key. ☞ Page 128 Enabling/disabling the exit key [F12]
	[Monitor in Monitor-only Mode]	Select this item to perform monitoring in monitor-only mode. ☞ Page 138 Monitor-only mode

13.2.2 [Display Position]



Item	Description
[Start at the display position of the previous termination]	Starts GT SoftGOT3000 at the window display position of the last exit. If the last session ended abnormally, the window appears in the last normal exit position. When the coordinates of the display position of the last exit do not exist on the display, the window at startup is displayed on the X coordinate, Y coordinate (0, 0) on the upper-left corner of the main display.
[Start at the specified display position]*1	Displays the window display position when GT SoftGOT3000 is started. Specify the display position at the left corner of the GT SoftGOT3000 screen using (X, Y) coordinates, considering the upper left corner of the personal computer screen as (0, 0) coordinates. The setting range is [-32768] to [32767] for both [X-Position] and [Y-Position]. When the coordinates of the specified display position do not exist on the display, the window at startup is displayed on the X coordinate, Y coordinate (0, 0) on the upper-left corner of the main display.

*1 If multiple displays are used, the X and Y coordinates at the upper left corner of the main display are the base point (0, 0).
Example) When four displays are used



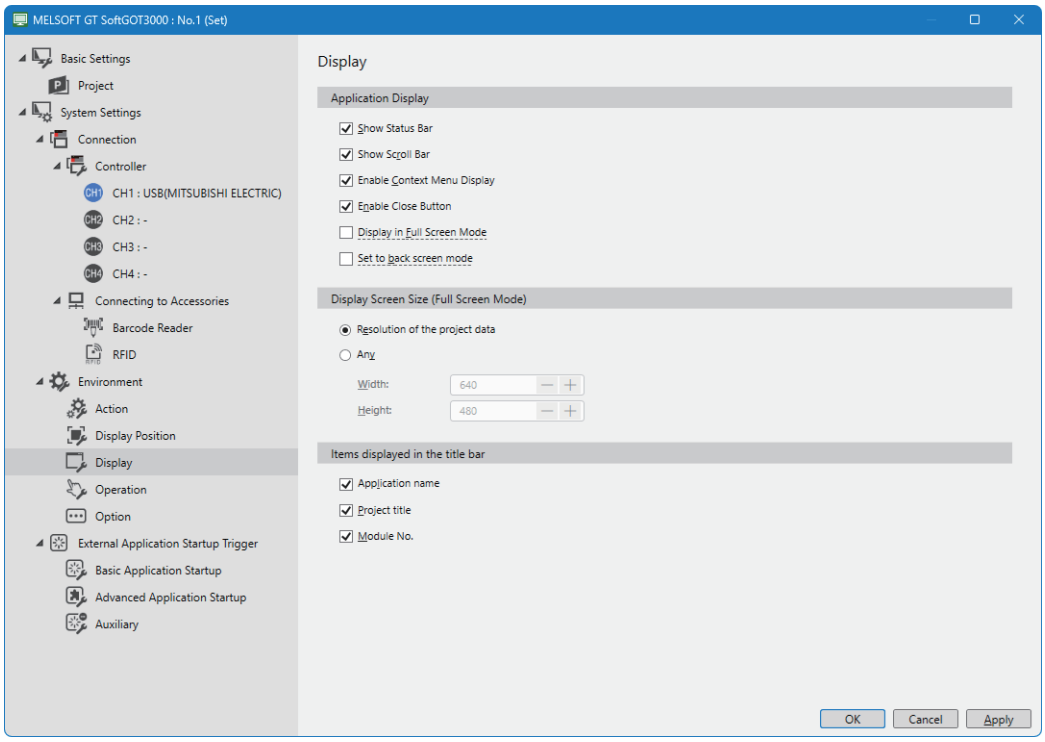
Precautions

If the display position when GT SoftGOT3000 is started is also set with the startup option, the value set with the startup option takes precedence over the value set in this dialog.

For details on the startup option, refer to the following.

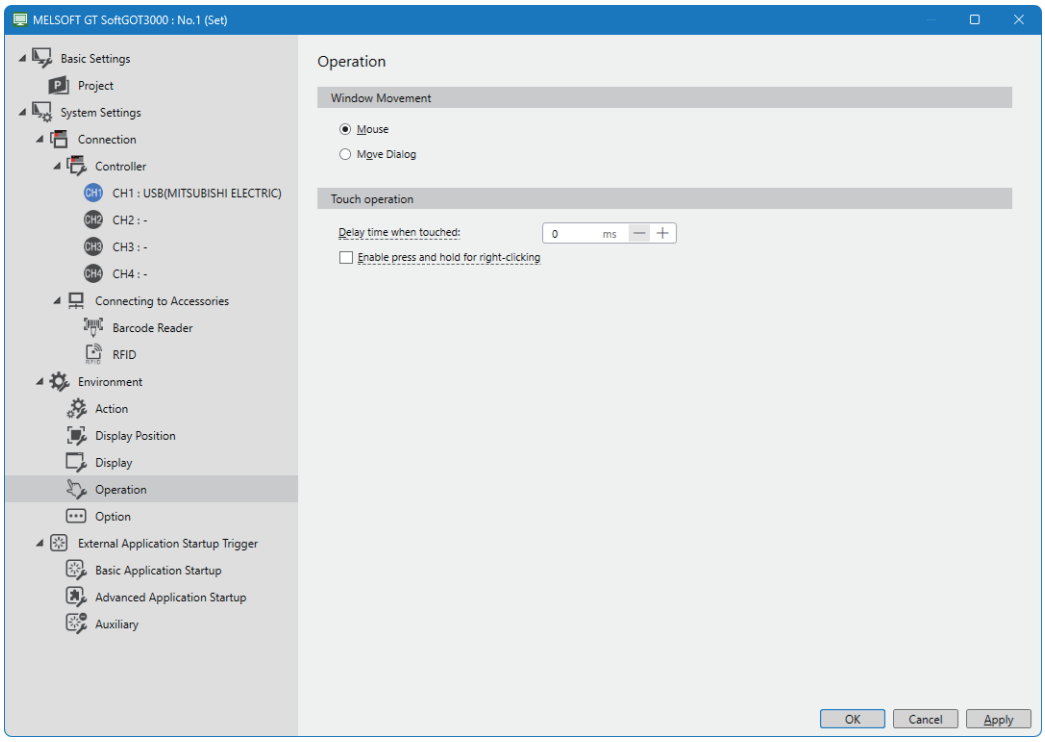
☞ Page 68 Specifying the operation or processing upon startup

13.2.3 [Display]



Item		Description
[Application Display]	[Show Status Bar]	Select this item to display the status bar at the bottom of the GT SoftGOT3000 screen.
	[Show Scroll Bar]	Select this item to display the scroll bars of GT SoftGOT3000. ☞ Page 129 Enabling/disabling the scroll bar display
	[Enable Context Menu Display]	Select this item to enable the right-click context menu. ☞ Page 119 Enabling/disabling the context menu display
	[Enable Close Button]	Select this item to enable the [Close] button in the context menu that appears when the [×] button in the upper right corner of the title bar is clicked or the title bar is right-clicked. ☞ Page 127 Enabling/disabling the close button
	[Display in Full Screen Mode]	Select this item to display the GT SoftGOT3000 screen in full-screen mode. ☞ Page 120 Full-screen display
	[Set to back screen mode]	Select this item to display the GT SoftGOT3000 screen in the background. ☞ Page 126 Back screen mode
[Display Screen Size (Full Screen Mode)]	[Resolution of the project data]	Select this item to display the GT SoftGOT3000 screen in full-screen mode in the same size as the resolution set for the project.
	[Any]	Select this item to display the GT SoftGOT3000 screen in full-screen mode in any size. The following shows the setting ranges. • [Width]: [640] dots to [1920] dots • [Height]: [480] dots to [1920] dots
[Items displayed in the title bar]	[Application name]	Select this item to display the application name in the title bar. ☞ Page 37 Title bar
	[Project title]	Select this item to display the project title in the title bar. ☞ Page 37 Title bar
	[Module No.]	Select this item to display the GT SoftGOT3000 module number in the title bar. ☞ Page 37 Title bar

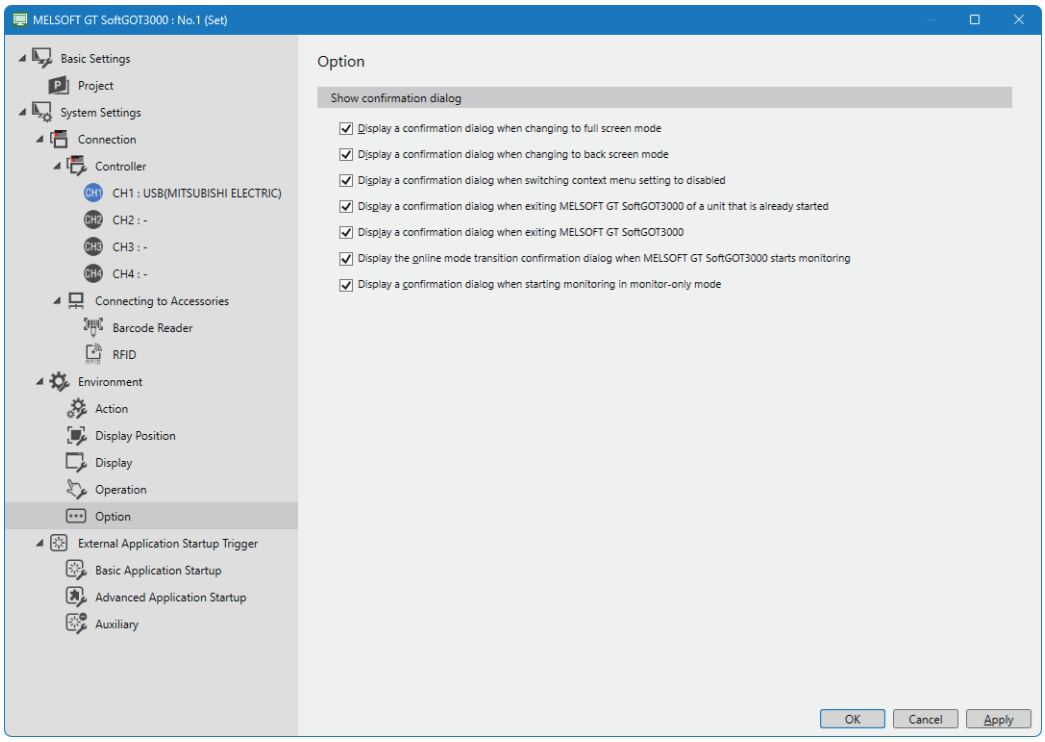
13.2.4 [Operation]



Item		Description
[Window Movement]		Select the operation method when moving the GT SoftGOT3000 screen. ☞ Page 132 Window movement
[Touch operation]	[Delay time when touched]	Displays the touch delay time to stabilize the touch operation when a touch screen is used. The setting range is [0] ms to [500] ms.
	[Enable press and hold for right-clicking]	Select this item to display the context menu when the touchscreen is pressed and held.

PART 6

13.2.5 [Option]



Item		Description
[Show confirmation dialog]	[Display a confirmation dialog when changing to full screen mode]	Select this item to display a confirmation dialog when switching to full screen mode.
	[Display a confirmation dialog when changing to back screen mode]	Select this item to display a confirmation dialog when switching to back screen mode.
	[Display a confirmation dialog when switching context menu setting]	Select this item to display a confirmation dialog when the context menu setting is disabled.
	[Display a confirmation dialog when exiting MELSOFT GT SoftGOT3000 of a unit that is already started]	Select this item to display a confirmation dialog when a running GT SoftGOT3000 module is started again.
	[Display a confirmation dialog when exiting MELSOFT GT SoftGOT3000]	Select this item to display a confirmation dialog when GT SoftGOT3000 exits.
	[Display the online mode transition confirmation dialog when]	Select this item to display a dialog to confirm transition to online mode when monitoring starts.
	[Display a confirmation dialog when starting monitoring in monitor-only mode]	Select this item to display a confirmation dialog when monitoring starts in monitor-only mode.

13.3 [External Application Startup Trigger]

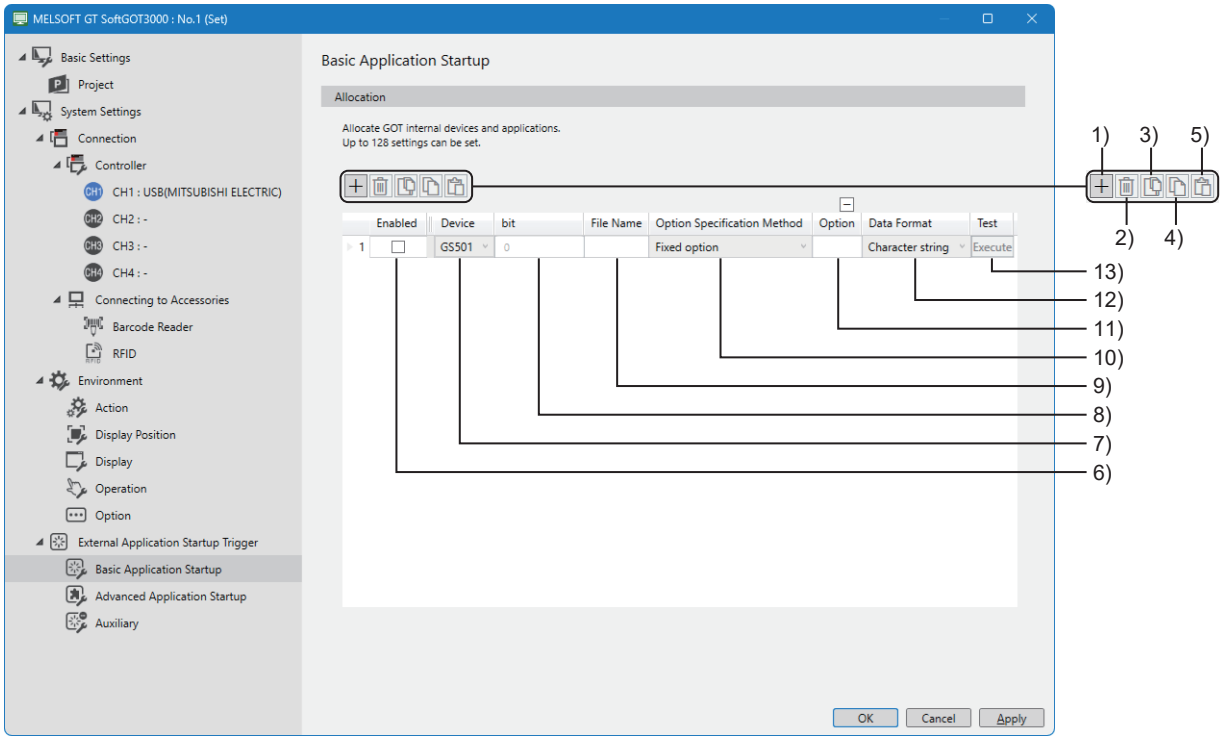
An external application can be started while monitoring with GT SoftGOT3000 using a GOT internal device.

☞ Page 111 [Basic Application Startup]
☞ Page 113 [Advanced Application Startup]
☞ Page 115 [Auxiliary]

For details on the functions, refer to the following.

☞ Page 144 Settings to start applications during monitoring

13.3.1 [Basic Application Startup]



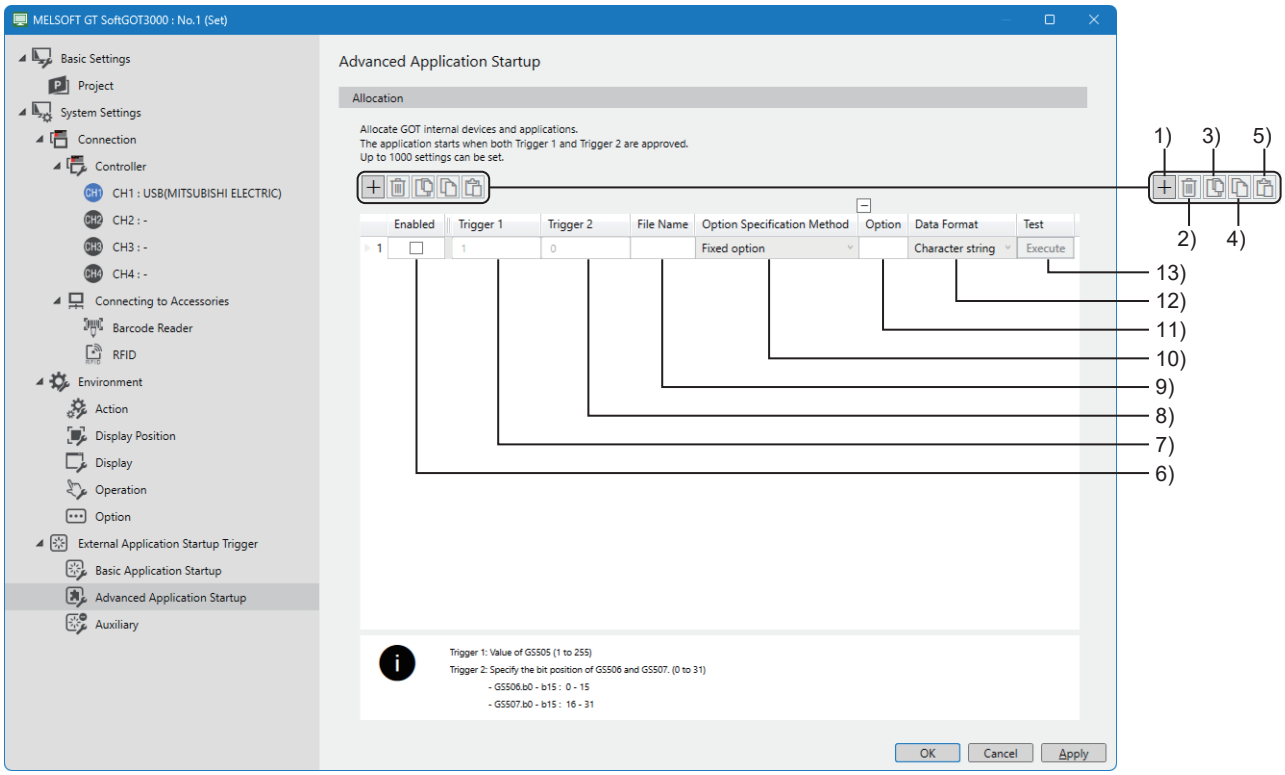
Item		Description
1)	[Add] button	Adds a new standard application start setting below the bottom row in the list.
2)	[Delete] button	Deletes the selected row.
3)	[Reproduction] button	Duplicates the selected row below the bottom row in the list.
4)	[Copy] button	Copies the selected row.
5)	[Paste] button	Overwrites the selected row with the settings of the copied row.
6)	[Enable]	Select the checkbox for the allocation setting to be used.
7)	[Device]	Set the number of the device that triggers the start of an application.
8)	[bit]	Set the bit position of the device that triggers the start of an application. The assigned application starts when the specified bit turns on. When the application starts, the bit automatically turns off.
9)	[File Name]	Directly enter the path to the application to be started (up to 1023 characters), or click [...] and specify. Setting a Windows environment variable (path) allows you to omit setting the path. For details, refer to the following. ☞ Page 147 Using environment variables When a file name is set, the file opens simultaneously with the start of the application. Numeric characters, A to Z, a to z, one-byte spaces, and the following symbols are usable in the application path or the file name. !#$%&'()-^@[;],.=~`{+}_
10)	[Option Specification Method]*1	Select how to specify the option settings at application startup. • [Fixed option]: Specify option settings with character strings. • [Internal device]: Specify option settings with character strings or numerical values stored in the GOT internal devices or SoftGOT3000 internal devices.

Item			Description
11)	[Option]*1	—	By specifying application options, the application mode and processing can be specified. Available options and characters differ depending on the application to be used. To find the available options for each application, refer to the manual or Help of the application to be used. The setting method depends on the selection for [Option Specification Method].
		When [Fixed option] is selected	Set a character string to specify the option setting. Up to 1023 characters can be entered.
		When [Internal device] is selected	Set the start device number of the GOT internal devices (GB or GD) or SoftGOT3000 internal devices (SGB or SGD) to specify option settings. Option settings are enabled according to the values stored in the internal devices. The following shows the ranges for the settable devices. • GB64 to GB65520*2 • GD0 to GD65535 • SGB0 to SGB65520*2 • SGD0 to SGD65535
12)	[Data format]*1	—	Configure the setting when [Option setting specification method] is [Internal device]. Select the data type of the values stored in the internal devices.
		[Character string]	The values stored in the internal devices are handled as character strings. • Unicode is supported. • Data will be read from the specified devices starting from the higher-order bits. • NULL (0x00) is supported as the termination character. • Up to 1023 characters except the termination character can be entered.
		[Numerical value]	The values stored in the internal devices are handled as numerical values. • The setting range is 0 to 65535. • Values are read as a decimal number.
13)	[Test]		Clicking this button confirms that the set application operates normally. Before monitoring with GT SoftGOT3000, click this button to confirm that the set application operates normally.

*1 This setting is displayed when you click the [+] button between [File Name] and [Test].

*2 Specify the value in 16-bit units.

13.3.2 [Advanced Application Startup]



Item		Description
1)	[Add] button	Adds a new standard application start setting below the bottom row in the list.
2)	[Delete] button	Deletes the selected row.
3)	[Reproduction] button	Duplicates the selected row below the bottom row in the list.
4)	[Copy] button	Copies the selected row.
5)	[Paste] button	Overwrites the selected row with the settings of the copied row.
6)	[Enabled]	Select the checkbox for the allocation setting to be used.
7)	[Trigger 1]	Set the value of the device (GS505) that triggers the start of an application. The setting range is 1 to 255.
8)	[Trigger 2]	Set the bit position of the device (GS506 or GS507) that triggers the start of an application. The following shows the setting range. • GS506.b0 to b15: 0 to 15 • GS507.b0 to b15: 16 to 31
9)	[File Name]	Directly enter the path to the application to be started (up to 1023 characters), or click [...] and specify. Setting a Windows environment variable (path) allows you to omit setting the path. For details, refer to the following. ☞ Page 147 Using environment variables When a file name is set, the file opens simultaneously with the start of the application. Numeric characters, A to Z, a to z, one-byte spaces, and the following symbols are usable in the application path or the file name. !#$%&'()-^@[;],.=~`{+}_
10)	[Option Specification Method]*1	Select how to specify the option settings at application startup. • [Fixed option]: Specify option settings with character strings. • [Internal device]: Specify option settings with character strings or numerical values stored in the GOT internal devices or SoftGOT3000 internal devices.

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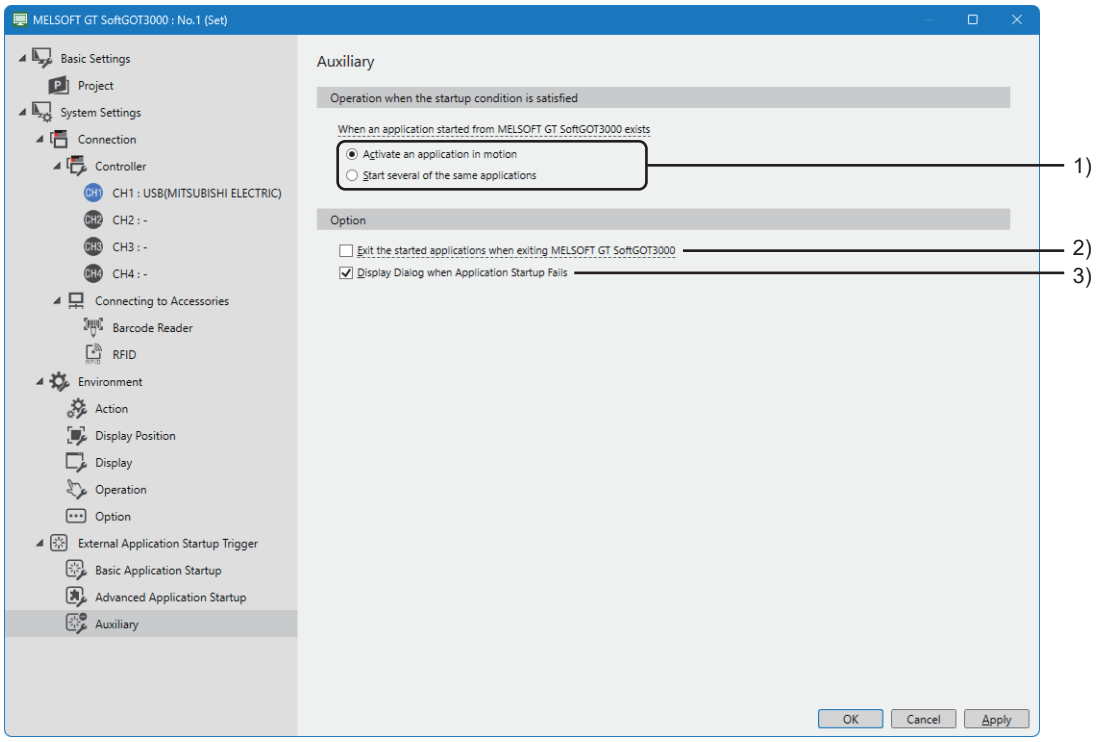
Item			Description
11)	[Option]*1	—	By specifying application options, the application mode and processing can be specified. Available options and characters differ depending on the application to be used. To find the available options for each application, refer to the manual or Help of the application to be used. The setting method depends on the selection for [Option Specification Method].
		When [Fixed option] is selected	Set a character string to specify the option setting. Up to 1023 characters can be entered.
		When [Internal device] is selected	Set the start device number of the GOT internal devices (GB or GD) or SoftGOT3000 internal devices (SGB or SGD) to specify option settings. Option settings are enabled according to the values stored in the internal devices. The following shows the ranges for the settable devices. • GB64 to GB65520*2 • GD0 to GD65535 • SGB0 to SGB65520*2 • SGD0 to SGD65535
12)	[Data format]*1	—	Configure the setting when [Option setting specification method] is [Internal device]. Select the data type of the values stored in the internal devices.
		[Character string]	The values stored in the internal devices are handled as character strings. • Unicode is supported. • Data will be read from the specified devices starting from the higher-order bits. • NULL (0x00) is supported as the termination character. • Up to 1023 characters except the termination character can be entered.
		[Numerical value]	The values stored in the internal devices are handled as numerical values. • The setting range is 0 to 65535. • Values are read as a decimal number.
13)	[Test]		Clicking this button confirms that the set application operates normally. Before monitoring with GT SoftGOT3000, click this button to confirm that the set application operates normally.

*1 This setting is displayed when you click the [+] button between [File Name] and [Test].

*2 Specify the value in 16-bit units.

13.3.3 [Auxiliary]



Item			Description
1)	[Operation when the startup condition is satisfied]	—	Select the operation to be performed when the startup condition is satisfied again for the same application already started by this function.
		[Activate an application in motion]	Displays an already running application in the foreground to activate it.
		[Start several of the same applications]	The same application is started in another window.
2)	[Option]	[Exit the started applications when exiting MELSOFT GT SoftGOT3000]*1	Select this item to terminate the applications started from GT SoftGOT3000 when exiting GT SoftGOT3000.
3)		[Display Dialog when Application Startup Fails]	Select this item to display the error dialog if an error occurs during application startup.

*1 This setting is available when [Activate an application in motion] is selected for [Operation when the startup condition is satisfied]. Also, if you change the setting to [Start several of the same applications] with this setting enabled, the applications started before the setting change are not terminated.
For details, refer to the following.
☞ Page 116 Timing for applying the application startup setting

Precautions

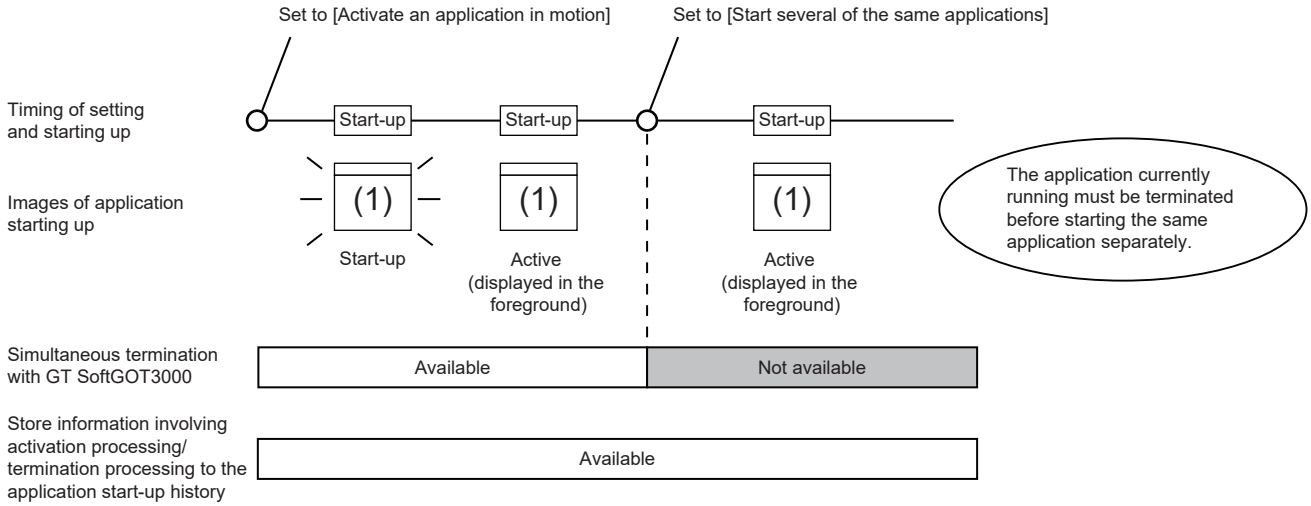
■Timing for applying the application startup setting

If you change the application startup setting while the application is active, the changed setting is not applied to the active application.

Ex.

When changing from [Activate an application in motion] to [Start several of the same applications]

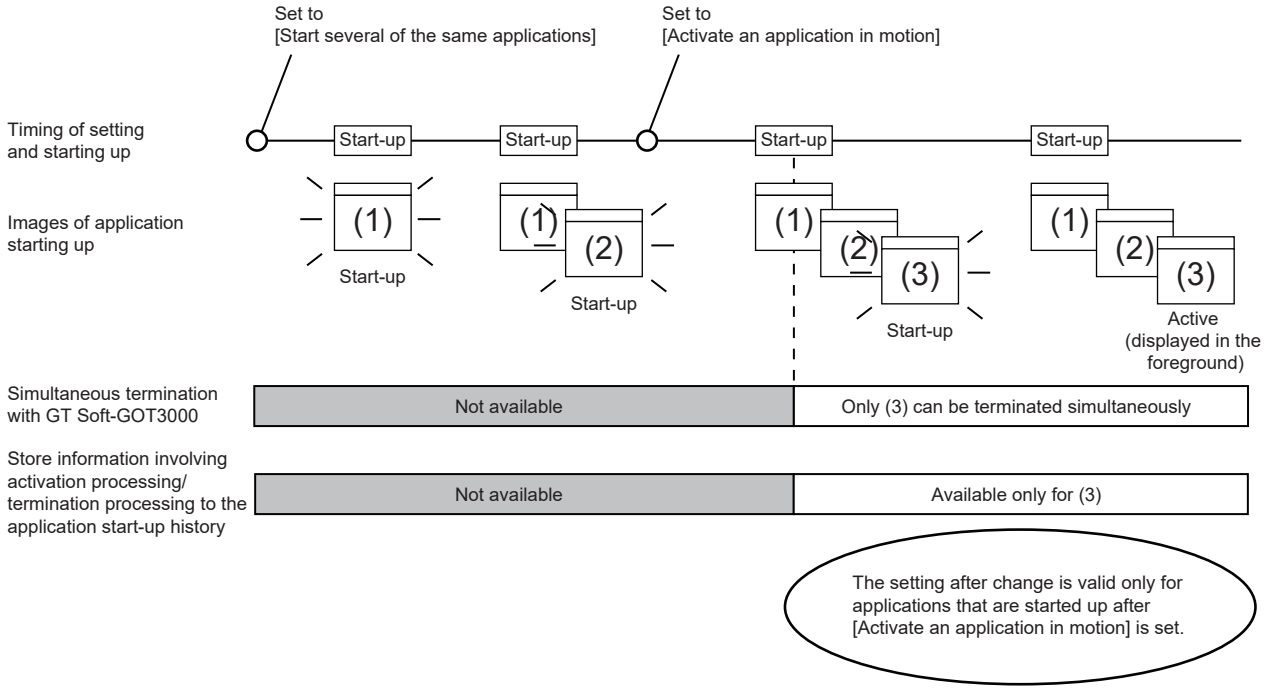
The new setting is enabled when the running application is exited.



Ex.

When changing from [Start several of the same applications] to [Activate an application in motion]

The new setting is enabled when the running application is exited or reopened after the setting change.



■Precautions for terminating applications when exiting GT SoftGOT3000

Applications that are not started from GT SoftGOT3000 are not terminated.

Also, the following applications cannot be terminated.

- Applications that are executing a process
- Applications that display the termination confirmation dialog
- Applications that deny external termination
- Applications that consolidate processes into one when multiple applications are started

PART 7 Functions

14 Functions for display

14.1 Enabling/disabling the context menu display

Set whether to display the context menu when the mouse is right-clicked on the monitor screen.

Operating procedure

Perform one of the following operations to switch between displaying or hiding the context menu when the mouse is right-clicked.

- Click the [Menu] icon, select [View], and select or deselect [Context Menu].
- Right-click the mouse and select [View] → [Context Menu] from the context menu (not displayed if the context menu display is disabled).
- Click [Display] under [Environment] in the setting tree of the [Set] dialog, and select or deselect [Enable Context Menu Display].

☞ Page 108 [Display]

14.2 Full-screen display

Only the monitor screen is displayed in full-screen size, and the title bar, menu bar, status bar, and toolbar are not displayed on the GT SoftGOT3000 screen.

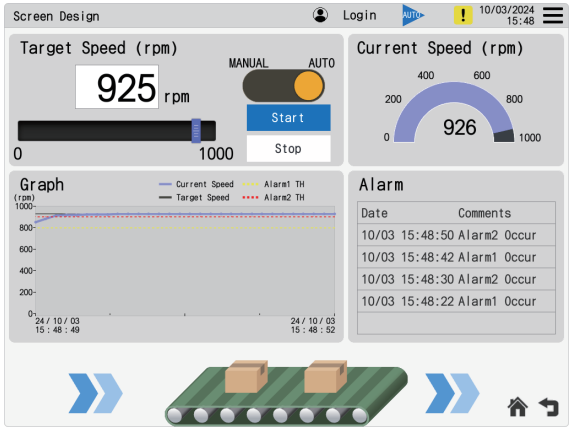
By displaying only the monitor screen, the screen can be monitored in the same size as the resolution set in the project.

When the full-screen display is started, the upper-left corner of the GT SoftGOT3000 screen is positioned at the upper-left corner of the personal computer display.

When the full screen mode function is not use

When the full screen mode function is not used, the title bar, menu bar, status bar, and toolbar are displayed.

When the full screen mode function is used



When the full screen mode function is used, the title bar, menu bar, status bar, and toolbar are hidden and the screen is displayed fully on the personal computer screen.

Point

When the same resolution is set for the personal computer display and the project, the monitor screen is displayed fully on the screen.

Precautions

When GT SoftGOT3000 is displayed in full-screen size, the menu bar is not displayed.

Therefore, if the full-screen display is selected while the context menu display is disabled, the context menu display cannot be enabled until the full-screen display is canceled.

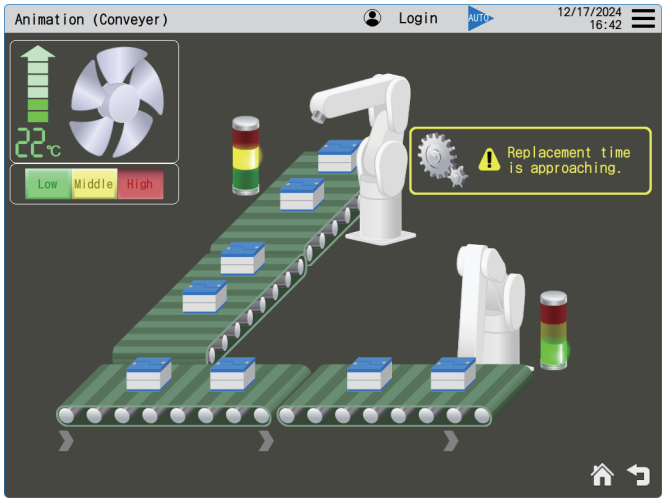
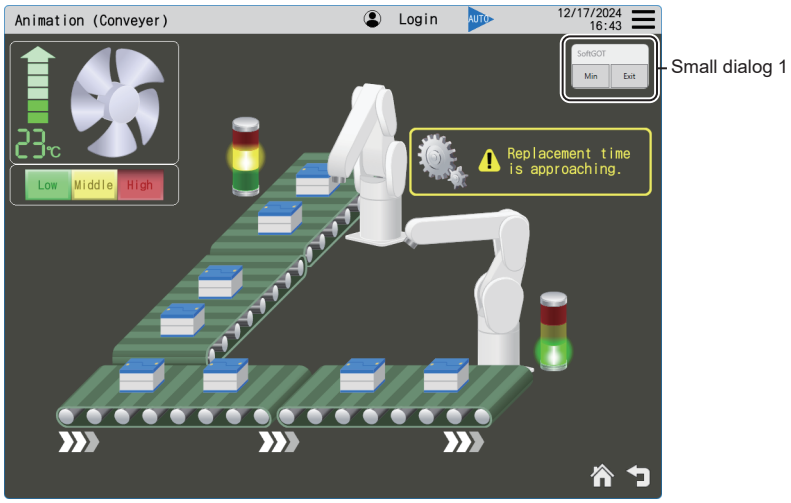
☞ Page 119 Enabling/disabling the context menu display

For information on how to cancel the full-screen display while the context menu display is disabled, refer to the following.

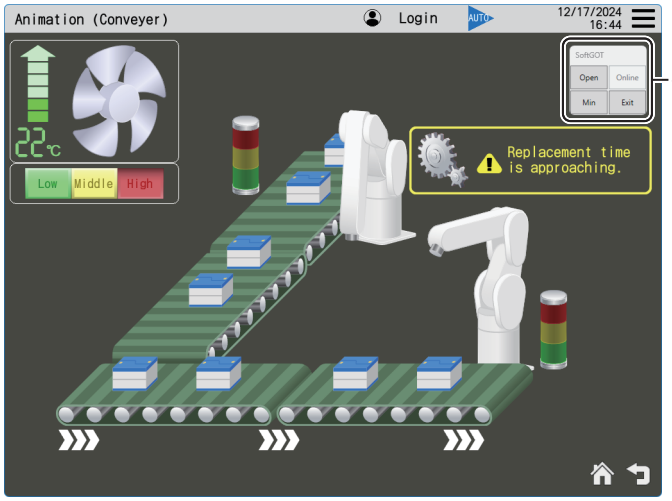
☞ Page 124 Canceling the full-screen display

14.2.1 Full screen mode types

There are three types of screen: full-screen display 1, full-screen display 2, and full-screen display 3.
The following describes each type of screen.

Screen type	Explanation	Display method
Full-screen display 1	The monitor screen is displayed fully on the personal computer screen. Use this function with the personal computer or panel computer where a mouse and keyboard are connected. A small dialog used to minimize or exit the screen is not displayed on the monitor screen. 	Perform either of the following operations to start full-screen display 1. ☞ Page 123 Starting in the full screen mode ☞ Page 123 Setting the full-screen display after the startup
Full-screen display 2	The monitor screen is displayed fully on the personal computer screen. Since GT SoftGOT3000 can be exited on the monitor screen, it can be used for the panel computer where a mouse and keyboard are not connected.  Small dialog 1 is displayed on the monitor screen. The following operations are available in small dialog 1. • [Min]: Minimizes the GT SoftGOT3000 window. • [Exit]: Exits GT SoftGOT3000. The small dialog is movable but cannot be closed. It is always displayed on the front position.	Full-screen display 2 can be displayed when the screen is started with the startup option set in [Properties] of the GT SoftGOT3000 shortcut. ☞ Page 123 Starting in the full screen mode

PART 7

Screen type	Explanation	Display method
Full-screen display 3	The monitor screen is displayed fully on the personal computer screen. Since GT SoftGOT3000 can be exited on the monitor screen, it can be used for the panel computer where a mouse and keyboard are not connected.  Small dialog 2 Small dialog 2 is displayed on the monitor screen. The following operations are available in small dialog 2. • [Open]: Opens a project. • [Monitor]: Starts monitoring. (Not selectable during monitoring) • [Min]: Minimizes the GT SoftGOT3000 window. • [Exit]: Exits GT SoftGOT3000. The small dialog is movable but cannot be closed. It is always displayed on the front position.	Full-screen display 3 can be displayed when the screen is started with the startup option set in [Properties] of the GT SoftGOT3000 shortcut. ☞ Page 123 Starting in the full screen mode

14.2.2 Starting/canceling the full-screen display

The following shows how to start and cancel the full-screen display.

Starting the full-screen display

You can start GT SoftGOT3000 in the full screen mode or set the full-screen display after starting GT SoftGOT3000.

Operating procedure

■Starting in the full screen mode

You can start the screen in full screen mode by setting the startup option in the [Properties] of the GT SoftGOT3000 shortcut.
The screen type of the full-screen display can be specified by setting a startup option.
For the setting method, refer to the following.

☞ Page 68 Specifying the operation or processing upon startup

■Setting the full-screen display after the startup

Perform one of the following operations to change the GT SoftGOT3000 screen from the standard screen display to the full-screen display (full-screen display 1).

- Click the [Menu] icon, select [View], and select [Full Screen Mode].
- Right-click the mouse and select [View] → [Full Screen Mode] from the context menu.
- Click [Display] under [Environment] in the setting tree of the [Set] dialog, and select [Display in Full Screen Mode].

☞ Page 108 [Display]

- Press the Alt + F9 keys.
- Turn on the GOT special register (GS500.b1).

Point

For details on the GOT special register, refer to the following manual.
GT Designer3 (GOT3000) Screen Design Manual

Precautions

■Changing the display started in the full screen mode to the standard screen display

When a screen is started with the startup option set in the [Properties] of the GT SoftGOT3000 shortcut, the full-screen display cannot be canceled and switched to the standard screen display.
To cancel the full-screen display, exit GT SoftGOT3000, delete the startup option added to [Target] in [Properties] of the shortcut, and then restart GT SoftGOT3000.

☞ Page 124 Canceling the full-screen display

■Full-screen display when multiple GT SoftGOT3000 modules are started

If multiple modules of GT SoftGOT3000 are started up in the full screen mode, only the very front GT SoftGOT3000 screen is accessible.
To access other windows, rearrange the windows so that the window of the module to be operated is at the very front.
For moving a window, refer to the following.

☞ Page 130 Window

■Restarting while the full-screen display is set

Each GT SoftGOT3000 module has its own full-screen display setting.
When GT SoftGOT3000 is exited and restarted while the full-screen display is set, the display is started in the full screen mode.

Canceling the full-screen display

The full-screen display is canceled in different ways according to whether the display is started by starting GT SoftGOT3000 in the full screen mode or the display is set after starting GT SoftGOT3000.

Operating procedure

■When the display is started in the full screen mode

When a screen is started in the full screen mode by the startup option set in the [Properties] of the GT SoftGOT3000 shortcut, the full-screen display cannot be canceled.

1. Perform either one of the following operations to exit GT SoftGOT3000.

- Click the [Exit] button in the small dialog (for full-screen display 2 or full-screen display 3)
- Right-click the mouse and select [Exit] from the context menu.
- Press the F12 key on the keyboard.
- Turn on the GOT special register (GS500.b0).

2. Delete the startup option added to [Target] in [Properties] of the shortcut.

■When the display is set after the startup

Perform one of the following operations to cancel the full-screen display.

- Right-click the mouse and select [View] → [Full Screen Mode] from the context menu.
- Press the Alt + F9 keys.
- Turn off the GOT special register (GS500.b1).

Point

For details on the GOT special register, refer to the following manual.

GT Designer3 (GOT3000) Screen Design Manual

Precautions

When you set the full-screen display while the context menu display is disabled, the title bar and menu bar are not displayed, and the right-click operation with the mouse is not available.

Therefore, the full-screen display cannot be canceled with the mouse.

For information on how to cancel the full-screen display while the context menu display is disabled, refer to the following.

■When the display is started in the full screen mode

Perform either of the following operations to exit GT SoftGOT3000 and delete the startup option added to [Target] in [Properties] of the shortcut.

- Press the F12 key.
- Turn on the GOT special register (GS500.b0).

■When the display is set after the startup

Perform one of the following operations to cancel the full-screen display.

- Press the Alt + F9 keys.
- Turn off the GOT special register (GS500.b1).

14.2.3 Operations while the full-screen display is set

When the full-screen display is set, only the monitor screen is displayed and operations started from the menu bar are not available.

The following shows operations available when the full-screen display is set.

Item	Operation
Displaying the menu	Perform either of the following operations. • Right-click the mouse on the monitor screen to display the context menu. • When the touch display is used, press and hold anywhere on the screen to display the context menu.*1
Moving the monitor screen	Select [Window] → [Move Window] from the context menu. ☞ Page 130 Window
Minimizing the monitor screen	Hold down Shift key and double-click anywhere on the screen.
Exiting GT SoftGOT3000	Perform one of the following operations. • Press the F12 key on the keyboard. • Select [Exit] from the context menu. • Turn on the GOT special register (GS500.b0).

*1 To display the context menu with a press-and-hold operation, settings are required in [Operation] in the [Set] dialog. For details, refer to the following.
☞ Page 109 [Operation]

PART 7

14.3 Back screen mode

The monitor screen of GT SoftGOT3000 is always displayed behind all the other screens.
Use this function to use other applications while the full-screen display is set for GT SoftGOT3000.

Operating procedure

Perform one of the following operations to enable or disable the back screen display for GT SoftGOT3000.

- Click the [Menu] icon, select [View], and select or deselect [Back Screen Mode].
- Right-click the mouse and select [View] → [Back Screen Mode] from the context menu.
- Click [Display] under [Environment] in the setting tree of the [Set] dialog, and select [Set to back screen mode].

☞ Page 108 [Display]

- Press the Alt + F10 keys.

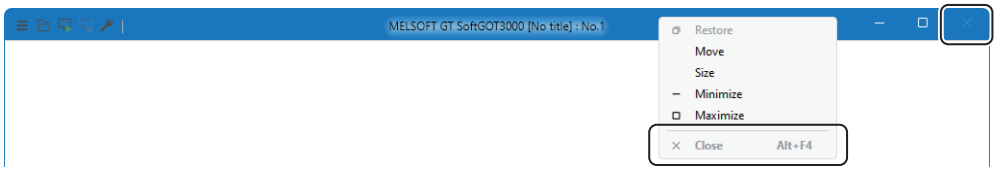
Point

When the full-screen display is set for GT SoftGOT3000, the menu bar is not displayed.
To cancel the back screen display while the full-screen display is set, use the context menu or shortcut keys.

14.4 Enabling/disabling the close button

Set whether to enable or disable the [×] button in the upper right corner of the title bar and the [Close] menu in the context menu.

When the close menu is disabled, the [×] button and the [Close] menu in the context menu are grayed out.



Operating procedure

Perform one of the following operations to enable or disable the [×] button and the [Close] menu.

- Click the [Menu] icon, select [View], and select or deselect [Enable or Disable Close Button].
- Right-click the mouse and select [View] → [Enable or Disable Close Button] from the context menu.
- Click [Display] under [Environment] in the setting tree of the [Set] dialog, and select or deselect [Enable Close Button].

☞ Page 108 [Display]

Precautions

■Shortcut key operations while the close button is disabled

Disabling [Enable or Disable Close Button] does not disable the closing operation with shortcut keys (Alt key + F4 key).

■Enable/disable setting after restart

When GT SoftGOT3000 is restarted with [Enable or Disable Close Button] enabled, it will start with the settings retained at the point of exit.

Each GT SoftGOT3000 module retains the setting of [Enable or Disable Close Button].

PART 7

14.5 Enabling/disabling the exit key [F12]

Set whether to enable or disable the operation to exit GT SoftGOT3000 with F12 key on the keyboard.

Operating procedure

Perform one of the following operations to enable or disable the exit key.

- Click the [Menu] icon, select [View], and select or deselect [Enable or Disable Exit Key [F12]].
- Right-click the mouse and select [View] → [Enable or Disable Exit Key [F12]] from the context menu.
- Click [Operation] under [Environment] in the setting tree of the [Set] dialog, and select or deselect [Enable Exit Key [F12]].

☞ Page 106 [Action]

14.6 Enabling/disabling the scroll bar display

When the GT SoftGOT3000 screen size is smaller than the project resolution, the scroll bars are displayed on the GT SoftGOT3000 screen.
Scroll the monitor screen with the scroll bars, and then the hidden part of the monitor screen is displayed.

Operating procedure

To display or hide the scroll bars, perform the following operation.

- Click the [Menu] icon, select [View], and select or deselect [Scroll Bar].
- Right-click the mouse and select [View] → [Scroll Bar] from the context menu.
- Click [Display] under [Environment] In the setting tree of the [Set] dialog, and select or deselect [Show Scroll Bar].

☞ Page 108 [Display]

Precautions

The scroll bars cannot be operated with keyboards.

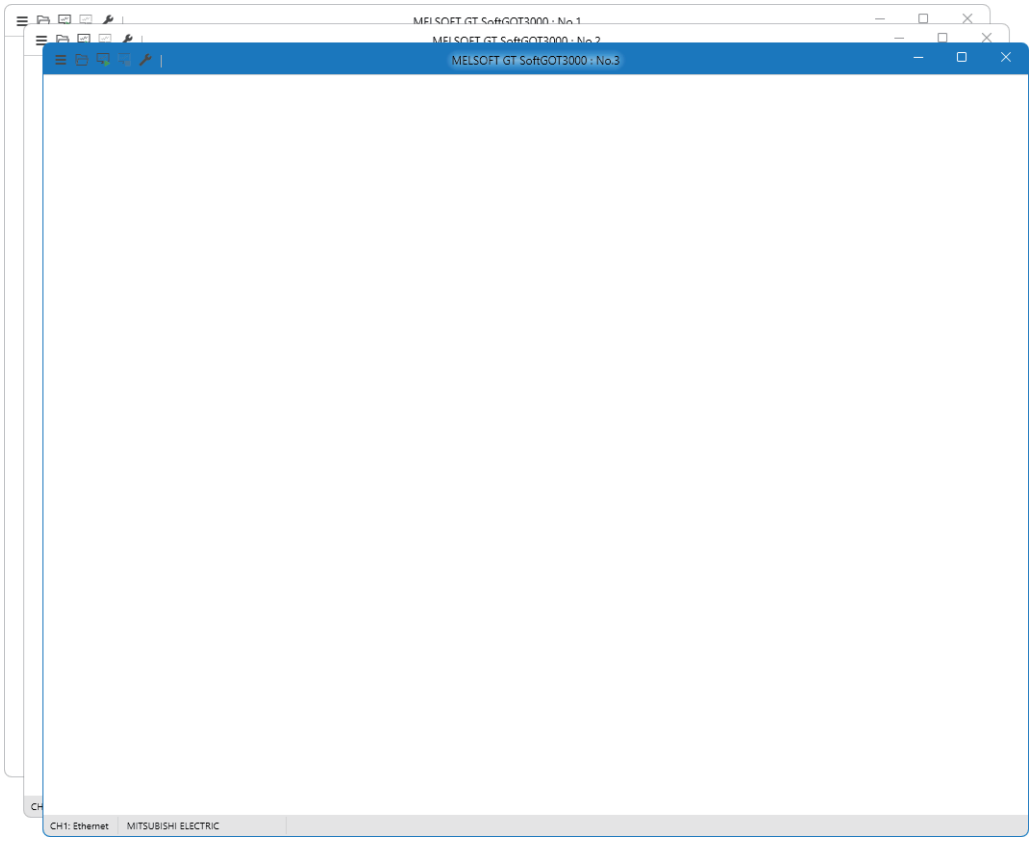
14.7 Window

The display state and position can be changed for active GT SoftGOT3000 modules.

☞ Page 130 Cascade
☞ Page 131 Minimize all windows
☞ Page 132 Window movement
☞ Page 136 Movement to another display

14.7.1 Cascade

Cascades the running GT SoftGOT3000 windows.



Operating procedure

Perform either of the following operations to cascade GT SoftGOT3000 windows.

- Click the [Menu] icon and select [Window] → [Cascade] from the menu.
- Right-click the mouse and select [Window] → [Cascade] from the context menu.

Precautions

■Non-cascaded windows

Any GT SoftGOT3000 module with a dialog displayed is not cascaded.
Close the dialog and then perform the cascade operation.

■Order of the cascade

Windows may not be displayed in the order of GT SoftGOT3000 module numbers depending on the Windows specifications.

■Display position of the cascade

Even if the cascaded GT SoftGOT3000 windows do not fit in the personal computer display, the window positions are not corrected.

14.7.2 Minimize all windows

Minimizes all the running GT SoftGOT3000 windows.

Operating procedure

Perform either of the following operations to minimize all GT SoftGOT3000 windows.

- Click the [Menu] icon and select [Window] → [Minimize All Windows] from the menu.
- Right-click the mouse and select [Window] → [Minimize All Windows] from the context menu.

PART 7

14.7.3 Window movement

To move a GT SoftGOT3000 window, use the mouse or the move buttons.

☞ Page 133 Movement with a mouse
☞ Page 134 Movement with the move buttons

Precautions

The context menu is not displayed by right-clicking the mouse while moving the window.

Movement with a mouse

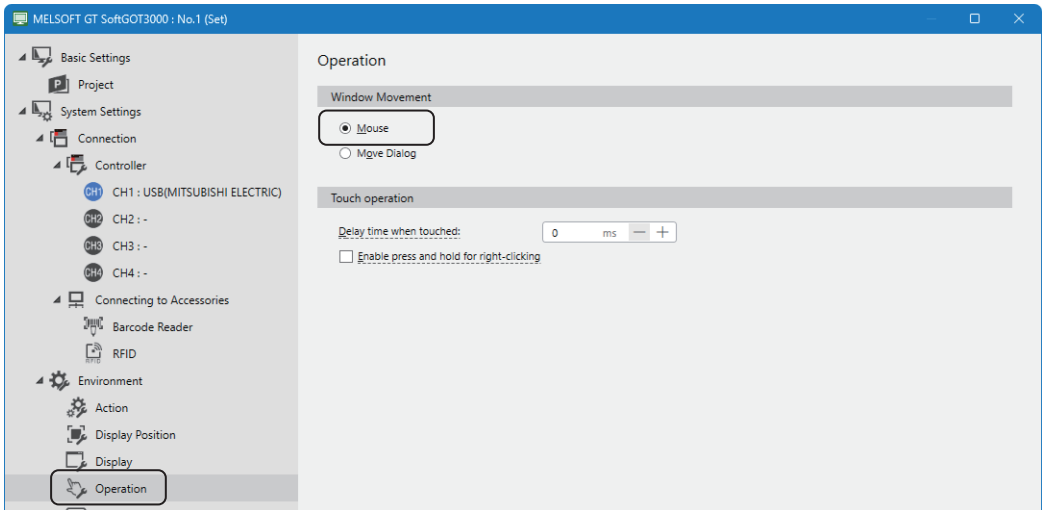
Setting the cursor of the mouse to the move mode and moving the mouse also moves the GT SoftGOT3000 window with the motion of the mouse.

Clicking the mouse cancels the move mode.

Operating procedure

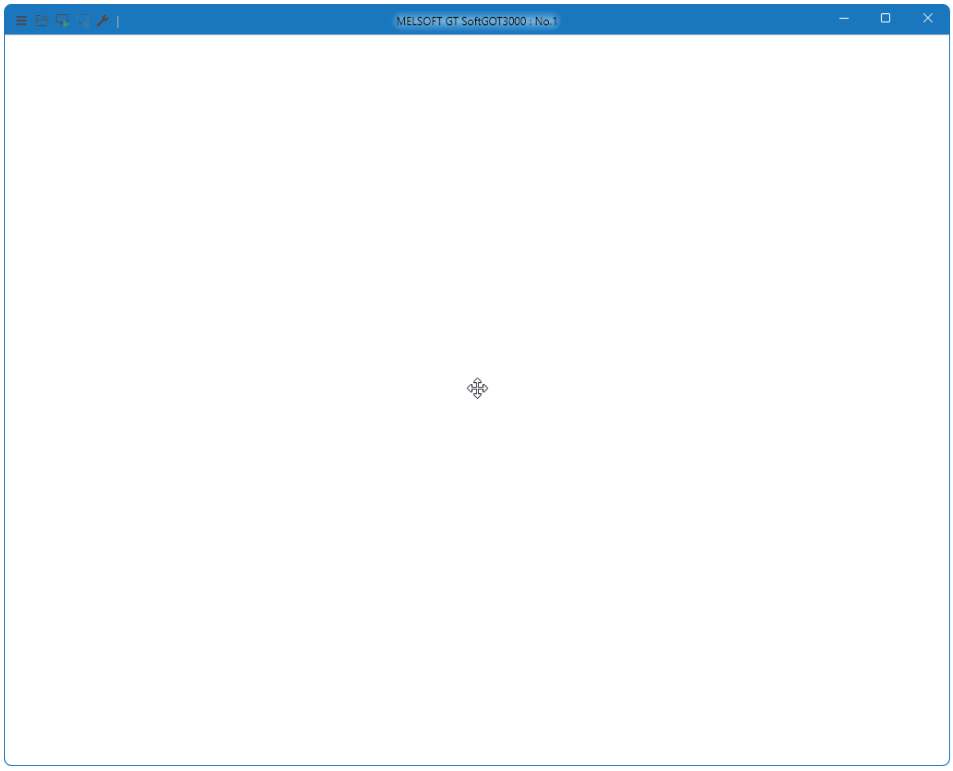
1. Click the [Menu] icon, select [Set] from the menu, and click [Operation] under [Environment] in the setting tree of the dialog.
2. The [Option] dialog appears. Select [Mouse] for [Window Movement].

☞ Page 109 [Operation]



3. Perform either of the following operations to set the cursor to the move mode.

- Click the [Menu] icon and select [Window] → [Move Window] from the menu.
- Right-click the mouse and select [Window] → [Move Window] from the context menu.



4. As the mouse is moved, the window moves at the same time.
5. Click the mouse at the window move destination to complete the movement.

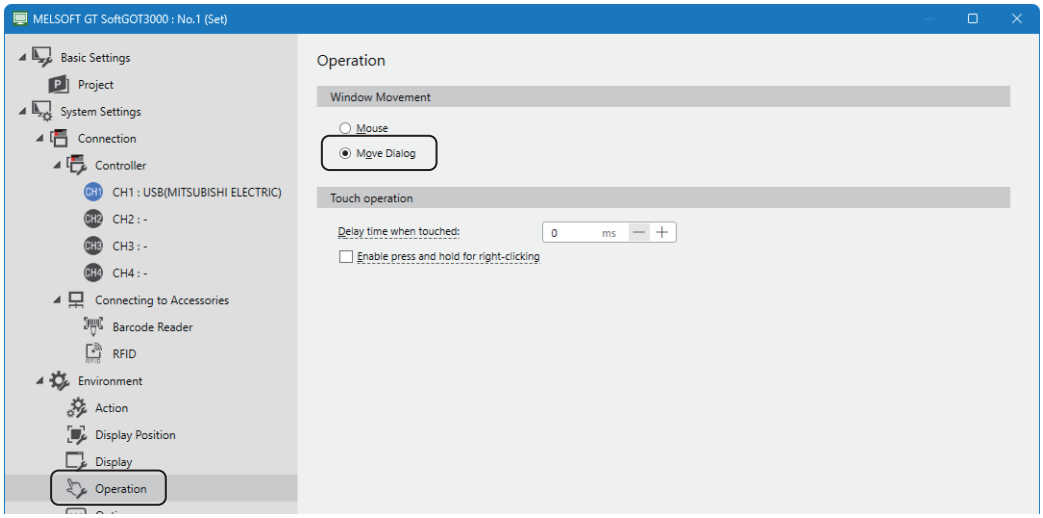
Movement with the move buttons

Click the up, down, left, and right buttons in the [Move Window] dialog to move the GT SoftGOT3000 window.

Operating procedure

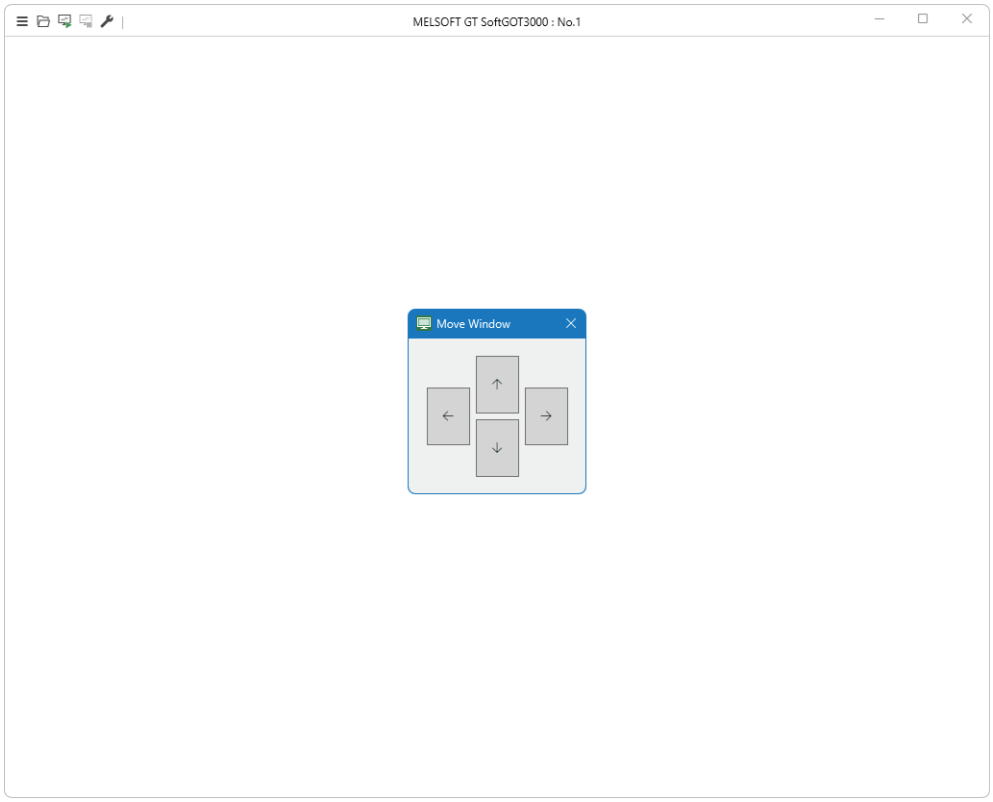
1. Click the [Menu] icon, select [Set] from the menu, and click [Operation] under [Environment] in the setting tree of the dialog.
2. The [Option] dialog appears. Select [Move Dialog] for [Window Movement].

☞ Page 109 [Operation]



3. Perform one of the following operations to display the [Move Window] dialog.

- Click the [Menu] icon and select [Window] → [Move Window] from the menu.
- Right-click the mouse and select [Window] → [Move Window] from the context menu.



4. Clicking the up, down, left, and right buttons moves the GT SoftGOT3000 window in the selected direction in units of 10 dots.
5. Close the [Move Window] dialog by clicking the [×] button to complete the movement.

14.7.4 Movement to the startup display position

The GT SoftGOT3000 window is moved to the startup display position.

Point

The startup display position of the GT SoftGOT3000 window can be set in [Display Position] in the [Environment] dialog.

For details on the setting, refer to the following.

☞ Page 107 [Display Position]

Operating procedure

Perform either of the following operations to move the GT SoftGOT3000 window to the startup display position.

- Click the [Menu] icon and select [Window] → [Move to Start-up Display Position] from the menu.
- Right-click the mouse and select [Window] → [Move to Start-up Display Position] from the context menu.

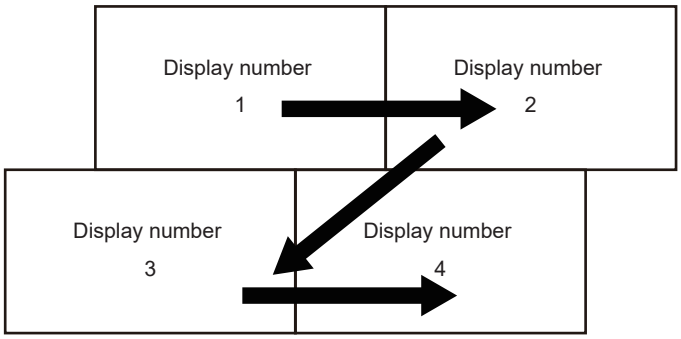
14.7.5 Movement to another display

When multiple displays are used, the GT SoftGOT3000 window can be moved to another display.

☞ Page 136 Movement to the previous display
☞ Page 137 Movement to the next display
☞ Page 137 Movement to the specified display

Point

• Display numbers are assigned in the following order with the top leftmost display as [Display 1].



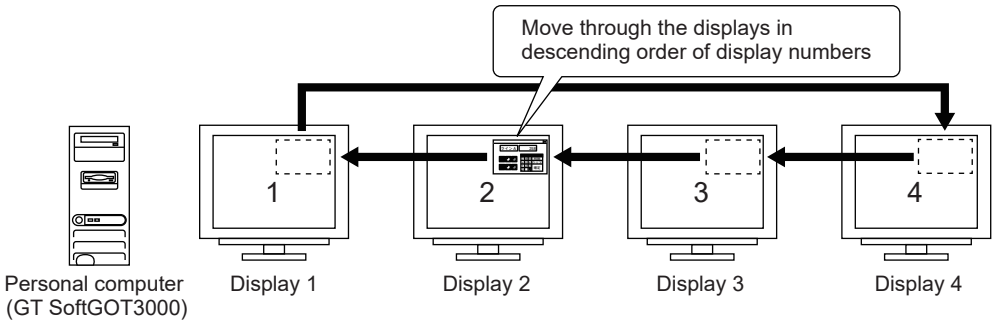
• Up to 8 display numbers can be assigned.

Precautions

To change the mounting state of the display while GT SoftGOT3000 is running, restart GT SoftGOT3000.
Otherwise, the display numbers assigned in GT SoftGOT3000 do not match those of the actual displays.

Movement to the previous display

Move GT SoftGOT3000 to the display with the number assigned by GT SoftGOT3000 in descending order.



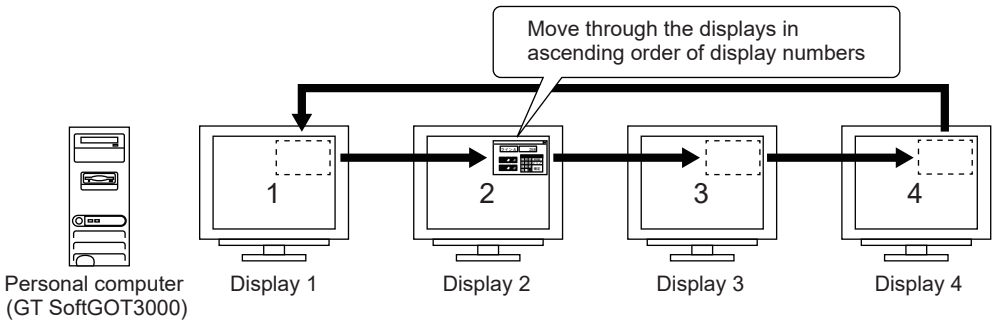
Operating procedure

Perform one of the following operations to move GT SoftGOT3000 in descending order.

• Click the [Menu] icon and select [Window] → [Move to Previous Display] from the menu.
• Right-click the mouse and select [Window] → [Move to Previous Display] from the context menu.

Movement to the next display

Move GT SoftGOT3000 to the display with the number assigned by GT SoftGOT3000 in ascending order.



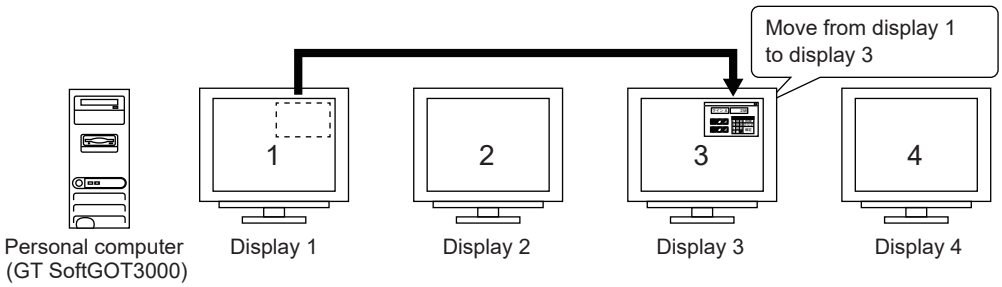
Operating procedure

Perform one of the following operations to move GT SoftGOT3000 in ascending order.

- Click the [Menu] icon and select [Window] → [Move to Next Display] from the menu.
- Right-click the mouse and select [Window] → [Move to Next Display] from the context menu.

Movement to the specified display

The GT SoftGOT3000 window is moved to the display with the specified number.



Operating procedure

Perform either of the following operations to move the window to the display with the selected number.

(☐ indicates the display number of the move destination.)

- Click the [Menu] icon and select [Window] → [Move to Display ☐] from the menu.
- Right-click the mouse and select [Window] → Display ☐ from the context menu.

PART 7

15 Functions for operation

15.1 Monitor-only mode

The operation with a mouse or a keyboard and the touch operation on the touch display are disabled on the GT SoftGOT3000 monitor screen.
It is useful when using GT SoftGOT3000 only for monitoring.
☞ Page 138 Starting/canceling the monitor-only mode
☞ Page 141 Cursor display in the monitor-only mode

15.1.1 Starting/canceling the monitor-only mode

The following shows how to start and cancel the monitor-only mode.

Starting the monitor-only mode

You can start GT SoftGOT3000 in the monitor-only mode or set the monitor-only mode after starting GT SoftGOT3000.

Operating procedure

■Starting GT SoftGOT3000 in the monitor-only mode

GT SoftGOT3000 can be started in monitor-only mode by setting the startup option in [Properties] of the shortcut.
For the setting method, refer to the following.
☞ Page 68 Specifying the operation or processing upon startup

■Setting the monitor-only mode after the startup of GT SoftGOT3000

1. Perform either one of the following operations to enable the monitor-only mode.

- Click the [Menu] icon, select [Online], and select [Monitor-only Mode].
- Right-click the mouse and select [Monitor-only Mode] from the context menu.
- Open a project with [Monitors in monitor-only mode] selected in the [Specify a project] dialog.

☞ Page 76 [Specify a project] dialog

- Click [Action] under [Environment] in the setting tree of the [Set] dialog, and select [Monitors in monitor-only mode].

☞ Page 106 [Action]

2. Start monitoring.

☞ Page 81 Starting monitoring

Point

The confirmation dialog appears when monitoring starts with the monitor-only mode enabled.
The confirmation dialog can be displayed or hidden by the setting in the [Set] dialog.
For details, refer to the following.
☞ Page 110 [Option]

Precautions

■Switching to/from the monitor-only mode

The monitor-only mode cannot be started or canceled during and after monitoring with GT SoftGOT3000.

Starting or canceling the monitor-only mode is only possible during the period between the startup of GT SoftGOT3000 and the monitoring start time.

To start or cancel the monitor-only mode after the monitoring starts, restart GT SoftGOT3000.

☞ Page 140 Canceling the monitor-only mode

■Canceling the monitor-only mode started when GT SoftGOT3000 is started in the monitor-only mode

When GT SoftGOT3000 is started using the startup option set in [Properties] of the shortcut, the monitor-only mode cannot be canceled.

To cancel the monitor-only mode, exit GT SoftGOT3000, delete the startup option added to [Target], and then restart GT SoftGOT3000.

☞ Page 140 Canceling the monitor-only mode

■Restarting while the monitor-only mode is set

When GT SoftGOT3000 is restarted while the monitor-only mode is set, it is started in the monitor-only mode.

Each GT SoftGOT3000 module has its own monitor-only mode setting.

Canceling the monitor-only mode

The monitor-only mode is canceled in different ways according to whether GT SoftGOT3000 is started in the monitor-only mode or the mode is set after starting GT SoftGOT3000.

Operating procedure

■When GT SoftGOT3000 is started in the monitor-only mode

When GT SoftGOT3000 is started in monitor-only mode using the startup option set in [Properties] of the shortcut, the mode cannot be canceled.

1. Exit GT SoftGOT3000.
2. Delete the startup option added to [Target] in [Properties] of the shortcut.

■When the monitor-only mode is set after the startup

1. Stop monitoring.

☞ Page 82 Stopping monitoring

2. Restart GT SoftGOT3000.
3. Perform either of the following operations to cancel the monitor-only mode.

- Click the [Menu] icon, select [Online], and deselect [Monitor-only Mode].
- Right-click the mouse and select [Monitor-only Mode] from the context menu.
- Click [Action] under [Environment] in the setting tree of the [Set] dialog, and deselect [Monitors in monitor-only mode].

☞ Page 106 [Action]

15.1.2 Cursor display in the monitor-only mode

When the mouse cursor is moved onto the monitor screen in the monitor-only mode, the mouse cursor is disabled.
(The mouse cursor appearance is the same as the appearance set on the personal computer.)

Even if the mouse cursor is disabled, the context menu can be displayed by right-clicking the mouse.

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15.2 Enabling/disabling the keyboard input

Numerical values or text can be into numeric input objects or text input objects of the monitored project using the keyboard of the personal computer or the USB bar code reader.

Operating procedure

Perform one of the following operations to enable or disable the keyboard input.

- Click the [Menu] icon, select [Tool], and select or deselect [Keyboard Input].
- Right-click the mouse and select [Tool] → [Keyboard Input] from the context menu.
- Click [Action] under [Environment] in the setting tree of the [Set] dialog, and select or deselect [Enable Keyboard Input].

☞ Page 106 [Action]

15.2.1 Operations on numerical and text input objects

Keyboard input

Numerical values or text can be input using the keyboard of the personal computer when numerical input objects or text input objects are used.

The following lists the operation when each key is pressed.

Operation	GOT key code (HEX)	Operation on the numerical input	Operation on the text input
Back space	0008	Delete the character on the cursor.	
Enter *1	000D	Write the entry to a specified device, display the cursor on the target object, move the cursor to a different object, or close the key window.	
Esc	001B	Cancel the entry.	
- (Numeric keypad)	002D	Reverse the sign of the value.	—
. (Period)	002E	Enter a decimal point.	—
0 to 9	0030 to 0039	Enter a numeric character.	Enter a character. (ASCII or Unicode 2.1-compatible)
[A] to [Z] [a] to [z]	0041 to 005A 0061 to 007A	Enter a numeric character in hexadecimal ([A] to [F], [a] to [f]).	
Symbol keys	Character codes (ASCII)	—	
Enter text (such as hiragana or kanji characters).	Character codes (Unicode)	—	Enter text. (Unicode 2.1-compatible)
→ ← ↑ ↓	0080 0081 0082 0083	Move the cursor to a different object.	
Home	0084	—	Convert the entry to kanji characters.
PgUp	0085	—	Select the previous candidate.
PgDown	0086	—	Select the next candidate.
End	0087	—	Confirm the entry, or select the next group of hiragana characters to be converted to kanji characters.
Delete	0088	Delete all the entered characters.	
Ctrl + ← Ctrl + →	0090 0091	Move the cursor on the target object.	
Ctrl + ↑ Ctrl + ↓	FFFA FFFB	Increment or decrement the value.	—

*1 The operation on the target object varies depending on the setting in the [Environmental Setting] window ([Key Windows]) on GT Designer3.
For details, refer to the following.
GT Designer3 (GOT3000) Screen Design Manual

USB barcode reader input

When the numerical input or text input object is used, a USB barcode reader can be used as a keyboard to input numerical values or text.

The USB barcode reader can be used not only to enter a key code to an object or a key window, but also to move the cursor, delete text, and confirm or cancel the input value.

For details on the settings, refer to the following.

📖GT Designer3 (GOT3000) Screen Design Manual

Precautions

■When displaying a window screen on a base screen

When displaying a window screen on a base screen, and the alarm display (user) function or the simple alarm display function has been set up on both the screens, key input is enabled for the alarm display (user) function or the simple alarm display function on the base screen.

■When a touch switch to which the simultaneous press disable setting has been made is ON

The touch switch will not operate when pressing a key in the case the simultaneous press disable setting has been made to the touch switch and the touch switch is ON.

■Precautions on screen saving

When the screen saver of GT SoftGOT3000 is set, the monitor screen does not darken like it does on the GOT, even when the screen saver is active. (The screen display remains the same.)

The first input operation (touch, mouse, or keyboard) while GT SoftGOT3000 is in screen saver mode is not recognized as an input because the input is recognized as clearing the screen saver mode.

When clearing the screen saver mode, be careful not to make incorrect inputs.

The GT SoftGOT3000 screen saver and Windows screen saver are different functions.

If both GT SoftGOT3000 and Windows screen savers are active, each must be cleared separately.

■Keyboard inputs

The keyboard input function is not compatible with the utility screen.

Operate the utility screen with the mouse.

Do not use software keyboards (keyboard applications).

■Monitor-only mode

During monitoring in the monitor-only mode, you cannot enter data into numeric input objects or text input objects with the keyboard.

To enable the keyboard input function, cancel the monitor-only mode.

☞Page 138 Starting/canceling the monitor-only mode

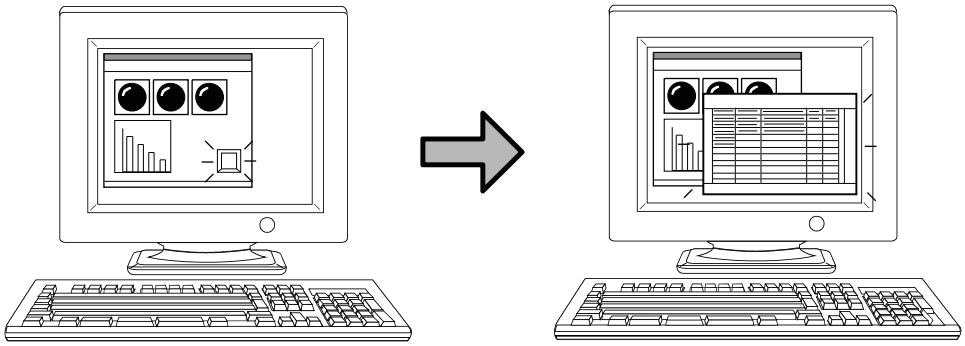
16 Functions for external interactions

16.1 Settings to start applications during monitoring

While monitoring with GT SoftGOT3000, external applications such as Microsoft Excel can be started using touch switches or other objects placed in the project.

As well as an application, a specified file can be started. You can check resource data for each function during monitoring, or you can start GX Works3 to monitor a sequence program.

You can also store history data about the application startup with this function.



16.1.1 Trigger and setting points of application startup

This function uses GOT internal devices as the triggers to start applications.
Applications or files can be started from a touch switch by associating the applications or files with the GOT internal devices set to the touch switch or another object.
Two setting methods are available as follows.
☞ Page 145 [Basic Application Startup]
☞ Page 145 [Advanced Application Startup]
Both methods are used to specify the trigger or file to start the application.
The following shows the differences between the setting methods.

[Basic Application Startup]

In [Basic Application Startup], configure the settings to start the application when the bit of the GOT internal device specified as the trigger is turned on.

Trigger to start the application	Number of settable applications	Setting dialog
• GS501 • GS502 • GS493 to GS498	128	☞ Page 111 [Basic Application Startup]

For details on the GOT internal devices and how to set the devices, refer to the following manual.
📖GT Designer3 (GOT3000) Screen Design Manual

[Advanced Application Startup]

In [Advanced Application Startup], configure the settings to start the application when both conditions for the GOT internal devices specified as triggers are satisfied.

Trigger to start the application	Number of settable applications	Setting dialog
• Trigger 1: One of the specified values (1 to 255) is stored in GS505. • Trigger 2: One of the specified bits (GS506.b0 to b15 or GS507.b0 to b15) turns on.	1000	☞ Page 113 [Advanced Application Startup]

For details on the GOT internal devices and how to set the devices, refer to the following manual.
📖GT Designer3 (GOT3000) Screen Design Manual

Point

- When the application starts, 0 is stored in GS505.
- The bit of Trigger 2 (GS506.b0 to b15 or GS507.b0 to b15) that turns on automatically turns off.

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Precautions

■Duplication of the internal devices

When setting the GOT internal devices (GB or GD) or SoftGOT3000 internal devices (SGB or SGD), make sure that they do not overlap with internal devices used by other functions.

Doing so may cause an unintended operation.

■Operation when the data type of the internal device is character string

If the character code of [Character string], the order in which the data is read from the device, or the termination character NULL (0x00) is specified incorrectly, the string cannot be acquired correctly.

In such cases, the application may not start or may behave unintentionally.

■Operation when the data type of the internal device is numerical value

When [Data format] is [Numerical value], the internal device stores 0 until a value is set.

Therefore, the application always starts on the assumption that an option setting is specified.

If no option setting is necessary, select [Character string] for [Data format].

■Device ON time

Applications may not be started up if device ON time is too short.

Keep the device ON until applications are started up.

■Operation when the error dialog is displayed

If an application fails to start up, the error dialog is displayed. The application cannot be restarted in this state.

Close the error dialog before starting the application.

Choose not to display the error dialog in the application startup setting, if necessary.

☞ Page 115 [Auxiliary]

Using environment variables

Setting the Windows environment variable (Path) eliminates the need to enter the path in the [File Name] in the [Basic Application Startup] and [Advanced Application Startup] dialogs.

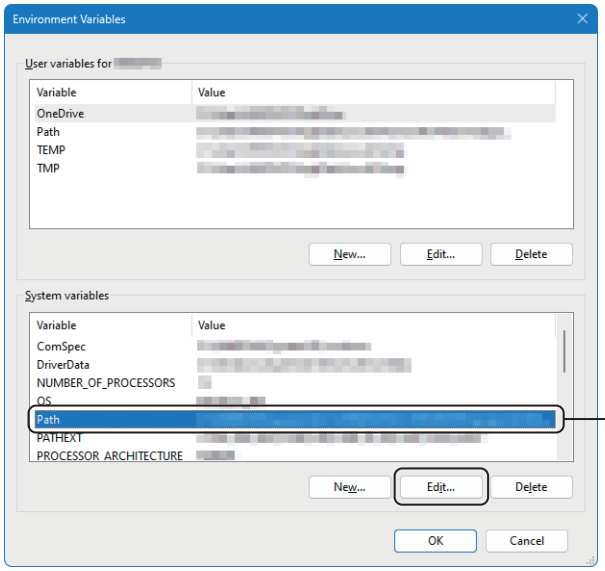
☞ Page 111 [Basic Application Startup]

☞ Page 113 [Advanced Application Startup]

For details on the environment variables, refer to the manual or Help of Windows.

The following shows an example setting of environment variables.

1. In the Windows Control Panel, select [System and Security] → [System] to display the [About] window.
2. Select [Advanced system settings] to display the [System Properties] dialog.
3. In the [Advanced] tab, click the [Environment Variables] button to display the [Environment Variables] dialog.
4. In [Environment Variables], select [Path] and click the [Edit] button to display the [Edit environment variable] dialog.



5. Click the [New] button, and add a path containing an executable file to the variable value.

Example) C:\Program Files\MyProgram

6. Click the [OK] button of each dialog in the following order.

[Edit environment variable] dialog → [Environment Variables] dialog → [System Properties] dialog

16.2 Internal device interface functions

The internal device interface functions are used to read/write values from/to GT SoftGOT3000 internal devices on user-created applications.

☞ Page 148 List of functions
☞ Page 149 Accessible devices
☞ Page 150 Development environment
☞ Page 152 Introduction procedure

16.2.1 List of functions

The following shows the internal device interface functions that are available for users.

Function	Internal device interface function	Details
Opens and maps the shared memory of the GOT internal device.	sgt_GDevOpenMapping()	☞ Page 190 sgt_GDevOpenMapping
	GDev_OpenMapping()	☞ Page 175 GDev_OpenMapping
Unmaps and closes the shared memory of the GOT internal device.	sgt_GDevCloseUnMapping()	☞ Page 192 sgt_GDevCloseUnMapping
	GDev_CloseUnMapping()	☞ Page 188 GDev_CloseUnMapping
Reads data from GOT internal devices.	GDev_Read()	☞ Page 178 GDev_Read
Writes data to GOT internal devices.	GDev_Write()	☞ Page 183 GDev_Write
Reads data from individual GOT internal devices.	sgt_ReadDeviceRandom()	☞ Page 193 sgt_ReadDeviceRandom
Writes data to individual GOT internal devices.	sgt_WriteDeviceRandom()	☞ Page 196 sgt_WriteDeviceRandom
Reads data from consecutive GOT internal devices.	sgt_ReadDeviceBlock()	☞ Page 199 sgt_ReadDeviceBlock
Writes data to consecutive GOT internal devices.	sgt_WriteDeviceBlock()	☞ Page 202 sgt_WriteDeviceBlock

Point

Internal device interface functions with "sgt_" in their name can be used for more devices.
Therefore, when there are multiple functions with the same function, it is recommended to use a function with "sgt_" in its name.

16.2.2 Accessible devices

The following shows GT SoftGOT3000 internal devices available for reading/writing data on a user-created application using internal device interface functions.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

For details on the GT SoftGOT3000 internal devices, refer to the following.

GT Designer3 (GOT3000) Screen Design Manual

Point

- Internal devices hold their values while GT SoftGOT3000 is running.
- Internal devices can be accessed irrespective of the connection type of GT SoftGOT3000.

Precautions

■Timing of access to the GT SoftGOT3000 internal devices

Reading and writing from user-created applications to internal devices can be executed only when GT SoftGOT3000 is performing monitoring.

■Operation rights required when the security mode of the project is mode 2

When the security mode of the project used for monitoring is set to mode 2, log in to GT SoftGOT3000 as an operator with [Reading/writing a device from an external device] operation rights.

If an operator without [Reading/writing a device from an external device] operation rights logs in, user-created applications cannot be read and written from the GT SoftGOT3000 internal devices.

For information on the operation rights when the security mode is mode 2, refer to the following.

GT Designer3 (GOT3000) Screen Design Manual

16.2.3 Development environment

The following shows development environment for an application using the internal device interface function.

Development environment				Availability of internal device interface functions
Language	Software		Framework	
C++	Microsoft Visual C++ 2019	64-bit 32-bit	.NET Framework4.6 .NET Framework4.5.2 .NET Framework4.5.1 .NET Framework4.5 .NET Framework4.0	☞ Page 150 Microsoft Visual C++
C#	Microsoft Visual C# 2019	64-bit 32-bit	.NET Framework4.6	☞ Page 150 Microsoft Visual C#
Microsoft Excel VBA	Microsoft Excel 2019	64-bit	—	☞ Page 151 Microsoft Excel VBA

Microsoft Visual C++

The following shows the development environment corresponding to each function.

○: Supported, —: Unsupported

Internal device interface function	Development environment	
	Microsoft Visual C++ 2019	
	64-bit	32-bit
GDev_OpenMapping()	○	○
GDev_CloseUnMapping()	○	○
GDev_Read()	○	○
GDev_Write()	○	○
sgt_GDevOpenMapping()	○	○
sgt_GDevCloseUnMapping()	○	○
sgt_ReadDeviceRandom()	○	○
sgt_WriteDeviceRandom()	○	○
sgt_ReadDeviceBlock()	—	—
sgt_WriteDeviceBlock()	—	—

Microsoft Visual C#

The following shows the development environment corresponding to each function.

○: Supported, —: Unsupported

Internal device interface function	Development environment	
	Microsoft Visual C# 2019	
	64-bit	32-bit
GDev_OpenMapping()	○	○
GDev_CloseUnMapping()	○	○
GDev_Read()	○	○
GDev_Write()	○	○
sgt_GDevOpenMapping()	○	○
sgt_GDevCloseUnMapping()	○	○
sgt_ReadDeviceRandom()	○	○
sgt_WriteDeviceRandom()	○	○
sgt_ReadDeviceBlock()	○	—
sgt_WriteDeviceBlock()	○	—

Microsoft Excel VBA

The following shows the development environment corresponding to each function.

○: Supported, —: Unsupported

Internal device interface function	Development environment
	Microsoft Excel 2019
	64-bit
GDev_OpenMapping()	○
GDev_CloseUnMapping()	○
GDev_Read()	○
GDev_Write()	○
sgt_GDevOpenMapping()	○
sgt_GDevCloseUnMapping()	○
sgt_ReadDeviceRandom()	○
sgt_WriteDeviceRandom()	○
sgt_ReadDeviceBlock()	○
sgt_WriteDeviceBlock()	○

16.2.4 Introduction procedure

The following shows how to use internal device interface functions on a user-created application.

1. Prepare the development environment of the application to be created.

For the development environment, refer to the following.

☞ Page 150 Development environment

2. Prepare the modules required to use internal device interface functions.

The required modules are included in the GT SoftGOT3000 installer.

For details, refer to the following.

☞ Page 153 Preparation of the modules

3. Create an application.

The application can also be created using a sample program.

For details on sample programs, refer to the following.

☞ Page 206 Sample program

4. Run the created application.

For the processing flow when internal device interface functions are used, refer to the following.

☞ Page 154 Processing flow when the internal device interface function is used

Precautions

■Versions of the modules

To prepare the modules, use the files included in the installer for GT SoftGOT3000 to be used.

If you copy and use the files from the installer for a different version, an application error or other issues may occur.

■File attributes of the modules

If the read-only attribute is set to the modules, cancel the setting.

■Precautions for loading DLL files

If you create an application with [Any CPU] set to the target platform, load the DLL file applicable to each environment for running the file.

- When running the file on 64-bit Windows: GDevlib64_GT3K.dll
- When running the file on 32-bit Windows: GDevlib_GT3K.dll

■Precautions for introduction

To use an application that includes internal device interface functions, store GDevlib_GT3K.dll or GDevlib64_GT3K.dll in the folder where the application is stored or in the specified folder with a path.

■When replacing GT SoftGOT2000 with GT SoftGOT3000

The GDevlib_GT27.dll and GDevlib64_GT27.dll files of GT SoftGOT2000 cannot access the GT SoftGOT3000 internal devices.

To access the GT SoftGOT3000 internal devices, create an application using GDevlib_GT3K.dll or GDevlib64_GT3K.dll.

Preparation of the modules

The following explains the modules required to use internal device interface functions and how to obtain the modules.

■Required modules

The following modules are required to use internal device interface functions.

File name		Description
64-bit version	GDevlib64_GT3K.dll	DLL for the internal device interface
	GDevlib64_GT3K.lib	LIB for the internal device interface
	GDevlib64_GT3K.h	Header file for the internal device interface
32-bit version	GDevlib_GT3K.dll	DLL for the internal device interface
	GDevlib_GT3K.lib	LIB for the internal device interface
	GDevlib_GT3K.h	Header file for the internal device interface

Point

For the software applications compatible with the 32-bit and 64-bit versions, refer to the following.

☞ Page 150 Development environment

■How to obtain the modules

The modules are included in the GT SoftGOT3000 installer.

PART 7

Processing flow when the internal device interface function is used

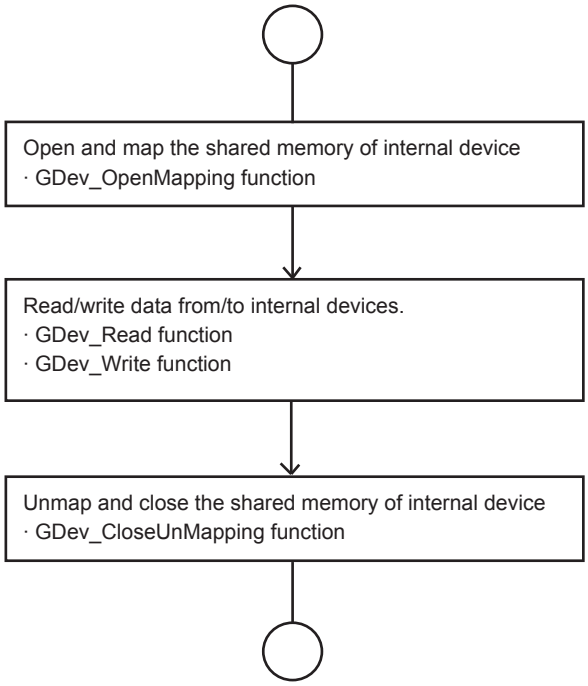
The following shows the processing flow when the internal device interface function is used in a program.

The following operations can be processed simultaneously.

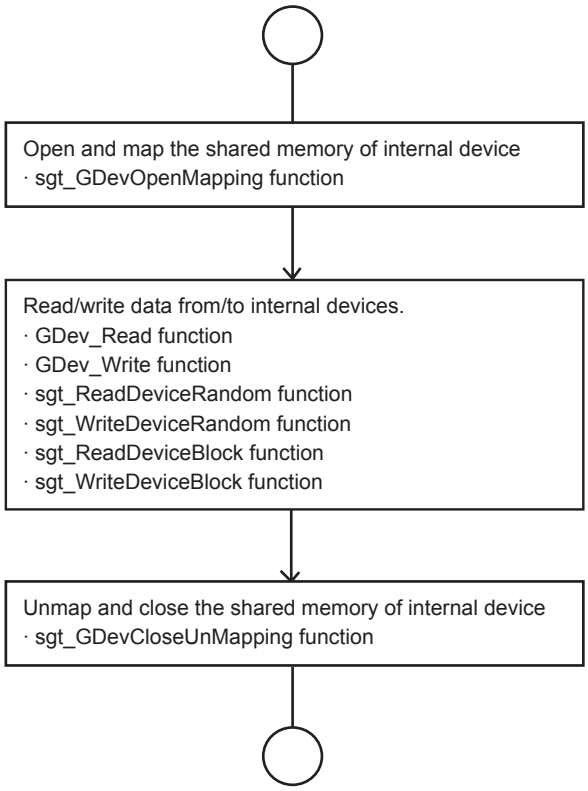
☞ Page 154 When using GB, GD, and GS devices

☞ Page 154 When using GB, GD, GS, SGB, and SGD devices

■When using GB, GD, and GS devices



■When using GB, GD, GS, SGB, and SGD devices



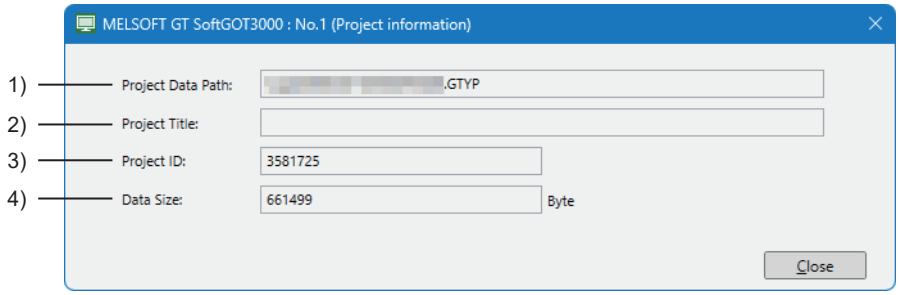
17 Functions for the project

17.1 Project information

Displays the information about the project being monitored GT SoftGOT3000.

Window

Click the [Menu] icon and select [Project] → [Project information] from the menu to display the [Project information] dialog.



Item		Description
1)	[Project Data Path]	Displays the path to the monitored project.
2)	[Project Title]	Displays the project title set for the project.
3)	[Project ID]	Displays the project ID set for the project.
4)	[Data Size]	Displays the data size of the project.

Point

If the [Project information] dialog is displayed before starting monitoring of a project, the dialog displays the information about the previously monitored project.
If no project has ever been monitored, no project information is displayed.

PART 7

17.2 Referring to resource data

The resource data collected by GT SoftGOT3000 is displayed.

The following resource data can be displayed.

- Alarm log
- Recipe
- Data log
- Operation log
- Image file (such as a hard copy)

For information on the resource data, refer to the following.

☞ Page 24 Resource data

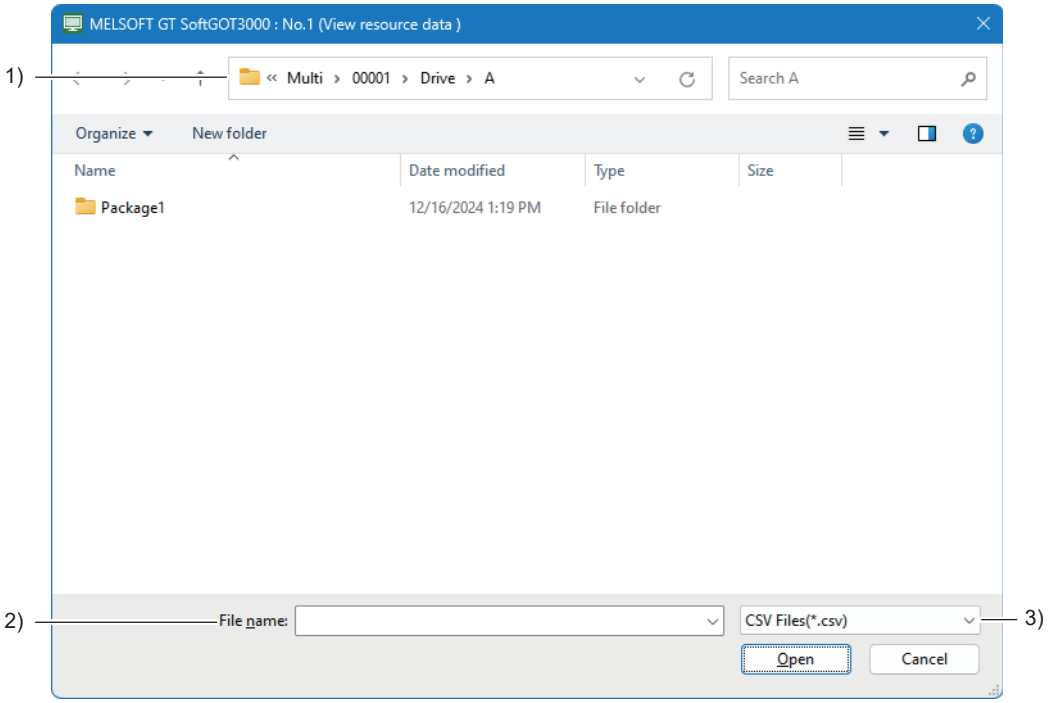
Operating procedure

1. Perform one of the following operations to display the [Refer to Resource Data] dialog.

- Click the [Menu] icon and select [Tool] → [Resource Data] from the menu.
- Right-click the mouse and select [Tool] → [Resource Data] from the context menu.
- Press the Ctrl + R keys.

2. Select the resource data to be displayed, and click the [Open] button.

The application associated with the resource data starts up to display the resource data.



Item		Description
1)	[Look in]	Select the storage location of resource data.
2)	[File name]	Set the file name of the resource data to be opened.
3)	[Files of type]	Select the file format of the resource data.

18 Other functions

☞ Page 157 Snap shot
☞ Page 158 Printing the image of the monitor screen
☞ Page 162 License information management
☞ Page 165 All data initialization

18.1 Snap shot

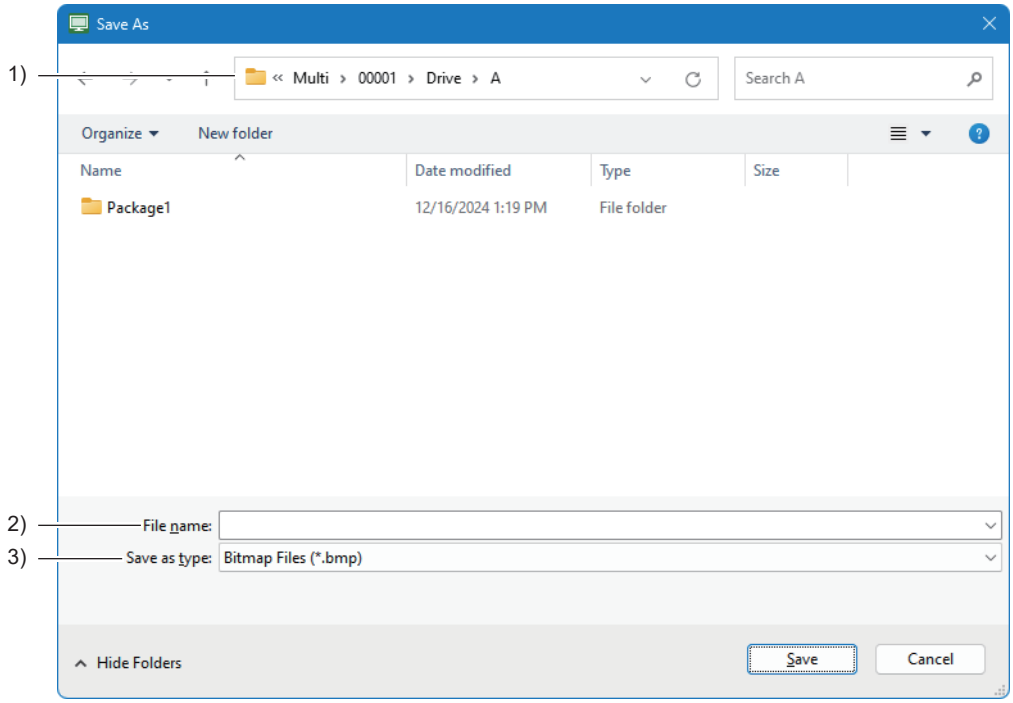
The screen image being monitored is saved into BMP or JPEG format file.

Operating procedure

1. Perform one of the following operations to display the [Save As] dialog.

- Click the [Menu] icon and select [Project] → [Snapshot] from the menu.
- Press the Ctrl + H keys.

2. Configure the required settings and click the [Save] button to save the screen image.



Item		Description
1)	[Save in]	Selects the area where the file is saved.
2)	[File name]	Selects the file name to be saved.
3)	[Save as type]	Selects a format of the file.

PART 7

18.2 Printing the image of the monitor screen

The screen image being monitored is output to a printer.

☞ Page 158 Performing print setup
☞ Page 159 Page settings
☞ Page 160 Displaying the print preview
☞ Page 161 Printing

18.2.1 Performing print setup

Set the output method, paper size, and others.

Operating procedure

1. Click the [Menu] icon and select [Project] → [Print Setup] from the menu to display the [Print Setup] dialog.
2. Output the pages by the following operations in the setting dialog.

- For the printer output, configure the settings and click the [OK] button.
- For the file output, specify the save destination and click the [Save] button.

Precautions

■Precautions for the printer used

Each GT SoftGOT3000 module has its own print settings.

However, when you perform one of the following operations, the printer selected for [Set as default printer] in Windows is specified.

- Deleting the selected printer
- Selecting a printer whose name contains 31 characters or more

■Precautions for the print settings

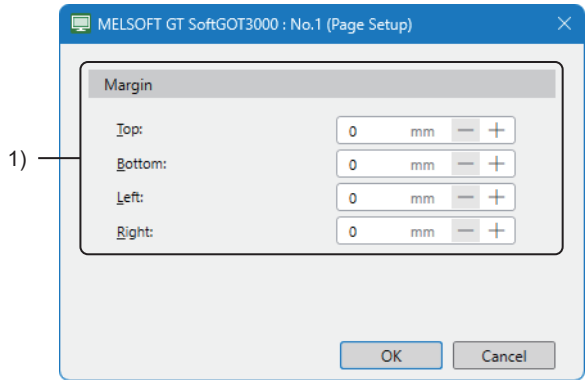
Depending on the printer used, some print settings are not retained.

18.2.2 Page settings

Set the margins for the page to be printed.

Operating procedure

1. Click the [Menu] icon and select [Project] → [Page Setup] from the menu to display the [Page Setup] dialog.
2. Set the top, bottom, left and right margins and click the [OK] button to save the settings.



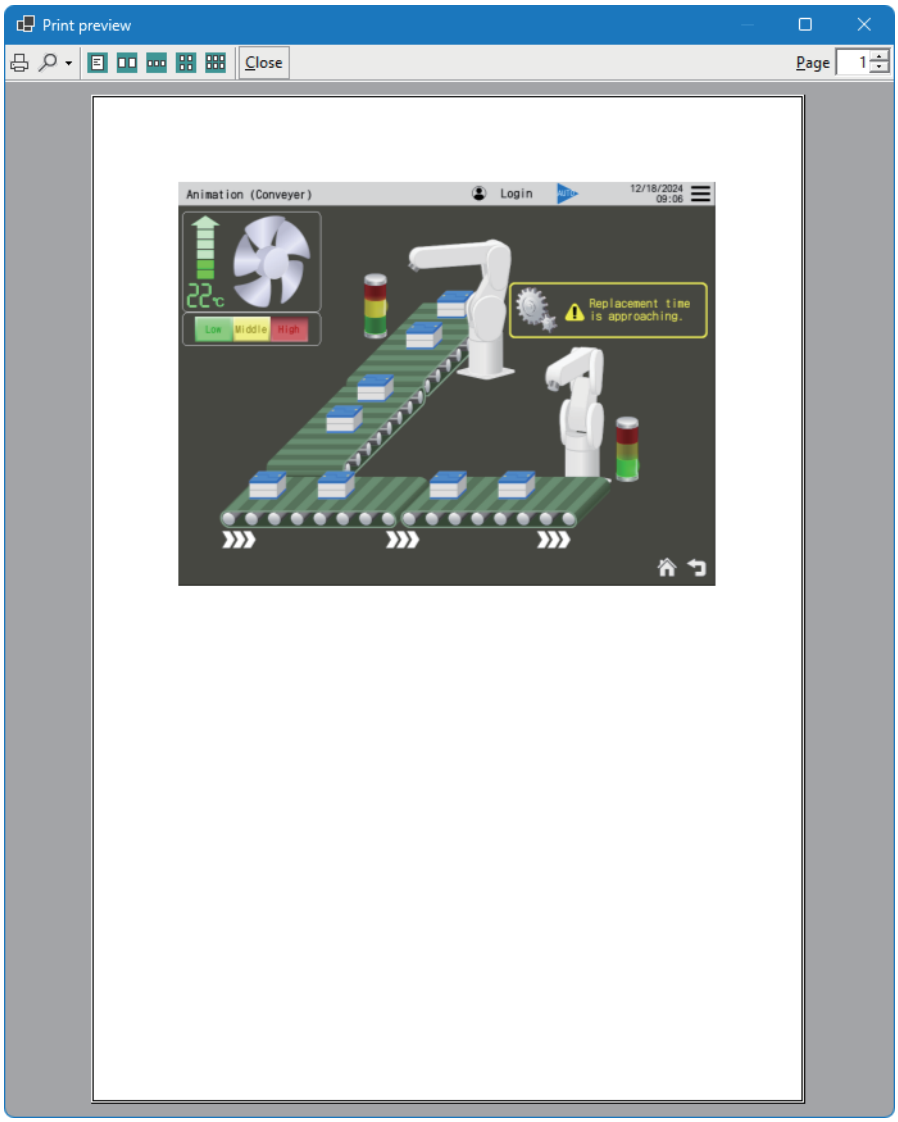
Item		Description
1)	[Margin]	Set the margins on a page to be printed.

18.2.3 Displaying the print preview

Displays the screen image to be printed.

Window

During monitoring, click the [Menu] icon, and select [Project] → [Print Preview] from the menu to display the print preview.



Precautions

The print preview of the GT SoftGOT3000 screen may look smaller than the actual screen depending on the paper type or size, and the screen resolution.
Therefore, what is printed may not match the print preview.
Check what has been printed.

18.2.4 Printing

Output the image of the monitor screen to a printer connected to the personal computer.

Operating procedure

1. During monitoring, perform one of the following operations to display the [Print] dialog.

- Click the [Menu] icon and select [Project] → [Print] from the menu.
- Press the Ctrl key + P key.

2. Output the pages by the following operations in the setting dialog.

- For the printer output, configure the settings and click the [OK] button.
- For the file output, specify the save destination and click the [Save] button.

PART 7

18.3 License information management

Acquires the information necessary to manage the GT SoftGOT3000 and add-on function license information and to register the GT SoftGOT3000 license.

18.3.1 Product license management

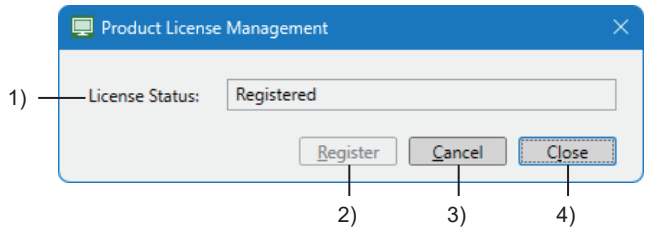
Register, view, or deregister the GT SoftGOT3000 license.

For instruction on how to register or deregister the GT SoftGOT3000 license, refer to the following.

☞ Page 49 GT SoftGOT3000 license

Window

Click the [Menu] icon and select [Project] → [License Management] from the menu to display the [Product License Management] dialog.



Item		Description
1)	[License Status]	Displays the status of the GT SoftGOT3000 license.
2)	[Register] button	Registers the GT SoftGOT3000 license. Click the [Register] button and select the GT SoftGOT3000 activation file in the displayed dialog.
3)	[Cancel] button	Deregisters the GT SoftGOT3000 license.
4)	[Close] button	Closes the [Product License Management] dialog.

18.3.2 Add-on function license management

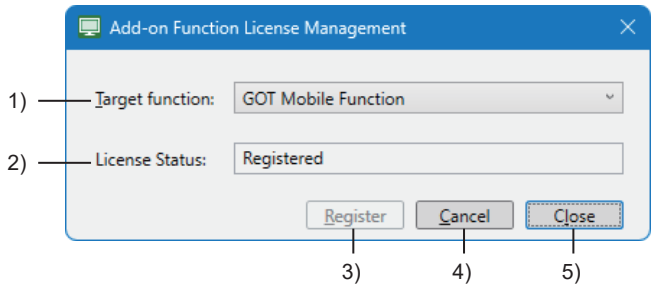
Register, view, or deregister the add-on function licenses.

For instruction on how to register or deregister the add-on function licenses, refer to the following.

☞ Page 54 Add-on function license

Window

Click the [Menu] icon and select [Project] → [License Management] → [Add-on License Management] from the menu to display the [Add-on Function License Management] dialog.



Item		Description
1)	[Target function]	Select the target add-on function to register, view, or deregister its license information.
2)	[License Status]	Displays the status of the add-on license.
3)	[Register] button	Registers the add-on function license. Click the [Register] button and select the activation file for the add-on function targeted for license registration in the displayed dialog.
4)	[Cancel] button	Deregisters the add-on function license.
5)	[Close] button	Closes the [Add-on Function License Management] dialog.

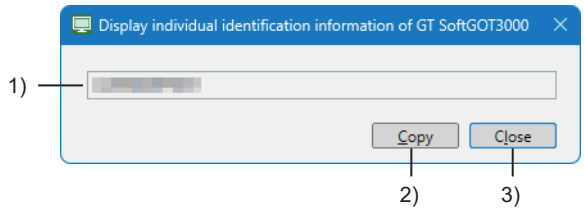
PART 7

18.3.3 GT SoftGOT3000 individual identification information display

Displays the individual identification information of GT SoftGOT3000.
The individual identification information is used when registering the GT SoftGOT3000 license.

Window

Click the [Menu] icon and select [Project] → [License Management] → [Display individual identification information of GT SoftGOT3000] from the menu to display the [Display individual identification information of GT SoftGOT3000] dialog.



Item		Description
1)	Individual identification information display	Displays the individual identification information of GT SoftGOT3000.
2)	[Copy] button	Copies the individual identification information being displayed.
3)	[Close] button	Closes the [Display individual identification information of GT SoftGOT3000] dialog.

18.4 All data initialization

This function deletes the data that is not deleted by the uninstallation of GT SoftGOT3000.

Point

When disposing of a personal computer with GT SoftGOT3000 installed, use this function in advance to delete the data that is not deleted by the uninstallation.

Precautions

■All data initialization when multiple modules are running

When multiple GT SoftGOT3000 modules are running, all data initialization cannot be executed.

■License deregistration

If a license is registered in GT SoftGOT3000, all data initialization cannot be executed.

Deregistered the GT SoftGOT3000 and add-on function licenses, and then execute all data initialization.

■Startup with administrator privileges

To execute all data initialization, start GT SoftGOT3000 with administrator privileges.

■All data initialization during monitoring

All data initialization cannot be executed during monitoring with GT SoftGOT3000.

Operating procedure

1. Start GT SoftGOT3000 with administrator privileges.
2. Deregister the GT SoftGOT3000 license and add-on function licenses from GT SoftGOT3000.

For information on how to cancel the license, refer to the following.

☞ Page 53 Procedure for deregistering the GT SoftGOT3000 license

☞ Page 58 Procedure for deregistering the add-on function license

3. Perform one of the following operations to delete the data that is not deleted by the uninstallation of GT SoftGOT3000.

- Click the [Menu] icon and select [Tool] → [Initialize all information] from the menu.
- Right-click the mouse and select [Tool] → [Initialize all information] from the context menu.

PART 8 Troubleshooting

19 GT SoftGOT3000 error messages

The following shows the error messages, causes, and corrective actions displayed when GT SoftGOT3000 is used.

☞ Page 167 Error messages displayed at startup
☞ Page 168 Error messages displayed when starting monitoring
☞ Page 170 Error messages displayed when stopping or ending monitoring
☞ Page 170 Error massages displayed during communication
☞ Page 171 Error messages related to the license
☞ Page 171 Error messages related to the snapshot
☞ Page 172 Error messages related to the external application start trigger settings

19.1 Error messages displayed at startup

The following shows the error messages, causes, and corrective actions displayed when GT SoftGOT3000 is started.

Error message	Error code	Cause	Corrective action
Cannot set up the operating environment. Insufficient disk space or memory may be the cause. Please do the following and retry. • Exit unnecessary applications. • Increase the free space of the hard disk. • Restart the personal computer.	0x1103	• There is Insufficient memory. • The hard disk space is insufficient. • GT SoftGOT3000 was terminated incorrectly last time. • Illegal process is running.	• Exit unnecessary applications. • Increase the free space of the hard disk. • Restart GT SoftGOT3000. • Restart the personal computer, and then restart GT SoftGOT3000.
Failed to set up an operating environment. Check the followings and retry the operation. • Free disk space. • Access privileges to the environment file. • Validity of environment files (invalid files or files not found).	0x1104	• The hard disk space is insufficient. • You do not have access privileges to the file. • There is Insufficient memory.	• Increase the free space of the hard disk. • Check the access privilege for a file. • Uninstall GT SoftGOT3000, and then reinstall it.
	0x1200 to 0x1204		
	0x1206		
	0x120A		
	0x2601		
	0x2700		
	0x9103 to 0x9104		
	0x9161		
	0x9181		

19.2 Error messages displayed when starting monitoring

The following shows the error messages, causes, and corrective actions displayed when starting monitoring with GT SoftGOT3000.

Error message	Error code	Cause	Corrective action
GT SoftGOT3000 is not installed properly. Please do the following. • After restarting the personal computer, restart GT SoftGOT3000. • Uninstall GT SoftGOT3000, and then reinstall it.	0x2201 0x2401 0x2403 0x2600 0x2A00 0x3700 0x3800	• Configuring the execution environment for GT SoftGOT3000 has failed. • GT SoftGOT3000 is not installed properly.	• Restart the personal computer, and then restart GT SoftGOT3000. • Uninstall GT SoftGOT3000, and then reinstall it.
Reading has failed. Check the following and retry. • The project data size and data count • Available disk space • Access privileges to the project file • The project data is invalid or does not exist • The project password is invalid or not entered	0x3101 0x3165 to 0x318C 0x31FD 0x31FF 0x3201 0x3265 to 0x328C 0x32FD 0x32FF 0x3301 0x3401 0x3465 to 0x348C 0x34FD 0x34FF 0x9103 0x9104 0x9161 0x9181	—	• Reduce the project data size to 256 MB or less. • Increase the free space of the hard disk. • Check the access privilege for a file. • Check that the project data has no problems, or use an uncorrupted project. • Check that the project exists.
GOT type of the project data is different from the one specified in GT SoftGOT3000. Change the GOT type of the project data to GT SoftGOT3000. [Project data settings] GOT Type: GT**-*	0x3500	The GOT type of the read project is not set to GT SoftGOT3000.	Change the GOT type of the project to GT SoftGOT3000.
The GOT type (resolution) of the project data is different from the setting in GT SoftGOT3000. [Project data settings] GOT type: GT37**-X (*** × ***) [GT SoftGOT3000 settings] Resolution: ### × ### If the resolution differs between the project data being monitored and the project data you are trying to open, please exit GT SoftGOT3000 and reopen the project data.	0x3501	The GOT type (resolution) of the read project is different from the GT SoftGOT3000 setting.	Match the GOT type (resolution) of the project created with GT Designer3 with the resolution of GT SoftGOT3000.
The major versions of the specified project data and GT SoftGOT3000 standard monitor OS do not match. Project data: Ver. ##.## GT SoftGOT3000 Standard monitor OS: Ver. ##.## Specify the project data of the same version.	—	The following OS major versions do not match. • OS of GT Designer3 used to create the project to be read • GT SoftGOT3000 standard monitor OS	• Install GT SoftGOT3000 with the same version as GT Designer3 that is used to create the project, and retry reading. • Create a project with GT Designer3 of the same version as GT SoftGOT3000, and retry reading.

Error message	Error code	Cause	Corrective action
GT SoftGOT3000 is not installed properly. Please reinstall it.	—	• Easysocket is not installed properly. • The Easysocket version is not compatible with the version of the installed GT SoftGOT3000.	Uninstall GT SoftGOT3000, and then reinstall it.
The controller setting (I/F) of the project data is different from the one specified in MELSOFT GT SoftGOT3000. If the controller monitors different project data, exit MELSOFT GT SoftGOT3000, then read the applicable project data again.	0x3600	[I/F] set in [Controller Setting] of the project is different from the one specified in GT SoftGOT3000.	• Change [I/F] set in [Controller Setting] of the project. • Restart GT SoftGOT3000, then open the project again.
The controller setting (type) of the project data is different from the one specified in MELSOFT GT SoftGOT3000. Check the settings and retry. [Project data settings] CH1 : #### CH2 : #### CH3 : #### CH4 : #### [MELSOFT GT SoftGOT3000 settings] CH1 : ####(####) CH2 : ####(####) CH3 : ####(####) CH4 : ####(####)	0x3601	[Controller Type] set in [Controller Setting] of the project is different from the one specified in GT SoftGOT3000.	[Controller Type] in [Controller Setting] of the project must be the same as the controller type set in GT SoftGOT3000.
Failed to delete resource data. • Close user data if it is open. • Check the file access privileges.	0x3801	• The resource data is open in another application. • You do not have access privileges to the file.	• If the resource data is open by another application, close the file. • Check the access privilege for a file.

19.3 Error messages displayed when stopping or ending monitoring

The following shows the error messages, causes, and corrective actions displayed when ending monitoring with GT SoftGOT3000 or exiting GT SoftGOT3000.

Error message	Error code	Cause	Corrective action
Exit the GT SoftGOT3000 before you logoff or exit Windows.	—	The logoff or shutdown process of Windows is executed before GT SoftGOT3000 is exited.	Execute the Windows logoff or shutdown process after exiting GT SoftGOT3000.
Cannot stop monitoring. Close the dialog on monitor screen and retry the operation.	—	GT SoftGOT3000 cannot exit normally because a message such as [This function is unavailable.] is displayed on the screen.	Select [OK] in the dialog to clear the message on the screen, then exit GT SoftGOT3000 again.
	—	Problems occur internally and the software cannot be closed.	Select [OK] in the dialog, and exit GT SoftGOT3000 again after a while.

19.4 Error massages displayed during communication

The following shows the error messages, causes, and corrective actions displayed during communication with GT SoftGOT3000.

Error message	Error code	Cause	Corrective action
A Communication error occurred. • Retry: Executes communication again. • Cancel: Cancels all communication. To retry communication, restart the GT SoftGOT3000. <ES:0x########>	—	• Cable was disconnected. • Cable was broken. • Transmission speed (Baud rate) is incorrect. • The PLC CPU type is different from that of the project setting.	After checking for the left causes, select the button in the displayed dialog. [Retry] Restarts communication. [Cancel] After Cancel is selected, all communications will not be made. To perform monitoring, restart GT SoftGOT3000.

19.5 Error messages related to the license

The following shows the error messages, causes, and corrective actions related to the GT SoftGOT3000 license.

Error message	Error code	Cause	Corrective action
License not registered. MELSOFT GT SoftGOT3000 will close.	—	The GT SoftGOT3000 license has not been registered.	Register the GT SoftGOT3000 license. ☞ Page 49 GT SoftGOT3000 license
License registration failed. Check the following and retry. • Confirm that the selected file is correct.	—	An incorrect activation file was selected.	Select the correct activation file.
License registration failed. Check the following and retry. • Run GT SoftGOT3000 as administrator • Access privileges to C drive	—	• GT SoftGOT3000 is not started with administrator privileges. • Access privilege for drive C is not granted.	• Start GT SoftGOT3000 with administrator privileges. • Check the access privilege for drive C.
The license cannot be registered because multiple modules of GT SoftGOT3000 are active. Please close the other GT SoftGOT3000 module(s) and retry.	—	Multiple GT SoftGOT3000 modules are running.	Start only one GT SoftGOT3000 module.
License registration failed. Check the following and retry. • Run GT SoftGOT3000 as administrator • Access privileges to C drive	—	• GT SoftGOT3000 is not started with administrator privileges. • Access privilege for drive C is not granted.	• Start GT SoftGOT3000 with administrator privileges. • Check the access privilege for drive C.
The license cannot be cancelled because multiple modules of GT SoftGOT3000 are active. Please close the other GT SoftGOT3000 module(s) and retry.	—	Multiple GT SoftGOT3000 modules are running.	Start only one GT SoftGOT3000 module.

19.6 Error messages related to the snapshot

The following shows the error messages, causes, and corrective actions displayed when a snapshot of the GT SoftGOT3000 monitor screen is captured.

Error message	Error code	Cause	Corrective action
Failed to take a snap shot. Possible causes are as follows: • There is not enough free memory or hard disk space. • You do not have access privileges to the file. • GT SoftGOT3000 was terminated incorrectly last time. or an incorrect processing is activated. Restart GT SoftGOT3000 and try again.	—	• There is Insufficient memory. • The hard disk space is insufficient. • You do not have access privileges to the file. • GT SoftGOT3000 was terminated incorrectly last time. • Illegal process is running.	• Exit unnecessary applications. • Increase the free space of the hard disk. • Check the access privilege for a file. • Restart GT SoftGOT3000. • Restart the personal computer, and then restart GT SoftGOT3000.

19.7 Error messages related to the external application start trigger settings

The following shows the error messages, causes, and corrective actions displayed when the external application start trigger settings are configured.

Error message	Error code	Cause	Corrective action
The specified trigger devices overlap. Change the setting.	—	The same combination of [Device] and [bit] exists in the assignment setting table.	Configure the settings so that the same combination of [Device] and [bit] does not exist.

20 GOT error code list

For information on the system alarms detected by the GOT, refer to the following manual.

GOT3000 Series User's Manual (Utility & Maintenance Functions)

21 Error codes of internal device interface functions

The following lists error codes that may occur when the internal device interface function is used.

Error code	Cause	Corrective action
1	Succeeded	—
0	Opening or mapping of the shared memory was failed. (Access to internal devices disabled)	• Start GT SoftGOT3000. • Specify a valid GT SoftGOT3000 module number (1 to 32767). • Exit unnecessary applications to secure memory space. • Restart the personal computer.
-1	The specified device name ID is invalid.	• Specify a valid device name ID.
-2	The specified start device is outside the range.	• Specify a valid device number.
-3	The specified end device is outside the range.	• Specify the number of devices within the valid device range.
-4	The specified device number is invalid.	• Specify a valid device number.
-5	The address of the specified device value is invalid.	• Secure the device value storage area and specify the start address of the value read from the device. • Secure the device value storage area and specify the start address of the device value to be written.
-6	The specified device value is invalid.	• Specify a valid device value.
-9	The specified shared address is illegal.	• Specify the shared memory address obtained by the GDev_OpenMapping function. • Specify the shared memory address obtained by the sgt_GDevOpenMapping function.
-10	The specified number of devices is invalid.	• Specify the number of devices within the range.
-11	The specified argument is invalid.	• Check the error code value (lError) in the structure for storing device information, check the relevant corrective action, and then specify the correct argument.
-12	GT SoftGOT3000 is not monitoring.	• Monitor a project with the specified GT SoftGOT3000 module.
-13	A user with device read/write permissions is not logged in to use the GT SoftGOT3000 operator authentication function.	• Log in as a user with device read/write permissions to use the GT SoftGOT3000 operator authentication function.

Appendices

Appendix 1 Details of the internal device interface functions

☞ Page 175 GDev_OpenMapping
☞ Page 178 GDev_Read
☞ Page 183 GDev_Write
☞ Page 188 GDev_CloseUnMapping
☞ Page 190 sgt_GDevOpenMapping
☞ Page 192 sgt_GDevCloseUnMapping
☞ Page 193 sgt_ReadDeviceRandom
☞ Page 196 sgt_WriteDeviceRandom
☞ Page 199 sgt_ReadDeviceBlock
☞ Page 202 sgt_WriteDeviceBlock
☞ Page 205 Structure
☞ Page 206 Sample program

The following shows the details of the internal device interface functions.

Appendix 1.1 GDev_OpenMapping

The following shows details of the GDev_OpenMapping function.

Function

Opens and maps the shared memory of the GOT internal device.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)

Format (64-bit version)

■For Visual C++

```
ulMapPointer = GDev_OpenMapping(HANDLE* lphMapFile, short sGotNo)
```

Variable name	Variable type	Description	I/O
ulMapPointer	ULONG_PTR	Return value (shared memory address)	Output
lphMapFile	HANDLE*	Shared memory handle	Output
sGotNo	short	GT SoftGOT3000 module No. (1 to 32767)	Input

■For Visual C#

```
ulMapPointer = GDev_OpenMapping(IntPtr* lphMapFile, Int16 sGotNo)
```

Variable name	Variable type	Description	I/O
ulMapPointer	UInt64	Return value (shared memory address)	Output
lphMapFile	IntPtr*	Shared memory handle	Output
sGotNo	Int16	GT SoftGOT3000 module No. (1 to 32767)	Input

■For Excel VBA

```
ulMapPointer = GDev_OpenMapping(LongPtr lphMapFile, Integer sGotNo)
```

Variable name	Variable type	Description	I/O
ulMapPointer	LongPtr	Return value (shared memory address)	Output
lphMapFile	LongPtr	Shared memory handle	Output
sGotNo	Integer	GT SoftGOT3000 module No. (1 to 32767)	Input

Format (32-bit version)

■For Visual C++ and C++ Builder

```
ulMapPointer = GDev_OpenMapping(HANDLE* lphMapFile, short sGotNo)
```

Variable name	Variable type	Description	I/O
ulMapPointer	unsigned long	Return value (shared memory address)	Output
lphMapFile	HANDLE*	Shared memory handle	Output
sGotNo	short	GT SoftGOT3000 module No. (1 to 32767)	Input

■For Visual C#

```
ulMapPointer = GDev_OpenMapping(IntPtr* lphMapFile, short sGotNo)
```

Variable name	Variable type	Description	I/O
ulMapPointer	uint32	Return value (shared memory address)	Output
lphMapFile	IntPtr*	Shared memory handle	Output
sGotNo	int16	GT SoftGOT3000 module No. (1 to 32767)	Input

■For Excel VBA

```
ulMapPointer = GDev_OpenMapping(HANDLE hMapFile, short sGotNo)
```

Variable name	Variable type	Description	I/O
ulMapPointer	unsigned long	Return value (shared memory address)	Output
hMapFile	HANDLE	Shared memory handle	Output
sGotNo	short	GT SoftGOT3000 module No. (1 to 32767)	Input

Explanation

This function obtains the shared memory handle for accessing the internal devices of the GT SoftGOT3000 module specified with sGotNo, and performs mapping on the handle.
The obtained shared memory handle is stored in lphMapFile or hMapFile, and the shared memory address in ulMapPointer.

Variable

Variable name	Description
lphMapFile	Shared memory handle
sGotNo	GT SoftGOT3000 module No. (1 to 32767)

Return value

- Normal termination: Shared memory address (other than 0)
- Abnormal termination: null (0)

For the error codes, refer to the following.
☞ Page 174 Error codes of internal device interface functions

Precautions for using the GDev_OpenMapping function

■When to call the function

The GDev_OpenMapping function must be called after GT SoftGOT3000 is started.

■After calling the function

After the GDev_OpenMapping function has completed the required processing, make sure to call the GDev_CloseUnMapping function.

Not doing so may result in a memory leak and an application error or other errors.

Also, if exiting GT SoftGOT3000 while calling the GDev_OpenMapping function, make sure to call the GDev_CloseUnMapping function immediately.

After exiting GT SoftGOT3000, if restarting GT SoftGOT3000 without calling the GDev_CloseUnMapping function, GT SoftGOT3000 may not operate normally.

If GT SoftGOT3000 does not operate normally, call the GDev_CloseUnMapping function and exit GT SoftGOT3000.

Appendix 1.2 GDev_Read

The following shows details of the GDev_Read function.

Function

Reads data from GOT internal devices.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

Format (64-bit version)

■For Visual C++

lReturn = GDev_Read(ULONG_PTR ulMapPointer, short sDevNameID, long lDevNum, INT_PTR* lpsDataTable, long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	long	Return value	Output
ulMapPointer	ULONG_PTR	Shared memory address	Input
sDevNameID	short	Device name ID • 0: GB device • 1: GD device • 2: GS device	Input
lDevNum	long	Device number	Input
lpsDataTable	INT_PTR*	Value read from the device*1	Output
lDataSize	long	Number of read points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

■For Visual C#

lReturn = GDev_Read(UInt64 ulMapPointer, Int16 sDevNameID, Int32 lDevNum, IntPtr* lpsDataTable, Int32 lDataSize)

Variable name	Variable type	Description	I/O
lReturn	Int32	Return value	Output
ulMapPointer	UInt64	Shared memory address	Input
sDevNameID	Int16	Device name ID • 0: GB device • 1: GD device • 2: GS device	Input
lDevNum	Int32	Device number	Input
lpsDataTable	IntPtr*	Value read from the device*1	Output
lDataSize	Int32	Number of read points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

■For Excel VBA

lReturn = GDev_Read(LongPtr ulMapPointer, Integer sDevNameID, Long lDevNum, LongPtr lpsDataTable, Long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	Long	Return value	Output
ulMapPointer	LongPtr	Shared memory address	Input
sDevNameID	Integer	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device • 4: SGD device	Input
lDevNum	Long	Device number	Input
lpsDataTable	LongPtr	Value read from the device*1	Output
lDataSize	Long	Number of read points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

Format (32-bit version)

■For Visual C++ and C++ Builder

lReturn = GDev_Read(unsigned long ulMapPointer, short sDevNameID, long lDevNum, short* lpsDataTable, long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	long	Return value	Output
ulMapPointer	unsigned long	Shared memory address	Input
sDevNameID	short	Device name ID • 0: GB device • 1: GD device • 2: GS device	Input
lDevNum	long	Device number	Input
lpsDataTable	short*	Value read from the device	Output
lDataSize	long	Number of read points	Input

■For Visual C#

lReturn = GDev_Read(UInt32 ulMapPointer, Int16 sDevNameID, Int32 lDevNum, Int16* lpsDataTable, Int32 lDataSize)

Variable name	Variable type	Description	I/O
lReturn	Int32	Return value	Output
ulMapPointer	UInt32	Shared memory address	Input
sDevNameID	Int16	Device name ID • 0: GB device • 1: GD device • 2: GS device	Input
lDevNum	Int32	Device number	Input
lpsDataTable	Int16*	Value read from the device	Output
lDataSize	Int32	Number of read points	Input

■For Excel VBA

lReturn = GDev_Read(unsigned long ulMapPointer, short sDevNameID, long lDevNum, short sDataTable(0), long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	long	Return value	Output
ulMapPointer	unsigned long	Shared memory address	Input
sDevNameID	short	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device (settable for Excel VBA only) • 4: SGD device (settable for Excel VBA only)	Input
lDevNum	long	Device number	Input
sDataTable(n)	short	Value read from the device	Output
lDataSize	long	Number of read points	Input

Explanation

This function accesses the shared memory of the specified devices, and reads device values by batch. The shared memory address, the devices, and the amount of data to be read are specified with ulMapPointer, sDevNameID and lDevNum, and lDataSize.

Values read from the device are stored in lpsDataTable or sDataTable.

Specify the shared memory address obtained by the GDev_OpenMapping function.

Variable

Variable name	Description
ulMapPointer	• When reading the values of GB, GD, and GS devices: Specify the shared memory address obtained by the Gdev_OpenMapping function. • When reading the values of SGB or SGD device: Specify the shared memory address obtained by the sgt_GDevOpenMapping function.
sDevNameID	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device • 4: SGD device
lDevNum	Start device number
lpsDataTable	Variable that stores values read from the device
lDataSize	Number of read points ☞ Page 181 Precautions for using the GDev_Read function

Return value

- Normal termination: 0
- Abnormal termination: The error code (-1, -2, -3, -9, -10, -12, or -13) is stored.

For the error codes, refer to the following.

☞ Page 174 Error codes of internal device interface functions

Precautions for using the GDev_Read function

■When to call the function

Call the Gdev_Read function while GT SoftGOT3000 is running.

■Device number when a bit device (GB or SGB) is specified

For bit devices (GB or SGB), specify the device number in multiples of 16.

■lpsDataTable area

The size of the area reserved for lpsDataTable must be equal to or larger than the data size specified with lDataSize.

If the area is insufficient, an error such as application error may occur.

■Range of devices that can be specified for lDataSize

Specify the maximum number of read points for devices that can be specified for lDataSize within the following range.

- For bit device (GB/SGB) specification: Start device number + (Number of read points × 16) - 1 ≤ Maximum valid device number
- For word device (GD/GS/SGD) specification: Start device number + Number of read points - 1 ≤ Maximum valid device number

Device specification method

■For bit device (GB/SGB) specification

Ex.

Reading 1-word (16-bit) data from the devices starting from GB64

Variable name	Device name ID (sDevNameID)	Start device number (lDevNum)	Number of read points (lDataSize)	Source device
lpsDataTable[0]	0	64	1	GB64 to GB79

Ex.

Reading 3-word (48-bit) data from the devices starting from GB80

Variable name	Device name ID (sDevNameID)	Start device number (lDevNum)	Number of read points (lDataSize)	Source device
lpsDataTable[0]	0	80	3	GB80 to GB95
lpsDataTable[1]				GB96 to GB111
lpsDataTable[2]				GB112 to GB127

■For word device (GD/GS/SGD) specification

Ex.

Reading 3-word data from the devices starting from GD5

Variable name	Device name ID (sDevNameID)	Start device number (lDevNum)	Number of read points (lDataSize)	Source device
lpsDataTable[0]	1	5	3	GD5
lpsDataTable[1]				GD6
lpsDataTable[2]				GD7

Ex.

Reading 1-word data from GS500

Variable name	Device name ID (sDevNameID)	Start device number (lDevNum)	Number of read points (lDataSize)	Source device
lpsDataTable[0]	2	500	1	GS500

Appendix 1.3 GDev_Write

The following shows details of the GDev_Write function.

Function

Writes data to GOT internal devices.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

Format (64-bit version)

■For Visual C++

lReturn = GDev_Write(ULONG_PTR ulMapPointer, short sDevNameID, long lDevNum, INT_PTR* lpsDataTable, long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	long	Return value	Output
ulMapPointer	ULONG_PTR	Shared memory address	Input
sDevNameID	short	Device name ID • 0: GB device • 1: GD device • 2: GS device	Input
lDevNum	long	Device number	Input
lpsDataTable	INT_PTR*	Device value to be written*1	Input
lDataSize	long	Number of write points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

■For Visual C#

lReturn = GDev_Write(UInt64 ulMapPointer, Int16 sDevNameID, Int32 lDevNum, IntPtr* lpsDataTable, Int32 lDataSize)

Variable name	Variable type	Description	I/O
lReturn	Int32	Return value	Output
ulMapPointer	UInt64	Shared memory address	Input
sDevNameID	Int16	Device name ID • 0: GB device • 1: GD device • 2: GS device	Input
lDevNum	Int32	Device number	Input
lpsDataTable	IntPtr*	Device value to be written*1	Input
lDataSize	Int32	Number of write points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

A

■For Excel VBA

lReturn = GDev_Write(LongPtr ulMapPointer, Integer sDevNameID, Long lDevNum, LongPtr lpsDataTable, Long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	Long	Return value	Output
ulMapPointer	LongPtr	Shared memory address	Input
sDevNameID	Integer	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device • 4: SGD device	Input
lDevNum	Long	Device number	Input
lpsDataTable	LongPtr	Device value to be written*1	Input
lDataSize	Long	Number of write points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

Format (32-bit version)

■For Visual C++ and C++ Builder

lReturn = GDev_Write(unsigned long ulMapPointer, short sDevNameID, long lDevNum, short* lpsDataTable, long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	long	Return value	Output
ulMapPointer	unsigned long	Shared memory address	Input
sDevNameID	short	Device name ID • 0: GB device • 1: GD device • 2: GS device	Input
lDevNum	long	Device number	Input
lpsDataTable	short*	Device value to be written*1	Input
lDataSize	long	Number of write points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

■For Visual C#

lReturn = GDev_Write(UInt32 ulMapPointer, Int16 sDevNameID, Int32 lDevNum, Int16* lpsDataTable, Int32 lDataSize)

Variable name	Variable type	Description	I/O
lReturn	Int32	Return value	Output
ulMapPointer	UInt32	Shared memory address	Input
sDevNameID	Int16	Device name ID • 0: GB device • 1: GD device • 2: GS device	Input
lDevNum	Int32	Device number	Input
lpsDataTable	Int16*	Device value to be written*1	Input
lDataSize	Int32	Number of write points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

■For Excel VBA

lReturn = GDev_Write(unsigned long ulMapPointer, short sDevNameID, long lDevNum, short sDataTable(0), long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	long	Return value	Output
ulMapPointer	unsigned long	Shared memory address	Input
sDevNameID	short	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device (settable for Excel VBA only) • 4: SGD device (settable for Excel VBA only)	Input
lDevNum	long	Device number	Input
sDataTable(n)	short	Device value to be written*1	Input
lDataSize	long	Number of write points	Input

*1 Specify the short (Int16) type for the area, and cast the value before calling a function.

Explanation

This function accesses the shared memory of the specified devices, and writes data to the devices by batch. The shared memory address, the devices, and the amount of data to be written are specified with ulMapPointer, sDevNameID and lDevNum, and lDataSize.

The device values to be written are stored in lpsDataTable or sDataTable.

Specify the shared memory address that has been obtained by the GDev_OpenMapping function.

Variable

Variable name	Description
ulMapPointer	• When reading the values of GB, GD, and GS devices: Specify the shared memory address obtained by the Gdev_OpenMapping function. • When reading the values of SGB or SGD device: Specify the shared memory address obtained by the sgt_GDevOpenMapping function.
sDevNameID	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device • 4: SGD device
lDevNum	Start device number
lpsDataTable	Stores the device values to be written.
lDataSize	Number of write points ☞ Page 186 Precautions for using the GDev_Write function

Return value

- Normal termination: 0
- Abnormal termination: The error code (-1, -2, -3, -9, -10, -12, or -13) is stored.

For the error codes, refer to the following.

☞ Page 174 Error codes of internal device interface functions

Precautions for using the GDev_Write function

■When to call the function

Call the GDev_Write function while GT SoftGOT3000 is running.

■Device number when a bit device (GB or SGB) is specified

For bit devices (GB or SGB), specify the device number in multiples of 16.

■lpsDataTable area

The size of the area reserved for lpsDataTable must be equal to or larger than the data size specified with lDataSize.

If the area is insufficient, an error such as application error may occur.

■Range of devices that can be specified for lDataSize

Specify the maximum number of write points for devices that can be specified for lDataSize within the following range.

- For bit device (GB/SGB) specification: Start device number + (Number of write points × 16) - 1 ≤ Maximum valid device number
- For word device (GD/GS/SGD) specification: Start device number + Number of write points - 1 ≤ Maximum valid device number

Device specification method

■For bit device (GB/SGB) specification

Ex.

Writing 1-word (16-bit) data to the devices starting from GB64

Variable name	Device name ID (sDevNameID)	Start device number (lDevNum)	Number of write points (lDataSize)	Destination device
lpsDataTable[0]	0	64	1	GB64 to GB79

Ex.

Writing 3-word (48-bit) data to the devices starting from GB80

Variable name	Device name ID (sDevNameID)	Start device number (lDevNum)	Number of write points (lDataSize)	Destination device
lpsDataTable[0]	0	80	3	GB80 to GB95
lpsDataTable[1]				GB96 to GB111
lpsDataTable[2]				GB112 to GB127

■For word device (GD/GS/SGD) specification

Ex.

Writing 3-word data to the devices starting from GD5

Variable name	Device name ID (sDevNameID)	Start device number (lDevNum)	Number of write points (lDataSize)	Destination device
lpsDataTable[0]	1	5	3	GD5
lpsDataTable[1]				GD6
lpsDataTable[2]				GD7

Ex.

Writing 1-word data to GS500

Variable name	Device name ID (sDevNameID)	Start device number (lDevNum)	Number of write points (lDataSize)	Destination device
lpsDataTable[0]	2	500	1	GS500

Appendix 1.4 GDev_CloseUnMapping

The following shows details of the GDev_CloseUnMapping function.

Function

Unmaps and closes the shared memory of the GOT internal device.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)

Format (64-bit version)

■For Visual C++

```
GDev_CloseUnMapping(HANDLE* lphMapFile, ULONG_PTR ulMapPointer)
```

Variable name	Variable type	Description	I/O
lphMapFile	HANDLE*	Shared memory handle	Input
ulMapPointer	ULONG_PTR	Shared memory address	Input

■For Visual C#

```
GDev_CloseUnMapping(IntPtr* lphMapFile, UInt64 ulMapPointer)
```

Variable name	Variable type	Description	I/O
lphMapFile	IntPtr*	Shared memory handle	Input
ulMapPointer	UInt64	Shared memory address	Input

■For Excel VBA

```
GDev_CloseUnMapping(LongPtr lphMapFile, LongPtr ulMapPointer)
```

Variable name	Variable type	Description	I/O
lphMapFile	LongPtr	Shared memory handle	Input
ulMapPointer	LongPtr	Shared memory address	Input

Format (32-bit version)

■For Visual C++ and C++ Builder

GDev_CloseUnMapping(HANDLE hMapFile, unsigned long ulMapPointer)

Variable name	Variable type	Description	I/O
hMapFile	HANDLE	Shared memory handle	Input
ulMapPointer	unsigned long	Shared memory address	Input

■For Visual C#

GDev_CloseUnMapping(IntPtr hMapFile, UInt32 ulMapPointer)

Variable name	Variable type	Description	I/O
hMapFile	IntPtr	Shared memory handle	Input
ulMapPointer	UInt32	Shared memory address	Input

■For Excel VBA

GDev_CloseUnMapping(HANDLE hMapFile, unsigned long ulMapPointer)

Variable name	Variable type	Description	I/O
hMapFile	HANDLE	Shared memory handle	Input
ulMapPointer	unsigned long	Shared memory address	Input

Explanation

This function performs unmapping on the shared memory address specified with ulMapPointer, and releases the shared memory handle specified with hMapFile.

Specify the shared memory address and shared memory handle obtained by the GDev_OpenMapping function.

Variable

Variable name	Description
lphMapFile, hMapFile	Shared memory handle obtained by the GDev_OpenMapping function
ulMapPointer	Shared memory address obtained by the GDev_OpenMapping function

Return value

None

Precautions for using the GDev_CloseUnMapping function

After the GDev_OpenMapping function has completed the required processing, make sure to call the GDev_CloseUnMapping function.

Not doing so may result in a memory leak and an application error or other errors.

Appendix 1.5 sgt_GDevOpenMapping

The following shows the details of the sgt_GDevOpenMapping function.

Function

Opens and maps the shared memory of the GOT internal device.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

Format

■For Visual C++

```
lReturn = sgt_GDevOpenMapping(STMAPINFO* lpstMapInfo, short sGotNo)
```

Variable name	Variable type	Description	I/O
ulMapPointer	ULONG_PTR	Return value (shared memory address)	Output
lpstMapInfo	STMAPINFO*	Shared memory handle and shared memory address	Output
sGotNo	short	GT SoftGOT3000 module No. (1 to 32767)	Input

■For Visual C#

```
lReturn = sgt_GDevOpenMapping(STMAPINFO* lpstMapInfo, Int16 sGotNo)
```

Variable name	Variable type	Description	I/O
lReturn	Int32	Return value	Output
lpstMapInfo	STMAPINFO*	Shared memory handle and shared memory address	Output
sGotNo	Int16	GT SoftGOT3000 module No. (1 to 32767)	Input

■For Excel VBA

```
lReturn = sgt_GDevOpenMapping(STMAPINFO* lpstMapInfo(0), Integer sGotNo)
```

Variable name	Variable type	Description	I/O
lReturn	Long	Return value (shared memory address)	Output
lpstMapInfo(n)	STMAPINFO*	Shared memory handle	Output
sGotNo	Integer	GT SoftGOT3000 module No. (1 to 32767)	Input

Explanation

This function obtains the shared memory handle for accessing the internal devices of the GT SoftGOT3000 module specified with sGotNo, and performs mapping on the handle.

The shared memory handle and shared memory address that have been obtained are stored in lpstMapInfo.

Variable

Variable name	Description
lpstMapInfo	Pointer to the structure for storing the shared memory handle and shared memory address ☞ Page 191 How to specify the shared memory handle and shared memory address
sGotNo	GT SoftGOT3000 module No. (1 to 32767)

Return value

- Normal termination: 1
- Abnormal termination: The error code (0) is stored.

For the error codes, refer to the following.

☞ Page 174 Error codes of internal device interface functions

Precautions for using the sgt_GDevOpenMapping function

■When to call the function

The sgt_GDevOpenMapping function must be called after GT SoftGOT3000 is started.

■lpstMapInfo area

Reserve a 4-word or more area for lpstMapInfo.

If the area is insufficient, an error such as application error may occur.

■After calling the function

After the sgt_GDevOpenMapping function has completed the required processing, make sure to call the sgt_GDevCloseUnMapping function.

Not doing so may result in a memory leak and an application error or other errors.

Also, if exiting GT SoftGOT3000 while calling the sgt_GDevOpenMapping function, make sure to call the sgt_GDevCloseUnMapping function immediately.

After exiting GT SoftGOT3000, if restarting GT SoftGOT3000 without calling the sgt_GDevCloseUnMapping function, GT SoftGOT3000 may not operate normally.

If GT SoftGOT3000 does not operate normally, call the sgt_GDevCloseUnMapping function, then exit GT SoftGOT3000.

How to specify the shared memory handle and shared memory address

Ex.

Specifying a 4-word area with lpstMapInfo

Variable name	Structure member	Description
lpstMapInfo[0]	hMapFile	Shared memory handle for accessing GB/GD/GS devices
	ulMapPointer	Shared memory address for accessing GB/GD/GS devices
lpstMapInfo[1]	hMapFile	Shared memory handle for accessing SGB/SGD devices
	ulMapPointer	Shared memory address for accessing SGB/SGD devices

Appendix 1.6 sgt_GDevCloseUnMapping

The following shows the details of the sgt_GDevCloseUnMapping function.

Function

Unmaps and closes the shared memory of the GOT internal device.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

Format

■For Visual C++

```
sgt_GDevCloseUnMapping(STMAPINFO* lpstMapInfo)
```

Variable name	Variable type	Description	I/O
lpstMapInfo	STMAPINFO*	Shared memory handle and shared memory address	Input

■For Visual C#

```
sgt_GDevCloseUnMapping(STMAPINFO* lpstMapInfo)
```

Variable name	Variable type	Description	I/O
lpstMapInfo	STMAPINFO*	Shared memory handle and shared memory address	Input

■For Excel VBA

```
sgt_GDevCloseUnMapping(STMAPINFO* lpstMapInfo(0))
```

Variable name	Variable type	Description	I/O
lpstMapInfo(n)	STMAPINFO*	Shared memory handle	Input

Explanation

This function performs unmapping on the shared memory address and releases the shared memory handle, which are specified with lpstMapInfo.

Variable

Variable name	Description
lpstMapInfo	Pointer to the structure for storing the shared memory handle and shared memory address

Return value

None

Precautions for using the sgt_GDevCloseUnMapping function

After the sgt_GDevOpenMapping function has completed the required processing, make sure to call the sgt_GDevCloseUnMapping function.

Not doing so may result in a memory leak and an application error or other errors.

Appendix 1.7 sgt_ReadDeviceRandom

The following shows the details of the sgt_ReadDeviceRandom function.

Function

Reads data from individual GOT internal devices.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

Format

■For Visual C++

lReturn = sgt_ReadDeviceRandom(STMAPINFO* lpstMapInfo, STDEVINFO* lpstDevInfo, long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	long	Return value	Output
lpstMapInfo	STMAPINFO*	Shared memory handle and shared memory address	Input
lpstDevInfo	STDEVINFO*	Device name ID, device number, value read from the device, and error code	Input/Output
lDataSize	long	Number of read points	Input

■For Visual C#

lReturn = sgt_ReadDeviceRandom(STMAPINFO* lpstMapInfo, STDEVINFO* lpstDevInfo, int32 lDataSize)

Variable name	Variable type	Description	I/O
lReturn	int32	Return value	Output
lpstMapInfo	STMAPINFO*	Shared memory handle and shared memory address	Input
lpstDevInfo	STDEVINFO*	Device name ID, device number, value read from the device, and error code	Input/Output
lDataSize	int32	Number of read points	Input

■For Excel VBA

lReturn = sgt_ReadDeviceRandom(STMAPINFO* lpstMapInfo(0), STDEVINFO* lpstDevInfo(0), Long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	Long	Return value	Output
lpstMapInfo(n)	STMAPINFO*	Shared memory handle and shared memory address	Input
lpstDevInfo(n)	STDEVINFO*	Device name ID, device number, value read from the device, and error code	Input/Output
lDataSize	Long	Number of read points	Input

Explanation

This function accesses the shared memory of the specified devices, and reads the device values. The shared memory address, the devices, and the amount of data to be read are specified with lpstMapInfo, lpstDevInfo, and lDataSize.
Values read from the device and error codes are stored in lpstDevInfo.
If any of the lpstDevInfo structure members has an invalid value, an error code is stored into lpstDevInfo.
A value indicating an abnormal termination is returned in the above case.
If all the lpstDevInfo structure members have valid values, the values read from the device are stored in lpstDevInfo.

Variable

Variable name	Description
lpstMapInfo	• Pointer to the structure for storing the shared memory handle and shared memory address • Specify the shared memory address and shared memory handle obtained by the sgt_GDevOpenMapping function.
lpstDevInfo	Pointer to the structure for storing device information ☞ Page 195 Device specification method
lDataSize	Number of read points (1 to 1024) ☞ Page 194 Precautions for using the sgt_ReadDeviceRandom function

Structure member

The variable lpstDevInfo has structure members.
The following shows the structure members.

Structure member	Description
lDevNameID	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device • 4: SGD device
lDevNum	Device number
lplDataValue	Value read from the device
lError	Error code • 0: Successful read • -1: The specified device name ID is invalid. • -4: The specified device number is invalid. • -5: The address of the specified device value is invalid.

For information on the structures, refer to the following.
☞ Page 205 Structure

Return value

- Normal termination: 0
- Abnormal termination: The error code (-9, -10, -11, -12, or -13) is stored.

For the error codes, refer to the following.
☞ Page 174 Error codes of internal device interface functions

Precautions for using the sgt_ReadDeviceRandom function

■When to call the function

Call the sgt_ReadDeviceRandom function while GT SoftGOT3000 is running.

■lpstDevInfo area

For lpstDevInfo, reserve an area equal to or greater than lDataSize.
If the area is insufficient, an error such as application error may occur.

Device specification method

Ex.

When GB64, GB80, SGB90, SGB600, GD50, GD5, GS500, SGD60, or an invalid device name ID or device number is specified

The number of read points of the variable (lDataSize) is set to 10.

The following shows other variables.

When the following arguments are specified, -11 will be returned to lReturn.

Variable name	Device name (lDevNameID)	Device number (lDevNum)	Value read from the device (lplDataValue)	Error code (lError)	Source device
	Input	Input	Output	Output	
lpstDevInfo[0]	0	64	1	0	GB64
lpstDevInfo[1]	0	80	0	0	GB80
lpstDevInfo[2]	3	90	0	0	SGB90
lpstDevInfo[3]	6	100	0	-1	—
lpstDevInfo[4]	3	600	1	0	SGB600
lpstDevInfo[5]	1	50	30	0	GD50
lpstDevInfo[6]	1	5	500	0	GD5
lpstDevInfo[7]	2	500	0	0	GS500
lpstDevInfo[8]	4	60	900	0	SGD60
lpstDevInfo[9]	2	6000	0	-4	GS6000

Appendix 1.8 sgt_WriteDeviceRandom

The following shows the details of the sgt_WriteDeviceRandom function.

Function

Writes data to individual GOT internal devices.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

Format

■For Visual C++

```
lReturn = sgt_WriteDeviceRandom(STMAPINFO* lpstMapInfo, STDEVINFO* lpstDevInfo, long lDataSize)
```

Variable name	Variable type	Description	I/O
lReturn	long	Return value	Output
lpstMapInfo	STMAPINFO*	Shared memory handle and shared memory address	Input
lpstDevInfo	STDEVINFO*	Device name ID, device number, device value to be written, and error code	Input/Output
lDataSize	long	Number of write points	Input

■For Visual C#

```
lReturn = sgt_WriteDeviceRandom(STMAPINFO* lpstMapInfo, STDEVINFO* lpstDevInfo, int32 lDataSize)
```

Variable name	Variable type	Description	I/O
lReturn	int32	Return value	Output
lpstMapInfo	STMAPINFO*	Shared memory handle and shared memory address	Input
lpstDevInfo	STDEVINFO*	Device name ID, device number, device value to be written, and error code	Input/Output
lDataSize	int32	Number of write points	Input

■For Excel VBA

```
lReturn = sgt_WriteDeviceRandom(STMAPINFO* lpstMapInfo(0), STDEVINFO* lpstDevInfo(0), Long lDataSize)
```

Variable name	Variable type	Description	I/O
lReturn	Long	Return value	Output
lpstMapInfo(n)	STMAPINFO*	Shared memory handle and shared memory address	Input
lpstDevInfo(n)	STDEVINFO*	Device name ID, device number, device value to be written, and error code	Input/Output
lDataSize	Long	Number of write points	Input

Explanation

This function accesses the shared memory of the specified devices, and writes data to the devices. The shared memory address, the devices, and the amount of data to be written are specified with lpstMapInfo, lpstDevInfo, and lDataSize.
The error codes are stored in lpstDevInfo.
If any of the lpstDevInfo structure members has an invalid value, an error code is stored into lpstDevInfo.
A value indicating an abnormal termination is returned in the above case.
If all the lpstDevInfo structure members have valid values, the device values are correctly written to lpstDevInfo.

Variable

Variable name	Description
lpstMapInfo	• Pointer to the structure for storing the shared memory handle and shared memory address • Specify the shared memory address and shared memory handle obtained by the sgt_GDevOpenMapping function.
lpstDevInfo	Pointer to the structure for storing device information ☞ Page 198 Device specification method
lDataSize	Number of write points (1 to 1024) ☞ Page 197 Precautions for using the sgt_WriteDeviceRandom function

Structure member

The variable lpstDevInfo has structure members.
The following shows the structure members.

Structure member	Description
lDevNameID	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device • 4: SGD device
lDevNum	Device number
lplDataValue	Device value to be written
lError	Error code • 0: Successful write • -1: The specified device name ID is invalid. • -4: The specified device number is invalid. • -5: The address of the specified device value is invalid. • -6: The specified device value is invalid.

For information on the structures, refer to the following.
☞ Page 205 Structure

Return value

- Normal termination: 0
- Abnormal termination: The error code (-9, -10, -11, -12, or -13) is stored.

For the error codes, refer to the following.
☞ Page 174 Error codes of internal device interface functions

Precautions for using the sgt_WriteDeviceRandom function

■When to call the function

Call the sgt_WriteDeviceRandom function while GT SoftGOT3000 is running.

■lpstDevInfo area

For lpstDevInfo, reserve an area equal to or greater than lDataSize.
If the area is insufficient, an error such as application error may occur.

Device specification method

Ex.

When GB64, GB80, SGB90, SGB600, GD50, GD5, GS500, SGD60, or an invalid device name ID or device number is specified

The number of write points of the variable (lDataSize) is set to 10.

The following shows other variables.

When the following arguments are specified, -11 will be returned to lReturn.

Variable name	Device name (lDevNameID)	Device number (lDevNum)	Device value to be written (lplDataValue)	Error code (lError)	Destination device
	Input	Input	Input	Output	
lpstDevInfo[0]	0	64	1	0	GB64
lpstDevInfo[1]	0	80	0	0	GB80
lpstDevInfo[2]	3	90	0	0	SGB90
lpstDevInfo[3]	6	100	0	-1	—
lpstDevInfo[4]	3	600	1	0	SGB600
lpstDevInfo[5]	1	50	30	0	GD50
lpstDevInfo[6]	1	5	500	0	GD5
lpstDevInfo[7]	2	500	0	0	GS500
lpstDevInfo[8]	4	60	900	0	SGD60
lpstDevInfo[9]	2	6000	0	-4	GS6000

Appendix 1.9 sgt_ReadDeviceBlock

The following shows the details of the sgt_ReadDeviceBlock function.

Function

Reads data from consecutive GOT internal devices.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

Format

■For Excel VBA

lReturn = sgt_ReadDeviceBlock(STMAPINFO* lpstMapInfo(0), STDEVINFO* lpstDevInfo(0), Long lDataSize)

Variable name	Variable type	Description	I/O
lReturn	Long	Return value	Output
lpstMapInfo(n)	STMAPINFO*	Shared memory handle and shared memory address	Input
lpstDevInfo(n)	STDEVINFO*	Device name ID, device number, value read from the device, and error code	Input/Output
lDataSize	Long	Number of read points	Input

Explanation

This function accesses the shared memory of the specified devices, and reads the device values. The shared memory address, the devices, and the amount of data to be read are specified with lpstMapInfo, lpstDevInfo, and lDataSize.

Values read from the device and error codes are stored in lpstDevInfo.

If any of the lpstDevInfo structure members has an invalid value, an error code is stored into lpstDevInfo.

A value indicating an abnormal termination is returned in the above case.

If all the lpstDevInfo structure members have valid values, the values read from the device are stored in lpstDevInfo.

Variable

Variable name	Description
lpstMapInfo	• Pointer to the structure for storing the shared memory handle and shared memory address • Specify the shared memory address and shared memory handle obtained by the sgt_GDevOpenMapping function.
lpstDevInfo	Pointer to the structure for storing device information ☞ Page 201 Device specification method
lDataSize	Number of read points ☞ Page 200 Precautions for using the sgt_ReadDeviceBlock function

Structure member

The variable lpstDevInfo has structure members.

The following shows the structure members.

Structure member	Description
lDevNameID	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device • 4: SGD device
lDevNum	Start device number
lplDataValue	Variable that stores values read from the device
lError	Error code • 0: Successful read • -1: The specified device name ID is invalid. • -2: The specified start device is outside the range. • -3: The specified end device is outside the range. • -5: The address of the specified device value is invalid.

For information on the structures, refer to the following.

☞ Page 205 Structure

Return value

- Normal termination: 0
- Abnormal termination: The error code (-9, -10, -11, -12, or -13) is stored.

For the error codes, refer to the following.

☞ Page 174 Error codes of internal device interface functions

Precautions for using the sgt_ReadDeviceBlock function

■When to call the function

Call the sgt_ReadDeviceBlock function while GT SoftGOT3000 is running.

■Device number when a bit device (GB or SGB) is specified

For bit devices (GB or SGB), specify the device number in multiples of 16.

■lplDataTable area

For lplDataTable, reserve the area for lDataSize or more.

If the area is insufficient, an error such as application error may occur.

■Range of devices that can be specified for lDataSize

Specify the maximum number of read points for devices that can be specified for lDataSize within the following range.

- For bit device (GB/SGB) specification: Start device number + (Number of read points × 16) - 1 ≤ Maximum valid device number
- For word device (GD/GS/SGD) specification: Start device number + Number of read points - 1 ≤ Maximum valid device number

Device specification method

■For bit device (GB/SGB) specification

Ex.

Reading 1-word (16-bit) data from the devices starting from GB64

Variable name	Device name ID (IDevNameID)	Start device number (IDevNum)	Number of read points (IDataSize)	Source device
lplDataValue[0]	0	64	1	GB64 to GB79

Ex.

Reading 3-word (48-bit) data from the devices starting from GB80

Variable name	Device name ID (IDevNameID)	Start device number (IDevNum)	Number of read points (IDataSize)	Source device
lplDataValue[0]	0	80	3	GB80 to GB95
lplDataValue[1]				GB96 to GB111
lplDataValue[2]				GB112 to GB127

■For word device (GD/GS/SGD) specification

Ex.

Reading 1-word data from GS500

Variable name	Device name ID (IDevNameID)	Start device number (IDevNum)	Number of read points (IDataSize)	Source device
lplDataValue[0]	2	500	1	GS500

Ex.

Reading 3-word data from the devices starting from GD5

Variable name	Device name ID (IDevNameID)	Start device number (IDevNum)	Number of read points (IDataSize)	Source device
lplDataValue[0]	1	5	3	GD5
lplDataValue[1]				GD6
lplDataValue[2]				GD7

A

Appendix 1.10 sgt_WriteDeviceBlock

The following shows the details of the sgt_WriteDeviceBlock function.

Function

Writes data to consecutive GOT internal devices.

The following shows the target devices.

- GOT bit registers (GB)
- GOT data registers (GD)
- GOT special registers (GS)
- SoftGOT bit registers (SGB)
- SoftGOT data registers (SGD)

Format

■For Excel VBA

```
lReturn = sgt_WriteDeviceBlock(STMAPINFO* lpstMapInfo(0), STDEVINFO* lpstDevInfo(0), Long lDataSize)
```

Variable name	Variable type	Description	I/O
lReturn	Long	Return value	Output
lpstMapInfo(n)	STMAPINFO*	Shared memory handle and shared memory address	Input
lpstDevInfo(n)	STDEVINFO*	Device name ID, device number, device value to be written, and error code	Input/Output
lDataSize	Long	Number of write points	Input

Explanation

This function accesses the shared memory of the specified devices, and writes data to the devices. The shared memory address, the devices, and the amount of data to be written are specified with lpstMapInfo, lpstDevInfo, and lDataSize.

The error codes are stored in lpstDevInfo.

If any of the lpstDevInfo structure members has an invalid value, an error code is stored into lpstDevInfo.

A value indicating an abnormal termination is returned in the above case.

If all the lpstDevInfo structure members have valid values, the device values are correctly written to lpstDevInfo.

Variable

Variable name	Description
lpstMapInfo	• Pointer to the structure for storing the shared memory handle and shared memory address • Specify the shared memory address and shared memory handle obtained by the sgt_GDevOpenMapping function.
lpstDevInfo	Pointer to the structure for storing device information ☞ Page 204 Device specification method
lDataSize	Number of write points ☞ Page 203 Precautions for using the sgt_WriteDeviceBlock function

Structure member

The variable lpstDevInfo has structure members.

The following shows the structure members.

Structure member	Description
lDevNamID	Device name ID • 0: GB device • 1: GD device • 2: GS device • 3: SGB device • 4: SGD device
lDevNum	Start device number
lplDataValue	Stores the device values to be written.
lError	Error code • 0: Successful write • -1: The specified device name ID is invalid. • -2: The specified start device is outside the range. • -3: The specified end device is outside the range. • -5: The address of the specified device value is invalid. • -6: The specified device value is invalid.

For information on the structures, refer to the following.

☞ Page 205 Structure

Return value

- Normal termination: 0
- Abnormal termination: The error code (-9, -10, -11, -12, or -13) is stored.

For the error codes, refer to the following.

☞ Page 174 Error codes of internal device interface functions

Precautions for using the sgt_WriteDeviceBlock function

■When to call the function

Call the sgt_WriteDeviceBlock function while GT SoftGOT3000 is running.

■Device number when a bit device (GB or SGB) is specified

For bit devices (GB or SGB), specify the device number in multiples of 16.

■lplDataTable area

For lplDataTable, reserve the area for lDataSize or more.

If the area is insufficient, an error such as application error may occur.

■Range of devices that can be specified for lDataSize

Specify the maximum number of write points for devices that can be specified for lDataSize within the following range.

- For bit device (GB/SGB) specification: Start device number + (Number of write points × 16) - 1 ≤ Maximum valid device number
- For word device (GD/GS/SGD) specification: Start device number + Number of write points - 1 ≤ Maximum valid device number

Device specification method

■For bit device (GB/SGB) specification

Ex.

Writing 1-word (16-bit) data to the devices starting from GB64

Variable name	Device name ID (IDevNameID)	Start device number (IDevNum)	Number of write points (IDataSize)	Destination device
lplDataValue[0]	0	64	1	GB64 to GB79

Ex.

Writing 3-word (48-bit) data to the devices starting from GB80

Variable name	Device name ID (IDevNameID)	Start device number (IDevNum)	Number of write points (IDataSize)	Destination device
lplDataValue[0]	0	80	3	GB80 to GB95
lplDataValue[1]				GB96 to GB111
lplDataValue[2]				GB112 to GB127

■For word device (GD/GS/SGD) specification

Ex.

Writing 1-word data to GS500

Variable name	Device name ID (IDevNameID)	Start device number (IDevNum)	Number of write points (IDataSize)	Destination device
lplDataValue[0]	2	500	1	GS500

Ex.

Writing 3-word data to the devices starting from GD5

Variable name	Device name ID (IDevNameID)	Start device number (IDevNum)	Number of write points (IDataSize)	Destination device
lplDataValue[0]	1	5	3	GD5
lplDataValue[1]				GD6
lplDataValue[2]				GD7

Appendix 1.11 Structure

The following shows the details of the structures of the internal device interface functions.

For information on how to specify a structure, refer to sample programs.

☞ Page 206 Sample program

Structure for storing the shared memory handle and shared memory address

■For 64-bit

```
typedef struct _STMAPINFO{
 HANDLE          hMapFile;       Shared memory handle
 unsigned long   ulMapPointer;   Shared memory address
} STMAPINFO, *LPSTMAPINFO;
```

■For 32-bit

```
typedef struct _STMAPINFO{
 HANDLE          hMapFile;       Shared memory handle
 ULONG_PTR       ulMapPointer;   Shared memory address
} STMAPINFO, *LPSTMAPINFO;
```

Structure for storing device information

■For 64-bit

```
typedef struct _STDEVINFO{
 long        lDevNameID;     Device name ID
 long        lDevNum;        Device number
 long*       lplDataValue;   Device value
 long        lError;         Error code
} STDEVINFO, *LPSTDEVINFO;
```

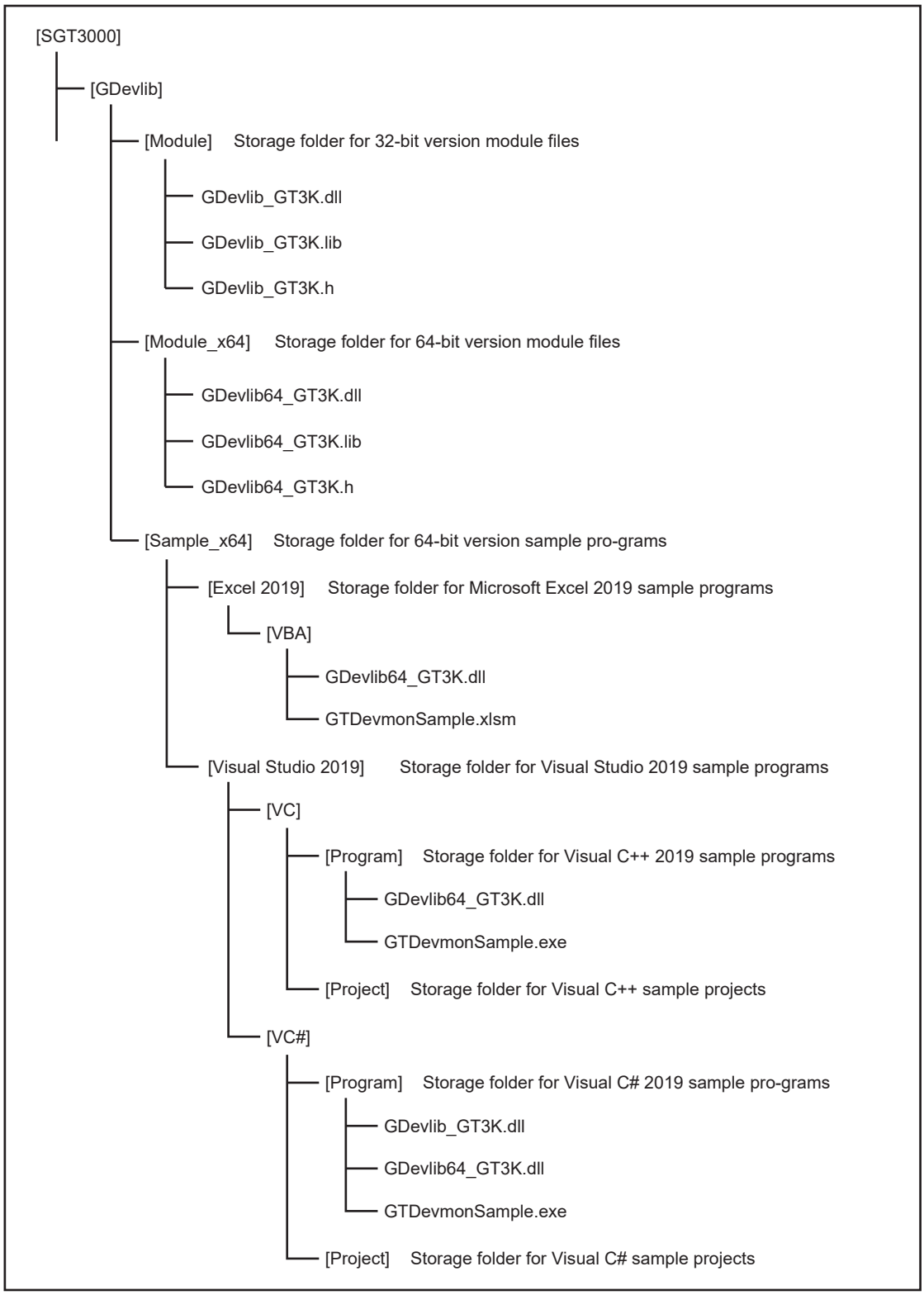
■For 32-bit

```
typedef struct _STDEVINFO{
 long          lDevNameID;     Device name ID
 long          lDevNum;        Device number
 LONG_PTR*     lplDataValue;   Device value
 long          lError;         Error code
} STDEVINFO, *LPSTDEVINFO;
```

A

Appendix 1.12 Sample program

Use the sample program as a reference when creating an application using the internal device interface function.
For details on sample programs, contact your local sales office.
The following shows folders storing the sample programs.



The following shows the development environment for the sample programs and the accessible internal devices.

Development environment			Readable and writable device	Specification of the access destination module number	Sample program
Language	Creation environment				
C++	Microsoft Visual C++ 2019	64-bit	• GB • GD • GS	Unavailable*1	☞ Page 208 Visual Studio 2019 (C++), Visual Studio 2019 (C#)
C#	Microsoft Visual C# 2019	64-bit	• GB • GD • GS	Unavailable*1	☞ Page 208 Visual Studio 2019 (C++), Visual Studio 2019 (C#)
Microsoft Excel VBA	Microsoft Excel 2019	64-bit	• GB • GD • GS • SGB • SGD	Available	☞ Page 209 Microsoft Excel 2019 (VBA)

*1 The sample programs can be accessed only through GT SoftGOT3000 module No. 1.

Precautions

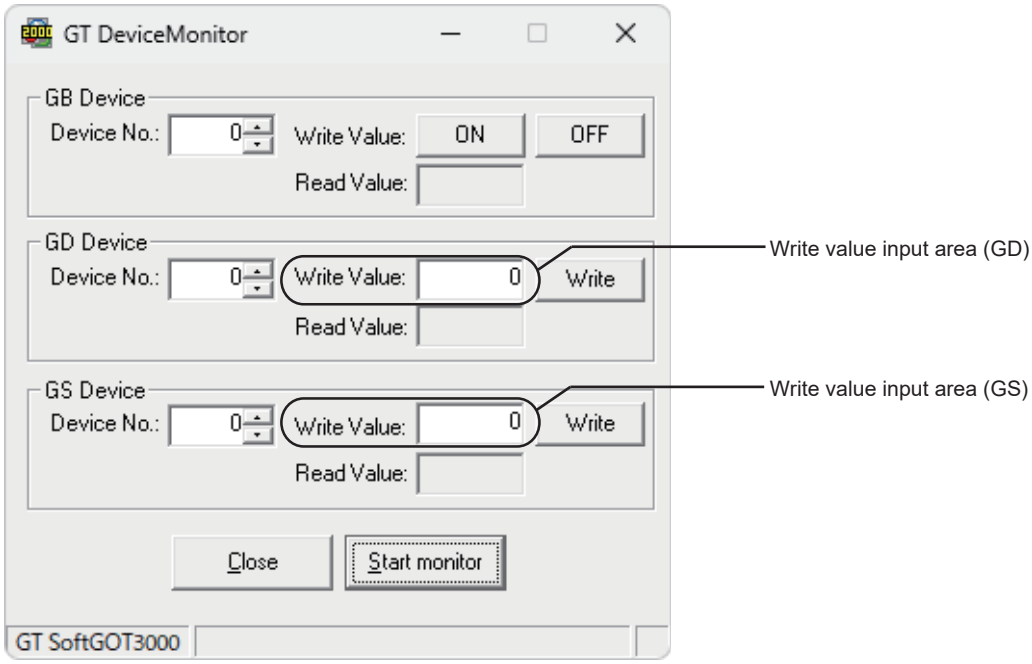
To use the sample programs, store GDevlib64_GT3K.dll (64-bit version) in the same folder as the application and Excel files depending on the usage environment.

Visual Studio 2019 (C++), Visual Studio 2019 (C#)

The sample programs are designed to be read or written to the internal devices (GB, GD, GS) of GT SoftGOT3000 (module No. 1) during monitoring.

Ex.

Sample program for Visual Studio 2019 (C++)



Item			Description
[GB Device]	[Device No.]		Specify a device number (GB0 to GB65535).
	[Write Value]	[ON]	Turns on the device specified by [Device No.].
		[OFF]	Turns off the device specified by [Device No.].
	[Read Value]		Displays the value read from the specified device. The value is updated only while monitoring is performed. Bit device status • [1]: ON • [0]: OFF
[GD Device]	[Device No.]		Specify a device number (GD0 to GD65535).
	[Write Value]	Write value input area (GD)	Set the value to be written to the device specified by [Device No.]. Input format: Signed decimal number (-32768 to 32767)
		[Write]	Writes the specified value to the specified device.
	[Read Value]		Displays the value read from the specified device. The value is updated only while monitoring is performed. Display format: Signed decimal number (-32768 to 32767) The value of the internal device is read in conjunction with [Device No.].
[GS Device]	[Device No.]		Specify a device number (GS0 to GS2047).
	[Write Value]	Write value input area (GS)	Set the value to be written to the device specified by [Device No.]. Input format: Signed decimal number (-32768 to 32767)
		[Write]	Writes the specified value to the specified device.
	[Read Value]		Displays the value read from the specified device. The value is updated only while monitoring is performed. Display format: Signed decimal number (-32768 to 32767) The value of the internal device is read in conjunction with [Device No.].
[Start monitor] button			Starts monitoring.
[Stop monitor] button			Stops monitoring.
[Close] button			Closes the sample program window.

Microsoft Excel 2019 (VBA)

The sample programs are designed to read from and write to the internal devices (GB, GD, GS, SGB, SGD) of GT SoftGOT3000 (specified module) during monitoring.

Item			Description
[Module No.]			Enter the GT SoftGOT3000 module number (1 to 32767) to read its internal devices.
[GB Device]	[Device No.]		Specify a device number (GB0 to GB65535).
	[Write Value]	[ON]	Turns on the device specified by [Device No.].
		[OFF]	Turns off the device specified by [Device No.].
	[Read Value]		Displays the value read from the specified device. The value is updated only while monitoring is performed. Bit device status • [1]: ON • [0]: OFF
[GD Device]	[Device No.]		Specify a device number (GD0 to GD65535).
	[Write Value]	Write value input area (GD)	Set the value to be written to the device specified by [Device No.]. Input format: Signed decimal number (-32768 to 32767)
		[Write]	Writes the specified value to the specified device.
	[Read Value]		Displays the value read from the specified device. The value is updated only while monitoring is performed. Display format: Signed decimal number (-32768 to 32767) The value of the internal device is read in conjunction with [Device No.].
[GS Device]	[Device No.]		Specify a device number (GS0 to GS2047).
	[Write Value]	Write value input area (GS)	Set the value to be written to the device specified by [Device No.]. Input format: Signed decimal number (-32768 to 32767)
		[Write]	Writes the specified value to the specified device.
	[Read Value]		Displays the value read from the specified device. The value is updated only while monitoring is performed. Display format: Signed decimal number (-32768 to 32767) The value of the internal device is read in conjunction with [Device No.].

Item			Description
[SGB Device]	[Device No.]		Specify a device number (SGB0 to SGB65535).
	[Write Value]	[ON]	Turns on the device specified by [Device No.].
		[OFF]	Turns off the device specified by [Device No.].
	[Read Value]		Displays the value read from the specified device. The value is updated only while monitoring is performed. Bit device status • [1]: ON • [0]: OFF
[SGD Device]	[Device No.]		Specify a device number (SGD0 to SGD65535).
	[Write Value]	Write value input area (SGD)	Set the value to be written to the device specified by [Device No.]. Input format: Signed decimal number (-32768 to 32767)
		[Write]	Writes the specified value to the specified device.
	[Read Value]		Displays the value read from the specified device. The value is updated only while monitoring is performed. Display format: Signed decimal number (-32768 to 32767) The value of the internal device is read in conjunction with [Device No.].
[Start monitor]			Starts monitoring.
[Stop monitor]			Stops monitoring.

Precautions

Microsoft Excel 2019 (VBA) does not support the copying of multiple cells from other applications.

How to use the sample programs

This section explains how to read and write internal devices using a sample program.

Operating procedure

1. Start GT SoftGOT3000 and a sample program.

If the project used for monitoring is set to security mode 2, log in to GT SoftGOT3000 as an operator who has the operation rights for [Reading/writing a device from an external device].

2. If the GT SoftGOT3000 module number for reading or writing internal devices can be specified in the sample program, enter the target module number in the [Module No.] field.

3. Start monitoring with GT SoftGOT3000.

4. Click the [Start monitor] button of the sample program to start monitoring.

5. To read the value of an internal device, enter the device number in [Device No.] of the corresponding device.

The value read from the specified device is displayed in [Read Value].

6. To write the value of an internal device, perform the following procedure.

- For a bit device, click the [ON] or [OFF] button.
- For a word device, enter the value to be written in the [Write Value] input area and click the [Write] button.

7. To stop monitoring with the sample program, click the [Stop monitor] button.

8. When the monitoring with the sample program is stopped, the monitoring with GT SoftGOT3000 is stopped.

9. Exit the sample program and GT SoftGOT3000.

Precautions

If internal devices are read or written from the sample program after GT SoftGOT3000 is exited, the internal devices may not be read or written normally.

Also, if restarting GT SoftGOT3000 in this state, GT SoftGOT3000 may not operate normally.

Make sure to stop monitoring the sample program before exiting GT SoftGOT3000.

Appendix 2 Open source software

This section describes various types of open source software included in GT SoftGOT3000 and their respective licenses.

Appendix 2.1 libjpeg-turbo

The copyright and permission notices of libjpeg-turbo are described below.

libjpeg-turbo Licenses
==========

libjpeg-turbo is covered by two compatible BSD-style open source licenses:

- The IJG (Independent JPEG Group) License, which is listed in
  README.ijg

  This license applies to the libjpeg API library and associated programs,
  including any code inherited from libjpeg and any modifications to that
  code. Note that the libjpeg-turbo SIMD source code bears the
  [zlib License](https://opensource.org/licenses/Zlib), but in the context of
  the overall libjpeg API library, the terms of the zlib License are subsumed
  by the terms of the IJG License.

- The Modified (3-clause) BSD License, which is listed below

  This license applies to the TurboJPEG API library and associated programs, as
  well as the build system. Note that the TurboJPEG API library wraps the
  libjpeg API library, so in the context of the overall TurboJPEG API library,
  both the terms of the IJG License and the terms of the Modified (3-clause)
  BSD License apply.

Complying with the libjpeg-turbo Licenses
==========

This section provides a roll-up of the libjpeg-turbo licensing terms, to the
best of our understanding. This is not a license in and of itself. It is
intended solely for clarification.

1. If you are distributing a modified version of the libjpeg-turbo source,
   then:

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      from the source.

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   2. You must add your own copyright notice to the header of each source
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      simply add a notice stating that you modified the file.)

      Origin
      - Clause 1 of the IJG License
      - Clause 2 of the zlib License

   3. You must include the IJG README file, and you must not alter any of the
      copyright or license text in that file.

      Origin
      - Clause 1 of the IJG License

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        Origin
        - Clause 2 of the IJG license

    2. If your binary distribution includes or uses the TurboJPEG API, then your product documentation must include the text of the Modified BSD License (see below.)

        Origin
        - Clause 2 of the Modified BSD License

3. You cannot use the name of the IJG or The libjpeg-turbo Project or the contributors thereof in advertising, publicity, etc.

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    Origin
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    - zlib License

The Modified (3-clause) BSD License
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```
/*************************************************
*   Perl-Compatible Regular Expressions    *
*************************************************/

/* This is the public header file for the PCRE library, second API, to be
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*The manual number is given on the bottom left of the back cover.

Revision date	*Manual number	Description
April 2025	SH(NA)-082594ENG-A	First edition

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- Failure that could have been avoided if consumable parts designated in the instruction manual had been correctly serviced or replaced.
- Replacing consumable parts such as a battery
- Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
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