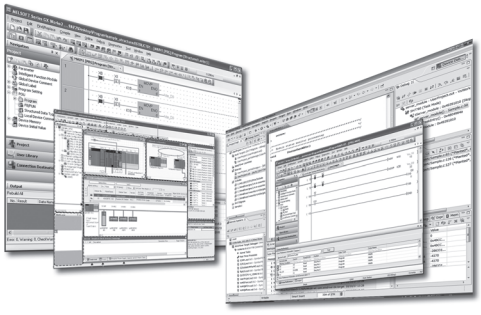
MELSOFT

MITSUBISHI ELECTRIC

Engineering Software

PX Developer Version 1 Operating Manual (GOT Screen Generator)

-SW1D5C-FBDQ-E
-SW1D5C-FBDQMON-E



● SAFETY PRECAUTIONS ●

(Always read these instructions before using this product.)

Before using this product, thoroughly read this manual and the relevant manuals introduced in this manual and pay careful attention to safety and handle the products properly.
The precautions given in this manual are concerned with this product. For the safety precautions of the programmable controller system, refer to the User's Manual for the CPU module.
In this manual, the safety precautions are ranked as "⚠WARNING" and "⚠CAUTION".

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

Note that the ⚠CAUTION level may lead to serious consequences according to the circumstances. Always follow the precautions of both levels because they are important for personal safety.

Please save this manual to make it accessible when required and always forward it to the end user.

[Security Precautions]

⚠WARNING

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

[Startup/Maintenance Precautions]

⚠ CAUTION

- The online operations have to be executed after the manual has been carefully read and the safety has been ensured.
  Failure to do so may cause a miss operation which results in machine damage or an accident.

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

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REVISIONS

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

Print Date	* Manual Number	Revision
Jun., 2008	SH(NA)-080772ENG-A	First edition
Jan., 2009	SH(NA)-080772ENG-B	Addition Appendix 3 Correction GENERIC TERMS, ABBREVIATIONS, AND TERMS, Section 2.1.1, Section 2.1.2, Section 2.2, Section 3.2, Section 5.4, Section 6.1, Section 6.1.1, Section 6.2, Section 6.2.2, Section 10.1
Dec., 2009	SH(NA)-080772ENG-C	Addition CONDITIONS OF USE FOR THE PRODUCT, Section 4.7 Correction SAFETY PRECAUTIONS, GENERIC TERMS, ABBREVIATIONS, AND TERMS, Section 2.1.1, Section 2.2, Section 3.2, Chapter 4, Section 5.1, Section 6.1, Section 6.1.1, Section 6.2, Section 6.2.1, Section 8.1, Section 8.2.1, Section 10.1, Appendix 1, Appendix 3 Section 4.7 to 4.10 changed to Section 4.8 to 4.11
Dec., 2010	SH(NA)-080772ENG-D	Correction MANUAL ORGANIZATION, GENERIC TERMS, ABBREVIATIONS, AND TERMS, Section 1.2, Section 2.1.1 to Section 2.2, Section 3.1, Chapter 4 to Section 4.5, Section 4.10, Section 4.11, Section 5.1, Section 5.1.6, Section 5.2.1, Section 5.3, Section 6.2.2, Section 7.5, Section 8.1.1, Section 10.1, Section 11.1, Chapter 12, Appendix 1 to 3
Oct., 2011	SH(NA)-080772ENG-E	Addition Section 6.1.3 Correction HOW TO USE THIS MANUAL, Section 3.2, Section 5.1, Section 6.1, Section 6.1.1, Section 6.2 to 6.2.2, Section 10.1, Appendix 2.1, Appendix3
Feb., 2014	SH(NA)-080772ENG-F	Addition Section 4.4, Section 9.2, Section 9.2.1 Correction GENERIC TERMS, ABBREVIATIONS, AND TERMS, Section 2.1.1 to 2.2, Section 3.2, Chapter 4 to 4.2, Section 4.11, Section 4.12, Section 5.1, Section 5.1.5, Section 9.1, Section 10.1, Chapter 12, Appendix 1, Appendix 3 Section 4.4 to 4.11 changed to Section 4.5 to 4.12 Section 9.2 changed to Section 9.2.2

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

Print Date	* Manual Number	Revision
Jul., 2015	SH(NA)-080772ENG-G	Front cover correction
Jan., 2017	SH(NA)-080772ENG-H	Addition Appendix 2.3 Correction Section 2.1.1, Section 4.12
Oct., 2017	SH(NA)-080772ENG-I	Correction Section 2.1.1
Apr., 2018	SH(NA)-080772ENG-J	Correction MANUAL ORGANIZATION, GENERIC TERMS, ABBREVIATIONS, AND TERMS, Section 1.1, Section 1.2, Section 2.1, Section 2.1.1, Section 2.1.2, Section 2.2, Section 4.3, Section 4.4, Section 4.9, Section 4.10, Section 4.12, Appendix 2.3, Appendix 3
Oct., 2018	SH(NA)-080772ENG-K	Correction GENERIC TERMS, ABBREVIATIONS, AND TERMS, Section 2.1.1, Section 2.1.2, Section 2.2, Section 4.1, Section 4.3, Section 4.10, Appendix 3
Apr., 2019	SH(NA)-080772ENG-L	Model Addition Q04UDPVCPU, Q06UDPVCPU, Q13UDPVCPU, Q26UDPVCPU Correction GENERIC TERMS, ABBREVIATIONS, AND TERMS, Section 2.1.1, Section 2.1.2, Section 2.2, Section 4.3, Section 6.2, Section 10.2, Appendix 3
Apr., 2021	SH(NA)-080772ENG-M	Correction SAFETY PRECAUTIONS, CONDITIONS OF USE FOR THE PRODUCT, MANUALS, Appendix 2.3

Japanese manual version SH-080718-U

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INTRODUCTION

Thank you for purchasing the engineering software, MELSOFT series.
Read this manual and make sure you understand the functions and performance of MELSOFT series thoroughly in advance to ensure correct use.

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MANUALS

The following manuals are also related to this product.
Refer to the following table for ordering a manual.

Related manuals

Manual name	Manual number (model code)
PX Developer Version 1 Operating Manual (GOT Screen Generator) Generation procedure for GOT screen project and details about generated screen (this manual) (Sold separately.)	SH-080772ENG (13JU61)
PX Developer Version 1 Operating Manual (Programming Tool) Explains FBD language programming, compilation, online operations, and debug methods with PX Developer. (Sold separately.)	SH-080369E (13JU38)
PX Developer Version 1 Operating Manual (Monitor Tool) Explains the operation methods of the monitor tool and methods for monitoring and controlling DDC processing with tag FB. (Sold separately.)	SH-080370E (13JU39)
PX Developer Version 1 Programming Manual Explains details of programming with PX Developer, lists of FB parts, and the PID instructions. (Sold separately.)	SH-080371E (13JW00)
PX Developer Version 1 Operating Manual (InTouch Interaction) Interaction between PX Developer monitor tool and SCADA software (InTouch) (Sold separately.)	SH-080773ENG (13JU62)
PX Developer Version 1 Operating Manual (JoyWatcherSuite Interaction) Interaction between PX Developer monitor tool and SCADA software (JoyWatcherSuite) (Sold separately.)	SH-080976ENG (13JU70)

CAUTION

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- This product (including this manual) can only be used under the software license agreement.
- Please note that we are not responsible for any influence resulting from operating this product (including this manual).
- The contents of this manual are subject to change without notice.

PURPOSE
Describes the purpose of operations for each chapter or section.

BASIC OPERATION
Describes the operations to set the intended settings.

4.6 Select the loop tags whose screen uses Historical Trend Graph

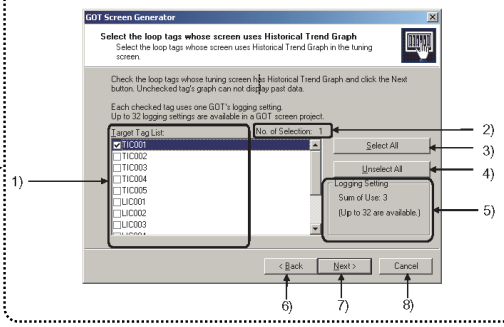
PURPOSE

Select a loop tag that uses the historical trend graph as a graph of the tuning screen.

BASIC OPERATION

1. Check the loop tag that uses the historical trend graph.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description
1)	Target Tag List	Displays a list of generable loop tags except PGS2 (☞ Section 3.2). Check the loop tag that uses a historical trend graph. Checking one loop tag can use one logging setting. Past data of the graphs for deselected tags are not displayed.
2)	No. of Selection	Displays the number of tags selected in the Target Tag List.
3)	"Select All" button	Checks all tags in the Target Tag List.
4)	"Unselect All" button	Deselects all tags selected in the Target Tag List.
5)	Logging Setting	Displays the maximum number of usable logging settings and the total number of logging settings used for a GOT screen project to be generated.
6)	"Back" button	Displays the previous window.
7)	"Next" button	Displays the next window.
8)	"Cancel" button	Cancels the settings and closes the window.

DISPLAY/SETTING SCREEN
Describes the screen display procedure.

Reference location
☞ leads to the reference location.

DISPLAY/SETTING DATA
Describes the display contents on the screen.

A-9

There are also the following types of explanations.

POINT

Informs items to be noted and useful functions relevant to the contents in the chapter or section.

REMARKS

Supplements contents in the chapter or section.

The following table explains symbols in this manual and their description.

Symbol	Description
[ ]	Expresses an item in a window or dialog box, or a menu on the menu bar. [ ] → [ ] expresses the drop-down menu. Example: [File] → [Generate GOT Screen...]
" "	Expresses a command button. Example: "OK" button

MANUAL ORGANIZATION

This manual consists of twelve chapters and APPENDIX.

This manual is organized assuming that operations/monitoring on GOT using the GOT screen generator function started from the PX Developer monitor tool are performed in the following procedures.

<Procedures from generating GOT screen project to operating/monitoring on GOT>

Operating procedure 1: Create PX Developer project and program with the programming tool.	Reference
• Check the number of generable tags and generable tag types with the GOT screen generator function.	Section 3.2
• Create PX Developer project and program with the programming tool.	• PX Developer Version 1 Programming Manual • PX Developer Version 1 Operating Manual (Programming Tool)

⇩

Operating procedure 2: Set the monitor/control screen with the monitor tool.	Reference
• Set the following items in the "Monitor Tool Setting" of the monitor tool. Monitor Target Project Setting Control Panel Setting Trend Setting Alarm Setting Event Setting Unit Setting	Section 4.1 • PX Developer Version 1 Operating Manual (Monitor Tool)

⇩

Operating procedure 3: Start the GOT screen generator function and generate a GOT screen project.	Reference
• Start the GOT screen generator function from the monitor tool and generate a GOT screen project.	Chapter 4

⇩

Operating procedure 4: Check the GOT screen project with GT Designer2/ GT Designer3 and download it to GOT.	Reference
• Check the GOT screen project with GT Designer2/GT Designer3 and download it to GOT. Use GT Designer2/GT Designer3 to change "Communication Settings" or make "Q Redundant Setting".	• GT Designer2 Version 2 Basic Operation/Data Transfer Manual (For GOT1000 Series) (SH-080529ENG) • GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series) (SH-080530ENG) • GT Designer3 Version 1 Screen Design Manual (Fundamentals, Functions) (SH-080866ENG, SH-080867ENG)

⇩

Operating procedure 5: Operate/monitor on GOT.	Reference
• Refer to details of the operating procedures and setting procedures to operate/monitor on GOT.	Chapter 5 to Chapter 11

GENERIC TERMS, ABBREVIATIONS, AND TERMS

The following table shows the generic terms, abbreviations, and terms in this manual.

(1) Generic terms and abbreviations

Generic term/abbreviation	Description
PX Developer	Generic term for PX Developer Version 1 (SW1D5C-FBDQ-E) and PX Developer Monitor Tool (SW1DNC-FBDQMON-E) For PX Developer, Programming Tool and Monitor Tool are installed. For PX Developer Monitor Tool, only Monitor Tool is installed.
Programming tool	Abbreviation for PX Developer programming tool
Monitor tool	Abbreviation for PX Developer monitor tool
GOT2000	Generic term for GT27 and GT SoftGOT2000
GOT1000	Generic term for GT16, GT15, and GT SoftGOT1000
GT27	Generic term for GT27**-X and GT27**-S
GT16	Generic term for GT16**-X and GT16**-S
GT15	Generic term for GT15**-X and GT15**-S
GT SoftGOT2000	Abbreviation for GT SoftGOT2000 Version 1
GT SoftGOT1000	Generic term for GT SoftGOT1000 Version 2 and GT SoftGOT1000 Version 3
GT27**-X	Generic term for GT2715-XTBA and GT2715-XTBD
GT27**-S	Generic term for GT2712-STBA, GT2712-STWA, GT2712-STBD, GT2712-STWD, GT2710-STBA, GT2710-STBD, GT2708-STBA, and GT2708-STBD
GT16**-X	Generic term for GT1695M-XTBA and GT1695M-XTBD
GT16**-S	Generic term for GT1685M-STBA, GT1685M-STBD, GT1675M-STBA, GT1675M-STBD, GT1665M-STBA, and GT1665M-STBD
GT15**-X	Generic term for GT1595-XTBA and GT1595-XTBD
GT15**-S	Generic term for GT1585V-STBA, GT1585V-STBD, GT1585-STBA, GT1585-STBD, GT1575V-STBA, GT1575V-STBD, GT1575-STBA, and GT1575-STBD
GT Designer2	Abbreviation for GT Designer2 Version 2
GT Designer3	Abbreviation for GT Designer3 Version 1
Personal computer	Generic term for personal computers on which Windows operates
CPU module	Generic term for the MELSEC iQ-R series and MELSEC-Q series CPU modules
Process CPU	Generic term for RnPCPU and QnPHCPU
RnPCPU	Generic term for R08PCPU,R16PCPU,R32PCPU,R120PCPU
Process CPU (Redundant mode)	RnPCPU operating in the redundant mode
Process CPU (Process mode)	RnPCPU operating in the process mode
SIL2 process CPU	Generic term for R08PSFCPU, R16PSFCPU, R32PSFCPU, and R120PSFCPU A CPU module that performs the standard control and safety control by combining with a SIL2 function module. A redundant system can be configured by combining with a redundant function module.
RnPSFCPU	
QnPHCPU	Generic term for Q02PHCPU, Q06PHCPU, Q12PHCPU, and Q25PHCPU
Universal model process CPU	Generic term for Q04UDPVCPU, Q06UDPVCPU, Q13UDPVCPU, and Q26UDPVCPU
QnUDPVCPU	
Redundant CPU	Generic term for Q12PRHCPU and Q25PRHCPU
QnPRHCPU	
Serial communication module	Generic term for QJ71C24, QJ71C24-R2, QJ71C24N, QJ71C24N-R2, and QJ71C24N-R4
C24	
Redundant type extension base unit	Abbreviation for Q65WRB extension base unit for redundant system
Ethernet module	Generic term for RJ71EN71, QJ71E71-100, QJ71E71-B5, QJ71E71-B2, and QJ71E71

(2) Terms

Term	Description
FB	Abbreviation for Function Block A block with a specific function used in a program.
GOT screen project	Project generated by the GOT screen generator function This project consists of a faceplate, control panel, tuning screen, and tag setting screen.
Base screen	Basic screen for GOT screen display
Window screen	Screen displayed on the base screen
Script function	Function to control GOT display by original GOT program (script)
Object script	Script function that makes setting and operates to objects such as lamps and numerical input
Screen script	Script function that makes setting and operates to the base screen and window screen
Project script	Script function that makes setting and operates to entire projects
Overlap window	Window popped up on the base window
Logging setting	Setting to collect device values of controllers at any given timing or period and to accumulate them with GOT
Q redundant setting	Setting to automatically have GOT follow monitoring of the QCPU redundant system
DDC	Abbreviation for Direct Digital Control This designates control that fulfils controller's functions with digital device.
Tag	Tags for identification attached to process control equipment. They are JIS-defined identification symbols attached to DDC processings.
Tag data	Organized data (process condition data, process status data) attached to DDC processing which is indicated by tag. Accessing this tag data allows monitoring and condition setting of a corresponding DDC processing.
Tag data item	Each data item that makes up tag data
Tag FB	A function block works as a controller or an indicator containing tag data
Global variable	Variables registered in the global variable declaration window in the programming tool.
Monitor variable	Global variables and devices which are set as monitor target in the monitor tool.
Faceplate	Gauge window on which an indicator such as a controller is displayed in image format Values assigned to tag data are manipulated.
Lockout tag	Eye-graph tag displayed on a faceplate that indicates precautions for operations and restrictions according to operation authority Also, this designates making the settings to the faceplate.
SV	Setting value
PV	Process variable
DV	Deviation Difference between setting value (SV) and process variable (PV)
MV	Manipulated variable
PID control	Control that calculates and outputs a manipulated variable (MV) to have the process variable (PV) reach to the same value as the setting value (SV) sooner and precisely by combining P action (proportional action), I action (integral action), and D action (derivative action)

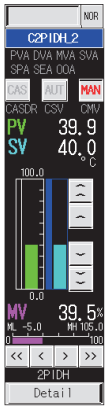
Term	Description
Auto tuning step response method	Method that detects dynamic characteristics by moving the plant and automatically obtains proportional gain (Kp), integral time (Ti), and derivative time (Td) of PID based on the Ziegler-Nichols step response method
Auto tuning limit cycle method	Method that detects dynamic characteristics by moving the plant and automatically obtains proportional gain (Kp), integral time (Ti), and derivative time (Td) of PID based on the vibration amplitude and vibration period caused by two-step control (on/off action) of manipulated variable (MV)
Assignment information database	'*.mdb' file which is created when compilation is executed in the programming tool This file stores assignment information of variables for storing data such as tag data, global variable and device information of the CPU module.
System switching	Control switching to backup system to continue system control and network communication when a trouble occurs in the system that performs control in the redundant system (when a failure or an error occurs in the power supply system, mounted module, or network). (Switching between control system and standby system to avoid system down)
Control system	System that performs program operation, system control, and network communication in the redundant system When system A and system B start concurrently in the backup mode, the system A will be the control system. (Concurrent startup: One system starts within three seconds after the other system has started.) When the system A and system B start separately, a system that starts first will be the control system.
Standby system	Backup system to continue system control in case of a failure or an error in the module in the control system in the redundant system (The CPU module in the standby system does not calculate programs.) When system A and system B start concurrently in the backup mode, the system B will be the standby system. (Concurrent startup: One system starts within three seconds after the other system has started.) When the system A and system B start separately, a system that starts later will be the standby system.
System A System B	In a redundant system, to distinguish the two systems that are connected via a tracking cable, one system is referred to as 'A system' and the other system is referred to as 'B system'.

1 OVERVIEW

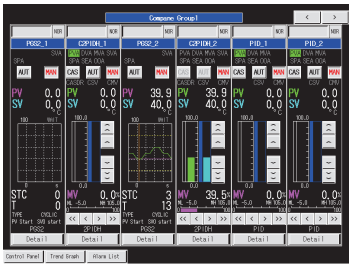
1.1 Overview

The GOT screen generator function allows GOT to easily monitor/control projects created with PX Developer.
A GOT screen project, consists of the following screens, can be automatically generated only by creating a PX Developer project with the programming tool and making simple settings with the monitor tool.

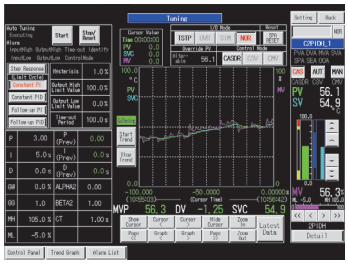
- Faceplate
- Control panel
- Detailed screen (tuning screen, tag setting screen)
- Trend graph screen
- Alarm list screen

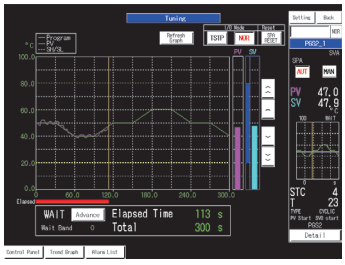


<Faceplate>

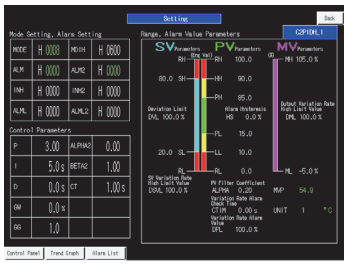


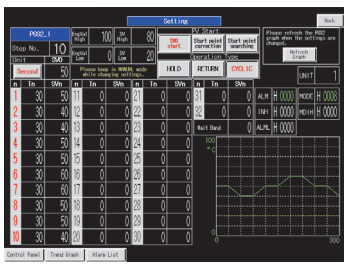
<Control panel>



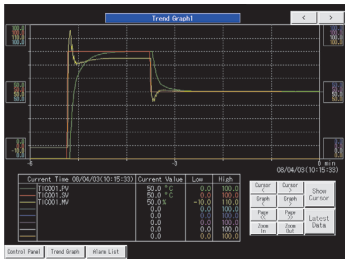


<Tuning screen>

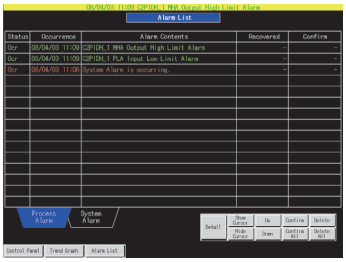




<Tag setting screen>



<Trend graph screen>



<Alarm list screen>

<Example of screens generated by the GOT screen generator function>

1.2 Features

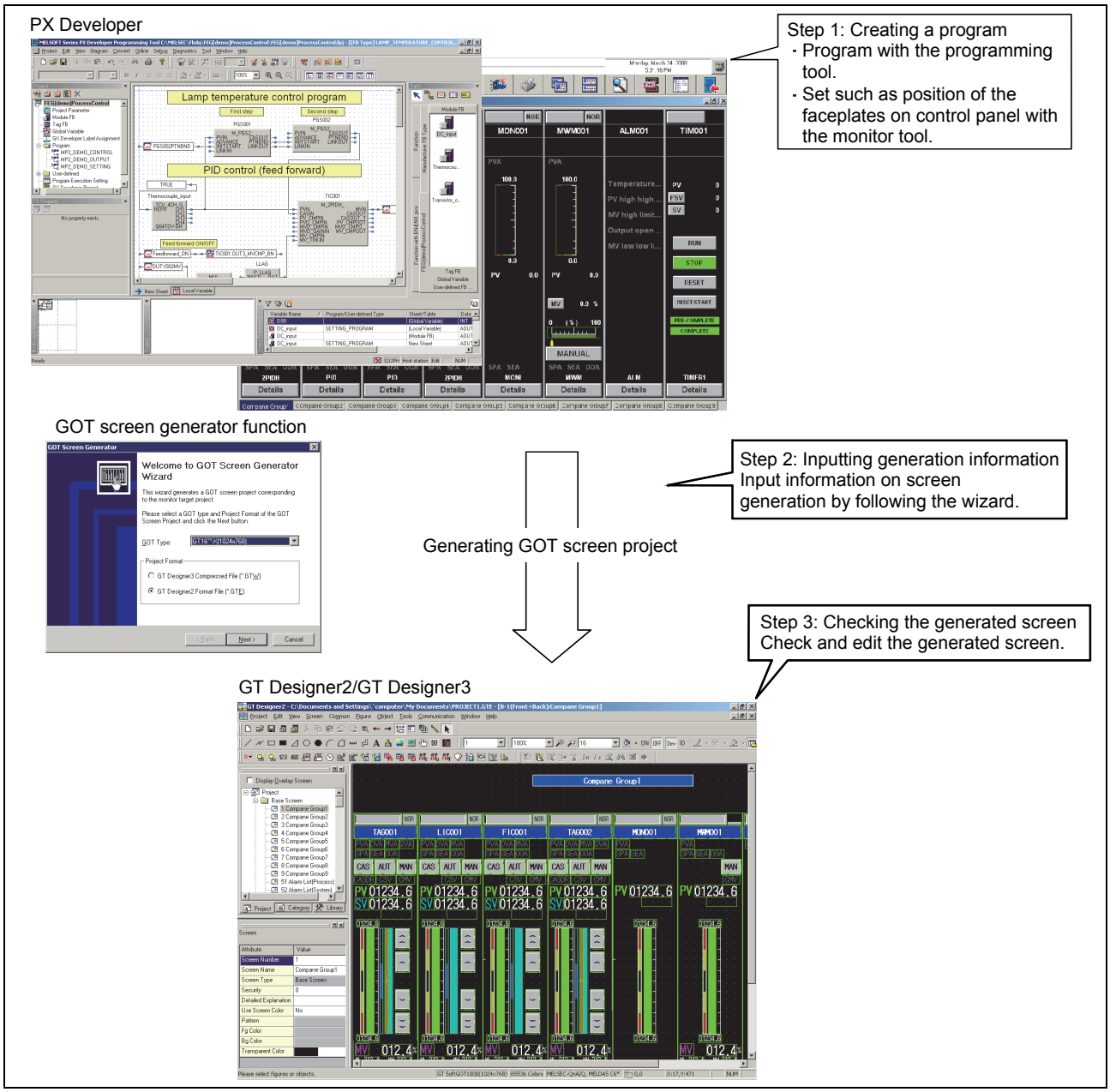
1

(1) Process control and monitoring are possible on GOT

GOT can easily monitor/control a project designed with PX Developer.
GOT features space-saving, heat-resistance, and vibration resistance, and is suitable for monitoring at production sites.
Since GOT does not require a personal computer, high-reliable and high versatility system can be configured.

(2) GOT screen project can be automatically generated by simple operations

A GOT screen project can be automatically generated from a PX Developer project by simple operations as shown on the following figures.



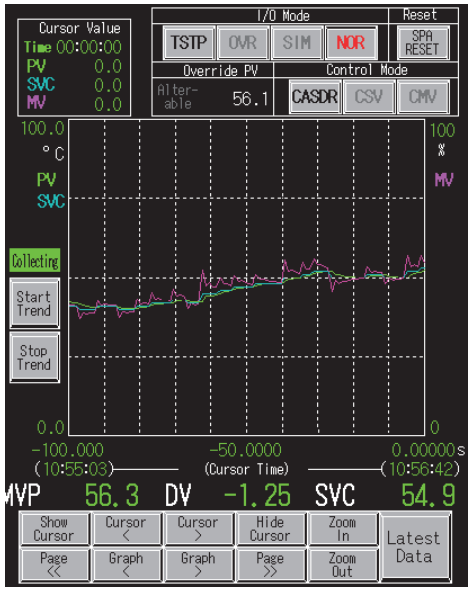
<Generation procedures of GOT screen project>

(3) Setting assignment device of tag data and creating a program for monitoring are not required

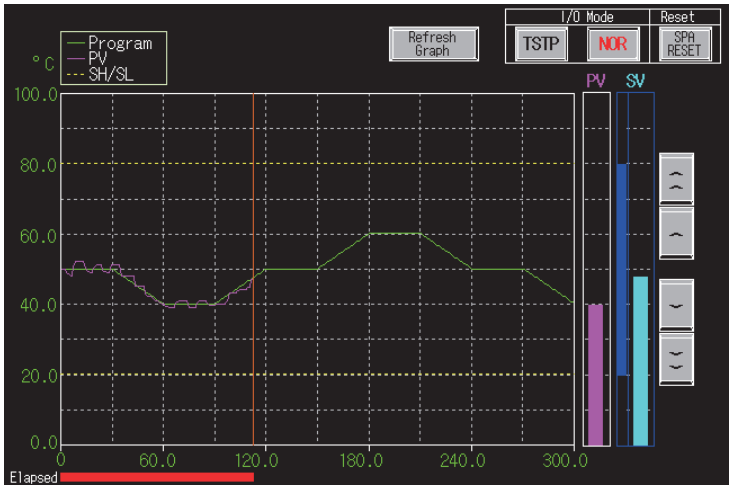
Settings including assignment device of tag data are set to a GOT screen project to be generated.
Since the GOT script function is used, additional ladder programs for monitoring are not required.
These advantages reduce hours taken for creating a monitor screen.

(4) Generating a process control standard screen equivalent to the monitor tool

Since a screen generated by this function is equivalent to the monitor tool, monitoring and tuning can be performed on GOT.
Rich graph functions of GOT such as historical trend graph useful for tuning and display of PV value used in Multi-point program setter (PGS2) in trend graph can be utilized on the generated screen.



<Historical trend graph>



<PV value trend display (PGS2)>

<Example of generated screens utilizing GOT graph functions>

(5) Generated screen projects can be edited with GT Designer2 or GT Designer3

Generated screen projects can be edited with GT Designer2 or GT Designer3.
Editing such as addition of new parts and user-created screens, deletion of unnecessary parts, change of display colors and character strings are possible.
Monitor screens according to user's purposes can be created.

2 SYSTEM CONFIGURATION

2.1 System Configuration

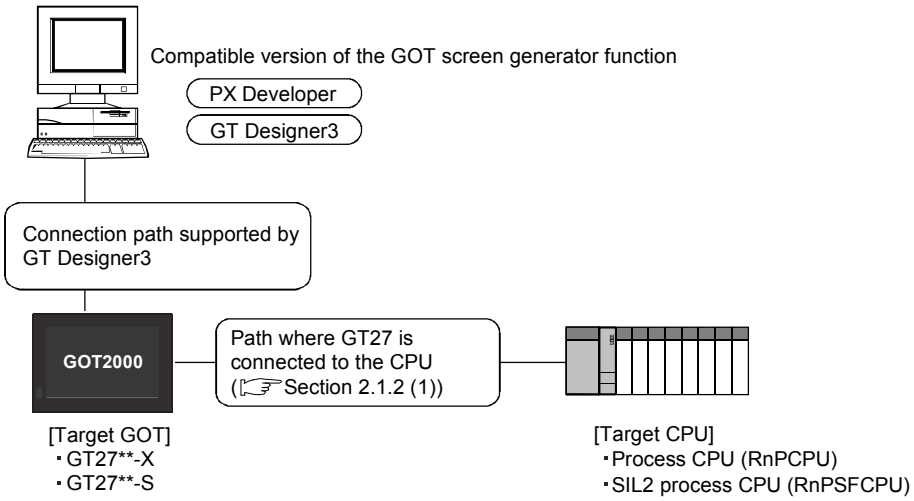
This chapter explains system configuration when using the GOT screen generator function and using generated GOT screen project on GOT.

2

2.1.1 Overall configuration

This section explains overall configuration.
When using generated GOT screen project in GOT, only the path where GOT is connected to the target CPU on a one-on-one basis is available.

(1) Using GT27



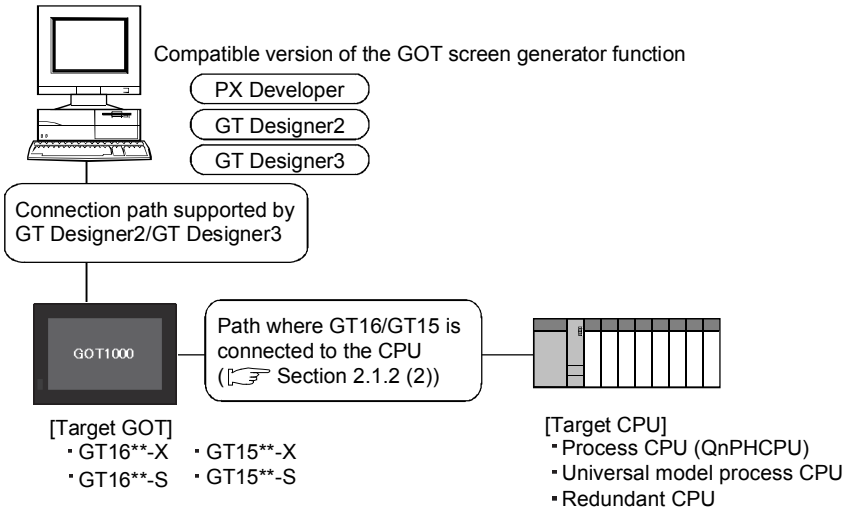
(a) Compatible version of the GOT screen generator function

CPU module		GT Designer2	GT Designer3	PX Developer
MELSEC iQ-R series*1	RnPCPU	–	Version 1.95D or later*2	Version 1.50C or later
	RnPSFCPU	–	Version 1.200J or later*2	Version 1.51D or later
MELSEC-Q series		–	–	–

–: Not supported

*1: Use GX Works3 1.045X or later.
*2: For creating a screen, GT Designer3 (GOT1000) must be installed.

(2) Using GT16/GT15



(a) Compatible version of the GOT screen generator function (GT16)

CPU module		GT Designer2	GT Designer3	PX Developer
MELSEC-Q series	Process CPU	Version 2.90U or later	Version 1.23Z or later	Version 1.28E or later
	Redundant CPU			
	Universal model process CPU	—	Version 1.74C or later	Version 1.42U or later
MELSEC iQ-R series		—	—	—

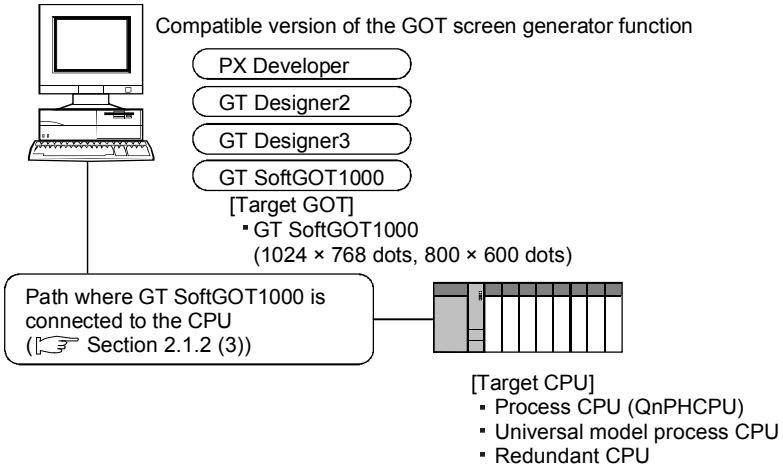
(b) Compatible version of the GOT screen generator function (GT15)

CPU module			GT Designer2	GT Designer3	PX Developer
MELSEC-Q series	Process CPU	Q02PHCPU Q06PHCPU	Version 2.82L or later	Version 1.23Z or later	GT Designer2: Version 1.18U or later GT Designer3: Version 1.28E or later
		Q12PHCPU Q25PHCPU	Version 2.73B or later		
	Redundant CPU				
	Universal model process CPU		—	Version 1.74C or later	Version 1.42U or later
MELSEC iQ-R series			—	—	—

—: Not supported

2-2

(3) Using GT SoftGOT1000



(a) Combinations of software versions

The combinations of versions among GT Designer2, GT Designer3, and PX Developer are same as ones when using GT15.

The following version of GT SoftGOT1000 is required.

CPU module			Version 2	Version 3
MELSEC-Q series	Process CPU	Q02PHCPU Q06PHCPU	Version 2.82L or later	Version 3.01B or later
		Q12PHCPU Q25PHCPU	Version 2.73B or later	
	Redundant CPU			
	Universal model process CPU		—	Version 3.74C or later
MELSEC iQ-R series			—	—

—: Not supported

2.1.2 Communication path

The following shows the connectable path when using the GOT screen project generated by the GOT screen generator function.

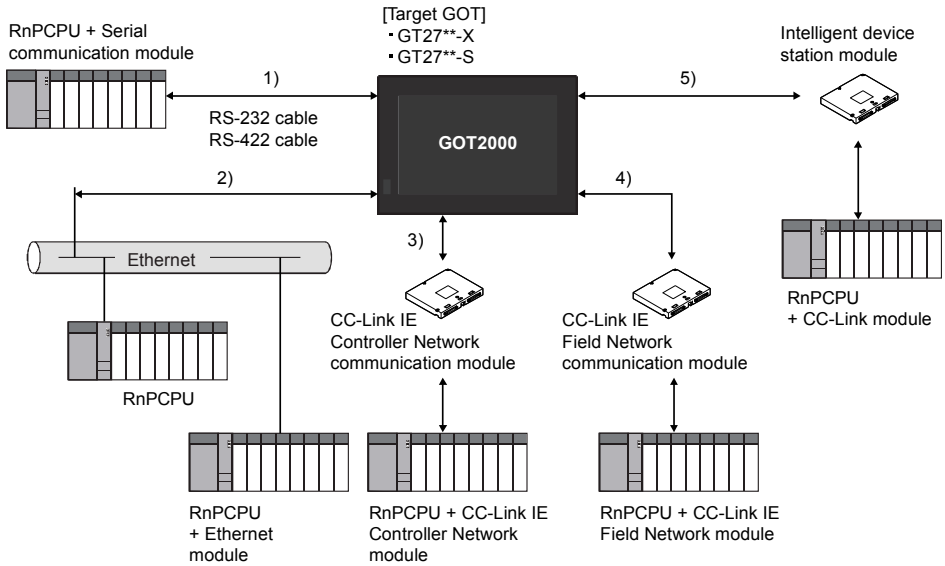
POINT

- When connecting to other station, set the communication path connected to CPU with a single network.
- For multiple CPU system configuration, CPU number specification and multi-channel function are not supported.
- For details of the connectable paths, refer to the following manuals.
  (1) GOT2000 Series Connection Manual (Mitsubishi Electric Products)
  For GT Works3 Version1
  (2) GT Designer3 (GOT2000) Screen Design Manual
  (3) GOT1000 Series Connection Manual (Mitsubishi Electric Products) for GT Works3
  (4) GT SoftGOT1000 Version3 Operating Manual for GT Works3
  (5) GT Designer3 Version1 Screen Design Manual (Fundamentals)
  (6) GOT1000 Series Connection Manual
  (7) GT SoftGOT1000 Version2 Operating Manual
  (8) GT Designer2 Version2 Basic Operation/Data Transfer Manual (For GOT1000 Series)
  (9) GT Designer2 Version2 Screen Design Manual (For GOT1000 Series)

(1) Path where GT27 is connected to the CPU

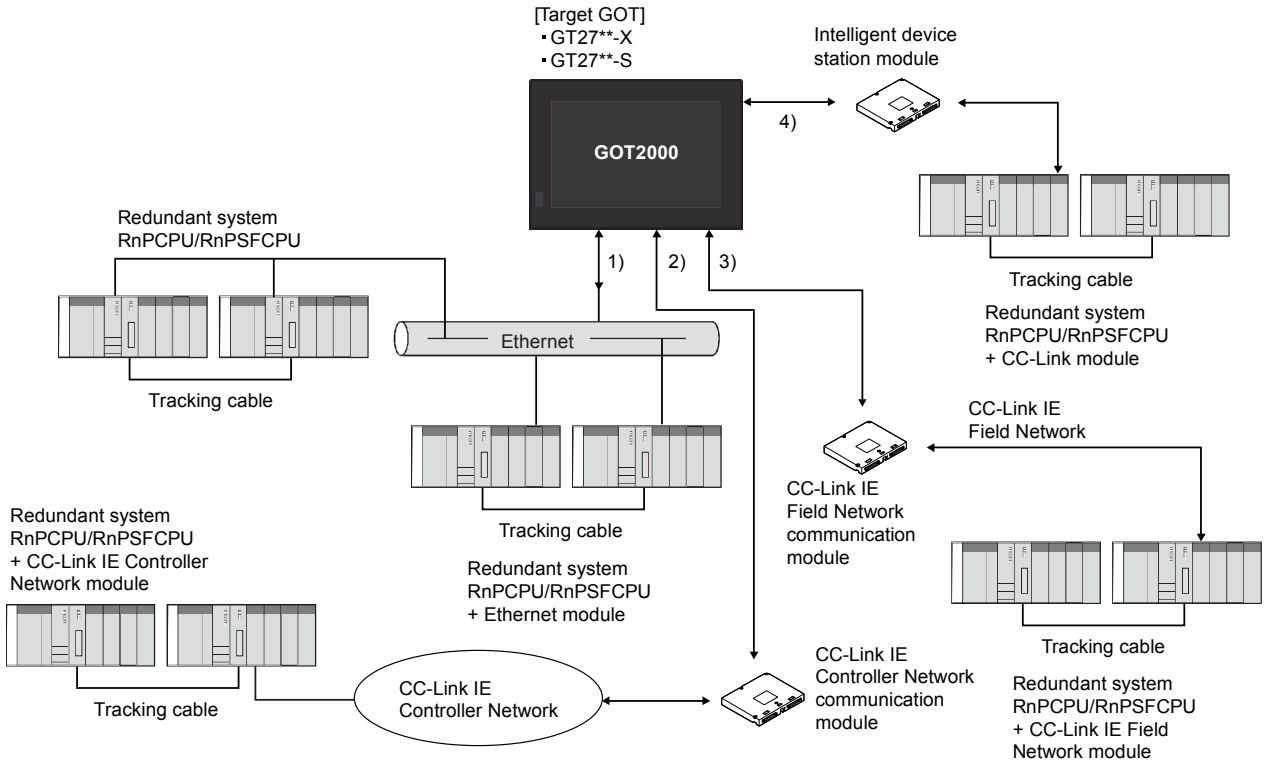
The following shows the connectable path when using the GOT screen project generated by the GOT screen generator function in GT27.

(a) Connecting to the Process CPU (Process mode) (RnPCPU)



No.	Connection type	Host station/other station	Precautions for connection
1)	Serial communication connection	Host station	—
2)	Ethernet connection	Host station	—
3)	CC-Link IE Controller Network,	Other station	—
4)	CC-Link IE Field Network,	Other station	—
5)	CC-Link connection (intelligent device station)	Other station	—

(b) Connecting to the Process CPU (Redundant mode) , SIL2 process CPU (RnPCPU, RnPSFCPU)



No.	Connection type	Host station/other station	Precautions for connection
1)	Ethernet connection	Host station	When connecting via an Ethernet module mounted on the main base unit, configure the setting of the MELSEC redundant function with GT Designer3.
2)	CC-Link IE Controller Network	Other station	—
3)	CC-Link IE Field Network,	Other station	—
4)	CC-Link connection (intelligent device station)	Other station	Connection of several (five or more as a guideline) intelligent device stations reduces the data communication speed.

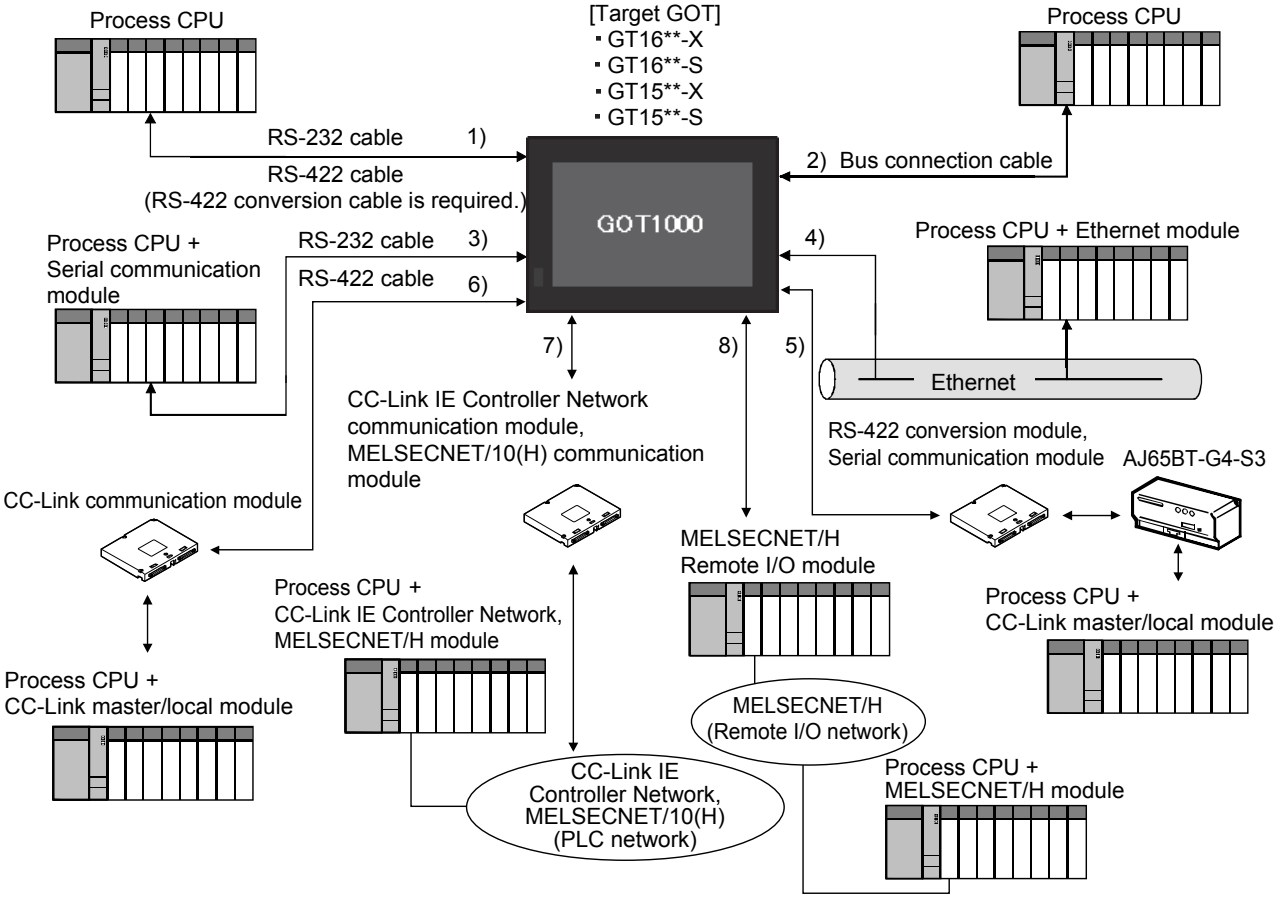
Use a module supporting the redundant system.
- A network module with a firmware version '12' or later is required.
- A process CPU module with a firmware version '04' or later is required.

Set the MELSEC redundant function with GT Designer3 to synchronize the monitor automatically with the control system after being switched using one unit of GOT. For the MELSEC redundant function, refer to GT Designer3 (GOT2000) Screen Design Manual

(2) Path where GT16/GT15 is connected to the CPU

The following shows the connectable path when using the GOT screen project generated by the GOT screen generator function in GT16/GT15.

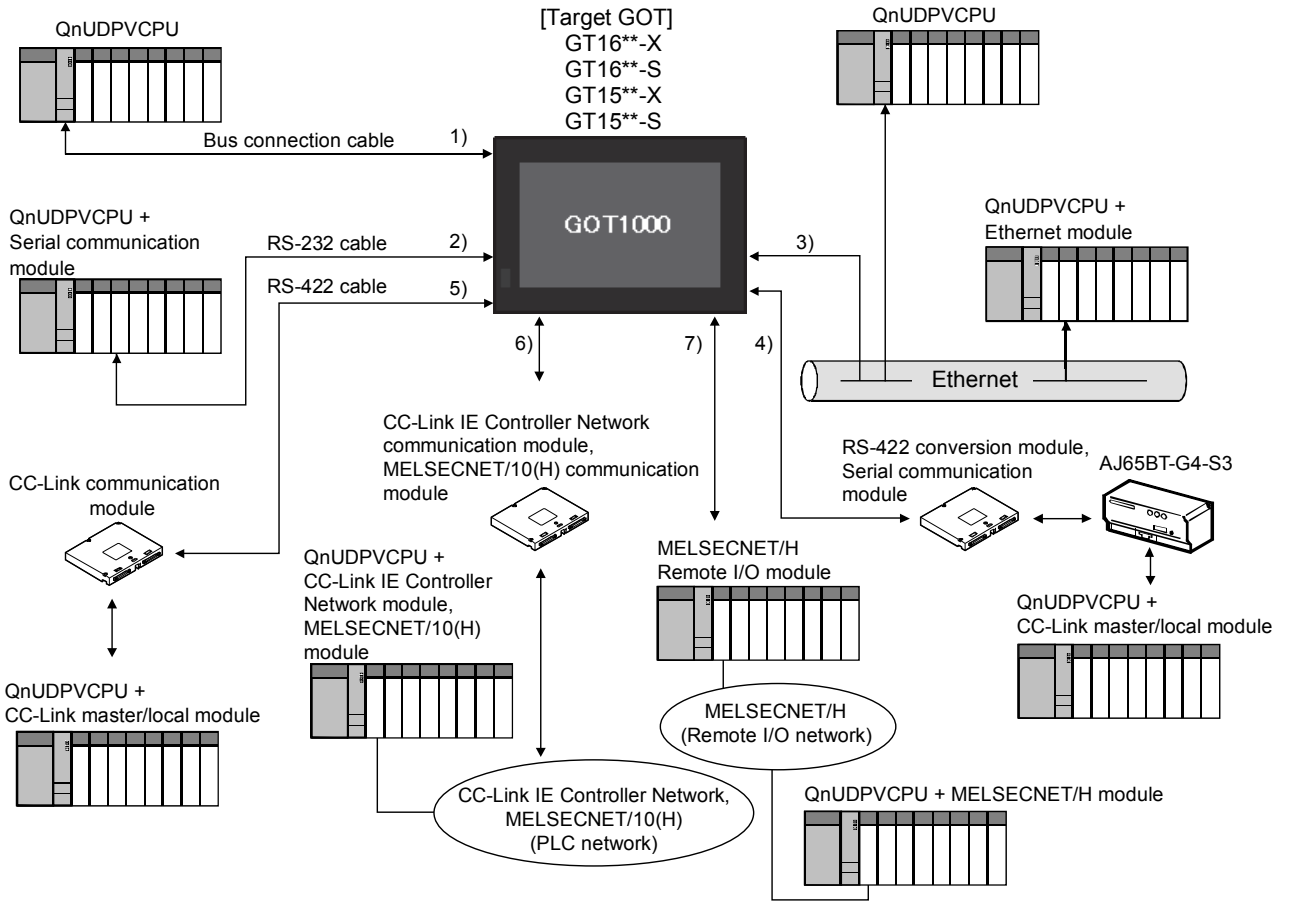
(a) Connecting to the Process CPU (QnPHCPU)



No.	Connection type		Host station/ other station	Precautions for connection
1)	CPU direct connection		Host station	–
2)	Bus connection		Host station	–
3)	Computer link connection		Host station	–
4)	Ethernet connection		Host station	–
5)	CC-Link connection (via G4)		Host station/ other station	Connection of several (five or more as a guideline) intelligent device stations reduces the data communication speed.
6)	CC-Link connection (intelligent device station)		Other station	Connection of several (five or more as a guideline) intelligent device stations reduces the data communication speed.
7)	CC-Link IE Controller Network, MELSECNET/10(H) (PLC network)		Other station	–
8)	MELSECNET/H (Remote I/O network)	CPU direct connection	Other station	GOT monitor uses transient transmission of MELSECNET/H network. Therefore, the object display will be delayed longer than when monitoring PLC CPU directly.
		Computer link connection*1		
		Ethernet connection*1		

*1: Mount a serial communication module for computer link connection, and an Ethernet module for Ethernet connection on a remote I/O station.

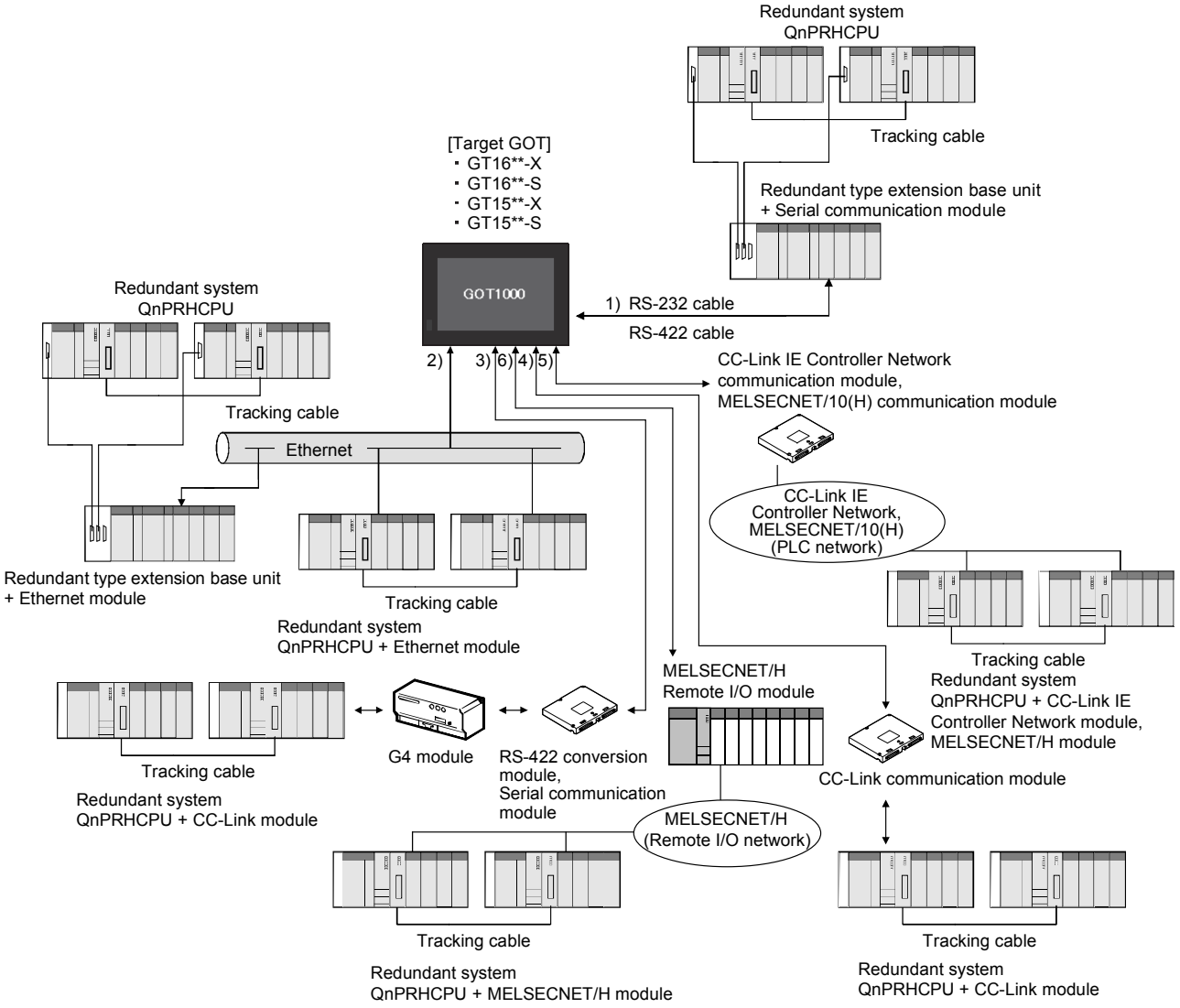
(b) Connecting to the Universal model process CPU (QnUDPVCPU)



No.	Connection type		Host station/ other station	Precautions for connection
1)	Bus connection		Host station	—
2)	Computer link connection		Host station	—
3)	Ethernet connection		Host station	—
4)	CC-Link connection (via G4)		Host station/ other station	Connection of several (five or more as a guideline) intelligent device stations reduces the data communication speed.
5)	CC-Link connection (intelligent device station)		Other station	Connection of several (five or more as a guideline) intelligent device stations reduces the data communication speed.
6)	CC-Link IE Controller Network, MELSECNET/10(H) (PLC network)		Other station	—
7)	MELSECNET/H (Remote I/O network)	CPU direct connection	Other station	GOT monitor uses transient transmission of MELSECNET/H network. Therefore, the object display will be delayed longer than when monitoring PLC CPU directly.
		Computer link connection*1		
		Ethernet connection*1		

*1: Mount a serial communication module for computer link connection, and an Ethernet module for Ethernet connection on a remote I/O station.

(c) Connecting to the Redundant CPU (QnPRHCPU)



No.	Connection type		Host station/ other station	Precautions for connection
1)	Computer link connection		Host station	Connectable only to the serial communication module mounted on the redundant type extension base unit. The Redundant CPU version compatible with the redundant type extension base unit is required.*1 In this case, do not set "Q redundant Setting".*2
2)	Ethernet connection		Host station	Ethernet module function version D or later, compatible with the Redundant CPU, is required. When the Redundant CPU is connected via Ethernet module mounted on the redundant type extension base unit, the Redundant CPU version must be compatible with the Redundant type extension base unit. *1 In this case, do not set "Q redundant Setting"*2
3)	CC-Link connection (via G4)		Host station/ other station	Connection of several (five or more as a guideline) intelligent device stations reduces the data communication speed. Do not set "Q redundant Setting".*2
4)	CC-Link connection (intelligent device station)		Other station	Connection of several (five or more as a guideline) intelligent device stations reduces the data communication speed. Do not set "Q redundant Setting".*2
5)	CC-Link IE Controller Network, MELSECNET/10(H) (PLC network)		Other station	Set “Q redundant setting”, to synchronize the monitor automatically with the control system after being switched, using one unit of GOT.*2
6)	MELSECNET/H (Remote I/O network)	CPU direct connection	Other station	GOT monitor uses transient transmission of MELSECNET/H network. Therefore, the object display will be delayed longer than when monitoring PLC CPU directly. Do not set "Q redundant Setting".*2
		Computer link connection*3		
		Ethernet connection*3		

*1: The Redundant CPU whose first five digits of serial number is 09012 or later is required.

*2: For details, refer to the following manuals.
- GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)
- GOT1000 Series Connection Manual (Mitsubishi Products) for GT Works3

*3: Mount a serial communication module for computer link connection, and an Ethernet module for Ethernet connection on a remote I/O station.

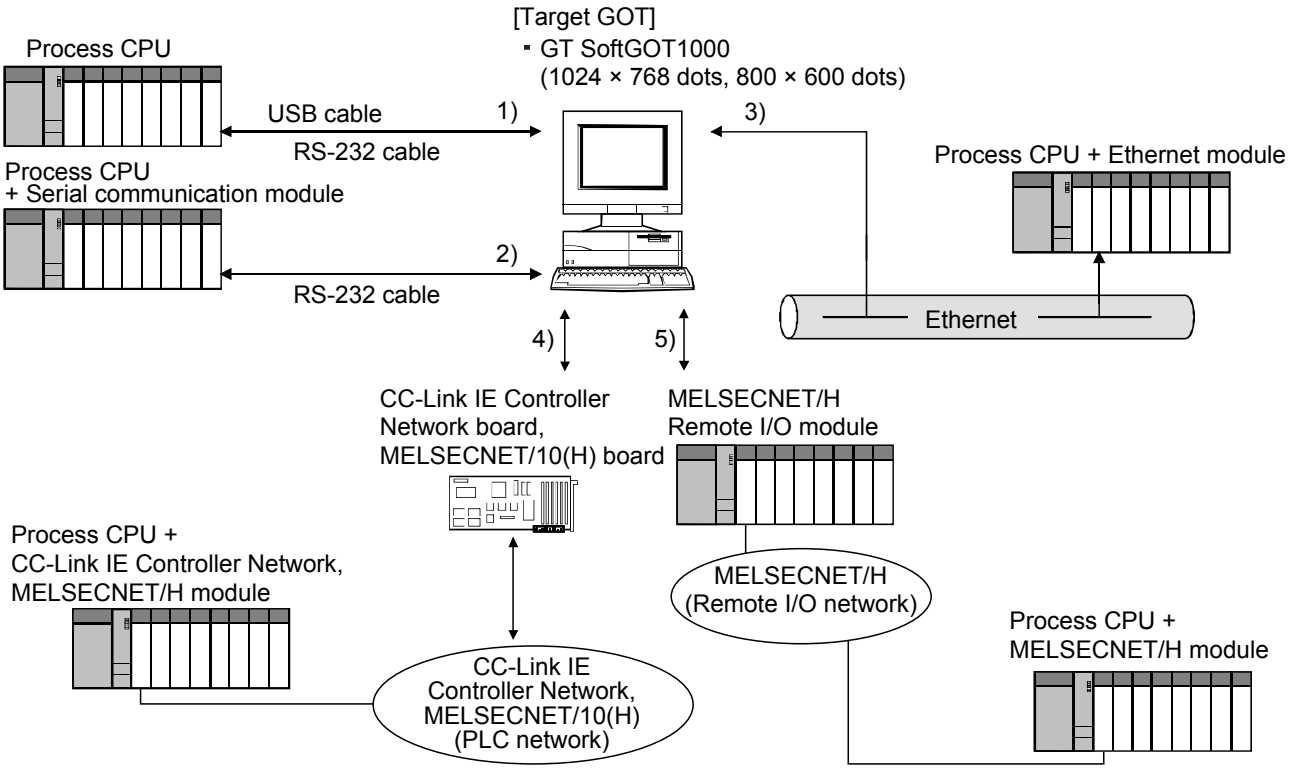
POINT

- When GT16/GT15 is connected to the Redundant CPU on the host station, CPU direct connection with RS-232 cable and RS-422 cable (conversion cable is required.) is possible. To automatically have one GOT follow monitoring of the control system after system switching, make "Q redundant Setting".
  If the system is switched due to power disconnection of the CPU to which GOT is connected, monitoring cannot be continued.

(3) Path where GT SoftGOT1000 is connected to the CPU

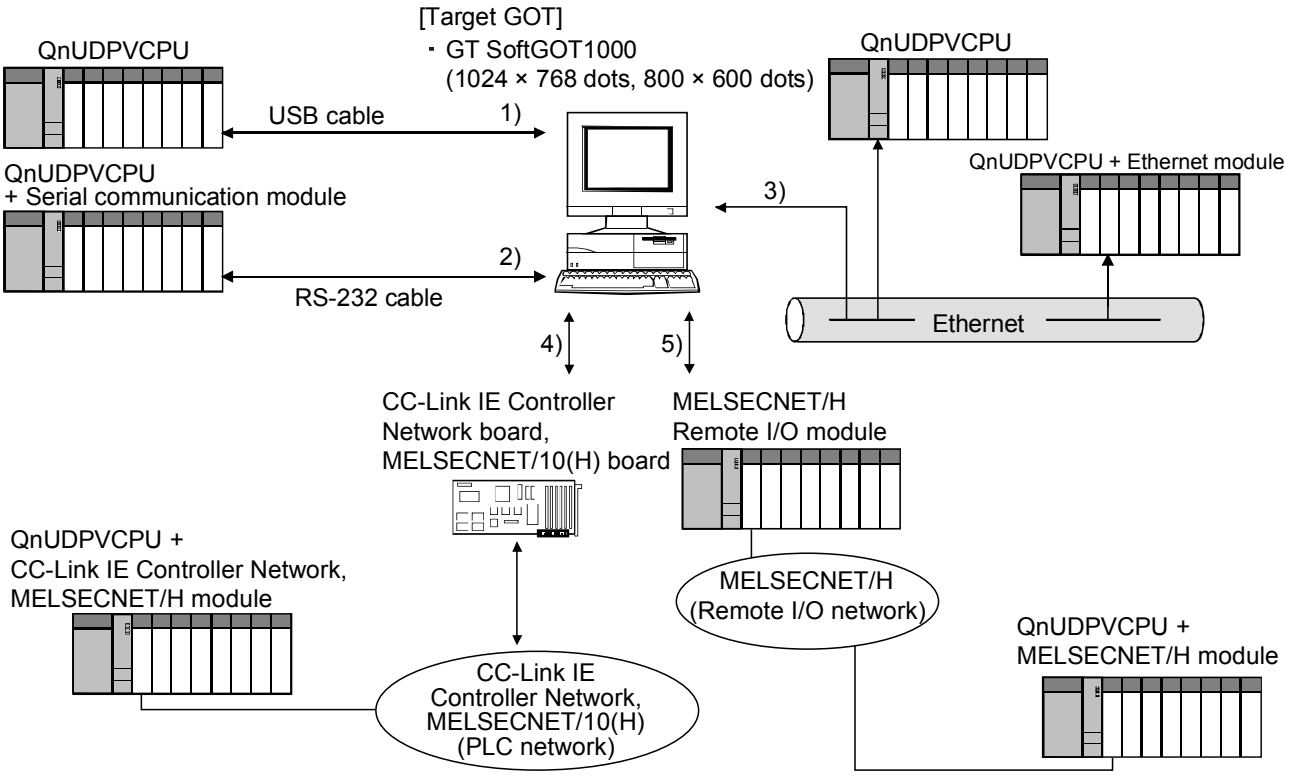
The following shows the connectable path when using the GOT screen project generated by the GOT screen generator function in GT SoftGOT1000.

(a) Connecting to the Process CPU (QnPHCPU)



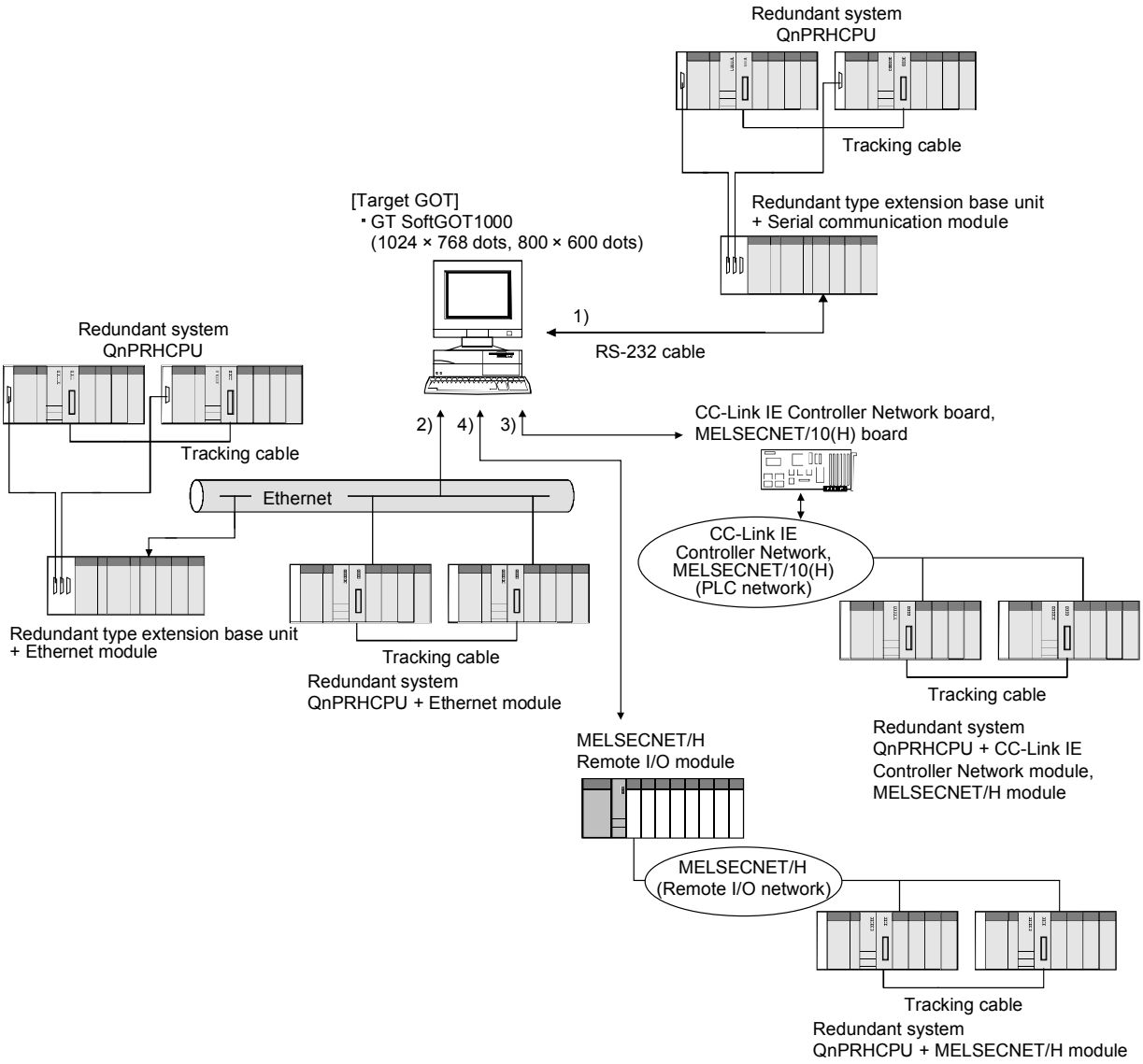
No.	Connection type		Host station/ other station	Precautions for connection
1)	CPU direct connection		Host station	—
2)	Computer link connection		Host station	—
3)	Ethernet connection		Host station	—
4)	CC-Link IE Controller Network, MELSECNET/10(H) (PLC network)		Other station	—
5)	MELSECNET/H (Remote I/O network)	CPU direct connection	Other station	GOT monitors using transient transmission. Therefore, object display will be delayed compared when monitoring PLC directly.

(b) Connecting to the Universal model process CPU (QnUDPVCPU)



No.	Connection type		Host station/ other station	Precautions for connection
1)	CPU direct connection		Host station	—
2)	Computer link connection		Host station	—
3)	Ethernet connection		Host station	—
4)	CC-Link IE Controller Network, MELSECNET/10(H) (PLC network)		Other station	—
5)	MELSECNET/H (Remote I/O network)	CPU direct connection	Other station	GOT monitor uses transient transmission of MELSECNET/H network. Therefore, object display will be delayed compared when monitoring PLC CPU directly.

(c) Connecting to the Redundant CPU (QnPRHCPU)



No.	Connection type		Host station/ other station	Precautions for connection
1)	Computer link connection		Host station	Connectable only to the serial communication module mounted on the redundant type extension base unit. The Redundant CPU version compatible with the redundant type extension base unit is required. *1 In this case, do not set "Q redundant Setting".*2
2)	Ethernet connection		Host station	Ethernet module function version D or later, compatible with the Redundant CPU, is required. When the Redundant CPU is connected via Ethernet module mounted on the redundant type extension base unit, the Redundant CPU version must be compatible with the Redundant type extension base unit. *1 In this case, do not set "Q redundant Setting".*2
3)	CC-Link IE Controller Network, MELSECNET/10(H) (PLC network)		Other station	Set “Q redundant setting”, to synchronize the monitor automatically with the control system after being switched, using a single GOT.*2
4)	MELSECNET/H (Remote I/O network)	CPU direct connection	Other station	GOT monitors using transient transmission of MELSECNET/H network. Therefore, object display will be delayed compared when monitoring PLC CPU directly. Do not set Q Redundant Setting.*2

*1: The Redundant CPU whose first five digits of serial number is 09012 or later is required.

*2: For details, refer to the following manuals.

- GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)
- GOT1000 Series Connection Manual (Mitsubishi Products) for GT Works3

POINT

- When GT SoftGOT1000 is connected to the Redundant CPU on the host station, CPU direct connection with RS-232 cable and USB cable is possible.
  To automatically have one GOT follow monitoring of the control system after system switching, make "Q redundant Setting".
  If the system is switched due to power disconnection of the CPU to which GOT is connected, monitoring cannot be continued.

2.2 System Equipment

(1) Supported CPU

Series	Module type	Model name
MELSEC iQ-R	Process CPU	R08PCPU, R16PCPU, R32PCPU, R120PCPU
	SIL2 process CPU	R08PSFCPU, R16PSFCPU, R32PSFCPU, R120PSFCPU
MELSEC-Q	Process CPU	Q02PHCPU, Q06PHCPU, Q12PHCPU, Q25PHCPU
	Universal model process CPU	Q04UDPVCPU, Q06UDPVCPU, Q13UDPVCPU, Q26UDPVCPU
	Redundant CPU	Q12PRHCPU, Q25PRHCPU

(2) Supported GOT

(a)For CPU modules the PLC type of which is MELSEC iQ-R series

Product	GOT model	Generic term
GT27	GT2715-XTBA, GT2715-XTBD	GT27**-X
	GT2712-STBA, GT2712-STBD GT2712-STWA, GT2712-STWD GT2710-STBA, GT2710-STBD GT2708-STBA, GT2708-STBD	GT27**-S

(b)For CPU modules the PLC type of which is MELSEC Q series

Product	GOT model	Generic term
GT16	GT1695M-XTBA, GT1695M-XTBD	GT16**-X
	GT1685M-STBA, GT1685M-STBD, GT1675M-STBA, GT1675M-STBD, GT1665M-STBA, GT1665M-STBD	GT16**-S
GT15*1	GT1595-XTBA, GT1595-XTBD	GT15**-X
	GT1585V-STBA, GT1585V-STBD, GT1585-STBA, GT1585-STBD, GT1575V-STBA, GT1575V-STBD, GT1575-STBA, GT1575-STBD	GT15**-S
GT SoftGOT1000	GT SoftGOT1000 (The screen sizes are 1024 × 768 dots and 800 × 600 dots only.)	—

*1: Since a GOT screen project generated by the GOT screen generator function uses object script, mounting option function board or option function board with add-on memory is required. However, the option function board (GT15-FNB) is incorporated to GT15 of function version D or later.
For details, refer to "GT Designer2 Version 2 Basic Operation/Data Transfer Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Fundamentals)".

POINT

- For using GOT2000 when connecting with a MELSEC-Q series CPU module, refer to Appendix 2.3.
- When using GT16 or GT15, the option function "Object Script" must be installed to GOT since a GOT screen project generated uses object script.
- Since the trend graph or historical trend graph (used for the trend graph of loop tag) uses the GOT logging function, the option function "Logging" must be installed to GOT.
- If a size of the generated screen data is large and therefore the total data capacity stored to the user area exceeds the standard memory capacity of GOT, mount CF card and option function board with add-on memory*1.
- To save logging data or alarm data using GT16 or GT15, CF card is required.

*1: Option function board with add-on memory is required only for GT15.

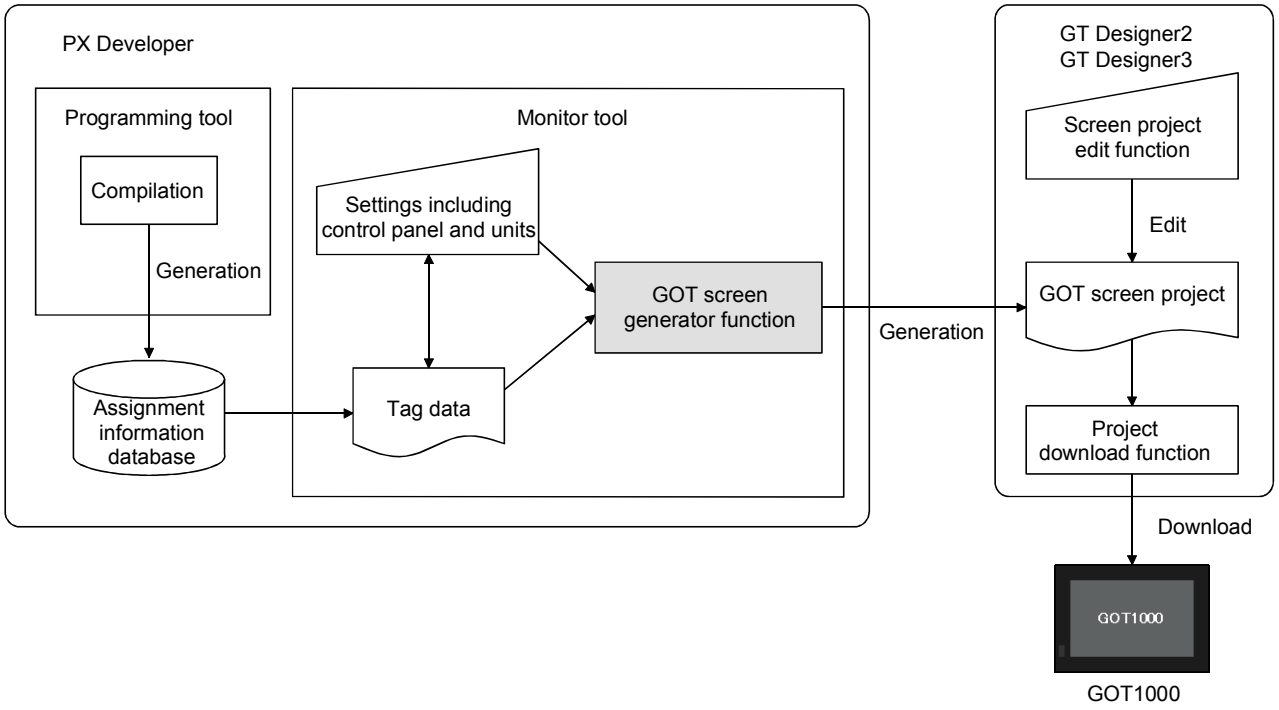
MEMO

2-16

3 FUNCTION OVERVIEW

3.1 Function Overview

The following figure shows a flow from generating a GOT screen project from data created with PX Developer to downloading the GOT screen project to GOT1000.
The GOT screen generator function generates a GOT screen project based on settings including tag data, control panel, and units created with PX Developer.
Edit the generated GOT screen project on GT Designer2 or GT Designer3 and download the edited project to GOT1000.



3.2 Specifications of the Generated Screen

The following table shows specifications of the generated screen generated by the GOT screen generator function.

Item	Specifications
Generated screen size	XGA : 1024 × 768 dots SVGA : 800 × 600 dots
Generated screen type	(1) Faceplate (2) Control panel XGA : 8 faceplates/screen SVGA : 6 faceplates/screen (3) Detailed screen (tuning screen*1, tag setting screen) (4) Trend graph screen (5) Alarm list screen
Corresponding tag type	Loop tag, status tag, alarm tag, and message tag except PGS (For details, refer to [Types of the tag that can be generated].)
Number of tags	Maximum 240 tags are generable.*2

*1: One second is set for tuning trend cycle.

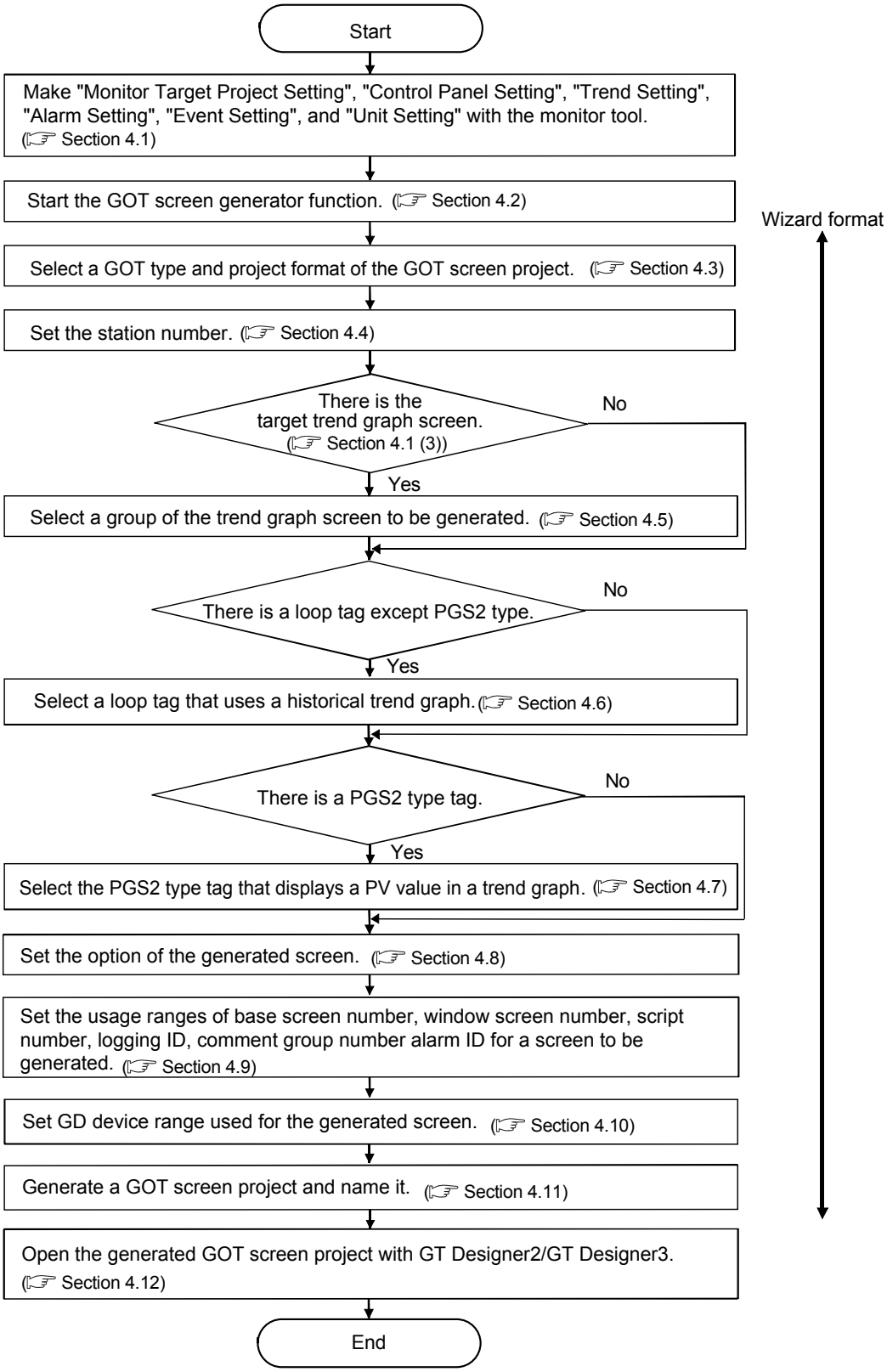
*2: Tags whose number is from 1 to 240 in PX Developer project are target.

[Types of the tag that can be generated]

Classification	Tag type	Name	Reference
Loop tag	PID	PID control	Chapter 6
	2PID	2-degree-of-freedom PID control	
	2PIDH	2-degree-of-freedom advanced PID control	
	PIDP	Position type PID control	
	SPI	Sample PI control	
	IPD	I-PD control	
	BPI	Blend PI control	
	R	Ratio control	
	ONF2	2 position ON/OFF control	
	ONF3	3 position ON/OFF control	
	PFC_SF	Predictive functional control (simple first order lag)	
	PFC_SS	Predictive functional control (simple second order lag)	
	PFC_INT	Predictive functional control (integral process)	
	PGS2	Multi-point program setter	Chapter 7
	MOUT	Manual output	Chapter 6
	MONI	Monitor	
	SWM	Manual setter with monitor	
	MWM	Manual output with monitor	
	SEL	Loop selector	
	BC	Batch counter	
	PSUM	Pulse integrator	
	PVAL	Position proportional output	
	HTCL	Heating and cooling output	
Status tag	NREV	Motor irreversible control	Chapter 8
	REV	Motor reversible control	
	MVAL1	ON/OFF control 1 (without intermediate value)	
	MVAL2	ON/OFF control 2 (with intermediate value)	
	PB	Push button operation	
	TIMER1	Timer 1 (Timer stops when COMPLETE flag is on.)	
	TIMER2	Timer 2 (Timer continues when COMPLETE flag is on.)	
	COUNT1	Counter 1 (Counter stops when COMPLETE flag is on.)	
	COUNT2	Counter 2 (Counter continues when COMPLETE flag is on.)	
Alarm tag	ALM	Alarm	Chapter 9
	ALM_64PT	64-points alarm	
Message tag	MSG	Message	
	MSG_64PT	64-points message	

4 GENERATION PROCEDURES OF GOT SCREEN PROJECT

This chapter explains procedures for generating a GOT screen project.
A GOT screen project is generated in wizard format.



4-1

POINT

- Install the option function, "Object Script" to GOT.
- When selecting "Select the loop tags whose screen uses Historical Trend Graph" (☞ Section 4.6), install the option function, "Logging" to GOT.
- If any of the following changes has been made, generate a GOT screen project by the GOT screen generator function again.
  (1) Tag assignment has been changed.
  (2) A new tag has been added.
  (3) A group has been added to/deleted from the control panel screen or the trend graph screen.

4.1 Setting the Monitor Tool

This section explains necessary settings of the monitor tool to generate a GOT screen before starting the GOT screen generator function.

Item	Description
Monitor Target Project Setting	Set a PX Developer project monitored/controlled on a GOT screen project.
Control Panel Setting	Set a position of a faceplate on the control panel screen to be generated per group.
Trend Setting	Set trend items and sampling period displayed on the trend graph screen to be generated per group.
Alarm Setting	Set alarm contents assigned to alarm tags. The set character strings are displayed on the alarm list screen and a faceplate of the alarm tag.
Event Setting	Set message contents assigned to message tags. The set character strings are displayed on the faceplate of the message tag.
Unit Setting	Set unit names used for display of tag data items and trend items.

Description on each item is as follows:

(1) Monitor Target Project Setting

Set only one monitor target project for GOT screen generator function.
If multiple projects have been specified, a message appears at startup. Select one monitor target project from the selection dialog box.

(2) Control Panel Setting

One base screen for GOT screen project is generated per group set in the Control Panel Setting.
If there is no setting for generation[*1], the control panel screen is not generated.
The relation between setting items of the monitor tool and a GOT screen project are as shown below.
For setting methods of the control panel, refer to "PX Developer Version 1 Operating Manual (Monitor Tool)."

*1: When only faceplate 7 and 8 are set to the generation target, and the screen size of 800 × 600 dots are selected, the blank control panel, in which only group name is set, will be generated.

Monitor tool setting item	Reflection to a GOT screen project	Remarks
Group	In the range of group 1 to 1000, the lower group number to maximum of 50 screens of the control panel groups, whose faceplate is set to the specified project, are reflected.	In the monitor tool, from Group 1 to Group 1000 can be set.
Group Name	This item is reflected to the title for the corresponding screen and the upper title in the screen. (☞ Section 5.3)	—
Faceplate	SVGA: Up to Faceplate 6 are reflected (Faceplate 7 and Faceplate 8 are ignored). XGA: Up to Faceplate 8 are reflected. When the following settings are set, a faceplate is not generated and the position where the faceplate is intended to be set will be blank. • Tag type that does not support generation • Incorrect tag name • The tag which does not exist in the target project for GOT screen generator function. • Tag No.241 or later Since the same faceplates are not positioned on the control panels in the same group, when multiple faceplates of the same tag are set to the same group, the set positions for faceplates except the first one will be blank.	In the monitor tool, up to Faceplate 8 can be reflected per group.

(3) Trend Setting

One logging setting and one base screen of GOT screen project are generated per group in the Trend Setting. However, due to restrictions on the number of settable loggings of GOT, they can be generated up to 32 groups.
Select the target trend setting for generation in the wizard. If there is no trend setting for generation*1, the trend graph screen is not generated.

*1: The trend graph screen is not generated for the following trend graph groups.

- Only a group name has been set.
- No trend items which are to be screen generation target exist on Graph No.1 to Graph No.8.

Monitor tool setting item	Reflection to a GOT screen project	Remarks
Group	The groups selected in the wizard can be reflected. (The maximum number of trend graph screens is 32.)	In the monitor tool, from Group 1 to Group 125 can be set.
Group Name	This item is reflected to the title for the corresponding screen and the upper title in the screen. (☞ Section 5.3)	—
Sampling Period	Selected period is reflected to the collection period of GOT logging setting.	—
Automatic CSV File Export	This item is not reflected.	—
Graph No. 1 to 8	The setting data are reflected as devices to be collected by GOT logging setting. The Y-axis scale top/bottom limit settings are also reflected to the settings of the historical trend graph. The trend items which are to be screen generation target are the following data of monitor target project. • Tag data item of REAL type • In monitor variable of REAL type, D/W/ZR device, global variable which specifies D/W/ZR to assigned device, and global variable which does not specify to an assigned device.	—

(4) Alarm Setting

If Alarm Setting is not made, alarm tags on the faceplate and on the alarm list appear blank.

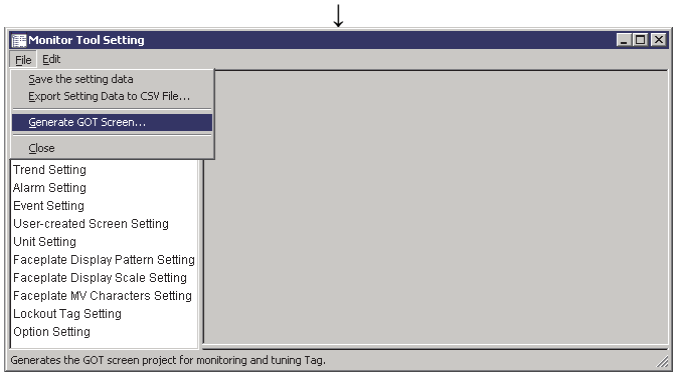
(5) Event Setting

If Event Setting is not made, a message tag on the faceplate appears blank.

(6) Unit Setting

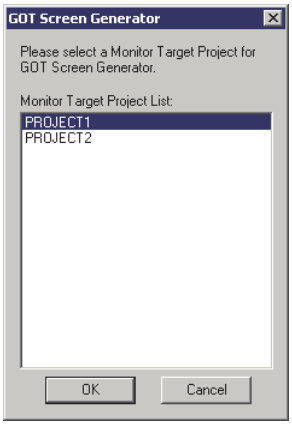
If Unit Setting is not made, a screen object (comment display) is generated at the position where a unit is to be displayed; however, the field appears blank.
For setting methods of the Unit Setting, refer to " PX Developer Version 1 Operating Manual (Monitor Tool)".

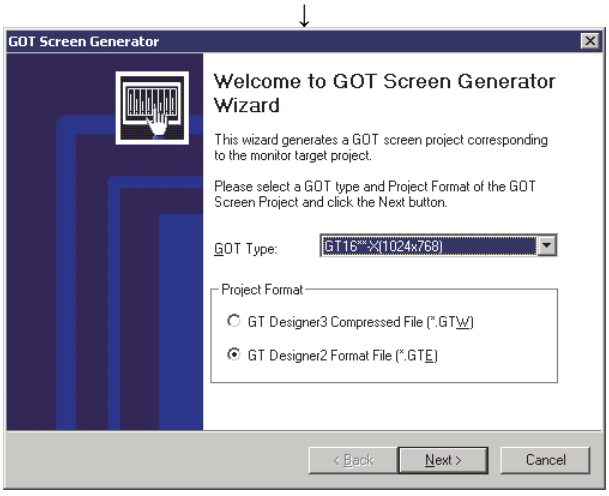
4.2 Starting the GOT Screen Generator Function



1. Click the "setting" button on the monitor toolbar.

2. The "Monitor Tool Setting" screen appears.
3. Select [File] → [Generate GOT Screen…] on the menu.
   When multiple projects are specified for monitor target project, the following screen is displayed.
   Select the target project of GOT screen generator function.





4. The GOT Screen Generator wizard appears.

4.3 Selecting GOT Type/Project Format

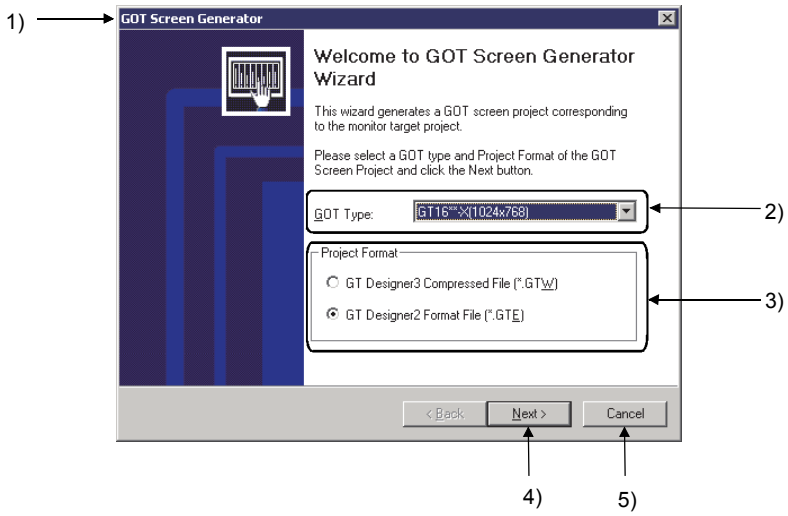
PURPOSE

Select a GOT type and project format of a GOT screen project to be generated.

BASIC OPERATION

1. Select a GOT type from the list box.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description
1)	Title bar	Displays the screen title "GOT Screen Generator".
2)	GOT Type	Select a GOT type of a GOT screen project to be generated.
3)	Project Format	Displays the format of a file to save a GOT screen project. For CPUs the PLC type of which is a process CPU or redundant CPU, select a project format.
4)	"Next" button	Displays the next window.
5)	"Cancel" button	Cancels the setting and closes the window.

(1) GOT type

Select a GOT type to use.

PLC Type	Display order	Display item	Remarks
RnPCPU RnPSFCPU	1	GT27**-X (1024 × 768 dots)	Default
	2	GT27**-S (800 × 600 dots)	—
QnPHCPU QnPRHCPU QnUDPVCPU	1	GT16**-X (1024 × 768 dots)	Default
	2	GT16**-S (800 × 600 dots)	—
	3	GT15**-X (1024 × 768 dots)	—
	4	GT15**-S (800 × 600 dots)	—
	5	GT SoftGOT1000 (1024 × 768 dots)	—
	6	GT SoftGOT1000 (800 × 600 dots)	—

POINT

- Select a GOT type of desired size for actual use. The GOT type of a generated GOT screen project can be changed with GT Designer2 or GT Designer3, but the resolution cannot be changed.
  GT Designer2: The size, layout, and resolution of a generated screen are not changed.
  GT Designer3: Automatic scaling for the position or size of figures and objects in a generated screen can be specified, but changing the resolution is not supported.
- For using GOT2000 when connecting with a MELSEC-Q series CPU module, refer to Appendix 2.3.

(2) Project format

PLC Type	Display item	Remarks
RnPCPU RnPSFCPU	GT Designer3 Compressed File (*.GTCNV)	GOT2000 series
QnUDPVCPU	GT Designer3 Compressed File (*.GTW)	GOT1000 series
QnPHCPU	GT Designer3 Compressed File (*.GTW)	
QnPRHCPU	GT Designer2 Format File (*.GTE)	

POINT

- GT Designer3 compressed file cannot be edited with GT Designer2.
- A project of GT Designer3 compressed file cannot be saved as GT Designer2 format file with GT Designer3.
- If a file in GT Designer3 compressed file format (*.GTCNV) is opened and saved with GT Designer3, it is saved as a file with the extension '.GTX'.

4.4 Set the station number

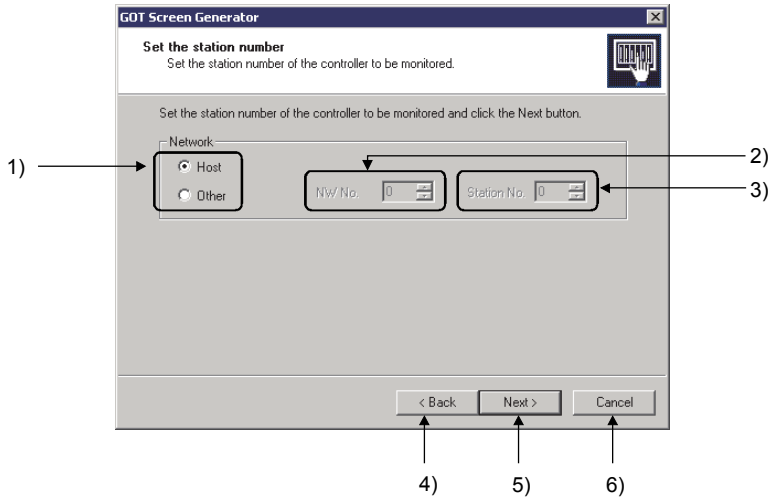
PURPOSE

Set a station number of a connected device to be monitored.

BASIC OPERATION

1. Input setting values to each item.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description	Input restrictions	Default
1)	Target station to be monitored	Set the target station of the controller to be monitored.	–	Host
2)	NW No.	Set the network number of the controller to be monitored.	0 to 239	0
3)	Station No.	Set the station number of the controller to be monitored.	QnPHCPU, QnPRHCPU: 0 to 64 Other than above: 0 to 120	0
4)	"Back" button	Displays the previous window.		
5)	"Next" button	Displays the next window.		
6)	"Cancel" button	Cancels the settings and closes the window.		

POINT

For the specifying method of the station numbers, refer to the following manuals.
GOT2000 Series Connection Manual (Mitsubishi Electric Products) For GT Works3 Version1
GOT1000 Series Connection Manual (Mitsubishi Electric Products) for GT Works3

4.5 Select the generated trend graph screen

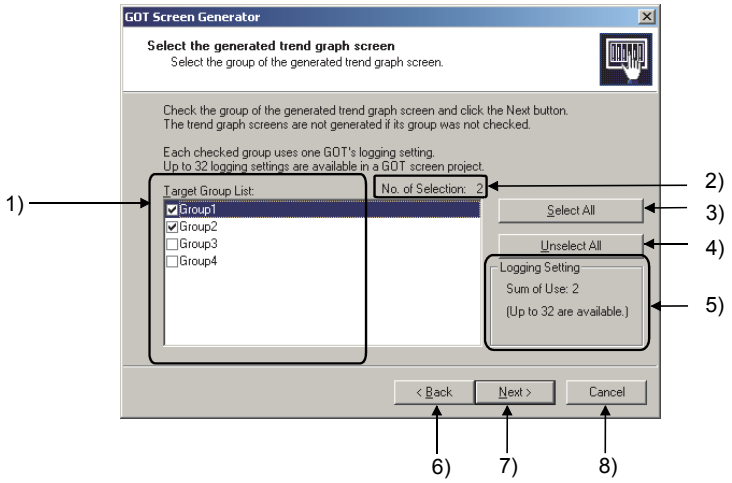
PURPOSE

Select a group of a trend graph screen to be generated.

BASIC OPERATION

1. Check a group of trend graph screen to be generated.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description
1)	Target Group List	Displays a list of groups including generable trend graph screens. Check the target group for generation of the trend graph screen. Checking one group can use one logging setting. The trend graph screens for deselected groups are not generated.
2)	No. of Selection	Displays the number of groups selected in the Target Group List.
3)	"Select All" button	Checks all groups in the Target Group List.
4)	"Unselect All" button	Deselects all groups selected in the Target Group List.
5)	Logging Setting	Displays the maximum number of usable logging settings and the total number of logging settings used for a GOT screen project to be generated.
6)	"Back" button	Displays the previous window.
7)	"Next" button	Displays the next window.
8)	"Cancel" button	Cancels the settings and closes the window.

POINT

- Use one logging setting when generating a trend graph as a graph of the tuning screen. The number of settable loggings per project for GT Designer2 and GT Designer3 is 32.
  For details of the trend graph and logging function, refer to the following manuals.
  (1) GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)
  (2) GT Designer3 Version 1 Screen Design Manual (Functions)
- Multiple groups can be selected by the following operations.
  (1) To select contiguous group names, click the first item, click the last item while pressing the Shift key, and then check them.
  (2) To select separate multiple group names, click each item while pressing the Ctrl key, and then check them.
- "Sum of Use" in "Logging Setting" displays the total of the number of logging settings used in this wizard screen and the next wizard screen, "Select the loop tags whose screen uses Historical Trend Graph".
- In the Trend Setting of the monitor tool, trend pens corresponding to the following are not displayed on the trend graph screen to be generated.
  (1) Trend pen that cannot be used in the Trend Setting of the monitor tool
  (2) Trend pen that does not exist in the set monitor target project
  (3) Trend pen for a tag of tag number 121 or later that cannot be a target for generation.
  (4) Trend pen whose data type is except REAL
- The groups for which no trend pens are registered or the groups that all registered trend pens cannot be displayed in "Trend Setting" of the monitor tool are not displayed on the "Target Group List".
- If settings for generable trend graph screen are not made in "Trend Setting" of the monitor tool, this window is not displayed.

4.6 Select the loop tags whose screen uses Historical Trend Graph

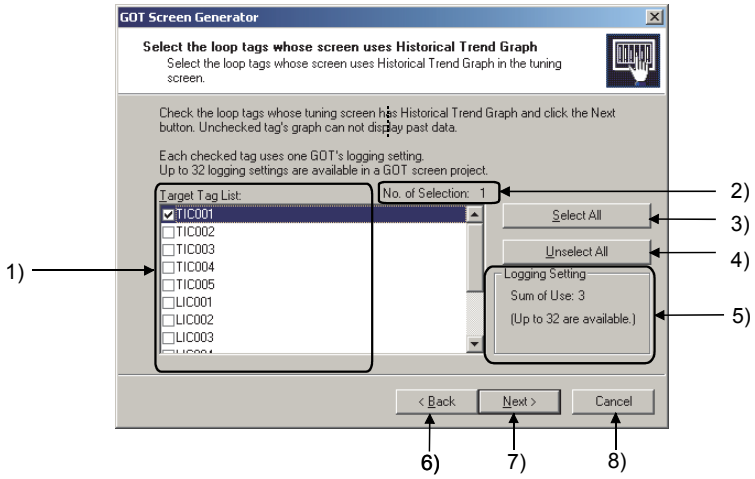
PURPOSE

Select a loop tag that uses the historical trend graph as a graph of the tuning screen.

BASIC OPERATION

1. Check the loop tag that uses the historical trend graph.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description
1)	Target Tag List	Displays a list of generable loop tags except PGS2 (☞ Section 3.2). Check the loop tag that uses a historical trend graph. Checking one loop tag can use one logging setting. Past data of the graphs for deselected tags are not displayed.
2)	No. of Selection	Displays the number of tags selected in the Target Tag List.
3)	"Select All" button	Checks all tags in the Target Tag List.
4)	"Unselect All" button	Deselects all tags selected in the Target Tag List.
5)	Logging Setting	Displays the maximum number of usable logging settings and the total number of logging settings used for a GOT screen project to be generated.
6)	"Back" button	Displays the previous window.
7)	"Next" button	Displays the next window.
8)	"Cancel" button	Cancels the settings and closes the window.

POINT

- A trend graph[*1] or historical trend graph[*1] is generated as a graph of the tuning screen, depending on the selection status of the "Target Tag List". (☞ Section 5.2.1)
- Use one logging setting when generating a historical trend graph as a graph of the tuning screen. The number of settable loggings per project for GT Designer2 and GT Designer3 is 32.
  For details of the historical trend graph and logging function, refer to the following manuals.
  (1) GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)
  (2) GT Designer3 Version 1 Screen Design Manual (Functions)
- Multiple tags can be selected by the following operations.
  (1) To select contiguous tag names, click the first item, click the last item while pressing the Shift key, and then check them.
  (2) To select separate multiple tag names, click each item while pressing the Ctrl key, and then check them.
- "Sum of Use" in "Logging Setting" displays the total of the number of logging settings used in this wizard screen and the previous wizard screen, "Select the generated trend graph screen".
- If there are no target tags, this window is not displayed.

*1: Indicates an object for GOT.

4.7 Select the PGS2 tags whose screen displays Trend Graph of PV

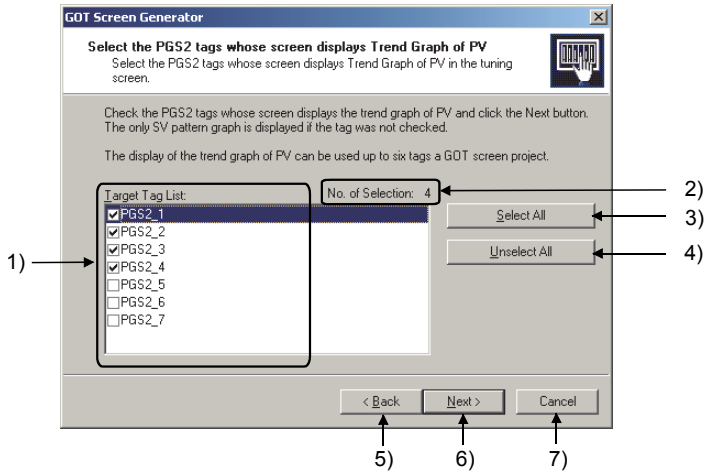
PURPOSE

Select the PGS2 type tag that displays a PV value in trend graph in a graph of the turning screen.

BASIC OPERATION

1. Check a PGS2 type tag that displays a PV value in trend graph.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description
1)	Target Tag List	Displays a list of PGS2 type tags. Check the PGS2 type tag that displays a PV value in trend graph. For deselected tags, only SV pattern graphs are displayed.
2)	No. of Selection	Displays the number of tags selected in the Target Tag List.
3)	"Select All" button	Checks all tags in the Target Tag List.
4)	"Unselect All" button	Deselects all tags selected in the Target Tag List.
5)	"Back" button	Displays the previous window.
6)	"Next" button	Displays the next window.
7)	"Cancel" button	Cancels the settings and closes the window.

POINT

- For differences of graphs depending on selection status on the Target Tag List, refer to Section 5.2.2.
- Since data collection/processing are required in the background after screen switching, scripts are assigned to each base screen. (☞ Section 7.5)
- To maintain communication performance and reduce a load, the number of settable tags for the graph that displays a PV value in trend graph is maximum 6.
- Multiple tags can be selected by the following operations.
  (1) To select contiguous tag names, click the first item, click the last item while pressing the Shift key, and then check them.
  (2) To select separate multiple tag names, click each item while pressing the Ctrl key, and then check them.
- If there are no target tags, this window is not displayed.

4.8 Option setting

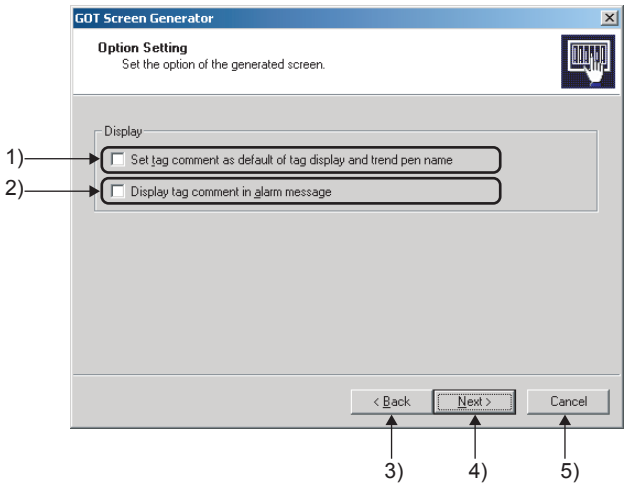
PURPOSE

Set the option of the generated screen.

BASIC OPERATION

1. Check each item when necessary.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description	Default
1)	"Set tag comment as default of tag display and trend pen name" checkbox	Select whether to set tag comment as the default of tag display and trend pen name. Sets tag name when this item is not checked, and sets tag comment when this item is checked.	Not checked
2)	"Display tag comment in alarm message" checkbox	Select whether to display tag comment in the alarm message displayed on the alarm list screen and the popup alarm. Sets tag name when this item is not checked, and sets tag comment when this item is checked.	Not checked
3)	"Back" button	Displays the previous window.	
4)	"Next" button	Displays the next window.	
5)	"Cancel" button	Cancels the settings and closes the window.	

4.9 Set the resource ranges of GOT which the generated screen uses (1)

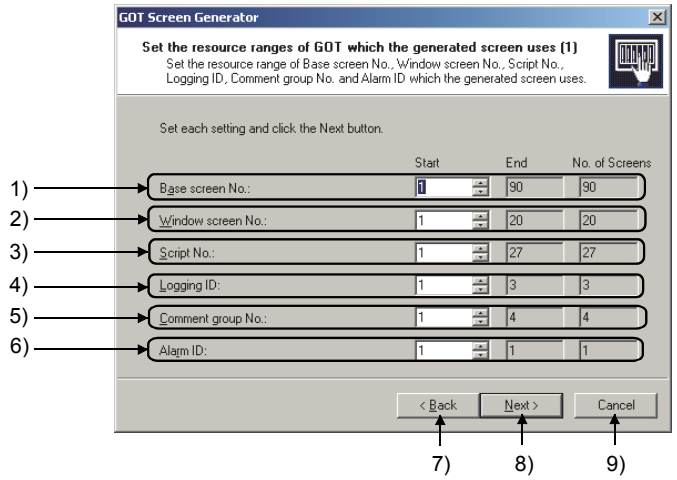
PURPOSE

Set ranges of the base screen number, window screen number, script number, logging ID, comment group number, and alarm ID used for generated screen.

BASIC OPERATION

1. Input setting values to each item.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description	Input restrictions		Default	
			GOT1000	GOT2000	Start	End*1
1)	Base screen No.	Set a start number of the base screen.	1 to 32767	1 to 32767	1	Start + No. of Screens - 1
2)	Window screen No.	Set a start number of the window screen.				
3)	Script No.	Set a start number of the script.				
4)	Logging ID	Set a start number of the logging ID.				
5)	Comment group No.	Set a comment group number.	1 to 255	1 to 500	1	Start + 3
6)	Alarm ID	Set an alarm ID used for generated screen.	1 to 32767	1 to 32767	1	1
7)	"Back" button	Displays the previous window.				
8)	"Next" button	Displays the next window.				
9)	"Cancel" button	Cancels the settings and closes the window.				

*1: The number set at "End" is automatically calculated using the number at "No. of Screens" determined by the number of tags.

POINT

- For a screen, script, logging, and comment group added after generation, set the numbers that are not overlapped with those in the project.
- When "No. of Screens" for "Logging ID" is 0, setting the ID is unnecessary. Each item of the Logging ID cannot be selected (displayed in gray).

4.10 Set the resource ranges of GOT which the generated screen uses (2)

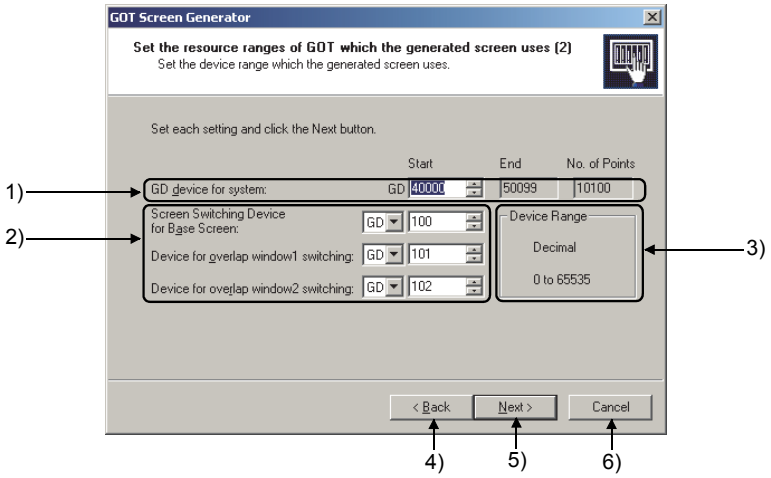
PURPOSE

Set a device range used for generated screen.

BASIC OPERATION

1. Input setting values to each item.
2. Click the "Next" button.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description	Input restrictions	Default
1)	GD device for system	Set a GD device range for system use.	0 to 65535	Start: 40000 End*1: Start + No. of Points - 1
2)	Screen switching device	Set a switching device for each screen. When changing the device type, the display format of the device number (decimal, hexadecimal) is automatically changed. When the device number exceeds the usable range after changing the device to different type or changing the start device number, set the maximum value of the usable range.	7 characters	Screen Switching Device for Base Screen: GD 100 Device for overlap window1 switching: GD 101 Device for overlap window2 switching: GD 102

*1: The number set at "End" is automatically calculated using the number of points determined by such as tag type.

No.	Item	Description	Input restrictions	Default
3)	Device Range	Displays the usable range of selected device.		
4)	"Back" button	Displays the previous window.		
5)	"Next" button	Displays the next window.		
6)	"Cancel" button	Cancels the settings and closes the window.		

POINT

- Do not use GD devices for system for another application.
- GD devices for system are reserved sequentially in order from set start number, for common to system, and for each tag (☞ Section 5.4 (3)).
- If the number of trend graph screens to be generated or the number of PGS2 type tags that displays a PV value in trend graph is many, the number of devices points of GD device for system exceeds its maximum (65535 points). Therefore, GOT screen project may not be generated.
  In this case, take measures such as reduction of the number of trend graph screens to be generated and the number of PGS2 type tags that displays a PV value in trend graph.

(1) Device range

The usable device types and expression formats are as follows:

PLC Type	D(Decimal)	W(Hexadecimal)	ZR(Decimal)	GD(Decimal)
QnPHCPU, QnPRHCPU	0 to 32767	0 to 7FFF	0 to 1042431	0 to 65535
Q04UDPVCPU	0 to 4365311	0 to 429BFF	0 to 4325375	
Q06UDPVCPU	0 to 4627455	0 to 469BFF	0 to 4587519	
Q13UDPVCPU	0 to 4779007	0 to 48EBFF	0 to 4718591	
Q26UDPVCPU	0 to 4910079	0 to 4AEBFF	0 to 4849663	
R08P	0 to 4801023	0 to 4941FF	0 to 4751359	
R16P	0 to 5073407	0 to 4D69FF	0 to 5013503	
R32P	0 to 5378559	0 to 5211FF	0 to 5308415	
R120P	0 to 5923327	0 to 5A61FF	0 to 5832703	
R08PSF	0 to 4794879	0 to 4929FF	0 to 4751359	
R16PSF	0 to 5067263	0 to 4D51FF	0 to 5013503	
R32PSF	0 to 5372415	0 to 51F9FF	0 to 5308415	
R120PSF	0 to 5917183	0 to 5A49FF	0 to 5832703	

POINT

- When using a D, W, or ZR device, set parameters of a CPU module so that a device with a set number can be used.
- When using a ZR device, set it not to overlap with the range of a device in the system resource setting of a programming tool.

4.11 Set Project Name

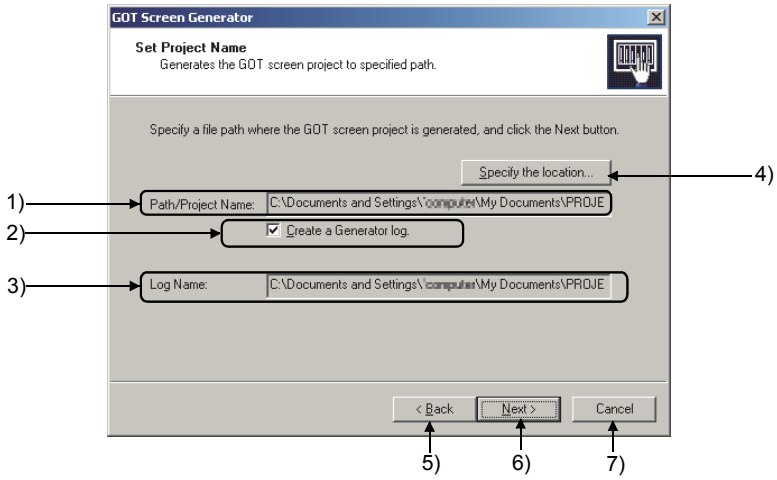
PURPOSE

Generate a GOT screen project with a name at the specified position.

BASIC OPERATION

1. Set "Path/Project Name" for a GOT screen project to be generated.
2. Click the "Next" button.
3. A dialog box informing progress appears.

DISPLAY/SETTING SCREEN

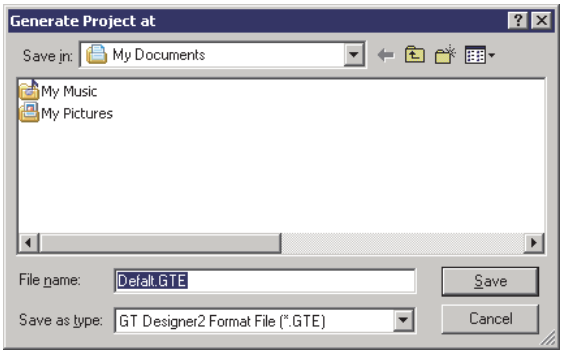


DISPLAY/SETTING DATA

No.	Item	Description	Default
1)	Path/Project Name	Displays a path and a name of a GOT screen project to be generated.	Path: My Documents*1 Project name: PX Developer project name*2
2)	"Create a Generator log." checkbox	Set whether to create a log file. When checked, a log file is created by the path and file name set at "Log Name". (☞ (1) in this section)	Checked
3)	Log Name	Displays a path and a name of the created log file when the checkbox 2) is checked.	—

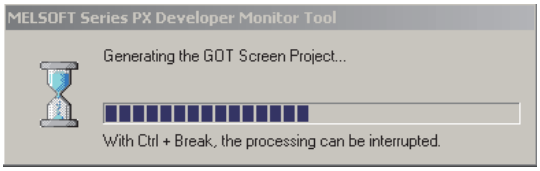
*1: From the second setting, a path specified in the previous setting is set. (If a path was not specified in the previous setting, "My Documents" is set.)

*2: An extension in accordance with the project format is displayed.

No.	Item	Description	Default
4)	"Specify the location…" button	Displays a dialog box to set a position where a GOT screen project is to be generated.  If inputting/selecting a file name with extension other than the specified project format, the file cannot be saved. The path and name specified at the dialog box is displayed at 1).	—
5)	"Back" button	Displays the previous window.	
6)	"Next" button	Displays the next window.	
7)	"Cancel" button	Cancels the settings and closes the window.	

POINT

Clicking the "Next" button displays a dialog box informing progress of generation of a GOT screen project.



(1) Generating a log file

When designing a GOT screen project generated by the GOT screen generator function with GT Designer2 or GT Designer3, for a device, screen number, script number, logging ID, comment group number, and alarm ID, set the numbers that are not overlapped with those used in the project.

Before designing the screen, check the use range of GOT resource with log file.

The following shows an output example of the log file.

```
Generator Version: PX Developer Version 1.42U
Date Generated: 12/10/2013 1:45:45 PM
Path/Project Name: C:\Program Files\MELSEC\Fbdq\Default.GTE
GOT type: GT SoftGOT1000 (1024 x 768)
Project format: GT Designer2 Format File(*.GTE)

[Set the station number]
Station number of the controller: Other
NW No.: 1
Station No.: 2

[Set the resource ranges of GOT which the generated screen uses (1)]
Base screen No.: 1 to 90
Window screen No.: 1 to 20
Script No.: 1 to 27
Logging ID: 1 to 3
Comment group No.: 1 to 4
Alarm ID: 1

[Set the resource ranges of GOT which the generated screen uses (2)]
GD device for system: GD40000 to GD50099
Device for base screen switching: GD100
Device for overlap window1 switching: GD101
Device for overlap window2 switching: GD102

[The generated control panel screen]
Group10

[Select the generated trend graph screen]
Group1
Group2

[Select the loop tags whose screen uses Historical Trend Graph]
TIC001

[Select the PGS2 tags whose screen displays Trend Graph of PV]
PGS2_1
PGS2_2

[Option Setting]
Set tag comment as default of tag display and trend pen name: No
Display tag comment in alarm message: No
```

Item	Description
Generator Version	Displays a version of PX Developer that generated a GOT screen project.
Date Generated	Displays time and date when a GOT screen project was generated.
Path/Project Name	Displays a path and project name set in the "Set Project Name" screen (refer to this section).
GOT Type	Displays a GOT type set in the selection screen of GOT type (☞ Section 4.3).
Project Format	Displays a project format which is set in the selection screen of project format (☞ Section 4.3).
Set the station number	Displays the setting content of the station number. (☞ Section 4.4)
Set the resource ranges of GOT which the generated screen uses (1)	Displays a use range of each item set in the "Set the resource ranges of GOT which the generated screen uses (1)" screen (☞ Section 4.9) of the generated screen.
Set the resource ranges of GOT which the generated screen uses (2)	Displays a use range of each item set in the "Set the resource ranges of GOT which the generated screen uses (2)" screen (☞ Section 4.10) of the generated screen.
The generated control panel screen	Displays group names of control panel screen (☞ Section 4.1 (2)) to be generated. If no control panel screens are generated, the item name and group names are also not displayed.
Select the generated trend graph screen	Displays group names checked in "Select the generated trend graph screen" (☞ Section 4.5). If no group names have been checked, only the item name is displayed. If the selection screen is not displayed, the item name and group names are also not displayed.
Select the loop tags whose screen uses Historical Trend Graph	Displays tag names checked in "Select the loop tags whose screen uses Historical Trend Graph" (☞ Section 4.6). If no tag names have been checked, only the item name is displayed. If the selection screen is not displayed, the item name and tag names are also not displayed.
Select the PGS2 tags whose screen displays Trend Graph of PV	Displays tag names checked in "Select the PGS2 tags whose screen displays Trend Graph of PV" (☞ Section 4.7). If no tag names have been checked, only the item name is displayed. If the selection screen is not displayed, the item name and tag names are also not displayed.

4.12 Completing Generation of GOT Screen Project

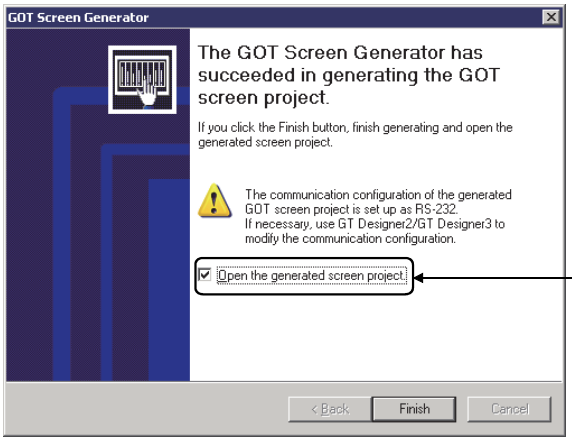
PURPOSE

Complete generation of a GOT screen project.

BASIC OPERATION

1. Click the "Finish" button.
2. Close the GOT Screen Generator wizard.
3. The generated GOT screen project is opened.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description	Default
1)	"Open the generated screen project." checkbox	Starts GT Designer2 or GT Designer3 in accordance with the project format and opens generated GOT screen project when checked.	Checked
2)	"Finish" button	Closes the window and opens the generated GOT screen project when the checkbox 1) is checked.	

POINT

- If not relating GOT screen project with application*1, the GOT screen project is not opened even if checking "Open the generated screen project." checkbox and clicking the "Finish" button.

*1: Double-clicking the file starts the application related to the file. For setting method, refer to Windows Help.

MEMO

4-25

5 CONFIGURATION OF GOT SCREEN PROJECT

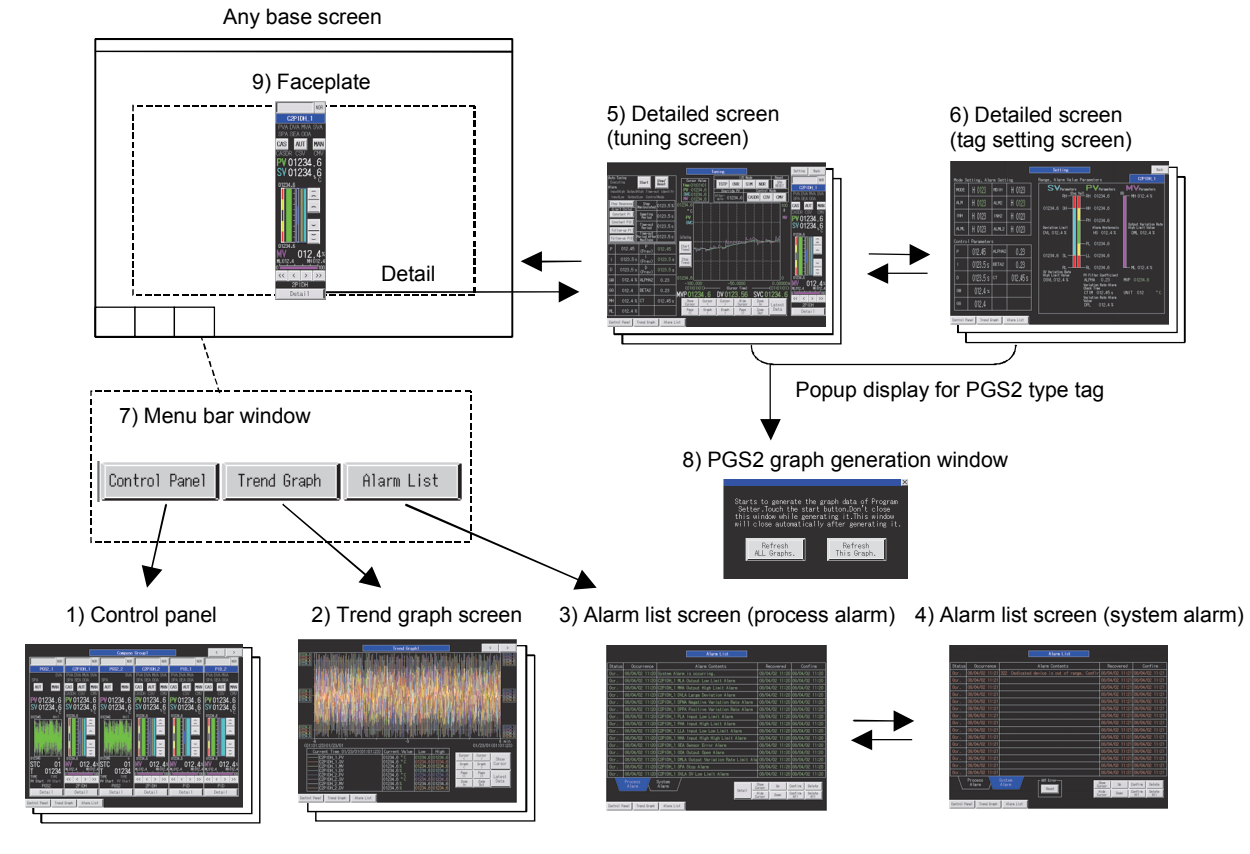
5.1 Generated Screen

There are two types of screens generated by the GOT screen generator function: SVGA (800 × 600 dots) and XGA (1024 × 768 dots).
Depending on tag types, there are two types of detailed screens: screen composed of one tuning screen and one tag setting screen and the screen that integrates the contents into one tuning screen.
This chapter explains using the screen composed of one tuning screen and one tag setting screen as an example.
A faceplate is generated as window screen and placed on the control panel screen or tuning screen.
For details of parts displayed on the screens, refer to Chapter 6 to Chapter 11.
The target tag types are loop tag (except Program setter (PGS)), status tag, alarm tag, and message tag.

(1) Screen configuration

The GOT screen project is generated as GT Designer2 project or GT Designer3 project.
Each screen is generated as a base screen and window screen in a project.

[Configuration of generated screens]



	No.	Item	Description
Base screen	1)	Control panel	Generated based on the Control Panel setting of the monitor tool (the target group is from 1 to 50). (☞ Section 5.1.2)
	2)	Trend graph screen	Generated based on the Trend Setting of the monitor tool (Select groups to be generated in the wizard). (☞ Section 5.1.6)
	3)	Alarm list screen (process alarm)	Only one screen is generated per project. (☞ Section 5.1.5)
	4)	Alarm list screen (system alarm)	Only one screen is generated per project. (☞ Section 5.1.5)
	5)	Detailed screen (tuning screen)	Generated per tag. (☞ Section 5.1.3)
	6)	Detailed screen (tag setting screen)	Generated per tag. (☞ Section 5.1.4) (Since this screen is integrated to the tuning screen depending on tag type, the setting screen is not generated.)
Window screen	7)	Menu bar window	Only one screen is generated per project and is placed at the bottom of each base screen. Function selection switches of control panel, trend graph screen, and alarm list screen are placed. (☞ Section 5.1.7)
	8)	PGS2 graph generation window	Only one screen is generated per project when PGS2 type tag exists. (☞ Section 7.4)
	9)	Faceplate	Generated per tag. (☞ Section 6.1, Section 7.1, Section 8.1, and Section 9.1)

5

(2) Various resources except screens to be generated

The following table shows the items generated by resources except generation screen project (common setting/common file of GT Designer2 project).

Resource type	Item	Description
Advanced alarm observation	Process alarm	Only one process alarm is generated per project.
Logging	Logging setting for trend graph screen	Generated based on the contents set in the "Trend Setting" of the monitor tool. This setting is generated per group of the trend graph screen selected in the wizard.
	Logging setting for tuning trend graph in loop tag	Generated per loop tag when historical trend graph is used as the tuning trend graph of loop tag.
Script	PGS2's PV trend collection script	Only one script is generated per project when the PGS2 type tag that displays a PV value in trend graph exists.
	PGS2 graph initial generation script	Only one script is generated per project when PGS2 type tag exists.
	PGS2 graph generation script	Generated per PGS2 type tag.
	PGS2 graph refresh management script	Only one script is generated per project when PGS2 type tag exists.
	System alarm processing script	Only one script is generated per project.
	Common initialization script	Only one script is generated per project when either of the control panel screen or trend graph screen exists.
	Trend graph initialization script	Only one script is generated per project when trend graph exists.
	Tag data collection script	Generated per tag (however, this script is not generated for "PGS2 type tag that displays a PV value in trend graph" selected in the wizard).

Resource type	Item	Description
Comment	Unit setting comment	Based on the Unit Setting of the monitor tool, only one comment is generated per project.
	Alarm setting comment	Based on the Alarm Setting of the monitor tool, only one comment is generated per project.
	Event setting comment	Based on the Event Setting of the monitor tool, only one comment is generated per project.
	Alarm list comment	Only one comment is generated per project.

POINT

If a generated faceplate is displayed as an overlap window*1 on GOT, the parts of the following tag type are not displayed normally.

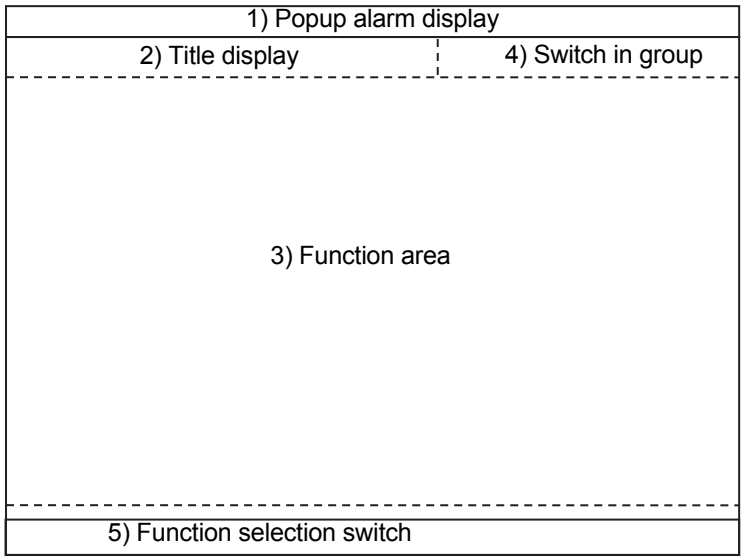
Tag type	Corresponding part
PGS2	Pattern graph
BC, PSUM, NREV, REV, MVAL1, MVAL2, PB, TIMER1, TIMER2, COUNT1, COUNT2, PVAL	Covered switches

- The closing overlap window*1 operation ('0' is set to screen switching device) is set to the switches (<, >, Detail, Back, etc.) to change a screen on the generation screen. Touching the switch while the overlap window is displayed closes the currently displayed overlap window.

*1: Popup window displayed on the base screen

5.1.1 Configuration of the basic screen

This section explains configuration of the basic screen using SVGA type as an example.

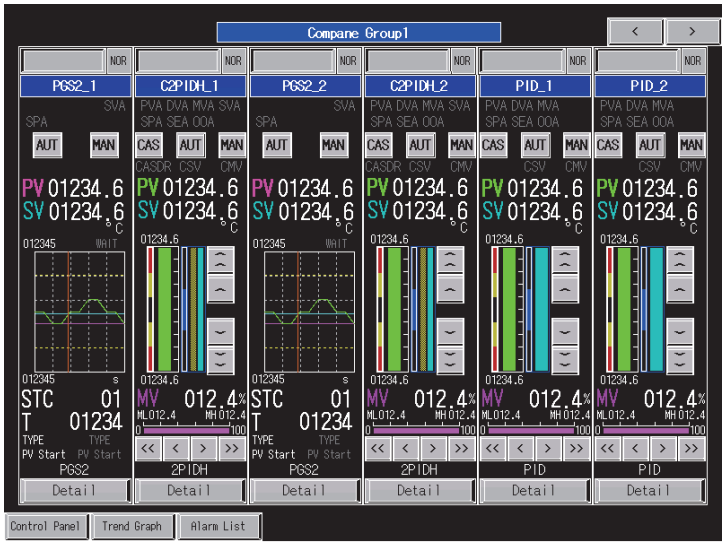


No.	Item	Description
1)	Popup alarm display	Displays one latest alarm message of the alarm currently occurs at the top of the screen by one line. (☞ Section 10.3)
2)	Title display	Displays a screen title. Functions can be added when necessary.
3)	Function area	Area that achieves functions in each screen
4)	Switch in group	Displays switches for switching screens. (☞ Section 5.1.7)
5)	Function selection switch	Displays switches to switch function screens (control panel screen, trend graph screen, and alarm list screen). (☞ Section 5.1.7)

5.1.2 Control panel screen

The control panel screen places multiple faceplates.
Six faceplates are placed on SVGA type, and eight faceplates are placed on XGA type.
The alignment sequence of the faceplates is determined by the Control Panel setting of the monitor tool.

The following shows a screen example using SVGA type.

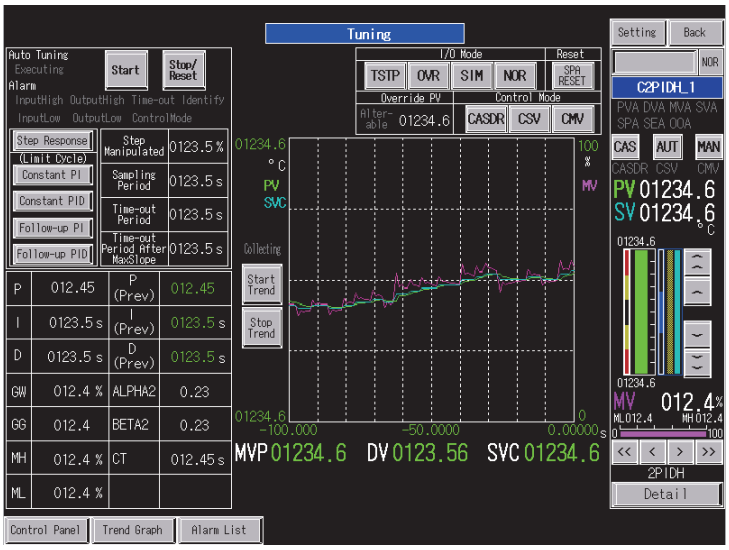


Operation monitoring using lamps and switches on a faceplate is possible.
The "<" and ">" switches at the top right of the screen can switch the pages.
The "Detail" switch on a faceplate can switch the display to the tuning screen corresponding to each tag.

5.1.3 Tuning screen

Using the "Detail" switch on a faceplate can switch the display to the tuning screen corresponding to specified tag.
The tuning screens differ in displayed parts and layout depending on tag type.
A faceplate is placed on the right of the screen. Adding to general operations from the faceplate, detailed monitoring such as tuning can be operated.

The following shows screen example of SVGA type corresponding to 2PIDH tag.

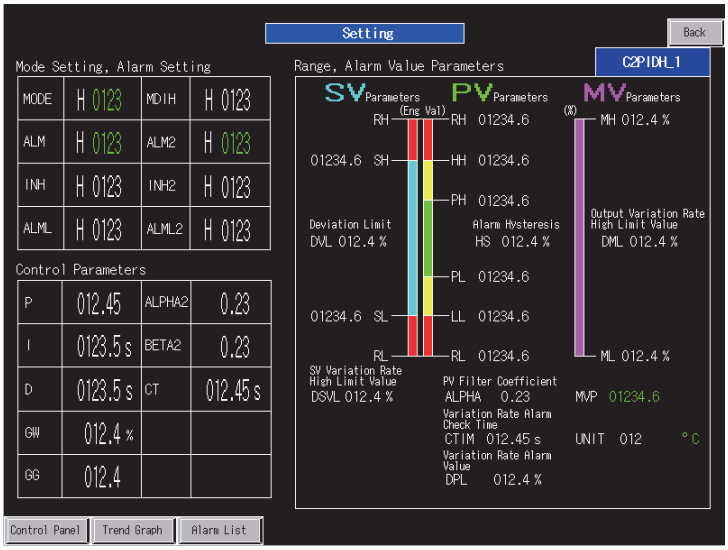


Touching the "Back" switch at the top right of the screen returns the display to the previous screen.
Touching the "Setting" switch at the top of the screen switches the screen to the tag setting screen.

5.1.4 Tag setting screen

Using the "Setting" switch on a tuning screen can switch the display to the tag setting screen corresponding to specified tag.
Setting values of tags can be changed on this screen.
The setting values are written to tag data for the PLC (ZR device).

The following shows screen example of SVGA type corresponding to 2PIDH tag.

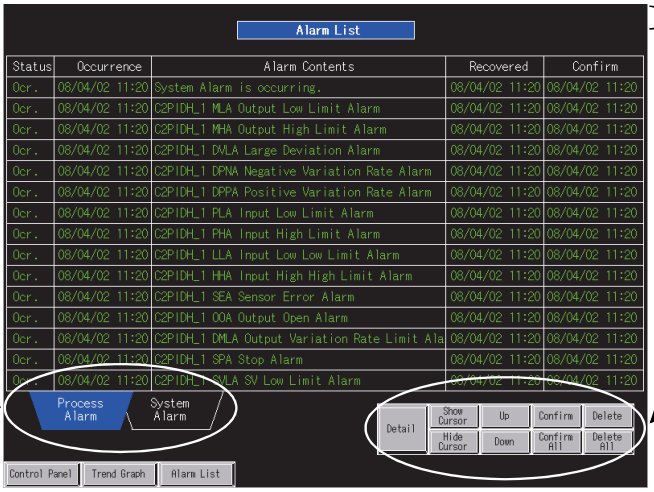


Touching the "Back" switch at the top right of the screen returns the display to the previous screen.

5.1.5 Alarm list screen

The alarm list screen displays process alarms, system alarms, and popup alarms.
The display switches between the screens for process alarms and system alarms by selecting the tabs.

The following shows a screen example using SVGA type.

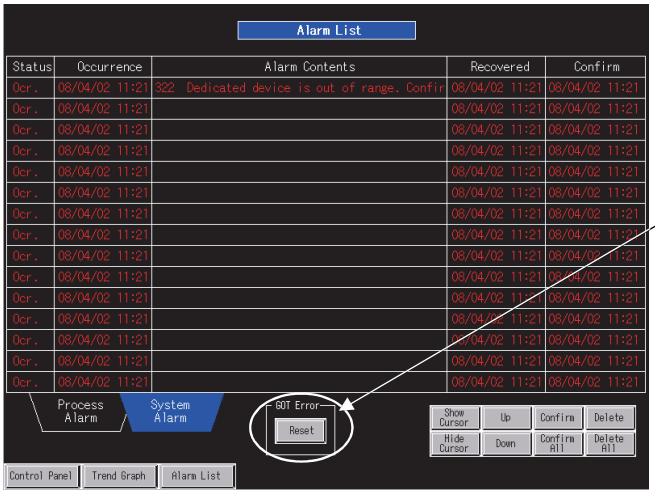


The latest message is displayed as popup alarm on the first line at the top of the screen.
When an alarm occurs, the message is popped up here.
(common to all screens)

Display switching between Process Alarm and System Alarm

Operation switches for messages in the table

<Alarm list (process alarm)>



Since GOT system error message is not automatically recovered after the cause of the alarm has been resolved, clear the cause with this switch.

<Alarm list (system alarm)>

Display	Display item	Description
Alarm list (process alarm)	ALM items of loop tag and status tag	Displays process alarms using the advanced user alarm function. When a screen is generated, messages corresponding to the items shown on the left are generated as comment groups based on the tag information. According to the alarm level setting to the tag, the character color turns green in case of minor failure and red in case of major failure.
	ALM items of alarm tag	
	ALM_W1 to ALM_W4 items of 64-points alarm tag	
	Collection alarm of system alarm (one item)	
Alarm list (system alarm)	CPU error	Displays system alarm items incorporated in GOT function.
	GOT error	
	Network error	
Popup alarm	Process alarm or system alarm currently occurs (one latest alarm)	The popup alarm is displayed on all base screens. Setting is necessary to display only process alarms. (For system alarms are displayed by priority in the setting to display both process alarms and system alarms.) If one or more system alarms currently occur, "System Alarm is occurring" is displayed as collection information on the process alarm screen so that occurrence of a system alarm can be checked.

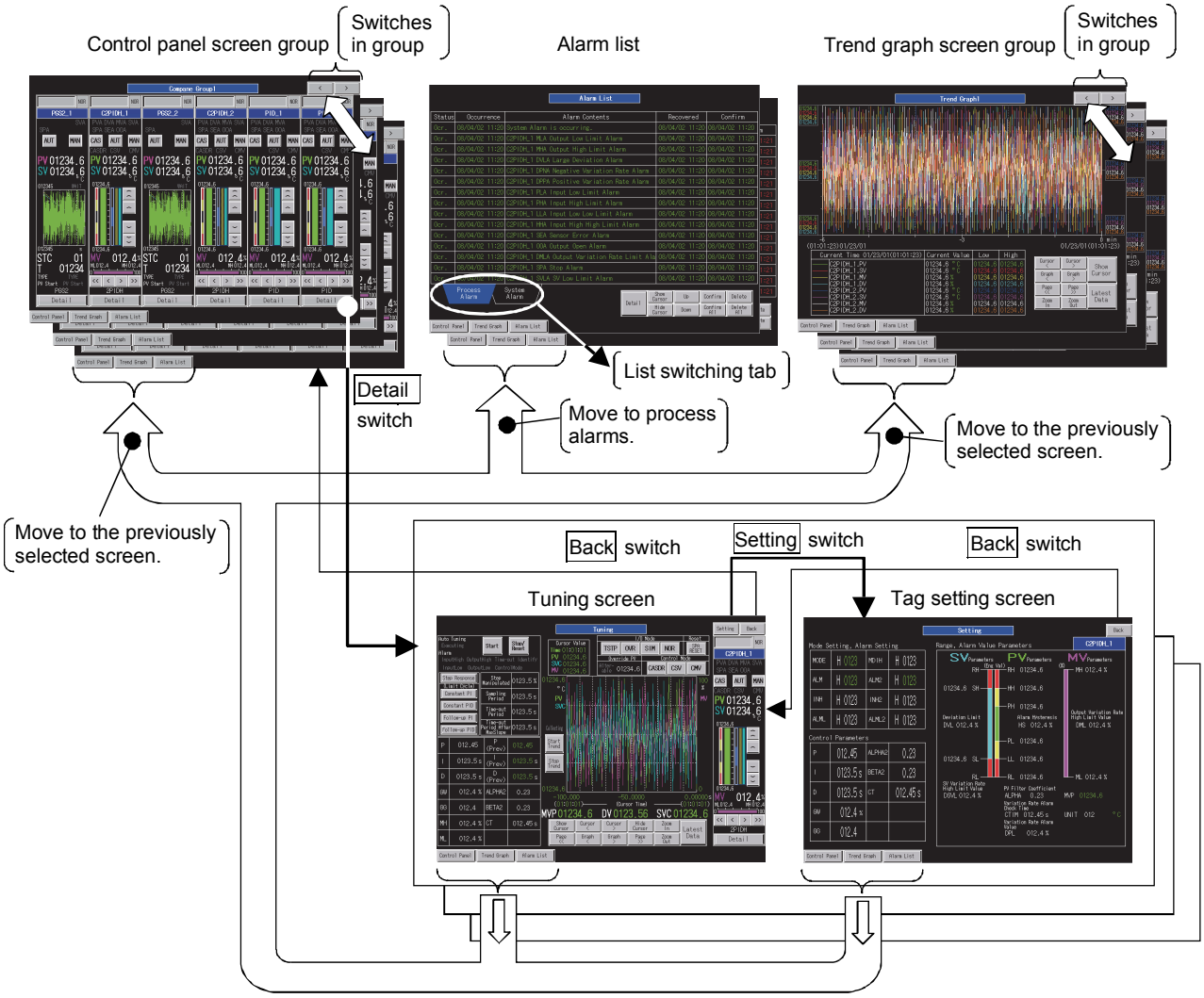
5.1.6 Trend graph screen

The trend graph screen displays a historical trend graph.
Among the groups set in the Trend Setting of the monitor tool, the trend graph screens are generated by the number of groups selected in the wizard. Since the logging function is used, up to 32 screens are generable.
When a screen is generated, the trend items of real type set in the Trend Setting of the monitor tool are assigned to pens. (For details of assigned data, refer to Section 4.1 (3).)

The following shows a screen example using SVGA type.

5.1.7 Move among screens

The move among groups or functions are made with the switches in group and the function selection switches (☞ Section 5.1.1) on the screen.
When the screen is moved to the control panel screen or trend graph screen, the group previously displayed is displayed.
When the alarm list function is selected, the alarm list for process alarms is displayed.



The switches in group switch the display page to the previous/next page.

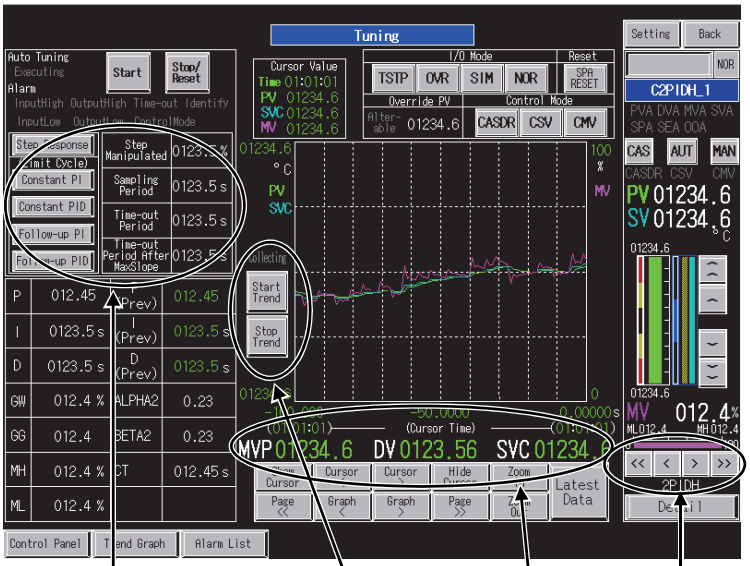
The function selection switches[*1] are placed on the menu bar window at the bottom of the screen, and switch the display screen to each function screen.

*1: When the control panel screen or trend graph screen does not exist on generated project, the corresponding function switches are not generated.

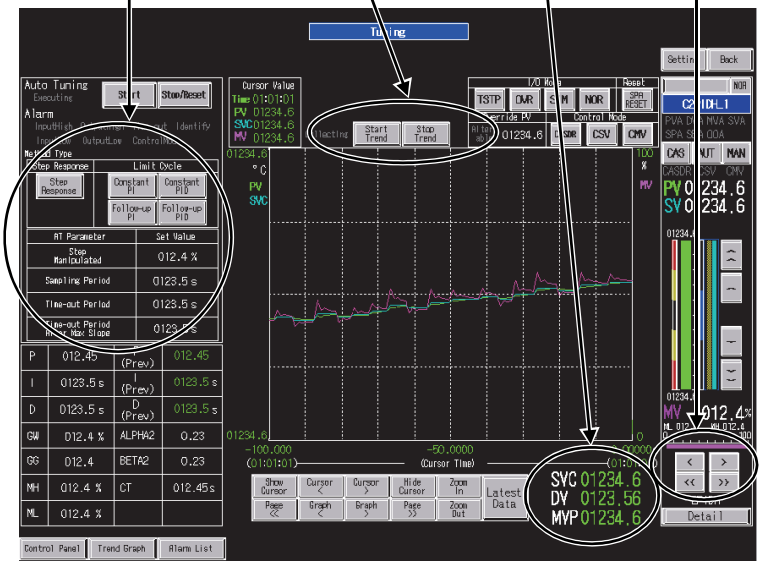
5.1.8 Screens of SVGA type and XGA type

The SVGA (800 × 600 dots) type screen and XGA (1024 × 768 dots) type screen generated by the GOT screen generator function are the same in screen configuration, the number of screens, and operations for all tag types.
Because of a difference in screen size, they slightly differ in font size and a position of parts. However, their functions are the same.
As for the control panel screen, SVGA type displays six faceplates, while XGA type displays eight faceplates.
The following shows a screen example of 2PIDH type tags of SVGA and XGA types.

Generated screen example of SVGA type



Generated screen example of XGA type



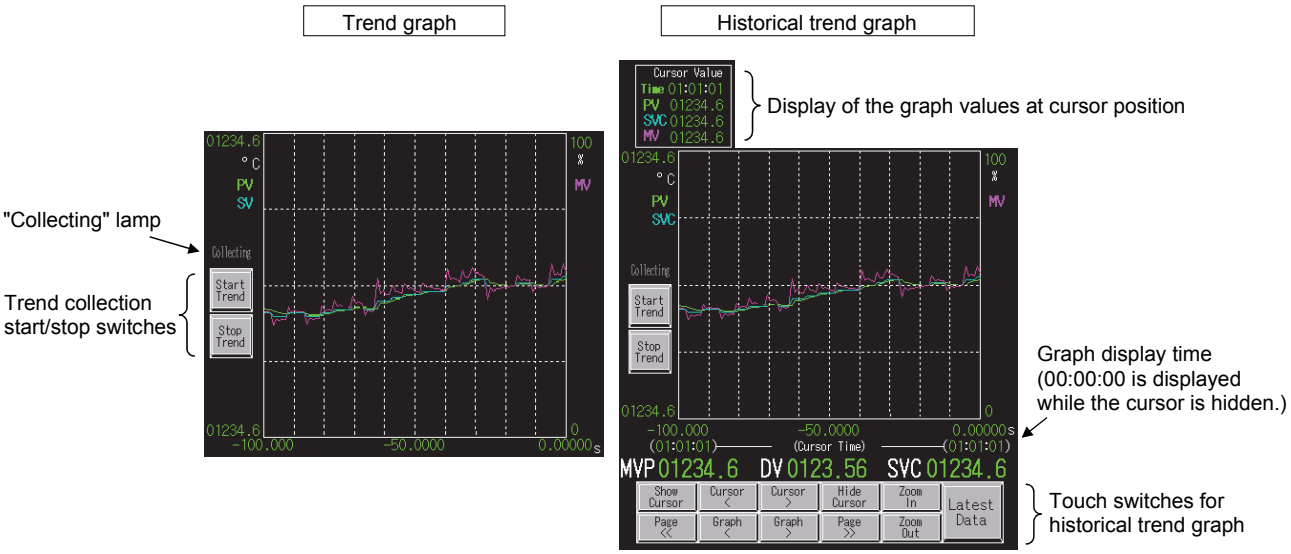
The two type screens have same parts in functionality. However, positions of the auto tuning switches, trend start/stop switches, and MV increase/decrease switches in a faceplate; and display position of the internal parameters such as SVC/DV/MVP slightly differ so that they can be easily pressed.

5.2 Trend Graph on the Tuning Screen

For a tag type that has a trend graph on the tuning screen, generate a screen by selecting the graph type.
Since graph functions differ depending on graph type, determine the graph type before generating a screen.

5.2.1 Trend graph of loop tag (except PGS2 type)

The trend graph or historical trend graph is generated as a graph on the tuning screen. The historical trend graph remains after screen switching. However, the past graph history of trend graph is lost by screen switching.
The following images show graphs of the two types to be generated.



Compared to the trend graph, the historical trend graph has touch switch function that displays/deletes/moves the cursor and display function that displays graph values at the cursor position. For details of touch switches for historical trend graph, refer to "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".

REMARKS

Since the logging ID is used, the number of generable historical trend graphs is 32 which is the maximum value of the logging ID. If logging IDs are also used except for the historical trend graph, set the number from which the number of logging IDs used for another application is subtracted as the number of historical trend graphs to be generated.
By using the memory save function, data can be collected to the trend graph while the graph is hidden. The memory save function has been set not to be used at default.
The memory save function can be used for 16 trend graphs in whole project. When necessary, edit screen data after a screen is generated.

(1) Standard settings of the trend graph

The following shows standard settings to the trend graph in generated screen.

1) The number of displayed points 100 points (maximum number of settable points)
2) Display period 1-second period
3) Memory save Not used

Making these settings displays the latest graphs for 100 seconds.
To prolong the display time, change the display conditions of the trend graph object setting after a screen is generated.
For example, when the period is set at five seconds, the graph is displayed for 500 seconds (around eight minutes).
Also, since the memory save function is set not to be used, the graph is cleared at screen switching.
Up to 16 memory save functions can be used in whole project, set them when necessary.
For trend graph settings, data may not be displayed correctly if the display period is short or the system load is heavy.
For details of trend graph setting, refer to "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".

(2) Standard settings of the historical tend graph

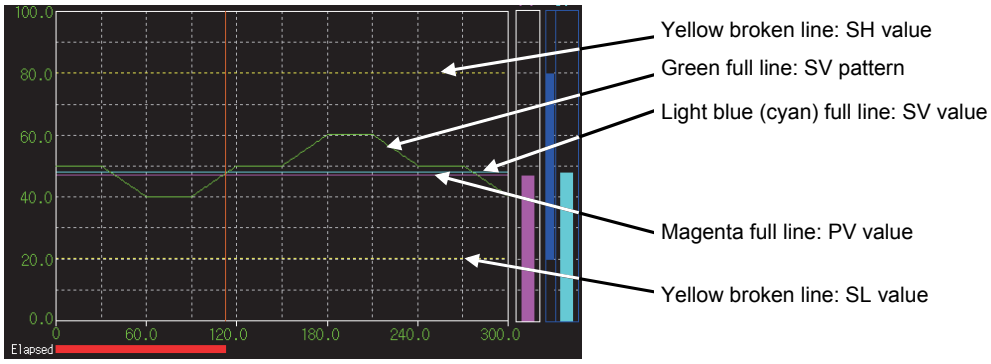
The following shows standard settings to the trend graph in generated screen.

1) Number of collection points 1000 points (logging setting)
2) Collection period 1-second period (logging setting)
3) Logging method Buffer historical mode (logging setting)
4) Number of displayed points 100 points (historical trend graph setting)

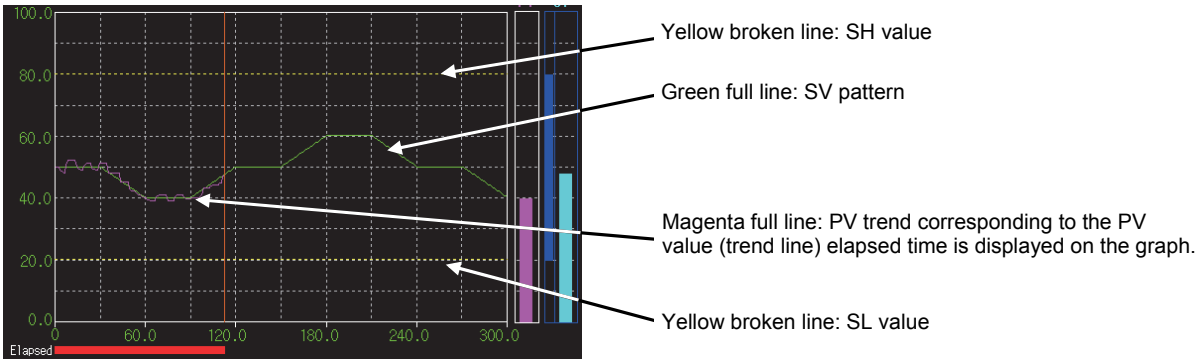
Making these settings displays the latest graph for 100 seconds and using the trend graph operation switches can display the past graph up to previous 10 pages. Since display move by the cursor is operated per collection data item, its move period is one second, which is same as "2) Collection period" setting above.
Changing the settings of logging and historical trend graph after a screen is generated can adjust the display time of a graph and the number of collection points. However, data may not be collected when the collection period is short or the system load is heavy.
For details, refer to "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".

5.2.2 Trend graph of PGS2 type tag

In the trend graph of PGS2 type tag, whether to display a PV value in trend graph can be selected by selecting the PGS2 type tag that supports PV value trend graph display (☞ Section 4.7).
When PV value trend display is not specified, only SV pattern graph is displayed.
When PV value trend display is specified, a PV value according to the elapsed time is displayed in trend graph.
The following shows graphs placed on the tuning screen.

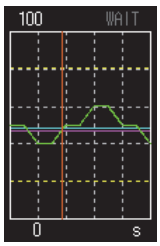


<Screen example when PV value trend display is not specified>



<Screen example when PV value trend display is specified>

Note that the trend graph of PGS2 type tag is also placed on a faceplate.



<Example of trend graph on a faceplate>

POINT

If adding another screen to the project generated by the GOT screen generator function and for which PV value trend display of PGS2 type tag is specified, the following operation is required.

- Registering a screen script assigned to the PGS2 tuning screen (base screen) to the addition screen with the same settings. (☞ Section 7.5)

5.3 Data Used on Generated Screen

(1) Screen titles to be generated

The following table shows titles of the base window and window screen to be generated.
These screen names can be checked on the base screen and window screen of the project workspace window of GT Designer2 or GT Designer3.

Screen type	Type	Title
Control panel	Base screen	Group name set in the control panel setting of the monitor tool
Faceplate	Window screen	Tag name
Tuning screen	Base screen	Tag name + "Tuning" *1
Tag setting screen	Base screen	Tag name + "Setting" *1
Alarm list screen	Base screen	Process alarm: "Alarm list (process)" System alarm : "Alarm list (system)"
Trend graph screen	Base screen	Group name set in Trend Setting of the monitor tool
Menu bar	Window screen	"Menu bar"
PGS2 graph generation	Window screen	"PGS2 graph generation"

*1: If the title exceeds 32 characters, the number of exceeded characters of the tag name will be deleted.

The following table shows the titles displayed in generated screen and methods for checking the tag names of monitor target.

Screen type	Title display	Method for checking the tag name of monitor target
Control panel	Group name set in the Control Panel setting of the monitor tool	Check by the "tag display" of each faceplate placed in a screen.
Faceplate	No title	Check by the "tag display" of a faceplate. The "tag display" part is registered based on the comment setting and tag FB variable name in tag FB registration of PX Developer.
Tuning screen	"Tuning"	Check by the "tag display" of a faceplate displayed in a screen.
Tag setting screen	"Setting"	Like a faceplate, check by the "tag display" on a screen. The "tag display" part is registered based on the comment setting and tag FB variable name in tag FB registration of PX Developer.
Alarm list	"Alarm list"	For process alarms, check by the "tag name" included in the alarm contents.
Trend graph screen	Group name set in the Trend setting of the monitor tool	Check by the tag name assigned to each pen.

(2) Unit display

Unit comment group is generated using the data registered to the Unit Setting of the monitor tool.

Using the unit comment group, a unit specified by tag data (UNIT) number is displayed.

When a trend item is a monitor variable, unit is displayed in accordance with the monitor variable setting on monitor tool in screen generation.

(3) The number of digits after the decimal point in numerical display

For numerical display of engineering value such as PV value and SV value, the number of digits after the decimal point is set to each display object, following the specification of the number of digits after the decimal point when a screen is generated.

Use the tag data in the PLC CPU to which the monitor tool is connected. When not connected, use the initial value of a PX Developer project.

However, when changing a setting value after generating a screen, the changed value is not reflected to the screen. To reflect the value, regenerate a screen.

(4) Precautions for numerical display/numerical input

If a value whose number of digits exceeds the number of displayed digits has been set to a device displayed by numerical display/numerical input, the numbers exceeding the displayed number of digits are not displayed.

Also, when inputting a numerical value within the settable range in a key window, the value cannot be input if the input value exceeds the limit of the number of displayed digits.

A code and decimal point are also counted as a digit.

5.4 GOT Resource Used by Generated Screen

(1) Screen number

The numbers settable as screen number is from 1 to 32767.
Specify screen numbers to be used (start base screen number, start window number) in the generation wizard and assign screens to the set start screen numbers and the numbers greater than the set number.

(2) PLC side compatible devices

Generated screen refers to or writes the tag memory of PX Developer (ZR (3000 + device number[*1]) or later).
Devices in the programmable controller except tag memory are not used.

*1: A start device number of a file register (ZR) set at the system resource in the project parameter setting.

(3) GOT internal device

On generated screen, GOT internal devices are used as GD device for system.
Specify the start number to be used in the generation wizard and assign the numbers so that the set start number and the numbers greater than the set number are used.

Item		Number of used words
Common area		100 words/project
Loop tag except PGS2	Trend graph is specified.	200 words/tag
	Historical trend graph is specified.	200 words/tag
PGS2	Current PV value is specified.	800 words/tag
	PV value trend display is specified.	1300 words/tag
Status tag	Monitoring and controlling ON/OFF control	200 words/tag
	Timer, counter	200 words/tag
Alarm tag		200 words/tag
Message tag		200 words/tag
Trend graph screen		100 words/group

(4) Logging ID

The number of usable logging IDs is 32 per project.
In a project generated by the GOT screen generator function, the logging IDs are assigned by addition of the number selected in "Select the loop tags whose screen uses Historical Trend Graph" and the number of trend graph screens.
The numbers settable as logging ID is from 1 to 32767.
Specify the start ID number to be used in the generation wizard and assign the numbers so that the set start number and the numbers greater than the set number are used.

(5) Script number

Project scripts, screen scripts, and object scripts are used in generated screen. Although the user ID of the object script does not affect other screens, project script and screen script are common registration with a GOT project file. For the script number, set the number that is not overlapped with existing script number when generating a screen.

The numbers settable as script number is from 1 to 32767.

Specify the start script number to be used in the generation wizard and assign the numbers so that the set start number and the numbers greater than the set number are used.

(6) Comment group number

Four comment group numbers are used for the following purposes:

1) Displaying the unit (registration name: Unit Setting)
2) Displaying the alarm tag comment (registration name: Alarm Setting)
3) Displaying the message tag comment (registration name: Event Setting)
4) Displaying the process alarm (registration name: Alarm List)

The numbers settable as comment group number is from 1 to 255.

Specify the start comment group number to be used in the generation wizard and assign the numbers so that the set start number and the numbers greater than the set number are used.

(7) Advanced user alarm ID

Use one advanced user alarm ID used for display on the alarm list screen.

Specify an alarm ID in the generation wizard.

6 LOOP TAG SCREEN (EXCEPT PGS2)

This chapter explains details of faceplates, tuning screens, and tag setting screens configuring a GOT screen project generated from loop tag (except Multi-point program setter (PGS2)) using SVGA type as an example.

6.1 Loop Tag Faceplate

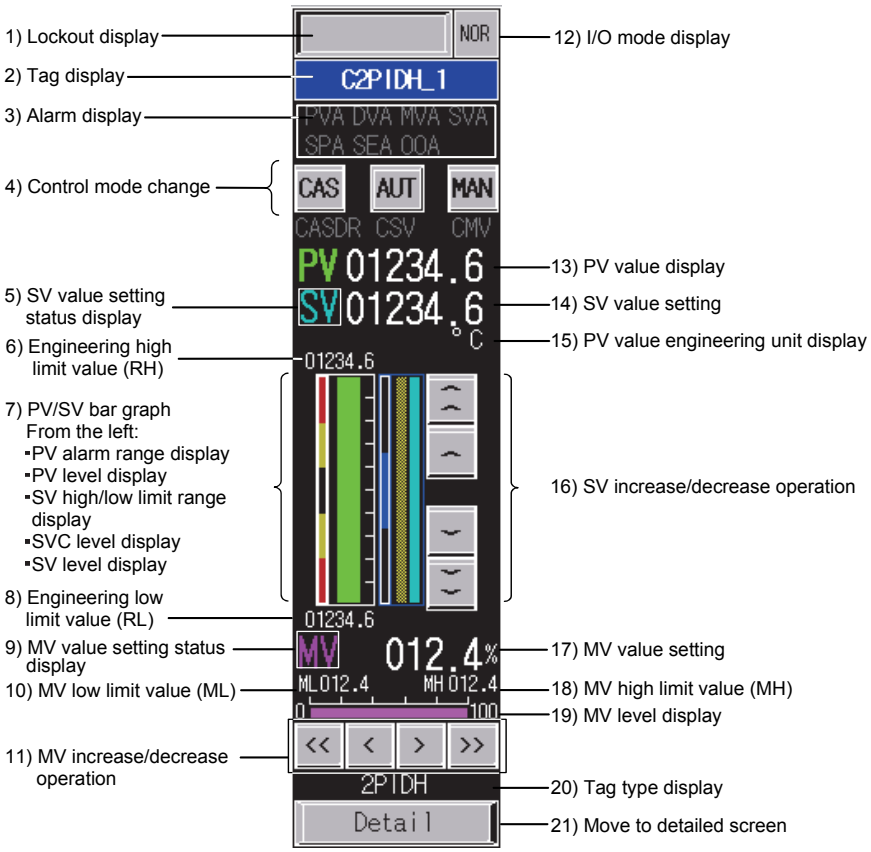
The loop tag (except Multi-point program setter (PGS2)) faceplate has three types: controller such as PID and 2PIDH type tags, counter such as BC, PSUM type tags, and split such as HTCL type tags.
The tag types are as follows.

Type	Tag type
Controller	PID
	2PID
	2PIDH
	PIDP
	SPI
	IPD
	BPI
	R
	ONF2
	ONF3
	PFC_SF
	PFC_SS
	PFC_INT
	MOUT
	MONI
	SWM
	MWM
	SEL
	PVAL
Counter	BC
	PSUM
Split	HTCL

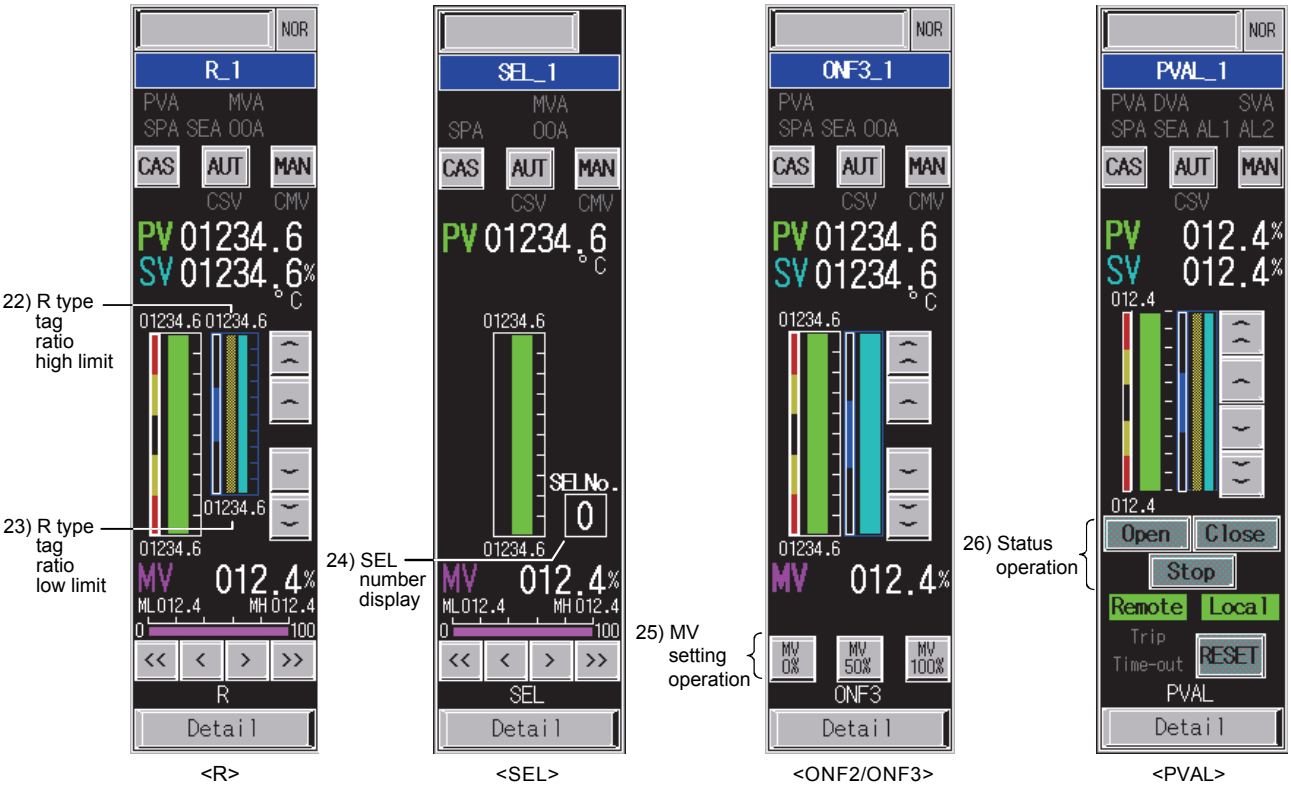
6.1.1 Loop tag faceplate (controller)

This section explains a faceplate of controller.
The following shows the items of the 2PIDH type tag that has greatest number of functions and the items unique to other tags.
Tags other than 2PIDH type do not have some lamps and switches since they have only partial functions of 2PIDH type tag.

DISPLAY/SETTING SCREEN



<2PIDH>



<R> <SEL> <ONF2/ONF3> <PVAL>

DISPLAY/SETTING DATA

No.	Item	Description	Object	Character color/display color	Background color
1)	Lockout display	Displays current operating status. Touching this item switches its display in order of blank → Adjusting → Disallowed.	Switch	Blank: No character Adjusting : Black Disallowed : White	Blank : Gray Adjusting : Yellow Disallowed : Red
2)	Tag display	Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue
3)	Alarm display	Displays alarm status. This item turns on when any of the following alarms occurs at tag data ALM or ALM2. (1) HHA (input high high limit)/LLA (input low low limit)/PHA (input high limit)/PLA (input low limit)/DPPA (positive variation rate)/DPNA (negative variation rate) (2) DVLA (large deviation) (3) DMLA (output variation rate limit)/MHA (output high limit)/MLA (output low limit) (4) DSVLA (SV variation rate high limit)/SVHA (SV high limit)/SVLA (SV low limit) (5) SPA (stop alarm) (6) SEA (sensor alarm) (7) OOA (output open alarm) (8) TOA (Time-out) : AL1 turns on. (9) TRIPA (trip) : AL2 turns on.	Lamp	No alarm: Dark gray Alarm occurrence: Black	No alarm: Black Alarm occurrence: Green*1

*1: Turns red when the corresponding bit of alarm level ALML or ALM2 is set to on.

No.	Item	Description	Object	Character color/display color	Background color
4)	Control mode change	Displays and changes a control mode. Touching a selectable switch can change the control mode.	Switch	Current mode : Red Selectable : Black Not selectable : Gray	Gray
			Lamp	Current mode : Black Other than above : Gray	Current mode: Green Other than above: Black
5)	SV value setting status display	Turns on when SV value setting is enabled. The character color changes depending on control mode.	Lamp	AUT, MAN: Blight light blue (cyan) Except AUT, MAN: Dark light blue (cyan)	Black
6)	Engineering high limit value (RH)	Displays an engineering high limit value (RH) in numerical value. *3	Numerical display	White	PV > RH: Red Other than above: Black
7)	PV/SV bar graph	Displays settings and ranges of PV, SV, and SVC in bar graph.			
	PV alarm range display	Displays the setting positions of RL, LL, PL, PH, HH, and RH.	Level	RL to LL : Dark red LL to PL : Dark yellow PL to PH : Black PH to HH : Dark yellow HH to RH : Dark red	Black
	PV level display	Displays a PV value from RL to RH in bar graph.		Normal: Green PHA/PLA occurrence: Yellow HHA/LLA occurrence: Red	
	SV high/low limit range display	Displays area between SL and SH.		Less than SL : Black SL to SH : Dark blue More than SH : Black	
	SVC level display*2	Displays a SVC value from RL to RH in bar graph.		SVC = SV: Light blue (cyan) SVC ≠ SV: Half - tone dot meshing in yellow	
	SV level display	Displays a SV value from RL to RH in bar graph.		Light blue (cyan)	
8)	Engineering low limit value (RL)	Displays an engineering low limit value (RL) in numerical value.*3	Numerical display	White	PV < RL: Red Other than above: Black
9)	MV value setting status display	Turns on when MV value setting is enabled. The character color changes depending on control mode.	Lamp	MAN: Bright magenta Except MAN: Dark magenta	Black
10)	MV low limit value (ML)	Displays a MV low limit value (ML) in numerical value.	Numerical display	White	Black

*2: For R type tag, ratio current value is displayed instead of SVC value.

*3: The PV and SV bar graphs on the faceplate can be set freely as scale high limit value/low limit value (set as engineering high limit value/low limit value of the tag when there are no settings) in the monitor tool. However, they are generated as engineering high limit value/low limit value in this generated screen.

No.	Item	Description	Object	Character color/display color	Background color
11)	MV increase/decrease operation	Increases/decreases a SV value when the control mode is AUT or MAN. The following increase/decrease operations can be performed by touching each switch once. *4 The operations can be performed continuously by keeping the button pressed using the auto repeat function.			
	MV up large >>	Increases a MV value by 1%.	Switch	Black	Gray
	MV up small >	Increases a MV value by 0.1%.			
	MV down small <	Decreases a MV value by 0.1%.			
	MV down large <<	Decreases a MV value by 1%.			
12)	I/O mode display	Displays I/O mode set to the tag data. *5	Character display	NOR : Black SIM : White OVR : Black TSTP : Black	NOR : Gray SIM : Blue OVR : Light blue (cyan) TSTP : White
13)	PV value display	Displays a PV value in numerical value	Numerical display	White	Black
14)	SV value setting	Control mode is AUT or MAN: Numerical values can be input.*6 The settable range of a SV value is from SL to SH. Control mode is except AUT and MAN: Only a SV value is displayed.	Numerical input	White	Black
15)	PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group	Character display	White	Black

*4: The MV increase/decrease operations can be performed from - 10 to 110% in the monitor tool. However, the operations are limited within the range from MV low limit value (ML) to MV high limit value (MH) in this generated screen.

*5: For the correspondence between each tag type and I/O mode, refer to Section 6.2.1 and Section 6.2.2.

*6: Input a numerical value in the key window displayed by touching the displayed numerical value.

No.	Item	Description	Object	Character color/display color	Background color
16)	SV increase/decrease operation	Increases/decreases a SV value when the control mode is AUT or MAN. The following increase/decrease operations can be performed by touching each switch once. The operations can be performed continuously by keeping the button pressed using the auto repeat function.			
	SV up large	Increases a SV value from RL to RH by 1%.	Switch	Black	Gray
	SV up small	Increases a SV value from RL to RH by 0.1%.			
	SV down small	Decreases a SV value from RL to RH by 0.1%.			
	SV down large	Decreases a SV value from RL to RH by 1%.			
17)	MV value setting	Control mode is MAN: Numerical values can be input (except ONF2 and ONF3 type tags).*6 The settable range of a MV value is from ML to MH.*7 Control mode is except MAN: Only a MV value is displayed.	Numerical input	White	Black
18)	MV high limit value (MH)	Displays a MV high limit value (MH) in numerical value.	Numerical display	White	Black
19)	MV level display	Displays a MV value from 0 to 100% by level display.	Level	Magenta	Black
20)	Tag type display	Displays a tag type. When the faceplate and tag data format do not match, "Not Tag type" flashes.	Character display	White	Black
21)	Move to detailed screen	Displays the 2PIDH tuning screen.	Switch	Black	Gray
22)	R type tag ratio high limit	Displays RMAX in numerical value.	Numerical display	White	Black
23)	R type tag ratio low limit	Displays RMIN in numerical value.	Numerical display	White	Black
24)	SEL number display	Displays SEL number.	Numerical display	White	Black
25)	MV setting operation	Changes a MV value (%) with touch switch.			
		For the ONF2 tag, a setting of 0% or 100% is available. MV < 50% : 0% switch lights up. MV ≧ 50% : 100% switch lights up.	Switch	Black	Lit : Green Not lit: Gray
		For the ONF3 tag, a setting of 0%, 50% or 100% is available. MV < 25% : 0% switch lights up. 25% ≦ MV < 75% : 50% switch lights up. MV ≧ 75% : 100% switch lights up.			

*6: Input a numerical value in the key window displayed by touching the displayed numerical value.

*7: The MV value can be set by check operation when the MV value exceeds the MV high limit value (MH)/MV low limit value (ML) in the monitor tool. However, the setting is limited within the range from MV high limit value to MV low limit value in a GOT screen project.

No.	Item	Description	Object	Character color/display color	Background color
26)	Status operation	Displays the default switch that performs operation monitoring. Change the display characters or display colors after generating a screen with GT Designer2 or GT Designer3. PVAL : Open/ Close/ Stop	Switch*8	Black	Lit : Red Not lit : Gray
		Displays the Remote/Local lamps.	Lamp	Black	Lit : Green Not lit : Black
		Turns on when either of the following alarms occurs at tag data ALM. (1) TRIPA (Trip) : Trip turns on. (2) TOA (Time-out) : Time-out turns on.	Lamp	No alarm: Dark gray Alarm occurrence: Black	No alarm: Black Alarm occurrence: Green*1
		Touching the RESET switch resets time-out alarm.	Switch*8	Black	Gray

*1: Turns red when the corresponding bit of alarm level ALML or ALM2 is set to on.

*8: The switches are covered. Touching the switch once uncovers the switch for three seconds. An operation can be continued by touching the switch again while uncovered.
While the switch is covered, its color is displayed gloomily. While uncovered, its color is displayed brightly.

The following table shows which items are displayed on faceplates of each tag type.

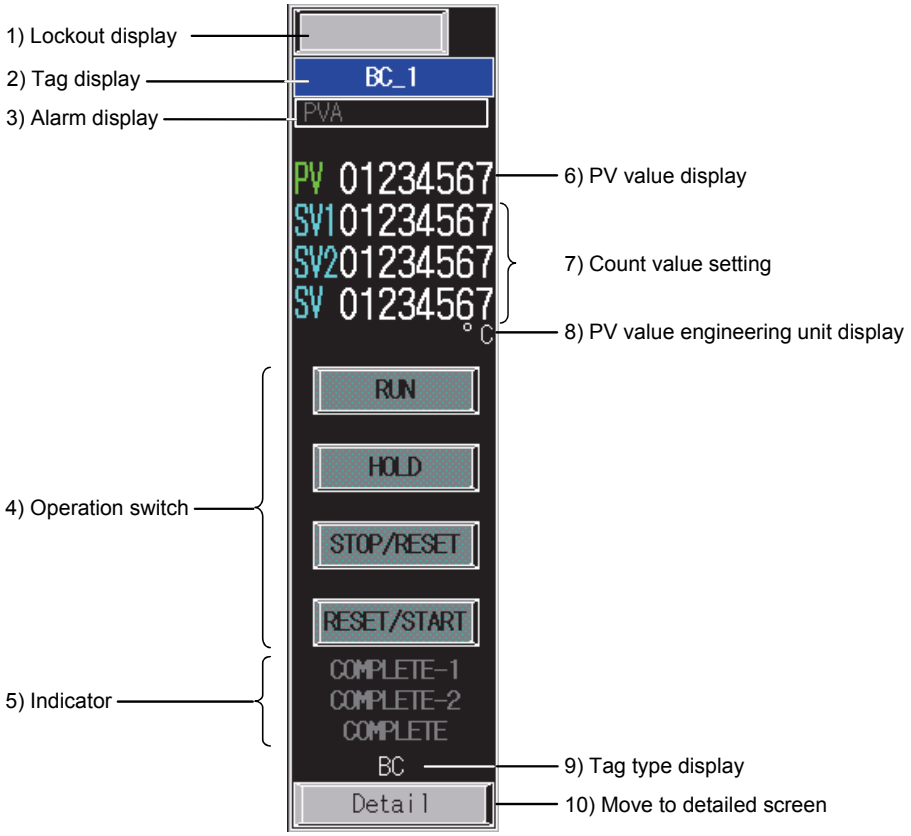
		PID	2PID	2PIDH	PIDP	SPI	IPD	BPI	R	ONF2	ONF3	PFC_SF	PFC_SS	PFC_INT	MOUT	MONI	SWM	MWM	SEL	PVAL
Lockout display		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Tag display		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Alarm display	PVA	○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	—	○
	DVA	○	○	○	○	○	○	○	—	—	—	○	○	○	—	—	○	—	—	○
	MVA	○	○	○	○	○	○	○	○	—	—	○	○	○	—	—	—	—	○	—
	SVA	—	—	○	—	—	—	—	—	—	—	○	○	○	—	—	○	—	—	○
	SPA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	SEA	○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	—	○
	OOA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	—
	AL1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○
	AL2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○
Control mode change	CASDR	—	—	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	CMV	○	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	—
	MAN	○	○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	○
	CAS/AUT/CSV	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	—	○	○
SV value setting status display		○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	—	—	○
Engineering high limit value (RH)		○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	○	○
PV/SV bar graph	PV alarm range display	○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	—	○
	PV level display	○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	○	○
	SV high/low limit range display	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	—	—	○
	SVC level display	—	—	○	—	—	—	—	○	—	—	○	○	○	—	—	○	—	—	○
	SV level display	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	—	—	○
Engineering low limit value (RL)		○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	○	○
MV value setting status display		○	○	○	○	○	○	○	○	—	—	○	○	○	○	—	—	○	○	—
MV increase/decrease operation		○	○	○	○	○	○	○	○	—	—	○	○	○	○	—	—	○	○	—
I/O mode		○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	—	○
PV value display		○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	○	○
SV value setting		○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	—	—	○
PV value engineering unit display		○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○	○	○	—
SV increase/decrease operation		○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	—	—	○
MV value setting		○	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	—
MV high limit value (MH)		○	○	○	○	○	○	○	○	—	—	○	○	○	○	—	—	○	○	—
MV low limit value (ML)		○	○	○	○	○	○	○	○	—	—	○	○	○	○	—	—	○	○	—
MV level display		○	○	○	○	○	○	○	○	—	—	○	○	○	○	—	—	○	○	—
Tag type display		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Move to detailed screen		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
R type tag ratio high limit		—	—	—	—	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—
R type tag ratio low limit		—	—	—	—	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—
SEL number display		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○	—
MV setting operation		—	—	—	—	—	—	—	—	○	○	—	—	—	—	—	—	—	—	—
Status operation		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○

○: Corresponding display is available on the faceplate. —: No display

6.1.2 Loop tag faceplate (counter)

This section explains counter faceplate.
The following shows the items of multifunctional BC type tag.
The PSUM type tag does not have some lamps and switches since it has only partial functions of BC type tag.

DISPLAY/SETTING SCREEN



<BC>

DISPLAY/SETTING DATA

No.	Item	Description	Object	Character color/display color	Background color
1)	Lockout display	Displays current operating status. Touching this item switches its display in order of blank → Adjusting → Disallowed.	Switch	Blank: No character Adjusting : Black Disallowed : White	Blank : Gray Adjusting : Yellow Disallowed : Red
2)	Tag display	Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue
3)	Alarm display*1	Displays alarm status. This item turns on when either of the following alarms occurs at tag data ALM. • PHA (input high limit)/DPPA (positive variation rate)	Lamp	No alarm: Dark gray Alarm occurrence: Black	No alarm: Black Alarm occurrence: Green*2
4)	Operation switch	Performs counter operation. (1) RUN : Starts integration. (2) HOLD : Stops integration. The integration value is retained. (3) STOP/RESET : Stops integration and resets the value by 0. (4) RESET/START : Resets integration and resumes integration from 0.	Switch*3 Lamp	Black	Lit : Green Not lit : Gray
5)	Indicator*1	Turns on when a PV value exceeds the count value setting. (1) COMPLETE-1 : PV ≧ SV1 (2) COMPLETE-2 : PV ≧ SV2 (3) COMPLETE : PV ≧ SV	Lamp	Completed: Black Other than above: Gray	Completed: Green Other than above: Black
6)	PV value display	Displays a PV value in numerical value.	Numerical display	White	Black
7)	Count value setting*1	Set a count value for SV, SV1, and SV2.*4	Numerical input	White	Black
8)	PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display	White	Black
9)	Tag type display	Displays a tag type. When the faceplate and tag data format do not match, "Not Tag type" flashes.	Character display	White	Black
10)	Move to detailed screen	Displays the BC tuning screen.	Switch	Black	Gray

*1: This item is not displayed in PSUM type tag.

*2: Turns red when the corresponding bit of alarm level ALML is set to on.

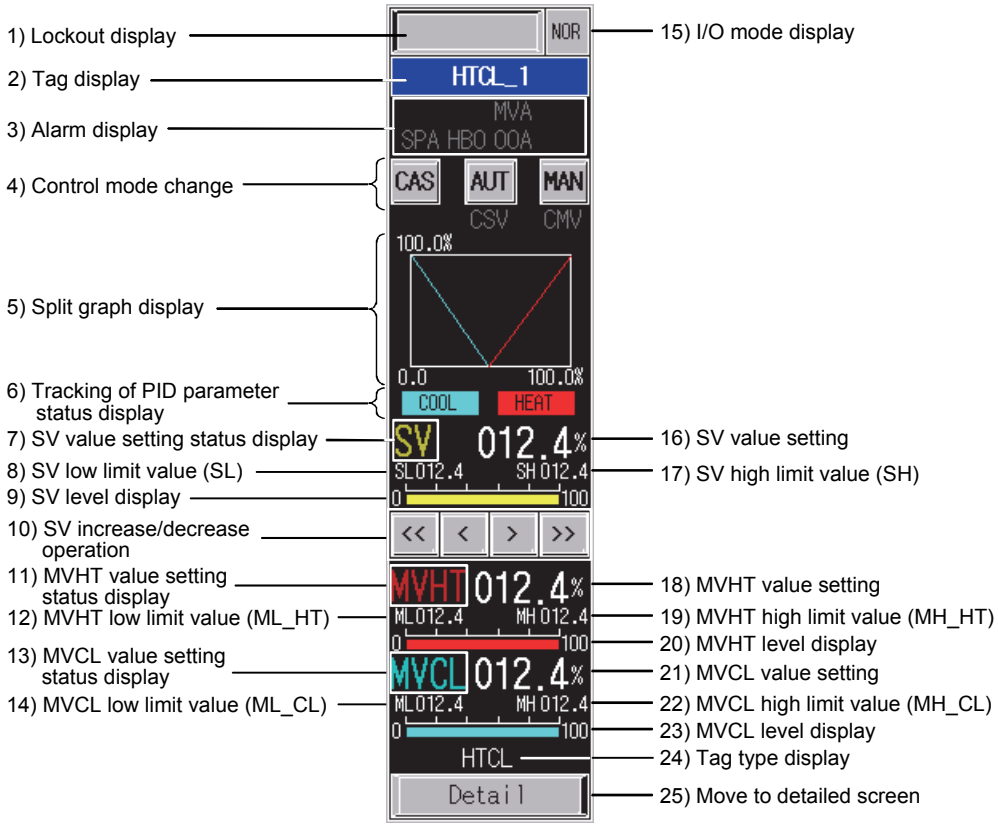
*3: The switches are covered. Touching the switch once uncovers the switch for three seconds. An operation can be continued by touching the switch again while uncovered.
While the switch is covered, its color is displayed gloomily. While uncovered, its color is displayed brightly.

*4: Input a numerical value in the key window displayed by touching the displayed numerical value.

6.1.3 Loop tag faceplate (split)

This section explains split (heating and cooling output) faceplate.

DISPLAY/SETTING SCREEN



<HTCL>

DISPLAY/SETTING DATA

No.	Item	Description	Object	Character color/ display color	Background color
1)	Lockout display	Displays current operating status. Touching this item switches its display in order of blank → Adjusting → Disallowed.	Switch	Blank: No character Adjusting : Black Disallowed : White	Blank : Gray Adjusting : Yellow Disallowed : Red
2)	Tag display	Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue
3)	Alarm display	Displays alarm status. This item turns on when any of the following alarms occurs at tag data ALM. (1) DMLA (output variation rate limit)/MHA (output high limit)/MLA (output low limit) (2) SPA (stop alarm) (3) OOA (output open alarm) (4) HBOA (heater burnout alarm)	Lamp	No alarm: Dark gray Alarm occurrence: Black	No alarm: Black Alarm occurrence: Green*1

*1: Turns red when the corresponding bit of alarm level ALML is set to on.

DISPLAY/SETTING DATA

No.	Item	Description	Object	Character color/ display color	Background color
4)	Control mode change	Displays and changes a control mode. Touching a selectable switch can change the control mode.	Switch	Current mode : Red Selectable : Black Not selectable : Gray	Gray
			Lamp	Current mode : Black Other than above : Gray	Current mode: Green Other than above: Black
5)	Split graph display	Displays the graph starting from SPLT, DBND toward 100% of heating, cooling. Displays the intersection lines which indicate the current SV value and MV value of heating/cooling. X-axis : SV Y-axis : MV_CL, MV_HT	Graph	Heating: Red Cooling: Cyan Intersection line of SV and MV_HT/MV_CL: White	Black
6)	Tracking of PID parameter status display	Displays the PID parameter that is tracking the upper tag. (1) COOL Displays the tracking status of PID parameter of cooling. (2) HEAT Displays the tracking status of PID parameter of heating.	Lamp	Heating: Red Cooling: Light blue (cyan)	Black
7)	SV value setting status display	Turns on when SV value setting is enabled. The character color changes depending on control mode.	Lamp	AUT, MAN: Blight light yellow Except AUT, MAN: Dark light yellow	Black
8)	SV low limit value (SL)	Displays a SV low limit value (SL) in numerical value.	Numerical display	White	Black
9)	SV level display	Displays a SV value from SL to SH by level display.	Level	Yellow	Black
10)	SV increase/ decrease operation	Increases/decreases a SV value when the control mode is AUT or MAN. The following increase/decrease operations can be performed by touching each switch once. The operations can be performed continuously by keeping the button pressed using the auto repeat function.			
	SV up large >>	Increases a SV value from RL to RH by 1%.	Switch	Black	Gray
	SV up small >	Increases a SV value from RL to RH by 0.1%.			
	SV down small <	Decreases a SV value from RL to RH by 0.1%.			
	SV down large <<	Decreases a SV value from RL to RH by 1%.			
11)	MVHT value setting status display	Turns on when MVHT value setting is enabled. The character color changes depending on control mode.	Lamp	MAN: Blight light red Other than above: Dark light red	Black
12)	MVHT low limit value (ML_HT)	Displays a MVHT low limit value (ML_HT) in numerical value.	Numerical display	White	Black

No.	Item	Description	Object	Character color/ display color	Background color
13)	MVCL value setting status display	Turns on when MVCL value setting is enabled. The character color changes depending on control mode.	Lamp	MAN: Blight light blue (cyan) Other than above: Dark light blue (cyan)	Black
14)	MVCL low limit value (ML_CL)	Displays a MVCL low limit value (ML_CL) in numerical value.	Numerical display	White	Black
15)	I/O mode display	Displays I/O mode set to the tag data. *2	Character display	NOR : Black SIM : White OVR : Black TSTP : Black	NOR : Gray SIM : Blue OVR : Light blue (cyan) TSTP : White
16)	SV value setting	Control mode is AUT or MAN: Numerical values can be input.*3 The settable range of a SV value is from SL to SH. Control mode is except AUT and MAN: Only a SV value is displayed.	Numerical input	White	Black
17)	SV high limit value (SH)	Displays a SV high limit value (SH) in numerical value.	Numerical display	White	Black
18)	MVHT value setting	Control mode is MAN: Numerical values can be input.*3 The settable range of a MVHT value is from ML_HT to MH_HT.*4 Control mode is except MAN: Only a MVHT value is displayed.	Numerical input	White	Black
19)	MVHT high limit value (MH_HT)	Displays a MVHT high limit value (MH_HT) in numerical value.	Numerical display	White	Black
20)	MVHT level display	Displays a MVHT value from 0 to 100% by level display.	Level	Red	Black
21)	MVCL value setting	Control mode is MAN: Numerical values can be input.*3 The settable range of a MVCL value is from ML_CL to MH_CL.*4 Control mode is except MAN: Only a MVCL value is displayed.	Numerical input	White	Black
22)	MVCL high limit value (MH_CL)	Displays a MVCL high limit value (MH_CL) in numerical value.	Numerical display	White	Black
23)	MVCL level display	Displays a MVCL value from 0 to 100% by level display.	Level	Light blue (cyan)	Black
24)	Tag type display	Displays a tag type. When the faceplate and tag data format do not match, "Not Tag type" flashes.	Character display	White	Black
25)	Move to detailed screen	Displays the HTCL tuning screen.	Switch	Black	Gray

*2: For the correspondence between each tag type and I/O mode, refer to Section 6.2.1 and Section 6.2.2.

*3: Input a numerical value in the key window displayed by touching the displayed numerical value.

*4: The MV increase/decrease operations can be performed from - 10 to 110% in the monitor tool. However, the operations are limited within the range from MV low limit value (ML) to MV high limit value (MH) in this generated screen.

6.2 Loop Tag Detailed Screen

This section explains the loop tag detailed screen (except Multi-point program setter (PGS2)).
Depending on the number of tag data items, there are two types of tags: a tag consists of one tuning screen and a tag consists of one tuning screen and one tag setting screen.
The following table shows the number of detailed screens, availability of auto tuning, and items assigned to a trend graph for each tag.

Tag	Number of detailed screens	Screen name	Auto tuning	Trend item			PV/SV graph range
				PV	SV	MV	
PID	2	Tuning screen + Tag setting screen	○	○	○	○	RL to RH
2PID	2	Tuning screen + Tag setting screen	○	○	○	○	RL to RH
2PIDH	2	Tuning screen + Tag setting screen	○	○	○*1	○	RL to RH
PIDP	2	Tuning screen + Tag setting screen	×	○	○	○	RL to RH
SPI	2	Tuning screen + Tag setting screen	×	○	○	○	RL to RH
IPD	2	Tuning screen + Tag setting screen	×	○	○	○	RL to RH
BPI	2	Tuning screen + Tag setting screen	×	○	○	○	RL to RH
R	2	Tuning screen + Tag setting screen	×	○	○	○	PV: RL to RH SV: RMIN to RMAX
ONF2	1	Tuning screen	×	○	○	○	RL to RH
ONF3	1	Tuning screen	×	○	○	○	RL to RH
PFC_SF	2	Tuning screen + Tag setting screen	×	○	○*1	○	RL to RH
PFC_SS	2	Tuning screen + Tag setting screen	×	○	○*1	○	RL to RH
PFC_INT	2	Tuning screen + Tag setting screen	×	○	○*1	○*2	RL to RH
MOUT	1	Tuning screen	×	×	×	○	—
MONI	1	Tuning screen	×	○	×	×	RL to RH
SWM	1	Tuning screen	×	○	○*1	×	RL to RH
MWM	1	Tuning screen	×	○	×	○	RL to RH
SEL	1	Tuning screen	×	○	×	○	RL to RH
BC	1	Tuning screen	×	○	○	×	0 to 99999999
PSUM	1	Tuning screen	×	○	×	×	0 to 99999999
PVAL	1	Tuning screen	×	○	○*1	○*3	0 to 100
HTCL	2	Tuning screen + Tag setting screen	×	×	○*4	○*4	0 to 100

*1: SVC after variation rate limit is assigned as a trend item of SV.
*2: Different form other loop tags, the value is displayed within the range from -100 to 100%.
*3: OPEN, STOP, CLOSE are displayed on the position of 75%, 50%, 25% respectively with a graph since the output of PVAL is not MV but VOUT.
*4: SV, MV are displayed as SV, MVHT, MVCL with a graph since MV output becomes MVHT, MVCL output by SV input.

POINT

Since a tag item for which counter high limit is set is not available for the Y-axis scale on the trend graph of BC/PSUM type tags, set 99999999 for the high limit value. Change the high limit value for required scale after generating a graph.

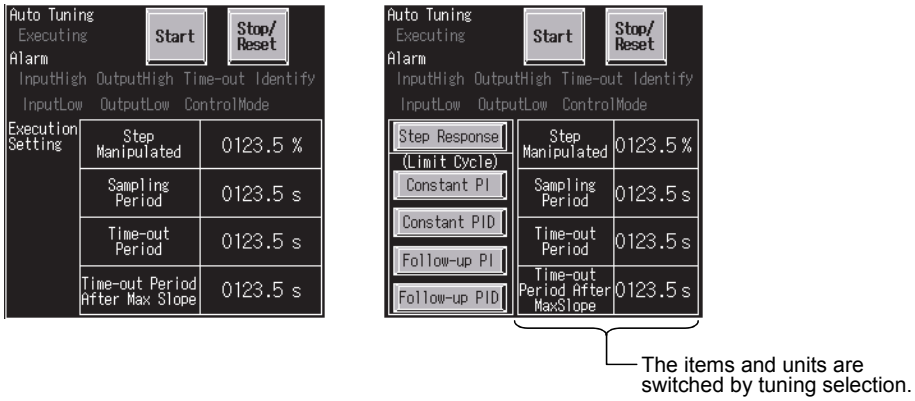
For the trend function of the tuning screen, select either of trend graph and historical trend graph before generating a screen.
Whichever graph is selected, the trend items assigned to the graph is as shown on the table above.

For details of a trend graph on the tuning screen, refer to Section 5.2.
The auto tuning has two methods as shown on the following table.

Tag	Step response method	Limit cycle method	Remarks
PID	○	×	_
2PID	○	×	_
2PIDH	○	○	Switch the setting items with the "Method Type" switch. Step response method: Step manipulated variable/sampling period/time-out period/time-out period after maximum slope Limit cycle method*1: Hysteresis/output high limit value/output low limit value/time-out period

*1:If the version of the programming tool used for writing to the PLC CPU is 1.14Q or earlier, since the version does not support the limit cycle method, the character of the limit cycle method switch is displayed in gray.

The following shows the screen example.



<PID/2PID> <2PIDH>

In the monitor tool, auto tuning mode using the limit cycle method can be selected by selecting the item on the window. In GOT, since there are restrictions on display area, the mode can be selected in the following methods.

Screen selection item of the monitor tool	☐: Using the Derivative Action (OFF)	☑: Using the Derivative Action (ON)
Improves the disturbance response	Equivalent to the "Constant PI" switch on the GOT screen	Equivalent to the "Constant PID" switch on the GOT screen
Suppresses the overshoot when the setting value is changed	Equivalent to the "Follow-up PI" switch on the GOT screen	Equivalent to the "Follow-up PID" switch on the GOT screen

For auto tuning operation, refer to "PX Developer Version 1 Operating Manual (Monitor Tool)".

Set numerical values on the detailed screen in the key window displayed by touching the displayed numerical value.
Green numerical values are only for display. Touching the numerical value does not display the key window.

6.2.1 Loop tag detailed screen (2-screen configuration)

This section explains the detailed screen of loop tag such as PID and 2PID types composed of two types of screens: tuning screen and tag setting screen.
The following explains with an example when selecting a historical trend graph in the 2PIDH type tag that has the greatest number of functions.
Tags other than 2PIDH type do not have some lamps and switches since they have only partial functions of 2PIDH type tag.
The number of tags that can select historical trend graph is up to 32.
For details, refer to Section 5.2.

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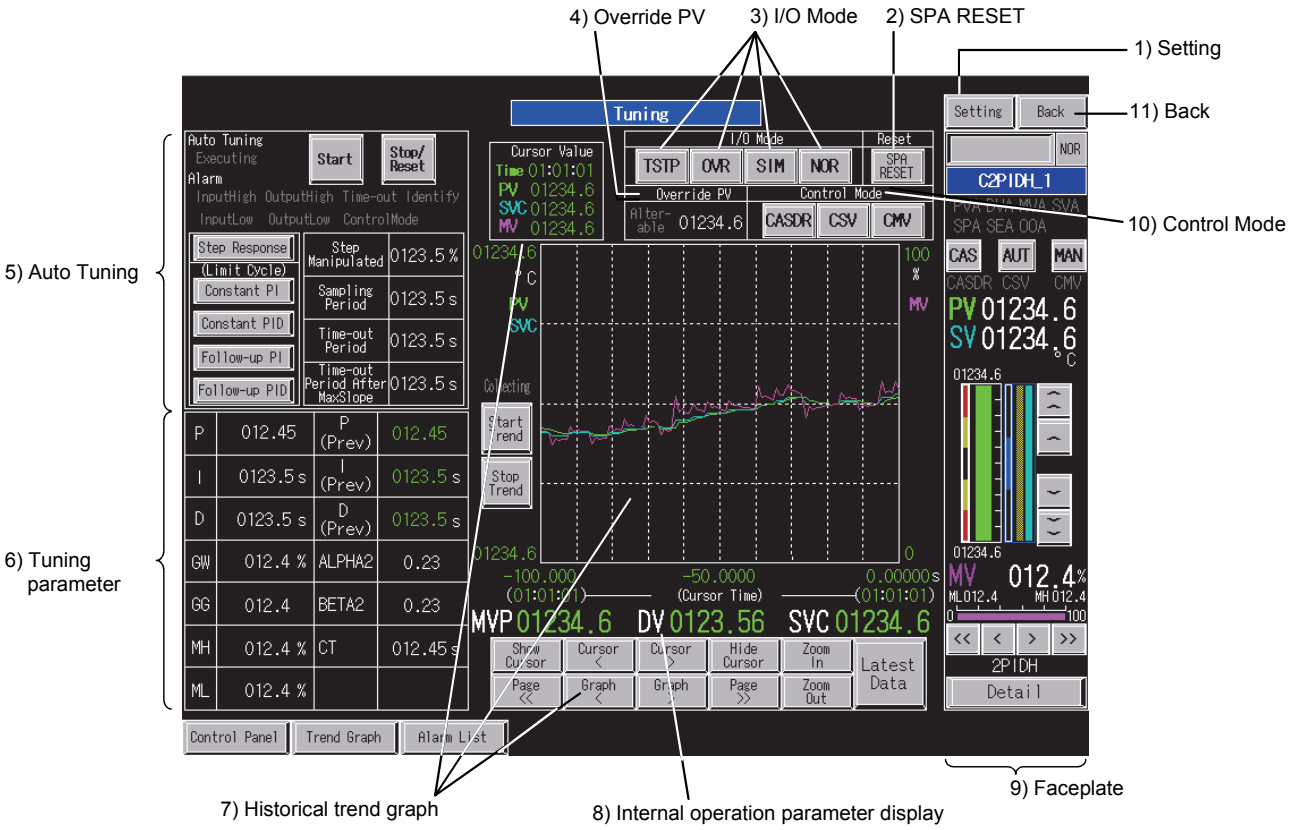

<Example of the tuning screen of SVGA type>

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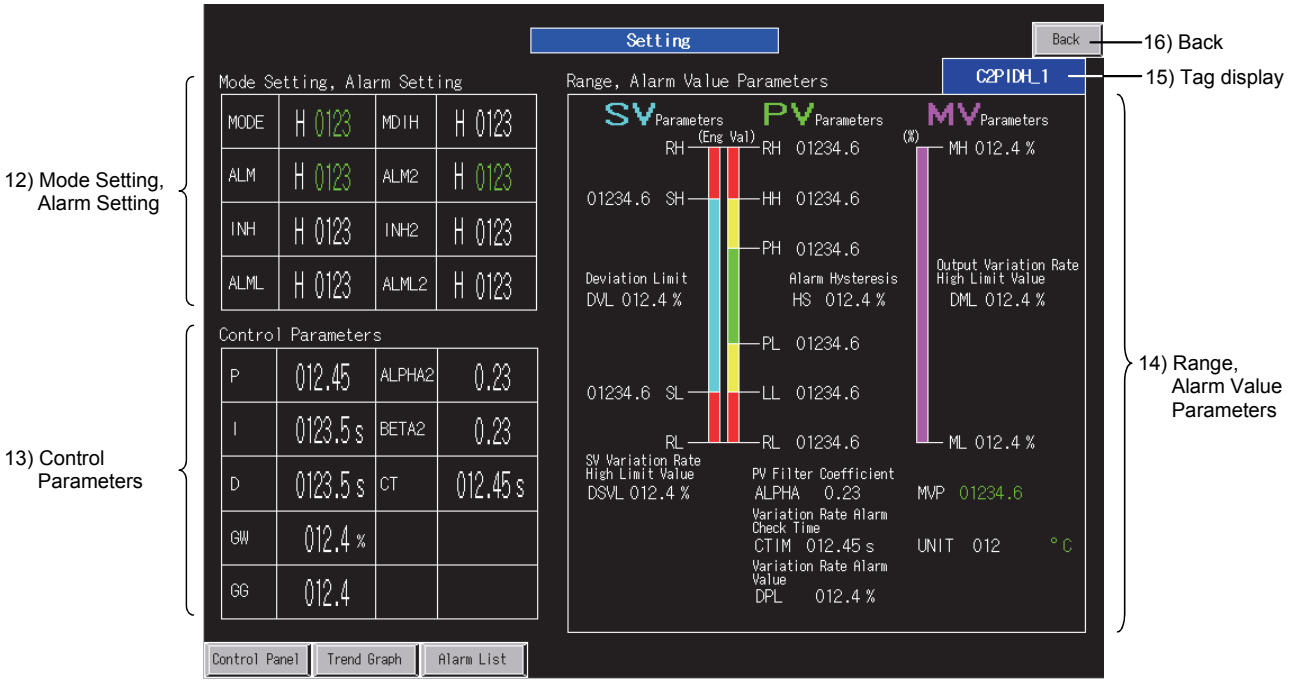
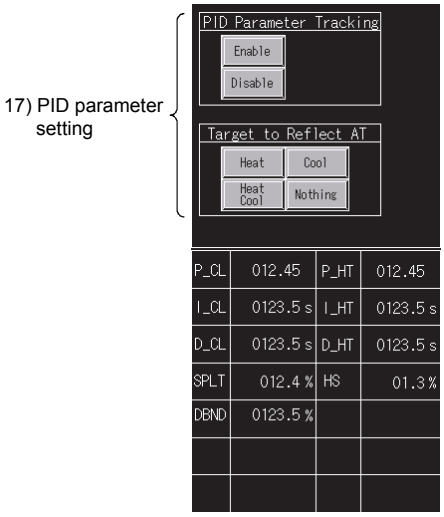
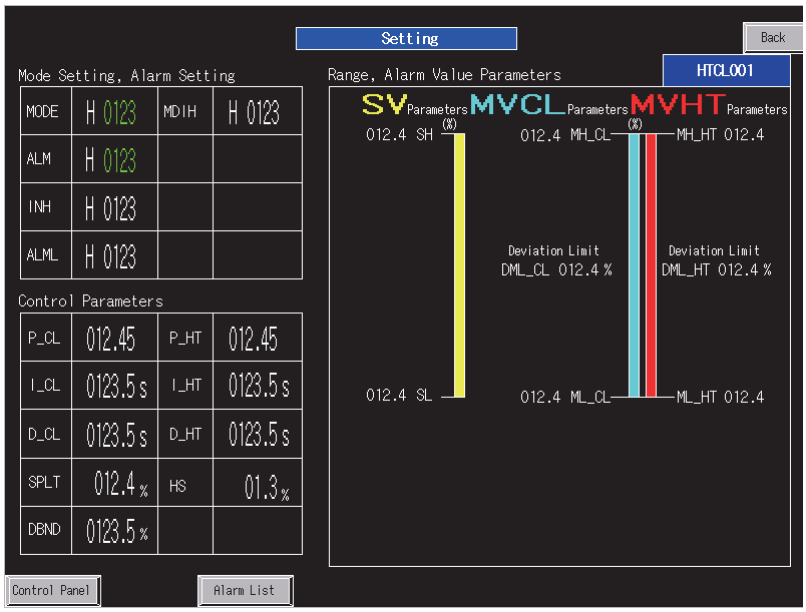


<Example of the tag setting screen of SVGA type>



<Example of 17) PID parameter setting and 6) Tuning parameter area for HTCL>



<Example of the tag setting screen of HTCL type>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	Setting		Displays the tag setting screen.	Switch	Black	Gray
2)	SPA RESET		Resets an SPA (stop alarm).	Switch	Black	Gray
3)	I/O Mode	NOR	Can change the I/O mode from SIM/OVR/TSTP to NORMAL only when the control mode is MAN.	Switch	Current mode : Red Selectable : Black Not selectable : Gray	Gray
		SIM	Can change the I/O mode to SIMULATION only when the control mode is MAN.			
		OVR	Can change the I/O mode to OVERRIDE only when the control mode is MAN.			
		TSTP	Changes the I/O mode to TAG STOP.			
4)	Override PV	Alterable	Changes the mode to OVERRIDE and turns on when a PV value can be overwritten.	Lamp	Lit : Black Not lit : Gray	Lit : Green Not lit : Black
		PV value	Changes the mode to OVERRIDE. Numerical values can be input when a PV value can be overwritten.*1 Other than above status, the PV value is displayed.	Numerical input	White	Black

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

No.	Item		Description	Object	Character color/ display color	Background color
5)	Auto Tuning	Executing	Turns on when auto tuning (AT) is in execution.	Lamp	In execution: Black Other than above: Gray	In execution: Light blue (cyan) Other than above: Black
		Start	Starts executing auto tuning (AT).	Switch	Black	Gray
		Stop/Reset	Stops AT and resets alarms. The target alarms for reset is seven items from "InputHigh" to "Identify".	Switch	Black	Gray
		InputHigh*2	Turns on when PV input became high limit alarm (including the high high limit alarm) while AT is in execution.	Lamp	Lit : Black Not lit : Gray	Lit : Red Not lit : Black
		InputLow*2	Turns on when PV input became low limit alarm (including the low low limit alarm) while AT is in execution.			
		OutputHigh*2	Turns on when MV output became high limit alarm while AT is in execution.			
		OutputLow*2	Turns on when MV output became low limit alarm while AT is in execution.			
		Time-out*2	Turns on when turning is timed out while AT is in execution.			
		ControlMode*2	Turns on when the operation mode became an error while AT is in execution.			
		Identify*2	Turns on when the PID value is not identified while AT is in execution.			
		Step Response Constant PI Constant PID Follow-up PI Follow-up PID	Select the execution mode for AT. The execution mode cannot be changed while AT is in execution.	Switch	Current mode: Red Other than above: Black	Gray
		AT parameter 1 setting item display*3	Displays "Step Manipulated" when the AT execution mode is step response method. Other than that, "Hysterisis" is displayed.	Character display	White	Black
		AT parameter 2 setting item display*3	Displays "Sampling Period" when the AT execution mode is step response method. Other than that, "Output High Limit Value" is displayed.			
		AT parameter 3 setting item display*3	Displays "Time-out Period" when the AT execution mode is step response method. Other than that, "Output Low Limit Value" is displayed.			
		AT parameter 4 setting item display*3	Displays "Time-out Period After Max Slope" when the AT execution mode is step response method. Other than that, "Time-out Period" is displayed.			

*2: For details, refer to "PX Developer Version 1 Operating Manual (Monitor Tool)".

*3: For PID/2PID type tags, switching display is not available and the display is fixed to the item of step response method. For details, refer to Section 6.2.

No.	Item		Description	Object	Character color/display color	Background color
5)	Auto Tuning (continued)	AT parameter 1*1	Input a setting value to parameter 1. The setting value cannot be changed while AT is in execution.	Numerical input	White	Black
		AT parameter 2*1	Input a setting value to parameter 2. The setting value cannot be changed while AT is in execution.			
		AT parameter 3*1	Input a setting value to parameter 3. The setting value cannot be changed while AT is in execution.			
		AT parameter 4*1	Input a setting value to parameter 4. The setting value cannot be changed while AT is in execution.			
		AT parameter 2 unit display	Displays "s" when the AT execution mode is step response method. Other than that, "%" is displayed.	Character display	White	Black
		AT parameter 3 unit display				
6)	Tuning parameter	P/I/D/GW/GG/ MH/ML	Displays a numerical value at corresponding item of the tag data. Input a numerical value.*1	Numerical input	White	Black
		P (Prev)/ I (Prev)/ D (Prev)	Displays a value when execution of AT is started. The value is reset to 0 at initialization of GOT.	Numerical display	Green	Black
		ALPHA2/BETA2/ CT/CTDUTY/ST/ STHT/BIAS/DM/ KM/TRBF/ HORIZON/TM/ TM1/TM2	Displays a numerical value at corresponding item of the tag data. Input a numerical value.*1	Numerical input	White	Black
	Tuning parameter (HTCL type tag)	P_CL/I_CL/ D_CL/P_HT/ I_HT/D_HT/ SPLT/DBND/HS				

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

No.	Item		Description	Object	Character color/ display color	Background color
7)	Historical trend graph or trend graph	Graph display*4	(1) Displays transition of PV, MV, and SV values in time series when a historical trend graph is selected and generated. The graph is updated in 1-second period. Even if the screen is changed, the history display is not cleared and remains. The history display is cleared by reset or power-on of GOT.	Graph	PV : Green SVC : Magenta MV : Light blue (cyan)	Black
			(2) Displays transition of PV, MV, and SV values in time series when a trend graph is selected and generated. The graph is updated in 1-second period. The history display is cleared by changing the screen.			
		Graph high limit value/low limit value	Displays an engineering high limit value (RH) and engineering low limit value (RL). However, for R type, a SV value is displayed within the range from RMIN to RMAX. Since BC and PSUM type tags do not have the tag item that stores the display range, set from 0 to 99999999. Change the high limit value, 99999999, when necessary.	Numerical display	Green	Black
		PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display	White	Black
		Start Trend	Starts collecting trend graphs.	Switch	Black	Gray
		Stop Trend	Stops collecting trend graphs.			
		Cursor time*5	Displays time (hour/minute/second) indicated by the cursor. While the cursor is not displayed, 00:00:00 is displayed.	Numerical display	Green	Black
		PV cursor value*5	Displays a value at the cursor position in historical trend graph.			
		SV cursor value*5				
		MV cursor value*5				
		Graph start time*5	Displays the start time of graph display while the cursor is displayed. While the cursor is not displayed, 00:00:00 is displayed.			
		Graph end time*5	Displays the end time of graph display while the cursor is displayed. While the cursor is not displayed, 00:00:00 is displayed.			

*4: For 2PIDH/PFC_SF/PFC_SS/PFC_INT type tag, SVC value is displayed instead of SV value.
For HTCL type tag, SV value, MVHT value, and MVCL value are displayed instead of PV value, MV value, and SV value respectively.
For graph setting, refer to Section 5.2.1.

*5: This item is displayed when historical trend graph is selected.

No.	Item		Description	Object	Character color/ display color	Background color
7)	Historical trend graph or trend graph (continued)	Graph control switch*5	Controls graph display. Show Cursor : Displays the cursor. Cursor < : Moves the cursor to the left.*6 Cursor > : Moves the cursor to the right.*6 Hide Cursor : Hides the cursor. Page << : Moves a page to the left.*6 Page >> : Moves a page to the right.*6 Graph < : Left shifts a graph.*6 Graph > : Right shifts a graph.*6 Zoom In : Zooms in a screen with centering the cursor.*6 Zoom Out : Zooms out a screen with centering the cursor.*6 Latest Data : Moves the position to the latest position and resumes updating a graph.	Switch	Black	Gray
8)	Internal operation parameter display	MVP	Displays a numerical value at corresponding item of the tag data.	Numerical display	Green	Black
		DV				
		SVC				
		SDV				
		RN				
9)	Faceplate		Refer to Section 6.1.1.	Quotation from the screen	—	—
10)	Control Mode	CASDR	Can switch the control mode to CASDR during CAS mode.	Switch	Current mode: Red Selectable: Black Not selectable: Gray	Gray
		CSV	Switches the control mode to CSV.			
		CMV	Switches the control mode to CMV.			
11)	Back		Returns the display to the previous screen.	Switch	Black	Gray
12)	Mode Setting, Alarm Setting	MODE/ ALM/ ALM2	Displays a tag data value. (hexadecimal)	Numerical display	Green	Black
		MDIH/ INH/ ALML/ INH2/ ALML2	Set a value to tag data.*1 (hexadecimal)	Numerical input	White	Black

*5: This item is displayed when historical trend graph is selected.

*6: The operation can be performed continuously by keeping the button pressed using the auto repeat function.

No.	Item		Description	Object	Character color/display color	Background color
13)	Control Parameters	P/I/D/GW/GG/ ALPHA2/BETA2/ CT/CTDUTY/ST/ STHT/DM/KM/ TRBF/HORIZON/ TM/TM1/TM2	Set a value to tag data. *1	Numerical input	White	Black
	Control Parameters (HTCL type tag)	P_CL/I_CL/D_CL/ P_HT/I_HT/D_HT/ SPLT/DBND/HS				
14)	Range, Alarm Value Parameters	SH/SL/HH/LL/PH/ PL	Set a value to tag data.*1 The high limit of setting is RH value and the low limit of setting is RL value.	Numerical input	White	Black
		RH/RL/DVL /DSVL/HS/ALPHA /CTIM/DPL/MH /ML/DML/UNIT /BIAS/RMAX /RMIN/DR	Set a value to tag data.*1			
		MVP	Displays a tag data value.	Numerical display	Green	Black
		PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display	Green	Black
	Range, Alarm Value Parameters (HTCL type tag)	SH/SL/MH_CL/ ML_CL/DML_CL/ MH_HT/ML_HT/ DML_HT	Set a value to tag data.*1	Numerical input	White	Black
15)	Tag display		Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue
16)	Back		Returns the display to the previous screen.	Switch	Black	Gray
17)	PID parameter setting (PRM_TRK, PRM_SEL)	PID Parameter Tracking Enable	Set PID parameter tracking to enable.	Switch	Black	Gray
		PID Parameter Tracking Disable	Set PID parameter tracking to disable.			
		Target to Reflect AT Heating	Set Target to Reflect AT to heating.			
		Target to Reflect AT Cooling	Set Target to Reflect AT to cooling.			
		Target to Reflect AT Heating Cooling	Set Target to Reflect AT to heating and cooling.			
		Target to Reflect AT Nothing	Set Target to Reflect AT to nothing.			

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

The following table shows which items are displayed on detailed screens of each tag type.

		Controller											Split
		PID	2PID	2PIDH	PIDP	SPI	IPD	BPI	R	PFC_SF	PFC_SS	PFC_INT	HTCL
Setting		○	○	○	○	○	○	○	○	○	○	○	○
SPA RESET		○	○	○	○	○	○	○	○	○	○	○	○
I/O Mode	NOR	○	○	○	○	○	○	○	○	○	○	○	○
	SIM/OVR	○	○	○	○	○	○	○	○	○	○	○	—
	TSTP	—	—	○	—	—	—	—	—	○	○	○	○
Override PV		○	○	○	○	○	○	○	○	○	○	○	—
Auto Tuning*1		(○)	(○)	○	—	—	—	—	—	—	—	—	—
Tuning parameter	P/I/GW/GG	○	○	○	○	○	○	○	—	—	—	—	—
	D	○	○	○	○	—	○	—	—	—	—	—	—
	MH/ML	○	○	○	—	—	—	—	—	—	—	—	—
	P (Prev)/I (Prev)/D (Prev)	○	○	○	—	—	—	—	—	—	—	—	—
	ALPHA2/BETA2	—	○	○	—	—	—	—	—	—	—	—	—
	CT	○	○	○	○	—	○	○	○	○	○	○	—
	CTDUTY	○	○	—	—	○	○	○	—	—	—	—	—
	ST/STHT	—	—	—	—	○	—	—	—	—	—	—	—
	BIAS	—	—	—	—	—	—	—	○	—	—	—	—
	DM/KM/TRBF/HORIZON	—	—	—	—	—	—	—	—	○	○	○	—
	TM	—	—	—	—	—	—	—	—	○	—	—	—
	TM1/TM2	—	—	—	—	—	—	—	—	—	○	—	—
	P_CL/I_CL/D_CL/P_HT/I_HT/D_HT/SPLT/DBND/HS	—	—	—	—	—	—	—	—	—	—	—	○
Historical trend graph or trend graph		○	○	○	○	○	○	○	○	○	○	○	○
Internal operation parameter display	MVP	○	○	○	—	○	○	○	—	○	○	○	—
	DV	○	○	○	○	○	○	○	—	○	○	○	—
	SVC	—	—	○	—	—	—	—	—	○	○	○	—
	SDV	—	—	—	—	—	—	○	—	—	—	—	—
	RN	—	—	—	—	—	—	—	○	—	—	—	—
Faceplate		○	○	○	○	○	○	○	○	○	○	○	○
Control Mode	CASDR	—	—	○	—	—	—	—	—	—	—	—	—
	CSV/CMV	○	○	○	○	○	○	○	○	○	○	○	○
Back		○	○	○	○	○	○	○	○	○	○	○	○
Mode Setting, Alarm Setting	MODE/ALM/MDIH/INH/ALML	○	○	○	○	○	○	○	○	○	○	○	○
	ALM2/INH2/ALML2	—	—	○	—	—	—	—	—	○	○	○	—
Control Parameters	P/I/D/GW/GG/ALPHA2/BETA2/CT/CTDUTY/ST/STHT/DM/KM/TRBF/HORIZON/TM/TM1/TM2	○	○	○	○	○	○	○	○	○	○	○	—
	P_CL/I_CL/D_CL/P_HT/I_HT/D_HT/SPLT/DBND/HS	—	—	—	—	—	—	—	—	—	—	—	○
Range, Alarm Value Parameters	SH/SL/HH/LL/PH/PL/RH/RL/DVL/HS/ALPHA/CTIM/DPL/MH/ML/DML/UNIT	○	○	○	○	○	○	○	○	○	○	○	—
	SH/SL/MH_CL/ML_CL/DML_CL/MH_HT/ML_HT/DML_HT	—	—	—	—	—	—	—	—	—	—	—	○
	DSVL	—	—	○	—	—	—	—	—	○	○	○	—
	BIAS/RMAX/RMIN/DR	—	—	—	—	—	—	—	○	—	—	—	—
	MVP	○	○	○	—	○	○	○	—	○	○	○	—
	PV value engineering unit display	○	○	○	○	○	○	○	○	○	○	○	—
Tag display		○	○	○	○	○	○	○	○	○	○	○	○
Back		○	○	○	○	○	○	○	○	○	○	○	○
PID parameter setting (PRM_TRK, PRM_SEL)		—	—	—	—	—	—	—	—	—	—	—	○

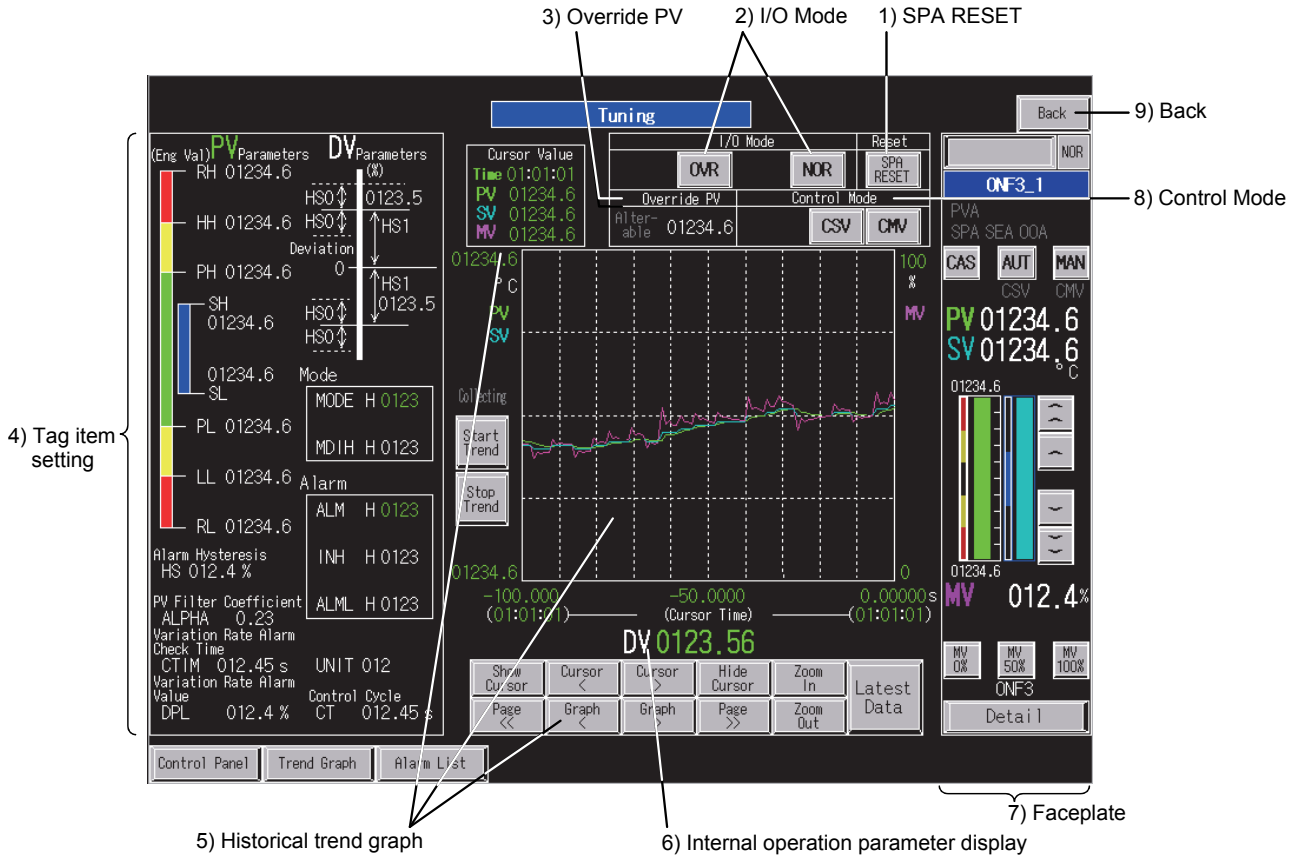
○: Corresponding display is available on the detailed screen. (○): Only a part of common pattern is displayed. —: No display

*1: For the PID/2PID type tags, the selection switches are not displayed.

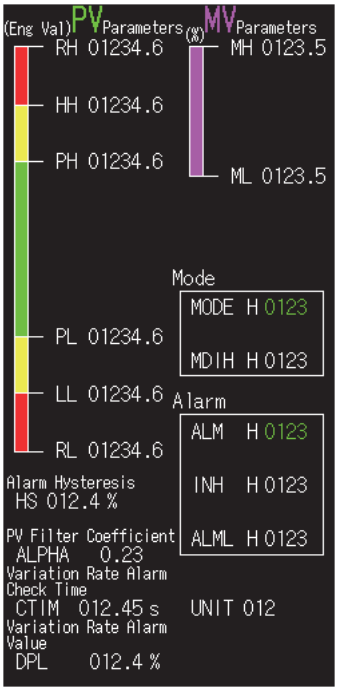
6.2.2 Loop tag detailed screen (one-screen configuration)

This section explains the detailed screen of loop tag such as ONF2 and ONF3 types composed of only the tuning screen.
The following explains it with an example when selecting a historical trend graph in the ONF3 type tag that has the greatest number of functions.
Tags other than ONF3 type do not have some lamps and switches since they have only partial functions of ONF3 type tag.
When using such as MWM type tag that has settings unavailable for the ONF3 type tag, such as a setting related to MV value, the related displays are placed on the empty area in the tag item setting area.
The number of tags that can select historical trend graph is up to 32.
For details, refer to Section 5.2.

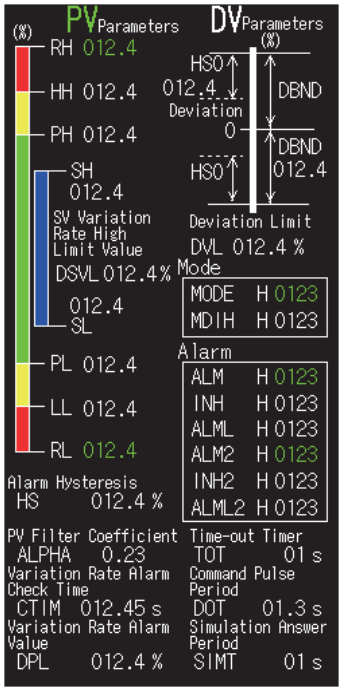
DISPLAY/SETTING SCREEN



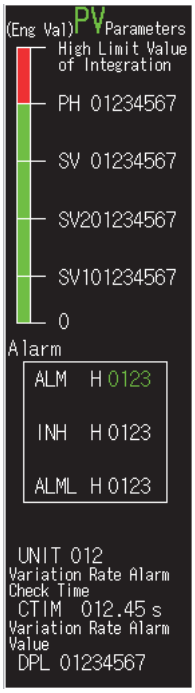
<Example of the tuning screen of SVGA type>



<Example of 4) Tag item setting area for MWM type tag>



<Example of 4) Tag item setting area for PVAL type tag>



<Example of 4) Tag item setting area for BC type tag>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	SPA RESET		Resets an SPA (stop alarm).	Switch	Black	Gray
2)	I/O Mode	NOR	Can change the I/O mode from OVR to NORMAL only when the control mode is MAN.	Switch	Current mode: Red Selectable: Black Not selectable: Gray	Gray
		OVR	Can change the I/O mode to OVERRIDE only when the control mode is MAN.			
		TSTP	Can change the I/O mode to TAG STOP.			
3)	Override PV	Alterable	Changes the mode to OVERRIDE and turns on when the PV value can be overwritten.	Lamp	Lit : White Not lit : Gray	Black
		PV value	Changes the mode to OVERRIDE and turns on when the PV value can be overwritten. *1 Other than above status, the PV value is displayed.	Numerical input	White	Black
4)	Tag item setting	MODE/ALM/ALM2	Displays a tag data value. (hexadecimal)	Numerical display	Green	Black
		MDIH/INH/ALML/ INH2/ALML2	Set a value to tag data. *1 (hexadecimal)	Numerical input	White	Black
		SH/SL/HH/LL/PH/ PL	Set a value to tag data. *1 The high limit of setting is RH value and the low limit of setting is RL value.			
		RH/RL/HS0/HS1/ DBND/HS/ALPHA/ CTIM/DPL/UNIT/ CT/DML/DSVL/ DVL/MH/ML/TOT/ DOT/SIMT	Set a value to tag data. *1			

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

No.	Item		Description	Object	Character color/ display color	Background color
5)	Historical trend graph or trend graph	Graph display*2 *3	(1) Displays transition of PV, MV, and SV values in time series when a historical trend graph is selected and generated. The graph is updated in 1-second period. Even if the screen is changed, the history display is not cleared and remains. The history display is cleared by reset or power-on of GOT.	Graph	PV : Green SVC : Magenta MV : Light blue (cyan)	Black
			(2) Displays transition of PV, MV, and SV values in time series when a trend graph is selected and generated. The graph is updated in 1-second period. If the screen is changed, the history display is cleared.			
		Graph high limit value	Displays an engineering high limit (RH).	Numerical display	Green	Black
		Graph low limit value	Displays an engineering low limit (RL).			
		PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display	White	Black
		Start Trend	Starts collecting trend graphs.	Switch	Black	Gray
		Stop Trend	Stops collecting trend graphs.			
		Cursor time*4	Displays time (hour/minute/second) indicated by the cursor. While the cursor is not displayed, 00:00:00 is displayed.	Numerical display	Green	Black
		PV cursor value*4	Displays a value at the cursor position in historical trend graph.			
		SV cursor value*4				
		MV cursor value*4				
		Graph start time*4	Displays the start time of graph display while the cursor is displayed. While the cursor is not displayed, 00:00:00 is displayed.			
		Graph end time*4	Displays the end time of graph display while the cursor is displayed. While the cursor is not displayed, 00:00:00 is displayed.			

*2: For graph setting, refer to Section 5.2.1.

*3: For PVAL type tag, VOUT value is displayed instead of MV value. For graph setting, refer to Section 5.2.1.

*4: This item is displayed when historical trend graph is selected.

No.	Item		Description	Object	Character color/display color	Background color
5)	Historical trend graph or trend graph (continued)	Graph control switch[*4]	Controls graph display. Show Cursor : Displays the cursor. Cursor < : Moves the cursor to the left.[*5] Cursor > : Moves the cursor to the right.[*5] Hide Cursor : Hides the cursor. Page << : Moves a page to the left.[*5] Page >> : Moves a page to the right.[*5] Graph < : Left shifts a graph.[*5] Graph > : Right shifts a graph.[*5] Zoom In : Zooms in a screen with centering the cursor.[*5] Zoom Out : Zooms out a screen with centering the cursor.[*5] Latest Data : Moves the position to the latest position and resumes updating a graph.	Switch	Black	Gray
6)	Internal operation parameter display	DV	Displays a numerical value at corresponding item of the tag data.	Numerical display	Green	Black
		SUM2				
		PV1/PV2				
		SVC/MV				
7)	Faceplate		Refer to Section 6.1.1.	Quotation from the screen	—	—
8)	Control Mode	CSV	Switches the control mode to CSV.	Switch	Current mode: Red Selectable: Black Not selectable: Gray	Gray
		CMV	Switches the control mode to CMV.			
9)	Back		Returns the display to the previous screen.	Switch	Black	Gray

*4: This item is displayed when historical trend graph is selected.

*5: The operation can be performed continuously by keeping the button pressed using the auto repeat function.

The following table shows which items are displayed on detailed screens of each tag type.

		Controller								Counter	
		ONF2	ONF3	MOUT	MONI	SWM	MWM	SEL	PVAL	BC	PSUM
SPA RESET		○	○	○	○	○	○	○	○	—	—
I/O Mode	NOR/OVR	○	○	—	○	○	○	—	○	—	—
	SIM	—	—	—	—	—	—	—	○	—	—
	TSTP	—	—	—	—	○	—	—	○	—	—
Override PV		○	○	—	○	○	○	—	○	—	—
Tag item setting	MODE	○	○	○	—	○	○	○	○	—	—
	ALM	○	○	○	○	○	○	○	○	○	—
	MDIH	○	○	○	○	○	○	○	○	—	—
	ALML	○	○	○	○	○	○	○	○	○	—
	INH	○	○	—	○	○	○	○	○	○	—
	ALM2/INH2/ALML2	—	—	—	—	○	—	—	○	—	—
	SH/SL	○	○	—	—	○	—	—	○	—	—
	HH/LL/PL	○	○	—	○	○	○	—	○	—	—
	PH	○	○	—	○	○	○	—	○	○	—
	RH/RL	○	○	—	○	○	○	○	○	—	—
	HS0	○	○	—	—	—	—	—	○	—	—
	HS1	—	○	—	—	—	—	—	—	—	—
	DBND	—	—	—	—	—	—	—	○	—	—
	HS/ALPHA	○	○	—	○	○	○	—	○	—	—
	CTIM/DPL	○	○	—	○	○	○	—	○	○	—
	UNIT	○	○	○	○	○	○	○	—	○	○
	CT	○	○	—	—	○	—	○	—	—	—
	DSVL/DVL	—	—	—	—	○	—	—	○	—	—
	MH/ML	—	—	○	—	—	○	○	—	—	—
	DML	—	—	—	—	—	—	○	—	—	—
	TOT/DOT/SIMT	—	—	—	—	—	—	—	○	—	—
Historical trend graph or trend graph		○	○	○	○	○	○	○	○	○	○
Internal operation parameter display	DV	○	○	—	○	○	—	—	○	—	—
	SUM2	—	—	—	—	—	—	—	—	○	○
	PV1/PV2	—	—	—	—	—	—	○	—	—	—
	SVC	—	—	—	—	○	—	—	○	—	—
	MV	—	—	—	—	○	—	—	—	—	—
	MVP	—	—	—	—	—	—	○	—	—	—
Faceplate		○	○	○	○	○	○	○	○	○	○
Control Mode	CSV	○	○	—	○	○	—	○	○	—	—
	CMV	○	○	○	—	—	○	○	—	—	—
Back		○	○	○	○	○	○	○	○	○	○

○: Corresponding display is available on the detailed screen. —: No display

MEMO

6-30

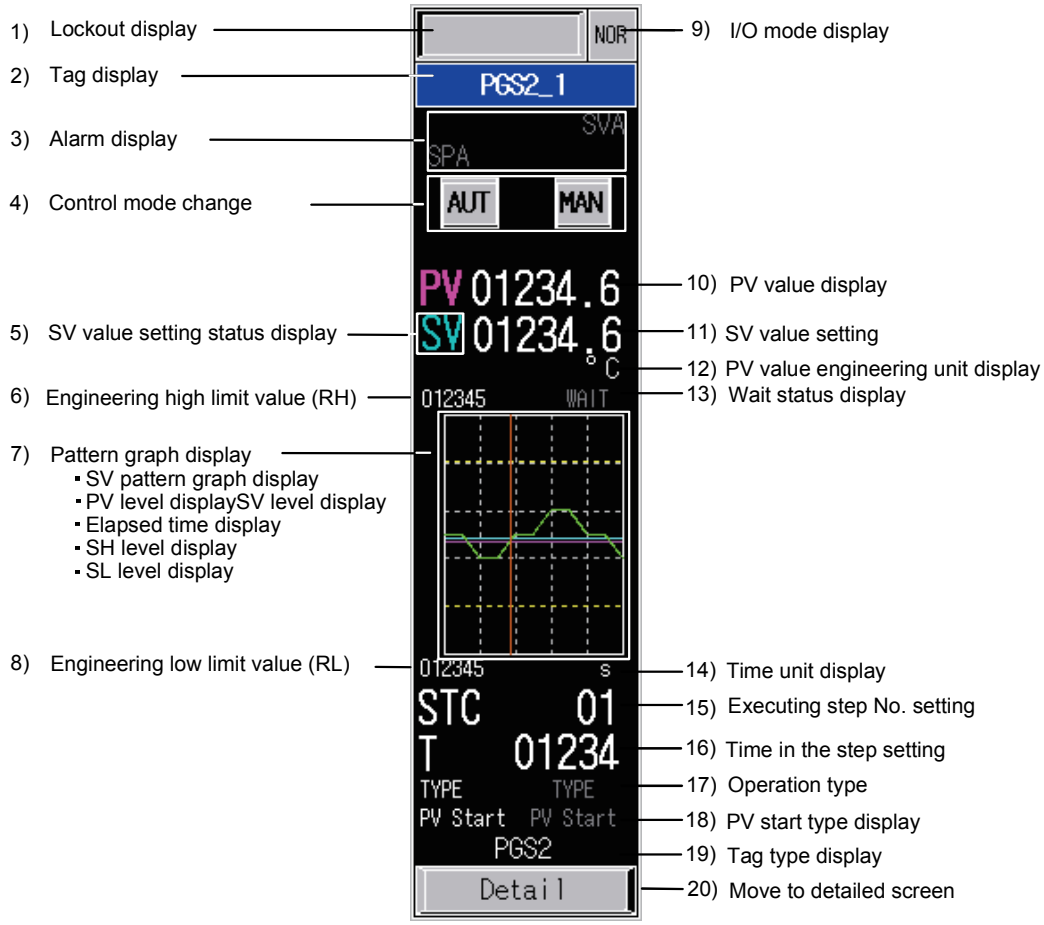
7 PGS2 TYPE TAG SCREEN

This chapter explains details of a faceplate, tuning screen, and tag setting screen configuring a GOT screen project generated from PGS2 loop tag using SVGA type as an example.

7.1 PGS2 Faceplate

This section explains PGS2 faceplate configuring a GOT screen project.

DISPLAY/SETTING SCREEN



<PGS2>

DISPLAY/SETTING DATA

No.	Item	Description	Object	Character color/ display color	Background color
1)	Lockout display	Displays current operating status. Touching this item switches its display in order of blank → Adjusting → Disallowed.	Switch	Blank : No character Adjusting : Black Disallowed : White	Blank : Gray Adjusting : Yellow Disallowed : Red
2)	Tag display	Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue
3)	Alarm display	Displays alarm status. This item turns on when any of the following alarms occurs at tag data ALM. (1) SVHA (SV high limit) (2) SVLA (SV low limit) (3) SPA (Stop alarm)	Lamp	No alarm: Dark gray Alarm occurrence: Black	No alarm: Gray Alarm occurrence: Green*1
4)	Control mode change	Displays and changes a control mode. Touching a selectable switch can change the control mode.	Switch Lamp	Current mode : Red Selectable : Black Not selectable : Gray	Gray
5)	SV value setting status display	Turns on when SV value setting is enabled. The character color changes depending on control mode.	Lamp	AUT, MAN: Blight light blue (cyan) Except AUT, MAN: Dark light blue (cyan)	Black
6)	Engineering high limit value (RH)	Displays an engineering high limit value (RH) in numerical value.	Numerical display	White	Black
7)	Pattern graph display • SV pattern graph display • PV level display • SV level display • Elapsed time display • SH level display • SL level display	Displays setting values for predetermined time per step in a graph.*2	Graph	Setting value (SV): Green Current SV value: Light blue (cyan) Current PV value: magenta Current elapsed time: Brown SV high limit value (SH): Yellow SV low limit value (SL): Yellow	Black
8)	Engineering low limit value (RL)	Displays an engineering low limit value (RL) in numerical value.	Numerical display	White	Black
9)	I/O mode display	Displays I/O mode set to the tag data.	Character display	NOR : Black TSTP : Black	NOR : Gray TSTP : White
10)	PV value display	Displays a PV value in numerical value.	Numerical display	White	Black
11)	SV value setting	Control mode is AUT or MAN: Numerical values can be input.*3 The settable range of a SV value is from SL to SH. Control mode is except AUT and MAN: Only a SV value is displayed.	Numerical input	White	Black
12)	PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display	White	Black
13)	Wait status display	Turns on during wait status.	Lamp	Normal : Gray During wait status : Black	Normal: Black During wait status: Green

*1: Turns red when the corresponding bit of alarm level ALML is set to on.

*2: If the pattern graph is not displayed, touch the Refresh Graph switch on the tuning screen or tag setting screen and generate the graph.

*3: Input a numerical value in the key window displayed by touching the displayed numerical value.

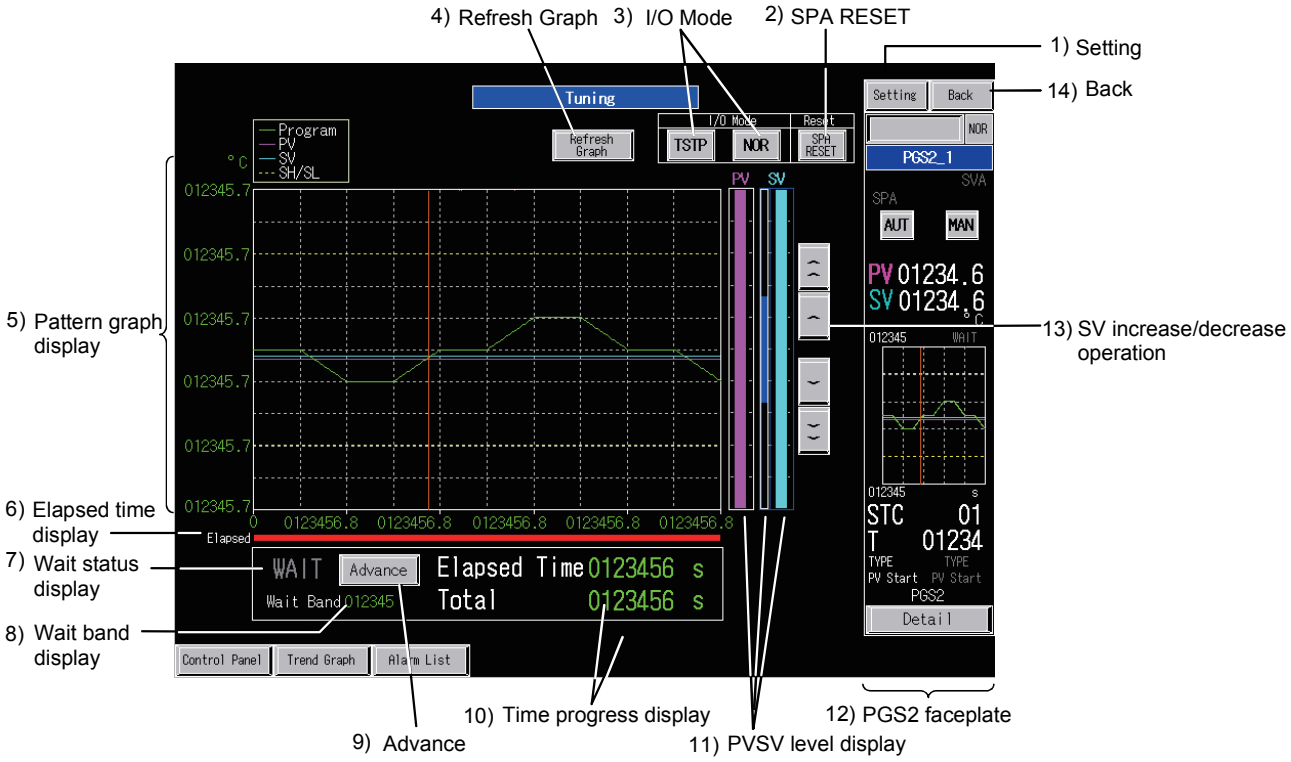
No.	Item	Description	Object	Character color/display color	Background color
14)	Time unit display	Displays a unit of SV setting display time (second/minute).	Character display	White	Black
15)	Executing step No. setting	Displays executing step No. (STC).*4 Set it within the range from 0 to STNO.	Numerical input	White	Black
16)	Time in the step setting	Displays time in the step (T).*4 Set it within the range 0 to 32767.	Numerical input	White	Black
17)	Operation type	Displays an operation type when a program is completed. Any of HOLD, CYCLIC, or RETURN is displayed.	Character display	White	Black
18)	PV start type display	Displays a PV start type. Any of SV0 start, Start point correction, or Start point searching is displayed.	Character display	White	Black
19)	Tag type display	Displays a tag type. When the faceplate and tag data format do not match, "Not Tag type" flashes.	Character display	White	Black
20)	Move to detailed screen	Displays the PGS2 tuning screen.	Switch	Black	Gray

*4: Input a numerical value in the key window displayed by touching the displayed numerical value.

7.2 PGS2 Tuning Screen

This section explains the tuning screen of PGS2 (Multi-point program setter).
Display contents of the pattern graph on the tuning screen depend on the setting of "Select the PGS2 tags whose screen displays Trend Graph of PV" (☞ Section 4.7) when the screen is generated.

DISPLAY/SETTING SCREEN



<Example of the tuning screen of SVGA type>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	Setting		Displays the PGS2 type tag setting screen.	Switch	Black	Gray
2)	SPA RESET		Resets an SPA (stop alarm).	Switch	Black	Gray
3)	I/O Mode	NOR	Changes the I/O mode to NORMAL.	Switch	NOR is selected : Red Except NOR : Black	Gray
		TSTP	Changes the I/O mode to TAG STOP.		TSTP is selected : Red Selectable : Black Not selectable : Gray	
4)	Refresh Graph		Touching this item displays the graph generation window. This item must be operated when GOT is initialized or tag data setting is changed. (☞ Section 7.4)	Switch	Black	Gray

No.	Item		Description	Object	Character color/display color	Background color
5)	Pattern graph display	Graph display	(1) Specified to display PV current value. Displays SV setting value, current SV, current PV value, and current elapsed time.	Graph	Setting value (SV) : Green Current SV value : Light blue (cyan) Current PV value : Magenta Present elapsed time : Brown SV high limit value (SH) : Yellow SV low limit value (SL) : Yellow	Black
			(2) Specified to display a PV value in trend graph. Displays SV setting value, PV value in trend graph, and current elapsed time.		Setting value (SV) : Green PV value in trend graph : Magenta Current elapsed time : Brown SV high limit value (SH) : Yellow SV low limit value (SL) : Yellow	
		Y-axis scale	Displays an engineering high limit value (RH), engineering low limit value (RL), and five equally spaced points.	Numerical display	Green	
		X-axis scale	Displays 0, total time, and five equally spaced points.			
		PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display		
6)	Elapsed time display		Displays elapsed time from 0 to total time by level display.	Level	Red	Black
7)	Wait status display		Turns on during wait status.	Lamp	Normal : Gray During wait status : Black	Normal: Black During wait status: Green
8)	Wait band display		Displays a setting value of tag data wait band.	Numerical display	Green	Black
9)	Advance		Executes the advance function.	Switch	Black	Gray
10)	Time progress display	Elapsed Time	Displays elapsed time.	Numerical display	Green	Black
		Total	Displays total time (total time of all steps).			
11)	PVSV level display	PV	Displays a PV (process variable) of tag data within the range from RL (engineering low limit value) to RH (engineering high limit value) by level display.	Level	Magenta	Black
		SV high/low limit range display	Displays a range of SV high/low limit by level display.		Less than SL : Black SL to SH : Dark blue More than SH : Black	
		SV	Displays a SV (setting value) of tag data within the range from RL (engineering low limit value) to RH (engineering high limit value) by level display.		Normal : Light blue (cyan) SVA operation : Yellow*1	
12)	PGS2 faceplate		Refer to Section 7.1.	Quotation from the screen	—	—

*1: Turns red when the corresponding bit of alarm level ALML is set to on.

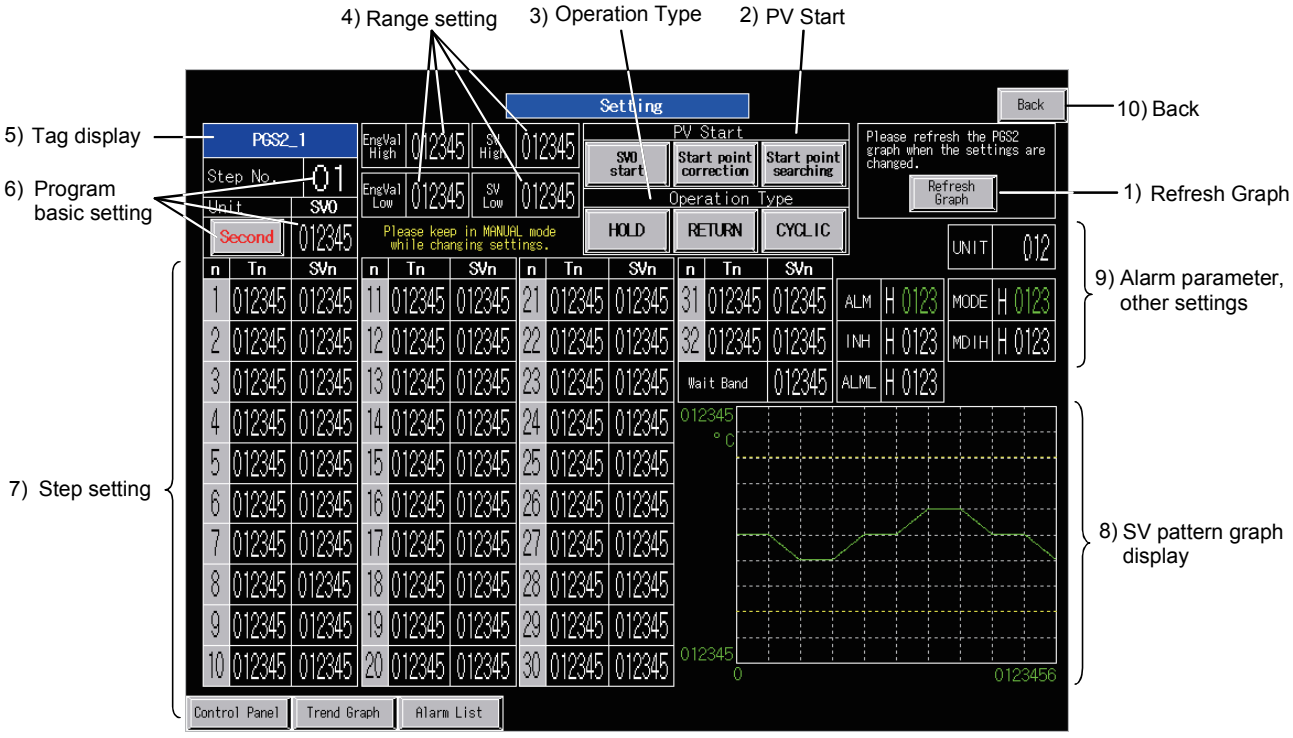
No.	Item	Description	Object	Character color/display color	Background color
13)	SV increase/decrease operation	Increases/decreases a SV value when the control mode is AUT or MAN. The following each increase/decrease operation is performed by touching the switch once.*2			
	SV up large	Increases a SV value between RL and RH by 1%.	Switch	Black	Gray
	SV up small	Increases a SV value between RL and RH by 0.1%.			
	SV down small	Decreases a SV value between RL and RH by 0.1%.			
	SV down large	Decreases a SV value between RL and RH by 1%.			
14)	Back	Returns the display to the previous screen.	Switch	Black	Gray

*2: The operation can be performed continuously by keeping the button pressed using the auto repeat function.

7.3 PGS2 Tag Setting Screen

This section explains the PGS2 (Multi-point program setter) tag setting screen.

DISPLAY/SETTING SCREEN



<Example of the tag setting screen of SVGA type>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/ display color	Background color
1)	Refresh Graph		Touching this item displays the graph generation window. This item must be operated when GOT is initialized or tag data setting is changed. (☞ Section 7.4)	Switch	Black	Gray
2)	PV Start	SV0 start	Select "SV0 start" for PV start type.	Switch	Not selected : Black Selected : Red	Gray
		Start point correction	Select "Start point correction" for PV start type.			
		Start point searching	Select "Start point searching" for PV start type.			
3)	Operation Type	HOLD	Select "HOLD" for operation type.	Switch	Not selected : Black Selected : Red	Gray
		RETURN	Select "RETURN" for operation type.			
		CYCLIC	Select "CYCLIC" for operation type.			
4)	Range setting	EngVal High	Set an engineering value high limit (RH).*1	Numerical input	White	Black
		EngVal Low	Set an engineering value low limit (RL).*1			
		SV High	Set a SV high limit value (SH).*1			
		SV Low	Set a SV low limit value (SL).*1			
5)	Tag display		Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

No.	Item		Description	Object	Character color/ display color	Background color
6)	Program basic setting	Step No.	Set the number of steps used in a program.*1	Numerical input	White	Black
		Unit	Set time mode for a step used in a program. Touching this item switches its display between a minute and second. This item can be operated when the control mode is MAN.	Switch	Red	Gray
		SV0	Set a SV value at the start point of a program.*1	Numerical input	White	Black
7)	Step setting	n (1 to 32)	Displays numbers from 1 to n (the number set at "Step No.") in red to easily recognize a range to be set.	Numerical input	Not selected : Black Selected : Red	Gray
		Tn (1 to 32)	Set time in each step.*1		White	Black
		SVn (1 to 32)	Set a setting value in each step.*1			
		Wait Band	Set a setting value when using the wait function.*1			
8)	SV pattern graph display	SV pattern graph	Joins the values set in Step setting and displays the line graph.*2	Graph	Green	Black
		Y-axis scale	Displays an engineering high limit value (RH) and engineering low limit value (RL).	Numerical display		
		X-axis scale	Displays 0 and total time.			
		PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display		
9)	Alarm parameter, other settings	ALM	Displays a tag data value. (hexadecimal)	Numerical display	Green	Black
		MODE				
		INH	Set a value to tag data.*1 (hexadecimal)	Numerical input	White	Black
		ALML				
		MDIH				
		UNIT	Set a number of the engineering value unit.*1			
10)	Back		Returns the display to the previous screen.	Switch	Black	Gray

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

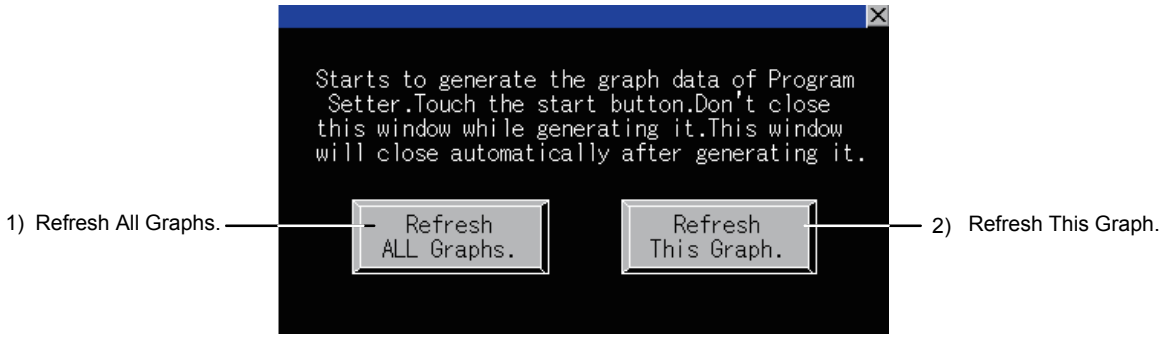
*2: SH value and SL value settings are displayed in yellow line.

7.4 PGS2 Graph Generation Window Screen

This section explains the PGS2 graph generation window screen.
This screen is started to generate graph data of Multi-point program setter in the following cases.

- When starting GOT
- When touching the Refresh Graph on the tuning screen of PGS2 type tag
- When touching the Refresh Graph on the tag setting screen of PGS2 type tag

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Target	Description	Object
1)	Refresh All Graphs.	All PGS2 tags	Performs the following processing for the target PGS2 tags. (1) Importing tag data to GOT (2) Generating line graph data by SV setting (3) Generating control information necessary for displaying the screen (4) Initializing trend data collection area The switches turn red during generation.*1	Switch
2)	Refresh This Graph.	PGS2 tags selected in the screen		

*1: The generation takes around 2 to 10 seconds. Do not close the window until the processing is completed.
This window automatically closes when the generation is completed.

POINT

- Since graph generation is automatically executed for all PGS2 tags at the start of GOT, this setting is not required normally.
  However, when a program is changed from such as the PGS2 tag setting screen, graph generation must be executed from this window.
- Note that when "Refresh All Graphs." is executed, all PGS2 screens will be a target for the operation. Therefore, PV actual value of PGS2 (collection graph data) not displayed on the screen is also cleared.

7.5 Precautions for Specifying PV Value Trend Display in PGS2

When using the PV value trend display function in PGS2 (Multi-point program setter), assigning data collection processing to all base screens is required.
Data collection processing is automatically assigned to screens generated by the GOT screen generator function. However, since the processing is not automatically assigned to user-created screens, copying the processing for assignment is required.
Register screen scripts to user-created screen.

<Registering screen script>

Screen scripts for processing tag data collection and PV value trend display are registered with the PGS2 tuning screen.
Add the same screen script with the settings same with the PGS2 turning screen to the user-created screen (base screen).
For screen script, refer to "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".

8 STATUS TAG SCREEN

This chapter explains faceplates and detailed screens configuring a GOT screen project generated from a status tag using SVGA type as an example.

8.1 Status Tag Faceplate

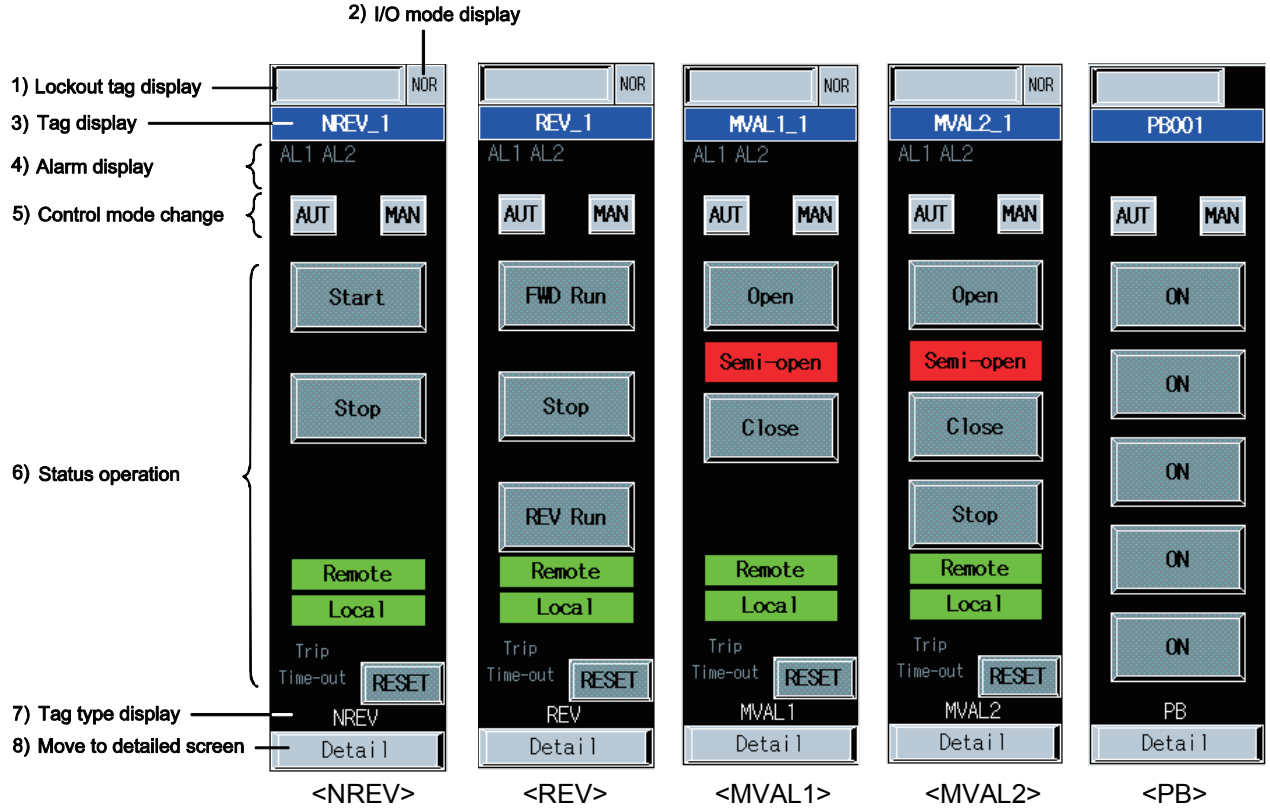
As the following table shows, the status tag faceplate has two types: operation monitor screen for on/off control and counter screen.

Type	Tag type	Status switch
Operation monitoring	NREV	Start, Stop
	REV	FWD Run, Stop, REV Run
	MVAL1	Open, Semi-open, Close
	MVAL2	Open, Semi-open, Close, Stop
	PB	ON/OFF button × 5
Counter	TIMER1	RUN, STOP, RESET, RESET/START
	TIMER2	
	COUNT1	
	COUNT2	

8.1.1 Status tag faceplate (operation monitoring)

This section explains the status tag faceplate for operation monitoring.
The faceplate has five tag types: NREV, REV, MVAL1, MVAL2, and PB.

DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA

No.	Item	Description	Object	Character color/ display color	Background color
1)	Lockout tag display	Displays current operating status. Touching this item switches its display in order of blank → Adjusting → Disallowed.	Switch	Blank: No character Adjusting : Black Disallowed : White	Blank : Gray Adjusting : Yellow Disallowed : Red
2)	I/O mode display*1	Displays I/O mode set to the tag data.	Switch	NOR : Black SIM : White OVR : Black	NOR : Gray SIM : Blue OVR : Light blue (cyan)
3)	Tag display	Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue
4)	Alarm display*1	Displays alarm status. This item turns on when either of the following alarms occurs at tag data ALM. (1) TOA (time-out) : AL1 turns on. (2) TRIPA (trip) : AL2 turns on.	Lamp	No alarm: Dark gray Alarm occurrence: Black	No alarm: Black Alarm occurrence: Green*2

*1: This item is not displayed in PB type tag.
*2: Turns red when the corresponding bit of alarm level ALML is set to on.

No.	Item	Description	Object	Character color/ display color	Background color
5)	Control mode change	Displays and changes a control mode. Touching a selectable switch can change the control mode.	Switch Lamp	Current mode : Red Selectable : Black Not selectable: Gray	Gray
6)	Status operation	Displays the default switches/lamps of each tag type that performs operation monitoring. Change the display characters or display colors after generating a screen with GT Designer2 or GT Designer3. (1) NREV : Start/Stop (2) REV : FWD Run/Stop/REV Run (3) MVAL1 : Open/Semi-open/Close*3 (4) MVAL2 : Open/Semi-open/Close/ Stop*3 (5) PB*5 : ON*6	Switch*4 Lamp	Black	Lit : Red Not lit : Gray
		Displays the Remote/Local lamps.	Lamp	Black	Lit : Green Not lit : Black
		Turns on when either of the following alarms occurs at tag data ALM. (1) TRIPA (Trip) : Trip turns on. (2) TOA (Time-out) : Time-out turns on.	Lamp	No alarm: Dark gray Alarm occurrence: Black	No alarm: Black Alarm occurrence: Green*2
		Touching the RESET switch resets time-out alarm.	Switch	Black	Gray
7)	Tag type display	Displays a tag type. When the faceplate and tag data format do not match, "Not Tag type" flashes.	Character display	White	Black
8)	Move to detailed screen	Displays the tuning screen for the corresponding tag.	Switch	Black	Gray

*2: Turns red when the corresponding bit of alarm level ALML is set to on.

*3: The Semi-open cannot be operated only with a lamp. The stop switch does not turn on.

*4: The switches are covered. Touching the switch once uncovers the switch for three seconds. An operation can be continued by touching the switch again while uncovered.
While the switch is covered, its color is displayed gloomily. While uncovered, its color is displayed brightly.

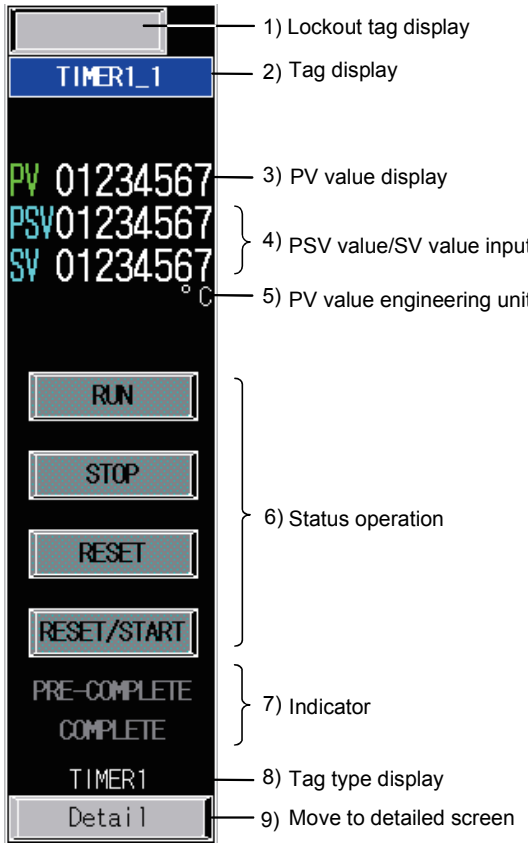
*5: Switches are not displayed when the corresponding bit of the tag data BTNINH is set to on, and both switches and lamps are not displayed when the corresponding bit of the tag data FPINH is set to on.

*6: Characters of switches and lamps are determined by the tag data FPNO1 to 5 when a screen is generated, and by the faceplate display pattern setting of the monitor tool.

8.1.2 Status tag faceplate (counter)

This section explains status tag (counter) faceplate.
The faceplate has four tag types: TIMER1, TIMER2, COUNT1, and COUNT2.
This section explains using TIMER1 as an example.

DISPLAY/SETTING SCREEN



<TIMER1>

DISPLAY/SETTING DATA

No.	Item	Description	Object	Character color/ display color	Background color
1)	Lockout tag display	Displays current operating status. Touching this item switches its display in order of blank → Adjusting → Disallowed.	Switch	Blank: No character Adjusting : Black Disallowed : White	Blank : Gray Adjusting : Yellow Disallowed : Red
2)	Tag display	Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue

No.	Item	Description	Object	Character color/display color	Background color
3)	PV value display	Displays a PV value in numerical value.	Numerical display	White	Black
4)	PSV value/SV value input	Input PSV and SV setting values.*1	Numerical input	White	Black
5)	PV value engineering unit display	Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display	White	Black
6)	Status operation	Displays switches that perform counter operation. (1) RUN :Starts integration. (2) STOP :Stops integration. (3) RESET*2 : Resets integration value. (4) RESET/START*2 : Resets integration value and then starts integration.	Switch*3 Lamp	Black	Lit : Green Not lit : Gray
7)	Indicator	Turns on the COMPLETE lamp or PRE-COMPLETE lamp in the following conditions. (1) PRE-COMPLETE : Turns on when PV ≧ Setting value of PRE-COMPLETE is satisfied. (2) COMPLETE : Turns on when PV ≧ Setting value of COMPLETE is satisfied.	Lamp	Lit : Black Not lit : Gray	Lit : Green Not lit : Black
8)	Tag type display	Displays a tag type. When the faceplate and tag data format do not match, "Not Tag type" flashes.	Character display	White	Black
9)	Move to detailed screen	Displays the tuning screen for the corresponding tag.	Switch	Black	Gray

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

*2: The RESET switch and RESET/START switch do not turn on.

*3: The switches are covered. Touching the switch once uncovers the switch for three seconds. An operation can be continued by touching the switch again while uncovered.
While the switch is covered, its color is displayed gloomily. While uncovered, its color is displayed brightly.

8.2 Status Tag Detailed Screen

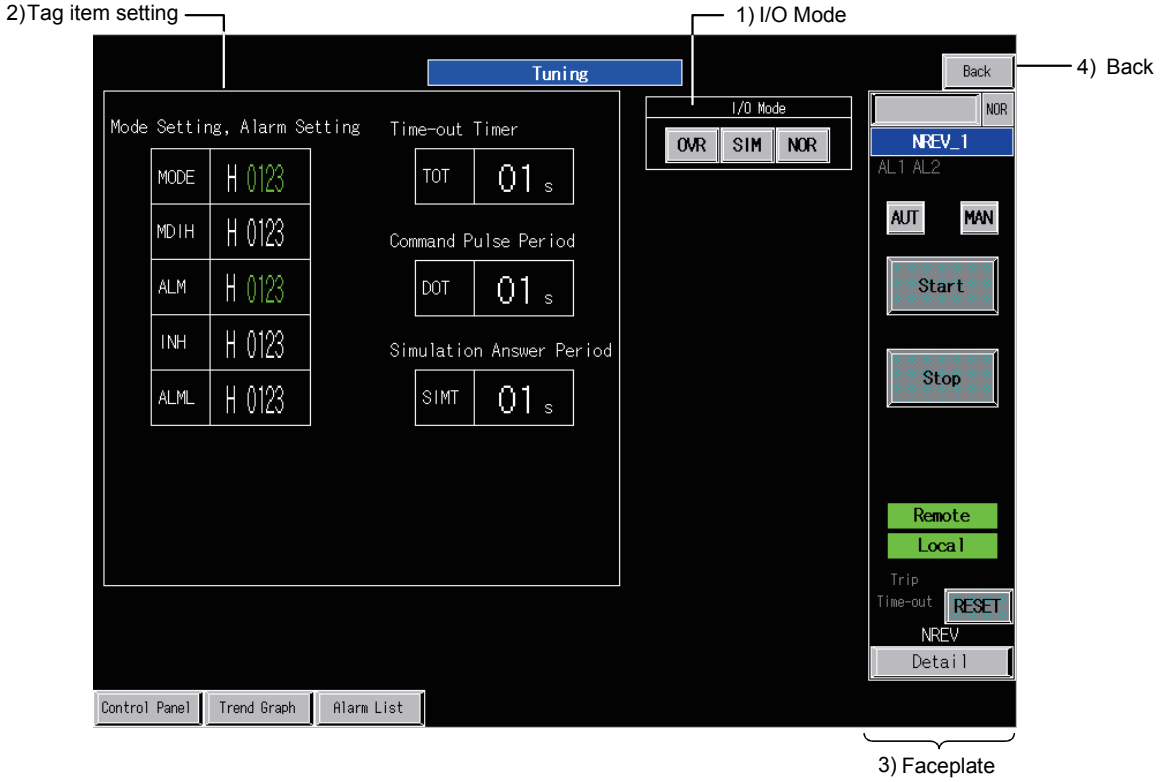
This section explains the status tag detailed screen.
The status tag detailed screen to be generated is one tuning screen.
Like the status tag faceplate, the screen has two types: operation monitor screen for on/off control and counter screen.

Type	Tag type
Operation monitoring	NREV
	REV
	MVAL1
	MVAL2
	PB
Counter	TIMER1
	TIMER2
	COUNT1
	COUNT2

8.2.1 Status tag detailed screen (operation monitoring)

This section explains the status tag detailed screen for operation monitoring using NREV as an example.
The detailed screen has five tag types: NREV, REV, MVAL1, MVAL2, and PB.

DISPLAY/SETTING SCREEN



<Example of the tuning screen of SVGA type>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	I/O Mode	NOR	Can change the I/O mode from SIM/OVR to NORMAL only when the control mode is MAN.	Switch	Current mode: Red Selectable: Black Not selectable: Gray	Gray
		SIM	Can change the I/O mode to SIMULATION only when the control mode is MAN.			
		OVR	Can change the I/O mode to OVERRIDE only when the control mode is MAN.			
2)	Tag item setting	MODE	Displays a tag data value. (hexadecimal)	Numerical display	Green	Black
		ALM				
		MDIH	Set a value to tag data.*1 (hexadecimal)	Numerical input	White	Black
		INH				
		ALML				
		TOT	Set a value to tag data.*1 TOT: Time-out timer (0 to 99 seconds) DOT: Command pulse period (0 to 9 seconds) SIMT: Simulation answer time (0 to 99 seconds)			
		DOT				
		SIMT				
		FPINH/ BTNINH	Set a value to tag data.*1 (hexadecimal)			
3)	Faceplate		Refer to Section 8.1.1.	Quotation from the screen	—	—
4)	Back		Returns the display to the previous screen.	Switch	Black	Gray

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

The following table shows which items are displayed on detailed screens of each tag type.

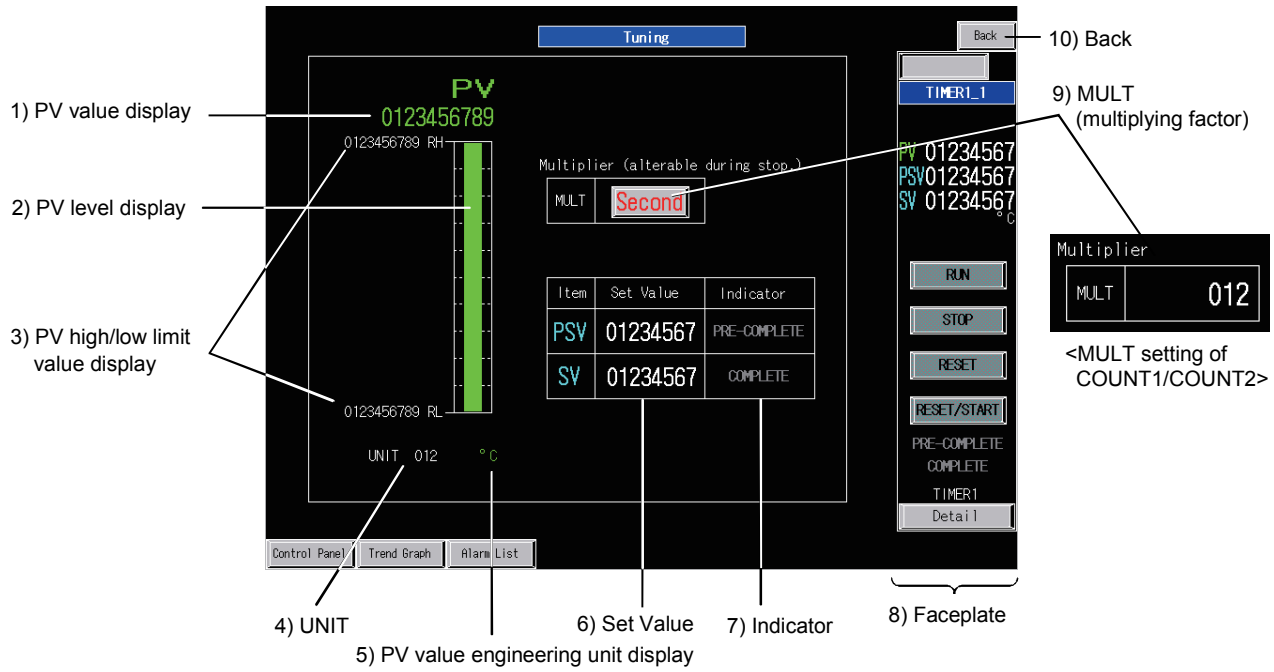
		NREV	REV	MVAL1	MVAL2	PB
I/O Mode		○	○	○	○	—
Tag item setting	MODE	○	○	○	○	○
	ALM	○	○	○	○	—
	MDIH	○	○	○	○	○
	INH/ALML	○	○	○	○	—
	TOT/SIMT	○	○	○	○	—
	DOT	○	○	○	○	○
	FPINH/BTNINH	—	—	—	—	○
Faceplate		○	○	○	○	○
Back		○	○	○	○	○

○: Corresponding display is available on the detailed screen. —: No display

8.2.2 Status tag detailed screen (counter)

This section explains the status tag detailed screen for counter using TIMER1 as an example.
The detailed screen has four tag types: TIMER1, TIMER2, COUNT1, and COUNT2.

DISPLAY/SETTING SCREEN



<Example of the tuning screen of SVGA type>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	PV value display		Displays a PV value.	Numerical display	Green	Black
2)	PV level display		Displays a PV value from RL to RH by level display.	Level	Green	Black
3)	PV high/low limit value display		Displays the high limit value (RH) and low limit value (RL) in the PV level display in numerical value.	Numerical display	White	Black
4)	UNIT		Input a number of a unit.*1	Numerical input	White	Black
5)	PV value engineering unit display		Displays a unit specified by tag data (UNIT) number using unit comment group.	Character display	Green	Black
6)	Set value	PSV SV	Set a value to tag data.*1	Numerical input	White	Black

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

No.	Item	Description	Object	Character color/display color	Background color
7)	Indicator	Turns on the COMPLETE lamp or PRE-COMPLETE lamp in the following conditions. (1) PRE-COMPLETE: Turns on when PV ≧ Setting value of PRE-COMPLETE is satisfied. (2) COMPLETE: Turns on when PV ≧ Setting value of COMPLETE is satisfied.	Lamp	Lit : Black Not lit : Gray	Lit : Green Not lit : Black
8)	Faceplate	Refer to Section 8.1.2.	Quotation from the screen	—	—
9)	MULT (multiplying factor)	TIMER1/TIMER2: Touching this item switches its display between a second and minute. For multiplying factor, set 0 for second and set 1 for minute. This setting cannot be made during RUN.	Switch	Yellow	Gray
		COUNT1/COUNT2: Set it within the range from 1 to 999.*1	Numerical input	White	Black
10)	Back	Returns the display to the previous screen.	Switch	Black	Gray

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

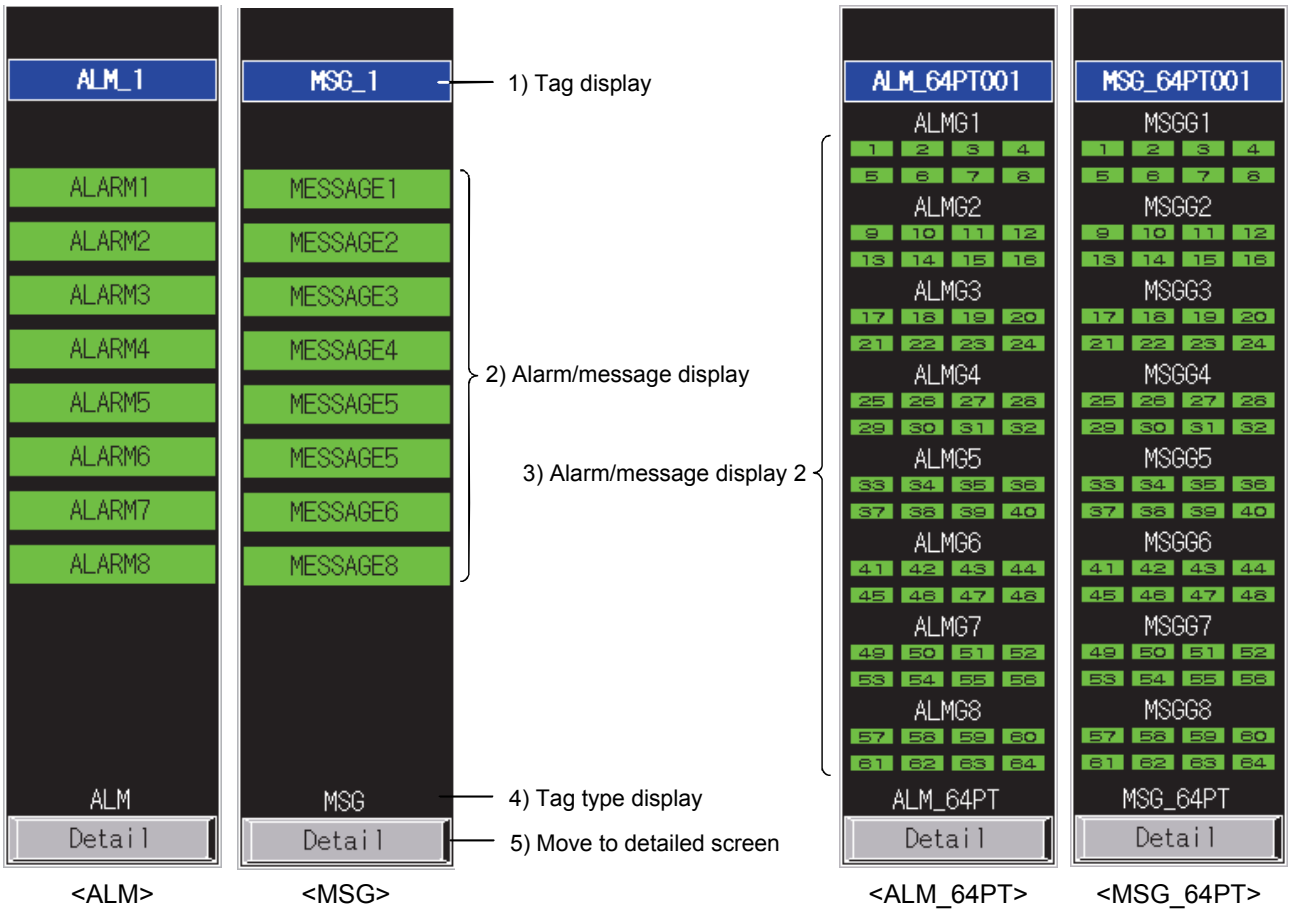
9 ALARM TAG/MESSAGE TAG SCREEN

This chapter explains faceplates and detailed screens of the alarm tag and message tag using SVGA type as an example.

9.1 Alarm Tag/Message Tag Faceplates

On the monitor tool, alarm contents (message) is registered in the Alarm Setting and the alarm name number for the alarm contents is specified as a tag item in the alarm tag faceplate.
GOT displays the alarm contents registered to the Alarm Setting by converting it into a comment group (Alarm Setting).
GOT also displays the message contents registered to the Event Setting in the monitor tool by converting it into a comment group (Event Setting).

DISPLAY/SETTING SCREEN



<ALM> <MSG> <ALM_64PT> <MSG_64PT>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	Tag display		Touching this item switches its display between a tag name and tag comment.	Switch	White	Blue
2)	Alarm/message display		The alarm tag (ALM) displays a comment specified by alarm name number based on the comment group in Alarm Setting. The message tag (MSG) displays a comment specified by message name number based on the comment group in Event Setting. The alarm tag (ALM) turns on when ALM bit turns on, and the message tag (MSG) turns on when MSG bit turns on.	Lamp	Black	Lit : Green*1 Not lit : Black
3)	Alarm/ message display 2	Alarm group/ message group display	The alarm tag (ALM_64PT) displays a comment specified by alarm group name number based on the comment group in Alarm Setting. The message tag (MSG_64PT) displays a comment specified by message group name number based on the comment group in Event Setting.	Character display	White	Black
		Alarm/ message display	The alarm tag (ALM_64PT) turns when ALM1 to ALM64 bit turns on, and the message tag (MSG_64PT) turns on when MSG1 to MSG64 bit turns on. The numeral 1 to 64 corresponds to ALM1 to ALM64 or MSG1 to MSG64. However, when the value of ALM□NO/MSG□NO is '0' (name number is unset for initial value), the numeric will not displayed in the lamp.	Lamp	Lit : Black Not lit : Gray	Lit : Green*2 Not lit : Black
4)	Tag type display		Displays a tag type. When the faceplate and tag data format do not match, "Not Tag type" flashes.	Switch	White	Black
5)	Move to detailed screen		Displays the tuning screen for the corresponding tag.	Switch	Black	Gray

*1: Turns red when the corresponding bit of alarm level ALML is set to on.

*2: Turns red when the corresponding bit of alarm level ALML_W1 to ALML_W4 is set to on.

The alarm tag (ALM_64PT) divides 64 points alarm into 8 groups.
The following table shows the compositions of the groups.

Alarm group	Corresponding alarm							
Alarm group 1	ALM8	ALM7	ALM6	ALM5	ALM4	ALM3	ALM2	ALM1
Alarm group 2	ALM16	ALM15	ALM14	ALM13	ALM12	ALM11	ALM10	ALM9
Alarm group 3	ALM24	ALM23	ALM22	ALM21	ALM20	ALM19	ALM18	ALM17
Alarm group 4	ALM32	ALM31	ALM30	ALM29	ALM28	ALM27	ALM26	ALM25
Alarm group 5	ALM40	ALM39	ALM38	ALM37	ALM36	ALM35	ALM34	ALM33
Alarm group 6	ALM48	ALM47	ALM46	ALM45	ALM44	ALM43	ALM42	ALM41
Alarm group 7	ALM56	ALM55	ALM54	ALM53	ALM52	ALM51	ALM50	ALM49
Alarm group 8	ALM64	ALM63	ALM62	ALM61	ALM60	ALM59	ALM58	ALM57

The message tag (MSG_64PT) divides 64 points message into 8 groups.
The following table shows the compositions of the groups.

Message group	Corresponding alarm							
Message group 1	MSG8	MSG7	MSG6	MSG5	MSG4	MSG3	MSG2	MSG1
Message group 2	MSG16	MSG15	MSG14	MSG13	MSG12	MSG11	MSG10	MSG9
Message group 3	MSG24	MSG23	MSG22	MSG21	MSG20	MSG19	MSG18	MSG17
Message group 4	MSG32	MSG31	MSG30	MSG29	MSG28	MSG27	MSG26	MSG25
Message group 5	MSG40	MSG39	MSG38	MSG37	MSG36	MSG35	MSG34	MSG33
Message group 6	MSG48	MSG47	MSG46	MSG45	MSG44	MSG43	MSG42	MSG41
Message group 7	MSG56	MSG55	MSG54	MSG53	MSG52	MSG51	MSG50	MSG49
Message group 8	MSG64	MSG63	MSG62	MSG61	MSG60	MSG59	MSG58	MSG57

9.2 Alarm Tag/Message Tag Detailed Screen

This section explains detailed screens of the alarm tag and message tag.
For alarm tag (ALM) and message tag (MSG), the screen is composed of one tuning screen. As for alarm tag (ALM_64PT) and message tag (MSG_64PT), the screen is composed of one tuning screen and one tag setting screen.

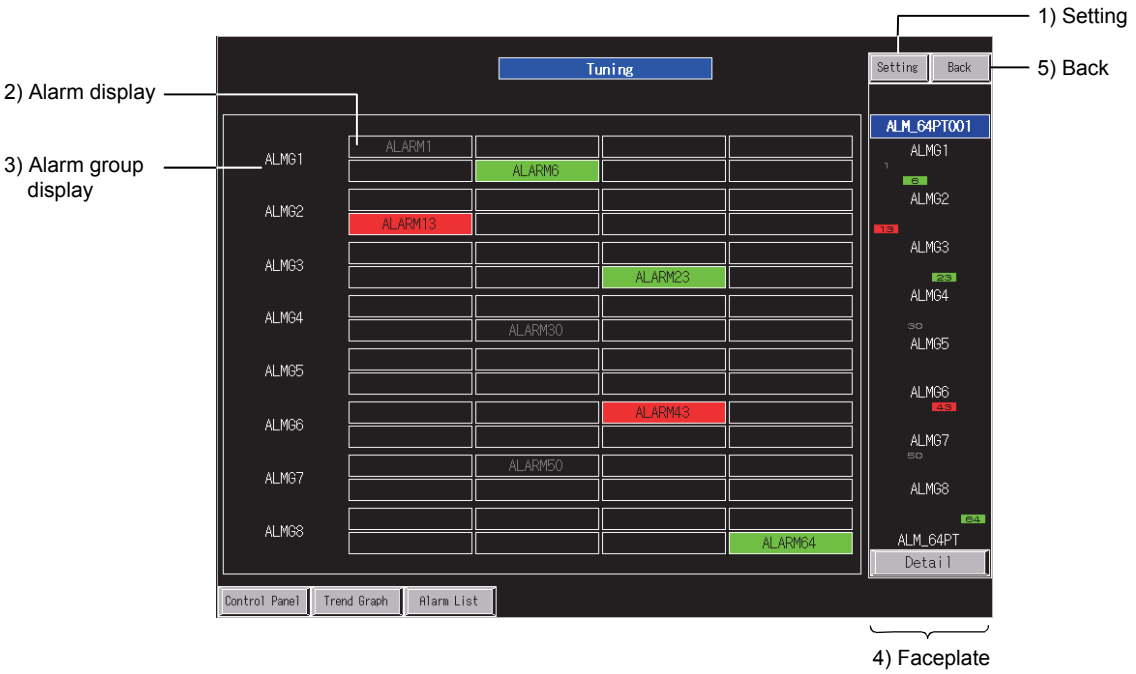
Tag	Number of detailed screens	Screen name
ALM_64PT	2	Tuning screen + Tag setting screen
MSG_64PT	2	Tuning screen + Tag setting screen
ALM	1	Tuning screen
MSG	1	Tuning screen

9.2.1 Alarm tag/message tag detailed screen (2-screen configuration)

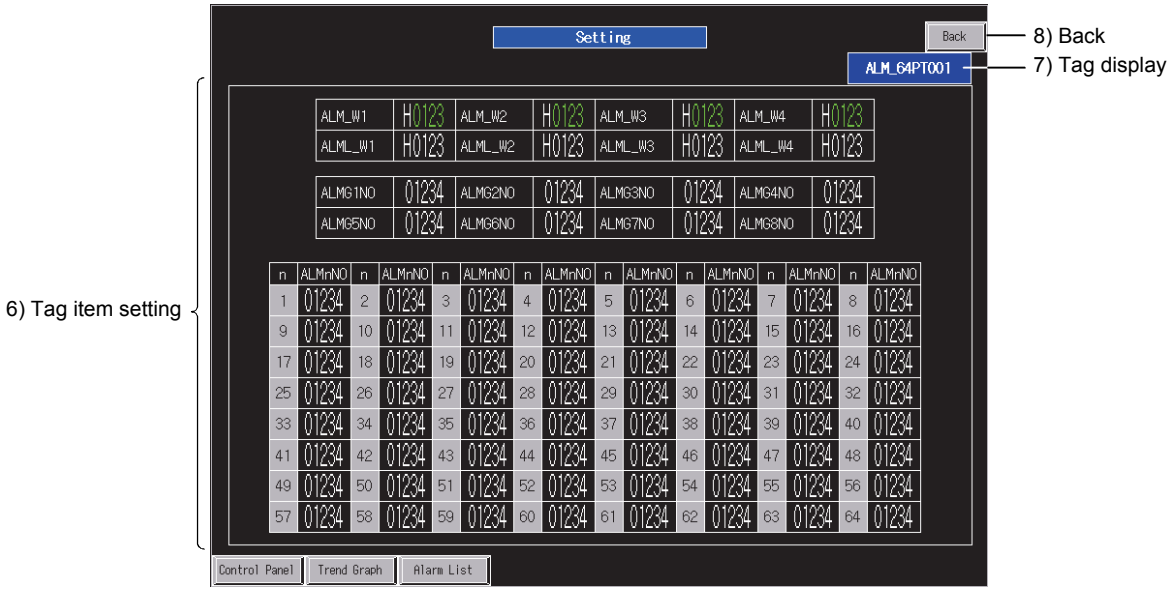
This section explains detailed screens of the alarm tag (ALM_64PT) and message tag (MSG_64PT).
The composition of alarm tag (ALM_64PT) and message tag (MSG_64PT) is the same except for the item names as follows.

ALM_64PT	MSG_64PT
ALM_W1 to ALM_W4	MSG_W1 to MSG_W4
ALML_W1 to ALML_W4	MSGCHK_W1 to MSGCHK_W4
ALMG1NO to ALMG8NO	MSGG1NO to MSGG8NO
ALM1NO to ALM64NO	MSG1NO to MSG64NO

DISPLAY/SETTING SCREEN



<Example of the tuning screen of SVGA type>



<Example of the tag setting screen of SVGA type>

DISPLAY/SETTING DATA

No.	Item	Description	Object	Character color/display color	Background color
1)	Setting	Displays the tag setting screen.	Switch	Black	Gray
2)	Alarm/message display	The alarm tag (ALM_64PT) displays a comment specified by alarm name number based on the comment group in Alarm Setting. The message tag (MSG_64PT) displays a comment specified by message name number based on the comment group in Event Setting. The alarm tag (ALM_64PT) turns when ALM1 to ALM64 bit turns on, and the message tag (MSG_64PT) turns on when MSG1 to MSG64 bit turns on.	Lamp	Lit : Black Not lit : Gray	Lit : Green*1 Not lit : Black
3)	Alarm group/message group display	The alarm tag (ALM_64PT) displays a comment specified by alarm group name number based on the comment group in Alarm Setting. The message tag (MSG_64PT) displays a comment specified by message group name number based on the comment group in Event Setting.	Character display	White	Black
4)	Faceplate	Refer to Section 9.1.	Quotation from the screen	—	—
5)	Back	Returns the display to the previous screen.	Switch	Black	Gray

*1: Turns red when the corresponding bit of alarm level ALML1 to ALML64 is set to on.

No.	Item		Description	Object	Character color/display color	Background color
6)	Tag item setting	ALM_W1 to ALM_W4/ MSG_W1 to MSG_W4	Displays tag data value. (hexadecimal)	Numerical display	Green	Black
		ALML_W1 to ALML_W4/ MSGCHK_W1 to MSGCHK_W4	Set a value to tag data.*2(hexadecimal)	Numerical input	White	Black
		ALMG1NO to ALMG8NO/ MSGG1NO to MSG8NO	Input the alarm group name number/message group name number.*2			
		ALM1NO to ALM64NO/ MSG1NO to MSG64NO	Input the alarm name number/message name number.*2			
7)	Tag display		Touching this item switches its display between a tag name and tag comment	Switch	White	Black
8)	Back		Returns the display to the previous screen.	Switch	Black	Gray

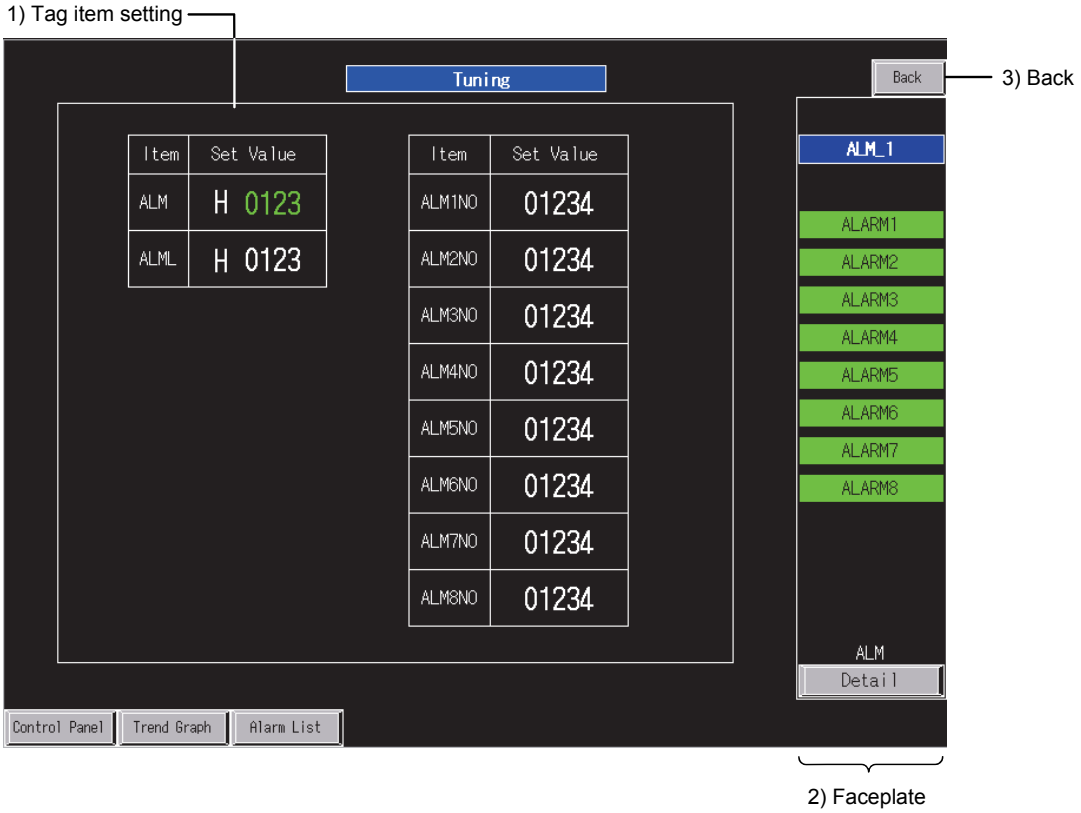
*2: Input a numerical value in the key window displayed by touching the displayed numerical value.

9.2.2 Alarm tag/message tag detailed screen (one-screen configuration)

This section explains detailed screens of the alarm tag (ALM) and message tag (MSG). Although tag structures of the alarm tag (ALM) and message (MSG) tag are the same, their item names differ as follows:

ALM	MSG
ALM	MSG
ALML	MSGCHK
ALM1NO to ALM8NO	MSG1NO to MSG8NO

DISPLAY/SETTING SCREEN



<Example of the alarm tag detailed screen of SVGA type>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	Tag item setting	ALM/MSG	Displays tag data value. (hexadecimal)	Numerical display	Green	Black
		ALML/MSGCHK	Set a value to tag data.*1(hexadecimal)	Numerical input	White	Black
		ALM1NO to ALM8NO/ MSG1NO to MSG8NO	Input the alarm name number/message name number.			
2)	Faceplate		Refer to Section 9.1.	Quotation from the screen	—	—
3)	Back		Returns the display to the previous screen.	Switch	Black	Gray

*1: Input a numerical value in the key window displayed by touching the displayed numerical value.

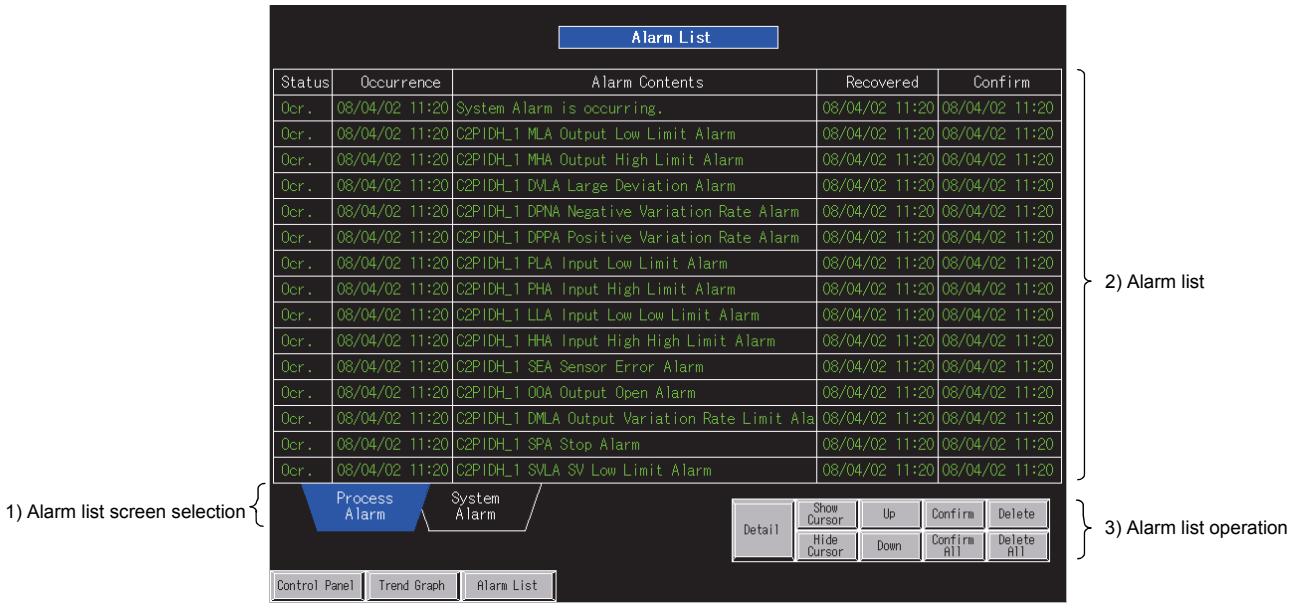
10 ALARM LIST SCREEN

This chapter explains two alarm list screens (process alarm and system alarm) and popup alarm displayed on the top of the screens using SVGA type as an example.

10.1 Alarm List (Process Alarm)

The alarm list screen for process alarm is generated using the GOT standard advanced user alarm function.

DISPLAY/SETTING SCREEN



<Example of the alarm list (process alarm) screen of SVGA type>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	Alarm list screen selection	Process Alarm	Displays the process alarm screen (this screen).	Switch	White	Not selected: Black Selected: Blue
		System Alarm	Displays the system alarm screen.			
2)	Alarm list	Status	Displays alarm status ("occurrence", "recovered", and "checked").	Character display	Minor failure: Green Major failure: Red	Black
		Occurrence	Displays time and dates when the alarms have occurred.			
		Alarm Contents	Displays alarm messages. If the selected alarm message is touched, operations same as 3) "Detail" switch are performed. Monitor period: 1 second Number of buffered data: 2000			
		Recovered	Displays time and date when the alarms have been recovered.			
		Confirm	Displays time and date when the alarms have been checked with the "Confirm" switch.			

No.	Item		Description	Object	Character color/display color	Background color
3)	Alarm list operation	Detail	Displays the tuning screen related to the alarm at the cursor line. For a message "System Alarm is occurring", the alarm list (system alarm) screen is displayed.	Switch	Black	Gray
		Show Cursor	Inverts a selected line on the table.			
		Hide Cursor	Cancels the inversion on the cursor line.			
		Up	While the cursor is displayed: The cursor moves up. While the cursor is not displayed: The previous page is displayed.			
		Down	While the cursor is displayed: The cursor moves down. While the cursor is not displayed: The next page is displayed.			
		Confirm	Checks the selected alarm. "Confirm" is displayed on "Status" area and the time and date when the alarm has been checked are displayed. The time and date when the alarm is checked first are held.			
		Confirm All	Performs the same operation as the "Confirm" switch for all alarms (including non-display alarms).			
		Delete	Deletes a message if a cause of the selected alarm has been resolved.			
		Delete All	Deletes the messages of all alarms (including non-display alarms) whose causes have been resolved.			

When a screen is generated, the displayed message is automatically generated, registered to the comment group (Alarm List), and set as comments displayed at alarm occurrence together with a device set to the alarm by the advanced user alarm (process alarm) setting.
One second is set for the alarm collection period by the setting of the advanced user alarm (process alarm).
The types and description of the messages to be generated are as follows:

Alarm item	Description of the message	Alarm level
System alarm collection information (1 point)	The number of currently occurred system alarms is written to a device to monitor it using a script. When the number is 1 or more, it is determined as an alarm.	Major failure is set.
ALM alarm items in loop tag	Tag name or Tag comment *1 + Space + Loop tag ALM alarm contents Example) TIC001 MHA Output high limit	With referring to ALML bit of each tag data, major failure is set for ON and minor failure is set for OFF.
ALM alarm items in status tag	Tag name or Tag comment *1 + Space + Status tag ALM alarm contents Example) VALV001 TRIPA Trip	
Alarm tag message	Message shown by Tag name or Tag comment *1 + Space + Alarm tag ALM□NO Example) ALM001 Tank water level high A message is generated based on the alarm contents registered in the alarm setting of the monitor tool.	
64-points alarm tag message	Tag name or Tag comment *1 + Space + Group name displayed with 64-points alarm tag ALMG□NO + Space + Message displayed with 64-points alarm tag ALM□NO. Example) ALM1 Tank A Tank water level high A message is generated based on the alarm contents registered in the alarm setting of the monitor tool. When the group name is blank, the space after the group is not added.	

*1: Either tag name or tag comment is set by the option setting in the wizard. (☞ Section 4.8)
However, when tag comment is blank, the message description will be a tag name.

The following table shows ALM alarm contents for loop tags. Since PGS type tag cannot be generated, it is not mentioned.

	PID	2PID	2PIDH	PIDP	SPI	IPD	BPI	R	ONF2	ONF3	PFC_SF	PFC_SS	PFC_INT	PGS2	MOUT	MONI	SWM	MWM	SEL	BC	PSUM	PVAL	HTCL
SPA Stop Alarm	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○
DMLA Output Variation Rate Limit Alarm Level	○	○	○	○	○	○	○	○	—	—	○	○	○	—	—	—	—	—	○	—	—	—	○
OOA Output Open	○	○	○	○	○	○	○	○	○	○	○	○	○	—	○	—	○	○	○	—	—	—	○
SEA Sensor Error	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	○	—	—	—	○	—
HHA Input High High Limit	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	○	—	—	—	○	—
LLA Input Low Low Limit	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	○	—	—	—	○	—
PHA Input High Limit	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	○	—	○	—	○	—
PLA Input Low Limit	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	○	—	—	—	○	—
DPPA Positive Variation Rate	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	○	—	○	—	○	—
DPNA Negative Variation Rate	○	○	○	○	○	○	○	○	○	○	○	○	○	—	—	○	○	○	—	—	—	○	—
DVLA Large Deviation	○	○	○	○	○	○	○	—	—	—	○	○	○	—	—	—	○	—	—	—	—	○	—
MHA Output High Limit	○	○	○	○	○	○	○	○	○	—	○	○	○	—	—	—	—	—	○	—	—	—	○
MLA Output Low Limit	○	○	○	○	○	○	○	○	○	—	○	○	○	—	—	—	—	—	○	—	—	—	○
SVHA SV High Limit	—	—	○	—	—	—	—	—	—	—	○	○	○	○	—	—	○	—	—	—	—	○	—
SVLA SV Low Limit	—	—	○	—	—	—	—	—	—	—	○	○	○	○	—	—	○	—	—	—	—	○	—
DSVLA SV Variation Rate Limit	—	—	○	—	—	—	—	—	—	—	○	○	○	—	—	—	○	—	—	—	—	○	—
HBOA Heater Burnout	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○

○: A message is displayed. —: No display

The following table shows ALM alarm contents in status tag and loop tag (PVAL).

	PVAL *1	NREV	REV	MVAL1	MVAL2	PB	TIMER1	TIMER2	COUNT1	COUNT2
TRIPA trip	○	○	○	○	○	—	—	—	—	—
TOA time-out	○	○	○	○	○	—	—	—	—	—

○: Message is displayed. —: No display

*1: The element of status tag is also available.

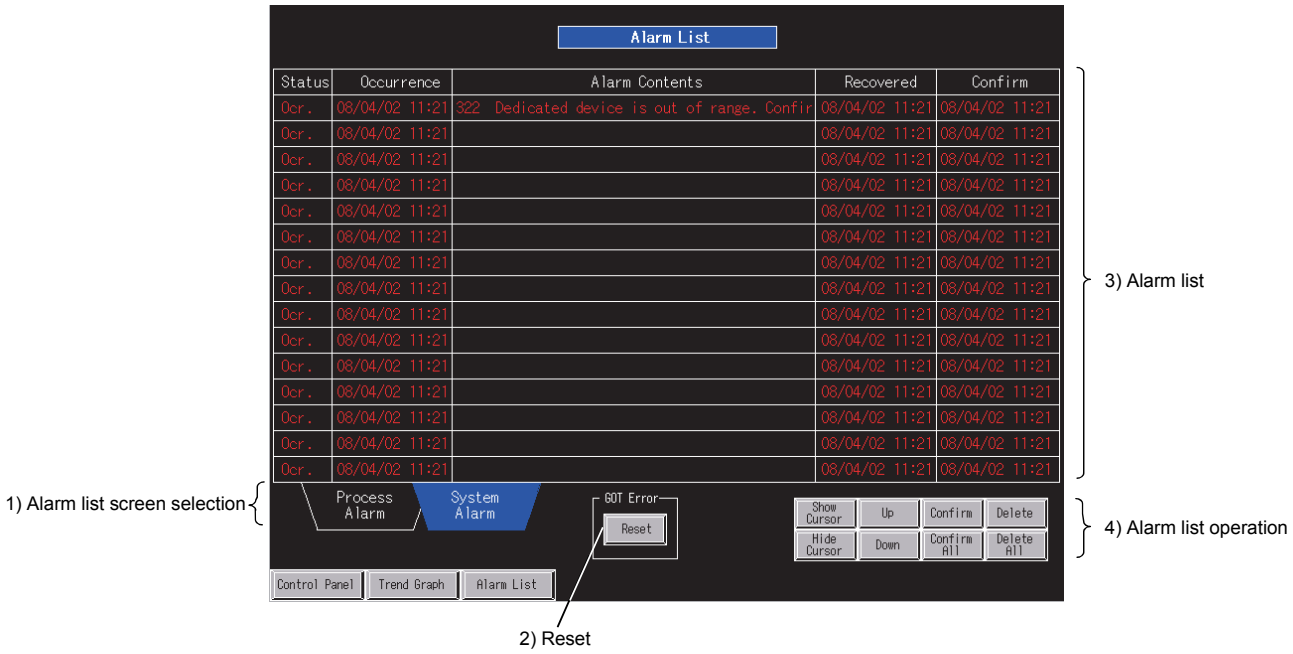
POINT

- When the alarm group name number and the alarm name number of the tag item is changed online after generation, a message displayed on the alarm list does not follow. Regenerate the message and read (overwrite) the comment for the alarm list or change the message manually.
- The alarm list has been set so that the alarm data are not saved when the screen is generated. To change the setting, use GT Designer2 or GT Designer3. For change methods, refer to "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".

10.2 Alarm List (System Alarm)

The alarm list screen for system alarm is generated using the GOT standard system alarm function.

DISPLAY/SETTING SCREEN



<Example of the alarm list (system alarm) screen of SVGA type>

DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color	Background color
1)	Alarm list screen selection	Process Alarm	Displays the process alarm screen (this screen).	Switch	White	Not selected: Black Selected: Blue
		System Alarm	Displays the system alarm screen.			
2)	Reset		Resets an error detected by GOT.	Switch	Black	Gray
3)	Alarm list	Status	Displays alarm status ("occurrence", "recovered", and "checked").	Character display	Red	Black
		Occurrence	Displays time and date when the alarms have occurred.			
		Alarm Contents	Displays the three types of alarm messages: CPU error, GOT error, and network error.*1 Number of buffered data: 512			
		Recovered	Displays time and date when the alarms have been recovered.			
		Confirm	Displays time and date when the alarms have been checked with the "Confirm" switch.			

*1: If the display is unnecessary, deselect the corresponding checkbox in "Advanced System Alarm".

No.	Item		Description	Object	Character color/display color	Background color
4)	Alarm list operation	Show Cursor	Inverts a selected line on the table.	Switch	Black	Gray
		Hide Cursor	Cancels the inversion on the cursor line.			
		Up	While the cursor is displayed: The cursor moves up. While the cursor is not displayed: The previous page is displayed.			
		Down	While the cursor is displayed: The cursor moves down. While the cursor is not displayed: The next page is displayed.			
		Confirm	Checks the selected alarm. "Confirm" is displayed on "Status" area and the time and date when the alarm has been checked are displayed. The time and date when the alarm is checked first are held.			
		Confirm All	Performs the same operation with the "Confirm" switch for all alarms (including non-display alarms).			
		Delete	Deletes a message if a cause of the selected alarm has been resolved.			
		Delete All	Deletes the messages of all alarms (including non-display alarms) whose causes have been resolved.			

POINT

- The "Reset" switch deletes the messages for system alarms which GOT has detected. Before clicking the "Reset" switch, resolve all causes for the alarms. The same alarms will occur again if clicking the "Reset" switch without resolving the causes. In this case, multiple lines in the recovered status may be displayed.

10.3 Popup Alarm

This function displays an alarm message at the top of the screen when an alarm occurs.
According to settings, the multiple messages of alarms currently occur can be displayed in order or the alarm message can be displayed from right to left like a telop.
The following table shows the advanced alarm popup display setting to be generated.

Item	Setting contents	
Display alarm	User alarm (corresponding to the process alarm)	
Display item	Displays one latest current alarm.	
Display color	Background color	Yellow
	Character color	Minor failure: Green, major failure: Red

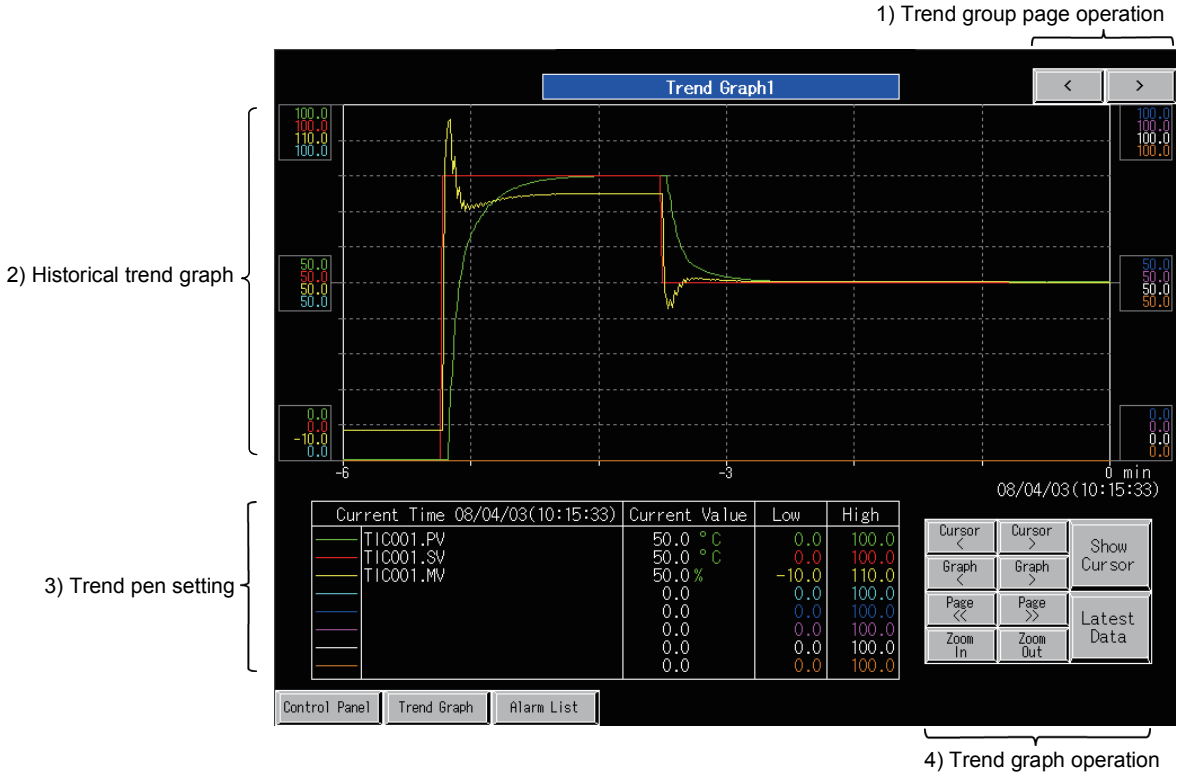
11 TREND GRAPH SCREEN

This chapter explains a trend graph screen generated based on the Trend Setting of the monitor tool using SVGA type as an example.

11.1 Trend Graph Screen

The trend graph screen is generated using the logging function.
Select groups for the trend graph screen to be generated in the wizard.
Up to 32 groups can be selected. (☞ Section 4.5)
For data that can be assigned to pens, refer to Section 4.1 (3).

DISPLAY/SETTING SCREEN



<Example of the trend graph screen of SVGA type>

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DISPLAY/SETTING DATA

No.	Item		Description	Object	Character color/display color		Background color
1)	Trend group page operation	Previous page <	Displays the previous page in the group. When this function is executed on the first page, the display turns to the last page.	Switch	Black		Gray
		Next page >	Displays the next page in the group. When this function is executed on the last page, the screen turns to the first page.				
2)	Historical trend graph	Graph display	Displays a historical trend graph. Number of displayed points: 360 Number of buffered data: 3600 points (default) Update period of the graph: 1 second/10 seconds/1 minute/5 minutes/10 minutes If the screen is switched, the history display is not cleared. Clear the history by GOT reset. Trend items except real number type and pens without setting are displayed at the position of graph low limit (0 positions). (When the period is set to 10 seconds) A graph constructed by 10 seconds × 360 points = 60 minutes is displayed on the screen. Past graph can be displayed maximum 10 seconds × 3600 points = 10 hours.	Graph	No.1	Green	Black
					No.2	Red	
					No.3	Yellow	
					No.4	Light blue (cyan)	
					No.5	Blue	
					No.6	Magenta	
					No.7	White	
					No.8	Brown	
		Time axis display	Displays values from present to past with 0 and minus.	Numerical display	White		Black
		Graph high limit value	Displays a Y-axis scale top limit value in the Trend Setting of the monitor tool. Values for No.1 to No.4 pens are displayed on the left of the graph and values for No.5 to No.8 pens are displayed on the right of the graph. Set 100.0 as a default for trend items except real number type and pens without setting.	Numerical display	Same as graph display		Black
		Graph low limit value	Displays a Y-axis scale bottom limit value in the Trend Setting of the monitor tool. Values for No.1 to No.4 pens are displayed on the left of the graph and values for No.5 to No.8 pens are displayed on the right of the graph. Set 0.0 as a default for trend items except real number type and pens without setting.				
		Graph intermediate value	Displays a Y-axis scale intermediate value. (Graph high limit value – Graph low limit value)/2.0 Values for No.1 to No.4 pens are displayed on the left of the graph and values for No.5 to No.8 pens are displayed on the right of the graph.				
		Display start time	Displays the display start time of past collected time on the right edge of the graph while the cursor is displayed. While the cursor is hidden, current time (GOT internal time) is displayed.	Numerical display	White		Black
		Display end time	Displays the display end time of past collected time on the left edge of the graph while the cursor is displayed. While the cursor is hidden, the display end time is not displayed.				

No.	Item		Description	Object	Character color/display color	Background color
3)	Trend pen setting	Pen name	Displays a value of the trend item in the Trend Setting of the monitor tool. Touching this item switches its display between a tag name/monitor variable name and tag comment[*1].	Switch	White	Black
		Time display mode	Switches the display between current time and time at the cursor position during cursor display according to the display mode.	Character display	White	Black
		Value display mode	Switches the display of the item name on the table between current value and a value at the cursor position according to the display mode.			
		Pen value display	Switches the display of a value specified by each pen (for 8 points) between the latest value and a value at the cursor position according to the display mode.	Numerical display	White	Black
		Pen value display time	When the display mode is for the latest value: Displays the current time (GOT internal time). When the display mode is for a value at the cursor position: Displays the time at the cursor position of past collected time.	Numerical display	White	Black

		Unit display	Displays a unit by specifying a comment number registered to the comment group (Unit Setting).
			When PV, SV, SVC, RH, RL, PH, HH, LL, SH, or SL is specified at the tag data item in the Trend Setting of the monitor tool, a unit specified by tag data (UNIT) number is displayed using unit comment group.
			For monitor variable, unit is displayed in accordance with the monitor variable setting in screen generation. However, if the content of the monitor variable setting is changed after the generation, change the unit number in the project script (trend graph initialization) manually.
			(When changing the unit display of trend pen 1)
			Change the unit number 1→2
			Before change [u16:GDxxxx] = 1 ; //Pen1 Unit No.
			After change [u16:GDxxxx] = 2 ; //Pen1 Unit No.
				Character display	Green	Black

		Graph high limit value	Same setting method as the graph high limit value of the historical trend graph: however, the setting value can be changed. A value greater than the one set to the graph low limit value can be set.	Numerical input	Same as graph display in 2)	Black
		Graph low limit value	Same setting method as the graph low limit value of the historical trend graph: however, the setting value can be changed. A value smaller than the one set to the graph high limit value can be set.			

*1: When comment is blank, a tag name/monitor variable will be displayed.

No.	Item		Description	Object	Character color/display color	Background color
4)	Trend graph operation	Graph control switch	Controls a graph display. Show Cursor : Displays the cursor. Cursor < : Moves the cursor to the left.*2 Cursor > : Moves the cursor to the right.*2 Hide Cursor : Hides the cursor. Page << : Moves a page to the left.*2*3 Page >> : Moves a page to the right.*2*3 Graph < : Left shifts a graph.*2*3 Graph > : Right shifts a graph.*2*3 Zoom In : Zooms in a screen with centering the cursor.*2*3 Zoom Out : Zooms out a screen with centering the cursor.*2*3 Latest Data : Moves the latest position and resumes updating a graph.	Switch	Black	Gray

*2: The operation can be performed continuously by keeping the button pressed using the auto repeat function.

*3: The cursor is displayed simultaneously.

POINT

- By setting the file save mode, the logging function can save collected data as CSV file or Unicode text file. However, since a memory card for storing the data is not always prepared, the buffer historical mode (data are not saved.) is set when a screen is generated. Change the setting when necessary. For change methods, refer to "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".
- Since the graph is updated at trend collection period, when the collection period is except one second, only the display start time is updated until the update timing.
- Even if the high/low limit value setting for a pen has been changed during cursor display, the graph is not redrawn until the graph display is operated with the graph control switch. Therefore, the display is not changed.
- GOT internal device for trend graph screen (GD device) is assigned for unused pen, which always indicates the low limit of the value. Changing this assignment can display a tag to be monitored in trend display.
  When assigning monitor tag item or general device to unused pen, change the following items with GT Designer2 or GT Designer3. Since the following is described using a tag item (ZR device) as an example, when using general device, read the following by replacing "ZR device" with "general device".

Change item	Change	Remarks
Change in monitor tag	Change the monitor target device from GOT internal device (GD device) to ZR device for a tag to be monitored on the monitor device setting in the logging setting. (Changing objects in historical trend graph is not required.)	Since renal number is specified as a format of the historical trend object, the tag item set by logging setting must be real number type.
Change in monitor name	Register a tag name to be monitored with a pen name in the trend graph screen.	—
Change in pen value display	Change GOT internal device (GD device) in pen value display in a trend graph screen to ZR device of a tag to be monitored. (Do not change the object script in numeric display part.)	—
Change in the number of digits after the decimal point	Change the number of digits after the decimal point of numerical display for a pen to be changed in the trend graph screen (high limit value, intermediate value, low limit value, and pen value) when necessary.	—
Change in high/low limit range	Since defaults of high/low limit range have been registered to a project script (trend graph initialization), change the setting value at the corresponding pen position. To prevent a division by 0 caused by range conversion, do not set as follows: high limit value = low limit value.	Since this project script is executed at start of GOT, restarting the GOT is required.
Change in unit	The unit display displays a unit by specifying a comment registered to the comment group (Unit Setting) by comment number. Since the comment number is registered to a project script (trend graph initialization), change the setting value at the corresponding pen position.	

MEMO

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12 TROUBLESHOOTING

This chapter explains the troubles regarding the GOT screen generator function that may occur and corrective actions/references for them.

Trouble	Cause/corrective action	Reference
The GOT screen generator function cannot be started.	The following are the possible causes. Take corrective action following the displayed error message. 1) GT Designer2 or GT Designer3 has not been installed. 2) The monitor target project has not been set. 3) There are no generable tags in the monitor target project.	Section 4.1
The generated screen operates abnormally.	The following are the possible causes. 1) The generated screen does not consist with the PX Developer project in execution by the CPU module. Regenerate a GOT screen project by the GOT screen generator function. 2) The project is reread without exiting SoftGOT1000. If the project is reread without exiting SoftGOT1000, the GOT internal device is not cleared and therefore it does not consist with the GOT internal device used by the reread project, resulting in abnormal operation. If rereading changed project or different project, exit SoftGOT1000 once.	Chapter 4
When opening the user-created screen, PGS2 type tag that displays PV values in a trend graph is not operated.	Possibly, a screen script for PGS processing is not registered with the user-created screen. Add a screen script for PGS2 processing to the user-created screen.	Section 7.5
Monitor performance does not function. (Update of the screen is slow.)	Possibly, the number of device points for the CPU module with which the GOT communicates is too many on the screen displayed on GOT. Take following corrective actions when necessary. Note that, if one of the following settings is set, the screen regeneration is required. 1) Reduce the PGS2 type tags that display PV values in a trend graph. 2) Reduce the number of tags in the control panel. 3) Reduce the number of trend points. 4) Reduce the number of tags of historical trend. Other than above, make arrangements such as reduction of the number of parts and the number of setting points for the parts added by user, logging settings, and scripts for which devices of the CPU module have been set or described.	Section 4.7

Trouble	Cause/corrective action	Reference
Some lamps and switches do not operate during using GT16 or GT15.	The following are the possible causes. 1) For GT15, the option function board*1 or option function board with add-on memory is not attached to GOT, or if attached. 2) The option function "Object Script" is not installed to GOT. Attach the option function board or option function board with add-on memory and install the option function "Object Script" to GOT.	• GT Designer2 Version 2 Basic Operation/ Data Transfer Manual (For GOT1000 Series) • GT Designer3 Version 1 Screen Design Manual (Fundamentals)
During using GT16 or GT15, the historical trend graph on the tuning screen of a loop tag does not operate.	The following are the possible causes. 1) For GT15, the option function board*1 or option function board with add-on memory is not attached to GOT, or if attached. 2) The option function "Logging" is not installed to GOT. Attach the option function board or option function board with add-on memory and install the option function "Logging" to GOT.	• GT Designer2 Version 2 Basic Operation/ Data Transfer Manual (For GOT1000 Series) • GT Designer3 Version 1 Screen Design Manual (Fundamentals)
During monitoring of generated project, a system error detected by GOT occurs.	If a system error detected by GOT such as "0 divisor division error. Confirm operation expression." (error code: 360) or "Upper and lower limit value error. Confirm value setting." (error code: 370) occurs, the following are the possible causes. 1) The project is reread without exiting SoftGOT1000. If the project is reread without exiting SoftGOT1000, the GOT internal device is not cleared and therefore it does not consist with the GOT internal device used by the reread project. If rereading changed project or different project, exit SoftGOT1000 once. 2) There are tag items whose magnitude relation has been changed. Some generated parts check the magnitude relation between tag items. If the magnitude relation of values such as RL and RH whose magnitude relation has been checked is inconsistent, resetting the values is required. 3) In the trend screen, there is an item whose high limit value and low limit value are the same. Reset the values so that the magnitude relation will become "High limit value > Low limit value". Note that a system error detected by GOT is not recovered automatically even after the error cause is cleared; therefore, touching the GOT Error Reset switch is required.	Section 10.2

*1: The option function board (GT15-FNB) is incorporated to GT15 of function version D or later.

APPENDIX

Appendix 1 Differences with the Monitor Tool

On a screen generated by the GOT screen generator function, operations and displays equivalent to the monitor tool screen can be performed; however, they differ in some respects.
This section explains differences between a screen generated by the GOT screen generator function (GOT project screen) and monitor tool screen.

(1) Difference in control panel

Item	GOT project screen	Monitor tool screen
Group selection	Since GOT project screen is a base screen, a group can be selected with the < and > switches.	Since the monitor tool screen is window type screen, a group can be selected by switching the tabs.

(2) Differences in faceplate (common to loop tag and status tag)

Item	GOT project screen	Monitor tool screen
Lockout tag	Touching displayed character switches its display among "blank", "Adjusting", and "Disallowed". Only the display function is available. Therefore, operations cannot be restricted.	The lockout tag can be freely set by the lockout tag setting function such as the lockout tag name. The operations can be restricted depending on the settings of level and user authority.
Tag display	Touching displayed character switches its display between a tag name and tag comment. Since the tag comment and tag name are displayed in same area, they cannot be displayed on the same screen. There are following restrictions on the number of displayed characters. Tag name : The display area is one line and the number of displayed characters is up to 14. Tag comment : The display area is two lines and the number of displayed characters is up to 15 per line.	There are tag name display area and tag comment display area. They can be displayed and checked on the same faceplate.

(3) Differences in tuning screen

Item	GOT project screen	Monitor tool screen
Trend graph range setting	•The level display and high/low limits of graphs for PV and SV values are fixed to RH and RL. •The range of MV value is fixed from 0 to 100%. •Since the BC and PSUM type tags do not have the tag items for high/low limit value, the graph range is fixed from 0 to 99999999. •The high/low limits of SV value for R type tag is fixed to RMAX and RMIN, respectively.	The level display and high/low limits of graphs for PV, SV, and MV values can be freely set with the monitor tool.
Trend graph type	Trend graphs and historical trend graphs (up to 32) can be specified.	Historical trend graph is displayed.
Trend graph in PGS2 type tag	Whether to display a PV value in trend graph together with SV pattern graph can be specified.	Historical trend graph is displayed.
Auto tuning	Select a function and input a setting value with the function selection buttons on the screen. A comment on the explanation is shorter than that of the monitor tool.	Select the function and input a setting value with the checkboxes and radio buttons on the window screen.

App

(4) Differences in tag setting screen

Item	GOT project screen	Monitor tool screen
Tag data display	Since the screen display area is narrow, the items shown on the right is not displayed.	FUNC (tag function code), CTNO (lockout tag number), CTFN (lockout tag function), DOM (monitor output buffer), and DIM (monitor input buffer) are displayed.
Tag data setting item	The number of digits after the decimal point (N) is not displayed. For data used for changing the number of digits after the decimal point (N), refer to Section 5.3 (3).	The number of digits after the decimal point (N) can be displayed and changed.
	Since the screen display pattern is unused on GOT, it is not displayed.	The FPNO for NREV/REV/MVAL1/MVAL2 can be set.

(5) Differences in faceplate (loop tag)

Item	GOT project screen	Monitor tool screen
Mode change	The mode is changed directly on the screen.	The mode change uses the two-action method in which the mode change window is displayed and the button is selected on it.
PV/SV level display	The high/low limit values of PV and SV level display are RH and RL.	The high/low limit values of PV and SV level display can be set with the monitor tool.
	A SV value is displayed in bar graph where RL is set as a base point. A SV value for R type tag is displayed in bar graph within the range of RMIN to RMAX.	The position of a SV value is indicated by the ◀ mark.
	The level display can only display the bar increasing in upward direction.	The level display sets 0 as the base point and can display the bar increasing both in upward and downward directions.
SV operation	Numerical values outside the range of SL to SH cannot be set in the numerical setting.	Even when a numerical value outside the range of SL to SH is input in the numerical setting, the value can be set if it is within the range of RL to RH.
	The increase/decrease operations are performed directly on the screen.	The increase/decrease operation uses the two-action method in which the operation window is displayed and the button is selected on it.
SV increase/decrease operation of PGS2 type tag	Numerical values outside the range of SL to SH cannot be set in the numerical setting.	Even when a numerical value outside the range of SL to SH is input in the numerical setting, the value can be set if it is within the range of RL to RH.
	The increase/decrease operations are performed with the increase/decrease buttons on the tuning screen.	The increase/decrease operation uses the two-action method in which the operation window is displayed and the button is selected on it.
MV operation	Numerical values outside the range of ML to MH cannot be set in the numerical setting.	Even when a numerical value outside the range of ML to MH is input in the numerical setting, the value can be set if it is within the range of - 10 to 110%.
	The increase/decrease operations are performed directly on the screen. The range within which a MV value can be increased or decreased is ML to MH.	The increase/decrease operation uses the two-action method in which the operation window is displayed and the button is selected on it. A MV value can be increased or decreased within the range of - 10 to 110%.
PGS2 pattern graph	SH and SL are displayed by broken line in SV pattern graph. When a SV value is outside the range of SL to SH, the SV level display is displayed in yellow.	Sections outside the range of SL to SH are displayed in yellow in SV pattern graph.

(6) Differences in faceplate (status tag)

Item	GOT project screen	Monitor tool screen
Status buttons/switches for NREV/REV/MVAL1/MVAL2/PB	The switches do not flash during execution. They indicate status by changing their background color.	The background color and set color flash from after operation to completion of the operation.
Changing button/switch names	The names can be changed after a screen is generated with GT Designer2 or GT Designer3.	The names can be changed with the faceplate display pattern setting.
Changing lamp shape when PB button control is prohibited	The shape can be changed after a screen is generated with GT Designer2 or GT Designer3, and by changing the shape of lamp display diagram in the back layer.	A button can be changed to a lamp with the button control prohibition setting (BTNINF) of tag data.

(7) Differences in alarm list screen

Item	GOT project screen	Monitor tool screen
Message display	Since the advanced user alarm display (GOT function) is used, values are not displayed.	Alarms with measured values display a PV value and MV value.
	Since the GOT function is used, the process alarms and system alarms are displayed on different screens.	System alarms and process alarms are displayed on the same screen.
	The message display is followed by the GOT function.	Methods for checking and resetting alarms differ.
	The characters are displayed in green in case of minor alarm and in red in case of major alarm.	A color of alarm messages (alarm contents) can be set.
	The message display is followed by the alarm level at generation, therefore, when the alarm level of the tag items is changed in monitoring, it is not reflected to the newly generated alarm.	When the alarm level of the tag items is changed in monitoring, the newly generated alarm is displayed according to the changed alarm level.

(8) Difference in event list screen

Item	GOT project screen	Monitor tool screen
Message display	The event list function is unavailable.	The event list function is available.

Appendix 2 Editing after Generating GOT Screen Project

Among edit operations after generating a GOT screen project, this section explains customization of the generated screen and utilization of other project data.
For editing with GT Designer2 or GT Designer3, refer to the following manual.

- GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)
- GT Designer3 Version 1 Screen Design Manual (Functions)

POINT
GT Designer2 Version 2.73B or later/GT Designer3 Version 1.23Z or later is required for using the GOT screen generator function.

Appendix 2.1 Customizing generated screen

This section explains restrictions, precautions, and customizable items of generated screen.

(1) General customization

The following shows the customizable items of generated screen.

(a) Deleting objects

(b) Changing a size and layout of an object

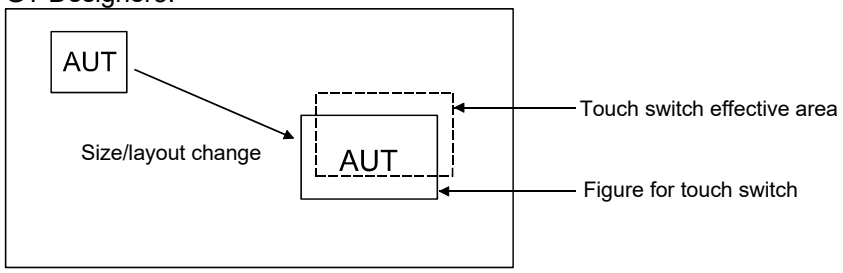
(c) Changing the display settings irrelevant to the object functions

The characters, colors, figures, line types of a graph, and line colors can be changed.

The restrictions and precautions are as follows:

(a) Changing a size and layout of an object

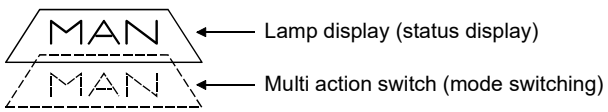
When GOT type is GT15**-S, setting unit for the effective area of the touch switch is in units of 16 dots. Therefore, the touch area may be dislocated by change of the size or layout. If dislocated, readjust it with GT Designer2 or GT Designer3.



In the case above, adjust the effective area of the touch switch with GT Designer2 or GT Designer3.

For a part that achieves its function by overlapping objects, the size and layout of the anterior object and the posterior object must be changed so that they can be the same setting.

Example) Mode switch on a faceplate



For this kind of part, change their sizes and layouts so that they can be the same setting.

The size of a graph on the tuning screen of PGS2 type tag cannot be changed.

(b) Setting objects

Do not change the settings regarding assigned devices, functions, and operations. If doing so, the performance is not assured.

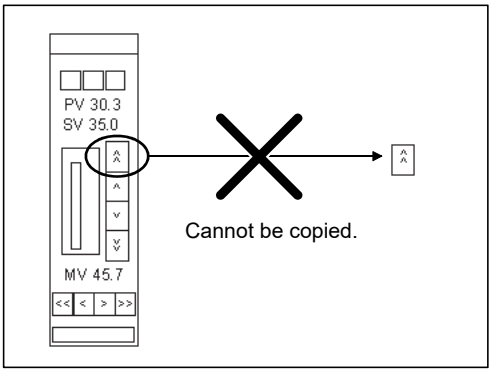
(c) Changing a script

Unless otherwise described in this manual*1, do not change the settings of trigger device, period, trigger type, data format, and processing details of the generated script.
If doing so, the performance is not assured.
*1: For the change method, refer to POINT in Section 11.1.

(d) Copying and pasting an object

The object with object script cannot be copied to anywhere in the same screen. If doing so, the object script may not be operated normally.

Example) Copying the inching switch on a faceplate to somewhere in the same screen



(e) Changing screen switching device

The screen switching device cannot be changed. To change it, regenerate the screen project.

(f) Changing common settings

In each item of the common settings, do not change the devices set by the GOT screen generator function.

(2) Customizing a faceplate

Precautions and restrictions for customizing a faceplate are as shown in (1) and the following.

(a) Parts affected by customization

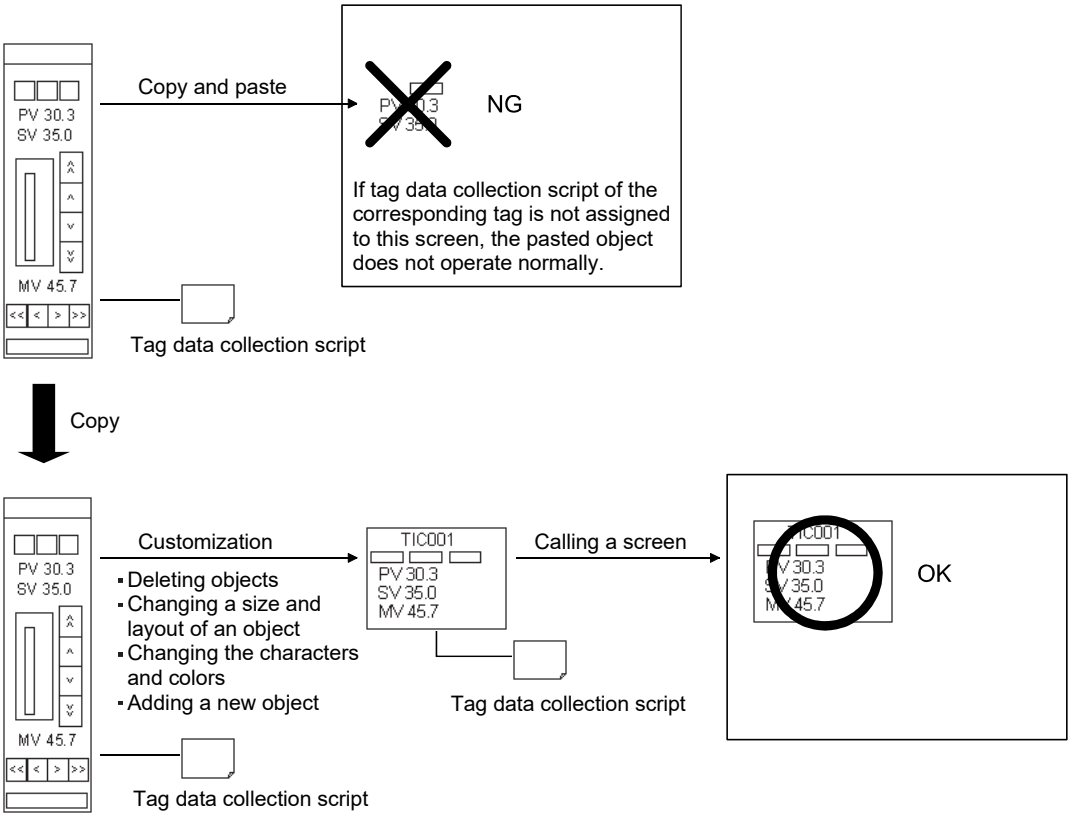
Directly editing original faceplate affects the following screens.

- Control panel
- Tuning screen

When not reflecting the changes to another screen, change copy the original faceplate and then change it.

(b) Copying and pasting an object

When an object on a faceplate is copied and pasted to somewhere in another screen, the object does not operate normally. Copy the faceplate itself, customize[*1] it, call another screen, and then place the faceplate on the screen.



*1: Not displayed properly when the split conversion graph size of HTCL tag part is changed.

(3) Customizing detailed screen

Customizable items of the detailed screen are as shown in (1) and the following.

(a) Changing the settings of trend graph

The settings of the number of displayed points, display period, and memory save can be changed.
For details, refer to Section 5.2.1 (1).

(b) Changing the settings of historical trend graph

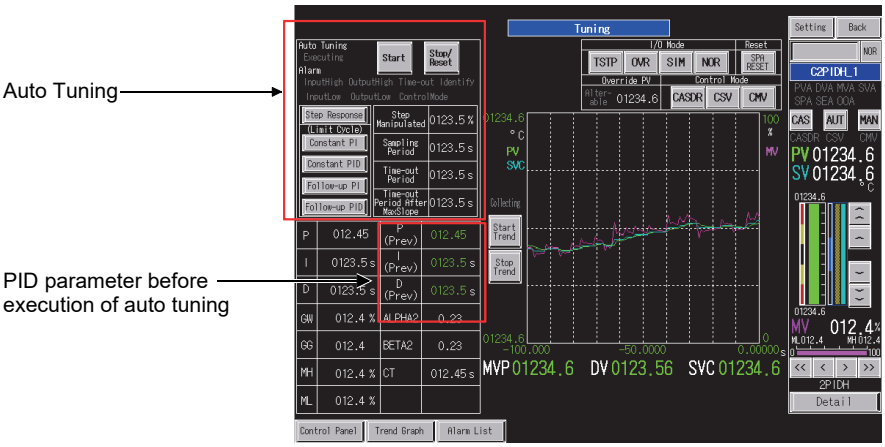
The setting of the number of displayed points can be changed.
For the number of collection points, collection period, and logging methods, change the corresponding logging setting.
For details, refer to Section 5.2.1 (2).

Precautions and restrictions for customizing a detailed screen are as shown in (1) and the following.

(a) Deleting objects

An object related to auto tuning cannot be deleted partly. If only a part of the object is deleted, other objects do not operate normally. Delete an object including all related parts.

Example) 2PIDH



Delete all parts enclosed by [ ] .

The following object cannot be deleted. If doing so, the object does not operate normally.

- Faceplate in the tuning screen

(b) Copying and pasting an object

The [Refresh Graph] switch on the detailed screen of PGS2 type tag cannot be copied and pasted. If doing so, the PGS2 graph is not generated normally.

(c) Changes regarding a graph in the tuning screen

Depending on system load, data may not be collected or displayed at set period.

(4) Customizing alarm list screen

Customizable items of the alarm list screen and precautions and restrictions for customizing the screen are as shown in (1).

(5) Customizing trend screen

Customizable items of the trend screen are as shown in (1) and the following.

(a) Device assignment to unused pens

Monitor tag item and general device can be assigned to unused pens.
For details, refer to POINT in Section 11.1.

Precautions and restrictions for customizing the trend screen are as shown in (1) and the following.

(a) Deleting objects

Do not delete the graph operation switches.

Appendix 2.2 Utilizing Another Project Data

PURPOSE

Utilize another project data to generated screen project.

PROCEDURE

Utilize another project data to generated screen project by the following procedure.

Procedure 1) Generate a GOT screen.

↓

Procedure 2) Read screen data and common settings from another project.

↓

Procedure 3) Add data collection script of PGS2 type tag that displays a PV value in trend graph.*1

↓

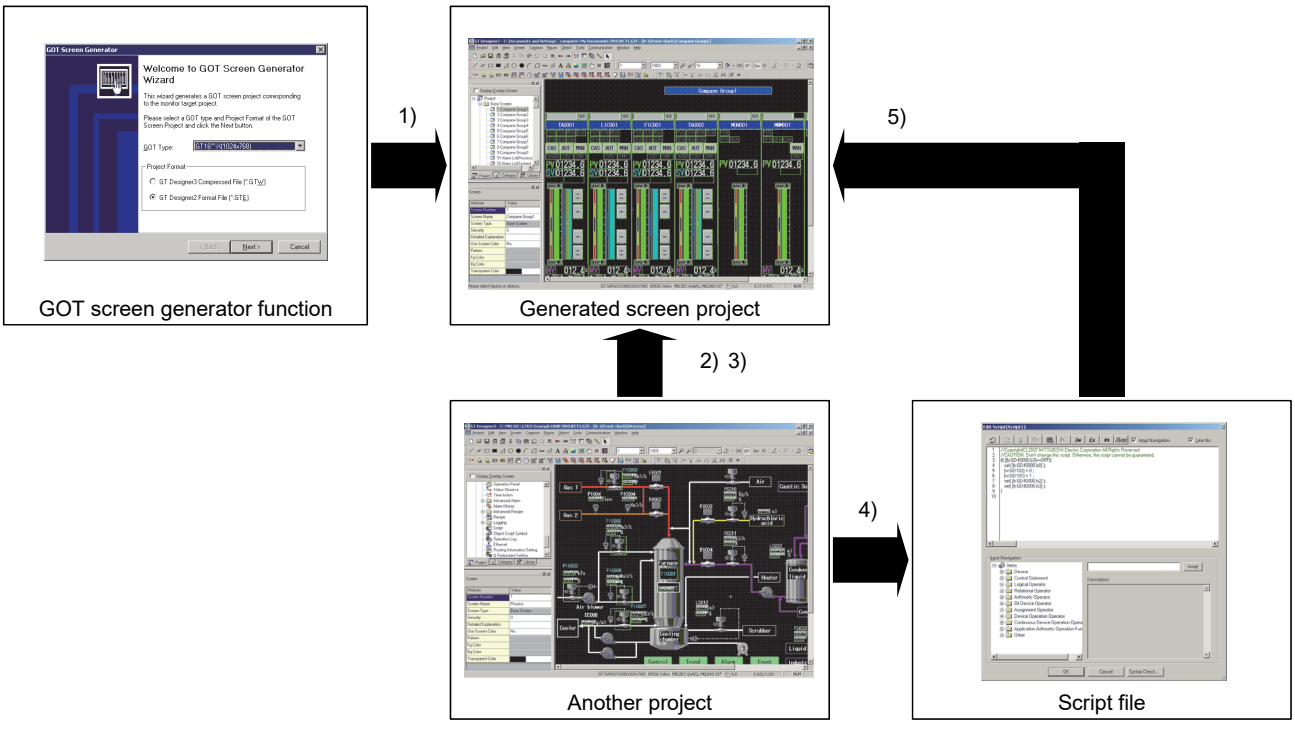
Procedure 4) Export project script and screen script in another project.*2

↓

Procedure 5) Import the exported project script and screen script.*2

*1: This operation is not required when the PGS2 type tag that displays a PV value in trend graph is not used.

*2: Required only for GT Designer2.
This operation is not required when a script is not used in another project.



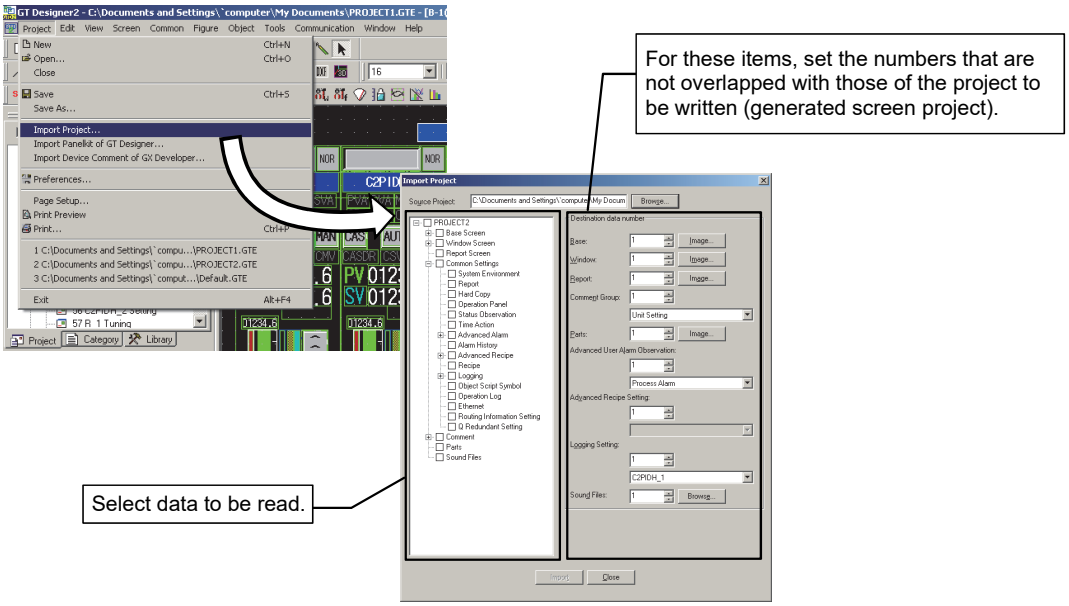
Procedure 1) Generate a GOT screen.

When utilizing the screen data and common settings of another project to generated screen project, check the screen data and common settings of another project before setting the values of GOT resource items and generating the screen. Precautions for the items are as follows.
For generation procedure of a GOT screen, refer to Chapter 4.

GOT resource	Precautions for setting	Reference
Base screen No.	For these items, set the ranges that are not overlapped with those used for another project.	Section 4.9 "Set the resource ranges of GOT which the generated screen uses (1)"
Window screen No.		
Script No.		
Logging ID		
Comment group No.		
GD device for system		Section 4.10 "Set the resource ranges of GOT which the generated screen uses (2)"
Screen switching device for base screen	Set a device used in another project.	
Device for overlap window1 switching		
Device for overlap window2 switching		

Procedure 2) Read screen data and common settings from another project.

Read screen data and common settings of another project to be utilized to generated screen project. For procedures of reading from another project, refer to "Utilizing other project data (GOT1000)" in "GT Designer2 Version 2 Basic Operation/Data Transfer Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Fundamentals)".



CAUTION

When using GT Designer2 Version 2.90U or earlier, the project script and screen project used in another project cannot be read by the "Import Project" function of GT Designer2.
If they are used in another project, performing Procedures 4) and 5) are required.

POINT
Adjust the advanced alarm popup display in each base screen that has been read. Whether to execute the advanced alarm popup display can be set per screen. Also, when the display is executed, the display position can be selected among top line, middle line, and bottom line. For details, refer to "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".

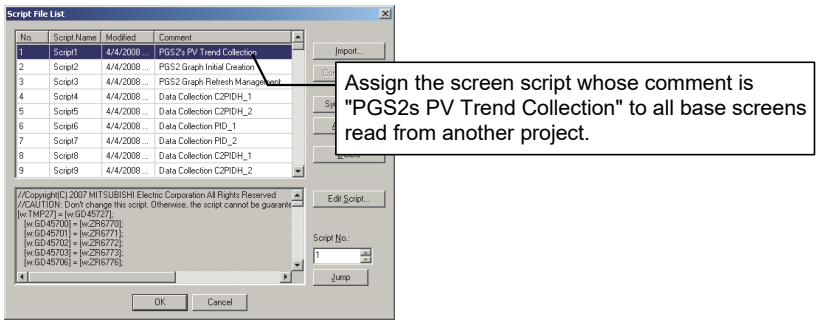
Procedure 3) Add data collection script of PGS2 type tag that displays a PV value in trend graph.

When the PGS2 type tag that displays a PV value in trend graph is used in the generated screen project, data collection and data processing must be performed in the background even the screens are switched.

Therefore, the screen script that performs data collection must be assigned to all base screens read from another project. The screen script to be assigned is "PGS2's PV Trend Collection". The setting contents of the assigned script are as follows.

Assigning a screen script is unnecessary for the PGS2 type tag that does not display a PV value in trend graph.

For a procedure to assign screen script, refer to "Project Script, Screen Script" in "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series) ".



Setting item	Setting contents
Script No.	Do not change the settings. (When these items are selected from the script list, they are automatically input.)
Script name	
Comment	
Data format	16-bit signed binary
Trigger type	Period: 1 (second)
Trigger device	Do not change the settings. (If period is set to the trigger type, the trigger device cannot be set.)

Procedure 4) Export project script and screen script in another project.

Export a project script and screen project from another project to use them in generated screen project.

For a procedure of exporting scripts, refer to "Project Script, Screen Script" in "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".

Procedure 5) Import the exported project script and screen script.

Import the project script and screen script exported in procedure 4) to the generated screen project. Make the settings same as other projects to the imported script.
For a procedure of importing scripts, refer to "Project Script, Screen Script" in "GT Designer2 Version 2 Screen Design Manual (For GOT1000 Series)" or "GT Designer3 Version 1 Screen Design Manual (Functions)".

Appendix 2.3 For using GOT2000 when connecting with a MELSEC-Q series CPU module

To use a GOT screen project generated when connecting with a MELSEC-Q series CPU module on GOT2000, which is not supported by PX Developer, it is required to convert the project for GOT1000 to one for GOT2000 using GT Designer3 (GOT2000). The combination of using GOT2000 and PX Developer is not supported when connecting with a MELSEC-Q series CPU module. Ensure the applicability and confirm that it will not cause system control problems.

(1) Connection path

For the connection path between a MELSEC-Q series CPU module and GOT2000, refer to the following manuals.

- GOT2000 Series Connection Manual (Mitsubishi Electric Products) For GT Works3 Version1
- GT SoftGOT2000 Version 2 Operating Manual

(2) Procedure to convert a GOT screen project

The following shows the procedure to convert a GOT screen project.

1. Generate a GOT screen project for GOT1000.
2. Open the generated GOT screen project with GT Designer3 (GOT2000). Specify [Convert the project to GOT2000 data and edit it in GT Designer3 (GOT2000)].
3. Specify the GOT type so as to have the same resolution as before the change.

POINT

- Generate a GOT screen project using PX Developer Version 1.42U or later. For the project which is generated with PX Developer Version 1.46Y or earlier, edit tag data collection scripts as described in (3) of this section after converting the project to a GOT screen project.
- For details when converting and opening the project, refer to "GT Designer3 (GOT2000) Screen Design Manual".

(3) Modification of tag data collection scripts

When using a project which are generated with PX Developer Version 1.46Y or earlier in GOT2000, modify only the data type of a device in a script by referring to the example shown in the following table.*1

*1: The device numbers are an example. Note that the device numbers differ from those used in the actual project.
Do not change scripts except for a data type(s).

Tag Type	Tag data collection script to be modified (shaded row)	After modification

PID
2PID
PIDP
SPI
IPD
MWM
	//Copyright(C) 2007 MITSUBISHI Electric Corporation All Rights Reserved
	//CAUTION: Don't change this script. Otherwise, the script cannot be guaranteed.
	if([b:GD3531.b0]==OFF){
	[w:GD3418] = 110.0 ;
	[w:GD3420] = -10.0 ;
	[w:GD3422] = 999999.0 ;
	[w:GD3424] = -999999.0 ;
	set([b:GD3531.b0]);
	}
	bmov([w:ZR3260],[w:GD3400],19);
	[w:GD3494] = [w:ZR3354];
	set([b:GD3531.b15]);
		[u32:GD3494] = [u32:ZR3354];

BPI	//Copyright(C) 2007 MITSUBISHI Electric Corporation All Rights Reserved
	//CAUTION: Don't change this script. Otherwise, the script cannot be guaranteed .
	if([b:GD8131.b0]==OFF){
	[w:GD8018] = 110.0 ;
	[w:GD8020] = -10.0 ;
	[w:GD8022] = 999999.0 ;
	[w:GD8024] = -999999.0 ;
	set([b:GD8131.b0]);
	}
	bmov([w:ZR4820],[w:GD8000],19);
	[w:GD8056] = [w:ZR4876];
	[w:GD8094] = [w:ZR4914];
	set([b:GD8131.b15]);
		[u32:GD8094] = [u32:ZR4914];

R	//Copyright(C) 2007 MITSUBISHI Electric Corporation All Rights Reserved
	//CAUTION: Don't change this script. Otherwise, the script cannot be guaranteed .
	if([b:GD8531.b0]==OFF){
	[w:GD8418] = 110.0 ;
	[w:GD8420] = -10.0 ;
	[w:GD8422] = 999999.0 ;
	[w:GD8424] = -999999.0 ;
	[w:GD8452] = 100.0 ;
	[w:GD8454] = 0.0 ;
	set([b:GD8531.b0]);
	}
	bmov([w:ZR5080],[w:GD8400],19);
	bmov([w:ZR5132],[w:GD8452],3);
	[w:GD8494] = [w:ZR5174];
	set([b:GD8531.b15]);
		[u32:GD8494] = [u32:ZR5174];

ONF2
ONF3
MONI
	//Copyright(C) 2007 MITSUBISHI Electric Corporation All Rights Reserved
	//CAUTION: Don't change this script. Otherwise, the script cannot be guaranteed .
	if([b:GD8931.b0]==OFF){
	[w:GD8822] = 999999.0 ;
	[w:GD8824] = -999999.0 ;
	set([b:GD8931.b0]);
	}
	bmov([w:ZR5340],[w:GD8800],19);
	[w:GD8894] = [w:ZR5434];
	set([b:GD8931.b15]);
		[u32:GD8894] = [u32:ZR5434];

BC	//Copyright(C) 2007 MITSUBISHI Electric Corporation All Rights Reserved
	//CAUTION: Don't change this script. Otherwise, the script cannot be guaranteed .
	bmov([w:ZR6380],[w:GD10400],10);
	[w:GD10494] = [w:ZR6474];
	set([b:GD10531.b15]);
		[u32:GD10494] = [u32:ZR6474];

PSUM	//Copyright(C) 2007 MITSUBISHI Electric Corporation All Rights Reserved
	//CAUTION: Don't change this script. Otherwise, the script cannot be guaranteed .
	[w:GD10800] = [w:ZR6640];
	bmov([w:ZR6646],[w:GD10806],3);
	[w:GD10812] = [w:ZR6652];
	[w:GD10894] = [w:ZR6734];
	set([b:GD10931.b15]);
		[s16:GD10800] = [s16:ZR6640];
		[s32:GD10812] = [s32:ZR6652];
		[u32:GD10894] = [u32:ZR6734];

Appendix 3 Functions Added to and Changed from Old Version

The following table indicates the functions added and changed with the upgrade.

Compatible version*1	Added/changed function	Description	Reference
Version 1.18U	Supported CPU	Q02PHCPU and Q06PHCPU are supported.	Section 2.2
	Generated screen	The alarm list screen and trend graph screen can be generated.	Section 3.2 Chapter 10 Chapter 11
		The alarm tag screen and message tag screen can be generated.	Section 3.2
	Generation procedure	"Select the generated trend graph screen" is added.	Section 4.5
	Configuration of the basic screen	The following items are added. • The popup alarm is displayed at the top of the screen. • The function selection switch is added at the bottom of the screen.	Section 5.1.1
Version 1.20W	Loop tag faceplate	SWM tag is added.	Section 6.1 Section 6.2
Version 1.23Z	Overall configuration	2.101F or later version of GT Designer2 is supported.	Section 2.1.1
	Generated screen	"Option setting" is added.	Section 4.8
	Loop tag faceplate	PFC_SF, PFC_SS, and PFC_INT tag are added.	Section 6.1 Section 6.2
	Status tag faceplate	PB tag is added.	Section 8.1 Section 8.2
Version 1.28E	Generated screen	A project screen which is corresponding to GT Designer3 compressed file and GT16 can be generated.	Section 2.1.1 Section 4.3 Section 4.11
	Loop tag detailed screen	The displayed item of SEL tag is added.	Section 6.2.2
	Trend graph	The monitor variable is added to the trend item.	Section 11.1
Version 1.31H	Loop tag faceplate	PVAL and HTCL tag are added.	Section 6.1 Section 6.2
Version 1.42U	Supported CPU	Q04UDPVCPU, Q06UDPVCPU, Q13UDPVCPU, and Q26UDPVCPU are supported.	Section 2.2
	Generated screen	• When multiple projects are registered, screens can be generated by specifying a project. • Up to 240 tag screens can be generated. • The screens of 50 groups out of control panel group No. 1 to 500 can be generated.	Section 3.2 Section 4.1
	Generation procedure	"Set the station number" is added.	Section 4.4
	Alarm tag/message tag faceplates	ALM_64PT, MSG_64PT are displayed.	Section 9.1 Section 9.2

*1: The compatible version can be confirmed in Product Information. For details, refer to "PX Developer Version 1 Operating Manual (Programming Tool or Monitor Tool)".

Compatible version*1	Added/changed function	Description	Reference
Version 1.50C	Supported CPU	The following CPUs are supported. • R08PCPU, R16PCPU, R32PCPU, R120PCPU	Section 2.2
	Generated screen	A project screen which is corresponding to GT27 can be generated.	Section 4.3
Version 1.51D	Supported CPU	The following CPUs are supported. • R08PSFCPU, R16PSFCPU, R32PSFCPU, R120PSFCPU	Section 2.2

*1: The compatible version can be confirmed in Product Information. For details, refer to "PX Developer Version 1 Operating Manual (Programming Tool or Monitor Tool)".

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SH(NA)-080772ENG-M(2104)KWIX
MODEL:SW1D5C-FBDQ-O-GOT-E
MODEL CODE: 13JU61

MITSUBISHI ELECTRIC CORPORATION

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NAGOYA WORKS : 1-14 , YADA-MINAMI 5-CHOME , HIGASHI-KU, NAGOYA , JAPAN

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